



Design and Construction Surveying for ADA Projects

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Your Destination...Our Priority



Key Messages

- ▶ We need total station accuracy for design surveys.
- ▶ Different levels of survey detail necessitated by intersection complexity.
- ▶ Why should we stake the flow line rather than back of curb for curb ramps?
- ▶ Coming soon: Sidewalk profiles in your plans.



ADA Survey Accuracy: 1/4"

Methodology	Inherent Accuracy
Total Station	0.02
LIDAR	0.08
VRS	0.10
Mapping	0.50

Total station equipment is the only acceptable survey method.

A 6 ft length ramp designed at 7.5% could very well be non-compliant using LIDAR, VRS, or mapping.



Levels of Detail

Level 1

- Curb ramps line up with in-place sidewalks
- Contractor builds according to standard plans with a tabulation
- Surveys not required

Level 2

- When ramp layouts differ from standard plans and for all signalized intersections
- 20-scale detail provided in plan
- Ramp slope ranges and working points provided

Level 3

- When slopes are non-compliant or there's a tie-in point (such as a doorway)
- 20-scale detail provided in plan
- Specific ramp slopes and working points provided



Level 1 (Standard Plan) Ramps



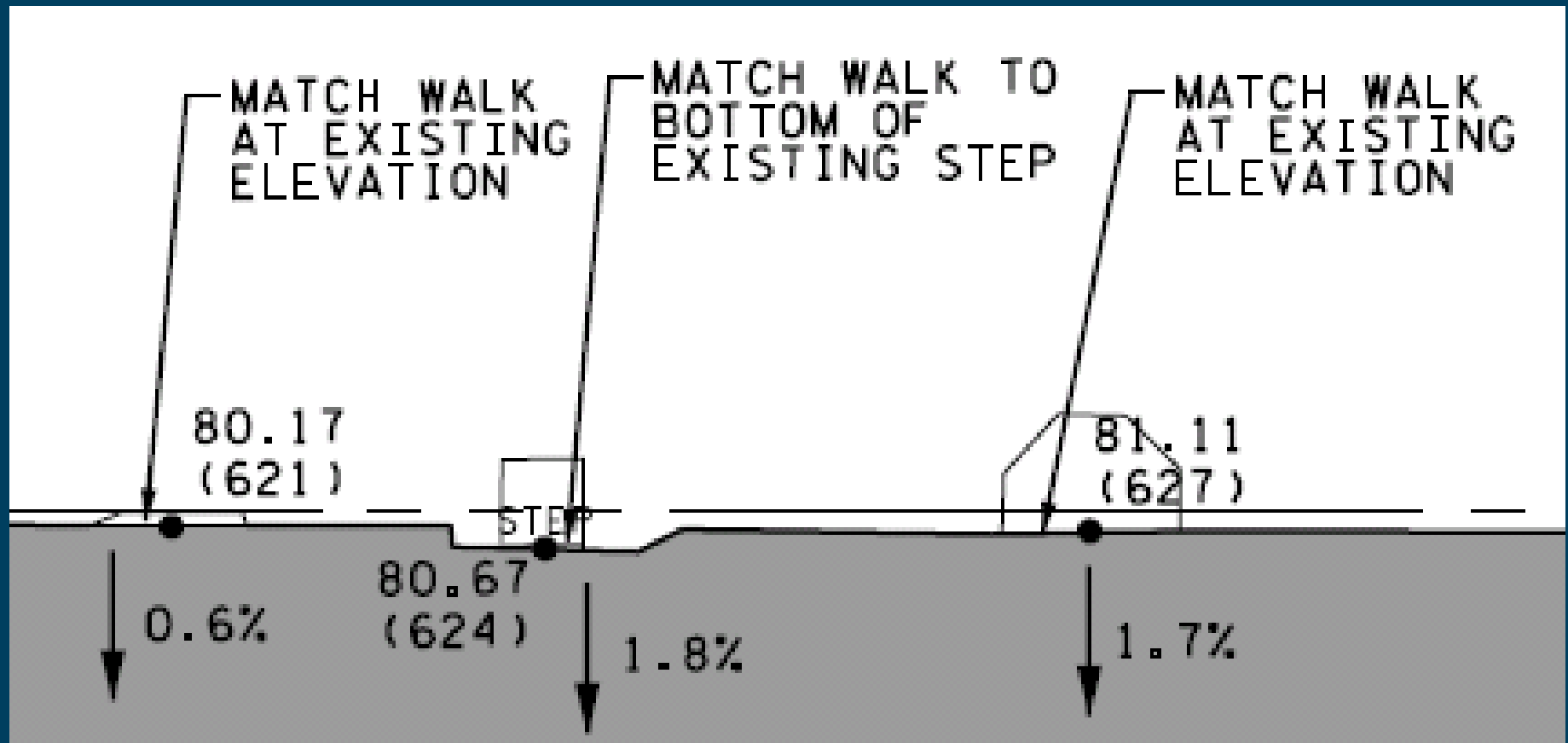
Level 2 Ramps



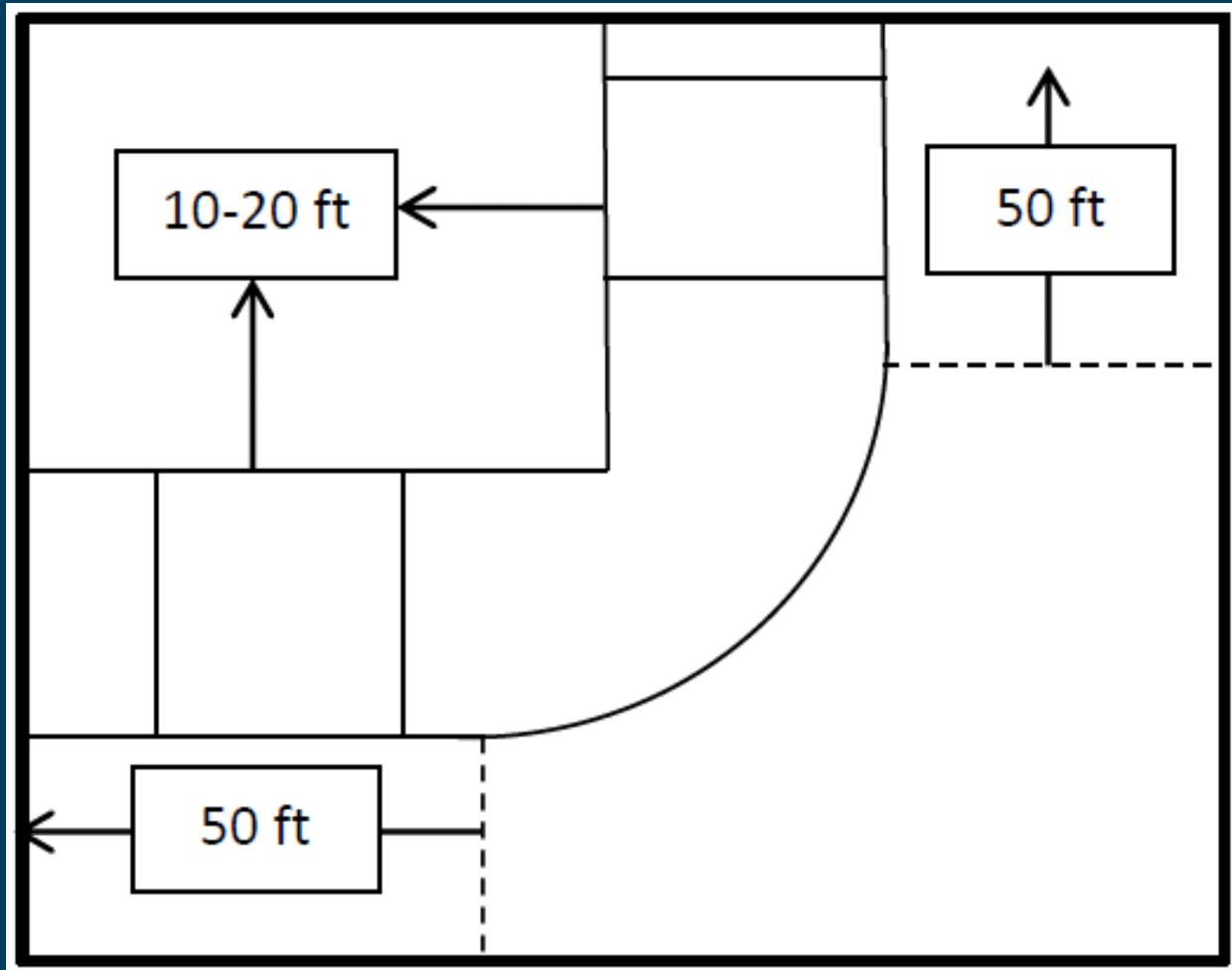
Level 3 Ramps



20-Scale Detail: Doorways



ADA Topos: Vicinity



ADA Topos: Utilities

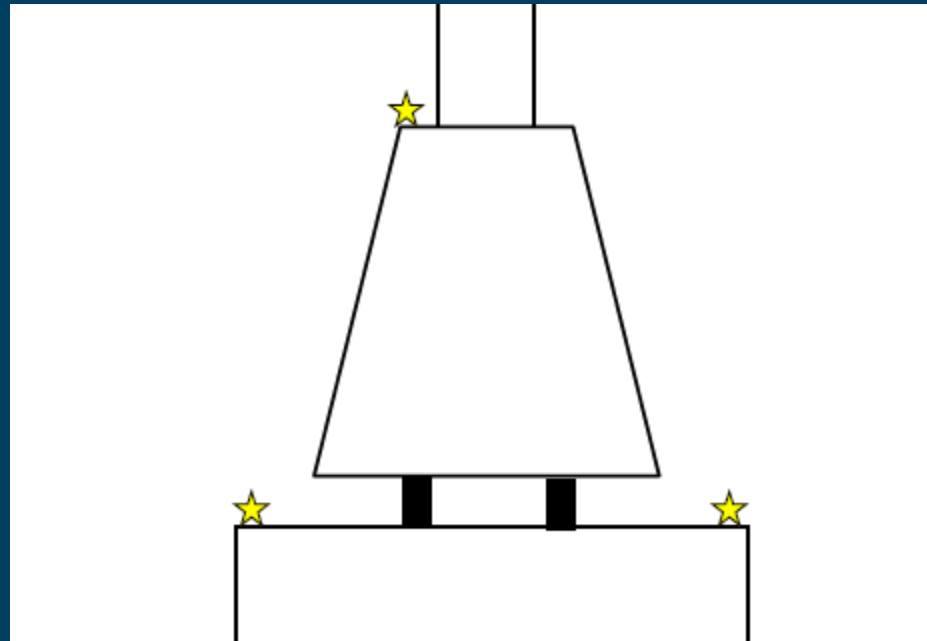
- ▶ Use methods such as multiple shot or single shot w/diameter when locating the center of signal poles, light bases and similar structures with obstructions. Always shoot the center of unobstructed structures such as hand holes and the corners on structures such as cabinets, cabinet bases and vaults.

▶ *Accuracy is key!*



ADA Topos: Signal Bases

- ▶ Additional signal base shots needed to determine if push button can be installed on the signal pole



ADA Topos: Doorways

★ Tie-in elevations at entrance



★ Height and tread width of bottom step



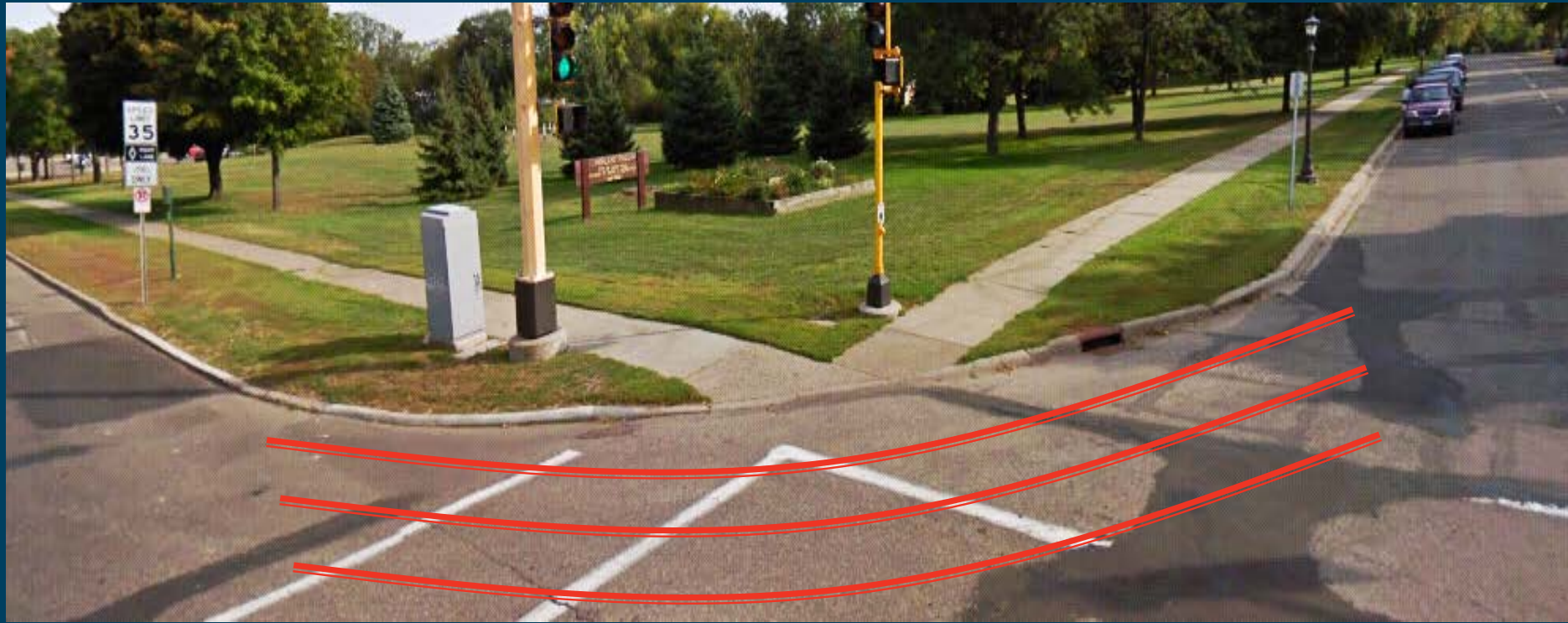
Matching Stoops/Doorways



Matching Steps Example



ADA Topos: Curb Line Changes



Importance of Accurate Road Topos



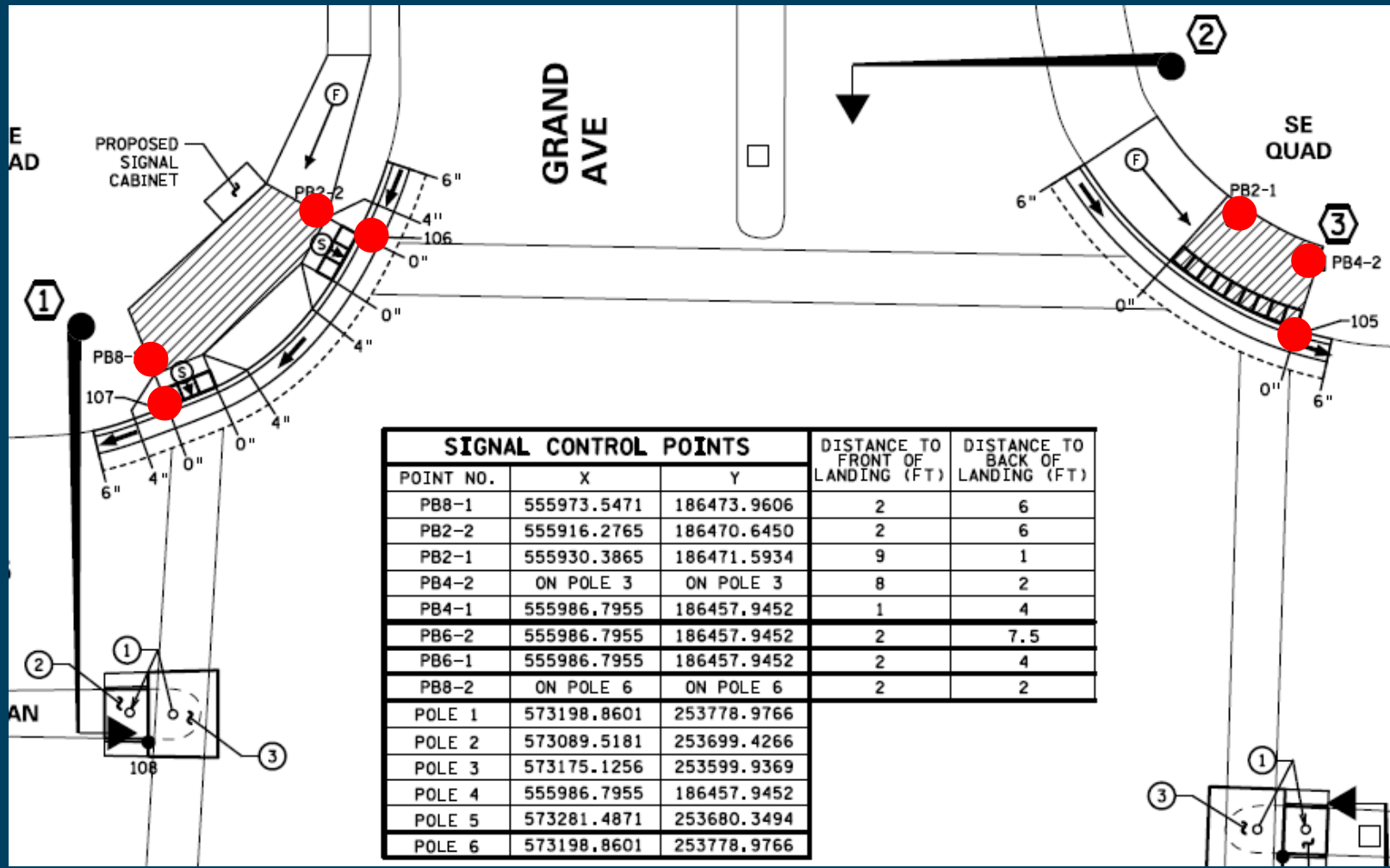
Importance of Accurate Road Topos



Discussion: How long would a typical intersection take?



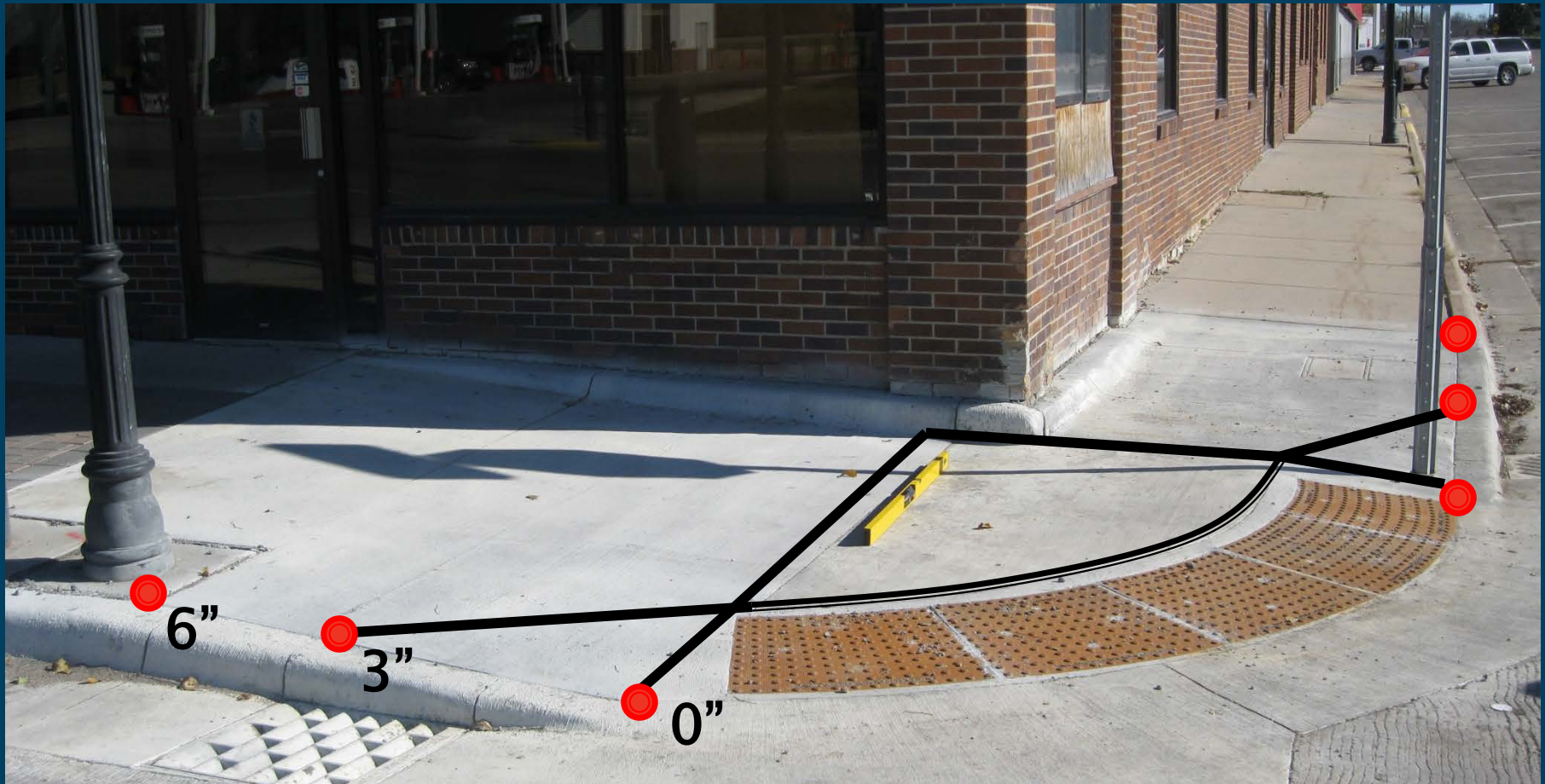
20-Scale Detail: Working Points



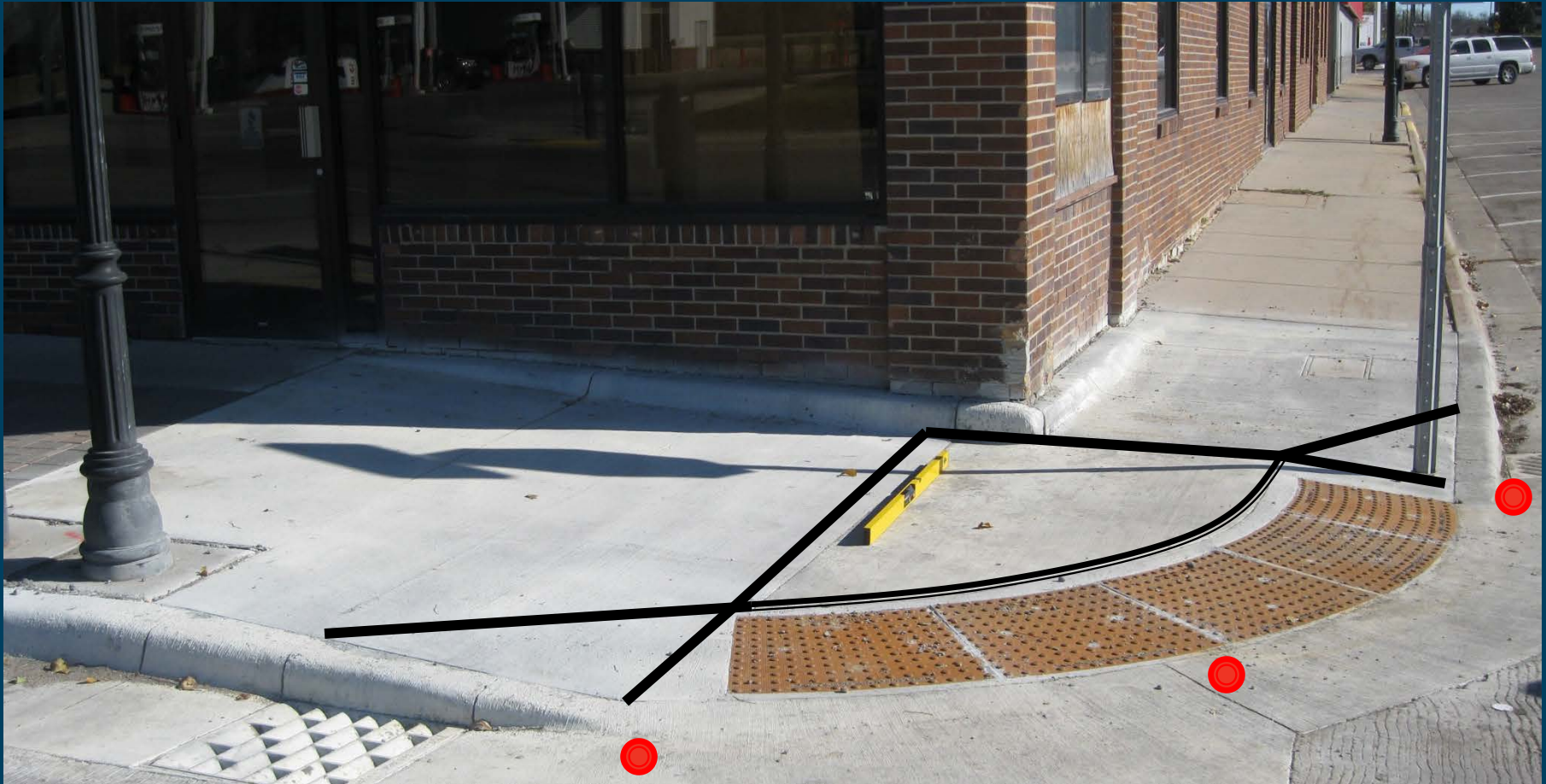
Construction Staking: Working Points



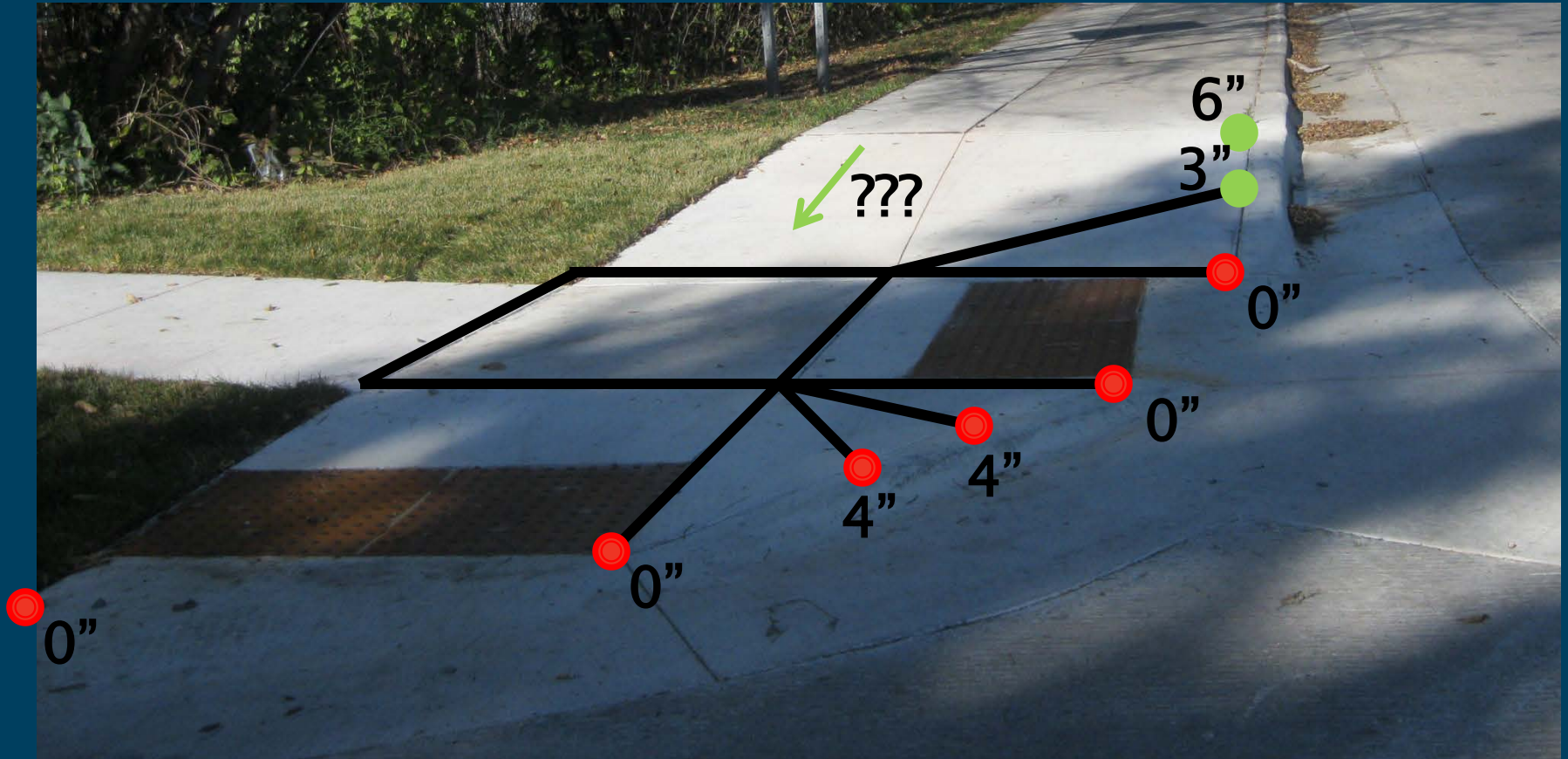
Construction Staking: Back of Curb



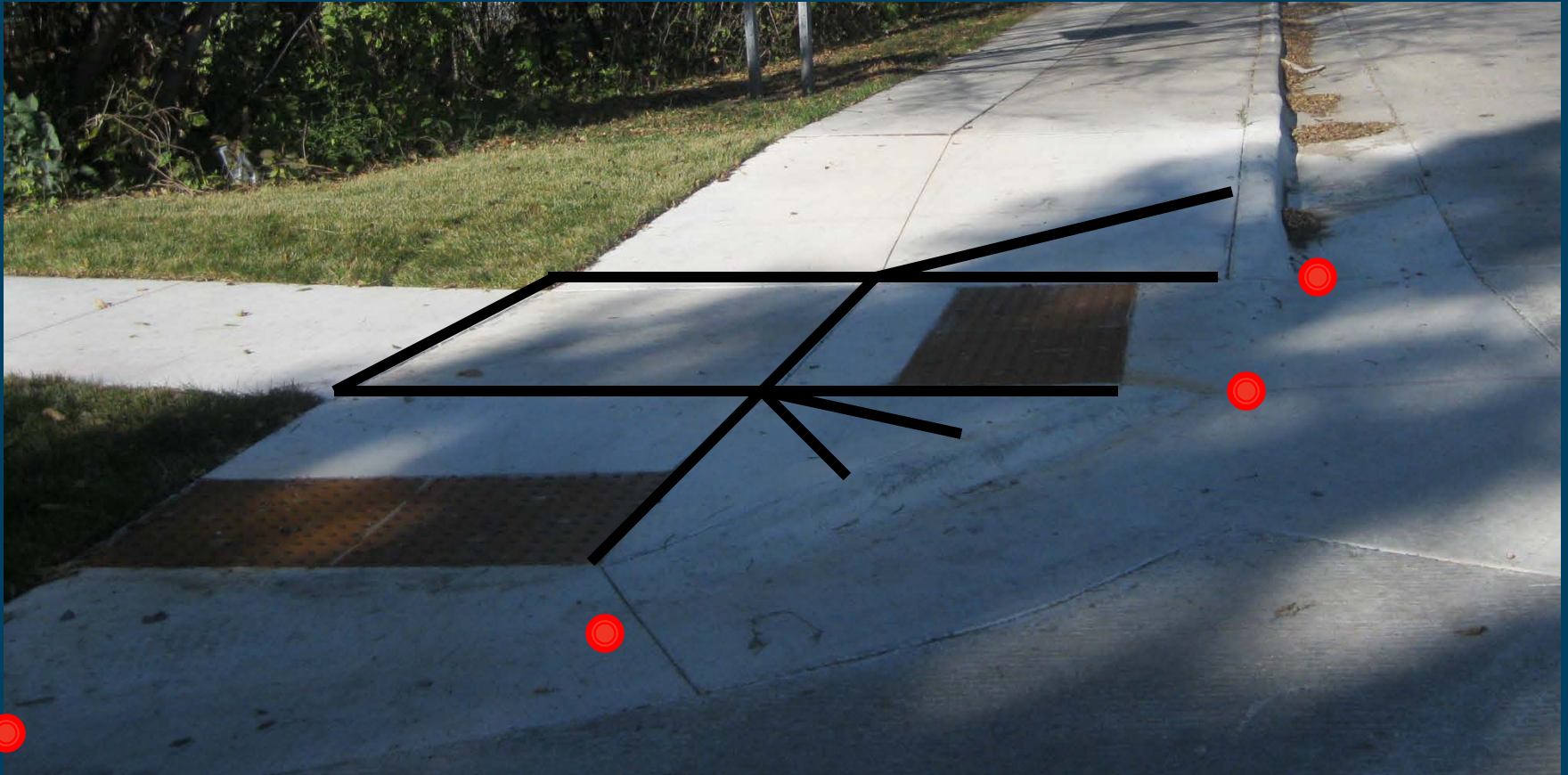
Construction Staking: Flow Line



Construction Staking: Back of Curb



Construction Staking: Flow Line



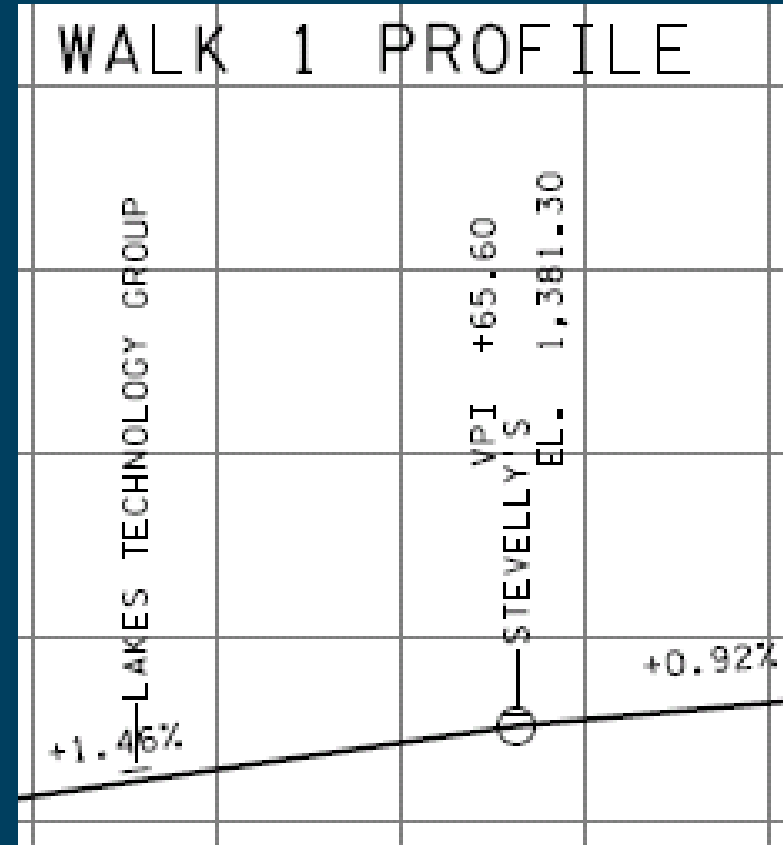
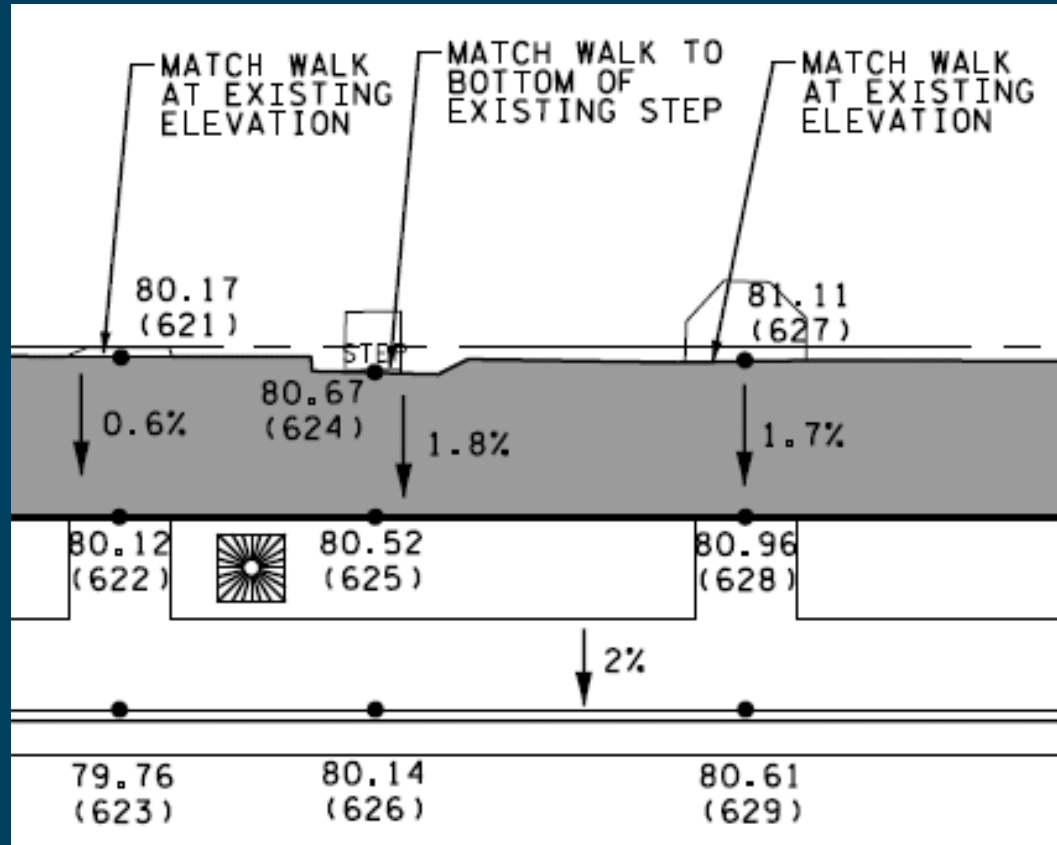
Construction Staking: PAR



Construction Staking: PAR



Sidewalk Profiles



Sidewalk Profiles



Entrance Tie-ins

