

RESOLUTION NO. 1036

Minimum standards for the design, all construction, and paving of all streets and alleys, and the installation of utilities within public and private rights of way in Yavapai County, Arizona.

All roadways conveyed to the public shall require acceptance of the conveyance by the Yavapai County Board of Supervisors. All public roadways shall be constructed to these standards prior to approval for maintenance. Approval for maintenance shall be by written documentation signed by the Yavapai County Board of Supervisors.

Section A

Right-of-Way Requirements

1. Minimum Right-of-Way Widths:
 - a. Arterial Road - 100' wide. Width may increase for future needs.
 - b. Major Collector - 100' wide. Width may increase for future needs.
 - c. Residential Collector - 68' wide. Width may increase for future needs.
 - d. Residential Street - 50' wide.
 - e. Low Volume Residential Street - 50' wide.
 - f. Alleys - 30' minimum.
 - g. Emergency Access - 30' minimum.
 - h. Cul-de-sacs - 50' radius, without hydrants - 60' radius.
 - i. Utility easements - 20' wide.
 - j. See standard Typical Sections, Schedule A, Pages 1 thru 5.
2. The above rights-of-way are minimum width requirements and in instances approved by the County Engineer, the right of way may be adjusted to a sufficient width to contain the complete or future roadway prism. Separate easements for utilities and/or construction or maintenance running parallel with the roadway may be substituted for a portion of the recommended right of way with the approval of the County Engineer.

3. Classification of roadways, i.e., arterial, collector, etc., will be determined at time of sketch plan, when provided, preliminary development plan, and/or preliminary plat review by the County Engineer.
4. Right-of-way widths shown are total widths and shall be equidistant from the survey centerline shown on the final plat.

Section B

Road Width Requirements

1. Minimum pavement widths:
 - a. Arterial Road - 48' wide.
 - b. Major Collector - 48' wide.
 - c. Residential Collector - 28' wide.
 - d. Residential Collector with Curbs - 28' wide.
 1. No on-street parking allowed.
 2. If drainage is to be carried in streets, pavement width may increase to handle flows or as required by the County Engineer. See Section C, Subsection 6, Subparagraph h.
 - e. Residential Street - 24' wide.
 - f. Residential Street with Curbs - 24' wide.
 1. No on-street parking allowed.
 2. If drainage is to be carried in streets, pavement width may increase to handle flows or as required by the County Engineer.
 - g. Low Volume Residential Street - 20' wide.
 - h. Alley - 20' wide.
 - i. Emergency Access - 20' wide, Aggregate Base Course Surface, 6" minimum.

- j. Cul de sacs - 40' radius, without fire hydrants - 50' radius.
 - k. See Standard Typical Sections, Schedule A, Pages 1 thru 5.
- 2. The above road widths are minimum width requirements and shall be adjusted as follows:
 - a. Left-turn Lane - 11'.
 - b. On-street Parallel Parking - add 8' for each parking lane.
 - 3. Off-street parking will not be accepted into the County maintenance system and will become the sole responsibility of the beneficiary.
 - 4. Minimum road widths will be consistent with right-of-way classification determined during preliminary plan review.

Section C

Design Standards

- 1. All geometric design criteria shall be in conformance with A Policy on Geometric Design of Highways and Streets, 1990 edition, and subsequent editions as adopted by the American Association of State Highway and Transportation Officials (AASHTO), or as approved by the County Engineer.
- 2. A minimum design speed of 25 m.p.h. shall be utilized for the design of residential streets, and 35 m.p.h. for collector and arterial streets in accordance with AASHTO standards, submitted by a registered engineer, and approved by the County Engineer. Design speeds may increase based upon the road classification; i.e., arterial roads and major collectors, or as deemed necessary by the County Engineer.
- 3. Design speeds may be decreased for low volume residential streets as approved by the County Engineer. A low volume residential street is designed to carry no more traffic than that which is generated on the street itself, not to exceed 100 ADT and/or 20 dwelling units with no potential to be extended in the future.

4. Vertical Alignment:

- a. Street grades shall not exceed twelve (12) percent. Street grades of twelve (12) percent shall have a maximum length of six hundred (600) feet.
- b. Street grades shall not exceed six (6) percent in turning radii of cul-de-sacs and turnarounds.

5. Typical Section:

- a. The stability of all cut and fill slopes steeper than 2:1 shall be determined by a geotechnical study submitted by a registered engineer and approved by the County Engineer.
- b. Cut slopes shall not be steeper than 1½:1 unless in tight rock where slope can be increased to ½:1.
 - 1. Fill slopes shall be per AASHTO Roadside Design Guide, Warrants for Fill Section Embankments, Section 5.2, January, 1996 Edition.
 - 2. Cut/fill slopes steeper than 2:1 and in excess of six (6) feet shall be slope stabilized and an erosion control plan shall be submitted for review and approval to the County Engineer.
- c. Right of way as per road classification, and/or as approved by the County Engineer.
- d. Shoulders minimum 4' each side of pavement, unless curb and gutter are specified.
- e. Roadside drainage channels shall be in accordance with the drainage analysis and the drainage plan as approved by the County Engineer.
- f. All roads and streets shall have a paved surface. The type of pavement surface shall be determined by the following criteria:
 - 1. For existing constructed residential streets serving existing developments and existing subdivisions, a penetration double chip seal on an approved roadway may be considered for upgrade in co-ops and improvement districts when existing grades, snow removal, and/or traffic volumes are compatible.

2. For new residential subdivision streets, asphaltic concrete will be required where lot sizes are less than 2 acres. A penetration double chip seal will be required on all new residential subdivision streets with lot sizes of 2 acres or more when grades, snow removal, and/or traffic volumes are compatible.
3. The maximum grade allowed for a penetration double chip seal shall be 10%. Grades exceeding 10% shall have an asphaltic concrete surface.
4. Special consideration may be given when specifying a road surface type, based upon consideration of the following or a combination of the following:
 - (A) Total build-out, (B) traffic volumes or traffic analysis, (C) geometrics, (D) snow removal, (E) location, and/or (F) grades.
- g. The structural design for the placement of asphaltic concrete and base material, shall be based upon the Asphalt Institute method, AASHTO Guide, ADOT Pavement Design, or other methods as approved by the County Engineer. However, in no case shall there be less than two (2) inches of asphaltic concrete or no less than six (6) inches of base material.
- h. Asphaltic concrete streets without curb and gutter shall be required to have thickened edges as per Standard Detail, Number 201 Type B, Maricopa Association of Governments (M.A.G.) Standards.
- i. Divided streets will not be acceptable unless two full width fire lanes 20' in width (may include 12' pavement with 4' shoulders each side) are provided in each direction. No physical access to split streets from adjacent lots will be allowed.
- j. Inverted crown streets will not be acceptable without approval of a variance.
- k. Emulsion and chip seal on all asphalt surfaces.
- l. All road improvements shall conform to either Arizona Department of Transportation (ADOT) construction standards or M.A.G. construction standards as approved by the County Engineer.

- m. Roadway to be constructed equal distant each side from surveyed right-of-way centerline or construction centerline.
- n. For all new developments and subdivisions within three (3) miles of the corporate limits of a city or town, the roads and roadways shall be designed to the adopted criteria of that city or town or the county criteria, whichever criteria is higher. The design criteria selected shall consider the city or town supporting and/or supplying services and the potential for annexation.

6. Design Criteria for Road Drainage

- a. A drainage report shall be subject to review by the Yavapai County Flood Control District.
- b. All natural drainages crossing roadways will be culverted unless approved otherwise by the County Engineer.
- c. In general, dip sections are not allowed. However, for flows crossing broad shallow washes where the construction of a culvert is not practical or desirable, the road may be dipped to allow the entire flow to cross the road. Use of dip sections must be approved by the County Engineer. The pavement through the dip section shall have a one-way slope parallel to flow and curbing and medians must not be raised. Upstream and downstream cutoff walls and aprons shall be provided to minimize headcutting and erosion.
- d. Depth of flow in roadside drainage channels for the design storm shall be limited to preclude saturation of the adjacent roadway subgrade.
- e. All roadside drainage channels will be constructed prior to the laying of the base material and shall be graded and sloped in accordance with the drainage analysis and AASHTO standards. Geometric considerations in the design of the channel cross-section shall incorporate hydraulic requirements for the design discharge, safety, minimization of roadway acquisition, economy in construction and maintenance, and good appearance.
- f. Local soil conditions, flow depths, and velocities within the channel are usually the primary hydraulic considerations in channel geometric design; however, terrain and safety considerations have considerable influence. Steeper side slopes of rigid, lined channels may be more economical and will improve the hydraulic flow characteristics. The use of steeper slopes is normally limited to areas with limited roadway where the

hazard to traffic can be minimized through the use of guardrails or parapets.

- g. Driveway culverts shall be a minimum of 15" arch.
- h. Whenever possible, storm water shall be conveyed separately from the street system and defined drainage ways shall follow existing alignment.

In the event nuisance water is conveyed in the street, curb and gutter will be required. Runoff shall be limited to the 10-year storm event or a maximum centerline crown depth of "zero", whichever is less, and must be contained within the curbed sections.

In the event the street is used for nuisance drainage, an engineered outlet structure will be required with calculations, by an approved method, supporting outlet capacity.

Drainage ditches behind curbs are neither required nor encouraged.

All culverts shall be placed in the natural flow line and channel wherever possible. A detail showing the proposed culvert(s) will be required. The detail will include, but shall not be limited to, invert elevations, top of road elevations, headwalls, inflow and outflow channel geometry, erosion protection, etc.

Minimum cover of fill over culverts must be provided to maintain the structural integrity of the pipe under anticipated loading conditions. Culvert manufacturers provide minimum cover requirements for prefabricated pipe. All culverts shall have a minimum of one foot of cover from the top of subgrade. The top of culverts shall not extend into the roadway subgrade. Minimum cover shall be measured from the top of subgrade which is the bottom of the pavement structural section.

Street crossings shall be designed to convey the 25-year peak discharge under the road. Regardless of the size of the culvert, street crossings are to be designed to convey the 100-year peak discharge under and/or over the road to an area downstream of the crossing to which the flow would have gone in the absence of the street crossing. Flows up to or including 100-year frequencies shall not cause increased flooding of private land, developable lands, or buildings, unless a drainage easement is required for those areas. The ponded headwater elevation shall be delineated on a contour map or using other surveying methods, as required.

- i. Turnouts - Construction for existing turnouts will be provided for during construction of the road itself and shall be constructed of the same material as the road and to the same standards. Said turnout construction shall be of sufficient size as to protect the road shoulder and shall be designed as per ADOT Standard Specifications or M.A.G. Standard Specifications. Culverts shall be placed under turnouts if necessary.
- j. Curb and gutters (optional) - If curbs and gutters are to be installed, a detailed cross section of the proposed curb and gutter shall be specified on the Project Plans for approval before construction. Construction and design shall be to ADOT or M.A.G. Standard Specifications and approved by the County Engineer.
- k. The minimum size culvert allowed across a County road will be 18" in diameter or arch equivalent.

7. Roadway Encroachments

All encroachments onto County roadways shall be done by permit. Roadway encroachments may require a traffic engineering study and may require the construction of right and/or left turn lanes.

Section D

Submittals Required for County Engineer's Review and Approval (Two Sets)

Where streets are being proposed for conveyance to the public and construction within a subdivision, these submittals shall accompany the sketch plan, preliminary plat, and final plat and shall be submitted in accordance with the provisions of the Yavapai County subdivision regulations.

- 1. Sketch Plan Layout.
- 2. Preliminary Subdivision Layout:
 - a. Plan and Profile Sheets showing:
 - b. All road construction and coincidental data.
 - c. Sewer data.
 - d. Water data.

3. Plan Sheets showing:
 - a. Water line layouts including fire hydrants, valves, etc.
 - b. Other utility locations.
4. Soils report on subbase (500' apart).
5. Maximum density reports on subbase and A.B.C. (maximum 500' apart).
6. Drainage Reports shall be in accordance with Section C, Item 6, Design Criteria, and subject to review for conformance with regulatory flood control requirements.
7. Itemized Cost Estimate for all improvements.
 - a. Letters from utilities verifying amounts.
 - b. Letter from fire marshall verifying fire hydrants.
 - c. Letter from the engineer verifying road construction cost estimates.
8. All of the above designs and submittals which require engineering and/or surveying shall be sealed by a registered professional engineer and/or land surveyor as qualified by the Arizona State Board of Technical Registration.

Section E

DEVIATION FROM APPROVED PLANS

1. Any requested deviation from the approved plans shall be submitted to the County Engineer's office for approval as follows:
 - a. A written request with documentation by the inspecting firm and/or contractor with a written determination by the County Engineer's office.
 - b. Where time does not allow a written request, a written field request can be made with a determination by the County Engineer's office to be followed up immediately with written documentation by all parties.
 - c. Yavapai County will not be responsible for any time lost due to requests for deviations from approved plans.

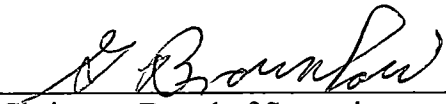
PROPOSED ADDENDUM TO RESOLUTION

Turn And Deceleration Lanes

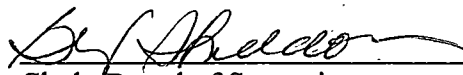
For all new subdivision development creating an impact to the County arterial roadway system, turn and deceleration lanes shall be a required improvement necessary for subdivision approvals. A.A.S.H.T.O. design parameters shall be used for the turn and deceleration lanes and shall be designed to be consistent with the posted speed limit of the impacted arterial roadway, or as required by the County Engineer. If any additional right of way is needed for the construction of the turn and deceleration lanes, it shall be the responsibility of the developer to acquire and dedicate the additional right of way to Yavapai County, with no costs to the County, prior to the acceptance of the completed subdivision.

APPROVED by the Yavapai County Board of Supervisors this 18 day of February, 1997

ATTEST:



Chairman, Board of Supervisors
Yavapai County, Arizona



Clerk, Board of Supervisors
Yavapai County, Arizona

Section F

Construction Standards

1. All construction shall be in accordance with the approved improvement plans, and any changes in construction from the approved plans shall be preapproved by the County Engineer.
 - a. Any errors or omissions discovered at the time of construction shall be corrected by the responsible party at no cost to Yavapai County.

Construction Engineering

1. The minimum construction engineering required will be as follows:
 - a. All utilities staked horizontally and vertically on the ground.
 - b. Slope stakes for all roadway construction.
 - c. All culverts staked horizontally and vertically on the ground.
 - d. Blue top control to assure conformance to grade longitudinally and transversely.
 - e. Monumentation as per M.A.G. Standard Specification 120-1, Type C monument shall be required to be installed at right-of-way line, for highway rights-of-way monumentation at angle points and/or PC's or PT's for major collectors or arterial roads. Capped rebar monumentation shall also be required for residential collectors and internal subdivision street rights of way. Centerline spikes with metal shiners shall be required at the centerline intersection of all streets.
 - f. Whatever monumentation identification required by the County Engineer necessary to verify that all construction is contained within public roadway and/or easement.

Construction Inspection and Submittals

1. Inspection by County representative will be done on the following stages:
 - a. Subgrade Completion - all utilities, culverts, ditches, shaping to finished subgrade, etc. complete in place.

- b. A.B.C. Complete in Place.
 - c. Asphalt Laydown.
 - d. Chip Seal.
 - e. Final.
2. It shall be the responsibility of the contractor and/or developer or inspector to notify the County Engineer a minimum of 48 hours in advance of required inspection.
3. Yavapai County will inspect on a total-stage completion basis and not on a partial-stage completion basis.
4. It shall not be assumed that inspection by the County Engineer's office will in any way eliminate the need for regular inspection during the construction period; it is required that a qualified registered professional engineer and testing firm (approved by the County Engineer's office) be retained by the developer for quality control for this purpose. These costs shall be borne by the developer and/or contractor.
- a. The engineering firm and/or inspecting firm shall document, verify and report to the County Engineer's office all pertinent information relative to quality control for all improvements being installed, and in accordance with the quality control and testing section of this document.
 - b. The term "all improvements" shall be understood to be any required utility, roads, or other improvements, for subdivision approval or any use of the public roadway and easements.
 - c. All laboratory reports deemed necessary for quality control and testing and as specified in the documents, along with compaction test results, will be submitted to the County Engineer's office by the inspecting firm as backup data for the bi-monthly progress report.
 - d. The responsibility for the construction of all projects shall lie with the contractor/developer. The contractor/developer shall be responsible for the necessary adjustments and/or repairs due to any failure for a minimum period of two years.
 - e. The costs for the above required quality control shall be borne by the developer and/or contractor.

- f. Any questions as to construction standards, interpretation of results, or methods of construction, shall be brought to the County Engineer's attention for his interpretation.

Testing and Sampling

All testing and sampling will be performed by a qualified and approved laboratory and/or engineering firm, in accordance with the applicable provisions of ASTM and the quality control and testing section of this document, with the results submitted to Yavapai County Engineer's office.

Section G

Commercial/Industrial Developments

For roadways that are within, or which serve, commercial/industrial development, the standards specified herein shall be adhered to with the exception that the minimum A.B.C. thickness allowed will be 8", or as per design, meeting AASHTO standards for aggregate bases.

Section H

Utilities

1. All utilities required in new subdivisions and/or public rights-of-way will be designed in accordance with the standards specified by the respective utility company and approved by the proper regulatory agency with placement location reviewed and approved by the County Engineer.
2. Utility depth and requirements shall conform to Yavapai County Ordinance 1994-1.
3. Utilities, including water mains, may be installed within the roadway template of asphalt concrete paved county subdivision streets. All above ground devices, with the exception of water valve boxes and sewer manholes/cleanouts, shall be outside of the roadway template and located as near to the right of way as feasible. Water valve boxes and sewer manholes/cleanouts shall be constructed in accordance with MAG or ADOT Standards, or alternate standards approved by the County Engineer. Valve boxes and manholes/cleanouts for water and/or sewer mains installed within

chip sealed and/or unpaved roadway template sections shall be located outside of the roadway template, or utilize alternate construction techniques approved by the County Engineer. All utilities to be service stubbed to the property lines.

- a. No valves, closures, transformers, standpipes, poles, etc., will be allowed in any surface drainage ditch.
 - b. Utility ditches outside of roadway prism can be water settled or wheel rolled.
4. As-built utility plans sealed by a Professional Engineer registered in the State of Arizona will be submitted to the proper utility company as required by the respective utilities and Yavapai County.

Section I

Variances

1. Procedure for variance from these specifications shall be as follows:
 - a. A written statement to the County Engineer requesting variance, with reasons for variance.
 - b. Recommendation by County Engineer will be submitted to the Board of Supervisors for action.
 - c. Response in writing to petitioner as to Board action.
 - d. When streets within a proposed subdivision are proposed to be designed, constructed, improved, or paved in a manner that does not meet the minimum standards set forth herein, these deviations shall be identified and included in an application of exception as set forth in Section 308, Exception or Special Circumstance, of the Yavapai County Subdivision Regulations. This exception variant will be submitted and evaluated in accordance with the provisions of the regulations.

Section J

COUNTY ACCEPTANCE

1. When roads have been constructed to County standards and verified as such by the County Engineer's office, recommendation will be made to the Board of Supervisors that these roads be accepted into the County system for total maintenance for the stage to which they were constructed.

Once the improvements for a subdivision/development have been approved and surety released, the Board of Supervisors will review the roadway for acceptance for maintenance.

2. Action by the Board of Supervisors.
3. Response in writing to developer, inspecting firm and/or contractor as to Board action.
4. Inspection and release of assurances shall be done in accordance with Article V of Yavapai County Subdivision Regulations.

NO VARIANCE MAY BE MADE, AND NO ACCEPTANCE EXPECTED, UNLESS THE VARIANCE HAS BEEN APPROVED IN WRITING BY THE BOARD OF SUPERVISORS.

Section K

MATERIAL SPECIFICATIONS

SUBGRADE

The subgrade of the street shall be thoroughly compacted to at least 95% of maximum density, based on standard proctor, by wetting and rolling. The compacted depth shall not be less than 6". In fill sections, subgrade material shall be worked in layers (not to exceed 8" in depth) and compaction tests taken on each layer.

The depth of the base material required shall be established after analysis of the subgrade soil based upon a geotechnical report submitted by a registered engineer.

The materials for the subgrade of a road shall meet and be constructed in accordance with ADOT Standard Specification Section 303, or M.A.G. Standard Specification 702.

SELECT MATERIAL

Select material shall conform to M.A.G. Standard Specification 702 for processed natural materials and decomposed granite.

AGGREGATE BASE COURSE

The base material shall be sand and gravel, crushed rock and/or decomposed granite with enough binder material so that it can be tightly compacted and shall have a plasticity index not in excess of 6 and shall conform to gradation as required by the County Engineer. The work and construction shall be in accordance with Section 702 of M.A.G. Standard Specifications or Section 303 of ADOT Standard Specifications, and as modified herein. Section 303-2 of ADOT Standard Specifications shall be modified as follows:

MATERIALS: TABLE 303-1 IS MODIFIED TO ADD:

Sieve Size	Percent Passing
1 1/8"	100
3/4"	80-100
3/8"	55-65
No. 8	30-45
No. 200	0-10

CLASS OF AGGREGATE - 3

MAXIMUM PLASTICITY INDEX - 6

Base material shall be placed in uniform layers not to exceed 6" in depth. Each layer shall be bladed to a smooth surface conforming to the cross section shown on the plans and shall be watered and thoroughly rolled in a manner satisfactory to obtain a minimum compaction of 95% of maximum density, based on a standard proctor.

Testing shall be in accordance with the quality control and testing section of this document.

ASPHALTIC CONCRETE

The work and construction requirements under this section shall be in accordance with Section 409 of ADOT Standard Specifications or Section 321 of M.A.G. Standard Specifications. Mix design shall be for 2" lift, and shall be submitted to the County Engineer for review and approval.

Asphaltic concrete shall be compacted to not less than 95.0 percent of laboratory density. The laboratory density will be determined by the Contractor's Engineer based upon field samples in accordance with the requirements of AASHTO T-245, 75 blow marshall density.

Core samples shall be taken by the Contractor at random locations in accordance with quality control testing.

When the average percent of compaction is less than 95.0%, the Contractor may be required to remove and replace any portions, at the discretion of the County Engineer, at no cost to the County.

PENETRATION

A penetration surfacing will be acceptable to Yavapai County only in conjunction with a double chip seal and with the approval of the Yavapai County Engineer.

Bituminous prime coat shall consist of furnishing bituminous material and applying this bituminous material to a prepared base course in accordance with Sections 404-1, 404-2.01 and 404-3.11 of ADOT Standard Specifications.

Bituminous material shall consist of MC250 or other approved material applied at a rate of .35 gallons per square yard.

Blotting shall be done wherever and whenever necessary, with a material approved by the County Engineer. All excess blotter material shall be swept away and surface of the bituminous roadway shall be reasonably clean and free of all loose material before the seal coat may be applied.

SEAL COATS

1. CHIP SEAL COAT

The chip seal coat shall consist of emulsified asphalt, type CRS-2, (or equivalent) applied at a rate of 0.30 to 0.40 gallons per square yard and 3/8 inch chip cover aggregate. Emulsified asphalt shall be applied to the surface of the road in accordance with Section 404-3.05 of the ADOT Standard Specifications. Emulsified asphalt, type CRS-2 or equivalent shall conform to Section 1005-3.03 and Table 1005-5 of ADOT Standard Specifications.

Chip seal coat shall not be applied for 14 days after completion of the asphaltic concrete.

The cover material shall conform to Section 404-2.02 to the following gradation and shall be an aggregate mix of clean sand, gravel or crushed rock and shall be free of lumps or balls of clay, contain no calcareous, clay or dust coatings, caliche, synthetic materials, decomposed granite, volcanic cinders, organic matter, or foreign substances. If a clean cover material cannot be achieved using conventional crushing and screening methods, then the cover material will have to be washed in water. The cover material shall be applied at a rate of 25 to 30 pounds per square yard.

The grading shall meet the following requirements when tested in accordance with the requirements of Arizona test method 201.

Sieve Size	Percent by Weight Passing Sieves
3/8"	100
No. 4	0-25
No. 8	0-5
No. 200	0-2

The Contractor is responsible for all laboratory test and certifications to assure that the chip material is in conformance to the requirements set forth in these specifications. Representative samples of the aggregate cover material shall be taken daily, and the laboratory test results and certificates of compliance, certified by the Contractor's Engineer, shall be submitted to the County Engineer. The County Engineer may reject delivered chip material if, in his opinion, the delivered material differs significantly from the representative sample.

The Contractor shall be responsible for the successful placement of the chip seal coat regardless of temperatures of material compliance, and shall guarantee the success of the chip seal coat. The Contractor shall comply with all ADOT Standards and Specifications 404-3.14 for dates and elevations of placement.

The contractor shall have each individual road swept within 24 hours of the completion of the chip seal. The contractor shall maintain traffic control and loose gravel signs until all sweeping has been completed.

Blotting shall be done wherever and whenever necessary, with a material approved by the County Engineer. All excess blotter material shall be swept away and surface of the bituminous roadway shall be reasonably clean and free of all loose material before the seal coat may be applied.

A chip seal coat is required on all asphaltic concrete projects.

2. DOUBLE CHIP SEAL COAT

The double chip seal coat shall consist of emulsified asphalt, type CRS-2, or equivalent, applied at a rate of .40 to .50 gallons per square yard, and utilizing a 1/2" chip cover for the first application, and at the rate of .30 to .40 gallons per square yard for the second application and 3/8" chip cover aggregate.

Emulsified asphalt shall be applied to the surface of the road in accordance with Section 404-2.01 of the ADOT Standard Specifications.

Emulsified asphalt type CRS-2, or equivalent, shall conform to Section 1005-3.03 and Table 1005-5 of the ADOT Standard Specifications.

The cover material shall conform to the following gradation and shall be an aggregate mix of clean sand, gravel or crushed rock and shall be free of lumps or balls of clay, contain no calcareous, clay or dust coatings, caliche, synthetic materials, decomposed granite, volcanic cinders, organic matter, or foreign substances. If a clean cover material cannot be achieved using conventional crushing and screening methods, then the cover materials will have to be washed in water. The cover material shall be applied at a rate of 30 to 35 pounds per square yard.

Sieve Size	Percent by Weight Passing Sieves
1/2	100
3/8"	0-25
No. 4	0-10
No. 8	0-5
No. 200	0-2

The cover material for the second application of a double chip seal shall meet the above criteria with the following exceptions:

1. The cover material shall be applied at a rate of 25 to 30 pounds per square yard.
2. The cover material shall meet the following sieve analysis:

Sieve Size	Percent by Weight Passing Sieves
3/8"	100
1/4	0-25
No. 8	0-5
No. 200	0-2

The Contractor is responsible for all laboratory tests and certifications to assure that the chip material is in conformance to the requirements set forth in these specifications. Representative samples of the aggregate cover material shall be taken under the direct supervision of the Contractor's Engineer on a daily basis, and the certified laboratory test results and certificates of compliance submitted to the County Engineer. The County Engineer may reject delivered chip material if, in his opinion, the delivered material differs significantly from the representative sample.

The Contractor shall be responsible for the successful placement of the chip seal coat regardless of temperatures or material compliance, and shall guarantee the success of the chip seal coat. The Contractor shall comply with all ADOT Standards and Specifications 404-3.14 for dates and elevations of placement.

Blotting shall be done wherever and whenever necessary, with a material approved by the County Engineer. All excess blotter material shall be swept away and surface of the bituminous roadway shall be reasonably clean and free of all loose material before the seal coat may be applied.

The Contractor shall have each individual road swept within 24 hours of the completion of the chip seal. The Contractor shall maintain traffic control and loose gravel signs until all sweeping has been completed.

Section L

QUALITY CONTROL AND TESTING

It shall be the responsibility of the Contractor's/Developer's Engineer to administer a quality control plan sufficient to assure a product meeting the requirements of these specifications. The quality control plan may be operated wholly or in part by a Subcontractor or an independent organization, however, the administration of the plan, including compliance with the quality control plan and its modifications, shall remain the responsibility of the Contractor's/Developer's Engineer.

The Contractor's/Developer's Engineer is required to provide and maintain a quality control plan, along with all personnel, equipment, supplies and facilities as necessary to obtain samples, perform tests, and otherwise assure the quality of the product. The Contractor's/Developer's Engineer shall submit the quality control plan, which shall be in compliance with ASTM standards, to the County Engineer for approval a minimum of ten working days prior to the start of work.

The Contractor's/Developer's Engineer shall perform process control sampling, testing and inspection during all phases of the work and shall perform the process control sampling, testing and inspection at a rate sufficient to assure that the work conforms

to the contract requirements, and utilizing the test guide tables, which are a part of this document, as a minimum for all testing. The Contractor's/Developer's Engineer shall provide the County Engineer a certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures. The Contractor's/Developer's Engineer shall certify the results of all tests performed and provide copies of the test results to the County Engineer.

The quality control plan shall address elements which affect the quality of any material or aspect of the project, and includes, but is not limited to the quality of the subgrade, backfill materials, aggregate base, chips, oil, concrete, and asphaltic concrete and shall include, but not be limited to the following:

- A) Mix designs
- B) Aggregate production
- C) Quality of components
- D) Stockpile management
- E) Proportioning
- F) Mixing, including addition of mineral admixture, if required
- G) Placing and finishing
- H) Joints
- I) Compaction

Section M

GUARANTEE

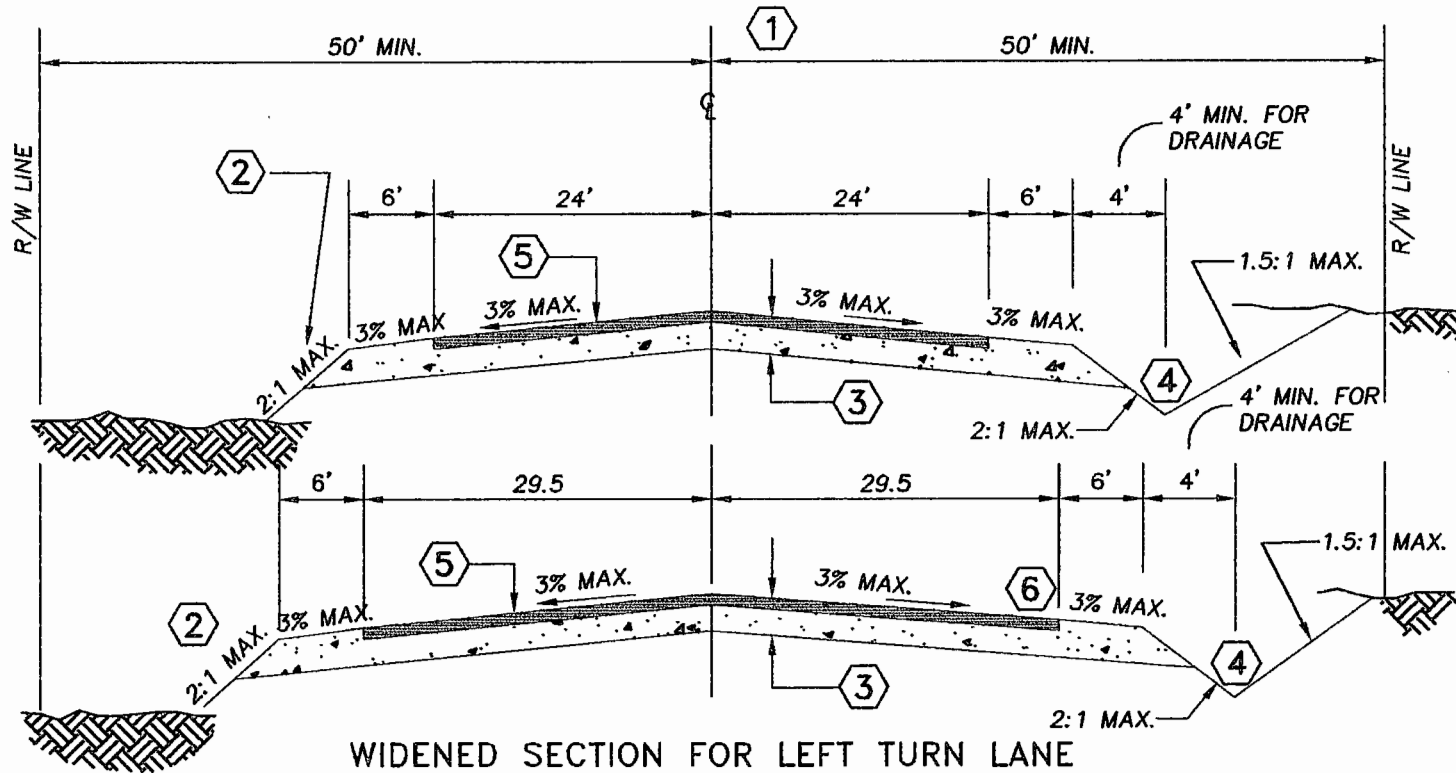
All work shall be guaranteed for a period of two years beginning at the time of final acceptance by the Yavapai County Board of Supervisors.

Section N

REPEALER

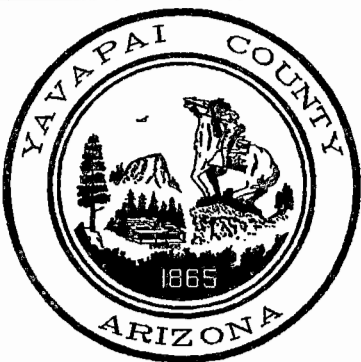
This resolution repeals Resolution 460. This Resolution shall apply to any Ordinance or Resolution referencing Resolution 460.

NOTE: NO ON STREET PARKING ALLOWED



WIDENED SECTION FOR LEFT TURN LANE

- ① RECOMMENDED MINIMUM STANDARD R/W REQUIREMENTS: ARTERIAL ROAD & MAJOR COLLECTOR-50' TYPICAL HALF WIDTH MINIMUM.
- ② FOR GUARDRAIL INSTALLATION SEE ADOT STANDARDS
FOR REQUIREMENTS FOR GUARDRAIL INSTALLATION SEE AASHTO ROADSIDE DESIGN GUIDE - WARRANTS FOR FILL SECTION EMBANKMENTS SECTION 5.2, (1996)
- ③ STRUCTURAL ROAD DESIGN SHALL BE PER SECTION C, PARAGRAPH "4G" THIS STD.
- ④ TWO FOOT MIN. DEPTH DRAINAGE DITCH AS REQUIRED.
- ⑤ SINGLE CHIP SEAL AS PER SEC. "K" OF THIS STD.
- ⑥ ASPHALT THICKENED EDGE PER. SECTION C, PARAGRAPH "4H" THIS STD.



**YAVAPAI COUNTY
ENGINEERING**
1100 COMMERCE DR.
PRESCOTT, ARIZONA 86301
PH#(520)771-3183

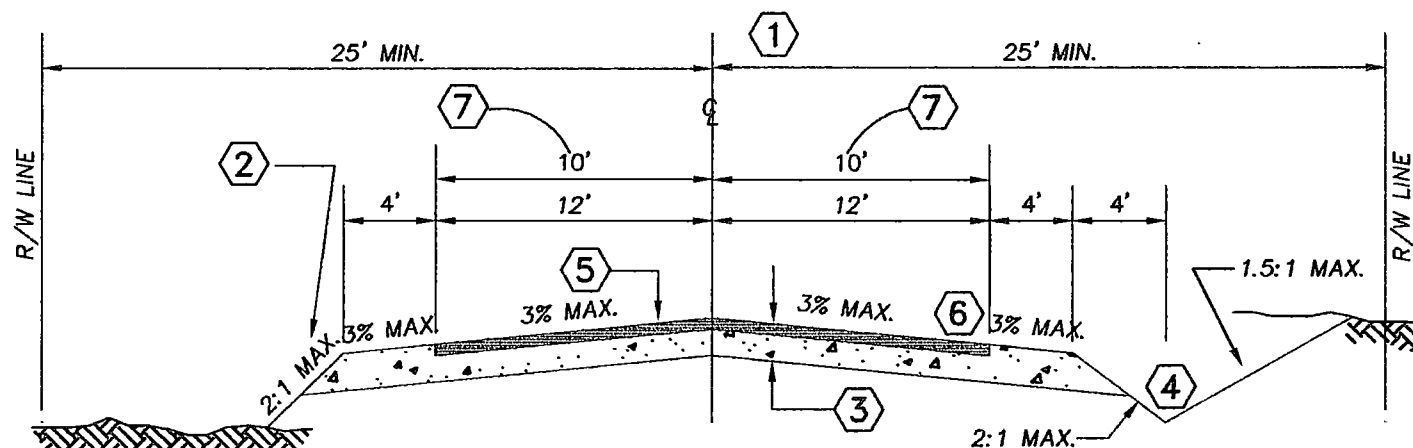
SUBJECT

**ARTERIAL ROADS and
MAJOR COLLECTOR ROADS**

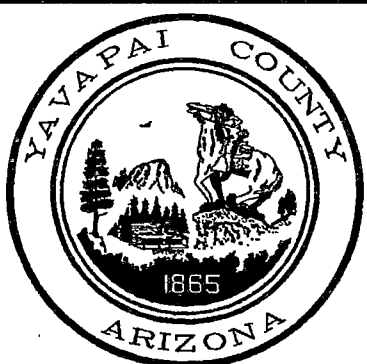
SHT. NO.

1

NOTE:
1. NO ON STREET PARKING ALLOWED



- ① MINIMUM STANDARD R/W REQUIREMENTS: 50' NO HALF STREET
- ② FOR GUARDRAIL INSTALLATION SEE ADOT STANDARDS
FOR REQUIREMENTS FOR GUARDRAIL INSTALLATION SEE AASHTO ROADSIDE DESIGN
GUIDE - WARRANTS FOR FILL SECTION EMBANKMENT, SECTION 5.2, (1996)
- ③ STRUCTURAL ROAD DESIGN SHALL BE PER SECTION C, PARAGRAPH "4G" THIS STD.
- ④ TWO FOOT MIN. DRAINAGE DITCH AS REQUIRED.
- ⑤ SINGLE CHIP SEAL AS PER SEC. "K" OF THIS STD.
- ⑥ ASPHALT THICKENED EDGE PER. SECTION C, PARAGRAPH "4H" THIS STD.
- ⑦ LOW VOLUME RESIDENTIAL STREET PER. SECTION "C" PARAGRAPH "3" THIS STD.



**YAVAPAI COUNTY
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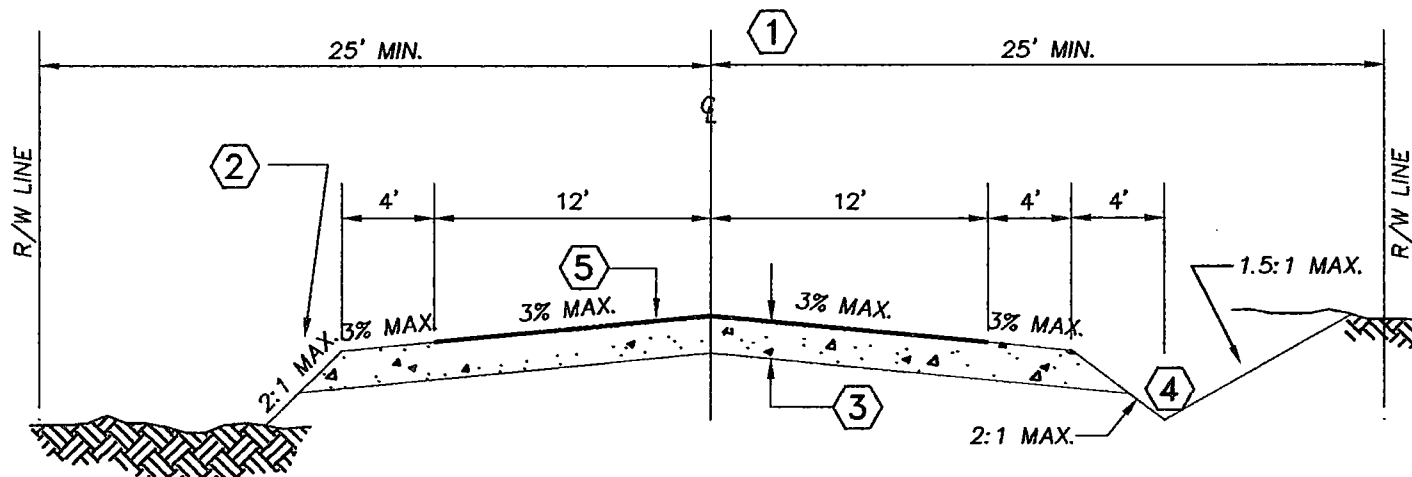
SUBJECT

**RESIDENTIAL STREETS
with ASPHALT PAVEMENT**

SHT. NO.

2

NOTE:
1. NO ON STREET PARKING ALLOWED



- ① MINIMUM STANDARD R/W REQUIREMENTS: 50' NO HALF STREET
- ② FOR GUARDRAIL INSTALLATION SEE ADOT STANDARDS
FOR REQUIREMENTS FOR GUARDRAIL INSTALLATION SEE AASHTO ROADSIDE DESIGN
GUIDE - WARRANTS FOR FILL SECTION EMBANKMENT, SECTION 5.2, (1996)
- ③ STRUCTURAL ROAD DESIGN SHALL BE PER SECTION C, PARAGRAPH "4G" THIS STD.
- ④ TWO FOOT MIN. DRAINAGE DITCH AS REQUIRED.
- ⑤ DOUBLE CHIP SEAL AS PER SEC. "K" AS PER THIS STD.



**YAVAPAI COUNTY
ENGINEERING**
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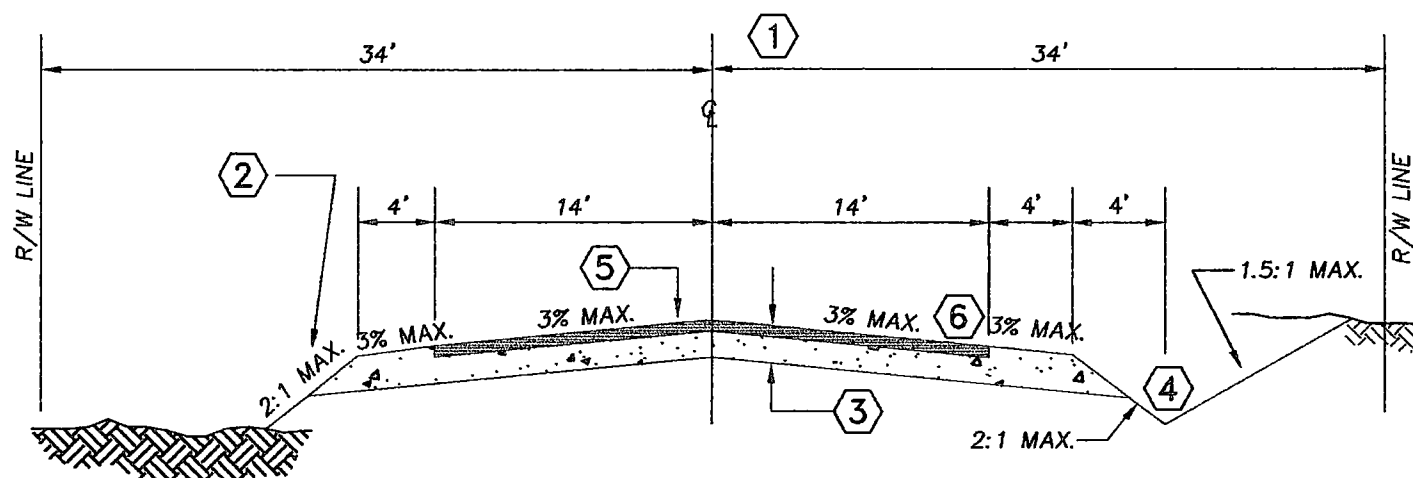
SUBJECT

**RESIDENTIAL STREETS
with DOUBLE CHIP SEAL**

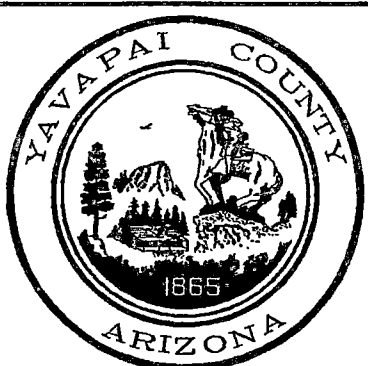
SHT. NO.

3

NOTE:
1. NO ON STREET PARKING ALLOWED



- ① MINIMUM STANDARD R/W REQUIREMENTS: 68' NO HALF STREET
- ② FOR GUARDRAIL INSTALLATION SEE ADOT STANDARDS
FOR REQUIREMENTS FOR GAURDRAIL INSTALLATION SEE AASHTO ROADSIDE DESIGN
GUIDE - WARRANTS FOR FILL SECTION EMBANKMENT, SEC. 5.2, (1996)
- ③ STRUCTURAL ROAD DESIGN SHALL BE PER SECTION C, PARAGRAPH "4G" THIS STD.
- ④ TWO FOOT MIN. DRAINAGE DITCH PER DESIGN.
- ⑤ SINGLE CHIP SEAL AS PER SEC. "K" OF THIS STD.
- ⑥ ASPHALT THICKENED EDGE PER. SECTION C, PARAGRAPH "4H" THIS STD.



**YAVAPAI COUNTY
ENGINEERING**
1100 COMMERCE DR.
PRESCOTT, ARIZONA 86301
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SUBJECT

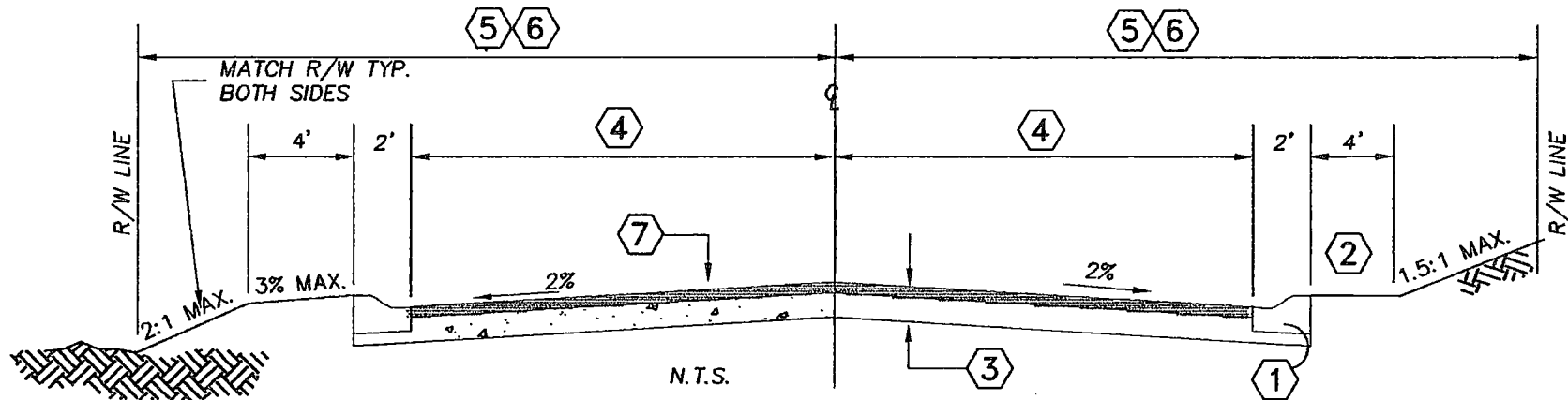
**RESIDENTIAL COLLECTOR
NO CURB & GUTTER**

SHT. NO.

4

NOTE:

1. NO ON STREET PARKING ALLOWED
2. IF DRAINAGE IS TO BE CARRIED IN STREETS
PAVEMENT WIDTH MAY INCREASE TO HANDLE
FLOWS OR AS REQUIRED BY THE COUNTY ENGINEER.



- ① MAG STD. DETAIL 220, TYPE "A" OR "C" CURB AND GUTTER (TYP. BOTH SIDES)
- ② DIRECT RUNOFF TO APPROPRIATE DRAINAGE AREA
- ③ STRUCTURAL ROAD DESIGN SHALL BE PER SECTION C, PARAGRAPH "4G" THIS STD.
- ④ FOR RESIDENTIAL COLLECTORS W/CURBS—HALF STREET PAVEMENT WIDTH = 14' (28' FULL WIDTH)
FOR RESIDENTIAL STREETS W/CURBS—HALF STREET PAVEMENT WIDTH = 12' (24' FULL WIDTH)
- ⑤ RESIDENTIAL COLLECTORS R/W WIDTH = 68'
- ⑥ RESIDENTIAL STREETS R/W WIDTH = 50'
- ⑦ SINGLE CHIP SEAL AS PER SEC. "K" OF THIS STD.



**YAVAPAI COUNTY
ENGINEERING**
1100 COMMERCE DR.
PRESCOTT, ARIZONA 86301
PH#(520)771-3183

SUBJECT

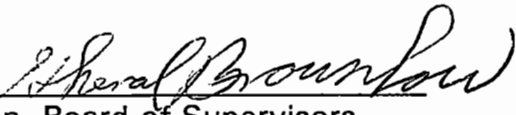
**RESIDENTIAL COLLECTORS
& RESIDENTIAL STREETS
with CURB & GUTTER**

SHT. NO.

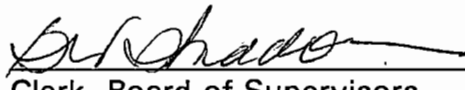
5

APPROVED by the Yavapai County Board of Supervisors this 18 day of February, 1997.

ATTEST:



Chairman, Board of Supervisors
Yavapai County, Arizona



Clerk, Board of Supervisors
Yavapai County, Arizona

ADDENDUM TO RESOLUTION 1036

Turn And Deceleration Lanes

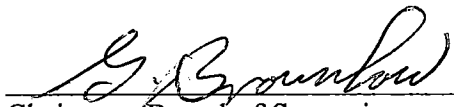
For all new development creating an impact to the County arterial roadway system, turn and deceleration lanes shall be a required improvement necessary for development approvals.

A.A.S.H.T.O. design parameters shall be used for the turn and deceleration lanes which shall be designed to be consistent with the posted speed limit of the impacted arterial roadway, or as required by the County Engineer. If any additional right of way is needed for the construction of the turn and deceleration lanes, it shall be the responsibility of the developer to acquire and dedicate the additional right of way to Yavapai County, with no costs to the County.

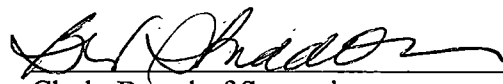
The County Engineer may recommend a variance from this requirement if a written request, with reasons for the variance, is submitted. The County Engineer's recommendation will then be forwarded to the Planning Commission and the Board of Supervisors for action

APPROVED by the Yavapai County Board of Supervisors this 17th day of March, 1997

ATTEST:



Chairman, Board of Supervisors
Yavapai County, Arizona



Clerk, Board of Supervisors
Yavapai County, Arizona