

**CITY OF HILSHIRE VILLAGE  
NEW HOUSE AND HOUSE ADDITION PLAN SUBMITTAL  
CHECK LIST**

**"THE FOLLOWING CHECKLIST IS ONLY A SUMMARY THAT IS PROVIDED FOR THE APPLICANT'S BENEFIT; HOWEVER, FULFILLING THE REQUIREMENTS OF THIS SUMMARY CHECKLIST DOES NOT RELIEVE THE APPLICANT FROM THE RESPONSIBILITY OF MEETING THE REGULATIONS IN THE ZONING ORDINANCE, SUBDIVISION REGULATIONS, AND OTHER DEVELOPMENT RELATED ORDINANCES OF THE CITY OF HILSHIRE VILLAGE. IN THE EVENT THAT THERE IS A CONFLICT BETWEEN THIS SUMMARY CHECKLIST AND THE CITY'S CODE OF ORDINANCES, THE CODE OF ORDINANCES SHALL CONTROL."**

**ADDRESS:**

**DATE:**

The City must have a copy of the contract showing the cost of the project signed by home owner and the plan check fee must be collected prior to Plans being reviewed and approved by the Building Official. **The plan check fee is separate from and does not apply towards the permit fee. There is a separate plan check fee for Drainage.**

**Utility availability: To be ascertained by applicant prior to plan approval.**

At least a one (1) inch water meter must be located on property prior to installation of Fire Suppression System at cost to Contractor/Home Owner purchased through the City.

**New House plans shall be submitted by the applicant in duplicate sets with a table of contents showing page numbers. The plans shall include the following criteria and/or documents listed below. Any omission of these requirements will result in plans being rejected, delayed and potential incremental cost to review again. Drainage plans and required documents should also be submitted in duplicate separate from the house plans.**

□ **1. Site Plan** that shows lot coverage calculations and meets all requirements in Zoning Ordinance It shall also include preferred location of sewer and water taps.

□ **1a. Maximum lot coverage:**

11.01 *Maximum lot coverage: The maximum coverage of any lot with any non-permeable constructed surface shall not exceed fifty-five (55) percent of the lot area located behind the required back building line and shall not exceed fifty (50) percent of the lot area located in front of the required front building line. For computation of the lot coverage, by way of example only, required “non-permeable constructed surface” shall include building, garages, accessory buildings, pools, patios, sidewalks, driveways, any paved surface for automobiles, pavers, including porous pavers and other non-permeable constructed surface areas” but shall exclude, by the way of example only, stepping stones, air conditioner supports, landscape border stones, wooden decks and similar materials or structures.*

□ **1b. Minimum lot width:**

11:01.02 *Minimum lot widths: No lot shall be less than fifty-five (55) feet wide at the front street property line, nor shall its width be less than seventy-five (75) feet at the front building line.*

12.217 *For District R-3: No lot shall be less than fifty 50 feet wide at any point.*

□ **1c. Front building line:**

11:01:03 *Front building line: District R-1 (A), no building shall be located on any plot nearer than thirty (30) feet to a front lot line which adjoins a local street or forty (40) feet to a front lot line which adjoins either Wirt Road or Westview.*

*For District R-2 (B), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street.*

12.217 *For District R-3 (Pine Creek Lane), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street*

12.218 *For District R-4 (Bridle Spur Lane), no building shall be located on any plot nearer than twenty-five (25) feet to a front lot line which adjoins a local street*

□ **1d. Side building line:**

11:01:04: *For District R-1 and R-2 No building shall be located nearer than eight (8) feet to any side lot line, nor nearer than fifteen (15) feet to any side local street line nor nearer than twenty-five (25) feet to either the Wirt or Westview street line. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater.*

12.217 *For District R-3 (Pine Creek Lane) No building shall be located nearer than five (5) feet to any side lot line. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater.*

12.218

*For District R-4 (Bridle Spur Lane) No building shall be located nearer than ten (10) feet to any side lot line nor nearer than (15) feet to any side local street line nor nearer than twenty-five (25) feet to either the Wirt or Westview street line. Second story must be set back a minimum of two (2) additional feet to the applicable side lot setback listed above, except where one (1) of the side yard setbacks is fifteen (15) feet or greater*

□ **1e. Rear building line:**

*11:01.05 No main building, including an attached garage, shall be located nearer than twenty-five (25) feet to the rear lot line, and no detached garage or accessory building shall be located nearer than ten (10) feet to any rear lot line.*

*No main building, including an attached garage, shall be located nearer than twenty-five (25) feet to the rear lot line, and*

*If adjoining property is a rear yard the setback must be 25 feet to main building or attached garage, 10 feet to detached garage or accessory building. 3:5 ratios if building is greater than 10 feet in height from the rear or a side yard adjacent to a rear yard*

□ **1f. Side walk and Driveway:** Refer to Ordinance 606, adopted 8/19/08, Section 1; Ordinance 670, adopted 1/17/12, Section 1)

*Sec. 4.623. Subject to the provisions of this article, a property owner may cause or permit the construction, installation or placement of driveway, pedestrian walkway, and related culvert facilities within public drainage right-of-way for purposes of providing a driveway access, not to exceed twenty-two (22) feet in width with a minimum width of ten (10) feet, and a walkway for pedestrian access, not to exceed four (4) feet in width. If a property owner proposes to construct a circular driveway, then such property owner shall be allowed two points of driveway access, not to exceed a total of twenty-eight (28) feet in width; otherwise, such access shall be limited to one point of driveway access and one point of pedestrian access. There must be at least ten feet (10) of open ditch without a culvert between the inner access points of any circular driveway. The pedestrian access may not be contiguous to any driveway or circular driveway. The total number of feet of the width of the driveway and any walkway may not exceed 50% of the total number of feet where the property right-of-way meets the paved street. A property owner will be allowed one driveway access of twenty-two (22) feet in width even if the width of the driveway exceeds 50% of the number of feet where the property right-of-way meets the paved street. A driveway access may have an additional three (3) foot turning radius added to each side of the driveway access where it meets the paved surface of the street only. For stability and erosion control measures, driveway and/or walkway culverts may extend beyond the driveway/walkway width, so long as it meets the following criteria:*

*(1) Driveways and/or walkways may have an additional two (2) feet maximum wide grass shoulder on each side; and*

*(2) The maximum culvert length on each end of the driveway and/or walkway shall be determined using a maximum side slope of 1.5 (H) to 1 (V) when grading the terminal end of the ditch around the culverts extensions; or*

*(3) Alternatively, retaining walls may be used at each end of a driveway and/or walkway culvert for stability and erosion control measures; provided, the retaining wall height shall not exceed six (6) inches above the driveway/walkway finish elevation.*

□ **2. House Plans** drawn by a registered Architect or Building Designer of the State of Texas and sealed as applicable. **North Arrow** should be included on all plans.

□ **2a. Dwelling Unit Requirements:** Refer to Ordinance 588, adopted May 16, 2006, Section 4 and Ordinance 602, adopted March 12, 2007, Section 3.

*11:03.01 one dwelling: No more than one dwelling unit shall be constructed on any residential lot.*

*11:03.02 Net building area: The net building area shall not exceed forty percent (40%) of the lot area.*

*11:03.03 Total floor areas: The total floor area of each dwelling unit shall not be less than fourteen-hundred (1400) square feet.*

*11:03.04 Multi-story areas:*

*The net building area of the ground floor of any one and a half or two story dwelling unit shall be not less than one thousand (1000) square feet.*

□ **2b. Building Height Requirements:** Refer to Ordinance 588, adopted May 16, 2006, Section 3.

*02:B-04 Building height: "Building height" shall mean the vertical distance above a reference datum (established below) measured to the highest point of: the coping of a flat roof; the deck line of a mansard roof; the highest ridge of a gabled, pitched or hipped roof; or the highest point of the building. The reference datum shall be selected by either of the following, whichever yields a greater building height:*

- 1. The elevation of the highest adjoining public sidewalk or natural ground surface within a 5-foot horizontal distance of the exterior wall of the building when such sidewalk or ground surface is not more than 10 feet above lowest grade. (Thirty-Five (35) feet from natural finished grade)*
- 2. An elevation 10 feet higher than the lowest grade when the sidewalk or ground surface described in Item 1 above is more than 10 feet above the lowest grade.*

*The height of a stepped or terraced building is the maximum height of any segment of the building.*

*11.02.01 Maximum height: No structure shall exceed thirty-five (35) feet in height including chimney(s) and any and all attachments to the structure, and where a rear lot adjoins another lot, the maximum vertical height limit of that portion of a building or structure located along or adjoining the minimum rear building line shall be ten (10) feet with additional building or structure height allowed at a ratio of three (3) feet vertical (not to exceed the maximum height allowed) for each additional five (5) feet horizontal distance [a 3:5 ratio] beyond the minimum building line; and where a side lot line adjoins the rear lot line of another lot, the maximum vertical height limit of that portion of a building or structure located along or adjoining the minimum rear building line shall be ten (10) feet with additional building or structure height allowed at a ratio of three (3) feet vertical (not to exceed the maximum height allowed) for each additional five (5) feet horizontal distance [a 3:5 ratio] beyond the minimum building line.*

We need a "Height Certification – Principal & Accessory Structures" signed by a registered Land Surveyor.

□ **2c. Number of Stories:** Refer to Ordinance 588, adopted May 16, 2006, Section 3.  
11:02.02 No building shall be more than two stories.

- **2d. Bedroom windows** to comply with egress (5.7 sq. ft. net opening 42" AFF max)
- **2e. Self-closing fire rated door** from garage to dwelling if garage attached.

□ **2f. Attic:** Refer to Ordinance 588, adopted May 16, 2006, Section 3.  
*11:02.04 Attic: An attic, unless a legal attic story, shall not be a habitable room and shall not enclose such places as bath or toilet rooms, or laundries and if a wall and/or ceiling of such attic space is finished shall have no window or skylight.*

□ **2g. Overhang:** Refer to Ordinance 588, adopted May 16, 2006, Section 3.  
*11:02.03 Overhang allowed: A balcony, cornice, porch, eave, roof or roof overhang of any kind shall not extend over any building a distance of more than twenty-four (24) inches.*

□ **2h. Garage:** Refer to Ordinance 588, adopted May 16, 2006, Section 1 and Section 4; Ordinance 602, adopted March 12, 2007, Section 1; Ordinance 627, adopted January 20, 2009, Section 1; Ordinance 602, adopted March 12, 2007, Section 3.

*02:G-01 Garage, private: "Private garage" shall mean a building or portion of a building, in which only motor vehicles used by the occupants of the dwelling on the premises are stored or kept.*

*11:04.01 Required: A private garage, attached or detached, shall be constructed for each dwelling unit.*

11.04.02 Size: A private garage shall be constructed of not less than four hundred (400) square feet, nor more than one thousand (1,000) square feet.

11.04.03 Entrance or exit: No vehicle door(s) or vehicle entrance or exit of a garage constructed forward of the slab or structure of a dwelling shall face the street of address. Said door(s) or entrance or exit shall be located on a side of a garage which in plain view shall be at a 90 degree angle or greater to the street of address.

11:04.04 Second story access: Doorway or hallway access to a second story above an attached garage shall be enclosed and through the dwelling to which it is attached.

02:G-02 Garage, attached: "Attached garage" shall mean a garage which has at least ten (10) feet of continuous, uninterrupted wall in common (to both floors if two (2) story) with the building to which it is attached, excluding enclosed or unenclosed hallways, breezeways, or offset rooms from consideration as a means of attachment.

02:G-03 Garage, detached: "Detached garage" shall mean a garage which is not an attached garage; provided, further, a detached garage shall not mean or include a carport. No wall of a detached garage shall be located less than three (3) feet from an outside wall of the main building. A detached garage may be connected to the main building by a walkway covering; provided, however, such covering shall not be more than six (6) feet in width. Any garage or projection thereof located within less than three (3) feet of the main building or any projection thereof shall be deemed to constitute a portion of such main building.

11.04.05 Detached: A detached garage: (1) shall not exceed one (1) story, and (2) above the ground floor the detached garage shall not have provisions for sanitation, bath or kitchen facilities.

- **2i. A/C Unit:** No less than 5 ft. from property line.
- **3. Engineered Foundation:** Detail-signed and sealed by registered Professional: Top of slab must be a minimum 12 inches above base flood elevation. **Foundation Form Survey must be submitted to the City prior to the house slab being poured.**
- **4. Energy Code Report: Res Check** must comply with the International Energy Conservation Code.
- **5. Soil Report** (One copy required) Signed and sealed by Registered Professional Engineer of the State of Texas.
- **6. Framing Detail**
- **7. Electrical one line and load analysis**
- **8. Power Line Survey**
- **9. Tree Survey and a Disposition Plan:** Refer to Ordinance 736 adopted 10/18/16.  
*Sec. 3.703. – Tree Survey and Tree Replacement:*
  - a. *Trees required on residential lots. The purpose of this article is to preserve and continue the tree canopy and wooded character that has been a hallmark of the city since its founding. Every residential lot is expected to be heavily treed, and shall be required to have a minimum of one tree, as defined in this article, per 1500 square feet of lot area, at the time of issuance of a certificate of occupancy. If trees are removed for any reason, they shall be replaced as required by this article.*
  - b. *Tree survey required for construction. A tree survey for any residential lot in the city shall be required as part of a new construction or building permit for expansion of any structure on a lot.*

(1) The tree survey shall accurately reflect all trees as described in subsection (2), below, and shall be prepared by a person with expertise to prepare such a document, for example, but not limited to: an architect, engineer, landscape or tree professional, surveyor, or urban forester.

- (2) The tree survey shall include and contain as a minimum the following information:
- (a) The actual location (i.e. trunk location), diameter, type and Critical Root Zone of each tree on the Subject Site or tract which is eight (8) inches in diameter (25.12" in circumference) or larger.
  - (b) Building or structure outlines, including driveways, parking areas or other paved surfaces, fences, utilities and other improvements and structural features to be constructed. Also, show the location of the tree protection fence.
  - (c) A scale, north arrow, name address, phone number and profession or occupation of the person who prepared it, and the name of the site owner and phone number and of the applicant for the building permit.
  - (d) An identification of the development and a description of the Subject Site and its location.

At final inspection, the building official shall inspect and confirm compliance with the tree survey and installation of required trees. No certificate of occupancy shall be issued until the tree requirement has been met.

□ 10. **Plumbing Riser detail**

□ 11. **Mechanical sizing and layout**

□ 12. **Fire Sprinkler System:** Plans shall be submitted to Village Fire Department; after approval a copy of the approved plans should be submitted to the City. Permit will be acquired from the City.

□ 13. **Building Code Compliance:**

2015 International Residential Code  
2015 International Building Code  
2015 International Energy Conservation Code  
2015 International Fire Code  
2015 International Residential Code  
2015 International Mechanical Code  
2015 International Plumbing Code  
2015 International Fuel Gas Code  
2014 National Electrical Code  
& All City Ordinances

**\*\*OTHER GUIDELINES AVAILABLE: Hilshire Village Building Height Restrictions: Zones R-1, R-2, R-3 and R-4 and Hilshire Village Lot Building Lines**

**The Drainage Plan needs to be submitted in duplicate, separate from the building plans and they must include a copy of the Site Plan (including non-permeable/impervious lot coverage calculations), Tree Survey and an Existing Conditions Topographical Survey.**

**There is a separate plan check fee for Drainage.** Drainage Plan Check Fee for New Construction. Review means review plans or submittal corrections.

\$1,000.00 Fee includes:

Submittal Review

Resubmittal Review (one)

Final “As Built” Review

Final “As-Built” Resubmittal Review (one) of Final Review

Any additional Reviews \$600 per review

A drainage permit is required

□ **14. Grading & Drainage Plan** Refer to Ordinance 588, adopted May 16, 2006, Section 2; Ordinance 602, adopted March 12, 2007, Section 2

*Area drainage: Each Lot shall be finish graded so as to maintain the drainage of such property without adversely affecting the existing drainage pattern of adjacent property and to prevent damage by overflow of water onto adjacent property caused either by direct diversion of water onto the adjoining land or by failure to adequately accommodate new or changed drainage patterns. Prior to the issuance of a building permit, a registered drainage engineer shall supply a drainage plan certifying compliance with this section when the existing drainage pattern is altered in any fashion. By way of example, but without limitation, the existing drainage pattern may be altered by the addition of a pool, driveway, or accessory building.*

**14a.** An Existing Conditions Topographic Survey shall be prepared and submitted to the City for review and approval, prior to start of demolition and/or construction activities. The topographic survey shall be prepared, signed and sealed by a Registered Professional Land Surveyor (R.P.L.S.) in the State of Texas. In general, the topographic survey shall be tied to an existing benchmark; no assumed elevations will be allowed; and shall indicate property floodplain location status based on the current or latest Flood Insurance Rate Map (FIRM), as published by the Federal Emergency Management Agency (FEMA). The topographic survey shall show, as a minimum, the location and elevations of existing structures, roadways, driveways, sidewalks, swimming pools, curb/gutter, ditches, trees, shrubs, flower beds, storm and sanitary sewers, and the existing natural ground elevations throughout the site. The topographic survey shall include existing natural ground spot elevations at a maximum of 25-ft spacing covering the lot, including along the perimeter of the lot, grid across the lot, and along the perimeter of all structures (building slabs, sidewalks, patios, driveways, decks, etc.). If significant changes occur in the natural ground contour (i.e. depressed areas) and the 25-ft spacing does not adequately depict the lot surface condition, then spot elevations shall be taken at 10-ft spacing or less, in order to provide a clear profile of the site.

**14b.** A Drainage Plan shall be submitted to the City for review and approval, prior to start of demolition and/or construction activities. The Drainage Plan shall be prepared, signed and sealed by a Registered/Licensed Professional Engineer (P.E.) in the State of Texas. In general, the Existing Conditions Topographic Survey shall be used in the development of the proposed Drainage Plan.

**14c.** The Drainage Plan shall also include all aspects of the anticipated development including but not limited to building foundation, patios, decks, swimming pools, driveways, walks, landscaped areas, downspouts, drainage system, etc. The Drainage Plan shall show finished grade elevations of all proposed paving and grading on the site and shall include existing and planned natural ground spot elevations at a maximum of 25-ft spacing covering the lot, including along the perimeter of the lot, grid across the lot, and along the perimeter of all structures (i.e. building, slabs, sidewalks, patios, driveways, decks, etc.) As a minimum, show proposed natural ground elevations throughout the lot to match locations where existing natural ground elevations were previously shot/taken in the Existing Conditions Topographic Survey; and in other areas as necessary to demonstrate proper drainage of the lot.

**14d.** No elevation changes shall occur around and within 3-ft of the perimeter of the property which could become a physical barrier for the natural flow of water from adjacent properties into the property being developed or redeveloped ***[INCLUDE THIS REQUIREMENT AS A GENERAL NOTE IN THE DRAINAGE PLAN]***.

**14e.** The drainage of the lot shall be such that no person shall divert or impound the natural flow of surface water falling on the lot, in accordance with the Texas Water Code, without producing evidence of appropriate agreements with the affected property owner.

**14f.** Drainage of the lot may be obtained by surface or sub-surface means, or a combination of the two, as is appropriate and necessary to ensure that the water falling on the lot upon which construction is planned will drain into the street, ditch, or storm sewer system of the City of Hilshire Village, or any existing drainage easement.

**14g.** Existing drainage from other properties draining into and through the lot to be developed or re-developed shall be maintained during and after construction activities are completed ***[INCLUDE THIS REQUIREMENT AS A GENERAL NOTE IN THE DRAINAGE PLAN]***. The proposed drainage system shall be designed to handle a City of Houston 2-Year Design Storm of additional flow from these adjacent properties.

**14h.** For a sub-surface drainage system (i.e. storm sewer pipes), the registered/licensed professional engineer shall design the system to handle a City of Houston 2-Year Design Storm, using 6-inch diameter PVC SDR 35 (minimum slope 0.65%) and/or 8-inch diameter PVC SDR 35 (minimum slope 0.44%) storm sewer pipes. All proposed drainage pipes shall be sloped to achieve a minimum velocity of 2.3 ft/sec.

**14i.** For a surface drainage system (i.e. swales), the registered/licensed professional engineer shall design the system to handle a City of Houston 2-Year Design Storm. Swales shall have a minimum width of 3-ft, minimum side slope of 3 (horizontal) to 1 (vertical), minimum slope of 0.06%, and a maximum flow velocity of 3.0 ft/s.

**14j.** Proposed landscaping/planting areas along the property perimeter shall not impede the storm water flow into and through swales or storm sewer inlets. No raised flower beds will be allowed along the perimeter of the property. No landscaping/planting will be permitted in the



drainage swales **[INCLUDE THIS REQUIREMENT AS A GENERAL NOTE IN THE DRAINAGE PLAN]**.

**14k.** Proposed or existing rain gutter downspouts shall not be tied into existing or proposed underground storm sewer lines that drain directly into the City’s ditches on the front and/or side of the owner’s property, nor shall they be extended to tie directly into the City’s ditches **[INCLUDE THIS REQUIREMENT AS A GENERAL NOTE IN THE DRAINAGE PLAN, IF DOWNSPOUTS ARE PROPOSED]**. Rain gutter downspouts, however, may be tied into: (a) on-site (below ground) retention features that would allow storm water to percolate into the ground; or (b) on-site (below ground) retention features to re-use storm water runoff for “green” applications such as irrigation.

**14l.** Outfall flow line elevations and flow line of existing system shall be shown where proposed tie-in occurs (i.e. to ditch and/or storm sewer line), and at every bend, tee, wye, inlet/catch basin, as applicable. Unless an inlet/catch basin is proposed, install clean-outs at locations in the proposed storm sewer system where horizontal alignment changes occur, to facilitate future cleaning and maintenance of the storm sewer system.

**14m.** Driveway culvert(s) shall be able to convey a City of Houston 2-Year Design Storm for all affected area. The minimum culvert size shall be 18-inches in diameter and shall be reinforced concrete pipe (RCP). The City Engineer will establish the culvert’s flow line elevations. Refer to Code of Ordinance Section 9.111 for additional information.

**14n.** Any change(s) to the approved Drainage Plan shall be submitted to the City for review and approval. Contractor shall allow a minimum of seven (7) calendar days for review of drainage plan submittals and re-submittals, as applicable. (Plan check fee includes two (2) reviews by City Engineer. Any additional reviews will be at cost to the Contractor/Home Owner)

**14o.** After construction is completed and the grass has been restored/installed, a Final As-Built Drainage Plan Survey, sealed and signed by a Registered Professional Land Surveyor (R.P.L.S.) in the State of Texas, shall be submitted to the Engineer of Record (i.e. Drainage Engineer that prepared the Drainage Plan approved by the City) for review. **This Final As-Built Drainage Plan Survey** shall be tied to the same survey benchmark and include the same information furnished in the approved (“Permit”). As a minimum, show proposed natural ground elevations throughout the lot to match locations where existing natural ground elevations were previously shot/taken in the Existing Conditions Topographic Survey; and in other areas shown in the approved Drainage Plan. If storm sewer lines, inlets/catch basins, and clean-outs are installed, Surveyor shall show storm sewer lines and flow line elevations at inlets/catch basins and clean-outs in the Final As-Built Drainage Plan Survey. The Engineer of Record shall review the As-Built Drainage Plan Survey, inspect and verify the drainage system (i.e. storm sewer lines, inlets/catch basins, clean-outs, and/or swales) were installed in general conformance with the approved Drainage Plan and the City’s current Drainage Ordinance and Requirements. Engineer of Record shall prepare and include non-permeable/impervious lot coverage calculations in front and behind the front building line based on as-built conditions and in conformance with City’s maximum lot coverage ordinance (as detailed in Section 1a. Maximum lot coverage, of this checklist). Engineer of Record shall prepare a letter in company letterhead, signed and sealed by

a Registered Professional Engineer (P.E.) in the State of Texas, certifying the Final As-Built Drainage Plan Survey is in general conformance with the approved Drainage Plans and the City's current Drainage Ordinance and Requirements. Submit Final As-Built Drainage Plan Survey (including non-permeable/impervious lot coverage calculations), and Engineer of Record Certification letter to the City for review, inspection and approval. A Certificate of Occupancy (CO) will not be issued by the Building Official until the Final As-Built Drainage Plan Survey is reviewed and approved by the City Engineer.

An exception or variance may be granted by the City, on a case by case basis, if the drainage in the area could be adversely affected by any of the restrictions or guidelines described above, as determined by the City Engineer upon review of the affected drainage areas.