

## **Edmonds Community College**

Edmonds Community College is located within the boundaries of the City of Lynnwood, approximately 15 miles north of Seattle. The campus encompasses a total of 51.7 acres of land and includes 31 buildings that have more than 600,000 square feet.

Edmonds Community College, its lands and buildings, is owned and controlled by the State of Washington. Governance is provided by the Washington State Board of Community and Technical Colleges.

Edmonds Community College has an average of 10,700 students attending each quarter, with nearly 3,900 students attending full-time. The staff includes 141 full-time instructors, 320 part-term instructors and another 590 support staff. Additionally, the facility hosts a day care that provides services to an average of 110 children on a daily basis.

Because the school provides both day and evening classes, and is frequently used as a meeting facility for community groups and organizations, it is very likely that the campus will be occupied when a disaster occurs.

In addition to the normal disaster preparation and concerns, the Community College must also take into account the diverse population which includes nearly 800 students from 45 countries.

***Critical structures are identified in Annex K.***

### **Hazard Identification**

Based on past experience, the Edmonds Community College rates its risk of natural hazards as follows:

<b>HAZARD</b>	<b>RATING</b> (out of 80 possible)
Drought	05
Earthquake	35
Flood	05
100-year	05
Tidal Surge	00
Urban	05
Landslide	05
Severe Storm	50
Tsunami & Seiche	05
Volcano	16
Wildland Urban Interface Fire	20

## **Drought**

Rating: 05

Drought is not considered to be a high-risk hazard for Edmonds Community College. The College's potable water is supplied the City of Lynnwood and is purchased by Lynnwood from Alderwood Water District. The water supply is relatively stable for short-term (one season) droughts.

Edmond Community College regards drought as an EXTREMELY LOW threat.

## **Earthquake**

Rating: 35

Edmonds Community College is located in Seismic Zone 3, between several fault lines, and an earthquake is therefore considered to be a significant risk for the College.

As discussed in this document's HIVA, earthquakes occur in Washington State on an almost daily basis. While most quakes are minor, seismologists tell us that we can expect a 7.0 magnitude deep or intraplate earthquake about every 70 years and an 8.0 or greater subduction quake every 150 to 1,100 years.

Based on this information, when a major earthquake occurs in the region, the College can expect significant damage, injuries, and possibly deaths, depending on the time and day of occurrence. This is due in part to the relatively dense concentration of people in 31 buildings.

Of additional concern is the concentration of very young adults (late teens and early-20s), pre-school children (in the childcare center) and exchange students with English as a second language. Other challenges the College may face include the possibility of the surrounding neighborhood coming to the College for care and assistance, further overwhelming resources.

During the 2001 Nisqually Earthquake, Edmonds Community College did not experience any significant damage. This was due to a combination of factors including the distance away from the epicenter and the direction the shockwave traveled. The fact that most of the College's buildings are relatively new (less than 40 years old) also played a part in how well the College rode out the earthquake. A different combination of factors could lead to very different levels of damage.

The College rates the risk from earthquake as MODERATE.

## **Flood**

Rating: 05

### **100-Year**

None of the Community College's acreage is in a flood zone.

### **Tidal Surge**

The College does not have any waterfront property.

### **Urban**

The College occasionally experiences standing water in parking lots and overflowing retaining ponds when the City of Lynnwood's stormwater system is overwhelmed. This is a short-term situation and resolves itself as soon as the stormwater system is able to absorb the overage.

The College is working with the City to ensure that the College's stormwater drainage system is to current and appropriate standards ensuring proper drainage.

Overall, the risk from flood is rated EXTREMELY LOW.

## **Landslide**

Rating: 05

Edmonds Community College is built on very stable ground, with no bluffs, steep slopes or other hazards or vulnerabilities associated with landslide or soil displacement.

The College has only minimal elevation changes that are required for adequate drainage. To improve drainage, construction and maintenance plans and activities have created elevation changes.

Additionally, the area's hardpan conditions require the design of rockeries and/or block walls with drainage tiles to improve the growing conditions for native ground covers and plants incorporated in the landscape to maintain erosion.

The College rates the landslide risk as EXTREMELY LOW.

## **Severe Storm**

Rating: 50

Edmonds Community College and the Puget Sound area is subjected to severe storms on a regular basis. Windstorms occur nearly every winter, and rainstorms are not unusual. On rare occasions, the Puget Sound region, including the College, has also experienced heavy snows and freezing rains.

Winds and snow or ice regularly cause tree branches to break and/or trees to fall. This may cause power outages or damage buildings.

The Inaugural Day Storm in 1993 had winds of 66 mph. This storm interrupted power to the region for more than three days. Branches and trees were downed and laid across streets, roads, and yards. Roofs were damaged from a combination of branches and the wind itself.

The College rates the hazard from severe storm as HIGH.

## **Tsunami & Seiche**

Rating: 05

The College has very little risk of damage or destruction from either tsunami or seiche. This is because Edmonds Community College is not located on Puget Sound and does not have any large lakes within or near its borders.

The risk to Edmonds Community College from tsunami or seiche is considered to be EXTREMELY LOW.

## **Volcano**

Rating: 16

Edmonds Community College is unlikely to suffer direct damage from a volcano eruption. However, in the event of a nearby eruption, the College may experience ashfall which could interfere with the operation of motor vehicles, require expensive clean-up efforts by the College, and cause respiratory distress to students and staff. The College and surrounding area is highly unlikely to experience any lava flow, lahar activity, or any of the other risks associated with volcanoes.

A secondary effect of a volcano eruption is the influx of refugees into the area. This may be an issue to the College as a regional partner, and the

region as a whole, as resources are overwhelmed by numbers of people that the infrastructure is not designed to handle. This includes everything from roads and highways, water and electric utilities, to the regional hospital and shelter facilities.

Edmonds Community College's risk from a volcanic eruption is LOW.

### **Wildland-Urban Interface Fire**

Rating: 20

Wildland-urban interface fire is a concern to Edmonds Community College due to the parks, wetlands, greenbelts, and undeveloped land parcels scattered throughout the 51.7 acres. The threat is in reverse proportion to the amount of rainfall in the region. When rain is scarce, the fire threat increases.

The College considers this risk to be LOW.

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## **Mitigation**

### **Existing and Ongoing Mitigation Activities**

Edmonds Community College is taking the following actions in ongoing efforts to mitigate for natural hazards and to maintain public safety.

#### **All Hazards**

As part of the preparation and mitigation services, the college has provided education and training in the form of Community Emergency Response Team (CERT) for volunteer college faculty and staff. Each volunteer has taken classes provided by ESCA for certification along with hands on disaster training table top exercises.

All members have been supplied with a backpack for supplies and personal equipment as outlined in the CERT training.

The College has stockpiled cribbing materials, safety supplies, and personal food packets along with identifying equipment, vehicles, and buildings for administration, triage, and emergency housing.

#### **Drought**

The College will work with the Water District to conserve water as a sustainability goal, although the Puget Sound region has always supplied adequate potable water for our needs.

Existing and ongoing drought mitigation actions include:

- Conservation techniques through usage of drip irrigation, computer controllers, mulching and/or chipping planting beds, selection of drought-tolerant plants, and collection of water from roofs.
- LEED installation of low-flow toilets, urinals, and sinks during renovation and new building projects.
- College policy that water usage is reduced for lawns when drought conditions are projected.

#### **Earthquake**

- Since 2001, all remodels and new building construction projects have incorporated seismology construction upgrades to meet or exceed current Lynnwood building codes. Specific projects include:
  - Upgraded Mountlake Terrace and Brier Hall.
  - Constructed new Mukilteo Hall.

#### **Flood**

- Installed retention systems to handle flood/storm issues meeting City of Lynnwood storm water retention codes.

- Implemented Department of Ecology best storm water practices through yearly maintenance of catch basins and parking lots.

### **Landslide**

- Installation of rockeries and block walls with drainage tiles, native ground covers and plants to maintain erosion.

### **Severe Storm**

- Installation of electrical looping systems with PUD and generators for our buildings.
- Tree mitigation and maintenance plans for grounds staff to minimize damage and ensure quick cleanup.

### **Tsunami and Seiche**

- None at this time.

### **Volcano**

- Grounds maintenance has sweeping and loading equipment available for cleanup work.
- Seaview Gym and the TUB is available for housing refugees and setting up a command center if required.

### **Wildland-Urban Interface Fire**

- Maintain swales, planting beds, and lawns/meadowland through grounds maintenance and IPM methods to minimize the potential for wildfires.
- Mowing, weed eating, chipping and sprinkling these areas to reduce the effects for fire potential.

## **Mitigation Action Items**

The Mitigation Plan identifies short- and long-term action items developed through data collection, research, and the public participation process. Mitigation Plan activities may be considered for funding through federal and state grant programs and when other funds are made available through the budgeting process or the passage of bonds.

Action items address multi-hazard (MH) or hazard-specific issues. Upon implementation, the coordinating organizations may look to partner organizations for resources and technical assistance.

To help ensure activity implementation, each action item includes several pieces of information in the description. These include:

- *Coordinating Organization*  
The coordinating organization is that which is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring and evaluation. The coordinating organizations may be local or regional agencies. Organizations written in *italics* are not participating in this Plan but have an established relationship with this jurisdiction.
- *Timeline*  
Action items include both long- and short-term activities. Each action item includes an estimate of the timeline for implementation. *Short-term* action items (ST) are activities that organizations may implement with existing resources and authorities within one to two years. *Long-term* action items (LT) may require new or additional resources or authorities, and may take between two and five years to implement.
- *Ideas for Implementation*  
Each action item includes ideas for implementation. This may be individual steps for one project, or it may be several related projects that address the natural hazard.
- *Plan Goals Addressed*  
The plan goals are identified to monitor and evaluate how well the Mitigation Plan is achieving its goals once implementation begins.
- *Benefit-to-Cost Review*  
Due to limitations in staff time, and because project priorities may shift based on changes in funding options and local events, a generalized Benefit-to-Cost Review and prioritization process is

used. The steps associated with prioritizing the mitigation projects are as follows:

1. The jurisdiction rates the project cost as “high,” “medium,” or “low” in relation to budget and previous projects, and each rating is assigned a numerical value.
2. The project outcome is then rated as “low,” “medium,” or “high,” and each of these ratings is assigned a numerical value.
3. The two values are added together, and the total provides the cost-benefit and the priority.

Example:

If a project has a *medium approximate cost*, and is considered to be *highly effective*, the boxes would be marked as shown below.

Approx Cost	+	Effectiveness	=	Priority / Benefit-to-Cost Review
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input checked="" type="checkbox"/> 2 – Medium		<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input type="checkbox"/> 3 – Low		<input checked="" type="checkbox"/> 3 – High		<input type="checkbox"/> 4
				<input checked="" type="checkbox"/> 5
				<input type="checkbox"/> 6 – Highest

The priority/benefit-to-cost review ratings with the highest numbers are considered to be the highest priorities. As always, however, these are subject to financial realities and may not be carried out in the exact order indicated.

## MULTI-HAZARD MITIGATION ITEMS (MH)

### **ECC-01-MH-ST: Install Campus-wide Computer Controller for Irrigation Systems**

#### **Ideas for implementation:**

- Select computer master controller that will be compatible with existing system
- Design and install fiber for connecting infield systems to master controller
- Weather station and infield soil and water sensors for communication with master controller
- Existing systems surveyed, checked, and repaired for efficiencies.

**Coordinating Organization:** Information Technology Staff; Grounds Staff

**Estimated Price:** \$5,000- \$25,000

**Funding Source:** College Budget; outside grants

**Timeline:** 2009-2011

**Plan Goals Addressed:** Protect Life and Property; Protect Natural Systems

**Benefit-to Cost Review:** 6

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input checked="" type="checkbox"/> 3 – Low		<input checked="" type="checkbox"/> 3 – High		<input type="checkbox"/> 4
				<input type="checkbox"/> 5
				<input checked="" type="checkbox"/> 6 – Highest

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**ECC-02-MH-ST: Remodel Meadowdale Hall; incorporate seismology construction upgrades to meet current seismic resistance codes.**

**Ideas for implementation:**

- Install concrete reinforced “shear walls” on the first and second floors in both directions.
- Bracing suspended ceilings, mechanical ducts and light fixtures to resist seismic events.

**Coordinating Organization:** City of Lynnwood; Edmonds Community College

**Estimated Price:** \$250,000-\$500,000

**Funding Source:** State Allocated Funds

**Timeline:** 2009-2010

**Plan Goals Addressed:** Protect Life and Property

**Benefit-to Cost Review:** 5

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input checked="" type="checkbox"/> 2 – Medium		<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input type="checkbox"/> 3 – Low		<input checked="" type="checkbox"/> 3 – High		<input type="checkbox"/> 4
				<input checked="" type="checkbox"/> 5
				<input type="checkbox"/> 6 – Highest

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**ECC-03-E-ST: Conduct non-structural retrofit activities**

**Ideas for implementation:**

- Strap down and secure computers, shelves, and other office equipment and machinery.
- Conduct walk-through to ensure that heavy items are not stored overhead. Secure heavy items in place or move to safer locations.
- Prepare three- day emergency kits with water, food, etc. for Staff.

**Coordinating Organization:** Edmonds Community College Facilities and Safety Committee.

**Estimated Price:** \$1,500.00

**Funding Source:** College Budget

**Timeline:** Ongoing

**Plan Goals Addressed:** Protect Life and Property; Provide for Emergency & Critical Services; Facilitate Continuity and Recovery

**Benefit-to Cost Review:** 6

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input checked="" type="checkbox"/> 3 – Low		<input checked="" type="checkbox"/> 3 – High		<input type="checkbox"/> 4
				<input type="checkbox"/> 5
				<input checked="" type="checkbox"/> 6 – Highest

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**ECC-04-F-ST: Monitor and maintain storm systems by being proactive during the year, during heavy rains and post snowstorms.**

**Ideas for implementation:**

- Visually inspect and clean throughout the year as required.
- Monthly sweeping and cleaning of parking lots.
- Visually inspect drainage systems to ensure they remain free from clogs. Free blockage as necessary during and after storms.
- Educate students and staff concerning litter and debris in parking lot.

**Coordinating Organization:** Lynnwood Public Works; ECC Grounds Department; ECC Facilities Staff, Faculty and Students.

**Estimated Price:** \$15,000-\$25,000

**Funding Source:** College Budget

**Timeline:** Yearly and ongoing

**Plan Goals Addressed:** Protect Life and Property; Protect Natural Systems

**Benefit-to Cost Review:** 6

<u>Approx Cost</u>	+	<u>Effectiveness</u>	=	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input checked="" type="checkbox"/> 3 – Low		<input checked="" type="checkbox"/> 3 – High		<input type="checkbox"/> 4
				<input type="checkbox"/> 5
				<input checked="" type="checkbox"/> 6 – Highest

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**ECC-05-SS-ST: Installation of Phase Three of PUD Electrical Loop**

**Ideas for implementation:**

- Design and installation of PUD electrical at intersection of 204th and 68th.
- Trench across 68th and then continue to Junction Box at Y corners; including tie into Snohomish Hall.
- Set transformers and push electrical wire for hook ups.

**Coordinating Organization:** *Snohomish County PUD*; City of Lynnwood; Edmonds School District; and Edmonds Community College

**Estimated Price:** \$700,000-\$900,000

**Funding Source:** State Allocated funds

**Timeline:** 2009

**Plan Goals Addressed:** Protect Life and Property; Provide for Emergency and Critical Services; Facilitate Continuity and Recovery

**Benefit-to Cost Review:** 4

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input checked="" type="checkbox"/> 2 – Medium		<input checked="" type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input type="checkbox"/> 3 – Low		<input type="checkbox"/> 3 – High		<input checked="" type="checkbox"/> 4
				<input type="checkbox"/> 5
				<input type="checkbox"/> 6 – Highest

**ECC-06-SS-ST: Develop Tree Mitigation Plan**

**Ideas for implementation:**

- Complete development and implementation of Tree Mitigation Plan.
- Hire arborist to evaluate trees on campus.
- Enter data regarding evaluated trees on CAD for location and identification.
- Establish and maintain a long-term plan for each tree with pruning and logging schedules.

**Coordinating Organization:** Edmonds Community College Grounds  
Department

**Estimated Price:** \$10,000-\$15,000

**Funding Source:** College Budget

**Timeline:** 2009-2011

**Plan Goals Addressed:** Protect Life and Property; Provide for  
Emergency and Critical Services

**Benefit-to Cost Review:** 5

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
<input type="checkbox"/> 2 – Medium		<input checked="" type="checkbox"/> 2 – Medium		<input type="checkbox"/> 3
<input checked="" type="checkbox"/> 3 – Low		<input type="checkbox"/> 3 – High		<input type="checkbox"/> 4
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				<input type="checkbox"/> 6 – Highest

**ECC-07-V-ST: Develop and Implement policy for maintaining stock of filters for key vehicles and pieces of equipment.**

**Ideas for implementation:**

- Identify key vehicles and equipment (back-up generators, sweepers and tractors)
- Establish policy and budget to maintain spare filters.

**Coordinating Organization:** Edmonds Community College Facilities departments.

**Estimated Price:** \$1,500

**Funding Source:** College budget

**Timeline:** 2009-2010

**Plan Goals Addressed:** Protect Life and Property; Provide for Emergency Services; Facilitate Continuity and Recovery

**Benefit-to Cost Review:** 4

<u>Approx Cost</u>	+	<u>Effectiveness</u>	=	<u>Priority / Benefit-to-Cost Review</u>
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				<input type="checkbox"/> 5
				<input type="checkbox"/> 6 – Highest

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**ECC-08-W-ST: Develop and implement fire-resistant policies**

**Ideas for implementation:**

- Ban fireworks on College grounds through signage and security personal monitoring parking lots.
- Minimize potential fuels by mowing grass and thinning shrubbery.
- Chip beds instead of using bark to minimize potential cigarette spark.

**Coordinating Organization:** Edmonds Grounds and Security Staff

**Estimated Price:** \$5,000

**Funding Source:** College budget

**Timeline:** yearly

**Plan Goals Addressed:** Protect Life and Property

**Benefit-to Cost Review:** 5

<u>Approx Cost</u>	<u>+</u>	<u>Effectiveness</u>	<u>=</u>	<u>Priority / Benefit-to-Cost Review</u>
<input type="checkbox"/> 1 – High		<input type="checkbox"/> 1 – Low		<input type="checkbox"/> 2 – Lowest
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				<input checked="" type="checkbox"/> 5
				<input type="checkbox"/> 6 – Highest