

**DEPARTMENT OF DEVELOPMENT SERVICES
ENGINEERING DIVISION
PAVING AND DRAINAGE PLAN REVIEW CHECKLIST**

Revised July 9, 2009

Addition Name: _____
 Subdivision Plan # 311T- _____ Plans Prepared by: _____
 City Plan File No. (Plat #): S _____
 P.D. No., Zoning, or S.U.P. No.: _____
 Checked by Engineer: _____ Date: _____
 Reviewed by City: _____ Date: _____

PART I - PAVING PLANS

ENG.	CITY
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A. General (Use Design Criteria Specified in Design Manual)

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|---|--|--|
| 1. North Arrow shown on each sheet | | |
| 2. Minimum of 2 Bench Marks shown on each sheet | | |
| 3. Title Blocks | | |
| a. Complete | | |
| b. Title agrees with plat | | |
| c. Sheets numbered | | |
| d. Engineer's seal and signature | | |
| 4. Street Names | | |
| a. Street under design | | |
| b. Intersecting streets | | |
| 5. P.D., or SUP or Rezoning (provide appropriate documents) | | |
| 6. Plats | | |
| a. Show City Plan File number (plat #) | | |
| b. Show sight distance easements on alley intersections with streets | | |
| c. Corner Clips are needed at street intersections. | | |
| d. Make sure appropriate right-of-way for streets is dedicated as per zoning and thoroughfare plan. | | |
| e. Check centerline radius. Is it appropriate for the design speed for the street. | | |
| f. Show on-site drainage easements on plat. | | |
| g. Check cul-de-sac for minimum radius (50'). Cul-de-sac is not allowed if street is longer than 600'. | | |
| h. If a creek or floodplain is involved, Floodway Easement or Management Area and Floodway Monument Statements should be placed on the plat | | |
| i. The minimum fill and floor elevations must be specified when a fill permit is involved in the flood plain. | | |
| j. Follow requirements of revised Development code ordinance on platting. | | |

B. Cover Sheet

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| 1. Provide plat with each submittal | | |
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C. Survey Information

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| 1. Complete survey data for construction. | | |
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- 2. Centerline stationing shown and related to profile.
- 3. Stationing shown on centerline.

D. Topography

- 1. Perimeter topography is sufficient for the design.
- 2. Show any existing fences.
- 3. Show location of all trees in close proximity to offsite work or easements
- 4. Intersecting streets. Type and width of pavement and walks. Show spot elevations in ditches or gutters sufficient distance to clarify drainage and transitions.
- 5. Existing concrete paving clearly shown according to standard symbols and accurately dimensioned. Curbs and gutters dimensioned.
- 6. Existing storm drains and inlets shown by standard symbols.
- 7. Existing travelway shown.

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E. Utilities

- 1. Show all existing facilities.
- 2. Clarify status of existing facilities whether to remain in service, abandon, or remove and by whom.
- 3. Add caution notes when construction operations will come close to any facility; give phone # of company to call for assistance in locating.

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F. Storm Drains

- 1. Proposed storm inlets must be shown. Drainage pattern should be clear without having to refer to storm drain plans.
- 2. For each inlet, show size, paving station at center, and top elevation.

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G. Plan

- 1. All proposed pavement, wide drives, etc., are properly dimensioned.
- 2. Limits of new paving, adjustments to intersecting streets and drives clearly defined by stations and dimensions, as necessary.
- 3. Drainage clarified by flow arrows, spot elevations in ditches and gutters, other notations.
- 4. Traffic control items shown. Striping, traffic buttons, and street signs must be provided by the developer.
- 5. Show street lighting on divided thoroughfares. Coordinate with Street Lighting Section of Public Works and Transportation Dept.
- 6. Provide for barrier free ramps at intersections. (ADA compliance)
- 7. Specify wall types, beginning, end, and top elevations. Drainage behind walls handled? Show walls in plan and profile. Provide design if modified or non-standard wall.
- 8. Check all drives, intersections and other locations involving cross traffic for possible hazardous situations. Watch for obstructed sight distance, hindrances to safe operation at design speed, danger to pedestrians, etc.
- 9. Make sure there are intermediate tangents between the double reverse curves based on the design speed along the centerline of the proposed streets.

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- 10. Check transitions at ends of project and at intersections for safety, complete design, drainage, etc.

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H. Profiles and Grades

- 1. Profiles plotted showing ground at proposed property lines.
- 2. Top of curb grades should be below ground profiles at the property line. Check fill areas for drainage.
- 3. Check cross-fall for compliance with standards. Provide adequate cross-fall to inlets on thoroughfare paving projects.
- 4. Design thoroughfare to thoroughfare intersections to provide smooth grades.
- 5. Complete vertical curves information. Do vertical curves meet minimum sight distance requirements for design speed?
- 6. Check carefully for any place water might pond. Are inlets located at sag points of vertical curves?
- 7. Design horizontal curves to meet Paving Design Standards for the design speed.
- 8. Check ends of project for drainage.
- 9. Check that curb P.I.s for intersecting streets are shown on profiles.

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I. Typical Section

- 1. Centerline dimensioned to property lines and curbs.
- 2. Pavement slopes or crown specified.
- 3. Slopes in parkway area, cut and fill slopes shown.
- 4. Drive grades from gutter to property line and behind property line shown for thoroughfare paving projects involving existing access.
- 5. Usual type and depth of existing pavement and base shown.
- 6. Lime/cement base if proposed, show lime/cement content.
- 7. Type and thickness of proposed pavement shown and in conformance with standards.
- 8. Sidewalks (show location and when it will be built).
- 9. Show appropriate cross sections. For Thoroughfares, a cross section needs to be shown every 50'

J. Left-Turn Lanes and Median Modifications

- 1. Driveways must be centered on median openings.
- 2. Traffic buttons must be provided.
- 3. Show median top of curb elevations at critical points on left-turn lanes. Check median cross-fall.
- 4. Provide median pavement and monolithic median noses for left-turn lanes.
- 5. Provide typical paving section for left-turn lanes.
- 6. Show existing driveways and inlets on both sides of street at all proposed median openings.
- 7. Submit plans to Street Lighting Section of Public Works & Trans. Dept. for comment and approval.
- 8. Provide reverse curve median geometry in conformance with File 251D-1, Sheet 1001 for all left-turn transitions.
- 9. Property ownership must be shown.

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C. Bridges

1. Clear the lowest member of the bridge by two feet above the design water surface unless otherwise directed by the City.
2. Indicate borings on plans.
3. Show bridge sections upstream and downstream.
4. Provide hydraulic calculations on all sections.
5. Provide structural details and calculations with dead load deflection diagram.
6. Provide vertical and horizontal alignment.

D. Creeks and Channels

1. Show stationing in plan and profile.
2. Indicate flow line, banks, design water surface. Show hydraulic computations.
3. Indicate rockline.
4. Provide drainage area map and show all computations for runoff quantities.
5. Provide cross-sections as directed by Storm Water Management of Public Works and Transportation Dept.

E. Detention/Retention Basins

1. Provide drainage area map and show all computations for runoff affecting the detention basin.
2. Provide a plot plan with existing and proposed contours for the detention basin and plan for structural measures.
3. Where earth embankment is proposed for impoundment furnish a typical embankment section and specifications for fill; include profile for the structural outflow structure.
4. Provide structural details and calculations for any item not a standard detail.
5. Provide detention/retention basin volume calculations and elevation vs. storage curve.
6. Provide hydraulic calculations for outflow structure and elevation vs. discharge curve.
7. Provide routings or Modified Rational (permitted for areas of 130 acres or less) determination of storage requirements demonstrating that critical duration is used.
8. A detention/retention statement must be shown on the plat.

F. Storm Water Pollution Prevention Plan (SWP3) and Erosion Control Plans as applicable

Please note that it is the full responsibility of the developer and/or his engineer to comply with all the current up-to-date rules and regulations of EPA and other applicable federal and state agencies for the preparation of the SWP3. Copies of the operator's NOI as well as the owner's NOI must be submitted to this office as well as Storm Water Management Section of Public Works and Transportation Department.

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"I, the undersigned, am the Engineer of the Record for this project and certify that the information provided herein is correct to the best of my knowledge."

"I understand and agree that the Chief Engineer will require that the infrastructure plans be resubmitted for review and approval if he determines that the checklist contained incorrect information and the plans were approved based on incorrect information supplied. Additional fees for each subsequent submission may be required."

Signature: _____ *Date:* _____

Printed Name: _____