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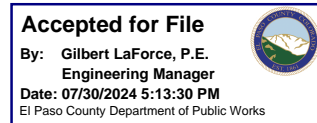
Estates at Cathedral Pines
Trip Generation & Access Technical Memo
(LSC #S224150)
EPC PCD File No. PUDSP2210 & SF2234
May 15, 2024

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement



I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Elaine Cawfield

6/11/2024

Date



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March 29, 2024 [w/ minor revision 5-15-24]

Mr. Bill Guman
William Guman & Associates, Ltd.
731 North Weber Street, Suite 10
Colorado Springs, CO 80903

RE: Estates at Cathedral Pines
El Paso County, CO
Trip Generation & Access Technical Memo
LSC #S224150

Dear Mr. Guman,

LSC Transportation Consultants, Inc. has prepared this “trip generation and access” technical memorandum for the proposed Estates at Cathedral Pines in El Paso County, Colorado. The 35-acre site (El Paso County parcel ID 6200000411) is located northwest of the intersection of Peregrine Way and Winslow Drive. Access is proposed to Winslow Drive about 1,100 feet north of Peregrine Way.

This report presents information regarding the proposed land use, the estimated vehicle-trip generation, and an evaluation of the site-access point relative to County access criteria. The memo is called a “Trip Generation & Access Technical Memo” as the criteria under *Engineering Criteria Manual (ECM)* section B.1.2.D “No TIS Required” is met.

This memo also references a deviation request and a *Land Development Code* waiver.

PROPOSED LAND USE

The 35-acre property is zoned PUD RR-5 is located. The land-use application is for eight lots for single-family homes.

SITE ACCESS

The site access is proposed to Winslow Drive approximately 1,100 feet north of Peregrine Way (centerline distance). This location is about 840 feet south of Saxton Hollow Road in Cathedral Pines. A copy of the site plan is attached for reference. The two subdivision streets are called Hamptonshire Point and Sterling Manor Heights. These are proposed to be private streets.

Winslow Drive is a Rural Local roadway extending north from Peregrine Way about 1,900 feet to Saxton Hollow Road. The posted speed limit along this paved road is 25 miles per hour (mph).

Intersection Spacing

Winslow Drive is a Rural Local roadway. The proposed subdivision access/entry street (Hamptonshire Point) intersection with Winslow Drive would be at least 840 feet from the nearest intersection. This spacing along Winslow Drive would meet the *ECM* minimum intersection spacing of 330 feet for Rural Local roadways.

The intersection spacing along Hamptonshire Point between Winslow Drive and Sterling Manor Heights is proposed at 300 feet.

SIGHT DISTANCE

Entering Sight Distance

Intersection entering sight distance at the proposed Hamptonshire Point/Winslow Drive meet sight-distance requirements in *ECM* Table 2-21. The following are the existing sight-distance measurements. These measurements were conducted in the field by LSC. The measurements were taken from a driver's eye height of 3.5 feet to an approaching vehicle height of 3.5 feet.

1. Greater than 600 feet looking south from Hamptonshire Point
2. Greater than 400 feet looking north from Hamptonshire Point

Please refer to the attached entering sight-distance exhibit for details. The lines of sight for the access point intersection will need to be kept clear of any sight-distance obstructions. This includes landscaping, signage, etc. proposed for the residential development.

Stopping Sight Distance to Downstream Intersection

Stopping sight distance along Winslow Drive approaching Hamptonshire Point meets stopping sight-distance requirements in *ECM* Table 2-17 (or 2-18 for grades over 3%). The exhibit shows the stopping sight-distance on the profile plan sheet. This assumes the driver's eye height of an approaching vehicle at 3.5 feet to a height of 0.5 feet above the road (conservative for intersection stopping sight distance to a downstream intersection, as a downstream object height of 3.5 feet at the center of each intersection is used for this application).

TRIP GENERATION ESTIMATE

The trip-generation estimates for this proposed development are based on nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 1 shows the results of the trip-generation estimates.

The development is expected to generate about 75 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 a.m. and 8:30 a.m., about 1 vehicle would enter and 4 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 p.m. and 6:15 p.m., about 5 vehicles would enter and 3 vehicles would exit the site.

"LINK LOS" FOR WINSLOW DRIVE

Winslow Drive is a Rural Local, paved roadway. The *ECM* design ADT for a "Rural Local" roadway is 750 vehicles per day (vpd) average daily traffic (ADT). Given the area road network, it is unlikely that the area buildout traffic volume, including this project, would exceed 750 vpd ADT on Winslow Drive.

EVALUATION AGAINST ECM APPENDIX B

The criteria under *Engineering Criteria Manual (ECM)* section B.1.2.D "No TIS Required" is met. Please refer to the attached worksheet.

DEVIATIONS AND WAIVERS

A **deviation request** has been included with the resubmittal of this application. This deviation request is for intersection spacing and a few other geometric/roadway design elements on Hamptonsire Point.

A **waiver** to section 8.4.4.C of the El Paso County ***Land Development Code*** has also been included with the resubmittal of this application. Section 8.4.4.C reads: *Public Roads Required. Divisions of land, lots, and tracts shall be served by public roads.* The request is to allow the two subdivision roadways, Hamptonsire Point and Sterling Manor Heights, to be private instead of public roads.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

This project will be required to participate in the El Paso County Road Improvement Fee Program. The applicant will select the "Opt-out" option (no PID) and would pay the "Full Fee" amount at building permit. The current (2019) fee amount associated with this option is **\$3,850** per dwelling unit (subject to change). Based on 8 lots, the total building permit fee for this plat would be \$28,640.

* * * * *

Please contact me if you have any questions.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH:jas

Enclosures: Table 1
ECM Appendix B – “No TIS Required” Worksheet
Site Plan Exhibit
Sight Distance Exhibits

Table 1

Table 1
Trip Generation Estimate
Estates at Cathedral Pines

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾						Total Trips Generated			
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out		
210	Single-Family Detached Housing	8 DU ⁽²⁾	9.43	0.18	0.52	0.59	0.35	75	1	4	5	3
Notes: (1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE) (2) DU = dwelling unit												
Source: LSC Transportation Consultants, Inc.											2/28/2023	

ECM Appendix B – “No TIS Required” Worksheet



ECM Appendix B – “No TIS Required” Worksheet

Estates at Cathedral Pines

ECM Section B.1.2.D. No TIS Required

No TIS is required if all of the criteria below are satisfied:

☐ **Vehicular Traffic:**

- ☐ (1) Daily vehicle trip-end generation is less than 100 or the peak hour trip generation is less than 10;
- ☐ (2) There are no additional proposed minor or major roadway intersections on major collectors, arterials, or State Highways;
- ☐ (3) the increase in the number of vehicular trips does not exceed the existing trip generation by more than 10 peak hour trips or 100 daily trip ends;
- ☐ (4) The change in the type of traffic to be generated (i.e., the addition of truck traffic) does not adversely affect the traffic currently planned for and accommodated within, and adjacent to, the property;
- ☐ (5) acceptable LOS on the adjacent public roadways, accesses, and intersections will be maintained;
- ☐ (6) no roadway or intersection in the immediate vicinity has a history of safety or accident Problems [LSC is not aware of any problems]; and
- ☐ (7) there is no change of land use with access to a State Highway.

☐ **Pedestrian Traffic:** Paved pedestrian facilities exist or will be constructed on, or adjacent to, the site; or, the proposed use will not generate any new pedestrian traffic.

☐ **Bicycle Traffic:** Paved bicycle lanes or paths exist or will be constructed on, or adjacent to, the site; or, the proposed use will not generate any new bicycle traffic.

Site Plan Exhibit



All property owners are responsible for maintaining proper storm water drainage in and through their property. Public drainage easements as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Homebuilders are responsible to ensure proper drainage around structures, including elevations of foundations and window wells in relation to side-lot drainage easements and swales. Homeowners shall not change the grade of the lot or drainage swales within said easements, as constructed by the builder, in a manner that would cause adverse drainage impacts to properties. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.

No driveway shall be established unless an access permit has been granted by El Paso County.

Tracts A& B shall be utilized as drainage tract, open space and pedestrian access. Ownership and maintenance of said Tracts A&B shall be vested to The Estates at Cathedral Pines Homeowners Association.

Tract C shall be utilized as a private road. Ownership and maintenance of said Tract C shall be vested to Estates at Cathedral Pines Homeowners Association.

The subdivider(s) agree on behalf of him/herself and any developer of builder successors and assignees that subdivider and/or said successors and assigns shall be required to pay traffic impact fees in accordance with the El Paso County Road Impact Fee Program (Resolution No. 19-471), or any amendments thereto, at or prior to the time of building permit submittals. The fee obligation, if not paid at final plat recording, shall be documents on all sales documents and in plat notes to ensure that a title search would find the fee obligation before sale of the property.

Individual wells are the responsibility of each property owner. Permits for individual wells must be obtained from the State Engineer, who by law, has the authority to set conditions for the issuance of these permits.

Sewage treatment is the responsibility of each property owner. The El Paso County Department of Health and Environment must approve each system and, in some cases, the Department may require an engineer designed system prior to permit approval. These systems may cost more to design, install, and maintain.

Except as otherwise noted on the Preliminary Plan, individual lot purchasers are responsible for constructing driveways, including necessary drainage culverts per Land Development Code 6.3.3.C2 and 6.2.2.C.3. Due to their length, some of the driveways must be approved by the Fire District.

The private roads as shown on this plan will not be maintained by El Paso County until and unless the streets are constructed in conformance with El Paso County standards in effect at the date of the request for dedication and maintenance.

Unless otherwise indicated, all side, front and rear lot lines are platted on either side with a 10 foot public utility and drainage easement. All exterior subdivision boundaries are platted with a 20 foot public utility and drainage easement. The sole responsibility for maintenance of these easements is vested with the individual property owners.

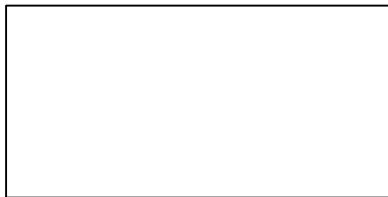
The open space easement crossing through Lots 2 through 7 shall be maintained by the individual lot owners.

ESTATES AT CATHEDRAL PINES

PUD DEVELOPMENT PLAN

PRELIMINARY PLAN

A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF
SECTION 2, TOWNSHIP 12 SOUTH, RANGE 66 WEST
OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO



signature block



William Guman & Associates, Ltd.

LANDSCAPE ARCHITECTURE

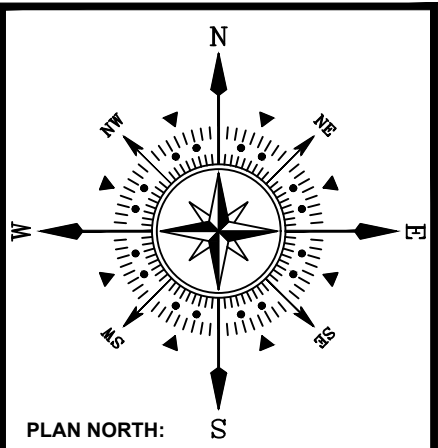
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ESTATES AT CATHEDRAL PINES

WINSLOW DRIVE

BLACK FOREST, CO 80908

PROJECT NAME:

PROJECT ADDRESS:

PROJECT DESCRIPTION:

DATE:	12/13/2022
DESIGNED:	GEM
CHECKED:	WFG

REVISIONS:		
DATE:	BY:	DESCRIPTION:
05/17/2024	GEM	ADDRESS COUNTY COMMENTS
NOTES:		

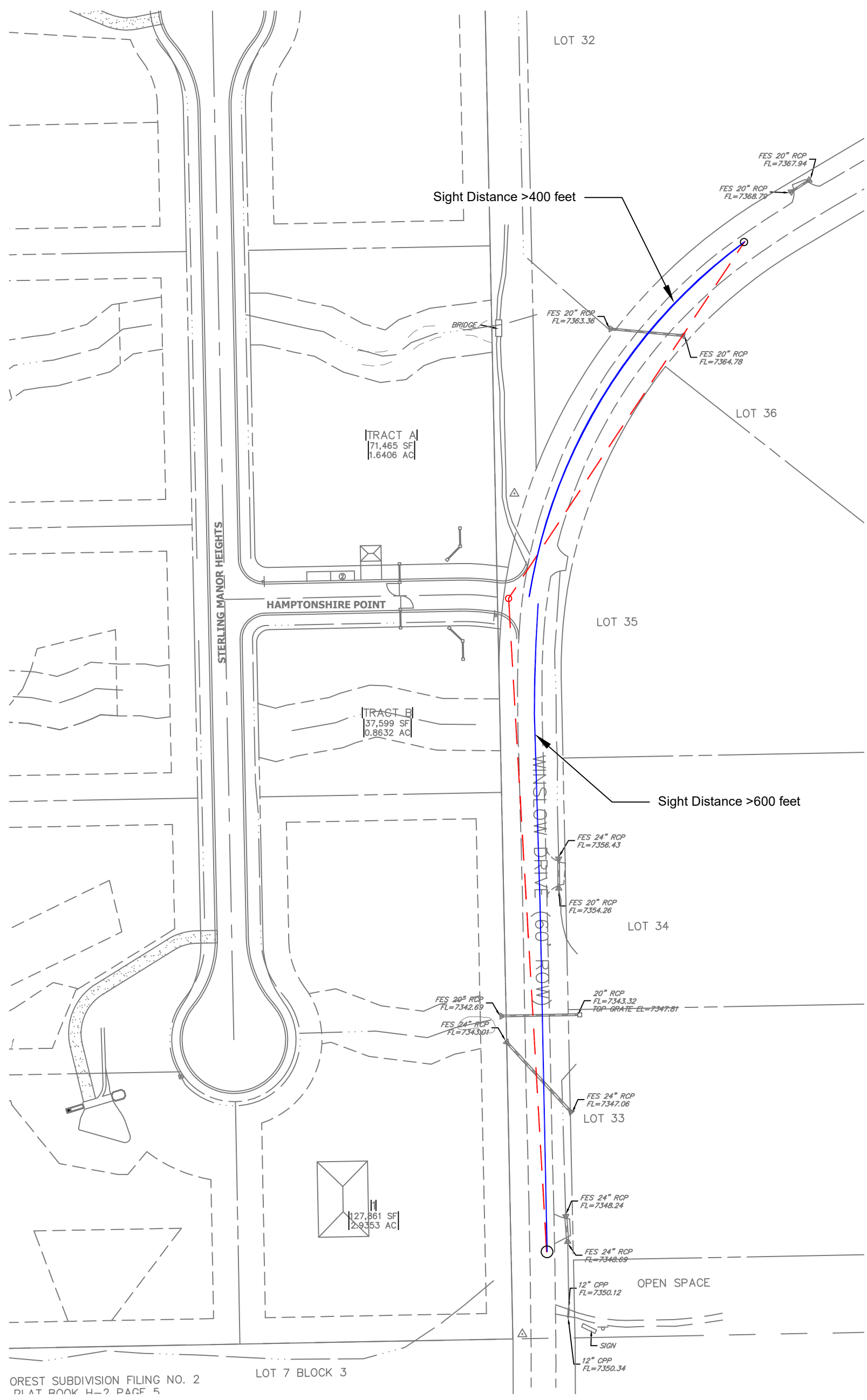
PLAN SCALE: 1" = 1000' (OR AS NOTED ON PLAN)

SHEET TITLE: PUD DEVELOPMENT PLAN

SHEET NO.
2
2 OF 2 SHEETS

FILE NO.
PUDSP2210

Sight Distance Exhibits



ECM Prescribed Intersection Sight Distance for 30 mph Design Speed is 335'

- Line-of-Sight for Entering Sight Distance
- Entering Sight Distance



ESTATES AT CATHEDRAL PINES

STOPPING SIGHT DISTANCE

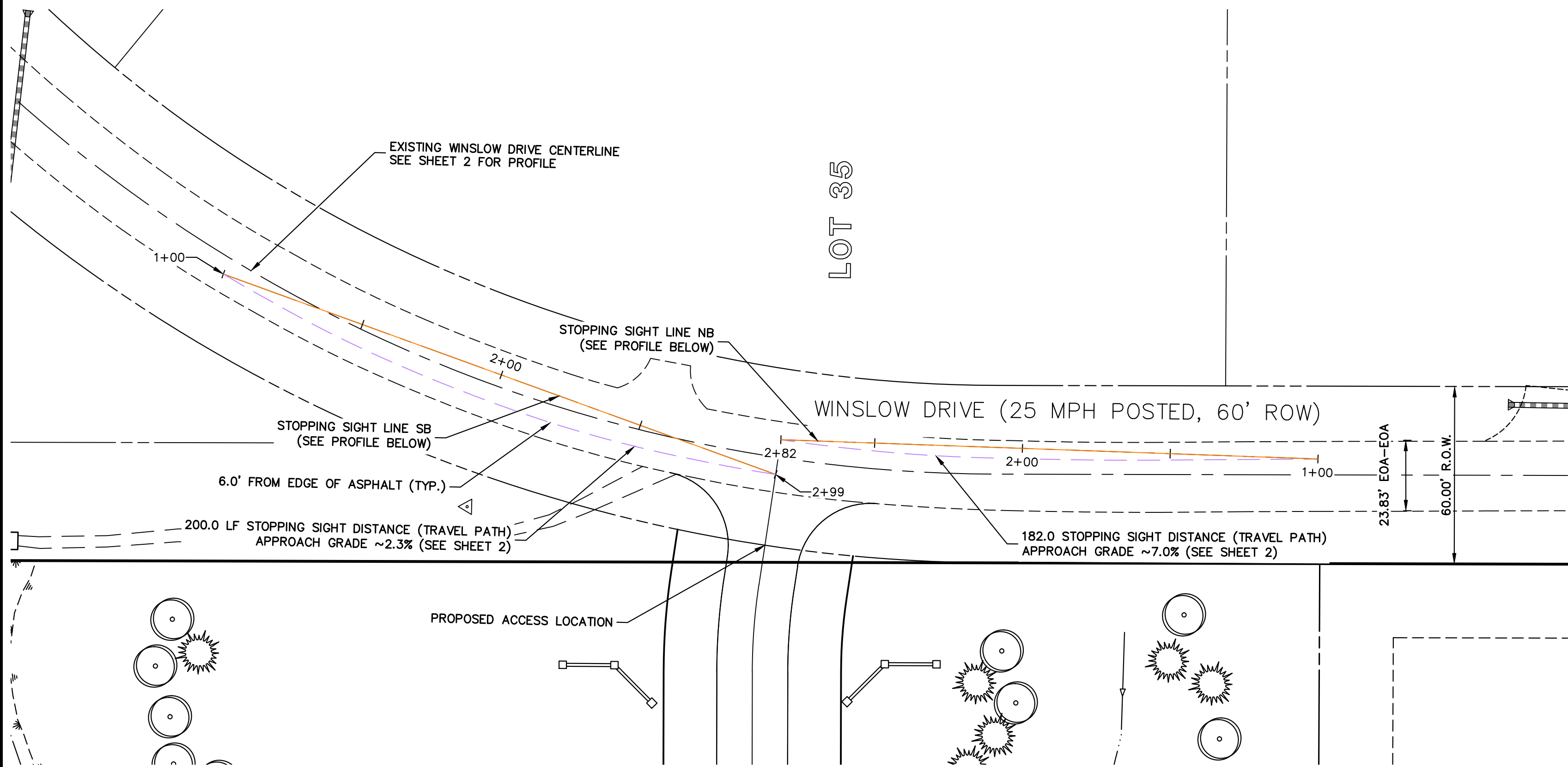


Table 2-17. Stopping Sight Distances

Design Speed (MPH)	Brake Reaction Distance (feet) ¹	Braking Distance on Level (feet)	Stopping Sight Distance	
			Calculated (feet)	Design (feet)
25	91.9	60.0	151.9	155
30	110.3	86.4	196.7	200
40	147.0	153.6	300.6	305
50	183.8	240.0	423.8	425
60	220.5	345.5	566.0	570
70	257.3	470.3	727.6	730

¹ Brake reaction distance predicted on a time of 2.5 seconds; deceleration rate of 11.2 feet/second used to determine calculated sight distance.

Table 2-18. Stopping Distance at Grade

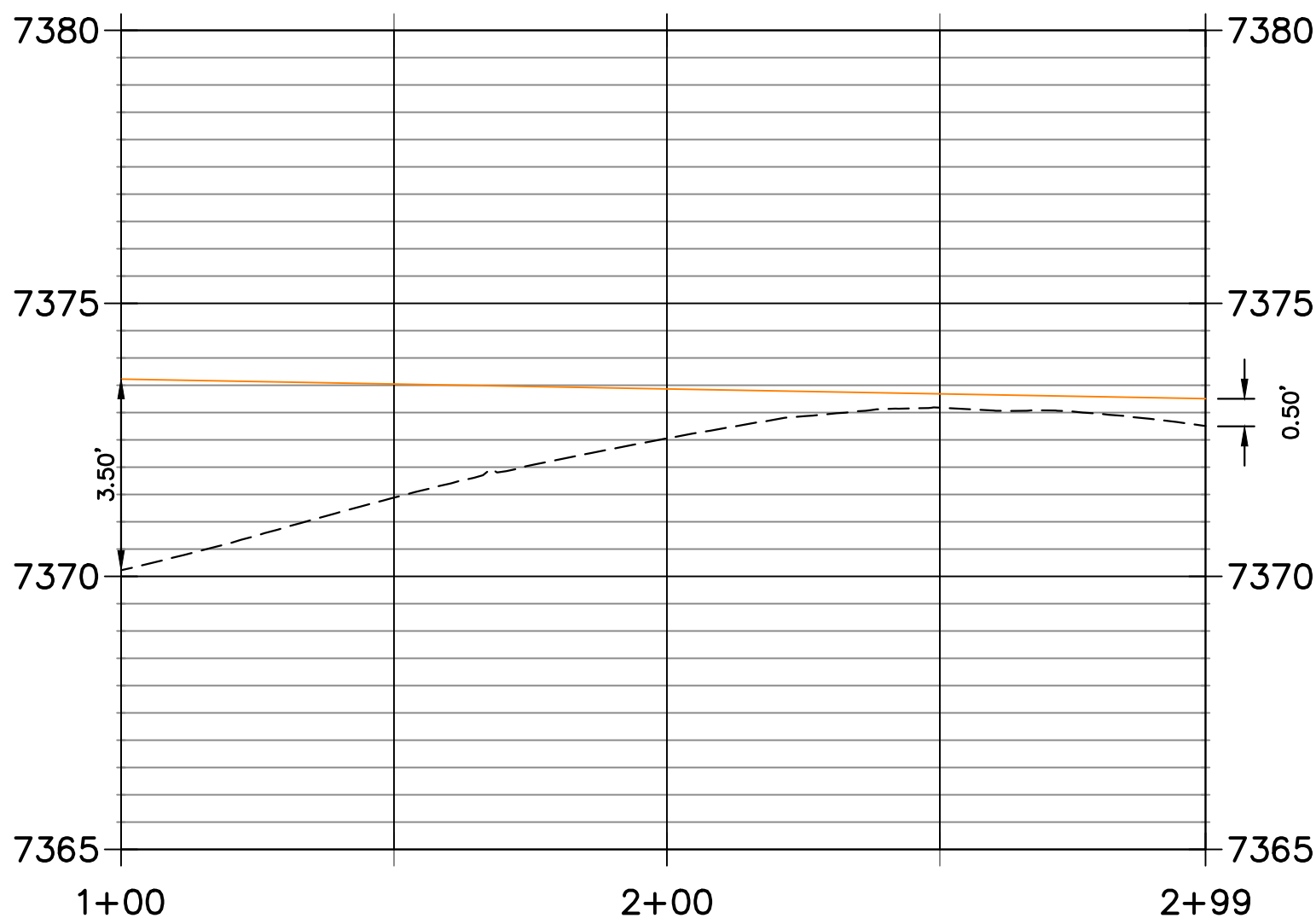
EXPAND

Design Speed (MPH)	Downgrades			Design Speed (MPH)	Upgrades		
	Stopping Distance (feet)				Stopping Distance (feet)		
	3%	6%	9%		3%	6%	9%
25	158	165	173	25	147	143	140
30	205	215	227	30	200	184	179
40	315	333	354	40	289	278	269
50	446	474	507	50	405	388	375
60	598	638	686	60	538	515	495
70	771	825	891	70	690	658	631

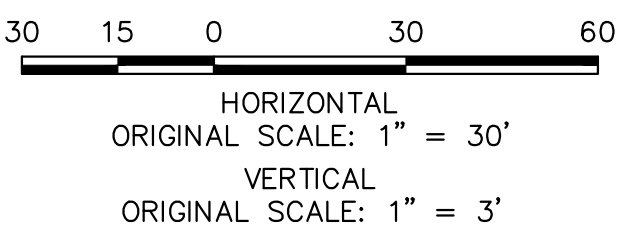
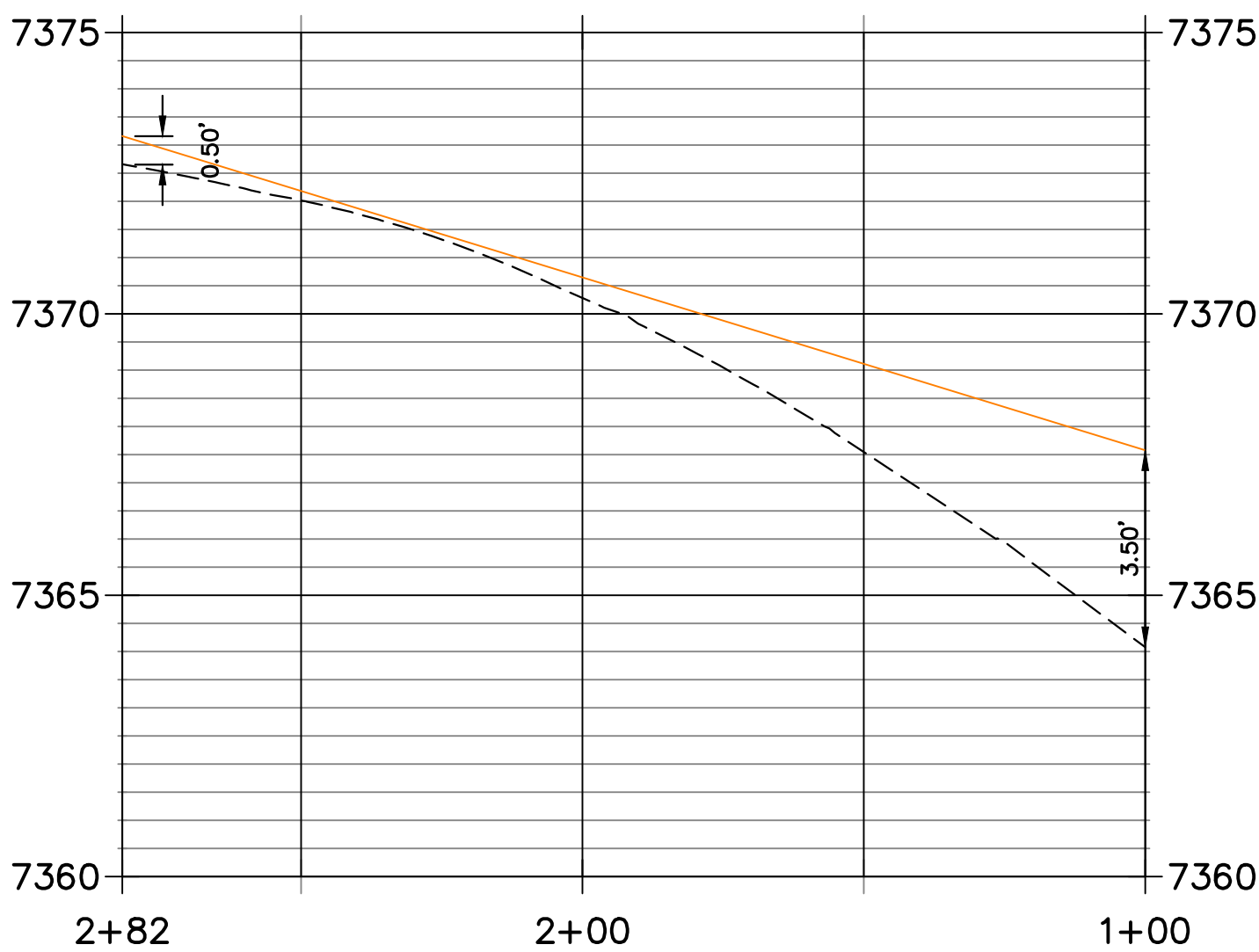
NOTES

1. POSTED SPEED ON WINSLOW DRIVE IS 25 MPH. A DESIGN SPEED OF 30 MPH WAS USED IN SIGHT DISTANCE ANALYSIS.

STOPPING SIGHT SB PROFILE STA 1+00.00 TO 2+98.67



STOPPING SIGHT NB PROFILE STA 1+00.00 TO 2+81.77



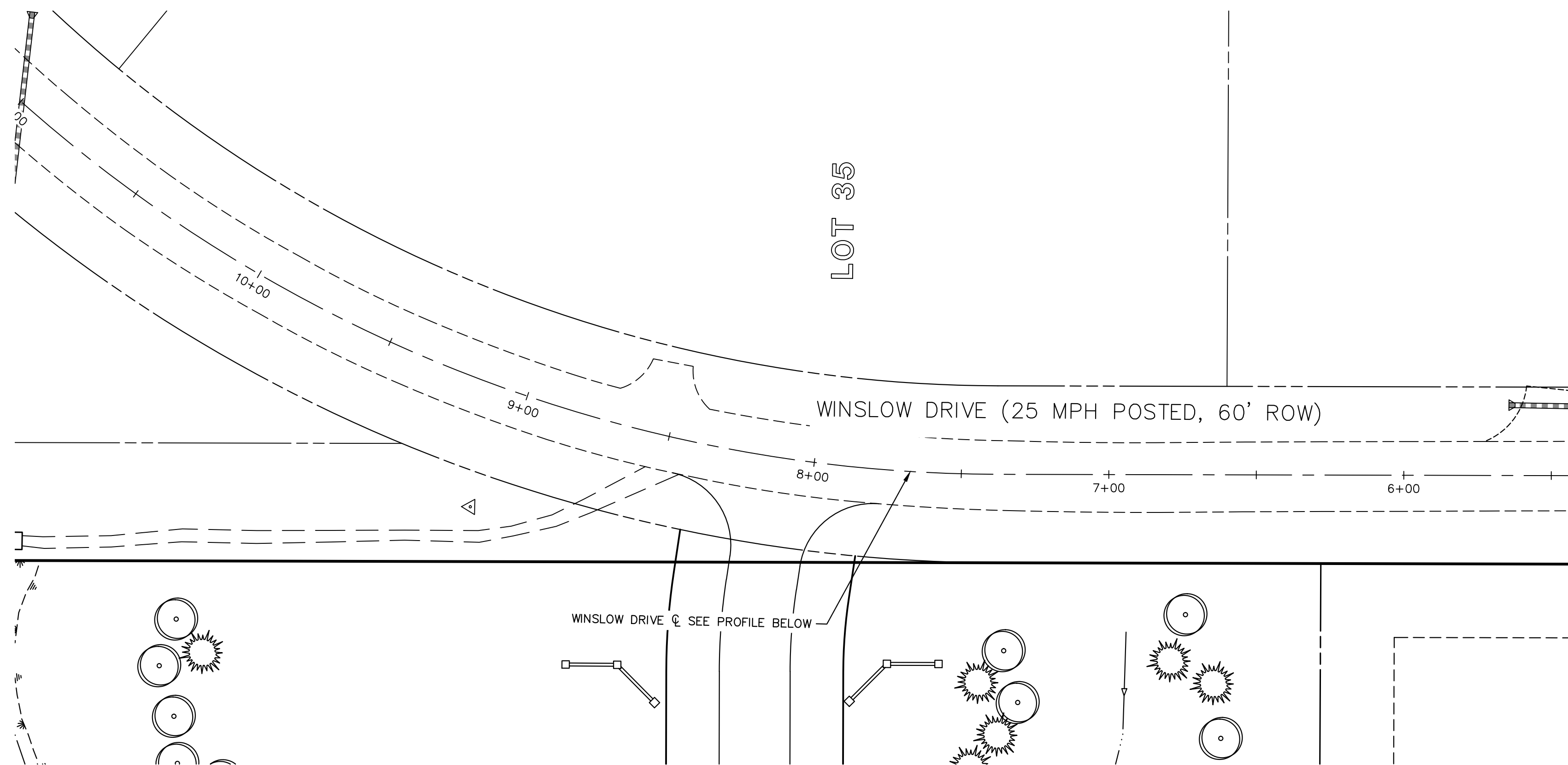
STOPPING SIGHT DISTANCE
ESTATES AT CATHEDRAL PINES
JOB NO. 25260.00
8/22/2023
SHEET 1 OF 3



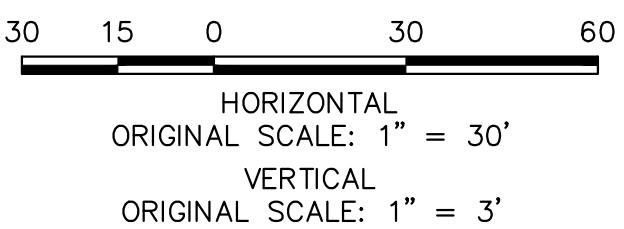
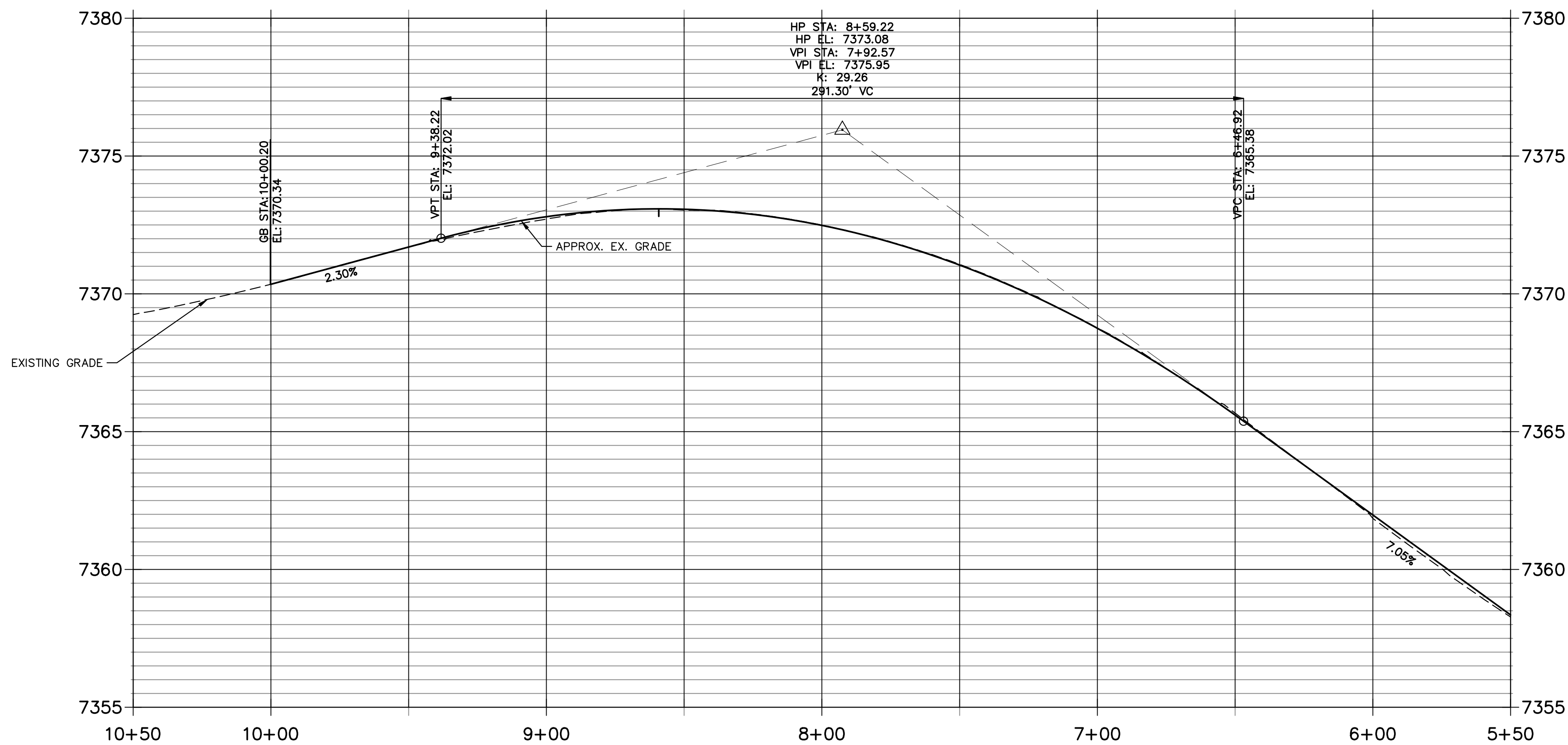
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ESTATES AT CATHEDRAL PINES

STOPPING SIGHT DISTANCE



**WINSLOW DR PROFILE
STA 5+50.00 TO 10+50.00**



STOPPING SIGHT DISTANCE
ESTATES AT CATHEDRAL PINES
JOB NO. 25260.00
8/18/2023
SHEET 1 OF 1



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