Ordinance No. 28 - 2012

AN ORDINANCE REGARDING CRITICAL AREA REGULATIONS FOR WETLANDS; AMENDING SAN JUAN COUNTY CODE SECTIONS 18.30.150 and 18.60.170; AND REPEALING APPENDICES A-C OF SJCC 18.30.150

BACKGROUND

- A. The County was scheduled to review and, where necessary, update its development regulations regarding critical areas by December 1, 2006, to ensure consistency with RCW 36.70A (the Growth Management Act, or GMA). A review of the County's critical areas regulations, including regulations regarding Wetlands, was adopted in Resolution 98-2005. Although some updates to critical areas regulations were adopted in Ordinance 15-2005, further action was reserved for a later time.
- **B.** Wetlands are defined in RCW 36.70A.030 and WAC 365-190-090 and are further described in WAC 365-190-130.
- C. San Juan County adopted a public participation plan for the revision of its development regulations regarding critical areas in Resolution 56-2006; the plan was most recently updated in Resolution 32-2011.
- **D.** The applicable science related to Wetlands and stormwater management was reviewed and is summarized in the *Best Available Science Synthesis for San Juan County, May 2011 (BAS Synthesis)*, which was adopted in Resolution 22-2011.
- E. Additional review of the County's critical areas regulations was undertaken and is described in the documents "Analysis of Existing San Juan County Regulations Pertaining to Wetlands" prepared by Dr. Paul Adamus, and letters provided by the Washington State Department of Ecology on June 9, 2011 and September 14, 2011. The review was discussed and public comment heard at a County Council workshop held on June 13 and 14, 2011.
- F. The 60-day notice on the amendments to the Wetland protection regulations, as required by RCW 36.70A.106, was provided to the Washington State Department of Commerce on August 24, 2011, and was assigned Material ID No. 17298.
- G. An environmental checklist was prepared evaluating potential effects of the amendments and a notice of Determination of Non-significance was issued on August 30, 2011 and published on August 31, 2011. The notice was provided to federal, state and local agencies in accordance with San Juan County Code 18.80.050 and WAC 197-11-340.
- **H.** Efforts to involve and inform the public included:
 - I. A public workshop held in March of 2006.
 - II. County Council appointment of a citizens committee in 2007, which reviewed the GMA requirements, the applicable science and the existing regulations, and developed a draft set of amendments.
 - III. Public meetings held in June of 2009.
 - IV. A public workshop held in August 2009.
 - V. Request for Best Available Science (BAS) submittals from the public in June-July 2010.
 - VI. Public workshops on San Juan Island, Orcas Island, and Lopez Island in September 2010, to address "hot button" issues.

- VII. Joint Planning Commission/County Council public workshops in February 2011, to review and discuss the first draft Best Available Science Synthesis, and County Council workshops in May 2011 to discuss the second draft. Public comment was accepted at all meetings.
- VIII. Meetings and public workshops in June 2011 to discuss the review of existing regulations and determine policy direction for the revision of regulations.
- IX. Town hall meetings in September 2011, to discuss the regulations (on San Juan, Orcas, and Lopez Islands), and field trips on Orcas Island and San Juan Islands.
- X. A mailer with the 2012 tax statements.
- XI. Advertisements of Planning Commission and County Council meetings in local papers, including online media.
- XII. Notice of the availability of the proposed drafts of ordinance and staff reports was e-mailed to residents, property owners, and interested parties who requested to be kept informed prior to the Planning Commission and County Council hearings.
- **I.** The Planning Commission conducted duly advertised public hearings on September 16 and 28, 2011, November 10, 2011, and March 6 and 16, 2012.
- J. The County Council conducted duly advertised public hearings on July 21 and November 27, 2012.
- **K.** The County Council makes the following findings:
 - I. The Best Available Science was included in developing the amendments, which will protect Wetlands in conformance with the requirements of the Growth Management Act.
 - II. Implementing a site-specific approach to sizing wetland buffers will effectively protect wetlands, while minimizing costs and maximizing the allowable use of property, which supports other goals found in the San Juan County Comprehensive Plan and the Washington Growth Management Act.
 - III. Agriculture in San Juan County is a vital part of our heritage and an integral part of the county's landscape, culture and economy. Our quality of life depends on the successful integration of sustainable agriculture and ecological health.
 - IV. Of the scientific documents that were reviewed, the following references were the most important in the development of the site-specific buffer sizing procedure:
 - Baker, M.E., D.E.Weller, and T.E. Jordan. 2006. Improved methods for quantifying potential nutrient interception by riparian buffers. Landscape Ecol. 21(8):1327-45.
 - Booth, D.B., D. Hartley, and R. Jackson. 2002. Forest cover, impervious-surface area, and the mitigation of storm water impacts. Journal of American Water Resources Association 38:835-845.
 - Castelle, A.J., A.W. Johnson, and C. Conolly. 1994. Wetland and stream buffer size requirements: a review. J. Environ. Qual. 23 (5): 878-882.
 - Mayer, P.M., S.K. Reynolds, M.D. McCutchen, and T.J. Canfield. 2007. Meta-analysis of nitrogen removal in riparian buffers. J. Environ. Qual. 36(4):1172-80.
 - Murphy, M.L. 1995. Forestry Impacts on Freshwater Habitat of Anadromous Salmonids in the Pacific Northwest and Alaska Requirements for Protection and Restoration. NOAA Coastal Ocean Program Decision Analysis Series No. 7. NOAA Coastal Ocean Office, Silver Spring, MD. 156 pp.

National Research Council. 2008. Urban Stormwater Management in the United States. National Academies Press, Washington, DC.

Painter, L. 2009. Redefining old-growth in forested wetlands of western Washington. Environmental Practice 11(2):68-83.

Semlitsch, R.D., B.D. Todd, S.M. Blomquist, A.J.K. Calhoun, J.W. Gibbons, J.P. Gibbs, G.J. Graeter, E.G. Harper, D.J. Hocking, M.L. Hunter Jr., D.A. Patrick, T.A.G. Rittenhouse, and B.B. Rothermel, 2009. Effects of Timber Harvest on Amphibian Populations: Understanding Mechanisms from Forest Experiments. BioScience, Vol.59 No. 10.

Walsh, C.J. and J. Kunapo. 2009. The importance of upland flow paths in determining urban effects on stream ecosystems. Journal of the North American Benthological Society 28(4):977-990.

Washington State Department of Ecology. 2005. Stormwater Management Manual for Western Washington. Olympia, Washington.

Washington Department of Fish and Wildlife. 2009. Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas (A Priority Habitats and Species Guidance Document).

Wigington, P.J. Jr., S.M. Griffith, J.A. Field, J.E. Baham, W.R. Horwath Owen, J.H. Davis, S.C. Rain and J.J. Steiner. 2003. Nitrate removal effectiveness of a riparian buffer along a small, agricultural stream in Western Oregon. Journal of Environmental Quality 32:162-170.

- V. This ordinance will replace the existing rating and prescriptive buffer system (which was modeled after the Washington State Dept. of Ecology's previous rating system) with a site-specific buffer sizing procedure that factors in both the natural characteristics of the site and the characteristics of the development. The ordinance also: increases the minimum sizes of regulated wetlands; allows for the reduction of some buffers for areas that do not drain to a wetland; allows some reduction in buffer size in conjunction with low impact and green development practices; outlines activities that are allowed and prohibited in wetlands and their buffers; and establishes requirements for the delineation of wetlands and for the content of wetland reports. Compensatory mitigation procedures have been relocated to the General section (SJCC 18.30.110). Additionally, changes have been made to the County's lighting standards to ensure consistency within the regulations.
- VI. The functions and values of wetlands include benefits to people such as providing aesthetically pleasing views; decreasing contamination of ground and surface water and fish and shellfish that may be consumed by people; reducing flooding, erosion, and siltation; increasing wildlife viewing opportunities; and maintaining the desirability of properties adjacent to wetlands.
- VII. Despite broad outreach for BAS, very little local science is available for San Juan County.
- VIII. The BAS provides little peer reviewed, direct evidence that San Juan County's existing regulations are not protecting the functions and values of wetlands.
- IX. The County has developed and obtained funding for a County wide water quality monitoring program as well as a program to address any water quality issues that are identified. This will begin to fill data gaps in the local BAS and help improve water quality over time.
- X. The nature of land development in San Juan County is generally light intensity with very limited manufacturing, industrial, and commercial development.

- XI. Following is a discussion of the scientific principles associated with the regulations. Additional discussion can be found in the *BAS Synthesis* and the underlying references adopted to guide this review and update.
 - a. Wetlands are complex biological systems that support important ecological processes and many different habitats and species. Wetlands are often connected to streams, which eventually discharge into marine waters. In addition to directly supporting species that live in or near wetlands, they can also be an important source of organic material, food, and nutrients which support the stream and marine food webs upon which salmon, rockfish, marbled murrelet, orca, and other listed species depend. Vegetative buffers adjacent to wetlands are a recognized means of protecting water quality, quantity and habitat functions within wetlands, as well as in down gradient streams, lakes, ponds, and marine waters.
 - b. The proposed approach to sizing wetland buffers is intended to protect wetland functions and values consistent with the requirements of the GMA without creating the need for monitoring and adaptive management programs. None-the-less, the County is undertaking a water quality monitoring program.
 - c. For situations with little land development and no drainageways, most runoff flows below the ground surface and within the root zone.
 - d. For situations with high intensity development and drainageways connecting the development to the wetland, a significant portion of the runoff flows above-ground.
 - e. As discussed in the *BAS Synthesis*, runoff from areas influenced by human development is well characterized (National Research Council, 2008) and is often contaminated with an array of pollutants, including: those from lawn and garden chemicals (containing both active ingredients and surfactants that can negatively affect aquatic species); building materials including pressure treated lumber (containing copper chromated arsenate), zinc and copper impregnated shingles and roofing strips, and roofing materials containing phthalates (plastic gutters and downspouts, roofing felt, roof membranes); fertilizers; rodent poisons; termite spray and other insecticides; moss control products; deicers; contaminants associated with automobiles, including oil, antifreeze, rubber and metals from the wear of tires, brakes and other parts; and sediment from dirt and gravel driveways. Many of these contaminants are directly associated with the choices and practices of the property owner and are difficult or impossible to regulate. If they are allowed to enter surface water bodies, these pollutants can contaminate and become concentrated in the food web, negatively affecting aquatic habitats and species.
 - f. The quantity of pollutants exported from a site is based on the concentration of those pollutants multiplied by the total quantity of runoff. As the volume of surface runoff from a site increases, so does the total amount of pollutants washed away from the site. The concentration of a pollutant in runoff varies depending on a number of factors, including: the intensity and type of development; the period of time since the last rainfall/ runoff event (i.e., allowing more contaminants to build up on hard surfaces); the temporal relationship between the application of the pollutant and irrigation or a rainfall event (e.g., the rainfall occurs within a few days of application, with pollutants applied/ present during the fall, winter, and spring being most likely to end up in runoff); the quantity and type of pollutant present and/or applied; how the pollutant is applied (e.g., fertilizer falling onto walkways and hard surfaces); the intensity, duration, and total amount of irrigation or rainfall/ runoff during a storm; and, if samples are obtained for analysis, the point during the runoff event when the sample is collected.

- g. Dissolved contaminants and those associated with fine sediment (which often contains adsorbed contaminants) are the most difficult constituents to remove from runoff. Under ideal conditions, buffers of only a few feet can remove coarse sediment carried by diffuse sheet flow. But buffers must be larger to remove fine sediment and dissolved contaminants, which are commonly found in runoff from developed areas.
- h. The factors influencing the efficacy of buffers where flow is primarily subsurface are more complex than those for surface flow on gentle slopes. In addition to buffer size, these factors include: soil texture, permeability, and chemical composition; carbon content; depth of root zone; saturated vs. unsaturated soils; type of chemical pollutants that are present; and whether pollutants are in a dissolved or particulate state. In general, vegetative buffers are more effective at removing contaminants in runoff when the flow is primarily below the ground surface and within the root zone. Saturated soils with healthy soil bacteria are better at removing some contaminants such as nitrogen. Unsaturated soils are better at removing other contaminants, such as the break down products associated with surfactants. Soils in buffers will experience both saturated and unsaturated conditions, resulting in varying levels of treatment, depending on the pollutant and time of year.
- i. In addition to actively removing stormwater contaminants, vegetative buffers also exclude pollutant sources from wet-soil areas where pollutants are more likely to be transported to wetlands. Excluding development from those areas also helps the buffer infiltrate runoff, which helps recharge groundwater and maintain normal hydrologic functions.
- j. While they cannot completely replicate the complex biological and hydrological processes occurring in undisturbed watersheds, engineered storm water systems (particularly those that mimic natural biological processes such as rain gardens and constructed wetlands) can help.
- k. High intensity development with more smooth, graded, compacted, and impervious surfaces and fewer trees provides poorer quality habitat for pond breeding amphibians, more runoff, and higher export of pollutants. References that discuss these principles include Booth et al. (2002), National Research Council (2008), and Semlitsch et al. (2009).
- l. In general, surfaces with severely limited permeability (paved or unpaved), generate more surface runoff and pollutants than vegetated gardens and lawns, and vegetated gardens and lawns generate more surface runoff and pollutants than areas with undisturbed soils and vegetation. This can, however, vary greatly depending on soil type, management practices, and other site-specific factors.
- m. The water quality buffer sizing procedure assumes that most of a development's potential for generating surface runoff and associated pollutants can be represented by the "flow path," a single line running down the slope, passing through the area with the most concentrated development to the wetland. This line is assumed to represent the path where the greatest quantity of runoff and pollutants will collect and flow downhill.
- n. The buffer sizing procedure uses "Rational Method" runoff coefficients that are described in civil engineering and hydrology texts and manuals and is discussed in *Urban Stormwater Management in the United States* (National Research Council, 2008), which was cited as a BAS document adopted by the County Council. The coefficients listed in the buffer sizing procedure for coniferous forest are reduced from published coefficients for vegetated areas, based on the conclusion from Booth et al. (2002) that published Rational Method runoff coefficients are too high for forested areas of Puget Sound.

o. The buffer sizing procedure includes two components: a Water Quality Buffer and a Habitat Buffer. The Water Quality Buffer sizing procedure uses Rational Method runoff coefficients to predict whether runoff will flow primarily above or below ground, and then using Figure 1 of the Mayer et al. (2007) meta-analysis to determine appropriate buffer sizes for a given level of pollutant removal. Figure 1 is based on a compilation of data from many buffer studies and, though it is focused on nitrogen removal and does not provide detailed information on all factors that affect pollutant retention in vegetative buffers, it can be used as a general guide for sizing buffers. (Note: On page 46 of *BAS Synthesis* Chapter 2, fourth paragraph, there are errors in the stated buffer sizes. Mayer et al. 2007, Figure 1 should be referenced for the correct values).

The pollutant removal capabilities of the proposed buffers range from 60% to 70%, which is similar to the treatment levels for water quality buffers supported by the Dept. of Ecology (Wetlands in Washington State, Vol. 2, Appendix 8E, Section 8E.2.3.1, page 5). For situations with low runoff and pollutant transport potential (i.e., low runoff coefficients and no drainageways present), the buffers are approximately based on the "subsurface" line on Figure 1 of the Mayer study and those with high runoff coefficients and drainageways present are approximately based on the "surface" line of that figure, with intermediate values distributed between these two points.

Finally, some additional adjustments were incorporated into Table 3.6 (the table depicting required Water Quality Buffer sizes):

- i. To minimize the risk to wetlands, the smallest allowable buffer is 30 ft.
- ii. To prevent over-regulation of land use activities, the maximum discharge factor shown is .80, representing a situation where approximately 80% of a flow path is impervious, something that is unlikely to be encountered in San Juan County.
- iii. All values are rounded to increments of 5.
- p. The Water Quality Buffer sizing procedure includes adjustments for drainageways. The presence of a drainageway connecting a development with a wetland increases the likelihood that runoff will be above-ground and accelerates the transport of pollutants from the development area to the wetland, making the removal of pollutants more difficult (Wigington et al. 2003, Baker et al. 2006, Walsh and Kunapo 2009). The magnitude of this effect depends on several site-specific factors, such as slope.
- q. The Water Quality Buffer sizing procedure includes a slope adjustment. Adjustment of the composite runoff coefficient (in this ordinance referred to as the "stormwater discharge factor") is largely based on Table 4-11 of the October 2011 Hydraulic Design Manual produced by the Texas Department of Transportation.
- r. The Water Quality Buffer sizing procedure includes a Green Development option. The buffers for this option are reduced based on an incoming pollutant load that is approximately 20 % lower than that from normal development, resulting in the same pollutant load entering the buffer. This option is focused on achieving the 20% reductions through regulation of construction materials and development components that can be observed, rather than the regulation of day to day activities such as the application of pesticides.
- s. To help support other GMA goals and facilitate the concentration of development within Urban Growth Areas, the Water Quality Buffer sizing procedure includes a reduced buffer option in conjunction with mitigation of adverse impacts.
- t. Factors not included in some options of the Water Quality Buffer procedure can also influence runoff, pollutant loads, and the transport of pollutants to wetlands. Pollutant loads can be affected by the types of building materials and products people use on their property; the effectiveness of

on-site stormwater management practices and other BMPs; the number of people, pets, and livestock per unit area; adequacy of septic system design and maintenance; number of facilities on other parcels that potentially contribute runoff to the same wetland and the adequacy of their buffers, septic systems, stormwater management practices and BMPs; type of land use activities; season, and other factors.

Transport is affected by the type of pollutant, its ambient state (dissolved or particulate), how it is introduced (above- or below-ground), amount of irrigation, annual precipitation amount and intensity, subsurface geology, soil chemical composition and organic content, and other factors.

The above-listed pollutant loading and transport factors are, in some cases, left out of the procedure not only for the sake of maintaining simplicity in the regulations, but also because of the high variability of these factors within a single parcel, the need for staff with advanced geomorphic and geochemical skills and knowledge, and the cost to analyze discharge rates, water quality, and wetland exposure to contaminants. To a large degree, major differences in pollutant transport can be accounted for by slope and vegetative cover and the presence of drainageways — which are all included in the procedure, and are easier for the non-specialist to evaluate consistently.

- u. In San Juan County, true Bogs are rare (perhaps only four) and they are highly sensitive to slight changes in water quality and hydrology. For this reason, they require a minimum Water Quality Buffer of 200 feet, which is anticipated to remove 80% of incoming contaminants.
- v. The habitat component of buffers is based on consideration of habitat needs that are addressed within the Habitat Importance-Sensitivity ratings and the associated Habitat Buffers. Additional protection measures are included for wetlands containing clusters of trees, in order to protect those trees from excessive blow down and to minimize other microclimate-related impacts to wetland vegetation and wildlife. Figure 6.2 of Murphy (1995) illustrates the functions of forested buffers compared to tree height. Six tenths (0.6) of a site's potential tree height (SPTH) is a common buffer recommendation to protect basic functions associated with forested riparian areas.
- w. Although vegetative buffers are beneficial to most wetland species, there are few scientific studies from the Pacific Northwest that define specific buffer sizes that are biologically advisable. Thus, it is not possible to provide the same specificity of buffer sizes that would be essential to sustain viable populations of San Juan County plant or animal species, therefore guidance was provided by the County's wetland consultant.
- x. Based on a review of the related science and the professional opinion of San Juan County's consultant, a wildlife scientist with many years of field experience, to protect habitat functions and values the entire circumference of a wetland should retain a Habitat Buffer. The purpose of this buffer is to protect the area surrounding the wetland from modifications and from the intrusion of humans and domestic animals that would adversely affect wetland species.
- y. For habitat purposes, some wetland animals prefer dense vegetation around wetlands, while others prefer more open vegetation with sunnier/warmer microclimates and better visibility of predators.
- z. Wetland trees attract wildlife species not found in herbaceous wetland vegetation. Although wetland trees grow more slowly than upland trees and may die sooner, they provide foraging and nest sites for many wetland-dependent birds and mammals, as well as supporting distinctive lichens and mosses that thrive in the moist microclimate associated with wetlands. In San Juan County, common trees that grow in wetlands include red alder, western red cedar, western hemlock, Sitka spruce, lodgepole pine, quaking aspen, and black cottonwood.

aa. Under certain conditions, limited tree removal within wetland buffers can occur without significantly affecting habitat, water quality, or the quantity of runoff. Trees, especially those over 12" dbh, provide important wildlife habitat and should be retained. Adequate numbers and configurations of trees are important to preserve wind firm conditions (to prevent blow down of trees in the wetland) and to preserve moisture levels needed by some wetland plants and pond-breeding, forest-dwelling amphibians.

Where a cluster of 5 or more trees are present in a wetland, retention of trees surrounding the cluster helps protect microclimate and prevent excessive wind throw or blow down. The minimum threshold of trees triggering this requirement is based on the number of trees rather than acreage because it is easier to determine.

Table 3-3 of the *BAS Synthesis*, states that a buffer equivalent to .6 Site Potential Tree Height (SPTH) will be approximately 80% effective for protecting microclimate. This figure also provides information on distances necessary to reduce wind speed, with a buffer equivalent to one SPTH approximately 70-75% effective at reducing wind speed.

Calculations made from measurements of 134 wetland tree species in wetlands elsewhere in the Puget Sound Lowlands determined that 87.4 feet is the average height reached by a 100-year old wetland tree in this region (Painter 2007). No measurements were available for 100-year old wetland trees measured specifically in San Juan County wetlands.

In San Juan County, the SPTH for Douglas fir (from the *Forests and Fish Report, 1999*, that is the basis for the Washington State forest practices regulations) ranges from 90 ft. for forests in site class 5 soils, to 110 feet for site class 4 soils (the predominant soil class in San Juan County), to 140 feet for site class 3 soils. San Juan County does not have class 1 or 2 soils.

According to the 1962 San Juan County soil survey, the following are approximate percentages of the land area in each soil site class. (Note: There is a more current soil survey, but it does not include information on the site class of soils):

Soil Site Class	Percentage of Land Area Within SJ County
3	19.1 %
4	36.8 %
4 & 5	23.1 %
Unclassified	21 %

Based on the average height of trees within Puget Sound wetlands and within San Juan County, it appears that a 70 foot Tree Protection Zone around wetlands containing clusters of trees will be adequate to protect microclimate and prevent excessive blow down.

XII. Actions that depart from the BAS. WAC 365-195-915 provides guidance on including the best available science in the development of critical area regulations. When departing from science based recommendations, this guidance specifies that the County should identify any information in the record that supports the decision, explain the rationale for departing from science based recommendations, identify potential risks to the functions and values of critical areas, and identify any measures chosen to limit such risk. The following is a description of areas of potential departure from the Best Available Science.

a. Regulatory Exemptions. To allow for reasonable and cost effective application of the regulations, most jurisdictions, including San Juan County, have a minimum size under which wetlands will not be regulated. The Planning Commission and County Council expressed a desire to retain exemptions for some small wetlands. Using aerial and LiDAR imagery, the County performed an analysis and estimated the size distribution of the County's small wetlands as follows. Wetlands smaller than 1,000 sq. ft were not tallied because most could not be identified using aerial imagery.

848 wetlands (32% of total) are smaller than 10,000 sq. ft 387 wetlands (15% of total) are smaller than 5000 sq. ft 91 wetlands (3% of total) are smaller than 2500 sq. ft.

It is anticipated that with the proposed exemptions, the regulations will protect more than 97% of the County's mapped wetlands, which is a significant change from the existing regulations. In addition to reducing the size of the exemptions, to provide better protection, some wetlands that are in close proximity are combined for purposes of determining square footage, and no exemptions are allowed for wetlands that are part of a wetland mosaic or that have a High Habitat-Sensitivity Rating.

In addition, to improve protection of wetlands an existing exemption for parcels less than one acre in size was removed from the regulations.

- b. Buffers in Urban Growth Areas. Throughout the process the public expressed concern that imposing large buffers in the County's two small, non-municipal urban growth areas would make it difficult to achieve other GMA goals, and could significantly affect the character of those communities as well as those who own property adjacent to wetlands. To help accommodate growth within Urban Growth Areas, and to support other GMA goals, the proposed regulations include a reduced buffer option in those areas if adverse impacts are identified and mitigated in accordance with the new mitigation and financial guarantee procedures. In addition to requiring mitigation of impacts, which is an acceptable alternative when impacts cannot be avoided, the County and other service providers have and continue to expand water, wastewater and stormwater infrastructure that will help reduce ongoing impacts to wetlands in UGAs. These improvements include a stormwater treatment system recently completed in Eastsound.
- c. Gardens and orchards. Testimony was provided regarding the importance of wetlands and surrounding areas for food production in a community that is isolated from the mainland and has dry summers and limited supplies of fresh water. To balance the need to protect wetlands with the need to produce food, gardens and orchards are allowed in the outer 25% of buffers. Performance standards are included to minimize the risk of harm to wetlands, including the use of appropriate BMPs; a prohibition on the use of synthetic chemicals; restrictions on mowing until after ground nesting birds have left the nest (July 15); and a requirement that trees within Tree Protection Zones be retained. With regard to water quality functions, it is anticipated that the soils in gardens and orchards will, in most cases, maintain high levels of organic material, and as a result will remain permeable and able to absorb runoff from upland areas. With regard to habitat functions, vegetative screening and Tree Protection Zones will still be retained immediately adjacent to wetlands.
- d. Wells. The existing regulations allow wells in wetland and their buffers, and the Planning Commission and County Council supported the retention of this option. To allow property owners to maximize the use of their land, and to help prevent conflicts between wells, stormwater systems and septic systems, wells are allowed in the outer 25% of buffers. Performance standards are included to minimize the risk of harm to wetlands including a requirement that measures are taken to avoid compaction of soils during drilling and development of the well, that there be no anticipated adverse impacts to adjoining wetlands, and that disturbed areas be immediately stabilized and replanted with the type of vegetation found in the buffer.

Areas of risk to wetlands include the risk that disturbed areas will be compacted, that buffer vegetation will not be restored, and that the withdrawal of water will adversely affect the wetland.

e. On-site sewage systems. To minimize conflicts and confusion, the local Health Department requested that on-site sewage disposal systems be regulated under the State standards without additional local standards. To allow property owners to maximize the use of their land, and to allow for the installation of on-site sewage disposal systems when there is no practicable alternative, components of sewage disposal systems are allowed in wetlands and their buffers provided they are in conformance with State regulations.

Areas of risk include the risk that State regulations are not adequate and that some contaminants will reach and adversely affect the wetland (e.g. pharmaceuticals and household chemicals). These risks are limited by requirements that appropriate BMPs be used to minimize erosion, sedimentation and soil disturbance; that for new systems, trees within Tree Protection Zones are retained in accordance with this section; and for replacement systems where there is no other alternative that will meet State requirements, that trees within Tree Protection Zones are retained to the greatest extent possible. For replacement of failing systems, adverse impacts are offset by the improvement in water quality that will result from installation of a system meeting current standards.

- f. Stormwater systems. The existing regulations allow some stormwater management systems in wetland buffers and the Planning Commission and County Council supported the retention of this option. To allow property owners to maximize the use of their land, when there is no practicable alternative, components of stormwater management facilities are allowed in buffers. Areas of risk include the risk that the buffer will not be large enough to adequately remove pollutants and that the pollutants will adversely affect the wetland. This risk is limited by requirements that the system conform to local and State stormwater management requirements and the requirements for Tree Protection Zones.
- g. Habitat buffers and ponds. To minimize the effect of the regulations on property owners, the County Council did not support increased habitat buffers for wetlands that adjoin ponds. There is some question as to whether the proposed regulations will be adequate to provide the upland habitat needed by pond breeding amphibians and turtles, especially in the case of wetlands with a low Habitat Importance-Sensitivity Rating that are smaller than the 2,500 s.f. regulatory threshold. This risk is limited through protection of water quality buffers uphill from regulated wetlands that in some cases will exceed the size of the habitat buffers.
- XIII. Measures have been taken throughout the update of these provisions in order to minimize the costs associated with compliance, for both the property owner and the County, while still meeting the legal requirements of the Growth Management Act.
- XIV. In some cases, extending buffers across roads and driveways may not provide support for the wetlands functions and values, and in these cases it is appropriate to reduce the extent of the buffer.
- XV. Existing structures and impervious areas do not support wetland functions and values, and to avoid labeling this development as non-conforming, it is appropriate to exclude it from buffer requirements.
- XVI. The amendments are consistent with the applicable goals and policies of the San Juan County Comprehensive Plan.
- XVII. This ordinance completes the 2006 update to the County's development regulations regarding Wetlands as required by RCW 36.70A.130 and WAC 365-196-610(1)(e).

XVIII. After considering the evidence in the record, and adopting an evaluation of consistency with the Comprehensive Plan, the County Council approved this ordinance. Changes from the version recommended by the Planning Commission are included in this ordinance for the reasons described above and to improve clarity and consistency with other laws and regulations.

SECTION 1. SJCC Section 18.30.150; Ord. 7-2005 §§ 6, 7, and 8; Ord. 14-2000 § 7 (CCC); Ord. 11-2000 § 4; and Ord. 2-1998, Exh. B § 3.6.8 are each amended to read as follows:

18.30.150 Wetlands.

- A. Wetland Rating. The San Juan County wetland rating system (on file with the administrator) is designed to differentiate between wetlands based on their sensitivity to disturbance, rarity, irreplaceability, and the functions and values they provide. Rating categories apply to the regulated wetland as it exists on the effective date of this code, as the regulated wetland may naturally change thereafter, and as the regulated wetland may change in accordance with permitted activities. Ratings shall not be based on illegal modifications to a wetland. The categories are summarized in subsections (A)(1) through (A)(4) of this section.
 - 1. Category I. These wetlands are the "best of the best." These are wetlands that:
 - a. Contain a particular rare species;
 - b. Represent a high-quality example of a rare wetland type as defined in Appendix A*;
 - c. Are regionally rare; or
 - d. Provide irreplaceable functions and values.
 - 2. Category II. These are wetlands that:
 - a. Contain very sensitive or important wildlife or plants on a seasonal or annual basis;
 - b. Are difficult to replace, as defined in Appendix A*; or
 - e. Provide very high functions and values, particularly for wildlife habitat.
 - 3. Category III. These wetlands provide important functions and values. They provide habitat for a variety of flora and fauna and occur more commonly throughout the County than either Category I or II wetlands.
 - 4. Category IV. These are wetlands that are smaller, isolated, and have less diverse vegetation than Categories I, II, and III but still provide important functions and values.
- A. Applicability. Unless exempted or allowed under SJCC 18.30.110, the provisions of this section apply to areas in or within 205 feet of wetlands as defined in SJCC 18.20.230. Many wetlands are depicted on various maps developed by the County and natural resource agencies. These maps are, however, only a guide and in all cases conditions in the field shall control. In order to protect their functions and values, development activities, removal of vegetation and other site modifications are limited or prohibited within wetlands and their buffers. Any use or structure legally located within shorelines of the state that was established or vested on or before the effective date of the County's development regulations to protect critical areas, shall be regulated consistent with RCW 36.70A.480(3)(c). Such uses or structures may continue as a conforming use and may be redeveloped or modified if the redevelopment or modification is consistent with SJCC Chapter 18.50 and either: (1) the proposed redevelopment or modification will result in no net loss of shoreline ecological functions; or (2) the redevelopment or modification is consistent with SJCC 18.30.110-160. If the applicant chooses to pursue option (1), the application materials for required project or development permits must include information sufficient to demonstrate no net loss of shoreline ecological functions. For purposes of this subsection, an agricultural activity that does not expand the area being used for the agricultural activity is not a redevelopment or modification. For purposes of this paragraph "Agricultural activity" has the same meaning as defined in RCW 90.58.065.

In addition to County regulations, in some cases wetlands may be regulated under the federal Clean Water Act administered by the U.S. Army Corps of Engineers, or by the Washington State Water Pollution Control Act and/or Shoreline Management Act, administered by the Washington State Department of Ecology. Compliance with County regulations does not relieve the property owner of the responsibility to comply with state and federal requirements.

B. Classification.

- 1. Wetlands are defined in SJCC 18.20.220. Wetlands do not include those artificial wetlands intentionally ereated from nonwetland sites including but not limited to irrigation and drainage ditches, grass-lined swales, canals, detention facilities, waste water treatment facilities, farm ponds, and landscape amenities. However, wetlands may include artificial wetlands created intentionally from nonwetland areas to mitigate conversion of wetlands if permitted by the County.
- 2. Regulated Wetlands. Not all "wetlands" as defined in SJCC 18.20.220 are "regulated wetlands." Regulation of a wetland by this section is determined by the size and category of the wetland. Wetland sizes are determined in accordance with subsection (G) of this section, and are not limited by parcel boundaries. For the purposes of this section, "regulated wetlands" shall include those wetlands that meet the criteria in Table 3.3:

Table 3.3 Threshold size above which a wetland is regulated under SJCC 18.30.150.

Wetland Category	Threshold Size 1, 2
Ŧ	[All Category I wetlands_are regulated]
Ħ	Greater than 2,500 sq. ft.
₩	Greater than 5,000 sq. ft.
₽V	Greater than 10,000 sq. ft.

Notes:

- Wetland sizes are determined in accordance with SJCC 18.30.150(G) and are not limited by parcel boundaries.
- Wetlands smaller than the threshold size for the category are not regulated by the County under SJCC 18.30.150.

However, wetlands that do not meet the size criteria in Table 3.3 may be regulated under the federal Clean Water Act .

The general location and extent of wetlands in San Juan County are shown in the National Wetlands Inventory (U.S. Department of the Interior) and the San Juan County Wetlands Inventory.

- B. Wetland Type. San Juan County wetlands are classified by their type as described below. These wetland types are also discussed in the *Best Available Science Synthesis*, *San Juan County*, *May 2011 (BAS Synthesis)*. In some cases, the wetland type may need to be determined by a qualified wetlands professional. In classifying a wetland that has been illegally modified (e.g. modified since 1991 and not as permitted by County regulations then in effect), the type that existed prior to the modification shall be used. In classifying a wetland that has been voluntarily enhanced (i.e. not enhanced to offset adverse impacts associated with new development), the wetland type that existed prior to the modification shall be used.
 - 1. Aspen or Cottonwood Wetland means a stand of five (5) or more black cottonwood (*Populus balsamifera*) trees growing inside a wetland and being greater than 15 inches dbh, within 40 feet of another cottonwood tree, that forms a cottonwood stand or grove whose canopy is greater than .1 acre in size; or a stand (no specific stem or trunk count) of trembling aspen (*Populus tremuloides*) trees, with trunks located within 40 feet of another tree in the stand, and the stand having a minimum size of .25 acre.

- 2. Bog means a wetland with a deep layer of accumulated moss (rooted or floating on water) that forms peat soils, or which has more than 30% canopy cover of Sitka Spruce, Western Red Cedar, Western Hemlock, or Lodgepole Pine. The area must also contain one or more plant species characteristic of acidic conditions (pH <5.0) as listed in Table 3 of the Washington State Department of Ecology's Wetland Rating System for Western Washington (2004).
- 3. Lakeside Wetland means a wetland that is within, or contiguous to and within 100 feet of, a ponded water body larger than 20 acres, and whose water levels fluctuate in near synchrony with those of the water body. This does not include wetlands that develop on non-wetland sites, as may occur when water is impounded with a structure.
- 4. Large Pond Wetland means a wetland that is within, or contiguous to and within 100 feet of, a body of surface water that is between 5 and 20 acres in size and is present through the end of August during most years; or means a wetland that contains patches of standing water that cumulatively cover between 5 and 20 acres that is present through the end of August during most years.
- 5. Mature forested wetland means a stand 0.25-acre in size or larger of trees growing within a wetland where a minimum of 20-25% of trees have a dbh exceeding 18 inches, most of the trunks are within 50 feet of similar sized trees in the stand, and the trees are one or more of the following species: Sitka spruce, western red cedar, western hemlock, red alder, black cottonwood, pacific willow, aspen, and lodgepole pine.
- 6. Salmonid Watershed Wetland means a wetland that is in or within 160 feet of, and in the same watershed as, the portion of marine or fresh waters which are known or reasonably assumed to be physically accessible for any length of time during most years to sea-run coastal cutthroat trout or other salmonid species native to the Pacific Northwest. (This does not include stocked species of trout in sports lakes.) The wetland itself need not be accessible to such fish, as its primary purposes are to help protect the water quality of nearby salmonid habitat and to provide support for the food chain in such habitat.
- 7. Salmonid Wetland means a wetland known or reasonably assumed to be physically accessible during most years, for any length of time, to sea-run coastal cutthroat trout or other salmonid species native to the Pacific Northwest. (This does not include stocked species of trout in sports lakes.) These may include but are not limited to: all vegetated tidal wetlands, plus natural or artificial ponds intersected by Cascade Creek, False Bay Creek, Doe Bay Stream, West Beach Stream, and the stream complex in the Garrison Bay-Mitchell Hill area.
- 8. Structurally Diverse Wetland means a wetland that:
 - (a) contains three habitat structural forms: woody vegetation, herbaceous vegetation, and open water (surface water without emergent vegetation, present during all or most of a normal year, that is within or contiguous to the wetland);
 - (b) has each form well-distributed in multiple patches; and
 - (c) has nearly equal proportions of the three forms (no more than 50% of the area being comprised of any one, measured cumulatively at any time of a normal year).
- 9. Tidal Wetland, Large means a vegetated wetland larger than 0.25-acre when measured at mean lower low water (MLLW) that receives a tide-driven influx of marine surface water at least once during an average year. This includes but is not limited to salt marshes and vegetated parts of tidal lagoons. It does not include areas vegetated only with seaweed (algae). Salinity can range from fresh to hypersaline.
- 10. Tidal Wetland, Small means a wetland meeting the definition of Tidal Wetland Large, but smaller than or equal 0.25-acres in size.

- 11. Tidally Contiguous Wetland means a non-tidal wetland that is contiguous to and within 100 feet of a tidal wetland. A surface water feature may or may not connect the wetland with a tidal wetland. Some such wetlands were originally salt marshes, but were diked off and/or tidegated to create pastures and haylands that currently qualify as wetlands. These wetlands do not receive an annual tide-driven influx of marine water.
- 12. Wetland with high natural connectivity means a wetland that has either:

(a) an undisturbed land connection with all ponds and lakes located within a one-half mile radius of the wetland. An "undisturbed connection" means an animal could walk (not necessarily in a straight line) between this wetland and a lake or pond without crossing a road or driveway that is paved or that creates a gap in the forest canopy, or a lawn or field that is mowed more than once annually; or (b) an undisturbed land connection with a block of land that is > 100 acres in size which is not actively managed and is not mowed more than once annually.

(Note: The areas of connection are not regulated as wetlands.)

- 13. Other. Any other wetlands of a type not listed above.
- C. Regulated Activities. Any land use or development activity which is subject to development permit or approval requirements of the San Juan County Code shall be subject to the provisions of this section, including but not limited to the following activities which are directly undertaken or originate in a regulated wetland or its buffer, unless exempted under SJCC 18.30.110(D) or subsection (D) of this section:
 - 1. The removal, excavation, grading, or dredging of material of any kind, including the construction of ponds and trails;
 - 2. The dumping, discharging, or filling of any material;
 - 3. The draining, flooding, or disturbing of the wetland water level or water table;
 - 4. The driving of pilings:
 - 5. The placing of obstructions:
 - 6. The construction, reconstruction, demolition, or expansion of any structure;
 - 7. The destruction or alteration of wetland vegetation through clearing, harvesting, shading, intentional burning, application of herbicides or pesticides, or planting of vegetation that would alter the character of a regulated wetland; provided, that these activities are not part of a forest practice governed under Chapter 76.09 RCW (Forest Practices Act) and its rules;
 - 8. Activities that result in:
 - a. A significant change of water temperature;
 - b. A significant change of physical or chemical characteristics of wetlands water sources, including quantity; or
 - c. The introduction of pollutants.
- C. Wetland Rating. Wetland ratings are based on their hydrologic, water quality, and habitat characteristics and functions. The Water Quality-Sensitivity rating considers adverse impacts associated with changes in water quality, while the Habitat Importance-Sensitivity rating considers adverse impacts associated with changes to habitat structure or function.
 - 1. Water Quality-Sensitivity Rating. Wetland types are organized into three groups for this rating. For wetlands comprised of two or more types, the higher rating shall apply.
 - a. **High** (Based on sensitivity to water contaminants, magnitude of impacts, and/or water used for human consumption. Includes wetlands with plants or animals that may be very sensitive to contaminants):
 - i. All sizes of tidal and tidally contiguous wetlands

- ii. Bog
- iii. Lakeside wetland
- iv. Salmonid wetland
- v. Large pond wetland

b. Medium

- i. Salmonid watershed wetland
- ii. Wetland that has no surface water outflow (during most years)
- c. Low (Based on sensitivity to water contaminants. Includes wetlands where runoff is expected to receive additional treatment in the wetland without adversely impacting wetland functions):

 All other wetland types not listed above.
- 2. Habitat Importance-Sensitivity Rating. Wetland types are organized into three groups based on the wetland's importance and the sensitivity of the plants and animals to disturbances. For wetlands that include two or more wetland types, the higher rating shall apply.

a. High Habitat Importance-Sensitivity.

- i. Tidal wetland Large
- ii. Bog
- iii. Mature forested wetland
- iv. Aspen/cottonwood wetland
- v. Lakeside wetland
- vi. Salmonid wetland
- vii. Large pond wetland

b. Medium Habitat Importance-Sensitivity.

- i. Tidal wetland Small and Tidally Contiguous Wetland
- ii. Structurally diverse wetland
- iii. Wetland with high natural connectivity
- iv. Salmonid watershed wetland
- c. Low Habitat Importance-Sensitivity: All other wetland types not listed above.

D. Exempt Activities.

- 1. Wetlands. The following uses shall be allowed within a regulated wetland without having to meet the protection standards, or requirements for wetland studies or mitigation set forth in subsections (E) through (H) of this section, if they are not prohibited by any other law. However, forest practices and conversions are governed by Chapter 76.09 RCW and its rules.
 - a. Normal maintenance, repair, or operation of existing structures, facilities, or improved areas, such as lawns, landscaping, orchards, gardens, and driveways. Maintenance and repair do not include any modification that changes the character, scope, or size of the original structure, facility, or improved area, and do not include the construction of a maintenance road.
 - b. Modification or expansion of existing uses and structures, pursuant to the requirements of the nonconforming use and structure provisions of SJCC 18.40.310 and 18.80.120.
 - e. Outdoor recreational activities, including hunting and fishing (pursuant to state law), birdwatching, hiking, boating, and swimming.
 - d. The harvesting of wild crops in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling soil, planting crops, or changing existing topography, water conditions, or water sources.
 - e. Existing and ongoing agricultural activities.

- f. Normal maintenance, but not construction, of drainage ditches.
- g. Use of existing nature trails.
- h. Installation of navigation aids and boundary markers.
- i. Site investigative work necessary for land use application submittal, such as surveys, soil logs, percolation tests, and other related activities. In every case, wetland impacts shall be minimized and disturbed areas shall be immediately restored.
- j. Drilling or digging and maintenance of wells; provided, that wetland impacts are minimized and disturbed areas are immediately restored.
- 2. Wetland Buffers. In addition to those activities allowed in subsection (D)(1) of this section, the following activities are allowed within wetland buffers without having to meet the protection standards, or requirements for wetland studies or mitigation set forth in subsections (E) through (H) of this section; provided, that impacts to buffers are minimized and that disturbed areas are immediately restored except as specifically allowed in subsection (D)(2)(a) of this section.
 - a. In association with a single-family residence only, the establishment and expansion of lawns, landscaping, orchards, gardens, and fences; provided, that:
 - i. Lawns, landscaping, orchards, and gardens shall be allowed within the outer 25 percent of the buffer width where no reasonable alternative is available. No structure other than fences nor any impervious surface shall be included in the above; and
 - ii. Fences shall be designed to allow the unimpeded passage of surface water beneath them.
 - b. Activities having minimal adverse impacts on buffers and no adverse impacts on regulated wetlands. These include low intensity, passive recreational activities, such as pervious trails, nonpermanent wildlife watching blinds, scientific or educational activities, and sports fishing or hunting. Trails within buffers shall be designed to minimize impacts to the wetland, shall be no wider than five feet, shall not include any impervious surfaces, and shall not totally circumnavigate the wetland perimeter.
 - c. Within the buffers of Category III and IV wetlands only, vegetation lined swales designed for stormwater management or conveyance when topographic restraints determine there are no other upland alternative locations. Swales used for detention purposes may only be placed in the outer 25 percent of the buffer. Conveyance swales may be placed through the buffer, if necessary.
 - d. All legal parcels less than one acre in size as of the date of adoption of this code are exempt from the wetland buffer provisions.
- **D.** Minimum Size Thresholds for Regulated Wetlands. To allow for the reasonable administration of these regulations, some wetlands are exempted from the requirements of this section based on their size and Habitat Importance-Sensitivity Rating (see subsection (C.2) of this section). Regulated wetland mosaics greater than 2,500 s.f. in size, collective or cumulative wetland area, are not exempt.

Wetlands exceeding the following size thresholds, and those that are part of a wetland mosaic greater than 2,500 square feet in size, are regulated under SJCC 18.30.150:

- 1. High Habitat Importance-Sensitivity wetlands: no exemption all wetlands are regulated
- 2. Medium Habitat Importance-Sensitivity wetlands: 1,000 square feet
- 3. Low Habitat Importance-Sensitivity wetlands: 2,500 square feet
- E. Protection Standards. A development permit or land division may be conditioned to provide for the continued protection of the wetland resource and reasonable use of the property. Conditions may include, but are not limited to, wetland buffers, setbacks, limits on clearing and grading, conditions on the land title, best management practices for erosion control and maintenance of water quality, or other conditions appropriate to avoid or mitigate identified adverse impacts.
 - 1. Standard Buffer Zone Widths.

a. The following buffers in Table 3.4 shall be required for wetlands based on the category of wetland as outlined in subsection (A) of this section:

Table 3.4. Standard buffer widths for wetlands.

Wetland	Buffer Width (feet) ¹
Category	241101 (14104 (1400)
Ŧ	150
Ħ	75
III	50
IV	35

Note:

- 1. Measured as per subsection (E)(1)(b) of this section.
- b. All buffers shall be measured from the wetland boundary as delineated in the field pursuant to the requirements of subsection (G)(1) of this section.
- c. Except as otherwise specified in subsection (D) of this section, wetland buffers shall be retained in their natural condition.
- d. Where buffer disturbance or alteration has or will occur in conjunction with regulated activities, revegetation with native vegetation shall be required and completed within the next growing season.
- e. Any wetland created, restored, or enhanced as compensation for approved wetland alterations shall also include the standard buffer required for the category of the created, restored, or enhanced wetland. Created wetlands will be deemed as Category II for the purposes of establishing a buffer.

This subsection establishes protection standards for wetlands, including a site-specific procedure for sizing wetland buffers and Tree Protection Zones, along with standards for activities in wetlands and their buffers and Tree Protection Zones. This procedure is illustrated in the following flow chart:

Figure 3.1 Procedure for Determining Site Specific Wetland Buffers

Is the proposed development, vegetation removal or other site modification within 205 feet of a wetland?

If yes, does the area to be modified drain to the wetland? If yes, continue with the Water Quality Buffer sizing procedure. (Note: If proposed activities do not require development or project permits, and activities are consistent with the requirements outlined in Table 3.8 and subsections E.6 and E.7 of this section, it may not be necessary to identify the edge of the wetland and the size of the water quality buffer).

If No: no further action is needed for compliance with wetland critical area regulations.

Determine the wetland type and Water Quality- Sensitivity Rating. (Note: If the wetland contains particular plants or animals protected as Fish and Wildlife Habitat Conservation Areas, a higher rating may apply. See SJCC 18.30.160.F.)

Complete the Water Quality Buffer sizing procedure (Steps 1-7) for the area that drains to the wetland, beginning with the portion of the site containing the most impervious area (or if there is no impervious area, the area with the most grading and vegetation removal). If desired repeat to determine buffer for less intensely developed portions of the site.

If No: continue to the Habitat Buffer sizing procedure.

Complete the Habitat Buffer sizing procedure (Steps 1-5). (Note: If the wetland contains particular plants or animals protected as Fish and Wildlife Habitat Conservation Areas, a higher rating may apply. See SJCC 18.30.160.F. Also, if no trees are being removed, proposed activities do not require development or project permits, and activities are consistent with the requirements outlined in Table 3.8 and subsections E.6 and E.7 of this section, it may not be necessary to identify the edge of the wetland and the size of the habitat buffer.)

1. Site-Specific Buffer Sizing Procedure. The following is a site-specific procedure for determining the size of vegetative buffers and Tree Protection Zones necessary to protect the water quality, water quantity, and habitat functions of wetlands. Two separate buffer components, a water quality component, and habitat component, are considered in the procedure, and for some types of wetlands there is also a Tree Protection Zone. When determining the required buffer and Tree Protection Zone for a wetland, the stricter (i.e., wider) applies except where otherwise noted.

Required buffers and Tree Protection Zones apply regardless of whether the wetland is on the same parcel or another parcel that may be under different ownership. If the wetland is under different ownership and is not accessible, then the wetland type and boundaries are established using available maps and information, including a visual assessment if possible. The Water Quality Buffer is determined first based on the characteristics of the site and the proposed development, vegetation removal or other site modification; whether runoff water will be primarily above or below ground; and the wetland type. This involves working through a procedure to determine the buffer size for each area that will be developed or modified. The Habitat Buffer, and where applicable, the Tree Protection Zone is then determined based on the Habitat Importance-Sensitivity Rating and wetland type. In all cases, conditions on the ground shall control.

a. Determine the Water Quality Buffer.

Step 1. Location relative to wetlands. Is the proposed development, vegetation removal or other site modification located within 205 feet of a wetland? If so, proceed to the next step. In some cases, to answer this question, it may be necessary to have the wetland edge facing the area that will be developed or modified delineated in accordance with subsection (F) of this section. In many cases, this can be based on a wetland reconnaissance rather than a full delineation. Although maps and other imagery can be used to help with this determination, conditions on the ground shall control. If the proposed development, vegetation removal, and other modifications are more than 205 feet from the wetland, no further action is needed for compliance with wetland critical area regulations. (Note: If proposed activities do not require development or project permits, and activities are consistent with the requirements outlined in Table 3.8 and subsections E.6 and E.7 of this section, it may not be necessary to identify the edge of the wetland and the size of the water quality buffer.)

Step 2. Drainage Direction. Does the area proposed to be developed or modified drain to the wetland? If the area proposed to be developed or modified drains to the wetland, delineate the wetland in accordance with subsection (F) of this section and proceed to steps 3-7 to determine the required Water Quality Buffer.

If the area proposed to be developed or modified does not drain to the wetland, a Water Quality Buffer is not required and only a Habitat Buffer applies. Proceed to the Habitat Buffer sizing procedure in subsection (E.1.b) of this section.

Step 3. Wetland Type and Water Quality-Sensitivity Rating. Determine the wetland type using the above descriptions in subsection (B). This may require the assistance of a qualified professional, particularly for wetlands that may be a bog. After the wetland type is determined, use subsection (C.1) above to determine the Water Quality-Sensitivity Rating for the wetland. (Note: If the wetland contains particular plants or animals protected as Fish and Wildlife Habitat Conservation Areas, a higher rating may apply. See SJCC 18.30.160.B and F).

Step 4. Composite Stormwater Discharge Factor. Use the following procedure to determine the Composite Stormwater Discharge Factor for the area or areas that are being developed or modified. This is determined by completing the following steps and using Tables 3.3 and 3.4 to complete Table 3.5.

(Note: The information needed for items i., v., and vi. can be obtained through maps and other existing documents and imagery or through field investigation):

i. Identify the flow path. Using the most accurate topographic map available (i.e. with the greatest vertical resolution) and a properly scaled drawing of the area, draw a line representing the flow path through the portion of the site that includes the proposed development or modification, starting with the area that will have the most impervious surfaces. If there are no impervious surfaces, draw the line through the area that will have the most grading and vegetation removal. The flow path line begins at the top of the nearest rise or the parcel boundary, whichever is closest, and ends at the edge of the wetland. This path runs down the fall line, intersecting the contour of the land and the contour lines of the map at perpendicular angles. (Note: Maps with 5-foot contours are available for most islands through the County Geographic Information System.)

The flow path can also be determined in the field by standing in the middle of the area that will have the most impervious surfaces (or if there will be no impervious surfaces, the area that will have the most grading and vegetation removal), visually identifying the path runoff will take from that area to the wetland, and then turning around and visually identifying where the runoff is coming from.

ii. Break the flow path line into segments based on proposed surface types. Surface types are listed in Table 3.3. List these segments in column 1 of Table 3.5.

Segments that do not drain to the wetland may be omitted from the calculations (e.g. If roof runoff is tight lined to a location that does not drain to the wetland, then the area covered by the roof may be excluded from the calculation).

<u>iii.</u> Along the flow path line, mark where surface types change. Measure the length of each surface type and enter these lengths in column 6 of Table 3.5.

iv. For each surface type enter a Base Stormwater Discharge Factor into column 2 of Table 3.5. Some Base Stormwater Discharge Factors are shown in Table 3.3. For surface types not listed, discharge factors (which are Rational Method runoff coefficients) shall be based on BAS such as hydrology texts or guidance manuals, using the lower end of ranges because the factors will be adjusted upward to account for slopes and the presence of drainageways.

Base Stormwater Discharge Factors may be modified in conjunction with the installation of stormwater management measures that facilitate below ground flow of runoff, including those required by other sections of the San Juan County Code. Examples include using the discharge factor for lawn when roof runoff is disposed of in an infiltration trench constructed in a lawn area. Applicants should submit proposals for base stormwater discharge factor reductions to the Department for approval.

v. Slope adjustment. For vegetated surfaces, determine the approximate slope of each segment along the flow path (as a percentage), multiply it by 0.01, and enter the product in column 3 of Table 3.5. (e.g. for 8% slope enter 0.08). If the slope exceeds 30%, enter 0.3.

vi. Drainageway and stream adjustment. If a drainageway or stream connects any portion of the development to the wetland (including existing and proposed lawn, gardens and impervious areas), select the appropriate factor from Table 3.4 and enter it in column 4 of Table 3.5. (Note: This applies to the impervious areas, lawn, and garden throughout the development area being evaluated, not just the portion along the flow path.)

vii. For each row in Table 3.5 (i.e. each segment along the flow path), add the values in columns 2,

3, and 4 and enter the sum in column 5.

viii. For each row in Table 3.5 (i.e., each segment along the flow path), multiply the value in column 5 by the value in column 6 and enter the resulting product in column 7.

ix. Add all the values in column 6 of table 3.5. Add all the values in column 7. Divide the total of column 7 by the total of column 6. This is the Composite Stormwater Discharge Factor.

x. If desired, repeat to determine buffers for other, less intensely developed portions of the site.

Table 3.3

Base Stormwater Discharge Factor 1 by Surface Type				
Surface Type	Stormwater Discharge Factor			
Coniferous forest with ≥65% canopy cover, rough ground surface, and undisturbed soils and duff layer	<u>.02</u>			
Other heavily vegetated areas with rough ground surface and undisturbed soils and duff layer	<u>.05</u>			
Pasture Pasture	.07			
Lawn or garden	.09			
Green roof slope $\leq 5^{\circ}$ $\leq 4^{\circ}$ thick 4-10° thick 8-20° thick $\geq 20^{\circ}$ thick Slope $\geq 5^{\circ}$.50 .30 .20 .10			
Permeable pavement or permeable concrete	<u>.35</u>			
Undisturbed, natural bedrock areas	<u>.35</u>			
Gravel driveway	<u>.40</u>			
Asphalt	<u>.85</u>			
Concrete	<u>.90</u>			
Brick	<u>.70</u>			
Roof	<u>.75</u>			

Stormwater discharge factors are based on runoff coefficients used with the "Rational Method", which is a hydrologic model that estimates peak stormwater discharge from a drainage area. The factors represent the approximate percentage of runoff for a given amount of precipitation, and generally represent the low end of published values, with separate upward adjustments made for vegetated areas on slopes, and for the presence of drainageways. A value of 1.00 indicates that a surface is entirely impervious and that all precipitation will result in surface runoff.

Table 3.4

Drainageway or Stream Characteristics	Stormwater Discharge Factor
A. The drainageway(s) or stream(s) is not well defined (i.e., there is no bare soil, sand, or gravel, or discernible thinning of the vegetation in the drainageway).	<u>0.06</u>
B. The drainageway(s) or stream(s) is well-defined (e.g., there is discernible thinning of the vegetation and/or bare soil, sand, or gravel in the drainageway).	0.10

Table 3.5

		Composite Stormw	ater Discharge	<u>Factor</u>		
Column 1 Surface Type (by segment along the flow path)	Column 2 Base Stormwater Discharge Factor	Column 3 Slope Adjustment (0.01 per % slope, maximum of .30. 12% slope = .12)	Column 4 Drainageway and Stream Adjustment	Column 5 Sum of Columns 2, 3, & 4	Column 6 Length of Segment (in feet)	Column 7 Col. 5 x Col. 6
Divide	e the total of C	Total f	The second secon	Column 7 (ac Composite S		

<u>Step 5. Green Development Option.</u> A buffer adjustment is available to property owners who commit to using green development practices as outlined below.

- i. The Green Development option only applies to buffers for proposed buildings and associated infrastructure and cannot be used to reduce buffers for lawns and landscaped areas.
- ii. To use the Green Development option, as part of the permit approval the property owner must agree to the County recording a Notice to Title describing the requirements associated with the Green Development option.

- iii. All of the following must be implemented and maintained while the Green Development remains on the property:
 - (A) Roof materials for proposed buildings must consist of product that are not known to release chemicals that are harmful to wetland plants or animals (e.g. enamel coated metal, tile without moss prevention products, sod if membrane does not contain fire retardant, phthalates etc.); and
 - (B) The disposal area for any on-site sewage systems associated with proposed buildings must meet current standards and, in addition, must be no closer to the wetland than the specified edge of the water quality buffer for "normal" development; and
 - (C) The driveway serving proposed buildings must be designed and built to direct runoff into vegetated areas. Options include crowning or insloping with properly spaced relief culverts; outsloping; and installing trench drains or flexible water diverters; and
 - (D) The portions of the driveway that drain to the wetland must be covered with gravel, permeable pavement, permeable concrete, or other suitable material that will minimize erosion, rutting, and tracking of mud.
- Step 6. Urban Growth Area Option. A buffer adjustment is available within the Eastsound and Lopez Village Urban Growth Areas as shown in Table 3.6. Within these areas, a reduced buffer may be used if adverse impacts to the functions and values of the wetland are identified and mitigated in accordance with SJCC 18.30.110.
- Step 7. Determine Water Quality Buffer from Table 3.6. For all wetland types apply the Composite Stormwater Discharge Factor from Table 3.5, to the Water Quality Buffer Table 3.6, to determine the required size of the Water Quality Buffer. If the wetland type is a bog, use the greater of this value or 200 feet. (If the bog is located within another wetland type the 200 foot buffer only applies to the area immediately adjacent to the bog, and not to the surrounding wetland). Buffers are measured horizontally from the edge of the wetland.

Table 3.6

Composite			Water Quali	ty Buffer (feet)				
Storm- water Discharge Factor for	The state of the second of the state of the		Quality- Sensitivity	Medium Water Quality- Sensitivity Rating				Lopez Village and Eastsound UGA With
Flow Path	Normal Development (60% Pollutant Removal)	Normal Development (65% Pollutant Removal)	Green Development Option (60% Pollutant Removal)	Normal Development (70% Pollutant Removal)	Green Development Option (65% Pollutant Removal)	Mitigation ¹		
< 0.10	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>		
0.10- <.20	<u>30</u>	<u>30</u>	<u>30</u>	<u>50</u>	<u>30</u>	<u>30</u>		
0.20-<0.30	<u>30</u>	<u>50</u>	<u>30</u>	<u>70</u>	<u>50</u>	<u>30</u>		
0.30-<0.40	<u>45</u>	<u>65</u>	<u>45</u>	<u>95</u>	<u>65</u>	<u>30</u>		
0.40-<0.50	<u>65</u>	<u>85</u>	<u>65</u>	<u>115</u>	<u>85</u>	<u>35</u>		
0.50-<0.60	<u>80</u>	<u>105</u>	<u>80</u>	<u>140</u>	<u>105</u>	<u>40</u>		
0.60-<0.70	<u>95</u>	<u>125</u>	<u>95</u>	<u>160</u>	<u>125</u>	<u>50</u>		
0.70-<0.80	<u>110</u>	<u>140</u>	<u>110</u>	<u>185</u>	140	<u>55</u>		
≥.80	<u>125</u>	<u>160</u>	<u>125</u>	<u>205</u>	<u>160</u>	<u>65</u>		

¹ Use of this option requires the mitigation of adverse impacts in accordance with SJCC 18.30.110.

b. Determine the Habitat Buffer.

Step 1. Determine Habitat Importance-Sensitivity Rating for the wetland.

<u>Using subsection (C.2) above, determine the Habitat Importance-Sensitivity Rating for the wetland, then proceed to Step 2. (Note: If the wetland contains particular plants or animals protected as Fish and Wildlife Habitat Conservation Areas, a higher rating may apply. See SJCC 18.30.160. B and F).</u>

Step 2. Determine Habitat Buffer from Table 3.7.

Using the wetland type and Habitat Importance-Sensitivity Rating, determine the required size of the Habitat Buffer from Table 3.7. If the Water Quality Buffer required for the area draining to the wetland is wider than the Habitat Buffer, the stricter (i.e., wider) applies. Unlike the Water Quality Buffer, the Habitat Buffer must completely surround the wetland. Buffers and where applicable Tree Protection Zones are measured horizontally from the edge of the wetland. Proceed to Step 3 if desired. (Note: If no trees are being removed, proposed activities do not require development or project permits, and

activities are consistent with the requirements outlined in Table 3.8 and subsections E.6 and E.7 of this section, it may not be necessary to identify the edge of the wetland and the size of the habitat buffer.)

Table 3.7

Щ	abitat Buffers ¹
Habitat Importance-Sensitivity Rating	Required Buffer (in Feet)
Low	30
<u>Medium</u>	50
<u>High</u>	80

¹ Tree Protection Zone. If the wetland contains a cluster of ten (10) or more trees more than 20 feet in height and more than 9 inches dbh, all trees within the cluster and within a distance of 50 feet from the cluster, are included in a Tree Protection Zone. The purpose of protecting these trees is to maintain wetland habitat including the microclimate; to prevent wind throw of trees within the wetland; and to provide young trees that will eventually replace the older trees. A cluster of trees is defined as a group of trees where the trunk of any one tree is within 50 feet of the trunk of another tree in the cluster. Within Tree Protection Zones, trees may not be removed except in accordance with the exemptions of SJCC 18.30.110.

- Step 3. Habitat Buffer Averaging. Habitat Buffer averaging allows reduction of the required Habitat Buffer in specified locations on the property proposed for development, vegetation removal or other modification, in conjunction with increases of the buffer in other areas, so that the total area of the Habitat Buffer is unchanged. Averaging of the Habitat Buffer will be allowed only if the applicant demonstrates that all of the following criteria are met:
 - (A) Averaging is necessary to accomplish the purposes of the proposal, and no reasonable alternative is available;
 - (B) If the wetland contains variations in habitat sensitivity due to existing physical characteristics, the reduction from standard Habitat Buffer sizes will occur only contiguous to the area of the wetland determined to be least sensitive;
 - (C) The total area contained within the Habitat Buffer after averaging is no less than that contained within the standard Habitat Buffer prior to averaging;
 - (D) Averaging of required Tree Protection Zones is not allowed.
 - (E) In no instance shall the Habitat Buffer be reduced to less than 30 feet, and the reduced Habitat Buffer must not occur along more than one-half the circumference of the wetland; and
 - (F) If a portion of the buffer is to be reduced, the remaining Habitat Buffer area will be enhanced using native vegetation and fencing where appropriate to improve the functional attributes of the buffer, and to provide additional protection for wetland functions and values. A proposal to enhance a buffer shall not be used as justification to reduce an otherwise functional standard Habitat Buffer, unless such buffer reduction complies with all other criteria for buffer averaging.
- 2. Buffers, Tree Protection Zones, and Roads. Buffers and Tree Protection Zones shall not extend across public roads. For private roads, buffers and Tree Protection Zones shall not extend across the road when the road design, flow of runoff, quantity of traffic, and/or gap in tree canopy result in an area that does not support the functions and values of the wetland being protected as determined by a qualified professional.
- 3. Structures, Uses and Activities Allowed and Prohibited in Wetlands and Wetland Buffers.

 Structures, uses and activities that are listed as "yes" uses in Table 3.8 below are allowed in wetlands or wetland buffers, subject to compliance with the San Juan County Code. State or federal requirements

administered by the WA Department of Ecology, WA Dept. of Fish and Wildlife, WA Dept. of Natural Resources, or U.S. Army Corps of Engineers may also apply to these areas.

Table 3.8

Structures, Uses and Activities Allowed in Wetlands and Wetla	and Buffers	
<u>Activity</u>	Allowed Within Wetland	Allowed Within Wetland Buffers
a. Outdoor activities that do not involve modifying the land or vegetation, and that will not adversely affect the functions and values of wetlands.	<u>YES</u>	YES
b. The harvesting of wild plants and foods in conformance with applicable regulations and in a manner that is not injurious to the natural reproduction of wetland plants, provided the harvesting does not require tilling soil, planting, or changing existing topography, water conditions, or water sources except when allowed as an agricultural activity under (e) or (f), below.	YES	YES
c. Removal of invasive plants; planting of native wetland plants; and vegetation management activities implemented as part of a habitat management plan developed or approved by a local, state, federal or tribal agency.	YES	YES
d. Agricultural activities conducted in accordance with a voluntary stewardship program developed pursuant to RCW 36.70A.705, with the exception of the construction of agricultural structures which are subject to the same provisions as other structures.	YES	YES
e. With the exception of the construction of agricultural structures, agricultural activities, including seasonal and recurrent activities existing or in development during the year prior to the effective date of these regulations, provided they do not result in additional adverse impacts to the functions and values of wetlands. This can include changing the type of farming, management practices, and crops within the existing geographic area already in use (such as in the rotational management of farmland) as long as the change does not result in additional adverse impacts to wetland functions and values. Agricultural structures are subject to the same provisions as other structures. (Note: See definition of "garden" in SJCC 18.20.070.)	YES	YES
f. With the exception of the construction of agricultural structures, new and expanding agricultural activities that are consistent with appropriate best management practices (BMPs) that will ensure no net loss of wetland functions and values. The BMPs must be described in a farm management plan or other comprehensive agricultural management document prepared or approved by the WSU Cooperative Extension Service or the San Juan Islands Conservation District. New and expanding agricultural activities must not result in additional adverse impacts to wetland functions and values. Agricultural structures are subject to the same provisions as other structures. (Note: See definition of "garden" in SJCC 18.20.070.)	YES	YES

Structures, Uses and Activities Allowed in Wetlands and Wetl	and Buffers	
Activity	Allowed Within Wetland	Allowed Within Wetland Buffers
g. Noncompensatory enhancement. Wetland restoration or enhancement activities	YES	YES
not required as project mitigation, provided the activity is approved by the U.S. Fish		
and Wildlife Service, the Washington State Department of Ecology, Washington		
Department of Fish and Wildlife, or other responsible local, state, federal, or tribal jurisdiction.		
h. Within the buffers of wetlands with Low or Medium Habitat Importance- Sensitivity, the establishment and expansion of orchards and gardens, cultivated and managed with appropriate BMPs and without the use of synthetic chemicals provided that:	NO	YES
 i. They will occupy no more than 4,000 square feet of the buffer; ii. They are installed within the outer 25% of the buffer; iii. Other than fences, no structures or impervious surfaces are constructed or created and fences will not impede the flow of water or prevent the movement of wetland animals; 		
iv. A buffer of at least 30 feet is retained; v. Mowing does not occur in the habitat portion of the buffer until after July 15; and vi. Trees within Tree Protection Zones are protected in accordance with this section.		
i. Construction of new ponds in or adjacent to wetlands with a Habitat Importance- Sensitivity Rating of Low, as part of a wetland mitigation or noncompensatory enhancement project approved by the County or other responsible state, federal, or tribal jurisdiction. (Note: Construction of new ponds is not allowed in or adjacent to wetlands with Medium or High Habitat Importance-Sensitivity.)	YES	YES
j. The construction of trails, stairs, or raised walkways provided that the improvement: i. Is designed to direct sheet flow runoff into adjacent vegetation; ii. Prevents adverse impacts to the wetland from runoff and eroding soil; iii. Does not exceed five feet in width; iv. Is constructed of non-toxic materials; v. Does not totally circumnavigate the wetland perimeter; vi. Does not include the placement of fill; and vii. Is consistent with the applicable requirements of subsection E.6 of this section.	YES	YES
k. Temporary wildlife watching blinds.	YES	YES
l. Drilling and digging of wells provided they are located within the outer 25% of the buffer, that there are no anticipated adverse impacts to adjoining wetlands, that measures are taken to avoid compaction of soils during drilling and development of the well, and that disturbed areas are immediately stabilized and replanted with the type of vegetation found in the buffer.	<u>NO</u>	YES
m. Outside of Tree Protection Zones, limited tree removal to allow for a filtered	<u>NO</u>	YES

Structures, Uses and Activities Allowed in Wetlands and Wetla	and Buffers	
Activity	Allowed Within Wetland	Allowed Within Wetland Buffers
 view from the primary structure, provided: Stumps are retained and disturbance of the soil and duff layer is minimized; The remaining forest consists of trees that are multi-aged and well distributed across the buffer and the canopy cover for the remaining forest is at least 65%, except directly between the primary structure and the wetland, where the canopy cover may be reduced to not less than 50%; and All vegetation overhanging streams, ponds, lakes, wetlands, and marine waters is retained; and Trees ≥ 12 inches dbh are retained. 		
n. Limited removal of other species of trees in order to prevent shading of aspens in and adjacent to an Aspen/cottonwood wetland, provided that at least 65% of the canopy cover is retained.	<u>NO</u>	YES
o. To allow for a view or for fire hazard reduction, minor trimming and pruning of the foliage of trees and shrubs, provided the health of the trees and shrubs is maintained, trees are not topped, and all vegetation overhanging streams, ponds, lakes, wetlands, and marine waters is retained. In no case shall more than 20% of the foliage of individual trees or shrubs be removed during a 12 month period.	<u>NO</u>	YES
p. If no practicable alternative exists, components of stormwater management facilities in conformance with local and State stormwater management requirements and any applicable Tree Protection Zone requirements.	<u>NO</u>	YES
q. Fences, provided they do not impede the flow of water or prevent the movement of wetland animals.	YES	YES
r. Road and trail crossings in conformance with subsection E.6 of this section.	YES	YES
s. Development allowed pursuant to an exemption, a reasonable use exception, a public agency/ utility exception, or provisions for non-conforming structures, uses and activities outlined in SJCC 18.30.110.	YES	YES
t. Maintenance to support or improve the functions and values of wetlands.	YES	YES
u. If no practicable alternative exists, components of on-site sewage disposal systems in conformance with local and State requirements, provided: i. Appropriate BMPs are used to minimize erosion, sedimentation and soil disturbance; ii. For new systems, trees within Tree Protection Zones are retained in conformance with subsection (E.1) of this section. iii. For replacement of existing, failing systems where there is no other alternative that will meet State requirements (including locating the new system in the same place as the old system), trees within Tree Protection Zones are retained to the greatest extent possible.	YES	YES
v. Other uses that will not adversely impact wetland functions and values,	<u>P/C</u> ¹	<u>P/C¹</u>

	Allowed	Allowed
<u>Activity</u>	Within Wetland	Within Wetland
considering the Best Available Science.		Buffers

¹ "P/C" means Provisional or Conditional Use Permit depending on the level of impacts (see SJCC 18.80.090).

- 4. Field Marking of Wetland, Wetland Buffer and Tree Protection Zone. Prior to building permit approval, the location of the outer extent of the wetland and any wetland buffer or Tree Protection Zone adjacent to the area that will be developed shall be marked in the field, and the Director may require field approval prior to the commencement of permitted activities. Markings for wetlands, buffers and Tree Protection Zones shall be maintained throughout the duration of construction activities.
- 5. For recorded plats, short plats and binding site plans the applicant shall show the boundary of required buffers and Tree Protection Zones on the face of the plat or plan.
 - 6. Road and Trail Crossings. The construction of new or expanded roads, driveways, trails, and associated culverts and bridges across wetlands and their buffers and Tree Protection Zones is allowed, provided they are in conformance with SJCC 18.60.080 100 and the following. Road and driveway crossings may also be approved through the reasonable use exception process outlined in SJCC 18.30.110.
 - a. New roads and driveways may only be constructed across wetlands, their buffers or their Tree Protection Zones if there is no practicable alternative.
 - b. When practicable, new roads, driveways, trails and walkways must be located on existing road grades, utility corridors, or previously disturbed areas.
 - c. When required, permits and approvals must be obtained from appropriate state and federal agencies, including but not limited to: Washington Department of Fish and Wildlife; Washington State Department of Ecology; Washington State Department of Natural Resources; U.S. Army Corps of Engineers; U.S. Coast Guard; NOAA Fisheries Service; and U.S. Fish and Wildlife Service.
 - d. Roads must cross wetlands, buffers and Tree Protection Zones at, or as close as possible to, a ninety degree angle.
 - e. Crossings must not interfere with the flow and circulation of water or other wetland processes. The location and design of the road or driveway crossing must be evaluated by a qualified wetland professional or other qualified professional, to ensure that wetland processes will not be adversely affected.
 - f. Construction must occur during any work windows and time limits established by the state or federal agencies with jurisdiction.
 - g. All crossings must be designed to accommodate 100-year flood flows.
 - h. Whenever practicable, crossings must serve multiple properties.

- i. When expanding existing crossings that do not meet these standards, the crossing must be upgraded as necessary to reduce wetland impacts and meet the requirements of this subsection (E.6). For purposes of this section, an expansion is an increase in the footprint of crossing structures and associated roads or trails.
- j. Roads and driveways must be crowned, insloped, or outsloped to sheet flow runoff from the road surface and into vegetated areas such as grass-lined ditches or drainageways.
- k. Where roads and trails cross wetlands, adverse impacts must be mitigated in accordance with SJCC 18.30.110.
- 7. Lighting. Exterior lighting fixtures must be shielded and the light must be directed downward and away from wetlands, their buffers, and the habitat of any species listed as endangered, threatened, sensitive, or a San Juan County species of special importance.
- 8. Final Inspections and Financial Guarantees. Unless exempt under SJCC 18.30.110, all development activities, vegetation removal and other site modifications requiring a project permit or a development permit, must have a final inspection to verify compliance with approved plans and the requirements of this section. The property owner shall notify the Department when the work is complete and ready for inspection. For permitted projects that are not complete at the time that any associated building construction is completed, or for those that do not occur in conjunction with a permitted structure, the Director may require a financial guarantee and associated agreement in conformance with SJCC chapter 18.80.
- 2. Buffer Width Averaging. Buffer averaging allows limited reductions of buffer width in specified locations on the property proposed for development while requiring increases in others so that the total area of the buffer is unchanged. Averaging of required buffer widths will be allowed only if the applicant demonstrates that all of the following criteria are met:
 - a. Averaging is necessary to accomplish the purposes of the proposal, and no reasonable alternative is available;
 - b. The wetland contains variations in sensitivity due to existing physical characteristics and the reduction from standard buffer widths will occur only contiguous to the area of the wetland determined to be least sensitive;
 - c. Averaging width will not adversely affect the wetland functional values;
 - d. The total area contained within the wetland buffer after averaging is no less than that contained within the standard buffer prior to averaging. In no instance shall the buffer width be reduced by more than 25 percent of the standard buffer width; and
 - e. If a portion of the buffer is to be reduced, the remaining buffer area will be enhanced, using native vegetation and fencing where appropriate to improve the functional attributes of the buffer, to provide additional protection for wetland functions and values. A proposal to enhance a buffer shall not be used as justification to reduce an otherwise functional standard buffer width, unless such buffer reduction complies with all other criteria for buffer width averaging.
- 3. Buffer Width Decreasing. Decreasing of required buffer widths will be allowed only if the applicant demonstrates that all of the following criteria are met:
 - a. Buffer width averaging pursuant to subsection (E)(2) of this section is not possible due to site characteristics;
 - b. A decrease is necessary to accomplish the purposes of the proposal and no reasonable alternative is available;
 - e. The wetland contains variations in sensitivity due to existing physical characteristics, and reduction from standard buffer widths will occur only adjacent to the area of the wetland determined to be the

least sensitive;

- d. Decreasing width will not adversely affect the wetland functional values;
- e. In no instance will the buffer width be reduced by more than 50 percent of the standard buffer width; and
- f. If a portion of a buffer is to be reduced, the remaining buffer area will be enhanced, using native vegetation and fencing where appropriate to improve the functional attributes of the buffer and to provide additional protection for wetland functions and values. A proposal to enhance a buffer shall not be used as justification to reduce an otherwise functional standard buffer width, unless such buffer reduction complies with all other criteria for reducing buffer widths.
- 4. Buffer Width Increasing. Standard buffers may be increased by the County only upon a determination that:
 - a. The increase is recommended by a County employed qualified wetland consultant who has inspected the site and demonstrated that a larger buffer is necessary to:
 - i. Maintain viable populations of existing species proposed or listed by the federal government or the state as rare, endangered, threatened, and sensitive, or species of local concern as defined in Chapter 18.20 SJCC;
 - ii. Protect critical or outstanding potential habitat for those species listed in subsection (E)(4)(a)(i) of this section is present; or
 - iii. Protect nesting sites such as heron rookeries or raptor nesting trees that are present in the wetland or its buffer.
 - b. If a Category I, II, or III wetland is located within 25 feet of the toe of slopes of 30 percent or more, buffers may be increased to include the tops of slopes determined to be "erosion hazard areas" as defined in Chapter 18.20 SJCC.
- 5. Establishment of Limits of Clearing. Prior to building permit approval, the location of the outer extent of the wetland buffer and the limits of the areas to be disturbed shall be marked in the field. in accordance with a clearing and grading plan approved as part of a development permit or approval or for a single-family residence in accordance with the provisions of subsection (G) of this section. Such field markings may be field approved by the County prior to the commencement of permitted activities. Markings shall be maintained throughout the duration of any construction activities.
- 6. Regulation of Ponds Smaller than 20 Acres in Size. (Note: lakes and ponds 20 acres or greater in size are regulated in SJCC 18.30.160 18.30.110(A) (5) and 18.30.160(A)(4), and by the Shoreline Master Program, Chapter 18.50 SJCC.)
 - a. Ponds created out of nonwetland areas are not subject to the provisions of this section.
 - b. Ponds previously excavated or created within wetlands, as indicated by a combination of topographic features, remaining vegetation, and mapped hydric soils, shall be subject to the provisions of this section.
 - e. A pond may only be constructed in a Category III or IV regulated wetland, and then only as part of an approved wetland mitigation or noncompensatory enhancement project. A wetland mitigation or enhancement plan shall be reviewed for consistency with the applicable sections of this code (e.g. Chapter 18.40 SJCC, Performance Standards, Chapter 18.50 SJCC, Shoreline Master Program, and Chapter 18.60 SJCC, Development Standards) and may only be approved by the decision maker if it has been found to meet the requirements set forth by this code. The enhancement or mitigation plan must be prepared pursuant to the requirements of subsections (F) and (H) of this section, and include the information required in Appendix B* (Mitigation/Enhancement Plan Contents) of this code.
- 7. Trails for Public Education. Trails that are specifically designed and built for public education purposes by a public agency or conservation organization may be located anywhere within a regulated wetland buffer. Such trails shall be reviewed for consistency with the applicable sections of this code (e.g.,

Chapter 18.40 SJCC, Performance Standards, Chapter 18.50 SJCC, Shoreline Master Program, and Chapter 18.60 SJCC, Development Standards) and may only be approved by the decision maker if it has been found to meet the requirements set forth by this code. Application for such trails must include a special report prepared in accordance with subsection (G)(2) of this section.

- F. Noncompensatory Enhancement. Noncompensatory enhancements are those enhancement projects which are conducted solely to increase the functions and values of an existing wetland and which are not required to be conducted pursuant to the mitigation requirements of subsection (H) of this section There are two types of noncompensatory enhancement:
 - 1. Type 1 Noncompensatory Enhancement. Type 1 noncompensatory enhancement projects involve the filling, draining, or excavating of a regulated wetland. All applications for Type 1 noncompensatory enhancement projects shall be accompanied by an enhancement plan prepared in accordance with subsections (F)(1)(a) through (c) of this section, which demonstrates that the proposed activities will result in an increase in wetland functions and values.
 - 2. Type 2 Noncompensatory Enhancement. Type 2 noncompensatory enhancement projects involve wetland alterations that do not include the filling, draining, or excavating of a regulated wetland. Such projects might involve the removal of non native plant species or the planting of native plant species. All applications for Type 2 noncompensatory enhancement projects shall be accompanied by an enhancement plan prepared in accordance with subsections (F)(2)(a) through (c) of this section, which demonstrates that the proposed activities will result in an increase in wetland functions and values.
 - a. The enhancement plan shall be submitted for administrative consistency review, pursuant to SJCC 18.80.070(E)(1), reviewed for consistency with the applicable sections of this code (e.g., Chapter 18.40 SJCC, Performance Standards, Chapter 18.50 SJCC, Shoreline Master Program, and Chapter 18.60 SJCC, Development Standards) and may only be approved by the decision maker if it has been found to meet the requirements set forth by this code.;
 - b. The enhancement plan must include a detailed description of the activity including the following information:
 - i. The goal of the enhancement project;
 - ii. What plants, if any, will be removed or planted;
 - iii. How the activity will be conducted, including the type(s) of tools or machinery to be used; and
 - iv. The qualifications of the individual who will be conducting the enhancement activity.
 - e. The enhancement plan must either be prepared by a qualified wetlands consultant as defined in Chapter 18.20 SJCC or accepted in writing by the U.S. Fish and Wildlife Service, the Washington Department of Fish and Wildlife, or the Washington Department of Ecology.

GF. Determination of Regulatory-Wetland Boundary and Requirements for Special Wetland Reports.

- 1. Determination of Regulatory Boundary. The location of the wetland boundary shall be determined through a field investigation by a qualified wetlands consultant utilizing the currently accepted federal and state delineation procedures and manuals, as a part of a special report prepared in accordance with subsection (G)(2) of this section. This requirement may be waived under the following circumstances:
 - a. Single-Family Residences. The requirement for a wetland delineation and special report will be waived for construction of a single-family residence on an existing lot of record if field investigation by County staff indicates the following:
 - i. Sufficient information exists for staff to estimate the boundaries of a wetland without a delineation; and
 - ii. The single family residence and all accessory structures and uses are not proposed to be located within the distances identified in Table 3.5, below, from the estimated wetland boundary.

- b. Simple Land Divisions. The requirement for a wetland delineation and special report will be waived for a simple land division submitted in accordance with SJCC <u>18.70.040</u> if field investigation by County staff indicates the following:
 - i. Sufficient information exists for staff to estimate the boundaries of a wetland without delineation;
 - ii. Both parcels resulting will have buildable area outside the wetland and the wetland buffer identified in Table 3.5, below; and
 - iii. The simple land division approval will be recorded in the County auditor's file together with a statement that development on both described parcels is subject to the provisions of SJCC 18.30.110.
- c. Subdivisions, Short Subdivisions and Binding Site Plans. The requirement for a wetland delineation and special report will be waived for subdivisions, short subdivisions, and binding site plans of an existing lot of record if field investigation by County staff indicates the following:
 - i. Sufficient information exists for staff to estimate the boundaries of a wetland without a delineation; and
 - ii. Building envelopes or building setback lines are not proposed to be located within the distances identified in Table 3.5, below, from the estimated wetland boundary.
- 2. Special Report Contents. When a special wetland report is required, it must be completed by a qualified wetlands consultant as defined in Chapter 18.20 SJCC and must contain the following:

a. A map, at a scale no smaller than one inch equals 200 feet, of the delineated regulated wetland boundary as determined by the criteria in this subsection. In addition, the map shall show the general location of the wetland boundary for all other wetlands located on the property proposed for the use or development activity. When regulated wetlands do not occur on the subject property, but wetland buffers from offsite wetlands do occur, those wetland buffers must be indicated on the submitted maps.

Table 3.5. Minimum wetland buffers necessary as part of qualifying for a waiver from delineation and special report requirements. (1, 2,3)

Wetland Category	Required Distance from Estimated Wetland Boundary (feet) ⁽⁴⁾
Ŧ	200
Ŧ	125
₩	75
IV	60

Notes:

- 1. These buffers are one part of the complete requirements necessary to qualify for a waiver—see SJCC 18.30.150(G)(1).
- 2. These are not standard wetland buffers: they are optional buffers for cases when a delineation is not made. If a single family residence, building envelope, or setback line in a subdivision is proposed to be closer to the wetland than the distance identified in the table, a wetland delineation must be performed.
- 3. The same opportunities for exemption from delineation shall apply to uncategorized wetlands. Permit center staff shall either determine the wetland category or hire a qualified wetland consultant at the expense of the County.
- 4. The following shall not be located within the distances identified in the table: (a) single-family residences and all accessory structures and uses; (b) subdivision building envelopes and setback lines. For simple land divisions, both resulting parcels must have buildable area outside the wetland and the buffer distance in the table. See SJCC 18.50.130(G)(1).

b. The site plan for the proposed use or development at the same scale as the wetland map, showing the extent of the proposed activity in relationship to the delineated, regulated wetland edges and their buffers. Site plans must include the location of all roads, structures, and utilities including

- stormwater systems, sewage (sanitary or septic) systems, power, or any proposed installations within the regulated wetland or its buffer.
- e. Project cross sections, both before and after completion, in relation to the surface elevation of the wetland must be indicated for proposed activities which involve cutting or filling operations within the wetland or its proposed buffer.
- d. Classification of the wetland in accordance with Appendix A* and a detailed written analysis of the existing regulated wetland including: vegetation communities classified per the U.S. Fish and Wildlife Service Classification of Deepwater Habitats (1979); species composition of vegetation communities, including presence and percent cover; existing soils; and existing hydrologic conditions including inflow/outflow, source of water within the system, relative water quality, and seasonal changes in hydrology, if applicable.
- e. A detailed analysis of wildlife species use of the wetland and its buffer.
- f. A detailed analysis of the existing wetland buffer including species composition and percent coverage, whether the buffer is disturbed or not, and the functional value of the buffer in relation to the regulated wetland.
- g. If the development activity would eliminate all or part of a regulated wetland then a detailed compensatory mitigation plan as outlined in subsection (G)(3) of this section must be provided.
- 3. Mitigation Plan Contents. All wetland restoration, creation, and enhancement projects required by this code, either as a condition of project approval or as the result of an enforcement action, shall follow a mitigation plan prepared by a qualified wetland specialist as defined herein and conducted in accordance with the requirements described in Appendix B*. The applicant or violator must receive written approval of the mitigation plan by the administrator prior to commencement of any wetland restoration, creation, or enhancement activity.
- 1. The purpose of wetland boundary delineations and wetland reports is to provide the information necessary to determine compliance with the wetland protection requirements of the County Code, and to help maintain protected areas over time.
- 2. The delineation of wetland boundaries, and except as noted, the preparation of wetland reports, must be performed by a qualified wetlands professional.
- 3. If a wetland is under different ownership and is not accessible by the applicant, the wetland boundaries and information for the report will be obtained from available maps and information, including a visual assessment if possible.
- 4. The necessary scope of wetland delineations and reports ranges from a wetland reconnaissance that simply confirms the presence or absence of a wetland, determines the wetland type, rating, and approximate size, and identifies the edge of the wetland in a limited area, to a delineation of the entire wetland with a detailed report describing its functions and values.
- 5. A wetland report and boundary delineation, with an appropriate scope and scale to determine compliance with the County Code, must be provided with applications for project and development permits located within 205 feet of wetlands.
- 6. Identification of wetland boundaries. Wetland boundaries shall be determined through a field investigation by a qualified wetlands professional using the definitions and methods prescribed in the 1987 U.S. Army Corps of Engineers "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, including any applicable regional supplements.
- 7. If the applicant wishes to have a delineation entered into the County's Geographic Information System (GIS) for future wetland mapping, a copy of the delineation must be submitted to the County in a compatible electronic format.

- 8. Wetland reports minimum requirements. Following are required components of wetland reports that are necessary to determine compliance with the wetland protection requirements of the County Code. Requirement 8.a.i., 8.b. and 8.e. must be provided by a qualified wetlands professional. Other materials may be added by the property owner, contractor or other professional.
 - a. Map. A map at a scale and level of accuracy that is appropriate for the site and the project, showing:

 i. Location of the wetland. If a full delineation is not completed, the map must indicate where the
 - wetland boundaries were delineated, and where they were estimated.
 - ii. Location of the required habitat buffer including any Tree Protection Zones.
 - iii. Location of the water quality buffer if known.
 - iv. Existing and proposed development features including structures, roads, utilities, stormwater and sewage systems, areas to be graded, and areas to be converted to lawns and gardens.
 - b. A narrative describing the vegetation communities on site, classified in accordance with the U.S. Fish and Wildlife Service Classification of Wetland and Deepwater Habitats of the United States (1979).
 - c. Wetland type based on the descriptions in subsection (B) of this section, and a narrative explaining the basis for the determination of wetland type (may be added by property owner, contractor or other professional if they are able to determine wetland type, otherwise this must be provided by the qualified wetlands professional).
 - d, Wetland Habitat Importance-Sensitivity Rating and if applicable, Water Quality-Sensitivity Rating from subsection (C) of this section, along with a narrative explaining the basis for the determinations. If the wetland contains particular plants or animals protected as Fish and Wildlife Habitat Conservation Areas, a higher rating may apply. See SJCC 18.30.160 B and F.
 - e. Expiration date of wetland report. Wetland reports are valid for a period of five (5) years.
- 9. Wetland reports other elements that may be necessary to determine compliance with the wetland protection requirements of the County Code. These items must be provided by a qualified wetlands professional.
 - a. Hydrologic conditions including inflow/outflow, sources of water within the system, and seasonal changes in hydrology.
 - b. Detailed description of wetland functions and values.
 - c. Mitigation plan meeting the requirements of SJCC 18.30.110.
 - d. Other.
- H. Mitigation. The overall goal of mitigation shall be no net loss of wetland function, value, and acreage.
 - 1. Mitigation Sequence. Mitigation includes avoiding, minimizing, or compensating for adverse impacts to regulated wetlands or their buffers. When a proposed use or development activity poses potentially significant adverse impacts to a regulated wetland or its buffer, the preferred sequence of mitigation as defined below shall be followed unless the applicant demonstrates that an overriding public benefit would warrant an exception to this preferred sequence.
 - a. Avoiding the impact altogether by not taking a certain action or parts of actions on that portion of the site which contains the regulated wetland or its buffer;
 - b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation;

- c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
- e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.
- 2. Compensatory Mitigation General Requirements. As a condition of any permit or other approval allowing alteration which results in the loss or degradation of the functions and values of regulated wetlands, or as an enforcement action pursuant to Chapter 18.100 SJCC, compensatory mitigation shall be required to offset impacts resulting from the actions of the applicant or any code violator.
 - a. Except persons exempt under SJCC 18.30.110(E), any person who alters or proposes to alter regulated wetlands shall restore or create areas of wetland equivalent to or larger than those altered in order to compensate for wetland losses. The following Table 3.6 specifies the ratios that apply to creation or restoration which is in-kind, on-site, and is accomplished prior to or concurrently with alteration:

Table 3.6. Required replacement ratios for compensatory wetland mitigation.

Wetland Category	Replacement Ratio 1
Ŧ	6:1
II or III	
Forested	3:1
 Scrub-Shrub 	2:1
 Emergent 	1.5:1
IV.	1.25:1

Note:

- 1. The first number in the ratio specifies the acreage of wetlands to be created, and the second number specifies the acreage of wetlands proposed to be altered or lost.
 - b. Enhancement of existing wetlands, other than Category I and Category II wetlands, may be considered as compensation; but above ratios must then be doubled.
 - c. Compensation must be completed prior to wetland destruction, where possible.
 - d. Compensatory mitigation must follow an approved compensatory mitigation plan pursuant to subsection (G)(3) of this section, with the replacement ratios as specified above.
 - e. Compensatory mitigation must be conducted on property which will be protected and managed to avoid further development or degradation. The applicant or code violator must provide for long-term preservation of the compensation area.
 - f. The applicant shall demonstrate sufficient scientific expertise, supervisory capability, and financial resources, including bonding in accordance with Appendix C* (Performance and Maintenance Bonding for Wetlands), to carry out the project. The applicant must demonstrate the capability for monitoring the site and making corrections if the project fails to meet projected goals.

3. Compensatory Mitigation - Type, Location, and Timing.

- a. Priority will be given to in kind, on site compensation if feasible and if the wetland to be lost has a moderate to high functional value.
- b. When the wetland to be impacted is of a limited functional value and is degraded, compensation may be of the wetland community type most likely to succeed with the highest functional value possible.
- c. Out of kind compensation may be allowed when out of kind replacement will best meet identified goals (for example, replacement of historically diminished wetland types). Where out of kind replacement is accepted, greater acreage replacement ratios may be required to compensate for lost functional values.
- d. Off-site compensation can be allowed only if:
 - i. On site compensation is not feasible due to hydrology, soils, waves, or other factors;

- ii. On site compensation is not practical due to probable adverse impacts from surrounding land uses;
- iii. Potential functional values at the site of the proposed restoration are significantly greater than the lost wetland functional values; or
- iv. Off site compensation will be conducted in accordance with subsection (H)(4) of this section, ecoperative compensation projects.
- e. Except in the case of cooperative compensation projects, off-site compensation must occur within the same watershed where the wetland loss occurs; provided, that Category IV wetlands may be replaced outside of the watershed if there is no reasonable technical alternative. The stormwater storage function provided by Category IV wetlands must be provided for within the design of the development project.
- f. Except in the case of cooperative compensation projects, in selecting compensation sites applicants must pursue locations in the following order of preference:
- i. Filled, drained, or cleared sites which were formerly wetlands and where appropriate hydrology exists; and
 - ii. Upland sites, adjacent to wetlands, if the upland is significantly disturbed and does not contain a mature forested or shrub community of native species, and where the appropriate natural hydrology exists.
- g. Construction of compensation projects must be timed to reduce impacts to existing wildlife and flora. Construction must be timed to assure that grading and soil movement occurs during the dry season. Planting of vegetation must be specifically timed to the needs of the target species.
- 4. Cooperative Compensation Projects. The County may encourage, facilitate, and approve cooperative projects where one or more applicants, or an organization with demonstrated capability, may undertake a compensation project if it is demonstrated that:
 - a. Creation of one or several larger wetlands may be preferable to many small wetlands:
 - b. The group demonstrates the organizational and fiscal capability to act cooperatively;
 - c. The group demonstrates that long term management of the compensation area can and will be provided; and
 - d. There is a clear potential for success of the proposed compensation at the identified compensation site. Conducting compensation as part of a cooperative process does not reduce or eliminate the required replacement ratios outlined in subsection (H)(2) of this section. (Ord. 7 2005, § 6, 7 and 8; Ord. 14 2000 § 7 (CCC); Ord. 11 2000 § 4; Ord. 2 1998 Exh. B § 3.6.8)
- * Appendices referenced in this section are attached to Ord. 2-1998 and are on file in the office of the elerk of the board.

SECTION 2. SJCC Section 18.60.170 and Ord. 2-1998, Exh. B § 6.15 are each amended to read as follows:

18.60.170 Lighting.

A. Exterior Lighting. Exterior lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel. Exterior lighting shall be directed downward and away from adjoining properties and public rights-of way. No lighting shall blink, flash, or be of unusually high intensity or brightness. Exterior lighting fixtures must be shielded and the light must be directed downward and away from wetlands and wetland buffers, as well as lakes, ponds, the marine shoreline, and habitat of specific animals protected as fish and wildlife habitat conservation areas. All lighting fixtures shall be appropriate in scale, intensity, and height to the use they are serving. Any lighting installed in parking areas shall be of direct cutoff design so that the source is not visible from adjacent property. Decorative lighting shall be limited to incandescent lamps with a maximum of 25 watts per bulb and 500 watts overall.

B. Street Lighting. Street lighting shall not be provided by the County except, at its option, in activity centers.

SECTION 3. Repealer.

Appendices A, B and C of SJCC 18.30.150; and Appendices A, B and C of Ord. 2–1998 § 5 are each repealed.

SECTION 4. Savings Clause.

This ordinance shall not affect any pending suit or proceeding; or any rights acquired; or liability or obligation incurred under the sections amended or repealed; nor shall it affect any proceeding instituted under those sections. All rights and obligations existing prior to adoption of this ordinance shall continue in full force and effect.

SECTION 5. Severability.

If any provision of this ordinance or its application to any person is held invalid, the remainder of this ordinance and the application to other persons or circumstances shall not be affected. Remaining sections of the ordinance shall be interpreted to give effect to the spirit of the ordinance prior to removal of the portions declared invalid.

SECTION 6. Effective Date.

This ordinance is effective March 1, 2013.

SECTION 7. Codification.

Sections 1 and 2 will be codified.

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ADOPTED DECEMBER 3, 2012.

COUNTY COUNCIL SAN JUAN COUNTY, WASHINGTON

Patty Miller, Chair District 5, Orcas East

Jamie Stephens, Vice Chair District 6, Lopez/Shaw

Lovel Pratt, Member District 1, San Juan South

OPPOSED

Richard Peterson, Member District 2, San Juan North

Høward Rosenfeld, Member District 3, Friday Harbor

Richard Fralick, Member

District 4, Orcas West/Waldron

ATTEST: Clerk of the Council

REVIEWED BY

INTERIM COUNTY MANAGER

Robert W

RANDALL K. GAYLORD APPROVED AS TO FORM ONLY