

ERGONOMICS DEMONSTRATION PROJECT

# **Ergonomics Plan**

## **City of Everett**

October, 2003



**Preface:**

The City of Everett developed a plan to assess all city jobs in order to comply with the Washington State Ergonomics Rule. The plan was finalized in February 2002. The purpose of the demonstration project is to share how the City of Everett developed and implemented its plan. The City of Everett has provided the written materials for this project. The remainder of the report will reflect as such. The Department of Labor and Industries hopes many other employers will benefit from their experience.

This demonstration project includes:

- process and background of the things they have learned along the way
- update on where they are in the whole process
- flowchart and timeline to complete their ergonomics plan
- initial memo sent to all employees to inform and instruct them about the ergonomic questionnaire (caution zone checklist)
- example of a completed ergonomic questionnaire

**Background:**

1<sup>st</sup> compliance date: July 1, 2003 (1<sup>st</sup> L&I enforcement date: July 1, 2005)  
2<sup>nd</sup> compliance date: July 1, 2004 (2<sup>nd</sup> L&I enforcement date: July 1, 2006)

The City of Everett employs approximately 1200 employees, roughly split 40/60 between office & field employees.

Refer to the [flowchart](#) for the plan and time schedule for rolling out the ergonomics plan. Although some parts of the process started earlier, the whole plan was finalized in February 2002.

**Implementing the Plan and Revisions Along the Way:**

Our actual process involved a little trial and error and incorporating some things learned from others who were also working on an ergonomics plan. We (Safety Division staff) decided early on that all employees needed to complete the caution zone job (CZJ) checklist, and we would track and confirm that information.

A memo was given to all public works office employees explaining that each person was to complete the caution zone job questionnaire (checklist). (See [memo](#)). They were instructed to give an explanation of the work activities involved if they checked a CZJ box. The employees were asked to return the completed questionnaires by a specific date.

For field crews, the CZJ checklist was handed out at a crew safety meeting. This consisted of about 34 people including 4 supervisors. Workers included four different job titles. (All of the workers have progressed through the ranks from the entry position to the top job positions). We gave minimal direction to complete the questionnaire and allowed them to collaborate with one another. Questionnaires were completed and collected at that meeting, taking a total time investment of less than 30 minutes.

The results from this approach were unusable. About 10% of the people marked each caution zone job box without reading it, and another 10% marked nothing without reading it. Of the remaining 80%, there was poor correlation of risk factors within job titles. Having employees fill out the questionnaires without providing ample time for education or interaction only seemed to work them up and aggravate them, not help. That response was opposite of we hoped to see in the evaluation stage.

Six weeks later, we tried a different approach with the same set of workers. A new session was scheduled with smaller groups of workers. These groups consisted of a supervisor or lead person with his/her work unit of 5-6 employees. We allowed time for education and questions, but the forms were filled out

without collaboration or leader input. Most sessions lasted less than 30 minutes, for a total of 2 hours time invested for four work groups. The results were much more reliable and consistent using this approach. To illustrate this, one person who had checked every CZJ box the first time, gave a response that correlated highly with others in the same job the second time. Another employee with a job-related repetitive motion injury did not mark any risk factors on the checklist the 1<sup>st</sup> time. His responses the second time correlated well with others of his work unit. Learning from this experience, we used this smaller group approach to get each worker's own job assessment for all the remaining city field jobs.

In order to do some supervisor education and to get some help with the work, we hired a local ergonomist to teach a 2-day ergonomics awareness class to supervisors and leads (about thirty people). This was a weighted representation, so that big departments with higher risk jobs had more people in the class than small ones (for example, the Parks Department). These thirty people are the ergo oversight group listed on the flow sheet. They were the ones who conducted a lot of the meetings to get CZJ forms filled out. Later they will participate in employee awareness education sessions and hazard zone job (HZJ) evaluations. Purchasing and Information Technology employees were included in the training group since they can make a big impact with purchases and setting up workstations.

With direction from us, the ergo oversight group took the completed CZJ checklists and compiled the information by job title. If more than one person with the same job title listed a risk factor, even if the people came from different departments, we considered all information to be common to the job title. The narration on what caused the risk factor helped tremendously. With some follow-up questions to the employee and supervisor, one form was compiled for each job title. (See [example](#) form). If there was some uncertainty, the job was called a CZJ. We did some random confirmation of the results as the flow chart directs. Most of our responses were very consistent with the employees' responses.

There is now a list of all CZJs and all jobs that are not. We will proceed with the rest of the plan as indicated on the flow chart. The hazard assessment phase will be a mirror image of the CZJ process with the addition of task-specific videotape analysis. This may include using the component method (developed by Labor and Industries and the Western Utilities Ergonomics Group for a separate demonstration project) if needed.

By July 1, 2003 we plan to provide awareness education for all City of Everett employees. For the future, it will be included in new employee orientation. (Note: Ergonomics awareness education is required only for those in caution zone jobs and their supervisors).

By July 1, 2004 we plan to have solutions or best practices to hazards in place. The program and all caution zone jobs (and hazard zone jobs if any remain) will

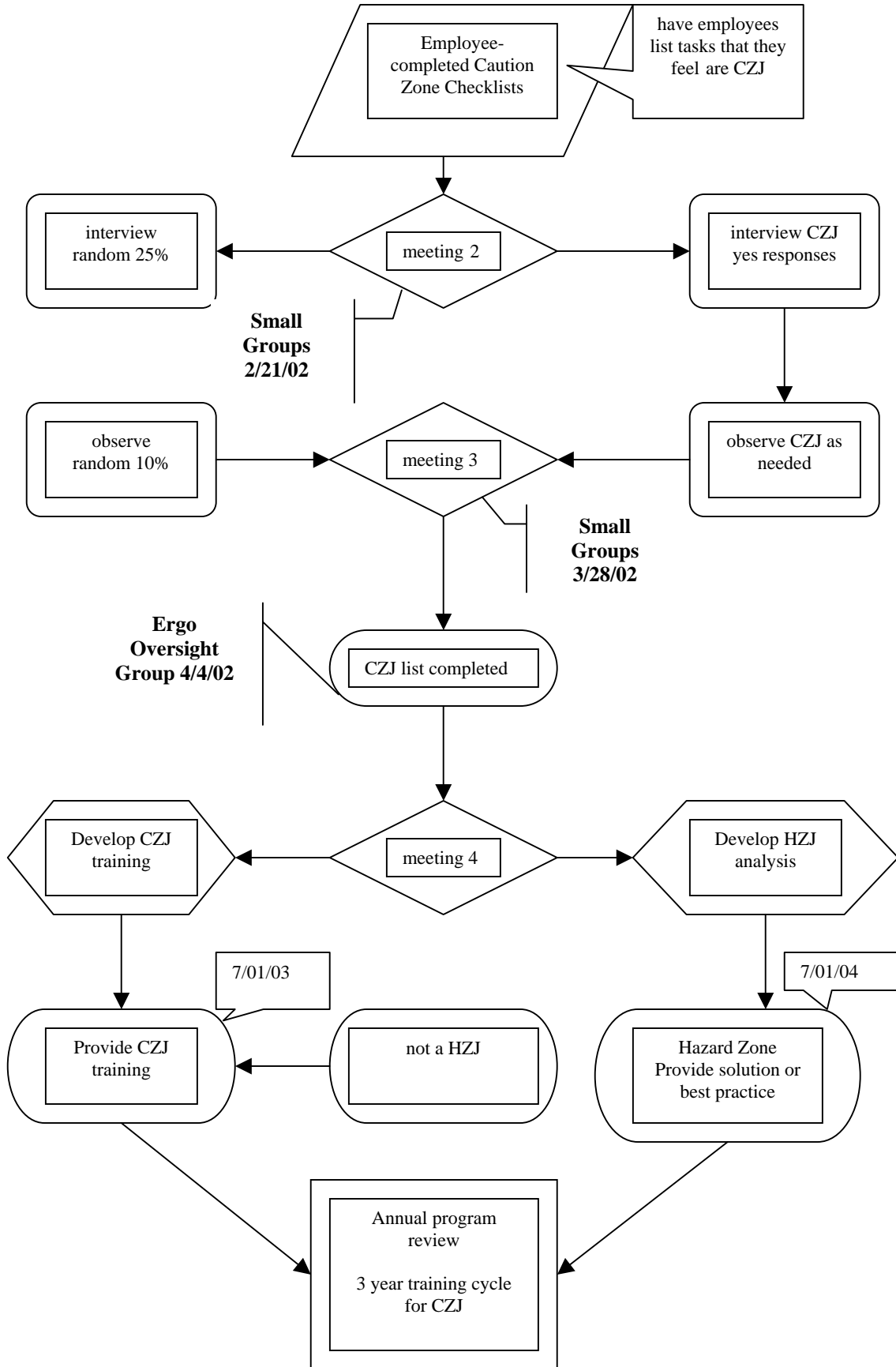
be reviewed annually by the ergo oversight group. There is a three-year training cycle for all caution zone jobs.

**Current Status:**

As of November 2002, we have completed about 60% of the whole ergonomics job assessment plan for the City of Everett. We have finished all of our CZJ evaluations. About 30% of our employees work in caution zone jobs. We anticipate less than 5% of those will be hazard zone jobs, but we have not completed the process.

An unexpected benefit of getting employees to fill out the checklists was to find out about complaints early on and to address them. When office employees filled out the CZJ checklists they also made comments about their discomforts related to their work. We made follow-up visits to each employee and were able to address some workstation issues with relatively small fixes. This could be done whether the issues were covered by the ergonomics rule or not. We bought items such as an in-line document holder to improve the worker's body positioning, and a telephone headset so a worker did not hold the handset between her ear and shoulder while typing.

City of Everett  
Ergonomics Compliance Flowchart





## SAFETY

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To: Public Works Employees  
From: Megan Munro  
Date: January 31, 2002  
Re: Caution-zone Job Analysis Questionnaires

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To help the City comply with a recent State mandate, we have been asked to have all of our department's employees complete the attached questionnaire, as it relates to the physical activities routinely demanded of their particular position. Please complete this questionnaire and return it to me by Friday, March 8. These forms will be compiled to look for risk factors that might be eliminated.

Please note the following points regarding this exercise:

- The questions are intended to address movements, postures, activities, etc. that (1) are a regular, foreseeable part of your job, and (2) occur more than one day per week and more than one week per year.
- If you have any questions about how to fill out the form, please contact me for assistance.
- If you do check a box for one of the "caution-zone" criteria, be sure to provide some brief notes of explanation regarding this work activity in the space to the right of the box.
- Some work performed by our employees may, in fact, involve "caution-zone" activities. Additional observation and analysis will be conducted of the "caution-zone" activities that may be noted in the questionnaires. This subsequent analysis will determine if our staff or crewmembers routinely perform any personally hazardous activities that may require some sort of ergonomic correction or support.
- All of the City's employees are being asked to complete the questionnaire.
- Please be sure to include your name and title on both sides of the completed form.
- If you have concerns that you feel are not addressed on the form, please let me know.

Thank you for your help in filling out the attached questionnaire.



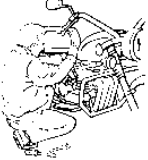

**COMPILED Caution Zone Checklist (WAC 296-62-05105)**



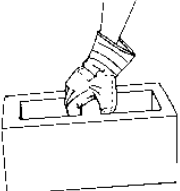

City of Everett

<b>Department/Division</b>	<b>Job Title</b>	<b>Date of Evaluation</b>	<b>Responses</b>
Public Works—Sewer	Utility Laborer	2/8/2002	6

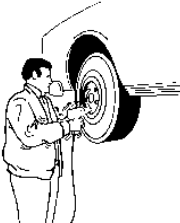
**Awkward Posture** **Comments/Observations**

	Working with the hand(s) above the head, or the elbow(s) above the shoulders more than 2 hours total per day.	<input type="checkbox"/>	
	Working with the neck or back bent more than 30 degrees (without support and without the ability to vary posture) more than 2 hours total per day.	<input checked="" type="checkbox"/>	Laying pipe Manhole/shoring watch Weed whacking
	Squatting more than 2 hours total per day.	<input checked="" type="checkbox"/>	Working in shoring Laying pipe Vactor work
	Kneeling more than 2 hours total per day.	<input type="checkbox"/>	

**High Hand Force** **Comments/Observations**

	Pinching an unsupported object(s) weighing 2 or more pounds per hand, or pinching with a force of 4 or more pounds per hand, more than 2 hours per day (comparable to pinching half a ream of paper).	<input type="checkbox"/>	
	Gripping an unsupported objects(s) weighing 10 or more pounds per hand, or gripping with a force of 10 or more pounds per hand, more than 2 hours total per day (comparable to clamping light duty automotive jumper cables onto a battery).	<input checked="" type="checkbox"/>	Weed Whacking

**High Hand- Arm Vibration** **Comments/Observations**

	Using impact wrenches, carpet strippers, chain saws, percussive tools (jack hammers, scalers, riveting or chipping hammers) or other tools that typically have high vibration levels, more than 30 minutes total per day.	<input checked="" type="checkbox"/>	Jackhammer Core Drilling (Danfoss DS-50)
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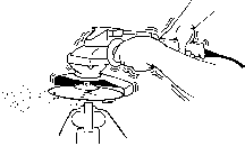
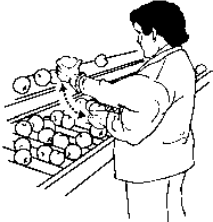

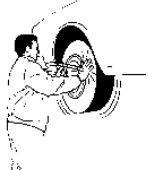

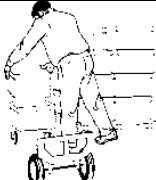

Movements or postures that are a regular and foreseeable part of the job, occurring more than one day per week, and more frequently than one week per year.



**Caution Zone Checklist (WAC 296-62-05105)**

City of Everett



Department/Division	Job Title	Date of Evaluation	Responses
Public Works—Sewer	Utility Laborer	2/8/2002	6
Moderate Hand- Arm Vibration			Comments/Observations
	Using grinders, sanders, jigsaws or other hand tools that typically have moderate vibration levels more than 2 hours total per day.	<input checked="" type="checkbox"/>	Grinding (Milwaukee 4.5")
Highly Repetitive Motion			Comments/Observations
	Repeating the same motion with the neck, shoulders, elbows, wrists, or hands (excluding keying activities) with little or no variation every few seconds, more than 2 hours total per day.	<input checked="" type="checkbox"/>	Weed whacking
	Performing intensive keying more than 4 hours total per day.	<input type="checkbox"/>	
Repeated Impact			Comments/Observations
	Using the hand (heel/base of palm) or knee as a hammer more than 10 times per hour, more than 2 hours total per day.	<input type="checkbox"/>	
Heavy, Frequent or Awkward Lifting			Comments/Observations
	Lifting object weighing more than 75 pounds once per day or more than 55 pounds more than 10 times per day.	<input checked="" type="checkbox"/>	Cement bags Manhole covers Pipe sections
	Lifting objects weighing more than 10 pounds if done more than twice per minute, more than 2 hours total per day.	<input type="checkbox"/>	
	Lifting objects weighing more than 25 pounds above the shoulders, below the knees or at arms length more than 25 times per day.	<input checked="" type="checkbox"/>	TV camera Brush Job materials Vactor tube

Movements or postures that are a regular and foreseeable part of the job, occurring more than one day per week, and more frequently than one week per year