City of Bellevue

Post Office Box 90012 ▪ Bellevue, Washington ▪ 98009 9012

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
ENVIRONMENTAL COORDINATOR
450 110th AVENUE NE
BELLEVUE, WA 98009-9012

MITIGATED DETERMINATION OF NON-SIGNIFICANCE

PROPONENT: City of Bellevue Parks and Community Services Department

LOCATION OF PROPOSAL: 1625 118th Avenue SE

DESCRIPTION OF PROPOSAL: Mercer Slough Environmental Education Center

A Joint project with the City of Bellevue Parks & Community Services Department and the Pacific Science Center to construct an expanded environmental education center. Improvements include nine total structures of approximately 10,000 gross square feet, converting the existing asphalt parking lot to a drop-off loop for buses and cars, constructing a central plaza and decks, and constructing a new surface parking lot to accommodate approximately 28 vehicles. Additional parking improvements are proposed at the Bellefields Maintenance Yard approximately one-eighth mile south of the primary site. Site contains Type A wetlands and protected slopes exceeding 40%.

File Number: 05-130359 LM

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Department of Planning & Community Development. This information is available to the public on request.

☐ There is no comment period for this MDNS. There is a 14-day appeal period. Only persons who submitted written comments before the MDNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's office by 5:00 p.m. on _____.

☒ This MDNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision. A written appeal must be filed in the City Clerk's Office by 5 p.m. on December 14, 2006.

☐ This MDNS is issued under WAC 197-11-340(2) and is subject to a 14-day comment period from the date below. Comments must be submitted by 5 p.m. on _____. This MDNS is also subject to appeal. A written appeal must be filed in the City Clerk's Office by 5 p.m. on _____.

This MDNS may be withdrawn at any time if the proposal is modified so that it is likely to have significant adverse environmental impacts; if there is significant new information indicating, or on, a proposal's probable significant adverse environmental impacts (unless a non-exempt license has been issued if the

proposal is a private project): or if the MDNS was procured by misrepresentation or lack of material disclosure.

Carol Whitehead
Environmental Coordinator

November 30, 2006
Date

OTHERS TO RECEIVE THIS DOCUMENT:
State Department of Fish and Wildlife
State Department of Ecology, Shoreline Planner N.W. Region
Army Corps of Engineers
Attorney General
Mukleshoot Indian Tribe

City of Bellevue
Department of Community Development
Development Services Division
Land Use Staff Report, Environmental Review and
State Environmental Policy Act Threshold Determination

Proposal Name:	Mercer Slough Environmental Education Center
Proposal Address:	1625 118th Ave
Proposal Description:	**A Joint project with the City of Bellevue Parks & Community Services Department and the Pacific Science Center to construct an expanded environmental education center. Improvements include nine structures totaling approximately 10,000 gross square feet, converting the existing asphalt parking lot to a drop-off loop for buses and cars, constructing a central plaza and decks, and constructing a new surface parking lot to accommodate approximately 28 vehicles. Additional parking improvements are proposed at the Bellefields Maintenance Yard approximately one-eighth mile south of the primary site.**
File Number:	05-130359 LM
Applicant:	City of Bellevue Parks and Community Services Department
Decisions Included:	Mitigated Determination of Non-Significance
Planner:	Matthews Jackson, Senior Planner
State Environmental Policy Act Threshold Determination:	**Mitigated Determination of Non-Significance (MDNS)** Carol V. Helland Carol V. Helland, Environmental Coordinator

Bulletin Publication Date:	November 30, 2006
Appeal Deadline:	December 14, 2006

The public and agency comment period was provided with the Notice of Application. For information on how to appeal a proposal, visit the City of Bellevue Permit Center or call 425-452-6864.

I. Request/Project Description

The City of Bellevue Parks and Community Services Department, in partnership with the Pacific Science Center, proposes to construct an enlarged environmental education center adjacent to Mercer Slough. Expansion of the existing Mercer Slough Environmental Education Center (MSEEC) will consist of building a cluster of nine small structures on a wooded hillside that will be connected by boardwalks. Consistent with project objectives to minimize site disturbance and maintain existing vegetation, most structures will be built on piles. Other project features include converting the existing asphalt parking lot to a drop off loop for buses and cars, constructing a central plaza and decks, constructing a new north parking lot to accommodate 28 vehicles, and constructing a garbage/recycling enclosure near 118th Avenue SE.

Elevated boardwalks are proposed to connect buildings. The wood surface decks will be constructed on steel frames supported by 4-inch diameter pin pile foundations, with a 42-inch high guardrail. Extended viewing decks are proposed at the terminus of each of the elevated boardwalks. The north deck will terminate with views of downtown Bellevue, while the south deck will terminate with a view into the forest. A treehouse is proposed at the terminus of the south deck. This will be a roofed, elevated overlook platform accessed by a fixed, vertical ladder. Access to the treehouse will be controlled by MSEEC staff.

II. Site Description and Context

The MSEEC will be constructed on approximately 2 acres of an 18.2 acre parcel within the 320 acre Mercer Slough Nature Park. The site is located in the R-15 zoning district in the Richards Valley subarea. Properties to the west, including the majority of the MSEEC site, are natural open space containing Mercer Slough and associated wetlands. To the north is another parcel owned by the City of Bellevue Parks and Community Services Department, and to the south is an undeveloped parcel in private ownership. To the east are the Brookshire Condominiums in the R-20 zoning district and the proposed Sato office building development site in the Light Industrial zoning district.

III. Consistency with Land Use Code/Zoning Requirements

The proposed expanded MSEEC is located in the R-15 zoning district. City parks and Parks Department related facilities and programs are a permitted use in the R-15 zoning district. All development on this site must conform to the dimensional requirements outlined in Land Use Code Section 20.20.010. The applicant is seeking a variance to maximum building height requirements under a separate application.

Sensitive Area Overlay District (Land Use Code Section 20.25H)

The proposed development is located on a site that includes Type A wetlands and sensitive slopes which are classified as Protected Areas. Type A wetlands and slopes equal to or exceeding 40% require 50-foot primary buffers. The construction permits associated with this proposal were submitted and deemed complete prior to the effective date of the recently approved Critical Areas Ordinance. Therefore, this proposal is vested to the critical areas regulations in place on the date of building permit submittal. Pursuant to LUC 20.25H.080.B,

City parks are permitted uses within Protected Areas, and all proposed construction activities must conform to performance standards outlined there.

Since this site includes areas of slope equal to or greater than 15 percent, the Sensitive Earth Conditions requirements outlined in LUC 20.25H.110 shall apply. These requirements are intended to minimize changes in grade, cleared area, volume of cut or fill, and to consolidate all areas of disturbance on the areas of least slope. Based on the slope categories map and table submitted with this application, the proposed development is in compliance with non-disturbance requirements of the Land Use Code.

IV. State Environmental Policy Act

The proposal to expand the Mercer Slough Environmental Education Center could cause potentially significant adverse environmental impacts to sensitive slopes, wetlands, wildlife habitat, and resident and anadromous salmonids and their habitat, including species listed as threatened under the Endangered Species Act. Specific best management practices (BMPs) and conservation measures to mitigate possible impacts to these resources are included with this application, therefore, the issuance of a Mitigated Determination of Non-Significance (MDNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements, with the incorporation by reference of the "2004-2015 Transportation Facilities Plan Final Environmental Impact Statement" (TFP EIS) published June 10, 2004. This document is available in the Records Room, Bellevue City Hall, 450 110th Avenue NE. Transportation-related impacts associated with the MSEEC proposal are consistent with the potential projected impacts analyzed in the 2004-2015 TFP EIS.

Adverse impacts which are less than significant are usually subject to city codes or Standards which are intended to mitigate those impacts. Where such impacts and regulatory items correspond, further documentation is not necessary. For other adverse impacts which are less than significant, Bellevue City Code Sec. 22.02.140 provides substantive authority to mitigate impacts disclosed through the environmental review process.

A. Earth

Per the environmental checklist submitted with this application, soil types found on the site are general fill, peat, and landslide debris (sand, silt, and clay) overlying glacial deposits consisting of older sand and gravel, older clay till and gravel, and lacustrine deposits. The portion of the site south of the existing parking lot is covered by landslide debris to depths ranging from about 12 to 14 feet below grade. The portion of the site east and north of the existing parking lot is covered by fill to depths ranging from 6 to 17 feet below grade. Borings encountered peat ranging in thickness from 10 to 11 feet in the area of the proposed north parking lot. Peat was also found along the west embankment slope of 118th Avenue SE in the area proposed for a pedestrian/bicycle lane.

The steepest slopes on the site exceed 40% north, west, and south of the MSEEC Administration Building and the existing parking lot. The majority of the site contains wetlands where the ground surface is generally level. Construction activities and

earth movement will be located in uplands outside of delineated wetland areas. Approximately 6,520 cubic yards of cut and 6,150 cubic yards of fill will be required to facilitate development of the proposal. Of the total earth movement, approximately 4,350 cubic yards of cut and 4,600 cubic yards of fill is required for removing the peat deposit and placing 6 to 8 feet of structural fill in the area of the north parking lot.

The applicant is requesting modification of protected area status in order to reduce the required primary and structure setbacks for the top of a slope exceeding 40%. A Geotechnical Report prepared by Shannon & Wilson, Inc., dated April 21, 2005 provides engineering conclusions and recommendations in support of the proposed construction. Modifications of protected area status are approved with the underlying construction permits. However, it appears that based on information included in the geotechnical report, a modification is supportable. The report was intended to evaluate the subsurface conditions at the site and formulate geotechnical engineering recommendations for use in the design of foundations systems, retaining walls, earthwork, and pavement. Their work included drilling and sampling nineteen borings, preparing descriptive field logs of the explorations, performing geotechnical laboratory tests, and conducting engineering analyses.

The geotechnical report recommends that all elevated structures be supported on deep foundations that penetrate into the underlying undisturbed native soil. To reduce impacts to the slope and vegetation during construction, deep foundations should be small diameter driven steel pipe piles. The report also recommends that lightweight fill consisting of expanded polystyrene blocks be used for the embankment configuration to reduce the weight of the parking embankment, and consequently, the resulting ground settlements within the north portion of the new parking area.

Existing codes and standards including Best Management Practices for temporary erosion and sedimentation control as well as the recommendations included in the geotechnical report discussed above adequately mitigates anticipated impacts to earth resources.

B. Water

The proposed MSEEC is located adjacent to a forested wetland complex associated with Mercer Slough which flows into Lake Washington. Construction activities and associated site improvements will be located in uplands outside of delineated wetland areas The project will result in approximately ¼ acre of new impervious surface as a result of building, parking, and boardwalk construction. Several low impact development techniques are proposed with this development to reduce impacts on water resources. Stormwater runoff containing pollutants will be generated with new parking areas and from the portion of 118th Avenue SE that sheetflows to the parking lot stormwater collection system. These stormwater discharges will be treated for removal of at least 80% of the total suspended solids and metals using three compost amended filter strips prior to discharge at the wetland edge.

The proposal also includes green roof systems on four of the proposed structures to intercept and slow runoff. Runoff from the multi-purpose building and classroom #1 will be collected in a gutter along the handrail of the interconnecting deck system. These gutters will discharge to gabion splash blocks over a vegetated slope protection system to be installed on the slope between both buildings. Roof runoff from classroom #2 and the visitor center will be collected in cisterns beneath the buildings for potential use in flushing restroom toilets. Overflow from the cisterns will discharge to dispersal trenches at the base of the slopes. Additional rainwater harvesting is also included with the proposal.

The application of existing city codes and standards as well as the mitigating measures discussed above adequately addresses anticipated impacts to water resources.

C. Animals

The U.S. Fish & Wildlife Service (USFWS) and The National Marine Fisheries Service (NMFS) have identified the bald eagle, marbled murrelet, Puget Sound chinook salmon, and bull trout as threatened and requiring the protection afforded by the Endangered Species Act of 1973. These species have not been precluded from having a presence in the vicinity of the MSEEC. A Biological Assessment (BA) was prepared to assess the potential impacts to threatened and endangered species associated with the expanded environmental science center. The BA prepared by Shannon & Wilson, Inc., dated October 19, 2005 was prepared for compliance with Section 7 ESA requirements.

The BA concluded the following determinations regarding the impacts on listed species:

May affect, but is not likely to adversely affect chinook salmon, bull trout, and essential fish habit in Mercer Slough and Lake Washington;

May affect, but is not likely to adversely affect bald eagle and marbled murrelet.

Both the USFWS and NMS have concurred with the effect determinations in the BA prepared for this proposal. The nearest documented bald eagle nest is located approximately ¾ mile from the project site. The Mercer Slough wetland complex is large and bald eagles would have other nearby foraging opportunities during construction activities. Marbled murrelets have not been documented in or near the action area, and the action area does not provide suitable nesting or foraging habitat. Best management practices for control of sediment and stormwater runoff will be employed to maintain water quality in salmon habitats and successful wetland and wetland buffer restoration will be likely to establish plants and functional hydrology. Finally, juvenile chinook are unlikely to be present during construction and would not be exposed to construction related effects.

Based on the application of city codes and standards and the conservation measures proposed with this application, the impacts on animals can be adequately

mitigated.

D. Transportation

Long Term Impacts and Mitigation

The long-term impacts of development projected to occur in the City by 2015 have been addressed in the City's Transportation Facilities Plan EIS. The impacts of growth which are projected to occur within the City by 2015 are evaluated on the roadway network assuming that all the transportation improvement projects proposed in the City's current Transportation Facilities Plan are in place. The Transportation Facilities Plan EIS divides the City into several Mobility Management Areas (MMAs) for analysis purposes. The Mercer Slough Environmental Education Center lies within MMA # 7, which has a 2015 total growth projection of 83,955 square feet of new non-residential development. This development proposes construction of approximately 10,000 square feet of new non-residential square footage. Therefore, the cumulative impact of the proposed development is within the assumptions of the Transportation Facilities Plan EIS.

Traffic impact fees are used by the City to fund street improvement projects to alleviate traffic congestion caused by the cumulative impacts of development throughout the City. However, BCC 22.16 exempts public park facilities from payment of transportation impact fees.

Mid-Range Impacts and Mitigation

Project impacts anticipated to occur in the next six years are assessed through a concurrency analysis. The Traffic Standards Code (BCC 14.10) requires that development proposals generating 30 or more PM peak hour trips (for the highest hour between 4 and 6 PM) must undergo a traffic impact analysis to determine if the concurrency requirements of the State Growth Management Act are maintained. This development will generate approximately 13 new PM peak hour trips for the highest hour between 4 and 6 PM; therefore, concurrency testing is not required.

Short Term Operational Impacts and Mitigation

The Transpo Group was retained to prepare a Transportation and Parking Assessment. Initial data was provided in memorandums from The Transpo Group dated March 31, 2005 and October 6, 2005. The final Transportation and Parking Assessment is dated October 28, 2005. Attachments A and B in that document, which tabulate total predicted traffic in and out of the site for different purposes for each hour of the day, were revised in March 2006 to account for a slight reduction in expected traffic. The reduction is due to an expectation of having fewer employees on the site and less usage by the general public (other than students). Copies of these documents are available in the city files for this development.

The Transpo Group's documents include analysis of short-term operational impacts of this proposal in order to evaluate potential problems. Issues that were analyzed include hourly trip generation, driveway operations, on-site queuing, and hourly

parking demand. The Transportation Department's interpretation of key issues follows, along with recommended mitigations:

- **Trip Generation**

Vehicle trip generation for on-site educational activities will vary significantly throughout the year, due to reliance on buses during the school year, and reliance on parents during the summer.

During the school year, daytime traffic will consist of a small number of buses and employee trips (14 total trips, in plus out, during the highest daytime hour). The biggest traffic impact will be associated with occasional nighttime events beginning after 6 PM. Up to 70 trips per hour are predicted for the largest nighttime events, with up to 37 vehicles parking on the site and/or at the Bellefields Yard site, which is located on Parks Department property approximately 300 yards to the south.

In the summer, students are expected to be dropped off and picked up by parents, generating relatively intense actively for short periods. The biggest impact is predicted to be caused by drop-offs for morning classes, with up to 171 trips (in plus out) between 8 and 9 AM. However, classes will be scheduled so that very little traffic is generated during the critical peak period between 4 and 6 PM. Nighttime events during the summer are expected to be comparable to the winter, with approximately 70 trips expected after 6 PM for the largest events.

- **Driveway Operations**

The Transpo Group predicted good levels of service, both inbound and outbound, for all site driveways during all peak periods. Level of Service C, with an average delay of 18 seconds, was predicted to be the worst situation, for outbound traffic in the PM peak. Most driveways were predicted to operate at level of service A or B most of the time. However, it is staff's opinion that queuing and parking problems will occasionally develop within the site, interfering with driveway operations, unless changes are made. See below for discussion of queuing and parking issues and recommended changes.

- **On-site Queuing**

The Transpo Group predicted that on-site queuing will function adequately during periods of peak pick-up and drop-off traffic. However, city staff are concerned that queuing within parking aisles can easily be thrown into disarray if only a small number of vehicles pause longer than expected. As queuing delay accumulates, the queue can quickly extend back into the street, blocking through traffic on the street and creating a potential accident hazard. City code (BCC 14.60.150.A) requires driveways to be designed so that vehicles attempting to enter will not impede the travel lane of the street.

For this site, geographic constraints preclude lengthening the parking aisles to accommodate longer queues; therefore, the best solution is provide parking aisles that are wide enough so that vehicles can pass each other within an aisle. The site

plans submitted to date show aisles 16 feet wide in the parking lots. In theory, 16 feet seems wide enough for two cars (typically 6 to 7 feet wide) to pass; but in practice, more width is needed. The minimum width for vehicles to pass safely is 18 feet on a straight segment and 19 to 20 feet on a curve (depending on the curvature).

The Transpo Group indicated that up to four buses will be present during the morning drop-off period. Four buses cannot fit within the proposed bus loop at the same time. Buses will be used at times of the year when the volume of parent traffic is expected to be low. Therefore, if more than three buses will be expected at one time, then steps must be taken to ensure that at least one bus performs its loading/unloading functions within the northern driveway loop, not the bus loop.

RECOMMENDATIONS TO CONTROL ON-SITE QUEUING:

1. Allow passing within parking aisles by constructing aisles 18 feet wide on straight segments and 19 to 20 feet on curves.
2. Periodically inform parents about proper pick-up and drop-off procedures.
3. Limit class sizes and times so as not exceed parking and queuing capacity.
4. Require at least one bus to use the northern parking loop at times when expected bus traffic cannot be accommodated within the proposed bus loop.
5. Reassess these issues periodically, and adjust as needed to prevent congestion within the site from spilling back into 118th Avenue.

See related condition of approval in Section VIII.

- **Parking**

The most recent site plans show 28 parking spaces in the northern parking loop, two handicapped parking spaces in the bus loop, and space for up to three buses within the aisle of the bus loop. In addition, 8 new paved parking spaces are proposed at the Parks Department's Bellefields Yard site, approximately 300 yards south of the bus loop, providing a total availability of 36 regular parking spaces plus two handicapped spaces. The parking analysis by The Transpo Group indicates that the maximum total parking demand (not including pick-up and drop-off) will be approximately 12 vehicles during the daytime. For nighttime activities, The Transpo Group predicts parking demand of up to 37 vehicles, which approximately matches the supply of 36 regular parking spaces plus two handicapped spaces. However, Transpo's prediction is based on an assumption that even though the largest nighttime events would draw up to 66 vehicles, no more than 37 would remain on-site. Nighttime activities may be very different from the daytime educational activities, which are expected to rely on a high rate of pick-up and drop-off traffic. It is unlikely that nearly half of nighttime users would engage in pick-up and drop-off activity. Therefore, off-site parking, perhaps with shuttle service, will be necessary for the largest nighttime events.

RECOMMENDATIONS TO CONTROL PARKING:

1. Limit the size and type of typical nighttime events so as to not exceed on-site

parking capacity.

2. Require the organizers of larger nighttime events to arrange off-site parking and shuttle service, as needed, if the event will be of a size and type likely to require such off-site parking.
3. Restrict the beginning and ending times of events to prevent overlap of parking demand between events.
4. Require employees to park at the Bellefields Yard site or other off-site locations during times of peak parking demand.
5. Reassess these issues periodically, and adjust as needed to prevent excess on-site parking demand.

See related condition of approval in Section VIII.

V. Summary of Technical Reviews

A. Transportation

Site Access

Access to the proposed project will be provided via four driveways connecting to the west side of 118th Avenue SE. An existing driveway near the Sullivan House building will be replaced with a new one-way drive-through loop for pick up and drop off traffic, handicapped parking, and bus loading/unloading. North of that location, a new parking lot for 28 vehicles will be constructed. The new parking lot will be accessed via another one-way loop. Each loop will have separate entry and exit driveways for a total of four driveways within a space of approximately 600 feet. On-street loading/unloading will not be allowed.

Street Frontage Improvements

In order to provide safe pedestrian and vehicular access in the vicinity of the site, and to provide infrastructure improvements with a consistent and attractive appearance, the construction of street frontage improvements is required as a condition of development approval. The design of the improvements must conform to the requirements of the Americans with Disabilities Act and the Transportation Development Code (BCC 14.60), and the provisions of the Transportation Department Design Manual. Street frontage requirements for this development include the items specified below.

Note that some plan sheets submitted for the review for this project show on-street parking on the east side of 118th Avenue SE, along with new curb, gutter, and sidewalk on the east side, and a crosswalk to access that on-street parking. However, none of these features will be constructed, because of a decision to provide auxiliary parking at the Bellefields Yard site. The crosswalk across 118th Avenue and all facilities shown on the east side of 118th must be eliminated from the plans prior to approval of any construction permits.

1. Due to high usage as a bike lane, pedestrian usage of the paved shoulder of 118th Avenue adjacent to the site would create unsafe conflicts; therefore, the shoulder must not be relied on as a primary pedestrian route. An asphalt pedestrian path exists along most of the site's frontage. However, the proposed parking lot will eliminate part of the pedestrian path along the northern portion of the site. That

segment of the path must be replaced. In order to avoid conflicts with sensitive slopes, the Parks Department proposes to replace the path segment with a slightly elevated boardwalk. The boardwalk, as well as the asphalt connections to it, must be ADA compliant regarding slope, cross slope, smoothness, and other factors. Future maintenance of the boardwalk will be the responsibility of the Parks Department.

2. The site's vehicular entries and exits shall be constructed with asphalt at-grade aprons similar to those shown on Site Plan B submitted to the city in May 2006. Specific details of the driveway design shall be finalized during review of the engineering plans for the clear and grade permit. Driveway widths shall be consistent with the recommendations describe above in the section labeled On-site Queuing. The entry, exit, and aisle width of the bus drop-off loop must be designed to accommodate bus turning movements.

3. No fixed objects, including fire hydrants, trees, and streetlight poles, are allowed within ten feet of the edge of a driveway approach. Where curbs exist, streetlight poles or hydrants may be closer (but no closer than three feet behind the face of curb), with Transportation Department approval. Fixed objects are defined as anything with breakaway characteristics stronger than a 4-inch by 4-inch wooden post.

4. New and existing trees, landscaping, signs, structures or other features near the driveway entries and exits shall comply with the pedestrian and vehicle sight triangle requirements of BCC 14.60.240 and 241.

5. No new overhead utility lines will be allowed within or across any right of way or sidewalk easement.

Use of the Right of Way

Applicants often request use of the right of way and of pedestrian easements for materials storage, construction trailers, hauling routes, fencing, barricades, loading and unloading and other temporary uses as well as for construction of utilities and street improvements. A Right of Way Use Permit for such activities must be acquired prior to issuance of any construction permit including demolition permit. This permit is issued directly by the Transportation Department.

Pavement Restoration

The City of Bellevue has established the Trench Restoration Program to provide developers with guidance as to the extent of resurfacing required when a street has been damaged by trenching or other activities. Under the Trench Restoration Program, every street in the City of Bellevue has been examined and placed in one of three categories based on the street's condition and the period of time since it has last been resurfaced. These three categories are, "No Street Cuts Permitted", "Overlay Required", and "Standard Trench Restoration". Each category has different trench restoration requirements associated with it. Damage to the street can be mitigated by placing an asphalt overlay well beyond the limits of the trench walls to produce a more durable surface without the unsightly piecemeal look that often

comes with small strip patching. Adjacent to the proposed development, 118th Ave SE is classified as "Overlay Required". Any trenching in the street surface or repair of pavement damage will require a grind and overlay at least 50 feet long for the full width of any affected lane.

B. Utilities Department

The City has adequate capacity for providing water, sewer, and storm drainage for this proposal. Because review has been on a conceptual level only, there are no implied approvals of the engineering specifications for the water quality and detention components of the proposal. The Utility Codes and Utilities Engineering Standards contain adequate standards and requirements to mitigate expected storm and water quality impacts.

C. Fire Department

The Fire Department confirms that as conditioned, the proposal conforms to International Fire Code requirements.

VI. Public Comments and Response

Application Date: October 24, 2005
Public Notice (200feet): December 1, 2005
Minimum Comment Period: December 15, 2005

Notice of Application was published in the City of Bellevue's *Land Use Bulletin* and the *King County Journal* on December 1, 2005. It was mailed to property owners within 200 feet of the project site. Staff received one informational email but no formal comments on this application.

VII. Changes to Proposal as a Result of Staff Review

1. The original proposal included the construction of parking improvements along 118th Avenue SE to provide additional parking for MSEEC visitors. Due to the limited number and lack of control over on-street parking, no parking improvements are planned for 118th Ave SE and off-site employee parking will be provided at the Bellefields Yard site south of the MSEEC.

2. A contingency plan for future parking development at the Bellefields Yard site was developed in order to provide for future parking if required periodic analysis indicates that parking demand of the expanded facility exceeds available parking.

3. Drive aisle widths in within the north parking lot will be widened in three locations to mitigate for anticipated queuing during peak drop-off and pick-up times.

VIII. Conditions of Approval

A. COMPLIANCE WITH BELLEVUE CITY CODES AND ORDINANCES

Applicable Codes, Standards and Ordinances	Contact Person
Clearing & Grading Code – BCC 23.76	Tom McFarlane, 425-452-5207
Construction Codes – BCC Title 23	Building Review Desk, 425-452-4121
Fire Code – BCC 23.11	Adrian Jones, 425-452-4122
Land Use Code – BCC Title 20	Matthews Jackson 425-452-2729
Noise Control Code – BCC 9.18	
Sign Code – BCC Title 22	
Transportation Code – BCC 14.60	Carl Wilson, 425-452-4228
Right of Way Use Code – BCC 14.30	Jon Regalia, 425-452-4599
Utility Code – BCC Title 24	Mark Dewey, 425-452-6179

B. The following conditions are imposed under authority referenced:

1. **WETLAND BUFFER MITIGATION PLANTING:** To mitigate temporary and permanent impacts to wetland buffer on the MSEEC site, the on-site and off-site wetland buffer restoration and enhancement proposed in the Conceptual Wetland Buffer Mitigation Plan prepared by Shannon & Wilson, Inc., dated August 25, 2005 must be implemented. The planting plan shall establish native, non-invasive plant species in the on-site temporary impact restoration area, the off-site buffer restoration area, and the off-site wetland enhancement area shown in Figures 1, 3, and 4 of the Mitigation Plan per the quantities shown in Tables 2, 3, and 4.

   Authority: SEPA: Comprehensive Plan Policy EN-26
   Reviewer: Matthews Jackson, Planning and Community Development Department

2. **MITIGATION AREA MAINTENANCE AND MONITORING**: Maintenance of the mitigation areas for the duration of the 3 year monitoring period proposed in Section 7.0 of the Conceptual Wetland Buffer Mitigation Plan is required. A minimum of two entries per year to monitor the mitigation areas is required. Maintenance shall include watering, weeding around the base of installed plants, pruning, replacing plants to meet survival requirements, re-staking, and noxious weed removal. All maintenance activities shall be directed by a qualified professional.

   Authority: SEPA: Comprehensive Plan Policy EN-14
   Reviewer: Matthews Jackson, Planning and Community Development Department

3. **PARKING MANAGEMENT PLAN:** The Parks Department must prepare a parking management plan intended to maximize the efficiency of pick-up and drop-up circulation and minimize spillover traffic and uncontrolled parking. The plan, which must be submitted for review and approval by the Transportation Department and Land Use Division prior to issuance of any certificate of occupancy, should include at least the following:

   a) Information for parents and other users regarding pick-up and drop-off procedures and parking locations.
   b) Information of bus providers and bus drivers regarding the need to use both parking loops under certain conditions.
   c) Restrictions on the times and sizes of classes and other large events, in order reduce circulation conflicts and parking spillover.
   d) Requirements for the organizers of large events to arrange for off-site parking as needed, with shuttle service as needed.
   e) Requirement for employees to park at Bellefields Yard, or off-site, as needed.
   f) Periodic reassessment of parking and circulation issues, with revisions and adjustments as needed.
   g) Construct parking aisles with sufficient width to allow passing at key locations.

   Authority: SEPA: Comprehensive Plan Policies TR-14, TR-17, TR-38
   Reviewer: Matthews Jackson, Planning and Community Development Department
   Carl Wilson, Transportation Department

4. **PARKING CONTINGENCY PLAN:** In the event the periodic reassessment of parking and circulation indicates parking demand beyond available parking, the Parks Department must construct additional parking at the Bellefields Yard site per the parking contingency plan included in Attachment 5.

   Authority: SEPA: Comprehensive Plan Policies TR-14, TR-17, TR-38
   Reviewer: Matthews Jackson, Planning and Community Development Department
   Carl Wilson, Transportation Department

Attachments

1. Environmental Checklist
2. NEPA Environmental Evaluation
3. Conceptual Wetland Buffer Mitigation Plan
4. Off-Site Parking Strategy
5. Parking Contingency Plan

Attachment 1

City of Bellevue Submittal Requirements	27a

ENVIRONMENTAL CHECKLIST

BACKGROUND INFORMATION

Property Owner:	City of Bellevue Parks & Community Services Department
Proponent:	City of Bellevue Parks Planning, Design, and Project Management
Contact Person:	Ken Kroeger, Project Manager
Address:	11511 Main Street, Bellevue, WA 98004
Phone:	425.452.4624
Proposal Title:	**Mercer Slough Environmental Education Center (MSEEC)** Project #05-102819 DB
Proposal Location:	1625 118th Avenue SE, Bellevue, WA See Figure 1, Vicinity Map.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: The Mercer Slough Environmental Education Center (MSEEC) is a joint project of the City of Bellevue Parks & Community Services Department (Parks) and the Pacific Science Center (PSC), to provide a facility appropriate in size and character for their environmental education center programs. The program is presently conducted in the Sullivan House (Administration Building) and one Wetlab building on the site. Expansion of the existing MSEEC use will consist of building a cluster of nine small structures nestled on the wooded hillside of the site, connected by boardwalks. Consistent with project objectives to minimize site disturbance and maintain or restore existing vegetation, most structures will be built on piles. Due to the sloping nature of the site, the west side of structures will be 20 to 35 feet above grade, with views through the forest and across Mercer Slough to downtown Bellevue. Other project features will include converting the existing asphalt parking lot to a drop-off loop for buses and cars; constructing a central plaza and decks; constructing a new North Parking Lot to accommodate approximately 28 vehicles; and constructing a Garbage/Recycling enclosure near the street. (See the Site Plan and Building Elevations.)

   Elevated boardwalks are proposed to connect buildings. These wood-surface decks will be constructed on steel frames supported by 4-inch diameter pin pile foundations, with a 42-inch high guardrail. Extended viewing decks (of identical construction to the boardwalks) are proposed at the terminus of each of the elevated boardwalks. The north deck will terminate with views of downtown Bellevue. The south deck will terminate with a view into the forest. A "treehouse" is proposed at the terminus of the south deck. This will be a roofed, elevated overlook platform accessed by a fixed, vertical ladder. (The term "treehouse" refers to the proximity of the overlook to a nearby hemlock tree; the structure will not be attached to a tree.) Access to the treehouse will be controlled by MSEEC staff.

1. General description, *continued*:

Frontage improvements will consist of removing the existing bus pullout/drop-off area on the west shoulder of 118th Avenue SE (remove pavement; relocate curb, gutter, and a catch basin to the new gutter line; construct the sidewalk through the former drop-off area); reconfiguring the existing driveway to the south parking lot; constructing a second driveway to create one-way drive-through access through the south parking lot; constructing two new driveways for one-way access to the new North Parking Lot; and constructing a boardwalk along the west side of 118th Avenue SE between the North Parking Lot driveways to maintain the pedestrian link of the Lake-to-Lake Trail past the site.

The Multi-Purpose Building component of the project will be used for public activities in accordance with City of Bellevue Park rental and use policies that may include wildlife viewing, small community gatherings, and other similar activities, when events are not in conflict with activities in other MSEEC buildings. The Multi-Purpose Building will also be able to serve as an additional classroom and lunchroom during inclement weather for the school-aged children who attend classes and programs at the Environmental Education Center.

Non-educational uses of the Multi-Purpose Building are projected to have no negative effects on the ecosystem of the site, for the following reasons: 1) Pedestrian travel paths will be clearly defined and signed. 2) Use of the facility will require compliance with rental guidelines that will specify appropriate behavior for the site, comparable to guidelines that have been adopted for all Bellevue Parks rental facilities. 3) A City of Bellevue site monitor will be present during rental uses of the Multi-Purpose Building to enforce rental guidelines that will include prohibitions on such things as trampling landscaping, disturbing wildlife, or other adverse ecological effects.

Projected increases in level of use of the site with the MSEEC expansion are as follows:

Student enrollment during summer months: Increase from 40 to 50 students per day to approximately 90 students per day.

Park visitors who will use the MSEEC nature trails: Increase from 60 to 70 visitors per day to as many as and additional 40 visitors per day.

Trips to the Visitor Center: Increase from 2 to 5 visitors per day to the existing Administration Building on the site, to approximately 12 visitors to the Visitor Center (Phase 2).

Typical attendance at non-education events at the Multi-Purpose Building: Approximately 65 persons per event.

2.	Acreage of site:	The MSEEC will be constructed on approximately 2 acres of an 18.2-acre parcel within the 320-acre Mercer Slough Nature Park.
3.	Number of dwelling units/buildings to be demolished:	The existing Wetlab building will be demolished. The foundation will be retained for use in constructing Wetlab #1.

4.	Number of dwelling units/buildings to be constructed:	Nine (9) buildings are proposed to implement the MSEEC expansion on the site (no dwelling units).
5.	Square footage of buildings to be demolished:	The existing Wetlab to be demolished is approximately 500 sf in size.
6.	Square footage of buildings to be constructed:	Approximately 10,000 sf.
7.	Quantity of earth movement in cubic yards (worst-case; see description in Section A.1.e):	Excavation: approximately 6,525.5 cy Fill: approximately 6,150 cy

8. Proposed land use: Community Center/Environmental Education Center

9. Design features, including building height, number of stories and proposed exterior materials:

Shed-form buildings are proposed, elevated above or nestled into a hillslope forest of mature big-leaf maple and Douglas fir trees. Buildings will be oriented to the west to take advantage of dramatic views toward Mercer Slough and downtown Bellevue. Large windows are proposed to frame views of Mercer Slough, the mature forest understory, and distant views of downtown. Grey metal roof and exterior wall cladding will provide a durable exterior for the damp environment. Wood siding will flank entries and covered porches. Eaves and overhangs will be carried with kickers (metal eve brackets) and columns, overlapping the boardwalks to provide dry areas for breaks, lunch, and classes. The buildings will maintain a "thin and light" character with steel and glulam columns, narrow roof edge conditions, and simple, durable materials. Floors and roofs will be constructed with structural insulated panels over wood beams and metal trusses. Metal-framed wood decks will connect elevated buildings to the central Welcoming Plaza. Pile foundations are proposed to minimize disturbance on the sloping site, and to retain understory vegetation around and beneath buildings to the maximum extent practicable.

Building design, material selection, and infrastructure elements are proposed with the objective of using the project as an example of environmental stewardship. Reused and recycled building materials will be given preference over conventional materials. Durable, natural materials will age well and retain beauty without excessive maintenance. Approvals may be sought to allow high-efficiency plumbing fixtures: low-flush toilets, rainwater harvested for use in flushing toilets (to the extent permitted by Bellevue City code), and waterless urinals. Innovative measures to minimize stormwater runoff are described in SEPA Checklist Section A.3.c.

All structures will be single-story, though the shed-form will result in elevated roof-peak heights on the west side of structures. Building elevation drawings show roof-peak heights ranging from 57.5 feet above ground surface (Wetlab #2), to 88.5 feet above ground surface (the Multi-Purpose Building). The highest proposed roof structure will exceed the height of the existing MSEEC Administration Building on the site (Sullivan House) by 2.5 feet. Using the Bellevue City code methodology for calculating allowable roof height within the R-15 zone (based on a 6-ft offset from the building perimeter area, with grid points at 10-ft intervals, averaged to determine the ground plane), the Multi-Purpose Building will be approximately 36 feet above average grade, and Classroom #1 will be 32 feet 4.5 inches above average grade, compared to an allowable building height of 30 feet in this zone (Jones and Jones, April 21, 2005). A building height variance will be sought for the proposed action.

10.	Other: A significant design objective for the project is to implement Low-Impact Development (LID) measures to: a) maintain and restore the natural hydrology and ecological integrity of the site, b) serve as aesthetic amenities, and c) demonstrate green infrastructure solutions, and thus the relationship between ecology and design. Examples of proposed LID measures include: enhanced treatment of runoff from pollution-generating surfaces (i.e., areas subject to vehicular traffic and parking) using a combination of treatment systems in series: compost-amended filter strips; rainwater harvesting from two future building roofs (to reduce potable water supply requirements for flushing toilets); green roofs on several of the buildings (including the Garbage/Recycling Area) to reduce the rate and quantity of stormwater runoff from roofs; and laboratory sink greywater treatment using a septic tank with effluent discharge through a constructed wetland system.

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Environmental review and permit application documents have been prepared for implementation of all MSEEC project elements; however, project funding will necessitate that some project elements be constructed in a second phase. Phase 1 improvements, for which funding is presently available, will include the following, proposed for construction between April 2007 and July 2008:

Classroom #1	. 2,060 sf. . Two 900 sf classrooms for 40 students each. . View deck, covered porch for gathering, lunchtime, outdoor teaching. . Gutter and downspout connected to gabion outfall; piped conveyance downslope to dispersal trench; geotextile and slope-protection plantings.
Multi-Purpose Building	. 2,100 sf total. . 1,600 sf room for gatherings of up to 65 people. . 200 sf workroom. . Catering prep space. . Utility and storage space. . Welcoming area with benches, covered porch for outdoor gathering, a view deck, and connection to the future Visitor Center. . Gutter and downspout connected to gabion outfall; piped conveyance downslope to dispersal trench; geotextile and slope-protection plantings.
Restroom #1 (Large Restroom)	. Four stalls, each sex; one ADA each. . Men's restroom: two low-flush toilets with optional connection for water supply from harvested rainwater, and 2 waterless urinals. . Women's restroom: four low-flush toilets with optional connection for water supply from harvested rainwater. . Maintenance closet. . Green/living roof system (minimal runoff).

Phase 1 Improvements, *continued*

Wetlab #1	. Demolish existing 500 sf Wetlab structure; retain foundation. . Construct new 880 sf Wetlab with view deck, covered porch, and storage basement. . Green/living roof system.
Universal Access Tram	. Surface track tram with 1,500 lb. capacity for one wheelchair or four people. . Three stops: Administration Building (top), Wetlab #1 (middle), existing Slough trail (bottom); call-button to Wetlab and Administration Building. . Installation 6 to 10 inches above grade to allow for emergency evacuation on-foot or assistance to infirm passengers. . Lockable controls, cable machinery with multiple safety brakes.
Garbage/Recycle Enclosure	. Lockable pole structure with screening material (cribbing) to house dumpsters and recyclables containers. . Interpretive/map panels attached to outside. . Possible Green/living roof system.
Kiosk at Welcome Plaza	. 60 sf (6 ft x 10 ft). . Way-finding maps and narratives for the MSEEC and Mercer Slough Nature Park. . Interpretive panels. . Possible Green/living roof system.
Administration Building (Sullivan House)	. Clean and paint where required. . Clean or install new carpet on first floor. . Create a staff work area/kitchenette. . Remove back deck, revise grade. . Revise ramp to work with new grades. . Enclose heat pump unit within a vault. . Update telephone and electrical outlets. . Retain connection to existing stormwater detention system. . Add a clothes washer and dryer.
Wetlab Greywater Treatment System	. Install septic tank in area between Wetlab #1 and Wetlab #2 for future (Phase 2) collection and treatment of the sink discharge from Wetlabs #1 and #2.

Implementation of Phase 2 improvements will be subject to the availability of funding. Since the source of funds for Phase 2 improvements is not identified or confirmed at the time of this writing, implementation of Phase 2 improvements is uncertain. If funded, Phase 2 improvements would include:

Visitor Center/Family Restrooms (Restroom #2)	. 800 sf room for gatherings up to 40 people where informative talks can be held, and where guidebooks, maps, and gift items will be available. . Work area for one Parks staff member. . Two unisex ADA-accessible restrooms with space for strollers, changing area, or gearing-up for a hike. . Equip for rainwater harvest, including piped overflow conveyance from tank to dispersal trench in wetland buffer.
Classroom #2	. 2,060 sf. . Two 900 sf classrooms for 40 students each. . Shared view deck with Classroom #1, covered porch for gathering, lunchtime, outdoor teaching. . Equipped for rainwater harvest, including piped overflow conveyance from downspouts to dispersal trench in wetland buffer.
Wetlab #2	. Construct on footprint of existing 525 sf concrete picnic pad. . Covered porch. . Green/living roof system.
Rainwater Reuse Tanks (cisterns)	. Construct cisterns beneath Visitor Center and Classroom #2 to capture rainwater from roofs for use in flushing toilets (if permitted by Bellevue code). . Screen with lathwork. . Direct roof runoff from Classroom #2 to cistern(s) to activate rainwater harvest for use in flushing toilets (if permitted by Bellevue City code).
Wetlab Greywater Treatment System	. Activate Wetlab #1 and #2 sink discharges to septic tank. . Construct wetland to treat greywater effluent (if permitted by Bellevue City code).

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Air Quality Issues Review	Geomatrix Consultants, September 30, 2005
Archaeological Investigation	Cascadia Archaeology, April 27, 2005
Biological Evaluation	Shannon & Wilson, Inc., October 2005
Conceptual Wetland Buffer Mitigation Plan	Shannon & Wilson, Inc., August 25, 2005
Construction Sequencing and Construction Features Proposal	Jones and Jones, October 19, 2005
Critical Area Report: Wildlife Assessment	Shannon & Wilson, Inc., October 19, 2005
Deviation from Standards Request: Composting Toilet	Jones and Jones, October 11, 2005

Environmental information that has been prepared, or will be prepared, *continued*

Deviation from Standards Request: Rainwater Harvest and Reuse	PACE Engineers, Inc., October 11, 2005
Deviation from Standards Request: Sanitary Sewer Deviation for Greywater Treatment	PACE Engineers, Inc., October 19, 2005
Geotechnical Report	Shannon & Wilson, Inc., April 21, 2005
Phase I Environmental Site Assessment	Shannon & Wilson, Inc., May 26, 2005
Preliminary Stormwater Report	PACE Engineers, Inc., June 28, 2005
Schematic Design Report	Jones and Jones, March 2005
Transportation and Parking Assessment	The Transpo Group, Inc., October 6, 2005

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

There are no known applications pending for governmental approvals of other proposals directly affecting the property covered by the MSEEC proposal.

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

The list of anticipated permits and government approvals is provided in the table below. The SEPA Checklist may be submitted for review and processing under the City's Preliminary SEPA procedures, in advance of the land use permit application package.

SEPA Compliance	City of Bellevue, Land Use Division
NEPA Compliance	City of Bellevue, Land Use Division; U.S. Department of Housing and Urban Development
Hydraulic Project Approval	Washington Department of Fish & Wildlife
Endangered Species Act Compliance	City of Bellevue, Land Use Division; U.S. Department of Housing and Urban Development
Clearing and Grading Permit	City of Bellevue, Building Division
Right-of-Way Use Permit(s)	City of Bellevue, Transportation Division
Demolition Permit	City of Bellevue, Building Division
Foundation Permit	City of Bellevue, Building Division
Building Permit(s)	City of Bellevue, Building Division
Fire Sprinkler Systems, Fire Alarm Systems, Fire Hydrant System	City of Bellevue, Fire Prevention Division
Variance: Building Height in R-15 Zone	City of Bellevue, Land Use Division
Modification of Protected Area Status	City of Bellevue, Land Use Division
Deviation from Standards for a Composting Toilet	City of Bellevue, Utility Department
Deviation from Standards for Rainwater Harvest and Reuse	City of Bellevue, Utility Department
Deviation from Standards for Treatment of Wetlab Sink Greywater	City of Bellevue, Utility Department

Government approvals or permits that will be required, *continued*

Developer Extension Agreements: Water Service, Stormwater Connection	City of Bellevue, Utility Department
Multi-Use Side Sewer Permit	City of Bellevue, Utility Department

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☐ Preliminary Plat or Planned Unit Development
Preliminary plat map

☒ Clearing & Grading Permit application
Plan of existing and proposed grading
Development plans

☒ Building Permit (or Design Review) application
Site Plan
Clearing & Grading plan

☐ Shoreline Management Permit application
Site plan

Insert Figure 1: Vicinity Map

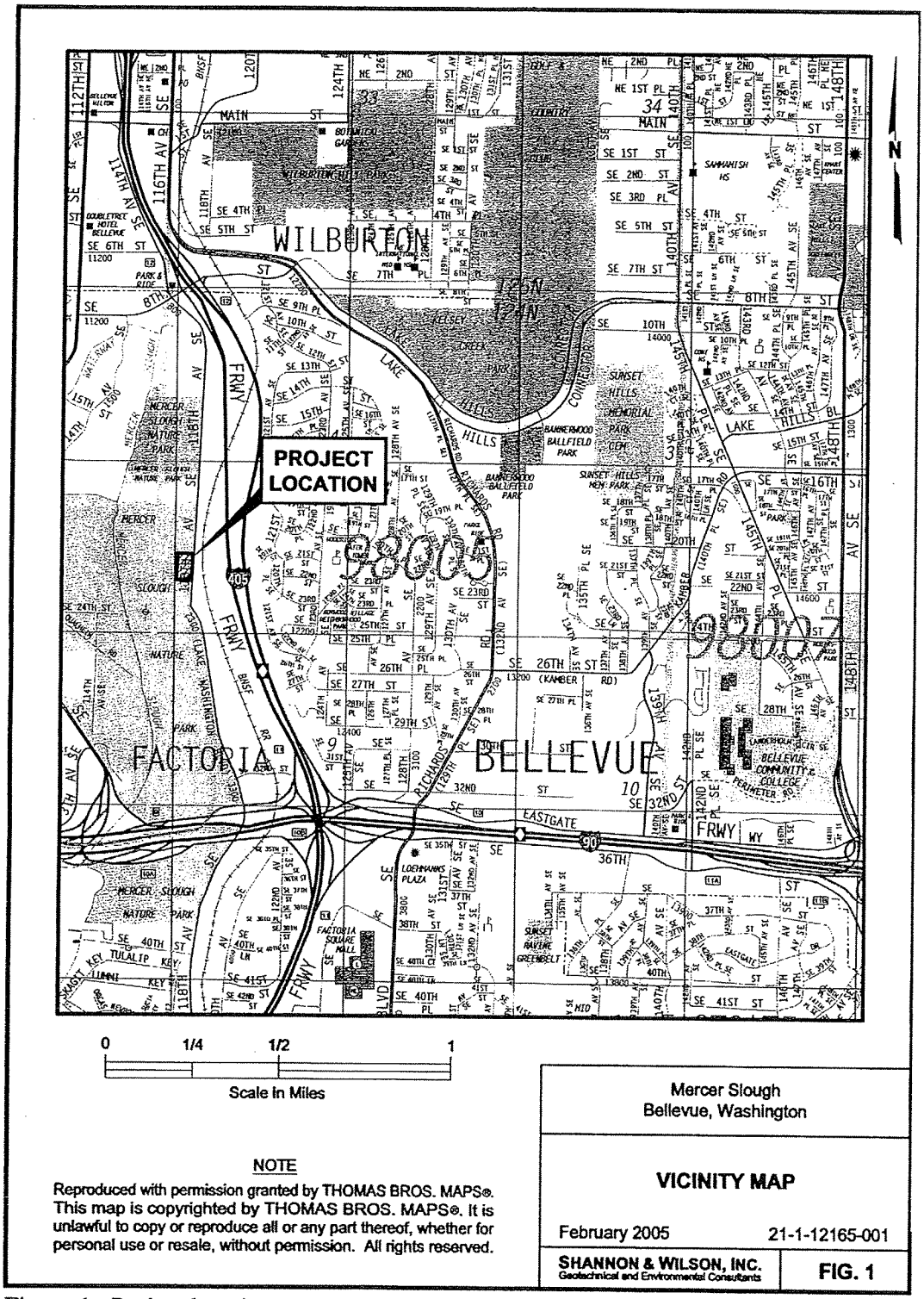

Figure 1. Project location, T. 24 N., R. 5 E., Section 4. (Map from Shannon & Wilson, Inc)

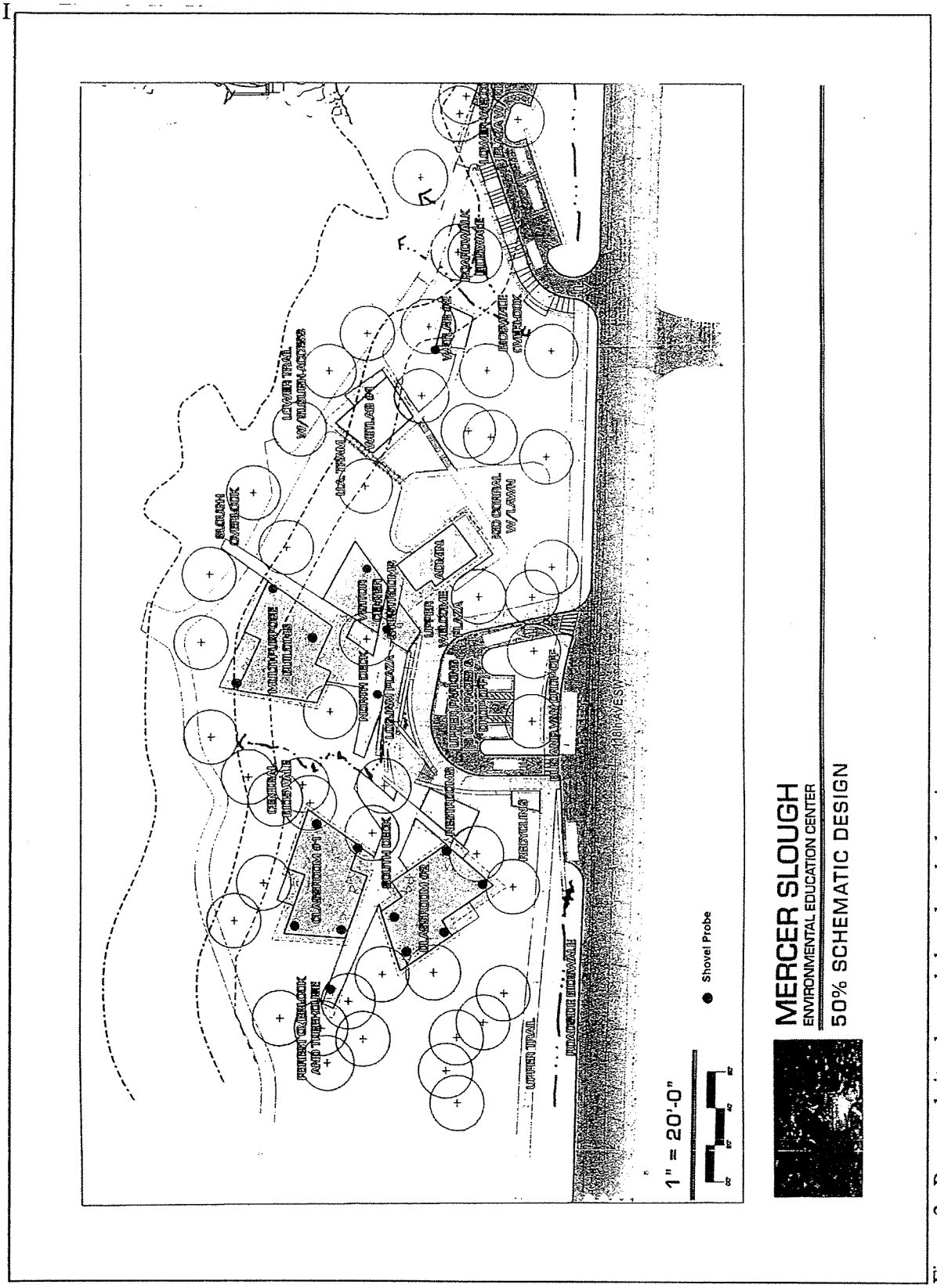

Figure 2. Proposed site plan and shovel probe locations.

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: ☐ Flat ☐ Rolling ☒ Steep slopes ☐ Mountains ☐ Other.

South, west, and northwest of the existing MSEEC Administration Building, the site slopes down toward Mercer Slough. Slopes are typically 1.5 Horizontal to 1 Vertical (1.5H:1V) to 2H:1V, and flatten down to the Slough. Total vertical relief is approximately 30 feet. Steep slopes occur generally adjacent to the existing trail along the wetland buffer edge, from the existing Wetlab #1 building southward. The ground surface in the area of the existing MSEEC Administration Building and parking lot is relative level, varying in elevation from 56 to 66 feet (Shannon & Wilson, Inc., April 21, 2005).

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slopes on the site exceed 40% slope north, west, and south of the MSEEC Administration Building and existing parking lot (see Figure 3, Slope Categories Map). The majority of the 18.2-acre site is within the Mercer Slough wetland or the buffer associated with this wetland, where the ground surface is essentially level.

The City of Bellevue Land Use Code imposes disturbance limitations on properties with slopes equal to or greater than 15% (LUC 20.25H.110.D.a). Landslide deposits on slopes 15% or greater, and slopes 40% or more are Protected Slopes (LUC 20.25H.070.A.4). The MSEEC site has both of these characteristics. For the purpose of calculating the percent disturbance allowed, the entire site area is used (exclusive of road right-of-way where construction disturbance will occur). The Slope Categories Map shows the following distribution of site area within each category of steepness, and the amount of allowable site coverage on the basis of Sensitive Earth Conditions:

Table 1. Calculation of area of allowable disturbance on slopes equal to or greater than 15 percent.[1]

Slope Categories	Site Area in Each Slope Category	% Disturbance Allowed	Total Amount of Onsite Disturbance Allowed
0 to 15% slope	604,362 sf	x 100%	604,362 sf
15 to 25% slope	40,450 sf	x 60%	24,270 sf
25 to 40% slope	16,980 sf	x 45%	7,641 sf
Greater than 40% slope	131,000 sf	x 30%	39,300 sf
Total Site Area (in sf):	*792,792 sf*		*675,573 sf*
Total Site area (in acres):	*18.2 acres*		*15.5 acres*

[1] Based on City of Bellevue LUC 20.25H.110.D.a only. Other regulations apply; e.g., Maximum Lot Coverage by Structures (LUC 20.20.010). See Attachment B to this SEPA Checklist.

The provisions of the City of Bellevue *Land Use Code* Sensitive Area Overlay District (LUC 20.25H.070) restrict Maximum Lot Coverage by structures 30 inches or more in height. While the dimensional requirements of the R-15 zone allow Maximum Lot Coverage by structures of 35% (LUC 20.20.010), this calculation must be based on net site area after Sensitive Areas are deducted. The MSEEC site has substantial Sensitive Areas in the form of Type A Wetlands, Protected Slopes, and primary setbacks for land alteration from these features.

Insert Figure 3. Slope Categories Map

The calculation of net site area and Maximum Lot Coverage by Structures is provided in Attachment B to this SEPA Checklist. The MSEEC permit application package will include an application for variance for Lot Coverage by Structures.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soil types found on the site are described in the *Geotechnical Report* (Shannon & Wilson, Inc., April 21, 2005), and *Geotechnical Report Addendum* (Shannon & Wilson, Inc., July 29, 2005). Nineteen borings were drilled and sampled at locations shown on Figure 2 in the *Geotechnical Report*. Three additional borings were drilled and sampled for the *Geotechnical Report Addendum*. These are shown on revised Figure 2 in the *Addendum*. Exploration logs are presented in Appendix A of the *Geotechnical Report*, and in attachments to the *Addendum*. In general, fill, peat, and landslide debris (sand, silt, and clay) overlie glacial deposits consisting of older sand and gravel, older clay till and gravel, and lacustrine deposits. Soil characteristics distinguish three areas of the site. Summary descriptions are provided below.

The portion of the site south of the existing parking lot is covered by landslide debris to depths ranging from about 12 to 14 feet below ground surface (bgs). In general, the landslide debris consists of very loose to medium-dense, slightly clayed, silty sand and slightly silty, fine to medium sand and stiff to hard silty clay. The landslide debris appears to be thickest in the area of the southern most boring drilled. Below the landslide debris, borings encountered a glacially-overridden deposit that consisted of very stiff to hard silty clay (native soil). Neither samples obtained from the landslide debris nor the native soil unit in this area were observed to be wet.

The portion of the site east and north of the existing parking lot is covered by fill to depths ranging from about 6 to 17 feet bgs. In general, the fill deposits consist of very loose to medium-dense, slightly gravelly, slightly clayey to clayey, slightly silty to silty sand. The fill appears to be thinner north of the existing parking lot, and thicker east of this lot. Below the fill, borings encountered a relatively thick deposit of glacial advance outwash (native soil) comprised of relatively clean, dense to very dense, slightly gravelly sand. Samples obtained from both the fill unit and the native soil unit in this area were observed to be moist. Below the glacial outwash unit, borings encountered a glacially-overridden deposit that generally consisted of very stiff to hard, silty clay (native soil). Samples obtained from this native soil unit were not observed to be wet.

Below the fill in the area of the proposed new North Parking Lot, borings encountered peat ranging in thickness from 10 to 11 feet. Below the peat, glacially-overridden clay was encountered. It is estimated that the area underlain by peat is approximately 0.4 acre in size (Shannon & Wilson, Inc., April 21, 2005; Figure 2).

Soils encountered along the west embankment slope of 118th Avenue SE in the area proposed for a pedestrian/bicycle lane were found to be similar to those reported in the area of the proposed new North Parking Lot (Shannon & Wilson, Inc., July 29, 2005; revised Figure 2): fill, and fill with peat underlain by glacial deposits. The fill material was encountered at about 10 feet below ground surface at three boring locations, and consists of loose, silty, gravelly sand, sandy silt; silty, sandy gravel; and soft, sandy silt. Below the fill, glacial deposits were encountered at elevations ranging from approximately 34 feet at the south end of the embankment slope to about 30 feet in the middle. Peat deposits found in Boring 22 (as reported in the *Geotechnial Report Addendum*), when correlated with those encountered in Boring 19 (as reported in the *Geotechnical Report*), suggest that the peat layer may be 12 feet thick and may be underlain by stiff clay (at about elevation 6 feet).

While there are no agricultural soils or designated prime farmland on the site, the historical records search reported in the *Phase I Environmental Site Assessment* (Shannon & Wilson, Inc., May 26, 2005) indicates that the site and adjoining property to the north were historically used as farmland.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

The *Geotechnical Report* identifies remnants of an old landslide on the hillside south of the existing parking lot. This hillside is amphitheater-shaped, has deranged drainage, and is locally hummocky. Mature evergreen trees in this area were observed to have curved trunks. Signs of instability were also observed in soil samples collected from this area 12 to 14 feet below ground surface (Shannon & Wilson, Inc., April 21, 2005).

A seismic performance evaluation of the site is also described in the *Geotechnical Report*, in the context of what is known about the Seattle Fault zone and mapped liquefaction susceptibility zones (Section 6.2). Due to the relatively low groundwater level and absence of loose, cohesionless soils below proposed structures, it is the opinion of the geotechnical consultant that risk of liquefaction and lateral spreading is low on the MSEEC site (Shannon & Wilson, Inc., April 21, 2005).

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

A narrative description of construction sequencing and construction features is provided as Attachment A to this SEPA Checklist. The purpose, type, and approximate quantities of filling and grading required are summarized in Table 2, below.

Table 2. Purpose, type and approximate quantity of excavation and fill required to construct the Mercer Slough Environmental Education Center.

Purpose of Excavation and Fill Proposed	Approximate Quantity of Excavation	Approximate Quantity of Fill
Site preparation (stripping)	970 cy	
Foundation preparation	560 cy	810 cy
North Parking Lot	4,340 cy [a]	4,600 cy [b]
Water and sewer trenches	540 cy	540 cy [c]
Greywater septic tank and piping [d]	50 cy	20 cy
Offsite parking: grading and storm drainage system construction	60 cy	180 cy
Totals:	**6,520 cy** [e]	**6,150 cy** [e]

[a] The large amount of excavation in the North Parking Lot would be for the purpose of removing a large peat deposit.

[b] The North Parking Lot fill quantity is based on placing 6 to 8 feet of structural fill in the area of the large peat deposit that would have to be removed. Alternatively, the current proposal is to use Type I Expanded Polystyrene (EPS) blocks for the following advantageous reasons: to reduce the weight of the fill embankment and resulting ground settlements; ease and accelerated rate of construction; simplified drainage installation; and comparable cost to other alternatives. The EPS block proposal would reduce the estimated quantity of fill to be imported to the site, and would eliminate the need to preload the structural fill for a period of 6 months to 1 year with an equivalent height of temporary fill. The EPS block approach would still require over-excavation to a depth of 24 inches, placement of a 1-foot-thick layer of imported and compacted structural fill to provide a firm working surface for the EPS blocks, and 6 inches of clean crushed rock or gravel placed continuously against the blocks to provide adequate drainage. See the Construction Proposal narrative in Attachment A to the SEPA Checklist, and Section 6.11 of the *Geotechnical Report* (Shannon & Wilson, Inc., April 21, 2005) for additional information regarding North Parking Lot preparation.

[c] Fill to be placed in water and sewer line trenches will be select imported fill suitable for pipe bedding.

[d] The greywater treatment system is subject to approval as a Phase 2 construction element.

[e] Excavation and fill quantity estimates are conservatively high, given that excavation of the peat deposit from the area proposed for the North Parking Lot is unlikely to occur.

It can be expected that the vast majority of the excavation, fill and grading described in the table above will occur in Phase 1. Provisions for the three Phase 2 buildings and the Wetlab sink greywater treatment system will be roughed-in during Phase 1 construction, so that landscape restoration will be essentially the only earthwork required in Phase 2 (personal communication with Bill Jones, Roen Associates, July 7, 2005).

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur during construction if required temporary erosion/sedimentation control measures were inadequate or improperly installed or maintained.

Erosion could occur in the developed condition of the site if slope stabilization and required stormwater management measures were inadequate or improperly installed or maintained.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 1.44 acres (approximately 7.9%) of the 18.2-acre parcel will be covered with impervious surfaces in the completed condition of the project. This includes paved areas, paved and gravel trails (existing and proposed), decks, buildings, and kiosks.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Consistent with project objectives to minimize disruption of existing topography and vegetation, most structures (including the pedestrian/bicycle trail) will be constructed on piles extended through fill and landslide deposits to stiff glacial deposits (native soil).

The contractor will be required to comply with City of Bellevue restrictions on rainy season clearing and grading.

The response to Question A.3.d, below, describes proposed erosion control measures during construction and in the completed condition of site development.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Implementation of the proposal will result in dust and construction vehicle exhaust emissions during site development, and automobile emissions associated with student drop-offs and visitors to the MSEEC in the completed condition of the project. The facility heat source will be converted from strictly electric heat pumps serving existing buildings to a combination of natural gas and electric heat pump heating in the Administration Building and all new structures (described in SEPA Checklist Section A.6.a). The air quality implications of the proposed facility were considered in a review by Geomatrix Consultants, Inc. (September 30, 2005), who concluded that air quality impacts are highly unlikely to occur.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

The predominant source of offsite emissions in the project vicinity is automobile exhaust. The site is approximately 600 feet west of I-405 at the Wilburton Tunnel, near the I-405/I-90 interchange, where peak hour traffic congestion is a frequent occurrence. It is not expected that offsite automobile emissions will adversely affect operation or use of the Mercer Slough Environmental Education Center.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Some of the Temporary Erosion/Sedimentation Control measures proposed during construction will also be effective in suppressing dust generated from site development. Representative measures include providing a stabilized construction entrance, providing construction equipment wash-down areas, and maintaining a sweeper onsite during earthwork to remove soil tracked onto paved areas. See Drawing C1.4, Erosion and Sediment Control Notes, and the *Construction Sequencing and Construction Features Proposal* (Jones and Jones, October 19, 2005).

3. Water

a. *Surface*

1) Is there any surface water body on or in the immediate vicinity of the site (including year-around and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The site is adjacent to wetlands associated with Mercer Slough (also shown as Mercer Creek on FEMA mapping); the slough and associated wetlands flow into Lake Washington.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No work will be required over or in water. All of the proposed work is more than 200 feet from Mercer Slough; however, all proposed buildings and infrastructure, pedestrian improvements, and parking will be constructed within 200 feet of wetlands associated with Mercer Slough.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The project does not require filling or dredging in surface water or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

It is an element of the proposed project to harvest rainwater[1] from two roofs (the Visitor Center/Restroom, and Classroom #2) for reuse in flushing toilets, which would constitute a withdrawal from the drainage basin of the wetland associated with Mercer Slough. This water would be discharged to the sanitary sewer. The annual volume of harvested rainwater is estimated to be 100,000 gallons (approximately 12,820 cubic feet), which is in excess of demand for the proposed use. Surplus water would overflow to a discharge pipe and dispersion trench just above the wetland edge, which would also provide discharge for a maintenance drain on the storage tank. No surface water diversions are proposed. The proposed restroom and rainwater harvesting plumbing designs would include Department of Health requirements for connection to the City of Bellevue water supply system, and cross-connection protection to avoid contamination of the City water supply.

The buildings proposed for rainwater harvesting are Phase 2 buildings, and the Restroom point of use buildings are part of Phase 1. The Restrooms would initially operate from their City water connection, and include provision for connection to the future rainwater reuse system, as well as roof runoff dispersion. If for any reason the Phase 2 construction is postponed or does not occur, the Restrooms would continue to

[1] Rainwater harvesting consists of collecting rainwater from the roof, usually from a pipe connection at the gutter, and storing in a tank until needed. The storage would be no more than could be used in one year for the proposed use, and would include an overflow to return 'excess' water to discharge to the wetland. Rainwater reuse systems may include small pumps to supply the rainwater to the point of use, if gravity flow is not feasible. See the *MSEEC Stormwater Management Deviation Request: Rainwater Harvest and Reuse* (PACE Engineers, October 11, 2005) for additional information.

operate using City water, and rainwater runoff from the three buildings would be discharged; for example, via the pipe to an outlet in the wetland buffer.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The proposal does not lie within a 100-year floodplain (FEMA, Map No. 53033C0656 F, May 16, 1995).

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Sediment could leave the site during construction if erosion control measures are inadequate or improperly installed or maintained.

Typical pollutants associated with parking areas will be found in stormwater runoff from existing and proposed the parking lots, and from that portion of 118th Avenue SE that sheetflows to the parking lot stormwater collection system. These stormwater discharges will be treated for removal of 80% of total suspended solids (TSS) and metals using three compost-amended filter strips prior to release at the wetland edge.

b. ***Ground*:**

1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater will be withdrawn, and no water will be intentionally discharged to groundwater.

The geotechnical exploration of the site did not encounter regional groundwater. The borings did encounter local zones of groundwater within the fill layer and landslide debris, and then again in the underlying sand encountered in one boring east of the existing parking lot at about 17 feet below ground surface. It is projected that groundwater levels fluctuate with seasonal variations in rainfall (Shannon & Wilson, Inc., April 21, 2005). In general, groundwater should be expected within the sand layers and, to a lesser extent, perched within the fill layer and landslide debris on the site (Shannon & Wilson, Inc., May 26, 2005).

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

One of the Low-Impact Development options for the project is to provide greywater treatment for Wetlab sink discharges averaging approximately 160 gallons per day, using a subsurface septic tank and approximately 200 square feet of constructed wetland. This system (if implemented) would be installed between Wetlab #1 and Wetlab #2 during Phase 2, in an area where fill soils overlie a glacially-overridden deposit of very stiff to hard, silty clay (native soil). The proposed septic tank size is 900 gallons. While no direct discharge to groundwater is proposed, the log of Boring 15 shows that moist to wet conditions were encountered in this area, from the ground surface to a depth of 21 feet (Shannon & Wilson, Inc., April 21, 2005).

The estimated quantity of Wetlab sink discharge to this system is approximately 60,000 gallons per year. Given that the groundwater source of hydrology to the Mercer Slough wetland is derived from a far greater area than the MSEEC site, this element of the proposal is not anticipated to have any adverse impact on the wetland (PACE Engineers, Inc., June 28, 2005).

c. *Water Runoff* (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Rainfall results in stormwater runoff from the site. All of this runoff presently enters wetlands associated with Mercer Slough and flows to Mercer Slough and Lake Washington. The receiving system will be the same for the developed condition of the MSEEC site with stormwater management measures in-place.

Runoff from the existing parking lot adjacent to the MSEEC Administration Building enters a catchbasin, trenchdrain, and conveyance pipe to a stormwater detention pipe that also receives runoff from a catchbasin at the west edge of 118th Avenue SE. There is no existing water quality treatment for this runoff. From the detention pipe, stormwater is presently discharged to a grassed slope and flows overland to the wetlands associated with Mercer Slough. Proposed modifications to this parking lot will result in a slightly smaller asphalt-paved turn-around and two parking spaces. Stormwater will continue to be collected in a catchbasin; enhanced water quality treatment will be provided in a compost-amended filter strip.

Runoff from the proposed new North Parking Lot will sheetflow to three compost-amended filter strips for enhanced water quality treatment, then sheetflow to the Mercer Slough wetland. Runoff from the existing 118th Avenue SE roadway will continue to sheetflow down the vegetated road embankment to a vegetated bioswale to be reconstructed in the existing grassed swale. Runoff from this vegetated bioswale will flow to the existing discharge pipe that discharges to the Mercer Slough wetland. Post-development discharges from the proposed system are calculated at:

2-year 24-hour storm	0.12 cfs
100-year 24-hour storm	0.22 cfs

Runoff from two roofs (Classroom #2 and the Visitor Center/Restroom 1) is proposed to be harvested for reuse in flushing toilets (PACE Engineers, Inc., October 11, 2005). The storage tank overflow and drain will be conveyed to a dispersal trench on the downslope side of the existing wetland trail. Four other structures (Wetlabs #1 and #2, Restroom 2, and the Garbage/Recycle Enclosure) will have green roofs[2] that will reduce their runoff. Runoff from buildings that will not have green roofs or rainwater harvesting (Classroom #1 and the Multi-Purpose Building) will be piped from downspouts to a gabion outfall with vegetated reinforcement mat for dispersal on the slope. Runoff from other paved gathering places will sheetflow to dispersal in vegetated areas (see the Grading and Stormwater Plan, Drawings C2.1 and C2.2). The existing Administration Building roof will remain connected to the existing roadway detention system.

Existing characteristics of stormwater collection and proposed modifications in the offsite parking area are described in the *Construction Sequencing and Construction Features Proposal*: Attachment A to this SEPA Checklist.

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[2] Green roofs are vegetated roofs constructed over a roof membrane and include an engineered soil and specialized plantings. Green roofs reduce peak flow rates and volume of stormwater runoff.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Sediment could leave the site during construction if erosion control measures were inadequate or improperly installed or maintained.

Typical pollutants associated with parking areas will be found in stormwater runoff from parking areas and the roadway. These will be treated for removal of 80% of total suspended solids (TSS) and metals using three compost-amended filter strips. A spill control-type oil/water separator will be provided for the proposed new North Parking Lot.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

DURING CONSTRUCTION

Due to the location of the site within the Mercer Slough Drainage Basin, the City's Clearing and Grading Code restricts grading or hauling dirt to the months when the least rainfall generally occurs: May 1 through October 31. This restriction will be effective in limiting turbid runoff from the site during periods when soils are exposed.

The contractor will be required to implement a Temporary Erosion and Sediment Control Plan (TESCP) prepared in accordance with City of Bellevue and Washington Department of Ecology (Ecology) standards to minimize construction impacts. The TESCP will include the following measures (see Drawings C1.1 through C1.4, Erosion and Sediment Control Plan, Details and Notes):

- Mark clearing limits and trees to preserve.
- Limit areas of disturbance.
- Preserve existing vegetation on the site for as long as possible, or as required by the Clearing and Grading Inspector.
- Construct a single stabilized construction access.
- Provide perimeter sediment control using a reinforced silt fence and coir (coconut husk fiber), straw wattles, or logs.
- Cover all areas that will be unworked for more than 7 (seven) days during the dry season or 2 (two) days during the wet season with straw, wood fiber mulch, compost, plastic sheeting, or an approved equivalent.
- Provide a sediment trap for the most disturbed area.
- Protect drain inlets with filter bags.
- Install catch basin inserts as required by the Clearing and Grading Inspector or permit conditions.
- Limit work on steep slopes to tracked vehicles.
- Comply with City of Bellevue rainy season restrictions (November 1–April 30).[3]
- Relocate or modify surface water controls and erosion control measures, or install new measures, as site conditions change.
- Require contractor to monitor and maintain erosion/sedimentation control measures in accordance with Ecology standards and manufacturer's recommendations.
- Stabilize all areas within 7 (seven) days of reaching final grade.
- Seed or sod any areas to remain unworked for more than 30 days.

[3] City of Bellevue Department of Planning and Community Development approval is required to begin or continue clearing and grading activities during the rainy season (November 1–April 30). BCC 23.76.093A.

Proposed buildings to be constructed on slopes will utilize pile foundations installed from tracked vehicles to minimize excavation requirements and site disturbance. Revegetation of the site using mostly native plantings is proposed to minimize erosion after construction.

DEVELOPED CONDITION

Water quality treatment for runoff from the proposed North Parking Lot will be provided in three compost-amended filter strips designed per Washington Department of Ecology (SMMWW 2005) standards.

Measures to minimize the affect of stormwater runoff from proposed improvements on the sloping site include various means of collection, interception, and conveyance. Green/living roof systems proposed on four structures will intercept and slow runoff in plantings to be installed on these roofs. Runoff from the Multi-Purpose Building and Classroom #1 will be collected in a gutter along the handrail of the interconnecting deck system. These gutters will discharge to gabion splash blocks over a vegetated slope-protection system (likely a plastic cellular confinement system [Slopetame or similar]) to be installed on the slope between Classroom #1 and the Multi-Purpose Building (see Site Plan). The erosion control mat will be planted with species suitable for soil retention, runoff dispersal and uptake. Roof runoff from Classroom #2 and the Visitor Center (Phase 2 buildings) will be collected in cisterns beneath the buildings, for use in flushing restroom toilets (if permitted by Bellevue City code). Overflow from the cisterns will discharge to dispersal trenches at the base of the slope (see Drawing C2.1). The rainwater harvest proposal is described in detail in a Stormwater Management Deviation Request (PACE Engineers, Inc., October 11, 2005).

Stormwater runoff from surfaces not subject to vehicular traffic will be allowed to dissipate or flow unconcentrated into vegetated areas. Unconcentrated flow (i.e., sheetflow) will not be allowed to occur on slopes. Measures such as roughened surfaces and lengthened meandering flow paths may be implemented to reduce developed-condition peak runoff rates and minimize directly-connected impervious surfaces.

4. Plants

a. Check or underscore types of vegetation found on the site:

X **deciduous trees: alder, maple, aspen, other: black cottonwood, fruit trees**
X **evergreen trees: fir, cedar, pine, other: Douglas fir, western hemlock**
X **Shrubs: willow spp., Indian plum, Himalayan blackberry, blueberry**
X **grass**
__ **pasture**
__ **crop or grain**
X **wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other:**
__ **water plants: water lily, eelgrass, milfoil, other:**
X **other types of vegetation: sword fern, Oregon grape, salal**

b. What kind and amount of vegetation will be removed or altered?

Based on the 100% Design Development site plan (Jones and Jones, July 2005), approximately 31,408 square feet of forested wetland buffer will be permanently altered by site development activities. Approximately 15,462 square feet of forested wetland buffer will be temporarily impacted during construction. Wetland buffer on the MSEEC site consists of upland deciduous forest and scrub/shrub habitat: primarily big-leaf maple, Douglas fir and cottonwood trees, with an understory of salal, Indian plum, and Oregon grape. Mature trees will be avoided to the extent practicable.

To the extent that forest and scrub/shrub habitat is removed from the site, forage, refuge and breeding locations for wildlife that use these plant communities will also be reduced.

c. List threatened or endangered species known to be on or near the site.

Based on the results of an information request submitted to the Washington Department of Natural Resources, Natural Heritage program database, no threatened or endangered plants are known to occur on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

City of Bellevue *Land Use Code* (LUC) 20.20.520E requires retention of 15% of the diameter inches of all existing significant trees on the site, and allows trees retained within the wetland to count toward this requirement. Given the large number of significant trees on the 18.2-acre parcel, the comparatively small amount of development proposed, and site design that integrates structures with significant trees to preserve the forested character of the property, the LUC tree retention requirement will be met with the MSEEC expansion proposal.

Vegetated areas temporarily disturbed during construction will be restored and revegetated. The mitigation proposal for permanent wetland buffer impacts includes a combination of offsite buffer restoration adjacent to Mercer Slough (south of the existing Metro park-and-ride facility on Bellevue Way SE) at a ratio of approximately 1:1, and wetland enhancement in the former blueberry field located approximately 100 feet west of the MSEEC site at a ratio of approximately 1.9:1. (See the *Conceptual Wetland Buffer Mitigation Plan* prepared by Shannon & Wilson, Inc., August 25, 2005.) Implementation of the proposal would establish native, non-invasive plant species in the onsite temporary impact restoration area, the offsite buffer restoration area, and the offsite wetland enhancement area. The plant species selected for these plantings are native to the project area and have been used successfully in similar wetland and wetland buffer creation projects. Table 3 summarizes the amount of proposed wetland buffer mitigation in relation to the projected impacts of the completed project.

Table 3. Estimated area of wetland buffer impact and proposed mitigation measures (Shannon & Wilson, Inc., August 25, 2005).

Buffer Impacts	Estimated Area of Buffer Impact	Proposed Mitigation
Temporary Buffer Impacts (during construction)	15,462 sf	15,462 sf
Permanent Buffer Impacts (due to development)	31,408 sf	
Proposed Mitigation – Buffer Restoration		36,835 sf
Proposed Mitigation – Wetland Enhancement		58,138 sf
Totals:	*46,870 sf*	*110,435 sf*

5. Animals

a. Check or underscore any birds and animals which have been observed on or near the site or are known to be on or near the site:

X **birds: hawk, heron, eagle, songbirds, other:**
X **mammals: deer, bear, elk, beaver, other: opossum, raccoon, muskrat**
X **fish: bass, salmon, trout, herring, shellfish, other:**

b. List any threatened or endangered species known to be on or near the site.

The following ESA-listed species are included by the U.S. Fish & Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) on the King County list: bald eagle, marbeled murrelet, Puget Sound chinook salmon, bull trout, grey wolf, sperm whale, Stellar's sea lion, humpback whale, and leatherback sea turtle. Species on this list not precluded from the MSEEC site or its surrounding area by the Hiram Chittendon Locks or urban development include: bald eagle, marbled murrelet, Puget Sound chinook salmon, bull trout, and Stellar's sea lion.

A *Biological Assessment* (BA) has been prepared to assess the potential impacts to threatened and endangered species associated with development of the MSEEC (Shannon & Wilson, Inc., October 19, 2005). The BA is required for the NEPA review being completed with the U.S. Department of Housing and Urban Development (HUD). The paragraphs below describe the likely or unlikely occurrence of listed species on or near the MSEEC site.

The Washington Department of Fish and Wildlife (WDFW) *Priority Habitats and Species Report* indicates that the nearest bald eagle nest to the MSEEC site is approximately three-quarters of a mile southwest (WDFW PHS data, February 24, 2005). Wintering bald eagles regularly utilize Lake Washington and its shorelines, and may be attracted to Mercer Slough due to concentrations of waterfowl.

While marbeled murrelet occurrence has been documented in King County, the presence of this species in the vicinity of the MSEEC project area is considered unlikely due to the combination of this species' preference for marine waters and the lack of suitable habitat in the area.

During seasonal migrations, Puget Sound chinook salmon are known to use the waters of Lake Washington and Mercer Slough. Mercer Slough is located approximately 200 to 300 feet west of proposed MSEEC site development activities.

Although bull trout are known to use Puget Sound as part of their migratory corridor, limited observations of this species have been made in the Lake Washington system; therefore, their presence near the MSEEC site is thought to be rare.

The Stellar's sea lion is an irregular visitor in the Lake Washington system. Occasionally these marine mammals have entered Lake Union through the Hiram Chittendon Locks. Sea lions are not known to enter Lake Washington or Mercer Slough.

Additional priority species are listed in the WDFW database. A great blue heron rookery is documented approximately 1,000 feet northwest of the MSEEC site, within the Mercer Slough wetland complex, and a peregrine falcon eyrie is documented on the I-90 East Channel Bridge approximately 1 mile southwest of the site.

c. Is the site part of a migration route? If so, explain.

Mercer Slough is a designated migratory route for salmon and bull trout. In addition, the general area is part of the west coast flyway. Many bird species utilize the Mercer Slough wetlands and surrounding area for resting and foraging during their seasonal migrations.

d. Proposed measures to preserve or enhance wildlife, if any:

The proposed project is not anticipated to have any substantial long-term effects on "species of special interest" (as discussed in the *MSEEC Critical Area Report: Wildlife Assessment*), or other wildlife species known to be present on the project site or in Mercer Slough. Only minor brief disturbances are expected during the construction period (Shannon & Wilson, Inc., October 19, 2005).

With proposed erosion/sedimentation control measures during construction, and stormwater quality treatment measures in the developed condition of the project, the MSEEC expansion is not expected to have any direct impact on the aquatic habitat utilized by Puget Sound chinook salmon, bull trout or other aquatic species.

Site development will adhere to appropriate jurisdictional guidelines, including work windows and timing designed to minimize disruption during the breeding and rearing season of state- and federally-identified wildlife species.

Although some temporary avoidance of nearby habitats may occur during construction, the well-established and dispersed nature of the various habitat communities present throughout the Mercer Slough complex should amply absorb minor changes in wildlife use patterns and provide a dampening effect during the construction period. Following construction, the functions of each habitat community should become fully utilized again.

To offset impacts from development of the MSEEC, wetland buffer mitigation in the form of enhancement and restoration is proposed, as described in the *Conceptual Wetland Buffer Mitigation Plan* (Shannon & Wilson, Inc., August 25, 2005). The buffer mitigation proposal includes planting black cottonwood trees in the wetland complex, both onsite and offsite, to provide future mature trees to augment the nearby heron rookery and to encourage raptor nesting.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Natural gas will be extended to the MSEEC site to serve the energy requirements of the project. All heating system elements will be UL-listed, and installed by competent contractors to maintain warrantees. The system will be regularly-maintained by City of Bellevue Parks Department staff.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, the MSEEC project will not affect the potential use of solar energy by adjacent properties. Structures are proposed within the forested area of the site, downslope from 118th Avenue SE (the east property boundary), and distant from the west and north boundaries of the property. The west boundary terminates in the broad Mercer Slough wetland, in an area permanently preserved as a nature park. The north boundary is approximately 385 feet distant from the area of the site where structures are proposed, across the new North Parking Lot, in which there will be no vertical construction.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Proposed buildings are designed to meet or exceed City of Bellevue Energy Code requirements. Natural ventilation, passive solar daylighting, and highly insulated building envelopes will reduce the total energy requirements of the Environmental Education Center.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There is a potential that peat soils on the northern portion of the site may contain arsenic contamination if historic farming practices utilized pesticides/herbicides.

1) Describe special emergency services that might be required.

No special emergency services will be required.

2) Proposed measures to reduce or control environmental health hazards, if any:

If peat soils are excavated from the northern portion of the property, they will be tested for metals prior to disposal. See the alternative proposal for North Parking Lot subgrade preparation described in Attachment A to this SEPA Checklist.

b. ***Noise***

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The existing noise environment in the vicinity of the MSEEC 118th Avenue SE site is dominated by vehicular traffic traveling on I-405 and 118th Avenue SE. Sounds from the existing facility heat pumps and birds in the forest and Mercer Slough wetland are also audible on the site. None of the human environment noise sources is expected to adversely affect expansion of the educational center use on the site.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise associated with vehicular trips to/from the site during construction, and the operation of construction equipment will be the predominant, though short-term, noise associated with the project. The estimated construction period for each phase of improvements is 12 to 18 months. During construction phases of the project, the loudest types of equipment to be used will include pile drivers, pavement breakers, and excavation equipment (Jones and Jones, October 19, 2005). The proposal to make on-street parking improvements to the east side of the 118th Avenue SE right-of-way opposite the MSEEC site will bring construction noise in close proximity to existing condominiums on the slope above the roadway.

In the developed condition of the site, the predominant noise would be vehicular trips associated with dropping off and picking up students, and evening events at the Multi-Purpose Building. The majority of student drop-offs are projected to occur between 9:30 and 11:00 AM, with student pick-ups projected to occur between 2:00 and 4:00 PM. Evening and weekend use of the Multi-Purpose Building will vary depending on time of year, but will typically be scheduled between the hours of 7:00 and 10:00 PM.

3) Proposed measures to reduce or control noise impacts, if any:

The construction contractor will be required to comply with City of Bellevue Noise Control regulations (BCC Chapter 9.18), which limit construction to the hours between 7:00 AM and 6:00 PM weekdays, and 9:00 AM to 6:00 PM on Saturdays. Construction noise is not allowed on Sundays or legal holidays. A sign providing notice of the limitation on construction hours shall be posted on the site prior to commencement of construction (BCC 9.18.044). Expanded hours of operation may be authorized by the applicable Department Director subject to criteria set forth in BCC 9.18.020.C; however, construction noise during expanded hours would be subject to maximum permissible noise limits (BCC 9.18.030) that are difficult for construction equipment noise to meet.

Operation of the completed facility is not expected to generate adverse noise impacts. For this reason, no noise controls are proposed or warranted.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The 118th Avenue SE site is currently occupied by a smaller-scale Mercer Slough Environmental Education Center (MSEEC), in operation since 1992. Existing improvements include the Sullivan House, relocated to this property for use as the MSEEC Administration Building; a Wetlab; a crushed rock picnic site north of the Administration Building; an asphalt parking lot south of the Administration Building (13 spaces); and earthen trails variously surfaced with crushed rock and bark.

Adjacent uses include Bellevue's largest City park, condominiums, and construction company yards. The site is nearly contiguous with the 320-acre Mercer Slough Nature Park, which includes 5 miles of trails and the perimeter Lake-to-Lake Greenway Trail. Opposite the site on the east side of 118th Avenue SE are the Brookshire Condominiums. Other uses north and south of the MSEEC site along 118th Avenue SE include Burkey Construction, Doolittle Construction, a Metro Access vehicle yard, Mercer Park Condominiums, and the Bellefields Trailhead. The Burkey Construction site is characterized by unsheltered construction equipment storage and piles of debris and pipes. Several tanker trucks are parked on the Doolittle Construction site, which is more screened from 118th Avenue SE due to its elevation and roadside vegetation. Improvements at the Bellefields Trailhead south of the MSEEC site include restrooms and offstreet parking for 9 vehicles, to provide day-use access to the pedestrian/bicycle Lake-to-Lake Trail.

b. Has the site been used for agriculture? If so, describe.

The site and adjoining property to the north were historically used as farmland (Shannon & Wilson, Inc., May 26, 2005). Due to steep slopes from the area of the existing Administration Building and Wetlab southward, only the slough bog in the northern portion of the site was cultivated for the production of berries and fruit trees.

c. Describe any structures on the site.

The Sullivan House is a two-story wood-frame farmhouse with wood siding and a cedar shingle roof. The existing Wetlab, also a wood-frame structure, has the appearance of being a former garage or boathouse. Both structures were moved to the site in the early 1990s to serve the interim MSEEC use. Additional description of the Sullivan House is provided in the response to Question A.13.b, below (Historic and Cultural Resources).

d. Will any structures be demolished? If so, what?

The existing Wetlab will be demolished and removed from the site. The existing concrete foundation of this structure will be used to construct Wetlab #1 in the proposed site development scenario.

e. What is the current zoning classification of the site?

The current zoning classification of the MSEEC site is R-15, Multifamily Residential (LUC 20.10.220), with a Sensitive Areas Overlay (LUC 20.25H). The relationship of proposed development to the dimensional requirements of the R-15 zone are shown in Table 4, below.

Table 4. Relationship of proposed MSEEC expansion to the dimensional requirements of the R-15 zone (LUC 20.20.010).

R-15 Zone Dimensional Requirements	Setback Required	Setback Proposed
Front Yard	20 ft	40 ft from Lake-to-Lake Trail[1]
Rear Yard	25 ft	[2]
Side Yard	5 ft	[3]
Additional Sensitive Area Setbacks:		
Type A Wetlands	50 feet (or up to 225 feet)	See Attachment B to this SEPA Checklist
Landslide Deposits on slopes 15% or more	75 feet from toe of slope	See Attachment B

Slopes 40% or more	50 feet from top of slope	See Attachment B
Maximum Lot Coverage by Structures	35%	See Attachment B

[1] The existing Sullivan House (MSEEC Administration Building) will continue to be the closest structure to the front lot line.

[2] The rear (west) lot line does not appear on site plan drawings as it is approximately 495 to the west within Mercer Slough/Mercer Slough wetland complex.

[3] The south side yard lot line also is not shown on site plans, as it is approximately 325 feet from the area of proposed development. The closest proximity of proposed structures to the north lot line is approximately 385 feet.

f. What is the current comprehensive plan designation of the site?

The Southwest Bellevue Subarea Plan designation of the MSEEC site is P/MF-M, Park/Multifamily-Medium Density.

g. If applicable, what is the current shoreline master program designation of the site?

MSEEC site improvements are proposed landward of the Mercer Slough Nature Park trail, approximately 450 feet east of the open water of Mercer Slough. The site is not within a shoreline district.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

The MSEEC site is within a Sensitive Area Overlay District, having Type A wetlands, landslide deposits on slopes 15% or more, and slopes 40% or greater. Site development will be regulated by City of Bellevue *Land Use Code* 20.25H.

i. Approximately how many people would reside or work in the completed project?

Three full-time staff positions are proposed: a site manager and two teachers responsible for program development, scheduling, registration, and program delivery. Six part-time positions are planned: two teachers and four summer aides responsible for program delivery.

There will be no residents on the site.

j. Approximately how many people would the completed project displace?

There are no residents on the site at the present time; therefore, no people would be displaced by the completed project.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Since there would be no displacement impacts, no measures are proposed to avoid or reduce such impacts.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Expansion of the MSEEC use on the 118th Avenue SE site is consistent with the Sensitive Area Overlay District provisions of the Bellevue Land Use Code that allow an interpretive center in a wetland 150 acres or larger in size (LUC 20.25H.110.6.c). Some (or all) proposed improvements will occur in the wetland

buffer associated with Mercer Slough (depending on the width of the Type A wetland buffer at the time of development approval), but no construction is proposed within the delineated wetland. See Attachment B to this SEPA Checklist.

The MSEEC permit application package will include a request for modification of Protected Area standards to allow parking spaces within the wetland buffer at the northwest corner of the site, and proposed lot coverage by structures. Park uses and associated activities are allowed within critical areas, subject to applicable performance standards. A process is in-place to deviate from strict application of the Code using a critical areas reporting process based on specific site conditions (LUC 20.25H.070.B).

Relocation of a portion of the Lake-to-Lake Trail along the eastern boundary of the site, north of the Sullivan House (MSEEC Administration Building), will occur on an elevated boardwalk, consistent with Bellevue Land Use Code provisions LUC 20.25H.110.B.6.a, and LUC 20.25H.110.C.4.a to keep public trails off protected areas (e.g., steep slopes). It will not be necessary to remove or disturb any significant trees to accomplish this trail segment construction.

The *MSEEC Conceptual Wetland Buffer Mitigation Plan* includes planting black cottonwood trees in the Mercer Slough wetland complex, both onsite and offsite, to provide future mature trees to augment the nearby heron rookery and to encourage raptor nesting. This element of the proposal is consistent with the intent of LUC 20.25H.110.B.6.g, and LUC 20.25H.110.C.4.f.

The compatibility of proposed development with existing land uses is described below in the response to questions regarding Aesthetics (Section 10).

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units will be constructed on the site with implementation of the MSEEC proposal.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated from the site.

c. Proposed measures to reduce or control housing impacts, if any:

Given that there will be no impacts to housing on the site, no measures are proposed to reduce or control such impacts.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest structure proposed on the site will be the Multi-Purpose Building at approximately 35.15 feet average existing grade to the top of the shed roof.[4] The permit application package will include a variance application for building heights that exceed the 30-ft height limit allowed in the R-15 zone (LUC 20.20.10).

New building exteriors will be finished with gray metal cladding, with wood siding to flank entries and covered porches. Several roofs will be "green roofs"[5] to minimize stormwater runoff and add to the educational features of site development.

b. What views in the immediate vicinity would be altered or obstructed?

Views across the site from the Lake-to-Lake Trail, and up to the site from the Mercer Slough Nature Park Trail, will be altered by the introduction of new shed structures constructed on pile foundations, integrated with the forested conditions west and south of the existing Administration Building (to remain). The northern portion of the site will be altered from the existing asphalt pathway through a grassy swale to a paved parking lot for approximately 25 vehicles with drive-through access.

Views across the site from the Brookshire Condominiums to the east will not be obstructed by proposed development, due to the substantial difference in elevation between these properties. The condominiums are constructed on a hillside above the MSEEC site. New structures within the project will be visible to condominium residents looking down on the site, particularly during winter months when deciduous trees are without leaves.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The design strategy for the MSEEC will introduce shed-form buildings elevated above or nestled into the hillslope forest of mature Oregon maple and Douglas fir trees on the site. Large windows framing views of the forest, Mercer Slough, and downtown Bellevue will be oriented west, away from 118th Avenue SE (see Drawings A-120, A-121, A-130, A-220, A-320, A-321, A-420, A-421, A-520, and A-620).

Foundation methods selected for proposed construction include a variety of pile types to minimize excavation and tree removal, and to allow regrowth of forest understory vegetation following construction. Green roofs proposed for several buildings will help blend structures with forest vegetation, as viewed from above (i.e., from the east side of 118th Avenue SE).

To the extent reasonable and consistent with site design objectives, mechanical equipment will be located at or below-grade rather than mounted on the roof of any structure. The garbage/recycling area will be a lockable pole structure with screening material (i.e., cribbing), constructed with a "green roof" for a consistency in appearance with the shed structures proposed on the site.

Any slopes impacted by construction will be replanted with native shrubs and ferns. The lawn area around the Sullivan House will be increased in size two-fold. Native shrubs and small trees will be planted along the west side of the 118th Avenue SE and around the drop-off area (see Drawings L-401 and L-402). The stormwater bioswale east of the proposed new North Parking Lot will be planted with native shrubs and grasses (see Drawing L-403).

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[4] Average finished grade will not differ from average existing grade in the area where over-height buildings are proposed. A variance will be requested for the Multi-Purpose Building and Classroom #1.

[5] Green roofs are vegetated roofs constructed over a roof membrane and include an engineered soil and specialized plantings.

No adverse aesthetic impacts to offsite observers are anticipated.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Expansion of the MSEEC use on the site will increase the amount of interior and exterior building lighting and parking lot lighting on the site. Increased attendance in MSEEC activities will also increase light and glare from vehicle headlights associated with trips to/from the site, though the MSEEC will be predominantly a day-use facility. The majority of student drop-offs are projected to occur between 9:30 and 11:00 AM, with student pick-ups projected to occur between 2:00 and 4:00 PM. Evening and weekend use of the Multi-Purpose Building will vary depending on time of year, but will typically be scheduled between the hours of 7:00 and 10:00 PM. A portion of the parking lot lights and pathway lighting will be left on for after-hours security lighting.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

The finished project would not produce light or glare that would constitute a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

Existing offsite sources of light and glare include vehicles traveling on 118th Avenue SE and I-405, and interior/exterior lighting associated with the Brookshire Condominiums to the east. None of these sources would adversely affect the MSEEC expansion proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:

Interior lighting systems will be equipped with occupancy sensors that will automatically shut off lights during unoccupied hours. Exterior lighting will include low-level pathway lighting; parking lot and drop-off area lighting; and lighting at intersections, crosswalks and at the information kiosk. Cut-off shields or other appropriate measures will be used to conceal the light source from adjacent uses and rights-of-way, and to avoid light spill beyond site boundaries or into the Mercer Slough wetland. Due to intervening vegetation and the proposal to nestle structures into the forested hillslope, glare is not expected within Mercer Slough from the west-facing windows of proposed shed structures on the MSEEC site.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The MSEEC site is within the Southwest Bellevue Subarea, associated with the Mercer Slough Nature Park. Mercer Slough Nature Park, connected to the MSEEC site by trails, is the largest community park in the City (320 acres), and essentially undeveloped to maintain its purpose for natural system interpretation. There are several neighborhood parks within the Subarea, but none in the immediate vicinity of the MSEEC site.

The MSEEC site has excellent connections to the Lake-to-Lake Greenway and the Mountains-to-Sound Trail. The Lake-to-Lake Greenway extends from the I-90 corridor north to SE 8th Street, encompassing Mercer Slough Nature Park and passing along the east boundary of the MSEEC site. This route provides Bellevue's primary east-west non-motorized trail connection between Lake Washington and Lake Sammamish. The Mountains-to-Sound Trail extends from Puget Sound at the Seattle shoreline, to the Cascade Mountains in the I-90 corridor.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed MSEEC expansion on the 118th Avenue SE site would not permanently displace any existing recreational uses. A segment of the asphalt Lake-to-Lake Trail would be reconstructed as a boardwalk trail adjacent to the west edge of 118th Avenue SE, from the Administration Building to the north property boundary, to replace the portion of the trail that presently meanders through the area proposed for construction of the new North Parking Lot.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The bicycle lane and pedestrian boardwalk improvements proposed along the west side of 118th Avenue SE to replace the asphalt trail segment through the North Parking Lot will be constructed at the onset of work to maintain the Lake-to-Lake Trail connection during construction of all other improvements on the MSEEC site.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No, there are no known places or objects listed on, or proposed for listing on, national, state, or local preservation registers on or next to the MSEEC site.

The nearest recorded site, approximately one-quarter mile east of the MSEEC site, is the Wilburton Trestle (site 45KI262), a 984-foot-long timber railroad trestle first constructed by the Northern Pacific Railroad in 1904 (Soderberg 1980). The trestle was completely rebuilt several times between 1913 and 1943-1944. It was placed on the Washington Heritage Register in 1981.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

MSEEC administrative functions are housed in a former residence constructed during the early 20th century. The structure is not in its historical setting, having been moved to the MSEEC site in the mid-1990s from its original location on 100th Avenue SE. Changes were made to the structure during the 1960s and 1970s, when it was used as a preschool. The structure does not appear to meet criteria of the National Register of Historic Places (NRHP) due to a lack of integrity with the original construction and site setting.

c. Proposed measures to reduce or control impacts, if any:

Implementation of the MSEEC proposal will neither physically affect nor obstruct views of or from the Wilburton Trestle.

In the event that suspected cultural material, such as stone tools or flakes, bone, fire-modified rock, or the remains of hearths or other features, is encountered during ground-disturbing activities associated with the project, the Washington State Office of Archaeology and Historic Preservation (OAHP) should be contacted and work suspended at that location until an assessment of the find can be made by a professional archaeologist. If suspected human remains are found, work in the vicinity must be suspended, the area secured, and the King County Medical Examiner contacted to assess the remains. If the remains are Native American, interested tribes, including the Muckleshoot Indian Tribe and Snoqualmie Tribe, must be informed. The Duwamish Tribal Community, although not a federally-recognized tribe, is also an interested party and should be informed as a courtesy. A plan for treatment of the remains would then be developed by interested parties including the City of Bellevue, OAHP, and the tribes.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Access to the MSEEC site is provided by Interstate 405 and 118th Avenue SE. The adjacent roadway (118th Avenue SE) is a two-lane, asphalt-paved roadway, with segments of curb, gutter and sidewalk along some property frontage. Driving lanes are approximately 10 feet wide, with edge striping to delineate a bicycle lane (3 to 5 feet wide) on both sides of the right-of-way. There are streetlights along the west side of 118th Avenue SE, spaced approximately 200 feet apart.

The MSEEC site presently has a single driveway for vehicular access to/from 118th Avenue SE. This driveway and the existing parking lot will be reconfigured as a drive-through loop (two driveways) to be used as a drop-off area by parents and busses, and to provide emergency vehicle access in close proximity to existing and proposed structures. The new North Parking Lot is also proposed to have a drive-though loop, with inbound and outbound access (see the Site Plan). In total, there will be four driveways for access to/from the MSEEC site, including use of the one existing driveway.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No transit routes stop adjacent the MSEEC site. Transit Route 885 utilizes 118th Avenue SE, and has stops north and south of the site near the intersection of SE 8th Street/118th Avenue SE, and near condominium developments over the crest of the hill to the south.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The completed project will provide 37 to 38 parking spaces (30 onsite and 7 to 8 off-site). The nine offsite parking spaces will be available at the Bellefield Maintenance Yard (approximately one-eighth mile south of the MSEEC site) for shared use with the MSEEC, if occasionally needed.

Of the 12+ one ADA existing parking spaces on the MSEEC site in the lot south of the Administration Building, two of these parking spaces would remain in this area for ADA accessibility to the education center (see the Site Plan). The remainder of this parking lot will be reconfigured as a drop-off loop for use by parents and busses, and for emergency vehicle access to the development.

There are no formal on-street parking spaces along 118th Avenue SE at the present time, though cars occasionally park along the road shoulder when visiting the Mercer Slough Nature Park, MSEEC, or condominiums on the hillside to the east. Informal parking along the road shoulder will likely continue.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No new public roadways are required or proposed to serve the MSEEC expansion on the 118th Avenue SE site. Frontage improvements are described in Section 1 (page 2) of this SEPA Checklist. It will not be necessary to relocate any existing streetlights in order to construct frontage improvements or create on-street parking.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The proposed project will not use water, rail, or air transportation. The 118th Avenue SE site is approximately one-quarter mile west of the Wilburton trestle and the north/south BNSF rail line. The rail line is east of I-405, and there are no at-grade crossings in the project vicinity.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The *Transportation and Parking Assessment* prepared for the project (The Transpo Group, October 6, 2005) indicates that approximately 575 daily trips are anticipated during the summer months, and about 275 daily trips are anticipated during non-summer months when public schools are in session. Peak volumes are likely to occur during the AM peak hour (8:00 AM) in the summer months, assuming no bus service is provided, and during the evening hours of non-summer months when events are held in the Multi-Purpose Building.

It is anticipated that construction traffic would be greatest during periods of building construction. During these phases, depending on schedule needs, truck traffic to the site could be on the order of approximately 50 truck trips (25 trucks traveling to and from the site) per day (Jones and Jones, October 6, 2005).

g. Proposed measures to reduce or control transportation impacts, if any:

The Parks & Community Services Department proposes to limit maximum attendance at events that schedule use of MSEEC buildings, in proportion to available parking. Given the environmental education component of the project, Staff will be promoting alternative means of transportation to the site, as well as, marketing these strategies. For any large event, adjacent park property(-ies) will be used for staff and overflow parking.

15. <u>Public Services</u>

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

The nine additional wood frame structures on the forested site would increase the potential risk of fire requiring City of Bellevue fire protection services. These added improvements may also increase the risk of burglary or vandalism, requiring police protection services.

Increased traffic to the site and three additional driveway intersections with 118th Avenue SE may increase the potential for traffic accidents in the area requiring police officers to respond to incidents and prepare reports.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Demolition of Wetlab #1 and all new construction shall be performed in accordance with International Fire Code Chapter 14.

All new or reconstructed buildings will be equipped with fire suppression systems (i.e., sprinklers). Building roof overhangs may also require fire sprinkler coverage by the use of dry sidewall heads connected to the sprinkler system. Each fire sprinkler system will be equipped with a Fire Alarm notification system, and central station notification for the sprinkler and fire alarm systems. A Fire Department Connection shall be provided at least 50 feet from buildings.

A fire hydrant will be provided onsite at a location approved by the Bellevue Fire Department, within 50 feet of the Fire Department Connection. A Knox Box containing keys to all onsite buildings will be provided at an approved location.

Fire access roads shall be paved, with a minimum width of 20 feet and with a minimum inside turning radius of 28 feet. Signs shall be posted identifying "Fire Lane–No Parking." Access roads shall meet design standards specified by the Bellevue Fire Department for supporting fire apparatus.

Security lighting will be left on at night as a deterrent to burglary and vandalism.

16. Utilities

a. Underscore utilities currently available at the site: electricity, natural gas, water, refuse collection service, telephone, sanitary sewer, septic system, other.

Puget Sound Energy	Electricity
Puget Sound Energy	Natural gas (not available at the site)
City of Bellevue	Water
City of Bellevue	Sewer
City of Bellevue	Storm drainage
Qwest	Telephone
City of Bellevue	Commercial solid waste collection service
Comcast	Cable TV and Internet

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.

The existing Administration Building is served by a metered domestic water service from the water main in 118th Avenue SE. This water service will be extended to serve both the Phase 1 and Phase 2 Wetlabs. The

Administration Building has a side-sewer connection to the City of Bellevue sanitary sewer main in 118th Avenue SE. The building and parking lot are presently served by a stormwater detention system at the west edge of the 118th Avenue SE right-of-way that discharges to the Mercer Slough wetland buffer, and is not connected to the City of Bellevue stormwater system (see the Grading and Stormwater Plan, Drawings C2.1 and C2.2).

An additional meter and domestic water service will be provided to serve proposed Classrooms, the Visitor Center, Restrooms, and the Multi-Purpose Building. Fire protection service will be provided to serve all new construction (i.e., all onsite buildings except the Sullivan House, which is an existing structure on the site). These new services will be extended from the City water main in 118th Avenue SE. A sanitary sewer connection will be provided to serve the Restrooms, Multi-Purpose Building, and Classrooms. An onsite greywater treatment system consisting of a septic tank and constructed subsurface wetland is proposed to treat the discharge from Wetlab sinks (if allowed by Bellevue City code).

These utility connections will require trench excavation to existing mains in the City street (118th Avenue SE) directly in front (i.e., east) of the project. It is unlikely that service connections to existing utilities in 118th Avenue SE would be affected by proposed construction. The new water and sewer service connections proposed will be independent of the existing Administration building, and construction is not expected to interrupt service to offsite users. The estimated water and sewer trench excavation quantity is approximately 540 cubic yards. The water trench depth will be approximately 4.5 feet. The sewer trench depth will be approximately 11 feet. Trenches will be backfilled with approximately the same quantity of select imported fill. It will be necessary to close the southbound lane of 118th Avenue SE for one day in the site vicinity to safely make the proposed water and sewer connections. Flaggers will be employed for traffic control during this work.

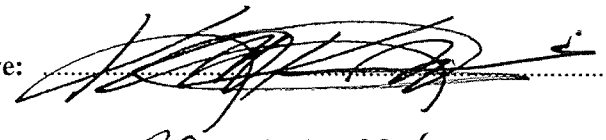
Natural gas will be extended to the site by Puget Sound Energy. The extension will occur in the 118th Avenue SE right-of-way, southward from SE 8th Street. Trench depth is expected to range from 4 to 6 feet, working around other underground utilities already installed in this corridor.

The greywater treatment system to serve Wetlab sinks will require excavation and backfill for installation of a septic tank and constructed wetland. This is a Phase 2 (i.e., future) element of the proposal, and subject to approval by the Seattle-King County Department of Public Health. The estimated quantity of excavation to install the greywater treatment system is 50 cubic yards, with an equivalent amount of select imported fill. (Total excavation and fill quantities are summarized in Table 2, SEPA Checklist Section A.1.e.)

Phase 2 stormwater improvements may include the installation of cisterns for rainwater harvest below Classroom #2. Two cisterns are proposed, 5,000 to 8,000 gallons in size, to be installed at-grade or slightly excavated, in accordance with geotechnical recommendations. If permitted by Bellevue City code, harvested rainwater would be used to flush toilets in the Large Restroom (a Phase 1 structure). The cistern overflow and drain would be conveyed by pipe to rocked dispersion trenches at the toe of the slope adjacent to the wetland buffer. Stormwater runoff from Wetlab #2 will be dispersed near the building.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Date Submitted: 29 NOV 2006

References

Cascadia Archaeology. April 27, 2005. Archaeological investigation of the proposed Mercer Slough Environmental Education Center. Prepared for Shannon & Wilson, Inc., and the City of Bellevue, Bellevue, WA.

Federal Emergency Management Agency (FEMA). May 16, 1995. Flood insurance rate map (FIRM) No. 53033C0656 F: King County, Washington and incorporated areas.

Geomatrix Consultants, Inc. September 30, 2005. Mercer Slough Environmental Education Center air quality issues review. Prepared for Shannon & Wilson, Inc. and the City of Bellevue Parks and Community Services Department, Bellevue, WA.

Jones and Jones. March 2005. Mercer Slough Environmental Education Center, 100% schematic design report. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Jones and Jones. April 21, 2005. Mercer Slough Environmental Education Center, average grade determination. Memorandum to Mark Chang, City of Bellevue Building Department, prepared by Mark Johnson, Architect. One page + four attachments.

Jones and Jones. October 19, 2005. Mercer Slough Environmental Education Center, construction sequencing and construction features proposal. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Jones and Jones. October 11, 2005. Sewage disposal deviation request: Composting toilet. Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

PACE Engineers, Inc. June 28, 2005. Preliminary stormwater report, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

PACE Engineers, Inc. October 11, 2005. Stormwater management deviation request: Rainwater harvest and reuse. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

PACE Engineers, Inc. October 19, 2005. Sanitary sewer deviation request: Greywater subsurface-flow constructed wetland. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. April 21, 2005. Geotechnical report, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. May 26, 2005. Phase I environmental site assessment, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. August 25, 2005. Conceptual wetland buffer mitigation plan, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. October 19, 2005. Critical area report: Wildlife assessment, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Soderberg, Lisa. 1980. HAER inventory form: Wilburton trestle (site 45KI262). On file, Office of Archaeology and Historic Preservation, Olympia, WA.

The Transpo Group, Inc. October 6, 2005. Transportation and parking assessment, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Attachment 2

U.S. Department of Housing
and Urban Development
Pacific Northwest, Region X

Environmental Assessment

(HUD recommended format per
24 CFR 58.36, revised 1/99)

Project Identification: Mercer Slough Environmental Education Center

Preparer: **City of Bellevue, Parks & Community Services Department**

Responsible Entity: City of Bellevue, Washington

Month/Year: November 2006 (revised)

Environmental Assessment

Responsible Entity [24 CFR 58.2(a)(7)]: City of Bellevue, Washington

Certifying Officer [24 CFR 58.2(a)(2)]: Brad Miyake, Deputy City Manager

Project Name: Mercer Slough Environmental Education Center (MSEEC)

Project Location: 1625 118th Avenue SE, Bellevue, WA

Estimated total project cost: $11 million

Grant Recipient [24 CFR 58.2(a)(5)]: Pacific Science Center

Recipient Address: 200 2nd Avenue North, Seattle, WA 98109

Project Representative: Darla Vivit Norris, Vice President & Chief Financial Officer

Telephone Number: 206.443.2866

Conditions for Approval: (List all mitigation measures adopted by the responsible entity to eliminate or minimize adverse environmental impacts. These conditions must be included in project contracts or other relevant documents as requirements). [24 CFR 58.40(d), 40 CFR 1505.2(c)]

Environmental review is being conducted by the City of Bellevue concurrent with processing permit applications for development approval. The list of mitigation measures to be imposed will be the outcome of the environmental review process. The co-applicants' list of proposed measures to avoid, minimize, and/or mitigate the potential impacts of the Mercer Slough Environmental Education Center (MSEEC) expansion, extracted from the SEPA Checklist (Attachment 1), is provided below under Mitigation Measures Recommended. The City will likely require that all proposed measures be implemented, and may add additional measures through the SEPA/NEPA environmental review process.

FINDING: [58.40(g)]

☒ **Finding of No Significant Impact**
(The project will not result in a significant impact on the quality of the human environment)

☐ **Finding of Significant Impact**
(The project may significantly affect the quality of the human environment)

Preparer Signature: _____ **Date:** 27 Nov 06
Title/Agency:

RE Approving Official Signature: Brad Miyake **Date:** 11/28/06
Title/ Agency: Brad Miyake, Deputy City Manager, City of Bellevue, Washington

Statement of Purpose and Need for the Proposal: [40 CFR 1508.9(b)]

The Mercer Slough Environmental Education Center (MSEEC) was originally conceived to provide an appropriate facility for interpretation, education, and research of freshwater ecosystems, wetland ecology, and the effects of urban development on these systems; and to increase awareness of local habitats for fish and wildlife, including threatened and endangered species such as Puget Sound chinook salmon. The objectives of the MSEEC expansion proposal are: 1) to continue to fulfill the mission of the environmental education center to provide experiential programs for the region; 2) to better meet the requirements of a larger number of visitors and staff on a site with appropriate access and sufficient area for parking; 3) to create a park-like "village" of classrooms, a visitor center and multi-purpose building connected by boardwalks and gathering areas, integrated with the natural features of the site; and 4) to maximize the improvements that can be made with grant funding awarded for construction. The expanded MSEEC will become the focal point of the 320-acre Mercer Slough Nature Park, and the Eastside focal point for the Pacific Science Center, an independent not-for-profit educational foundation.

Building design, material selection, and infrastructure elements are proposed with the objective of using the project as an example of environmental stewardship. A significant design objective for the project is to implement Low-Impact Development (LID) measures to: a) maintain and restore (following construction) the natural hydrology and ecological integrity of the site; b) serve as aesthetic amenities; and c) to demonstrate green infrastructure solutions, and thus the relationship between ecology and design.

Description of the Proposal: Include all contemplated actions which logically are either geographically or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]

General Description

The Mercer Slough Environmental Education Center (MSEEC) is a joint project of the City of Bellevue Parks & Community Services Department (Parks) and the Pacific Science Center (PSC), to provide a facility appropriate in size and character for their environmental education center programs. The program is presently conducted in the Sullivan House (Administration Building) and one Wetlab building on the site. Expansion of the existing MSEEC use will consist of building a cluster of nine small structures nestled on the wooded hillside of the site, connected by boardwalks. Consistent with project objectives to minimize site disturbance and maintain or restore existing vegetation, most structures will be built on piles. Due to the sloping nature of the site, the west side of shed-form structures will be 20 to 35 feet above grade, with views through the forest and across Mercer Slough to downtown Bellevue. Other project features will include converting the existing asphalt parking lot to a drop-off loop for buses and cars (with provisions for two ADA parking spaces); constructing a central plaza and decks; constructing a new North Parking Lot to accommodate approximately 28 vehicles; off-site parking at other Bellevue Park sites adjacent to Mercer Slough; and constructing a Garbage/Recycling enclosure near the street.

Elevated boardwalks are proposed to connect buildings. These wood-surface decks will be constructed on steel frames supported by 4-inch diameter pin pile foundations, with a 42-inch high metal guardrail. Extended viewing decks (of identical construction to the boardwalks) are proposed at the terminus of each of the elevated boardwalks. The north deck will terminate with views of downtown Bellevue. The south deck will terminate with a view into the forest. A "treehouse" is proposed at the terminus of the south deck. This will be a roofed, elevated overlook platform accessed by a fixed, vertical ladder. (The term "treehouse" refers to the proximity of the overlook to a nearby hemlock tree; the structure will not be attached to a tree.) Access to the treehouse will be controlled by MSEEC staff.

Frontage improvements will consist of removing the existing bus pullout/drop-off area on the west shoulder of 118th Avenue SE (remove pavement; relocate curb, gutter, and a catch basin to the new gutter line; construct the sidewalk through the former drop-off area); reconfiguring the existing driveway to the south parking lot; constructing a second driveway to create one-way drive-through access through the south parking lot; constructing two new driveways for one-way access to the new North Parking Lot; and constructing a boardwalk along the west side of 118th Avenue SE between the North Parking Lot driveways to maintain the pedestrian link of the Lake-to-Lake Trail past the site.

The Multi-Purpose Building component of the project will be used for public activities in accordance with City of Bellevue Park rental and use policies that may include wildlife viewing, small community gatherings, and other similar activities when events are not in conflict with activities in other MSEEC buildings. The Multi-Purpose Building will also be able to serve as an additional classroom and lunchroom during inclement weather for the school-aged children who attend classes and programs at the Environmental Education Center. Non-educational uses of the Multi-Purpose Building are projected to have no negative effects on the ecosystem of the site, for the following reasons: 1) Pedestrian travel paths will be clearly defined and signed. 2) Use of the facility will require compliance with rental guidelines that will specify appropriate behavior for the site, comparable to guidelines that have been adopted for all Bellevue Parks rental facilities. 3) A City of Bellevue site monitor will be present during rental uses of the Multi-Purpose Building to enforce rental guidelines that will include prohibitions on such things as trampling landscaping, disturbing wildlife, or other adverse ecological effects.

Projected increases in level of use of the site with the MSEEC expansion are as follows:

Student enrollment during summer months: Increase from 40 to 50 students per day to approximately 90 students per day.

Park visitors who will use the MSEEC nature trails: Increase from 60 to 70 visitors per day to as many as an additional 40 visitors per day.

Trips to the Visitor Center: Increase from 2 to 5 visitors per day to the existing Administration Building on the site, to approximately 12 visitors to the Visitor Center (Phase 2).

Typical attendance at non-education events at the Multi-Purpose Building: Approximately 65 persons per event.

Design Intent

Building design, material selection, and infrastructure elements are proposed with the objective of using the project as an example of environmental stewardship. Reused and recycled building materials will be given preference over conventional materials. Durable, natural materials will age well and retain beauty without excessive maintenance. Approvals may be sought to allow high-efficiency plumbing fixtures: low-flush toilets, rainwater harvested for use in flushing toilets (to the extent permitted by Bellevue City code), and waterless urinals.

A significant design objective for the project is to implement Low-Impact Development (LID) measures to: a) maintain and restore the natural hydrology and ecological integrity of the site, b) serve as aesthetic amenities, and c) demonstrate green infrastructure solutions, and thus the relationship between ecology and design. Examples of proposed LID measures include: enhanced treatment of runoff from pollution-generating surfaces (i.e., areas subject to vehicular traffic and parking) using a combination of treatment systems: three compost-amended filter strips for enhanced water quality treatment; rainwater harvesting from two future building roofs (to reduce potable water supply requirements for flushing toilets); green roofs on four buildings (including the information kiosk and the Garbage/Recycling Area) to reduce the rate and quantity of stormwater runoff from roofs; and laboratory sink greywater treatment using a septic tank with

effluent discharge through a constructed wetland system. Additionally by limiting the surface parking for the project, the amount of impervious surface and associated stormwater runoff and quality has been reduced and will become a benefit to the natural hydrology.

Existing Conditions and Trends: Describe the existing conditions of the project area and its surroundings, and trends likely to continue in the absence of the project. [24 CFR 58.40(a)]

The site proposed for expansion of the Mercer Slough Environmental Education Center is uniquely situated on the edge of the largest natural area within the Bellevue city limits (the 320-acre Mercer Slough Nature Park), yet bordered by one of the most intense urban transportation corridors in the state (I-405). The Nature Park itself (north, south and west of the MSEEC site) is preserved in perpetuity as a wetland, wetland buffer, wildlife habitat complex bordered by perimeter trails. The MSEEC site is owned by the City of Bellevue Parks & Community Services Department, and is presently occupied by a much smaller-scale Environmental Education Center: one wetlab and an administration building. The 18.2-acre parcel is likely to remain in public ownership for park/environmental educational center use, in the absence of the current proposal to expand this use.

Adjacent properties to the east, between 118th Avenue SE and the I-405 right-of-way, are developed with condominiums and construction company yards. Directly opposite the site are the Brookshire Condominiums. Other uses north and south of the MSEEC site along the east side of 118th Avenue SE include Burkey Construction, Doolittle Construction, a Metro Access vehicle yard, and Mercer Park Condominiums. The Burkey Construction site is characterized by unsheltered construction equipment storage and piles of debris and pipes. Several tanker trucks are parked on the Doolittle Construction site, which is more screened from 118th Avenue SE due to its elevation and roadside vegetation. Zoned R-20, the underutilized properties are likely to be redeveloped with multi-family residential uses in the future, with or without the proposed MSEEC expansion.

Statutory Checklist

[24CFR §58.5]

For each listed statute, executive order or regulation, record the determinations made. Note reviews and consultations completed as well as any applicable permits or approvals obtained. Attach evidence that all required actions have been taken. Record any conditions or mitigation measures required. Then, make a determination of compliance or consistency.

Factors	Determinations and Compliance Documentation
Historic Preservation [36 CFR 800]	No known potentially significant prehistoric cultural resources or historic structures will be disturbed by the project. In the event that unknown archaeological resources are uncovered during construction, work will be halted in the area of discovery, and appropriate Native American Tribes and the Washington State Department of Archaeology and Historic Preservation will be contacted. Archaeological Investigation of the Proposed Mercer Slough Environmental Education Center, prepared by Cascadia Archaeology, April 27, 2005 (Attachment 2). Letters of comment received from Tribes and Historic Preservation agencies (Attachment 3).
Floodplain Management [24 CFR 55, Executive Order 11988]	The proposed project does not involve property acquisition, management, construction or improvements within a 100-year floodplain; the site is not within a 100-year floodplain. FEMA, Map No. 53033C0656 F, May 16, 1995.
Wetlands Protection [Executive Order 11990]	Project implementation will not involve new construction within wetlands, marshes, wet meadows, mud flats or natural ponds. All construction is proposed landward of the wetland boundary, as delineated by Jones & Stokes, July 14, 2004. Conceptual Wetland Buffer Mitigation Plan prepared by Shannon & Wilson, Inc., August 25, 2005 (Attachment 4).
Coastal Zone Management Act [Sections 307(c),(d)]	The proposed project does not involve construction disturbance within waters of the United States; no Corps permit and therefore no CZM consistency determination is required.
Sole Source Aquifers [40 CFR 149]	There are no sole source aquifers within the City of Bellevue. http://www.epa.gov/safewater/swp/ssa/reg10.html
Endangered Species Act [50 CFR 402]	May Affect, Not Likely to Adversely Affect bald eagle and marbled murrelet during construction due to the noise of pile-driving for foundations. No Effect to these species in the completed, operating condition of the project. May Affect, Not Likely to Adversely Affect Puget Sound chinook salmon, bull trout and Essential Fish Habitat. No Effect on grey wolf, sperm whale, Stellar's sea lion, humpback whale, leatherback sea turtle, Canada lynx, or grizzly bear. Biological Evaluation prepared by Shannon & Wilson, Inc., November 2005 (Attachment 5).
Wild and Scenic Rivers Act [Sections 7 (b), (c)]	There are no Wild or Scenic Rivers within the City of Bellevue. http://www.nps.gov/rivers/wildriverstable.html
Air Quality [Clean Air Act, Sections 176 (c) and (d), and 40 CFR 6, 51, 93]	Construction emissions would be much less than those allowed by the general conformity de minimis levels. The construction contractor would be required to comply with applicable Puget Sound Clean Air Agency (PSCCA) regulations requiring reasonable precautions to avoid or minimize dust emissions. No pollutants would be emitted to the air from the facility heating system. The unsignalized MSEEC driveways would operate with very little traffic delay. Mercer

	Slough Environmental Education Center Air Quality Issues Review, prepared by Geomatrix Consultants, Inc., September 30, 2005 (Attachment 6).
Farmland Protection Policy Act [7 CFR 658]	The MSEEC site does not include prime or unique farmland; it is currently zoned residential (R-15, multi-family residential use). See Zoning Map (Attachment 7). The Farmland Protection Policy Act is not triggered by the proposed action.
Environmental Justice [Executive Order 12898]	The City has determined that the 118th Avenue SE site is suitable for the proposed MSEEC expansion, that this use is compatible with surrounding land uses, and that the project will not have a disproportionate environmental impact on low income or minority populations.

HUD Environmental Standards	Determinations and Compliance Documentation
Noise Abatement and Control [24 CFR 51 B]	The project does not involve development of noise-sensitive uses. The noise environment of the site is dominated by traffic traveling on I-405. MSEEC construction noise will be required to comply with City of Bellevue Noise Control regulations (BCC Chapter 9.18), which limit construction to the hours between 7:00 AM and 6:00 PM weekdays, and 9:00 AM to 6:00 PM on Saturdays. Operation of the facility is not expected to generate adverse noise impacts (Attachment 1, SEPA Checklist, Section A.7.b).
Toxic or Hazardous Substances and Radioactive Materials [HUD Notice 79-33]	U.S. EPA and Washington Department of Ecology databases were searched for known and suspected contaminated sites within a one-mile radius of the MSEEC site. Recognized environmental conditions (RECs) were dismissed at two nearby properties on the east side of 118th Avenue SE (opposite the site) due to UST removal and/or UST installation in accordance with tank tightness regulations, soil sample information indicating petroleum concentrations below MTCA Method A cleanup levels, and groundwater direction of flow away from the MSEEC site. Phase I Environmental Site Assessment, Mercer Slough Environmental Education Center, prepared by Shannon & Wilson, Inc., May 26, 2005 (Attachment 8).
Siting of HUD-Assisted Projects near Hazardous Operations [24 CFR 51 C]	See the response to Toxic or Hazardous Substances and Radioactive Materials, above.
Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]	The proposed project is not located within an FAA-designated civilian airport Runway Clear Zone or Runway Protection Zone, or within a military Airfield Clear zone or Accident Potential Zone/Approach Protection Zone; there are no airports in proximity to the MSEEC site. See City of Bellevue Subarea Plan maps that include the MSEEC site and areas to the north and south, west of I-405 (Attachment 9).

Environmental Assessment Checklist

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a finding of impact. **Impact Codes**: **(1)** - No impact anticipated; **(2)** - Potentially beneficial; **(3)** - Potentially adverse; **(4)** - Requires mitigation; **(5)** - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional materials as needed.

Land Development	**Code**	**Source or Documentation**
Conformance with Comprehensive Plans and Zoning	3	Expansion of the MSEEC use on the 118th Avenue SE site is consistent with the intent of the Mercer Slough Open Space Master Plan developed in the mid-1980s, and with the current Bellevue Land Use Code (LUC) provisions for public use and access to wetlands that allow an interpretive center in (adjacent to) a wetland 150 acres or larger in size (LUC 20.25H.110.6.c). The permit application package will include a request for variance from the maximum lot coverage by structures allowed in the R-15 zone, and a request for modification of Protected Area Standards to allow parking within the wetland buffer and proposed lot coverage by structures on protected slopes and in the wetland buffer. Development must conform to performance standards for sensitive areas (LUC 20.25H.110). SEPA Checklist (Attachment 1), Section A.8.l.
Compatibility and Urban Impact	1	The park-like "village" of classrooms, visitor center, and multi-purpose building will be integrated with natural features of the site, retaining as many significant trees as possible. Shed-form buildings will be sited with the highest point and largest windows oriented with views to the west across Mercer Slough, toward downtown Bellevue, away from the one neighboring residential use (Brookshire Condominiums) above the site to the east, on the opposite side of 118th Avenue SE. Expansion of the environmental education center on the site will increase use, visitation, traffic and parking; however, no adverse urban impact is anticipated. SEPA Checklist (Attachment 1), Section A.10. Wildlife may temporarily avoid nearby habitats during construction; however, the well-established and dispersed nature of the various habitat communities present throughout Mercer Slough should absorb minor changes in wildlife use patterns and provide a dampening effect during the construction period. Following construction, the functions of each habitat community should become fully utilized again. Critical Area Report: Wildlife Assessment prepared by Shannon & Wilson, Inc., October 19, 2005 (Attachment 15). There may be temporary noise disturbance to some species as a result of increased human activity associated with the expanded Environmental Education Center; however, no significant adverse impacts to wildlife are anticipated as a result of the large capacity of the Mercer Slough complex. The MSEEC site is located on the eastern edge of the Slough, in an area already dominated by vehicular noise disturbance associated with Interstate 405 (Attachment 1, SEPA Checklist, Section A.7.b). Non-educational use of the MSEEC multi-purpose building is projected to have no significant adverse effect on the ecosystem of the site. Site improvements will include clearly-defined, signed, and appropriate pedestrian travel paths. Rental guidelines for use of the multi-purpose building will outline appropriate behavior, prohibiting trampling landscaping or existing vegetation on the site, prohibiting disturbances to wildlife, or other ecological

		disturbances. Comparable guidelines have been adopted by the City of Bellevue for all Park rental facilities. Any non-educational use of the multi-purpose building will require that a site monitor be present during the rental activity to provide supervision and assistance, to enforce guidelines prohibiting ecological disturbances, and to assure that there are no detrimental impacts to the facility or neighboring uses.
Slope	3	Foundation methods selected for proposed construction include a variety of pile types to minimize excavation, tree removal, and disturbance to slopes. Construction performed in accordance with City of Bellevue performance standards and geotechnical recommendations is not expected to adversely impact slopes. Geotechnical Report prepared by Shannon & Wilson, Inc., April 21, 2005 (Attachment 10).
Erosion	3	Short-term limited erosion of exposed soils on slopes could occur during periods of heavy rain. Risk of water quality effects is high due to proximity to the Mercer Slough wetland. The construction contractor will be required to implement a Temporary Erosion and Sediment Control Plan TESCP), prepared in accordance with City of Bellevue and Washington Department of Ecology standards to minimize potential construction impacts. A detailed description of proposed TESCP measures is provided in the Preliminary Stormwater Report prepared by PACE Engineers, Inc., June 28, 2005 (Attachment 12). Measures to minimize the affect of stormwater runoff from proposed improvements on the sloping site include various means of collection, interception, conveyance, and treatment, also described in Attachment 12.
Soil Suitability	1	Soil types found on the site are described in the Geotechnical Report (Attachment 10), and include fill, peat, and landslide debris overlying glacial deposits consisting of older sand and gravel, older clay till and gravel, and lacustrine deposits. Foundation methods are proposed to secure structures in underlying glacial deposits and/or areas of suitable soil on the site. Site development is subject to compliance with the recommendations of the geotechnical consultant; review of geotechnical aspects of plans and specifications by a qualified geotechnical engineer; and geotechnical monitoring, testing, and consulting during construction. (Attachment 10, Report Section 8) The only potentially hazardous/nuisance situation on the site would be encountered in the area proposed for north parking lot construction. About 20% of this area is underlain by a peat deposit 10 to 12 feet deep. To remove this material and replace it with structural fill would require a very deep (and likely very wet) excavation. An alternative subgrade preparation is proposed that can be accomplished with a relatively shallow excavation (approximately 2 feet) and replacement with Type I Expanded Polystyrene (EPS) blocks, interlocked and keyed into the road slope. This construction methodology is described in the Geotechnical Report (Attachment 10), and in the project Construction Sequencing and Construction Features Proposal (SEPA Checklist Attachment A).
Hazards and Nuisances including Site Safety	1	The Phase I Environmental Site Assessment (Attachment 8) identifies the potential for arsenic contamination to exist in the northern portion of the site, due to historical farming practices. Soil testing will be done during excavation to construct the north parking lot. In the event that contaminated soils are found, they

		will be properly handled and disposed according to all applicable regulations.
Energy Consumption	1	Natural gas will be extended to the MSEEC site as the proposed energy source. Proposed buildings are designed to meet or exceed City of Bellevue Energy Code requirements. Natural ventilation, passive solar daylighting, and highly insulated building envelopes will reduce the total energy requirements of the environmental education center. Information provided by the project architect, Jones and Jones, October 2005.

Noise - Contribution to Community Noise Levels	1	The MSEEC site is in an area dominated by traffic noise associated with I-405. Noise associated with vehicular trips to/from the site during construction, and the operation of construction equipment will be the predominant, though short-term, noise associated with the project. The estimated construction period for each phase of improvements is 12 to 18 months. The construction contractor will be required to comply with City of Bellevue Noise Control regulations (BCC Chapter 9.18), which limit construction to the hours between 7:00 AM and 6:00 PM weekdays, and 9:00 AM to 6:00 PM on Saturdays. Operation of the completed facility is not expected to generate adverse noise impacts. SEPA Checklist (Attachment 1) Section A.7.b, reviewed by a Geomatrix noise consultant, September 30, 2005.
Air Quality Effects of Ambient Air Quality on Project and Contribution to Community Pollution Levels	1	The air quality implications of the MSEEC expansion were considered in an Air Quality Issues Review prepared by Geomatrix Consultants, Inc., September 30, 2005 (Attachment 6). The consultant concluded that air quality impacts are highly unlikely to occur either during construction or in the completed condition of the project.
Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale	1	The MSEEC expansion has been architecturally-designed with the intent that structures and required infrastructure will be integrated with natural features of the site, serve as examples of environmental stewardship, and serve as working examples of low-impact development. A building height variance will be sought for two structures, due to the highest peak of shed-form structures (facing west, away from the adjoining street) exceeding the 30-ft building height allowed by site zoning. The proposed height of the Multi-Purpose Building is approximately 35.15 feet above average existing grade (approximately 2.5 feet taller than the existing Administration Building on the site). The proposed height of Classroom #1 is approximately 34.2 feet above average existing grade. Average Grade Determination Memorandum, Jones and Jones, April 26, 2006 (update Attachment 13). Note: Average finished grade will be equivalent to average existing grade, as no modification to the existing slope is proposed in the area of these two buildings.

Socioeconomic	**Code**	**Source or Documentation**
Demographic Character Changes	1	The proposed project is an expansion of an existing environmental education center use on the site. No demographic character changes are expected to result. Communication with City of Bellevue Parks & Community Services project manager (Ken Kroeger), and City of Bellevue Department of Planning and Community Development project manager (Matthews Jackson).

Displacement	1	There are no residents on the site at the present time; therefore, no people would be displaced by the project. No displacement of residents or businesses will occur. SEPA Checklist (Attachment 1), Section A.8.j.
Employment and Income Patterns	1	Three full-time staff positions are proposed: a site manager and two teachers responsible for program development, scheduling, registration, and program delivery. Six part-time positions are planned: two teachers and four summer aides responsible for program delivery. SEPA Checklist (Attachment 1), Section A.8.i. While these positions will increase employment on the site itself, they will not result in any measurable change in employment or income patterns within the community.

Community Facilities and Services	Code	Source or Documentation
Educational Facilities	2	Implementation of the MSEEC expansion will increase the number, diversity, and opportunities for attendance in environmental education classes and experiences offered within Mercer Slough Nature Park by the Pacific Science Center and Bellevue Parks & Community Services Department. These programs augment public school programs in the region. NEPA EA Statement of Purpose and Need for the Proposal, provided by project co-applicants.
Commercial Facilities	1	The MSEEC site is not located near any commercial facilities (Zoning Map, Attachment 7). Project implementation would not displace, compete with, or conflict with any existing commercial facilities.
Health Care	1	The MSEEC site is not located near any health care facilities (Zoning Map, Attachment 7), nor would it be expected to increase, reduce, or otherwise alter the demand for health care within the community or region.
Social Services	1	Implementation of the MSEEC expansion proposal is unrelated to the provision of social services within the community or region; it would not be expected to increase, reduce, or alter the demand for social services.
Solid Waste	1	Commercial solid waste collection service is provided to the site at the present time by Allied Waste. While there would be some increase in the quantity of solid waste generated by MSEEC expanded operations, this small increase in demand would not adversely affect the collection company. As the franchise hauler for the community, Allied Waste is responsible to plan for and accommodate incremental growth.
Waste Water	1	The existing MSEEC Administration Building is served by the City of Bellevue municipal sewage collection system. An additional side sewer connection would be installed to serve proposed Restrooms, the Multi-Purpose Building, and Classrooms. An onsite greywater treatment system is proposed for the Wetlab sink discharge, (subject to approval under Bellevue city code and by the Seattle-King County Department of Public Health), as a low-impact development feature to minimize the discharge to the sanitary sewer. The additional quantity of sewage generated by expanded MSEEC operations will not adversely impact the capacity of the municipal sewage collection system. SEPA Checklist (Attachment 1), Section A.16.b.
Storm Water	1	The MSEEC site is subject to earthwork restrictions during the rainy season (November 1 through April 30). Temporary Erosion and Sedimentation Control measures are proposed to minimize construction impacts. Various means of collection, interception, conveyance, and water quality treatment are proposed to control stormwater runoff from the developed condition of the site, including measures to minimize the quantity of stormwater runoff (e.g., rainwater harvesting and reuse). Stormwater runoff from the

		existing (south) parking lot will receive water quality treatment as a result of the project, whereas none is provided at the present time. SEPA Checklist (Attachment 1), Section A.3; and Preliminary Stormwater Report (Attachment 12). If catchbasins are installed in the proposed offsite parking area, the downstream catchbasin will be equipped with a FROP-tee-type oil/water separator. Construction Sequencing and Construction Features Proposal, Attachment A to SEPA Checklist (Attachment 1).
Water Supply	1	The existing MSEEC Administration Building is served by a City of Bellevue water main in 118th Avenue SE. An additional meter and domestic water service will be extended onto the site to serve proposed Classrooms, the Visitor Center, Restrooms, and the Multi-Purpose Building. The modest demands of expanded MSEEC operations will not adversely impact supply or the capacity of the water system. SEPA Checklist (Attachment 1), Section A.16.b.
Public Safety - Police	1	Additional buildings and improvements on the site may increase the risk of burglary and vandalism. Security lighting will be left on at night as a deterrent. Additional traffic to/from the site and additional driveway intersections with 118th Avenue SE may increase the potential for traffic accidents in the area requiring police officers to respond to incidents and prepare reports. SEPA Checklist (Attachment 1), Section A.16.
- Fire	1	Increased human activity on the site during construction and in the completed condition of the project may increase the potential for wildland fire. All new or reconstructed buildings (i.e., all onsite buildings except the Administration Building) will be equipped with fire suppression systems (sprinklers). Each fire sprinkler system will be equipped with a Fire Alarm notification system, and central station notification for the sprinkler and fire alarm systems. A Fire Department Connection will be provided at least 50 feet from buildings. A fire hydrant will be provided onsite at a location approved by the Bellevue Fire Department, within 50 feet of the Fire Department Connection. A Knox Box containing keys to all onsite buildings will be provided at an approved location. Fire access roads shall be paved, pavement width and turning radii to be approved by the Bellevue Fire Department. Fire lanes shall be posted "No Parking." SEPA Checklist (Attachment 1), Section A.15.b.
- Emergency Medical	1	No special emergency services will be required. SEPA Checklist (Attachment 1), Section A.7.a.
Open Space and Recreation - Open Space	1	The MSEEC expansion proposal would better utilize the existing 18.2-acre MSEEC site for environmental education opportunities within the 320-acre Mercer Slough Nature Park. No additional open space would be created by the project. SEPA Checklist (Attachment 1), Section A.12.
- Recreation	2	To the extent that environmental education may be considered recreation, the MSEEC expansion proposal would increase and diversify this opportunity for students and visitors to Mercer Slough Nature Park.

		An asphalt segment of the Lake-to-Lake Trail that currently passes through the northern portion of the site will be relocated and reconstructed as a boardwalk adjacent to the west side of 118th Avenue SE. This reconstruction is proposed at the onset of site development to maintain the trail connection during construction of other improvements on the MSEEC site. SEPA Checklist (Attachment 1), Section A.12.
- Cultural Facilities	1	The MSEEC site is not located near any cultural facilities. Project implementation would not displace, compete with, or conflict with any existing cultural facilities. There are no known historic or cultural places or objects on or next to the MSEEC site. SEPA Checklist (Attachment 1), Section A.13.
Transportation	3	No new public roadways are required or proposed to serve the MSEEC expansion on the 118th Avenue SE site. Frontage improvements will consist of removing an existing bus pull-out/drop-off area and reconfiguring the existing parking lot for this use; and extending the Lake-to-Lake Trail on a boardwalk segment along the east property boundary (eliminating the meandering asphalt trail segment through the northern portion of the site). Driveway access to the site will increase from one existing driveway to four driveways, including a drive-through loop in the proposed new North Parking Lot. The completed project will provide 36 to 37 parking spaces (28 onsite, and 9 to 10 off-site parking spaces at other Bellevue parks adjacent to Mercer Slough Trip generation projections indicate that approximately 575 daily trips are anticipated during summer months, and about 275 daily trips are anticipated during non-summer months when public schools are in session. Peak volumes are projected to occur during the PM peak hour of adjacent street traffic (4:00 to 6:00 PM): 22 PM peak hour trips during summer months, and 25 PM peak hour trips during school-year months. Pick-up times will be staggered during the summer months, with some occurring around noon, and the rest occurring around 4:00 PM. It will be an objective of project programming to avoid the PM peak hour of adjacent street traffic. Transportation and Parking Assessment (Attachment 14).

Natural Features		Source or Documentation
Water Resources	3	The site is adjacent to wetlands associated with Mercer Slough. No work is proposed over or in water, or in wetlands. No groundwater withdrawals are proposed. The project will be served by the City water system, and includes measures to minimize demand. SEPA Checklist (Attachment 1), Section A.3. Groundwater is the primary source of hydrology to the Mercer Slough wetland. Surface water from the 18.2-acre MSEEC site contributes negligibly to the overall hydrologic support of the wetland, given the magnitude of its size (approximately 320 acres). Building construction on pin piles will limit local disruption of groundwater flow to the wetland. The largest source of new surface water runoff from the site will be the proposed North Parking Lot (approximately 0.83 acre in surface area). Post-development discharges from the compost-amended filter strip that will collect and treat parking lot runoff and offsite runoff from 118th Avenue SE are calculated to be approximately 0.12 cfs during a 2-year 24-hour storm, and 0.22 cfs during a 100-year 24-hour storm. Project discharge points from buildings and parking areas will be directed toward the wetland roughly as they are at present, so that there will be little redirection of flow quantity. Phase 2 of the MSEEC project includes a possible future rainwater harvest proposal. Stormwater runoff from the roofs of two buildings would be captured and used for toilet flushing (approximately 100,000 gallons per year). This quantity is estimated to constitute approximately one percent of total surface water runoff from the 18.2-acre site, and therefore would have no significant impact on the hydrology of Mercer Slough or its associated wetlands. Preliminary Stormwater Report (June 28, 2005) - Attachment 12; and Stormwater Management Deviation Request: Rainwater Harvest and Reuse (P.A.C.E. Engineers, October 11, 2005).
Surface Water	3	A significant design objective for the project is to implement Low-Impact Development (LID) measures to: a) maintain and restore the natural hydrology and ecological integrity of the site; b) serve as aesthetic amenities; and c) demonstrate green infrastructure solutions, and thus the relationship between ecology and design. Examples of proposed LID measures include: enhanced treatment of runoff from pollution-generating surfaces (i.e., areas subject to vehicular traffic and parking) using a combination of treatment systems: compost-amended filter strips for water quality treatment; rainwater harvesting from two future building roofs (to reduce potable water supply requirements for flushing toilets); green roofs on four buildings to reduce the rate and quantity of stormwater runoff from roofs; and laboratory sink greywater treatment using a septic tank with effluent discharge through a constructed wetland. SEPA Checklist (Attachment 1), Background Information, Item 10. Also see the discussion of Stormwater under Community Facilities and Services, above.
Unique Natural Features and Agricultural Lands	1	The MSEEC site is a component of the 320-acre Mercer Slough Nature Park, the largest community park within the City of Bellevue, essentially undeveloped to maintain its purpose for natural system interpretation. Proposed expansion of the MSEEC

		will fulfill a City of Bellevue Comprehensive Land Use Plan provision for an interpretive center associated with this large wetland complex. SEPA Checklist (Attachment 1), Section A.8.I. The historical record of aerial photographs of the area that includes the MSEEC site show a blueberry field on the property between the mid-1950s and 1990. Agricultural activity occurred in wetlands on the northern portion of the site. Steep slopes and/or hydrology make the majority of the site unsuitable for agricultural use. The site is presently zoned for medium-density residential use (R-15). The proposed project will not take the site out of agricultural use. Zoning Map (Attachment 7).
Vegetation and Wildlife	4	Approximately 31,408 square feet (sf) of forested wetland buffer will be permanently altered by site development activities, and approximately 15,462 sf will be temporarily altered during construction. While these actions will reduce forest and scrub/shrub habitat used by wildlife to forage, for refuge and breeding, the well-established and dispersed nature of the various habitat communities present throughout the 320-acre Mercer Slough complex should amply absorb minor changes in wildlife use patterns and provide a dampening effect during temporary construction disturbance. Following construction, the functions of each habitat community should become fully utilized again. SEPA Checklist (Attachment 1), Sections A.4 and A.5; and Critical Area Report: Wildlife Assessment (Attachment 15). Vegetated areas temporarily disturbed during construction will be restored and revegetated. The mitigation proposal for permanent wetland buffer impacts includes a combination of offsite buffer restoration adjacent to Mercer Slough, and wetland enhancement in the former blueberry field located approximately 100 feet west of the MSEEC site. The proposal includes planting black cottonwood trees in the wetland complex, both onsite and offsite, to provide future mature trees to augment a nearby heron rookery and to encourage raptor nesting. SEPA Checklist (Attachment 1), Sections A.4 and A.5; and Conceptual Wetland Buffer Mitigation Plan (Attachment 4). Due to the distance between the MSEEC site and nesting areas for bald eagle and marbled murrelet, it was determined in consultation with a WDFW wildlife biologist that the noise of pile driving during construction May Affect, but is Not Likely to Adversely Affect these species. Operational activities are expected to be consistent with or less disturbing than surrounding activities (e.g., traffic noise on I-405 to the east), and are therefore projected to have No Effect on bald eagle or marbled murrelet. Biological Evaluation (Attachment 5). The project May Affect, but is Not Likely to Adversely Affect Puget Sound chinook salmon, bull trout, and Essential Fish Habitat in Mercer Slough and Lake Washington due to: lack of sediment-sensitive spawning habitat downstream of the site, lack of in-water work, early implementation of a stormwater control plan, presence of a large insulating wetland between the site and Mercer Slough, and implementation of a mitigation plan proposed for wetland and wetland buffer impacts. Biological Evaluation (Attachment 5). The MSEEC expansion is projected to have No Effect on grey wolf, sperm whale, Stellar's sea lion, humpback whale, leatherback sea turble, Canada lynx, or grizzly bear due to their

		lack of presence within the Action Area. Biological Evaluation (Attachment 5).

Other Factors		Source or Documentation

NOTE: The Responsible Entity must additionally document and ensure compliance with 24 CFR §58.6 in the ERR, particularly with the Flood Insurance requirements of the Flood Disaster Protection Act and the Buyer Disclosure requirements of the HUD Airport Runway Clear Zone/Clear Zone regulation at 24 CFR 51 Subpart D.

Summary of Findings and Conclusions

The MSEEC expansion proposal is consistent with the intent of the City of Bellevue Mercer Slough Open Space Master Plan, and with Land Use Code provisions for public use and access to wetlands, which allow an interpretive center to be constructed in (adjacent to) a wetland 150 acres or more in size (LUC 20.25H.110.B.6.c). Mercer Slough is the only wetland complex within the City that meets the size criteria for this use. The 18.2-acre site is already partially developed and used for this purpose.

Implementation of the proposal will increase and the diversity of and opportunities for environmental education within Mercer Slough Nature Park, and within the region as a whole.

Design standards and proposed project features have been selected to demonstrate environmental stewardship, consistent with the project mission, and as examples that can be used in the educational programs of the facility. Low-Impact Development features will minimize the environmental impacts of the MSEEC expansion.

The co-applicants have anticipated the effect of the project on all elements of the natural and human environment, and have proposed a comprehensive range of measures to minimize these effects (described below under Mitigation Measures Recommended). Based on the results of the Environmental Assessment Checklist (above), only two potentially adverse effects are identified, and there are either administrative provisions to address these (conformance with the City of Bellevue Land Use Code), or reasonable measures that can be implemented to minimize the effect (as in the case of a potential increase in demand for police services due to increased site development and traffic). It is the overall conclusion of the NEPA Lead Agency that no signifcant adverse effect on the human environment has been identified; therefore, the project does not require preparation of an EIS.

ALTERNATIVES TO THE PROPOSED ACTION

Alternatives and Project Modifications Considered [24 CFR 58.40(e), Ref. 40 CFR 1508.9] (Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)

Preferred Alternative: Sullivan House Site

The Sullivan House site is the location of the existing Mercer Slough Environmental Education Center (MSEEC). The MSEEC is a City of Bellevue Parks & Community Services Department facility that has been in operation at this location (1625 118th Avenue SE) since 1992. Educational programs are provided in conjunction with the Pacific Science Center.

The site is located along the northern edge of the east side of Mercer Slough, adjacent to 118th Avenue SE. The project will use approximately 2 acres of the 18.2-acre site, drawing from a variety of natural and man-made amenities for support and further development of environmental education programs. These programs are directly related to the unique urban wetland environment of Mercer Slough, which is the largest remaining freshwater slough in Washington State within an urban setting.

Limited flat, buildable land is available on the property. Site design will integrate the proposed MSEEC expansion project on the terraced hillside, south of the Sullivan House and existing wet lab building. The project intent is to achieve this development while preserving (or restoring) the natural beauty of the overall landscape.

Despite terrain challenges, the Selection Team identified the Sullivan House site as the preferred alternative due to the opportunities it offers for diverse educational programs, the forest-like environment and the existing built infrastructure. It offers the best opportunities of all sites considered for educational experiences due to ready-access to the extensive trail system of Mercer Slough, including direct access to detention ponds and wetland areas that are critical for the collection of samples used in environmental education programs. An attractively sited two-story farmhouse (the Sullivan House) and an existing wet lab and storage structure house existing MSEEC administrative and classroom functions. Use of the existing structures will maximize use of project funding for facility expansion, since these structures can be adapted to the needs of the proposed project program. The site is easily and safely accessible from 118th Avenue, while providing good connections to I-405 and other major arterial roadways.

Alternative Sites

Four alternatives to the Sullivan House site were considered for development of the Mercer Slough Environmental Education Center. Site locations are shown in Attachment 16.

Bellevue Way Site

The Bellevue Way site is 2.5 acres in size, on the west side of Mercer Slough, in the upland area just south of and adjacent to the Metro King County Park-and-Ride Lot on

Bellevue Way SE. This property was previously disturbed by construction and agricultural uses.

At one time, the Bellevue Way site was the preferred location for development of the Mercer Slough Environmental Education Center. As a result of time delays and changing transportation priorities within the City and King County, this site became undesirable for meeting the goals and mission of the MSEEC. Revised priorities for the Bellevue Way site and vicinity included: 1) King County's intent to construct a multi-level expansion of the Bellevue Way Park-and-Ride facility; 2) future impacts of implementing a High Capacity Transportation (HCT) study for the Bellevue Way corridor; and 3) possible encroachment caused by the future widening of Bellevue Way SE. Additional transportation concerns extended from known constraints to access/egress from the site, possible conflicts with pedestrians along Bellevue Way SE, and limited area available for development of onsite parking.

In 2003, the City of Bellevue Parks & Community Services Department embarked on re-evaluating sites previously considered during the 1990 Mercer Slough Open Space Master Plan Final EIS process. These sites included:

The Bellfields Yard

The Bellfields Yard site is 1.4 acres in size, located south of the Sullivan House site on the east side of Mercer Slough, adjacent to 118th Avenue SE. The Bellevue Parks & Community Services Department currently uses this property as a maintenance yard and trailhead for the Mercer Slough Nature Park trail system. Similar to the Sullivan House site, the Bellfields Yard is hilly and wooded. It has a fenced service yard, small public parking area, public restroom, Park staff offices, a workshop, and a multi-vehicle garage.
The Site Selection Team determined that the Bellfields site was unsuitable for the Environmental Education Center due to its limited buildable site area, limited area to accommodate the necessary parking, and lack of direct access to wetlands, ponds, and streams considered necessary for the environmental education programs.

The South Meadow

The South Meadow site is located toward the south end of the Mercer Slough Nature Park, also along 118th Avenue SE. A mix of woody shrubs, trees, and some lawn area characterizes this property. Although the site is the largest of those reviewed (approximately 4 acres), its proximity to I-405 on the east and I-90 on the south makes it less desirable for the Environmental Education Center, due to significant noise levels that would hinder outdoor programs envisioned for the EEC.

Similar to the Bellfields Yard site, the South Meadow lacks access to wetlands, ponds, and streams within a reasonable proximity. For this reason, it would be difficult to support the environmental education mission of the EEC using this site.

The Blueberry Farm

The Blueberry Farm site is 2.8 acres in size, located north of the Metro Park-and-Ride Lot on Bellevue Way SE. It currently operates as a seasonal produce market and truck

farming operation managed by a private vendor, with assistance from the Bellevue Parks & Community Services Department. The current lease of the property extends beyond the time allowable for the EEC's funding window.

The amount of buildable site area is insufficient for developing the parking required to serve the EEC without significantly reducing available land area on which to develop classrooms, laboratories, a visitors center, multi-purpose building, and administration building.

Future improvements being studied or proposed along the Bellevue Way SE corridor (described above under the Bellevue Way Site) will likely impact vehicular access to the Blueberry Farm site and its overall desirability for a park-like setting for the Environmental Education Center.

For all of the reasons described, the Selection Team determined that the Blueberry Fields site would not be a desirable location for the EEC.

No Action Alternative [24 CFR 58.40(e)]
(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).

Benefits to the Human Environment of Not Implementing the Preferred Alternative

Short-term construction noise, dust, odors, and traffic would not occur on the MSEEC site, below multi-family residential development (the Brookshire Condominiums) on the east side of 118th Avenue SE.

The substantially wooded appearance of the site would not change.

Vehicular trips to/from the site and parking demand would likely not increase significantly over existing conditions.

Disadvantages to the Human Environment of Not Implementing the Preferred Alternative

Congressional set-aside grants in support of the MSEEC expansion would not be used for the intended purpose.

City and Pacific Science Center leaders committed to implementing the MSEEC expansion would be unable to keep their commitment to their constituents and to the citizens of the region to expand experiential environmental learning opportunities at Mercer Slough.

Existing MSEEC facilities would be at risk of being overutilized, potentially imposing maintenance challenges.

Mitigation Measures Recommended [24 CFR 58.40(d), 40 CFR 1508.20]
(Recommend feasible ways in which the proposal or external factors relating to the proposal should be modified in order to eliminate or minimize adverse environmental impacts.)

The co-applicants have proposed a comprehensive range of appropriate measures to avoid, minimize, and/or mitigate the potential impacts of the MSEEC expansion. These are listed below by element of the environment, summarized from the SEPA Checklist prepared for the project (Attachment 1).

Earth

Most structures (including the proposed boardwalk segment of the Lake-to-Lake Trail) will be constructed on piles extended through fill and landslide deposits to stiff glacial deposits (native soil) to minimize clearing and ground disturbance for building foundations.

The contractor will be required to comply with City of Bellevue restrictions on rainy season clearing and grading; i.e., no earthwork between November 1 and April 30 in any year.

Air

Temporary Erosion/Sedimentation Control Measures will be effective in suppressing dust generated during site development; i.e., providing a stabilized construction entrance, providing construction equipment wash-down areas, and using a sweeper during earthwork to remove soil tracked onto paved areas.

Demolition contractors will be required to comply with U.S. EPA regulations related to the safe removal and disposal of asbestos-containing materials (if any are present).

The construction contractor will be required to comply with PSCCA Regulation I, Section 9.15, requiring reasonable precautions to avoid and/or minimize dust emissions.

No slash burning will be permitted.

Water

During Construction:

The contractor will be required to implement a Temporary Erosion and Sediment Control Plan (TESCP) prepared in accordance with City of Bellevue and Washington Department of Ecology (Ecology) standards to minimize construction impacts. The TESCP will include the following measures:

- Mark clearing limits and trees to preserve.
- Limit areas of disturbance.
- Preserve existing vegetation on the site for as long as possible, or as required by the Clearing and Grading Inspector.
- Construct a single stabilized construction access.
- Provide perimeter sediment control using a reinforced silt fence and coir (coconut husk fiber), straw wattles, or logs.
- Cover all areas that will be unworked for more than 7 (seven) days during the dry season or 2 (two) days during the wet season with straw, wood fiber mulch, compost, plastic sheeting, or an approved equivalent.
- Provide a sediment trap for the most disturbed area.

- Protect drain inlets with filter bags.
- Install catch basin inserts as required by the Clearing and Grading Inspector or permit conditions.
- Limit work on steep slopes to tracked vehicles.
- Comply with City of Bellevue rainy season restrictions (November 1-April 30).
- Relocate or modify surface water controls and erosion control measures, or install new measures, as site conditions change.
- Require contractor to monitor and maintain erosion/sedimentation control measures in accordance with Ecology standards and manufacturer's recommendations.
- Conduct water quality monitoring in receiving waters during construction to assure compliance with Washington State standards for turbidity.
- Stabilize all areas within 7 (seven) days of reaching final grade.
- Seed or sod any areas to remain unworked for more than 30 days.

Proposed buildings to be constructed on slopes will utilize pile foundations installed from tracked vehicles to minimize excavation requirements and site disturbance. Proposed revegetation of the site using mostly native plantings will minimize erosion after construction.

Developed Condition:

Water quality treatment for runoff from the proposed North Parking Lot will be provided in compost-amended filter strips designed per City of Bellevue and Washington Department of Ecology (SMMWW 2005) standards.

Measures to minimize the effect of stormwater runoff from proposed improvements on the sloping site include various means of collection, interception, and conveyance. Green/living roof systems proposed on four structures will intercept and slow runoff in plantings to be installed on these roofs. Runoff from the Multi-Purpose Building and Classroom #1 will be collected in a gutter along the handrail of the interconnecting deck system. These gutters will discharge to gabion splash blocks, in which a perforated pipe will collect runoff for dispersal across a vegetated reinforcement mat (likely a plastic cellular confinement system [Slopetame or similar]) to be installed on the slope between Classroom #1 and the Multi-Purpose Building (see Site Plan). The vegetated reinforcement mat will be planted with species suitable for soil retention, runoff dispersal and uptake. Roof runoff from Classroom #2 and the Visitor Center/Restroom 1 (Phase 2 buildings) will be collected in cisterns beneath the buildings, for use in flushing restroom toilets (if permitted by Bellevue City code). Overflow from the cisterns will discharge to dispersal trenches at the base of the slope.

Stormwater runoff from surfaces not subject to vehicular traffic will be allowed to dissipate or flow unconcentrated into vegetated areas. Unconcentrated flow (i.e., sheetflow) will not be allowed to occur on slopes. Measures such as roughened surfaces and lengthened meandering flow paths may be implemented to reduce developed-condition peak runoff rates and minimize directly-connected impervious surfaces.

Plants

Significant trees will be retained on the site in accordance with City of Bellevue Land Use Code Section 20.20.520E.

Vegetated areas temporarily disturbed during construction will be restored and revegetated.

The MSEEC Conceptual Wetland Buffer Mitigation Plan is a proposal to install restoration plantings in onsite wetland buffer areas temporarily impacted during construction, and plantings at selected offsite locations around Mercer Slough to compensate for permanent impacts to wetland buffer areas on the MSEEC site. Implementation of the proposal will establish native, non-invasive plant species in an onsite temporary impact restoration area, an offsite buffer restoration area, and an offsite wetland enhancement area. Onsite wetland buffer restoration plantings will be installed in an area approximately 15,462 sf in size. The planting plan calls for the installation of 70 trees (Douglas fir, western redcedar, and western hemlock) planted 15 feet on-center, and 620 shrubs and groundcover (vine maple, salmonberry, Nootka rose, red elderberry, swordfend, and salal) planted 5 feet on-center. The mitigation proposal for permanent wetland buffer impacts includes a combination of offsite buffer restoration adjacent to Mercer Slough (south of the existing Metro park-and-ride facility on Bellevue Way SE) at a ratio of approximately 1:1, and wetland enhancement in the former blueberry field located approximately 100 feet west of the MSEEC site at a ratio of approximately 1.9:1. (See the Conceptual Wetland Buffer Mitigation Plan prepared by Shannon & Wilson, Inc., August 25, 2005.)

Animals

Erosion/sedimentation control measures proposed during construction, and stormwater quality treatment measures proposed for the developed condition of the project are expected to effectively detain and treat surface water runoff from the site to avoid direct impacts to the aquatic habitat utilized by Puget Sound chinook salmon, bull trout or other aquatic species.

Site development will adhere to appropriate jurisdictional guidelines, including work windows and timing designed to minimize disruption during the breeding and rearing season of state- and federally-identified wildlife species.

Black cottonwood trees to be planted under the wetland buffer mitigation proposal (both onsite and offsite) will provide future mature trees to augment the nearby heron rookery and to encourage raptor nesting.

Energy

Proposed buildings will be designed to meet or exceed City of Bellevue Energy Code requirements. Natural ventilation, passive solar daylighting, and highly insulated building envelopes will minimize total energy requirements.

Environmental Health

If peat soils are excavated from the northern portion of the property, they will be tested prior to disposal for residual metals that may be present from historical agricultural practices.

The construction contractor will be required to comply with City of Bellevue Noise Control regulations (BCC Chapter 9.18) that limit construction to the hours between 7:00 AM and 6:00 PM weekdays, and 9:00 AM to 6:00 PM on Saturdays. Construction noise is not allowed on Sundays or legal holidays. A sign providing notice of the limitation on construction hours shall be posted on the site prior to commencement of construction (BCC 9.18.044). Expanded hours of operation may be authorized by the applicable Department Director subject to criteria set forth in BCC 9.18.020.C.

Land and Shoreline Use

Expansion of the MSEEC use on the 118th Avenue SE site is consistent with the Sensitive Area Overlay District provisions of the Bellevue Land Use Code that allow an interpretive center in a wetland 150 acres or larger in size (LUC 20.25H.110.6.c).

The project will be required to comply with City of Bellevue Land Use Code provisions for modification of Protected Area standards (LUC 20.25H.070.B) to allow parking spaces within the wetland buffer at the northwest corner of the site; and to allow proposed lot coverage by structures in excess of the maximum allowed on net site area after wetlands, steep slopes, landslide deposits and their setbacks are deducted. Park uses and associated activities are allowed within critical areas, subject to applicable performance standards.

Aesthetics

The tallest point of shed-form buildings and largest windows will be oriented west, away from 118th Avenue SE.

Foundation methods selected for proposed construction include a variety of pile types to minimize excavation and tree removal, and to allow regrowth of forest understory vegetation following construction.

Green roofs proposed for several buildings will help blend structures with forest vegetation, as viewed from above (i.e., from multi-family residential use on the east side of 118th Avenue SE).

To the extent reasonable and consistent with site design objectives, mechanical equipment will be located at or below-grade rather than mounted on the roof of any structure.

The garbage/recycling area will be a lockable pole structure with screening material (i.e., cribbing), constructed with a "green roof" for a consistency in appearance with the shed structures proposed on the site.

Any slopes impacted by construction will be replanted with native shrubs and ferns. The lawn area around the Sullivan House will be increased in size two-fold. Native shrubs and small trees will be planted along the west side of the 118th Avenue SE and around the drop-off loop area. The stormwater bioswale east of the proposed new North Parking Lot will be planted with native shrubs and grasses.

Light and Glare

Interior lighting systems will be equipped with occupancy sensors that will automatically shut off lights during unoccupied hours.

Exterior lighting will include low-level pathway lighting; parking lot and drop-off area lighting; and lighting at intersections, crosswalks and at the information kiosk. Cut-off shields or other appropriate measures will be used to conceal the light source from adjacent uses and rights-of-way, and to avoid light spill beyond site boundaries or into the Mercer Slough wetland.

Recreation

The bicycle lane and pedestrian boardwalk improvements proposed along the west side of 118th Avenue SE to replace the asphalt trail segment through the North Parking Lot will be constructed at the onset of work to maintain the Lake-to-Lake Trail connection during construction of all other improvements on the MSEEC site.

Historic and Cultural Preservation

In the event that suspected cultural material, such as stone tools or flakes, bone, fire-modified rock, or the remains of hearths or other features, is encountered during ground-disturbing activities associated with the project, the Washington State Office of Archaeology and Historic Preservation (OAHP) will be contacted and work suspended at that location until an assessment of the find can be made by a professional archaeologist. If suspected human remains are found, work in the vicinity must be suspended, the area secured, and the King County Medical Examiner contacted to assess the remains. If the remains are Native American, interested tribes, including the Muckleshoot Indian Tribe and Snoqualmie Tribe, must be informed. The Duwamish Tribal Community, although not a federally-recognized tribe, is also an interested party and should be informed as a courtesy. A plan for treatment of the remains would then be developed by interested parties including the City of Bellevue, OAHP, and the tribes.

Transportation

The majority of the users of the MSEEC programming will arrive on-site by means of bus, carpooling, drop-off and pick up, and other multiple passenger/high occupancy vehicle methods. The proposed parking on-site will include thirty (30) stalls for public use (28 in the North Parking Lot, plus two ADA van-accessible parking spaces in the upper drop-off area). The additional parking requirements will be met through the development of off-site parking – additional staff and overflow parking will be accommodated at the existing Bellevue Parks' Bellefield facility, Winter's House facility, Bannerwood Park, and Surrey Downs Park sites. Shuttle buses, school buses, and other alternative means of transportation will be employed to accommodate the off-site parking during large events. The project will seek to actively promote alternative transportation and high occupancy vehicle usage.

The Parks & Community Services Department will limit maximum attendance at events that schedule use of MSEEC buildings, in proportion to available parking. Additional scheduling methods will be coordinated for uses that will occur within multiple buildings

at any given time period. In the event that there is additional parking demand associated with special events, a satellite park and shuttle plan will be required.

The Parks & Community Services Department will limit maximum attendance at events that schedule use of MSEEC buildings, in proportion to available parking. Additional scheduling methods will be coordinated for usage occurring within multiple buildings at any given time period. In the event that there is additional parking demand associated with special events, a satellite park and shuttle plan will be required.

Public Services

Demolition of Wetlab #1 and all new construction shall be performed in accordance with International Fire Code Chapter 14.

All new or reconstructed buildings will be equipped with fire suppression systems (i.e., sprinklers). Building roof overhangs may also require fire sprinkler coverage by the use of dry sidewall heads connected to the sprinkler system. Each fire sprinkler system will be equipped with a Fire Alarm notification system, and central station notification for the sprinkler and fire alarm systems. A Fire Department Connection shall be provided at least 50 feet from buildings.

A fire hydrant will be provided onsite at a location approved by the Bellevue Fire Department, within 50 feet of the Fire Department Connection. A Knox Box containing keys to all onsite buildings will be provided at an approved location.

Fire access roads shall be paved, with a minimum width of 20 feet and with a minimum inside turning radius of 28 feet. Signs shall be posted identifying "Fire Lane-No Parking." Access roads shall meet design standards specified by the Bellevue Fire Department for supporting fire apparatus.

Security lighting will be left on at night as a deterrent to burglary and vandalism.

The on-street parking proposal will include providing a crosswalk for safe pedestrian mobility.

Utilities

An additional meter and domestic water service will be provided to serve proposed Classrooms, the Visitor Center, Restrooms, and the Multi-Purpose Building.

Fire protection service will be provided to serve all new construction (i.e., all onsite buildings except the Sullivan House, which is an existing structure on the site). These new services will be extended from the City water main in 118th Avenue SE.

A sanitary sewer connection will be provided to serve the Restrooms, Multi-Purpose Building, and Classrooms.

An onsite greywater treatment system consisting of a septic tank and constructed subsurface wetland is proposed to treat the discharge from Wetlab sinks (if allowed by Bellevue City code and the Seattle-King County Department of Public Health).

Additional Studies Performed
(Attach studies or summaries)

Attachment 1 -- SEPA Checklist (City of Bellevue, October 20, 2005)
Attachment 2 -- Archaeological Investigation (Cascadia Archaeology, April 27, 2005)
Attachment 3 -- Letters Received from Tribes and Historic Preservation Agencies
Attachment 4 -- Conceptual Wetland Buffer Mitigation Plan (Shannon & Wilson, August 25, 2005)
Attachment 5 -- Biological Evaluation (Shannon & Wilson, Inc., November 2005)
Attachment 5A -- Consultation Letters: Endangered Species Act and Essential Fish Habitat
Attachment 6 -- Air Quality Issues Review (Geomatrix Consultants, September 30, 2005)
Attachment 7 -- Zoning Map (City of Bellevue, March 23, 2005)
Attachment 8 -- Phase I Environmental Site Assessment (Shannon & Wilson, May 2005)
Attachment 9 -- City of Bellevue Subarea Plan Maps: Richards Valley, Southwest Bellevue, and North Bellevue
Attachment 10 -- Geotechnical Report (Shannon & Wilson, Inc., April 21, 2005)
Attachment 11 -- Geotechnical Report Addendum (Shannon & Wilson, Inc., July 29, 2005)
Attachment 12 -- Preliminary Stormwater Report (PACE Engineers, Inc., June 28, 2005)
Attachment 13 -- Average Grade Determination Memorandum (Jones and Jones, April 21, 2005)
Attachment 14 -- Transportation and Parking Assessment (The Transpo Group, Inc., October 28, 2005
Attachment 15 -- Critical Area Report: Wildlife Assessment (Shannon & Wilson, Inc., October 19, 2005)
Attachment 16 -- Alternative Sites Map.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]

American Association of State Highway and Transportation Officials (AASHTO). 1993. Guide for design of pavement structures. Washington, D.C.

American Society for Testing and Materials (ASTM). 2004. Annual book of standards: Construction, v. 4.08, Soil and rock (I): D 420-D 5779. West Conshohocken, PA.

American Society for Testing and Materials (ASTM). 2000. Standard practice for environmental site assessments: Phase I environmental site assessment process, E 1527-00. West Conshohocken, PA.

Bellevue Historical Society. 2005. File on Bellevue Country Day School property. Bellevue, WA.

Cascadia Archaeology. April 27, 2005. Archaeological investigation of the proposed Mercer Slough Environmental Education Center. Prepared for Shannon & Wilson, Inc., and the City of Bellevue, Bellevue, WA.

Chan, Jeff. U.S. Fish & Wildlife Service. April 2005. Personal communication with Cliff Palmer, Shannon & Wilson, Inc., re: bull trout distribution in Lake Washington.

Chrzastowski, Michael. 1983. Historical changes to Lake Washington and route of the Lake Washington ship canal, King County, Washington. U.S. Geological Survey, Water Resources Investigation Open-File Report No. 81-1182.

City of Bellevue. June 7, 2005. Public review draft ordinance amending the Bellevue Land Use Code, Part 20.25H, critical areas overlay district. Bellevue, WA.

City of Bellevue. March 23, 2005. Zoning map. Information Technology Geographic Information Services. Available at http://mapster/reports.

City of Bellevue. 2005. Major parks - Mercer Slough Nature Park. Available at http://www.cityofbellevue.org.

City of Bellevue. December 2003. Land use code. Bellevue, WA.

City of Bellevue. 2003. Bellevue critical areas update wildlife inventory. Bellevue, WA.

City of Bellevue. December 6, 1993 and as amended December 31, 2002. Comprehensive plan: Subarea and transportation facility plans. Bellevue, WA.

City of Bellevue Department of Parks & Community Services. October 19, 2005. Response to pre-application conference letter, project no. 05-102819 DB, Mercer Slough Environmental Education Center, addressed to Matthews Jackson, Senior Planner, City of Bellevue, Land Use Division, Planning & Community Development.

City of Bellevue Department of Parks & Community Services. March 8, 2004. Draft memorandum to Patrick Foran, Director, Parks & Community Services Department; Terry Higashiyama, Assistant Director; and Roy Gatbunton, Assistant Director; re: Future Mercer Slough Environmental Education Center operations analysis.

City of Bellevue Department of Parks & Community Services. September 2003. Parks and open space system plan. Bellevue, WA.

City of Bellevue Department of Planning & Community Development. April 8, 2005. Pre-application conference letter, project no. 05-102819 DB, Mercer Slough Environmental Education Center, addressed to Ken Kroeger, Project Manager, City of Bellevue Parks & Community Services Department.

Corkran, C.C. and C. Thomas. 1996. Amphibians of Oregon, Washington, and British Columbia, a field identification guide. Long Pine Publishing, Redmond, WA.

Cornell Laboratory of Ornithology. 2005. All about birds: Online bird guide. Available at http://www.birds.cornell.edu/programs/AllAboutBirds/BirdGuide.

Duwamish Tribal Community. October 28, 2005. Request for review and comment on archaeological review of the proposed Mercer Slough Environmental Education Center, sent by the City of Bellevue Parks & Community Services Department.

Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The birders handbook, a field guide to the natural history of North American birds. Simon and Schuster, Inc., New York, NY.

Environmental Data Resources (EDR), Inc. March 7, 2005. EDR fieldcheck report, Mercer Slough: 1625 118th Avenue SE, Bellevue, WA, Inquiry No. 01373730.1r. Milford, CT.

Federal Emergency Management Agency (FEMA). May 16, 1995. Flood insurance rate map (FIRM) No. 53033C0656 F: King County, Washington and incorporated areas.

Geomatrix Consultants, Inc. September 30, 2005. Mercer Slough Environmental Education Center air quality issues review. Prepared for Shannon & Wilson, Inc. and the City of Bellevue Parks & Community Services Department, Bellevue, WA.

Ingles, L.G. 1965. Mammals of the Pacific states (California, Oregon, Washington). Stanford University Press, Stanford, CA.

International Conference of Building Officials. 2003. International building code. Country Club Hill, IL.

Johnson, S.Y., S.V. Dadisman, J.R. Childs, and W.E. Stanley. July 1999. Active techtonics of the Seattle fault and central Puget Sound, Washington-implications for earthquake hazards. Geological Society of America Bulletin, Volume 111, No. 7, pages 1042-1053.

Jones and Jones. October 19, 2005. Mercer Slough Environmental Education Center, construction sequencing and construction features proposal. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Jones and Jones. October 11, 2005. Sewage disposal deviation request: Composting toilet. Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Jones and Jones. April 21, 2005. Mercer Slough Environmental Education Center, average grade determination. Memorandum to Mark Chang, City of Bellevue Building Department, prepared by Mark Johnson, Architect. One page + four attachments.

Jones and Jones. March 2005. Mercer Slough Environmental Education Center, 100% schematic design report. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Jones and Stokes. July 14, 2004. Mercer Slough Environmental Education Center wetland delineation memo: Job No. 04419.04. Prepared for the City of Bellevue, WA.

King County Environmental Division: Parks, Planning and Resources Department. 1991. King County wetland inventory. Bellevue, WA.

King County Historic Preservation Program. October 28, 2005. Request for review and comment on archaeological review of the proposed Mercer Slough Environmental Education Center, sent by the City of Bellevue Parks & Community Services Department.

Larson, E.M., editor. 1997. Management recommendations for Washington's priority species, Volume III: Amphibians and reptiles. Washington Department of Fish & Wildlife, Olympia, WA.

Leonard, W.P. and H.A. Brown. 1993. Amphibians of Washington and Oregon. The Trailside Series, Seattle Audubon Society, Seattle, WA.

Lewarch, D.E. and L.L. Larson. December 12, 2003. Revised draft historic context statement: Hunter-fisher-gatherer resources, King County cultural resources protection project. Larson Anthropological and Archaeological Services (LAAS) Technical Report 2003-02. Submitted to King County Road Services Division, Department of Transportation, and King County Historic Preservation Project, Seattle, WA.

Muckleshoot Indian Tribe. October 28, 2005. Request for review and comment on archaeological review of the proposed Mercer Slough Environmental Education Center, sent by the City of Bellevue Parks & Community Services Department.

National Marine Fisheries Service. 2005. NMFS website:
http://www.nwr.noaa.gov/1salmon/salmesa/index.htm.

PACE Engineers, Inc. October 19, 2005. Sanitary sewer deviation request: Greywater subsurface-flow constructed wetland. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

PACE Engineers, Inc. October 11, 2005. Stormwater management deviation request: Rainwater harvest and reuse. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

PACE Engineers, Inc. June 28, 2005. Preliminary stormwater report, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Palmer, S.P., B.D. Evans, and H.S. Schasse. 2002. Liquefaction susceptibility of the greater eastside area, King County, Washington. Washington Division of Geology and Earth Resources, Geologic Map GM-48.

Ransom, Randy. City of Bellevue Parks & Community Services. April 5, 2004. Personal communication with Becki Kniveton, Shannon & Wilson, Inc., re: existing structures on the Mercer Slough Environmental Education Center site and the method of heating.

Reinbold, Stewart. Washington Department of Fish & Wildlife. June 2005. Personal communication with Webster Peirce, Shannon & Wilson, Inc., re: Puget Sound chinook salmon migration behavior.

Robinson, Joan. 1982. SR 90: Bellevue transit access study. Report on file, Washington State Office of Archaeology & Historic Preservation, Olympia, WA.

Scott, S.L., editor. 1983. Field guide to the birds of North America, 2nd edition. National Geographic Society, Washington, D.C.

Shannon & Wilson, Inc. November 2005. Biological evaluation of the Mercer Slough Environmental Education Center. Project No. 21-1-12165-002. Prepared for City of Bellevue Department of Planning and Community Development, Bellevue, WA.

Shannon & Wilson, Inc. October 19, 2005. Critical area report: Wildlife assessment, Mercer Slough Environmental Education Center. Project No. 21-1-12165-002. Prepared for City of Bellevue Parks and Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. August 25, 2005. Conceptual wetland buffer mitigation plan, Mercer Slough Environmental Education Center. Project No. 21-1-12165-004. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. May 26, 2005. Phase I environmental site assessment, Mercer Slough Environmental Education Center. Project No. 21-1-12165-006. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. April 21, 2005. Geotechnical report, Mercer Slough Environmental Education Center. Project No. 21-1-20214-001. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA.

Shannon & Wilson, Inc. September 2001. Preliminary wetland delineation, proposed Mercer Slough Environmental Education Center, Bellevue, Washington. Project No. 21-1-12018-001. Prepared for City of Bellevue Department of Parks & Community Services, Bellevue, WA.

Sibley, D.A. 2000. The Sibley guide to birds. National Audubon Society, Knopf Publishing, New York, N.Y.

Snoqualmie Tribe. October 28, 2005. Request for review and comment on archaeological review of the proposed Mercer Slough Environmental Education Center, sent by the City of Bellevue Parks & Community Services Department.

Soderberg, Lisa. 1980. HAER inventory form: Wilburton trestle (site 45KI262). On file, Office of Archaeology & Historic Preservation, Olympia, WA.

Stairs, Phil. Puget Sound Archives, Bellevue, WA. April 5, 2004. Personal communication with Margaret Nelson, Cascadia Archaeology.

Stebbins, R.C. 1985. Peterson field guide: Western reptiles and amphibians. National Audubon Society and National Wildlife Federation. Houghton Mifflin Press, Boston, MA.

Stofel, Julie. Wildlife Biologist, Washington Department of Fish & Wildlife. August 1, 2005. E-mail communication with Webster Peirce, Shannon & Wilson, Inc., re: the potential for the Mercer Slough Environmental Education Center project to disturb bald eagles and/or marbled murrelet.

The Geographical Review. 1922. The geographical names used by the Indians of the Pacific coast. Volume 12, pages 175-194.

The Transpo Group, Inc. October 28, 2005. Transportation and parking assessment, Mercer Slough Environmental Education Center. Prepared for City of Bellevue Parks & Community Services Department, Bellevue, WA. [Updated from the October 6, 2005 version used during preparation of the SEPA Checklist, to add offsite analysis information.]

Thompson, Gail. 1982. Letter report re: cultural resources survey of proposed commercial radio transmitter facility site, Section 8, T24N, R5E. Fugro Northwest, Inc., Seattle, WA. On file, Washington State Office of Archaeology & Historic Preservation, Olympia, WA.

U.S. Environmental Protection Agency (EPA). November 1992. Guideline for modeling carbon monoxide from roadway intersections. Office of Air Quality Standards and Planning, Research Triangle Park, NC.

U.S. Fish & Wildlife Service. 2005. Website: http://www.fws.gov/endangered.

Waldron, H.H., B.A. Liesch, D.R. Mullineaux, and D.R. Crandell. 1962. Preliminary geologic map of Seattle and vicinity, Washington. U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-354.

Washington Department of Ecology (Ecology). 2001. Stormwater management manual for the Puget Sound Basin. Olympia, WA.

Washington Department of Ecology (Ecology). January 1996. The Model Toxics Control Act cleanup regulation, Chapter 173-340 WAC. Publication No. 94-06. Olympia, WA.

Washington Department of Fish & Wildlife (WDFW). February 24, 2005. Priority habitat and species information. Olympia, WA.

Washington Department of Fish & Wildlife (WDFW). 2005. Species of concern (endangered, threatened, sensitive, candidate). Olympia WA.
Available at: http://www.wdfw.wa.gov/wlm/diversity/soc/endanger.htm.

Washington State Department of Transportation and American Public Works Association. 2004. Standard specifications for road, bridge, and municipal construction (M41-10).

Washington State Department of Transportation (WSDOT). 1995. WSDOT pavement guide, Volume 2: Pavement notes for design, evaluation and rehabilitation, pages 2-134. Olympia, WA.

Washington State Office of Archaeology & Historic Preservation (SHPO). October 28, 2005. Request for review and comment on archaeological review of the proposed Mercer Slough Environmental Education Center, sent to SHPO by the City of Bellevue Parks & Community Services Department.

Waterman, T.T. Circa 1920. Puget Sound geography. Manuscript on file, University of Washington Libraries, Seattle, WA.

Yount, J.C., G.R. Dandorff, and G.M. Barats. 1985. Map showing depth to bedrock in the Seattle 30-ft x 60-ft quadrangle, Washington. U.S. Geological Survey Miscellaneous Field Studies Map MF-1692.

Mercer Slough Environmental Education Center
Conceptual Wetland Buffer Mitigation Plan
Bellevue, Washington

Attachment 3

August 25, 2005

SHANNON & WILSON, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

At Shannon & Wilson, our mission is to be a progressive, well-managed professional consulting firm in the fields of engineering and applied earth sciences. Our goal is to perform our services with the highest degree of professionalism with due consideration to the best interests of the public, our clients, and our employees.

Submitted To:
Mr. Ken Kroeger
City of Bellevue
Parks & Community Services Department
11511 Main Street
Bellevue, Washington 98009-9012

By:
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, Washington 98103

21-1-12165-004

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APPENDIX

MERCER SLOUGH ENVIRONMENTAL EDUCATION CENTER
CONCEPTUAL WETLAND BUFFER MITIGATION PLAN
BELLEVUE, WASHINGTON

1.0 INTRODUCTION

Shannon & Wilson, Inc. has completed a conceptual wetland buffer mitigation plan for the proposed expansion of the Mercer Slough Environmental Education Center (MSEEC) located at 1625 118th Avenue SE in Bellevue, Washington (referred to herein as the site and/or subject property), Figure 1.

The scope of work for this project is based on our conversations with Mr. Ken Kroeger, Mr. Geoff Bradley, and Mr. Michael Paine from the City of Bellevue; Shannon & Wilson's wetland delineation of the proposed buffer enhancement area (*Proposed Mercer Slough Environmental Education Center, Bellevue, Washington*, dated September 2002); and on our site visit at the existing MSEEC in July 2005.

2.0 BACKGROUND

We understand that the proposed expansion of the MSEEC will include one additional Wet Lab Building, a Visitor Center, a Multipurpose Building, four Classrooms (in two buildings), two Restrooms, and connecting elevated decks and boardwalks. The existing Administration Building (Sullivan House) will remain. Wet Lab #1 will be demolished and reconstructed on the foundation of the existing wet lab. All other buildings and improvements will be new construction. A forest overlook and Slough overlook (elevated boardwalks) are proposed between the Classrooms and next to the Multipurpose Building, respectively. A new parking area is proposed north of the center with access from 118th Avenue SE (Figure 2).

Based on a wetland delineation conducted for the MSEEC site by Jones & Stokes in 2004, and Shannon & Wilson's wetland delineation of the Mercer Slough wetlands along Bellevue Way SE (south of the existing Metro park-and-ride facility) in 2002, the Mercer Slough wetlands meet City of Bellevue criteria for Category I wetlands.

Under City of Bellevue Land Use Code provisions in effect at the time of this writing, Category I wetlands are required to have 50-foot buffers; however, proposed revisions to the Bellevue City Code may require that Category I wetlands have 225-foot buffers. Because it is expected that revisions to the City's Protected Area regulations will receive City Council action and become effective prior to construction of the MSEEC expansion, this wetland buffer mitigation plan is based on proposed revisions as drafted at the time of this writing to determine buffer impacts and required mitigation.

Based on a 225-foot wetland buffer, the Mercer Slough wetland and associated buffer would encompass the entire MSEEC site; therefore, any site improvements would result in some impacts to wetlands and/or wetland buffer. The MSEEC expansion site plan is designed to avoid wetland impacts and to minimize wetland buffer impacts to the maximum extent practicable by avoiding large trees and minimizing permanent intrusions into buffer areas.

3.0 PROJECT IMPACTS AND CONCEPTUAL MITIGATION

Based on the 100% Design Development site plan (Jones and Jones, July 2005), approximately 31,408 square feet of wetland buffer would be permanently impacted and approximately 15,462 square feet of wetland buffer would be temporarily impacted during construction of the MSEEC expansion project (Figure 2). The proposal includes mitigating temporary buffer impacts will be mitigated by replanting these areas with native vegetation after construction is complete.

The mitigation proposal for permanent wetland buffer impacts includes a combination of off-site buffer restoration on Mercer Slough (south of the existing Metro park-and-ride facility on Bellevue Way SE) at a ratio of approximately 1:1, and wetland enhancement in the former blueberry field located approximately 100 feet west of the MSEEC at a ratio of approximately 1.9:1 (Figures 1, 3 and 4). Table 1 summarizes the amount of wetland buffer impact projected to occur, and the amount of proposed mitigation.

TABLE 1
ESTIMATED AREA OF WETLAND BUFFER IMPACT
AND PROPOSED MITIGATION MEASURES

Buffer Impact	Estimated Area of Buffer Impact	Proposed Mitigation
Temporary Buffer Impacts (due to construction)	15,462 feet^2	15,462 feet^2
Permanent Buffer Impacts	31,408 feet^2	
Proposed Mitigation – Buffer Restoration		36,835 feet^2
Proposed Mitigation – Wetland Enhancement		58,138 feet^2

feet^2 – square feet

The buffer restoration area east of Bellevue Way SE is approximately ½ mile southwest of the MSEEC property (Figure 1). The plant communities in this area currently include grass (lawn), Himalayan blackberry, and poison hemlock. The intent of the MSEEC buffer restoration proposal is to remove invasive species in this area and replant with native vegetation. The former blueberry field due west of the MSEEC site (Figures 1 and 4) is currently dominated by hardhack and blueberries. The intent of the MSEEC wetland enhancement proposal in this area is to establish trees that could be utilized as a heron rookery in the future. The rationale for providing heron rookery habitat is based on an existing heron rookery in the site vicinity. Because herons often kill the trees they inhabit with their acidic droppings, mature trees will be needed in the Mercer Slough area in the future.

4.0 PLANTING PLAN

The MSEEC Conceptual Wetland Buffer Mitigation Plan is a proposal to install restoration plantings in on-site wetland buffer areas temporarily impacted during construction, and plantings at selected off-site locations around Mercer Slough to compensate for permanent impacts to wetland buffer areas on the MSEEC site. Implementation of the proposal would establish native, non-invasive, plant species in the on-site temporary impact restoration area, the off-site buffer restoration area, and the off-site wetland enhancement area (Figures 1, 3, and 4). The plant species selected for these plantings are native to the project area and have been used successfully in similar wetland and wetland buffer creation projects (Tables 2, 3, and 4).

TABLE 2
PLANTING PLAN FOR ON-SITE WETLAND BUFFER TEMPORARY IMPACT AREA
(approximately 15,462 square feet)

English Name	Latin Name	Quantity	Size	Condition	Spacing
Douglas fir	*Pseudotsuga menziesii*	25	> 24 inches	2 gallon	15 feet on-center cumulative tree spacing
Western redcedar	*Thuja plicata*	25	> 24 inches	2 gallon	
Western hemlock	*Tsuga heterophylla*	20	> 24 inches	2 gallon	
Vine maple	*Acer circinatum*	105	> 12 inches	1 gallon/bare root	5 feet on-center cumulative shrub spacing
Salmonberry	*Rubus spectabilis*	105	> 12 inches	1 gallon/bare root	
Nootka rose	*Rosa nutkana*	105	> 12 inches	1 gallon/bare root	
Red elderberry	*Sambucus racemosa*	105	> 12 inches	1 gallon/bare root	
Swordfern	*Polystichum munitum*	100	> 12 inches	1 gallon/bare root	
Salal	*Gaultheria shallon*	100	> 12 inches	1 gallon/bare root	

Planting should occur between September 15 and January 15 to take advantage of cool temperatures and increased precipitation. This timing will minimize potential overheating and dehydration of plants, thereby optimizing the potential for plant survival and success. All plants should be installed the same day they are delivered to the site. Plants that cannot be planted within one day after arrival should be "heeled-in" to the soil in a shady area of the site for protection against drying.

TABLE 3
PLANTING PLAN FOR OFF-SITE WETLAND BUFFER RESTORATION AREA
(approximately 36,835 square feet)

English Name	Latin Name	Quantity	Size	Condition	Spacing
Douglas fir	*Pseudotsuga menziesii*	55	> 24 inches	2 gallon	15 feet on-center cumulative tree spacing
Western redcedar	*Thuja plicata*	55	> 24 inches	2 gallon	
Western hemlock	*Tsuga heterophylla*	55	> 24 inches	2 gallon	
Vine maple	*Acer circinatum*	295	> 12 inches	1 gallon/bare root	5 feet on-center cumulative shrub spacing
Thimbleberry	*Rubus parviflorus*	295	> 12 inches	1 gallon/bare root	
Nootka rose	*Rosa nutkana*	295	> 12 inches	1 gallon/bare root	
Red elderberry	*Sambucus racemosa*	295	> 12 inches	1 gallon/bare root	
Swordfern	*Polystichum munitum*	295	> 12 inches	1 gallon/bare root	
Salal	*Gaultheria shallon*	295	> 12 inches	1 gallon/bare root	

TABLE 4
PLANTING PLAN FOR OFF-SITE WETLAND ENHANCEMENT AREA
(approximately 58,138 square feet)

English Name	Latin Name	Quantity	Size	Condition	Spacing
Oregon ash	*Fraxinus latifolia*	170	3 to 4 feet	Balled and Burlapped (B&B)	15 feet on-center cumulative tree spacing
Black cottonwood	*Populus trichocarpa*	90	3 to 4 feet	B&B	

Prior to planting, the Contractor shall be required to remove all invasive plants and non-native herbs and shrubs from the buffer restoration area. It may be necessary to excavate the top 1-foot of soil to remove the roots of invasive plants. The Contractor shall be required to: 1) protect native vegetation and trees in and adjacent to the off-site enhancement area; and 2) implement best management practices in planting areas, which shall remain in-place until the planted vegetation is established. A Shannon & Wilson, Inc. Wetland Biologist should visit the site regularly during clearing and planting activities to observe the placement of erosion control measures and to monitor planting practices.

Planting in the on-site wetland buffer temporary impact area and at the off-site buffer restoration area should be done by hand, in natural, randomized clusters to replicate natural plant distribution patterns of the area (Figure 5). Because the wetland enhancement area already has mature shrub vegetation and the goal is to establish additional structural diversity, it is not as important to plant the trees in random clusters. Trees should be planted in this area on 15-foot centers.

5.0 RESTORATION SEQUENCE

The restoration sequence will be as follows:

A. Install temporary erosion control measures.

B. Clear off-site wetland buffer mitigation area of all non-native and invasive plant species. Excavate top 1 foot of soil in off-site wetland buffer mitigation area, if needed, to remove roots of invasive plants.

C. Add soil amendments to the on-site wetland buffer temporary impact area, as needed, in areas that have been excavated and/or filled. In addition, decompact soil in areas that have been compacted by heavy machinery.

D. Clear 5-foot-wide planting areas on 15-foot centers in the wetland enhancement area. Dig roots out, as necessary, for planting pits.

E. Procure plants and store properly. Plants shall conform with the Code of Standards of the American Association of Nurserymen. Plant material will be native to the Pacific Northwest. A Shannon & Wilson biologist will review plant material prior to planting to verify conformance to the planting plan and reserves the right to require replacement or substitution of plants that are deemed unsuitable.

F. Install plants in the off-site wetland buffer restoration area and in the on-site wetland buffer temporary impact area in natural, random clusters, as shown on Figure 5. Install black cottonwoods and Oregon ash in the wetland enhancement area on 15-foot centers. Plant layout should be approved by a Shannon & Wilson Wetland Biologist prior to installation of plants.

G. For the off-site wetland buffer restoration area and the on-site wetland buffer temporary impact area, prepare planting holes by mixing 3 inches of compost (Cedar Grove compost or equivalent) into the soil to a depth of 12 inches. Hand-dig circular plant pits with vertical sides and install plants according to the planting details on Figure 5. Backfill with native soil.

H. Water plants thoroughly, as needed, to avoid capillary stress (typically, planted areas should be watered with approximately 1 inch of water after planting).

I. Mulch a 4-inch-deep, 2-foot radius around the base of each plant with wood chips. In addition, all bare areas should be covered with 4 to 6 inches of wood chips to discourage weed establishment.

6.0 MAINTENANCE

The City of Bellevue will be responsible for maintaining the mitigation areas (one on-site, two off-site) for the duration of the three-year monitoring period (see Section 7.0). Maintenance will include watering, weeding around base of installed plants, pruning, replacing plants to meet survival requirements (see Section 8.0), restaking, removing all classes of noxious weeds (see Washington State Noxious Weeds List, Washington Administrative Code [WAC] 16-750-005) as well as Himalayan blackberry and poison hemlock, and implementing any other measures needed to ensure plant survival. All maintenance shall be directed by a Biologist.

Limited use of herbicides may be applied depending on site-specific conditions (i.e. spot application of approved herbicide on invasive species in the buffer area) and only if approved by the City of Bellevue.

Water shall be provided during the dry season (July 1 through October 15) for the first year after plant installation to ensure plant survival and establishment. Water should be provided by a temporary aboveground irrigation system and/or a water truck. Water should be applied at a rate of 1 inch of water, two times per week.

7.0 MONITORING PLAN

Monitoring shall be conducted, as described below, for each of the planting areas (on-site wetland buffer area, off-site wetland buffer area, and off-site wetland enhancement area). Monitoring shall be conducted once a year for three years, or as required for wetland buffer restoration areas under revisions to the City of Bellevue Protected Areas regulations (when adopted).

A. **Vegetation Monitoring.** Sampling points or transects will be established for vegetation monitoring in the on-site wetland buffer area, off-site wetland buffer area, and off-site wetland enhancement area. Linear transects are the preferred method for vegetation monitoring for these sites. No less than one 60-foot transect per 5,000 square feet of area will be established in each monitoring area. Permanent transect location(s) must be identified on restoration site plans in the first monitoring report (they may be drawn on approved restoration plans by hand). Each transect shall detail herb, shrub, and tree aerial cover at radii of 1 meter (m), 5 m, and 10 m, respectively, using the Braun-Blanquet releve method or other acceptable field method. Monitoring of vegetation transects shall occur between May 15 and September 30 (prior to leaf drop), unless otherwise specified.

B. **Photo-points.** No less than one permanent photo-point per 4,000 square feet of restoration/mitigation area will be established within each of the monitoring areas. Photographs will be taken from these points to visually record the condition of the monitoring areas. Photos shall be taken sometime between May 15 and September 30 (prior to leaf drop), unless otherwise specified.

C. **Reports.** Monitoring reports shall be submitted by December 31 of each year during the three-year monitoring period. As applicable, monitoring reports must include the following description/data:

1. Site plan and location map.
2. Historical description of project, including date of plant installation, current year of monitoring, and restatement of mitigation goals and performance standards.
3. Plant survival, vigor, and areal coverage from every plant community (transect data), and explanation of the monitoring methodology in the context of assessing performance standards.
4. All observed wildlife, including amphibians and birds.
5. Assessment of nuisance/exotic biota and recommendations for management.
6. Color photographs (4 x 6-inch) taken from permanent photo-points as shown on the Monitoring Plan.
7. Summary of maintenance and contingency measures proposed for the next season and completed for the past season.

D. **Deficiencies**. Any deficiency discovered during any monitoring or inspection visit must be corrected within 60 days.

E. **Contingency Plan.** If any monitoring report reveals that the mitigation has failed in whole or in part, and if that failure is beyond the scope of routine maintenance, a Contingency Plan shall be prepared and submitted. The Contingency Plan may range in complexity from a list of plants substituted to cross-sections of proposed engineered structures. Once approved, contingency measures may be installed and will replace the approved mitigation plan. If the failure is substantial, the City of Bellevue may extend the monitoring period for the subsequent mitigation.

8.0 PERFORMANCE STANDARDS

Plant survival and cover standards are established to measure mitigation success. The proposed performance standards are summarized in Table 5 for the on-site buffer restoration area, the off-site buffer restoration area, and the off-site wetland enhancement area.

TABLE 5
PROPOSED PERFORMANCE STANDARDS

Performance Standards	Year One	Year Two	Year Three
All Monitoring Areas			
Shrub and Tree Survival	100%	>90%	>85%
On-Site Buffer Restoration Area and Off-Site Buffer Restoration Area Only			
Shrub Cover*	---	>45%	>55%
Tree Cover*	---	>20%	>30%

* Includes beneficial native plants in that category that are naturally recruiting.

9.0 CLOSURE

This report has been prepared for specific application to the Mercer Slough Environmental Education Center project. This report has been developed in a manner consistent with the level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. The mitigation approach presented in this report incorporates professional opinions based on interpretation of information currently available to us and was completed within the operational scope, budget, and schedule constraints of this project. No warranty, express or implied, is made.

This report was prepared for the exclusive use of the City of Bellevue and their representatives. We have prepared the document, "Important Information About Your Wetland Delineation/ Mitigation Report and/or Stream Assessment," (Appendix) to assist you and others in understanding the use and limitations of our reports.

SHANNON & WILSON, INC.

Becki Kniveton
Wetland Biologist

Katie L. Walter, P.W.S
Natural Resources Manager

BSK:KLW:DNC/bsk

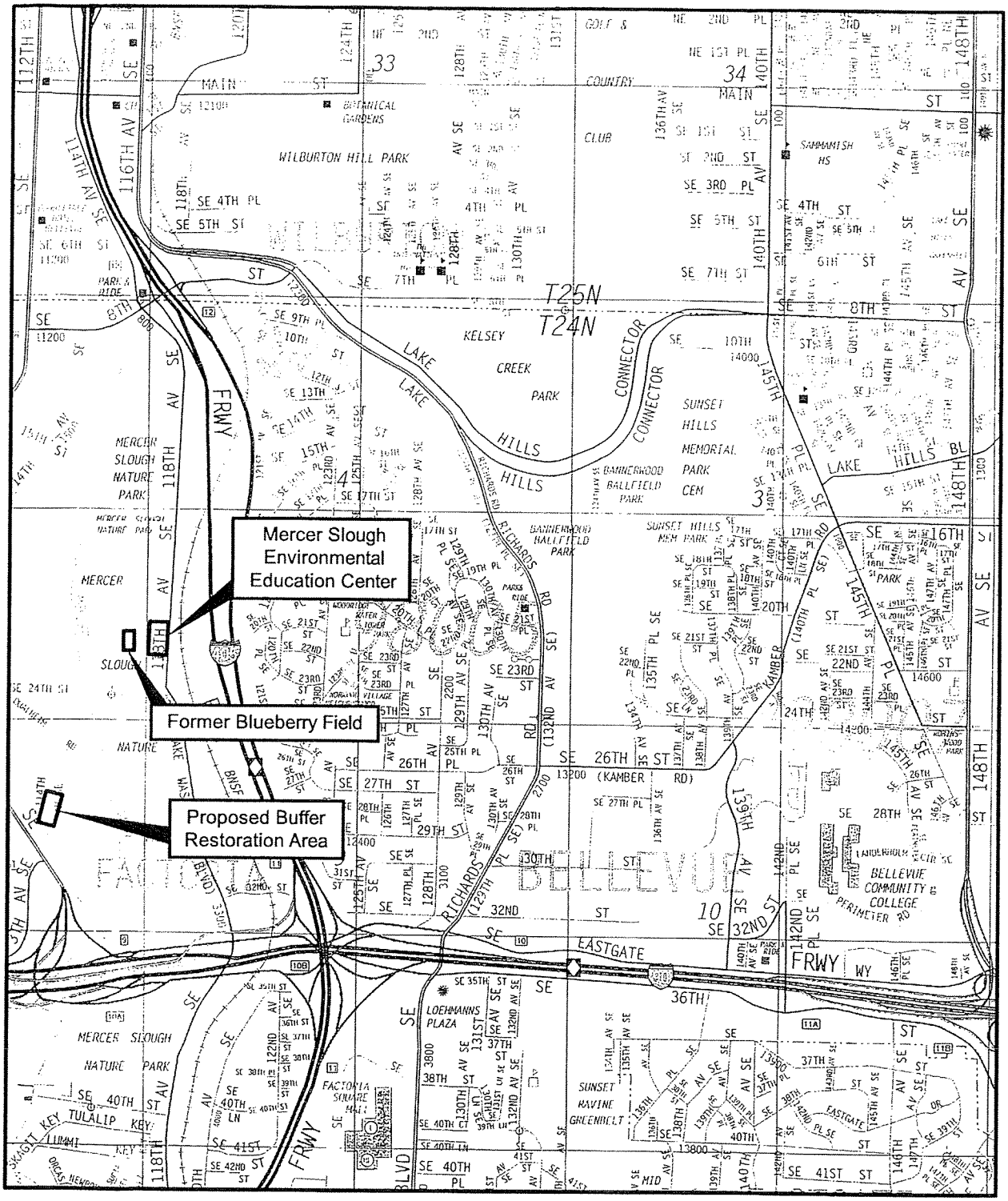
10.0 REFERENCES

City of Bellevue, 2003, Bellevue City code, critical areas overlay district: City of Bellevue, Part 20.25H, November 17.

City of Bellevue, 2005, City of Bellevue, Washington, Ordinance No. ____, critical areas overlay district, Part 20.25H, public review draft: City of Bellevue, June 7.

Jones & Stokes, 2004, Mercer Slough Environmental Education Center, wetland delineation memo: Report by Jones & Stokes, Bellevue, Wash., job no. 04419.04 for the City of Bellevue, Bellevue, Wash., July 14.

Shannon & Wilson, Inc., 2001, Preliminary wetland delineation, proposed Mercer Slough Environmental Education Center, Bellevue, Washington: Report by Shannon & Wilson, Inc., Seattle, Wash., job no. 21-1-12018-001 for Mr. Dan Dewald at the City of Bellevue Parks & Community Services, Bellevue, Wash., September.



NOTE

Mercer Slough Environmental Education Center
Planting Plan for On- and Off-Site Restoration Area
Bellevue, Washington

VICINITY MAP

August 2005 21-1-12165-004

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1

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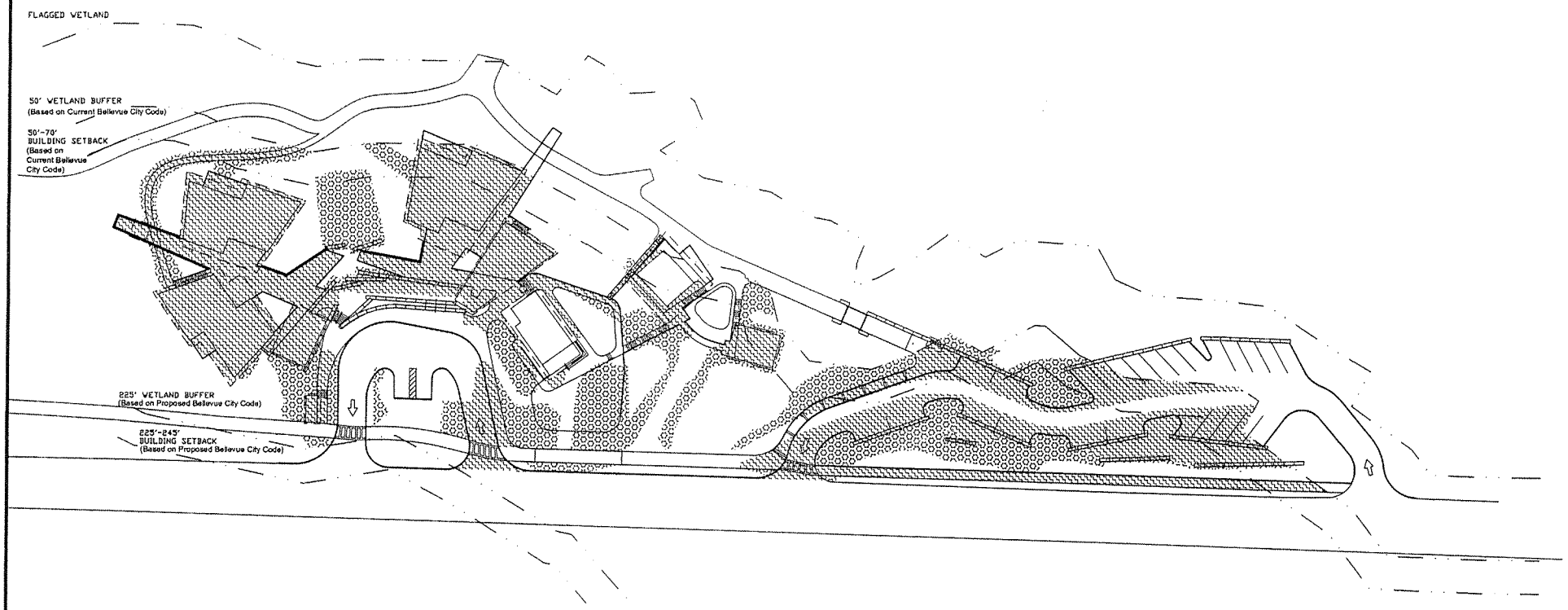

Mercer Slough Environmental Education Center
Areas of Wetland Impact w/225' Buffer
13 July 2005

PERMANENT BUFFER IMPACTS
0'-225'
31408 SQ. FT.

CONSTRUCTION IMPACTS
0'-225'
15462 SQ. FT.

BUILDING SETBACK IMPACTS
225'-250'
0 SQ. FT.

N

0 60 120
Scale in Feet

NOTE

Figure adapted from electronic file
"Impacts 225' 07.14.05.pdf" provided by
Jones and Jones, received 7-26-2005.

Mercer Slough Environmental Education Center
Planting Plan for On- and Off-Site Restoration Area
Bellevue, Washington

AREAS OF WETLAND BUFFER IMPACT

August 2005 21-1-12165-004

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2

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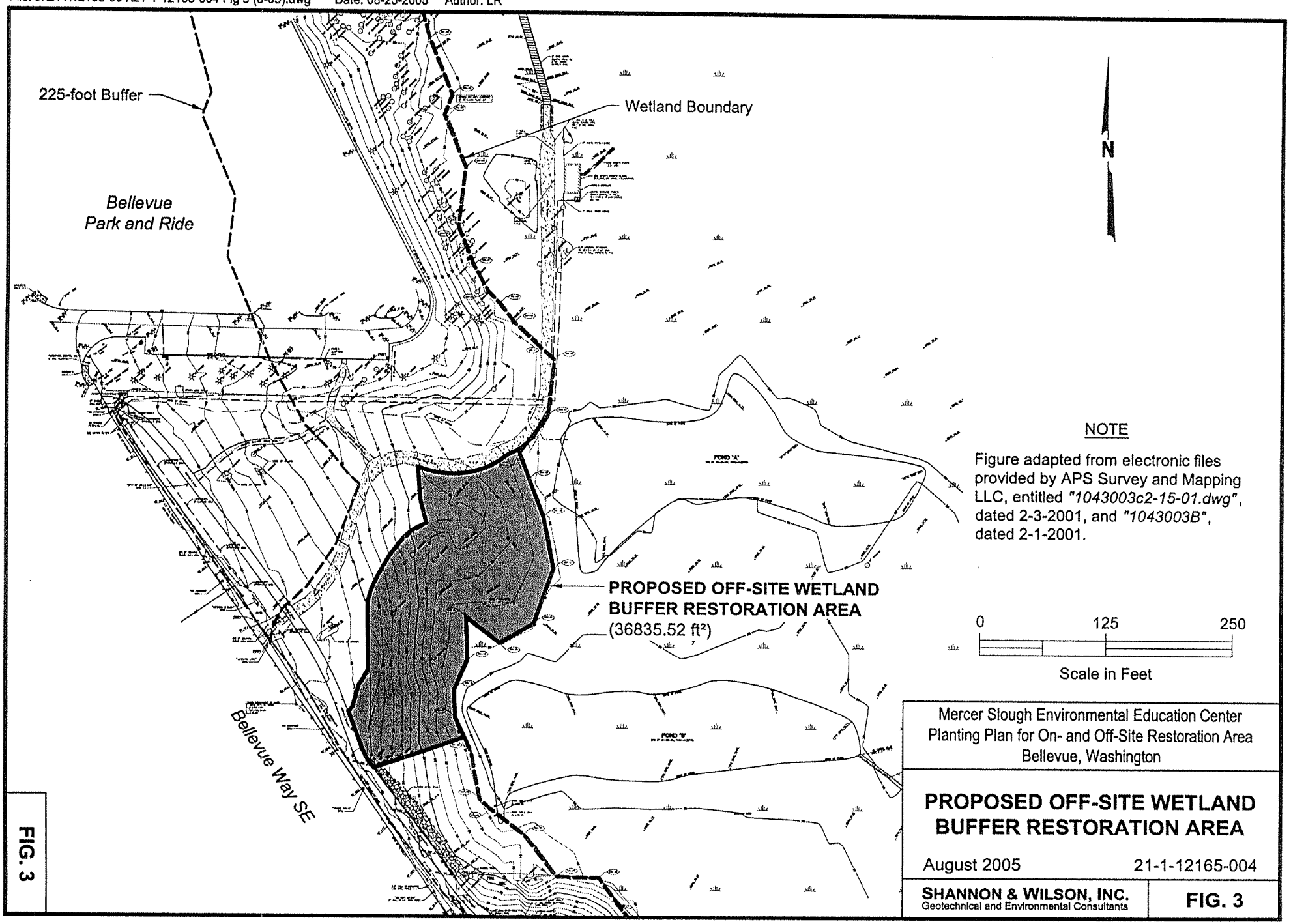
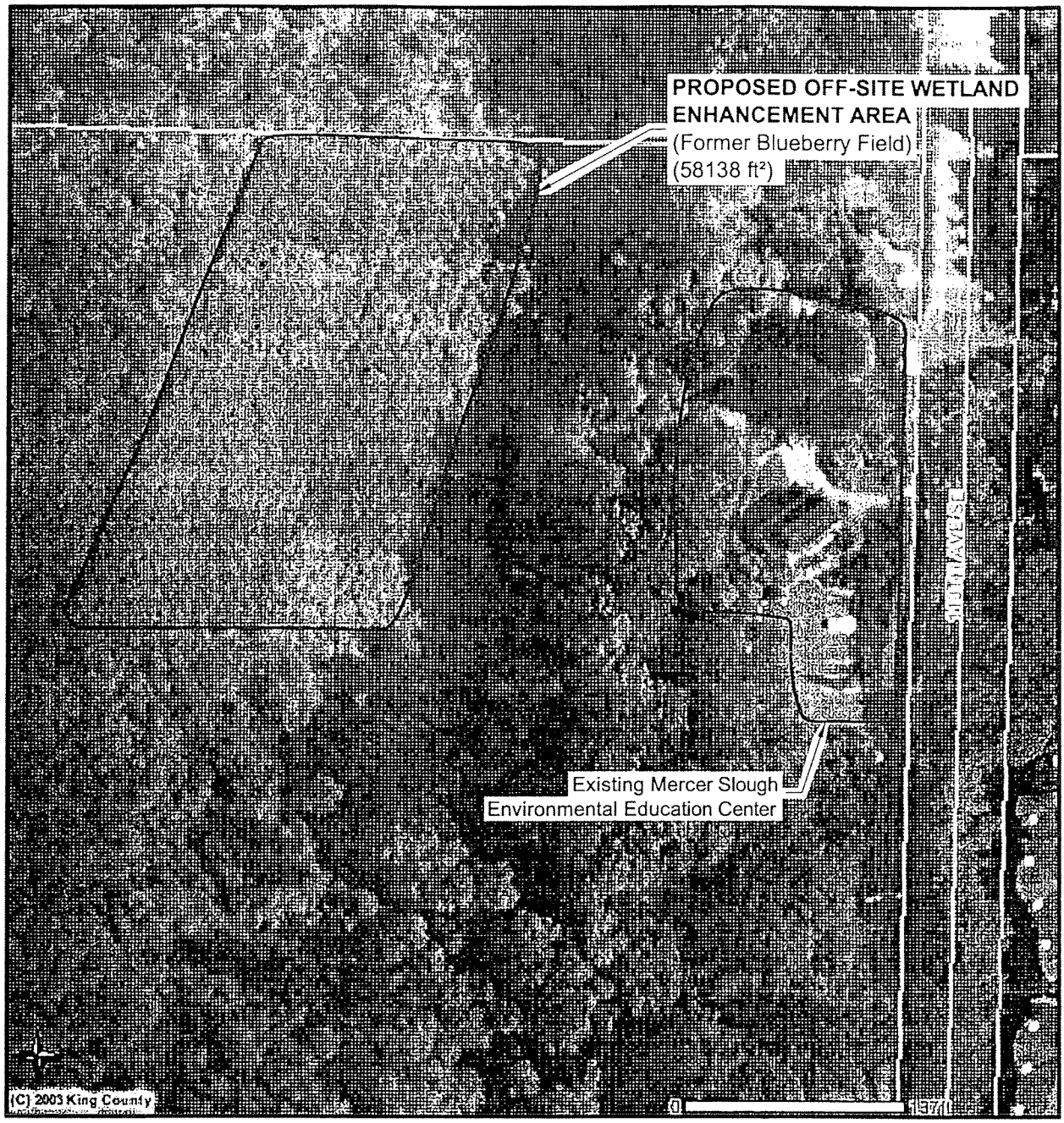


FIG. 3



0 100 200

Scale in Feet

Mercer Slough Environmental Education Center
Planting Plan for On- and Off-Site Restoration Area
Bellevue, Washington

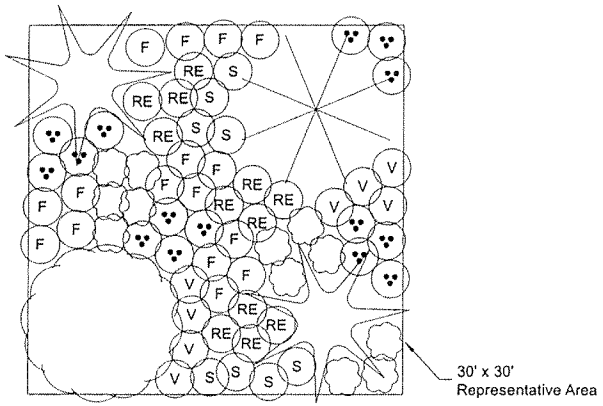
PROPOSED OFF-SITE WETLAND ENHANCEMENT AREA

August 2005 21-1-12165-004

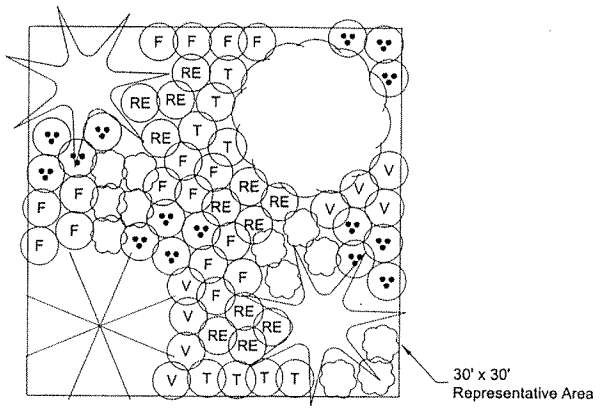
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 4

File: J:\21\12165-004\21-1-12165-004 Fig 4 (8-05).dwg Date: 08-25-2005 Author: LR



PLAN VIEW - TYPICAL ON-SITE TEMPORARY IMPACT AREA RESTORATION



PLAN VIEW - TYPICAL OFF-SITE WETLAND BUFFER RESTORATION AREA

LEGEND

English Name	Latin Name	Quantity*	Size	Condition	Spacing
Douglas fir	*Pseudotsuga menziesii*	25	> 24 inches	2 gallon	15 feet on center cumulative tree spacing
Western redcedar	*Thuja plicata*	25	> 24 inches	2 gallon	
Western hemlock	*Tsuga heterophylla*	20	> 24 inches	2 gallon	
V Vine maple	*Acer circinatum*	105	> 12 inches	1 gallon/bare root	5 feet on center cumulative shrub spacing
S Salmonberry	*Rubus spectabilis*	105	> 12 inches	1 gallon/bare root	
Nootka rose	*Rosa nutkana*	105	> 12 inches	1 gallon/bare root	
RE Red elderberry	*Sambucus racemosa*	105	> 12 inches	1 gallon/bare root	
F Swordfern	*Polystichum munitum*	100	> 12 inches	1 gallon/bare root	
Salal	*Gaultheria shallon*	100	> 12 inches	1 gallon/bare root	

*Quantity based on 15,462 square feet of area.

LEGEND

English Name	Latin Name	Quantity*	Size	Condition	Spacing
Douglas fir	*Pseudotsuga menziesii*	55	> 24 inches	2 gallon	15 feet on center cumulative tree spacing
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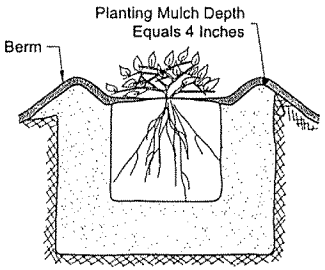
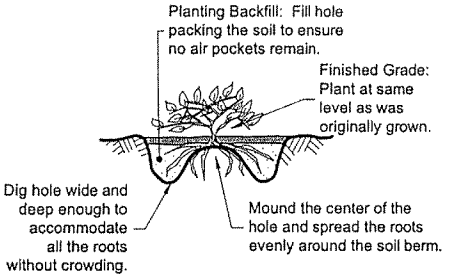
Salal	*Gaultheria shallon*	295	> 12 inches	1 gallon/bare root	

*Quantity based on 36,835 square feet of area.



CONTAINER PLANTING DETAIL



BARE ROOT PLANTING DETAIL

Mercer Slough Environmental Education Center
Planting Plan for On- and Off-Site Restoration Area
Bellevue, Washington

PLANTING PLAN FOR ON- AND OFF-SITE RESTORATION AREAS

August 2005 21-1-12165-004

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 5

File: J:\21\1\12165-004\21-1-12165-004 Fig 5 (8-05).dwg Date: 08-25-2005 Author: LR

APPENDIX

IMPORTANT INFORMATION ABOUT YOUR WETLAND DELINEATION/MITIGATION AND/OR STREAM ASSESSMENT REPORT

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Report 21-1-12165-004

Date: August 25, 2005
To: Mr. Ken Kroeger
City of Bellevue

IMPORTANT INFORMATION ABOUT YOUR WETLAND DELINEATION/MITIGATION AND/OR STREAM CLASSIFICATION REPORT

A WETLAND/STREAM REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

Wetland delineation/mitigation and stream classification reports are based on a unique set of project-specific factors. These typically include the general nature of the project and property involved, its size, and its configuration; historical use and practice; the location of the project on the site and its orientation; and the level of additional risk the client assumed by virtue of limitations imposed upon the exploratory program. The jurisdiction of any particular wetland/stream is determined by the regulatory authority(s) issuing the permit(s). As a result, one or more agencies will have jurisdiction over a particular wetland or stream with sometimes confusing regulations. It is necessary to involve a consultant who understands which agency(s) has jurisdiction over a particular wetland/stream and what the agency(s) permitting requirements are for that wetland/stream. To help reduce or avoid potential costly problems, have the consultant determine how any factors or regulations (which can change subsequent to the report) may affect the recommendations.

Unless your consultant indicates otherwise, your report should not be used:

- If the size or configuration of the proposed project is altered.
- If the location or orientation of the proposed project is modified.
- If there is a change of ownership.
- For application to an adjacent site.
- For construction at an adjacent site or on site.
- Following floods, earthquakes, or other acts of nature.

Wetland/stream consultants cannot accept responsibility for problems that may develop if they are not consulted after factors considered in their reports have changed. Therefore, it is incumbent upon you to notify your consultant of any factors that may have changed prior to submission of our final report.

Wetland boundaries identified and stream classifications made by Shannon & Wilson are considered preliminary until validated by the U.S. Army Corps of Engineers (Corps) and/or the local jurisdictional agency. Validation by the regulating agency(s) provides a certification, usually written, that the wetland boundaries verified are the boundaries that will be regulated by the agency(s) until a specified date, or until the regulations are modified, and that the stream has been properly classified. Only the regulating agency(s) can provide this certification.

MOST WETLAND/STREAM "FINDINGS" ARE PROFESSIONAL ESTIMATES.

Site exploration identifies wetland/stream conditions at only those points where samples are taken and when they are taken, but the physical means of obtaining data preclude the determination of precise conditions. Consequently, the information obtained is intended to be sufficiently accurate for design, but is subject to interpretation. Additionally, data derived through sampling and subsequent laboratory testing are extrapolated by the consultant who then renders an opinion about overall conditions, the likely reaction to proposed construction activity, and/or appropriate design. Even under optimal circumstances, actual conditions may differ from those thought to exist because no consultant, no matter how qualified, and no exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock, and time. Nothing can be done to prevent the unanticipated, but steps can be taken to help reduce their impacts. For this reason, most experienced owners retain their consultants through the construction or wetland mitigation/stream classification stage to identify variances, to conduct additional evaluations that may be needed, and to recommend solutions to problems encountered on site.

WETLAND/STREAM CONDITIONS CAN CHANGE.

Since natural systems are dynamic systems affected by both natural processes and human activities, changes in wetland boundaries and stream conditions may be expected. Therefore, delineated wetland boundaries and stream classifications cannot remain valid for an indefinite period of time. The Corps typically recognizes the validity of wetland delineations for a period of five years after completion. Some city and county agencies recognize the validity of wetland delineations for a period of two years. If a period of years have passed since the wetland/stream report was completed, the owner is advised to have the consultant reexamine the wetland/stream to determine if the classification is still accurate.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or water fluctuations may also affect conditions and, thus, the continuing adequacy of the wetland/stream report. The consultant should be kept apprised of any such events and should be consulted to determine if additional evaluation is necessary.

THE WETLAND/STREAM REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when plans are developed based on misinterpretation of a wetland/stream report. To help avoid these problems, the consultant should be retained to work with other appropriate professionals to explain relevant wetland, stream, geological, and other findings, and to review the adequacy of plans and specifications relative to these issues.

DATA FORMS SHOULD NOT BE SEPARATED FROM THE REPORT.

Final data forms are developed by the consultant based on interpretation of field sheets (assembled by site personnel) and laboratory evaluation of field samples. Only final data forms customarily are included in a report. These data forms should not, under any circumstances, be drawn for inclusion in other drawings because drafters may commit errors or omissions in the transfer process. Although photographic reproduction eliminates this problem, it does nothing to reduce the possibility of misinterpreting the forms. When this occurs, delays, disputes, and unanticipated costs are frequently the result.

To reduce the likelihood of data form misinterpretation, contractors, engineers, and planners should be given ready access to the complete report. Those who do not provide such access may proceed under the mistaken impression that simply disclaiming responsibility for the accuracy of information always insulates them from attendant liability. Providing the best available information to contractors, engineers, and planners helps prevent costly problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

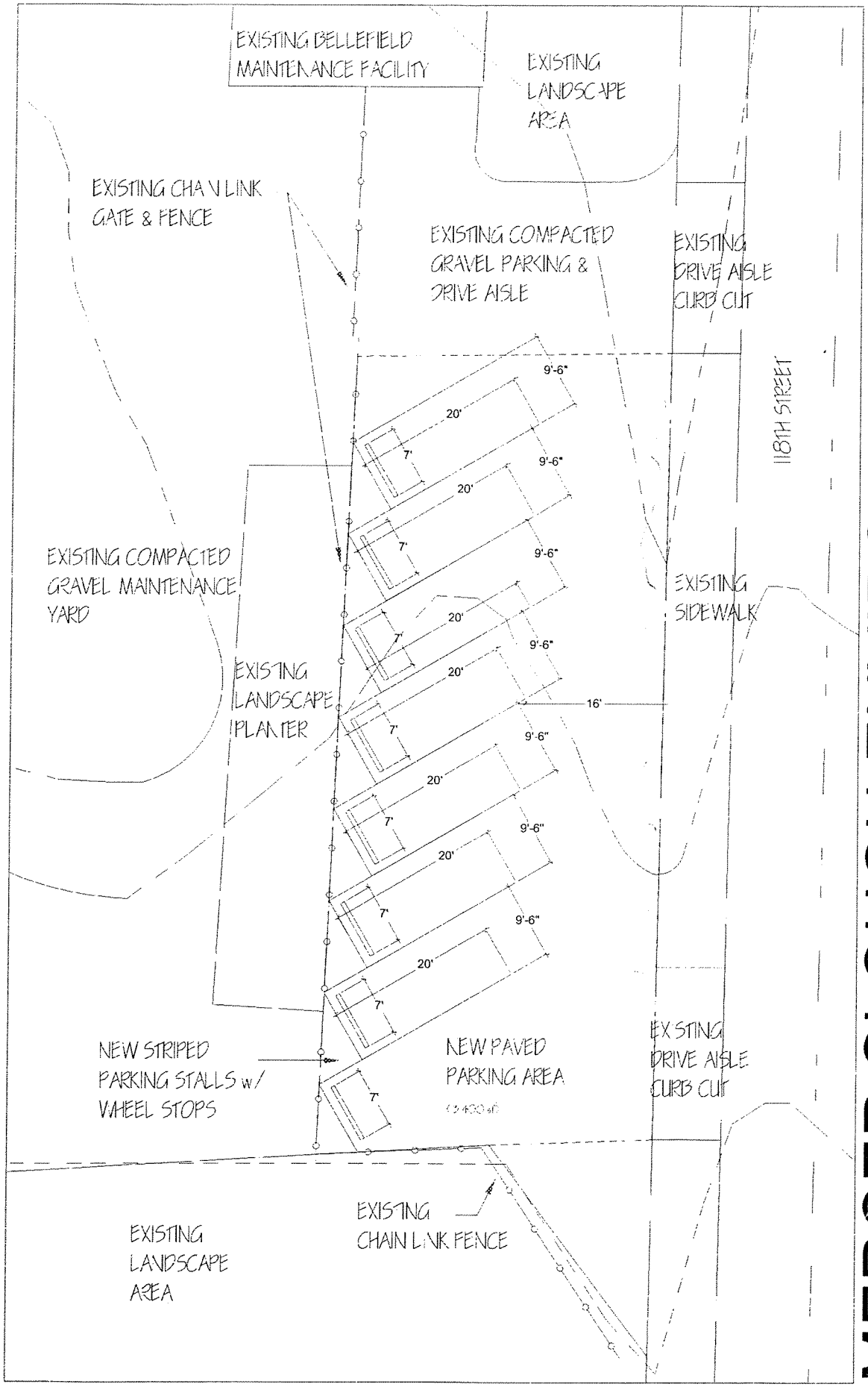
Because a wetland delineation/stream classification is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in written transmittals. These are not exculpatory clauses designed to foist the consultant's liabilities onto someone else; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

THERE MAY BE OTHER STEPS YOU CAN TAKE TO REDUCE RISK.

Your consultant will be pleased to discuss other techniques or designs that can be employed to mitigate the risk of delays and to provide a variety of alternatives that may be beneficial to your project.

Contact your consultant for further information.

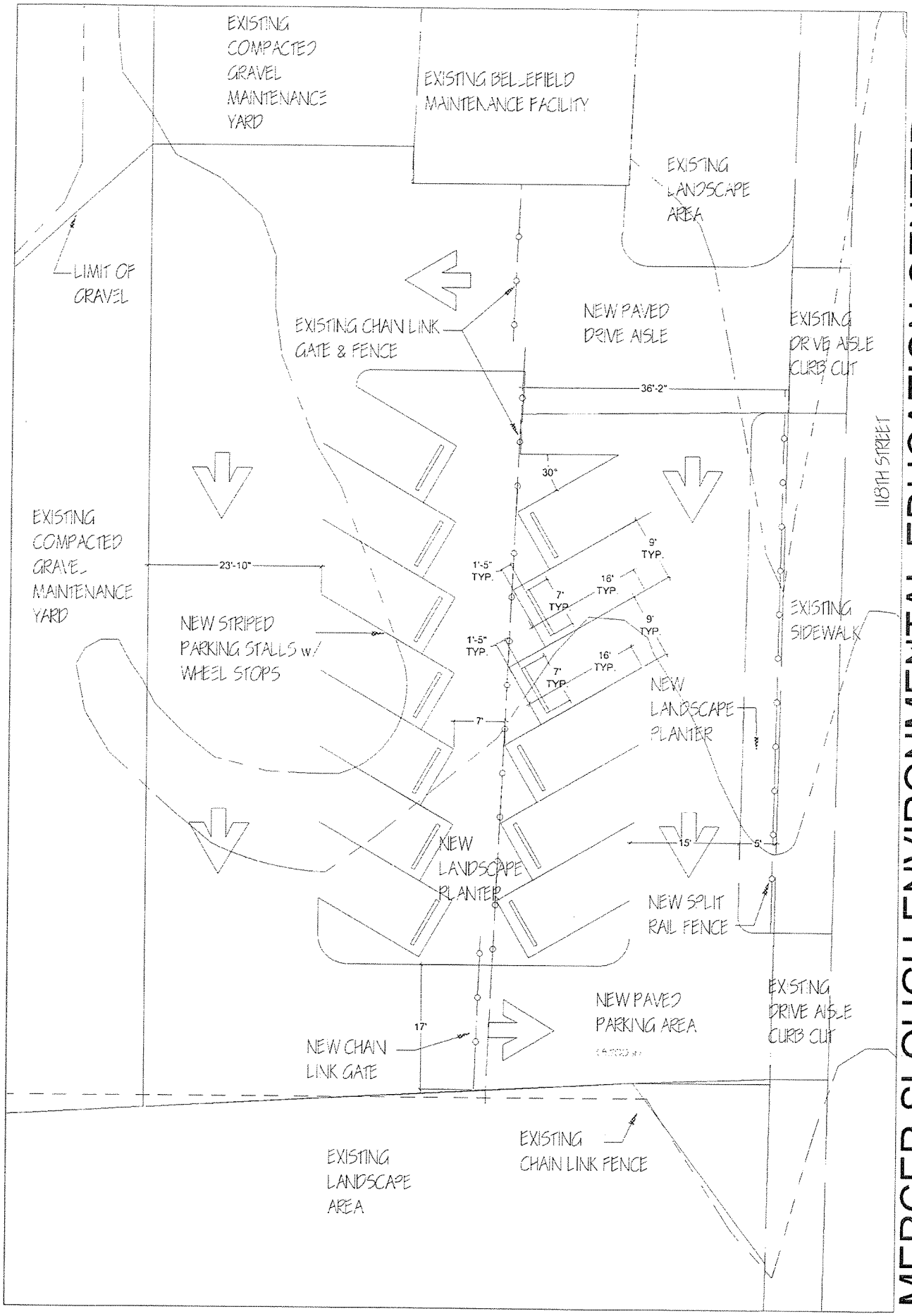
Attachment 4



MERCER SLOUGH ENVIRONMENTAL EDUCATION CENTER

OFF SITE PARKING STRATEGY: BELLEFIELD MAINTENANCE YARD PARKING

Attachment 5



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ATTACHMENT 15:
OFF SITE PARKING CONTINGENCY PLAN: BELLEFIELD MAINTENANCE YARD PARKING