

Landscaping Guidelines in MDOT ROW

All LIMITED ACCESS ROW landscaping must adhere to AASHTO clear zone guidelines – Table 3.1 and Table 3.2 (attached) with the additional criteria that no tree planting is allowed on recoverable front slopes regardless of offset.

The clear zone is defined in LM. 370R and states, “Since we have control over the location of new items, we can provide additional protection to the motorist by applying a more generous clear area to these items. For instance, our freeway guideline is to plant trees at least 50 feet off the edge of traffic lanes.” Multiple stem shrubs (i.e., 2” – 3” mature stem diameter Amur Maples) may be used since they are considered breakaway if they don’t interfere with sight distance.

Clear sight must be maintained in interchange merge areas, throughout horizontal curved alignment and at ramp terminals. Detail I (attached) shows all areas where plantings should not be allowed. It was developed by overlaying a general interchange layout with crosshatched clear zone areas and vision requirements.

Detail I was developed to illustrate general clear zone areas and assumes 1 on 6 fill slopes, high ADT, and commonly used design speeds. All proposed landscaping plans must be reviewed with regard to actual conditions and clear zones increased for steeper slopes, etc., in accordance with tables 3.1 and 3.2 AASHTO Roadside Design Guide.

Similarly, Detail I illustrates general vision requirements to provide adequate stopping sight distance (SSD) throughout commonly used curve areas, standard clear vision corners at the ramp terminals and clear line of sight for all ramps merging with the mainlines. Intersection sight distance at the ramp terminals and actual distances must be calculated using curve data and other interchange geometry particular to each interchange. When checking proposed landscaping locations, be advised that Detail I provides only relative locations of no planting areas it cannot give exact dimensions since the geometry of each interchange is unique.

All FREE ACCESS ROW landscaping must adhere to clear zone guidelines established in Table 3.1 with the exception that at low speeds 6’ min offset is allowed behind barrier curb. Where speeds are very low (25 mph) through a central business district with barrier curb and permanent on street parking is provided, landscaping can be installed a minimum of 2’ from face of curb. However, if the parking lane is used as a through lane during peak traffic hours the designer is advised to use Table 3.1 clear zone criteria. *In no case shall landscaping be allowed to interfere with sight requirements. Further guidance is offered with attached Detail II.*

Any shrubs must be kept low (30 inches maximum height) and all street trees must have a minimum underclearance of 7 feet to insure vision requirements are met.

Finally, on two-way roads, the area on the inside of horizontal curves should be kept clear to provide adequate passing sight distance (see attached 2 sheets covering passing sight distance).

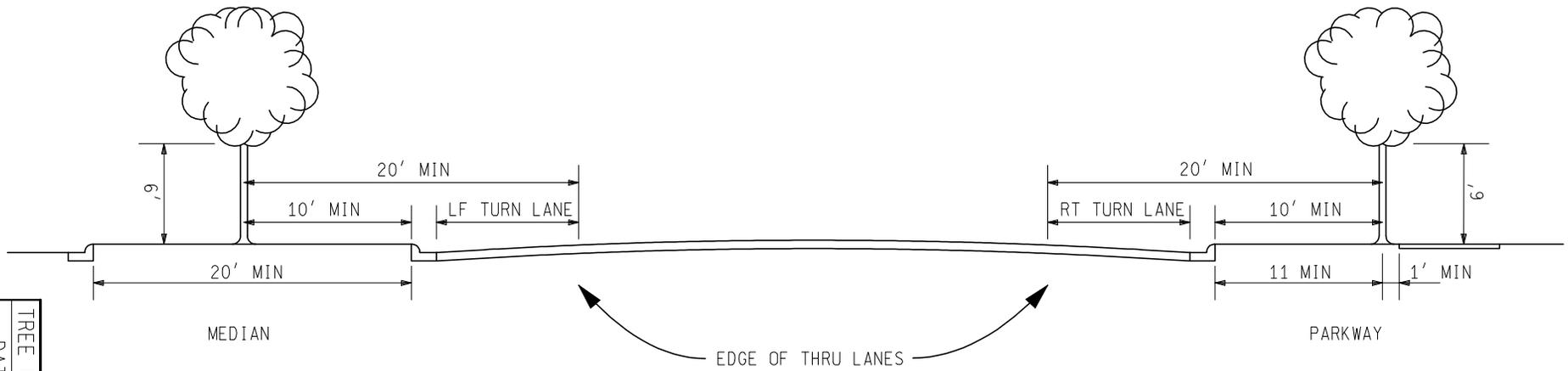
TABLE 3.1 (Cont'd)

[U.S. Customary Units]

DESIGN SPEED	DESIGN ADT	FORESLOPES			BACKSLOPES		
		1V:6H or flatter	1V:5H TO 1V:4H	1V:3H	1V:3H	1V:5H TO 1V:4H	1V:6H or flatter
40 mph or less	UNDER 750	7-10	7-10	**	7-10	7-10	7-10
	750-1500	10-12	12-14	**	10-12	10-12	10-12
	1500-6000	12-14	14-16	**	12-14	12-14	12-14
	OVER 6000	14-16	16-18	**	14-16	14-16	14-16
45-50 mph	UNDER 750	10-12	12-14	**	8-10	8-10	10-12
	750-1500	14-16	16-20	**	10-12	12-14	14-16
	1500-6000	16-18	20-26	**	12-14	14-16	16-18
	OVER 6000	20-22	24-28	**	14-16	18-20	20-22
55 mph	UNDER 750	12-14	14-18	**	8-10	10-12	10-12
	750-1500	16-18	20-24	**	10-12	14-16	16-18
	1500-6000	20-22	24-30	**	14-16	16-18	20-22
	OVER 6000	22-24	26-32 *	**	16-18	20-22	22-24
60 mph	UNDER 750	16-18	20-24	**	10-12	12-14	14-16
	750-1500	20-24	26-32 *	**	12-14	16-18	20-22
	1500-6000	26-30	32-40 *	**	14-18	18-22	24-26
	OVER 6000	30-32 *	36-44 *	**	20-22	24-26	26-28
65-70 mph	UNDER 750	18-20	20-26	**	10-12	14-16	14-16
	750-1500	24-26	28-36 *	**	12-16	18-20	20-22
	1500-6000	28-32 *	34-42 *	**	16-20	22-24	26-28
	OVER 6000	30-34 *	38-46 *	**	22-24	26-30	28-30

* Where a site specific investigation indicates a high probability of continuing crashes, or such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear-zone shown in Table 3.1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

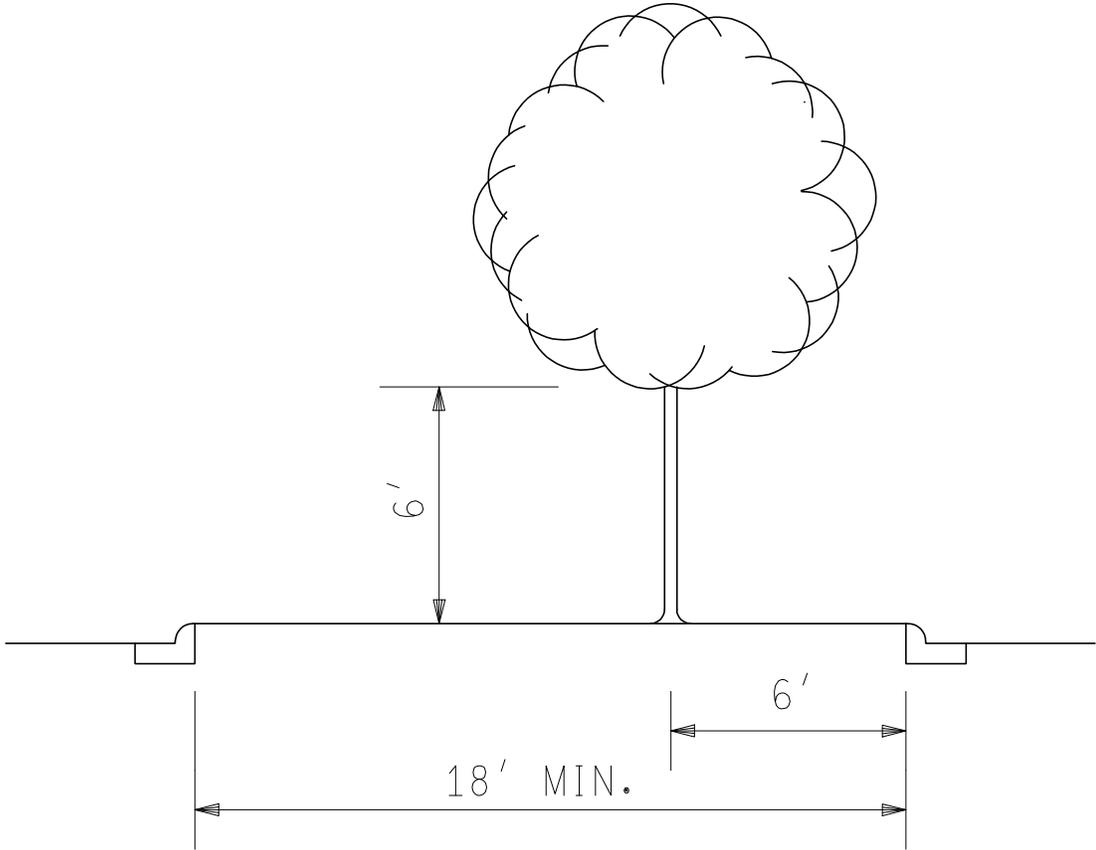
** Since recovery is less likely on the unshielded, traversable 1V:3H slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters which may enter into determining a maximum desirable recovery area are illustrated in Figure 3.2.



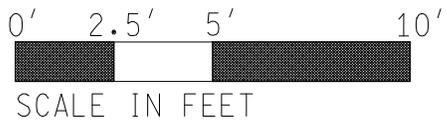
TREE PLANTING GUIDE FOR CURBED AREAS
 PREVAILING SPEED: 40 MPH OR GREATER

TREE PLANTING GUIDE FOR CURBED AREAS			
DATE	SCALE	CONT. SEC.	JOB NO.
Oct 2008	1 7/8" = 1'		
			SHEET NO.
			40+ MPH



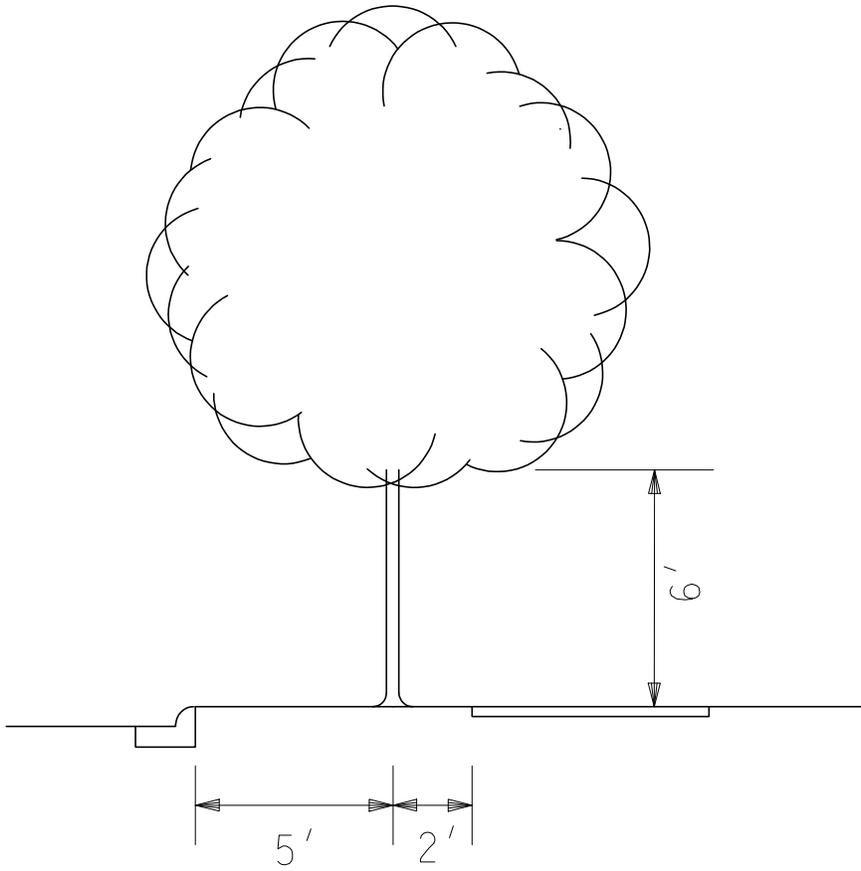


MEDIAN

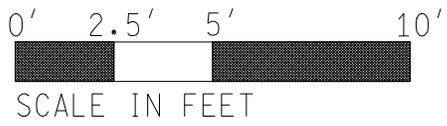


SCALE IN FEET

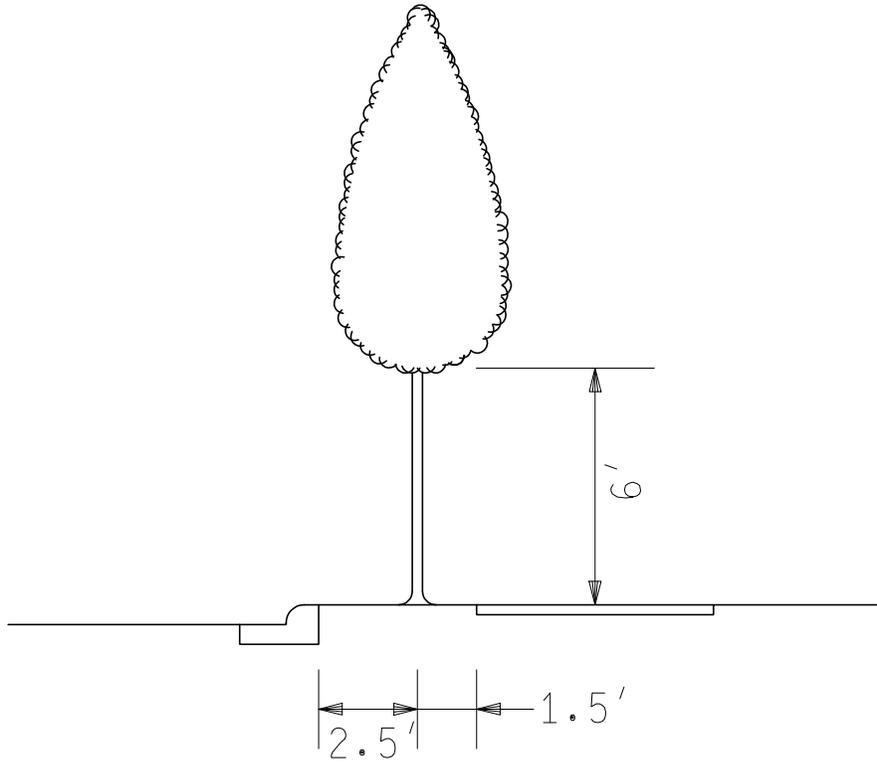
MEDIAN				
DATE	SCALE	CONT. SEC.	JOB NO.	SHEET NO.
Oct 2008	1" = 10'			



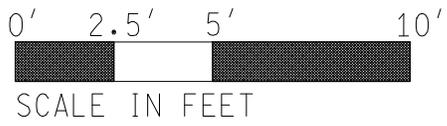
MEDIUM CROWN 40'-50'
7' MIN. PARKWAY



MEDIUM CROWN 40'-50' 7' MIN. PARKWAY				
DATE	SCALE	CONT. SEC.	JOB NO.	SHEET NO.
Oct 2008	1" =			

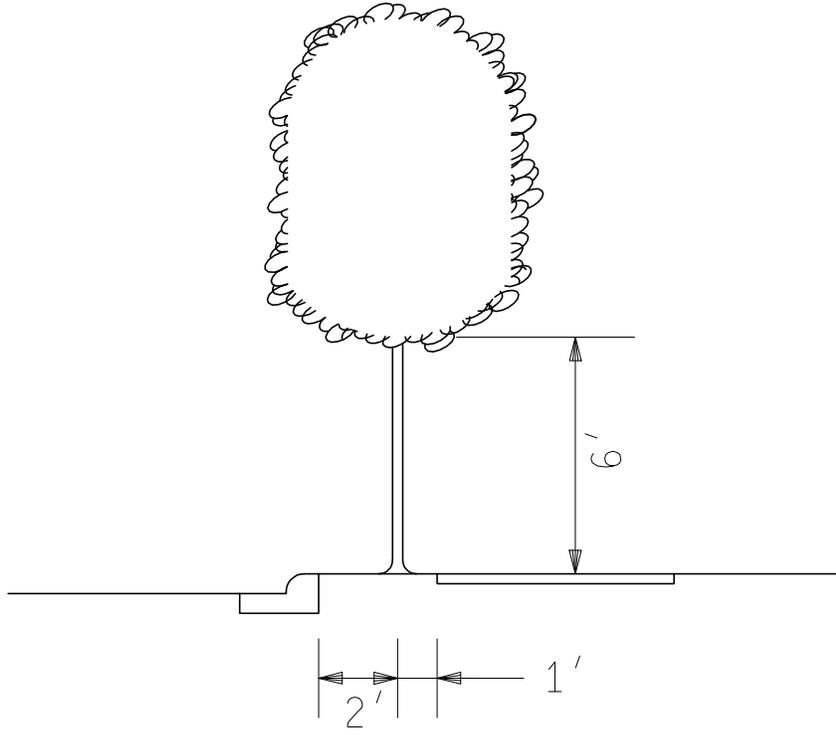


MEDIUM UPRIGHT 30'-40'
4' MIN. PARKWAY

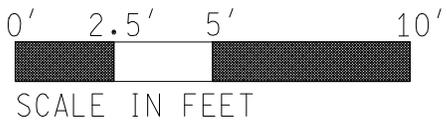


SCALE IN FEET

MEDIUM UPRIGHT 30'-40' 4' MIN. PARKWAY				
DATE	SCALE	CONT. SEC.	JOB NO.	SHEET NO.
Oct 2008	1" =			

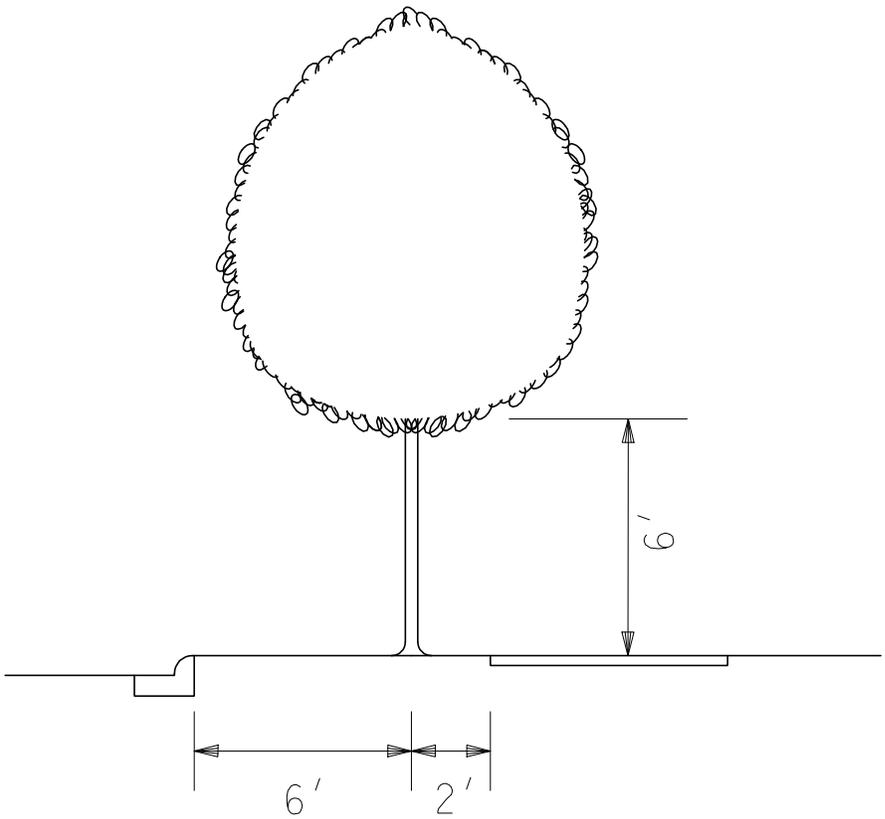


ORNAMENTAL
3' MIN. PARKWAY

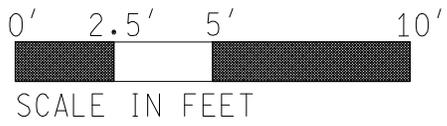


SCALE IN FEET

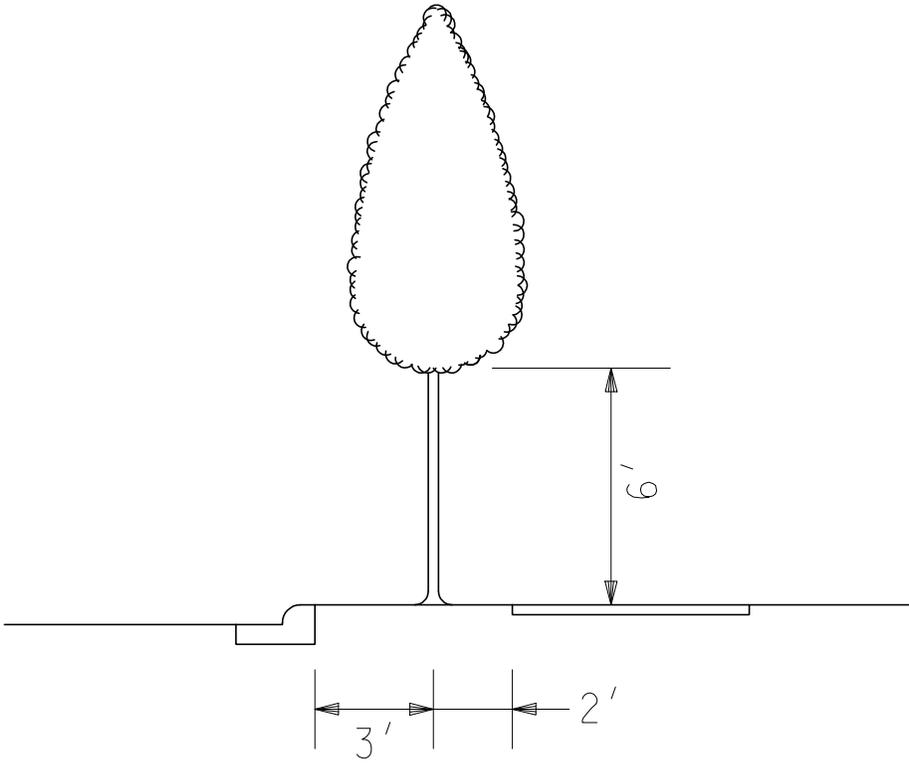
ORNAMENTAL 3' MIN. PARKWAY				
DATE Oct 2008	SCALE 1" =	CONT. SEC.	JOB NO.	SHEET NO.



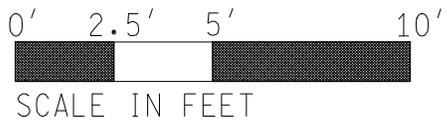
STANDARD CROWN 50'-60'
8' MIN. PARKWAY



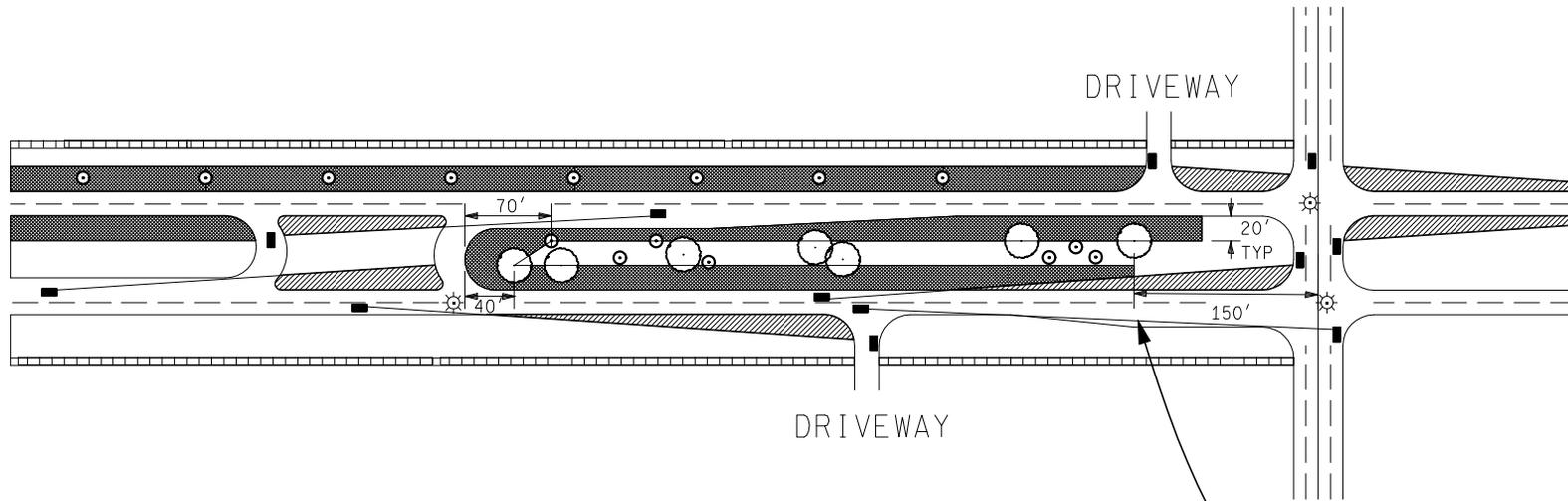
STANDARD CROWN 50'-60' 8' MIN. PARKWAY				
DATE	SCALE	CONT. SEC.	JOB NO.	SHEET NO.
Oct 2008	1" =			



STANDARD UPRIGHT 40'-50'
5' MIN. PARKWAY



STANDARD UPRIGHT 40'-50' 5' MIN. PARKWAY				
DATE Oct 2008	SCALE 1" =	CONT. SEC.	JOB NO.	SHEET NO.



8 SECONDS x POSTED SPEED
(IN FEET PER SECOND)

LEGEND

 CLEAR ZONE -- $(8 \text{ SECONDS} \times \text{POSTED SPEED}) \times 20' \text{ EDGE OF METAL}$
(IN FEET PER SECOND)

 FOR POSTED SPEED GREATER THAN OR EQUAL TO 40 MPH SEE ROADSIDE DESIGN GUIDE TABLE 3.1
FOR POSTED SPEED LESS THAN 40 MPH PROVIDE 6' MINIMUM OFFSET FROM CURB FACE (TYPE F OR C)
FOR AREAS WITH 24 HOUR ON STREET PARKING PROVIDE 2' MINIMUM OFFSET FROM CURB FACE

GUIDE FOR LANDSCAPING PLACEMENT				
DATE	SCALE	CONT. SEC.	JOB NO.	SHEET NO.
OCT 2008	1" =			