

# City of Rockaway Beach

## Sourcewater Protection Plan Development Advisory Committee (SPPDAC) Meeting Agenda

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**Date:** Thursday, October 10, 2024  
**Time:** 10:00 AM– 12:00 PM  
**Location:** Rockaway Beach City Hall, 276 Hwy 101 – 2<sup>nd</sup> Floor Conference Room

### Join here to attend the meeting remotely:

<https://us06web.zoom.us/j/87099435645?pwd=Dpgws2TIMUbpkzRkoaLm45rwUGf4za.1>

Meeting ID: 870 9943 5645

Passcode: 192842

Dial by your location

253 215 8782 US (Tacoma)

### How to Provide Public Comment:

- Written Comments – submit in person at meeting or online at <https://corb.us/advisory-committees/>
  - In Person – sign-up sheet and instructions will be located on the table inside the meeting room.
  - Virtually on Zoom – use the “raise hand” feature when the Chair announces it is time to do so.
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**1. CALL TO ORDER** – Sandra Johnson, Chair

**2. ROLL CALL**

**3. APPROVAL OF MINUTES**

- a. July 9, 2024 Meeting Minutes
- b. July 29, 2024 Meeting Minutes

**4. PUBLIC COMMENT**

**5. NEW BUSINESS**

- a. **Sourcewater Protection Plan Town Hall Recap** - Suzanne de Szoeki, GSI Water Solutions
- b. **Risk Level Change Suggestions from Town Hall Attendees and SPP Team Input**
- c. **Strategy Ideas for Addressing Identified Risks Discussion**

**6. NEXT STEPS**

**7. COMMITTEE COMMENTS**

**8. ADJOURNMENT**

### NOTICE OF POSSIBLE QUORUM:

A quorum of the **CITY COUNCIL** may attend this meeting.

No deliberations or decisions will be conducted by the City Council at this meeting.

Rockaway Beach City Hall is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting to City Hall at 503-374-1752.

# City of Rockaway Beach

## Sourcewater Protection Plan Development Advisory Committee (SPPDAC) Meeting Minutes



**Date:** Tuesday, July 9, 2024  
**Time:** 10:30 A.M.

**1. CALL TO ORDER** – Sandra Johnson, Chair  
Johnon called the meeting to order at 10:30 a.m.

### **2. ROLL CALL**

**Committee Members Present:** Sandra Johnson, Jason Maxfield, Lydia Hess, Ron Cleman, Jay Udelhoven

**Council Members Present:** Alesia Franken, City Council Liaison, and Mayor Charles McNeilly

**Staff Present:** Luke Shepard, City Manager; and Melissa Thompson, City Recorder

**Consultant Present:** Suzanne de Szoeki and Mikaela Clarke, GSI Water Solutions, Inc.

### **3. APPROVAL OF MINUTES** – June 17, 2024 Meeting

Hess made a **motion**, seconded by Cleman, to approve the June 17, 2024 meeting minutes as presented.

The **motion carried** unanimously.

### **4. PUBLIC COMMENT**

No audience members wished to comment.

### **5. NEW BUSINESS**

#### **a. Prioritizing Risks**

Suzanne de Szoeki, GSI Water Solutions, Inc., shared a presentation providing an overview of a Drinking Water Protection Plan (DWPP), goals and objectives, and estimated schedule. De Szoeki confirmed for Udelhoven that the risks table focused on risks to surface water, not risks to people.

#### **i. Draft Rockaway Beach Source Water Protection Plan Risks Prioritization Table (Surface Water)**

De Szoeki noted the committee received an updated surface water risk table prior to the meeting.

De Szoeka and Mikaela Clarke, GSI Water Solutions, Inc., presented the table and the committee discussed the risk prioritizations. De Szoeka and Clarke answered clarifying questions for the committee. Comments were added to the risk table throughout the discussion. De Szoeka confirmed that she could provide a list of SPP Team contributors.

Discussion and comments included:

- Public testimony and regular water testing performed by the City.
- Desire to pursue a secondary water source
- Desire for information on Jetty Creek flow data, with Shepard noting that some of the data would be available after the City engineers have completed the Master Plan Update and System Development Charge (SDC) study.
- Concerns about consistency in the scope of the plan related to infrastructure.

After discussion, Johnson made a **motion**, seconded by Hess, to include in the Sourcewater Protection Plan risks and strategies up to and including the water treatment plant, and any other concerns or suggestions will be captured and available in an addendum.

Udelhoven spoke in opposition, expressing concerns about consistency, since it had been stated that a Water Master Plan would address infrastructure. Shepard noted it seemed that the committee wanted to recognize that there was overlap between any master plans and the Sourcewater Protection Plan. McNeilly commented on the importance of clearly defining the scope of the plan.

The **motion carried** by the following vote:

Aye: 4 (Hess, Johnson, Clemen, Maxfield)

Nay: 1 (Udelhoven)

There was discussion regarding suggestions to change the clearcut harvesting risk likelihood from 4 to 5 and impact from 3-4 to 5.

Johnson made a **motion**, seconded by Hess, to recommend that the clearcut harvesting risk likelihood be rated a 5.

The **motion carried** unanimously.

Johnson made a **motion**, seconded by Hess, assuming the watershed stays under current ownership, that the committee recommend that the clearcut harvesting impact be rated a 5.

After discussion, the **motion failed** by the following vote:

Aye: 2 (Hess, Johnson)

Nay: 3 (Clemen, Maxfield, Udelhoven)

There was a discussion regarding pesticides risk. It was suggested risk likelihood should be 5 instead of 4 for pesticides.

Hess made a **motion**, seconded by Cleman, that the committee recommend changing number 4 to 5 for pesticide risk likelihood.

The **motion carried** unanimously.

Johnson made a **motion**, seconded by Hess, that the committee recommend increasing pesticide risk impact from 2 to 4.

After discussion, the **motion carried** by the following vote:

Aye: 3 (Hess, Johnson, Maxfield)

No: 2 (Udelhoven, Cleman)

At the request of Franken, McNeilly explained the distinctions between the Jetty Creek Working Group and the Sourcewater Protection Plan Team, and the Memorandum of Understanding members.

There was discussion that the “2” rating for riparian impacts was conservative.

#### ii. **Rockaway Beach Source Water Protection Plan Risks to Groundwater Table**

Shepard noted that there wasn't time left to review the risks to the groundwater table and suggested continuing the meeting to a later date.

#### iii. **Next Steps**

August 6<sup>th</sup> was proposed as a tentative next meeting date. De Szoeki confirmed prioritization must be done in August.

Hess made a **motion**, seconded by Cleman, to continue the meeting to a future date before September 1.

The **motion carried** unanimously.

### b. **Committee Comments**

Johnson noted that committee comments would be addressed at the continued meeting.

**6. ADJOURNMENT**

Hess made a **motion**, seconded by Johnson, to adjourn the meeting at 12:34 a.m.

The **motion carried** unanimously.

MINUTES APPROVED THE  
10TH DAY OF OCTOBER 2024

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Sandra Johnson, Chair

ATTEST

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Melissa Thompson, City Recorder

# City of Rockaway Beach

## Sourcewater Protection Plan Development

### Advisory Committee (SPPDAC) Meeting Minutes



**Date:** Monday, July 29, 2024  
**Time:** 10:00 A.M.

1. **CALL TO ORDER** – Sandra Johnson, Chair  
Johnon called the meeting to order at 10:02 a.m.

2. **ROLL CALL**

**Committee Members Present:** Sandra Johnson, Lydia Hess, Ron Cleman, Jay Udelhoven (arrived at 10:07 a.m.)

**Committee Members Excused:** Jason Maxfield

**Council Members Present:** Alesia Franken, City Council Liaison, and Mayor Charles McNeilly

**Staff Present:** Luke Shepard, City Manager (joined at 10:11 a.m.); and Melissa Thompson, City Recorder

**Consultants Present:** Suzanne de Szoeki and Mikaela Clarke, GSI Water Solutions, Inc.

3. **APPROVAL OF MINUTES** – None Scheduled

4. **PUBLIC COMMENT**

Nancy Webster, Nedonna Beach resident, shared a desire for dialogue. She expressed concerns about the Sourcewater Protection Plan (SPP) Team and advocated for obtaining advice from independent experts. She provided a summary of her submitted written testimony and encouraged the committee to review it.

5. **NEW BUSINESS** – None Scheduled

6. **OLD BUSINESS**

a. **Prioritizing Risks**

Suzanne de Szoeki, GSI Water Solutions, Inc., shared a presentation providing an overview of a Drinking Water Protection Plan (DWPP), goals and objectives, and estimated schedule. Shepard joined the meeting. He confirmed that a Town Hall was scheduled for September 12, 2024.

i. **Draft Rockaway Beach Source Water Protection Plan Risks Prioritization Table (Surface Water)**

The Committee reviewed and provided comments on the surface water risk prioritization table.

Discussion and comments included:

- Added comments to access roads and pesticides (including herbicides).
- Requested more information on borrow pit risk and added rock quarry comment to access road risk.
- Request to rewrite vandalism to specify Infrastructure ends at intake.
- Acknowledge development and tourism in the plan outside of the risk scoring.
- Shepard explained other plans, such as the Water Master Plan and Water Management Conservation Plan, that address water supply and infrastructure outside of the watershed.

Hess made a **motion**, seconded by Cleman, to increase the unauthorized camping risk likelihood from 2 to 3.

The **motion carried** by the following vote:

Aye: 4 (Cleman, Hess, Johnson, Udelhoven)

No: 0

Hess made a **motion**, seconded by Cleman, to increase recreation risk likelihood from 2 to a 3.

The **motion carried** by the following vote:

Aye: 4 (Cleman, Hess, Johnson, Udelhoven)

No: 0

## ii. Rockaway Beach Source Water Protection Plan Risks to Groundwater Table

De Szoek presented the Risks to Groundwater Table. She noted that the risks were outside of the watershed, and it could be reviewed more generally, but the Oregon Health Authority (OHA) and the Department of Environmental Quality (DEQ) wanted to see acknowledgement of each risk. There was discussion regarding review of the Groundwater Table and addressing it qualitatively in the plan, along with a reference to the Water Management Conservation Plan.

Hess made a **motion**, seconded by Cleman, that GSI address the risks to groundwater risk assessment qualitatively in the plan, along with a reference to the Water Management Conservation Plan.

The **motion carried** by the following vote:

Aye: 4 (Cleman, Hess, Johnson, Udelhoven)

No: 0

De Szoeki commented that GSI would also include a reference to the Water Master Plan, since the Water Management Conservation Plan it could address most of these issues.

Udelhoven made a **motion**, seconded by Johnson, that the committee make a formal recommendation to City Council to address these issues in the Water Master Plan or some other appropriate process.

The **motion carried** by the following vote:  
Aye: 4 (Cleman, Hess, Johnson, Udelhoven)  
No: 0

Council Liaison Franken confirmed that she would raise the recommendation with the City Council.

The Committee reviewed and confirmed that each groundwater risk should be included in the table. Chemical use was added to the table.

**b. Next Steps**

De Szoeki said GSI would integrate the input and update the table, and prepare for the Town Hall. Another meeting would be scheduled for early October to get feedback on strategies.

**c. Committee Comments**

There were no comments from the committee.

**7. ADJOURNMENT**

Hess made a **motion**, seconded by Cleman to adjourn the meeting at 11:52 a.m.

The **motion carried** unanimously.

MINUTES APPROVED THE  
10TH DAY OF OCTOBER 2024

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Sandra Johnson, Chair

ATTEST

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Melissa Thompson, City Recorder



## Rockaway Beach Jetty Creek Sourcewater Protection Plan Strategies Ideas

10/3/2024

### \*Notes about table:

- Please review the strategy ideas and suggest revisions to existing ideas or suggest new ideas. We look forward to developing more refined and detailed strategies with your input.
- We recognize that the City is exploring the acquisition of land in the Jetty Creek watershed. The strategy of “Protect critical areas through land acquisition or conservation easements” could apply to most or all the risks. We mentioned it as a strategy for many risks, but not all. Many strategies listed so far could apply regardless of landowner and we also include developing plans as potential initial strategies that could apply if land is acquired.

Risk Category	Risk & Risk Level	Strategy Ideas
<b>Natural Hazards</b>	Highly erodible soils (high)	<ul style="list-style-type: none"><li>• Obtain up-to-date high-quality data</li><li>• Map areas of high risk (steepest slopes etc.)</li><li>• Identify and implement watershed enhancement projects (e.g., riparian planting, culvert replacements, road maintenance)</li><li>• Protect critical areas through land acquisition or conservation easements</li><li>• For any acquired lands, develop a forest management plan that includes strategies to retain soils and identify areas of high risk</li><li>• Communicate with landowners about sediment management and related watershed enhancement projects and connect them with resources for technical assistance to support best management practices.</li></ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	Drought/low streamflows (high)	<ul style="list-style-type: none"> <li>• Identify areas needing watershed enhancement projects, such as riparian planting, and support implementation</li> <li>• Monitor streamflow</li> <li>• Obtain historical streamflow (and potentially other) data</li> <li>• Conduct water supply planning for future water needs (e.g., Water Master Plan update, Water Management and Conservation Plan (WMCP))</li> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan aimed at supporting a drinking water supply</li> <li>• Implement water conservation measures/regulations to reduce water demand by water customers and visitors (outside of watershed)</li> <li>• Evaluate the City's surface water rights and their reliability</li> <li>• Identify areas where forest management activities, such as ecological and pre-commercial thinning, cause impacts in terms of water retention</li> <li>• Install large woody debris structures or other man-made structures to enhance water retention in the watershed</li> <li>• Encourage beaver activity (without changing flow direction) and implement projects to retain water, like beaver dam analogs</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	Climate change (high)	<ul style="list-style-type: none"> <li>• Conduct water supply planning for future water needs (e.g., Water Master Plan update, WMCP)</li> <li>• Consider the impacts of climate change in emergency planning</li> <li>• Implement water conservation measures/regulations to reduce water demand by water customers and visitors (outside of watershed)</li> <li>• Monitor streamflow and potentially other trends in watershed (e.g., Air temperature, precipitation)</li> <li>• Obtain historical streamflow &amp; other up-to-date data</li> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan that includes management strategies to reduce climate change risks</li> <li>• Identify and consider protection of City’s additional historical water rights and/or sources</li> <li>• Create water storage (treated or untreated) for up to 14 days in the City’s water system (State goal – follow up with Alyssa DEQ)</li> <li>• Install large woody debris structures or other man-made structures to enhance water retention in the watershed</li> <li>• Encourage beaver activity (without changing flow direction) and implement projects to retain water, like beaver dam analogs</li> </ul>
	Earthquake (high)	<ul style="list-style-type: none"> <li>• Conduct infrastructure planning and emergency response preparedness planning (in coordination with Water Master Plan)</li> <li>• Incorporate source water protection in existing emergency plans (e.g., coordinate with the County on Natural Hazards Mitigation Plan (NHMP))</li> <li>• Following a major earthquake, coordinate with watershed groups, landowners, and/or others to implement watershed restoration projects as needed</li> </ul>
	Tsunami (high)	<ul style="list-style-type: none"> <li>• Conduct infrastructure planning and emergency response preparedness planning (in coordination with Water Master Plan)</li> <li>• Incorporate source water protection in existing emergency plans (e.g., coordinate with County on NHMP)</li> <li>• Following a tsunami, coordinate with watershed groups, landowners, and/or others to implement watershed restoration projects as needed</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	Landslides (medium; or change to high based on public input Team: keep medium)	<ul style="list-style-type: none"> <li>• Obtain up-to-date high-quality data</li> <li>• Map areas of high risk (history of landslides, steepest slopes etc.)</li> <li>• Identify any watershed enhancement projects that could reduce landslide potential</li> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan that includes management strategies to reduce landslide risks</li> <li>• Communicate with landowners about sediment management and related watershed enhancement projects and connect them with resources for technical assistance to support best management practices.</li> </ul>
	Severe storms (medium)	<ul style="list-style-type: none"> <li>• Conduct infrastructure planning (preparations for high turbidity events, e.g., Water Master Plan)</li> <li>• Create water storage (treated or untreated) for up to 14 days in the City's water system (State goal – follow up with Alyssa DEQ)</li> <li>• Conduct emergency response preparedness planning</li> <li>• Identify and implement sediment and erosion control projects</li> <li>• Monitor water quality during and following storms and monitor streamflow</li> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan that includes management strategies to reduce risks from severe storms</li> <li>• Install large woody debris structures or other man-made structures to enhance water retention in the watershed</li> <li>• Encourage beaver activity (without changing flow direction) and implement projects to retain water, like beaver dam analogs</li> <li>• Evaluate road infrastructure and develop a transportation plan that maintains access roads for firefighting and emergency access. Maintain roads and access routes or alternative routes for use during severe storms and wildfires.</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	<p>Wildfire (medium; or change to high in response to public input Team: keep medium)</p>	<ul style="list-style-type: none"> <li>• Communicate with landowners about forest management and other activities to reduce wildfire risks</li> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan that includes management strategies to reduce wildfire risks</li> <li>• Conduct emergency response preparedness planning</li> <li>• Identify water system infrastructure needs for wildfire preparedness</li> <li>• Coordinate with watershed groups about watershed restoration projects/resources following fires</li> <li>• Evaluate road infrastructure and develop a transportation plan that maintains access roads for firefighting and emergency access. Maintain roads and access routes or alternative routes for use during severe storms and wildfires. Communicate with wildfire response planners/managers about how Jetty Creek watershed is a water source and ensure firefighting practices to protect the water source are used.</li> </ul>
	<p>Volcanic ashfall (low)</p>	<ul style="list-style-type: none"> <li>• Conduct emergency response planning</li> </ul>
<p>Forestry</p>	<p>Clearcut harvesting (high)</p>	<ul style="list-style-type: none"> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan aimed at supporting a drinking water supply (e.g., supporting ecological services that enhance water quality and quantity)</li> <li>• Learn about updated Forest Practices Act rules that could benefit water quality and quantity and communicate with landowners about planned forestry activities</li> <li>• Encourage landowners to change forest management practices (e.g., change harvesting approach) to reduce risks and enhance water quality and quantity benefits</li> <li>• Pursue funding for and conduct water quality testing (for turbidity and other parameters, particularly after storms and first flush of rain following summer)</li> <li>• Identify and implement watershed enhancement projects, such as sediment and erosion control measures</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	Pesticides (including herbicides) (high)	<ul style="list-style-type: none"> <li>• Protect critical areas through source water area land acquisition or conservation easements</li> <li>• Communicate with landowners and receive notification of aerial spraying in the source water area (already occurring)</li> <li>• Plan for timing of shut-offs and diversion of the system (already occurring)</li> <li>• Pursue funding to test for chemicals being sprayed</li> <li>• Maintain MOU/pursue additional MOU or contract with landowner to avoid spraying on roads or elsewhere</li> <li>• Subscribe to the Forest Activity Electronic Reporting and Notification Systems (FERNS), which is where forest chemical applications are reported, to monitor for spraying plans.</li> </ul>
	Access roads (low)	<ul style="list-style-type: none"> <li>• Protect critical areas through land acquisition or conservation easements</li> <li>• For any acquired lands, develop a forest management plan that includes road management strategies to reduce erosion and pollution</li> <li>• Communicate with landowners about: <ul style="list-style-type: none"> <li>○ Erosion management and related watershed enhancement projects (e.g., culvert replacements and protections)</li> <li>○ Their roads inventory and Assessment and Maintenance Plan (associated with the updated Forest Practices Act rules)</li> </ul> </li> </ul>
	Riparian impacts (low; or change based on public input Team: change to medium)	<ul style="list-style-type: none"> <li>• Protect critical lands through source water area land acquisition or easements</li> <li>• For any acquired lands, develop a forest management plan that includes management strategies to increase protections of riparian areas</li> <li>• Learn about updated Forest Practices Act rules that could benefit riparian areas and communicate with landowners about riparian buffers</li> <li>• Encourage landowners to change forest management practices in the riparian zone to reduce risks and enhance water quality and quantity benefits</li> <li>• Identify and implement watershed restoration projects, such as riparian planting and invasive species removal</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
	Borrow pit (low)	<ul style="list-style-type: none"> <li>• Collect &amp; record more in-depth data about borrow pit, such as location, size, characteristics, potential risks to water quality, and whether it is active or could be reopened</li> <li>• Identify other potential borrow pits/gravel quarries in the watershed and assess whether the pits could be active or reopened</li> <li>• As needed, communicate with government agencies, landowners, and watershed councils about activities that could minimize this risk</li> </ul>
<b>Municipal</b>	Vandalism (medium)	<ul style="list-style-type: none"> <li>• Conduct emergency planning in response to vandalism</li> <li>• Assess infrastructure and watershed access to identify any vulnerabilities to address</li> </ul>
<b>Land Use</b>	Unauthorized camping (medium)	<ul style="list-style-type: none"> <li>• Implement outreach measures to try to prevent unauthorized camping (e.g., signage)</li> <li>• Explore potential prevention measures</li> <li>• Identify and utilize resources to assist with site cleanup</li> <li>• For any acquired lands, develop a plan for minimizing the likelihood of unauthorized camping and addressing it if it occurs</li> <li>• Only allow access to the watershed with a permit and continue requiring permits</li> </ul>
	Recreation (medium)	<ul style="list-style-type: none"> <li>• Conduct outreach about best recreation practices (e.g., minimizing impacts on land and water through signage or other methods)</li> <li>• Monitor recreation that occurs and any impacts</li> <li>• Identify erosion impacts from different types of recreation, and then identify and implement erosion control projects</li> <li>• For any acquired lands, develop a plan for minimizing impacts of recreation if recreation will be an allowed activity or for minimizing impacts of unauthorized recreation if recreation will not be permitted</li> <li>• Only allow access to the watershed with a permit and continue requiring permits</li> </ul>

Risk Category	Risk & Risk Level	Strategy Ideas
Demands on Water Supply (outside of watershed)	Development (high)	<ul style="list-style-type: none"> <li>• Conduct water supply planning for future water needs               <ul style="list-style-type: none"> <li>○ Water Master Plan will include information about water demand and consumption, population, projected demands on water supply, infrastructure needs, and potential future water supply sources.</li> <li>○ Water Management and Conservation Plan will include the current water supply, City’s water rights, water conservation program, water curtailment plan, projected water demands, and potential water rights/supply strategy for meeting demands.</li> </ul> </li> <li>• Implement water conservation measures, regulations, and outreach to reduce water demand</li> <li>• Implement water loss reduction initiatives (e.g., leak detection &amp; line replacement) to conserve water supply and reduce demand (will be included in plans)</li> <li>• Explore increasing storage capacity (raw and treated)</li> </ul>
	Tourism (high)	<ul style="list-style-type: none"> <li>• Conduct water supply planning that considers tourism (e.g., Water Master Plan and WMCP)               <ul style="list-style-type: none"> <li>○ Explore increasing storage capacity (raw and treated)</li> </ul> </li> <li>• Conduct water conservation outreach to tourists to encourage responsible use of the City’s water and discourage pollution</li> </ul>

**Town Hall Comment: Add “Not acquiring land in the watershed” as a risk**

- The SPP Team thought that should not be added as a risk and that it would be addressed at a higher level in the Plan



## Draft Strategy Themes/Categories

(Some strategies may apply to one risk while others can apply to multiple risks; below are some potential strategy themes/categories based on the initial draft strategies above)

- Data Collection and Monitoring
  - Obtaining more data
    - Maps with up-to-date data on watershed characteristics like steep slopes, soils, fire risk, landslide risk, etc.
    - Historical streamflow data
    - Historical City demand/usage/population data (part of Master Plan)
    - Historical water quality testing data
    - Borrow pit(s) location(s), characteristics, activity, and potential for reopening
    - Climate data (temperature, precipitation, etc.)
    - Data from landowners, like access roads inventory/ roads conditions assessments
    - Evaluate the City's surface water rights and their reliability
  - Monitoring
    - Streamflow monitoring
    - Water quality ongoing testing or periodic sampling for pesticides and related to storms & other risks
    - FERNS
  - Learn about Updated Forest Practices Act rules
    - Utilize resources in FPA and from ODF for watershed stewardship
      - Forest Practices Monitoring Program
      - Databases
      - Funding resources
      - Technical assistance
- Critical area protection (including land acquisition or easements)
  - Land acquisition or conservation easements
  - Development of a forest management plan that addresses a variety of risks
  - Development of a land use plan for the watershed that addresses unauthorized camping and recreation
  - Access permits
- Watershed enhancement/ restoration projects
  - Riparian planting and buffers
  - Invasive species removal
  - Large woody debris or other man-made structures
  - Beaver habitat restoration and beaver dam analogs
- Erosion and sediment control
  - Road maintenance

- Culvert maintenance and drainage improvement
- Riparian restoration projects
- Water supply planning
  - Infrastructure projects
  - Demand and population projections
  - Future alternative sources planning
  - Increased storage capacity (raw and treated); Create water storage for up to 14 days in the City's water system
- Emergency management and response planning
  - Evaluate road infrastructure and develop a transportation plan that maintains access roads for firefighting and emergency access
- Water conservation measures/regulations
- Outreach and communication
  - Water conservation public outreach
  - Land uses in watershed public outreach
  - Communication with landowners about activities
    - Harvesting practices
    - MOUs with landowners about pesticides and other activities potentially
    - Pesticide application and harvesting notifications
    - Riparian zone management
  - Communication with organizations and agencies about emergency management resources or collaboration on watershed restoration projects (watershed councils, DEQ, etc.)
  - Communication with wildfire response planners/managers about how the Jetty Creek watershed is a water source and firefighting practices

[Team suggestion: Consider which strategies could be easier or not easier to pursue with acquisition vs. without (could be 2 implementation plans)]