City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

Grading and Drainage (G&D)
Subdivision and Commercial Checklist

KIVA #: _____ Project Name: _____

Reviewed By: _____ Phone: _____ Date: _____

Engineer: _____ Phone: _____

The purpose of this checklist is to offer comments on plan design for on-site grading and to set the minimum submittal requirements for Grading and Drainage plans. The source of the Grading and Drainage design policy is City Code Chapter 32, 32A, and city of Phoenix Storm Water Policies and Standards.

This checklist serves to minimize redline comments on the check prints and to maintain consistency among plan reviewers on plans for cuts, fill, drainage swales, drainage structures and pipes, and retention areas. Plan approval, issuing permits, and certain grading clearances depend on compliance with the comments made on the check prints and this checklist. Engineer of record shall satisfy themselves of the completeness and accuracy of the design.

Plan review correction cycles and/or approvals are valid for 12 months. Additional review fees (see Fee Schedule – Phoenix City Code, Chapter 9, Appendix A.2) shall be charged for extensions/reinstatements to update expired plan reviews.

A completed checklist must be attached to the Grading and Drainage plans when submitted for first review. The following Certification Statement must be signed by the Engineer of record certifying that all applicable requirements on this checklist have been met.

CERTIFICATION

I CERTIFY THAT THE REFERENCED PLANS COMPLY WITH ALL APPLICABLE CITY ORDINANCES AND STANDARDS, INCLUDING FEDERAL, STATE AND COUNTY REQUIREMENTS AND REGULATIONS. IN ADDITION, I CERTIFY THAT THIS CHECKLIST HAS BEEN COMPLETED ENSURING ALL ITEMS LISTED ARE PROPERLY ADDRESSED. I UNDERSTAND THAT IF I FAIL TO ADDRESS ALL APPLICABLE ITEMS IN THIS CHECKLIST, THE PLANS MAY BE IMMEDIATELY RETURNED TO ME WITHOUT ANY FORMAL REVIEW BEING PERFORMED.

Engineer's Name: _____

Engineer's Signature: _____ Date: _____

Please complete and return this checklist and the check prints with each submittal. Discussion of redline comments on plans or this checklist should be directed to the plan reviewer listed above.

Engineer of record **(ENG)** must fill out all boxes in the first column as either [√] (Addressed) or [N/A] (Not Applicable).

Civil plan reviewer **(RVW)** shall check the second column as [X] (Required) when requirements have not been properly addressed.

REQUIRED SUBMITTALS

ENG RVW

1. ☐ ☐ Plan sheets shall be 24" X 36"; submit three (3) sets of Grading and Drainage(G&D) plans

2. ☐ ☐ One (1) copy of the approved preliminary Site plan for major projects **OR** one (1) copy of the first review Site plan mark-up for minor projects.

3. ☐ ☐ A sealed and bound drainage report if site is impacted by offsite flows, or drainage calculations shown on the cover sheet of plans and drainage memo if no offsite flows.

4. ☐ ☐ A sealed and bound geotechnical report (required when one (1) foot or more of fill material is indicated or slopes with cuts or fills steeper than 1 ½:1 or retaining walls included), one (1) set of paving plans, if applicable, and a completed and signed Grading and Drainage Plan Checklist. If retaining walls are required, provide structural drawings for all retaining wall heights and special conditions on the plans, structural calculations for all wall heights including surcharge loads on the plans, Special Geotechnical Inspection Certificate for soils, and Special Structural Inspection Certificate for retaining wall construction.

5. ☐ ☐ Cost Estimate if there is construction in Right of way or public easement (G&D Combination).

6. ☐ ☐ Grading and Drainage Checklist

Note: If submitting through the Electronic Plan Review system, multiple copies of submittal documents are not required.

GENERAL REQUIREMENTS

1. ☐ ☐ Separate offsite plans with drainage facilities should be submitted with Grading and Drainage plans unless those details are shown on the grading plan.
2. ☐ ☐ Cover sheet is required on plans of more than two sheets.
3. ☐ ☐ All sheets shall have the Civil Engineer's Arizona registration seal and original signature prior to plan submittal.
4. ☐ ☐ Original plan sheets shall be sufficiently clear to allow legible prints to be reproduced from microfilm. The size of lettering and symbols shall be 1/8 inch minimum.
5. ☐ ☐ Cut and fill quantities, exclusive of street quantities. These shall also be placed on the plan cover sheet.
6. ☐ ☐ When the entire parcel is not included in the project description then the limits of construction shall be delineated on the plan.
7. ☐ ☐ Refer to the city of Phoenix Storm Water Policies and Standards for drainage design policy, details, and calculations showing retention volumes to be provided for the required on-site retention. Provide all retention calculations and storm event type on the cover sheet.
8. ☐ ☐ Per Section 6.1.10.1 of the City of Phoenix Storm Water Policies and Standards, for engineered channels and storm water storage facilities/basins with geometric depths greater than three feet deep, access ways to the channel or basin, and ramps into the channel or basin, shall be required (see section 6.1.10.4 for access way ramp requirements). For engineered channels or storm water storage facilities/basins with geometric depths of three feet or shallower with a portion of side slope set at 6:1 or flatter along at least one side to allow for emergency or ordinary maintenance vehicle access, ramps into the channel or basin are not required.
9. ☐ ☐ Per Section 6.8.8 of the City of Phoenix Storm Water Policies and Standards, the maximum depth of ponded water within any parking lot location shall be six inches with the deeper portions confined to remote areas of parking lots, whenever possible. The minimum longitudinal slope permitted within parking lot storage facilities is 0.005 ft/ft, unless concrete valley gutters are provided. With concrete valley gutters, a minimum longitudinal slope of 0.002 ft/ft is permitted.

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10. ☐ ☐ A public Drainage Easement is required around the onsite retention area that is to retain the offsite flows (R/W or Easements) when offsite flows are taken onto private property.
11. ☐ ☐ A Drainage Report is required to be submitted for any projects that are impacted by offsite flows. If there are no offsite flows impacting the site a Drainage Statement and calculations will be adequate on the cover sheet of the plans (A separate drainage memo will be required to substantiate that the site is isolated from off-site flows). If a Drainage Report is required, please include the KIVA# and the CPGD# on the cover sheet of the report.
12. ☐ ☐ Complex Drainage Reports (subdivisions, properties with washes, hillside properties, properties in floodplain, etc.) should include hydrology parameters and assumptions and include methodology for developing quantities. Also include computer runs from HEC-1 or other programs utilized to develop flows from contributing area. Storm water routing through channels should include HEC-2 or other programs used to model the hydraulics including backwater computations. A disk with input data should be furnished with your plan review submittal when a computer program is utilized in the design.
13. ☐ ☐ This project is subject to the National Pollution Discharge Elimination System (NPDES) requirements for construction sites under the Environmental Protection Agency (EPA) General Permit for Arizona. Owners, developers, engineers, and/or contractors are required to prepare all documents required by this regulation, including but not limited to: SWMP, NOI, NOT. Guidance is available online at http://www.fcd.maricopa.gov/Pub/manuals/erosionControl.aspx through Maricopa County Flood Control District.
14. ☐ ☐ Existing irrigation supply ditches and/or irrigation tail water ditches on this site, or in the right-of-way adjacent to this site, must be replaced with an underground pipeline, or abandoned subject to the approval of the irrigation company and/or downstream users. Limits of construction and scope of work shall be shown on the plan

Cover Sheet Requirements

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1. ☐ ☐ Provide a Blue Stake notification decal.
2. ☐ ☐ Indicate plan types:

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    a. ☐ ☐ Grading and Drainage Plan
    b. ☐ ☐ Grading and Drainage Plan with Drainage Facilities (in Right-of-Way or Easement)
    c. ☐ ☐ Grading and Drainage Plan with Offsite Improvements (combination)
    d. ☐ ☐ Grading and Drainage Plan with Hillside (separate Hillside checklist and review required)
3. ☐ ☐ Provide a project title block with name and address of project.
4. ☐ ☐ Provide a project description.
5. ☐ ☐ Provide a vicinity map with north arrow.
6. ☐ ☐ Provide an index of plan sheets if more than one plan sheet.
7. ☐ ☐ Provide a key map if more than one plan sheet.
8. ☐ ☐ Provide the Owner's and Developer's name, address, and telephone number.
9. ☐ ☐ Provide the Engineer's name, address, and telephone number
10. ☐ ☐ Provide the address and legal description of the project.

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11. ☐ ☐ Provide the appropriate processing numbers including: KIVA#, CPGD # and city Quarter Section Number in lower right corner.
12. ☐ ☐ Provide a legend identifying grades, symbols, lines, etc. per MAG Specifications and Details.
13. ☐ ☐ Provide the offsite quantities if they are part of the Grading and Drainage Plan submittal.
14. ☐ ☐ Provide all retention calculations and storm event type.
15. ☐ ☐ Provide a drainage statement that includes the following:
    a. ☐ ☐ Site is in a Special Flood Hazard Area (Y) (N)
    b. ☐ ☐ Offsite flows affect this site (Y) (N) _____ADMP or ☐ N/A
    c. ☐ ☐ Retention provided is for the _____ storm event
    d. ☐ ☐ Extreme storm outfalls the site at _____ at the elevation of _____
16. ☐ ☐ Provide a drainage memo for sites not impacted by offsite flows that includes the following:
    a. ☐ ☐ Refer to the appropriate Area Drainage Master Plan that may be affecting the site. ADMP information can be obtained on Maricopa County's Flood Control District's website. https://gis.maricopa.gov/flo-2dmodels/map.html
    b. ☐ ☐ Existing site conditions (engineer's site visit)
    c. ☐ ☐ Distribution on estimated flows (peak flow based on per acre basis and peak flow from Flo-2D)
    d. ☐ ☐Street capacity calculations (flow contained within the right-of-way and do not flow through the site)
    e. ☐ ☐Reference any as-built information available
    f. ☐ ☐Provide a conclusion
17. ☐ ☐ Provide elevation datum and bench marks (city datum required). Please dial (602) 495-2050, ext. 265 Voice, (602) 534-5500 or TTY use 7-1-1, to obtain city datum for existing benchmark closest to the project site. Equations cannot be used. Note on Plans NAVD ' 29 (North American Vertical Datum 1929
18. ☐ ☐ Provide net acreage and total disturbed area of the site.
19. ☐ ☐ Provide retaining walls unit length.
20. ☐ ☐ Provide a retention basin table that includes a column for the volume provided, volume required, and "As-built" volume.
21. ☐ ☐ Provide an As-Built Certification Statement as follows (include on the plans)

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____ _____
REGISTERED ENGINEER/ LAND SURVEYOR DATE

_____
REGISTRATION NUMBER

NOTES FOR GRADING AND DRAINAGE PLANS

(To appear on cover sheet)Grading and Drainage Notes (City of Phoenix)

ENG RVW

1. ☐ ☐ A grading permit is required under Chapter 32A of the Phoenix City Code.

2. ☐ ☐ When Haul permits are required, they must be obtained prior to or concurrently with the Grading and Drainage permit.

3. ☐ ☐ Excavating Contractor must give location for wasting excess excavation and a letter from Owner giving permission for dumping prior to starting on-site construction. If excess excavation exceeds 100 cubic yards, the disposal site will also require a Grading and Drainage permit.

4. ☐ ☐ Planning & Development Department Field Inspection Group shall be notified 48 hours before any on-site and/or off-site construction begins, telephone (602) 262-7811.

Include the note(s) below that are applicable (minimum of 1 required):

5. **(Certification of finish floor elevation is mandatory if structure is located in a floodplain or other critical drainage area.)** Use the AS-BUILT CERTIFICATION, plus:

   a. ☐ ☐ Staking pad elevations is the responsibility of the Owner and his Engineer. The Owner's Engineer shall submit three sealed copies of this Grading and Drainage Plan designated as "Record Drawing" (bearing an original signature) prior to the request for final inspection.

   b. ☐ ☐ Staking finish floor elevations is the responsibility of the Owner and his Engineer. The Owner's Engineer shall submit three sealed copies of this Grading and Drainage Plan designated as "Record Drawing" (bearing an original signature) prior to the request for final inspection.

   c. ☐ ☐ A Federal Emergency Management Agency (FEMA) Elevation Certificate based on finished construction must be reviewed and approved by Floodplain Management for each new and substantial improvement structure constructed in a Special Flood Hazard Area (SFHA) prior to issuing a Certificate of Occupancy. A copy of the elevation certificate must be submitted to the General or Structural Inspector.

6. ☐ ☐ Pad certifications will be required on all lots within the subdivision and submitted to the Civil/Site Inspector prior to any concrete constructed in the right-of-way. Pad certification can be submitted to the Civil/Site Inspector by either submitting one approved black-line as-built Grading and Drainage plan or in letter format showing the design and as-built pad elevations as shown on the approved Grading and Drainage plan. It is required that the as-built plan and letter be sealed by a Civil Engineer or Land Surveyor registered in the State of Arizona.

7. ☐ ☐ A separate permit is necessary for any offsite construction.

8. ☐ ☐ An approved Grading and Drainage Plan shall be on the job site at all times. Deviations from the plan must be preceded by an approved plan revision.

9. ☐ ☐ Grading and Drainage Plan approval includes the construction of all surface improvements shown on the approved plan, including, but not limited to, retention areas, sedimentation basins, and/or other drainage facilities, drainage patterns, walls, curbs, asphalt pavement, and building floor elevation.

10. ☐ ☐ Grades shown in retention basins are design finished grades. Should the contractor or any sub-contractor plan to place spoil dirt from footings, utility trenches, landscaping, swimming pools, etc. in the basins, the basins should be sufficiently over-excavated during the rough grading operation to allow for the placement of the fill or landscaping materials.

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11. ☐ ☐ Contractor is responsible for locating and confirming depths of all the existing utility lines within proposed retention basin areas. If the basin cannot be constructed per plan because of conflicts, the contractor should discuss modification of basin configuration with the city inspector to determine if a plan revision or a field change is required.

12. ☐ ☐ All drainage protective devices such as swales, interceptor ditches, pipes, protective berms, barrier walls, concrete channels, or other measures designed to protect adjacent buildings or property from storm runoff must be completed prior to building construction.

13. ☐ ☐ Per Section 6.8.7 of the City of Phoenix Storm Water Policies and Standards, side slopes of storm water storage facilities shall be no steeper than 5:1 for irrigated grass areas and 3:1 for landscape areas. Slope stabilization measures are required for all slopes greater than 5:1. The slope stabilization measures must be readily maintainable using common maintenance equipment and be designed with consideration to aesthetics. The slope stabilization measures shall be consistent with commonly used engineering practices. Un-stabilized decomposed granite is not allowed on slopes greater than 5:1.

14. ☐ ☐ All retaining walls are to be reviewed, permitted, and inspected by the Building Safety Branch of the Planning & Development Department. All retaining walls are to be in accordance with Section 703 of the Zoning Ordinance and Section 32-32 of the Subdivision Ordinance for specific wall height requirements.

    a. Use permit for is required for all over-height retaining walls

15. ☐ ☐ All ramps must meet 2010 ADA Standards for Accessible Design and city of Phoenix Supplement to M.A.G. Uniform Standard Specifications and Details; 2% max cross slopes and12:1 max longitudinal slopes.

16. ☐ ☐ Certificate of Occupancy (C of O) and/or final electrical clearance for any building is denied until all Grading and Drainage improvements are completed.

17. ☐ ☐ Existing or newly damaged and/or displaced concrete curb, gutter, sidewalk, or driveway slab that is within the right-of-way shall be repaired or replaced, as noted by city inspectors, before final acceptance of the work.

18. ☐ ☐ The Engineering Design on these plans is only approved by the city in scope and not in detail. Construction quantities on these plans are not verified by the city. Approval of these plans are for permit purposes only and shall not prevent the city from requiring correction of errors in the plans where such errors are subsequently found to be in violation of any law, ordinance, health, safety, or other design issues.

19. ☐ ☐ The city of Phoenix Police Department enforces laws regulating the operation of commercial vehicles. This includes enforcement of federal, state, county and local laws and ordinances. Questions regarding Commercial Vehicle Enforcement may be directed to the Commercial Vehicle Enforcement Supervisor at (602) 495-7813 (Traffic Bureau South) or (602) 495-6784 (Traffic Bureau North)

20. ☐ ☐ Plan approval is valid for 12 months. Prior to plan approval expiration, all associated permits shall be purchased or the plans shall be resubmitted for extension of plan approval. The expiration, extension, and reinstatement of Civil Engineering plans and permits shall follow the same guidelines as those indicated in the Phoenix Building Construction Code Administrative Provisions Section 105.3 for Building permits.

The following notes shall be shown on the cover sheet of combination Grading and Drainage and Offsite Improvement Plans:

ENG RVW

1. ☐ ☐ Construction within the right-of-way shall conform to the latest applicable Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details and the latest city of Phoenix Supplement to the MAG Uniform Standard Specifications and Details.
2. ☐ ☐ Compaction shall comply with M.A.G. Section 601.
3. ☐ ☐ Obstructions to proposed improvements in the right-of-way shall be removed or relocated before beginning construction of the proposed improvements.
4. ☐ ☐ The actual point of pavement matching and/or termination shall be determined in the field by the city of Phoenix, Planning & Development Department field inspector.
5. ☐ ☐ Pavement replacement thickness and type are to be per M.A.G. Section 336 and C.O.P. Detail P1200 -Type B. Curb and gutter replacement shall be a minimum of one (1) full section, per M.A.G. Standard Detail 220. Sidewalk replacement shall be a minimum of one (1) full panel per C.O.P. Detail P1230.
6. ☐ ☐ Trees and shrubbery in the right-of-way that conflict with proposed improvements shall not be removed without approval of the city Landscape Architect or his assignees. The permittee shall be responsible for obtaining authorization to remove and/or relocate said trees or shrubbery by calling the Parks and Recreation Department at (602) 262-6501 and Transportation Department at (602) 534-9898.
7. ☐ ☐ Per the City of Phoenix Ordinance G-6308. All street pavement cuts will require asphalt resurfacing treatments based on the age of the pavement. For streets less than two years old, the permittee must apply an asphalt mill and overlay pavement treatment. For streets greater than two years old, the permittee must apply a slurry seal and/or microseal treatment.

Optional Note, Channel Diversion:

1. ☐ ☐ Construction must be phased so the newly aligned channel is fully operational before the existing drainage channel is filled. Flood water conveyance must be maintained at all times during construction.

Additional Notes (required when using HDPE Pipe within right-of-way or a drainage easement):

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1. ☐ ☐ All HDPE storm drain pipe shall be manufactured, designed and installed in accordance with AASHTO M252, AASHTO M294, MAG and city of Phoenix Supplements to MAG and these special provisions.
2. ☐ ☐ All HDPE storm drain pipe shall be Type `S' corrugated, with watertight joints. HDPE pipe shall not be allowed within a minimum of twenty-four (24) linear feet of an open outfall. The outfall section of storm drain pipe shall be concrete or concrete-lined as shown on the plans.
3. ☐ ☐ At a minimum, all HDPE storm drain pipe joints shall meet the ASTM D-3212 watertight requirement of 10.8 psi (25 column feet of water head).
4. ☐ ☐ The contractor shall provide a copy of an accepted independent 3rd party lab certification that all the pipe and joints to be used on the project meet the ASTM D-3212 watertight standard.
5. ☐ ☐ All HDPE pipe connections to manholes shall meet ASTM C-923 requirements.

The following notes are required on Grading & Drainage plans when special preservation or hillside issues are involved:

1. ☐ ☐ Before grading in areas containing native desert vegetation, the Contractor must obtain a permit from Arizona Department of Agriculture. For information, phone (602) 364-0935.

2. ☐ ☐ If property is adjacent to the Phoenix Mountain Preserve, no disturbance of preserve property for access, grading, or other construction purposes will be allowed. The contractor is required to delineate the Mountain Preserve boundary with a temporary fence or other acceptable methods.

3. ☐ ☐ If site has special preservation or hillside issues, the grading plan must show all landscape preservation easements, construction fencing locations, and appropriate areas labeled. Prior to any clearing, grubbing, or grading operations, construction fencing shall be shown on approved plans, permitted and inspected and salvage operations permitted, inspected, and completed.

Plan Sheet Requirements

ENG RVW

1. ☐ ☐ Scale selected for each sheet. One inch equals 40 feet (maximum) for all projects.

2. ☐ ☐ Existing contours or spot elevations, drainage arrows and grade breaks to indicate drainage patterns. Also indicate all 100-year flows from contributing offsite drainage areas.

3. ☐ ☐ Show existing and proposed top of curb, gutter, and sidewalk elevations (both sides) and pavement crown elevations along project frontage at extension of lot lines or every 100' (whichever is less). Per C.O.P. Section 3.5.3.2 – FFE must be 6 inches above High Curb and 14 inches above low curb.

4. ☐ ☐ Show all PAD and FFE elevations for all proposed buildings.

5. ☐ ☐ Show and label low curb and high curb elevations.

6. ☐ ☐ Provide spot elevations every 100' on adjacent properties sufficient to depict existing conditions affecting drainage of property to be filled. Usually 50 feet beyond property line will be sufficient.

7. ☐ ☐ Provide cross-sections through all property lines, buildings and retention basins when possible.

8. ☐ ☐ All existing utilities and drainage facilities, including private or S.R.V.W.U.A. irrigation, within and adjacent to the property boundaries shall be shown. Any work on Salt River Project irrigation system requires an SRP permit and approved plans. All utilities shall be dimensioned from street monument lines.

9. ☐ ☐ Show details at property lines, fences, berms, etc. Also show improvements and finish floor elevations on adjacent property to the proposed development.

10. ☐ ☐ Show all existing and proposed easements, dedications, right-of-way, streets, and alleys with dimensions and offsets. Streets shall be identified by name. Streets, alleys, and easements shall be dimensioned at least once and at all breaks. Monument line of streets shall be shown.

11. ☐ ☐ All abutting lots shall be identified by lot #, tract, and subdivision or shown un-subdivided.

12. ☐ ☐ Dimension all property boundaries, both perimeter and interior lines.

13. ☐ ☐ All proposed and existing structures, paving and other topographic features affected by construction shall be shown.

14. ☐ ☐ The proposed grading should be designed with slopes and topographic features which match the natural grade and boundary area to minimize erosion and sediment transport on to city streets or neighboring properties.

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15. ☐ ☐ Phased developments shall indicate interim slopes and grades to match proposed work to existing conditions.

16. ☐ ☐ Grading Plans showing existing natural washes shall also show existing conditions including line and grade of the wash flow line at 50 ft. intervals. Show distances between banks and elevations at 50 ft. intervals. Show cross sections and high water elevations every 100 feet on washes impacting site.

17. ☐ ☐ Show the extreme storm outfall and label it with an elevation.

18. ☐ ☐ Show side slopes, bottom elevation, high water elevation, outfall elevation, location and direction of basin overflow, volume provided, and volume required for all retention/detention basins.

19. ☐ ☐ Show all proposed retaining walls. Include the length, height, top of retaining wall elevation, and top of footing elevation for each section of retaining wall. The design and structural calculations for all retaining walls shall be reviewed, approved and permitted based on the Grading and drainage plans; and inspected by the Building Safety Branch of the Planning & Development Department. Refer to Section 703 of the Zoning Ordinance and Section 32-32 of the Subdivision Ordinance for specific wall height requirements. Use permit for over-height walls must be obtained prior to approval of the Grading and Drainage Plan. [**Retaining Walls require a separate permit**].

20. ☐ ☐ Show parking spaces for disabled. Provide grade arrows to verify that the slope in the parking lot accommodates disabled access requirements. Do not exceed 2% in any direction in those areas. Show on-site ramps to the building with slope arrows showing the area near disabled parking or on ramps to building.

Other Requirements When Applicable:

1. ☐ ☐ Proper consideration must be given to protection of underground parking, basements, and loading docks.

2. ☐ ☐ A Pavement Cut Surcharge will be assessed on this project for trenching in new asphalt pavement. This fee will be assessed in addition to the regular permit fees and is over and above any special backfill, compaction, and pavement replacement stipulations that may be imposed as a condition of permitting. Surcharge affects streets newly paved and newly overlaid within the past 30 months.

3. ☐ ☐ Show the limits of any designated floodplain, including the "Selected Floodway" as established on the official Federal Insurance Rate Maps (FIRM). Include all applicable 100-year water surface elevation lines which traverse the project site.

4. ☐ ☐ Hauls greater than 10,000 cubic yards require a permit and approved haul route prior to issuance of Grading and Drainage permit. Haul route to be approved by Street Transportation Department. Permit to be created by Planning & Development Department Civil reviewer.

New Dry Well Installation Checklist

1. ☐ ☐ Dry wells are not required to be shown on the plan set for retention basins with depths of less than one foot (basin outfall elevation – bottom elevation).

2. ☐ ☐ Dry well is to be set at least 100 feet from any surrounding water production well, underground storage tank, or fuel loading area.

3. ☐ ☐ Dry well is not to be constructed in any area where hazardous or toxic materials are stored or handled.

4. ☐ ☐ Dry well is not to be located in any area where an accidental spill of hazardous or toxic liquid would drain into the dry well.

5. ☐ ☐ Dry well is not to be located at a loading dock where hazardous substances are handled.

6. ☐ ☐ Dry well is not to be located within any groundwater saturated zones.

7. ☐ ☐ Dry well shall dispose of Storm water run-off only.

8. ☐ ☐ The following notes are required on Grading & Drainage (Grading and Drainage) plans when a dry well is to be installed:

   A. The owner/developer shall be responsible for registering the dry wells shown on the Grading and Drainage plan with the Arizona Department of Environmental Quality (A.D.E.Q.). For information about specific requirements, contact the Water Permits Unit at (602) 771-4686.

   B. Dry wells must be drilled a minimum of 10 feet into permeable porous strata or percolation tests will be required. The Grading and Drainage inspector must be present before backfill or well pipes are placed within any dry wells.

   C. The owner/developer is responsible for installing drywell(s) should the retention basins fail to drain within 36 hours.

9. ☐ ☐ Dry well detail and specifications need to be shown on Grading and Drainage plans.

10. ☐ ☐ Grate elevation for the dry well needs to be shown on Grading and Drainage plan at minimum of 0.3 feet above bottom of retention basin (allows for silting). For bleed-off to city storm drain system the grate needs to be 0.75 feet above bottom of basin.

AT-RISK GRADING AND DRAINAGE PLANS

A first review of the Grading and Drainage plan for the project is required to be completed prior to any consideration of an At-Risk Grading and Drainage plan being accepted for review (all major comments on the Grading and Drainage plan must be addressed prior to the At-Risk Grading and Drainage plan being accepted). An At-Risk Grading and Drainage Plan may be approved as a convenience to the developer. The city is not obligated to approve an At-Risk Rough Grading Plan. The permit may be revoked if timely progress is not made toward final Grading and Drainage plan approval.

At-Risk Grading and Drainage plans are approved to allow rough grading only. Trenching, digging dry wells or fine grading is not allowed as part of the At-Risk Grading and Drainage plan approval.

The Engineer of record shall work earnestly toward completing the full Grading and Drainage plan approval while the At-Risk Grading and Drainage plans are in use or the At-Risk Grading and Drainage permit may be revoked.

At-Risk Grading and Drainage permit fees are the same fees as the full Grading and Drainage permit fees in the city of Phoenix Fee Schedule.

PLANS FOR REVISION

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1. ☐ ☐ All original plan approvals, signatures, and seals are to remain on the revised plans.

2. ☐ ☐ All plans revised after the original approval shall be resubmitted for review and approval. The nature of the revisions must be called out on the cover sheet and on the sheet(s) which have been revised. The revision number itself shall consist of a numeral within a triangle next to each revision. Δ Changes on each plan sheet shall be specifically outlined with "clouding".

3. ☐ ☐ All revised sheets, including the cover sheet are to be re-sealed, signed and dated.

EXTENSIONS

1. ☐ ☐ All plan extensions must have prior approval by completing the Plan Review Extension Application. The Plan Review Extension Application can be found at the following site: http://www.phoenix.gov/development/siteandcivil/civil/. Provide a copy of the approved application with the plan submittal.

2. ☐ ☐ Plan approvals for extension are valid for a period of 180 days from the date of plan approval.