



Planning & Development  
Department

Drainage Clearance Review Requirements



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## Planning & Development Department

### DRAINAGE REVIEW



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#### LIST OF TOP 10 QUESTIONS ASKED REGARDING PLAN SUBMITTALS

**1. What needs to be shown on the plans?**

Review the attached requirements for specific project.

**2. Where do I obtain a Building Permit or submit my plans?**

Building Permits and Plan submittals are to be taken downtown to 501 North 44<sup>th</sup> St, Suite 200. For questions regarding Building Permit submittals, call (602) 506-3201. Applications and information regarding the submittal of building permits can be obtained from the County's Fax on Demand line at (602) 506-0800.

**3. When do I call for a stem inspection?**

Prior to pouring the stem walls. Have the contractor set up the height of the stemwalls for our inspector's visit. This should happen after the initial site plan has been approved. Call our inspection line at (602) 506-3692. Inspections for the next day need to be called in prior to 2:30 pm (This is an automated system).

**4. When do I call for a final inspection?**

After everything has been completed, all the concrete has been poured, all trenches have been filled, stockpiles/berms removed and the site has been rough graded.

**5. Do I need a site inspection?**

Whether a site inspection is needed or not depends on the location of the site and the potential drainage and flooding hazard for the site. County reviewers will determine if a site inspection is needed at the time of the plan submittal.

**6. Am I in a floodplain?**

Check the Federal Emergency Management Agency's Flood Insurance Maps or if the property is located in the Unincorporated Areas of Maricopa County you can call the Flood Control District's Floodplain Division at (602) 506-2939 and ask for floodplain determination. Prior to calling, make sure you have the Tax Assessor Number.

**7. What will the fees be?**

Fees will be determined by County Plan Reviewers at the time of the submittal in conformance with adopted fee schedules.

**8. Do I need an engineer to prepare my plans?**

An Arizona Registered Engineer is needed if there is extensive grading, a wash is to be rerouted or encroached upon, the proposed house is adjacent to a significant wash, or if the finished floor is to be lower than the allowed finished floor criteria (see requirements for finished floors and grading on-site on the form 716).

**9. How far away from the wash does my house need to be?**

The location on the structure in proximity to a wash is dependent on the size of the wash, the amount of flow the wash carries, and if any bank stabilization is required. County Plan Reviewers will determine if a location is acceptable during the plan review process. In general, stay away from all major washes. A good rule for proposed structures within twenty feet of minor washes, would be to provide bank protection and set the footers 3 feet below the bottom elevation of the wash. For larger washes, a civil engineer will need to determine appropriate erosion control. Erosion control may need to meet Arizona State Standard 5-96.



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**REQUIREMENTS FOR FINISHED FLOORS AND GRADING ON SITE**

**Finished Floor Elevation:**

Finished floors shall be elevated a minimum of one foot above the high point of the building site, unless the site is within a flood hazard area. In some hillside locations or alluvial flooding areas, the finished floor elevation may be required to be a minimum of 18 inches or two feet above the high point of the building site. A finished floor elevation may be other than the minimum permitted, provided it is determined by technical data and certified by an Arizona Registered Engineer to be safe from inundation by the 100-year peak runoff event. Finished floor elevations shall be referenced to a known benchmark whenever possible, or to a suitable reference elevation.

**Building Site:**

The area extending laterally a minimum distance of 10 feet beyond the foundation or support of a building.

**The High Point of the Building Site:**

The finished floor must be elevated a minimum of 12 inches above the highest point of the natural grade within the building site, unless certified by a civil engineer for a lower elevation.

**Temporary Bench Mark (TBM):**

A TBM is a reference point established for use by an inspector during stem/finished floor elevation inspections that is referenced to a datum elevation or a certified Benchmark (BM) on-site with a known elevation. Sites using the high point of natural grade in the building site to establish finish floor elevation must reference that point. Site TBMs must not be located in streets and should be located within a reasonable distance of the proposed structure.

**Grading On Site:**

Grading on a site, unless otherwise stated and approved, shall be limited to the boundaries of the building site for the purpose of building a pad or clearing. This does not include excavating the building site or doing extensive fill.

Any excavation or fill outside the limits of the building site, or any extensive fill or excavation of the building site shall require a submittal of engineered grading and drainage plans. This plan must be approved and a description of the proposed work included on the Drainage Clearance. The grading and drainage plan must include existing and proposed contours or spot elevations, and show the drainage methods proposed.

Engineered Grading and Drainage plans may be required on any site work.



# Planning & Development Department

## ENGINEERED PLAN SUBMITTAL REQUIREMENTS



Please check your plan against the listed items for compliance. The following checklist should be used as a guideline. Additional data may be required based upon complexity of the design and location. Submit the checklist with your revised plan of development.

### Cover Sheet

- 1. Project Name & Address
- 2. Legal Description
- 3. Site Location Map
- 4. Engineer's Name, Address, and Phone Number
- 5. Tracking Number
- 6. Bench Mark/On Site Temporary Bench Mark (TBM)
- 7. General Notes/Legend
- 8. Arizona Registered Professional Civil Engineer's Seal and Signature

### Site Plan Sheet

- 1. North Direction Arrow & Engineer's Scale
- 2. Property Lines/Dimensions
- 3. Building Envelope/Tracts/Easements/Floodplain Boundaries
- 4. Finished Floor Elevation & Statement, "Finished floors are free from inundation during a 100-year peak run-off event if constructed in accordance with approved plans."
- 5. Contour Lines/Spot Elevations
- 6. Drainage Patterns/Arrows/Grade Breaks
- 7. Washes & Swales
- 8. Perpendicular Cross Sections Through Site
- 9. Driveway Location
- 10. Culvert Cross Section & Profile
- 11. Fences/Block Walls with Type & Location of Drainage Openings
- 12. Septic Tank Location
- 13. On Site Temporary Benchmark (TBM)
- 14. Arizona Registered Professional Civil Engineer's Seal & Signature

### Drainage Report (if required\*, see Standard 6.13 for format and submittal requirements)

- 1. Drainage Area Map (based on best available data)
- 2. Hydrologic Analysis
- 3. Culvert Analysis
- 4. Channel/Wash Hydraulic Analysis
- 5. Erosion Protection Analysis
- 6. Arizona Registered Professional Civil Engineer's Seal & Signature

\* Drainage reports are required based upon the complexity of the proposed construction, the level of the drainage hazard and the location of the proposed construction to the drainage hazard.



## Planning & Development Department

### PLAN REQUIREMENTS FOR DRAINAGE REVIEW OF SINGLE FAMILY RESIDENCE



A complete Site Plan including a Grading and Drainage Plan, drawn to scale must be submitted for Drainage review and approval.

#### **The Site Plan must include:**

1. A title block (name, address and phone number).
2. A location map (How do we get to your property for inspection purposes?).
3. A North direction arrow and scale. (Engineering scaled preferred).
4. The proposed structures included on the permit application and any existing on site structures.
5. The dimensions of the property, set back dimensions of side, front and rear yards and locations of easements, if applicable, or building envelopes.
6. Any washes, drainage tracts, or drainage channels located on site, or bordering the site, that may involve or affect the drainage of the site to be developed.

#### **The Grading and Drainage Plan should include the following items:**

1. Location of streets on the plan and include the name of all streets that border the property.
2. Finished floor elevation (May require a note on the plan by a registered civil engineer certifying the finished floor will be free from inundation during a 100-year peak runoff event).
3. A temporary bench mark (TBM) on site for referencing elevations. (To be used during the stemwall elevation inspection, if one is required).
4. Proposed contours, including existing contours or spot elevations.
5. Flow arrows indicating there is positive conveyance of runoff away from the structure.
6. Means of conveyance of runoff on-site (indicate swales, dips or pipes). Also provide a cross-section of these areas. If culvert pipes are proposed, indicate the size, type, and inlet and outlet elevations. All culverts must be designed by a civil engineer.
7. Indicate direction of flows on site and any off-site flows entering the site (include any grade breaks).
8. All proposed or existing fences or concrete masonry unit (CMU) walls on-site, including any gate openings. (If a CMU wall, indicate where the present or proposed drainage openings are or will be).
9. Cross-sections through both axis of the proposed structure from 50 feet outside of the property line.

In order to help expedite the review process, it is important that all inclusions be made prior to submittal of plans for review and approval.

A minimum of seven (7) site plans, including the grading and drainage plan must be submitted to start the review process.



# Planning & Development Department



## DRAINAGE REVIEW REQUIREMENTS FOR PRECISE PLANS INCLUDING SPECIAL USE PERMITS

A detailed drainage report with respect to hydrology and hydraulics in conjunction with grading, drainage and paving plans may need to be submitted. The final drainage plan needs to be signed and sealed by an Arizona Registered Professional Civil Engineer and should address the following:

1. **Offsite Hydrology** – Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology** – Need to show how the flows are to be routed to retention basins.
3. **Onsite Retention** – Need to retain water for the 100-year, 2-hour storm for the site, including adjacent right of way. Determine volume needed and the size and location of basins.
4. **Retention Disposal** – Provide testing results in conformance with Standard 6.10 for disposal of total ponding volume within 36 hours.
5. **Onsite Hydraulic Calculations** – Need to show hydraulic analysis for any channels, culverts, storm drains, or street drainage.
6. **Cross Sections** – Need to show perpendicular cross-sections through the site indicating property lines, swales, retention areas, finished floors, and street details.
7. **Finished Floor Elevations** – Need to show finished floor elevation and certification note.
8. **Topography** – Need to show natural and proposed contour elevations or spot elevations.
9. **Dry Wells** – If applicable, need to submit a copy of the dry well registration before final drainage clearance of a permit.
10. **Floodplains** – Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for Floodplain Use Permit.
11. **Erosion Setbacks** – For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.

Since complex drainage systems may require more detailed information, a meeting should be arranged with personnel from Drainage Review.

### FEE INFORMATION\*:

#### Planning Cases:

Plan of Development including SUP (except SFR-SUP)	\$ 1,000 + \$ 500/Acre	\$ 11,000 Maximum
Minor Amendment to a Plan of Development	\$ 650	
Special Use plan for SFR uses	\$ 210	

#### Construction Permits

\$ 2,000 + \$ 250/Acre	\$ 42,000 Maximum
Minor Accessory structure on previously developed site (see Regulation for restrictions)	- \$ 650
Major Accessory structure on previously developed site (see Regulation for restrictions)	- \$ 5,000
(Or as noted above if lower).	

\* See the Drainage Regulation for current fee schedule



## Planning & Development Department

# DRAINAGE REVIEW REQUIREMENTS FOR PRELIMINARY PLAT



A drainage plan and report needs to accompany a preliminary plat submittal. The drainage plan/report shall be developed in accordance with Chapter 6 of the Maricopa County Drainage Policies and Standards Manual and signed and sealed by an Arizona Registered Professional Civil Engineer and should address the following at a minimum:

1. **Offsite Hydrology** – Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology** – Need to show how the flows are to be routed to retention basins.
3. **Onsite Retention** – Need to retain water for the 100-year, 2-hour storm for the site, including adjacent right of way. Determine volume needed and the size and location of basins.
4. **Retention Disposal** – Provide testing results in conformance with Standard 6.10 for disposal of total ponding volume within 36 hours.
5. **Onsite Hydraulic Calculations** – Need to show hydraulic analysis for any channels, culverts, storm drains, or street drainage.
6. **Cross Sections** – Need to show perpendicular cross-sections through the site indicating property lines, swales, retention areas, finished floors, and street details.
7. **Finished Floor Elevations** – Need to show finished floor elevation and certification note.
8. **Topography** – Need to show natural and proposed contour elevations or spot elevations.
9. **Preliminary Construction Details** – Sufficient detail shall be provided to verify that any proposed drainage control structure can be constructed within identified easements or tracts.
10. **Floodplains** – Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for Floodplain Use Permit. Delineate all floodplains (non-FEMA) of 50 cfs or greater. All Floodplain delineations must be shown on the preliminary plat.
11. **Erosion Setbacks** – For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.
12. **Drainage Easements** – All drainage control structures, including retention, shall be in platted tracts or easements.

Since complex drainage systems may require more detailed information, a meeting should be arranged with personnel from Drainage Review.

### FEE INFORMATION\*:

FEE: \$ 2,000 + \$200/acre maximum \$34,000

\* See the Drainage Regulation for current fee schedule



## Planning & Development Department

### DRAINAGE REVIEW REQUIREMENTS FOR FINAL PLAT



A final drainage report in conjunction with grading, drainage and paving plans will need to be submitted with the final plat. The final drainage report needs to be developed in accordance with the County's Drainage Policies and Standards Manual and signed and sealed by an Arizona Registered Professional Civil Engineer and to include the following:

1. **Offsite Hydrology** – Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology** – Need to show how the flows are to be routed to retention basins.
3. **Onsite Retention** – Need to retain water for the 100-year, 2-hour storm for the site, including adjacent right of way. Determine volume needed and the size and location of basins.
4. **Retention Disposal** – Provide testing results in conformance with Standard 6.10 for disposal of total ponding volume within 36 hours.
5. **Onsite Hydraulic Calculations** – Need to show hydraulic analysis for any channels, culverts, storm drains, or street drainage.
6. **Cross Sections** – Need to show perpendicular cross-sections through the site indicating property lines, swales, retention areas, finished floors, and street details.
7. **Finished Floor Elevations** – Need to show finished floor elevation and certification note.
8. **Lot Plans** – Need to show drainage tracts, easements, building envelopes, and typical lot drainage.
9. **Topography** – Need to show natural and proposed contour elevations or spot elevations.
10. **Dry Wells** – If applicable, need to submit a copy of the dry well registration before final drainage clearance of a permit.
11. **Floodplains** – Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for Floodplain Use Permit. Delineate all floodplains (non-FEMA) of 50 cfs or greater.
12. **Erosion Setbacks** – For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.
13. **Access** – Need to show a 100-year all weather access route throughout the subdivision.

Since complex drainage systems may require more detailed information, a meeting should be arranged with personnel from Drainage Review.

#### FEE INFORMATION\*:

FEE: \$ 1,000 + \$ 25/acre maximum \$10,000

\* See the Drainage Regulation for current fee schedule  
(Final Plat fee is separate and additional to a Preliminary Plat fee and infrastructure improvement fees.)



# Planning & Development Department

## DRAINAGE REQUIREMENTS FOR MASTER PLAN



The master plan needs to be signed and sealed by an Arizona Registered Civil Engineer. The following information will need to be provided for the Master Drainage Plan:

1. **Offsite Hydrology-** Need to determine the quantity, the entrance and exit points, and how the flow is to be routed through the site.
2. **Onsite Hydrology-** Need to show how the flows are to be routed to retention basins. Need to determine quantity for pre and post development conditions.
3. **Onsite Retention-** Need to retain water for the 100-year, 2-hour storm for the site, including adjacent right of way. Determine volume needed and the size and location of basins
4. **Retention Disposal** – Provide preliminary design in accordance with Standard 6.10 for disposal of total ponding volume within 36 hours.
5. **Onsite Hydraulic Calculations** – Need to show preliminary hydraulic analysis for any proposed channels or watercourse encroachments.
6. **Contours-** Need to show natural and proposed contours or spot elevations on the plans.
7. **Streets-** Need to show the layout of major streets.
8. **Floodplains-** Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for a floodplain use permit. Delineation of floodplains (non-FEMA) for major washes is required.
9. **Erosion Setbacks-** For washes and other water course channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.
10. **Floodplains** – Need to show the delineated floodplain boundaries if the site is within a Federal Emergency Management Agency's (FEMA) special flood hazard area. Will also need to apply for Floodplain Use Permit.
11. **Erosion Setbacks** – For washes and other watercourse channels an erosion setback will need to be determined, which meets Arizona State Standard 5-96.

Since complex drainage systems may require more detailed information, a meeting should be arranged with personnel from Drainage Review.

FEE\*:

Master Plans (including Development Master Plans)  
\$ 6,000 + \$ 10/acre (for each acre over 640 acres) maximum \$ 80,000

Master Plans Amendments  
\$ 3,000 + \$ 5/acre (for each acre over 640 acres) maximum \$ 40,000

\* See the Drainage Regulation for current fee schedule

**SUBMIT 2 COPIES**

# DRAINAGE REGULATIONS FOR MARICOPA COUNTY

## Chapter 16 – Fee Schedule

### Fee Schedule

Drainage Regulations for Maricopa County, Arizona

The following fees shall be charged for the processing of plan reviews, drainage clearances, appeals, drainage variances, and performance bonds with no provision for refund. In accordance with Section 403 of the Drainage Regulations for Maricopa County, the Drainage Administrator may adopt directives for the effectuation of this fee schedule.

**SECTION 1601. Not Used**

**SECTION 1602. PLANNING AND ZONING**

Area Master Plans (Including Development Master Plans)	
(If concurrent review of DMP and Plats, lower fee is waived) Up to 640 Acres	\$6,000
Plans over 640 Acres	+ \$10 / ac.
Maximum Total	\$80,000
Plan Amendments (for which a Drainage Review is required by Planning Services) up to 640 Acres	\$3,000
Plans over 640 Acres	+ \$5 / ac
Maximum Total	\$40,000
Zoning Case and UPD Review (without precise plan entitlements)	\$60
Plan of Development Review (with precise plan entitlements) including Special Use plans (except SFR Special uses)	\$1,000
	+ \$500 ac
Maximum Total	\$11,000
Minor Amendment to a Plan of Development including Special Use plans (except SFR special uses) Including Billboards, WCF or Cellular Sites, and non-livable buildings on Sites disturbing less than 1 acre	\$650
SUP – Modification of Stipulations	\$60
Special Use plan for Single Family Residential (SFR) – Including Modification of Stipulations or Amendments	\$210
Pre-Application Review and Meetings	\$150

# DRAINAGE REGULATIONS FOR MARICOPA COUNTY

## Chapter 16 – Fee Schedule

<b>SECTION 1603. SUBDIVISIONS</b>	
Subdivisions - Preliminary Plats	\$2000 + \$200/ac
Maximum Total	\$34,000
Subdivisions - Final Plat	\$1000 + \$25/ac
Maximum Total	\$10,000
Re-Plat for Note Corrections or Easement Adjustments without Drainage Impacts	\$60
Other Corrections	\$1,000 + \$25 ac
Maximum	\$10,000
<b>SECTION 1604. DEVELOPMENT CONSTRUCTION PLANS</b>	
Commercial & Industrial Sites and Uses, Multi-family Residential, Subdivision Infrastructure, Schools, Golf Courses and Other Recreational Facilities,	
Non-Exempted Municipal, Special Districts, Churches, and all other precise plans	\$2,000 + \$250 ac
Maximum	\$42,000
Inspections for Permits on Precise Plans <sup>1</sup> with In-Progress Inspections Required	+ \$250 ea.
Inspections for Permits on Precise Plans <sup>1</sup> with a Final Inspection / As-builts Required	+ \$350
Failed Inspection Fee	+ \$350
Modification to Issued Permits on Precise Plans <sup>1</sup>	\$2,000 + \$125 ac
Maximum Total	\$22,000
With Additional Inspections Required for Modified Permits on Precise Plans <sup>1</sup>	+ \$250 ea.
Minor Accessory Construction On Precise Plans <sup>2</sup>	\$400
With Final Inspection (Required)	+\$250
Total	\$650
Failed inspection fee for Minor Accessory Construction	+ \$250
Modification to issued Permits for Minor Accessory Construction	\$250
With Additional Inspections Required for Modified Minor Accessory Construction	+ \$250
Major Accessory Construction On Developed Commercial Sites <sup>3</sup>	\$5,000
With Additional Inspections Required for Major Accessory Construction	+ \$250 ea.
With a Final Inspection/ As-builts Required	+ \$350
Failed Inspection Fee for Major Accessory Construction	+ \$250
Modification to Issued Permits for Major Accessory Construction	\$2500
With Additional Inspections Required for Modified Major Accessory Construction	+ \$250

# DRAINAGE REGULATIONS FOR MARICOPA COUNTY

## Chapter 16 – Fee Schedule

<b>SECTION 1605. RESIDENTIAL SITE/DRAINAGE PLANS</b>	
Subdivision lots, Custom lots, Rural Single Family	
Approved by Administrative Review	\$60
Approved by Site Inspection	+\$150
With an In-Progress Inspection Required	+\$150
With Final Inspection Required	+\$150
Maximum Total	\$510
Approved by Engineering Review	\$360
With Pre-Issuance Site Inspection (Required)	\$150
Minimum Total	\$510
With Drainage Report Required for Engineering Review	+\$240
With an In-Progress Inspection Required	+\$150
With Final Inspection Required	+\$150
Maximum Total	\$1050
Failed Inspection for Residential Permits	\$150
Additional and Concurrent Permits for Engineering Review	+ \$30 ea
In-Progress Inspection Required for Additional and Concurrent Permits	+\$150
Multi-Parcel Projects	+ \$150/ parcel
Modification to Issued Permits	\$250
Modification to Issued Permits on Multi-Parcel Projects	+ \$75/ parcel
<b>1606. NEW SFR IN APPROVED SUBDIVISION – EXPEDITED PROCESS</b>	
Lots Approved for Expedited Permit Process with Certified Pad Elevation	\$60
Final Inspection Required	+\$150
<b>1607. Other Fees</b>	
Drainage Review Board Cases (Variances and Appeals)	
Commercial and Subdivision	\$1,000
All Other Sites	\$250
Board of Adjustment	\$100

# DRAINAGE REGULATIONS FOR MARICOPA COUNTY

## Chapter 16 – Fee Schedule

Special Inspections - Consultations with County Staff (On-site or at County Offices)	
SFR	\$150
Commercial	\$300
Complex Projects	\$350
Work begun or completed without a permit	
Residential (violation case opened before permit initialization)	\$500
Residential (voluntary compliance without a violation case opened)	\$250
Commercial including subdivisions (with or without open violation case opened)	Fees Doubled
Pre-Application review and meetings	\$150

<sup>1</sup> **COMMERCIAL & INDUSTRIAL SITES AND USES, MULTI-FAMILY RESIDENTIAL, SUBDIVISION INFRASTRUCTURE, SCHOOLS, GOLF COURSES AND OTHER RECREATIONAL FACILITIES, NON-EXEMPTED MUNICIPAL, SPECIAL DISTRICTS, CHURCHES, AND ALL OTHER PRECISE PLANS**

<sup>2</sup> **SITES MUST HAVE AN ESTABLISHED PRIMARY USE, BE DEVELOPED IN SUBSTANTIAL CONFORMANCE WITH THE DRAINAGE REGULATIONS, AND THE CONSTRUCTION ACTIVITY MUST DISTURB LESS THAN ONE ACRE. MINOR ACCESSORY CONSTRUCTION INCLUDES, BUT IS NOT LIMITED TO, SIGNS, ADA ACCESSIBILITY RAMPS, PROPANE TANKS, TRASH ENCLOSURES, NON-LIVABLE AND ACCESSORY BUILDINGS, AS DEFINED IN SECTION 301.**

<sup>3</sup> **SITES MUST HAVE AN ESTABLISHED PRIMARY USE, BE DEVELOPED IN SUBSTANTIAL CONFORMANCE WITH THE DRAINAGE REGULATIONS, AND THE CONSTRUCTION ACTIVITY MUST DISTURB LESS THAN 5 ACRES.**

Date of Revisions		
Δ 1	January 28, 2009	TA2008010
Δ 2	August 19, 2009	TA2008011