

**ORDINANCE NO. O2005-003**

**AN ORDINANCE** relating to Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas, and adding new provisions to the City of Tumwater Development Guide manual regarding site development standards for the Salmon Creek Basin and other high groundwater areas, as more particularly set forth herein.

**WHEREAS**, flooding caused by high groundwater in the Salmon Creek Basin has caused property damage and threatens the public health and safety during periodic flood events;

**WHEREAS**, on October 30, 2000, Thurston county adopted Revised Interim Design Standards for Development in Salmon Creek Basin;

**WHEREAS**, on May 4, 2004 the Tumwater City Council adopted by Resolution No. R2004-012, the Salmon Creek Comprehensive Drainage Basin Plan which was prepared under the direction of an Advisory Committee consisting of citizens and elected officials;

**WHEREAS**, the Salmon Creek Comprehensive Drainage Basin Plan recommended, in Section 7.3.5, that Tumwater adopt enhanced stormwater design standards consistent with the County's Revised Interim Site Development Standards for new development in Salmon Creek Basin (October 20, 2000);

**WHEREAS**, the City of Tumwater has prepared Ordinance No. O2005-003, the "Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas" in accordance with the State Environmental Policy Act;

**WHEREAS**, Ordinance No. O2005-003 is consistent with the City's Comprehensive Plan;

**WHEREAS**, the City of Tumwater adopted the Tumwater Development Guide Manual in 1992 (Ordinance No. 1328);

**WHEREAS**, the City adopted the Drainage Design and Erosion Control Manual for Tumwater, Washington (1995) as Chapter 5 of the City of Tumwater Development Guide Manual;

**WHEREAS**, Section 1.2 of Chapter 5 of the City's Development Guide provides that the Administrator has authority to increase requirements to protect the public interest and where requirements in this document are also covered in any other ordinance, resolution, rule, or regulation of any kind, the more restrictive shall govern;

**WHEREAS**, the Public Works Committee has recommended that Ordinance No. O2005-003 be considered by City Council;

**WHEREAS**, the City Council held a public hearing on the proposed ordinance on October 4, 2005, and

**WHEREAS**, the City Council of the City of Tumwater is acting pursuant to its responsibility and authority to protect the public health and safety by amending the City of Tumwater Development Guide, as set forth herein.

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF TUMWATER, STATE OF WASHINGTON, DO ORDAIN AS FOLLOWS:**

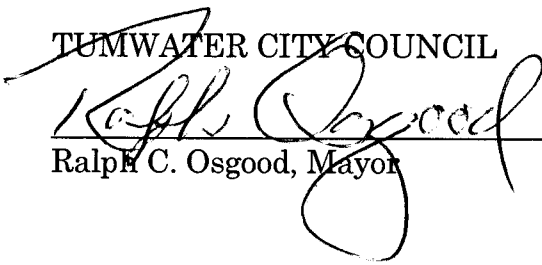
Section 1. "Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas", attached hereto as Exhibit "A", is hereby adopted as an amendment to Chapter 5, "Drainage Design and Erosion Control Manual for Tumwater, Washington", of the City of Tumwater Development Guide Manual.

Section 2. If any portion of this ordinance is found to be invalid or unenforceable for any reason, such finding shall not affect the validity or enforceability of any other section of this ordinance.

Section 3. This ordinance shall become effective thirty (30) days after passage, approval and publication as provided by law.

ADOPTED this 4<sup>th</sup> day of October 2005.

TUMWATER CITY COUNCIL

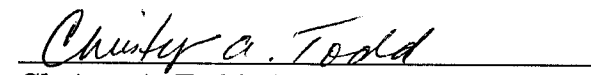
  
\_\_\_\_\_  
Ralph C. Osgood, Mayor

ATTEST:

  
\_\_\_\_\_  
Gayla Gjertsen, Clerk/Treasurer

PUBLISHED: 10-6-05

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Christy A. Todd, City Attorney

**City of Tumwater Ordinance No. O2005-003**  
**Exhibit "A"**

**SITE DEVELOPMENT STANDARDS FOR NEW DEVELOPMENT IN THE  
SALMON CREEK BASIN AND OTHER HIGH GROUNDWATER AREAS**

- A. Purpose:** The City of Tumwater seeks to minimize or eliminate the adverse impacts from new development and to protect new development from adverse impacts in areas where groundwater flooding is known to occur, or is likely to occur, based on available information. The City seeks to achieve this goal by adopting and implementing Site Development Standards for New Development that are consistent to the extent feasible with Thurston County standards for Salmon Creek Basin.
- B. Area Affected:** Enhanced standards for site development, as described below, shall apply in the area that is both within the city limits of the City of Tumwater, and within the area bounded by that portion of the Tumwater Urban Growth Area (UGA) as defined by Thurston County Resolution #10895, adopted April 17, 1995, and City of Tumwater Resolution #R94-031, adopted April 18, 1995, lying southerly and westerly of the following described line;

Commencing at the intersection of said UGA and Fish Trap Creek; thence northerly along said creek to its intersection with 66<sup>th</sup> Avenue SW; thence easterly along the centerline of 66<sup>th</sup> Avenue SW to its intersection with the Burlington Northern Railroad; thence northerly along said railroad centerline to its intersection with the centerline of Trospen Road SW (54<sup>th</sup> Avenue SW); thence easterly along the centerline of said Trospen Road SW to its intersection with the centerline of Capitol Boulevard; thence southerly along the centerline of Capitol Boulevard and Old Highway 99 to its intersection with the west line of the east 622.5 feet of the southwest quarter of Section 13, Township 17 North, Range 2 West, Willamette Meridian; thence southerly along said east 622.5 feet and the southern extension thereof to its intersection with said UGA.

The area is roughly delineated in the attached map (Figure 2) entitled "Estimated Depth-to-Water Over Expanded Area, Winter 1999" Pacific Groundwater Group (PGG).

- C. Applicability of Standards in High Groundwater Areas:** The standards embodied in this document establish screening criteria designed to minimize adverse impacts of new development, and require groundwater monitoring and mounding analysis where appropriate. The standards are applicable within the boundaries set forth in Section B. Depending on the depth to water at properties in this area, additional studies may be required as part of the development review process. The City retains the right to request additional

information from the proponent to allow estimation of water table depths under 1999 high groundwater conditions at the specific project site.

**D. Standards:**

1. The standards embodied in this document establish screening criteria designed to minimize adverse impacts of new development, and require groundwater monitoring and mounding analysis where appropriate.
2. For developments within the regulated area, the burden is on the proponent to present reliable groundwater information in a depth to groundwater report indicating that a minimum vertical separation of six feet can be maintained between high groundwater (correlated to 1999 high groundwater conditions) and the bottom of proposed drainage facilities. To evaluate groundwater conditions, the proponent may use existing groundwater level data for nearby parcels or the project site, if available. To be considered reliable, groundwater information presented by the proponent in the depth to groundwater report must include a professional survey of the location and elevation of data points; in addition, devices and methods used for measuring shall meet current professional hydrogeological standards.

If the proponent presents reliable groundwater information that indicates that the required vertical separation exists, additional technical evaluation may be formally waived by the Administrator. In that case, the proponent shall proceed with design methods as provided in the current edition of the Drainage Design and Erosion Control Manual for Tumwater, Washington.

3. Based on the proponent's depth to groundwater report if the Administrator determines that less than six feet of vertical separation may exist between groundwater levels during high groundwater events and the bottom of proposed drainage facilities, groundwater level monitoring will be required to assess actual groundwater conditions onsite. Groundwater level monitoring shall be conducted as requested by the Administrator for a period of one year, and may be as frequently as monthly, or at a minimum, weekly for a period of four months, including at least two months in the December to March period. The proponent shall be responsible for developing the necessary facilities, conducting monitoring as required by the Administrator, and predicting 1999 depth-to-water on site by correlating on-site data to 1999 high groundwater conditions. To be considered reliable, groundwater information presented by the proponent in a depth to groundwater report must include a professional survey of the location and elevation of data points; in addition, devices and methods used for measuring shall meet current professional hydrogeological standards.

Prior to final stormwater plan preparation, the proponent shall provide to the Administrator monitoring data and a statistical correlation to existing reference wells that demonstrates predicted groundwater levels on-site during high groundwater events. The Administrator may request alterations to correlations calculated by proponents, and/or may independently perform his/her own correlations.

4. When the depth to groundwater report indicates vertical separation is predicted to be less than six feet between the predicted 1999 winter groundwater level and the bottom of any proposed infiltration facility, mounding analysis shall be conducted consistent with the recommended approach in "Groundwater Mounding Analysis Guidelines", October 6, 2000 PGG, and "Status of Thurston County Implementation of Salmon Creek Interim Development Standards and Consideration for City of Tumwater Adoption", PGG, June 2004 (which recommends modifications to the earlier guidelines). These documents are available for review at the City of Tumwater. Where the documents provide differing guidance, the most current guidance will be used.

The proponent will provide at a minimum an estimate of pre- and post-development recharge rates; and a site-specific groundwater mounding analysis for the site using the estimated recharge rates in a groundwater mounding report. The model used to estimate recharge for the report shall be consistent with the Western Washington Hydrologic Model (WWHM) for on-site conditions. The model used to perform groundwater calculations shall be USGS' Modflow, or equivalent. The combination of those models, or other models, shall also be used to simulate the performance of stormwater facilities on the proposed development. The Administrator shall request and the proponent shall provide additional information as necessary to meet the intent of this standard. If the analysis in the groundwater mounding report indicates the potential for either elevated groundwater (greater than six inches increased elevation) at the property boundaries or the potential for increased groundwater flooding on the site, then additional mitigation of stormwater shall be required. If the analyses do not indicate the potential for elevated groundwater (greater than six inches) at the property boundaries or the potential for increased groundwater flooding on the site, the proponent shall proceed with further design as detailed in the current edition of the Drainage Design & Erosion Control Manual for Tumwater, Washington.

5. A flow chart outlining the standards is attached as Figure 1, "Flow Chart: Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas."

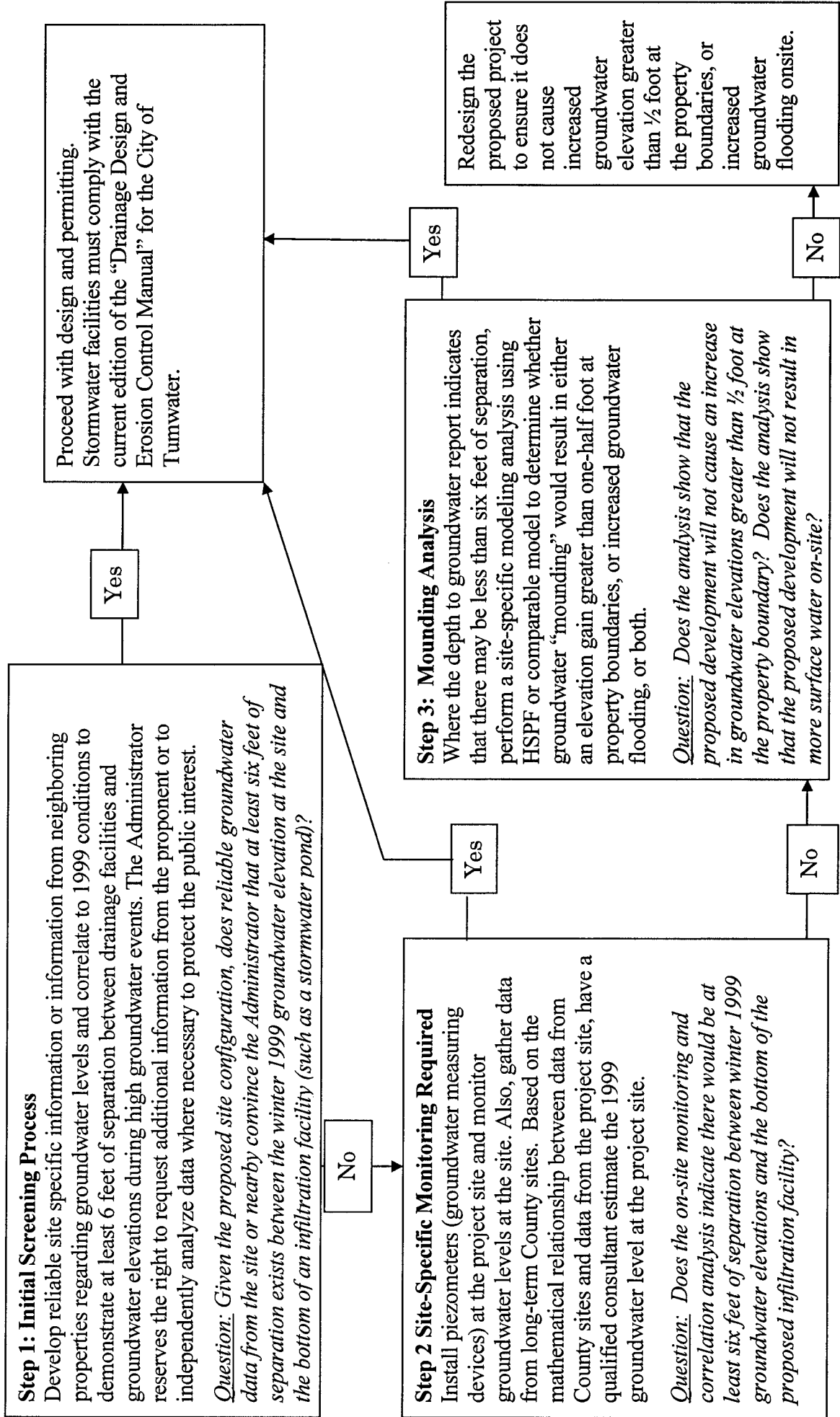
6. Except as necessary to accomplish the additional analysis required under these Site Development Standards, all other provisions of the current Drainage Design and Erosion Control Manual for Tumwater, Washington shall apply.

Attachments:

- Figure 1: "Flow Chart: Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas."
- Figure 2: Map of "Estimated Depth-to-Water over Expanded Area, Winter 1999" by Pacific Groundwater Group

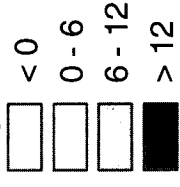
Figure 1  
Flow Chart

Site Development Standards for New Development in the Salmon Creek Basin and Other High Groundwater Areas



# Estimated Depth-to-Water over Expanded Area, Winter 1999

## Depth to Water (feet)\*



Salmon Creek Basin

Water Bodies

Rivers and Streams

Airport Runway

Roads

\*Note: The 1999 contour-based flood areas (mapped by Thurston County) are included with areas calculated to have " $\leq 0$ " feet to water.



1:3,500

PGG

