CITY OF CASHMERE

STORM DRAINAGE DEVELOPMENT STANDARDS

1. Introduction

Urban development causes significant changes in patterns of stormwater flow from land into receiving waters. Water quality can be affected when runoff carries sediment or other pollutants into streams, wetlands, lakes, and marine waters or into groundwater. Stormwater management can help to reduce these effects. Stormwater management involves careful application of site design principles, construction techniques and source controls to prevent sediment and other pollutants from entering surface or groundwater, treatment of runoff to reduce pollutants, and flow controls to reduce the impact of altered hydrology.

Future stormwater drainage problems may be reduced or avoided if future developers, both private and public, provide for storm and surface water drainage of their respective properties. Storm Drainage Standards are set forth to protect life and property from loss and damage by flooding, to protect channels, streams, and the river from pollution and excessive flows.

2. Purpose

The following storm drainage standards are intended to reduce and prevent adverse storm drainage impacts. They represent the minimum design standards for the construction of storm drainage facilities and stream channel improvements within the City of Cashmere. Compliance with these standards does not relieve the designer, owner or developer of the responsibility to apply conservative and sound professional judgment to protect the health, safety and welfare of the general public. Special site conditions and environmental constraints and considerations may require a greater level of protection than would normally be required under these standards.

3. When a Drainage Plan or Drainage Review is Required

A. Permanent drainage and stormwater infiltration/retention facilities shall be provided on property improvements within the City of Cashmere in accordance with these Standards for the following types of improvements, unless exempted under **Section 4** or approved for modification under **Section 15** of these guidelines:

1. All plats and short plats creating new building lots of 0.75 acres or less in individual lot size.

2. All developments, including remodeling, reconstruction, redevelopment, and new construction adding five (5000) thousand square feet or more of new impervious surfaces, including gravel parking areas.

3. Developments entailing construction which would change the point of discharge of surface waters, discharge surface waters at a higher velocity and/or quantity than that of the pre-development discharge rate, or, tend to add to pollution of surface waters.

4. Developments requiring construction adjacent to or within the 100-year floodplain of any stream.

5. Developments requiring construction within 200 feet of any stream or river.

4. When Plans Are Not Required

The plan requirement established in the section above shall not apply when the City Administrator determines that the proposal meets the following conditions A, B and C, or, condition D.

A. Will not adversely impact the water quality conditions of existing rivers or streams.

B. Will not substantially alter the drainage pattern or increase the peak discharge as evidenced by information provided by the designer, owner, or developer.

C. Will not cause runoff exceeding the available capacity of the existing drainage system where such system was designed to serve the future specific build-out for a proposed development area and future build-out within the drainage system catchment.

D. Is part of an agricultural drain system and the drainage consists of excess irrigation waters not subject to agricultural chemical contaminants.

Any appeal of the City Administrator's determination of the applicability of drainage plan requirements shall be to the City of Cashmere Council as provided in **Section 14.**

5. General Requirements

All persons proposing land development and/or approvals as outlined in **Section 3** shall provide a drainage plan for surface water flows entering, flowing within and leaving the subject property. The plan is to conform to the following standards and requirements:

A. The City of Cashmere requires plans for storm drainage and infiltration/retention facilities be prepared by a registered Civil Engineer currently licensed by the State of Washington and qualified by experience and education in the field of hydraulics, hydrology, or a closely related field. Storm drainage plans or revisions to any approved plan shall be reviewed and approved by the City prior to any construction. Approval by the City shall be in the form of a signature block with signatures from all departments with jurisdiction.

   Developments in the City of Cashmere shall comply with the requirements of the Stormwater Management Manual for Eastern Washington (SWMMEW) prepared by the Washington State Department of Ecology, September 2004 edition as amended. For the purposes of Hydrologic Analysis, Cashmere should be considered to be in Region 2 of Eastern Washington. Projects in Cashmere that discharge directly to the Wenatchee River are exempt from Flow Control (i.e. detention) Requirements.

B. On-site storm drainage improvements must be sufficient to mitigate impacts due to flooding, erosion, sedimentation, or pollution.

C. All drainage system elements must provide for adequate maintenance and accessibility at all times. Storm drainage facilities shall be designed to eliminate interference from underground utilities and from conditions which exceed design loads for any pipe or other structural element.

D. The designer of any storm drainage system element shall consider system reliability in terms of layout, specifications of materials and methods of installation.

E. The impact of a system failure should be analyzed both in terms of on-site and off-site effects. The impacts may be to adjacent properties or to elements of the public drainage system or other private systems.

F. No drainage originating inside of a building or structure shall be connected to the storm drainage or surface water systems.

G. Developer shall meet all other applicable laws for water quality prior to discharge to any wetland, stream, or river.

6. Basic Requirements

A. Discharge at Natural Location: All surface and stormwater runoff from a proposed development that would construct new or modify existing drainage facilities should be discharged at the natural location and not be diverted onto or away from the adjacent downstream property. Diversions may be allowed if it corrects an existing problem and does not create or exacerbate a new problem.

B. Tributary Area Analysis: Proposed developments must identify the upstream tributary drainage area and provide an analysis of the pre-existing drainage volume and quality and an analysis of the impact of the proposal on the drainage system.

C. Proposed projects must control the peak rate runoff to not exceed the pre-development peak rates for the site. The methods of peak rate runoff control may include retention and/or infiltration. On-site bio-filtration in combination with infiltration systems is the preferred method for management of on-site stormwater and shall be considered and shown to be infeasible before transporting stormwater off-site is accepted.

D. All proposed development drainage conveyance systems must be analyzed, designed, and constructed to handle drainage flows from existing off-site tributaries, the abutting street sections, and on-site storm drainage.

E. Developments involving clearing and grading and/or that propose new or modifications of existing drainage facilities shall include an erosion/sedimentation control plan which includes suitable measures to prevent sediment-laden runoff from leaving the site during construction. Erosion/sedimentation control may be achieved by structural control measures (sediment trap or pond), covers (mulch, sodding, plastic covering) and/or construction practices (straw bale barriers, silt fence, stabilized construction entrances).

   It shall be clear in the Drainage Report whether a Construction Stormwater General Permit is required for the project by the Department of Ecology. If the permit is required, the Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the City.

F. Maintenance and operation of all private drainage facilities is the responsibility of the property owner or a properly formed homeowners association and shall be performed in compliance with City of Cashmere maintenance standards. The City reserves the right to maintain a private drainage facility when the facility is out of compliance with maintenance standards as determined by the City Administrator. Any and all costs associated with this City maintenance will be paid by the property owner or homeowners association.

G. For the construction or modification of any drainage facility other than roadside ditches, the applicant shall be required to have a construction bond. The construction bond shall be posted prior to the beginning construction. The bond shall be in an amount sufficient to cover the cost of all work on and off of the site as provided in **Section 11**: Bonds and Liability Insurance.

7. Plan Submittal Contents and Standards

The drainage plans submitted shall include at a minimum the following, along with any additional requirements which may be required by the Permit Authority:

A. Stamp and signature of the Civil Engineer responsible for the design of the proposed drainage system. The responsible engineer shall be currently licensed to practice in the State of Washington and shall be qualified by both experience and education in the practice of hydraulics and hydrology.

B. A plan and profile of the existing and proposed drainage area and conveyance systems showing all hydraulic and physical data such as:

1. Existing and proposed topography.

2. Invert elevations at all inlets, structures, outfalls, and other points of interest.

3. Bottom elevations of all ditches, channels, ponds, swales, and streams.

4. Pipe sizes or channel cross sections.

5. Pipe length and material.

6. Grades on all pipes or channel bottoms calculated to the number of decimal places necessary to guarantee 0.01 foot accuracy for pipes or paved channels and 0.1 foot accuracy for earth bottom channels.

7. Design water surface elevations and flow rates for all conveyance pipes or channels.

8. All above ground pond details, if used, shall include design volume, contours of the finished surface, inlet locations, outlet details including inverts or grate elevations, and secondary overflow paths.

9. Top or grate elevations of all structures, inlets, catch basins, or manholes.

10. Retention pipe, trench, or drywell details including dimensions, elevations of inverts, and maximum water surface elevations.

11. Details of all structures not shown in the Standard Drawings, including underground retention/infiltration structures, if used.

12. Phasing limits for phased construction projects and any interim drainage control measures required due to the phasing.

13. Control points and benchmarks used for vertical and horizontal control of construction (coordinates and elevations shall be relative to the City of Cashmere's standard datum).

14. Erosion and sedimentation control plans per **Section 6-E** of these standards.

15. Plan sheets larger than 30 x 42 inches will not be accepted.

C. A copy of the site survey plan including as a minimum:

1. Property boundaries

2. Existing topography at one-foot contour intervals on the subject property, the drainage area, and all adjacent properties sufficient to determine all potential topographic impacts of the construction.

3. Existing utility locations including type, material, depth, and dimensional locations.

4. Natural or manmade drainage courses or pipes to the extent necessary to determine all hydraulic or hydrologic impacts of the proposed projects.

5. Locations of all existing structures or pavement.

6. Locations and description of any other condition which may have any bearing on the design and construction of the proposed drainage system.

D. Engineering calculations shall include at a minimum:

1. Signature and stamp of the responsible Civil Engineer.

2. Infiltration/Retention volume calculations as required by **Section 8** of these Standards.

3. Analysis of all offsite flows upstream of the proposed drainage system in sufficient detail to determine the hydraulic and hydrologic impacts.

4. Hydraulic and habitat analysis of the downstream drainage environment in sufficient detail to determine the impacts of the proposed drainage system. A minimum length of one quarter mile downstream of the proposed discharge point shall be analyzed.

5. A narrative describing the upstream and downstream analysis and detailing the intent and function of the on-site system.

6. Pipe or channel sizing calculations for all conveyance system elements, design flow rates, shall be determined through the use of manual methods or computer programs commonly used by local professionals. Computer output sheets shall be legible and able to be interpreted without additional information by the plan reviewer.

7. All additional pertinent backup information, survey data, or calculations.

E. Prior to acceptance of plat improvements, issuance of Certificate of Occupancy, or final sign-off by City inspectors, an engineered As-Built plan shall be submitted showing at a minimum:

1. Location and type of all catch basins, manholes, or other structures.

2. Location, lengths, and type of pipe installed in the system.

3. Elevation at top, inverts, and bottoms of all structures.

4. Locations and volumes of all above ground ponding/retention areas.

5. All connections to City drainage systems.

6. All outfalls to streams or other bodies of water.

7. Signature and stamp of the licensed Surveyor preparing the as-builts.

8. Documentation of easements

The as-built information above should be shown in the form of revisions to the approved drainage system plans and shall be submitted in a reproducible form. The maximum sheet size of all plans submitted shall be 30 x 42 inches. Plan sheets larger than this will not be accepted.

8. Design Criteria

A. Runoff Control

1. Developments shall be designed and constructed to provide control of the quality and quantity of stormwater runoff both during and after construction. Erosion and sedimentation control plans shall be submitted and approved by the City prior to the beginning of any construction. Peak discharge control and retention facilities shall be provided in accordance with these Standards. Biofiltration, oil/grease separation devices, or other pollution control mechanisms are to be installed prior to occupancy and release of any performance securities held by the City.

2. Maximum allowable release rates from stormwater infiltration/retention systems shall be based upon the pre-development runoff from the development site as described in **Section 6-C**. The allowable release rate shall be determined as specified in paragraph 9 of this section and may be modified on a case-by-case basis due to constraints in the drainage system downstream of the point of connection. Storm precipitation distribution and runoff modeling will conform to the Soil Conservation Service Technical Report 55 (TR-55) or other acceptable method. The 'rational method' shall not be used for runoff modeling analysis unless approved by the City.

3. The on-site drainage system including conveyance, flow restriction, infiltration/retention, pollution control, and emergency overflow elements must be

properly designed and sized to handle runoff from the site and conveyance through the site. The design should be carefully analyzed for potential problems, flow impediments, construction or maintenance difficulties, and potential erosion or other property damage.

4. Stormwater treatment facilities shall be designed in accordance with the current edition of the SWMMEW.

5. Storm drainage piping shall be constructed in accordance with the current version of the WSDOT Standard Specifications and Standard Plans. Minimum diameter for storm water conveyance pipelines between separate structures shall be 12 inches.

6. Pavement drainage shall comply with Chapter 5 – Drainage of Highway Pavements of the Washington State Department of Transportation's (WSDOT's) *Hydraulics Manual*, with the following two exceptions:

   - Computing runoff for pavement may be calculated using the Rational Method or the Single Event Hydrograph Method and the Short Duration Regional Storm as identified in the *Stormwater Management Manual for Eastern Washington*;
   - Because of much lower traffic volumes within the City of Cashmere as compared with WSDOT highways, the design storm frequency for sag points in roads shall be the 25-year event (replacing the 50-year event identified in Figure 5-4.1 of the WSDOT *Hydraulics Manual*).

This generally means that the pavements on a grade will need to be designed with a storm collection system to safely intercept the 10-year design storm and pavements at sag points will need to safely intercept the 25-year design storm. The general concept behind this is that roads on a grade may utilize the curb and gutter as a secondary conveyance component, and in turn reduce the required pipe conveyance sizing up to the sag locations.

7. Conveyance systems (pipes, ditches, swales, etc.) should be designed to convey the water tributary to them as described for road pavement drainage. If the conveyance system is not associated with road pavement drainage (i.e. the runoff being conveyed is directly from areas such as parking lots, roofs, landscaped areas, etc.) then the conveyance system shall be sized to safely convey the peak runoff from the 25-year design storm event using the Rational Method or the Single Event Hydrograph Method and the Short Duration Regional Storm as identified in the *Stormwater Management Manual for Eastern Washington*.

   Conveyance systems shall be allowed to overtop for design storm events larger than the aforementioned design events to the extent that the overtopping does not create or contribute to a flooding or erosion problem. The project design shall demonstrate a stabilized conveyance path (e.g. overland) for the 100-peak flow within the project site to ensure it is adequately conveyed to an exempt water body or to an adequately

sized surface water management facility, and discharges at the natural location for the project site.

A backwater analysis should be performed on any proposed conveyance system design or existing conveyance system to be affected by the project to ensure adequate conveyance capacity, unless it can be reasonably concluded that the system will have adequate capacity. (e.g. Pipe flowing less than 70 percent full using a Manning's equation and low flow velocities so as to not create significant head losses at junctions.)

8. Allowable Release Rates

   a. The peak discharge rate from the road right-of-way and developed property shall be limited to the pre-development peak rate runoff for all events from a two-year to a 100 year storm event as defined by **Table 1**. Peak runoff rate shall be computed using the Soil Conservation Service TR-55 method, or other approved models.

   b. Stormwater infiltration/retention facilities shall be provided to retain all surface water runoff in excess of the allowable peak discharge in accordance with provisions for "infiltration/retention facilities" of these standards up to the "100-year" storm event.

TABLE 1

Storm Frequency	Allowable Release Rates
2-year	Predevelopment 6-month
10-year	Predevelopment 10-year
25-year	Predevelopment 25-year
100-year	Predevelopment 100-year

9. Oil Separation Devices:

   Whenever paved parking is provided for more than 20 vehicles, or for any paved parking or access roadway draining to an open waterway or stream, an oil/grease separation device shall be installed by the Owner for spill control. The device shall be constructed and installed consistent with current state of the art requirements. It shall be located at a point where it can be easily maintained and where it will intercept floating contaminants flowing off road rights-of-way, parking lots, and other sources of pollutants. Selection and sizing of oil separation device type shall be subject to approval of the City Administrator. The applicant should consider the use of vegetative or other natural filtration means. Effluent discharges from any oil removal treatment device to the storm sewer or surface water system shall be in

compliance with State Department of Ecology regulations for discharge to storm drains or surface waters.

a. All stormwater must enter the separator through an inlet pipe, unless the separator is an integral part of an approved catch basin.

b. The property owner assumes full responsibility and liability for proper maintenance and operation of the oil separator, unless the separator is a part of a publicly-operated drainage system.

c. Access to the separator shall be maintained for inspection at all times.

d. Oil accumulation in the oil separator compartment shall not exceed three inches at any time.

e. Following oil removal the separator shall be backfilled with clean water to prevent oil carry-over to clear well.

f. Waste oil accumulations removed from the separator shall be disposed of in an acceptable manner and shall not be disposed or discharged to the ground water, storm drains, or streams.

g. Design of an oil separator facility should be based upon flows from an approved infiltration/retention system over the area contributory to the oil separator and the provision of one hour retention time in the oil separator at that flow. In addition the oil separator must be designed with a depth to width ratio of between 0.3 and 0.5.

10. Erosion and Sedimentation Control:

Measures suggested in **Section 6-E** of these standards should be provided as necessary during and after construction to prevent erosion and to prevent silt from being carried off-site and/or into receiving bodies of water. A SWPPP shall be provided to the City if the preparation is required for the Department of Ecology Stormwater General Construction Permit.

B. Infiltration/Retention Facilities

1. All stormwater runoff originating from and/or draining from any proposed development shall be controlled and/or conveyed in accordance with all other City standards and policies and as described in these Standards. When existing conditions make stormwater infiltration/retention impossible for a portion of a site, in lieu of providing infiltration/retention for such an area, at the discretion of the City Administrator, compensatory storage volume and reduction of allowable release rates may be provided on another portion of the site. In no case shall the runoff from the total site exceed the allowable release rate.

2. Projects that discharge directly to the Wenatchee River are exempt from Flow Control Requirements as described in the SWMMEW. Stormwater Treatment is still required in accordance with the SWMMEW and must comply with any current Total Max Daily Load (TMDL) requirements. All control or conveyance of stormwater runoffs shall be shown on a drainage plan which shall be prepared by the developer's licensed Civil Engineer and shall be submitted for review and approval by the Public Works Department.

3. The stormwater infiltration/retention requirement may be waived at the discretion of the City Administrator if the volume of storage calculated for that development is less than 250 cubic-feet and if the site has no environmental, hydraulic, or hydrologic constraints that must be mitigated by providing storage.

4. Prior to occupancy of any single phase of a phased development, storm drainage facilities should be completed and operational to provide runoff control, infiltration/retention, and water quality treatment for the phase for which occupancy is requested.

5. Stormwater infiltration/retention systems should be designed to maximize reliability, ease of maintenance, and water quality of runoff and should minimize hazards to persons or property (both on-site and offsite), nuisance values, and risk of failure.

6. Sufficient infiltration/retention storage capacity shall be provided to store the excess runoff from the developed site during a storm event having a probability of occurrence commonly known as the "100-year storm". A non-erosive overflow path shall be provided from each infiltration/retention facility to protect adjacent property from damage.

7

8. Controlled Overflow Requirements: All infiltration/retention storage facilities should include a provision for control of overflows, and suitable data shall be provided to support the design. Under no circumstances should the overflow be overland to private property not included as part of the development without written permission. No overflow will be allowed into irrigation canals.

9. Site, Soil and Infiltration Data Requirements for Determining Design Infiltration Rates:

    a. General Data Requirements

        i. The proposed site should have favorable topography and suitable soils that are conducive to infiltration.

        ii. A log of the soils and infiltration test data shall be submitted to reveal site soil conditions and infiltration rates.

iii An adequate number of test holes shall be located over the proposed site to substantiate representative conditions for the final layout of the development, and as a minimum condition, test holes shall be located in each area and at the elevation proposed for infiltration.

iv. Ground water depth, location, flow and general characteristics shall be considered.

v. Impervious strata shall be at a depth greater than two feet below the bottom of the proposed infiltration area.

b. Soil Data Requirement: A soil log will be required to describe soil type and depth along with a site map showing the location of each test hole. Classification may be in general terms such as loose sand, sandy silt, clay hardpan, rock, etc. or classification may be in specific terms as described by the U.S. Department of Agriculture (Soil Conservation Service). The soil log should include the depth to ground water table, if less than 12 feet in depth.

C. Maximum Infiltration Rate

The maximum infiltration rates determined through these tests should not be faster than those shown in **Table 2** for the given soil texture class. If they are faster, the rates shown in **Table 2** should be used rather than the measured rates. The design infiltration rate shall be determined by infiltration testing, soil logs, and other testing and analysis that the soils engineer or the City Administrator deems necessary. The design infiltration rate shall not be higher than the measured infiltration rate with the appropriate safety factor applied, and may be much lower when stratigraphy, depth to the water table, depth to impervious strata, infiltration receptor geometry and long-term clogging of the facility with fines is considered.

The maximum infiltration rate test is used to estimate the maximum sub-surface vertical infiltration rate of the soil below a proposed infiltration facility, pond, or closed depression. The test is designed to simulate the physical process that will occur during design storm event conditions, therefore, a saturation period is required to approximate the soil moisture conditions that would occur during a major storm event.

Testing Procedure

Infiltration testing shall be done in accordance with the SWMMEW or other method approved by the City.

Table 2, Maximum Infiltration Rates For Soil Types		
Soil Texture Class (U.S.D.A.)	**Maximum Infiltration Rates (Inches Per Hour)**	**Maximum Infiltration Rates (Inches Per Minute)**
1. Coarse sands or cobbles	20.00	0.330
2. Medium sand	8.00	0.130
3. Fine sand, loamy sand	2.40	0.040
4. Sandy loam	1.00	0.017
5. Loam	0.50	0.008

9. Review and Approval of the Plan

The drainage plan and supporting calculations will be reviewed by the City or designated representative using the City's construction plan review procedures in coordination with all other City land development and/or permit review procedures. The City's review and approval of the storm drainage control plan will not relieve the applicant, owner and/or designer of liability for errors or omissions in the design of storm drainage facilities.

All storm drainage plans prepared in connection with any of the permits and/or approvals listed in **Section 3** shall be submitted for review and approval by the City.

Any applicant or property owner proposing an action that may require a storm drainage plan may request a preliminary review of the proposal by the City Administrator and a determination of the need for a drainage plan pursuant to **Sections 3** and **4**. The preliminary review may be included as part of the pre-application process.

10. Fees

Storm drainage plan review and inspection fees are in addition to the City of Cashmere permit application fees. The fees will be based upon the time necessary to review, comment, and meet with the project proponent. Such time will be dependent upon the plan's completeness, clarity, and conformance to drainage standards.

11. Bonds and Liability Insurance

The City may require persons constructing storm drainage facilities to post with the City surety and cash bonds or certified check in the amount of 150 percent of the estimated construction cost. Whenever the property owner is required to post other bonds on the project or on construction related to the facility, the bonds may, with the permission of the City Administrator, be combined into a single bond to the extent allowed by law; provided, that the amount thus bonded shall not at any time be less than the amount that would be required

under separate bonds. The single bond shall clearly specify on its face those separate bonds which it is intended to replace.

A. Construction and Performance Bond: Prior to commencing construction the owner or person constructing the facility shall post a construction and performance bond, or, in lieu of a bond the applicant may establish a cash escrow account with his/her bank or with the City Treasurer in the amount specified above. The amount of the bond or cash account shall be sufficient to reimburse the City if it should become necessary for the City to enter the property for the purpose of correcting and/or eliminating hazardous conditions relating to soil stability, erosion and/or drainage control. The instructions to the escrow agent shall specifically provide that after prior written notice unto the owner and the owners failure to correct and/or eliminate existing or potential hazardous conditions in a timely manner, the escrow agent shall be authorized without any further notice to the owner or his consent to disburse the necessary funds to the City for the purpose of correcting and/or eliminating such conditions as specified in the City complaint. The construction and performance bond shall be released three years after determination by the Department that all facilities are constructed in compliance with the approved plans.

B. Liability Policy: The owner or person constructing the storm drainage facility shall maintain a liability policy during the construction period with policy limits of not less than $100,000 per individual, $300,000 per occurrence and $50,000 property damage, which shall name City of Cashmere as an additional insured without cost to the City.

12. Standard Drainage System Maintenance

Maintenance of storm drainage facilities on private property shall be the responsibility of the owner(s), unless otherwise provided for under **Section 13**. This responsibility and the provision for maintenance shall be clearly stated on subdivision and short plat plans, property conveyance documents, and/or drainage improvement plans. In the event the owner(s) does not provide proper maintenance and the City Administrator determines the storm drainage facility represents a public safety threat the City Administrator will give 30 days notice to the owner(s) to correct the deficiencies. If the deficiencies are not corrected within 30 days the City may enter upon the property to perform the necessary maintenance at the owner(s) expense. This provision for access will be included as a provision of plat or plan approval.

13. City Assumption of Maintenance

Upon petition of the Owner(s), City of Cashmere with approval by the City of Cashmere Council, may assume the maintenance of retention/infiltration/ retention facilities if all of the following conditions are met:

A. All of the requirements of **Sections 7** & **8** have been fully complied with;

B. The facilities have been inspected and approved by the Public Works Department;

C. All necessary easements entitling the City to properly maintain the facility have been conveyed to the City; and,

D. It is recommended by the City Administrator and agreed upon by the City of Cashmere Council that the assumption of maintenance would be in the best interests of the City.

14. Appeal Procedure

In the event of a determination by the City Administrator that drainage plans are required, the applicant shall have the right to have the determination reviewed by the City of Cashmere Council or the owner may make corrective provisions to the project as necessary. Denial by the Council shall leave the owner with the choice of correcting the project as suggested by the City or appeal through the judicial process.

15. Variances

Variances from these Storm Drainage Standards may be requested by the applicant. The variance application shall be accompanied by a recommendation from the City Administrator.

Applications Required: Applications for any variance shall be submitted in writing. The application shall state fully all substantiating facts and evidence pertinent to the request.

Variance Requirements: The City Administrator may recommend to the City Council a variance from the requirements of these standards and regulations when, in his opinion, undue hardship may be created as a result of strict compliance with the provisions of these standards and requirements. The City Administrator may recommend conditions that he deems necessary to be desirable for the public interest. No variance shall be granted unless it can be shown that:

A. There are special physical circumstances or conditions affecting said property such that the strict application of the provisions of these standards and requirements would deprive the applicant of the reasonable use or development of his land; and

B. The variance is necessary to insure such property the rights and privileges enjoyed by other properties in the vicinity and under similar circumstances; and

C. The granting of the variance will not be detrimental to the public welfare or injurious to other property in the vicinity.

Criteria: Before a variance is granted a determination shall be made that shall include, but not be limited to, the following criteria:

A. Capacity of downstream facilities;

B. Acceptability of receiving bodies of water;

C. Possibility of adverse effects of retention; and

D. Capability of maintaining proposed drainage systems.

16. Retroactivity Relating to City Maintenance of Subdivision Facilities

Any owner who has constructed retention/infiltration facilities prior to the adoption of these storm drainage standards and guidelines may petition for the City to assume maintenance of the constructed facilities. If it is determined to be in the overall interest of the general public, the City, upon approval by the City of Cashmere Council may assume the maintenance of the constructed facilities provided all of the following conditions are met:

A. The owner shall demonstrate, to the City Administrator's satisfaction, that approved plans and constructed facilities comply with these storm drainage standards,

B. The owner shall provide as-built plans, prepared to City standards, for all constructed facilities, and

C. The City Administrator shall inspect the storm drainage facilities and approve and acknowledge that all conditions for accepting maintenance responsibility have been met.

TABLE OF CONTENTS

STORM DRAINAGE DEVELOPMENT STANDARDS 1

1. INTRODUCTION 1
2. PURPOSE 1
3. WHEN A DRAINAGE PLAN OR DRAINAGE REVIEW IS REQUIRED 1
4. WHEN PLANS ARE NOT REQUIRED 2
5. GENERAL REQUIREMENTS 2
6. BASIC REQUIREMENTS 3
7. PLAN SUBMITTAL CONTENTS AND STANDARDS 4
8. DESIGN CRITERIA 7
9. REVIEW AND APPROVAL OF THE PLAN 13
10. FEES 13
11. BONDS AND LIABILITY INSURANCE 13
12. STANDARD DRAINAGE SYSTEM MAINTENANCE 14
13. CITY ASSUMPTION OF MAINTENANCE 14
14. APPEAL PROCEDURE 15
15. VARIANCES 15
16. RETROACTIVITY RELATING TO CITY MAINTENANCE OF SUBDIVISION FACILITIES 16

STORM DRAINAGE DEFINITIONS IMMEDIATELY FOLLOWING PAGE 16

STORM DRAINAGE DEFINITIONS