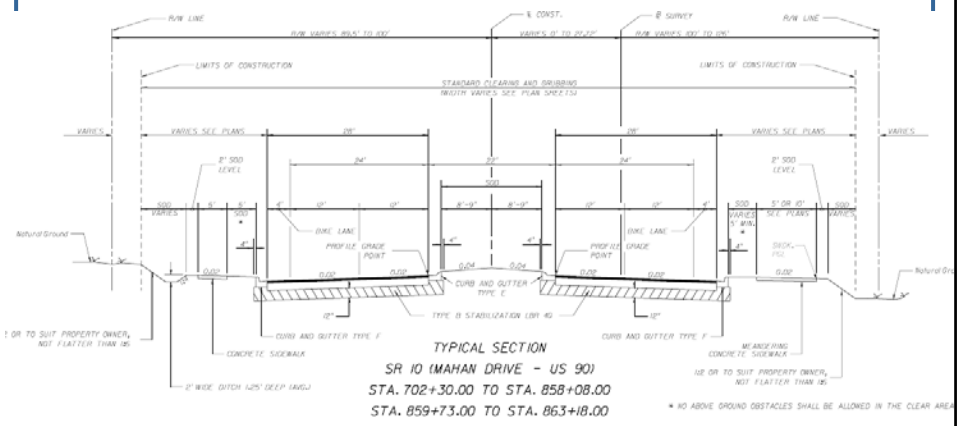
Corridor Modeling Advanced – End Conditions

Working with End Conditions in GEOPAK

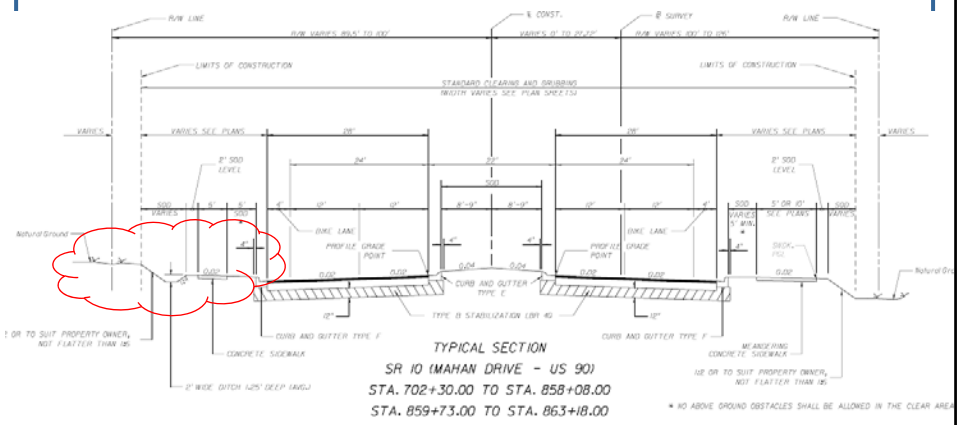
Speaker: *Vern Danforth, P.E.*

FDOT ECSO

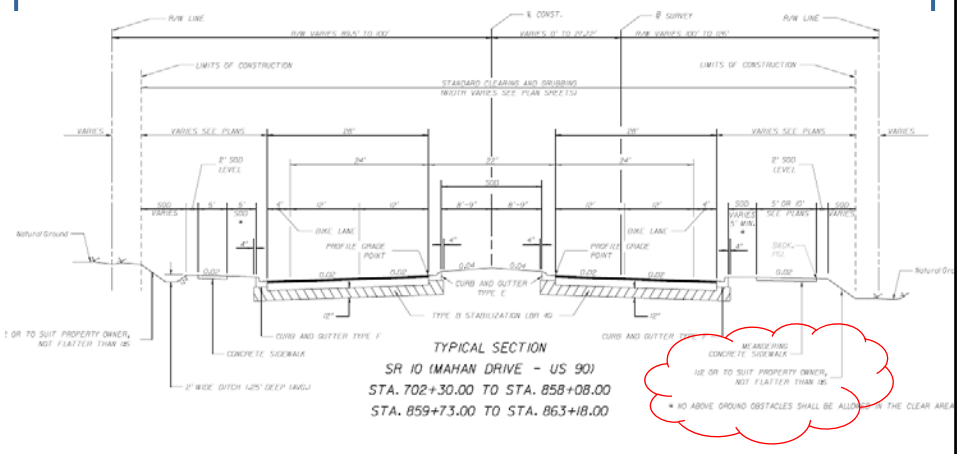
Example: Typical Section Exhibit



Example:
Typical Section Exhibit



Example:
Typical Section Exhibit



FDOT Plans Preparation Manual

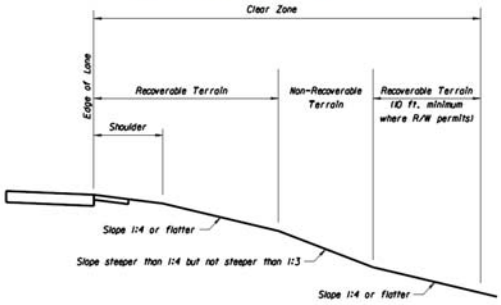
Table 2.4.1 Roadside Slopes

TYPE OF FACILITY	RURAL & URBAN FREEWAYS, RURAL ARTERIALS AND COLLECTORS, WITH PROJECTED 20 YEAR AADT OF 1500 OR GREATER		RURAL ARTERIALS AND COLLECTORS WITH PROJECTED 20 YR. AADT LESS THAN 1500 AND RURAL LOCALS, URBAN ARTERIALS AND COLLECTORS WITHOUT CURB & GUTTER		URBAN ARTERIALS AND COLLECTORS WITH CURB & GUTTER	
	DESIGN SPEED 45 mph OR GREATER		ALL SPEEDS		DESIGN SPEED 45 mph OR LESS	
	Height of Fill (feet) *	Rate	Height of Fill (feet) *	Rate	Height of Fill (feet) *	Rate
Front Slope	0.0 - 5 5 - 10 10 - 20 >20	1:6 1:6 to edge of CZ then 1:4 1:6 to edge of CZ then 1:3 1:2 (with guardrail)	0.0 - 5 5 - 20	1:6 Where R/W is insufficient, 1:6 to edge of CZ then 1:3 1:6 to edge of CZ then 1:3. Where, R/W is insufficient, 1:6 to edge of CZ then 1:2.	All	1:2 or to suit property owner, not flatter than 1:6. R/W cost must be considered for high fill sections in urban areas
Back Slope	All	1:4 or 1:3 with a standard width trapezoidal ditch and 1:6 front slope	All	1:4 when R/W permits or 1:3	All	1:2 or to suit property owner. Not flatter than 1:6.
Transverse Slopes	All	1:10 or flatter (freeways) 1:4 (others)	All	1:4	All	1:4

* Height of Fill is the vertical distance from the edge of the outside travel lane to the toe of front slope.

FDOT Plans Preparation Manual

Figure 4.1.2.2 Clear Zone Cross Section



Note: See ***Chapter 2, Table 2.4.1*** for new construction slope criteria.
See ***Chapter 25, Section 25.4.9*** for RRR slope criteria.

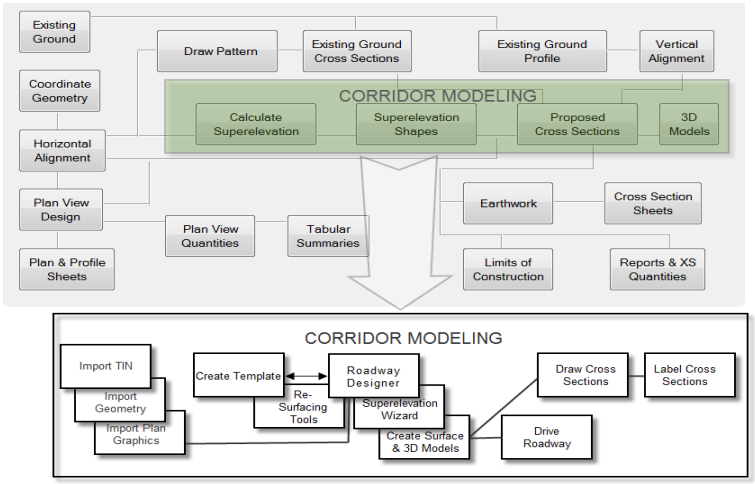
FDOT Plans Preparation Manual

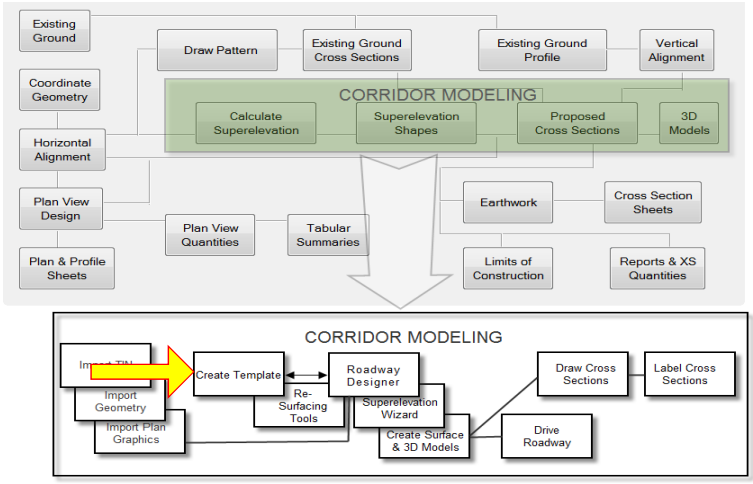
Table 2.11.11 Recoverable Terrain

DESIGN SPEED (mph)	≥ 1500 AADT(1)		< 1500 AADT(1)	
	TRAVEL LANES & MULTILANE RAMPS (feet)	AUXILIARY LANES & SINGLE LANE RAMPS (feet)	TRAVEL LANES & MULTILANE RAMPS (feet)	AUXILIARY LANES & SINGLE LANE RAMPS (feet)
< 45	18	10	16	10
45	24	14	20	14
50	24	14	20	14
55	30	18	24	14
> 55	36	24	30	18

(1) AADT=Mainline 20 years projected annual average daily traffic.

The above values are to be used in the process for determining the clear zone width as described in *Chapter 4* of this volume.





Template Design

- There are 5 *types* of components created in Corridor Modeling Template Design:
  - *Simple*,
  - *Constrained*,
  - *Unconstrained*,
  - *Null Point*,
  - *End Condition,* and
  - *Overlay/Stripping*.

End Condition Definition

- An end condition is a special open-shaped component that can target; a surface, a feature of a surface, an elevation, or an alignment
- The integrity of end conditions can be routinely tested while the roadway template is being created.

…basics

- New template “End Condition”
- New Components “Ditch and Slope line”
- End Condition Component and Point Properties
- Test Dialog
- Insert /Add Point
- Priorities
- Display Rules
- Attachment to Backbone Template
- Roadway Designer application

…advanced

- Other End Conditions uses:
  - Variable Ditches
  - Variable Medians
  - Widening
  - Sidewalks
  - Intersection
  - Driveway
  - Guardrail Components

…application

- Click to START

…in closing

Questions…

Follow-up…

…on behalf of the entire Engineering CADD Systems office.

Thank you for attending !