SECTION 4

STREETS

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SECTION 4

STREETS

4-1 DEVELOPER'S PAVEMENT, SIGNAL, AND STREET LIGHT RESPONSIBILITY

A. Construction of street improvements shall conform to the centerline established by the Director.

B. Where the existing pavement section does not generally meet the current structural section standard and/or the centerline grade and alignment are not satisfactory to the Director, the Developer shall be responsible for the pavement section to the centerline on all streets within, adjacent, and contiguous to the Developer's project.

   The Developer shall overlay any areas beyond the centerline where the design centerline grade deviates from the existing. The Developer shall also be responsible for overlaying any low areas where the new pavement meets the existing pavement to maintain a uniform cross slope.

C. When making a connection to an existing street end, the Developer shall be responsible for removing and reconstructing up to a maximum, based on field inspection, of twenty feet (20') of the existing roadway to make a satisfactory connection as required by the Director.

   When making connections to existing pavement, the Developer shall be responsible for a 1-foot minimum sawcut of the existing pavement along with an additional 1-foot by 1½" deep grinding and paving. Refer to Standard Drawings for pavement restoration.

D. The Developer shall be responsible for all of the structural section and pavement on all streets within, adjacent, and contiguous to the project, including frontage roads, as required by the Director. If the street is to be paved under a future City contract, the Director may require a cash deposit for the roadway and related work in lieu of actual construction and the City will include the work in the City contract.

E. All temporary approaches to existing roadways required as a result of the development shall be at the Developer's expense. The temporary approaches shall be paved with a structural section to be determined individually for each situation.

F. The Developer shall be responsible for relocating existing traffic signals and street lights, and installing new traffic signals and street lights as necessary for new street and driveway locations. The Developer shall also be responsible for relocating existing traffic signals and street lights as necessary for the installation of new

curbs or new curbs and sidewalks at locations where there are no existing curbs or curbs and sidewalks.

The City may elect to prepare the traffic signal relocation construction plans to be given to the Developer if requested in writing. In lieu of actual plan preparation, the City will provide all pertinent design information to be included by the Developer on their plans within 30 days after being requested in writing and the Developer's engineer provides an acceptable base plan. Cost of design will be included in direct billing to project.

For intersections with new traffic signal construction that is located within one half of a mile of an intersection with an existing traffic signal, the work shall include the installation of traffic signal interconnect conduits and conductors to connect the new traffic signal to the nearest existing traffic signal. Should interconnect conduits exist through an intersection where a new signal is to be constructed, the work shall include the connection of the new traffic signal into the existing interconnect system. Such work may include the installation of new interconnect cable from the traffic signal to the nearest existing traffic signal.

The design of the traffic signal interconnect facilities shall be subject to the review and approval by the City of Elk Grove Public Works Department. For additional traffic signal and accessibility improvement requirements see Sections 4-17 and 13-1 thru 13-10.

G. The Developer shall be responsible for constructing or modifying curbed median islands where required by these standards, or when required for traffic control as a result of the development, as determined by the Director. If the street is to be paved under a future City contract, the Director may require a cash deposit for the roadway and related work in lieu of actual construction and the City will include the work in the City contract.

H. The developer shall be responsible for bus stops, bus turnouts, and intersection widening as shown on Standard Drawings and in accordance with these Standards.

I. The Developer shall be responsible for all drainage facilities (bridges, pipes, culverts, and appurtenances) crossing new streets within, adjacent, and contiguous to the project. Section 4-23 states developer responsibility and City participation for drainage facilities on existing improved streets.

J. The Developer shall be responsible for all associated modifications to allow for access for the disabled, including but not limited to: guidestrips, sidewalk ramps, striping, etc.

4-2 CITY COST PARTICIPATION

With the submittal of improvement plans for review, the Consulting Engineer shall provide a written request to the City for cost participation if the proposed work is beyond the Developer's responsibility. This application shall show the items of work, the estimated quantities, reimbursable costs, and justification for the request.

The City will notify the Consulting Engineer by letter as to the acceptance and the extent of cost participation prior to improvement plan approval.

The Consulting Engineer is to submit the City proposal to the developer for his approval prior to the final approval of the improvement plans.

Should the Developer not approve the City proposal, time will be allowed for negotiation between the Developer and the City to arrive at a mutually acceptable price or a separate course of action prior to final approval of the improvement plans.

Costs associated with design and construction of eligible facilities included in fee programs, Community Facilities Districts, Assessment Districts, or other funding programs may be reimbursable to the Developer as set forth in the applicable funding program(s). In order to ensure eligibility for such reimbursements, the Developer must comply with the current version of the City's Reimbursement Policies and Procedures for Privately Constructed Public Facilities, which is available through the Public Works Department.

Any portion of work shown on the Consulting Engineer's plans, for which the City has agreed to cooperate, shall not be segregated by note or legend, but shall be included in the general contract. The City will reimburse the Developer for these cooperative items after the work has been accepted by the Director and final payment of plan review and inspection fees has been made.

Final quantities will be determined by field measurement, observed jointly by the City Inspector, the Contractor, and the Developer or his designated agent.
Unit prices prepared for fee and bond calculation and authorized in City Code shall be used as a basis for cooperative work. The Director may negotiate unit or lump sum prices for items not usually encountered, or for unusual field conditions.

4-3 STREET TYPE AND DESIGN WIDTH

The standard approved street types and design widths for the City of Elk Grove are as follows:

A. 20-Foot Street (Private Alley) - A street depressed in the center with a right-of-way and surface width of 20 feet. The standard structural section for a private alley -

consists of 6-inch thick Portland cement concrete over six (6") inches of aggregate base in accordance with the Standard Drawing. Other structural sections may be used with the specific approval of the Director (see Section 4-6A).

B. 42-Foot Street - A minor residential street with a right-of-way width of 42 feet, a back-to-back of curb width of 32 feet, and 5-foot sidewalks. (See Standard Drawing)

42-foot streets are normally used when serving 99 or fewer single-family residential units. Some duplexes may be included when the street is less than 400 feet long.

Where 42-foot streets provide access onto 72-foot, 96-foot, and 118-foot streets, the street approach shall conform to the standard for a 48-foot street. The 48-foot street approach shall be provided for a distance of 100 feet from the cross street right-of-way line along with a 40-foot taper to transition from a 48-foot street to a 42-foot street.

C. 46-Foot Street - A minor residential street with a right-of-way width of 46 feet, a back-to-back of curb width of 36 feet, and 5-foot sidewalks. (See Standard Drawing)

46-foot streets are normally used when serving 99 or fewer single-family residential units where densities are 7 units per acre or greater. Some duplexes may be included when the street is less than 400 feet long.

Where 46-foot streets provide access onto 72-foot, 96-foot, and 118-foot streets, the street approach shall conform to the standard for a 48-foot street. The 48-foot street approach shall be provided for a distance of 100 feet from the cross street right-of-way line along with a 40-foot taper to transition from a 48-foot street to a 46-foot street.

D. 48-Foot Street - A primary residential street with a right-of-way width of 48 feet, a back-to-back of curb width of 38 feet, and 5-foot sidewalks. (See Standard Drawing.)

48-foot streets are normally used for serving more than 99 but fewer than 400 single family residential units and for serving duplex developments.

A 48-foot street cross-section shall be used as the approach width for 42-foot and 46-foot streets that provide access onto 72-foot, 96-foot, and 118-foot streets.

E. 50-Foot Street (Residential Collectors, Multi-Family, Commercial and Industrial) A collector street with a back of curb to back of curb width of 50 feet and 5-foot sidewalks separated by 6-foot landscape corridors. See Standard Drawing. No

residential driveways are allowed on 50-foot back of curb to back of curb streets. 50-foot back of curb to back of curb streets are required in all commercial, industrial, and multiple family developments and are normally used in the vicinity of parks, schools and in residential areas when serving more than 400 residential units.

Where 50-foot back of curb to back of curb streets provide access onto 72-foot, 96-foot, and 118-foot streets shall conform to the standard for a 66-foot right of way street as determined by the Director. See Standard Drawing.)

F. 66-Foot Street - A collector approach street with a right-of-way width of 66 feet, a back-to-back of curb width of 56 feet, and 5-foot attached sidewalks.

A 66-foot street cross-section shall be used as the approach width for 48-foot right of way streets and 50-foot back of curb to back of curb streets onto 72-foot, 96-foot, and 118-foot streets. The 66-foot street approach shall be provided for a distance of 180 feet from the cross street right-of-way line along with a 100-foot taper to provide the transition from the 66-foot street to the smaller street. (See Standard Drawings.)

G. 72-Foot Street - An arterial street with a right-of-way width of 72 feet from back-to-back of curb, and 6-foot separated sidewalks. Sidewalks shall be included as part of the right-of-way when adjacent to the back of curb such as at intersections and driveways. (See Standard Drawing.)

72-foot streets shall be required when shown on the City of Elk Grove General Plan or when required by the project traffic analysis. Refer to Section 4-3(N), Major Street Design, for intersection widening requirements.

H. 96-Foot Street - A thoroughfare street with a right-of-way 96 feet from back-to-back of curb, and 6-foot separated sidewalks. Sidewalks shall be included as part of the right-of-way when adjacent to the back of curb such as at intersections and driveways. (See Standard Drawing.)

96-foot streets shall be required when shown on the City of Elk Grove General Plan or when required by the project traffic analysis. Refer to Section 4-3(N), Major Street Design, for intersection widening requirements.

I. 118-Foot Street - A special thoroughfare street with a right-of-way width of 118 feet from back-to-back curb, and 6-foot separated sidewalks. Sidewalks shall be included as part of the right-of-way when adjacent to the back of curb such as at intersections and driveways. (See Standard Drawing.)

118-foot streets shall be required when shown on the City of Elk Grove General Plan. Refer to Section 4-3(M), Major Street Design, for intersection widening requirements.

J. Major Street Design – Arterial streets for which a continuous center turning lane is not needed or desirable for access to abutting properties shall be designed and constructed as a 72-foot wide primary arterial. 96-foot and 118-foot streets shall have a solid non-traversable median between cross street intersections. Median openings shall be spaced at least 650 feet apart. (Refer to Standard Drawing)

When intersecting with 72-foot or wider streets, minor streets need to have a minimum 48-foot back of curb to back of curb, as set for in Section 4-3, and a minimum spacing of 450'. Commercial driveways shall be considered the same as minor streets with regard to the minimum spacing requirement. All other driveways shall have right turns only. Driveways should be located as far apart as practical with a minimum of 200 feet between driveways or from driveways to intersections. Major driveways that will be signalized shall be designed in accordance with public street intersection standards. Any variation from this standard shall be approved by the Director.

All streets 72 feet and wider shall be designed to the appropriate arterial, thoroughfare or special thoroughfare standards regardless of whether they are apparent on the City of Elk Grove General Plan. Where streets are constructed with the arterial, thoroughfare, and special thoroughfare standard widths, it is intended that they meet all the standards specified herein.

All streets 72 feet and wider shall be subject to full or partial access control at the discretion of the Director.

Pavement widening shall be required at all intersections of 72-foot, 96-foot, and 118-foot streets in accordance with the Standard Drawings. Intersection design shall be in accordance with Standard Drawings.

The Director may determine that widening longer than the minimum standards shown on Standard Drawings is necessary at certain special case intersections when documentation is made prior to the approval of improvement plans (said determination will generally be made prior to the second improvement plan submittal).

Pavement widening shall be required at all intersections of Class "C" streets (see Section 4-5) with 72-foot, 96-foot, and 118-foot streets in accordance with the Standard Drawings. Major driveways serving significant traffic or truck volumes, and as determined by the Director, shall be considered as intersecting streets with regard to pavement widening on Class "C" streets.

All major streets shall be required to accommodate "U" turns at all traffic signals. A minimum distance of 44 feet from the outside of the left turn lane to the face of curb or edge of pavement for the opposing travel direction shall be required.

K. Frontage Road - A street which provides service to abutting property and control of access alongside another street for which direct access is prohibited or undesirable. Frontage roads adjacent to State freeways shall conform to the full width standards for 50-foot back of curb to back of curb streets. All other frontage roads shall have a 26-foot paved surface with a Type 5 vertical curb on the undeveloped side and curb and gutter and a minimum 5-foot sidewalk on the developed side. (See Standard Drawings and Section 4-1(D).)

4-4 RIGHT-OF-WAY WIDTH

Building setbacks, landscaping requirements, and parking requirements shall be based on the ultimate back of curb location regardless of the location of existing public street improvements or right-of-way lines. In case of conflict with any zoning code requirements, the higher standard shall apply.

4-5 STREET CLASS

The standard approved street classes of Elk Grove are as follows:

A. Class "A" Street - Class “A” street improvements shall be in accordance with the Standard Drawings and shall consist of the following:

1. Asphalt concrete pavement over an aggregate base and aggregate subbase as required.

2. Concrete curb, gutter and sidewalks.

3. Side slopes not steeper than 1-1/2:l in cuts or 2:1 in fills, or a reinforced concrete or masonry retaining wall beginning at the right-of-way line. Pedestrian railings may be required along sidewalks when the adjacent property slopes downward away from the street.

4. Street lights in accordance with Section 5.

Street improvements for all single family residential lots on parcels having a net area of 14,500 square feet or less and a (lot) frontage of 100 feet or less shall be Class "A". The net area shall be considered to be that portion of the lot or parcel exclusive of street rights-of-way, fenced easements, and fenced parkways. Lot frontage in the case of a corner lot shall mean the side of the lot with the narrowest street frontage as defined in the Zoning Code of City of Elk Grove.

When considering subdivision improvements, the average lot area and average lot frontage shall be used to determine the street class. Lots in excess of 16,000 square feet shall not be considered in averaging lot areas. Lots having a lot frontage in excess of 125 feet shall not be considered in averaging lot frontage.

Property developments on land zoned or used for duplex, multi-family residential, business and professional, commercial, and industrial uses shall require Class "A" street improvements, regardless of the individual lot frontage or area.

B. Class “B” Street - Class “B” street improvements shall be the same as Class “A” except that sidewalks are omitted. (See Standard Drawings.)

Any lot designated as “Agricultural-Residential Land Use Zone” (AR-1) in the City of Elk Grove Zoning Code shall install Class "B" street improvements.

The Director will consider an exception to the Class “B” street improvement requirements to allow Class "C" street improvements in AR-1 development in the following cases

- Class “C” streets are identified in the specific plan
- Class “C” streets are consistent with the character of surrounding development
- Roadside ditches are the only reasonable design that will provide a satisfactory hydraulic outfall for the development

The normal condition of using 42-foot and 46-foot streets to serve up to 99 single family residential units (Section 4-3(B)) shall also apply to AR-1 development.

C. Class "C" Street – Class “C” street improvements shall be in accordance with the Standard Drawing and shall consist of the following:

1. Asphalt concrete pavement over an aggregate base. Intersection widening at 72-foot, 96-foot, and 118-foot streets shall be in accordance with the Standard Drawing. For lesser street widths, approach and departure tapers may be omitted.

2. Roadside ditches in cuts and 2:1 or flatter fill slopes for interim projects and 3:1 slopes for ultimate projects. Roadside ditches shall be in the right-of-way or in a dedicated drainage easement, as determined by the Director.

3. Street lights in accordance with Section 5.

4. Type 3 curb flush with the pavement shall be installed on 48-foot or larger streets. The Type 3 curb shall be reinforced with # 4 bars in projects where truck traffic is anticipated. In lieu of Type 3 curb, a 5-foot paved shoulder may be allowed.

The total width of the asphalt concrete surface shall be as follows:

Street Type	Pavement Width
42-foot street	26 feet
46-foot street	30 feet
48-foot street	32 feet
50-foot b/c to b/c street and larger	44 feet

Any lot designated in the City of Elk Grove Zoning Code as "Agricultural-Residential Land Use Zone," with a density less than AR-1 may install Class "C" street improvements.

4-6 STRUCTURAL SECTION

The following standards for the design of structural sections shall govern the preparation of plans for proposed improvements.

A. The minimum allowable thickness of the pavement section on 20-foot wide streets (alleys) that drain to the center shall be six inches (6”) of Portland cement concrete on 6 inches Class 2 aggregate base. Upon approval of the Director, alleys may be designed with a standard AC/AB structural section provided that the alley cross-section is crowned with a minimum cross slope of two percent, curb & gutter and drainage facilities are provided on the outside edges, and the minimum distance from face-of-curb to face-of-curb is 20 feet.

B. Structural sections for all roadways wider than 20 feet shall be designed to conform to the California Department of Transportation Highway Design Manual (Latest Edition), “Topic 608 - Asphalt Concrete Pavement Structural Section Design” or other method as approved by the Public Works Director. The gravel equivalent safety factor of 0.2 feet of asphalt concrete shall be used for design.

C. Structural sections shall be determined by design with a minimum of 4 inches of asphalt concrete (AC). The minimum traffic indices (T.I.) used for the calculation of the roadway structural sections shall be as follows:

Street Type by Right-of-Way Width	Minimum Traffic Index
42’, 46’ and 48’ residential streets	6.5
50’ b/c to b/c to 66’ streets without bus routes	6.5
50’ b/c to b/c to 66’ streets with bus routes and all cul-de-sacs	6.5
72’ streets	9.0
96’ and 118’ streets	10.0

D. Geotextile fabric, meeting the AASHTO M228-96 Geotextile Specification for Class 1 geotextiles, see Table 4.1, shall be placed between the basement soil and the aggregate base material in all streets.

Table 4.1 AASHTO M228-96 Geotextile Specification for Class 1 Geotextile

GEOTEXTILE STRENGTH PROPERTY REQUIREMENTS				
Property	**ASTM Test Method**	**Units**	**Class 1**	
			Woven	Nonwoven
Grab Tensile Strength	D 4632	N (lbs)	1400 (315)	900 (202)
Seam Strength	D 4632	N (lbs)	1260 (283)	810 (182)
Trapezoidal Tear Strength	D 4533	N (lbs)	500 (112)	350 (78)
Index Puncture Strength	D 4833	N (lbs)	500 (112)	350 (78)
Mullen Burst Strength	D 3786	kPa (psi)	3500 (508)	1700 (247)

If the subgrade has an R-value of 30 or less, the installation of pavement edge drains at least 12" deep shall be required on both sides of the street, located at the back of curb, for all streets. Drain design to be submitted by design engineer, for City approval.

With approval by the Director, the top 12 inches of subgrade soil beneath the curb & gutter and pavement section may be lime treated per geotechnical recommendations in lieu of the geotextile fabric and edge drain requirements noted above.

E. A soils report indicating the "R" value of the basement (i.e., subgrade) soil, along with calculations for structural pavement sections, shall be submitted with any plan indicating construction of roadway. The first lift of pavement shall be a minimum of 2.25 inches thick and shall be a ¾ inch maximum aggregate densely graded mix.

F. Portland cement concrete streets may be constructed with the approval of the Director.

G. The use of alternate road building materials will be allowed if supported by a sound pavement design study prepared by a registered civil engineer and approved by the Director. These alternate road building materials may include but not be limited to the following:
   - Pavement stress absorbing interlayers
   - In-situ soil and subgrade stabilizing admixtures

- At the option of the City, reclaimed asphalt pavement (RAP) may be substituted for virgin aggregate at a rate of up to fifteen percent (15%) by total weight of aggregate in the asphalt concrete. RAP shall be permitted for use in all asphalt concrete construction except for the top four inches (4”) of pavement on major streets and shall meet County of Sacramento Specification 23-4 RECYCLED ASPHALT PAVEMENT
- Rubberized asphalt concrete

H. Class "C" streets, including the shoulders, shall have the same pavement structural section as the corresponding width of Class "A" streets.

I. In transition areas from one street width to another street width standard, the heavier structural section shall be used in the transition area.

4-7 PROFILE STANDARDS

The following standards for the design of profiles shall govern the preparation of plans for proposed improvements. See Section 3-7(D).

A. The minimum grade on new streets shall be 0.35 percent. Curb and gutter elevations on crest and sag vertical curves shall be adjusted to meet the 0.35 percent minimum grade.

B. The minimum grade of gutter sections constructed on existing streets shall be 0.25 percent.

C. Standard cross slope on new streets shall be 2.0 percent.

D. The minimum cross slope on street widening shall be 1.5 percent and the maximum cross slope shall be 3.0 percent. The cross slope of the widening shall conform to the cross slope of the existing pavement whenever possible.

E. When two streets intersect, neither street shall have a grade greater than 3.0 percent for a minimum distance of 40 feet measured from the curb line of the intersecting street, except in unusually rough terrain, as determined by the Director. The centerline of the lesser intersecting street shall meet the crown slope at the projected lip of the gutter. Crown slope may be reduced to 1.0 percent within the intersection, if necessary.

The minimum vertical curve length allowable at the intersection of two grades shall be 50 feet. Vertical curves on residential and collector streets may be omitted where the algebraic difference in grades does not exceed 2.0 percent. Vertical curves on all other streets may be omitted where the algebraic difference in grades does not exceed 1.5%. The minimum vertical curve data to be computed and

shown on the plans shall consist of the point of intersection elevation, the tangent gradients, the middle ordinate and the length of curve.

F. The design speed and minimum stopping sight distance over any segment of urban roadway shall be as follows unless the Director specifically approves a lesser design speed:

Street Type	Recommended Design Speed	Minimum Stopping Sight Distance
42-foot R/W	25 MPH	150 feet
46-foot R/W	25 MPH	150 feet
48-foot R/W	30 MPH	250 feet
50-foot b/c to /oc	35 MPH	250 feet
66-foot R/W	40 MPH	300 feet
72-foot R/W	45 MPH	360 feet
96-foot R/W	50 MPH	430 feet
118-foot R/W	50 MPH	430 feet
Rural/unposted	55 MPH	500 feet

The minimum design speed for rural and/or unposted roadways shall be 55 MPH or conform to the maximum allowable vehicular speed per the California Vehicle Code. Stopping sight distance for other design speeds shall be in accordance with California Department of Transportation Highway Design Manual (Latest Edition) or as approved by the Director.

Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-foot high on the road.

4-8 PARTIAL STREET

Partial streets may be permitted by the Director along the boundary of a subdivision or property of the developer where the full right-of-way cannot be dedicated or where the complete street cannot be constructed, but will ultimately be constructed with adjacent development.

The minimum right-of-way width shall be 40 feet or one-half of the proposed right-of-way, whichever is greater. Lesser right-of-way widths may be allowed when approved by the City Council in accordance with the State of California Streets and Highways Code.

Partial streets shall be constructed to a complete geometric and structural section and have a minimum paved width specified by the following:

A. On 42, 46 and 48-foot streets, the minimum pavement width shall be 26 feet.

B. On 50-foot b/c to b/c streets, the pavement shall extend five feet past centerline for a total of 27 feet.
C. On 66-foot streets, the pavement shall extend five feet past centerline for a total of 30 feet.

The intersection pavement edges shall have a minimum radius of 14 feet on the uncompleted side. All other edge of pavement radii shall be 25 feet or greater.

When paving partial construction of an ultimate street development, the edges of the current pavement on the uncompleted side are to be protected by use of 2"x6" approved headers, construction grade, or by placing a minimum of 1-foot additional width of aggregate base material beyond the edge of pavement to the grade and depth of the adjacent structural section.

Partial streets shall be terminated with the end of the pavement perpendicular to the street unless otherwise specified below. A 2"x6" redwood header board shall be required at the pavement ending.

Partial streets that terminate adjacent to an intersection or driveway shall be tapered 45 degrees to the street if right-of-way is available.

The end of a partial street that terminates a traveled lane in the direction of travel shall be tapered in accordance with the following equations:

Less than 45 mph, $L = WS^2/60$
Greater than or equal to 45 mph, $L = WS$

Where L = Length, W = Width (feet) and S = Design Speed (mph)

The design speed used in determining the taper shall be that given in the table in Section 4-7(F).

In certain cases, the Director may specify alternate pavement tapers for the termination of partial streets.

4-9 OFFSET INTERSECTION

A. Streets intersecting any 42-foot, 46-foot or 48-foot residential street from opposite sides shall have their centerlines meet, or the offset between intersections shall be a minimum of 150 feet. A lesser distance may be approved for infill projects.

B. Streets intersecting any 50-foot b/c to b/c, or 66-foot street from opposite sides shall have their centerlines meet, or the offset between intersections shall be a minimum of 200 feet. A lesser distance may be approved for infill projects.

C. Streets intersecting any 72-foot street from opposite sides shall have their centerlines meet, or the offset between intersections shall be a minimum of 300 feet. Pursuant to this section major access driveways shall be considered as streets with respect to offsets. Lesser distance may be approved for infill projects.

D. See Section 4-3(M) for intersection spacing requirements for 96-foot and greater streets where there are raised median dividers.

4-10 DRIVEWAYS

Driveway installation shall be in accordance with the Standard Drawings as applicable, and the following:

A. Driveways entering Class "B" or Class "C" streets shall meet the property line at such a grade and elevation as to permit conversion to a Class "A" street without regrading the driveway beyond the property line. The maximum driveway slope shall be 10 percent, except for single family and duplex driveways, and in unusual terrain conditions, when specifically approved by the Director. The maximum algebraic difference in grade at any grade change within the public right-of-way and a driveway or between a driveway and public roadway shall be ten percent.

B. Concrete driveways will not be permitted within the right-of-way lines when entering Class “C" streets. (See Standard Drawing.)

C. No driveway (including transition tapers) will be allowed within 5 feet of a side property line (See Standard Drawings.) Exceptions may be approved by the Director for joint driveways or in unusual cases. Joint driveways may be required by the Director and a reciprocal access agreement will be required prior to approval of improvement plans.

D. Driveways and intersections on arterials and thoroughfares shall be evaluated for right turn pockets. Driveways and intersections which have 50 peak hour trips or more shall have a right turn pocket into the development. Projects with less than 50 peak hour trips at the driveway or intersection shall be evaluated on a case by case basis. Exceptions from the standard may be approved the by the Director for infill projects. Right turn pockets shall have 90’ bay taper. Pocket lengths shall be evaluated on a case by case basis based upon traffic volumes and other relevant considerations.

E. For all 72-foot streets and wider, driveway throat depths shall be a minimum of 50’ from the back of the sidewalk, clear of drive aisle or parking spaces. Longer throat depths may be required based upon traffic volumes generated and the traffic volume on the street the project is accessing. All driveways, except those providing access to single family residential uses, on two lane streets shall have a minimum throat dept of 25 feet.. Exceptions from this standard may be approved the by Director for infill projects.

F. The minimum width for a single family residential or duplex driveway shall be 10 feet. The maximum single family residential or duplex driveway width shall be 24 feet. For residents that provide three car garages, (side by side garages only) wider driveways may be evaluated and approved on a case by case basis. Residential and duplex driveways with positive grades shall have a rise of no more than 8 inches above the back-of-sidewalk grade at a point 7 feet from the back of sidewalk.

G. All commercial and multiple family developments shall install driveways consistent with the standard drawings. (See Standard Drawings.) Commercial, office and multi-family driveways on collector streets shall be a minimum of 24-feet wide and may be increased, as determined by the Director to 35-feet wide based upon the driveway vehicular volume, street geometrics, street vehicular volumes or other characteristics of the area. Driveways serving significant truck traffic may be increased to a 45-foot wide driveway, at the discretion of the Director.

H. The standard multiple family and commercial driveway width shall be 35 feet on 72-foot, 96-foot, and 118-foot streets and may be increased to 45 feet at the discretion of the Director. Driveways on 72-foot, 96-foot, and 118-foot streets shall have a minimum clear spacing of 200 feet between driveways (See Standard Drawing.). Lesser spacing may be approved by the Director when warranted by conditions at a particular site. Exceptions should be obtained as early as possible, prior to submission of improvement plans or development plans.

A center median up to 10 feet wide may be approved by the Director for certain driveways. The normal driveway width will be increased by the median width.

I. Driveways shall be located outside of expanded intersections, unless otherwise approved by the Director.

J. The standard driveway for industrial developments shall be Type A-6 or Type A-7, 45 feet wide, as shown on the Standard Drawings.

K. When driveways are abandoned or relocated, the driveway sections must be removed and replaced with standard curb and gutter, sidewalk, and if applicable, planters.

L. When street frontage improvements exist with Type 1, Type 1A, or Type 2 curb and gutter, Type A-6 or A-7 driveways shall be installed for all accesses serving more than four single dwelling units.

M. Driveways entering levee roads and driveways entering commercial property on all roads shall have a slope not exceeding 5 percent for a minimum distance of 20 feet, measured from the edge of existing pavement. Driveways normally used by vehicles towing house or boat trailers shall have special requirements to be determined on an individual basis by the Director.

N. The nearest edge of driveways shall not be closer than 50 feet to the end of existing or future traffic medians. Medians shall be reconstructed and/or lengthened to conform to this section if necessary, as determined by the Director.

O. Visibility requirements for driveways shall be in accordance with the Standard Drawings. Increased visibility requirements may be required for driveways serving a significant amount of truck traffic.

P. Major commercial driveways which will serve significant traffic volume, as determined by the Director, shall be considered as intersecting streets and shall conform to the requirements of Section 4-9 regarding offsets.

Q. Driveways near major intersections shall be no closer than 175 feet from the present or future intersection curb return (see Standard Drawing). Exceptions may be granted by the Director. Exceptions should be obtained as early as possible, prior to submission of improvement plans or development plans.

R. Driveways accessing public streets with no curbs and gutters and sidewalks shall be paved with dust free surfacing (either asphalt concrete or a double chip seal). Driveways accessing public roads with sidewalks and/or curbs and gutters shall be paved with concrete or asphalt concrete. (See Standard Drawing.)

S. Private streets must be designed and constructed to public street standards, per the City of Elk Grove General Plan.

T. Residential driveways on minor street or collector streets at their intersection with a 50-foot back of curb to back of curb or narrower street shall be located a minimum of 15 feet clear from the corner return. Residential driveways on minor street or collector streets at their intersection with a 50-foot back of curb to back of curb or wider street shall be located a minimum of 50 feet clear from the corner return. Non-residential driveways on a collector street intersecting with a 72-foot street or wider shall be located a minimum of 150 feet clear of the corner return. (See Standard Drawing.)

4-11 CUL-DE-SAC

Cul-de-sac streets shall be terminated with a bulb, which shall have right-of-way and back of curb radius dimensions conforming to the Standard Drawing and the following:

Approach Street	Back of Curb Radius
42-foot street	36 feet
46-foot street	36 feet
48-foot street	36 feet
50-foot street ((b/c to b/c)	50 feet

Streets larger that that shown in the table above shall not terminate at a cul-de-sac.

No cul-de-sac shall exceed 600 feet in length.

The minimum T.I. for a cul-de-sac shall be 6.5. Special T.I.'s will be provided to the consultant engineer for industrial cul-de-sacs or where other special conditions exist.

Where there is no vehicular access from the end of a public street, the street must be terminated with a bulb. A Fire Department approved turn-around will be considered as an alternative to a cul-de-sac for private streets where no vehicular access is taken from the end.

4-12 ELBOW INTERSECTION

Elbows shall be required at right angle intersections in accordance with the Standard Drawing. Only under unusual conditions will an elbow other than 90°±5° be permitted by the Director.

4-13 CENTERLINE RADII

The curve data (delta angle, length, tangent, and radius) for all centerline curves shall be computed and shown on the plans.

The minimum radius curve for 42-foot and 46-foot streets shall be 200 feet.

The minimum radius curve for 48-foot streets shall be 350 feet with the exception that 48-foot streets exceeding 1,000 feet in length and functioning as collectors serving over 99 lots and connecting to 84-foot, 108-foot, or 130-foot streets shall have a minimum radius curve of 500 feet.

The minimum radius curve for 50-foot back of curb to back of curb shall be 500 feet.

The minimum radius curve for 66-foot streets shall be 800 feet.

The minimum radius curve for 72-foot, 96-foot, and 118-foot streets shall be 2,000 feet.

Special consideration will be given to unusually difficult alignment problems. Any exception to the minimum radius requirements must be approved by the Director.

Where a centerline radius on a major street that is less than the above requirements is approved by the Director, superelevation may be required.

A minimum tangent length of 200 feet is required between reversing curves on 50-foot back of curb to back of curb and larger streets.

4-14 SIGHT DISTANCE AT INTERSECTIONS

All street intersections shall intersect at 90°±5° to each other. This angle shall be maintained for a minimum distance equivalent to the right-of-way width measured from the curb return.

Streets should not be designed to intersect the inside of curves or at any location where sight distance will be inadequate for drivers to tell if they can safely enter the traffic flow or cross the street. The minimum distance from an intersection to a curve should be the applicable minimum sight distance listed below. Exceptions may be made by the Director for especially difficult design circumstances. Dedication of visibility easements may be required to ensure that adequate sight distances are provided. Minimum intersection design sight distance standards shall be as follows:

Minimum Sight Distance

Type of Street Being Entered	Recommended Design Speed	Minimum Sight Distance*
42-foot R/W	25 MPH	280 feet
46-foot R/W	25 MPH	280 feet
48-foot R/W	30 MPH	330 feet
50-foot boc to boc	35 MPH	390 feet
66-foot R/W	40 MPH	440 feet
72-foot R/W	45 MPH	500 feet
96-foot R/W	50 MPH	550 feet
118-foot R/W	50 MPH	550 feet

*Distance measured from an entering driver's eye position to the position of the closest approaching vehicle's far front corner.

The entering driver's eye position shall be assumed 3 feet to the right of the entering street's centerline, 3.5 feet above the pavement surface, and 11 feet clear of the nearest vehicle lane on the street being entered or 8 feet behind the stop bar, whichever is greater.

The position of the closest approaching vehicle's far front corner shall be assumed 3 feet from the edge of the nearest approaching vehicle lane and 4.25 feet above the pavement surface for each direction of travel.

Major driveways serving significant traffic volume, as determined by the Director, shall be considered as intersecting streets with regard to intersection sight distance

requirements. Minor driveways and private streets should provide the recommended intersection sight distance, and at a minimum, shall provide for stopping sight distance.

All streets and driveways shall conform to the Standard Drawing for corner visibility requirements, as well as to the requirements herein. Visibility easements shall describe an area to be maintained clear of any and all permanent obstructions to a clear view from the adjacent streets except as exempted by the City Code. No sign, hedge, structure, natural growth, fence, or other obstruction of any kind whatsoever to a clear view, higher than 2 1/2 feet above the nearest pavement surface (or traveled area where no pavement exists) shall be installed or maintained or shall be permitted to be installed or maintained within the easement area.

Visibility easements shall be recorded on subdivision maps when required, or by separate document if no map will be recorded.

All visibility easement areas between fences or walls and curbs or sidewalks shall be improved as follows:

A. Standard Portland cement concrete sidewalk shall be placed in all areas having a width of 3 feet or less, and in all areas within intersection corner roundings.

B. All areas having a width greater than 3 feet and not within intersection corner roundings shall be surfaced with 2 inches of asphalt concrete or other impervious, non-raveling surfacing subject to the approval of the Director. Soil sterilization shall be applied in accordance with the Standard Construction Specifications.

C. Low profile landscaping may be allowed in the visibility control area providing that area is maintained by a responsible public entity and the landscape plans receive approval from the City.

4-15 INTERSECTION CORNER RADII

Minimum right-of-way and edge of pavement radii for intersection corner roundings shall be in accordance with the Standard Drawings and the following:

Street Type	Class "A" and "B" Streets Edge of Pavement (Curb and Gutter Lip Radius)
42-foot	28 feet
46-foot	28 feet
48-foot	28 feet
*48-foot	33 feet
All others	33 feet

* intersects with a wider street

When two streets of different widths intersect, the radius for the narrower street shall apply, except that when a 48-foot street intersects a wider street, the radius for the wider street shall apply.

All intersection pavement edges on Class "C" streets shall have a minimum radius of 25 feet where widening is not required by Section 4-3(M).

All intersection pavement edges on partial streets shall have a minimum radius of 14 feet on the uncompleted side. All other edge of pavement radii shall be 25 feet or greater as determined by turning requirements at the subject location.

4-16 BUS STOP

Bus stop turnouts with paved shelter pad areas shall be required on 72-foot streets, 96-foot streets, and 118-foot streets where specified by the Director.

At all intersections of 72-foot, 96-foot, and 118-foot streets with other 72-foot, 96-foot and 118-foot streets, bus stops shall be provided with turnouts that are integrated with standard intersection widening in accordance with the Standard Drawings.

General principles related to bus stop turnouts include:

Bus stop turnouts shall be located on the far right hand side of intersections, unless otherwise required by the Director, in accordance with the Standard Drawings.

Bus stop turnouts shall be provided on 72-foot, 96-foot, and 118-foot streets in accordance with the Standard Drawings at street intersections, which have or will need traffic signals as determined by the Director. Bus stop turnouts shall be provided at approximately ¼ mile intervals along 72-foot, 96-foot, and 118-foot streets.

Where intersections are too widely spaced to provide satisfactory bus stop intervals, as determined by the Director, mid-block bus stops and turnouts may be required. Sidewalks shall be 6 feet wide at bus stops with a 7-foot by 28-foot P.C.C. pad to accommodate bus shelters as shown on the Standard Drawings.

Reinforced Type 2 curbs shall be required at all bus stops and turnouts in accordance with the Standard Drawing.

4-17 SIDEWALK RAMP AND ACCESSIBILITY IMPROVEMENTS

Sidewalk ramps shall be constructed at all street intersections and at other locations where required by the Director, in accordance with the Standard Drawings, as applicable.

All intersection corners shall have dual sidewalk ramps, unless dual ramps are determined by the Director to be undesirable or impractical (e.g., where dual ramps

would result in large crosswalk skews, where visibility concerns exist at stop-controlled intersections , or intersections where the major street has a raised median extending through the intersection).

At "T" intersections, ramps are not to be placed to facilitate crossing of the through street unless the Director determines that special conditions exist (e.g., where the intersection is adjacent to land uses having special pedestrian generating characteristic such as parks and schools).

In accordance with the requirements of the American With Disabilities Act (ADA), any modification of any portion of an intersection may require access improvements to all corners of that intersection as determined by the Director based on the nature of work being proposed at the intersection. For the purpose of this requirement, modifications include but are not limited to:

- Roadway widening through the intersection
- Widening of a portion of the intersection
- Construction of corner improvements (curbs, gutter, and/or sidewalks) in any portion of the intersection
- Construction of a new traffic signal
- Modification of an existing traffic signal
- Resurfacing the pavement with an asphalt concrete overlay in any portion of the intersection

Access improvements to the intersection include, but are not limited to, the construction of sidewalk ramps. Should there be existing sidewalk ramps prior to the modification of the intersection, it shall be the responsibility of the Developer to survey the existing sidewalk ramps to ensure that they comply with the current requirements of the ADA for existing ramps. Should any existing ramp fail to meet those requirements, that ramp shall be removed and replaced with a sidewalk ramp that conforms to City standards.

If an intersection is modified, as defined above, and if that intersection has an existing traffic signal, access improvements shall include the installation of ADA compliant pedestrian push buttons, should they not exist. Those push buttons shall conform to the ADA and City requirements including height, orientation, location relative to sidewalk areas, locations relative to sidewalk ramps and location relative to crosswalks. Access improvements for such intersections shall also include the installation of audible pedestrian traffic signals.

4-18 CURB AND GUTTER

Curb and gutter shall be installed adjacent to all developments in accordance with the Standard Drawing and the following:

A. Type 1A Curb and Gutter: 42-foot, 46-foot and 48-foot streets where single family residential units are proposed for front-on access, or as required by the Director.
B. Type 2 Curb and Gutter: All streets not covered under A. above.

4-19 CROSS GUTTER

Cross gutters may be permitted on 42-foot, 46-foot and 48-foot streets with the specific approval of the Director when the intersection cannot reasonably be drained to an underground system. (See Standard Drawing.) No cross gutter will be allowed on 50-foot or greater streets. Cross gutters will also not be allowed on any approach to a signalized intersection.

4-20 BARRIER CURB

Barrier curbs shall be in accordance with these standards and the Standard Drawings. Barrier curbs shall be required at all locations where parking will be allowed adjacent to the sidewalk. See Standard Drawing for planter and barrier curb details (lawn may extend to the back of sidewalk in lieu of planters).

A barrier curb shall be required at the back of sidewalk at all commercial, industrial, and multi-family residential properties and landscape corridors where landscape planters containing soil and/or mulch are adjacent to the sidewalk. A barrier curb is not required at the back of sidewalk adjacent to lawn.

A barrier curb shall be required at bus stops behind a sidewalk where the slope is toward the sidewalk (to prevent sheet flow across the sidewalk). Undersidewalk drains shall be used to remove drainage collected at the back of the barrier curb, as necessary to prevent any flow across the sidewalk. (See Standard Drawings.)

A barrier curb shall be required behind a sidewalk where the slope behind the sidewalk is greater than 6:1 and the slope is away from the sidewalk (for pedestrian safety). Where a retaining wall is allowed, creating a dropoff adjacent to the sidewalk, a minimum 36-inch high barrier fence is required in lieu of the barrier curb at the back of the sidewalk (see Section 4-31). Lot grading shall be done so as to not require fencing immediately adjacent to intersections and driveways in violation of the sight distance and visibility requirements of Standard Drawing and Section 4-14.

4-21 SIDEWALK

Sidewalks shall be in accordance with these standards and the Standard Drawings.

All school and park developments shall have 8-foot attached sidewalks along all frontages.

Where utility poles and other obstructions are situated within the planned sidewalk section, a minimum of 4 feet of clear uninterrupted sidewalk area shall be provided. (See Standard Drawing.) Where it is necessary to widen the sidewalk beyond its standard width to attain the 4-foot clearance, the widened area shall extend a minimum of 5 feet beyond each side of the obstruction and a 10-foot taper on each side of the widening shall be required.

Sidewalk widening shall be required at all major intersections on backup lot developments in accordance with Section 4-14.

Where sidewalks end in fill areas and a gap in the sidewalk exists, provided that right-of-way is available, temporary sidewalks shall be constructed to fill the gap to the satisfaction of Public Works. Otherwise the sidewalk shall be extended beyond the end of the property for a minimum distance of 6 feet or if approved by the Director a cut-off wall may be constructed at the end of the sidewalk and appropriate connection to the existing public street shall be provided for pedestrians traveling beyond the end of the sidewalk.

All 72', 92', 118', and 48' residential streets shall have non-meandering separated sidewalks. With approval by the Director, sidewalks may be meandering and separated from the curb by approved landscaping. The width of the sidewalk will correspond with the design width of the street. The maximum cross slope on separated sidewalks shall be 2%. The distance between the back of the curb and the edge of the sidewalk can vary, but shall not be less than 5 feet nor more than 25 feet, except at transitions. If trees are to be planted in the landscaping, the minimum distance between the back of the curb and the edge of the sidewalk shall be 8 feet.

The meandering sidewalks will be designed to the specifications in the Standard Drawing. For Case I, the sidewalk will have at least a 2-foot wide straight path down the center and a 10-foot minimum distance at the back of walk between landscaped areas. A Type 2 curb & gutter shall be required along the entire length of meandering sidewalk. For Case II, the sidewalk will have no abrupt changes in direction and will be constructed using only tangents of any length and inside radii of at least 150 feet. Type 2 curb & gutter shall be required at all locations where the sidewalk is separated from the curb. The Director may approve other configurations of meandering sidewalks to save existing trees or for special design applications.

4-22 PEDESTRIAN LANE

Pedestrian lanes within a development shall be constructed with a minimum of 3-5/8 inches of Portland cement concrete, Class "B", for the full width of the easement. The walkway will be constructed on six inches of aggregate base.

The maximum grade for pedestrian lanes shall be 5.00 percent.

Pedestrian lanes, where situated between lots, shall be fenced with chain link fencing from the street right of way to the back lot line. These fences shall be 6 feet high from the building setback line to the back lot line and 36 inches high from the building setback line to the street right-of-way line.

Cross fencing to control access shall be placed at the street ends of all pedestrian lanes in accordance with the Standard Drawing.

All pedestrian lanes shall have lighting installed in accordance with Section 5-8(C).

4-23 TRENCHING IN EXISTING PAVED ROADWAYS

Crossings other than perpendicular crossings of existing roadways and all trenching in high traffic locations shall provide for select backfill material and increased structural section depth over the standard for that particular roadway. Boring may be required on 72-foot, 96-foot, and 118-foot streets where, in the opinion of the Director, high peak hour traffic volumes or other unusual conditions exist. The Developer shall be required to coordinate trenching work schedules to avoid cutting new pavement in instances where repaving is planned by the City.

No pavement cuts or trenching will be permitted on any street that has been constructed within the last five years or has been overlaid within the last three years without written special approval of the Director. Special pavement restoration will be required for cuts made in streets that have been constructed or overlaid within a period of five or three years, respectively, prior to the time of work. See Standard Drawing.

4-24 TESTING OF MATERIAL

Testing of materials to be utilized in work performed under the Standard Construction Specifications shall be performed in accordance with the methods of the Laboratory of the State of California, Department of Transportation. Signed copies of the test results, as required, shall be submitted to the Director. Test results shall show clearly the name of the individual and firm performing the tests, as well as the name of the project, the date of sampling, and the date of testing. Tests performed by the City will be charged to the Developer as part of inspection billing.

The tests indicated in the Standard Construction Specifications will be the minimum required. In large developments, or those developments presenting special problems, a more comprehensive and extensive testing program may be required. Such conditions will be evaluated and an appropriate testing program prescribed on an individual basis. Two copies of any Federal Housing Administration required soils tests shall be submitted with proposed plans.

4-25 STREET NAME

All roads and streets within a development shall be named by the Developer subject to the approval of the Director. No duplication of names already in use or previously proposed will be permitted. Sound-alike names or names with more than 13 spaces are not acceptable. Street names at intersections shall be continued on both sides of the intersecting streets.

Street name signs shall be furnished and erected by the Developer. Street name signs shall conform to the requirements of the Standard Construction Specifications and these Improvement Standards.

Street names and street name sign locations shall appear on plans submitted for approval. Sign details shall be as shown on the Standard Drawings.
Block numbering shall be required on all street name signs.

Private roads shall have street name signs installed in accordance with Section 4-27(B) below. Street name signs for private roads may be the same as for public streets (see Standard Drawing) except the words City of Elk Grove must be omitted. Also, a separate additional sign must be placed on the same post saying "Not a City Road" which shall be 9 inches wide, 8 inches high, and have 1-3/4 inch high white letter on a green background.

4-26 STREET SIGN LOCATION

Street sign locations shall conform to the following:

A. Two street name sign installations (with four sign plates on each post) are required at each intersection where one or both of the intersecting streets has a right-of-way width of 72 feet or greater. At a four-way intersection, the installations shall be located on both far right-hand corners of the intersection relative to the street having the greater right-of-way width or relative to the more important street if right-of-way widths are equal.

   At a "T" intersection, the first installation shall be located on the far right-hand corner of the intersection, relative to the through street, and the second installation shall be located adjacent to the through street at a point in line with the centerline of the terminating street. One sign plate should be omitted from the standard four-

plate installation at the "T" intersection sign locations where an approach street does not exist.

B. One street name sign installation (with four sign plates on each post) is required at each intersection where both intersecting streets have a right-of-way width of less than 72 feet. At a four-way intersection, the installation shall be located on one of the far right-hand corners of the intersection relative to the street having the greater right-of-way width or relative to the more important street if the right-of-way widths are equal. At a "T" intersection, the installation shall be located on the far right-hand corner relative to the through street.

C. For highways with frontage roads, the street name sign installations shall be located in the divider strip between the frontage road and the main traveled lanes of the highway. All other requirements shall be as outlined above, except that only one sign will be required (in the divider strip in line with the centerline of the minor street) when there is no opening in the divider strip for access to the main highway.

D. Standard Drawings show placement details for street name signs. On streets having a right-of-way width of 72 feet or greater, the street name sign installations are to be located adjacent to the more important street, at the end of the curb return. On streets with right-of-way widths less than 84 feet, the street name sign installations are to be located at the midpoint of the curb return.

E. Street name signs shall be placed on street light poles wherever possible, in accordance with Standard Drawings.

F. At signalized intersections, street name signs shall be placed on all four corners of four-legged intersections and on three corners on “T” intersections. In addition, internally illuminated street name signs are to be installed on their own clamp-on steel mast arms, 9’-3” in length, 3-5/8’ in diameter, mounted at the 27-foot level.

4-27 TRAFFIC SIGNS

All cul-de-sac and dead-end (stub) streets greater than 300 feet in length and all cul-de-sac and dead-end (stub) streets less than 300 feet in length where the curb at the centerline of the end of the street is not visible from the standard driver's eye position at the entering intersection shall be posted with a standard 24" x 24" “Not A Through Street” (W53) sign. The bottom of the sign shall be a minimum of 7 feet above the sidewalk. The standard location for the W53 sign is on the right hand side at the tangent point of the corner rounding, 6 inches (minimum) from the back of sidewalk.

All Fire Department approved turn-arounds on street ends shall be posted with a standard 24" x 24" “End” (W31) sign, and a standard 18" x 18" red Type N marker. The red Type N marker shall be mounted below the W31 sign, on the same post. The

top of the red Type N marker shall be a minimum of 4 feet above the sidewalk. The standard location for the W31 / red Type N installation is in the head on position, facing traffic, approximately 3 feet to the right of the prolongation of the street centerline, 6 inches (minimum) from the back of sidewalk.

All roads and streets within a development and new street frontage improvements shall include necessary traffic signs and pavement striping and shall be installed by the Developer. Developer may request City forces to install traffic signs and striping at Developer expense. The Developer shall not proceed to open the roads or traffic lanes until required traffic controls are in place and traffic safety is ensured. Traffic signing and striping shall conform to the City of Elk Grove Standard Specifications. A traffic signing and striping plan, if applicable, shall be included in the plans submitted for Public Works approval.

4-28 PERMANENT BARRICADE

Where improvements are temporarily terminated on a street proposed to be extended in the future, the improvements shall include a permanent type barricade at the end of the street extending completely across the right-of-way to prohibit access and to serve as a warning to the public. The barricade shall be constructed, erected, painted, and signed in accordance with the Standard Drawing. When necessary, barricades may be lengthened by making the 2" x 12" plank continuous with splicing at the posts.

Gates may be required where streets stub into public park areas or like areas.

Timber barricades with SW-44 signs and Type "L" markers in accordance with the Standard Drawing shall be required where partial street widening terminates at the far end of the widening in the direction of traffic. If the ground beyond the pavement constriction is free of fixed objects and relatively flat, the Director may approve the placement of delineators on 6-foot spacing as shown on the Standard Drawing in lieu of a timber barricade and signs.

Sidewalk barricades shall be constructed at the end of sidewalks where pedestrians cannot safely continue beyond the end of the sidewalk. Sidewalk barricades shall conform to the Standard Drawing. Where sidewalks improvements are terminated, an A.C. sidewalk conform shall be constructed in accordance with the Standard Drawing. A permanent barricade shall also be constructed at the end of A.C. sidewalk conform if the conform abuts a drainage ditch, a fill slope steeper that 1:20 or other surface that would pose a hazard to pedestrians. Sidewalk barricades shall conform to the Standard Drawing.

4-29 FENCES

The location for fences or walls along public streets shall conform to the requirements of the City of Elk Grove Zoning Code. Fences or walls shall not encroach upon visibility easements required by Section 4-14 and Standard Drawing. All fences and walls are subject to the visibility requirements of the City of Elk Grove Municipal Code (Title 12).

Fences and walls may require modification to accommodate street light poles and/or foundations.

When a barrier fence is required by the conditions described in Section 4-20**,** "Barrier Curb," the barrier fence shall be three feet high, shall be chain link type (or another type approved by the Director), shall be placed at the back of sidewalk, and shall conform to the visibility requirements described herein.

4-30 PRIVATELY OWNED BRIDGE

A bridge intended for the sole use of the occupants of a multi-family type development or any bridge on a private road shall be designed to withstand an H-20 load, unless specifically approved by the Director for a lesser loading. Other design features of the bridge, including but not limited to widths, railings, clearances and materials shall be in conformance with City and State Standards. A soil report prepared by a qualified soil engineer will be required. Design calculations signed by the Consulting Engineer and including the registration number shall be required.

4-31 VEHICLE ACCESS AT STREET TERMINATIONS

Vehicular access shall not be permitted from the end of a stubbed street. To obtain vehicular access, the street must be extended through the property or properly terminated with a standard cul-de-sac bulb. In cases where no access is provided at the end of the street, the Director may approve a modified cul-de-sac (See Section 4-11 of these standards).