

# REGIONAL FLOOD CONTROL DISTRICT



## *UNIFORM REGULATIONS FOR THE CONTROL OF DRAINAGE*

*CLARK COUNTY  
CITY OF BOULDER CITY  
CITY OF HENDERSON  
CITY OF LAS VEGAS  
CITY OF MESQUITE  
CITY OF NORTH LAS VEGAS  
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT*

**REVISED** September 8, 2022

**EFFECTIVE** September 30, 2022

**CLARK COUNTY  
REGIONAL FLOOD CONTROL DISTRICT**

**UNIFORM REGULATIONS  
FOR  
THE CONTROL OF DRAINAGE**

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**EFFECTIVE SEPTEMBER 30, 2022**

*The Uniform Regulations for the Control of Drainage has been updated in accordance with the Regional Flood Control District Board Action of September 8, 2022. Amendments to Section 8, Section 10.020, Section 10.040, Section 10.100, Section 13.010, and Section 20.*

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# **PART I: DRAINAGE**

## **Sub-Part A**

The purpose of Sub-Part A is to define the Title and Authority, Legislative Findings of Fact, Statement of Purpose, General Methods of Reducing Flood Losses, Short Title, General Rules for Interpretation and Application of these Regulations, and Guidelines for Interpretation.

The provisions of Sub-Parts B and C also apply to this Sub-Part.

### **SECTION 1: TITLE AND AUTHORITY**

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#### **1.010 Uniform Regulations for the Control of Drainage**

- A. The Board of Directors (Board) for the Clark County Regional Flood Control District (District) [NRS 543.320], has adopted the following set of Uniform Regulations for the control of drainage as mandated by the Nevada State Legislature [NRS 543.595.(1)]. The Board finds and declares that these Regulations, to be known as the Uniform Regulations for the Control of Drainage, (Regulations) have been developed in accordance with District's Master Plan and will further the objectives set for the Clark County Regional Flood Control District as stated in NRS 543.170.
- B. The Board's adoption of these Regulations will not preclude it from consideration and subsequent adoption of further drainage and flood control regulations should it deem them appropriate after review and comment by the public and the District's Citizens and Technical Advisory Committees. The Board also finds that its Regulations shall comprise the minimum level of regulatory control within the District and that the Entities within the District may adopt regulations which exercise a greater level of control consistent with the flood management goals of the District.
- C. These District Regulations comprise the Regulations required in NRS 543.595. Each Entity must incorporate these Regulations into their ordinance governing the subdivision of land, parcel maps, division of land and any new development and/or substantial improvement of land in order to be eligible for money from the regional fund for the control of floods.



## **SECTION 2: LEGISLATIVE FINDINGS OF FACT**

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### **2.010 Findings of Fact**

- A. The District was formed, in part, to fund and coordinate the construction and maintenance of facilities to alleviate flooding and protect the life and property of citizens within the boundaries of the District.
- B. The existing stormwater runoff control facilities within the District area cannot collect and convey effectively the increasing level of stormwater runoff caused by present and future development within the District's jurisdiction.
- C. It is the intention of the District to manage the "regional fund" in a manner consistent with NRS 543 and require the Entities to adopt and incorporate the Board's Regulations into their ordinances for the subdivision of land, parcel maps, division of land into large parcels, and any new development and/or substantial improvement of land.
- D. By adopting the District's Regulations, the Entities will retain direct enforcement responsibilities and will exercise all lawful powers necessary for design, construction, maintenance and operation of facilities for the control of floods.
- E. The Board finds that much of the District is either within or affected by alluvial fans and these land features present unique flood control problems to the District and Entities.
- F. The District has prepared a conceptual-level Master Plan which identifies the structural and non-structural means necessary to effectively provide the level of protection identified in the Master Plan.
- G. The District, through its regulatory framework, is prepared to manage regional fund monies for the design, construction, and maintenance of those capital improvement priorities established by the Board.
- H. These Regulations for development are necessary in order to protect the public health, safety, property, and commerce, and comprise the minimum level of regulatory control within the District.

### **SECTION 3: STATEMENT OF PURPOSE**

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The Regulations are intended for the purpose of protecting the general health, safety, and welfare of the residents of the District from the hazards and dangers of flooding and inadequate or improper runoff management and are designed to promote sound development policies and construction procedures which respect and preserve the natural and man-made watercourses within the District; to encourage the incorporation of multiple use recreation facilities in floodplains where feasible; to protect property owners adjacent to developing or developed land from increased runoff which could cause property damage; to ensure the safety and utility of public roadways; and to decrease stormwater runoff damage to public and private property.

### **SECTION 4: METHODS OF REDUCING FLOOD LOSSES**

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#### **4.010 Methods of Reducing Flood Losses Will Include the Following:**

- A. Securing review and approval of the method for handling and disposing of stormwater runoff in the basins of the District and its Entities; and securing review, analysis and approval of the design, construction, and maintenance of drainage facilities.
- B. Regulating the development, excavation, grading, regrading, filling, berming, and diking of land within the floodplains of the District in order to:
  - 1. prohibit developments which are dangerous to health, safety and/or property in times of flood;
  - 2. assure that developments vulnerable to flooding shall be constructed in a manner which protects against damage;
  - 3. comply with the regulations of the National Flood Insurance Program.
- C. Implement and update a Master Plan and through this Plan identify a list of priority capital improvement projects consistent with the goals of the Master Plan and the evaluation criteria established by the Board.

### **SECTION 5: SHORT TITLE**

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The Regulations shall be known and may be cited as the Uniform Regulations for the Control of Drainage, herein referred to as the “Regulations”.

## **SECTION 6: GENERAL RULES**

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### **6.010 The Following Rules are Established for Uniform Interpretation and Application of the Regulations**

- A. The word shall is mandatory and the term may is permissive.
- B. Words indicating the singular number may also be applied to the plural of persons and things; words indicating the plural may be applied to the singular; words indicating the masculine gender may be extended to females also.
- C. When not consistent with the context of the Regulations, words used in the present tense will include the future tense.
- D. Unless otherwise specified, the time within which a referenced act is to be completed shall be computed by excluding the first day of the time period identified and including the last, unless the last day is a holiday, Saturday, or Sunday in which case the next business day applies.
- E. Words or phrases used in the Regulations shall be interpreted in the context of common usage in order to give the Regulations the most reasonable application.
- F. If during the adoption of the Regulations, the application of a regulatory provision conflicts with a more stringent provision of the Entity's ordinances; the more stringent provision shall prevail.
- G. The Regulations shall apply to only that land which is to be developed and/or substantially improved or divided into lots or parcels after the Board adopts the Regulations.

## **SECTION 7: INTERPRETATIONS**

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### **7.010 In the Interpretation and Application of the Regulations, all Provisions Shall Be:**

- A. considered as a minimum;
- B. liberally construed in favor of the purposes of the Regulations;
- C. deemed neither to limit nor repeal any other powers granted under the Regulations or the Nevada Revised Statutes.

## **Sub-Part B**

The purpose of Sub-Part B is to provide definitions for use in floodplain management and flood control, procedures for amendment of floodplain boundaries, regulations for flood hazard reduction, Master Basin Planning, and Design/Improvement Standards.

The provisions of Sub-Parts A and C also apply to this Sub-Part.

### **SECTION 8: DEFINITIONS**

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**Alluvial Fan**: “Alluvial Fan” means a geomorphologic feature characterized by a cone or fan-shaped deposit of boulders, gravel, and fine sediments that have been eroded from mountain slopes, transported by flood flows, and then deposited on the valley floors, and which is subject to flash flooding, high velocity flows, erosion, sediment movement and deposition, and channel migration.

**Alluvial Fan Flooding**: “Alluvial Fan Flooding” means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

**Apex**: “Apex” means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

**Appeal**: “Appeal” means a request for review by the District of the interpretation and/or proposed application of the Regulations by an Entity.

**Applicant**: “Applicant” means the person or corporation applying for permits for development or approval from the Entities.

**Area of Shallow Flooding**: “Area of Shallow Flooding” means a designated AO or AH zone on a community’s Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

**Bank**: “Bank” means the side of a watercourse situated between the bed of the watercourse and the break in grade which distinguishes the channel from the adjacent lands.

**Base Flood**: “Base Flood” means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the “100-Year flood”. The zone designation on the FIRM maps always includes the letter A.

**Base Flood Elevation:** “Base Flood Elevation” means the water surface elevation resulting from the base flood plus an allowance for sediment. Within a flood hazard zone shown on the flood insurance rate map, the Base Flood Elevation is the elevation that is the basis for that flood hazard zone.

**Basement:** “Basement” means any area of the building having its floor below ground level on all sides.

**Board:** “Board” means the Clark County Regional Flood Control District Board of Directors.

**Calculations:** “Calculations” means those computations, including coefficients and other pertinent data, used in the development of a drainage plan.

**Certification:** “Certification” means the documentation which evidences that a required action by professional civil engineer, registered land surveyor, or Entity has been completed in accordance with established standards.

**Chief Engineer:** “Chief Engineer” means the Chief Engineer and General Manager of the District as delineated in NRS 543.510.

**Design Criteria:** “Design Criteria” are those criteria, standards, and specifications adopted by the Board pertaining to calculations for design and construction of flood control facilities. These criteria include but are not limited to the most recent edition of the “Hydrologic Criteria and Drainage Design Manual.”

**Detention Facility:** “Detention Facility” means facilities designed to hold runoff and release the flows at a predetermined rate.

**Development:** “Development” means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials (excluding soils testing).

**District:** “District” means the Clark County Regional Flood Control District.

**Drainage Plan:** “Drainage Plan” means a plan for collection, transport, treatment, and discharge of storm and nuisance water onto, within and from the subject property.

**Drainage Study:** “Drainage Study” means a study prepared in accordance with the most recent edition of the “Hydrologic Criteria and Drainage Design Manual”.

**Dwelling:** “Dwelling” means a building designed for use as a residence for no more than four (4) families.

**Encroachment:** “Encroachment” means the advance or infringement of uses, growth, fill, or structures into the floodplain.

**Entities:** “Entities” means the collective reference to the county and incorporated cities within the District.

**Entity:** “Entity” means the singular reference to either the county or one of the incorporated cities within the District.

**Erosion:** “Erosion” means the process of the wearing away of landmasses by the action of water and/or wind.

**Existing Construction:** “Existing Construction” means for the purposes of floodplain management, structures for which the “start of construction” commenced before July 1, 1987. “Existing Construction” may also be referred to as “existing structures”.

**Existing Manufactured Home Park or Subdivision:** “Existing Manufactured Home Park or Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed prior to July 1, 1987.

**Expansion to an Existing Manufactured Home Park or Subdivision:** “Expansion to an Existing Manufactured Home Park or Subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

**Federal Emergency Management Agency (FEMA):** “Federal Emergency Management Agency” means the agency created in 1978 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness and response.

**Federal Insurance and Mitigation Administration (FIMA):** “Federal Insurance and Mitigation Administration” means the governmental unit, a part of the Federal Emergency Management Agency, that administers the National Flood Insurance Program.

**Fill:** “Fill” means any deposit of soil, rock, or other material placed by other than natural processes.

**Flood or Flooding:** “Flood” or “Flooding” means:

- A. A general and temporary condition of partial or complete inundation of normally dry land areas from:
  - 1. The overflow of inland or tidal waters.
  - 2. The unusual and rapid accumulation or runoff of surface waters from any source.
  - 3. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph A.2 of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- B. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph A.1 of this definition.

**Flood Hazard Boundary Map:** “Flood Hazard Boundary Map” means the currently effective official map on which the Federal Insurance Administration has delineated areas of flood hazard.

**Flood Hazard Elevation:** “Flood Hazard Elevation” means the elevation of the base flood which determines the boundary of the flood hazard zone.

**Flood Hazard Zone:** “Flood Hazard Zone” means that portion of the natural floodplain that would be inundated by the 100-year flood. The Flood Hazard Zone includes the floodway and the floodway fringe and is designated as follows:

#### **ZONE EXPLANATION**

- A Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
- AO Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.

**AH** Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.

**A1-A30, AE** Areas of 100-year flood; base flood elevations and flood hazard factors are determined.

**A99** Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.

**Flood Insurance Rate Map (FIRM):** “Flood Insurance Rate Map” means the Flood Insurance Administration's adopted document which specifies areas of special flood hazards and the risk premium zones applicable to the Entities within the District.

**Flood Insurance Study (FIS):** “Flood Insurance Study” means an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation, and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

**Floodplain:** “Floodplain” means any land area susceptible to being inundated by water from any source (see definition of “Flood” as delineated on the FIRM, the Flood Hazard Boundary Map, or as designated by the Chief Engineer or Local Administrator).

**Floodproofing:** “Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures, including utility and sanitary facilities, including earthwork improvements, which would preclude the entry of water, and which reduce or eliminate flood damage to real estate or improved real property, utility or sanitary facilities, structures and their contents. Structural components shall have the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

**Floodway:** “Floodway” means the channel of a river or other watercourse and the adjacent lands that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

**Floodway Fringe:** “Floodway Fringe” means that portion of the floodplain subject to inundation but lying beyond the floodway. The floodway fringe serves as a storage area for the backwaters of the 100-year flood.

**Highest Adjacent Grade:** “Highest Adjacent Grade” means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.



**Historic Structure:** “Historic Structure” means any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior (Secretary) as meeting the requirements for individual listing on the National Register of Historic Places;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on a state or local inventory of historic places where the state or community has historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior;
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - 1. By an approved state program as determined by the Secretary of the Interior; or
  - 2. Directly by the Secretary of the Interior in states without approved programs.

**Hydrologic Criteria and Drainage Design Manual:** “Hydrologic Criteria and Drainage Design Manual” means the most recent edition of the manual adopted by the Board which defines hydrologic and drainage criteria for use within the jurisdictions of the District and the Entities.

**Interim Delineation:** “Interim Delineation” means a delineation of the Flood Hazard Zone made from the most reliable data and source for an area not having a floodway or special flood hazard area designation available.

**Land Disturbance:** “Land Disturbance” means any activity involving construction, grading, filling, excavation, or stripping of vegetation.

**Local Administrator:** “Local Administrator” means the public official or his designee, who will be charged with lead responsibility for administering and implementing these Regulations within his Entity.

**Lowest Floor:** “Lowest Floor” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of Section 10 of these Regulations.

**Manufactured Home:** “Manufactured Home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for long term use with or without a permanent foundation when attached to the required utilities. For flood plain management purposes, the term “manufactured home” also includes park trailers, travel trailers, and other similar vehicles when intended for long term use (i.e.: placed on a site for greater than one hundred and eighty (180) consecutive days) and in such cases will require compliance with requirements for manufactured homes included in these regulations. For insurance purposes the term “manufactured home” does not include park trailers, travel trailers, and other similar vehicles. See definition for “Recreational Vehicle” below.

**Manufactured Home Park or Subdivision:** “Manufactured Home Park or Subdivision” means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for sale, rent, or lease.

**Master Plan:** “Master Plan” means the most recent edition of the Flood Control Master Plan, including amendments, adopted by the Board and Entities.

**Mean Sea Level:** “Mean Sea Level” (M.S.L.) means for purposes of the National Flood Insurance Program, the North American Vertical Datum NAVD 88, or other datum to which base flood elevations shown on the FIRMs are referenced.

**National Flood Insurance Program (NFIP):** “National Flood Insurance Program” means the federal program, created by an act of Congress in 1968, that makes flood insurance available in communities that enact satisfactory floodplain management regulations.

**New Construction:** “New Construction” means, for floodplain management purposes, structures for which the “start of construction” commenced on or after July 1, 1987, and includes any subsequent improvements to such structures.

**New Manufactured Home Park or Subdivision:** “New Manufactured Home Park or Subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after July 1, 1987.

**Nonresidential:** “Nonresidential” means a category of structure as used to underwrite flood insurance coverage under the National Flood Insurance Program and includes, but is not limited to, small business concerns, churches, schools, nursing homes, farm buildings (including grain bins and silos), government buildings, mercantile structures, industrial plants, warehouses, and hotels or motels with normal room rentals for less than six (6) months duration.

**Obstruction:** “Obstruction” means any structure or assembly of materials including fill which may impede, retard, or change flood flows either of itself or by catching or collecting debris carried by such water.

**Operation and Maintenance Manual:** “Operation and Maintenance Manual” means the most recent edition of guidelines adopted by the District’s Board for operation and maintenance of Master Plan facilities.

**Outfall:** “Outfall” means that point or area at which runoff leaves a site and may include streams, washes, closed systems, or other well defined natural or artificial drainage features as well as areas of dispersed overland flows.

**Outfall Structure:** “Outfall Structure” means a structure designed to control the volume and velocity of runoff discharged from the facility over a specific length of time.

**Overlay District:** “Overlay District” means a special district established in order to recognize and map public safety and environmental constraints or amenities which should be taken into account for the purposes of delineating where additional development standards are required. The standards which are more restrictive shall prevail.

**Parcel Map:** “Parcel Map” means a division of any land for transfer or development into four (4) or fewer lots, for which a Parcel Map is required under NRS 278.461, and for which any improvements are required by the Entity per NRS 278.462.

**Policies and Procedures Manual:** “Policies and Procedures Manual” means the most recent edition of the manual adopted by the Board which states the Policies and Procedures of the District.

**Predevelopment Condition:** “Predevelopment Condition” means an area in its natural state prior to development.

**Principally Above Ground:** “Principally Above Ground” means that at least fifty-one (51) percent of the actual cash value of the structure, less land value, is above ground.

**Priority Projects:** “Priority Projects” means those projects deemed a priority by the Board.

**Professional Civil Engineer:** “Professional Civil Engineer” means any person licensed to practice civil engineering in the State of Nevada pursuant to NRS 625. Certification by a professional civil engineer shall consist of letters or studies stating or documenting the information required and bearing the seal of a registered professional civil engineer in accordance with NRS 625.

**Professional Land Surveyor:** “Professional Land Surveyor” means any person registered to practice land surveying in the State of Nevada pursuant to NRS 625. Certification by a professional land surveyor shall consist of a map or letter bearing the seal of a professional land surveyor specifying the relationship of elevations of a particular parcel to M.S.L., in accordance with NRS 625.

**Recreational Vehicle:** “Recreational Vehicle” means a vehicle which is (A) built on a single chassis; (B) four hundred (400) square feet or less when measured at the largest horizontal projections; (C) designed to be self-propelled or permanently towable by a light duty truck; and (D) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Regional Fund:** “Regional Fund” means the monies described in NRS 543.595(2) and managed by the District for funding of flood control projects identified in the Master Plan.

**Regional Flood Control Significance:** “Regional Flood Control Significance” means facilities, land alteration, portions of the natural drainage system, and regulatory actions which impact implementation of the Master Plan or lie within special flood hazard areas.

**Regulatory Discharge:** “Regulatory Discharge” means any discharge used on the effective adopted Flood Insurance Study unless superseded by another discharge adopted by the Board for regulatory purposes.

**Sediment:** “Sediment” means rock, sand, mud, vegetation, and other material produced by erosion or urban surface runoff which is carried by floodwaters.

**Shallow Flooding:** “Shallow Flooding” means a designated AO Zone on the Flood Insurance Rate Map. The base flood depths range from one (1) to three (3) feet and no clearly identifiable channel exists.

**Special Flood Hazard:** “Special Flood Hazard” means the land within the floodplain that is subject to a one percent or greater chance of flooding in any given year. This area is designated as Zone A, AO, AH, A1-A30, AE, or A99.

**Start of Construction:** “Start of Construction” means the date the building permit was issued, provided the actual start of construction, repair, rehabilitation, addition, placement, or other permanent improvement was within one hundred and eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor

does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other part of a building, whether or not that alteration affects the external dimensions of the building.

**Structure:** “Structure” means a walled and roofed building including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

**Subdivision:** “Subdivision” means any land, vacant or improved, which is divided or proposed to be divided into five (5) or more lots, parcels, sites, units or plots, for the purpose of any transfer, development or any proposed transfer or development unless exempted by one of the following provisions:

- A. The term “subdivision” does not apply to any division of land which is subject to the provisions of NRS 278.471 to 278.4725, inclusive.
- B. Any joint tenancy or tenancy in common shall be deemed a single interest in land.
- C. The term “subdivision” does not apply to any division of land exempted by NRS 278.320.

**Substantial Damage:** “Substantial Damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would exceed fifty percent (50%) of the market value of the structure (excluding land value) before the damage occurred.

**Substantial Improvement:** “Substantial Improvement” means any repair, alteration, reconstruction rehabilitation, addition, or other improvement of a structure: A) which may adversely impact implementation of the Master Plan; B) for which the value of cumulative improvements to the structure equals or exceeds fifty percent (50%) of the true and fair market value of the property (excluding land value) before the Start of Construction of the improvement or repair, as determined by the County Assessor or by an independent licensed appraiser. This term includes structures which have incurred “substantial damage”, regardless of the actual work performed. The term does not, however, include either: A) Any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or B) any alteration of a “historic structure”, provided that the alteration will not preclude the structure's continued designation as an “historic structure”.

As applied to this Regulation “Substantial Improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, regardless of whether that alteration affects the external dimensions of the structure.

**Ten-Year Construction Program:** “Ten-Year Construction Program” means the revolving ten-year capital facilities program identified by the Board.

**Variance:** “Variance” means a grant of relief to a person or corporation from a specific requirement(s) of the Regulations when strict application of the Regulations would result in unnecessary hardship. A variance allows construction or development that is otherwise prohibited by these Regulations.

**Violation:** “Violation” means the failure of a structure or other development to be fully compliant with the Regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in these Regulations is presumed to be in violation until such time as that documentation is provided.

**Watercourse:** “Watercourse” means any creek, wash, arroyo, channel, natural drainage way, or other conveyance which serves to give direction to a flow of stormwater.

## **SECTION 9: AMENDMENTS TO FLOODPLAIN BOUNDARIES**

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### **9.010 Rules for Amendment**

Aerial extents of flood hazard areas and base flood elevations as published on the FIRM may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable but not later than 6 months after the date such information becomes available, the floodplain administrator of the affected Entity and/or the District shall cause FEMA to be notified of the changes by submitting technical or scientific data. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements will be based upon current data.

District floodplain boundaries may be amended in those cases where the proposed amendment meets one of the following criteria:

- A. A flood control project of the federal government, state, District, Entities, or private development has substantially altered the floodplain boundaries.
- B. The best available data demonstrates that floodplain boundaries do not reflect current hydrographic conditions.

### **9.020 Process**

The District shall maintain an information base which consolidates and interprets data affecting flood control in the District. This information shall be supplied to the District by the Entities on maps which identify proposed changes to the flood plain boundaries. The District shall review the proposed changes to the flood plain boundary and requests from the Entities for FIMA map

amendments, revisions, and conditional amendments and revisions. The District shall, as a minimum, acknowledge receipt of the request.

### **9.030 Interpretation of Floodplain Boundaries**

Unless otherwise specially noted within the provisions of the District, where uncertainty exists as to the flood plain boundaries the following rules shall apply:

- A. Boundaries indicated as approximately following the centerlines of streets, highways, or alleys shall be construed to follow such centerlines;
- B. Boundaries indicated as approximately following platted lot lines, section lines, quarter section lines, or city limits shall be construed as following such lines;
- C. Boundaries indicated as following railroad lines shall be construed to be midway between the main tracks;
- D. Boundaries indicated as following shorelines shall be construed to follow such shorelines, and in the event of change in the shoreline shall be construed as moving with the actual shoreline; boundaries indicated as approximately following the centerlines of streams, rivers, canals, lakes, or other bodies of water shall be construed to follow such centerlines;
- E. Boundaries indicated as parallel to or extensions of features indicated in subsections A through D, above, shall be so construed;
- F. In other circumstances not covered by subsections A through E, above, the Local Administrator shall interpret the flood plain boundaries.

## **SECTION 10: FLOOD HAZARD REDUCTION**

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### **10.005 Intent**

The provisions of this section apply only to areas of special flood hazard and areas with interim delineations of flood hazards.

### **10.010 Application**

The provisions of this section shall be imposed in addition to existing land use regulations and shall be considered as an Overlay District.

## **10.020 Areas of Special Flood Hazard**

The areas of special flood hazard within the District are those areas identified by the Federal Insurance Administration, through the Federal Emergency Management Agency, in the report entitled:

- The Flood Insurance Study for the Clark County and incorporated Areas, November 16, 2011 and subsequent amendments and revisions.

The study is accompanied by Flood Insurance Rate Map(s) (FIRM). Each is hereby adopted by reference and declared to be a part of these Regulations. These studies and maps shall be superseded by more current information as it becomes available. Flood insurance studies and rate maps are on file at the offices of the Local Administrators, (see 10.080.A).

The areas of special flood hazard, identified in the above listed studies and FIRMs, means the land within the flood plain that is subject to a one percent (1%) or greater chance of flooding in any given year and are identified as Zones A, AO, AH, A1-A30, AE, or A99.

These areas may be further defined as Floodway and Floodway Fringe. The Floodway Fringe may include areas of shallow flooding. In general, the following apply:

- A. Floodway: Within areas of special flood hazard (established in Section 10.020) are areas designated as Floodways. Identification of the Floodway creates and preserves areas which are reasonably required to carry the flood flow. The Floodway is designed to restrict encroachments to the extent permitted in paragraph 2 below. Encroachments include but are not limited to fill, new construction, substantial improvements, and other development that would unduly affect the capacity of the Floodway or unduly increase flood heights. Since the Floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:
  - 1. Uses Allowed: Uses having a low flood damage potential may be allowed to the extent that they are not prohibited by other regulation, code, or ordinance; provided, that they do not require permanent structures, fill or other obstruction to the flow of flood water in the Floodway and provided that they do not adversely affect the capacity of the channels or Floodways of any tributary to the main system, drainage ditch, or any other drainage facility or system. These uses may be allowed only upon application to the Entity and the Chief Engineer and issuance of a Floodplain Use Permit by the Entity. Permits for these uses do not preclude the appropriate requirements for flood insurance. Allowed uses may include:
    - a. Nonstructural agricultural uses.



- b. Nonstructural accessory residential uses such as low structures and lawns, gardens, parking, and play areas.
  - c. Flood control channels, levees, basins, and diversion drains.
  - d. Public and private recreational uses.
  - e. Excavation and extraction of rock, sand, and gravel.
2. Additional Uses Allowed: Encroachments, including fill, new structural construction, substantial improvements, and other development as permitted by the underlying zoning on the property, provided all encroachments are certified by a professional civil engineer. This certification must demonstrate that all encroachments are safe for their intended use and for residents living upstream or downstream of the encroachment. This certification must further demonstrate that the encroachments shall not result in any increase in either the base flood elevation or the energy grade line above the allowable increase used in the FEMA Floodway determination. If no FEMA Floodway is designated, the certification must establish a Floodway, allowing for an equal degree of encroachment on both banks, without a cumulative increase in the base flood elevation of more than the height designated by the Local Administrator, which height may in no case be more than one (1) foot.
  3. All encroachments, including new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of these Regulations.
  4. Where the Floodway is not delineated, compliance under Section 10.040, "Interim Delineations", will be required prior to the construction of any encroachments in the Floodway.
  5. No manufactured home or manufactured home parks shall be placed within a Floodway; prohibition is not subject to variance.
  6. No plants or facilities in which hazardous substances are manufactured shall be placed within a Floodway; prohibition is not subject to variance.

**B. Floodway Fringe**

1. Purpose. Identification of the Floodway Fringe establishes standards which, while not restricting development, will protect new structures and surrounding property from undue damage associated with flooding.

2. Uses Allowed: All uses allowed in the underlying zoning classification, subject to all applicable rules, regulations, and statutes are allowed in the Floodway Fringe, unless modified by this section. Any use specified in the Floodway may be allowed in the Floodway Fringe. If other regulations or standards or other applicable provisions conflict with these Regulations, the more stringent shall govern.
3. Any other use may be allowed if it is elevated above the base flood elevation and a determination is made by the Entity (and the Chief Engineer in areas of regional flood control significance) that the use will not unduly restrict the capacity of the channels or Floodways of tributaries to the main watercourse, drainage ditches, or other drainage facilities or systems.
4. The Floodway Fringe may be encroached upon with fill, permanent structures, or other uses only to the extent that the cumulative effect of encroachment does not allow a rise of more than one (1) foot in the base flood elevation in the Floodway Fringe.
5. Structures or buildings, including residential structures, may be erected or moved in the Floodway Fringe, provided:
  - a. The lowest habitable floor is placed at least eighteen (18) inches above the base flood elevation. Land may be filled provided the top of the fill shall at no point be below the base flood elevation for at least twenty-five (25) feet beyond the limits of any structure erected or placed thereon.
  - b. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated to a minimum of 18-inches above the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of flooding.
6. Structures or buildings, including residential structures, in special flood hazard areas may have the lowest habitable floor placed between zero (0) and eighteen (18) inches above the base flood elevation if there is a flood control measure that is approved with a Conditional Letter of Map Revision issued by FEMA , fully funded, and scheduled to be completed within one year of the issuance of the building permit that would result in a Letter of Map Revision that would either; reduce the base flood elevation to an elevation that will allow the lowest floor of the building to meet the eighteen (18) inches above the base flood elevation; or remove the special flood hazard area from the building site.

7. Recreational Vehicles may be located within the Floodway Fringe, provided they are either: 1) not on the site for more than 180 consecutive days; 2) fully licensed and ready for highway use; or 3) permitted as a permanent structure in accordance with Section 10.070 and elevated and anchored in accordance with 10.100. A recreational vehicle is considered ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

C. Areas of Shallow Flooding

1. Shallow flooding areas appear on FIRMs as AH or AO zones with depth designations. The base flood depths in these zones range from one (1) to three (3) feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply if sheet flow conditions are not to be substantially altered:
  - a. New construction and substantial improvements of residential structures within AH or AO zones shall have the lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated above the highest adjacent grade of the building site, to at least eighteen (18) inches above the depth number specified on the FIRM (at least three-and-one-half [3-1/2] feet if no depth number is specified).
  - b. New construction and substantial improvements of residential structures within AH or AO zones may have the lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated between zero (0) and eighteen (18) inches above the depth number specified on the FIRM (at least two [2] feet if no depth number is specified) if there is a flood control measure that is approved with a Conditional Letter of Map Revision issued by FEMA , fully funded, and scheduled to be completed within one year of the issuance of the building permit that would result in a Letter of Map Revision that would either reduce the depth number specified on the FIRM to a depth that will allow the lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities of the building to meet the eighteen (18) inches above the depth number specified on the FIRM or remove the special flood hazard area from the building site.
  - c. New construction and substantial improvements of nonresidential structures within AH or AO zones shall either have:

- (i) The lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated above the highest adjacent grade of the building site, at least eighteen (18) inches above the depth number specified on the FIRM (at least three-and-one-half [3-1/2] feet above the highest adjacent grade if no depth number is specified); or
  - (ii) Together with attendant utility and sanitary facilities, be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by the professional civil engineer to the Local Administrator and as required in Section 10.080; or
  - (iii) The lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated per (i) of this section or be flood proofed per (ii) of this section to an elevation between zero (0) and eighteen (18) inches above the depth number specified on the FIRM (at least two [2] feet if no depth number is specified) if there is a flood control measure that is approved with a Conditional Letter of Map Revision issued by FEMA , fully funded, and scheduled to be completed within one year of the issuance of the building permit that would result in a Letter of Map Revision that would either reduce the depth number specified on the FIRM to a depth that will allow the building to meet the eighteen (18) inches above the depth number specified on the FIRM or remove the special flood hazard area from the building site.
- d. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed and existing structures.

#### **10.030 Minimum Area of Flood Hazard Delineation**

All zones designated with an A prefix on the Flood Insurance Rate Map(s) shall provide the minimum area for flood hazard management under these Regulations.

## **10.040 Interim Delineations**

### **A. General**

In areas not designated by an A prefix on the FIRM(s), where development is imminent or ongoing, flood hazard delineations may be adopted and administered under the Regulations. These delineations may be obtained from any source, provided they are approved by the District or the Entity.

Delineations in zones designated by an A prefix on the FIRM(s) shall be submitted by the Entity to the District and shall be subject to District review for consistency with accepted practices. The Entity shall forward all such delineations to the Chief Engineer with a recommendation for approval or denial within sixty (60) days of the receipt of all supporting information.

All delineations adopted by this procedure shall be submitted by the Entity to the FIMA after approval by the Chief Engineer. The Entity's submittal to the FIMA shall include a request from the Entity that these delineations be included on the Flood Insurance Rate Map for the Entity.

### **B. Permitted Uses**

The uses specified in paragraphs 1 and 2 below are permitted within floodplains with interim delineations only upon issuance of a Floodplain Use Permit by the Local Administrator subject to the following provisions. Permits for these uses do not preclude the appropriate requirements for flood insurance.

1. Any use allowed in Section 10.020; provided, that the interim delineation of the base flood elevation is not more than two (2) feet above the existing ground elevation, except that the lowest habitable floor shall be at least eighteen (18) inches above the interim delineation of the base flood elevation, and nonresidential floors and all fill shall be at least eighteen (18) inches above the interim delineation of the base flood elevation, or nonresidential floors shall be floodproofed to an elevation at least eighteen (18) inches above the interim delineation of the base flood elevation. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated to a minimum of 18-inches above the interim delineation of the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of flooding.
2. Any use permitted or allowed in Section 10.020; provided, that the applicant submits a Drainage Study prepared in compliance with the District's "Hydrologic Criteria and Drainage Design Manual", presenting an analysis of the floodplain

adequate to provide for interim delineation of the Floodway and Floodway Fringe and accurate profile. Such delineations shall be subject to review and acceptance by the Chief Engineer.

#### **10.045 Nonconforming Use**

##### **A. Discontinuance of Nonconforming Uses**

In the event that a nonconforming use of land, building, or structure is discontinued for a period of twelve (12) consecutive months, any further use thereof shall be in conformity with the provisions of these Regulations.

##### **B. Alteration to Nonconforming Uses**

Any alteration, addition, or repair to a nonconforming building, or structure which would result in increasing its flood damage potential by fifty percent (50%) or more shall be in conformity with the provisions of these Regulations.

##### **C. Destruction of Nonconforming Uses**

In the event that any such nonconforming use of land, building, or structure, is destroyed by fire, explosion, flood, act of God, or act of a public enemy to the extent which would constitute “substantial damage” as defined in these Regulations, as determined by the Clark County Assessor or by a licensed independent appraiser, then and without further action by the District, the future use thereof shall from and after the date of such destruction be subject to all of the provisions of these Regulations.

#### **10.050 Publication of Floodplain Boundaries**

All flood hazard delineations adopted by the Entity including all Zones with an A prefix on the Flood Insurance Rate Map(s) shall be shown on maps for each Entity. The Entity shall notify the District of all revisions and amendments to flood hazard delineations. Where available, the Floodway, Floodway Fringe, interim delineations, and areas of shallow flooding shall be so designated on these maps.

#### **10.060 Determinations in Case of Dispute**

Where uncertainty exists, the boundary of any Flood Hazard Zone with an interim delineation, Floodway, Floodway Fringe, or area of shallow flooding shall be determined by the District within areas of regional flood control significance and by the Entity in all other areas. The determination shall be made from the best technical data available, which are acceptable to the Chief Engineer, and in all cases, the base flood elevation shall be the governing factor. Determinations shall be in accordance with Sections 9, 13, 14, and 16 of these Regulations.

## **10.070 Floodplain Use Permit**

### **A. Application**

It shall be unlawful for any person to begin any construction or development (erection, addition, alteration or change in use of any building, groundcover, or land) within any area of special flood hazard as established in Section 10.020 without an approved Floodplain Use Permit. The permit shall be for all structures including manufactured homes and manufactured home parks, as set forth in the “DEFINITIONS,” and for all development including fill and other activities, also as set forth in the “DEFINITIONS.” Permits shall be issued by the Entity.

### **B. Permit Contents**

Applications for a Floodplain Use Permit shall include but not be limited to plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of material, drainage facilities; debris control structures; and the location of the foregoing, and if required, a Drainage Plan and Study. Specifically the following information is required:

1. Base flood elevation in relation to mean sea level.
2. Proposed elevation in relation to mean sea level of the lowest floor of all structures.
3. Elevation in relation to mean sea level to which any structure would be floodproofed.
4. Certification by a professional civil engineer that the floodproofing methods for any development in excess of one dwelling unit, excluding accessory buildings, meet the floodproofing requirements of these Regulations.
5. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
6. Provisions are hereby made for issuance of a blanket Floodplain Use Permit for applicants who need to install or erect a number of similar structures within the various floodplains over an extended period of time. Such applicants shall submit typical plans for such structures. After determining that such structures comply with the provisions of these Regulations, the Entity may issue a blanket permit for installation or erection of such structures to be valid for one (1) calendar year. Extensions of time may be granted.

7. A Drainage Plan and Study prepared in accordance with the “Hydrologic Criteria and Drainage Design Manual” may be required by the Entity as a part of the Floodplain Use Permit submittal. The contents of the study will be determined by the Entity based on the characteristics of the proposed floodplain use and the associated floodplain and shall be prepared by a professional civil engineer. At a minimum the study shall provide analysis and texts which demonstrate that the proposed development will:
  - a. Be protected from the 100-year flood.
  - b. Be compatible with the Master Plan.
  - c. Preserve required rights of way.
  - d. Not increase the flood hazard to any surrounding areas.

#### **10.080 Responsibilities of the Local Administrator**

##### **A. Designation of the Local Administrator**

The following persons or their designees are hereby appointed to administer and implement these Regulations within the limits of their jurisdiction by granting or denying development permit applications in accordance with its provisions:

City of Boulder City	Public Works Director
Clark County	Public Works Director
City of Henderson	Flood Zone Administrator
City of Las Vegas	Public Works Director
City of Mesquite	Public Works Official
City of North Las Vegas	Public Works Director

##### **B. Duties of the Local Administrator:**

###### **1. Permit Review**

- a. Review all development permits to determine that the permit requirements of the Regulations have been satisfied.
- b. Review all development permits to determine that all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required.



- c. Review all development permits to determine if the proposed development is located in the Floodway. If located in the Floodway, assure that the encroachment provisions of Section 10.020 are met.
- d. The Chief Engineer shall provide a review to determine that District requirements are met for applications having regional flood control significance.

2. Use of Other Base Flood Data

When base flood elevation data have not been provided in accordance with Section 10.020, the Local Administrator identified in Section 10.080.A shall obtain, review, and utilize any base flood elevation and Floodway data available from the federal, state or other source, acceptable to the Chief Engineer, in order to administer Sections 10.020 through 10.100. The Local Administrator shall notify the District of other base flood elevation data proposed for use by the Entity.

3. Information to be Obtained and Maintained:

- a. Where base flood elevation data are provided through the Flood Insurance Study or required as in Section 10.090; obtain and record the actual elevation (in relation to mean sea level) of the lowest floor of all new or substantially improved structures. The survey shall be performed and certified by a professional land surveyor registered in the State of Nevada.
- b. For all new or substantially improved floodproofed structures, the professional land surveyor shall verify and record the actual elevation (in relation to mean sea level), and the professional civil engineer shall obtain the floodproofing certifications required in Section 10.090.
- c. All records pertaining to the provisions of these Regulations shall be maintained for public inspection.

4. Alteration of Watercourses

- a. Notify adjacent communities, the District, and appropriate federal and state agencies prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

- b. Require that maintenance be provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
  - c. Require that subsurface flow characteristics not be adversely impacted.
- 5. Notification of Application for Floodplain Use Permit

Notify the District of all proposed development within the floodplain.
- 6. Interpretation of FIRM Boundaries

Make interpretations where needed, as to the most appropriate location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). Revisions to the FIRM(s) shall be made in accordance with Section 10.050. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation, as provided in Section 16.
- 7. Submission to FEMA of Interim Delineations

Submit requests for inclusion of interim delineations on the FIRMs to FIMA, as approved by the Chief Engineer as per Section 10.040.
- 8. Enforcement

Take actions on violations of these Regulations as delineated in Section 17.

#### **10.090 Certification of Compliance for Floodplain Use**

Prior to occupancy or use of any structures or areas in the Flood Hazard Zone, a Certificate of Compliance for Floodplain Use will be submitted to the Local Administrator by the professional civil engineer responsible for the project design.

#### **10.100 Hazard Mitigation**

##### **A. General Standards**

In all areas of special flood hazards, the following provisions are required:

- 1. Anchoring

- a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
  - b. All newly installed or substantially improved manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).
2. Construction Materials and Methods
- a. All new construction and substantial improvements shall be constructed with materials and equipment resistant to flood damage and use methods and practices that minimize flood damage, erosion, and sedimentation.
  - b. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated to a minimum of 18-inches above the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of flooding.
  - c. All future regional control facilities shall be designed using the design criteria and standards adopted by the Board.
3. Elevation and Floodproofing
- a. Notwithstanding the provisions of Sections 10.020.C.1.b and 10.020.C.1.c.iii new construction and substantial improvement of any structure shall have the lowest floor elevated to eighteen (18) inches above the base flood elevation. Nonresidential structures shall at least meet the standards in subsection 10.100.B.2. Upon completion of the structure, the elevation of the lowest floor shall be certified by a professional land surveyor to the effect that the elevation is located a minimum of eighteen (18) inches above the base flood elevation as established by a professional civil engineer. Such certification shall be provided to the Local Administrator.
  - b. All new construction and substantial improvements in areas subject to subsidence shall also be elevated a minimum of eighteen (18) inches above the base flood elevation equal to expected subsidence for at least a ten (10) year period.

4. Utilities

- a. All new and replacement water supply systems shall be designed to minimize, prohibit, or eliminate infiltration of flood waters into the system.
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
- c. On-site waste disposal systems shall be located to avoid their impairment or production of contamination during flooding.
- d. Storm drainage systems shall be designed to minimize erosion and sedimentation.

5. Subdivision Proposals

- a. This subsection shall apply to the division of land into two (2) or more legal parcels located within areas of special flood hazard, including “parcel maps” and “subdivisions.” This subsection may be applied to other land divisions at the discretion of the Local Administrator.
- b. All subdivision proposals shall be consistent with the need to minimize flood damage.
- c. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- d. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage in a manner which does not increase flood hazards to adjoining or downstream properties.
- e. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated by a professional civil engineer for any development within the SFHA.
- f. No subdivision shall be approved within delineated Floodways. If flood control facilities are proposed that result in an adjustment to a Floodway and these are approved by the Flood Insurance Administration, the Entity may approve the subdivision. Land may be subdivided within a Floodway to allow the dedication of flood control rights of way.

- g. Subdivision drainage must be designed to preserve the existing drainage area boundaries.
- h. Each subdivision must be protected against off-site flood waters and sediment in a manner which does not significantly increase flood levels, deflects flows, or cause erosion or sedimentation problems.

6. Storage of Material and Equipment

- a. The storage or processing of materials that at time of flooding are buoyant, flammable, explosive or could be injurious to human, animal, or plant life is prohibited.
- b. Storage of other nonhazardous material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

7. Watercourses

Alteration or obstruction of watercourses having regional flood control significance without the written permission of the Chief Engineer, in conjunction with the Local Administrator, shall be prohibited. As per NRS 202.180, the disposal of unwholesome substances in ditches and washes is unlawful.

8. Review of Building Permits

Where base flood elevation data are not available either through the Flood Insurance Study or from another authoritative source (see 10.080.B.2), applications for building permits shall be reviewed by the Entity to assure that proposed construction will be reasonably safe from flooding.

B. Specific Standards

In all areas of special flood hazards where base flood elevation data has been provided by a Flood Insurance Study (see 10.020) or from other sources (see 10.080), the following provisions are required:

1. Residential Construction:

- a. Notwithstanding the provisions of Section 10.020.C.1.b new construction and substantial improvement of any residential structure shall have the lowest floor and electrical, heating, ventilation, plumbing, and air

conditioning equipment and other service facilities elevated to a minimum of eighteen (18) inches above the base flood elevation. If the base flood elevation is specified as a depth, it is to be measured from the “highest adjacent grade”.

- b. Fully enclosed, nonhabitable areas below the lowest floor that are subject to flooding are prohibited or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a professional civil engineer or must meet or exceed the following minimum criteria:
  - (i) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided.
  - (ii) The bottom of all openings shall be no higher than one (1) foot above grade.
  - (iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

## 2. Nonresidential Construction

- a. Notwithstanding the provisions of Section 10.020.C.1.c.iii new construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor and electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities elevated to eighteen (18) inches above the level of the base flood elevation or together with attendant utility and sanitary facilities, shall:
  - (i) Be floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water to at least eighteen (18) inches above the base flood elevation;
  - (ii) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
  - (iii) Be certified by a professional civil engineer that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their

development and/or review of the structural design, specifications, and plans. Such certifications shall be provided to the official as set forth in Section 10.090.

- (iv) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection 10.100.B.1.
- (v) Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

### 3. Manufactured Homes

- a. Notwithstanding the provisions of Section 10.020.C.1.b all manufactured homes to be placed or substantially improved within Zones A, AO, AH, A1-A30, AE, or A99 except in “Existing Manufactured Home Parks or Subdivisions” shall be elevated on a permanent foundation such that the bottom of the steel frame of the manufactured home is at least eighteen (18) inches above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of subsection 10.100.A.1.
- b. All manufactured homes to be placed or substantially improved in “Existing Manufactured Home Parks or Subdivisions” within Zones A, AO, AH, A1-A30, AE, or A99 shall be elevated on a permanent foundation such that the bottom of the steel frame of the manufactured home is either (i) at least eighteen (18) inches above the base flood elevation, or (ii) supported by reinforced piers or other foundation elements of at least equivalent strength that are at least thirty six (36) inches in height above grade, whichever is greater. The manufactured home must be securely anchored to an adequately anchored foundation system in accordance with the provisions of subsection 10.100.A.1.
- c. A plan for evacuating residents of all manufactured home parks or subdivisions located within zones containing the letter “A” on the community's FHBM or FIRM shall be developed by or for the responsible Entity and filed with and approved by appropriate community emergency management officials.
- d. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated to a

minimum of 18-inches above the base flood elevation so as to prevent water from entering or accumulating within the components during conditions of flooding.

4. Other Development

Any development which is not a subdivision shall be required to meet the requirements for subdivisions as outlined in these Regulations if the Local Administrator determines that the flood hazard so requires. If the proposed development would impact the implementation of the Master Plan, the Local Administrator shall defer to the Chief Engineer for a final determination.

## **SECTION 11: MASTER BASIN PLANNING**

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The Board has caused to be made a Master Plan which addresses hydrographic areas in the District. As mandated in NRS 543.580 to 543.590, the Board has adopted the Master Plan and has incorporated into the study the planning previously conducted by the Entities, insofar as possible. The Board has also developed a listing of immediate structural needs and prioritized these needs based on criteria developed through the Board, its Advisory Committees, and through open public meetings.

### **11.010 Amendment of Master Plan**

The Board, in conjunction with its Chief Engineer, Advisory Committees, and input obtained through open public meetings, shall direct the process of amending the adopted Master Plan document. This document shall be amended from time to time as the Board deems necessary pursuant to NRS 543. Any amendments to the Master Plan must be adopted by the Board and cannot become final until also adopted by the Entities whose hydrographic areas are impacted by the proposed revisions as delineated in NRS 543.590(4,5).

### **11.012 Coordination of Flood Control Projects**

It is the intent of the District, through these Regulations that drainage projects in general and Master Plan projects specifically be coordinated among the Entities. Therefore, in those cases where Master Plan approved and District-funded projects have regional flood control significance impacting more than one jurisdiction, all impacted Entities will be afforded opportunities to participate on the project management team, provided the Lead Entity charged with primary project management responsibility shall be the jurisdiction in which the majority of construction takes place. Where a determination of regional flood control significance cannot be established by the Entities, the Chief Engineer shall arbitrate Entity impacts.

Impacted Entities and the District shall have the opportunity to support the Lead Entity with their input in compliance with the Policies and Procedures Manual.



## **SECTION 12: DESIGN/IMPROVEMENTS STANDARDS**

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### **12.010 (Not Used)**

### **12.015 Intent**

This section applies to all areas for both local and regional drainage issues.

### **12.020 Regional Facilities**

- A. The facilities identified as priorities by the Board and contained in the Master Plan shall be designed, constructed, located, operated, and maintained in accordance with the policies and procedures established by the District. Where at least as effective as the provisions of the Master Plan, determinations as to specific sizing of facilities, location, and design criteria shall be made by the Entity with the approval of the District.
- B. The Entity shall be responsible for assuring that any facility constructed will not adversely affect the continued implementation of the Master Plan. The manner in which such flow characteristics are attained and maintained within the hydrologic area will be determined by the Entity in accordance with the Master Plan and the provisions established by the District. The Entity shall also be responsible for assuring that their requirements are consistent with any applicable state and federal laws. Each Entity shall submit to the District its plan for acquisition of property rights or preservation of corridors for the ten (10) year construction program.
- C. Each Entity shall assure that regional flood control facilities are incorporated into their comprehensive planning documents. Provisions within these documents shall include land acquisition requirements.

### **12.025 Submittal of Drainage Plan and Study**

- A. Submittal to Entity

Drainage Plans and Studies shall be submitted for review and approval to the Entity in which the development is proposed.

- B. Areas With Regional Flood Control Significance

A Drainage Plan and Study is required for any development or development plan, regardless of size, which is located within an Area of Special Flood Hazard or which has Regional Flood Control Significance.

C. Other Areas

A Drainage Plan and Study is required for any development or development plan (including subdivisions and manufactured home parks and subdivisions) greater than or equal to twenty (20) lots or two (2) acres, whichever is the lesser. Said Drainage Plan and Study must contain base flood elevation data.

D. Drainage Plan Contents

A Drainage Plan and Study may be required for any other development, at the discretion of the Local Administrator.

E. Technical Drainage Study

Drainage Plan Contents: Drainage plans should be prepared in conformance with the most recent edition of the Hydrologic Criteria and Drainage Design Manual, and other design criteria of the District. As a minimum, the following is required:

1. All persons applying for any of the permits identified in this section shall provide a drainage plan for storm water runoff flows which enter, flow within, and leave the subject property prior to, during, and after construction. The detailed form and contents of the plan submittal shall be specified by the Entity and shall contain at a minimum, the following requirements:
  - a. The name and address of the legal owner of the property for which the permit is requested.
  - b. A vicinity sketch and accurate map based on a legal description of the site for which a permit is requested including, but not limited to, all existing and proposed easements.
  - c. Site drawings indicating each separate land area to excavated, filled, graded, or leveled, the finished depth of each separate land cut or fill, the present and future (as completed) points of entry and discharge for surface water on the subject property, and identification of all temporary or permanent structures or other devices to be erected or established for the purpose of controlling or regulating surface water and erosion on such property. This shall include existing and proposed flood control and drainage improvements.
  - d. The applicant's plans for controlling water from his property during periods of construction, and a statement specifying the anticipated time period for the completion of all drainage improvements.

- e. The location of existing watercourse and centerlines thereof, washes, lakes, ponds, and springs on the land on which the development is to take place.
- f. The location of the floodplain.
- g. Plans and specifications for any proposed alteration or improvement of a bed or bank of a watercourse.
- h. A summary statement concerning the effect the proposed development will have on the existing and future drainage system of the area.

F. Drainage Study

- 1. The contents of the drainage study shall be established by the Entity and the study shall be prepared by a professional civil engineer using, as a minimum, “design criteria” approved by the Board. The contents of the drainage study shall include, as a minimum, the provisions contained in the most recent edition of the Hydrologic Criteria and Drainage Design Manual.

**12.030 (Not used)**

**12.035 Review of Drainage Plan and Study**

A. Review Responsibility

The Local Administrator shall be responsible for review and approval of all drainage plans and studies, all flood control and drainage improvements, and other submittals as required by these Regulations for areas which lie within the Entity's boundaries, and shall enforce the following minimum criteria:

- 1. Improvements within such areas shall, as a minimum, meet the “Hydrologic and Drainage Design Criteria” of these Regulations.
- 2. No development shall be constructed in a manner which adversely affects regional flood control facilities or the continued implementation of the Master Plan.
- 3. In areas of “Regional Flood Control Significance,” the Entity shall provide, prior to its final approval, a copy of the Drainage Plan and Study, review findings, and recommendations to the Chief Engineer for concurrence. If the Chief Engineer cannot concur with the proposed approval of the Drainage Plan and Study, the

Chief Engineer and the Local Administrator shall meet to review the differences. If no agreement can be achieved, the proposed action shall be brought to the Board for final determination.

**B. Permits**

1. No permits authorizing start of construction, except grading, may be issued by the Entity until such time as final approval of the Drainage Plan and Study is obtained.
2. No permits authorizing start of construction shall be issued in areas of Regional Flood Control Significance until such time as final approval of the Drainage Plan and Study is obtained from the Local Administrator, and concurrence with such approval is obtained from the Chief Engineer.

**12.040 Excavation and Grading Standards**

See Part II – Excavation and Grading

**12.050 Construction/Operation/Maintenance**

Construction, operation, and maintenance of Master Plan facilities shall be the responsibility of the Lead Entity as described in the most recent edition of the District's Policies and Procedures Manual and delineated in the interlocal contract between the District and Lead Entity. The District may also function as the Lead Entity for construction, operation, and maintenance of Master Plan facilities.

The role of the District and Lead Entity in funding regular maintenance of the facility shall be established through the interlocal contract formed as part of the District's policies and procedures for facility funding. Maintenance shall be performed in compliance with the most recent edition of the Operation and Maintenance Manual.

## **Sub-Part C**

The purpose of this Sub-Part is to provide regulations, procedures and/or statements pertaining to variances, financing, liability, appeals, enforcement, abrogation and greater restriction, effective date, and severability.

The provisions of Sub-Parts A and B also apply to this Sub-Part.

### **SECTION 13: VARIANCES**

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#### **13.010 FEMA Conditions**

- A. Governing bodies must consider the following in making their determination to grant a variance:
1. The granting of variances increases insurance premiums, and increases risk to life and property.
  2. The issuance of a variance is for flood plain management purposes only. Insurance premium rates are determined by statute according to actuarial risk and will not be modified by the granting of a variance.
  3. While the granting of variances generally is limited to a lot size less than one-half acre, deviations from that limitation may occur. However, as the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
  4. Variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this ordinance would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.
  5. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
  6. Variances should only be granted when it would otherwise result in an exceptional hardship to the applicant.

- B. Variances from any provision of the Regulations may be granted, as a minimum, under the conditions specified by FEMA and shall consider all technical evaluations delineated in these Regulations, in addition to:
1. The danger that materials may be swept onto other lands to the injury of others;
  2. The danger to life and property due to flooding or erosion damage;
  3. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  4. The compatibility of the proposed use with existing and anticipated development;
  5. The relationship of the proposed use to the floodplain management program for that area;
  6. The safety of access to the property in times of flood for ordinary and emergency vehicles;
  7. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site.
- C. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure.
- D. Variances shall not be issued within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

### **13.020 Entity and District Responsibilities**

- A. The Entity shall be the primary review agency for all variances requested from their ordinance. Variances shall only be granted upon finding:
1. A showing of good and sufficient cause;
  2. That failure to grant the variance would result in exceptional hardship to the applicant, and;
  3. Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create

a nuisance, cause fraud and victimization of the public, or conflict with existing local laws or ordinances.

- B. In those cases where granting the variance has Regional Flood Control Significance (including special flood hazard areas, Section 10.020), the Entity shall provide a copy of the variance application, review findings and recommendations to the Chief Engineer. The variance application shall then be reviewed by the Chief Engineer and Technical Advisory Committee. These recommendations will be forwarded to the Board for its consideration. The Board's decision will be forwarded to the Entity within sixty (60) days of receipt of the variance application. Before granting such a variance, the Board shall consider the effect of the proposed variance on the adjacent properties, the entire hydrographic area, and the continued implementation of the Master Plan. The District may grant a variance from strict enforcement of these Regulations only if granting the variance will not:
1. Detract from the public good
  2. Impair any affected natural resources.
  3. Deviate from the intent and purpose of the Master Plan.
- C. The Entity shall notify the applicant in writing that:
1. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance coverage; and
  2. Such construction below the base flood level increases risks to life and property.
- D. The Entity shall maintain a record of all variance actions, including justification for their issuance and written notifications issued under Paragraph C above.

### **13.030 Master Plan Facilities**

A variance is not required for construction of facilities identified on the Master Plan.

## **SECTION 14: FINANCING OF CAPITAL IMPROVEMENT PROJECTS**

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### **14.010 Intent**

It is the intent and purpose of the Board, as mandated in NRS 543, to administer the implementation of the Master Plan, through the regional fund, in those Entities which have adopted the Regulations and have priority flood control projects.

### **14.020 District Responsibilities in Capital Improvement Funding**

The District, through its Board, shall establish and periodically review its criteria for prioritizing flood control projects identified in the Master Plan. Annually, the Board shall apply these criteria to those Master Plan facilities currently not funded in order to determine which of these projects will receive funding during the coming fiscal year. The Board, after a public meeting may raise the priority of a project.

### **14.021 Annual Priority Project List**

The Board shall cause to be prepared an annual list of projects to be considered priorities for the upcoming fiscal year. This listing shall be generated in accordance with the adopted Master Plan and in compliance with the most recent edition of the District's Policies and Procedures Manual.

### **14.030 Procedures**

The Chief Engineer shall prepare and the Board may approve procedures for Master Plan project funding. These procedures shall address the District and Entities' responsibilities in the application, management, and control of regional fund monies. These procedures shall be consistent with generally accepted governmental accounting and financial reporting principles, State of Nevada and Clark County financial management regulations.

## **SECTION 15: DISCLAIMER OF LIABILITY**

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The degree of flood protection required by these Regulations is considered reasonable for the regulatory framework necessary to guide development and floodplain management. It is recognized that storm events may, on occasion, exceed the level of regulation identified in these Regulations or that flood heights may be artificially increased due to obstructions. Changes in methods of hydrologic calculation may also make prior calculated levels of protection obsolete. Decisions are to be made using the best available information at the time of project construction. Compliance with the regulatory elements and design standards specified in these Regulations does not imply a guarantee that properties will be free from flooding or flood damage. Adherence to these Regulations or any administrative rule made in accordance with these



Regulations shall not create any liability on the part of the District or the enforcing Entities or their officers, employees, or volunteers for any flood damages.

## **SECTION 16: APPEALS**

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Decisions of the Entities regarding interpretation and application of these Regulations may be brought to the Board only after the Entity's internal appeals process has been exhausted without remedy. Such appeals must be made within thirty (30) days after the appellant receives word of the Entity's final decision. All appeals must be in writing and in the form prescribed by the District setting forth the issues at conflict, the Regulations, and the alleged misapplication of the Regulations to the specific issue at hand. The Board shall review this case file, the recommendation of the Chief Engineer and move to either reverse the Entity's recommendation, sustain its recommendation, or remand the issue to the Entity for further review. The District shall respond within sixty (60) days of receipt of the appeal. The District's failure to respond within this time frame shall be construed as concurrence with the Entity's recommendation.

## **SECTION 17: ENFORCEMENT**

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The Entity is charged with enforcement of these Regulations within its jurisdictional boundaries and shall adopt the most stringent penalties for violation of these Regulations. The District shall review through periodic case file and field checks that the Entities are consistently and accurately enforcing the provisions of these Regulations. If this monitoring identifies a violation of enforcement of the Regulations, the District shall notify the Entity in writing describing the specific nature of the violation, the corrective action indicated, and the time frame for completion.

A compliance check shall be conducted by the District to assure corrective action has been completed within the time frame specified. In those cases where repeat violations of the Regulations occur, the Chief Engineer will notify the Board and the Entity describing the nature of these violations and recommend to the Board appropriate remedial measures which may include suspension of eligibility for regional fund support.

## **SECTION 18: ABROGATION AND GREATER RESTRICTIONS**

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The Regulations are not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions; however, where the Regulations and another code, easement, covenant, or deed restriction conflict or overlap; that code, easement, covenant, or deed restriction which is more stringent shall prevail.

## **SECTION 19:   LIABILITY**

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The grant of a permit or approval is not a representation guarantee or warranty of any kind and shall create no liability upon any Entity or the District, or their officials, employees, or volunteers.

## **SECTION 20:   EFFECTIVE DATE**

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These Regulations became effective on July 1, 1987. Subsequent revisions became effective on November 12, 1990, August 1, 1992, January 1, 2003, July 10, 2003, and June 1, 2013. The Regulations as amended by the District on September 8, 2022 shall become effective on September 30, 2022.

## **SECTION 21:   SEVERABILITY**

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If any section, subsection, paragraph, sentence, clause, or phrase of the Regulations should be declared invalid for any reason, such decision shall not affect the remaining portions of the Regulations which shall remain in full force and effect, and for this purpose, the provisions of the Regulations are declared to be severable.

## **SECTIONS 22-30:   (Not Used)**

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## Part II: EXCAVATION AND GRADING

### SECTION 31: GENERAL PROVISIONS

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- 31.010      **Purpose:** The purpose of Part II of these Regulations is to safeguard life, property, and the public welfare of the citizens of this District by establishing minimum requirements for regulating grading, excavation, and filling as they impact local or regional drainage together with the procedures by which these requirements may be enforced.
- 31.020      **Authority:** Nevada Revised Statutes 543.
- 31.030      The provisions of Sub-Parts A and C of Part I also apply to Part II.

### SECTION 32: DEFINITIONS

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- 32.010      **Generally:** The words and terms used in this title shall be defined as follows in this Chapter unless it is plainly evident from the context that a different meaning is intended. All words used in the singular shall include the plural and the plural the singular. Each gender shall include the others; any tense shall include the other tenses. The word “shall” is mandatory and the word “may” is permissive.
- 32.030      **Certification:** Shall mean a signed written statement that the specific inspections, verifications of lines and grades and tests where required have been performed, and that such inspections, verifications of lines and grades and tests comply with the applicable requirements of this Chapter and the approved drainage and grading plans.
- 32.040      **Compaction:** Shall mean the densification of fill by a mechanical means.
- 32.060      **Designated Official:** That individual required by individual entities to administer this grading ordinance.
- 32.070      **Elevation:** All elevations will be referenced from the National North American Vertical Datum NAVD 88.
- 32.080      **Engineering Geologist:** Shall mean a geologist experienced and knowledgeable in engineering geology.
- 32.090      **Engineering Geology:** Is the application of geological data and principles to engineering problems dealing with naturally occurring rock and soil for the

purpose of assuring that geological factors are recognized and adequately interpreted in engineering practice.

- 32.100      **Excavation or Cut**: Shall mean any act by which soil, sand, gravel, or rock is cut into, dug, quarried, uncovered, displaced, or relocated and shall include the conditions resulting therefrom.
- 32.110      **Fill**: Is deposits of soil, rock, or other earth material placed by man.
- 32.120      **Finish Grade**: The grade or elevation of the ground surface after grading is complete.
- 32.130      **Flood Hazard Area**: The area subject to flooding as defined on maps by the Federal Insurance Administration of the Federal Emergency Management Agency (FEMA) and/or the applicable map accepted by the local entity.
- 32.140      **Geologic Hazard**: A naturally occurring or man-made geologic condition or phenomenon that presents a risk or is a potential danger to life and property. Examples of geologic hazards: landsliding, flooding, earthquakes, ground subsidence, coastal and beach erosion, faulting, dam leakage and failure, mining disasters, pollution and waste disposal, and seawater intrusion.
- 32.150      **Grading**: Is any excavation or filling, or combination thereof, and shall include the land in its excavated or filled condition.
- 32.160      **Grading Permit**: Shall mean a permit issued pursuant to Part II of these Regulations.
- 32.170      **Groundwater**: Phreatic Water. That part of the subsurface water which is in the zone of saturation.
- 32.180      **Local Administrator**: The public official or his designee, who will be charged with lead responsibility for administering and implementing the Regulations for the Control of Drainage, Clark County Regional Flood Control District, within their Entities.
- 32.190      **Natural Ground Surface**: Shall mean the ground surface in its original state before any grading, excavation, or filling.
- 32.200      **Owner**: Shall mean any person who is the owner of, has a possessory interest in, has possession or control of, or occupies real property.

- 32.210 **Permittee**: Shall mean any person to whom a permit is issued pursuant to this Chapter.
- 32.220 **Site**: Is any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.
- 32.230 **Slope**: Is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.
- 32.240 **Soil**: Is naturally occurring superficial deposits overlaying in-place solid rock.
- 32.250 **Soils/Geotechnical Engineer**: Shall mean a Nevada Professional Engineer, pursuant to NRS 625, experienced and knowledgeable in the practice of soil engineering.
- 32.260 **Soils/Geotechnical Engineering**: Shall mean the application of the principles of soil mechanics in the investigation, evaluation, and design of civil works, involving the use of earth materials and the inspection and testing of the construction thereof.
- 32.270 **Specifications**: A description of the material, processes, standards of performance, and workmanship required in a project. Specifications may be indicated on plans or drawings or in written materials containing standard and special provisions such as soils reports, or other reports or standards as may be necessary pertaining to the quality of the project.
- 32.280 **Terrace**: Is a relatively level step constructed in the face of a graded surface for drainage and maintenance purposes.

### **SECTION 33: ACTIVITIES REQUIRING GRADING PERMITS AND EXCEPTIONS**

- 33.010 **Permit Required**: A grading permit shall be required for any grading impacting local or regional drainage as indicated by the Local Administrator. No other permits required under the jurisdiction's building code shall be approved for construction until the Local Administrator approves the issuance of a grading permit. The permit may then be issued by the Designated Official.
- 33.020 **Separate Permit**: A separate permit shall be required for each noncontiguous site and may cover both excavations and fills.
- 33.030 **Filling and Excavating**: No person shall perform any grading without first obtaining a grading permit from the Designated Official, except for the following activities:

- A. Landscaping surrounding an existing single family residence which does not impact drainage to adjacent properties and complies with local ordinances.
- B. Grading in any area if the Local Administrator finds that no apparent danger to private or public property can now or thereafter result from the grading operations.
- C. Cemetery graves.
- D. Excavations for wells.
- E. Refuse disposal sites controlled by other regulations where the operation thereof does not block or divert any natural drainage course, or affect the lateral support or unduly increase the stresses in, or pressures upon, any adjacent or contiguous property.
- F. On-site trenching for utility purposes.
- G. Exploratory excavations under the direction of a soil engineer or engineering geologist.
- H. Mining, quarrying, excavation, processing, stockpiling of rock, sand, gravel, precious metals, aggregate, or clay where established and provided for by law, provided such operations preserve natural drainage and do not affect the lateral support or increase the stresses upon any adjacent or contiguous property.
- I. Exceptions for Emergencies. The provisions of this Code shall not apply to any grading operation which is conducted during a period of emergency or disaster, and which is directly connected with or related to relief of conditions caused by such emergency or disaster.

#### **SECTION 34: PERMIT REQUIREMENTS**

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34.010 **General:** Except as exempted in Section 33.030 no person shall do any grading, nor shall any owner allow grading on his property, unless the owner or his/her designee has a valid grading permit issued by the Designated Official. A separate grading permit shall be required for each noncontiguous site and may cover both excavations and fills.

34.020 **Application:** To obtain a grading permit, the applicant shall complete a form furnished by the Designated Official. A separate application shall be required for each grading permit. The application shall be signed by the owner of the property

or by the licensed contractor performing the work. The following shall apply to every application:

- A. Identify and describe the work to be covered by the permit for which application is made.
- B. Describe the land on which the proposed work is to be done by lot, block, tract, or similar description that will readily identify and definitely locate the proposed work together with the name and address of property owner.
- C. Indicate the intended use for which the site is being prepared.
- D. Give proposed location of deposit area and name and address of person which will receive excavated material and evidence that the property owner is willing to receive the material (if off-site).
- E. Be accompanied by plans and specifications as required in Section 34.045.
- F. State the estimated quantities of earthwork involved, excavation, and fill.
- G. Be signed by the permittee or his/her authorized agent, who may be required to submit evidence to indicate such authority.
- H. Give such other information as required in Section 34.045.
- I. A soils engineering report shall be required unless waived by the Designated Official.

34.030 **Plans and Specifications:** The Local Administrator may require that plans and specifications be prepared by a professional licensed to practice in the State of Nevada in accordance with Nevada Revised Statutes, Chapter 625. Each application for a grading permit shall be accompanied by two (2) sets of plans and specifications. The plans shall be drawn to scale upon mylar or good quality, reproducible paper and shall be of sufficient clarity to indicate the nature and extent of the work proposed and shown in detail that they will conform to the provisions of this Chapter and all relevant laws, ordinances, rules, and regulations.

The Local Administrator, or his designee, shall endorse in writing or stamp the plans and specifications "APPROVED". Such approved plans and specifications shall not be changed, modified, or altered without authorization from the Designated Official and all work shall be performed in accordance with the approved plans. The first sheet of each set of plans shall give the location of the

work and the name and address of the owner or developer and persons by whom the plans and specifications were prepared.

The plans and specifications shall show, but need not be limited to, the following information.

- A. A general vicinity map of the proposed site.
- B. Show property limits and accurate contours of the existing ground and details of the terrain referenced to a point approved by the Local Administrator. Whenever possible, elevations shall be in accordance with the established U.S. Coastal and Geodetic Survey, and North American Vertical Datum NAVD 88. Accurate contours beyond the property limits shall be displayed when appropriate to depict impacted topography and drainage impacts.
- C. Showing dimensions, and sufficient elevations and/or finished contours to be achieved by the proposed grading.
- D. Show locations of all existing or proposed buildings, structures, fences, block walls, and retaining walls on the property where the work is to be performed and the location of any buildings, structures, fences, block walls, and retaining walls on land of adjacent owners which may be affected by or affect the proposed grading operation or site drainage.
- E. Show locations and dimensions of all easements.
- F. Show impacted utilities.
- G. Delineate drainage which will impact, or be impacted by, the proposed grading.
- H. Identify all existing and proposed surface and subsurface drainage devices, walls, channels, and other protective measures to be constructed with, or part, of, the proposed work.

The soils engineer shall review the final plans and specifications of the project and attest to, in writing, the soils reports applicability to the proposed project. The written information provided by the soils engineer shall be submitted for acceptance to the Designated Official, or his designee.



- 34.040      **Additional Information Required:** The Designated Official may require additional information such as an engineering geology report, or a drainage study. These studies and reports shall be approved by the Designated Official prior to the issuance of a grading permit. When specified by the soils investigation report, the Designated Official shall require a groundwater study.
- 34.045      **Report Content:** Plans, computations, and specifications shall be prepared by a professional licensed to practice by the State of Nevada in accordance with NRS 625. The soils investigation report, groundwater study, and engineering geology report shall contain, but not be limited to, the following information.
- A.      Plan Content:
1.          A general vicinity map of the proposed site.
  2.          Show site limits and approximate contours. Whenever possible, elevations shall be in accordance with the established U.S. Coastal and Geodetic Survey and the North American Vertical Datum NAVD 88.
  3.          Location of explorations and field test locations.
  4.          Depth to groundwater if less than fifteen (15) feet that may affect the proposed development.
  5.          Known or encountered geologic hazards present on the site shall be accurately delineated.
  6.          Approximate limits of known and encountered existing fill.
- B.      Minimum Exploration Requirements for Noncritical Structures as Determined by the Local Administrator:
1.          For areas less than or equal to one (1) acre: a minimum of two (2) explorations.
  2.          For areas greater than one (1) acre but less than five (5) acres: a minimum of one (1) exploration for the first acre and at least one (1) exploration for each additional acre or fraction thereof.
  3.          For areas greater than five (5) acres and less than fifty (50) acres: a minimum of five (5) explorations, plus one (1) additional exploration for each additional three (3) acres or fraction thereof.

4. For areas greater than fifty (50) acres: a minimum of twenty (20) explorations and additional explorations as deemed appropriate by the Geotechnical Engineer.
  5. The minimum depth of half the explorations for 1, 2, 3, and 4 above shall be within ten (10) feet of existing grade or within ten (10) feet of the lowest structure foundation, whichever is deeper.
- C. Report Content:
1. Continuous log of all explorations.
  2. All elevations shall be referenced to a point approved by the Local Administrator. Whenever possible elevations shall be in accordance with the established U.S. Coastal and Geodetic Survey and the North American Vertical Datum NAVD 88.
  3. Soil classification shall be as per ASTM D2487-83 (Unified Soil Classification System).
  4. A description of the exploration and sampling methodology.
  5. Depth of groundwater will be noted if groundwater is encountered. (see 34.045.A.4.)
  6. All field and laboratory tests shall comply with local recognized standards and methodologies and shall be properly referenced. Where applicable, ASTM Standards shall be used.
  7. A special study shall be required if the proposed site development will adversely impact an adjoining property.
- D. There shall be recommendations and conclusions concerning, but not limited to, the following:
1. Grading:
    - a. Material.
    - b. Percent of compaction required.
    - c. Percent of moisture content required.

- d. Placement procedures.
  - e. Special requirements; e.g., fill placement on existing slopes or soft ground.
- 2. Minimum design consideration for drainage control structures.
- 3. Known surface and subsurface hazards.
- 4. The mitigation of all known adverse soil conditions and groundwater.
- 5. Observation and testing requirements during grading.
- 6. Permanent slope recommendations including erosion potential mitigation for all slopes.
- 7. Discuss the impact and approximate limits of adverse soil conditions.
  - a. Expansive clay.
  - b. Extent of caliche.
  - c. Hydrocollapsible soils.
  - d. Gypsiferous and/or soluble soil.
  - e. Chemically reactive soil.
  - f. Existing fill.
  - g. Rock.

34.050 **Certification:** Grading plans, soils investigation reports, and groundwater studies shall be certified in the following manner:

- A. Plans and Specifications, Section 34.030, shall be prepared by a professional licensed by the State of Nevada in accordance with NRS 625. Prior to final inspection, the field grading shall, be certified by a professional licensed by the State of Nevada in accordance with NRS 625 as conforming to the final approved plans, which shall be designated by the Local Administrator on forms provided by the Local Entity.

- B. Plan Content, Section 34.045, of this Chapter must be prepared by a Nevada Registered Civil Engineer and shall certify that all drainage improvements were constructed in accordance with the final approved plans, which shall be designated by the Local Administrator on a form provided by the Local Entity.
- C. Soils grading report (post grading analysis), when required, shall be prepared and signed by a Nevada Registered Engineer, and correlated with Section 34.045 of these specifications.

The report shall include, but not be limited to, field test summary with locations, elevations, nature of tests and their results, laboratory test summary with sample locations, elevations, nature of tests and their results, and other substantiating data and comments on any changes made during grading and their effort on the recommendations made in the soil engineering investigation report.

Limits of the engineered sub-grade, as well as other pertinent information will be shown on the as-graded plan, with certification when appropriate, as to the adequacy of the site for the intended use. Certification should be submitted to the Local Administrator.

#### **SECTION 35: PERMIT LIMITATIONS, CONDITIONS, CAUSE FOR DENIAL AND PERMIT REVOCATION**

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35.010 **Permit Limitation:** A grading permit shall constitute an authorization to do only that work which is described or illustrated on the application for the permit or on the plans and specifications approved by the Designated Official. The issuance of a permit, based upon drawings and specifications shall not prevent the Designated Official from thereafter requiring the corrections of errors in said drawings and specifications or from stopping unlawful construction operations being carried on thereunder.

35.020 **Jurisdiction of Other Agencies:** Permits issued under the requirements of this Chapter shall not relieve the owner of responsibility for securing permits for work to be done which is regulated by any other governing agency or entity.

35.030 **Time Limits:** The permittee shall fully perform and complete all of the work required to be done pursuant to the grading permit within the time limit specified. If no time limit is specified, the permittee shall complete the work within one hundred eighty (180) days after the date of the issuance of the grading permit.

If the permittee is unable to complete the work within the specified time, he/she shall, prior to the expiration of the permit, present in writing to the Designated Official a request for an extension of time, setting forth the reasons for the requested extension. If, in the opinion of the Designated Official, such an

extension is warranted, then an extension of time, not to exceed one hundred eighty (180) days, may be granted for the completion of the work.

35.040     **Drainage Precautions:** All persons performing any grading operations shall put into effect all safety precautions which are necessary in the opinion of the Designated Official and provide adequate anti-erosion and/or drainage devices, debris basins, or other safety devices to protect the health and welfare of the community and property.

35.050     **Conditions and Approval:** In granting any permit under this Chapter, the Designated Official may attach such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include but shall not be limited to the following:

- A.     Compliance with dust control requirements of the Clark County Health Department.
- B.     Requirements for fencing of excavations or fills which would otherwise be hazardous.
- C.     Improvements of any existing site condition to bring it up to the standards of this Chapter.

35.070     **Unlawful Grading:** The Designated Official shall not issue a permit in any case where the work, as proposed by the applicant, will endanger any private or public property or result in the deposition of debris on any public way or seriously interfere with any existing drainage course. However, if it can be shown to the satisfaction of the Designated Official that the hazard would be essentially eliminated by the construction of retaining structures, buttress fills, drainage devices, or by other means, the Designated Official may issue the permit after the applicant has complied with Sections 34.020 and 34.045.

35.080     **Warning and Disclaimer of Liability:** Neither the issuance of a permit under the provisions of this Chapter, nor the compliance with the provisions hereof or with any conditions imposed by the Designated Official, shall relieve any person from any responsibility for damage to persons or property otherwise imposed by law, nor impose any liability upon the District and Entity for damage to persons or property.

The Local Administrator, Designated Official and their designees, charged with the enforcement of this Chapter, acting in good faith and without malice for the Entity or District in the discharge of his duties, shall not thereby render himself liable personally and he is hereby relieved from all personal liability for any

damage that may accrue to persons or property as a result of any act required or by reason of any act or omission in the discharge of his duties.

35.090      **Hazardous Conditions:** Whenever the Designated Official determines that any existing or proposed excavation, slope, or fill has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way, or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the Designated Official, shall within the period specified therein repair or eliminate such hazard and be in conformance with the requirements of the policies and plans.

35.100      **Notice of Noncompliance:** Whenever any construction or work is being done contrary to the provisions of this Chapter, or not in accordance with the plans and specifications submitted and approved as the basis for the issuance of the permit, or if a hazard to life and limb exists, if public or private property is or may be endangered, the Designated Official, or his designee, shall issue a written notice to the permittee or his/her agent or other responsive employee requiring cessation of work upon that portion of the site where noncompliance, hazard, or other violation has occurred or exists.

The notice shall state the nature of the said condition and shall contain sufficient information to appraise the permittee of the nature and extent of the correction required. No work shall be performed on said portion of the site unless or until the noticed condition is rectified and approved upon inspection of the Designated Official or unless, as a condition of continuing the work, special precautions agreeable to the Designated Official are performed by the permittee. Failure of the permittee to take such precautions or rectify such condition, hazard, nonperformance, noncompliance, or violation shall be grounds for revocation of the permit.

35.110      **Permit Revocation:** A permit shall not be revoked until a hearing is held by the Designated Official. Written notice of the time and place of such hearing shall be served upon the permittee at least ten (10) days prior to the date set for the hearing. The notice shall also contain a brief statement of the reasons for revoking the permit.

Notice may be given either by personal delivery thereof to the person to be notified, or by deposit in the United States mail in a sealed envelope registered and postage prepaid, addressed to the person to be notified at their address given in the application for the permit.

Any permit holder, owner, or surety who feels that they have been aggrieved by the decision of the Designated Official may appeal any of the provisions of this Regulation pursuant to the appellant process of the Local Entity and of Part I, Section 16 of these Regulations.

### **SECTION 36: FEES**

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Appropriate fees, procedures, and regulations may be established by cost of enforcement of these Regulations.

### **SECTION 37: BONDS**

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Appropriate bonds and collection procedures may be imposed by the local entity to assure compliance with this Ordinance.

### **SECTION 38: ENFORCEMENT OF PART II**

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38.010 **Violations and Penalties:** It shall be unlawful for any person to violate any provision, or to fail to comply with any of the requirements, of this title. Any person violating any provision of this title or failing to comply with any of its requirements, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding one thousand dollars (\$1,000.00) or by imprisonment not exceeding six (6) months, or by both such fine and imprisonment.

Each person shall be deemed guilty of a separate offense for each day during any portion of which any violation of any of the provisions of this title is committed, continued, or permitted by such person, and he/she shall be punishable therefore as herein provided.