

Aesthetics Interim Master Guideline

OCTOBER 2013

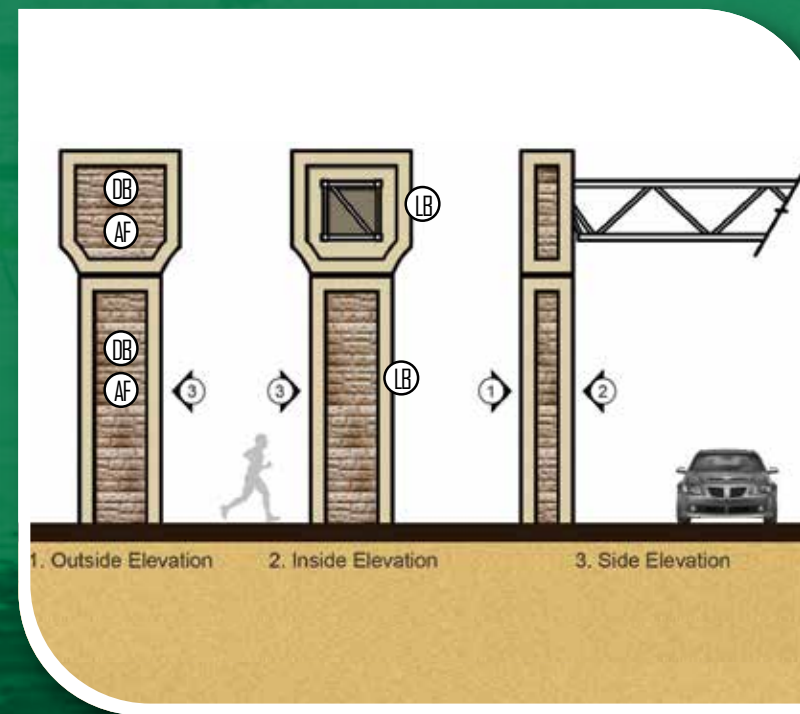


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Summary

This aesthetics plan documents the efforts of the Florida Department of Transportation (FDOT) to develop a new parkway system that meets the transportation needs of the community that provides a unique driving experience, and fits within the natural surrounding environment.

The Wekiva Parkway (State Road 429) will connect SR 417 to SR 441, completing the beltway around northwest metropolitan Orlando. This estimated \$1.7 billion project includes \$500 million of non-toll road improvements including seven (7) miles of four and six-lane expansion of SR 46 in Lake and Seminole Counties, rebuilding the US 441/SR 46 interchange in Mount Dora, and connecting CR 46A to SR 46 to provide improved wildlife connectivity and improve local road system connections.

The 25-mile tolled expressway will provide an alternative to Interstate 4, and relieve US 441, SR 46 and other area roads of traffic congestion resulting from growth and travel between Orange, Lake and Seminole Counties. Development of this expressway will include transportation planning through an environmentally sensitive area and will also set aside more than 3,400 acres of land for conservation. The parkway will also include wildlife fencing and numerous wildlife crossings that will reduce conflicts between vehicles and wildlife.

The Department team has developed a specific aesthetic plan based on objectives, input from stakeholders, and from the public involvement meetings. Specific objectives of this guideline include:

- Providing a parkway feel to the roadway
- Highway branding through corridor theme development and FDOT's BOLD Initiative
- How needs and concerns of stakeholders from Mt. Dora, Sanford, and Florida Forest Service, and adjacent residences are addressed.
- Improvements and/or enhancements needed to realize the project Vision
- A funding implementation plan

This aesthetics guideline provides the section designers framework from which to design an aesthetics plan that meets

the project objectives. The section designers are responsible for the final plant palats and to ensure design elements are consistent with the individual section characteristics.

Existing Conditions

The FDOT is developing the Wekiva Parkway in 9 sections. See the Key Plan for section delineations. The following is a description of the existing conditions and elements of interest along the "Parkway" corridor:

Section 3A (SR 46 from Vista View Lane to Round Lake Road) This section is a two lane existing rural roadway with no pedestrian access, few crossroad access points, and little landscape area of value.

Section 3B (SR 46 from US 441 to Vista View lane) This section is considered the gateway to Mt. Dora. The stakeholders propose building an at grade entrance feature (separate from FDOT efforts) and master plan graphics have been prepared and are described in this aesthetics guideline.

Section 4A & 4B (SR 429 from CR 435 to SR 46) These two sections are environmentally sensitive sections. There is expansive native habitat adjacent to this rural roadway that is slated for preservation and roadway buffer enhancements.

Section 5 (CR 46A re-alignment between CR46A and SR 46) This area is currently an open rural landscape that lies between CR 46A and SR 46. This area borders a residential development to the west.

Section 6 (SR 429 from west of Old McDonald Road to Wekiva River Road) This is a section that is one of the most environmentally sensitive. There are currently wildlife conflicts along the existing SR 46A (rural) corridor. There is a need for wild life fencing at the R/W lines. There are significant natural lands adjacent to this roadway segment and the Wekiva River bridge crossing is at the east end of this section. The river is a wild and scenic river who's destination is co-managed by the National Park Service and the Wekiva River System Advisory Management Committee.

Section 7A & 7B (SR 429 from Wekiva River Road to Orange Boulevard, & SR 46 from Center Road to, not including the Interstate 4 interchange) This section is a suburban area and has the most public scrutiny in relation to parkway aesthetics. Section 7A is a hybrid section with local access roads and tolled express lanes with medians. Section 7B is a 4/6 lane divided roadway with a number of crossroad access points, pedestrian access areas, upgraded landscape in some locations, and more vehicular traffic. There is a median with limited landscape area in 7A while 7B provides more median opportunities.

Section 8 (SR 429 from Orange Boulevard to Rinehart Road – including Interstate 4 interchange) This section includes an I-4 interchange with visibility to the greatest amount of people. The area is devoid of significant landscaping. The expansive grass areas allow space for landscape improvements such as bridge structure screening, and wild flower areas. The west side of this section is a good place to create a "Parkway" entrance feature.

Community Needs

Through the public involvement workshops and stakeholder meetings, opinions were expressed with a general appreciation for FDOT's efforts towards creating a "parkway" instead of just another highway from point "A" to "B", and for working with the natural environment and preserving as much adjacent natural land as possible.

Aside from the general upgrade of current pavement conditions, the improved connectivity will address community needs such as orderly traffic flow, reduction of traffic and pedestrian safety conflicts, and community identification.

Vision Statement

Based on the evaluation of the roadway system master plan, and understanding the input from FDOT and the appointed stakeholders, the vision for the Wekiva Parkway project is to develop a cohesive parkway transportation system of well constructed and attractive structures that promote a safe, practical, functional, high quality, and beautiful driving experience, while meeting transportation needs of its users.

Key elements of this vision include:

Bridge Structures

- Ashlar stone textured form liner MSE walls, piers, and pier cladding
- Multi-color concrete abutment walls, coping, parapets, barriers, and wall/pier caps
- Painted concrete and/or weathered steel bridge beams
- Haunched beam concept
- Tiered fill sections (interchanges)

Wall Structures

- MSE panel walls
- Tiered walls
- "T" walls

Toll Gantry Structures

- Ashlar stone textured form liner inlayed piers
- Painted/color coordinated piers and gantry trusses

Other Structures

- Storm water ponds
- Bifurcated medians
- Guardrail
- City signs and logos (not part of FDOT effort)
- Frontage roads

Landscape Elements

- Consistency with the FDOT Bold Initiative
- Assist with defining "Parkway" theme
- Native vegetation and natural buffers where possible
- Retain existing vegetation, particularly at right of way lines where possible

Branding

The concept of branding within the Wekiva Parkway corridor refers to maintaining the parkway feel along each section. This is best accomplished through using the same look for major elements

(bridge and toll gantry structures, design elements including ponds, tiered walls, etc) while allowing the designer to pick from a palette of other landscape features such as trees, shrubs, and grasses.

If completed correctly, the Wekiva Parkway will have the same overall feel along the entire corridor with accents that will be based on the particular section of the parkway. In addition, aesthetic treatments that are germane to the surrounding communities should also be utilized whenever feasible to provide a local brand to the parkway

Implementation Strategy

Each section designer should utilize the following implementation strategy when developing the individual section aesthetic plans.

Roadway Design:

- Utilize the aesthetic guidelines during development of the roadway alignment and drainage plans. Opportunities for bifurcated sections (both horizontally and vertically) should be explored and incorporated in the plans where practical and without requiring additional R/W. Drainage ponds should be free form and follow the guidelines for shape, buffers, and location.
- Wherever a shear wall is higher than 10', then a tiered wall section should be utilized to the greatest extent possible. The wall sections themselves should be no higher than 10-12 feet and the bench areas in between the walls should be utilized for landscaping. Particular attention should be made by the designer to provide access from the edges of the R/W for maintenance purposes.
- Vegetative buffers should be provided wherever possible along the R/W edges and around ponds. If possible, the natural landscape material should be used as this buffer. If the natural vegetation is minimal or non-existent, then plant species from the landscape palettes for each individual section should be explored. Maintenance berms around ponds are to remain clear of plantings in order to facilitate pond maintenance.
- The use of weathered steel for both guardrail treatments and steel structures shall be explored with the FDOT-5 PM during the design review process.
- All landscaping and aesthetic treatments are to be designed and compliant with FDOT Design Standards and Criteria.

Structures:

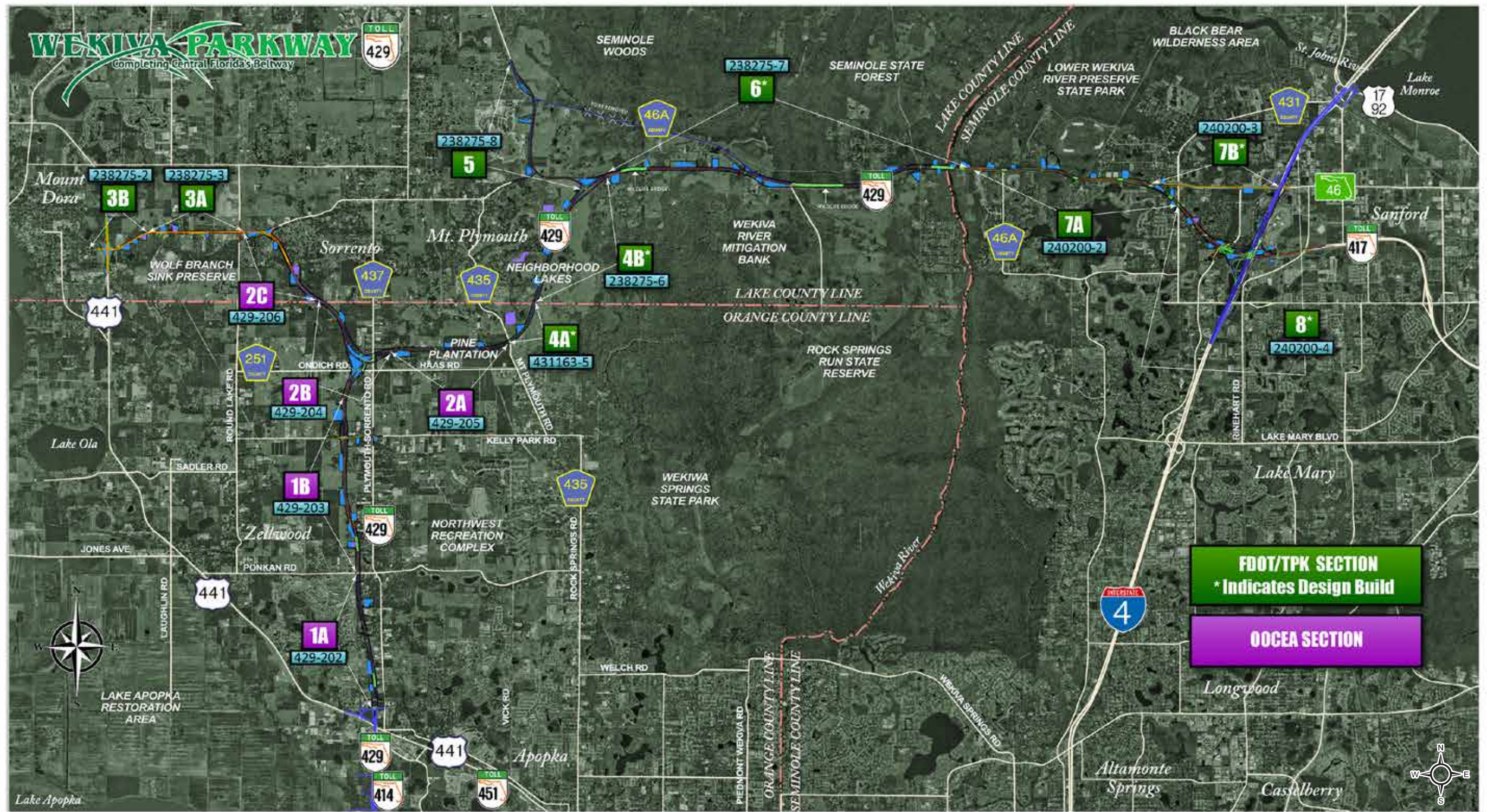
- The designer should take into account the various types of structures and where the structure will be located on the project. For example, utilize the following criteria for aesthetic treatments on structures:
- On structures that will take the Wekiva Parkway over a cross street where traffic will see the side of the structure and will travel underneath, haunched beams and the full pier aesthetic treatments are the preferred treatment to be utilized. If the haunched beam and full aesthetics treatments are not practical or cost feasible, the pier cladding treatment is to be explored and incorporated.
- On structures that will be viewed from the side from a distance and drivers will not travel underneath the structure, then the pier cladding option should be used to conserve project funds.
- On structures that will not be viewed from below the parkway (animal crossings, etc), then no aesthetic treatments are required.
- Toll gantry supports shall match the bridge pier structural elements within the section. If modifications are made to the bridge structural aesthetics, matching modifications should be included on the toll gantry supports.

Individual Sections:

- Certain municipalities and counties have requested specific elements be added within their section. The design firm shall coordinate with municipalities and county for their section and discuss specialized aesthetics with FDOT-5 prior to inclusion in the plans.

Aesthetics Budget

This entire project has an estimated construction budget of \$1.7 billion, of which FDOT has a target of 1.5% dedicated to landscape upgrades within their sections. Target budgets for structural and landscape elements are included in this aesthetic guideline, with each design element categorized into discipline groups. Costs will vary as refinements are made during the design phase and quantities are verified or modified.



Theme

The “Parkway” theme is enhanced by the natural landscape found in the area and the organization of available natural lands. The highway will proceed through the natural environment with a unified style created by consistent bridge and gantry structure design throughout the corridor, utilization of building materials mimicking natural stone in earth tone colors coordinated with the natural surroundings, and repeating planting schemes. Conservation of adjacent natural lands along the corridor promotes the parkway theme. In support of the “Parkway”, a storm water drainage system consisting of natural looking collection ponds will be strategically incorporated, and will support opportunities for diverse selection of native upland and wetland species. Where applicable, large open upland areas within the right of way provides opportunity for vast spreads of prairie grasses and wild flowers.

Design Elements

The FDOT is developing the Wekiva Parkway in 9 sections. See the Key Plan for section delineations. The following is a description of the proposed “Parkway” improvements:

Section 3A (SR 46 from Vista View Lane to Round Lake Road) This existing rural section will include widening to a urban 6 lane roadway and with minimal landscape areas around storm water collection ponds.

Section 3B (SR 46 from US 441 to Vista View Lane) This suburban section is considered the gateway to Mt. Dora. This section will include interchange improvements, a new bridge structure with form liner retaining walls, and landscape improvements within the limits of the interchange. The stakeholders propose building an at grade entrance feature (separate from this project) and master plan graphics have been prepared and are described in this aesthetics guideline.

Section 4A & 4B (SR 429 from CR 435 to SR 46) These two sections are rural and environmentally sensitive sections. There is expansive native habitat adjacent to this rural roadway that is slated for preservation and roadway improvements include a bridge, lane widening, and a toll gantry in Section 4B. Landscape improvements include screening the bridge structure and expanding the native vegetative habitats along the right of way.

Section 5 (CR 46A re-alignment between CR 46A and SR 46) This rural section area is currently an open rural landscape that will support the development of a new urban 6 lane roadway between CR 46A and SR 46. Landscape improvements in this area include landscaped berms for sound attenuation, and vegetative screening of the roadway from the adjacent residential development to the west.

Section 6 (SR 429 from west of Old McDonald Road to Wekiva River Road) This is a rural section that is environmentally sensitive in nature. The roadway will be a 6 lane elevated (20’) highway with a service road and a toll gantry. There are currently wildlife conflicts along the existing corridor. Wild life fencing will be provided at the R/W lines. There are significant natural lands adjacent to this roadway segment and the Wekiva River Bridge is at the east end of this section. The landscape improvements include the preservation of all applicable native vegetation, selective clearing, and expanding native habitat for buffering structural elements.

Section 7A & 7B (SR 429 from Wekiva River Road to Orange Boulevard, & SR 46 from Center Road to, not including the Interstate 4 interchange) The roadway will be an elevated 6 lane (22’) highway, with decorative panels, two ramp toll gantries in Section 7A, sound walls as needed, and two one-way frontage roads with a number of crossroad access points and pedestrian areas. The landscape will include upgrades to existing landscape in some locations, screened structures from adjacent residences, planted medians, and pockets of landscape along the right of way limits.

Section 8 (SR 429 from Orange Boulevard to Rinehart Road – including Interstate 4 interchange) This I-4 interchange area has visibility to the greatest amount of people. Roadway improvements include a toll gantry west of I-4. The area is currently devoid of significant landscape. The expansive grass areas allow space for landscape improvements such as bridge structure screening and wild flower areas. The west side of this section is a good place to create a “Parkway” entrance feature.

Key structural elements include:

Bridge Structures

- Ashlar stone textured form liner MSE walls, piers, and pier cladding
- Multi-color concrete abutment walls, coping, parapets, barriers, and wall/pier caps
- Painted concrete and/or weathered steel bridge beams
- Haunched beam concept
- Tiered fill sections (interchanges)

Wall Structures

- MSE panel walls
- Tiered walls
- “T” walls

Toll Gantry Structures

- Ashlar stone textured form liner inlayed piers
- Painted/color coordinated gantry trusses

Other Structures

- Storm water ponds
- Bifurcated medians
- Guardrail
- City signs and logos (not part of FDOT effort)
- Frontage roads

Landscape Elements

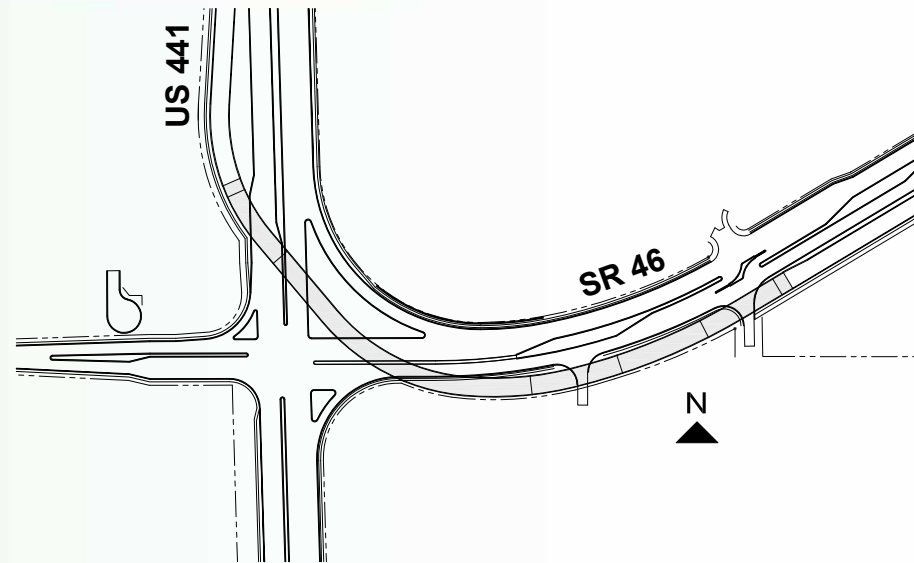
- Consistency with the FDOT Bold Initiative
- Assist with defining “Parkway” theme
- Native vegetation and natural buffers where possible
- Retain existing vegetation, particularly at right of way lines where possible

Bridge Plans and Descriptions

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Section 3B Bridge Type

There is one bridge location proposed in this Section. This bridge is part of the proposed reconfigured US 441 and SR 46 interchange. Considered the western gateway to the Wekiva Parkway, this two lane east bound ramp is a raised bridge constructed of piers and MSE walls.



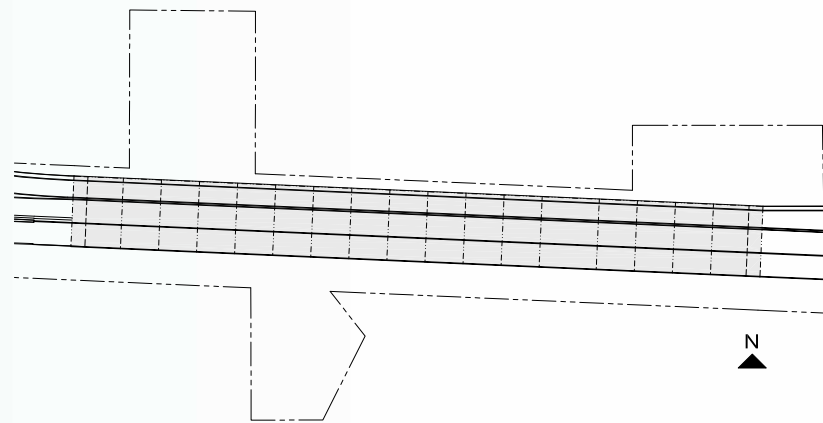
Section 4 Bridge Type

There are two bridge locations of similar construction proposed in this Section. Both are 4 lane divided bridge crossings that will be raised and constructed of piers and MSE walls. One of the bridges will transit over an identified floodplain area. The second bridge is proposed at the SR46 – SR429 interchange.



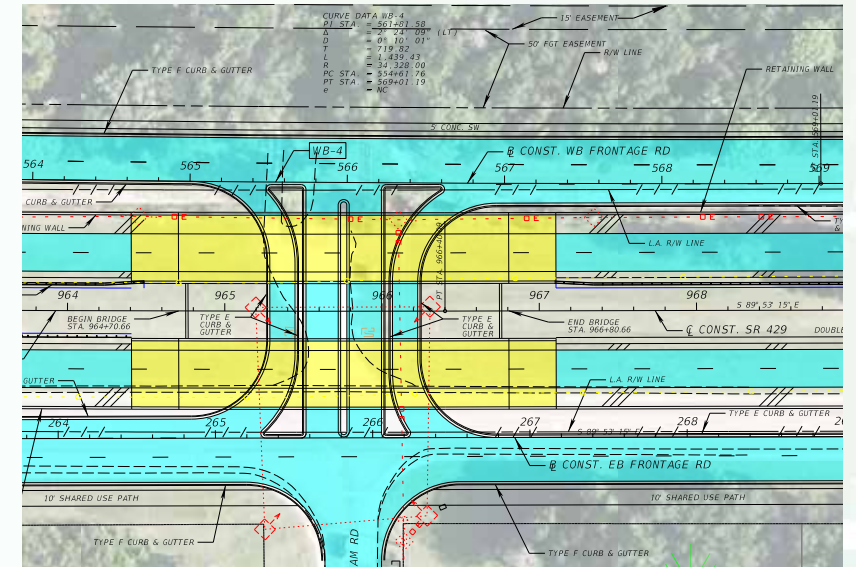
Section 6 Bridge Type

There are two bridge locations of similar construction proposed in this Section. They are made up of two 4-lane divided mainline bridges and one 2-lane service road bridge. An additional bridge location is the reconstruction of the Wekiva River bridge. This bridge will be raised. The mainline bridges will be 4-lane divided and constructed of piers and MSE walls. There will also be a 2-lane service road bridge. The treatment of the Wekiva River bridges will be separate and are not part of these guidelines.



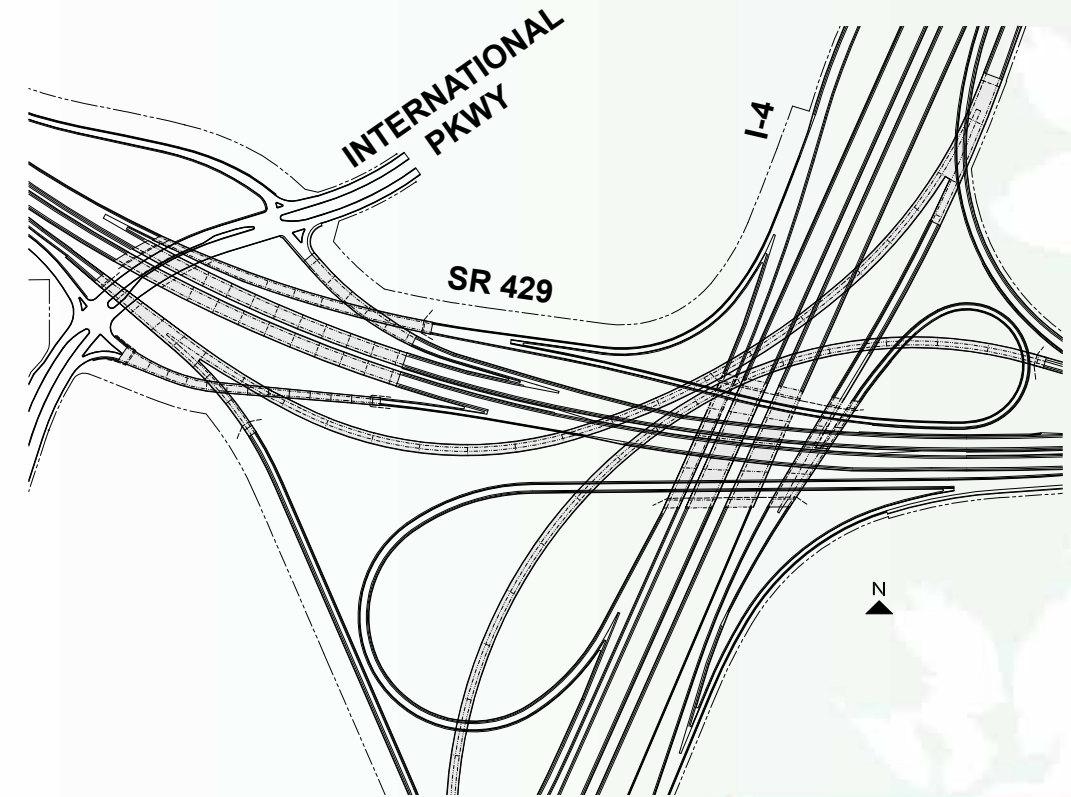
Section 7A Bridge Type

There are several bridge locations of similar construction proposed in this section. They are all 4-lane divided. These bridges are raised and should consider haunched beams and/or cladding walls where practical, and MSE walls.



Section 8 Bridge Type

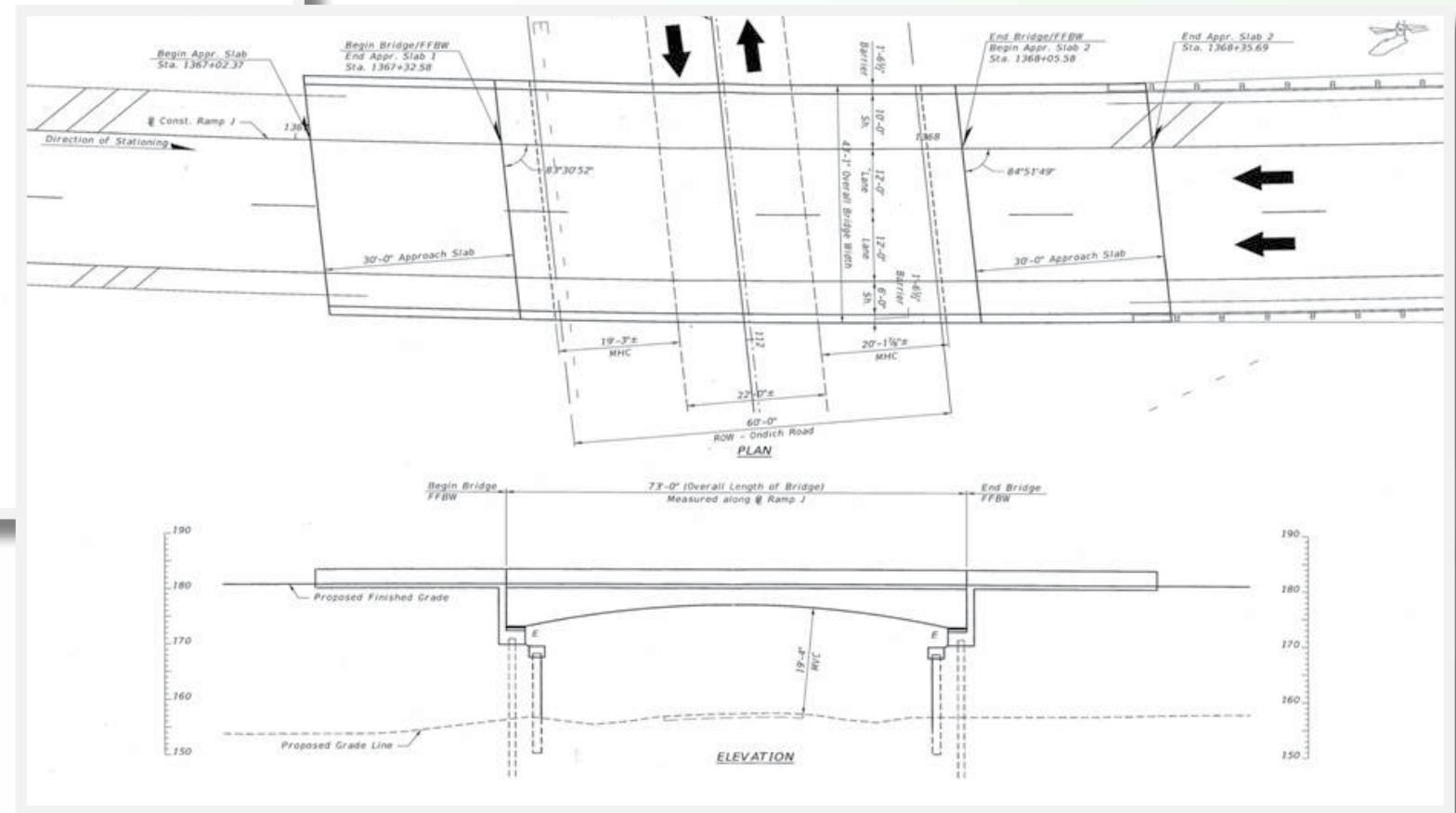
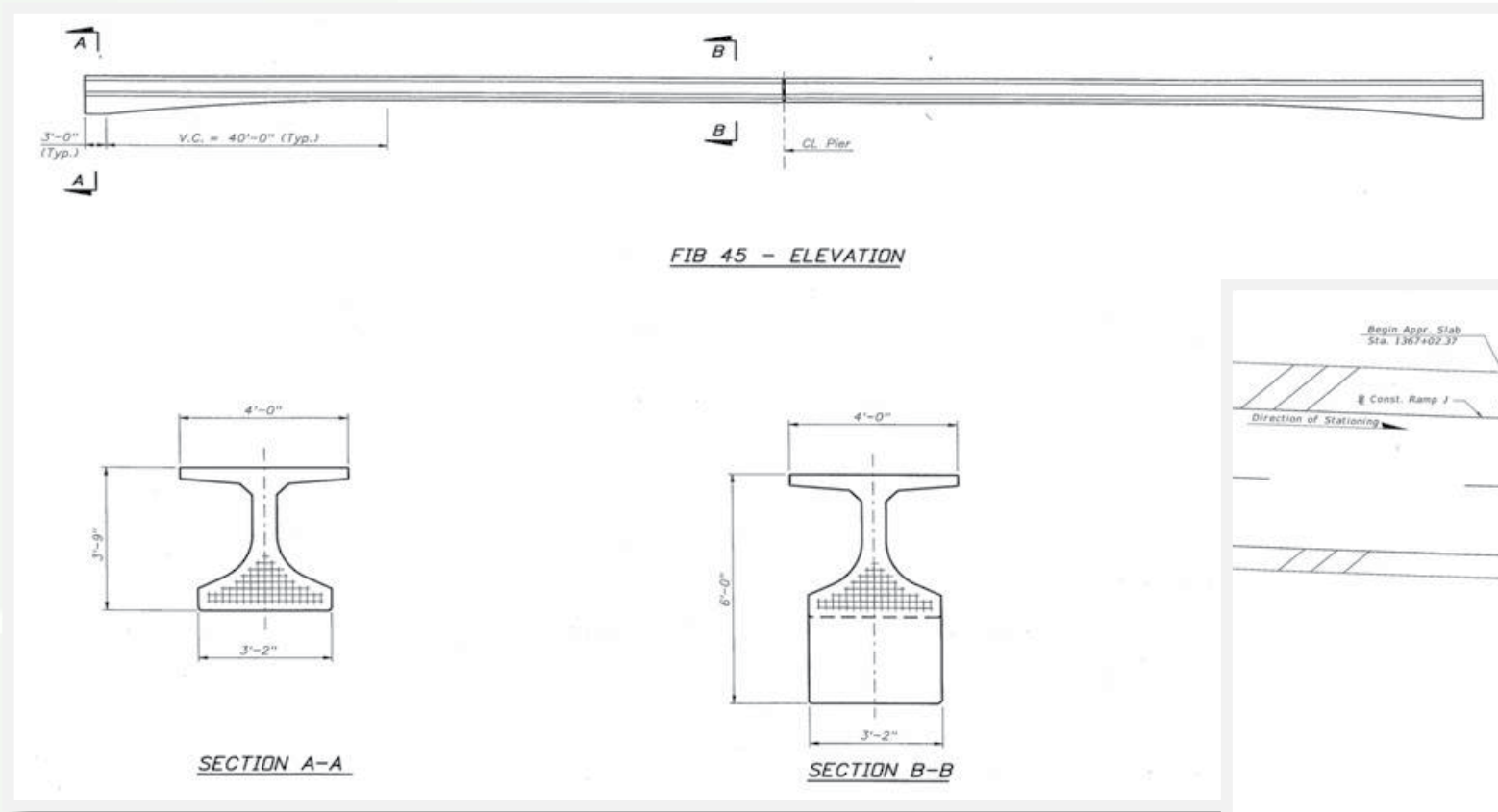
There are eleven bridges proposed in this Section. These bridges are part of the proposed reconfigured SR 429 and Interstate 4 interchange. Considered the eastern gateway to the Wekiva Parkway, these two and four lane ramp and mainline bridges are raised bridges constructed of piers, abutments and earth berms.



Structural Aesthetics

Bridges

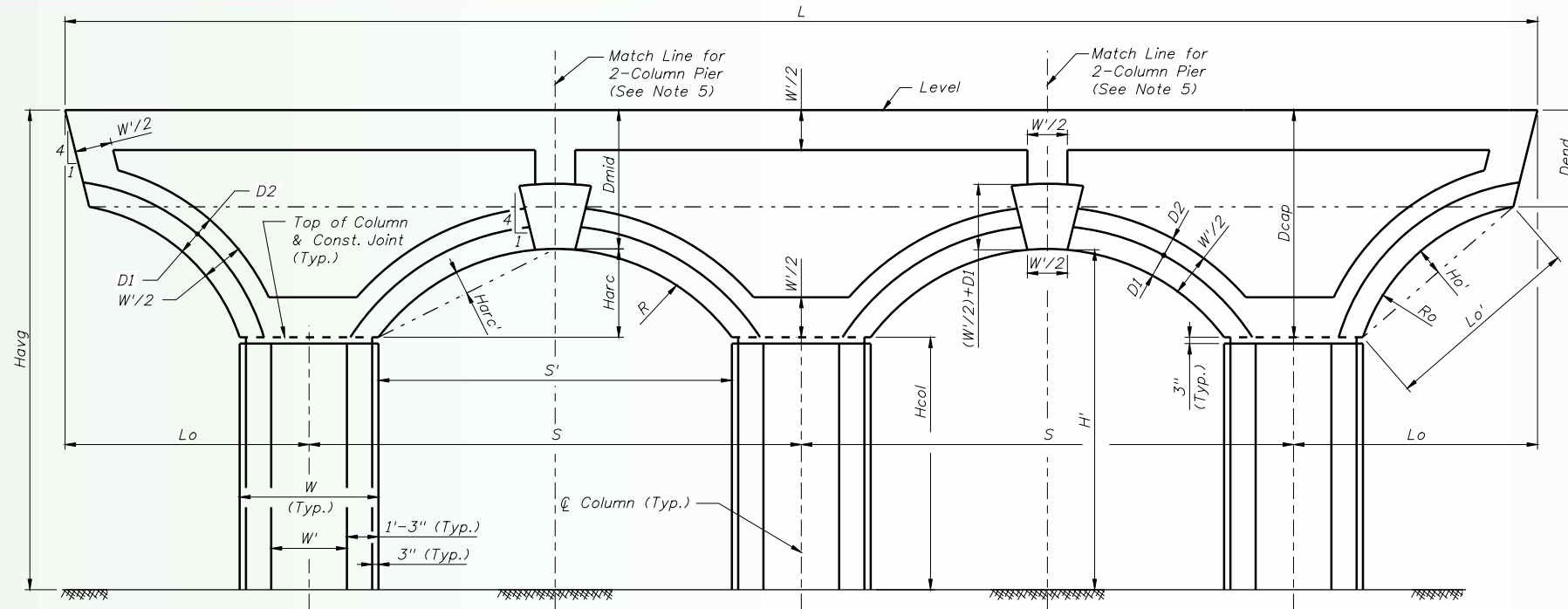
Haunched Beam Concept



Haunched beams should be considered wherever AASHTO concrete beams are the preferred choice. If utilized, the beam lengths should be standardized with other haunched beams used on the project and coordination with FDOT-5 and the Corridor Consultant should occur. In addition, transportation of the beams should be a consideration for using these types of beams. In order to provide consistency to the haunch design, and hopefully cost-efficiency in the construction costs, general guidelines have been developed for information and use.

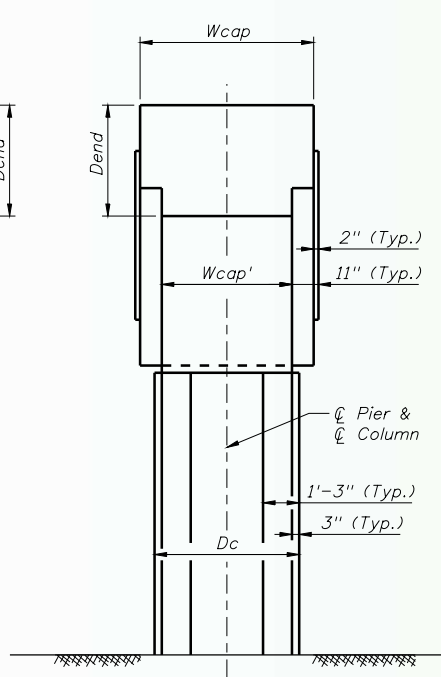
Pier Geometry

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PIER ELEVATION

(3-column pier shown, 2-column pier similar)



END VIEW

TABLE OF RECOMMENDED PIER GEOMETRY PARAMETERS		
PIER COMPONENT	VARIABLE	PARAMETERS
Number of Columns	N	$N \approx L / H_{avg}$
Column Spacing	S	$L/N \leq S \leq L/(N-0.2)$
Overhang	Lo	$0.4S \leq Lo \leq 0.5S$
Column Width	W	$5'-0" \leq W \leq 6'-6"$
Cap Depth at Arch	Dmid	$0.9W \leq D_{mid} \leq 1.1W$
Clear Opening at Arch	H'	$0.9S' \leq H' \leq 1.15S'$
Rise of Arch above Column	Harc	$(1/4)S' \leq H_{arc} \leq (1/3)S'$ and $(1/4)H' \leq H_{arc} \leq (1/3)H'$
Average Column Height	Hcol	$H_{col} \geq D_{cap}$
Arch Radius	R	$R = \frac{H_{arc}^2 + (S'/2)^2}{2H_{arc}}$
Cap Depth at End	Dend	$D_{end} \approx D_{mid} - W/2$
Cap Overhang Radius	Ro	$R_o \approx \frac{H_o'^2 + (L_o'/2)^2}{2H_o'}$ where, $1.0H_{arc}' \leq H_o' \leq 1.15H_{arc}'$ $H_{arc}' = R - \frac{\sqrt{16R^2 - S'^2} - 4H_{arc}^2}{4}$
Width of Arch Recess	D1	$D1 \approx \sqrt{(R - H_{arc} - 0.25ft)^2 + (S'/2 + 1.25ft)^2} - R$
Column Depth	Dc	$D_c \geq 5'-0"$
Width of Cap	Wcap	$W_{cap} = D_c + 1'-0"$

LEGEND:

- - - Construction Layout Line

L = Cap length (measured in horizontal plane along \bar{C} Cap)

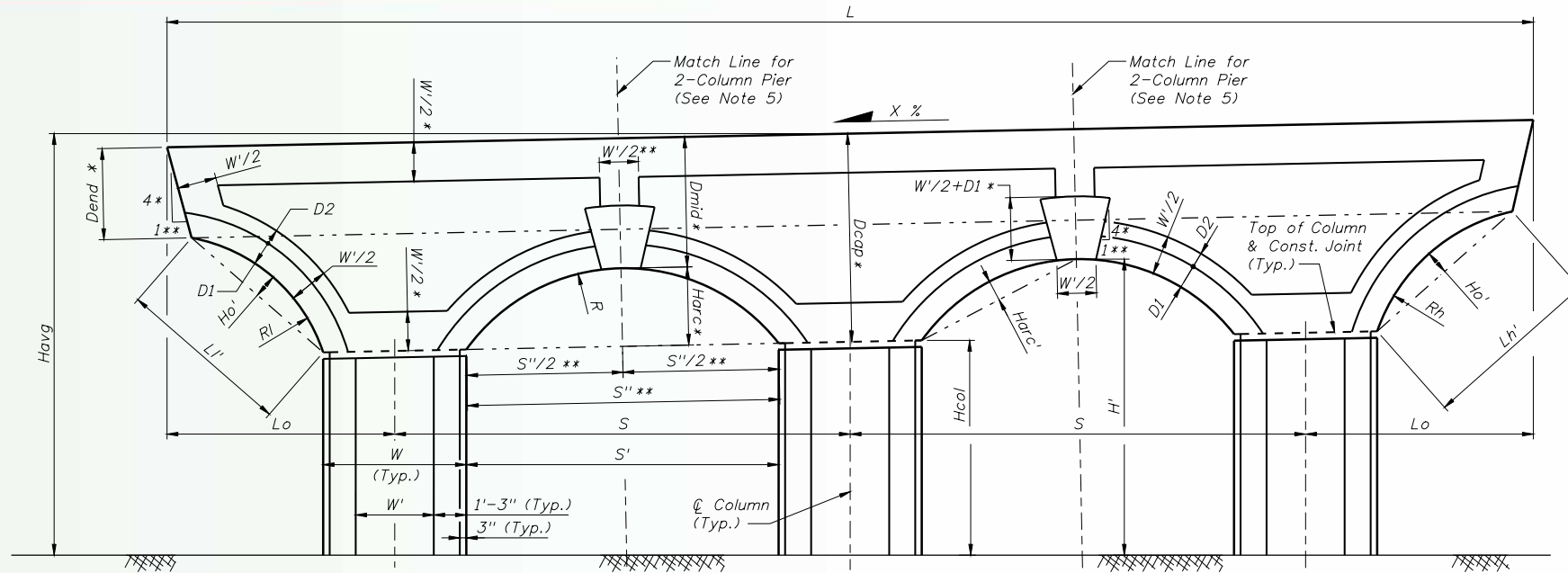
Havg = Average pier height

NOTES:

- The equations and ranges provided in this table are recommended values for laying out the pier geometry for multicolumn piers with level caps. For multicolumn piers with sloped caps and single column piers additional sheets are provided.
- When ranges are provided, the upper range of values is recommended for taller piers and the lower range of values is recommended for shorter piers.
- It is recommended that where possible the radii of the interior cap arches for piers of the bridges in the same contract are keep the same. This may require setting R, backcalculating Harc and S' and rechecking the suggested ranges.
- Where possible values should be rounded to the nearest inch.
- To obtain the Elevation for a 2-column pier, overlap the match lines shown in Pier Elevation.

Pier Geometry

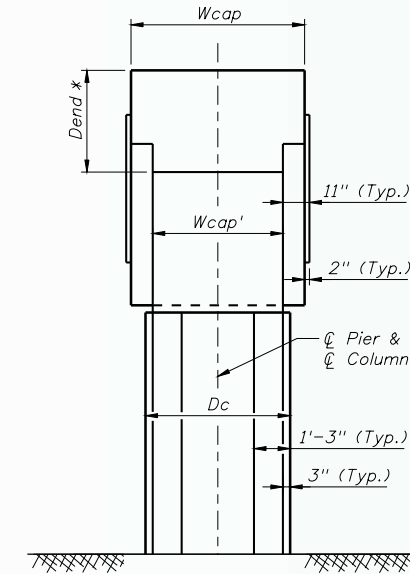
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PIER ELEVATION

(3-column pier shown, 2-column pier similar)

* Measured perpendicular to top of Pier Cap.
 ** Measured parallel to top of Pier Cap.



END VIEW

TABLE OF RECOMMENDED PIER GEOMETRY PARAMETERS

PIER COMPONENT	VARIABLE	PARAMETERS
Number of Columns	N	$N \approx L / H_{avg}$
Column Spacing	S	$L/N \leq S \leq L/(N-0.2)$
Overhang	Lo	$0.4S \leq Lo \leq 0.5S$
Column Width	W	$5'-0'' \leq W \leq 6'-6''$
Cap Depth at Arch	Dmid	$0.9W \leq D_{mid} \leq 1.1W$
Clear Opening at Arch	H'	$0.9S' \leq H' \leq 1.15S'$
Rise of Arch above Column	Harc	$(1/4)S' \leq H_{arc} \leq (1/3)S'$ and $(1/4)H' \leq H_{arc} \leq (1/3)H'$
Average Column Height	Hcol	$H_{col} \geq D_{cap}$
Arch Radius	R	$R = \frac{H_{arc}^2 + (S''/2)^2}{2H_{arc}}$
Cap Depth at End	Dend	$D_{end} \approx D_{mid} - W/2$
Cap Overhang Radius		
Radius at Low End of Cap	RI	$R_I \approx \frac{H_o'^2 + (L_I'/2)^2}{2H_o'}$
Radius at High End of Cap	Rh	$R_h \approx \frac{H_o'^2 + (L_h'/2)^2}{2H_o'}$
		where, $1.0H_{arc}' \leq H_o' \leq 1.15H_{arc}'$ $H_{arc}' = R - \frac{\sqrt{16R^2 - S''^2} - 4H_{arc}^2}{4}$
Width of Arch Recess	D1	$D_1 \approx \sqrt{(R - H_{arc} - 0.25ft)^2 + (S''/2 + 1.25ft\sqrt{1+(X/100)^2})^2} - R$
Column Depth	Dc	$D_c \geq 5'-0''$
Width of Cap	Wcap	$W_{cap} = D_c + 1'-0''$

LEGEND:

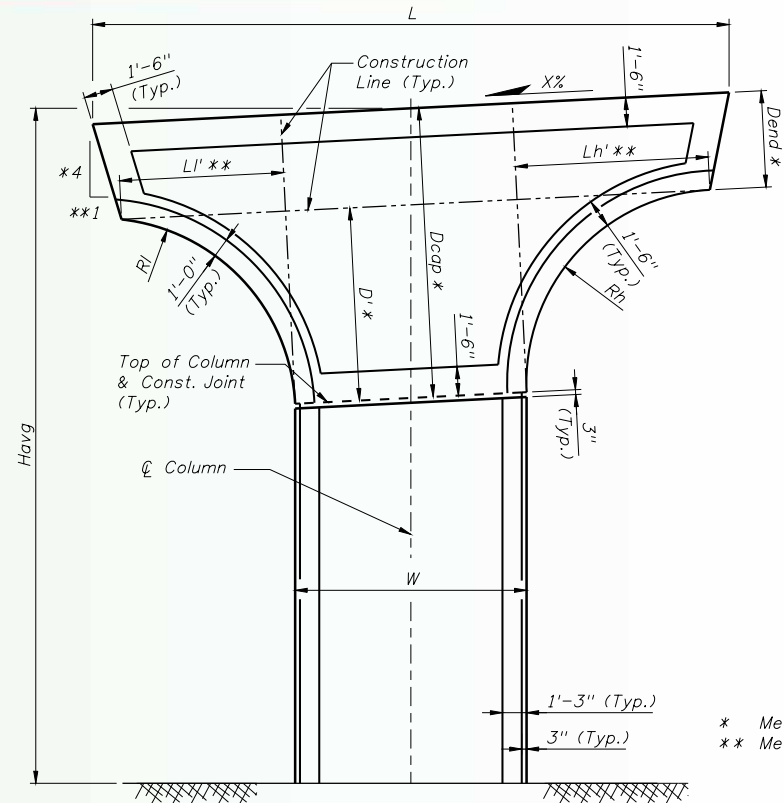
- - - Construction Layout Line
- L = Cap length (measured in horizontal plan along ϕ Cap)
- Havg = Average pier height
- X = Top of pier cap slope (defined as a percentage)

NOTES:

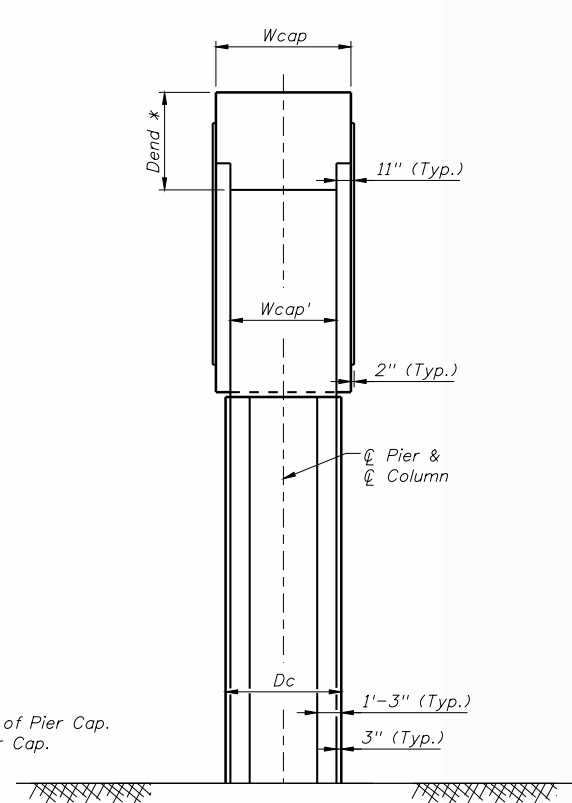
1. The equations and ranges provided in this table are recommended values for laying out the pier geometry for multicolumn piers with sloped caps. For multicolumn piers with level caps and single column piers, additional sheets are provided.
2. When ranges are provided, the upper range of values is recommended for taller piers and the lower range of values is recommended for shorter piers.
3. It is recommended that where possible the radii of the cap arches for piers of the bridges in the same contract are keep the same. This may require setting R, backcalculating Harc and S'' and rechecking the suggested ranges.
4. Where possible values should be rounded to the nearest inch.
5. To obtain the Elevation for a 2-column pier, overlap the match lines shown in Pier Elevation.

Pier Geometry

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PIER ELEVATION



END VIEW

* Measured perpendicular to top of Pier Cap.
 ** Measured parallel to top of Pier Cap.

LEGEND:

- Construction Layout Line
- L = Cap length (measured in horizontal plane along \varnothing Cap)
- Havg = Average pier height

NOTES:

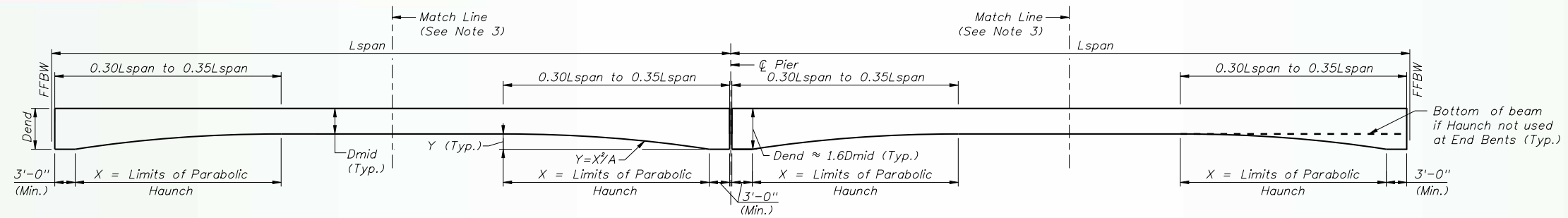
1. The equations and ranges provided in this table are recommended values for laying out the pier geometry for single column piers. For multicolumn piers with level caps and multicolumn piers with slopped caps, additional sheets are provided.
2. When ranges are provided, the upper range of values is recommended for taller piers and the lower range of values is recommended for shorter piers.
3. It is recommended that where possible the radii of the overhangs between piers of the bridges in the same contract are keep the same.
4. Where possible values should be rounded to the nearest inch.
5. If $D' < L1'$ or Lh' consider introducing a tangent transition at the end of the curve in the bottom of the cap.

TABLE OF RECOMMENDED PIER GEOMETRY PARAMETERS

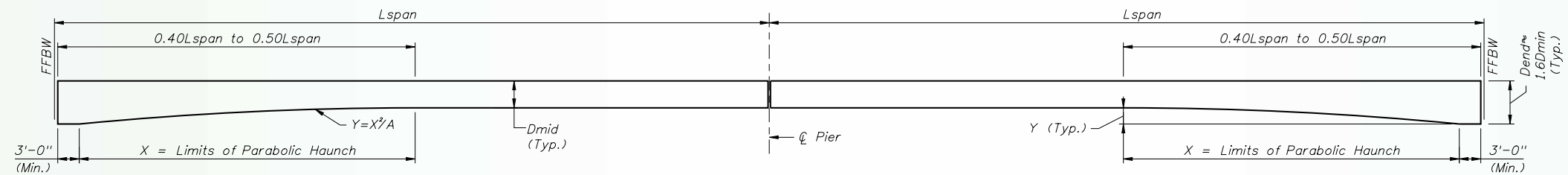
PIER COMPONENT	VARIABLE	PARAMETERS
Cap Length	L	$L \geq 2.75W$
Column Width	W	$W \geq \max(6'-0", Havg/5)$
Cap Depth	Dcap	$0.45L \leq Dcap \leq 0.55L$ and $Dcap \leq 0.6Havg$
Cap Depth at End	Dend	$0.3Dcap \leq Dend \leq 0.4Dcap$ and $Dend \geq 3'-6"$
Overhang Radius at Low End of Cap	RI	$RI = \frac{D'}{\cos(90-2\theta)}$ where, $\theta = \tan^{-1}(D'/L1')$ and $D' \geq L1'$ (See Note 5)
Overhang Radius at High End of Cap	Rh	$RI = \frac{D'}{\cos(90-2\theta)}$ where, $\theta = \tan^{-1}(D'/Lh')$ and $D' \geq Lh'$ (See Note 5)
Column Depth	Dc	$Dc \geq \max(5'-0", Havg/8)$
Width of Cap	Wcap	$Wcap = Dc + 1'-0"$

Beam Haunch Details

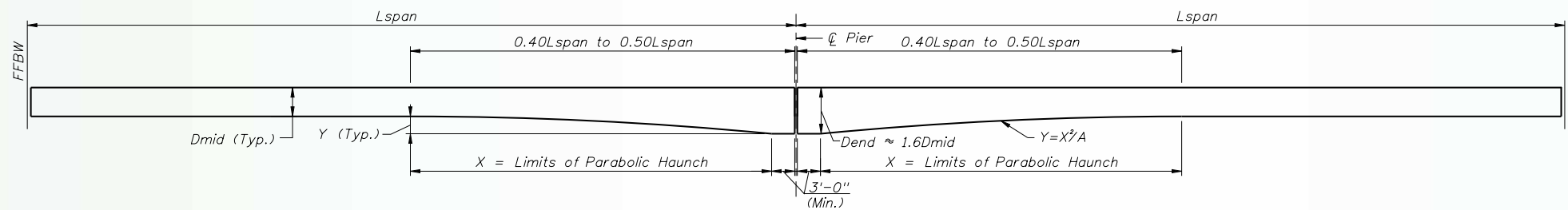
TBG060313042120RL



CASE 1 - HAUNCHED BEAM END AT MULTIPLE SUPPORTS



CASE 2 - HAUNCHED BEAM END AT END BENT



CASE 3 - HAUNCHED BEAM END AT PIER

HAUNCHED BEAM AT SUPPORTS OF SIMPLE SPANS

NOTES:

1. These are recommended aesthetic guidelines for beam haunches of simple span FIB, FUB, rectangular or similar beams. For guidelines on beam haunches for continuous spans see Sheet No. B-12.
2. See Beam Haunch Table in attached sheet for tabulated values of A, X, and Dend based on span length and midspan beam depth.
3. To obtain the elevation for a single span bridge, overlap the match lines shown in Case 1. To obtain the elevation for additional spans, add the segment between the match lines for each additional span needed.

Beam Haunch Details

TBG060313042120RL

BEAM HAUNCH TABLE						
MIN SPAN DEPTH Dmid (IN)	SPAN LENGTH Lspan (FT)	HAUNCHED END DEPTH Dend (IN)	CASE 1		CASES 2 & 3	
			PARABOLA TYPE	LIMITS OF HAUNCH, X (FT)	PARABOLA TYPE	LIMITS OF HAUNCH, X (FT)
36	65	58	1	18'-11 1/2"	1	27'-0 1/2"
	70	58	1	18'-11 1/2"	2	31'-7"
	75	58	2	23'-2 1/8"	2	31'-7"
	80	58	2	23'-2 1/8"	3	35'-4"
	85	58	2	23'-2 1/8"	3	35'-4"
	90	58	3	27'-0 1/2"	4	41'-5 1/8"
45	95	58	3	27'-0 1/2"	4	41'-5 1/8"
	85	72	2	25'-8 1/8"	3	39'-1 3/4"
	90	72	2	25'-8 1/8"	3	39'-1 3/4"
	95	72	3	29'-11 1/2"	3	39'-1 3/4"
	100	72	3	29'-11 1/2"	4	45'-10 3/4"
	105	72	3	29'-11 1/2"	4	45'-10 3/4"
48	110	72	4	34'-11 7/8"	4	45'-10 3/4"
	115	72	4	34'-11 7/8"	4	45'-10 3/4"
	90	77	2	26'-7 3/8"	3	40'-6 1/8"
	95	77	2	26'-7 3/8"	3	40'-6 1/8"
	100	77	3	31'-0 5/8"	3	40'-6 1/8"
	105	77	3	31'-0 5/8"	4	47'-6 3/4"
54	110	77	3	31'-0 5/8"	4	47'-6 3/4"
	115	77	4	36'-3 1/8"	4	47'-6 3/4"
	120	77	4	36'-3 1/8"	4	47'-6 3/4"
	105	86	3	32'-7 3/8"	3	42'-7 3/8"
	110	86	3	32'-7 3/8"	4	49'-11 1/2"
	115	86	3	32'-7 3/8"	4	49'-11 1/2"
63	120	86	4	38'-1"	4	49'-11 1/2"
	125	86	4	38'-1"	4	49'-11 1/2"
	130	86	4	38'-1"	5	58'-5 5/8"
	135	86	4	38'-1"	5	58'-5 5/8"
	115	101	3	35'-6 1/2"	4	54'-5 1/4"
	120	101	3	35'-6 1/2"	4	54'-5 1/4"
72	125	101	3	35'-6 1/2"	4	54'-5 1/4"
	130	101	4	41'-6"	4	54'-5 1/4"
	135	101	4	41'-6"	4	54'-5 1/4"
	140	101	4	41'-6"	5	63'-8 5/8"
	145	101	4	41'-6"	5	63'-8 5/8"
	135	115	4	44'-1 1/8"	4	57'-11"
72	140	115	4	44'-1 1/8"	4	57'-11"
	145	115	4	44'-1 1/8"	5	67'-9 3/8"
	150	115	4	44'-1 1/8"	5	67'-9 3/8"
	155	115	4	44'-1 1/8"	5	67'-9 3/8"
	160	115	5	49'-4 3/4"	5	67'-9 3/8"
	165	115	5	49'-4 3/4"	5	67'-9 3/8"

BEAM HAUNCH TABLE						
MIN SPAN DEPTH Dmid (IN)	SPAN LENGTH Lspan (FT)	HAUNCHED END DEPTH Dend (IN)	CASE 1		CASES 2 & 3	
			PARABOLA TYPE	LIMITS OF HAUNCH, X (FT)	PARABOLA TYPE	LIMITS OF HAUNCH, X (FT)
78	145	125	4	46'-1 7/8"	4	60'-6 5/8"
	150	125	4	46'-1 7/8"	4	60'-6 5/8"
	155	125	4	46'-1 7/8"	5	70'-10 3/8"
	160	125	4	46'-1 7/8"	5	70'-10 3/8"
	165	125	5	51'-7 3/4"	5	70'-10 3/8"
	170	125	5	51'-7 3/4"	5	70'-10 3/8"
	175	125	5	51'-7 3/4"	5	70'-10 3/8"
84	155	134	4	47'-7 3/8"	4	62'-5 3/8"
	160	134	4	47'-7 3/8"	5	73'-1"
	165	134	4	47'-7 3/8"	5	73'-1"
	170	134	5	53'-3 1/4"	5	73'-1"
	175	134	5	53'-3 1/4"	5	73'-1"
	180	134	5	53'-3 1/4"	5	73'-1"
	185	134	5	53'-3 1/4"	5	73'-1"
96	165	154	4	51'-3 3/8"	4	67'-3 1/8"
	170	154	4	51'-3 3/8"	5	78'-8 5/8"
	175	154	4	51'-3 3/8"	5	78'-8 5/8"
	180	154	5	57'-4 1/2"	5	78'-8 5/8"
	185	154	5	57'-4 1/2"	5	78'-8 5/8"
	190	154	5	57'-4 1/2"	5	78'-8 5/8"
	195	154	5	57'-4 1/2"	5	78'-8 5/8"

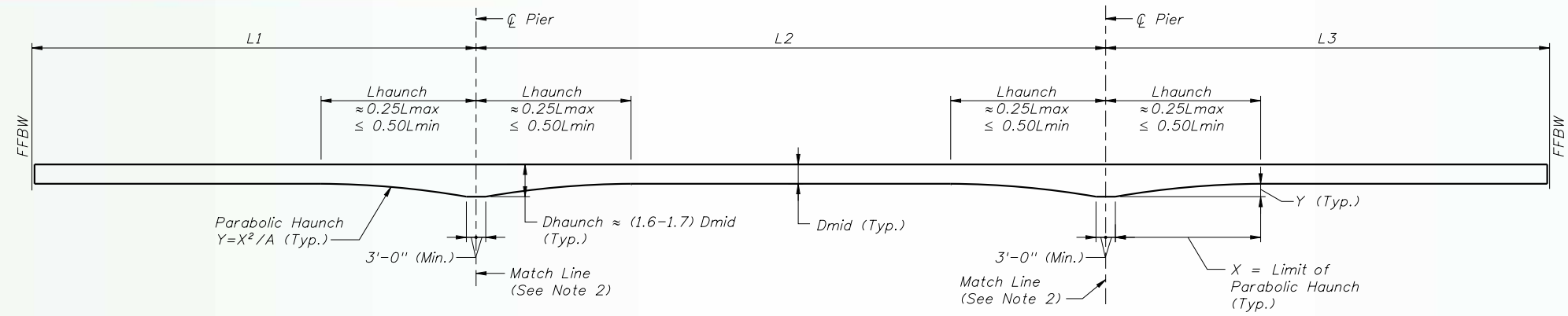
TABLE OF PARABOLA CONSTANT A (FT)		
PARABOLA TYPE	CASE 1	CASES 2 & 3
1	196	399
2	293	544
3	399	681
4	544	936
5	681	1282

NOTES:

1. Values in the Beam Haunch Table are applicable to simple span haunched FIB, FUB, rectangular or similar beams. Work this table with previous sheet.
2. When possible select values directly from the table. Do not interpolate values in the table. For span lengths not listed select the value of X from the nearest span length.
3. Where possible use the same Parabola Type. Values of A listed in the Table of Parabola Constants can be used to determine the geometry of any beam haunch for values not listed in the table.
4. These values were developed based on the parameters shown in the elevation views of previous sheet in order to keep uniformity between the beam haunches and limit the number of different parabolic shapes. When a different parabolic shape or haunched depth is required, considering staying within the limits shown in Sheet No. B-10 and/or utilizing one of the standard parabolas listed in the Table of Parabola Constant, A, where $Y = X^2/A$.

Beam Haunch Details

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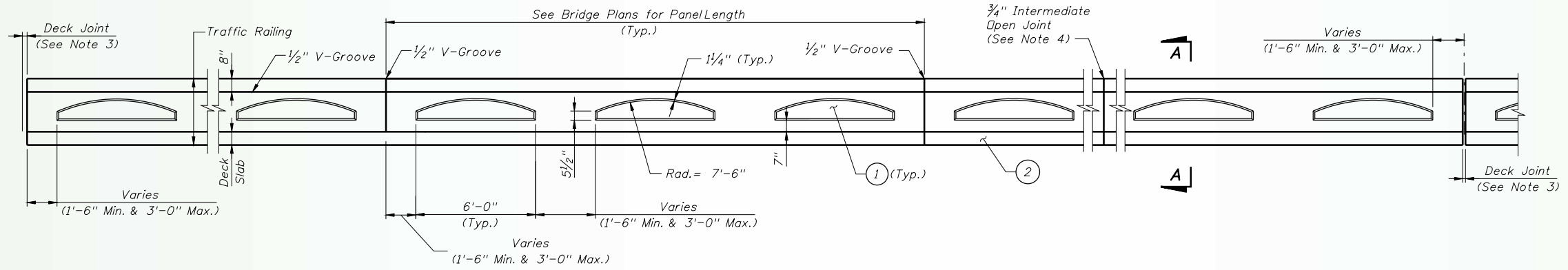
HAUNCHED BEAM AT SUPPORTS OF CONTINUOUS SPANS

NOTES:

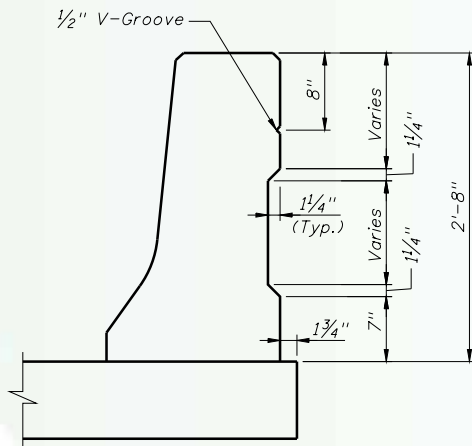
1. These are recommended aesthetic guidelines for beam haunches of continuous spans. For guidelines on beam haunches for simple spans see previous sheets.
2. To obtain the elevation for a 2-span bridge, overlap the match lines shown in the elevation view. To obtain the elevation for additional spans, add the segments between the match lines for each additional span needed.
3. L_{max} and L_{min} are the maximum and minimum spans lengths among all spans in the bridge.
4. Where possible use the same parabolic haunch. See Table of Parabola Constant A in previous sheets for use of standard parabolic haunches when feasible.

Traffic Railing Barrier

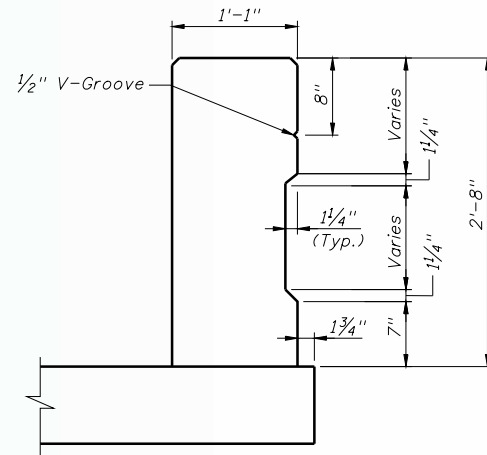
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PANEL LAYOUT



TRAFFIC RAILING 32" F-SHAPE



TRAFFIC RAILING 32" VERTICAL SHAPE

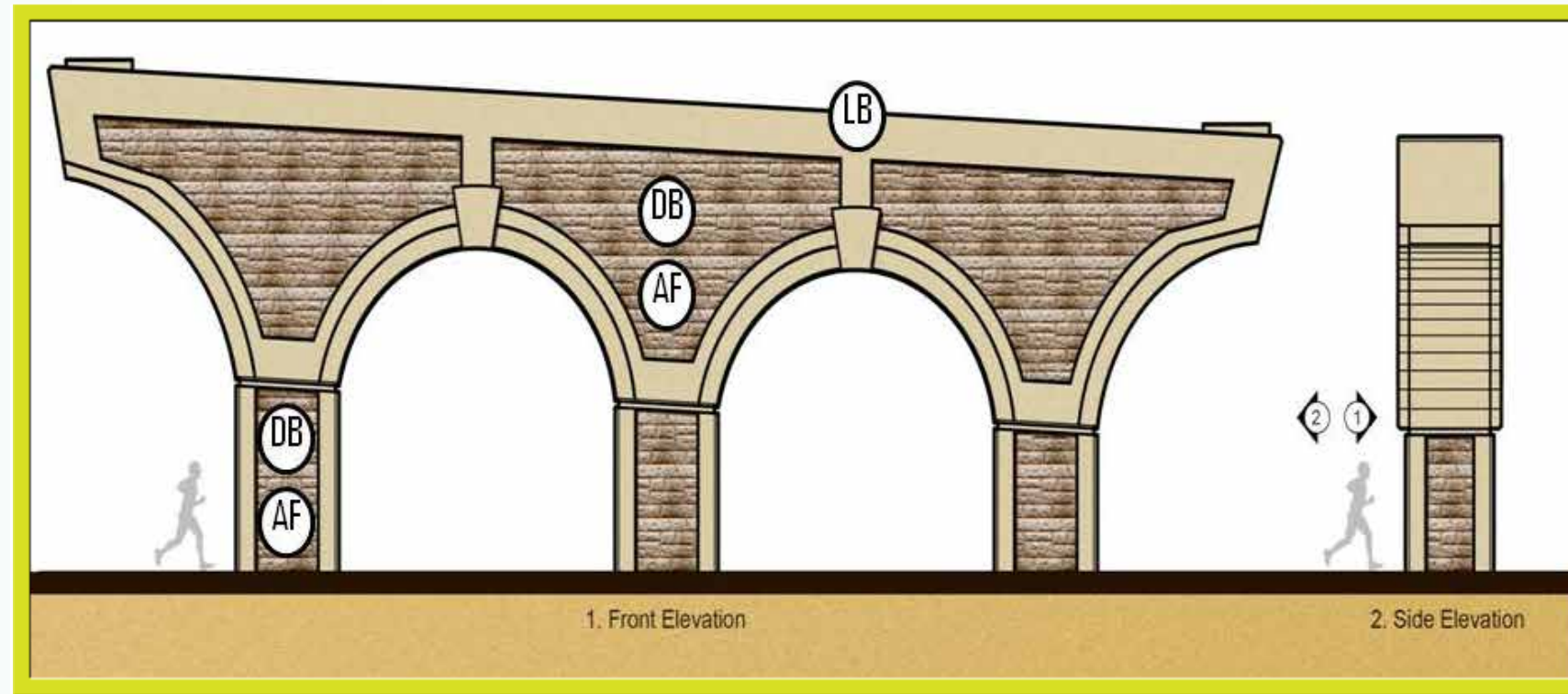
SECTION A-A

NOTES:

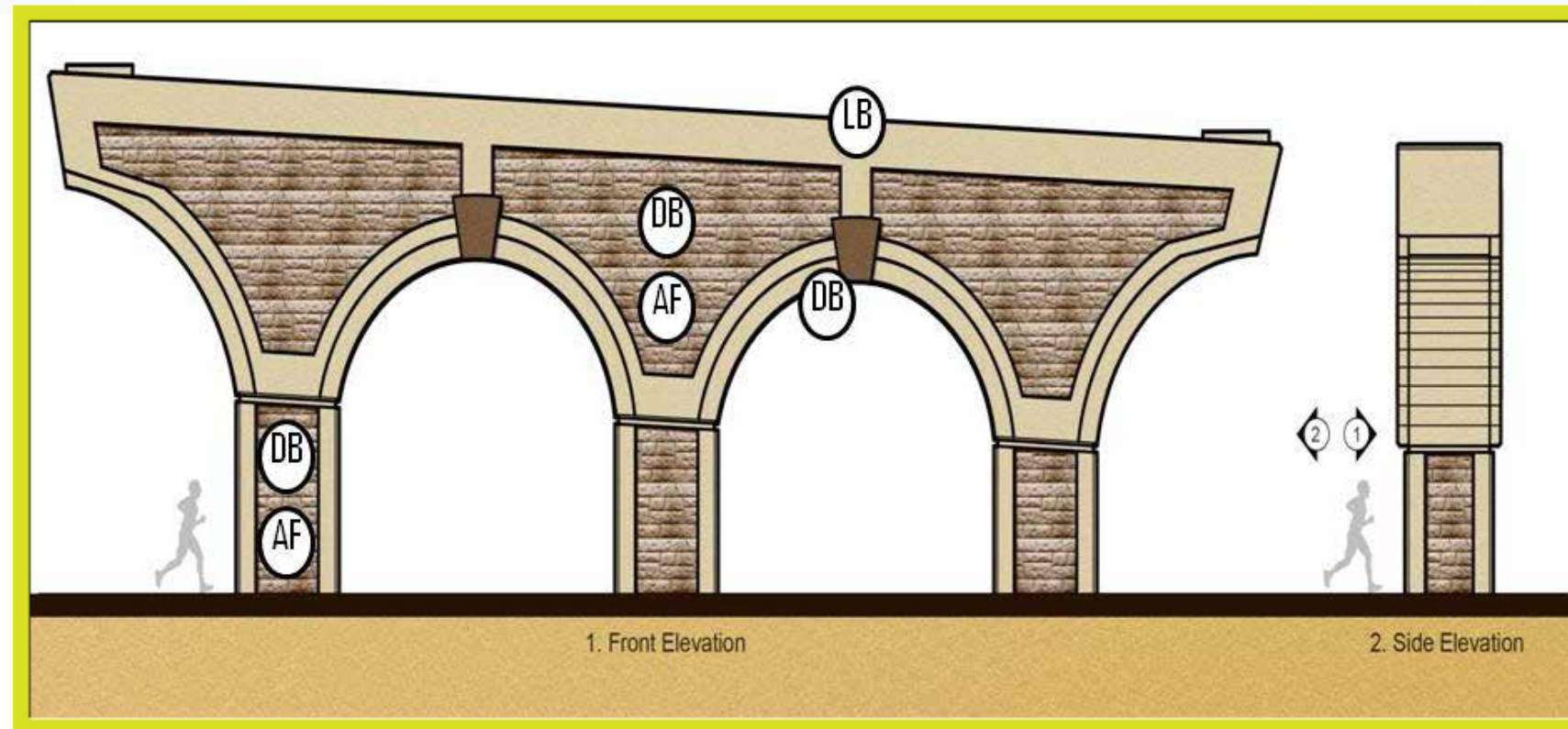
1. For Federal Color Nos. and surface treatments, see previous sheet.
2. Architectural treatment shown shall be used on exterior faces of all Bridge traffic railing barriers.
3. See Bridge Plans for Location and Orientation of Deck Joints. Open Barrier Joints at Deck Joint Locations shall match the dimensions of the Deck Joint.
4. 3/4" Intermediate Open Joints shall be located at the following locations:
 - Superstructure supports where slab is continuous
 - Ends of approach slabs when adjacent to retaining walls and at expansion joints on retaining wall junction slabs.

Pier Options

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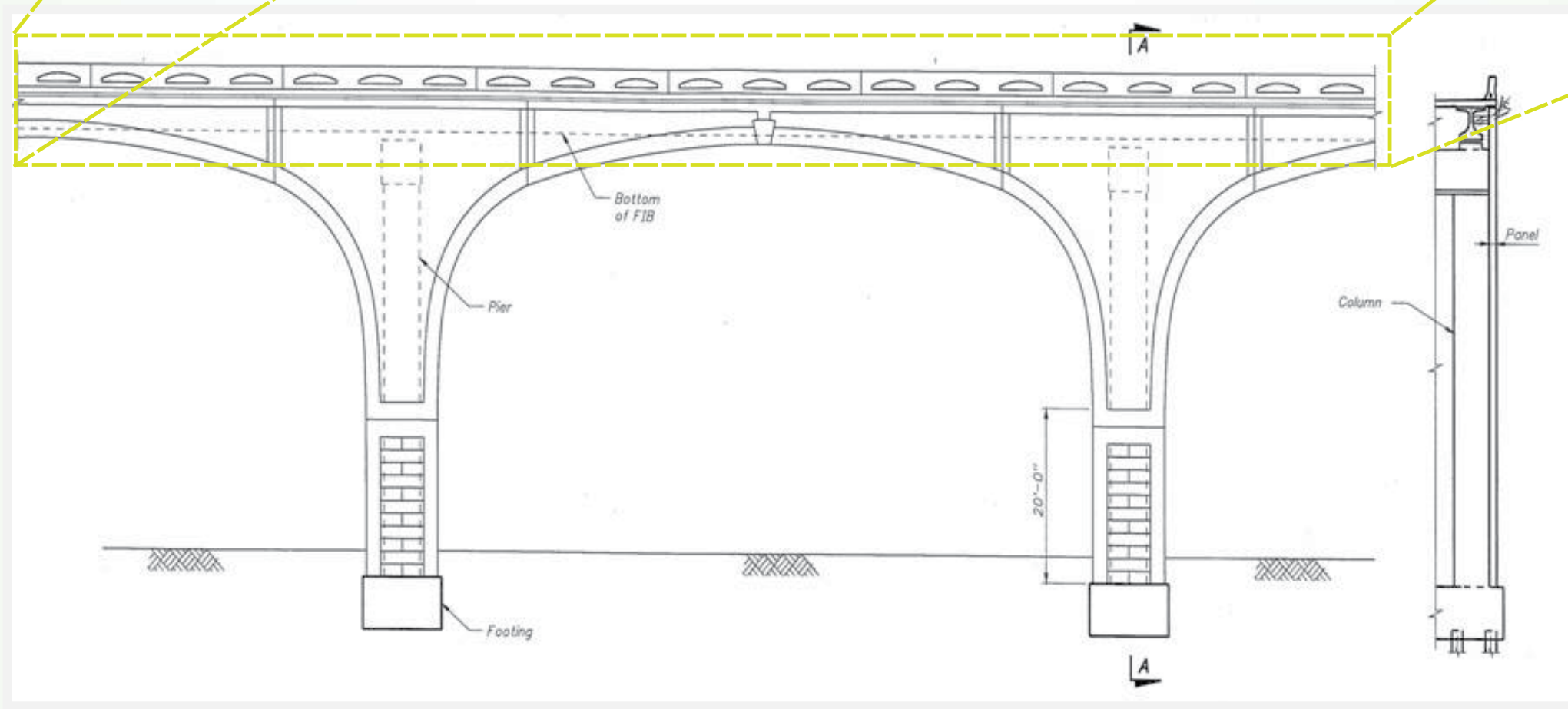
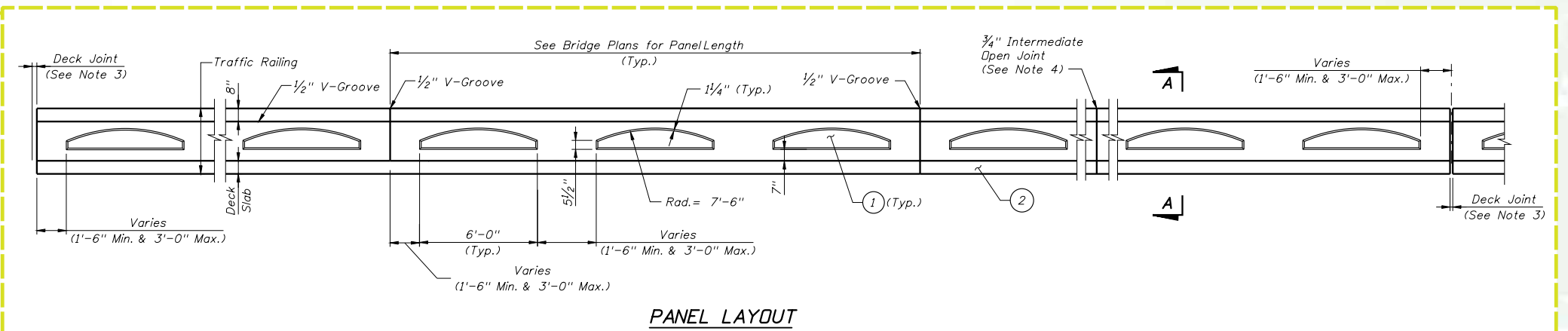


- Standard Colors**
 [Federal Standard Colors 595B (7/1994)]
- (LB) Light Brown (Color 33690)
 - (DB) Dark Brown (Color 33446)
 - (DG) Dark Green (Color 34227)
 - (AF) Ashlar Formliner



Pier Cladding Concept

- Pier Cladding to be considered at all bridge crossings where the structure can be viewed from some distance.
- Should be considered for wildlife crossings to reduce haunched beam costs.



Bridge Wall Options

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Tiered Wall



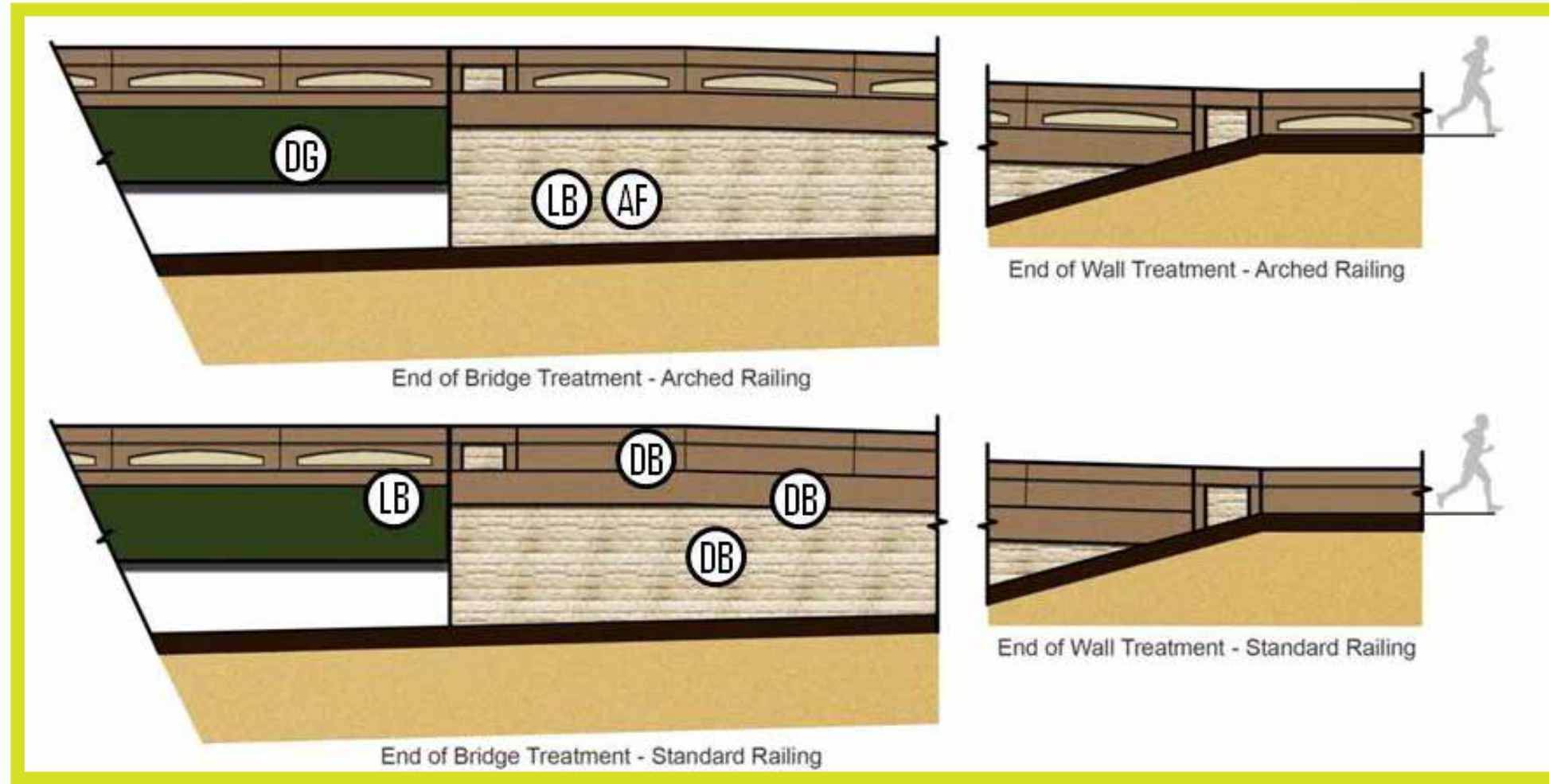
Tiered Wall



Frontage Road



Frontage Road



Retaining walls will appear throughout the “Parkway”. Typically, these walls will be associated with the elevated sections and proposed bridges, and are the key element that promotes a strong visual connection between all structural elements. These walls will be parallel to the roadway/bridges or wrap around under bridges as abutment walls. These wall types can be cast in place concrete or mechanically stabilized earth walls (MSE walls), and are made up of large concrete panels usually imprinted with a form liner texture during the manufacturing process. The concrete from liner proposed for this project’s wall panels is a large random ashlar stone pattern inset with a smooth finish border. The wall borders will be painted to match the bridge structures, the stone will be painted to mimic real stone veneer, and an anti-graffiti coating over the paint will reduce wall maintenance. Coping is required on MSE or cast in place walls and will aid in the continuity of design.

Concrete post and panel walls are generally used for sound attenuation, or a visual barrier, and are referred to as “sound walls”. There are a number of places along the “Parkway” where sound walls are required. If used, the wall texture, and paint scheme will match the MSE walls at the bridges.

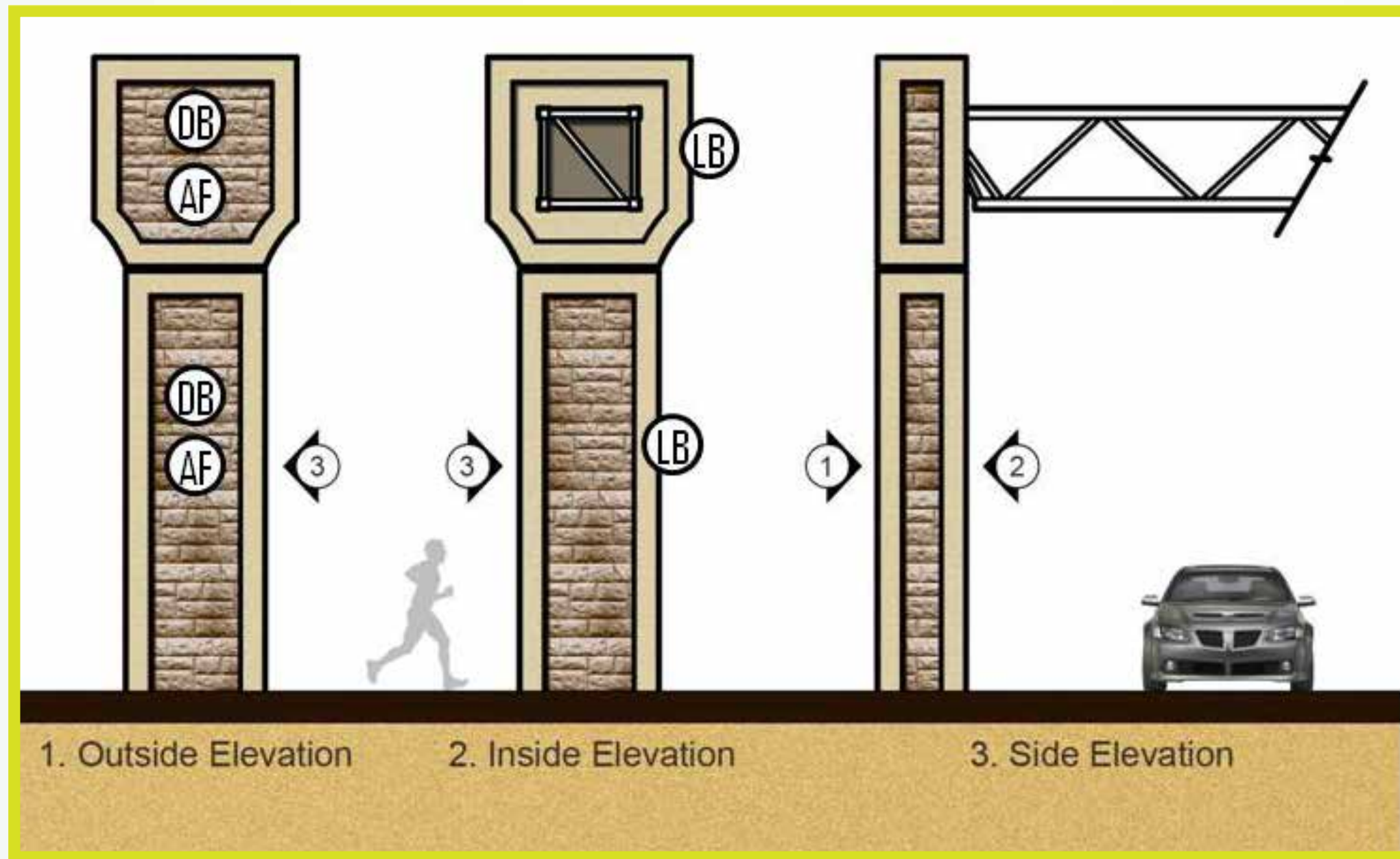
Standard Colors

[Federal Standard Colors 595B (7/1994)]

- (LB) Light Brown (Color 33690)
- (DB) Dark Brown (Color 33446)
- (DG) Dark Green (Color 34227)
- (AF) Ashlar Formliner

Gantry Support Option

TBG0603130421120RL



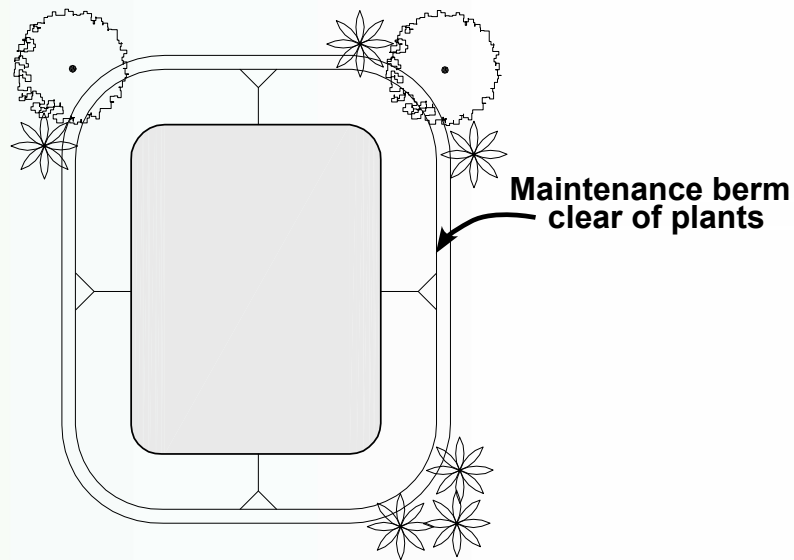
Standard Colors
 [Federal Standard Colors 595B (7/1994)]

- (LB) Light Brown (Color 33690)
- (DB) Dark Brown (Color 33446)
- (DG) Dark Green (Color 34227)
- (AF) Ashlar Formliner

As previously discussed, the toll gantry support columns shall match the other structural elements within a given section in terms of pattern, color, and finish. The design engineer shall design steel support columns with non-structural aesthetic panel treatments for each toll gantry location. Design guidelines and criteria will be provided by the District prior to commencement of design. Additional details regarding the landscaping around gantry locations are provided later in this master plan.

Pond Treatments

The Wekiva Parkway will incorporate approximately 50 Storm water ponds of differing sizes and configurations. These ponds will be viewed as aesthetic elements as well as functional. Traditionally, storm water ponds are designed to maximize a specific space. The land area obtained for these water storage areas is usually square or rectangular in shape; hence the ponds end up square or rectangular. Because of the aesthetic nature of the “Parkway,” storm water ponds are to be developed with perimeter landscape plantings organized in a natural manner to mimic the surrounding natural vegetative habitats.



Weathered Steel

The use of weathered steel should be explored for both guard rail and bridge beam alternatives on each section. The decision to use or not use weathered steel will be made by the FDOT.



Guard Rail



Bridge Beams

City Logos

The City of Sanford is interested in applying their city logo as an accent in bridge structures in order to bring attention to the city, identify city limits in its relation to the Parkway, and for city branding. This aesthetics plan recognizes the stakeholders input and is including this image and description for informational purposes only.



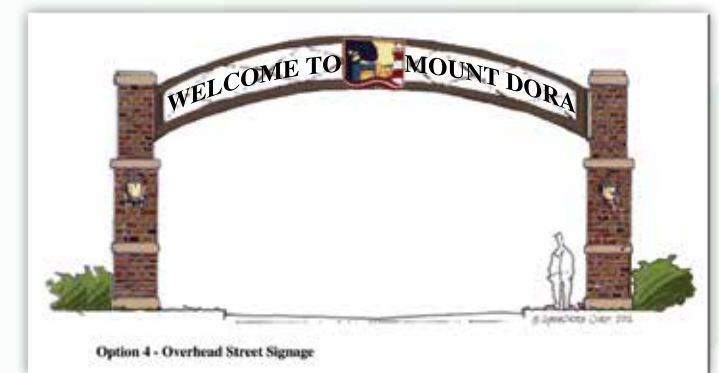
The FDOT does not engage in marking structures with logos or signs identifying products, municipalities, etc. not related to highway wayfinding signage. The City is required to obtain approval from FDOT, for the application of logos or city identifying signs, either on bridge structures or as standalone monuments within state rights of way.

Mount Dora Archway

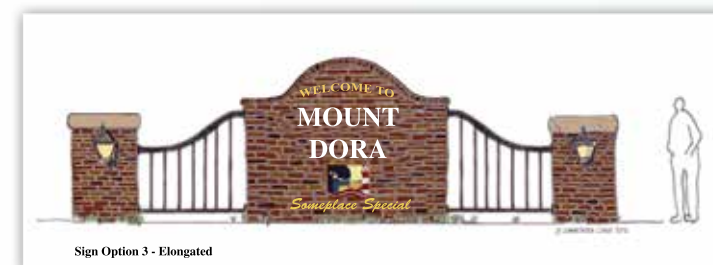
The City of Mount Dora has developed a series of gateway features that will be installed along US 441 approaching the City. The section 3A and 3B design teams shall coordinate with the City to insure that accommodation on these sections is made for these features. The signs and archways will be designed, manufactured, and constructed by the City of Mount Dora.



Option 3



Option 4 - Overhead Street Signage



Sign Option 3 - Elongated

Structural Aesthetics

Other

FDOT Bold Landscape Initiative

The FDOT highway beautification policy is to conserve, protect, restore, and enhance Florida's natural resources and scenic beauty, by utilizing color, texture, pattern, and form to develop naturally beautiful and enjoyable transportation corridors.

The Bold Landscape Initiative was developed by FDOT as a program with established landscape guidelines that promote sustainable memorable landscapes that are consistent, predictable, and repeatable, with an approach that produces the highest visual impact and sense of place, at the lowest cost possible.

The guidelines include the mixed use of large palms and tall trees with the emphasis on the use of accent species and few shrubs, if any, and conservation and management of existing trees. Shrubs may be designated only at areas on a slope, or where screening is necessary for reflecting community commitments. Large palms and tall tree species shall be generously placed at the most highly traveled locations, while set back areas of the right-of-way are to include a greater number of smaller sized inexpensive trees that will grow large and reforest roadsides. To reduce mowing area and frequency, where applicable, areas shall be designated for Florida wild flower plantings.

Surface Treatments

Within landscaped areas there are three types of surface treatments applied for this "Parkway theme. Shredded wood mulch is recommended for all planting areas because of its beneficial properties including reduction of soil moisture evaporation, reduction of temperature fluctuations, discourage weed growth, and soil improvement through decomposition. Only non-dyed, natural wood mulch other than Cypress



Shredded wood Mulch



Turf Grass (Sod)

should be included in the design. Turf Grass sod will be applied to all non-paved areas within the "Parkway" right-of-way limits, which are not planted with trees, palms, or shrubs, including storm water ponds and rural roadway medians. Rounded river rock is recommended as a decorative element to be applied in areas where vegetation has a potential growth difficulty and is impractical for wood mulch application, including under bridges or on steep

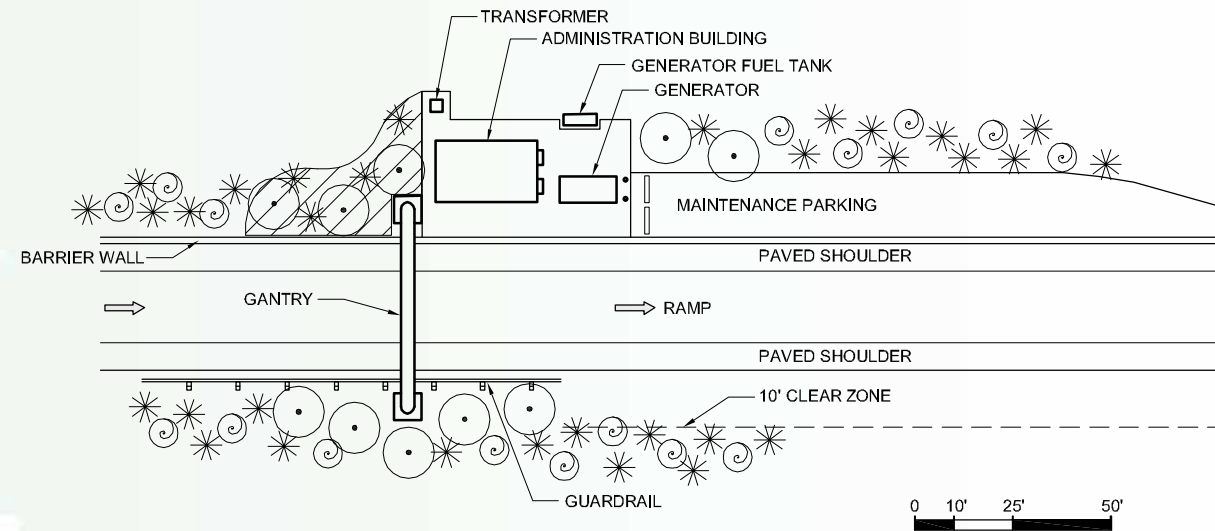
slopes. Gravel sizes can range from 2 inches and larger depending on design intent, availability, and budget.



Gravel Mulch (Accent)

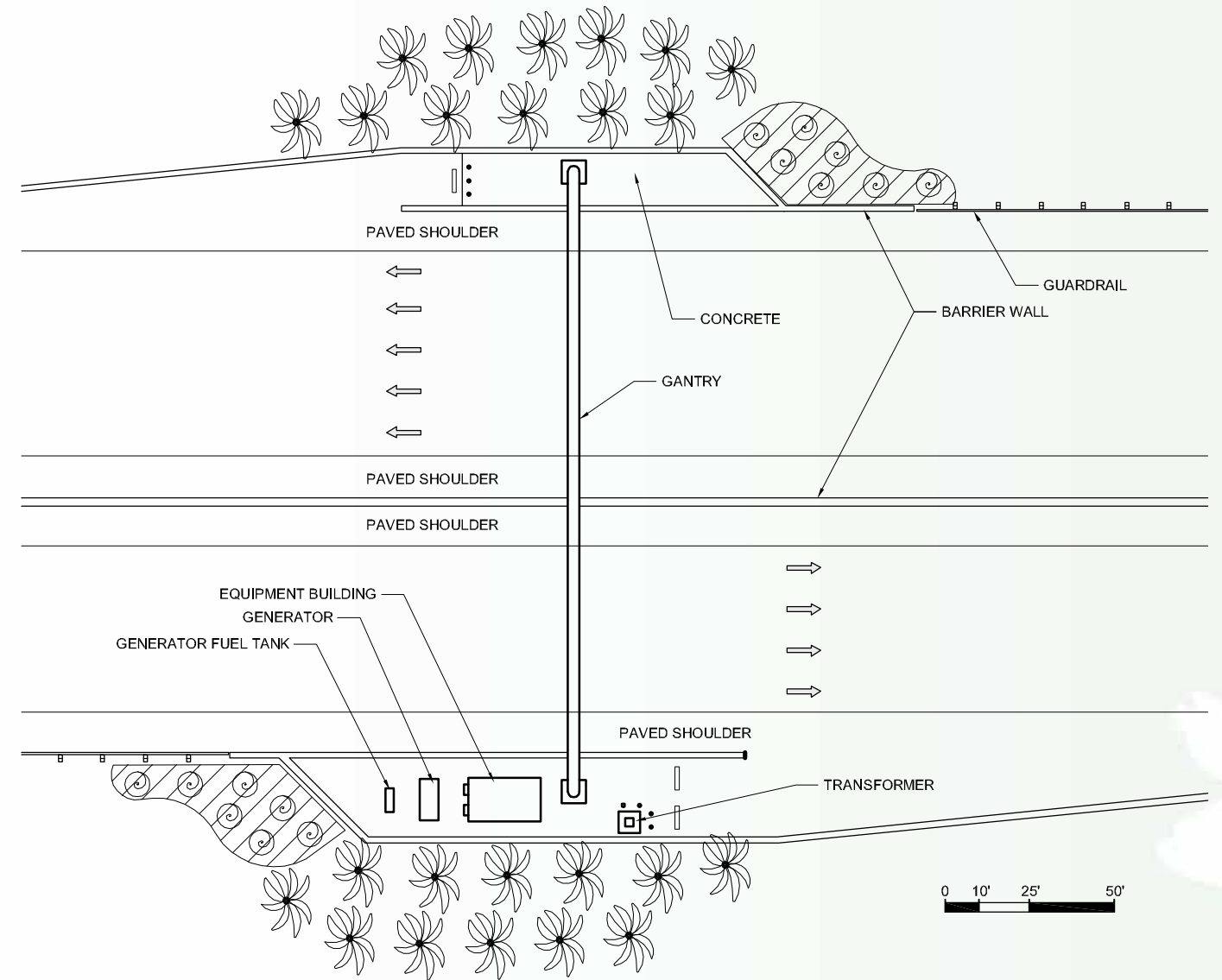
Gantry Concept

TEG060313042120RL



PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
⊙	Sabal Palmetto - Sabal Palm	12' - 14' CT MIN.
✱	Chamaerops humilis - European Fan Palm	5' - 6' OA
⊙	Butia capitata - Pindo Palm	6'-8' OA
▨	Leucophyllum frutescens - Texas Sage	3 GAL, 24" x 24", 3' OC

TYPICAL RAMP GANTRY DESIGN OPTION



PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
✱	Phoenix canariensis - Canary Island Date Palm	12' - 14' CT MIN.
⊙	Lagerstroemia indica - Crepe Myrtle	6'-8' OA
▨	Leucophyllum frutescens - Texas Sage	3 GAL, 24" x 24", 3' OC

TYPICAL MAINLINE GANTRY DESIGN OPTION

Concept Guideline - Sections 3A

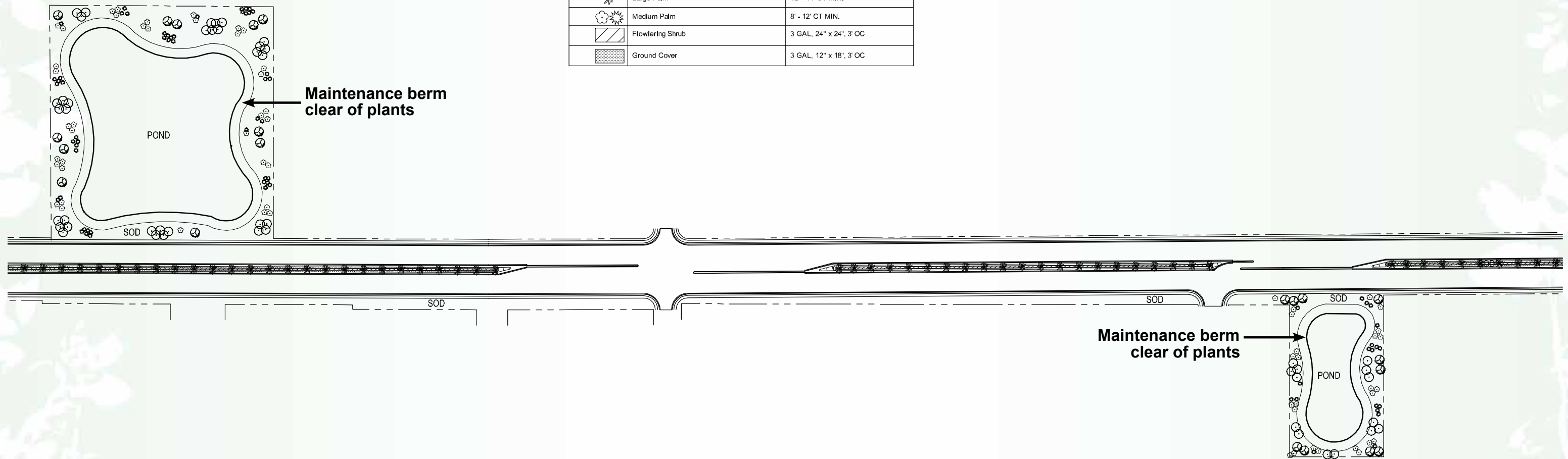
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Section 3A (SR 46 from Vista View Lane to Round Lake Road)

This existing rural section will include widening to a 6 lane roadway. The landscape improvements are intended to comply with the FDOT's "Bold" Initiative and will include wide planted medians with rows of large palms and accent trees, minimizing the use of flowering shrubs, and decorative ground cover. As viewed from adjacent properties, the masses of low level median plantings will screen views of distant pavement resulting in an illusion of a smaller suburban roadway. Around the storm water collection ponds, tree and palm groupings framed with sodded/grassed pond banks and large grassy upland areas will mimic a natural setting.

SECTION 3A TYPICAL LANDSCAPE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Tree	14' - 16' OA, 4" Cal.
	Large Palm	12' - 14' CT MIN.
	Medium Palm	8' - 12' CT MIN.
	Flowering Shrub	3 GAL, 24" x 24", 3' OC
	Ground Cover	3 GAL, 12" x 18", 3' OC



Concept Guideline - Sections 3B

TBG0603130421120RL

Section 3B (SR 46 from US 441 to Vista View Lane)

This suburban section is considered the gateway to Mt. Dora. This section will include interchange improvements, a new bridge structure with patterned MSE panel walls. Landscape improvements should include large tree and large palm planted medians, and bridge column and abutment screening with minimal flowering shrub and ground cover islands. The bridge approaches will be identified with rows of large palms. MSE panel walls will be screened with medium palms and large shrubs, and tree and palm groupings around the storm water collection ponds that mimic a natural setting, framed with sodded/grassed pond banks and large grassy upland areas between tree and palm groupings. The stakeholders propose building an at grade entrance sign feature as described in this aesthetics guideline.

US 441

SECTION 3B TYPICAL INTERCHANGE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Palm	12' - 14' CT MIN.
	Medium Palm	8' - 12' CT MIN.
	Large Tree	14' - 16' OA, 4" Cal.
	Medium Accent Tree	6'-8' OA
	Large Shrub	4' OA
	Flowering Shrub	3 GAL, 24" x 24", 3' OC
	Ground Cover	3 GAL, 12" x 18", 3' OC

SR 46

Maintenance berm clear of plants

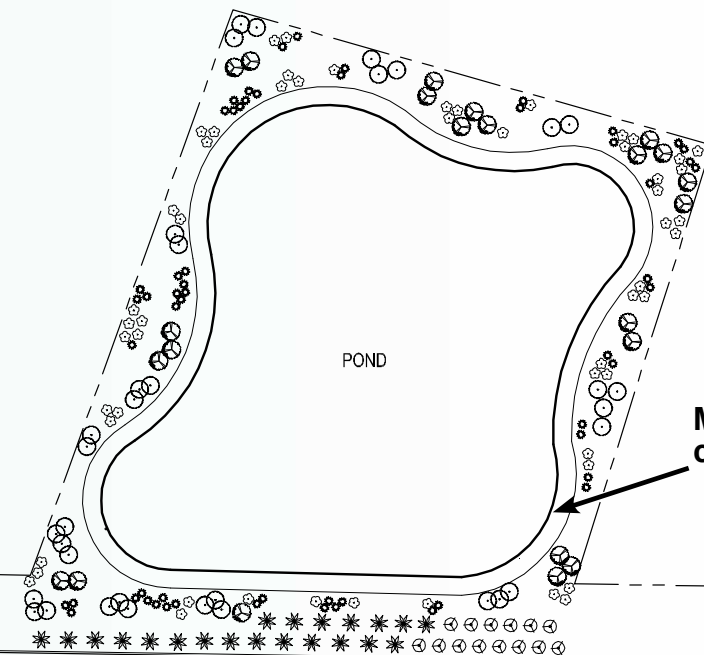
Concept Guideline - Sections 4A & 4B

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Section 4A & 4B (SR 429 from CR 435 to SR 46)

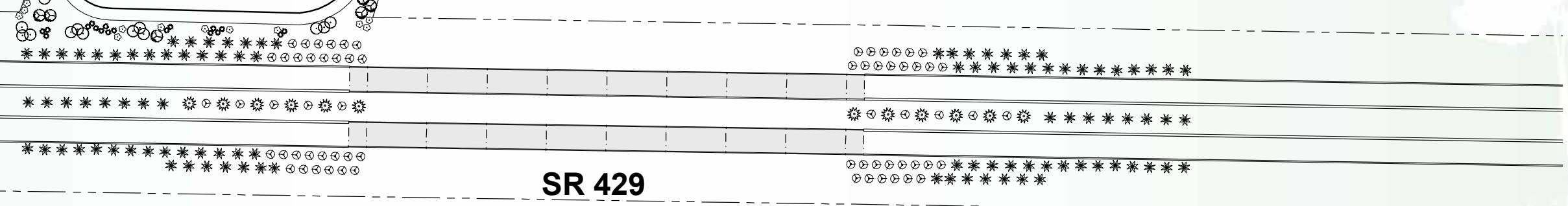
These rural sections are considered environmentally sensitive with natural habitat programmed for preservation. These sections will include roadway improvements, new bridge structures, and a toll gantry in Section 4B. Landscape improvements start with selective demolition with special attention paid to preserving as much of the existing native habitat as possible. Large palm groupings will frame the bridge approaches and gantry structures. Naturally shaped storm water ponds will be rimmed with natural looking tree, palm and shrub plantings that mimic the natural forested area surrounding them.

SECTION 4 TYPICAL LANDSCAPE DESIGN OPTION



Maintenance berm
clear of plants

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Palm	12' - 14' CT MIN.
	Medium Palm	8' - 12' CT MIN.
	Large Tree	14' - 16' OA, 4" Cal.



SR 429

Concept Guideline - Section 5

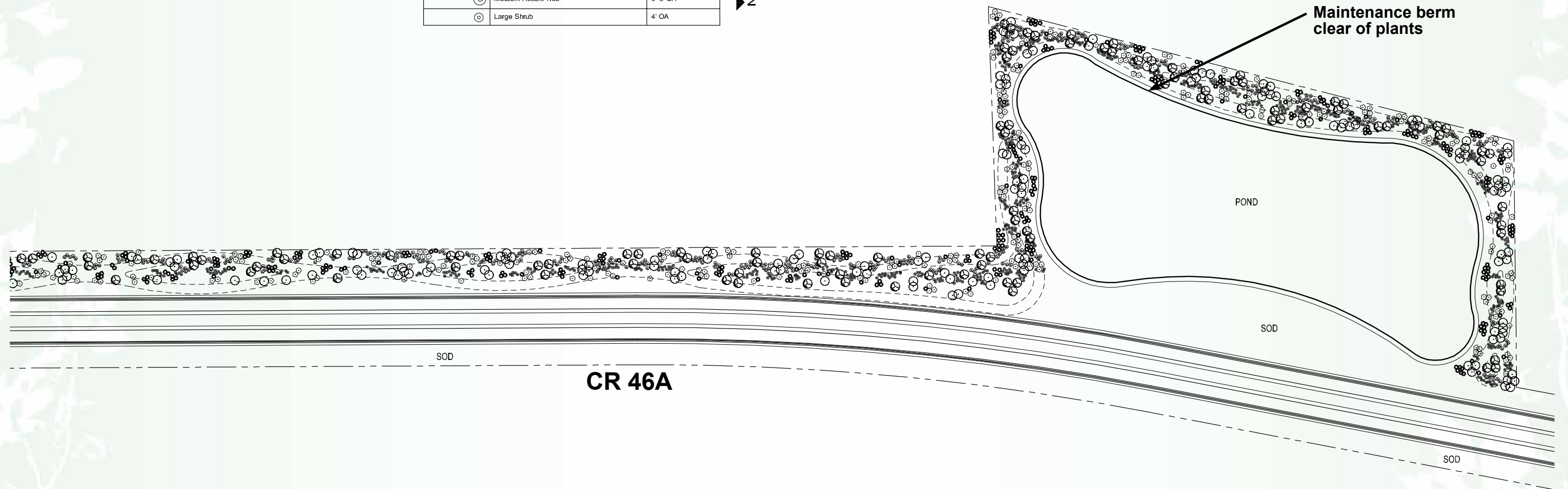
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Section 5 (New roadway between CR 46A Re-alignment and SR 46)

This rural section is considered residentially sensitive with natural habitat to the east programmed for selective clearing and preservation of native vegetation. Along the west side of the proposed roadway is a residential development interested in visual and sound buffering between the properties and the new roadway. Landscape improvements start with selective clearing with special attention paid to preserving as much of the existing native habitat as possible. On the west side of the roadway, adjacent to the residential area, a minimum of a 100 foot wide buffer with a continuous undulating berm will be provided as a sound attenuation feature. The buffer/berm will be planted densely with trees, palms and shrubs as a sound masking feature. The buffer will incorporate three naturally shaped storm water ponds rimmed on the residential sides with plantings that mimic the bermed and planted roadway buffer.

SECTION 5 TYPICAL LANDSCAPE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Tree	14' - 16' OA, 4" Cal.
	Medium Palm	8' - 12' CT MIN.
	Medium Accent Tree	6'-8' OA
	Large Shrub	4' OA



Concept Guideline - Section 6

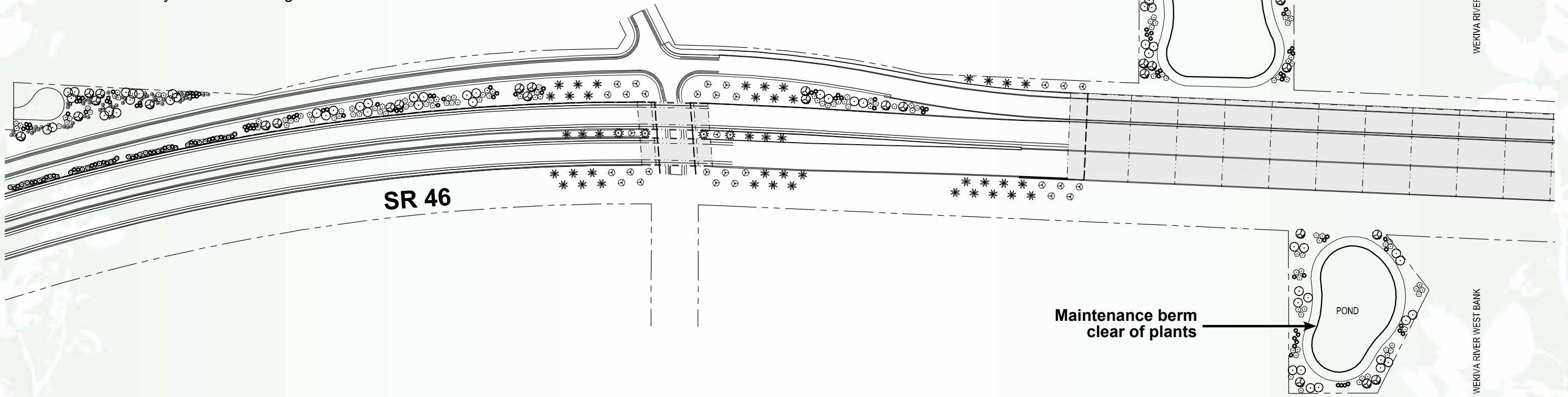
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Section 6 (SR 429 from west of Old McDonald Road and Wekiva River Road)

This rural section is within a sensitive and natural vegetative and riparian habitat programmed for selective clearing and preservation of native vegetation. This section will include an elevated 6-lane roadway supported with patterned MSE panel walls, a service road and a toll gantry. Landscape improvements will be minimal but necessary were special attention needs to be paid to enhancing and expanding existing native habitat. Large palm groupings will frame the bridge approaches and gantry structures. Naturally shaped storm water ponds will be rimmed with natural looking tree, palm and shrub plantings that mimic the natural forested area surrounding them. Wild life fencing will be provided along right of way limits where animal conflicts may occur on frontage roads.

SECTION 6 TYPICAL LANDSCAPE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Palm	12' - 14' CT MIN.
	Medium Palm	8' - 12' CT MIN.
	Large Tree	14' - 18' OA, 4" Cal.
	Medium Accent Tree	6' - 8' OA
	Large Shrub	4' OA



Concept Guideline - Sections 7A

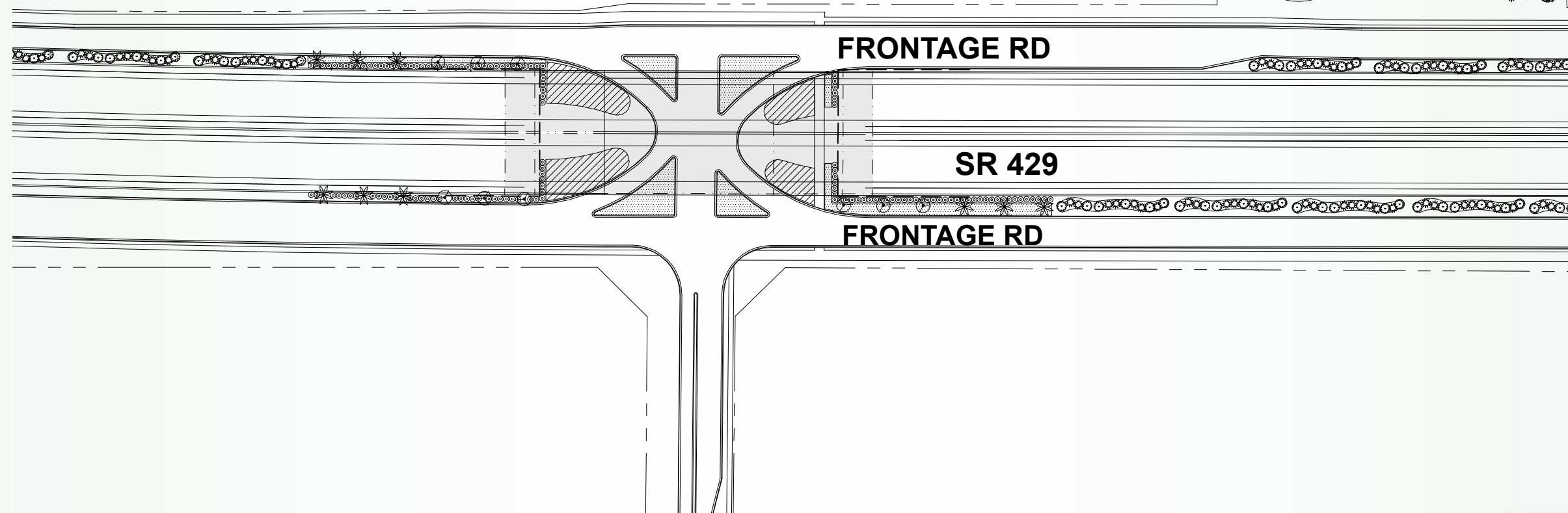
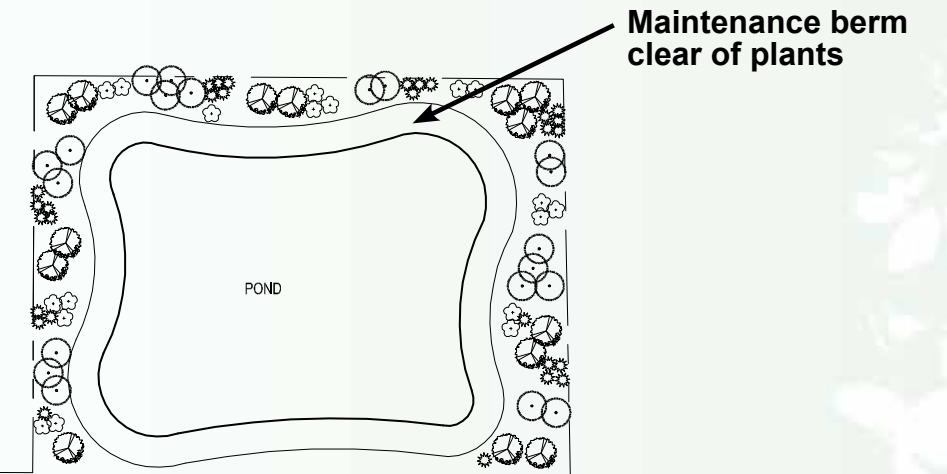
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Section 7A (SR 429 from Wekiva Road to Orange Boulevard)

This suburban section will include an elevated 6-lane roadway with MSE panel walls, two frontage roads and two ramp gantries. The landscape improvements will be minimal due to the restricted right of way area, but will include MSE wall and bridge abutment screening.

SECTION 7A TYPICAL LANDSCAPE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Palm	12' - 14' CT MIN.
	Medium Palm	8' - 12' CT MIN.
	Large Tree	14' - 16' OA, 4" Cal.
	Medium Accent Tree	6'-8' OA
	Large Shrub	4' OA
	Flowering Shrub	3 GAL., 24" x 24", 3' OC
	Ground Cover	3 GAL., 12" x 18", 3' OC






Concept Guideline - Sections 7B

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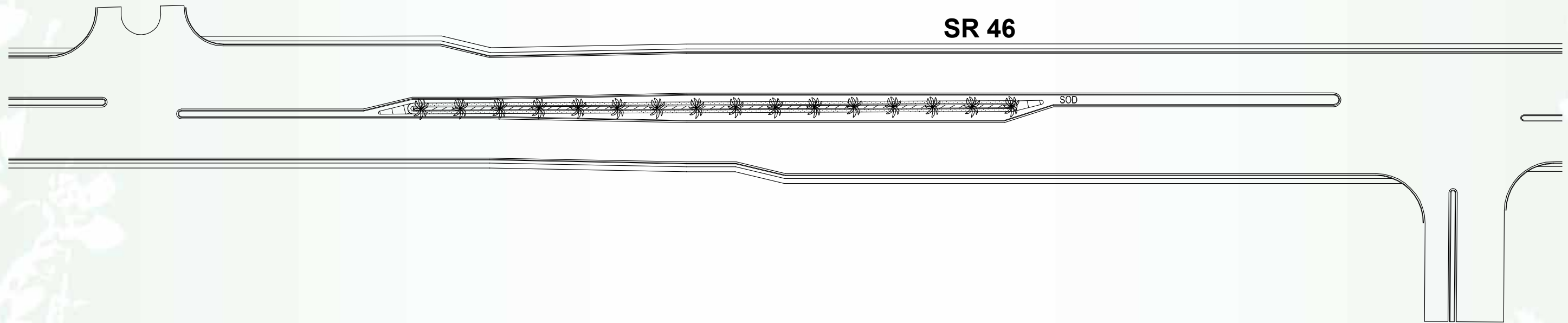
Section 7B (SR 46 from Center Road to the I-4 interchange)

This suburban section will include an at-grade 6-lane divided roadway with medians. The landscape improvements will be minimal due to the restricted right of way area, but will include wide planted medians with rows of large palms and accent trees, minimizing the use of flowering shrubs, and decorative ground cover. As viewed from adjacent properties, the masses of low level median plantings will screen views of distant pavement resulting in an illusion of a smaller suburban roadway.

SECTION 7B TYPICAL MEDIAN LANDSCAPE DESIGN OPTION

PLANT LIST		
SYMBOL	SPECIES	SIZE / REMARKS
	Large Palm	12" - 14' CT MIN.
	Flowering Shrub	3 GAL, 24" x 24", 3' OC
	Ground Cover	3 GAL, 12" x 18", 3' OC

N

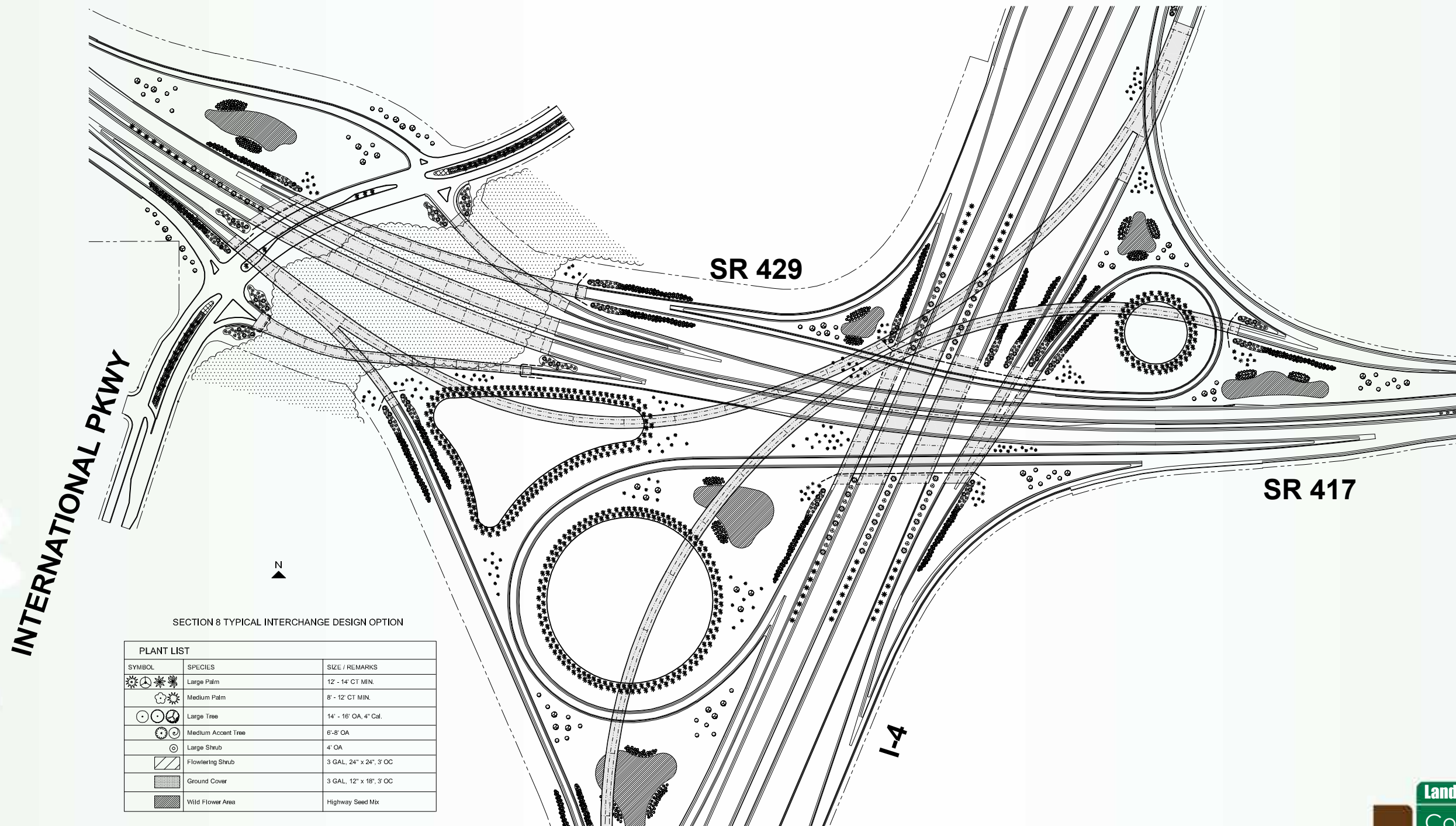


Concept Guideline - Section 8

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Section 8 (SR 429 from Orange Boulevard to Rinehart Road, including I-4 interchange)

This I-4 interchange has the highest visibility and will be considered the gateway to the "Parkway" to the west and Sanford to the east. This section will include multi-lane interchange improvements, multiple bridges of different elevations and a toll gantry west of the interchange. Landscape improvements should consider bridge column and abutment screening, bridge approaches identified with rows of large palms. MSE panel walls should be screened with tree and shrub groupings, storm water collection ponds with perimeter plantings, and designated wild flower planting areas. Some areas will remain grassy upland areas with random plantings of shade trees and palm groupings.




















Potential Plant List

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Landscaping is one of the most visually apparent elements in roadway design. It softens the harsh lines of an engineered roadway, helping it fit into its natural surroundings. The landscape also serves to screen unsightly structures, beautify, mask noise, reduce glare, provide visual landmarks, and in the case of this project, promote the character of a region by enhancing the “Parkway” feel through environmentally sensitive improvements.

This landscape palette is a guideline for the planting design. A plant palette has been created, for each particular roadway segment, in a response to the particular need of creating a continuous “Parkway”. Each of the potential plant species has been selected based upon the following characteristics:

- Native or naturalized species
- Ability to soften urbanized elements
- Proven hardiness and success rates
- Portray the area’s natural environment and character
- Serve a function of scale
- Sustainability

SECTION 3A	SECTION 3B	SECTION 4A & 4B	SECTION 5
<p>Open Pasture & Orange Groves</p> <p><i>Trees</i> Bald Cypress* (Wetland pockets) Red Maple* (Wetland pockets) Southern Red Cedar* Live Oak*</p> <p><i>Palms</i> Sabal Palm*</p> <p><i>Shrubs</i> Saw Palmetto (Blue & Green)*</p>    	<p>441 Interchange</p> <p><i>Trees</i> Bald Cypress* (Ponds) Red Maple* (Ponds) Live Oak* Southern Red Cedar Crepe Myrtle</p> <p><i>Palms</i> Sabal Palm* Date Palm</p> <p><i>Shrubs</i> Yaupon Holly* Sand Chord Grass* Wax Myrtle</p>   	<p>Open Pasture</p> <p><i>Trees</i> Bald Cypress* (Wetland pockets) Red Maple* (Wetland pockets) Southern Red Cedar* Live Oak* Slash Pine* Longleaf Pine*</p> <p><i>Palms</i> Sabal Palm*</p> <p><i>Shrubs</i> Saw Palmetto (Blue & Green)* Wax Myrtle*</p>    	<p>Open Pasture</p> <p><i>Trees</i> Bald Cypress* (Wetland pockets) Southern Red Cedar* Live Oak* (Dominant Species) Slash Pine* (Dominant Species) Longleaf Pine* Winged Elm Crepe Myrtle</p> <p><i>Palms</i> Sabal Palm*</p> <p><i>Shrubs</i> Saw Palmetto (Blue & Green)* Oleander Oleander Wax Myrtle Yaupon Holly Agave Sp. Coontie Firecracker Plant Dwarf Fakahatchee Grass Fakahatchee Grass Plumbago Pampas Grass Texas Sage Muhley Grass Walter's Viburnum</p>      

*Denotes existing plant species in corridor

Potential Plant List (continued)

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SECTION 6

Parkland/Wildlife Fencing

Trees

Bald Cypress* (River Banks)
 Red Maple* (River Banks)
 Southern Red Cedar*
 Live Oak* (Dominant Species)
 Slash Pine* (Dominant Species)
 Longleaf Pine*

Palms

Sabal Palm*

Shrubs

Saw Palmetto (Blue & Green)*
 (Dominant Species)
 Wax Myrtle*
 Pampas Grass
 Fakahatchee Grass
 Muhley Grass



MUHLEY GRASS



FAKHATCHEE GRASS



BALD CYPRESS



PAMPAS GRASS

SECTION 7A & 7B

Rural Roadway

Trees

Live Oak*
 Slash Pine* (Dominant Species)
 Longleaf Pine*

Palms

Sabal Palm*

Shrubs

Saw Palmetto (Blue & Green)*
 Winged Elm
 Crepe Myrtle
 East Palatka Holly
 Oleander
 Walter's Viburnum
 Yaupon Holly
 Agave
 Coontie
 Firecracker Plant
 Dwarf Fakahatchee Grass

Fakahatchee Grass
 Dwarf Oleander
 Plumbago
 Pampas Grass
 Te
 Parsons Juniper
 Muhley Grass
 Coontie
 Dwarf Yaupon Holly
 Cardboard Plant
 Walter's Viburnum



PENTAS



DWARF OLEANDER

SECTION 8

I-4 Interchange

Trees

Southern Magnolia*
 Mahogany*
 Live Oak*
 Slash Pine*
 Longleaf Pine*
 Southern Red Cedar
 Winged Elm
 Crepe Myrtle

Palms

Sabal Palm*
 Date Palm

Shrubs

Saw Palmetto (Blue & Green)*



SO. MAGNOLIA



WINGED ELM



BISMARK PALM



WAX MYRTLE

Wild Flowers

Florida Native Wild Flower Species (All available areas)

Gallardia aristata
 Gallardia pulchella
 Rudbeckia hirta
 Coreopsis lanceolata
 Helianthus debilis

Common Gallardia
 Blanket Flower
 Black-eyed Susan
 Lanceleaf Coreopsis
 Dune Sunflower

Plants lists are derived from:

UF "Florida Friendly Plant List 2006"
 SJWMD "Plants for Waterwise Landscaping" 2013
 FDOT & FTPA



GALLARDIA A.



GALLARDIA P.



DUNE SUNFLOWER



BLACK-EYED SUSAN



LANCELEAF COREOPSIS

*Denotes existing plant species in corridor

Budget - Base Line Concept Cost

The FDOT landscape budget is estimated based on 1.5% of the overall construction budget. Other landscape elements included within these costs are mulching, staking, and maintenance during construction, including watering, fertilizer, weeding, and grass cutting. Clearing, grubbing, environmental mitigation, application of top soil, seed, and sod is not included because they are part of the roadway and structures budget. The last item typically associated with a budget, but not included, is the plant warranty. This item will be decided upon and unit prices will be amended during the design phase. No permanent automatic irrigation system is part of this project.

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