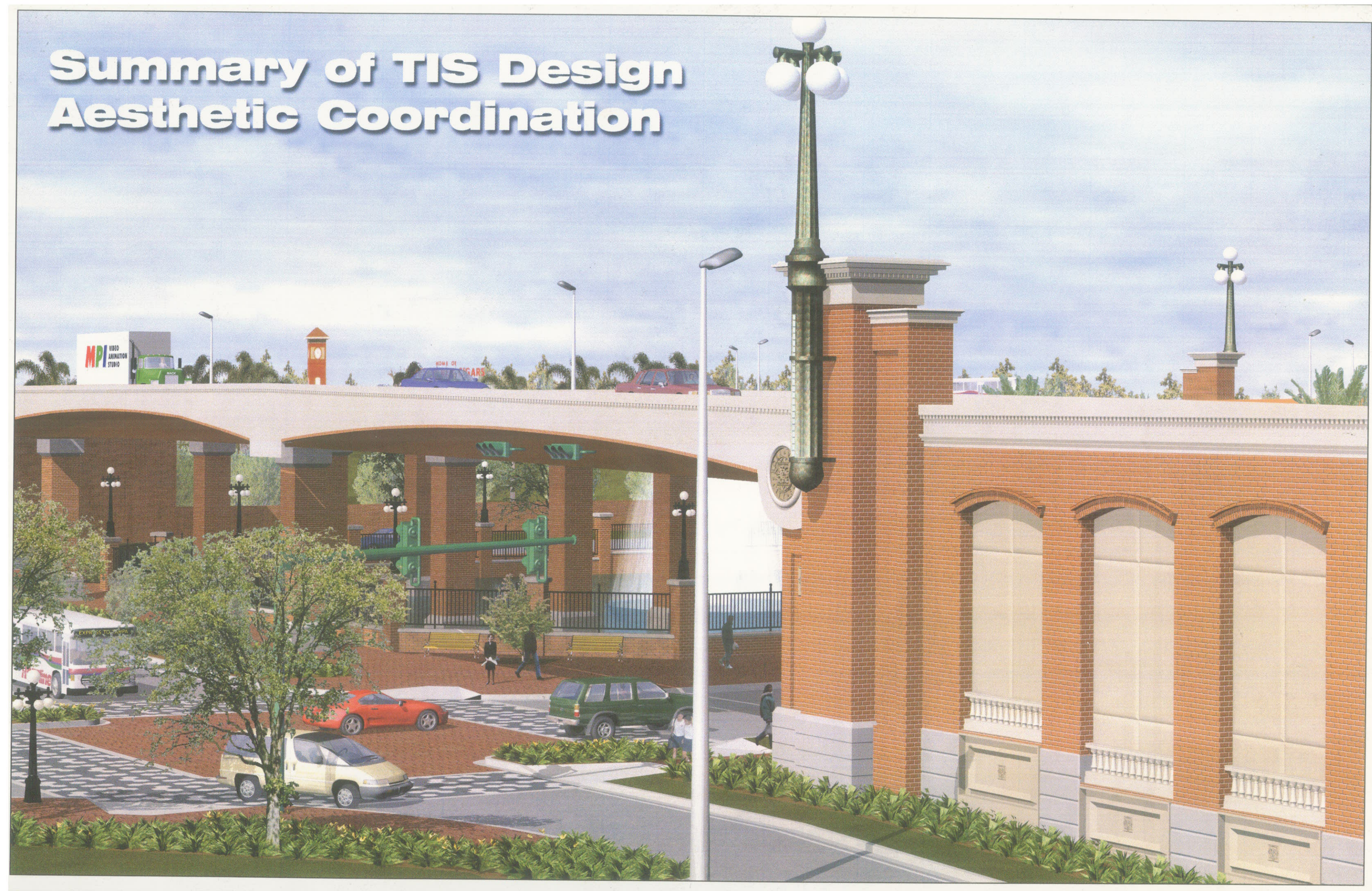


Summary of TIS Design Aesthetic Coordination



Summary of TIS Design Aesthetic Coordination

SUMMARY



TAMPA INTERSTATE STUDY SUMMARY OF AESTHETIC COORDINATION AND RECOMMENDATIONS

The enclosed is a chronological documentation of the meetings, research, presentations and decisions made related to the Tampa Interstate Study and the Design Aesthetics.

In March of 2000 it was decided to modify the formal Design Review Committee (DRC) process identified in the Tampa Interstate Study (TIS) Urban Design Guidelines (UDG) to become a more informal working group. Although the formal presentations were beneficial, it became evident that the first design segment to reach 100% plans would set precedent and that all designers should have input in the design elements that would be constructed systemwide. Consequently, representatives from each design segment under contract participated in numerous working sessions focusing on systemwide issues and coordinating solutions to issues that arise with partners such as the City of Tampa's Parks Department.

Several formal DRC presentations were made between March 2000 and March 2002; however, in most cases the presentations were made with representatives from each design segment present. Over the past two years in addition to working sessions and formal DRC presentations, there has been plant tours, technical expert presentations and interviews, coordination meetings with Central Office and FHWA and a concerted effort to make the design aesthetics available to the public for comment.

Immediately following is a list in chronological order of the data compiled herein and the systemwide elements that will be included in each set on construction plans. The process continues but this serves as a "snapshot" of decisions based upon the last two years of technical research and agency and public input while keeping with the intent and direction of the Tampa Interstate Study Urban Design Guidelines.

Chronology of TIS Design Aesthetics Team Meetings and Presentations (2000/01)

February 22, 2000	Landscape Coordination Meeting with the City of Tampa staff
March 2, 2000	Design Review Committee Meeting at Increte Systems – Colored and Textured Concrete Applications
March 21, 2000	Design Aesthetics Team Meeting at Terra Tectonics – Project Design and Aesthetics Issues
March 29, 2000	Design Aesthetics Team Meeting at Safety Harbor Resort - Presentation by L. M. Scofield and tour of Spaulding Craft, Inc.
April 6, 2000	Design Aesthetics Team Meeting At Parsons Brinckerhoff - Bridge Design Issues with Don Keenan (FDOT Central Office)
April 7, 2000	Design Aesthetics Team Meeting at FDOT - Aesthetic Treatments for MSE Walls and Sound Absorption Technology – Presentations by Scott Systems and Concrete Solutions, Inc.
April 11, 2000	Design Aesthetics Team Meeting at Terra Tectonics – MSE Wall and Noise Wall Issues
April 14, 2000	Design Aesthetics Team Presentation to the Barrio Latino Commission at City of Tampa Construction Services Building – Project Design and Aesthetics Issues
May 5, 2000	Design Review Committee Meeting at Cafe Pepe – System-wide Recommendations and Wall treatments
June 1, 2000	Design Aesthetics Team Meeting at Terra Tectonics – Signing and Lighting Issues
July 21, 2000	Design Aesthetics Team Meeting at Fowler and Nebraska Avenues On-System Lighting and Signing Issues
August 24, 2000	Design Aesthetics Team Meeting at Terra Tectonics – Design Aesthetics Issues and Presentation by Robin Nigh
September 26, 2000	Design Aesthetics Team Meeting at Terra Tectonics – Opportunities for Public Art and Pedestrian Level Treatments
September 28, 2000	Design Aesthetics Team Presentation to FDOT District Seven Directors – Project Design and Aesthetics Issues

October 5, 2000	Design Aesthetics Team Presentation to the TIS Design Review Committee – Project Design and Aesthetics Issues
November 17, 2000	Aesthetics Work session with the Barrio Latino Commission at the City Council Chamber – Update of entire I-4 Project
December 5, 2000	Mayor's Beautification Council at the Sun Trust 20 th Floor Conference Floor
December 14, 2000	Aesthetics for I-4 at the Parks Department for the Parks Department staff – Landscaping Issues
January 9, 2001	Public Workshop at the Italian Club in Ybor City – Landscape and Hardscape for I-4 and a Concept for Downtown Interchange
March 26, 2001	Tampa Heights Community Representatives at the Centro Asturiano – Hardscape Concept
April 23, 2001	Architectural Review Commission (ARC) at City Hall – Hardscape Concepts for the Downtown Interchange area
April 26, 2001	Tampa Heights Civic Association Meeting – Hardscape Concepts
June 15, 2001	Secretary Hartmann briefing on Downtown Interchange – Landscape and Hardscape Issues
June 22, 2001	City of Tampa Parks Department – Issues Related to the Landscape Concepts
July 24, 2001	Barrio Latino Commission Public Hearing - Ybor Five Bulb Light Locations
August 15, 2001	Design Review Committee Meeting – Lighting, Signing and Fencing Issues as well as DTI Details
September 11, 2001	Design Review Committee Meeting – Color Pallet for Light Poles and Fixtures, Sign Posts and Backs of Signs, Retaining Walls and Noise Walls, Steel Beams for Structures, and Bricks for Vertical Walls, Knee Walls, Pedestrian Crosswalks and Pavers
October 24, 2001	City of Tampa staff – Landscape Coordination for upcoming projects
November 6, 2001	Design Aesthetics Team Meeting at Terra Tectonics – Landscape Schedules, Budgets, Locations, and Irrigation

- November 15, 2001 City of Tampa Parks Department – Landscape Coordination
- November 21, 2001 Design Aesthetics Coordination Meeting at FDOT, Executive Conference Room – Project Updates, System Approval vs. Project Approvals
- January 9, 2002 Design Aesthetics Coordination Meeting with Maintenance and Construction – Systemwide Issues, Downtown Interchange and I-4
- January 12, 2002 Correspondence with Tampa Maintenance Yard and Structures Maintenance Engineer
- February 25, 2002 Design Review Committee Meeting – Final Acceptance of Systemwide Treatments, Upcoming Issues, Links Stages 2/3 Presentation from Himes Ave. to the Hillsborough River

URBAN DESIGN ELEMENTS - TIS - I-275/I-4

ITEM COLORS - MATERIALS - TEXTURES - LOCATIONS

Terra Tectonics design group, Inc. 813-258-4504

11/20/2001

SYSTEM-WIDE URBAN DESIGN ELEMENTS

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED WITH SILICONE-ACRYLIC STAIN SEALER	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATIONS	SEE NOTE-A	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal (to match sample at FDOT maintenance) H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
EXISTING BRIDGE BEAMS AND PILES		PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER	SMOOTH GLOSSY	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
TRAFFIC RAILING BARRIER	ENTIRE	FORM LINER TEXTURED-SILICONE-ACRYLIC STAIN SEALER	SMOOTH CONCRETE FINISH WITH CORNICE AND DENTIL	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
ON-LINE SOUND WALLS AND TRANSITIONS	OUTSIDE FACE OF BEAMS AND ALL EXISTING PILES AND CAPS	SILICONE-ACRYLIC STAIN SEALER	SMOOTH CONCRETE FINISH WITH CORNICE AND DENTIL	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
OFF-LINE SOUND WALLS AND TRANSITIONS	ENTIRE	SILICONE-ACRYLIC STAIN SEALER	SAND-FINISHED STUCCO ON CONCRETE BLOCK WITH BRICK COLUMNS AND PRE-CAST COLUMN CAPS	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
LIGHT POLES AND ITS SUPPORTS & LIGHT FIXTURE HEADS	ENTIRE	POWDER-COATED ALUMINUM	SMOOTH GLOSSY	COLOR - RAL-1013 SM GL TRIBO; TIGER DRYLAC USA, INC 909-930-9100 www.tiger.at	SEE NOTE-B	MONGOOSE LIGHT by HOLOPHANE
BACK OF TRAFFIC SIGNS	ENTIRE	PAINTED FINISH ON GALVANIZED STRUCTURE	SMOOTH GLOSSY	COLOR TO MATCH RAL 1019	SEE NOTE-B	
SIGN SUPPORTS	ENTIRE	PAINTED FINISH ON GALVANIZED STRUCTURE	SMOOTH GLOSSY	COLOR TO MATCH RAL - 1013	SEE NOTE-B	

PROPOSED STEEL BEAMS (BRIDGES)	ENTIRE	PRIMED AND PAINTED		SEE NOTE-A		
PROPOSED CONCRETE BRIDGE BEAMS	ENTIRE	PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER		SEE NOTE-A		
EXISTING SLOPED PAVEMENT	ENTIRE	PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER		SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
BRIDGE FRP ARCH	SPECIFIC BRIDGES	ARCHITECTURAL FRP	SAND-FINISHED GEL-COAT	COLOR ENTRAINED GEL-COAT TO MATCH HC-38-P3	PART OF CONSTRUCTION SET	FLORIDA COLUMNS -SAFETY HARBOR FLORIDA (727) 725- 2057PH
TOWER CORNICE DETAILS	SPECIFIC AREAS	ARCHITECTURAL FRP	SAND-FINISHED GEL-COAT	COLOR ENTRAINED GEL-COAT TO MATCH HC-38-P3	PART OF CONSTRUCTION SET	FLORIDA COLUMNS -SAFETY HARBOR FLORIDA (727) 725- 2057PH
DECORATIVE WELDED WIRE FENCES	SPECIFIC AREAS	PAINTED FINISH FROM MANUFACTURER	SMOOTH GLOSSY	BLACK	WELDED GALV. 6 GA. STEEL; ONE PIECE MESH SHEETS ASTM A-641 (1989), CLASS 1/ A 185	OMEGA FENCE SYSTEMS www.omegafence.com
CHAIN-LINK FENCING	LIMITED AREAS NEAR RURAL SEGMENTS	VINYL-COATED		BLACK	SEE NOTE-B	
DECORATIVE BRICK PAVING - FOR PEDESTRIAN WALKS	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK ON FDOT-SPEC COMPACTED BASE	SOLDIER-COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHAW BRICK 4" X 8" X 2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK, COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8"X8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, Inc. CUSHWA PLANT, WILLIAMSPORT, MD 301- 223-7700 ENDICOTT TILE, INC. PO BOX 645 FAIRBURY, NEBRASKA 68353 PH. 402-729- 3323
SIDEWALK PAVING	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			SEE NOTE-A	SEE NOTE-B	
CROSSWALK PAVING	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			SEE NOTE-A	SEE NOTE-B	
INTERSECTION PAVING	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			SEE NOTE-A	SEE NOTE-B	

	WITHIN ARCHITECTURAL FRP ARCH AND ALSO IDENTITY PLAQUES ON BRIDGE TOWERS WITH LOCAL NEIGHBORHOOD LOGO					
PUBLIC ART		CAST INTO ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST

NOTE A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

ALTERNATIVE BRICK SELECTIONS FOR PEDESTRIAN PAVERS:

BASKET WEAVE FILL PATTERN: ALTERNATIVE: GLEN-GERY BRICK 26, HB PINK, MOLDED PAVER SAND TEXTURE
BANDING PATTERN: ALTERNATIVE: GLEN-GERY BRICK 53DD, RED, MOLDED PAVER SAND TEXTURE
INTERSECTION BRICK: ALTERNATIVE: INTERSTATE BRICK: MIDNIGHT BLACK, 8" X 8" PAVER
PAVERS SURROUNDING PILES ON SIDEWALKS ; GRAY COBBLES TONE PAVERS10.16CM X 10.16 CM

TDI-URBAN DESIGN ELEMENTS

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED WITH SILICONE-ACRYLIC STAIN SEALER	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATIONS	SEE NOTE-A	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal (to match sample at FDOT maintenance) H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
EXISTING BRIDGE BEAMS AND PILES	OUTSIDE FACE OF BEAMS & ALL EXISTING PILES AND PILE CAPS	PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER	SMOOTH GLOSSY	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
DECORATIVE BRICK PAVING - FOR PEDESTRIAN WALKS	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	FORM LINER TEXTURED-SILICONE-ACRYLIC STAIN SEALER	SOLDIER-COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHAW BRICK 4" X 8" X 2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK, COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8"X8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, Inc. CUSHWA PLANT, WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. PO BOX 645 FAIRBURY, NEBRASKA 68353 PH. 402-729-3323
SIDEWALK PAVING	BROOM FINISD CONCRETE UNLESS IN UNDERPASS AREAS - SEE PLANS FOR SPECIFIC LOCATIONS					
CROSSWALK PAVING	NA					
INTERSECTION PAVING	NA					
PUBLIC ART	NA					

NOTE A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

ALTERNATIVE BRICK SELECTIONS FOR PEDESTRIAN PAVERS:

BASKET WEAVE FILL PATTERN: ALTERNATIVE: GLEN-GERY BRICK 26, HB PINK, MOLDED PAVER SAND TEXTURE
BANDING PATTERN: ALTERNATIVE: GLEN-GERY BRICK 53DD, RED, MOLDED PAVER SAND TEXTURE
INTERSECTION BRICK: ALTERNATIVE: INTERSTATE BRICK: MIDNIGHT BLACK, 8" X 8" PAVER
PAVERS SURROUNDING PILES ON SIDEWALKS ; GRAY COBBLES TONE PAVERS10.16CM X 10.16 CM

I-4 YBOR CITY HISTORIC DISTRICT

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED WITH SILICONE-ACRYLIC STAIN SEALER	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATIONS	HC-92818-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal (to match sample at FDOT maintenance) H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
EXISTING BRIDGE BEAMS AND PILES	14TH & 15TH STREETS - OUTSIDE FACE OF BEAMS AND ALL EXISTING PILES AND PILE CAPS	PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER	SMOOTH GLOSSY	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
PROPOSED STEEL BEAMS (BRIDGES)	40TH AND 50TH STREETS	FORM LINER TEXTURED-SILICONE-ACRYLIC STAIN SEALER		SEE NOTE-A		
PROPOSED CONCRETE BRIDGE BEAMS	14TH, 15TH, 21 & 22ND STREET, 26TH & 34TH STREETS	SILICONE-ACRYLIC STAIN SEALER	SMOOTH STAIN	H&C COLOR # NOT TET AVAILABLE, COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
DECORATIVE BRICK PAVING - FOR PEDESTRIAN WALKS	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	SILICONE-ACRYLIC STAIN SEALER	SOLDIER-COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHAW BRICK 4" X 8" X 2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK, COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8"X8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, Inc. CUSHWA PLANT, WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. PO BOX 645 FAIRBURY, NEBRASKA 68353 PH. 402-729-3323
SIDEWALK PAVING	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK PAVERS IN HISTORIC DISTRICT LOCATIONS: B&W HEXAGONAL PAVERS IN OTHER HISTORIC DISTRICT AREAS - OUTSIDE DISTRICT SHALL BE BROOM FINISH CONCRETE.	NA	NOTE - A		NA
CROSSWALK PAVING	14TH, 15TH, 21 & 22ND STREET, 26TH & 34TH STREETS	B&W HEXAGONAL PAVERS IN HISTORIC DISTRICT		SEE NOTE-A	SEE NOTE-B	
INTERSECTION PAVING	14TH, 15TH, 21 & 22ND STREET, 26TH & 34TH STREETS	RECYCLED CITY OF TAMPA HISTORIC BRICK		SEE NOTE-A		NA

DECORATIVE PICKETT FENCING	HISTORIC DISTRICT AROUND PONDS AND BETWEEN BRIDGE MSE WALLS AT 14TH, 15TH, 21 & 22ND, 26TH	GALVANIZED WELDED STEEL PANITED BLACK	SMOOTH GLOSSY	BLACK		OMEGA FENCE SYSTEMS www.omegafence.com
DECORATIVE WELDED WIRE FENCES	MAJORITY OF FNECING SHALL BE WELDED WIRE FENCING	PAINTED FINISH FROM MANUFACTURER	SMOOTH GLOSSY	BLACK	WELDED GALV. 6 GA. STEEL; ONE PIECE MESH SHEETS ASTM A-641 (1989), CLASS 1/ A 185	TBD BY MANUFACTURER
CHAIN-LINK FENCING	LIMITED AREAS NEAR RURAL SEGMENTS AT 50TH STREET TRANSITION	VINYL-COATED		BLACK	SEE NOTE-B	
PUBLIC ART	14TH, 15TH, 21 & 22ND STREET, 26TH & 34TH STREETS, 34TH, 40TH & 50TH STREETS -WITHIN ARCHITECTURAL FRP ARCH AND ALSO IDENTITY PLAQUES ON BRIDGE TOWERS WITH NEIGHBORHOOD LOGOS	CAST INTO ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST
PUBLIC ART - NEIGHBORHOOD MARKER	15 TH STREET SOUND WALL BEGINNING	BRICK AND STEEL ARCHITECTURAL MONUMENT			SEE CONSTRUCTION DOCUMENTS	

NOTE A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

ALTERNATIVE BRICK SELECTIONS FOR PEDESTRIAN PAVERS:

BASKET WEAVE FILL PATTERN: ALTERNATIVE: GLEN-GERY BRICK 26, HB PINK, MOLDED PAVER SAND TEXTURE

BANDING PATTERN: ALTERNATIVE: GLEN-GERY BRICK 53DD, RED, MOLDED PAVER SAND TEXTURE

INTERSECTION BRICK: ALTERNATIVE: INTERSTATE BRICK: MIDNIGHT BLACK, 8" X 8" PAVER

PAVERS SURROUNDING PILES ON SIDEWALKS ; GRAY COBBLES TONE PAVERS10.16CM X 10.16 CM

I-275-WEST TAMPA HISTORIC DISTRICT

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED WITH SILICONE-ACRYLIC STAIN SEALER	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATIONS	HC-92818-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal (to match sample at FDOT maintenance) H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
EXISTING BRIDGE BEAMS AND PILES		PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER	SMOOTH GLOSSY	SEE NOTE-A	SEE NOTE-B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
PROPOSED STEEL BEAMS (BRIDGES)		PRIMED AND PAINTED		SEE NOTE-A		
PROPOSED CONCRETE BRIDGE BEAMS		PRESSURE CLEANED AND SILICONE-ACRYLIC STAIN SEALER	SMOOTH STAIN	H&C COLOR # NOT TET AVAILABLE, COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-com or equal
DECORATIVE BRICK PAVING - FOR PEDESTRIAN WALKS	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK ON FDOT-SPEC COMPACTED BASE	SOLDIER-COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHAW BRICK 4" X 8" X 2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK, COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8"X8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, Inc. CUSHWA PLANT, WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. PO BOX 645 FAIRBURY, NEBRASKA 68353 PH. 402-729-3323
SIDEWALK PAVING	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK PAVERS IN HISTORIC DISTRICT LOCATIONS: B&W HEXAGONAL PAVERS IN OTHER HISTORIC DISTRICT AREAS - OUTSIDE DISTRICT SHALL BE BROOM FINISH CONCRETE.	NA	NOTE - A		NA
CROSSWALK PAVING	HOWARD AND ARMENIA	B&W HEXAGONAL PAVERS IN HISTORIC DISTRICT		SEE NOTE-A	SEE NOTE-B	
INTERSECTION PAVING	HOWARD AND ARMENIA	RECYCLED CITY OF TAMPA HISTORIC BRICK		SEE NOTE-A		NA
DECORATIVE PICKETT FENCING	HOWARD AND ARMENIA	GALVANIZED WELDED STEEL PANITED BLACK	SMOOTH GLOSSY	BLACK		OMEGA FENCE SYSTEMS www.omegafence.com
DECORATIVE WELDED WIRE FENCES	MAJORITY OF FNECING SHALL BE WELDED WIRE FENCING	PAINTED FINISH FROM MANUFACTURER	SMOOTH GLOSSY	BLACK	WELDED GALV. 6 GA. STEEL; ONE PIECE MESH SHEETS ASTM A-641 (1989), CLASS 1/ A 185	TBD BY MANUFACTURER

CHAIN-LINK FENCING	NONE REQUIRED	VINYL-COATED		BLACK	SEE NOTE-B	
PUBLIC ART	HOWARD AND ARMENIA - CAST INTO FRP ARCH PANELS - NORTH AND SOUTH SIDES	CAST INTO ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST
PUBLIC ART - NEIGHBORHOOD MARKER	NA					
STREET FURNITURE	SPECIFIC AREAS TBD BY THE HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	TBD	TBD	TBD	TBD	TBD

NOTE A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

ALTERNATIVE BRICK SELECTIONS FOR PEDESTRIAN PAVERS:

BASKET WEAVE FILL PATTERN: ALTERNATIVE: GLEN-GERY BRICK 26, HB PINK, MOLDED PAVER SAND TEXTURE

BANDING PATTERN: ALTERNATIVE: GLEN-GERY BRICK 53DD, RED, MOLDED PAVER SAND TEXTURE

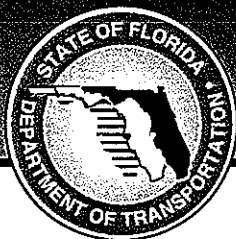
INTERSECTION BRICK: ALTERNATIVE: INTERSTATE BRICK: MIDNIGHT BLACK, 8" X 8" PAVER

PAVERS SURROUNDING PILES ON SIDEWALKS ; GRAY COBBLES TONE PAVERS 10.16CM X 10.16 CM

Summary of TIS Design Aesthetic Coordination

YEAR 2000





Tampa Interstate Study

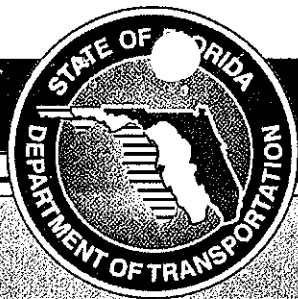


Landscape Coordination Meeting

February 22, 2000

AGENDA

- I. Introductions - Prescott**
- II. Background - Illes**
 - A. TIS Master Plan
 - B. Section 106 Concerns
 - C. UDG Development
- III. Overview of Guidelines**
 - A. Goals
 - B. Intent
 - C. Levels of Treatment
 - D. Special Design Areas
 - E. Design Review Committee
 - F. Project Components
- IV. Landscape**
 - A. Content of the Guidelines
 - B. Flexibility of Application
 - C. Letter of Understanding
 - 1. Design/Install/Maintain Option
 - 2. Maintain Option
 - 3. Available FDOT Funds
 - D. Maintenance Agreement
- V. Questions/Discussion/Next Step**



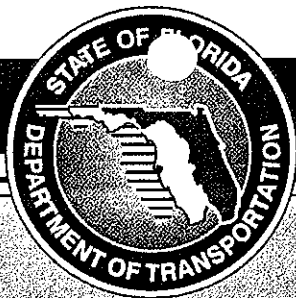
Tampa Interstate Study

Landscape Coordination Meeting

Please Sign In

February 22, 2000

Name	Phone Number	Affiliation or Group Name
1 Elaine C. Diks	286-0125	IPI / FOOT Consultant
2 Archie West	274-8624	City of Tampa
3 BILL SCHAFER	274-8053	DSS
4 HOWARD HOFFMAN	289-5300	PB&O
5 Sutt Shaw	274-8644	COT-Transportation
6 Gregory McElroy	931-2121	COT-Parks Dept
7 Ross FERHITA	931-2604	COT Parks
8 Vernell D. Savage	274-7958	COT-CRA
9 Leah Hoffman	931-2121	COT-PARKS
10 MARJORIE GUILLORY	274-8603	CITY of TAMPA - WATER
11 Wilson J. Stain Jr.	274-8402	C.O.T. Planning & Mgt.
12 Elton Smith	274-8048	Transportation
13 MARICELA MEDRANO	274-7932	YCOC / city of Tampa
14 Vinco Bardo	274-7936	YCOC
15 Wanda Thompson	274-8624	C.O.T. Real Estate Division



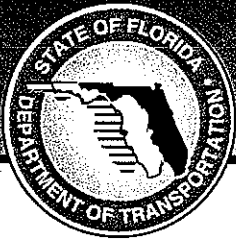
Tampa Interstate Study

Landscape Coordination Meeting

Please Sign In

February 22, 2000

Name	Phone Number	Affiliation or Group Name
1 <i>Kernando Noviega</i>	<i>274-7576</i>	<i>City of Tampa</i>
2 <i>IRWIN PRESCOTT</i>	<i>975-6168</i>	<i>FLA DEPT OF TRANS.</i>
3 <i>JONATHAN TONER</i>	<i>258-4804</i>	<i>TERRA TECTONICS - LANDSCAPE ARCHITECTS</i>
4 <i>JOHN SIMPSON</i>	<i>975-6442</i>	<i>FDOT</i>
5 <i>DEL Acosta</i>	<i>274-8920</i>	<i>CITY OF TAMPA</i>
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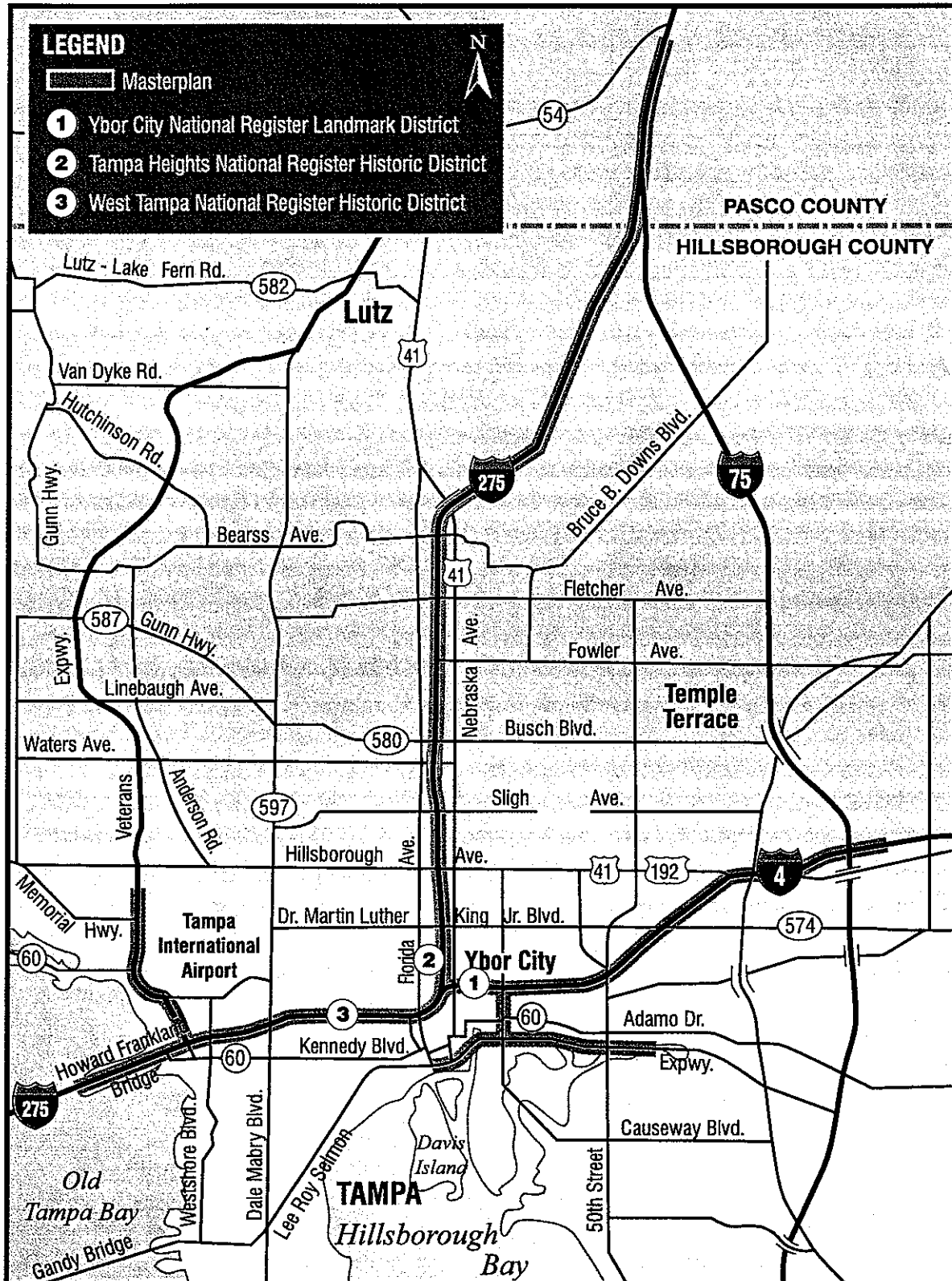
Tampa Interstate Study

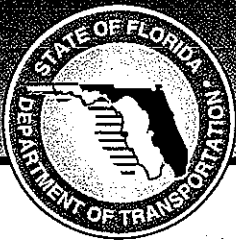


INTERSTATE

Florida's Gateway to Tampa

MASTERPLAN





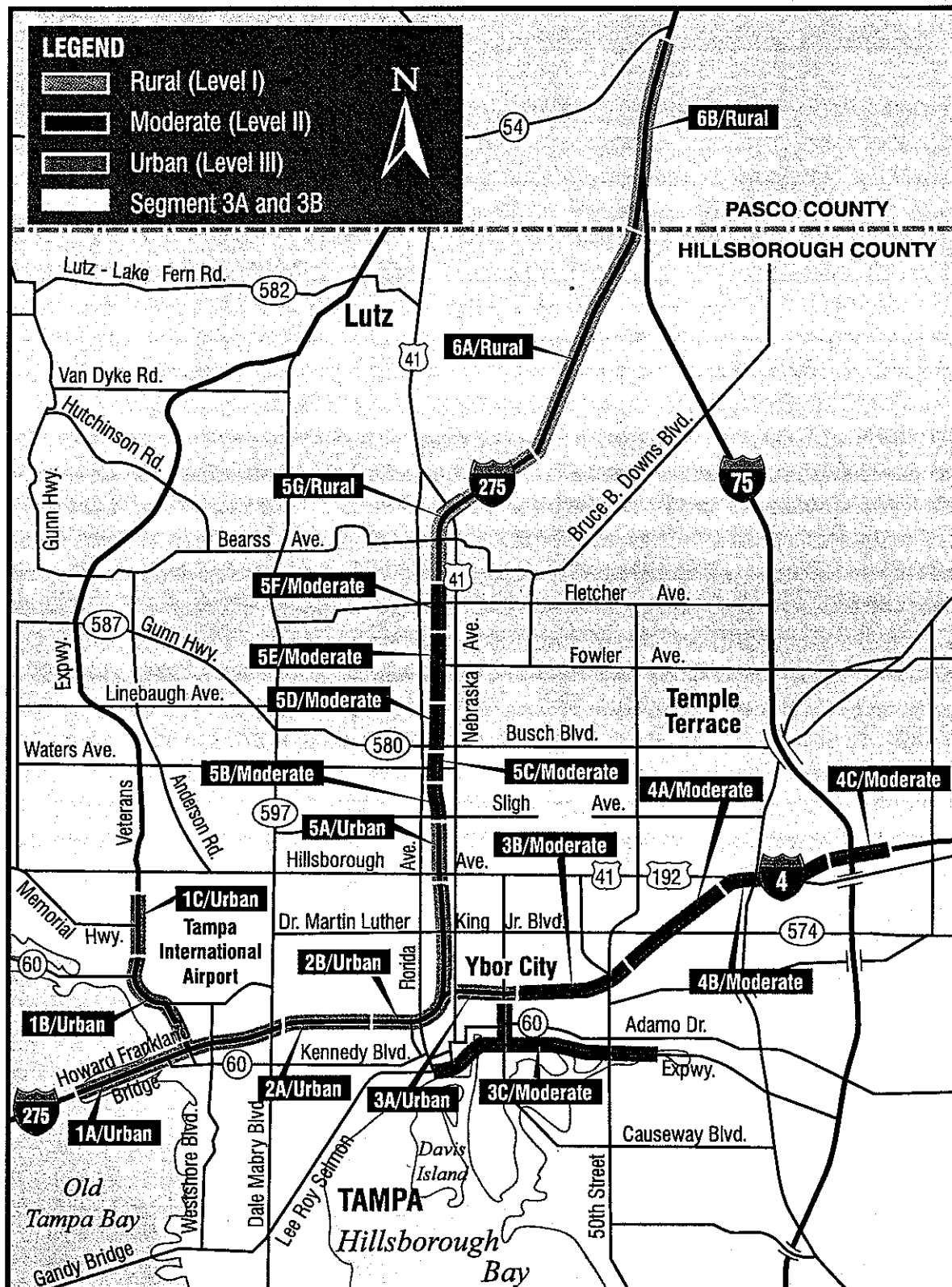
Tampa Interstate Study

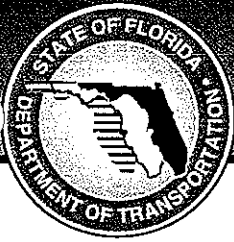


LEVELS OF AESTHETIC TREATMENT

INTERSTATE

Florida's Gateway to Tampa





Tampa Interstate Study

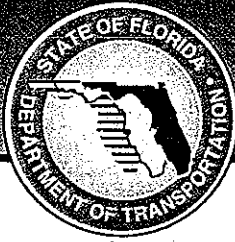


Landscape Coordination Meeting

February 22, 2000

AGENCY LIAISON GROUP (ALG)

- City of Tampa Parks Department
- City of Tampa Planning Department
- City of Tampa Art in Public Places
- City of Tampa Public Works
- City of Tampa - Parks, Recreation, and Cultural Services
- Arts Council of Tampa/Hillsborough County
- Historic Tampa/Hillsborough County Preservation Board
- Hillsborough County Planning and Development Management Department
- Hillsborough County Metropolitan Planning Organization
- Florida Center for Design, University of South Florida



Tampa Interstate Study



Landscape Coordination Meeting

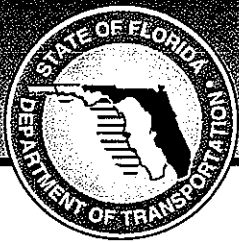
February 22, 2000

UDG Goals

- Improve Overall Aesthetics and unity of the system
- Establish a hierarchy of areas for special visual emphasis
- Develop a palette of design elements to be implemented

UDG Intent

To minimize adverse visual and auditory impacts to users and land use adjacent to improvements

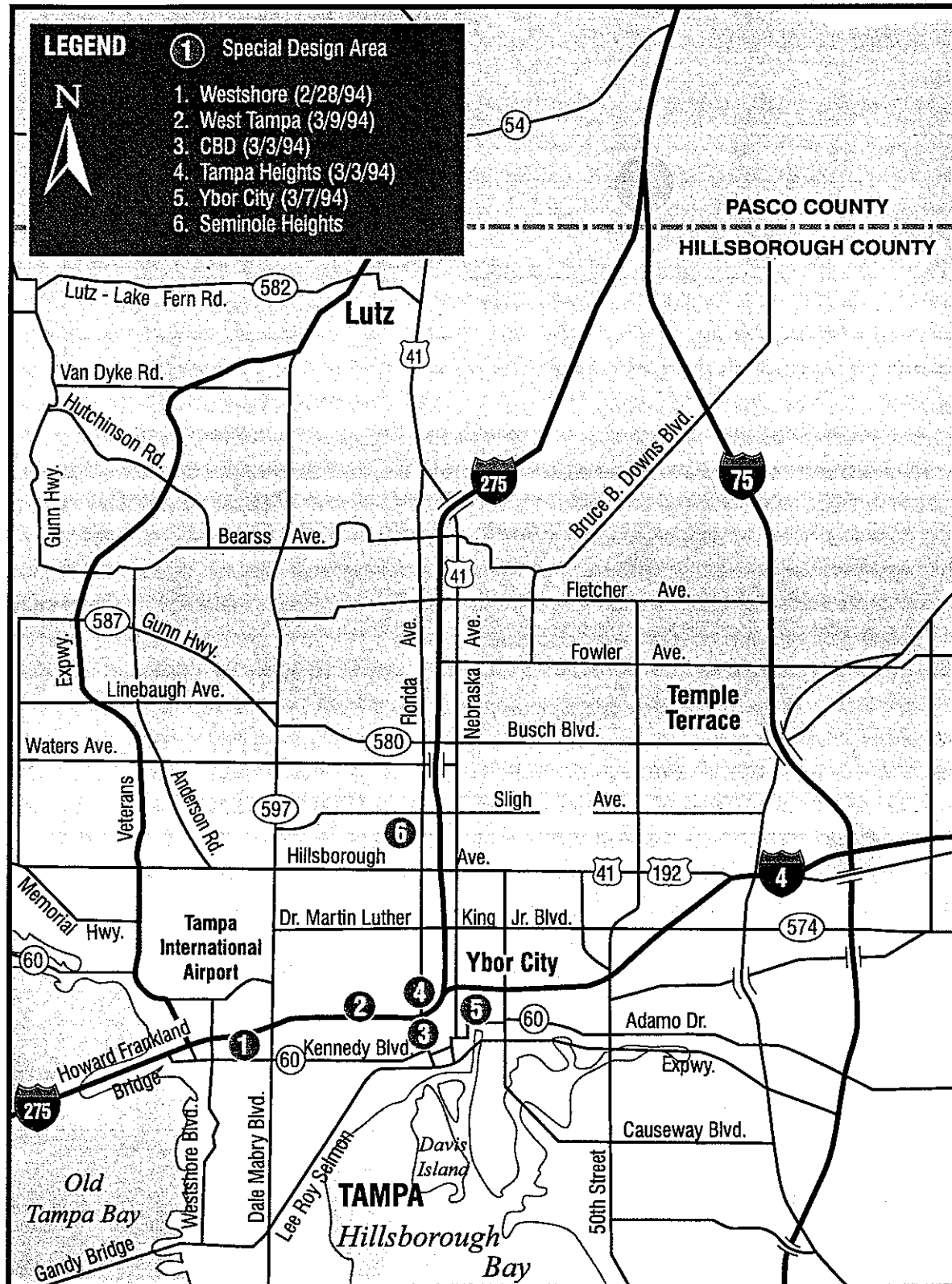


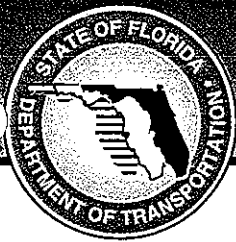
Tampa Interstate Study



INTERSTATE
Florida's Gateway to Tampa

SPECIAL DESIGN AREAS





Tampa Interstate Study



Landscape Coordination Meeting

February 22, 2000

SPECIAL DESIGN AREAS

Westshore

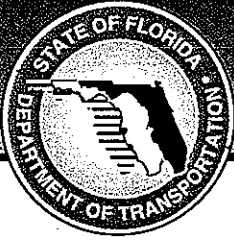
- Establish a hierarchy of structures so that highly visible structures are designed as architectural features.
- Design less visible structures with simple detailing.
- Textures and colors should be used to de-emphasize structure mass.
- Create pedestrian activity and gathering spaces in paved areas under bridge structures within the established cross street typical section. (No additional bridge length should be required.)
- Utilize decorative materials as often as possible.
- Consider alternatives to plain white concrete.
- Minimize grass in landscaped areas.
- Incorporate outdoor art in structures and walls.
- Create a linear park to connect to Cypress Point Park.
- Incorporate bikeways in cross-street improvements.

West Tampa

- Design structures should have simple detailing to reflect "simple family lifestyle."
- Howard and Armenia Avenues should be highlighted as gateways to historic areas.
- Create numerous opportunities for public art.
- Landscaping and outdoor art are most desirable methods of minimizing impacts.
- Maintain high levels of lighting under bridges for security.
- Planted "crib walls" and terraced retaining walls are not desirable.

Ybor City

- Historic architectural elements should be reflected in designed structures.
- Utilize specialty lighting and pavers under bridge structures.
- Minimize noise wall impacts through use of outdoor art, color, detailing, and landscaping.
- Hexagonal pavers should be used for cross-street intersections and sidewalks.
- Brick should be used for retaining and noise walls where possible.
- Integrate opportunities for public art into structures.
- Streetscape elements should reflect styles currently used.



Tampa Interstate Study



Landscape Coordination Meeting

February 22, 2000

SPECIAL DESIGN AREAS

Downtown

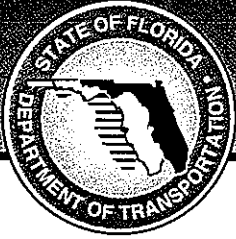
- Structures should be design features reflecting existing architectural styles.
- Tiered landscaping and balustrades should be used as integral components.
- Add textures and colors to large wall areas.
- Streetscape elements should have a clean, modern style or reflect styles currently used.
- Maintain views of skyline.
- Develop stormwater areas as a visual focal point.

Tampa Heights

- Designed structures should reflect architectural history of area.
- Lighting and fencing styles should be unique to neighborhood.
- Designed structures should complement elements of the proposed Tampa Heights Greenway.
- Provide areas under bridge structures to accommodate community activities (i.e., open air market within the established cross street typical section. (No additional bridge length should be required.)
- Ensure adequate lighting for safety and security.
- Add textures and colors to large noise walls.
- Use hexagon pavers and brick for walks and pedestrian areas.
- Create opportunities for public art.
- Streetscape elements should reflect the area's history.

Seminole Heights

As of the publication date of the guidelines, the required environmental documentation for Seminole Heights area had not been initiated. Upon completion of the appropriate documents, design and performance standards for mitigation will be established and incorporated as part of the Urban Design Guidelines.



Tampa Interstate Study

INTERSTATE
Florida's Gateway to Tampa

Landscape Coordination Meeting

February 22, 2000

PROJECT COMPONENTS

1. Bridge
2. Retaining Walls and Embankment
3. Noise Walls
4. Lighting
5. Fencing
6. Sign Supports
7. Stormwater Management Areas and Surface Water
Features
8. Landscaping
9. Pavement Streetscape
10. Opportunities for Public Art
11. Utilities
12. Mounds and Grading
13. Recreation Facilities and Architectural Elements



COPY

Florida Department of Transportation

11201 N. MCKINLEY DRIVE • TAMPA, FL 33612-6456 • (813) 975-6133 • 1-800-226-7220
District Seven Production, M3 7-400

JEB BUSH
GOVERNOR

THOMAS F. BARRY, JR.
SECRETARY

March 10, 1999

The Honorable Dick A. Greco
Mayor of the City of Tampa
306 East Jackson Street
City Hall Plaza
Tampa, Florida 33602

RE: Letter of Understanding, Downtown Interchange Project
FP# 2586431

Dear Mayor Greco:

The District Seven Office of the Florida Department of Transportation (hereinafter "Department") is submitting this letter of understanding to the City of Tampa (hereinafter "City") for its concurrence. The purpose of this letter is to define the responsibilities and commitments of the Department and City with respect to the design, installation and maintenance of landscape improvements in connection with the Downtown Interchange Project. At the present time, construction is scheduled to be completed February 1, 2005. Not less than 240 days prior to that date, the Department will submit a Joint Project Agreement and a Maintenance Memorandum of Agreement to the City for execution. Those agreements shall document the following:

Responsibilities of the City:

1. The City shall perform the design of all landscape elements of the Project in accordance with the Department's Highway Landscape, Beautification, and Plan Review Procedure.
2. The City shall perform the installation of all landscape improvements.
3. The City shall maintain accurate records of all expenditures associated with the design and installation of the landscape improvements in accordance with the District's Highway Landscape Reimbursement Procedure.
4. Upon final acceptance of the installation, the City shall maintain the landscape improvements in accordance with Department guidelines and standards.

The Honorable Dick A. Greco

Page 2

March 10, 1999

Responsibilities of the Department:

1. The Department shall provide the City with current project plans, safety standards, and maintenance of traffic criteria for use in preparation of the landscape design documents.
2. The Department shall review design submittals and provide design comments to the City.
3. The Department shall coordinate with the City to schedule installation of the Project.
4. The Department shall reimburse the City for all properly documented expenditures associated with the design and installation of the landscape improvements.

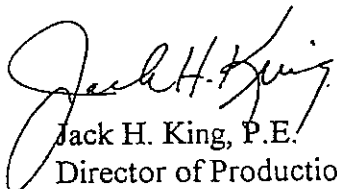
If the above reflects the City's understanding of terms of a future Joint Project Agreement and Maintenance Memorandum of Agreement, please sign and date where indicated and return one original to the Department's representative, John Simpson, at the following address:

Florida Department of Transportation
11201 North McKinley Drive, MS7-500
Tampa, Florida 33612

Any further questions you may have should also be addressed to Mr. Simpson at 975-6442.

The Department is supportive of the City's effort to conduct the landscape element of the Downtown Interchange Project and looks forward to working with the City to achieve the Project's completion.

Sincerely,


Jack H. King, P.E.
Director of Production

The Honorable Dick A. Greco
Mayor of the City of Tampa

JHK/JS

cc: M. Coleman, I. Prescott

(Date)



Florida Department of Transportation

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District Seven Production, MS 7-400

JEB BUSH
GOVERNOR

THOMAS F. BARRY, JR.
SECRETARY

April 20, 1999

The Honorable Dick A. Greco
Mayor of the City of Tampa
306 East Jackson Street
City Hall Plaza
Tampa, Florida 33602

RE: Letter of Understanding, I-4 TIS Segment 3 from West of 14th Street to 50th Street
WPI Seg No. 258401 1 and WPI Seg No. 258402 1

Dear Mayor Greco:

The District Seven Office of the Florida Department of Transportation (hereinafter "Department") is submitting this letter of understanding to the City of Tampa (hereinafter "City") for its concurrence. The purpose of this letter is to define the responsibilities and commitments of the Department and City with respect to the design, installation and maintenance of landscape improvements in connection with the referenced project. At the present time, construction is scheduled to be completed in 2007. Not less than 240 days prior to projected completion, the Department will submit a Highway Landscape Reimbursement Agreement and a Maintenance Memorandum of Agreement to the City for execution. Those agreements shall document the following:

Responsibilities of the City:

1. The City shall perform the design of all landscape elements of the project in accordance with the Department's Highway Landscape, Beautification, and Plan Review Procedure.
2. The City shall perform the installation of all landscape improvements.
3. The City shall maintain accurate records of all expenditures associated with the design and installation of the landscape improvements in accordance with the District's Highway Landscape Reimbursement Procedure.
4. Upon final acceptance of the installation, the City shall maintain the landscape improvements in accordance with Department guidelines and standards.

Responsibilities of the Department:

1. The Department shall provide the City with current project plans, safety standards, and maintenance of traffic criteria for use in preparation of the landscape design documents.

The Honorable Dick A. Greco

Page 2

April 20, 1999

2. The Department shall review design submittals and provide design comments to the City.
3. The Department shall coordinate, review, and approve for billing the installation of the City's landscape improvements.
4. The Department shall reimburse the City for all properly documented expenditures associated with the design and installation of the landscape improvements.

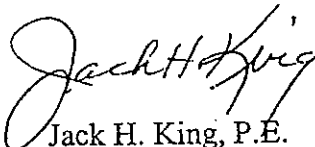
If the above reflects the City's understanding of terms of a future Highway Landscape Reimbursement Agreement and Maintenance Memorandum of Agreement, please sign and date where indicated and return one original to the Department's representative, John Simpson, at the following address:

Florida Department of Transportation
11201 North McKinley Drive, MS 7-500
Tampa, Florida 33612

Any further questions you may have should also be addressed to Mr. Simpson at (813) 975-6442.

The Department is supportive of the City's effort to landscape the I-4 TIS Segment 3 Project and looks forward to working with the City to ensure the project's success.

Sincerely,



Jack H. King, P.E.
Director of Production

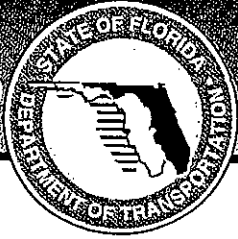
JHK/JS

cc: I. Prescott

J. Comellas

The Honorable Dick A. Greco
Mayor of the City of Tampa

(Date)



Tampa Interstate Study



Design Review Coordination Meeting

March 2, 2000

AGENDA

- I. **Design Status Update/Schedule - Irwin Prescott**
 - A. Design Segment 1C
 - B. Design Segment 1B
 - C. Design Segment 1A
 - D. Design Segment 2A
 - E. Design Segment 2B (Downtown Interchange Operational Improvement)
 - F. Design Segments 3A/3B
- II. **Priorities for Design Element Decisions/Schedule - Elaine Illes**
- III. **Aesthetics Status**
 - A. Design Segment 1B - Jane Burmer
 - B. Design Segment 3A/3B - Jonathon Toner
 - C. Downtown Interchange - Elaine Illes
- IV. **Design Aesthetics Team/Coordination with DRC**
- V. **Discussion**
- VI. **Next Meeting**
 - A. Date:
 - B. Time:
 - C. Place:

Sign In Sheet

DRC Meeting

3-2-00

<u>Name</u>	<u>Organization</u>	<u>Phone #</u>
1 Mark Jennings	URS GWC	224-0448
2 JANE BURMER	URSGWC	286-1711, x5211
3. JOHN SIMPSON	FDOT	975-6442
4. JONATHAN TONER	TERRA TECTONICS design group, inc.	258.4504
5. DAVID PELHAM	FDOT DT STRUCTURES	975-6771
6. Frank Balsano	PBQD	207-2948
7. Howard Hoffman	PBQD	289 5300
8. Elaine Illas	IPI	286-0125
9 NEALE SPALOW	HCTGM	276-8887
10 IRWIN PRESCOTT	FDOT	975-6165
11 WILSON STANLEY	CCOT	

March 13, 2000

MEMORANDUM

TO: Design Review Committee Members

FROM: Elaine C. Illes, Task Manager

SUBJECT: Meeting of the Tampa Interstate Study Design Review Committee

On Thursday March 2, 2000 at 9:30 a.m., the Tampa Interstate Study (TIS) Design Review Committee (DRC) and interested parties convened at Increte Systems on Sunstate Street in Tampa. Increte is the world's largest manufacturer of cast-in-place architectural concrete wall systems called Stone-Crete. The purpose of touring Increte's facility was to familiarize the group with alternative treatments that could be feasible for use along the Tampa Interstate System in the form of aesthetic retaining walls, noise barriers, and sidewalk and street pavers.

Stone-Crete looks like natural stone but provides the strength and uniformity of concrete. Its potential uses range from retaining and foundation walls to highway noise barriers, bridges, decorative privacy walls, driveways, sidewalks, pavers, and floors. The deep relief texture of Stone-Crete and the unique coloring process allow it to meet most any design specification. Since the product is cast in place in custom made forms, it is installed in a fraction of the normal time and is free from the inherent maintenance and cost associated with the installation of natural stone materials.

Several samples of Increte's capabilities were on display in their yard as well as their warehouse. Prior to the DRC's arrival, Increte custom manufactured a retaining wall segment textured and colored to look like sawed keystone. Increte representatives explained their form manufacturing, texture, and coloring processes and answered questions posed by the DRC architects and engineers present.

Following the tour at Increte, the DRC members moved to Perkins Restaurant on Waters Avenue and reconvened for a lunch meeting. A copy of the meeting agenda is attached.

I. Design Status Update / Schedule

Irwin Prescott (FDOT Project Manager) began the meeting by providing an update on the status of design plans within each of the TIS design segments. Design Segment 1C is currently at 60% Plans and is on target to be at 90% Plans by April 2000. Construction is scheduled to be let in April 2004. Design Segment 1B is currently at 30% Plans and is scheduled to be at 60% Plans by this summer. Construction letting is scheduled for April 2004. Design Segments 1A and 2A are scheduled for construction letting in July 2006. Design Segment 2B, the Downtown Interchange Operational Improvement, is currently at

60% Plans scheduled to be at 90% plans by November 2000 and will be the first construction project let in the Spring of 2002. Design Segments 3A and 3B are at 60% Plans, are scheduled to be at 90% Plans in November 2000, and will be let for construction in the Spring of 2003.

II. Priorities for Design Element Decisions / Schedule

Mr. Prescott distributed a handout titled Interstate Aesthetic Management Plan, a copy of which is attached. The elements of the Plan include: Goal; Aesthetic Design Element Flow Chart; Status Report; Contractual Status; and Next Meetings. The Goal of the Plan is to determine the hierarchy of critical aesthetic design elements and develop a plan to bring resolution to the key aesthetic design elements in order to ensure continuity among TIS projects and maintain project schedules. The Aesthetic Design Element Flow Chart outlines procedures to be undertaken from 30% plans to completion in order to keep all the design projects on schedule.

Frank Balsamo (Parsons Brinckerhoff) indicated that it is imperative that some of the aesthetic details, particularly those dealing with noise walls on structures, be decided as soon as possible or they will begin to adversely affect the design schedule for Design Segments 3A and 3B. Design of the MSE walls and bridge structures cannot be completed until some of the aesthetic issues are decided. The DRC needs to decide the structural element types for the noise walls, the parapets, the beam and pier types, the lighting pad locations, the applications at the overpasses and the gateways. Jonathon Toner (Terra Techtonics) indicated that the wall patterns will be different at every location, a progression of patterns, the intensities of which will vary by location.

Elaine Illes (Task Manager, IPI) discussed the priorities for design element decisions. Ms. Illes referred to the TIS Urban Design Guidelines. Ms. Illes emphasized that the retaining walls and noise walls for the overall system need to be decided first so that the DTI noise walls, which will be lightweight, can aesthetically tie into the look of the remainder of the interstate system. This makes the noise wall/retaining wall decision critical and top priority since KCA is revising 60% plans and is ready to move toward their November 2000 90% deadline. The second priority should be on-system lighting, in order to try and coordinate the "new interstate look" with projects north of the interchange near construction.

Presently, there have been no decisions with regard to landscaping, which will heavily influence the design. Meetings with the City of Tampa concerning a potential maintenance agreement have occurred as FDOT is waiting for comments from City staff.

With regard to the Downtown Interchange, Ms. Illes reported that there are only two existing bridge structures that will require noise walls. All other noise walls will be constructed on new bridges. The discussion immediately turned to noise wall design. Frank Balsamo indicated that light-weight noise walls are the designer's preference whether the wall is on an existing structure or on a new structure. In addition, even light-weight concrete is too heavy. Someone asked how the noise walls will be attached to the

jersey barriers. In order to present a uni-wall appearance from the outside, the noise walls should be separate structures that stand behind the jersey barriers. This way the jersey barrier is not visible from the community's side. Irwin Prescott pointed out that the Downtown Interchange is an exception to the Urban Design Guidelines because we are not constructing the ultimate interstate configuration.

Frank Balsamo asked about the locations of noise walls in Design Segments 3A/3B. Elaine Illes explained that a special noise meeting is scheduled for Friday March 3rd to finalize the barrier locations. Those recommended locations will be submitted to FHWA for their review following that meeting. The noise wall locations should be finalized as soon as FHWA completes their review, within a month to six weeks.

With regard to lighting, Irwin Prescott reported that cobra head fixtures with a flat glass element and high pressure sodium bulbs had been approved for the interstate system. Elaine Illes indicated that Bijan (FDOT) had requested that Lockner conduct a lighting study examining several different types of fixtures including the triangular pole system shown at the Downtown Interchange 60% Workshop. Lockner's report will be complete on Friday March 10th. Some new lighting options may surface as a result of that report. The idea of aesthetic lighting fixtures was well received as some of the DRC members expressed displeasure with the cobra head fixture. Pole types and colors will also be resolved but are not critical decisions as they relate to maintaining the design schedule.

III. Aesthetics Status

Jane Burmer (URS Greiner) briefly described the status of the aesthetics in Design Segment 1B. At the present time, there is no provision for landscape design in the URS Greiner design contract. Therefore, landscape design work in Segment 1B has not been completed. This is apparently due to the fact that there is no approved maintenance agreement between the City of Tampa and FDOT. Wilson Stair (City of Tampa) said hardscape and landscape go hand in hand and that landscaping must be restored to Design Segment 1B. With regard to bridge aesthetics, Ms. Burmer has not been involved in that element of Design Segment 1B since the landscaping was removed from the contract.

Jonathon Toner (Terra Techtonics) discussed the ongoing aesthetics work in Design Segments 3A/3B. Mr. Toner hosted a design charrette at his office at the request of the Barrio Latino Commission on Friday February 25th. As part of the charrette, he invited several local architects with Ybor City experience to develop some concepts for bridges and walls. The group agreed that the goal should be to design bridges that look like bridges, not like historic buildings, although they should compliment the Ybor flavor. Numerous bridge concepts were developed which integrate well into the Ybor area. Results of the design charrette are attached. Mr. Toner presented several to the DRC. Wall concepts included arches with relief. Most of the treatments were designed for the 14th/15th Street and the 21st/22nd Street interchange.

Irwin Prescott asked Wilson Stair for recommendations of how to best coordinate the aesthetics with the Barrio Latino Commission. Mr. Stair advised to present preliminary

materials to the Barrio Commission prior to making decisions. If the Barrio Commission supports a concept, most Ybor City groups will support it too. Mr. Toner mentioned that the architects who lent their talents at the design charrette are willing to come back and assist with a presentation to the Barrio Commission. Mr. Toner indicated that he will have the sketches scanned and digitally reproduced, then bound in a document for submission to the Barrio Commission for their consideration and discussion. A Friday morning Barrio Commission work session seems the most appropriate venue for this type of discussion.

With regard to the aesthetic status in the Downtown Interchange, Elaine Illes reported that the Tampa Heights neighborhood favors eliminating fencing wherever possible, such as where noise walls are installed; the thought being that noise walls perform the same function as the fence would in that location. The neighborhood is also in agreement regarding the type of off-system lighting to be used.

IV. Design Aesthetics Team / Coordination with the DRC

Ms. Illes indicated that the DRC was originally established to review major design submittals. Consequently, they have met very few times and it has been difficult to maintain continuity of any theme. The DRC is responsible for aesthetics for all of the TIS design segments. Since recently so many design segments have come on line, Ms. Illes recommended setting up an aesthetics group which would consist of Jonathon Toner (2A, 3A/3B), Jane Burner (1B), Elaine Illes (2B), a PBS&J representative (1C) and someone from the Genesis Group (1A). This group could develop system-wide recommendations to take to the DRC. Once the system-wide decisions are made, each designer can then concentrate on their own segment's specialty area(s). Irwin Prescott suggested that a structural designer attend all future meetings to make sure any proposed elements are structurally feasible. Frank Balsamo indicated he would attend as a structural designer. Ms. Illes indicated that the FDOT should also send a structural staff person to insure their comfort level with proposals.

Elaine Illes suggested that several meetings need to occur immediately among the aesthetic designers to settle some of these outstanding design issues. Ideally, the concepts developed for the Ybor area should be refined to only three or four concepts before going before the Barrio Commission. To date, the DRC is the only group to have seen the new Ybor concepts. The FDOT drainage representative of the DRC was absent from the meeting.

V. Action Items

- Elaine Illes will arrange the small aesthetic design meetings and will monitor the status of the final noise wall locations.
- Wilson Stair will contact Del Acosta at the Barrio Latino Commission to update him on the project status and let him know that we will be presenting some concepts to the Barrio Commission for their consideration. The priority is to

establish and agree on the aesthetic treatments for noise walls in Design Segments 3A/3B that would be compatible with the other design segments.

- Jonathon Toner will arrange a visit to a fiberglass wall manufacturer in Safety Harbor.

VI. Next Meeting

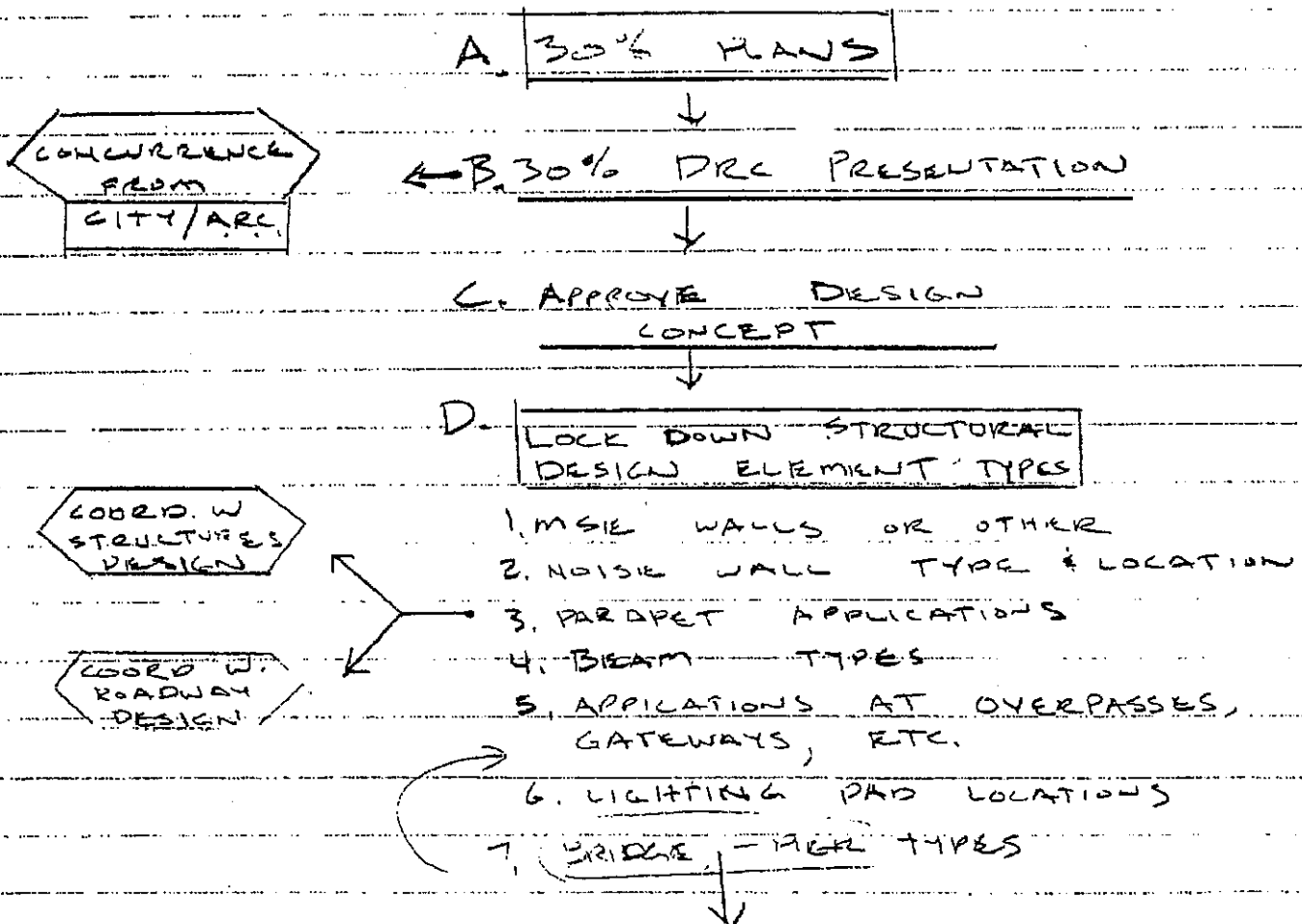
Elaine Illes will arrange the next DRC Coordination Meeting. The date, time, and place will be forwarded to all members with the minutes of this meeting.

FAX - ELAINE J → 639.0270

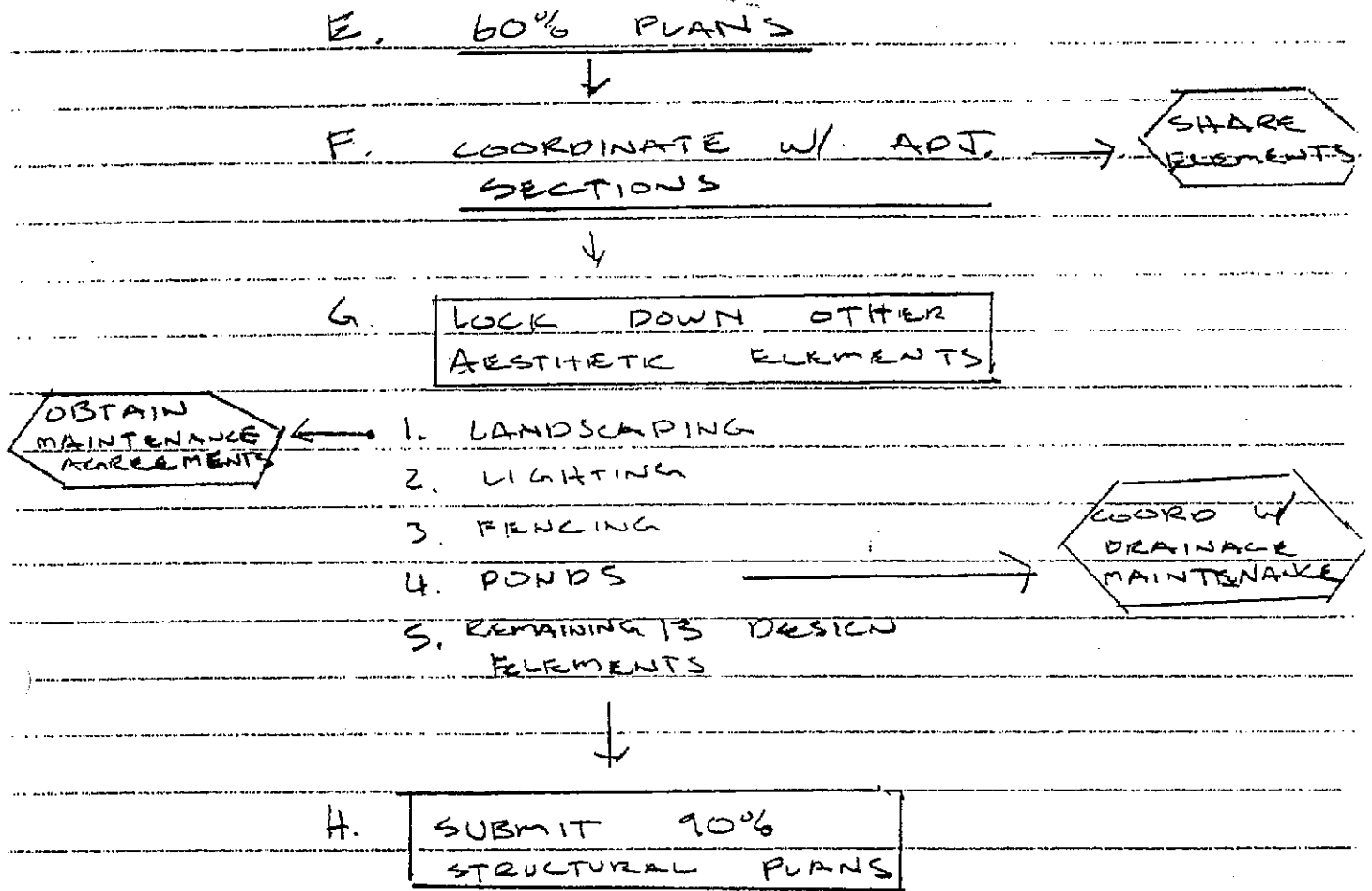
INTERSTATE ARTHETIC MANAGEMENT PLAN

I. GOAL - TO DETERMINE HIERARCHY OF CRITICAL ARTHETIC DESIGN ELEMENTS & DEVELOP A PLAN TO BRING RESOLUTION TO THE KEY ARTHETIC DESIGN ELEMENTS IN ORDER TO ENSURE CONTINUITY AMONG PROJECTS & MAINTAIN PROJECT SCHEDULES.

II. ARTHETIC DESIGN ELEMENT FLOW CHART



II FLOW CHART (CONT'D)



III STATUS REPORT (LAST DRC Mtg 3-2-00) ① CONCRETE

A) MSK WALLS - 5x5 MSK, DESIGN T.B.D.



FINAL DETERMINATION BY
DRC. BY APRIL 30th

B) NOSE WALLS - CONCRETE (I-4)

FINAL DETERMINATION BY LIGHTWT (DTI)
DRC BY APRIL 30th - DESIGN T.B.D.

OTHERS TO BE DET:

F) LANDSCAPING - COSTS TO BE FORWARDED
TO C.O.T.
- MAINT - AGREEMENTS PENDING

D) LIGHTING - Recessed Cobrahead w/
Diamond Bracket - Shown on
D.T.F
- Bijan is heading-up Lighting
options

(Local Lighting Determined)

E) Ponds - Require further treatment

IV CONTRACTUAL STATUS -

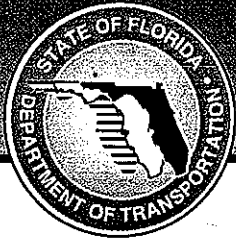
- SEE ATTACHED MATRIX

V NEXT MTGS:

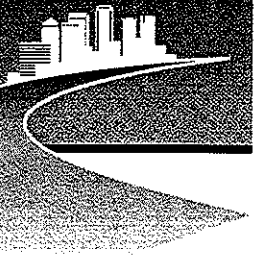
See Elaine * BARRIO PRESENTATION - MARCH
NEXT DRC COORD MTG ^{by} APRIL 30th
CST ^{No. 2 well} Lightweight Presentation - 7th April
(From Houston)

DESIGN REVIEW COMMITTEECOORDINATION MEETING

	STATUS	PRC Presentation	LETTING
2B	60% PLANS		2/02
3A-3B	60% PLANS	✓	4/03
1C	60% PLANS	✓	4/04 (w Mob 200
1B	30% PLAN	✓	4/04 (" " "
1A	15% PLANS	✓	7/06 (w Mob 200
2A	15% PLANS		7/06 (" "



Tampa Interstate Study



INTERSTATE SYSTEM WITHIN THE CITY OF TAMPA (in order of construction)

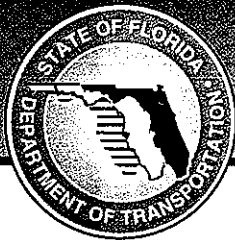
- 1) Downtown Operational Improvements (Design Segment 2B)**
 - 90% Plans due January 2001
 - ROW begins December 2000
 - Construction let Spring 2002

- 2) I-4, 14th Street to 50th Street (Design Segments 3A/3B)**
 - 90% Plans due January 2001
 - ROW begins March 2000
 - Construction let Spring 2003

- 3) Courtney Campbell Causeway (Design Segment 1C)**
 - 90% Plans due Winter 2001
 - ROW begins 2002/2003
 - Construction let April 2004

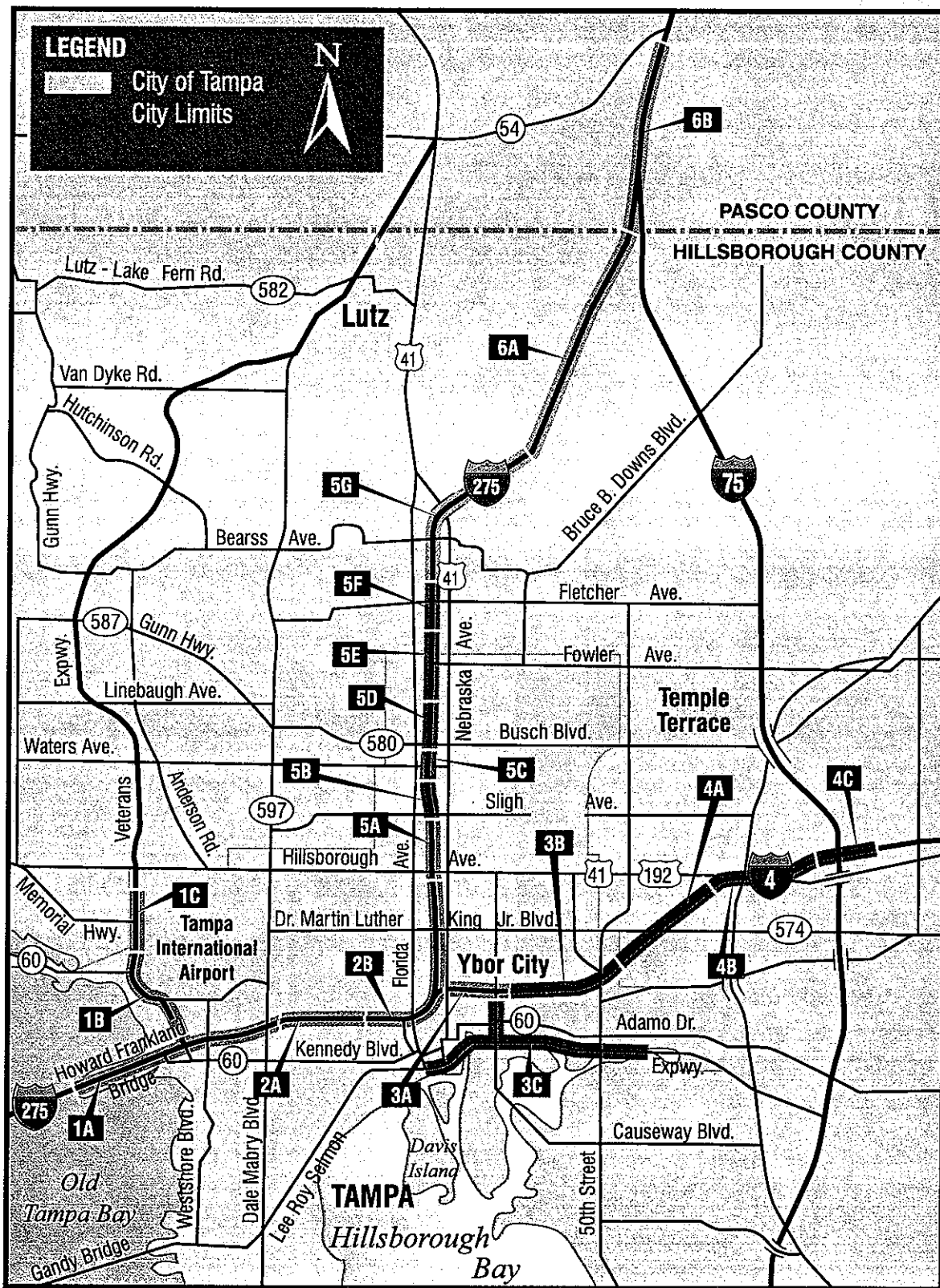
- 4) Spruce Street Interchange/TIA (Design Segment 1B)**
 - 60% Plans due Summer of 2000
 - ROW begins 2002/2003
 - Construction let April 2004

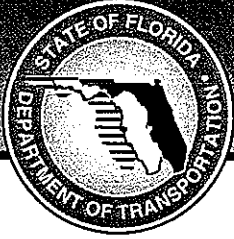
- 5) I-275 Tampa Bay to the Hillsborough River
(Design Segments 1A and 2A)**
 - 30% Plans due Winter 2001
 - ROW begins 2001 - 2004
 - Construction let July 2007



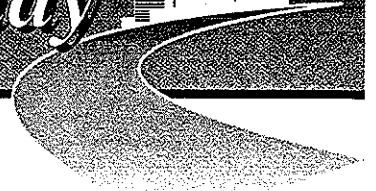
Tampa Interstate Study

INTERSTATE SYSTEM WITHIN THE CITY OF TAMPA





Tampa Interstate Study



DESIGN SEGMENT 2B (Downtown Operational Improvement)

- 1) Noise walls are 8' tall
- 2) Limited fencing on project
- 3) No additional land acquired for retention ponds
- 4) No residential relocations / (1) commercial building (3) relocations
- 5) Night time lane closures
- 6) Only night time detours (very limited)
- 7) Working with HART to relocate their facility
- 8) Require a small piece of the old Police Department property for ramp (survey was provided to city in 1996)
- 9) Require a small piece of Perry Harvey Park property
- 10) Scott Street permanently reduced to two lanes

Minimizing Driver Inconvenience

Florida Department of Transportation (FDOT) has a policy to maintain operation of as many travel lanes as possible during roadway construction. Unlike other portions of interstate reconstruction in Hillsborough County, the Downtown Interchange improvement project is primarily an operational improvement. Few new lanes will be constructed, thus often limiting the construction area to existing travel lanes.

To minimize inconvenience to the traveling public, there will be no lane closures or detours during peak travel periods. Any lane closures and detours will occur on Sunday through Thursday nights. To ensure safety while placing beams for new bridges or other structures and removing old structures, the travel lanes below these bridges must be closed.

Three detours will be required. The first two detours could span a period of one evening to possibly three weeks of Sunday through Thursday nights.

- For a short period of time when traveling north on I-275 to east on I-4, travelers will be routed north on I-275 to Dr. Martin Luther King, Jr.

Boulevard, where they will have a free movement u-turn and be routed south on I-275 to the flyover servicing eastbound I-4.

- A second detour will be required for those traveling northbound on I-275. These motorists will detour east on I-4 to the 21st/22nd Street interchange, make a u-turn and be routed back to I-275 for northbound traffic from I-4.

- Finally, due to constructability issues, the Ashley Street on-ramp will be closed for an estimated 3 months. All options have been considered in an effort to avoid this closure. Original calculations estimated night closures of one and a half years. However, further review determined the fourth lane was not constructible without closing the ramp. Traffic will be signed for the Jefferson Street/Orange Street on-ramp. In addition, Scott Street will

be permanently reduced from three lanes to two lanes to accommodate the additional lane on the interstate bridge.

Other minor detours required within the downtown interchange will utilize portions of the Kay Street/Jefferson Street exit ramp to avoid bridge construction on the through traffic lanes.

In the event that placing bridge beams requires the closure of a local street, work will also be completed Sunday through Thursday nights and parallel streets will be utilized for short detours.

Construction is estimated to require three to four years. As the project progresses, additional newsletters will address the construction plans in greater detail. Information concerning closures and detours will also be provided through media announcements, and a web site will provide real time travel information during construction.



Ashley Street Ramp

Do you wish to be added to the mailing list or speak with a team member?

Please note: If you received this newsletter in the mail, you are already on the project mailing list. If you would like to speak with a team member, be sure to leave a phone number where you can be reached.

Add my name to the mailing list ☐ I would like to speak with a team member ☐

Name _____

Address _____

Organization/Neighborhood Association _____

Telephone (day) _____ (evening) _____

Florida Department of Transportation
Tampa
11201 N. McKinley Drive
District Seven
c/o Parsons Brinckerhoff
Tampa Downtown Interchange
The Tampa Interstate Study
For Information Contact:

For Information Contact:
The Tampa Interstate Study
Tampa Downtown Interchange
c/o Parsons Brinckerhoff
1408 N. Westshore Boulevard, Suite 300
Tampa, FL 33607
(813) 289-5300

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Florida Department of Transportation
District Seven
Tampa Interstate Study
11201 N. McKinley Drive
Tampa, FL 33612



I-275/I-4 INTERCHANGE



TAMPA INTERSTATE STUDY

FP No. 258643 1 32 01

IMPROVING THE FUNCTION OF THE JUNCTION

I-275/I-4 Downtown Interchange

As a major link in Tampa's interstate system, the I-275/I-4 interchange continues to experience increased levels of traffic, congestion and delay. These high volumes, coupled with operational issues, such as lane balance and merge and diverge distances have resulted in this interchange being one of Florida's top priorities for improvement.

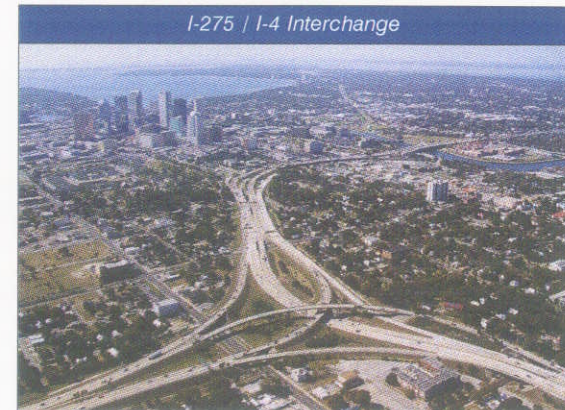
This newsletter presents the status of the I-275/I-4 Downtown Interchange project and describes the process to improve its safety and operations. Also featured are articles on potential noise barriers in the project area and plans to date for possible road closures and detours during interchange construction. An invitation for all interested persons to participate in the upcoming Public Workshop is also included (see inset below).

The project limits for the downtown interchange improvements are I-275 from the Hillsborough River north to Floribaska Avenue and I-4 from the I-275/I-4 merge to west of 19th Street, approximately 2.7

miles in length. Proposed improvements are as follows (see inside for key map):

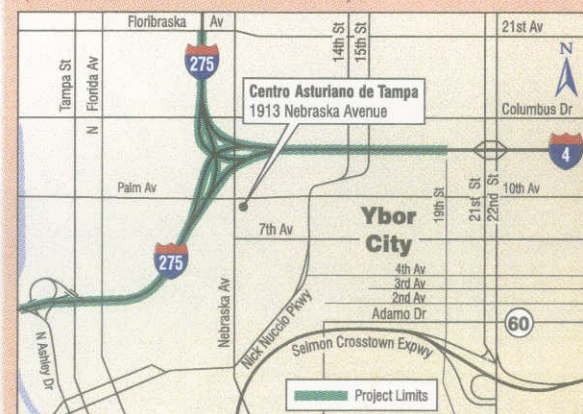
- An additional lane will be added on northbound and southbound I-275 from the Hillsborough River to the I-275/I-4 merge to provide four lanes in both directions for mainline through vehicles.
- For the Ashley Street on-ramp, a fifth lane will be added on northbound I-275. This improvement will allow on-ramp vehicles the time and distance needed to reach the proper speed for merging safely onto I-275. The added lane will also help to distribute traffic more evenly for vehicles destined for eastbound I-4.
- A long acceleration/taper for the right side Orange/Scott Street on-ramp to I-4 will be provided to allow vehicles time and distance to merge into outside lanes. This modification is necessary due to the lane added at Ashley Street continuing along northbound I-275 to eastbound I-4.
- A local auxiliary off-ramp system will be constructed to reduce the number of weaving vehicles.
- A second lane will be added on the southbound I-275 off-ramp to the local auxiliary ramp system to provide better lane balance at the exit.
- The existing Ashley Street off-ramp will be relocated to the local auxiliary ramp system. Benefits to the I-275 mainline from this improvement will be a reduction in the number of mainline off-ramps, elimination of the weaving on I-275, smoother operations for mainline through vehicles, and a reduction in the mainline volume after the I-4 merge.

Continued inside . . .



I-275 / I-4 Interchange

Centro Asturiano Grand Ballroom
1913 N. Nebraska Avenue
(Take elevator to the third floor)



Public Workshop Scheduled for January 2000

You are invited to attend the informal 60% Design Public Workshop scheduled for Thursday, January 27, 2000 from 4:00 p.m. to 7:00 p.m. in the Centro Asturiano Grand Ballroom (see accompanying map) for the I-275/I-4 Downtown Interchange Improvements. FDOT staff and their consultants will be available to discuss the project and answer your questions. Displays will be available for your review and comment.

Please plan to attend this important Workshop!

A Spanish-speaking contact person for this project is available at 207-2978. (La persona de habla hispana encargada de este proyecto se puede localizar en el telefono 207-2978.)

Potential Noise Barriers

One important factor in the Downtown Interchange project is the noise levels with the improved roadway. Potential noise barrier locations in the downtown interchange area have been considered throughout the course of this project. Due to limitations of existing structures, the noise barriers for this project will most likely be the first of their kind installed in Florida.

As part of any Florida Department of Transportation (FDOT) project, federal requirements known as the "Procedures for Abatement of Highway Traffic Noise and Construction Noise," 23 Code of Federal Regulations (CFR) Part 772, are followed to determine if abatement is to be considered and where it is needed.

Although the traveling public has an interest in the safety and driveability of the improved roadway, the Federal Code for noise abatement focuses on the effected receiver. By definition, the effected receiver is the property that is or will be subjected to highway traffic noise impacts. This explains the focus of the following federal noise evaluation process:

- **Complete a Noise Barrier Reevaluation.** Since the Tampa Interstate Study Master Plan in the late 1980s, potential noise barrier locations have been proposed. At each phase of the project, more detailed information is available and is considered in evaluating the location of potential barriers. With recent land use changes in the immediate vicinity of the downtown interchange, many modifications to the locations of noise barriers have occurred.

- **Survey the Affected Property Owners to Obtain Preferences (3 mailings).** This consists of three letters, including an introductory letter, a certified letter with preference survey and data sheets, and a reminder letter. Every attempt to get a 100 percent response will be made!

- **Evaluate Survey Results and Reevaluate Noise Barriers, if necessary.** Responses from the survey may result in the barrier design being adjusted to optimize its effectiveness.

- **Prepare Final Recommendations for Review by Federal Highway Administration (FHWA).** It is anticipated that FDOT's final recommendations will be forwarded to FHWA in late February 2000.

- **Work with the Community to Develop Aesthetic Treatments for the Barriers.** Consistency in appearance of the overall interstate system must be considered. However, there is considerable flexibility in aesthetic treatments that can be designed as part of the barrier. Design aesthetic meetings continue to be held. If you wish to be notified of the next work session, please make note of it on the "Do You Wish to be Added to the Mailing List?" section on the back of this newsletter and mail it to the address provided.

The Tampa Heights community has been pursuing a linear greenway to buffer the community from the interstate while providing recreational opportunities and a destination point within the

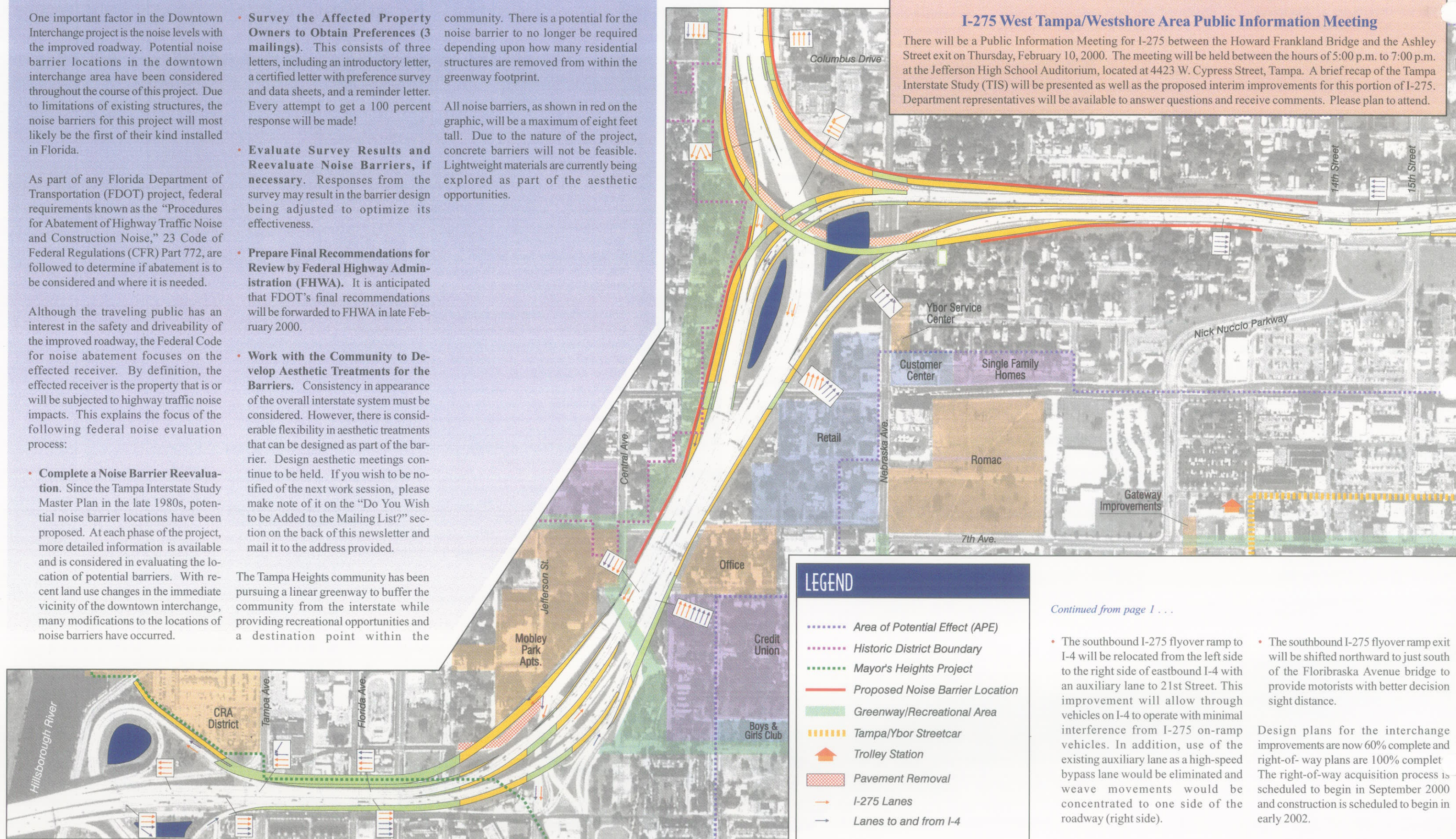
community. There is a potential for the noise barrier to no longer be required depending upon how many residential structures are removed from within the greenway footprint.

All noise barriers, as shown in red on the graphic, will be a maximum of eight feet tall. Due to the nature of the project, concrete barriers will not be feasible. Lightweight materials are currently being explored as part of the aesthetic opportunities.

Other Tampa Interstate Meetings:

I-275 West Tampa/Westshore Area Public Information Meeting

There will be a Public Information Meeting for I-275 between the Howard Frankland Bridge and the Ashley Street exit on Thursday, February 10, 2000. The meeting will be held between the hours of 5:00 p.m. to 7:00 p.m. at the Jefferson High School Auditorium, located at 4423 W. Cypress Street, Tampa. A brief recap of the Tampa Interstate Study (TIS) will be presented as well as the proposed interim improvements for this portion of I-275. Department representatives will be available to answer questions and receive comments. Please plan to attend.

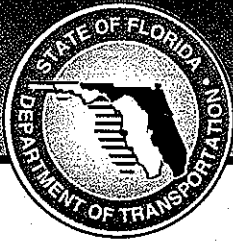


LEGEND

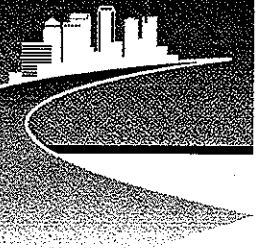
- Area of Potential Effect (APE)
- Historic District Boundary
- Mayor's Heights Project
- Proposed Noise Barrier Location
- Green Greenway/Recreational Area
- Tampa/Ybor Streetcar
- House Trolley Station
- Red Hatched Pavement Removal
- Orange Arrow I-275 Lanes
- Blue Arrow Lanes to and from I-4

Continued from page 1 . . .

- The southbound I-275 flyover ramp to I-4 will be relocated from the left side to the right side of eastbound I-4 with an auxiliary lane to 21st Street. This improvement will allow through vehicles on I-4 to operate with minimal interference from I-275 on-ramp vehicles. In addition, use of the existing auxiliary lane as a high-speed bypass lane would be eliminated and weave movements would be concentrated to one side of the roadway (right side).
 - The southbound I-275 flyover ramp exit will be shifted northward to just south of the Floribrisca Avenue bridge to provide motorists with better decision sight distance.
- Design plans for the interchange improvements are now 60% complete and right-of-way plans are 100% complete. The right-of-way acquisition process is scheduled to begin in September 2000 and construction is scheduled to begin in early 2002.

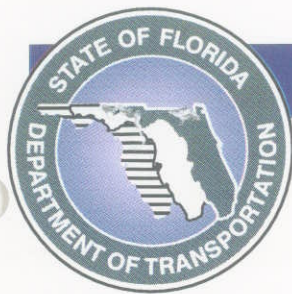


Tampa Interstate Study



DESIGN SEGMENTS 3A/3B (I-4 14th Street to 50th Street)

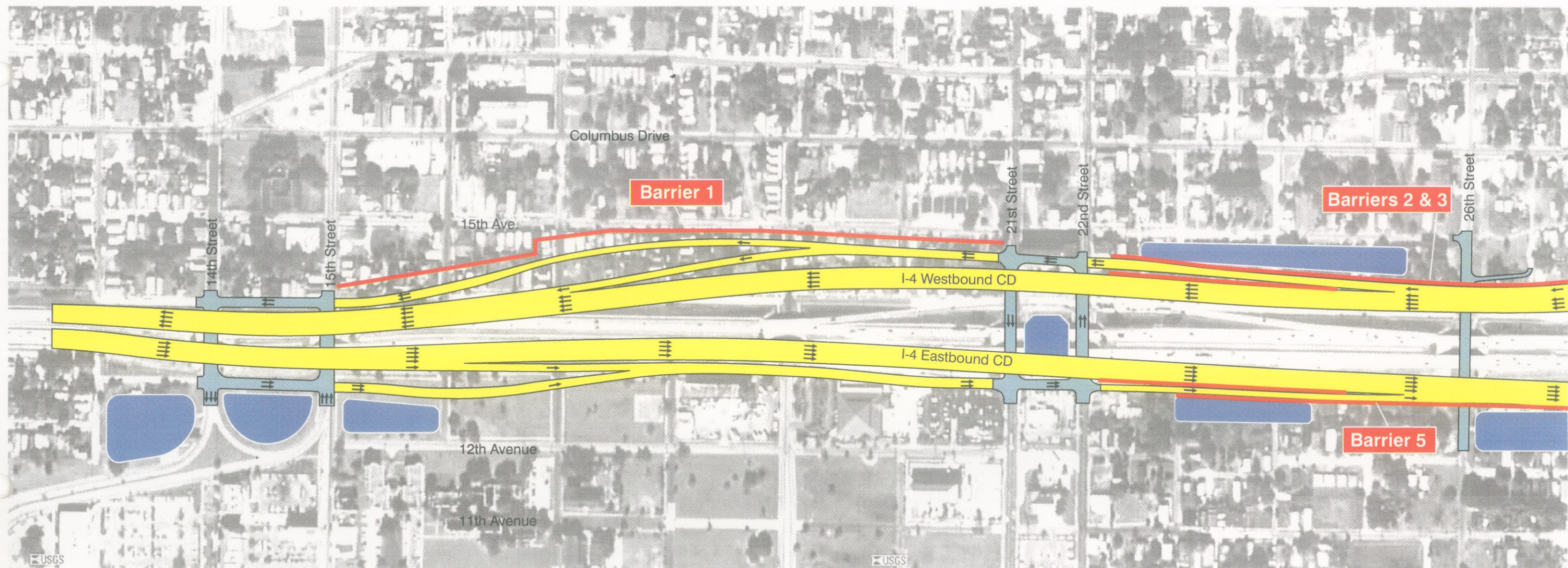
- 1) Noise walls currently vary from 8' to 16' in height
- 2) 21st/22nd Street ramps remain
- 3) Specialty Design Areas include 14th/15th Streets and 21st/22nd Streets
- 4) Fencing and lighting will reflect Ybor City character in Ybor
- 5) 32 Historic Structures are being relocated and rehabilitated within the Landmark District
- 6) Approximately two dozen structures will be made available to the public if they pay to move the structure
- 7) Crosstown Connector is not currently funded
- 8) Acquiring City and vacant land south of interstate that is zoned residential

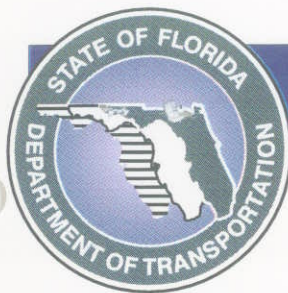


LEGEND

January 19, 2001

-  Financially Feasible Alternative (under design)
-  Not Currently Funded
-  Local Street Improvements
-  Potential Pond Locations
-  Proposed Noise Barriers





Project Improvements and Noise Wall Locations

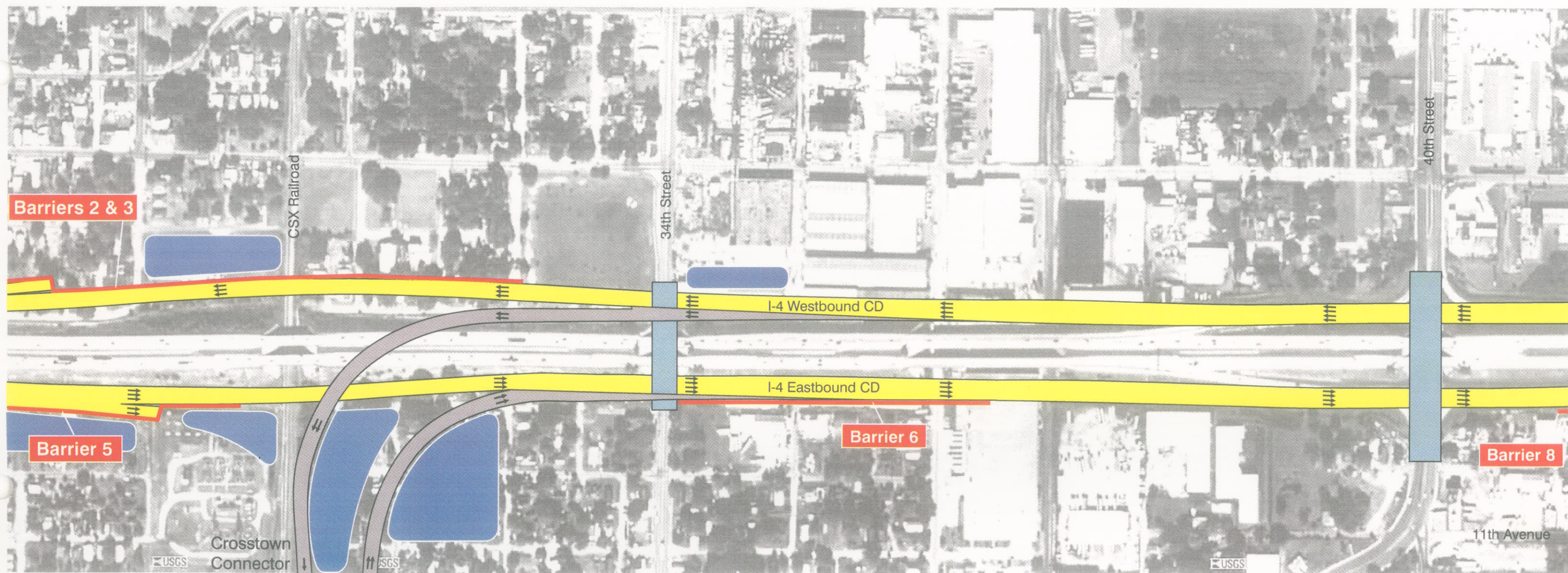
Sheet 2 of 3

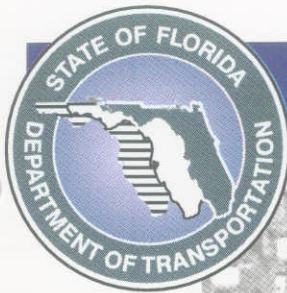


LEGEND

January 19, 2001

-  Financially Feasible Alternative (under design)
-  Not Currently Funded
-  Local Street Improvements
-  Potential Pond Locations
-  Proposed Noise Barriers





Project Improvements and Noise Wall Locations

LEGEND

January 19, 2001

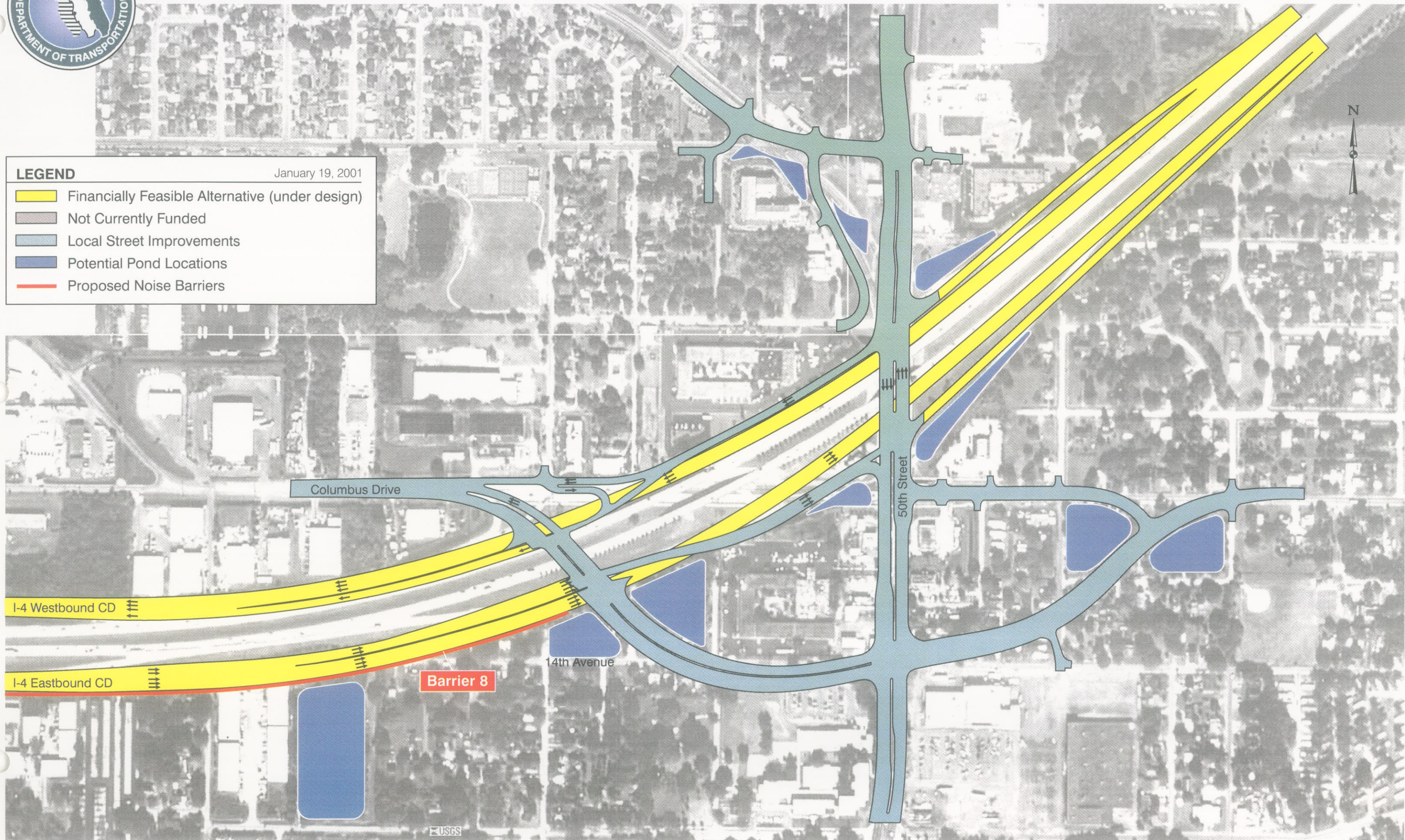
Financially Feasible Alternative (under design)

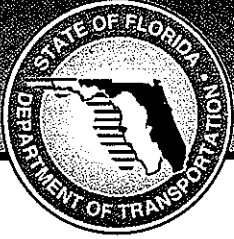
Not Currently Funded

Local Street Improvements

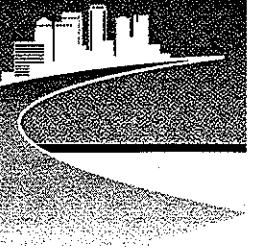
Potential Pond Locations

Proposed Noise Barriers





Tampa Interstate Study



DESIGN SEGMENT 1C **(Courtney Campbell Causeway)**

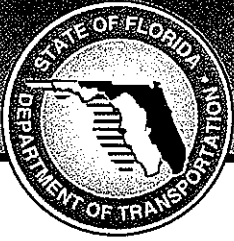
- 1) One proposed noise wall adjacent to Dana Shores - 12 ft. tall
- 2) All businesses on north side of Courtney Campbell Causeway will be relocated
- 3) Aesthetic Treatment of this segment focuses on spot landscaping and terraced landscaping at bridge ends

DESIGN SEGMENT 1B **(Spruce Street Interchange/TIA)**

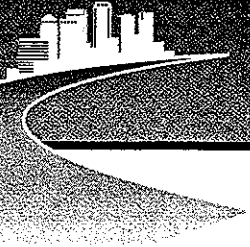
- 1) No noise walls
- 2) No relocations
- 3) Includes entrance to TIA
- 4) Aesthetic Treatment of this segment focuses on spot landscaping



LINKS
STAGE I
Proposed Improvements
Interim Plan



Tampa Interstate Study



DESIGN SEGMENT 1A/2A (Bay to the River)

- 1) Virtually continuous noise walls from Westshore to the Hillsborough River (recommended in Environmental document)
- 2) Specialty areas include Westshore Business District and the West Tampa National Register Historic District (Howard/Armenia intersections)
- 3) Fencing and lighting will reflect each individual specialty area
- 4) Five Historic Structures are being relocated and rehabilitated within the historic district.
- 5) Original TIS plans included few ponds in these segments; new pond locations are currently being evaluated
- 6) Acquiring the West Tampa Boys & Girls Club
- 7) Acquiring Carver Center
- 8) Acquiring portions of North Boulevard homes



Project Improvements For I-275, From Howard Frankland Bridge To Himes Ave. Sheet 1 of 3

LEGEND *September 25, 2001*

- I-275 Interstate, (Under Design)
- I-275 Bridge, (Under Design)
- Local Street Improvement
- Potential Pond Location

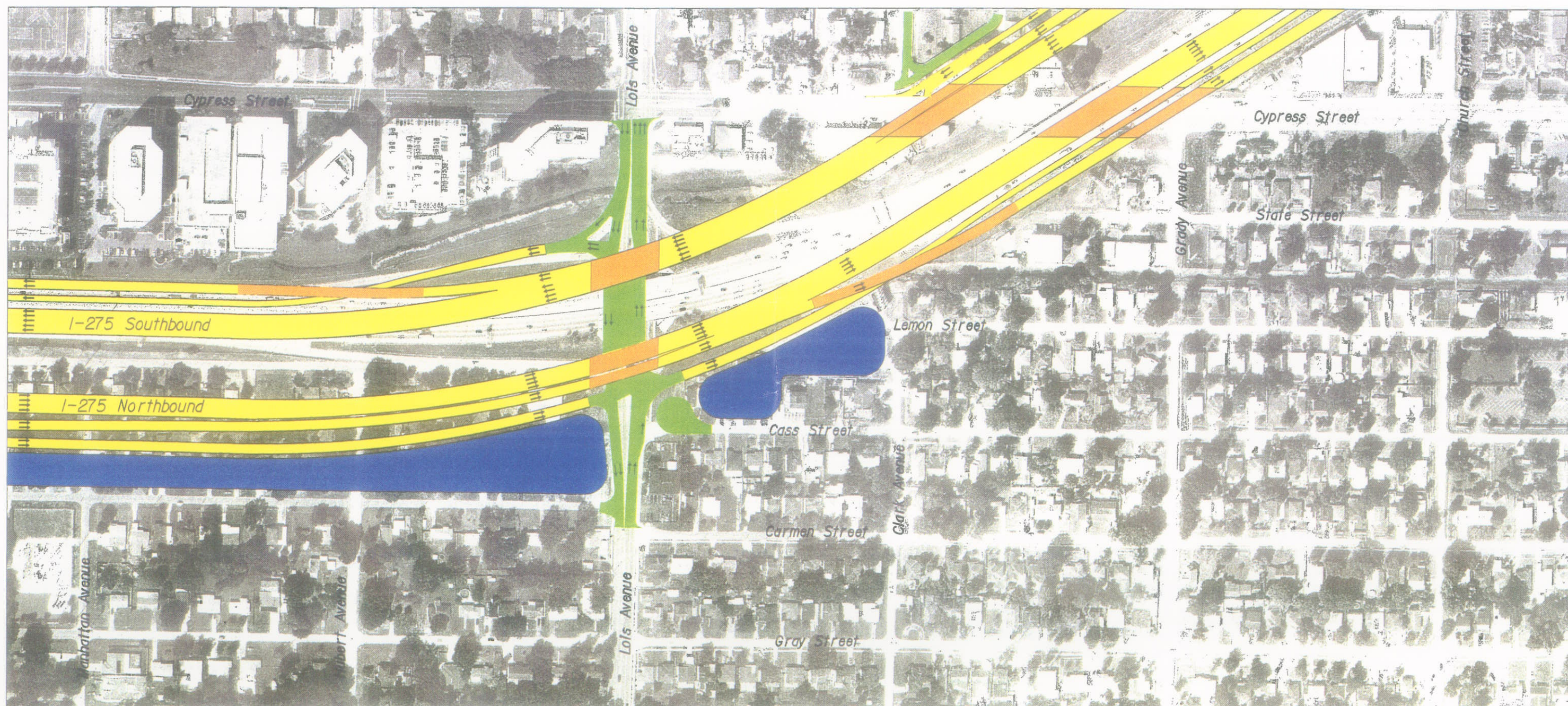




Project Improvements For I-275, From Howard Frankland Bridge To Himes Ave. Sheet 2 of 3

LEGEND *September 25, 2001*

- I-275 Interstate, (Under Design)
- I-275 Bridge, (Under Design)
- Local Street Improvement
- Potential Pond Location



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**INTERSTATE DESIGN AESTHETICS TEAM MEETING
MARCH 21, 2000**

AGENDA

I. Meeting Goals/ Schedule of Events

II. Materials Previously Presented to the DRC (Bridge Type, Wall Types, Lighting)

- A. Design Segment 1A
- B. Design Segment 1B
- C. Design Segment 1C
- D. Design Segments 3A/3B

III. Wall Treatments Presented still Reasonable and Feasible

- A. Retaining Walls (type and material)
- B. Shoulder Barrier Noise Walls on Retaining Walls (material and height)
- C. Shoulder Barrier Noise Walls on Bridge Structures (material and height)
- D. Noise Walls on Right-of-Way (type, material and height)

IV. On- System Lighting

- A. Illuminare/Fixture
- B. Pole Type/Finish

V. Action Items

March 22, 2000

MEMORANDUM

TO: Interstate Design Aesthetics Team
FROM: Elaine C. Illes / Mark Jennings
SUBJECT: Interstate Design Aesthetics Team Meeting, March 21, 2000

On Tuesday March 21, 2000, the Tampa Interstate Study (TIS) Interstate Design Aesthetics Team met at 9:30 a.m. at the office of Terra Tectonics in Tampa. A copy of the meeting agenda is attached.

Elaine C. Illes (TIS Aesthetics Task Manager, IPI) began the meeting with introductions. A copy of the sign-in sheet is attached.

I. Meeting Goals / Schedule of Events

Elaine Illes stressed the importance of the various design schedules and the importance of making aesthetics decisions immediately for the entire system before it creates revisions to the design. The critical time of integral aesthetics design is now. Overall, aesthetics have received little attention from the District to date, with few exceptions. In many cases, landscaping has been removed from the Design Contracts due to a lack of a Memorandum of Agreement (MOA) with the City of Tampa regarding landscape maintenance. Meetings/discussions are in progress to move toward the development of an MOA. If an agreement can be reached, all design segment contracts will be supplemented to include landscaping once the MOA is in place.

Elaine then briefly summarized the DRC Meeting held March 2, 2000 and the field trip to Increte. Some general discussion followed about bridge types, wall types, and lighting. Elaine noted that a meeting will be held on March 27, 2000 with Irwin Prescott to discuss noise wall issues in the Downtown Interchange and Design Segments 3A/3B. Frank Balsamo (Parsons Brinckerhoff) has been researching some issues and Elaine asked him to report on his findings. Frank noted that noise walls mounted on MSE walls will not need extra strap length so the MSE walls are feasible in the Downtown Interchange with noise walls.

Frank also mentioned that a significant bridge design conference will be held in Tampa on April 3rd and 4th. Don Keenan and Jose Rodriguez will both attend. Since Don Keenan (FDOT Tallahassee) reviews all BDRs for FDOT, it is important to involve him in some of the pending decisions regarding interstate structure design in Tampa. Frank will try to arrange a meeting with him immediately following the conference, say April 5th or so, to discuss both technical and aesthetic questions with him.

Elaine Illes indicated that the Interstate Design Aesthetics Team needs to make a recommendation on wall types as soon as possible, hopefully in time for the meeting with Mr. Keenan.

II. Materials Previously Presented to the DRC

A. Design Segment 1A

Elaine Illes noted that not all of the designers have seen what has been presented to the DRC. Therefore, to get everyone up to speed, she highlighted past presentations and decisions concerning aesthetics.

Elaine Illes displayed boards that the Design Team for Design Segment 1A used during their DRC presentation. The group agreed that the five by five panels that were agreed upon years ago had no particular constraints and should remain as the recommended retaining walls. The Westshore Area was presented as attractive but not high end. High-end aesthetics are reserved for the Ybor City and West Tampa areas. The focus was on portals and gateways. Jane recommended the use of earth tones and neutral colors due to their fade resistance and durability. This is consistent with the buff color recommendations in Design Segment 1A; however, a lot of the accent colors presented years ago were red and blue.

Jane reminded everyone that structure designs were specified in the Urban Design Guidelines, which we should be following unless otherwise superseded by technical issues. HNTB apparently has had a problem in Design Segment 1A utilizing a box girder design because the depth of the box is causing a clearance problem at particular locations. Genesis Group is going to do the aesthetics within Design Segment 1A. Noise walls are continuous in Design Segment 1A tying into 2A. The majority of the project throughout that area is retaining wall.

B. Design Segment 1B

In accordance with the Urban Design Guidelines, Jane Burmer recommended the use of hammerhead piers in Design Segment 1B. She presented a few concepts showing variations on pier design. However, boxes were eliminated from this design segment and replaced with steel plate structures. AASHTO girders are also included where Level One structures have been identified. The Tampa International Airport ALS bridge will require some special consideration for aesthetics. It is especially challenging. Jane showed some lighting samples. There are no noise barriers within Design Segment 1B and no landscaping plans have been developed since they were removed from the contract.

C. Design Segment 1C

Steve Malecki (PBS&J) discussed bridge design throughout Design Segment 1C. At the direction of Don Keenan, most of the structures were changed from box type girders to

steel plate. A Florida Bulb-T design is being used on the Courtney Campbell Causeway structure at the entrance to the Hyatt-Westshore. All remaining structures within the design segment are steel plate girders. The pier types were discussed at several locations. Jane Burmer and Elaine Illes briefly discussed the Urban Design Guidelines and the fact that there had been a decision to compromise the structure types in Design Segments 1B and 1C in order to enable the structures in Segments 1A, 2A, and 3A/3B to remain as previously committed to.

Steve Malecki indicated that FDOT had chosen to go with spot landscaping instead of spending significant money on aesthetic structures. Plate girder structures will be painted light colors on the outside and dark colors underneath the structures to reduce the visual attention and unattractive structural look. Jane Burmer pointed out that the least expensive pigments are the natural earth tones, which also are the most fade resistant.

Steve indicated they will likely design some terraced landscaping for aesthetics at the bridge ends in the area that faces the Dana Shores neighborhood. Ease of maintenance is of great importance noted Jane Burmer and this area would be easy to access. Discussion turned to the large wetland adjacent to the Hyatt-Westshore and abutting the roadway. A retaining wall is proposed adjacent to the wetland, which is actually a mitigation site for previous wetland encroachment. A utility strip will need to be reserved just outside the limits of the wall. Landscaping will not be necessary in that location as a maintenance berm would be needed, further encroaching on the wetland. As long as non-corrosive straps are used, the base of the retaining wall and the wetland can come into contact with each other.

According to discussions with Irwin Prescott and John Simpson (FDOT), irrigation is currently being considered only along the outside of the roadway, not within the median areas. Much discussion followed. Elaine tabled the discussion until a later date and directed the group back to the agenda.

Noise analysis recently completed by PBS&J shows that a continuous noise barrier is needed along the north side of the Courtney Campbell Causeway to shield the Dana Shores neighborhood from traffic noise. At present, the barrier is contemplated to be located behind the Jersey barrier. PBS&J is not currently under contract to design the noise barrier.

D. Design Segment 3A/3B

Frank Balsamo said the FDOT is still reviewing 30% structure plans. AASHTO girders are to be used at 14th and 15th Street to match the existing structures; Florida Tubbs are to be used at 21st, 22nd and 26th Streets; AASHTO girders are to be used over the CSX Railroad tracks; the structure type is undecided at the Clorox complex; a Tubb design will be used again at 34th and 40th Streets; and plate girders will be used at Columbus Drive and 50th Street. Structure types at the Crosstown Connector have not been decided.

Carrol Bryant (ESA) distributed a graphic showing the proposed locations of noise walls throughout Design Segments 3A/3B. Numerous noise wall height variations will be used including 8-, 10-, 12-, 14-, and 16-foot high segments.

Jonathon Toner visited Ybor City to photograph images of existing wall faces, arches, cornices, etc. He identified numerous types for consideration in the development of wall treatments. Initially, Jonathon was considering only a one-dimensional approach because of limited right-of-way; however, recent meetings have resulted in providing two feet of space so that a three dimensional treatment could be applied. That opens up a world of possibilities for amenities.

Jonathon has devised a concept of pedestrian zones around the base of bridge piers and along the base of walls. In these locations, real materials such as brick would be used. Above approximately eight feet, materials would change and simplify as you go higher. He has received positive feedback on the proposed arch concept on the bridges. These would employ a colored base with a buff color above to give the illusion of an arch. Jonathon also provided a "uniwall" concept and detailed how it would incorporate the noise and retaining wall. The outside finish would have the same texture and look of concrete.

Frank Balsamo has been doing some research on noise barriers placed on top of MSE walls. Eight-foot noise barriers are being constructed on top of four-foot Jersey barriers along the Suncoast Parkway in Section 1. Support posts are spaced 6.5 feet apart and concrete wall slabs are slid down into place. Frank has developed two wall scenarios: a detached wall from the Jersey barrier wall (approximately six inches have been included in the Downtown Interchange plans); and an attached wall constructed on top of the Jersey barrier wall. The typical Jersey barrier is 2 feet, eight inches tall. Where the noise walls have been constructed on top, the Jersey barriers have been built to a height of four feet along the Suncoast Parkway.

Within Design Segment 2B (Downtown Interchange) a six inch gap has been left between the outside Jersey barrier wall and the noise wall. Carrol Bryant indicated that unless the gap contains some sort of filler or sound deadening material, the traffic noise will reflect through the gap to the neighborhoods below. Frank said he knew of no plans to place a fill material in that gap. Frank then distributed copies of a cost estimate he has prepared for the structures and walls. His wall costs include only the footer. He needs the aesthetics team to tell him what the sound wall will be composed of before he can develop an estimate for that. We are still trying to identify a light-weight barrier structure that can go on top of structures. Currently, no light-weight materials have been approved for Florida. However, if the FDOT District requests a specific material or product, it can greatly speed the approval process for that material or product. It also speeds the approval process if the process being proposed has been implemented somewhere else previously.

It is the goal of the Interstate Design Aesthetics Team to unify a wall design for the entire Tampa interstate system prior to meeting with Don Keenan. Once the design has been

established and agreed to by Don Keenan, the Team can relate the concept to manufacturers who can propose methods and products to help achieve the goal.

III. Wall Treatments Presented Still Reasonable and Feasible

A. Retaining Walls

The type and composition of retaining walls was discussed briefly. Walls will likely be cast five by five sections. Earth tones will be used due to their ability to withstand fading. The Tech-wall design is too expensive to be feasible for this project. The noise barrier material is still undecided.

B. Shoulder Barrier Noise Walls on Retaining Walls

Shoulder area noise barriers will vary in height from eight feet above road surface to sixteen feet above road surface. The noise barrier material is still undecided.

C. Shoulder Barrier Noise Walls on Bridge Structures

This type of barrier will be eight feet in height above the road surface. The noise barrier material is still undecided.

D. Noise Walls on Right-of-Way

The standard FDOT noise wall is concrete. Aesthetics will compliment the landscape and other hardscape plans.

Elaine Illes stated she felt it is very important for a good representation of aesthetic designs at the meeting with Don Keenan to try and convince him that aesthetics are needed. She recommended that each consultant prepare a list of the structures they are designing as well as a list of questions for Mr. Keenan. The aesthetics people need to develop a list of issues to discuss. Among the issues that need to be stressed are: a high level of aesthetics were specified in the Urban Design Guidelines and conceptually developed for the project and included in the Commitments; a number of compromises have already been made in the design of the project for the sake of cost; and the designers have agreed on the aesthetics proposed for continuity throughout the interstate. Elaine asked for a list of issues from everyone by March 29, 2000 in order to prepare an agenda for the meeting with Mr. Keenan the following week.

Steve Malecki reminded everyone that bridge pier consistency needs to be addressed. The hammerhead design seems to be proposed the most. He recommended a meeting among the designers to define parameters and make some progress. It was agreed that the Interstate Aesthetics Design Team would meet again on Tuesday April 11, 2000 at the office of Terra Tectonics.

IV. On-System Lighting

Elaine Illes indicated that there is a brief window of opportunity to agree on lighting for the entire interstate system. Any system agreed on for TIS can also be installed on the segments of interstate being reconstructed north of the TIS project limits. Lockner prepared a report that examined approximately twenty different lighting fixtures and lens combinations and identified which meet the current spacing design. The pole type is secondary at this time. Elaine asked Frank Balsamo what type of fixture had been proposed by PBQD for use on the interstate. Frank replied a standard cobra-head with flat or dropped lenses. He will verify this. Bijan (FDOT) has excluded prismatic lenses from the Lighting Report. There was preliminary consensus that poles should be bronze or another earth tone. White and black stand out from the background and are somewhat distracting.

The meeting concluded at approximately 12:00 p.m.

Interstate Design Aesthetics Team MeetingMarch 21, 2000 - Terra Technics9:30 a.m.NameRepresentingPhone

Mark Jennings

URS Greiner

224-0448

Carrol Bryant

TSI/ESA

727-572-5226

Jonathan Toner

Terra Technics

258-4504

John A. Cerreta

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Steve Malecki

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Frank Balsano

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207-2948

Jane Burner

UPPERMER

286-1711

Elaine C. Illis

IPI

286-0125

April 3, 2000

MEMORANDUM

TO: Tampa Interstate Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Meeting, March 29, 2000

On Wednesday March 29, 2000, the Tampa Interstate Study (TIS) Interstate Design Aesthetics Team met at 12:00 p.m. at the Safety Harbor Resort to attend a presentation by Mr. Steve Rissi of L. M. Scofield, Inc. L. M. Scofield is a manufacturer of colored concrete systems. A copy of the sign-in sheet is attached.

Mr. Rissi described L. M. Scofield's products and provided a slide presentation showing commercial, residential, and public uses of their products around the country. Local applications include St. Petersburg's "Pink Streets" on Pinellas Point and Disney's Animal Kingdom. While most applications of their products are horizontal in application (floors, sidewalks, driveways), vertical (wall) applications work as well.

In discussing the cost, Mr. Rissi stated that typical gray concrete is approximately \$60/yard versus approximately \$100/yard for integrally colored concrete. Many custom colors can be mixed at no additional charge. From a contractor's perspective, the product is very easy to use. Color pigments are batched in bags that are simply dropped in a yard of concrete mix to create an integral color. Colors turn out even and consistent batch to batch.

Another Scofield product is a surface color hardener. This product is used to add color and durability to existing concrete surfaces. This topical colorization and hardening process is similar to the application of a stain, it penetrates the concrete surface, and can match virtually any color. Stamped color concrete is another Scofield product. The stamping process provides a custom texture finish as well as color to concrete surfaces. For instance, concrete floors can be made to resemble brick, stone, wood planks, or almost any other texture desired. The typical cost for stamped concrete is approximately \$5 to \$6 per square foot for gray concrete. Color matched components, such as caulk, are manufactured as well.

Jane Burner (URS Corporation) asked if Scofield can match federal colors. Mr. Rissi responded yes, absolutely.

Another Scofield product or technique is the topping of existing concrete surfaces to add color. This process includes adding a one-quarter inch to one-half inch of colored polymer based concrete to the top of existing sidewalks, driveways, and other concrete

surfaces. On vertical surfaces such as walls, the process involves rubbing on a special stain that penetrates the existing concrete slightly. In very high traffic areas, integrally colored concrete is often topped with a color hardener resulting in a 6,000 psi concrete which resists abrasion, erosion, and color wear.

When Jose Rodriguez (FDOT) asked about colored concrete beams and roadway work in general, Mr. Rissi responded he would inquire company-wide about such uses and provide the locations as well as DOT references, if applicable. Mr. Rissi mentioned that fly ash, a common additive to concrete mix for roadway uses, can disrupt the uniform colorization process and he does not recommend its use in colored concrete applications. He prefers a silica additive.

Frank Balsamo (Parsons Brinckerhoff) asked Mr. Rissi for assistance in preparing cost estimates he may develop to include color concrete. Mr. Rissi agreed.

The Scofield presentation concluded at approximately 1:30 p.m. At that time, members of the Interstate Design Aesthetics Team traveled to the manufacturing facility of Spaulding Craft Inc. in Safety Harbor for a product orientation and tour of their facility.

Spaulding Craft is a manufacturer of custom fiberglass reinforced plastic (FRP) architectural building components. Their products are used in new construction, rehabilitation, historic restoration, ornamentation, furnishing, and other unique applications for construction.

FRP is adapted to building and construction uses including highly configured load bearing and semi-structural designed components. FRP is typically used in advanced design projects, reproduction or restoration projects, and functional and structural combinations. The high tensile strength achievable with FRP composites, along with a low modulus of elasticity, allows for design options not possible with other construction materials used for similar processes.

The Spaulding Craft tour was lead by George Spaulding, President. Mr. Spaulding provided a slide presentation showing several construction projects using custom designed Spaulding FRP products. In addition, Mr. Spaulding distributed small samples of a wall panel which he custom cast for the Design Aesthetics Team. Possible uses of FRP materials on TIS include aesthetic treatments, ornamentation, noise walls, etc.

The tour of the Spaulding Craft facility concluded at approximately 4:00 p.m.

TO: Elaine
from: Steve R.

L. M. Seifield Presentation

FDOT Design Team

14 Florida Turnpike

Name	Company	Phone
1) Steve R.	L. M. Seifield	727-572-272
2) Mark Jennings	URS Greiner	(813) 224-0448
3) Frank Balsano	Parron Brinckerhoff	(813) 289-5300
4) Elaine C. Dles	IPI	(813) 286-0125
5) JANE F. BURMER	URS Greiner	813-286-1711
6) Carol Bryant	TSI/ESA	727-572-5826
7) Jonathan Toner	TERRATECHNICS	813-258-4504
8) George Spaulding	SCI	727-112-3037
9) K.C. Lion	Parron Brinckerhoff	813-289-5300
10) JOSE S. RODRIGUEZ	FDOT-STRUCTURES	813-975-6129
11) JOHN SIMPSON	FDOT- LANDSCAPE ARCH.	813-975-6442
12) NENE STRALOW	HILLSBOROUGH COUNTY	813-276-8887

Chapter 1 - INTRODUCTION

1.1 Scope

These Recommended Guidelines are intended to provide information to assist in planning, preparation of specifications, design, execution and supervision of the manufacture and installation of fiberglass reinforced plastic (FRP) architectural products.

These products are used in new construction, rehabilitation, historical restoration, ornamentation, furnishing, and other unique applications in the construction environment. The purpose of these Recommended Practices is to promote an understanding of fiberglass products among design professionals and encourage quality and uniform procedures among the architectural community of FRP fabricators.

Data presented emphasize the architectural use of contact molded (also termed open molded) reinforced plastics. This time-tested production method is increasingly supplemented by other fabrication methods such as resin-transfer molding, compression molding, pultrusion, and filament-winding. Readers interested in further information concerning these fabrication techniques are encouraged to contact the Composites Fabricators Association or qualified member companies.

1.2 General Description

Fiberglass reinforced plastics (FRP) are composites in which the fiberglass reinforcement imparts strength and stiffness, while unsaturated polyester or other resins provide the matrix supporting the glass filaments, bonding them together and distributing applied loads to the reinforcing fibers.

Since the mid-1950s FRP has been adapted to building and construction uses. In historical sequence these applications have appeared as opaque and translucent sheet panels; space frame skin structures; structural forms for concrete; sandwich panel structures; and most recently a variety of highly-configured load-bearing and semi-structural designed components.

Typically, FRP architectural molding is done in an open mold. The mold surface, which imparts the finish surface to the completed part, is coated with a durable coating known as gel coat. Then various piles of fiberglass laminate are built up by use of hand lamination or purpose-built spray equipment. These spray guns deposit short fibers and catalyzed resin onto the mold surface. The part is usually cured at room temperature.

Additives and various fillers, incorporated in the fiberglass-resin matrix, enable fabricators to provide finished products with special properties such as resistance to ultraviolet radiation, enhanced fire retardance, corrosion-resistance, and color effects. The illustrations on the following page demonstrate the versatility of architectural FRP products.

1.3 Advantages of FRP

Flexible design. FRP begins with a liquid polymer resin and formable glass fibers. The finished shape can therefore be curved, corrugated, ribbed and contoured in a variety of ways. Unlike homogenous materials, the thickness of FRP structures can be varied within an individual panel or component to increase the strength and stiffness in specific sections.

High strength with low weight. Per unit of weight, FRP is among the strongest commercial materials available. Pound for pound, FRP is stronger than concrete, steel and aluminum. FRP's toughness allows thin sections to be used and stiffness can be acquired without substantially increasing weight.

Durability. Since color can be molded into the laminate, painting can be eliminated or greatly reduced. Exposed FRP structures have proven the material can weather extremes for more than 30 years. FRP architectural parts greatly reduce maintenance costs.

Parts consolidation. A single FRP structure can replace an assembly of many parts and fasteners. This feature saves time, cuts assembly costs, and has given rise to the "cascade effect" of benefits for the user. For example, lighter equipment and smaller work crews can be used during installation.

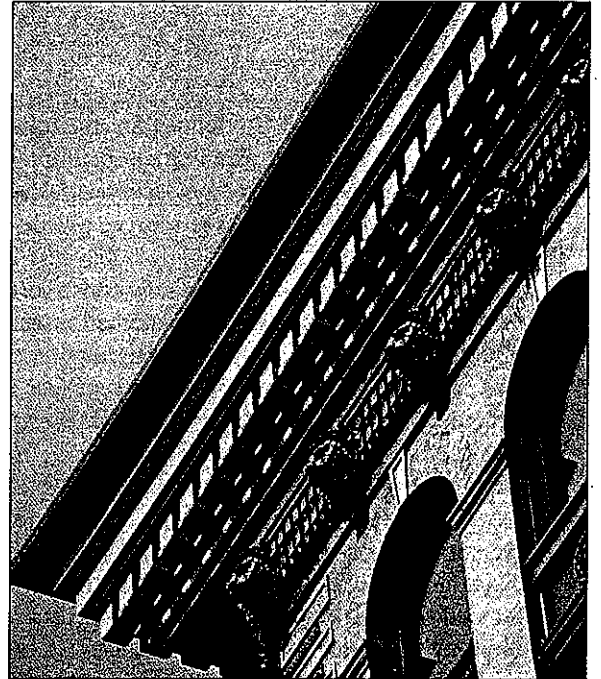
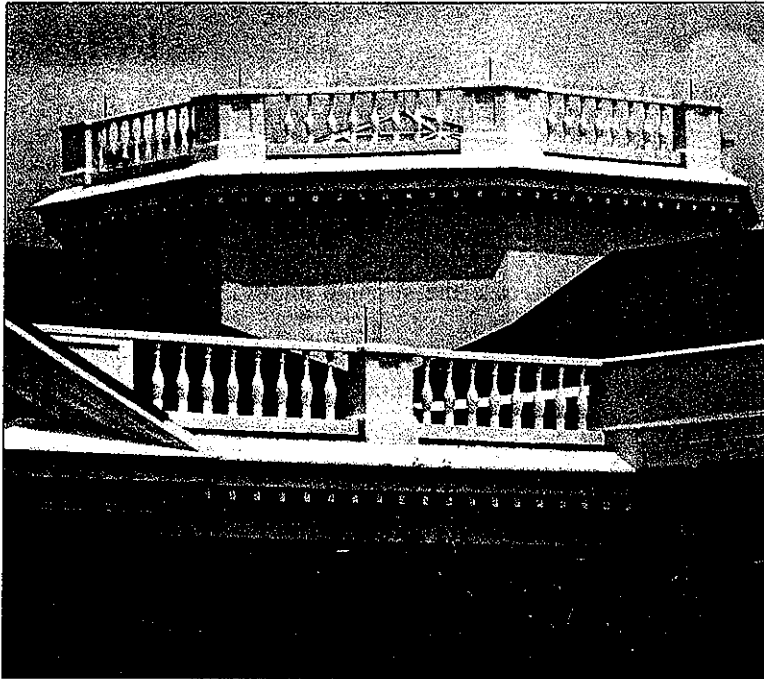
Light transmission. FRP panels can be made translucent. This is a unique property among structural materials. FRP can simultaneously provide structure, enclosure and natural or artificial light.

Reproducibility. Because they are molded from a durable tool, rather than individually handcrafted, FRP parts can be identical to each other. When the mold is taken from a historically significant component or feature, FRP faithfully reproduces the original. This feature has made the material a dependable resource for restoration.

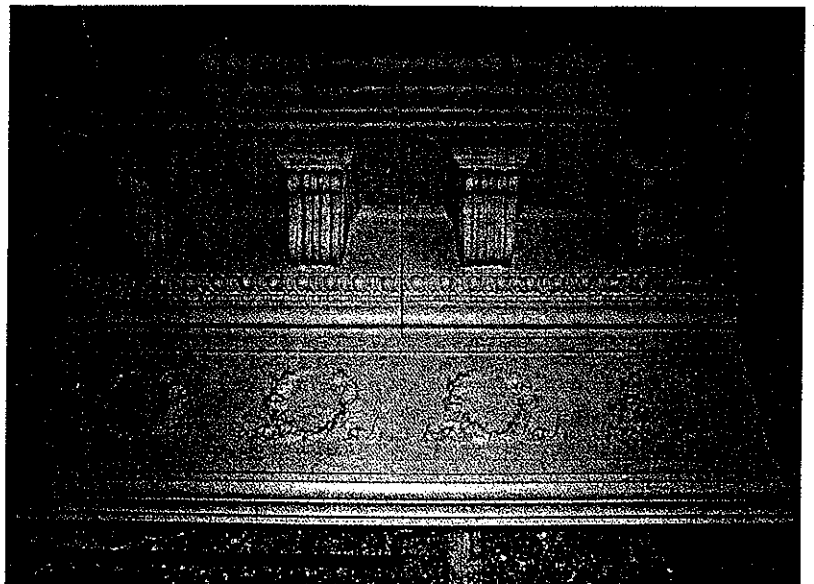
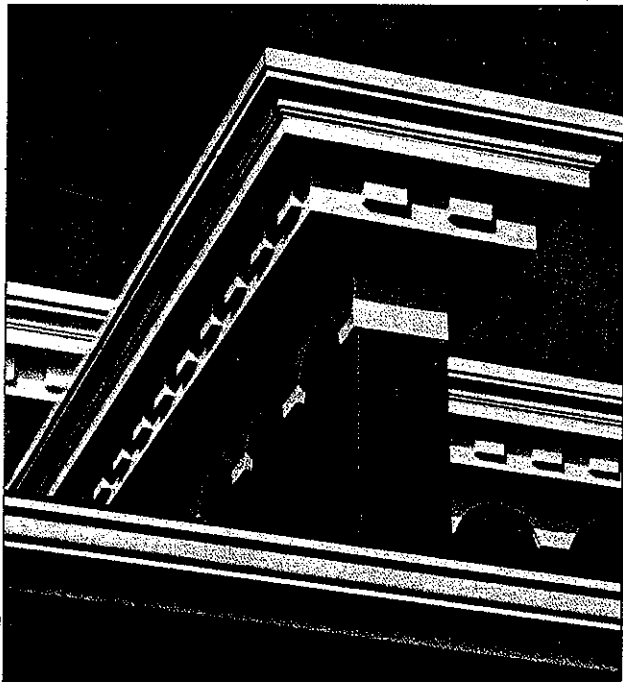
1.4 The FRP Industry and Its Products

Architectural fiberglass is part of the worldwide \$12 billion composites industry. This material's products range from youngsters' skateboards to components of the Space Shuttle. In the U.S. the principal markets served by the fiberglass industry are architectural/construction, marine, automotive/transportation, corrosion resistant products, aircraft and recreational products. Nearly every industry and enterprise use a fiberglass component, and their manufacturers are found in all of the Standard Industrial Classification (SIC) codes.

The raw materials of the fiberglass industry are the by-products of oil and natural gas, sand, and other minerals. These pass through many intermediate conversions before final form as thermoset polyester resins with glass fiber reinforcement, in architectural components. Even so, com-



The Versatility of Architectural FRP Products



pared with aluminum, steel, and forest products, fiberglass fabrication is not an energy-intensive industry. The products are classified as durable goods -- i.e., they extend the life of industrial and consumer products. They can be repaired in the field by skilled tradesmen using available materials. When collected in sufficient volume, fiberglass parts are recyclable, for example, into rugged construction materials such as railroad ties, traffic delineators, and erosion-control beams.

1.5 Historical Overview

The concept of using composites in construction has been with us since ancient times. Mud and straw are a form of composite; the mud acts as a resin matrix, while the straw is a reinforcing fiber. In Japan, structures were developed using bamboo, mud and rope for reinforcement. These highly engineered structures, dating to the 14th century, still stand in earthquake prone areas of the country. In the early 1900s, boats were fabricated using plies of paper and shellac to form a primitive composite.

Polyester resin, which could be cured at room temperature, came on the scene in the early 1930s. Glass filament, first manufactured in the mid-1930s, was bundled into fibers and put into reinforcement form, primarily for use in fire-proof fabrics. About this time, in a manufacturing experiment, fiberglass fabric was saturated with polyester resin and laid over a form to produce the first FRP part on record - a small boat hull!

The fiberglass reinforced plastics (FRP) industry is generally credited as beginning at Wright-Patterson Air Force Base, Dayton, Ohio in 1943 with the manufacture of the aft fuselage for fighter training aircraft. Almost simultaneously the U.S. Navy was adopting fiberglass for critical use in radomes, and as the weather-resistant shroud material for electronic gear. By 1945, seven and a half million pounds of FRP were being produced annually, mostly for defense production. By 1950, the usage had converted to civilian markets and shipments had more than doubled, to 17 million lbs. Growth has been steady and occasionally robust. Fiberglass parts are valued for their high strength-to-weight ratio, inherent corrosion-resistance, and adaptability to contemporary as well as traditional design. The growth in the use of these materials is attributed to the ability to offer light weight, cost-effective, durable structures.

1.6 Architectural Usage

The public became familiar with FRP as a construction material in the 1950s with its residential use in carports and patio covers. An industry milestone came in 1967 when a wrecking ball proved ineffective in taking down the all-fiberglass "House of the Future" at Disneyland. The demon-

stration of structural durability was dramatic, and the site could be cleared for a succeeding exhibit only through cutting the building into pieces after the wrecking ball bounced off the surface.

Built in 1956 at the Massachusetts Institute of Technology, and rebuilt in 1957 under Monsanto Co. sponsorship, the "House of the Future" at Disneyland withstood over 2 million visitors per year and several minor earthquakes in its decade as a demonstration project. While the futuristic, cantilevered pod design did not catch on as a popular residential construction choice, the materials demonstration was an unqualified success.

Many varieties of fiberglass architectural construction were employed in the semi-permanent structures of the New York World's Fair in 1964. Generally these were also of advanced design, and represent the first category of architectural design style with composites.

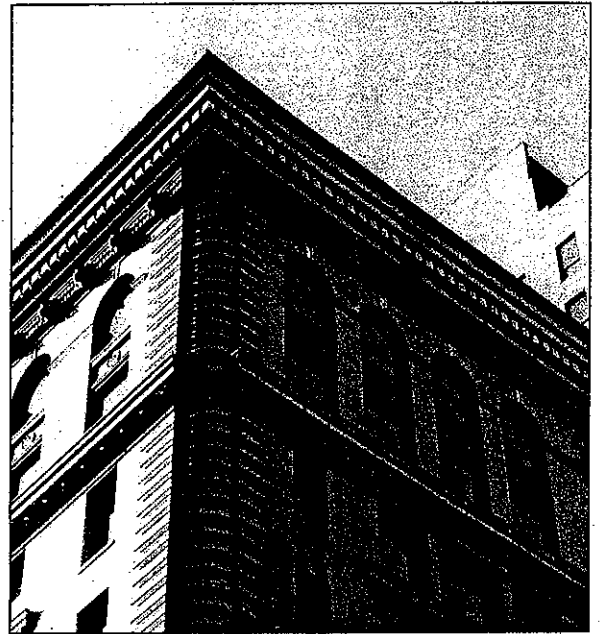
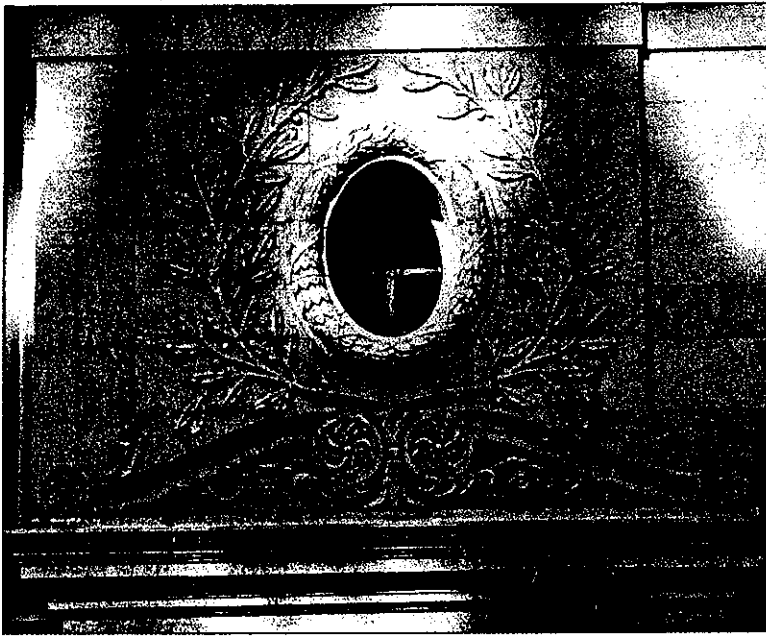
A second category is reproduction or restoration projects. The balustrade of the rear facade of The White House, home to U.S. Presidents, has been restored using FRP components. Countless other Colonial and Victorian restoration projects owe their success to reinforced plastics. Cupolas, steeples, and other distinctive religious structures are made possible through these "space age" materials.

A third group of architectural construction uses for FRP is represented by functional and structural combinations. The controversy over the appearance of communications equipment on the Sun Bank Building, Orlando, FL, was resolved through the use of FRP. Molded support shrouds conceal service and communications equipment, while producing a visually dramatic skyline. Many of the uses of fiberglass at recreational sites are also structural FRP.

As demand for the benefits of reinforced plastics becomes more apparent, and design familiarity with these materials spreads, architectural FRP is expected to grow at an accelerated pace. Of the 47 million lbs. of composites used for construction in 1990, approximately 15 million lbs. are attributed to architectural usage. A 1990 market study released by Ducker Research Company has identified the architectural market as among the greatest growth opportunities for fiberglass fabricators for two reasons.

First is the increased demand for the types of construction for which FRP is "the material of choice." Second is the relatively low degree of experience with the materials among the design community. This publication is a response to this information need.

FRP architectural component production requires raw materials management, expert workmanship, product supervision, controlled curing cycles, and measured quality control. As is the case with other building materials, the use of FRP components requires advance planning and close coordination between the architect, engineer, manufacturer, shipper, erector, general contractor and other members of the building team.



Architectural Usage of FRP



Chapter 2 - GENERAL CONSIDERATIONS

2.1 Project Coordination

Construction activity by nature has the potential for overlapping project responsibilities. Potential problems can be avoided when responsibility for design, engineering, manufacturing, installation, and cleaning clearly are determined in advance. To ensure proper understanding of responsibilities, the entire building team should be involved in project coordination.

2.2 Contractual Responsibilities

Areas of responsibility that should be addressed in contractual agreements are:

- A. Architectural & Structural design
- B. Engineering Specifications
- C. Connection and Attachment
- D. FRP Component Manufacturing
- E. Shipping and Handling
- F. Acceptance Criteria
- G. Installation
- H. Panel Maintenance

2.3 FRP Manufacturer Responsibilities

The manufacturer is responsible for delivering "in-spec" components in a clean and finished state. Once the general contractor accepts the FRP parts from the carrier, he should assume responsibility for proper handling and protection of the components. Specialty items incorporated or attached to the FRP components should be supplied to the manufacturer by the appropriate trade along with detailed instructions.

2.4 FRP Manufacturer Qualifications

Corporate Management - Company management must be experienced in FRP manufacturing, with complete knowledge of architectural product design, materials, process and quality assurance.

Technical Support Personnel - Company should have technical personnel available either on staff or contracted from outside sources. These support personnel include: Designer, Architectural Draftsman, Structural Engineer and Field Installation Specialist.

Production Management - Should be experienced in FRP production management and able to supervise the fabrication of FRP components. Management should understand production processes and materials as well as architectural drawings, design criteria, and quality assurance.

Workforce - All employees should be adequately trained in the proper methods and techniques required of their job. At minimum, the company should maintain a core group of experienced employees at all times.

Facility - The physical plant must provide adequate floor space and conditions for timely production of prod-

ucts. The appropriate tools and equipment to perform the work and adequate housekeeping to produce the required product quality. The manufacturing facility should be in compliance with all applicable health, safety and environmental regulations and be available for customer inspection.

Suppliers - The company should maintain a financial and technical relationship with raw materials suppliers that facilitates material acquisition and problem resolution in an expeditious manner.

A Qualified Manufacturer Should Have:

- A written quality assurance program
- A list of previous projects and references
- Available technical literature and specifications
- Current compliance to OSHA, EPA, and local regulations
- In-plant housekeeping adequate to produce quality products
- Tools, equipment, and plant set-up as required

2.5 Design Responsibility

Design calculations should be performed under the supervision of a registered professional engineer with experience in reinforced plastics design, unless the molded item is agreed by all principals to be purely decorative and not subject to engineered performance. The fabricator should be prepared to assist in the design of panels, component assemblies, and connections. The project designer (architect/engineer) maintains overall design responsibility.

The architect/engineer inexperienced in fiberglass reinforced plastics design will benefit from early contact with experienced fabricators who can offer constructive advice during preliminary design.

It is common practice for the architect/engineer to turn to the FRP fabricator for advice on connections, handling and erection procedures, and for ensuring that the unit is adequately designed for loads incurred during manufacturing, handling, shipping, and installation. All procedures should be checked to ensure they do not cause: (1) detrimental appearance, (2) structural damage, (3) architectural impairment, or (4) permanent distortion.

Contract drawings prepared by the architect/engineer should show connections in sufficient detail to permit design, estimating, and bidding. FRP fabricators, during the preparation of shop drawings, usually review connections for tolerances, clearance, practicality, and performance. The molder/fabricator should call to the architect/engineer's attention any potential problems evident in the design.

The general contractor is responsible for the location of all FRP component bearing surfaces and anchorages on the structural frame. Changes, other than adjustments within the prescribed tolerances, require approval by the architect/engineer.

Chapter 3 - MATERIALS

The building blocks of FRP construction are thermosetting resin and glass fiber reinforcement. The resin provides a rigid matrix which encapsulates and rigidizes the load bearing fiber reinforcement. The diversity of FRP materials are an attribute that make them excellent engineering materials. Many types of resins, reinforcements and additives can be combined to design very specific properties into a product.

3.1 Polymer Resins

There are two major family groups of plastic resins - Thermoplastics and Thermosets.

Thermoplastic Resins - Characterized by materials such as ABS, polyethylene, polystyrene and polycarbonate. These resins are recognized by their capability to be melted and formed (or molded) and reheated once again to the "plastic" state. We are surrounded by everyday household items made of thermoplastics. While some thermoplastics can use short glass fiber reinforcement, generally they are not reinforced.

Thermoset Resins - Most commonly employed in architectural FRP products. This group of resins is characterized by the ability to convert from liquid form to solid form through polymerization. Once polymerized (cured), thermoset resins cannot be converted back to their original state. Among the thermosetting resins used for large building components, polyester resin is by far the dominant material. Vinylester resins are similar to polyesters except with enhanced corrosion resistance and toughness. Epoxy resins, are used in some applications where superior resistance to corrosive chemicals are required. Phenolic resins are being used to take advantage of superior combination fire retardancy and low smoke generation.

3.2 Basic Thermoset Resin Chemistry

An apt analogy for thinking of resin chemistry is that of stringing beads. That is, one can take different colors and shapes of beads, and put them in different order to get different patterns, but the basic process for putting the beads on the string is the same. This is true for resin chemistry as well.

There are various kinds of chemical units ("mer"s) which can be "strung" together to make different chains ("poly" - many; "mer" - unit = "polymer" or many units). Thus, while the properties of resins can vary dramatically, they have much in common.

The most common "mers" or units for architectural resins (polyesters, acrylics, phenolics) are:

- o **ACIDS:**
 - Maleic Acid
 - Orthophthalic Anhydride
 - Isophthalic Anhydride
 - Fumaric Acid
 - Adipic Acid
- o **GLYCOLS:**
 - Propylene Glycol
 - Diethylene Glycol
 - Neopentyl Glycol
- o **MONOMERS:**

Styrene	(Polyesters)
Vinyl Toluene	(Polyesters)
Alpha Methyl Styrene	(Polyesters)
Methyl Methacrylate	(Acrylics)
Formaldehyde	(Phenolics)

In resin as supplied by the manufacturer, some of the "beads" have already been strung. That is, in the case of polyesters, acid molecules have been reacted with glycols to make short polymers. In the case of phenolics, phenol has been reacted with formaldehyde, and for modified acrylics, acrylic-urethane chemistry has been used. In all cases, these prepolymers are then dissolved in monomer; reacting the monomer with the rest of the chain is the very last step of the process, converting the liquid resin into a solid.

What Makes A Resin Cure?

A resin is always supplied in a form where all that needs to be added for cure are initiators ("catalyst") and activators ("promoters"). This is because all the "beads" for the chain are present, and will automatically build their own chain, but just need something to get them started. In fact, normally the resin is supplied with a tiny amount of inhibitor, a chemical that keeps the resin from curing prematurely.

o **Initiators** (commonly called catalysts) are the "push" that starts domino effect. Catalysts such as benzoyl peroxide (BPO) and MEKP (methyl ethyl ketone peroxide) are the reactants that are typically used.

o **Activators** (commonly called promoters or accelerators) are chemicals which help to break open the initiators so they can start to do their work of pushing. These include such materials as cobalt naphthenates, cobalt octoate, dimethyl aniline (DMA), diethyl aniline (DEA), and dimethyl paratoluidine (DMPT). (Heat performs a similar function, as well as increasing the speed of the domino effect itself.)

3.3 Resin Additives

A wide range of additives are used to enhance the properties of polyester. These materials include: Thixotropes, which modify the viscosity and flow characteristics of the resin; Pigments, for coloration; UV inhibitors, to enhance weatherability; Surfactants, which create tack-free laminate surfaces; and fire retardants to decrease flammability.

3.4 Fillers

Inert fillers such as clay or calcium carbonate may be used as a volume substitute to reduce the resin cost. But most additives to the resin and reinforcement combination are functional fillers added to the resin to impart a specific property. Fillers can reduce shrinkage, control opacity, add fire retardance, improve surface finish, and minimize surface crazing in addition to reducing overall product cost. Fillers must be chosen carefully for each application and are usually matched to specific design requirements.

3.5 Reinforcements

Glass fiber is the predominant reinforcement used in FRP architectural products. Other high-modulus fiber reinforcements are used in composites – including aramid, carbon, and boron fiber. However, these materials are used almost exclusively in aircraft, aerospace, high-technology recreational products, and medical applications where their special properties warrant their high cost.

The glass fiber used in the FRP building products industry is drawn from molten glass, composed mainly of silica sand, aluminum oxide and calcium oxide. These very small diameter filaments are gathered into bundles known as

fibers. Glass fiber is a versatile reinforcement available in a number of different forms:

Continuous Strand Roving - A long fiber bundle which is fed from a "creel" through a chopper gun, during the Spray-up process.

Chopped Strand Mat - A mat formed of chopped fibers (approx. 1/2" (12mm) to 1 1/2" (36mm) long) held together by a binder. Commonly used in the Hand Lay-up method.

Woven Roving - Roving strands woven into a heavy fabric.

Textile Fabric - A light woven material using fiberglass strands of yarn.

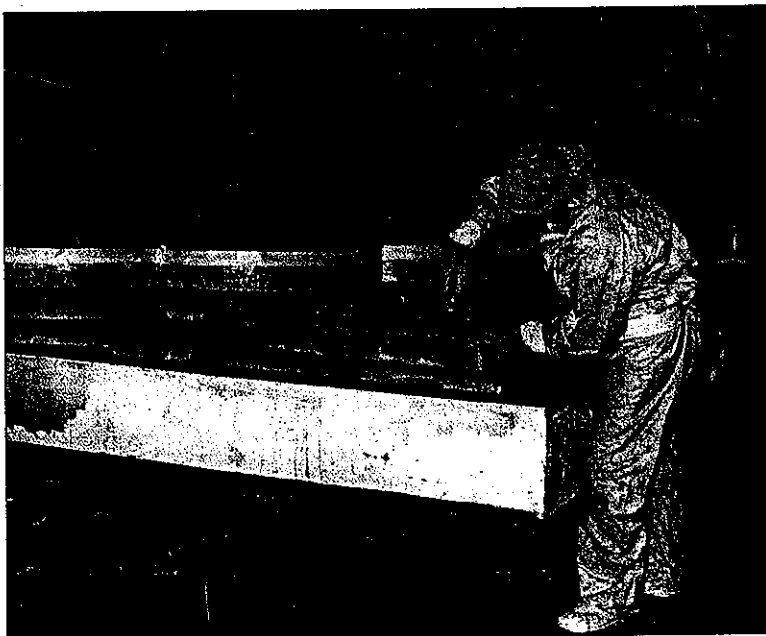
Milled Fiber - Short length fibers (1/32" (.75mm)-1/8" (3mm)) used to make reinforced putties.

There are a number of different formulations of the raw glass feedstock which create fibers having different properties.

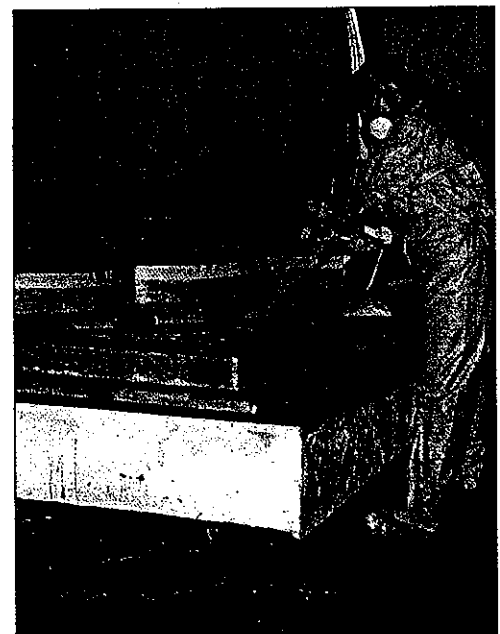
The glass fiber reinforcement used in architectural products is usually termed "E-glass" which possesses a good combination of properties and cost. A different glass fiber which has superior alkali resistance is used in the concrete panel industry.

During the manufacturing process the glass fiber is coated with a chemical sizing or finish which provides a bonding interface between the fiber and the resin. Usually these sizings, or finishes, are specific in their compatibility with the resin types discussed previously. A good bond at the "interface" of fiber and resin is essential to a composite material's strength, resistance to moisture and other properties. The compatibility of resin and glass reinforcement also affects their ease of process and saturation by the resin.

Common Applications of Glass Fiber



The traditional Hand Lay-up method of applying glass fiber



The Spray-up process of applying glass fiber

Chapter 4 - MANUFACTURING PROCESS

Fiberglass Reinforced Plastic (FRP) is a durable material adaptable to a wide range of shapes and sizes. The manufacturing processes used to produce fiberglass parts can accommodate a one-time molded part or high production quantities. This description will focus on the two most commonly used open molding techniques, hand lay-up and spray-up. These methods are adaptable to custom work or low to medium production volumes.

4.1 Open Molding (Contact Molding)

A single mold that produces a one-sided finish is an open mold. Tooling cost for open molds is relatively inexpensive, making it possible to use this technique for short production runs.

Generally a pattern or model is built, from which a mold is fabricated. A number of materials can be used to construct molds depending on the shape and quantity of the desired part. Most commonly used is polyester resin with glass fiber reinforcement.

The surface of the mold is prepared with a release agent which allows the part to separate from the mold at the end of the cycle. The longevity of a mold varies and may be a significant cost factor depending on part complexity, material, and cycle time.

4.1.1 Hand Lay-up

Hand lay-up refers to the consolidation of the resin fibers using hand tools such as brushes, rollers, and squeegees. (See photo on page 11.) The equipment required for hand lay-up consists of a mold and hand tools. High quality parts can be manufactured in this process.

The materials commonly used in hand lay-up consist of thermoset resins in combination with chopped strand mat, textile fabric, woven materials and knitted reinforcements.

The process is accomplished by first applying a cosmetic surface such as gel coat to the properly prepared mold. Next, the pattern cut glass reinforcement is placed in the mold and saturated with resin. The resin can be applied by brush or paint roller from pre-catalyzed containers or from a spray gun which combines the resin and catalyst. Once the glass reinforcement is fully saturated or "wet out," the laminate is compacted with specially designed rollers and brushes to remove air bubbles and distribute the resin evenly.

Multiple layers or plies of laminate are built up in sequence to reach the desired thickness. Various inserts, core materials, ribs, fasteners, or other items can be incorporated in the molded part. Following a curing cycle, the part is de-molded and trimmed as required.

4.1.2 Spray-up

The spray-up process differs from the hand lay-up method in the way the materials are applied to the mold. Spray-up utilizes a "chopper gun" which sprays catalyzed resin and chopped glass fibers simultaneously. (See photo on page 11.) The continuous strand glass fiber is fed to the chopper gun from a creel which contains several thousand feet of "gun roving."

This continuous strand glass is cut or chopped by the action of the spray gun into strands 1/2" (12mm) to 1 1/2" (36mm) in length and combined with a spray of resin immediately in front of the gun nozzle. The saturated glass/resin matrix is then deposited on the mold surface. Multiple passes build the laminate to the specified thickness. As in the hand lay-up process, consolidation by hand rolling is required to compact the laminate and remove entrapped air.

In some instances spray-up can be faster than hand lay-up, especially in the case of complicated shapes. The process does have a greater dependency on operator skill than hand-lay up, as the laminate deposition is a function of the spray operator.

4.2 Closed Molding Methods

Closed molding may be considered for two cases: First, if a two-sided finish is needed; and second, if high production volumes are required. Because a mold set now consists of two (or more) molds and more sophisticated processing equipment comes into play, the capital investment and tooling cost is greater than in open molding. However, the cost per unit produced may be considerably lower if volumes are sufficient. Compression molding, matched metal die molding, resin injection, and resin transfer molding are a few terms used to describe the various types of closed molding processes. Generally closed molds are not employed in architectural FRP products because of limited volume production rates.

4.2.1 Pultrusion

The pultrusion process is characterized by pulling continuous strand roving through a resin bath and then through a heated die. Used exclusively to create "profile" shapes, this process produces structural shapes similar to structural steel or aluminum extrusions. The inherent corrosion resistance and strength of pultruded parts make them adaptable to many high performance situations.

Chapter 5 - THE PHYSICAL PROPERTIES OF FRP

FRP is composed of two distinct materials - the matrix or resin and the reinforcement or glass fiber. The matrix used in architectural FRP consists primarily of thermosetting resin but it may also contain functional fillers, flame retardants, colorants, or other performance enhancing additives. The reinforcement generally consists of randomly dispersed chopped glass fiber or woven glass fabrics.

The mechanical properties of FRP depend on the characteristics of both the matrix and the reinforcement, their percentage in the laminate and the orientation of the reinforcement. The properties are less influenced by the manufacturing method than by processor expertise which can affect laminate quality and therefore the structural properties.

Properties are determined by using standardized laboratory test methods. The Composites Fabricators Association supports test method standardization through industry groups and with independent and government organizations.

5.1 Test Methods For FRP Materials

<u>Mechanical Properties</u>	<u>Method No.</u>
Bearing Load Test.....	ASTM D 1602
Compressive Strength.....	ASTM D 695
Tensile Strength.....	ASTM D 638
Tensile Modulus.....	ASTM D 638
% Elongation.....	ASTM D 638
Flexural Strength.....	ASTM D 790
Flexural Modulus.....	ASTM D 790
Flexural Strength - Cored Laminate.....	ASTM C 393
Punch Shear Test.....	ASTM D 732
In-plane Shear.....	ASTM D 3846 or D 3914
Short Beam Shear.....	ASTM D 2344
Izod Impact.....	ASTM D 256
Charpy Impact.....	ASTM D 256

Environmental

Accelerated Weathering Test.....	ASTM G 53 or D 4329
Humidity Exposure.....	ASTM D 2247
Corrosion Testing.....	ASTM C 581

Fire

Surface Burning Characteristics.....	ASTM E 84
Oxygen Index	ASTM 2863
NBS Smoke Test.....	ASTM E662

Surface Testing

Gravelometer.....	SAE J-400
Gardner Gloss Meter.....	Gardner
Stain Resistance.....	ANSI Z 124

Physical Properties

Specific Gravity.....	ASTMD 792
Water Absorption.....	ASTMD 570
Barcol Hardness.....	ASTMD 2583

Materials Properties

Resin Viscosity.....	Brookfield
Ignition Loss of Cured Reinforced Resins.....	ASTMD 2584
Gel Time.....	Room Temp./Cup
Weight Per Gallon.....	Gardner

5.2 Mechanical Properties

The primary properties of FRP used for structural design are tensile strength, compressive strength and modulus of elasticity. Most designers assume that FRP is an isotropic material and proceed accordingly using these primary mechanical properties. For thin laminates, in bending conditions, flexural strength and modulus are used.

The assumption of isotropism is true only in the plane of the laminate, because the reinforcing fibers lie substantially in that plane. Out-of-plane properties may vary by an order of magnitude or more. The amount and orientation of the reinforcement fiber principally determines the mechanical properties.

Quasi-isotropic laminates containing randomly or multiaxially oriented fibers are the lowest cost and easiest to produce and hence most commonly used in FRP. The reinforcement is in the form of random chopped strands, and/or fabrics. In these forms the glass fiber content typically ranges from 20 to 40 percent by weight. In addition to providing mechanical strength, the fiber reinforcement also serves as a crack terminator. Thus FRP exhibits very little notch sensitivity to either sustained or sudden impact loads.

5.3 Tensile and Flexural Strength

Glass content and orientation are major factors influencing these properties. Orientation in quasi-isotropic laminate design is primarily a quality assurance measure. Orientation for some plies can be specified to deal with unidirectional loads. Quasi-isotropic laminates will exhibit no more than 20 percent variation in mechanical properties when tested along different in-plane axes.

FRP laminates when stressed in plane will behave as a linearly elastic material. Failure will be brittle, that is, no inelastic yield will occur prior to failure. FRP laminate can be repeatedly stressed to 90 percent or more of ultimate, with little discernible drop in strength.

Except for some very severe environmental extremes and cases of extreme fatigue loads, the tensile and flexural strengths are assumed to remain constant (within data scatter) throughout the service life. Elongation at failure is typically one to two percent.

5.4 Modulus of Elasticity

The tangent of the tensile stress strain curve is used as the modulus of elasticity for design purposes. (For thin skins in bending some designers use flexural modulus).

The tangent flex modulus is influenced by many factors such as glass content, resin modulus and inorganic filler content. Being influenced by the resin modulus, flexural modulus generally decreases with increasing temperature. Tensile modulus is more directly dependent on fiber type and content. Compressive modulus may be assumed as equal to tensile modulus. Quasi-isotropic flexural modulus ranges from 0.7 to 1.5 E^6 psi depending on glass content. Tensile modulus ranges from 0.6 to 2.0 E^6 psi.

5.5 Compressive Strength

There are two compressive strengths to consider: In-plane and Cross-plane.

A. The In-plane or edgewise compressive strength is very dependent on the matrix. This property is important primarily when laminates contain a low density core material to increase stiffness. With extreme deflection, cored laminates, sometimes fail in the in-plane compression mode.

B. Cross-plane or in-plane compression is mostly dependent on reinforcement. This property may be of concern in clamped joint designs.

5.6 Shear Strength

Shear may be in-plane, cross-plane and interlaminar. In-plane shear measurements vary greatly with the test method. In-plane shear is usually considered with bolted joints, where the use of tensile domain stress riser models is usually employed. Cross-plane or punch shear is very dependent on reinforcement type and content. Interlaminar shear is primarily dependent on the matrix. This type of shear is encountered in FRP joints and bonded structures. Although the interlaminar shear strength of FRP is very good, care should be taken to assure that shear limited designs do not actually impose peel stresses.

5.7 Volumetric Shrinkage

Thermosetting resins shrink volumetrically upon curing resulting in a linear shrinkage component. Dimensional changes caused by shrinkage are usually small enough to be accounted for in the mold.

5.8 Moisture Absorption

The moisture absorption of FRP is negligible. Dimensional change and stress due to moisture absorption are an insignificant design factor. Because of the low-moisture absorption and high strain at failure, the freeze-thaw performance of FRP is excellent. Exterior parts should be provided with drainage to eliminate standing water and thus prevent ice damage. Temperature extremes and thermal cycling have little effect on FRP. At temperatures to -40° F, all properties

are stable or improve slightly. Impact strength does not drop with temperature as it does with many other plastics. Up to approximately 150° F, the only mechanical property change is the reduction in modulus of elasticity. The rate of change is primarily dependent upon the resin system.

5.9 Coefficient of Thermal Expansion

In common with most materials, FRP expands with increasing temperature. The rate of expansion is approximately the same as aluminum. The resin content in a laminate influences the CTE. The part design must allow for differences between the CTE of the FRP and adjoining or attached materials to avoid distortion or differential movement between components. Since ambient conditions are well below the glass transition temperature of FRP, the thermal expansion response is uniform and easy to predict.

5.10 Creep

Large-scale structural applications such as pressure vessels and radomes demonstrate that FRP is capable of sustaining loads over prolonged periods. Creep studies with composites indicate that these properties are controlled largely by the matrix. Polyester resins are crystalline polymers whose glass transition temperatures are usually well above the environmental temperature, so it is not surprising that creep is much less than with many building materials. FRP exhibits a creep rate which is independent of strain and which decreases with time. The most common creep related issue is with bolted clamp joints where the clamping force is a large fraction of compressive strength.

5.11 Fatigue

Proven in service as automotive springs, helicopter rotors, pressure vessels, boat hulls, and aircraft structures, FRP has an excellent life in cyclic and steady state loading conditions. Tensile fatigue shows very little change in tensile strength but a change in modulus of elasticity which is proportional to fatigue stress. Constant stress also reduces mechanical properties. The rate of reduction is related to the amount and type of stress but in all cases the rate drops and the stress reduction curve becomes asymptotic.

5.12 Fire Performance

The organic portion of the matrix is a hydrocarbon which under the proper conditions will support and maintain combustion. Several techniques are available to improve the flammability characteristics of FRP. The most common technique is to incorporate a halogen and synergist into the matrix. During ignition the halogen and synergist smother the flame by eliminating oxygen from the combustion surface. Another technique involves the incorporation of hydrated fillers into the matrix. On heating, these fillers give up their water, quenching the combustion by heat removal and suffocation.

Sufficient formulation latitude exists using these resin formulations to meet most code requirements such as Class I flame spread less than 25 by ASTM E-84. Smoke toxicity is a relatively new issue in the construction industry. FRP can be engineered to meet many of the evolving standards for smoke toxicity.

5.13 Weathering

Weathering of FRP is related to degradation of the polymeric portion of the matrix by ultraviolet (UV) exposure. In some cases, UV exposure can cause embrittlement and microcracking in an unprotected laminate surface. The early stages UV attack can cause color shift or yellowing and gloss changes. FRP should be protected from UV by an opaque gel coat surface, by painting the exposed surfaces or by incorporating UV screens into the matrix. Of these techniques, gel coating is the most common because it provides the best surface finish and a deep 10 to 20 mil thick protective surface. Gel coating is used by the marine industry to provide a durable long life finish on boat hulls.

Factors influencing the weatherability of a gel coated surface are the type of gel coat resin, amount and type of fillers and colorants in the gel coat and coating thickness.

5.14 Acoustical Properties

As a composite of both low and high modulus materials, FRP provides very good damping and attenuation of low to mid frequency sound waves. High frequency sound waves are more likely to be reflected than absorbed.

5.15 Density

The density of FRP is calculated by the rule of mixtures. The specific gravity for mixture components is as follows:

Polyester Resin.....1.2

Glass Fiber.....2.5

Typical Filler.....2.3

The typical density range for composites is 85 to 125 lb/ft³.

5.16 Thermal Conductivity

The typical range of thermal conductivity is from 1.2 to 1.6 BTU/hr/ft²/°F/inch. Low density cores in FRP laminates can greatly reduce thermal conductivity.

5.17 Electrical Properties

FRP is an excellent electrical insulator with good dielectric strength and a low loss factor. FRP is transparent to most electromagnetic fields. EMI shielding and reflectance can be provided by incorporating metallic fillers or fibers into the laminate.

5.18 Describing Glass Content

The best statement to describe glass content is the fiber volume fraction (FVF). This is the volume fraction (or percentage) of the laminate which is reinforcing fiber. Since this is difficult to calculate, most specifications use glass content in weight percent. Errors occur with this description because as glass content changes, so does density. Additional error is introduced when high density fillers are added to the matrix.

An alternative to FVF is area-density of reinforcement. This specifies the weight of reinforcement per unit area of laminate, usually in ounces or pounds per square foot. At constant laminate thickness this equates to FVF. Even if thickness varies slightly, the load-bearing capacity will be the same.

Since the amount of reinforcement defines the mechanical properties more than any other variable, it is important that it is described correctly.

5.19 Bonding Properties

The bond strength between two FRP components, metal, wood or other attaching materials should be determined using ASTM D-3164 Lap Shear criteria.

References:

- (1) Structural Design with Plastics - Benjamin - VNR.
- (2) Polyester Molding Compounds - R. Burks - Dekker.
- (3) Glass Reinforced Polyester Systems - Halado - Technomic.
- (4) Boller, K.H., "The Effect of Long-Term Loading on Glass-Reinforced Plastic Laminates," Proc. 14th Technical and Management Conference, Reinforced Plastics Division, SPI, (Feb., 1959).
- (5) Ainsworth, L. "Properties of Glass for Plastics Reinforcement," Second International Reinforced Plastics Conference, London, (Nov., 1960). Proc. issued by the British Plastics Federation, London.

Chapter 6 - DESIGN

The basis of FRP panel design stems from a knowledge of the physical properties of the composite, and the interrelationship between the various constituent materials used in panel construction. The high tensile strength achievable with composites, along with a low modulus of elasticity, allow for options not found in other construction materials used for similar purposes. FRP composites, with their wide range of physical properties due to fillers, resins, fiber type, density, and orientation make strength specification impractical. Physical properties relating to strength should be determined through test data provided by the manufacturer and will be influenced by non-structural design criteria such as fire retardance and architectural finishing.

In special conditions where the product will be submerged, careful attention should be given to the selection of gel coats, laminates, and manufacturing procedures.

Panel shapes as well as panel section influence panel stiffness. Recognition of shape should be given consideration in evaluating structural performance. Common FRP panel construction typically employs either single skin or sandwich construction. With a single skin laminate the FRP may incorporate a support frame work, integral stiffening ribs, or bulkheads. In some cases the panel can be connected directly to the structure. Flex anchors are an acceptable solution, wherein flexible anchors transfer skin loads to an intermediate steel frame. Another single-skin technique is to transfer skin loads to the structure through bulkheads or stiffening ribs imbedded in the FRP laminate. With the single skin method, care should be taken to ensure sufficient anchor points to resist deflection while allowing adequate flexibility for volumetric changes between skin and the stiffening system due to thermal variation.

The single skin method is typically employed in conditions where panel geometry develops stiffness, and core or sandwich construction is impractical or complicated. An intermediate frame or bulkhead is used where the physical size of the panel does not allow direct connection of the skin to the structure without exceeding allowable deflections.

Sandwich panels consist of an outer skin of FRP laminate, a lightweight core and an inner skin of FRP laminate. Typical core materials are urethane or PVC foams, syntactic foams, end grain balsa wood, honeycomb, or plywood.

In a sandwich panel the facings act similar to the flanges on an I beam, providing the primary strength and stiffness of the panel. The core carries most of the shear loading and stabilizes the thin facings against local buckling. Such sandwich panels have attractive strength and stiffness as well as insulating value, weathering resistance, and vandal resistance at a minimum weight and cost.

6.1 Product Engineering

Architectural component design will be prepared and certified by a registered Civil or Structural Engineer. Designs will comply with governing building codes and other applicable standards.

Design stresses and resistance will be selected by the engineer based on experience. These design factors will include the following:

1. A safety factor for FRP connections, wind and seismic loads.
2. Loading combinations should be increased over individual load values.
3. Stress and resistance calculations for anchorages will be based on applicable codes and recommendations.

6.2 Engineering Criteria

The following criteria will be used to calculate the design parameters and properties of FRP components:

A. Load Calculations

1. Dead Load - Include the weight of the pieces and all attachments.
2. Live Load - As specified by code.
3. Wind Load - As specified by code.
4. Seismic Load - As specified by code.

B. Load Distribution

1. Forces will be in reference to gravity load.
2. Seismic forces will be considered oriented in the horizontal direction.

C. Load Combinations

1. All applicable load combinations will be considered.
2. Wind load and seismic will not be combined.

D. Provision for movement

— The design and detailing of anchorages, connections and joints will allow for dimensional changes of FRP components and the primary structure, due to thermal effects or other causes of movement. Details of these joints and tolerances will be indicated on shop drawings.

E. Anchorages and Connections

— The design of anchorages and connections will consider the tolerances and eccentricities of load applications. Edge-to-end distances of inserts and embedments will be provided.

F. Lifting and Handling

— The FRP components will be designed for mold release, lifting, handling and other conditions, so structural properties, durability and appearance are not impaired.

6.3 Panel Service Loads

Panel design must consider both dead and live loads including wind, earthquake and temperature. Because of the light weight of composite panels, particular attention should be paid to uplift loads induced by wind. Often uplift loads will govern the design of FRP panels. Care should be given to local aerodynamic effects and the geometry of the structure and panel.

Important thermal considerations are the gradient through the panel, particularly sandwich panels, the effects of thermal differentials due to panel geometry such as soffits and returns, and the differential properties of facing materials such as ceramic tile, veneers or polymer concrete.

Consideration should also be given to the heat distortion temperature of the resin since elevated temperature can affect the physical properties. Panels should be designed for horizontal and vertical contraction and expansion of component materials without buckling, opening of sealed joints, excessive stress within panel components and fasteners or other detrimental effects.

Consideration should be given to surface temperatures exceeding ambient temperature due to solar radiation. This is particularly important where surface colors are dark. It is possible to exceed the heat distortion temperature of certain resins under extreme conditions, particularly if heat-absorbing surface colors are specified.

Minimum design loads in the governing building codes, along with additional service loads and conditions stated in this recommended practice, should be included when assessing various load combinations. The following Load Factors and Load Combinations should be considered as a minimum:

$$75 [1.4D + 1.7(\text{Greater of } L, W \text{ or } 1.1E) + 1.6T]$$

D = dead load

E = earthquake load

L = live load

T = self-straining forces due to temperature changes

W = wind load

6.4 Design Stresses

In determining design considerations, service loads should be combined to establish the highest stresses. In addition, panel geometry should be considered when determining the effects of gravity loads, wind loads, earthquake loads (if applicable), and temperature variation induced stresses. It should be recognized by the designer that three dimensional panel configurations can cause differential conditions with respect to temperature, moisture and wind effects. Changes in panel geometry cause additional stiffness which may internally restrain the FRP skin from temperature related movements, thus creating additional stresses.

6.5 Finite Element Design

Finite element analysis is commonly employed in FRP design. Thin plate isotropic FRP is adequately modeled on most finite element algorithms. Anisotropic and thick plates and cored structures require special treatment for which several software packages are available.

6.6 Shape Factor

The basic strength test for FRP is a flexure test on a solid rectangular specimen. Stress redistribution occurs to a different degree in other cross-sections, at times approaching a tensile value. To account for this, the following shape factors are suggested:

Solid rectangular (including single skins).... 1.0

Flanged, box or "I" sections..... 0.5

Other values may be used if substantiated by testing.

6.7 Mechanical Properties

The properties of primary interest for design are:

- (1) Tensile stress
- (2) Flexural modulus
- (3) Modulus of elasticity
- (4) Coefficient of thermal expansion

Typical FRP Laminate Property Ranges:

Tensile Strength	-	9,000 - 14,000 psi
Compressive Strength	-	16,000 - 18,000 psi
Flexural Strength	-	18,000 - 23,000 psi
Flexural Modulus	-	0.75 - 1.0 x 10 ⁶ psi
Bearing Strength	-	9,000 psi (use tensile)

6.8 Shear and Tension

Interlaminar shear seldom controls the design of flat elements. Good shear transfer can be achieved between layers and connections provided proper manufacturing techniques are employed. Current environmental regulations are encouraging the use of low volatile emission resins. In some cases, paraffin or other surface agents are used to reduce emission rates. These wax type additives can affect interlaminar bonding. In such cases panel design must allow for convenient abrasion (e.g. sanding) of laminate areas which are later to accept secondary bonds.

6.9 Analysis Methods

FRP panels can be analyzed by many methods. Depending on shape, panel stiffening system, and the intended use, a variety of choices exists to evaluate loads and structural performance. Often, due to the complexity of FRP panel shapes, the most economical method is that of physical testing. Finite element analysis is also useful when certain shapes are evaluated.

6.10 Deflection

FRP members should have adequate stiffness to limit deflection or any deformation that may affect serviceability. Although FRP panels can tolerate extreme deformations because of their high tensile strength and flexibility, connections could be affected by this movement.

Deflections due to service loads are generally limited to 1/90 of the span. This can be exceeded when investigation shows that FRP skin stresses are not excessive and additional deformations can be tolerated by the panel, its connections and adjacent objects.

6.11 Structural Support Systems

FRP laminates can be attached directly to the support system without intermediate frames. Connections can be made through the panel to the structural frame. In some cases, the use of imbedded materials is advisable to help distribute localized loads into the laminate. These connections are typically designed by the panel manufacturers. The panel or the panel frame is then attached to the structural frame. Panel loads are carried through the connection points to the structure. These locations are determined by the architect, structural engineer and FRP panel manufacturer during the design stage. It is important that the structural frame and FRP panels are compatible so that the engineer can design the building frame and the FRP panel manufacturer can design the panel connections.

6.12 Inserts and Embedments

Corrosion-resistant inserts are recommended for use in FRP components. Inserts should be properly embedded in built-up bosses or bonding pads to achieve proper load distribution and prevent failure. The bosses should have a diameter of at least 8 times the embedment depth with the distance between the insert and the edge of the panel at least 3 times the bolt diameter. Larger bosses may be required depending on the load and insert configuration.

Care is needed to encapsulate inserts and the insert area should be easily accessible during manufacture. Good quality material must be used around the inserts and resin rich areas are to be avoided.

Encapsulated inserts should protrude slightly above the surface of the FRP panel. Insert attachments should bear directly upon the insert, not the FRP surface, to prevent pullout of the insert when the bolt is tightened.

With adequate precautions, overstressing can be avoided. These precautions include isolation of embedded items, use of a bondbreaker, discontinuity of a rigid item, or an increased section of material.

Inserts in fire-rated panels must be able to withstand temperatures anticipated during the fire resistance period.

6.13 Joints

The design of the joints between FRP cladding panels is an integral part of the total wall design. Requirements for joints should be assessed with respect to both performance and cost. A joint width should not be chosen for reasons of appearance alone - it must relate to unit size and building tolerances, anticipated movement and story drift, joint materials and adjacent surfaces.

Movement capability is expressed as a percentage of the joint when installed. Joint widths should be four times the anticipated movement unless a low modulus sealant is used, in which cases joint width may be as narrow as twice the anticipated movement.

For example, if a joint is expected to move 1/4 inch (6mm), the joint overlap, when installed, must be at least one inch (25 mm). The minimum design joint width may be 3/4" +/- 1/4" (19 mm +/- 6 mm), depending on panel length. The minimum panel edge return for proper application of a joint sealant is 1 1/2" (38 mm), with 2" (51 mm) preferred.

6.14 Surface Finishes

FRP can accept a wide range of surface finishes. Typically gel coat, a specifically formulated polyester resin, is applied to the mold surface prior to laminate build-up. A wide range of colors including clear and metallic are common. Recent advances in ultraviolet (UV) stability and resistance to photochemical degradation have been substantial. Properly applied gel coats can produce years of quality service without significant changes in color. Since these are often organic pigments, certain colors react differently than others under specific climates and exposures. Clear finishes and very dark colors represent the greatest challenges. Clear gel coats rely to a great degree on chemical UV stabilizers, which deteriorate over time allowing UV to affect laminates. Dark colors absorb heat and can result in surface distortion or reduced physical properties in extreme conditions.

Other acceptable finishes are polymer concrete applied in the same basic way as gel coat but often sandblasted to expose the aggregate. Polymer concrete thickness may vary, but attention should be paid to differential physical properties and possible surface cracking due to cure shrinkage.

Painting systems are available for FRP finishes and are widely used in both the architectural and marine fields. The non-absorbent, inert nature of FRP allow for a wide variety of surface coatings to be applied. Paints need not be breathable and no extraordinary surface preparation is required beyond proper abrasion and removal of residual mold release agents. Ceramic tile, metal, wood and other plastics can be adhered to FRP surfaces, provided differential thermal properties are allowed for either in the elasticity of the adhesive or mechanical attachment.

Chapter 7 - TOLERANCES

7.1 General

Tolerance is a permissible variation from specified requirements of the contract documents. Tolerances should be provided for dimensions, locations, and other relationships. Erection and manufacturing tolerances apply to FRP as they do to other building materials. Allowances for other trade tolerances such as structural steel should also be considered.

7.2 Appearance

At the time the sample, mock-up or initial production units are approved, the acceptable variations of color, texture and uniformity should be determined.

It is beyond the scope of this Recommended Practice to establish definitive rules for acceptability. Basically, the finished FRP surface should present a pleasing appearance with minimal color and texture variations from the approved sample when viewed in typical lighting from a 10'(3 m) distance. No other obvious imperfections such as chips, cracks or foreign matter should be visible at a 20' (6 m) viewing distance.

7.3 Manufacturing Tolerances

Tolerances are normally established by economical and practical production considerations. An FRP panel must be compatible with adjacent structures and fit into the overall tolerances of surrounding construction. Close tolerance specifications will increase the overall cost of the product development. However, once the pattern, tooling and prototyping stage is completed, the cost of producing individual units will usually decrease during the course of series molding. The individual skill of the craftsmen, including pattern makers, mold makers and laminators will determine the degree of accuracy of molded components. Close collaboration between the manufacturer and other members of the building design team is essential for proper fit and placement of erected panels.

7.4 Material Tolerances

In-process and post process quality assurance testing will verify the following specification tolerances:

1. Reinforcement content shall be $\pm 10\%$ of the specified fiber volume fraction.
2. Laminate Barcol hardness shall not be below the specified minimum.
3. Mechanical properties shall not be below the specified minimum.

7.5 Dimensional Tolerances

Thickness

Actual thickness of FRP products will vary from design thickness according to the method of manufacturing. Minimum thickness should be maintained within $1/16"$ (1.5mm) of design and maximum thickness must be evaluated for overall variations in thickness versus design. A general maximum variation of $1/16"$ (1.5mm) can be applied but increased tolerances should be allowed a change in plane, radius sections, stiffening ribs, etc.

Length and Width

Overall length and width of units measured at the face adjacent to the mold:

- $<10'$ $\pm 1/8"$ (3mm)
- $10'$ to $20'$ $\pm 3/16"$ (5mm)
- $>20'$ $\pm 1/4"$ (6mm)

Variation from square - $\pm 1/8"$ (3mm)

Position of Integral Items

- Mounting devices $\pm 1/4"$ (± 6 mm)
- Internal supports/stiffeners $\pm 1/2"$ (± 12 mm)
- Steel Studs And Tracks $\pm 1/4"$ (± 6 mm)
- Flashing Reglets (Panel edge) $\pm 1/4"$ (± 6 mm)
- Reglets For Glazing Gaskets.. $\pm 1/8"$ (± 3 mm)

7.6 Installation Tolerances

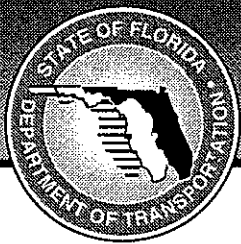
Cumulative errors from the primary structure, supporting structures and FRP panels can cause fit problems if dimensional tolerances are not properly assessed. Compatible tolerances of all adjacent components which take into account the properties of the materials and the capabilities of the manufacturing process will produce the best results.

A nominal amount of bowing and warpage can often be removed during installation because of the flexibility of FRP. Maximum permissible warpage of one corner out of the plane of the other three should be $1/8"/ft$ (5mm/M)

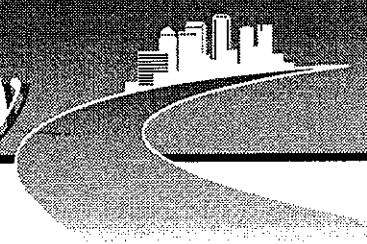
All structural frames and building facades (steel concrete, wood, etc.) have an inherent erection tolerance allowed by the construction industry. There need to be sufficient allowances in panel spacing or through field trimming to accommodate this tolerance plus the fabrication tolerances of the FRP panel. If clearances are realistically assessed, they will solve many installation tolerance problems.

Joint Tolerances - molded-in and field cut joint flanges should be maintained at $\pm 1/16"$ (1.5mm) to intended design width. The joint gap between installed panels should not exceed:

- Panel dimension - $<10'$ $\pm 3/16"$ (5mm)
- $10'$ - $20'$ $\pm 1/4"$ (7mm)



Tampa Interstate Study



INTERSTATE DESIGN TEAM MEETING

APRIL 6, 2000

AGENDA

I. Introductions

II. Purpose of the Meeting

- A. Technical Issues
- B. Aesthetic Issues

III. Retaining Wall Design

IV. Noise Wall Issues

- A. Noise Walls on Structures
 - 1. Detached Wall - Spacing? Height of Jersey Barrier? Noise/Trash?
 - 2. Light weight vs Concrete
- B. Noise Walls on MSE

V. Aesthetic Related Issues

- A. UDG Structure Commitments
- B. Specialty Areas and Continuity Issues
- C. Design Segments 1B and 1C
 - 1. Pier Types
 - 2. Structure Treatments
- D. Segments 1A and 2B
- E. Downtown Interchange and Segments 3A and 3B

VI. Other Outstanding Issues

April 10, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team
FROM: Elaine C. Illes / Mark Jennings
SUBJECT: Bridge Design Meeting with Don Keenan

On Thursday April 6, 2000 at 9:00 a.m., a meeting was held at the offices of Parsons Brinckerhoff Quade & Douglas (PBQD) to discuss Tampa Interstate Study (TIS) design and aesthetics issues with Don Keenan (FDOT Central Office). The meeting was arranged by Frank Balsamo (PBQD). A copy of the meeting agenda is attached.

I. Introductions

Frank Balsamo began with introductions of the meeting attendees. A copy of the sign-in sheet is attached.

II. Purpose of the Meeting

Elaine C. Illes (TIS Aesthetics Task Manager, IPI) stated that the interstate reconstruction project is at 60 percent design for segments 3A/3B, 1C and the Downtown Interchange. It is critical that major decisions affecting all design segments are made regarding aesthetics, noise walls, and technical issues so that the designers can move forward and avoid incurring costs of potential redesign work. The designers of the various segments need to reach agreement on a number of issues affecting all the design segments. That will insure a uniform and consistent look throughout the limits of the TIS project.

III. Retaining Wall Design

Elaine mentioned that the designers have already agreed on using the five by five panel for retaining wall sections several years ago. She asked if anyone has a problem with five by five panels. No one did. Irwin Prescott (FDOT Project Manager) provided a brief summary of the progress made over the past few weeks. He talked briefly about aesthetics and showed photographs of the Squaw Peak Parkway project in Arizona. Don Keenan mentioned that five by five panels are now the State standard for retaining walls. The design is currently being used along a portion of the Pinellas Trail at Park Street and in other locations.

IV. Noise Wall Issues

Frank Balsamó mentioned that the Downtown Interchange is currently showing eight-foot tall noise walls constructed behind the Jersey barriers with a six-inch gap in between the noise wall and the Jersey barrier. He said in Design Segments 3A/3B, he had concerns with this design. Elaine mentioned that Robin Rhinesmith and Carrol Bryant had spoken to Win Lindeman (FDOT EMO) about the gap and he thinks the gap between the barrier and the noise wall will not result in a significant noise impact for the land uses below. However, with the gap, large brackets used for attaching the noise wall are very unattractive and will be an aesthetic challenge. There is also some concern that this gap may become a trash receptacle.

Elaine noted that the decision was made years ago to limit the height of noise walls in the Downtown Interchange project to eight feet and to use a light weight material because many walls will be located on structures and some on existing structures. The design engineers determined a maximum noise wall weight of 150 pounds per linear foot for the existing structures. Don Keenan stated that he was comfortable with eight-foot tall barriers but some existing bridge structures may require strengthening to be able to support it.

Frank Balsamo indicated his desire to place noise walls on top of the Jersey barriers throughout Design Segments 3A/3B. He noted that the technique has been employed in Utah as well as along the Suncoast Parkway. Frank passed around an exhibit showing the proposed design. Some of the noise walls in Design Segments 3A/3B are currently proposed to be as high as 16 feet. Don Keenan expressed concern over that height saying he is not comfortable with any noise walls taller than eight feet due to wind load. Walls 16 feet tall would require a very large moment slab of approximately 9 feet in length and nearly 3 feet thick. Moment slabs of that size influence other design considerations and can cause a number of potential problems, particularly with drainage. In addition, soil compaction beneath the slab can occur unevenly, resulting in settling of the wall at different rates. There was much engineering discussion about this issue.

Elaine Illes asked Don Keenan whether there is a certain breakpoint structurally which Central Office does not want to exceed with noise wall height. Mr. Keenan responded there is not a specific height. Frank Balsamo mentioned that approximately 75 percent of the proposed noise walls in Design Segments 3A/3B are over 8 feet in height. There was much discussion about slab thickness and strap length. In consideration of wind loads on the Jersey barrier walls and the size of moment slabs, someone asked about the roadway and shoulder surface materials. In Design Segments 2B, and 3A/3B, the roadway will consist of concrete pavement and asphalt shoulders.

In many places throughout the interstate project, the community will be exposed to a roadway view-shed in which they will see a retaining wall, a coping wall, a Jersey barrier, and a noise wall. The four distinct layers have been the objection of the DRC and pose aesthetics challenge. Frank Balsamo passed around some fiberglass noise wall samples as an example of lightweight materials. Frank also mentioned the four-foot tall

Jersey barrier along segments of the Suncoast Parkway. Apparently, the taller barrier wall was constructed due to protect the noise wall in the event a heavy truck climbed the barrier.

Don Keenan repeated that he can accept an eight-foot tall noise wall from the standpoint of structural and economic reasonableness. However, anything taller can cause problems from the standpoint of structure, economics, and constructability. As the loads go up with the taller wall, so do the geotechnical concerns.

Glenn Myers (PBS&J) offered that the Palmetto Expressway in Dade County has noise walls as high as 16 feet to 20 feet on top of MSE wall. The noise wall portion was constructed separately from the MSE wall portion. The noise wall tapers down in height to eight-feet tall across structures. Other right-of-way noise walls on that project are as tall as 24 feet, designed to withstand wind loads up to 120 mph. The walls consist of pre-cast standard weight concrete attached to H-beams and slid into place.

Irwin Prescott asked Don Keenan if he would be in support of looking around the country at examples of the interstate system and how noise walls have been done in other places. Mr. Keenan assured him he would. Elaine Illes stressed that we must identify how to best engineer a sixteen-foot noise wall in order to demonstrate to FHWA the cost per benefited receptor. The designers must be confident that a sixteen foot structure is constructible because if we submit the new noise barrier costs to FHWA and they approve the walls at a higher cost per receptor, we may have to build them even though the higher costs were not budgeted.

Irwin Prescott reiterated the need to wrap up the details for the Downtown Interchange since this project is the first to let. Jim Drapp (Downtown Interchange Project Manager, KCA) said he needs to know how to attach an eight-foot noise wall to the existing bridge structures. Can they be mounted on the Jersey barriers? Whatever we decide, we will probably have to design for the same throughout the rest of the interstate system. We all need to be comfortable with the decision for the Interchange.

Don Keenan mentioned it would be possible to cast in place both the Jersey barrier and the noise wall using a form liner to get a consistent look. But Jim Drapp stated that technique would not be feasible within the Downtown Interchange because of the weight concerns on the exiting structures. Light weight materials or light weight concrete must be used there (maximum of 150 pounds per linear foot). There was endless discussion about this. Mr. Keenan stated he would accept a noise wall either on top of, or behind the Jersey barriers as long as it does not exceed 8 feet.

Within Design Segments 3A/3B, noise barriers as tall as sixteen feet have been proposed. Mr. Keenan expressed concern about going higher than eight feet with noise walls on either structures or MSE walls. Don is not comfortable with it and requested that we consider structures and MSE walls the same way. No tall noise walls on top of MSE walls. There was much discussion about cast in place MSE walls and strap length, and

moment slabs. Moment slabs can be a huge obstacle when trying to solve future drainage problems.

Frank Balsamo mentioned that his research has identified the installation of a 16.5-foot tall noise wall constructed on top of an MSE wall as part of the I-15 project in Utah. The problem is, we don't know what sort of wind load it was designed for.

There is currently no prohibition on attaching something to a Jersey barrier as long as it is short. But tall or heavy items could change the barrier performance specs in the event of a crash.

V. Aesthetic Related Issues

Elaine provided an aesthetics overview to bring everyone up to speed. The Urban Design Guidelines (UDG) identified a certain level of aesthetics for each structure within the TIS project limits. To date, segments 1B and 1C have compromised on aesthetics and included steel girder structures instead of boxes for reasons of economics. However, the purpose of the Design Aesthetics Team and the UDG developed especially for this project are to ensure the continuity of walls, structures, and piers throughout the interstate system. We do not want to compromise aesthetics in the most historically significant parts of town such as West Tampa and Ybor City where there are legally binding agreements. For aesthetic purposes, Florida U-Beams are specified for use in West Tampa and Ybor City. Jose Rodriguez (FDOT District Structures Engineer) concurred that the U-Beam structure should be used in those locations.

Jane Burner (URS Corporation) noted that hammerhead piers are being utilized in Design Segments 1B and 1C. She also noted that earth tone pigments and iron oxides are the preferred paint colors as they resist fading in tropical sun. She suggested that steel structures be painted a lighter shade on the outside of the structure and a slightly darker shade on the inside bottom of the structures so as to not draw attention to unattractive steel structure. Don Keenan mentioned that dark paints can conceal rust and small cracks and prefers the use of light colored paints throughout.

For aesthetic purposes, Mr. Keenan approves the use of the Florida U-Beam design instead the generic AASHTO girders. The only special consideration to the U-Beam is that its substantial weight, approximately twice as heavy as AASHTO girders, makes it difficult to transport to the construction site. U-Beams are also slightly more than twice the cost of AASHTO girders; however, one U-Beam takes the place of two AASHTO girders.

Level Three aesthetics are used extensively in Design Segments 3A/3B as originally identified. Frank Balsamo is designing the Florida U-Beam at 21st/22nd, 26th, and 40th Streets in the residential areas. The only exception to Level Three structures is over the CSX Railroad tracks and at 34th Street where AASHTO girders are proposed. It was discussed as to whether or not the structure should be redesigned and it was decided that

due to its location and the potential effect on the design schedule that it should proceed as currently being designed.

It was mentioned that hammerhead piers typically are designed with a kink in them when utilized in segments with super-elevation. This is because the shape of the pier changes slightly with super-elevation. For economy purposes, it is best to utilize the same form when casting the piers. One alternative to the kink was proposed by Glenn Myers (PBS&J) who stated that it is possible to maintain the radius of the pier with super-elevation and only modify the cap to eliminate the kink. He said he will provide some drawings of where this technique has been used.

One last comment about specially designed aesthetic retaining walls. Don Keenan suggested that any cast panels containing something like an arch be cast in place. This is to allow the contractor to complete all structural work first and to ensure that the add-ons do not interfere with the construction schedule in the event of chipped panels, etc.

Action Items:

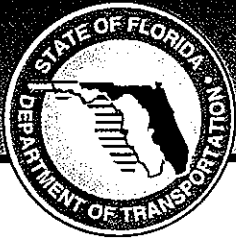
- Don Keenan will review the construction costs numbers developed by Frank Balsamo;
- Frank Balsamo will contact structural designers at Utah DOT for design specifications for noise wall/MSE wall combinations and try to obtain photographs and plans in order to compare wind load designs, compression, geotech, etc;
- Glenn Myers will provide Don Keenan with form work plans from the Airport Expressway Project for him to review the piers.
- Don Keenan will contact structural designers with the Texas DOT in Houston about their experience with noise walls and wind loads in a coastal environment; and
- CSI will be contacted to inquire about the feasibility of panels not installed on the Jersey barriers.

The meeting concluded at approximately 12:00 noon.

Bridge Designers Meeting - PBQD

April 6, 2000

<u>Name</u>	<u>Representing</u>	<u>Phone</u>
Mark Jennings	URS Corp.	224-0448
JEFF SAWYER	PBQD	289-5300
JOSE RODRIGUEZ	FDOT-STRUCTURES	975-6129
David Hodge	PBQD	207-2946
A.A. (Tony) MIRELES	FDOT	(850) 414-4271
Don Keenan	FDOT	850-414-4266
Frank Balsano	PBQD	289-5300
Randy Losch	Reinforced Earth	(407) 240-3257
Jim Drapp	Kisinger Campo	(813) 871-5331
Doug STOKER	"	"
FRANK PRESCOTT	FDOT	(813) 975-6168
HOWARD HOFFMAN	PBQD	289 5300
José M. Sandoval	PBS&J	(813) 877-7275
Glenn F. Myers	PBS&J	954-772-4995
Elaine C. Iltis	IPI	(813) 286-0125
JANE BURMER	URS	(813) 286-1711

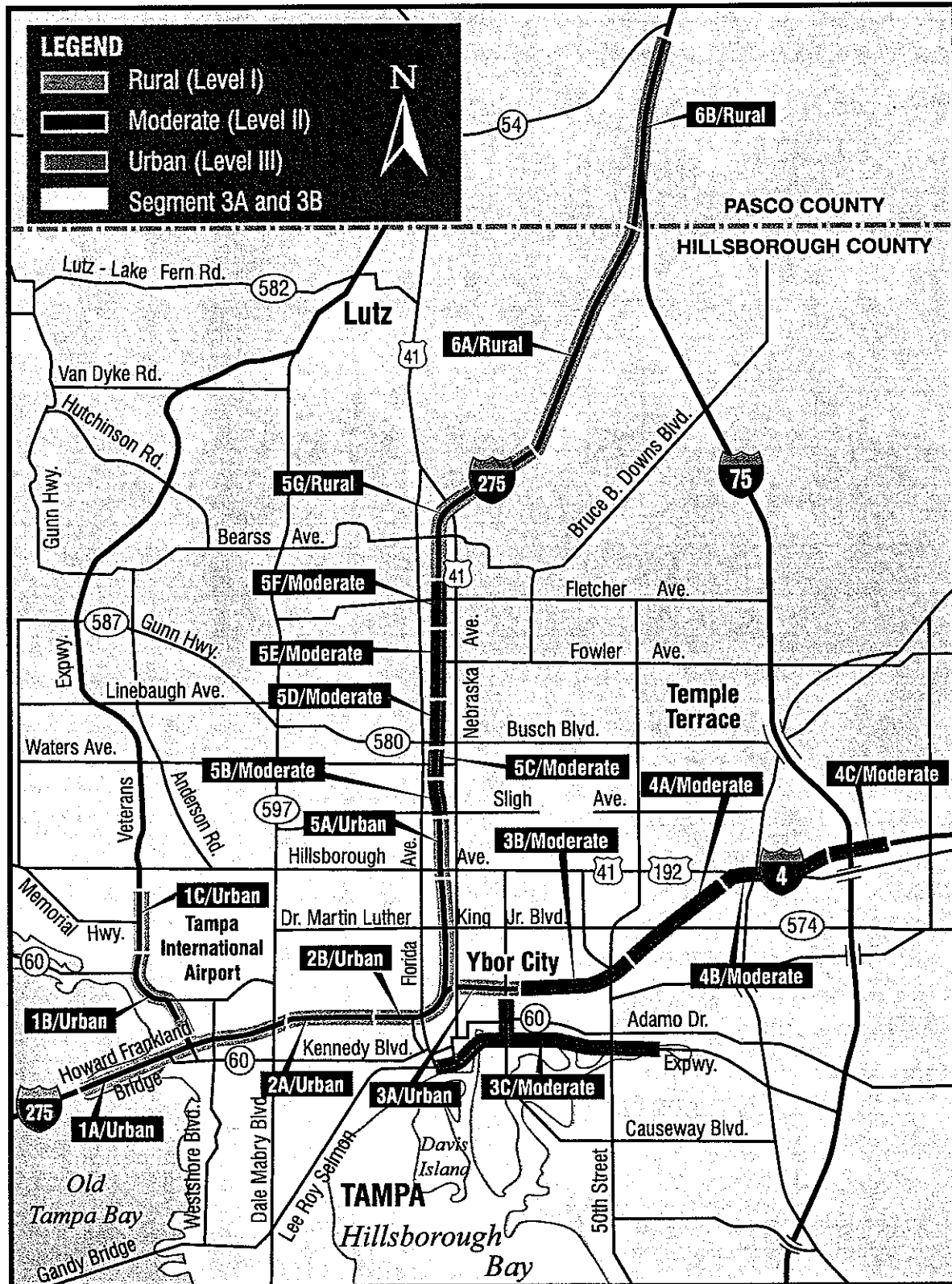


Tampa Interstate Study



LEVELS OF AESTHETIC TREATMENT

INTERSTATE
Florida's Gateway to Tampa

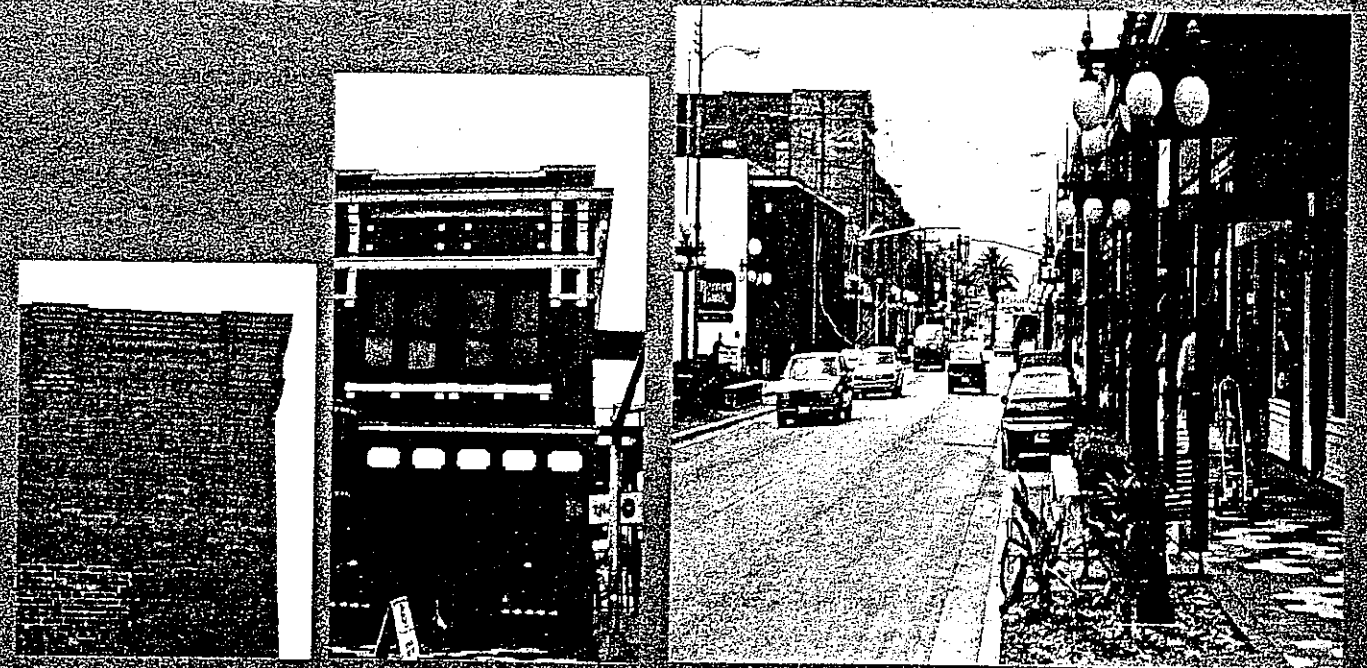




Florida's Gateway to Tampa



YBOR CITY & CITY OF TAMPA URBAN DESIGN CONCEPTS & SKETCHES



March 3, 2000

Prepared by: Terra Tectonics design group, inc.
for: Parsons, Brinkerhoff, Quade and Douglas, Inc.

FDOT PROJECT #S: FP#258401 & 258402, SR400/I-4 SEGMENT 3A&3B WPI 7143131 AND 7143132 SPN10190-1450 AND 10190-1451

Acknowledgments & Participants:

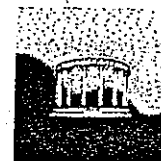
Participants in this design charette are as follows:

FIRM	PARTICIPANT	PROJECT ROLE	PHONE	FAX
FDOT	Irwin Prescott, PE	FDOT-Project Manager	975-6108	
PBQD	Howard Hoffman, PE	Project Manager	289-5300	
PBQD	K.C. Lim, PE	Roadway Engineer, manager	289-5300	289-4405
PBQD	John Palson, PE	Structural Engineer	289-5300	289-4405
IPI	Elaine Illes	Public Awareness, Planner	286-0125	639-0270
Terra Tectonics	Jonathan Toner, RLA	Urban Designer	258-4504	258-4604
EHJR	Todd J. Willsie, AIA	Design Architect	727-938-2835	727-938-2836
Jfa	Chris J. Joiner, AIA	Design Architect	876-3300	876-7158
Cooper Johnson Smith	Steven F. Smith, AIA	Design Architect	273-0034	273-0079

Design Charette held February 25, 2000

At:

Terra Tectonics design group, Inc.
2011 Cleveland St. Suite E
Tampa Florida 33606



Design architects:



edward c. hoffman, jr.
architects, a.i.a., p.a.

todd j. willsie
graduate architect

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ARCHITECTS INC

STEPHEN F. SMITH, AIA

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FL LIC AA 000039

Introduction:

The design charrette was created to acknowledge the comments of the Barrio Latino and as part of the ongoing design efforts for the schematic design of the 3A 7 3B segments of I-4. The end result of this design charrette has become a series of concepts applicable to the roadway bridges and walls that reflect the character and fabric of Ybor City and the surrounding neighborhoods.

Walls:

We have several walls that we are concerned with:

A. Free-Standing noise walls

Two-sided at surface street level 8' ht

B. Noise walls mounted on structure

Two-sided - one side detailed-offline, one side smooth for on-line

C. MSE walls

One sided structural walls, various treatments can be cast in, with colors and textures as part of a larger architectural design

We are using these design sketches and other recent data from local manufacturers, using pre-cast molded wall panels as a beginning point to find a common material and texture that would be appropriate throughout the interstate system as well as complimentary and appropriate to Ybor City. We felt this design charrette provided a good basic concept as to the possibilities for the ultimate architectural treatments for these walls.

Bridge Portals:

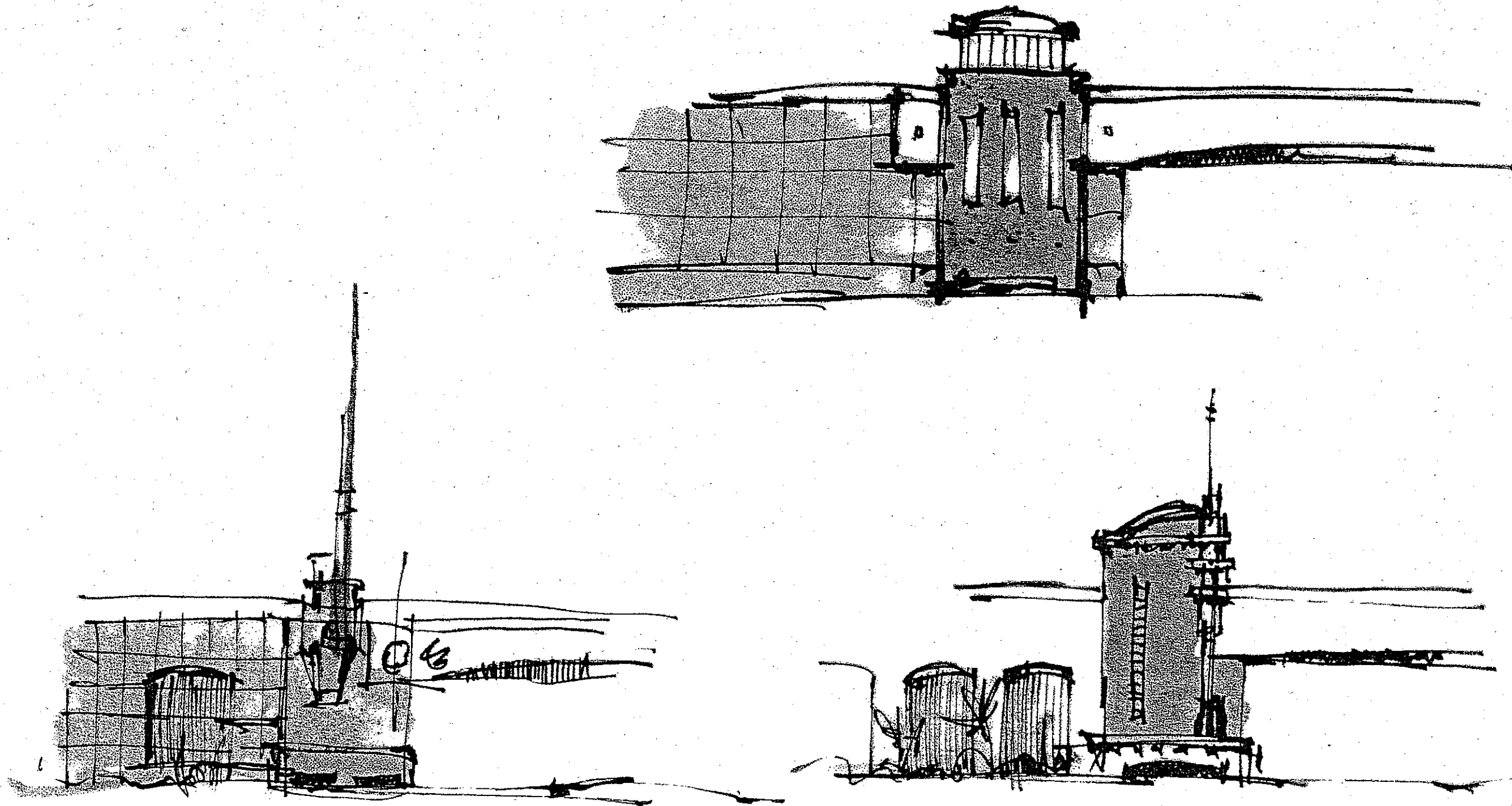
The second items for design attention is the portals at the bridge locations. The primary attention will be at 14th and 15th St. & 21st and 22nd St.

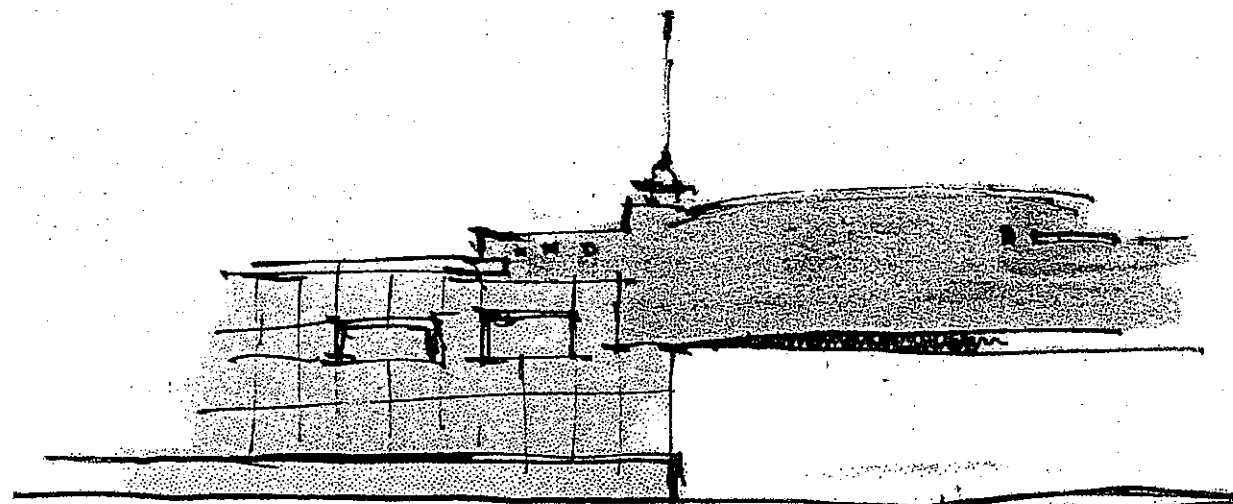
The design process gravitated to dealing with the bridges as complete unique bridge objects rather than trying to disguise them with architectural ornaments that reflect the local freestanding structures. This seemed to be a universal design thought among the team members.. This is reflected in the following sketches.

Some of the sketch ideas expanded the possibilities of the bridges into glorifying them as unique art and architecture, other ideas came forth to show them as blended objects utilizing the present fabric and palette of the local community. All have worthy ideas found within them.

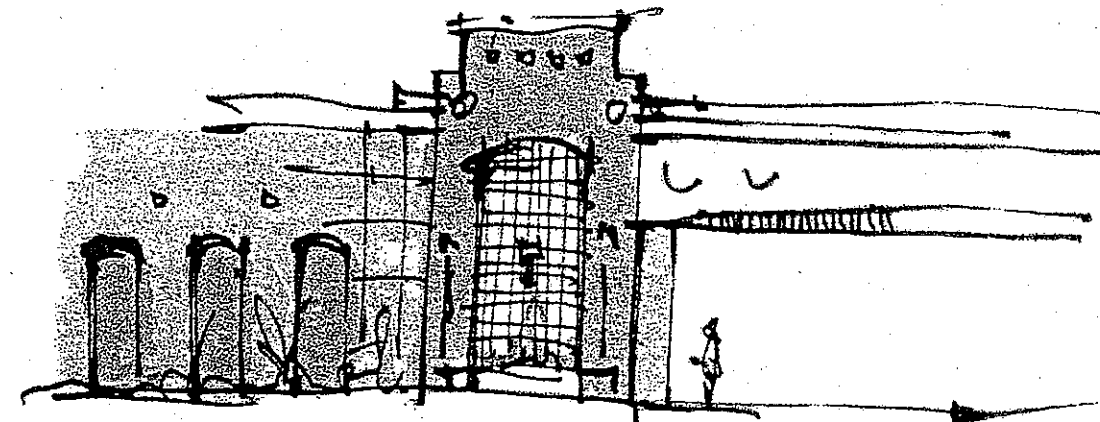
This concept guide is to be for the generation of discussions and review for the local design committees and review groups. We welcome any thoughts ideas or suggestions from these groups in order to find the design solution that benefits the community the most harmonizing manner.



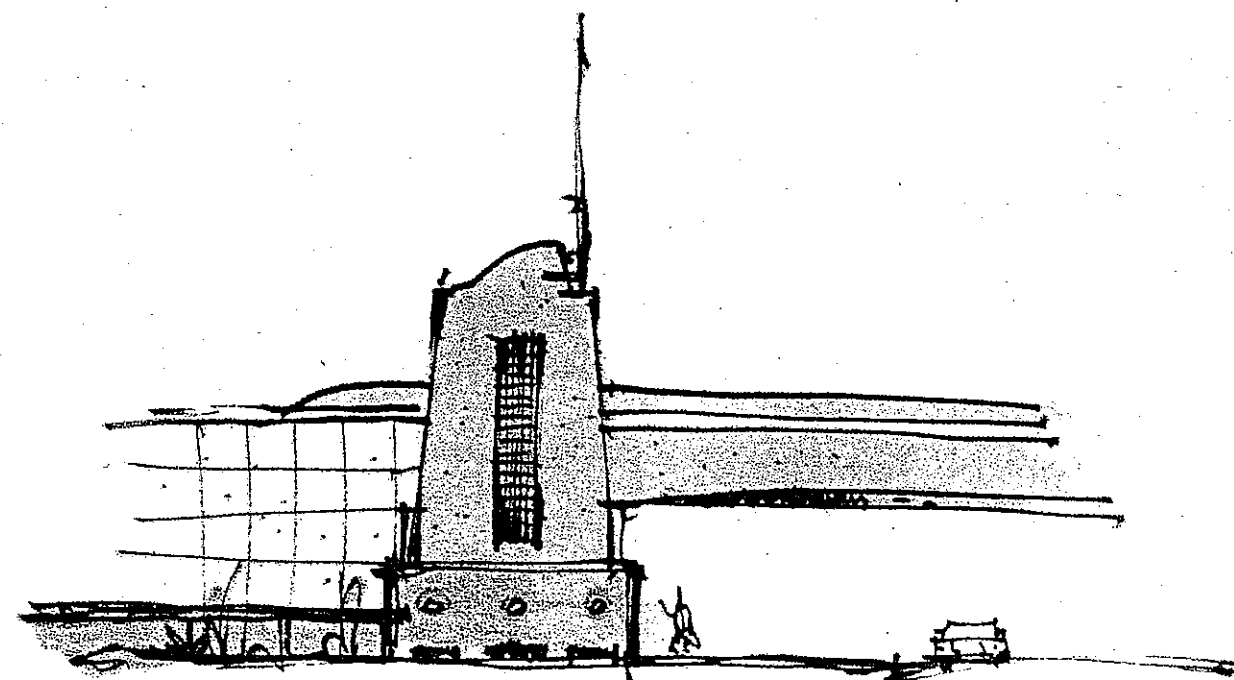
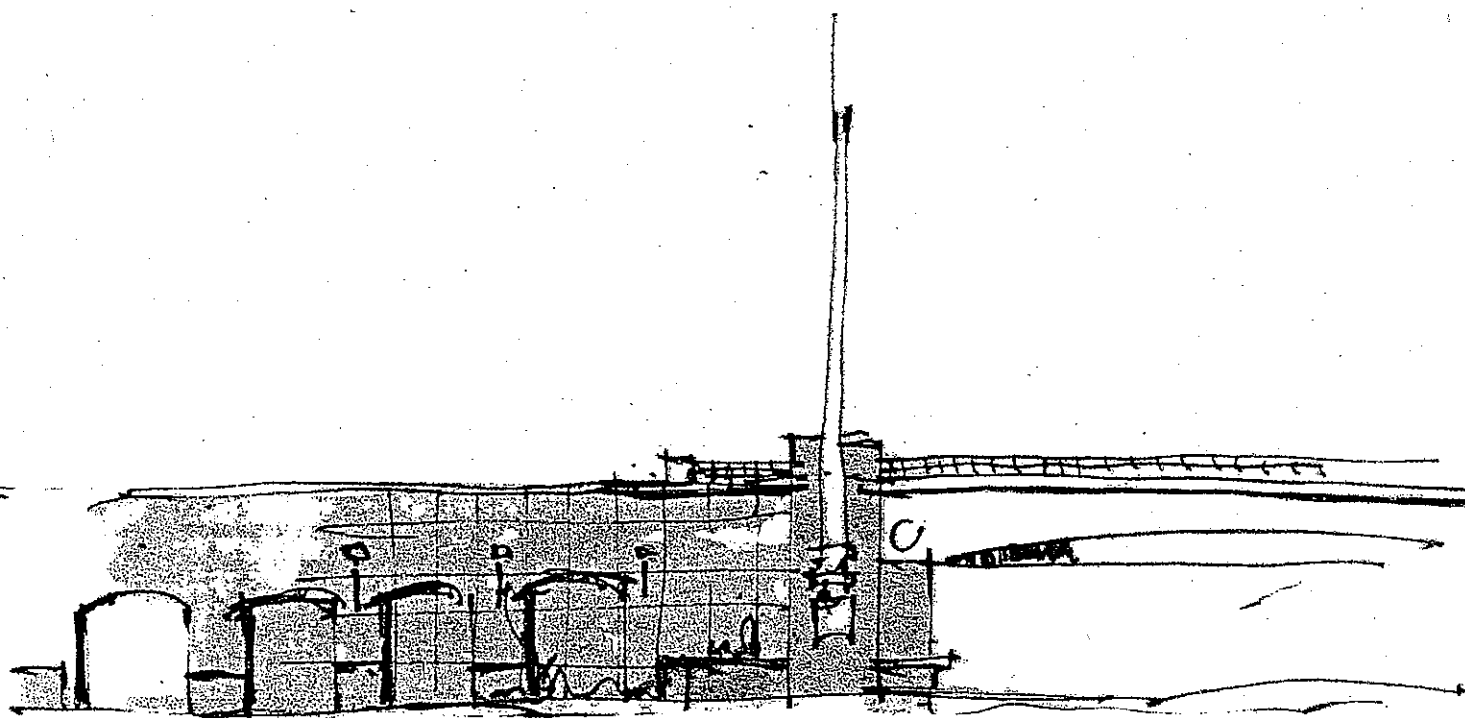


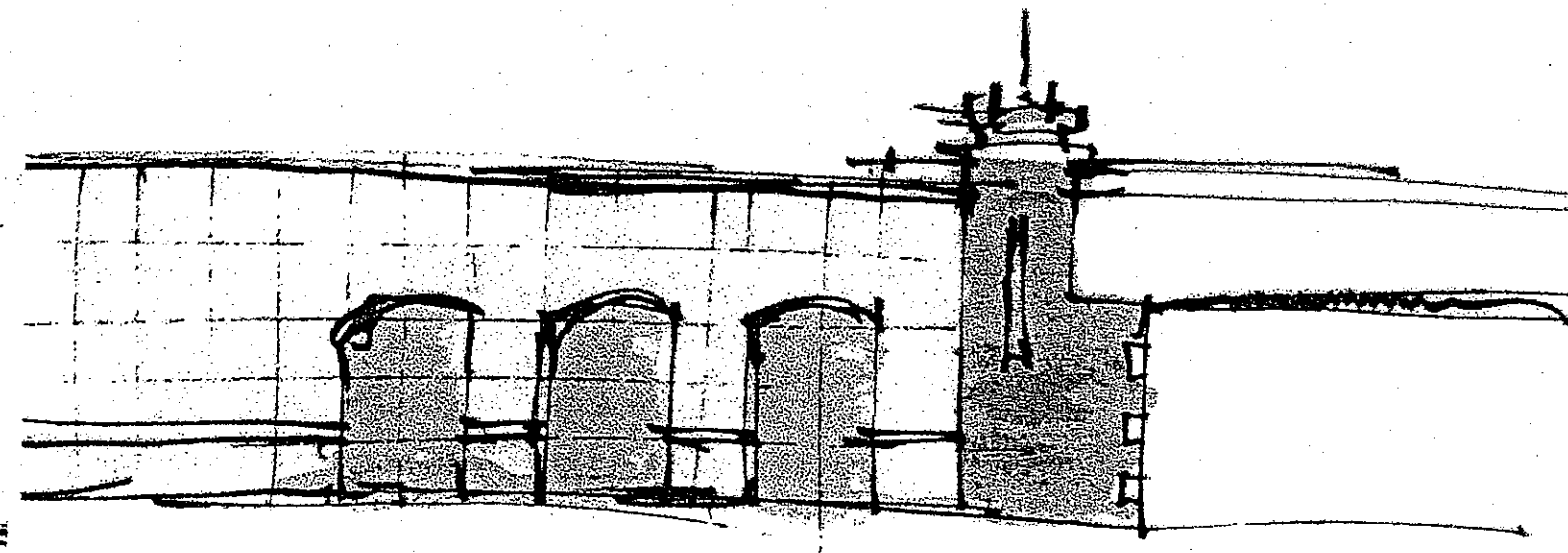
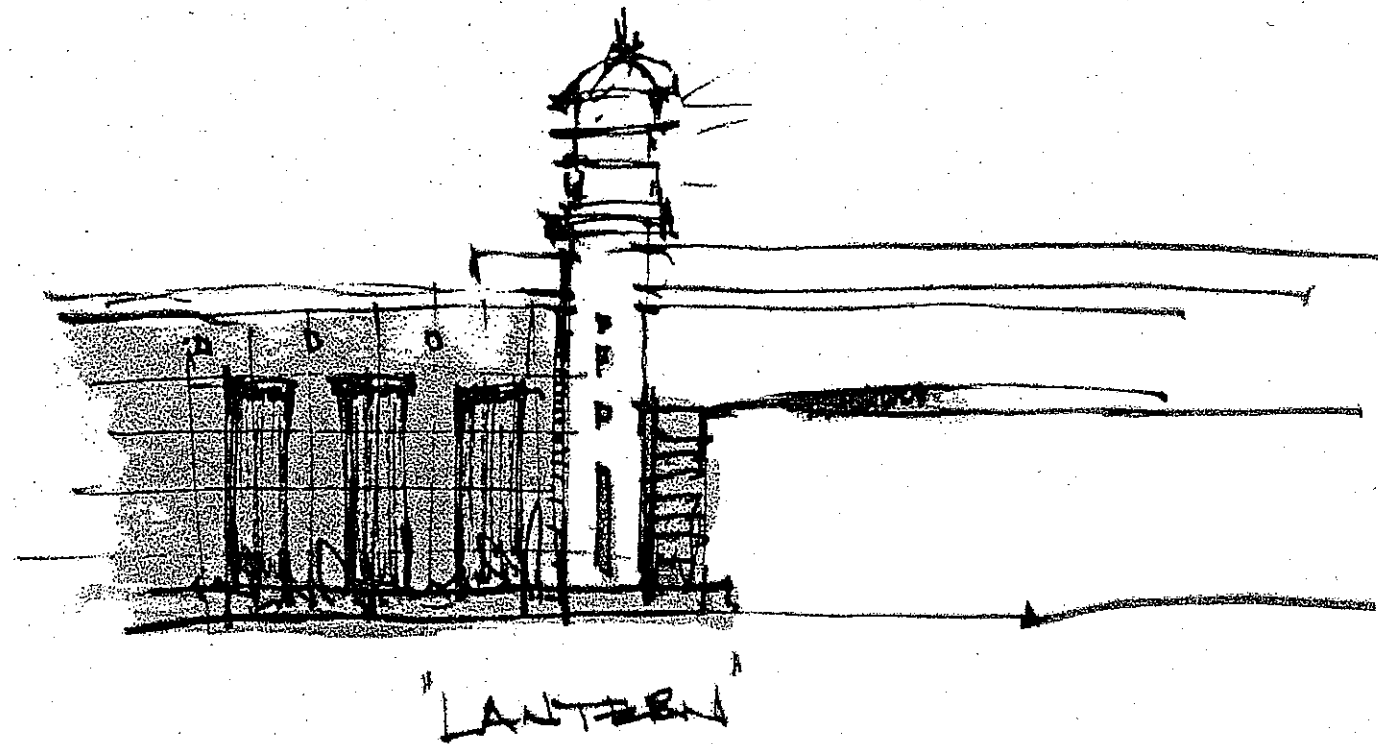
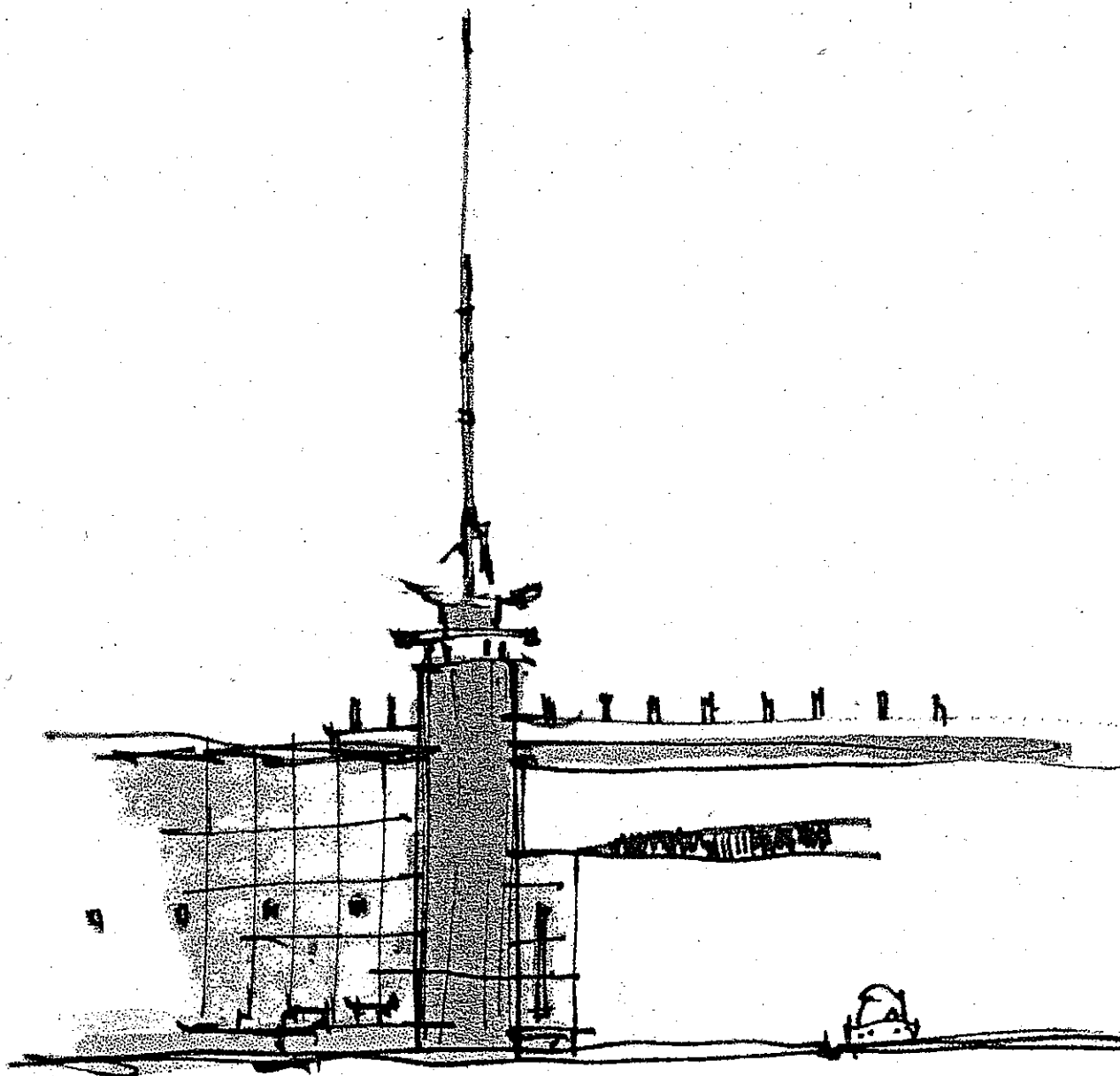


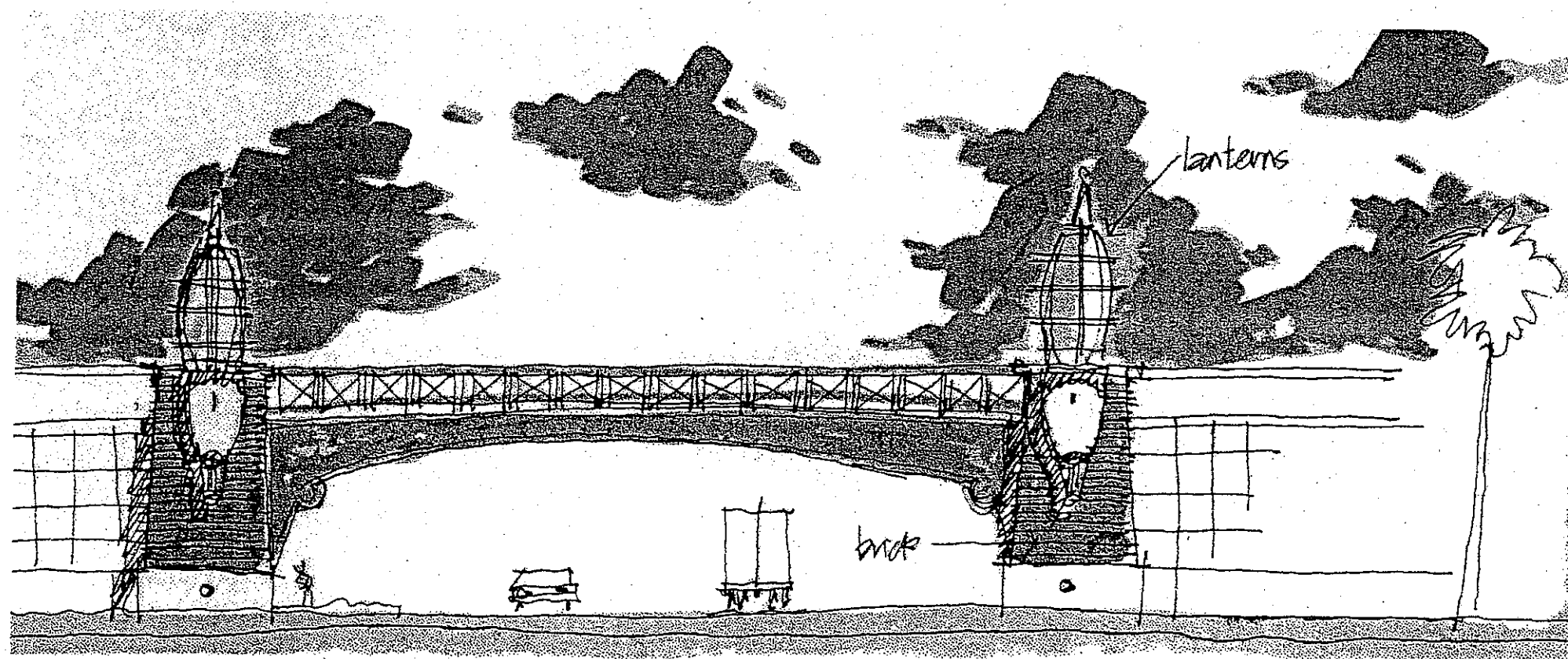
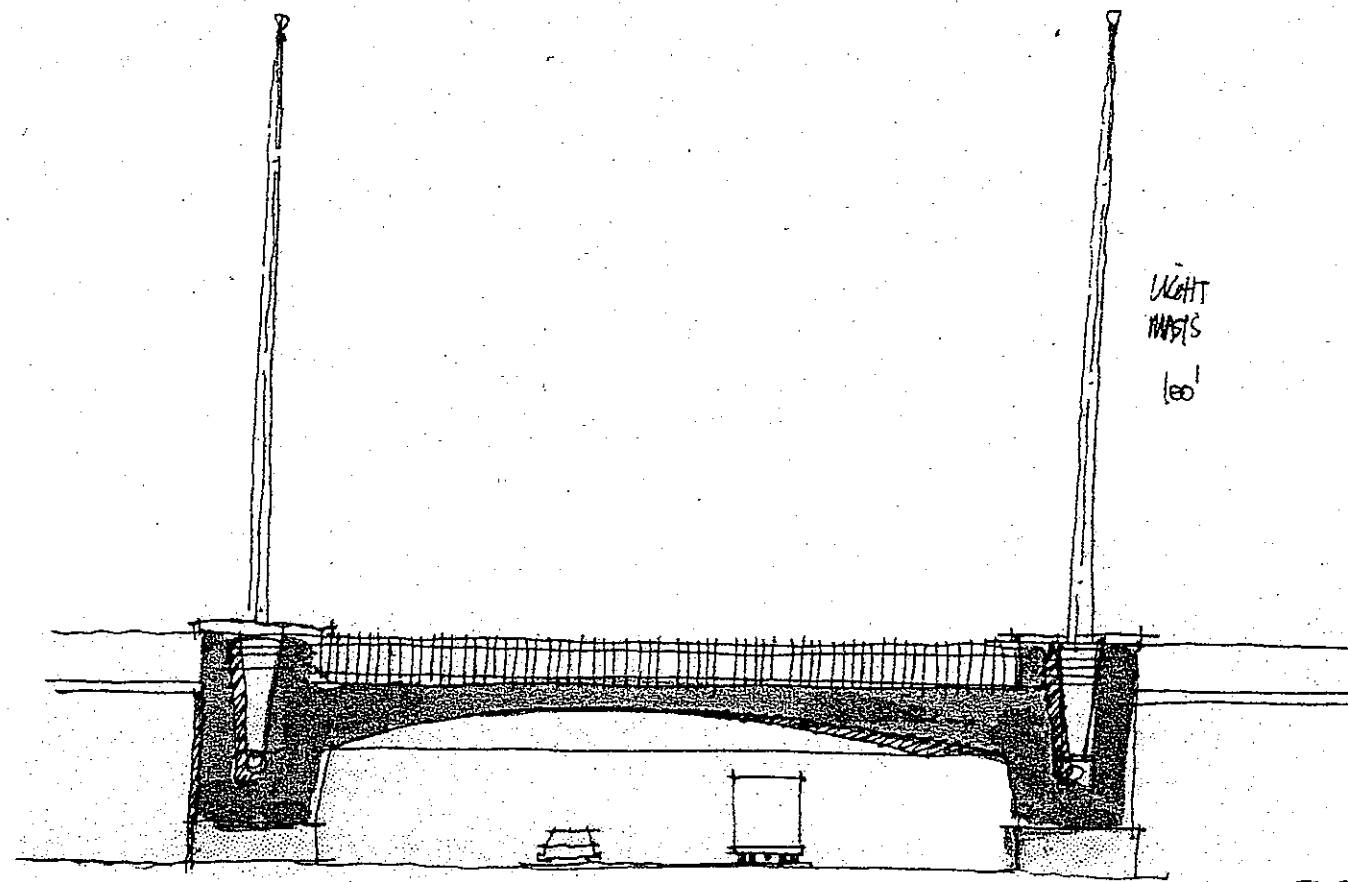
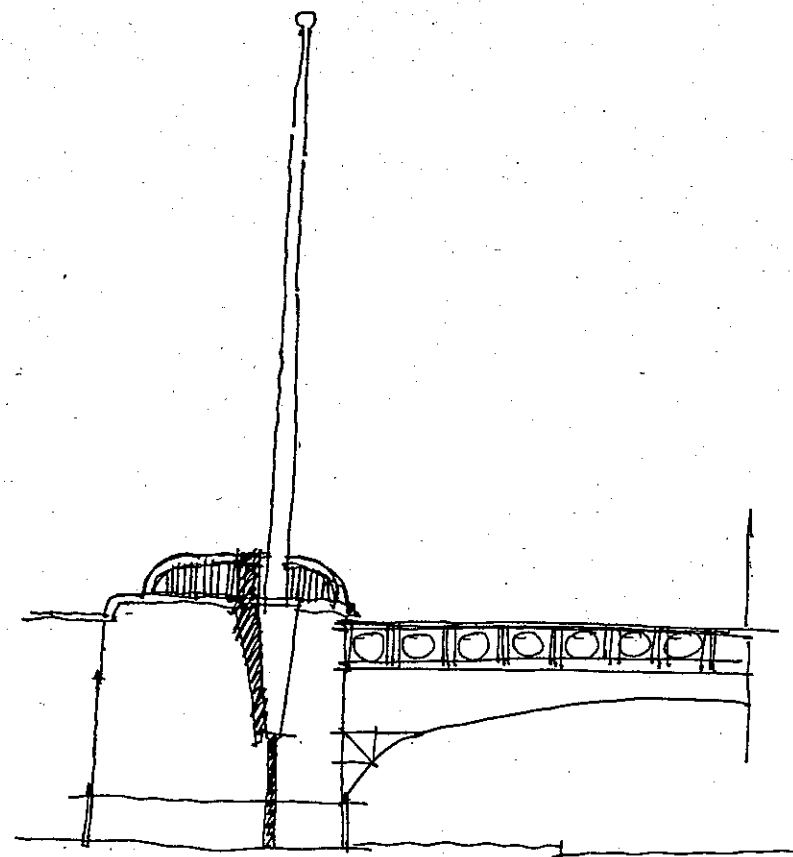
"PARAPET BRIDGE"

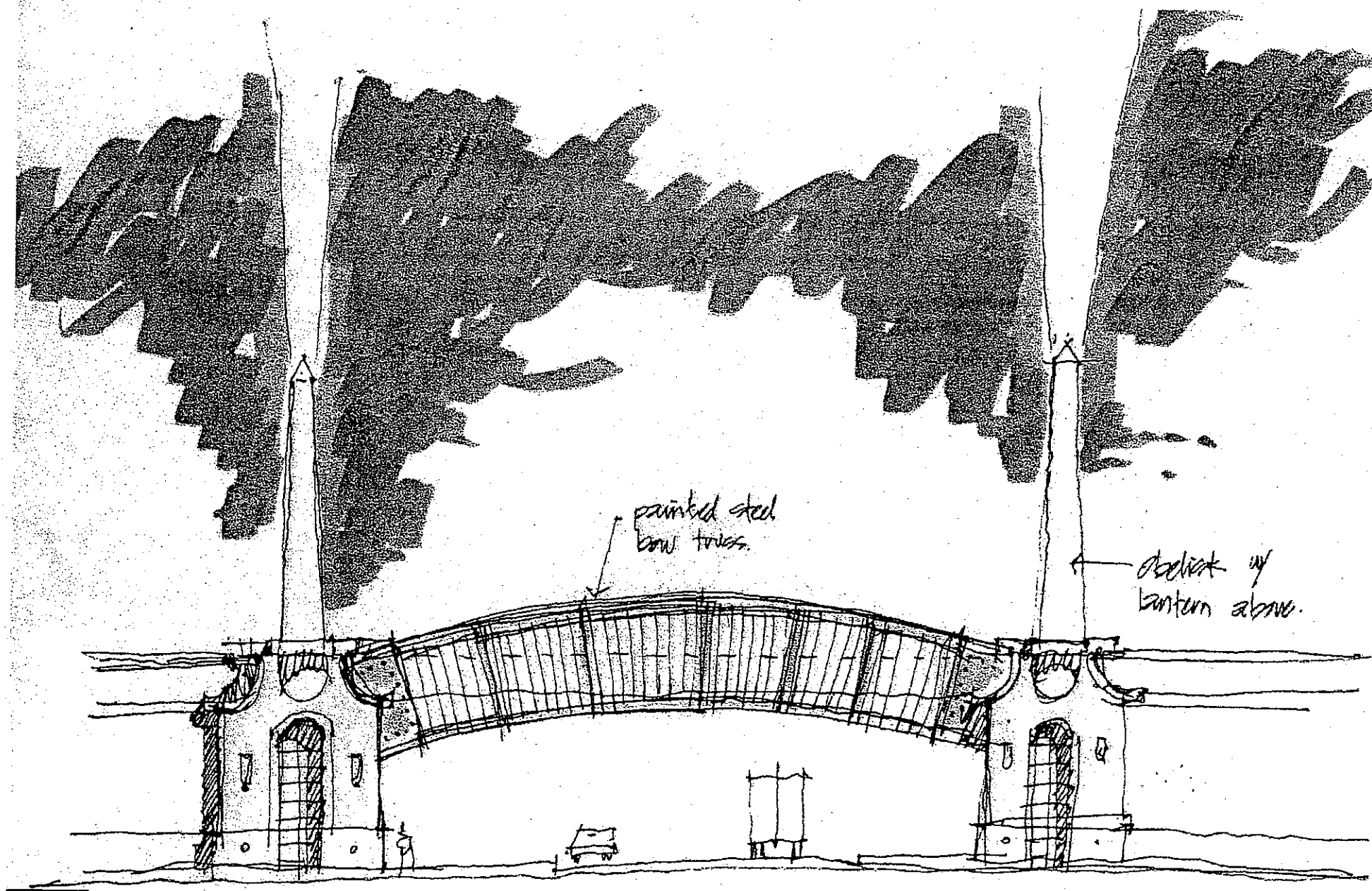
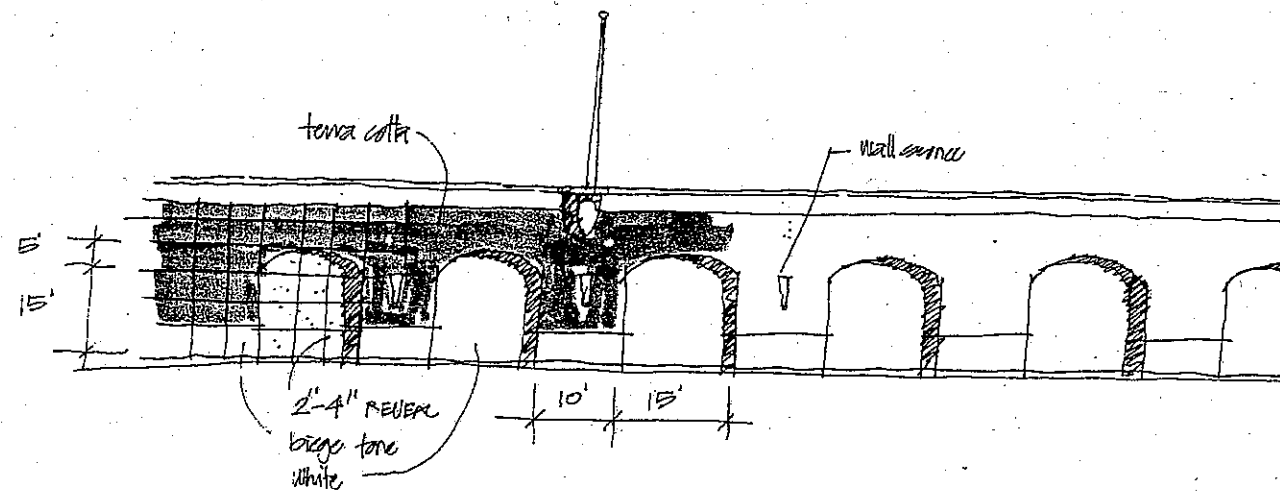


"WALL FOUNTAIN"

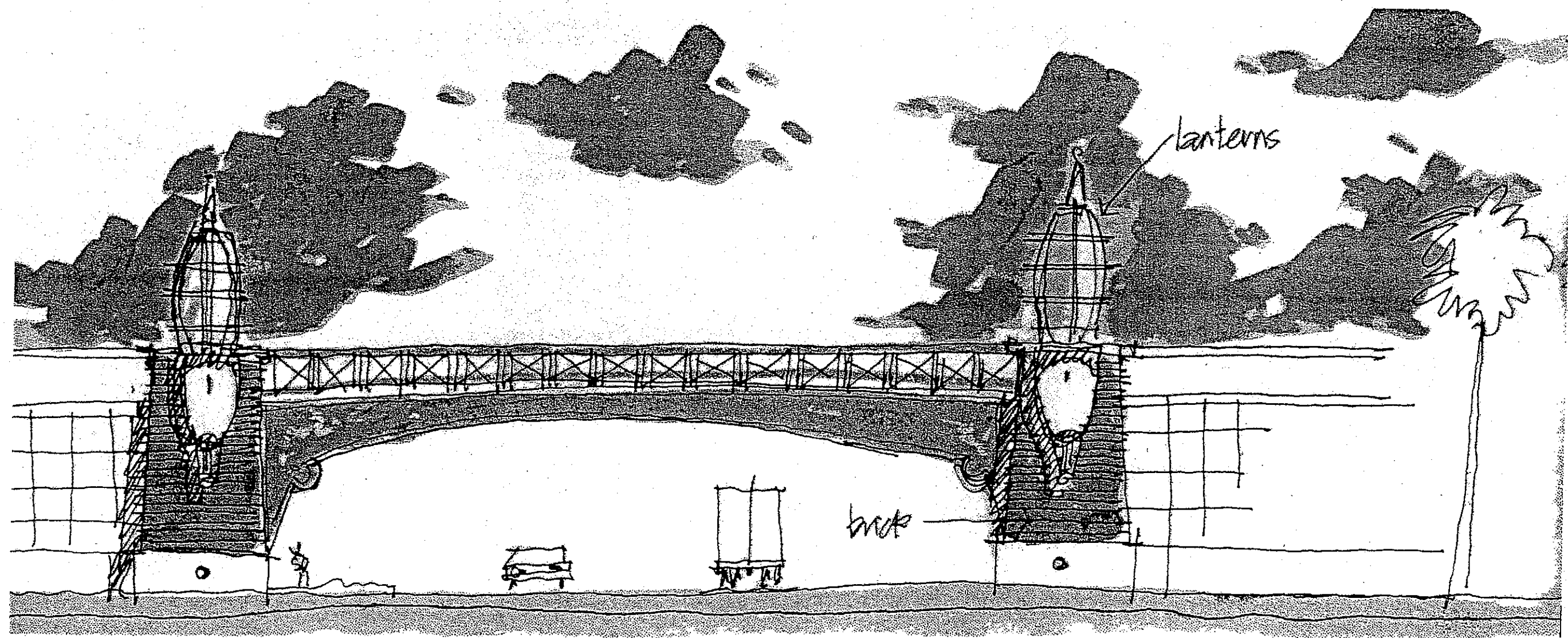
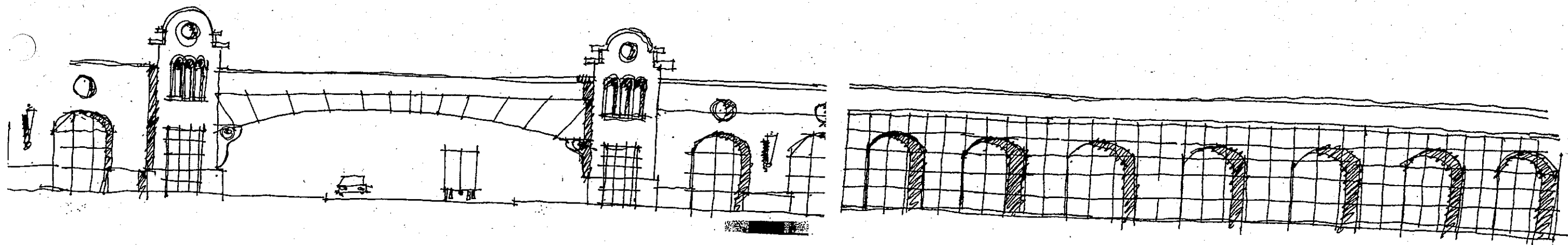


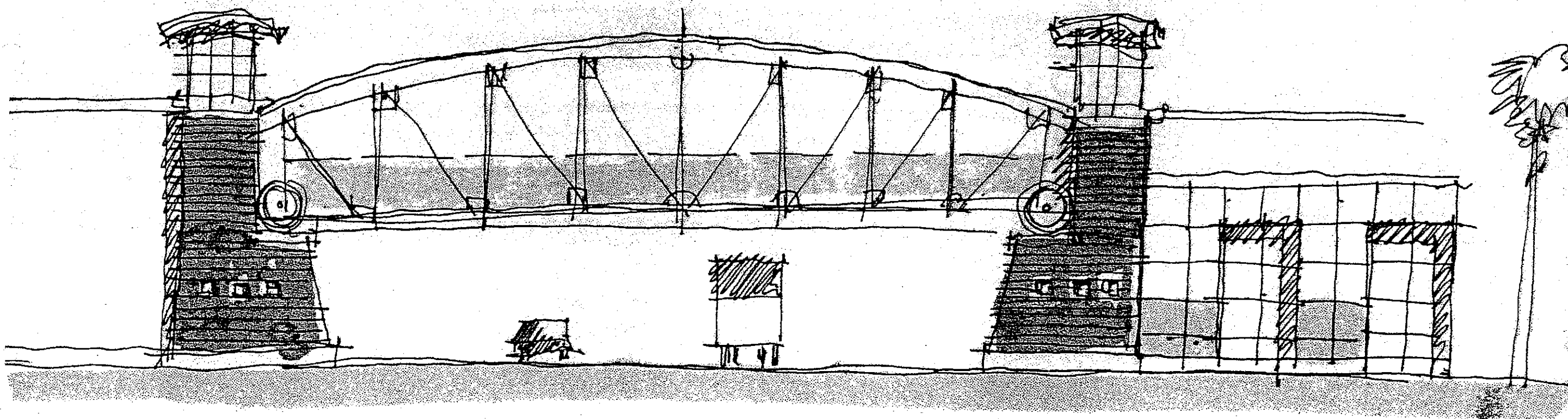
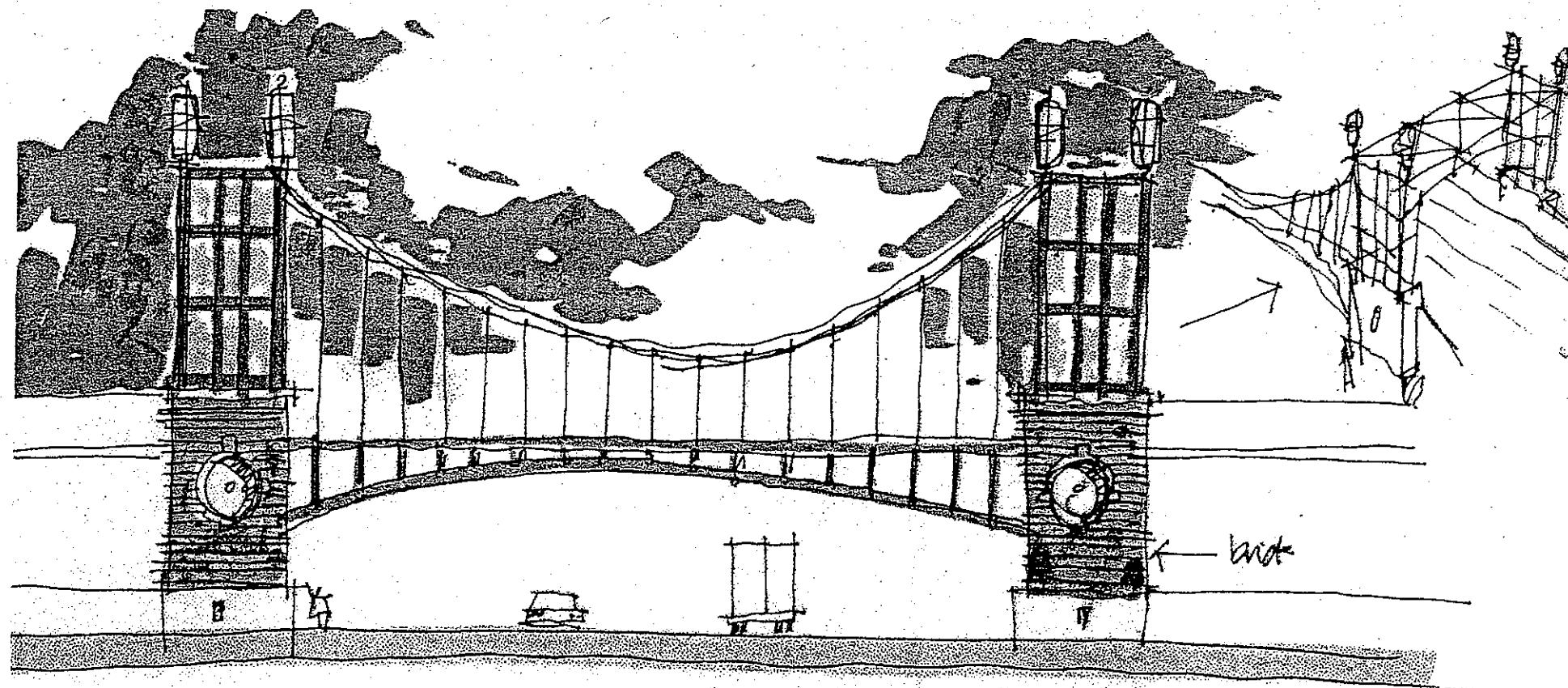


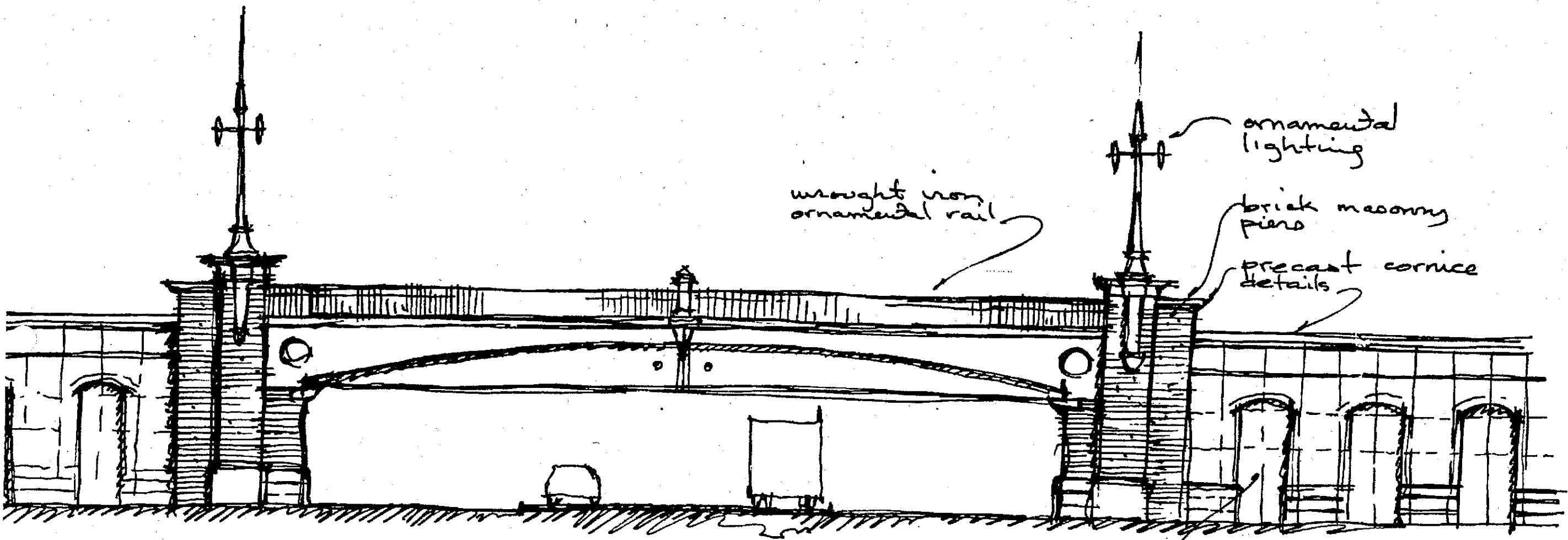




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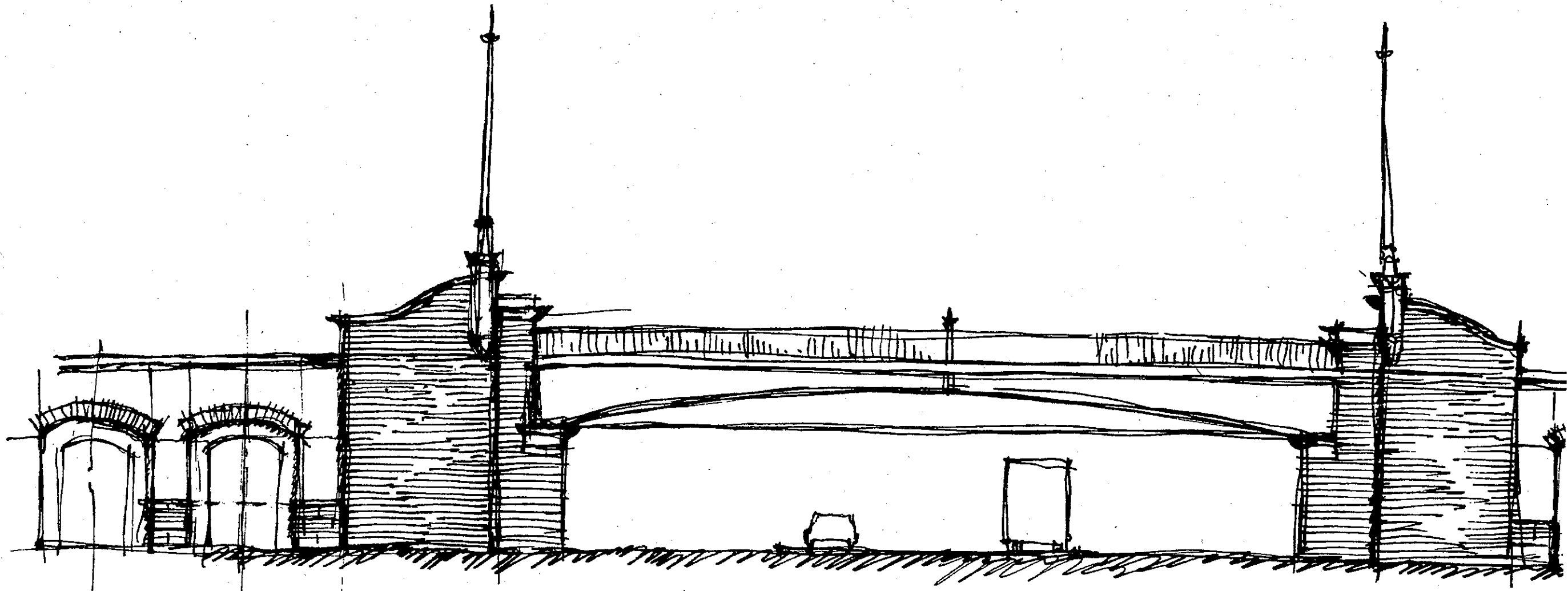
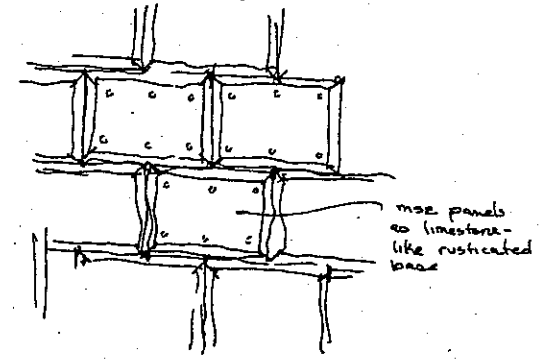




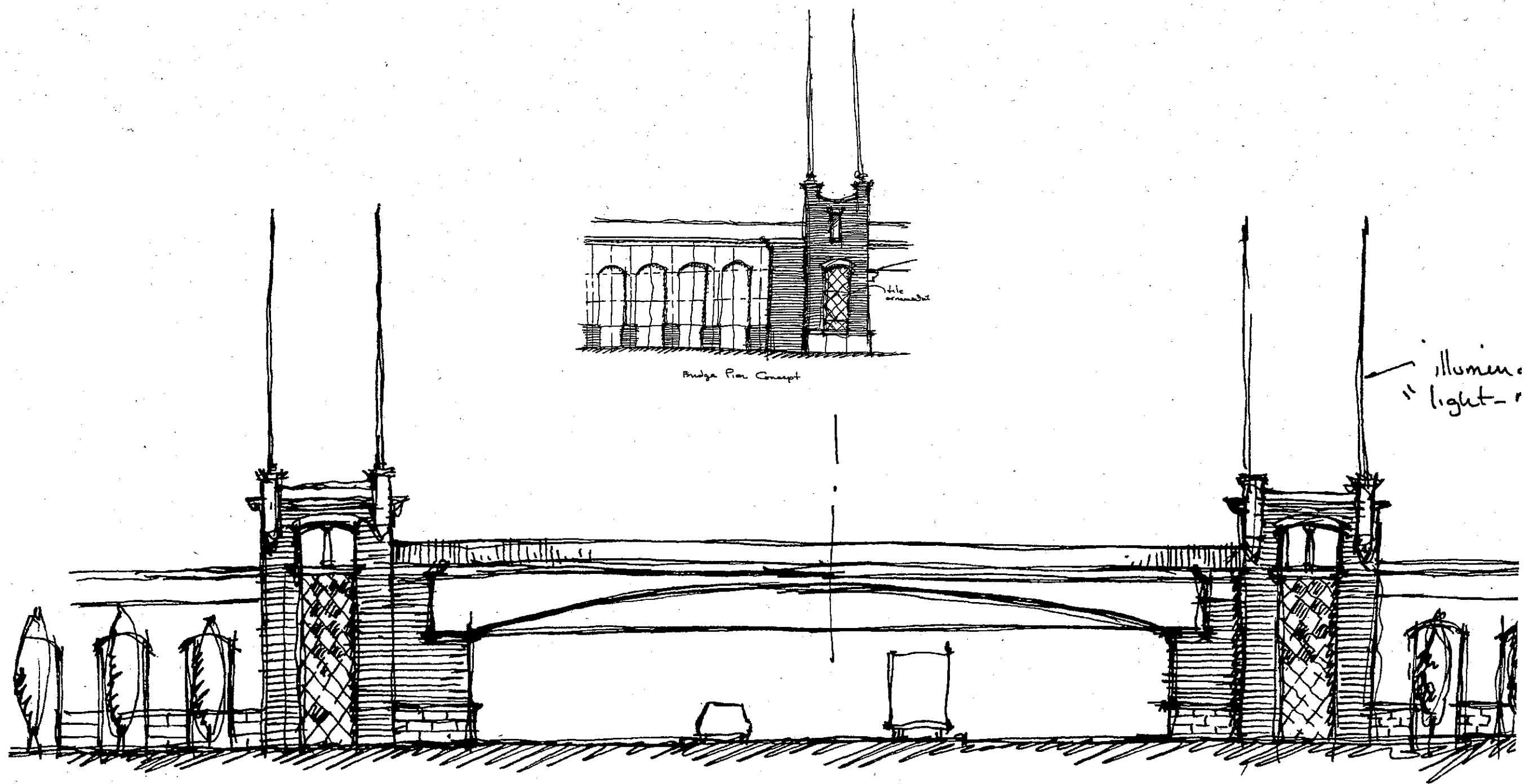


Bridge Concept 1 -
14th & 15th Street

mse panels articulated -
rusticated base, 4"
recessed arched panels

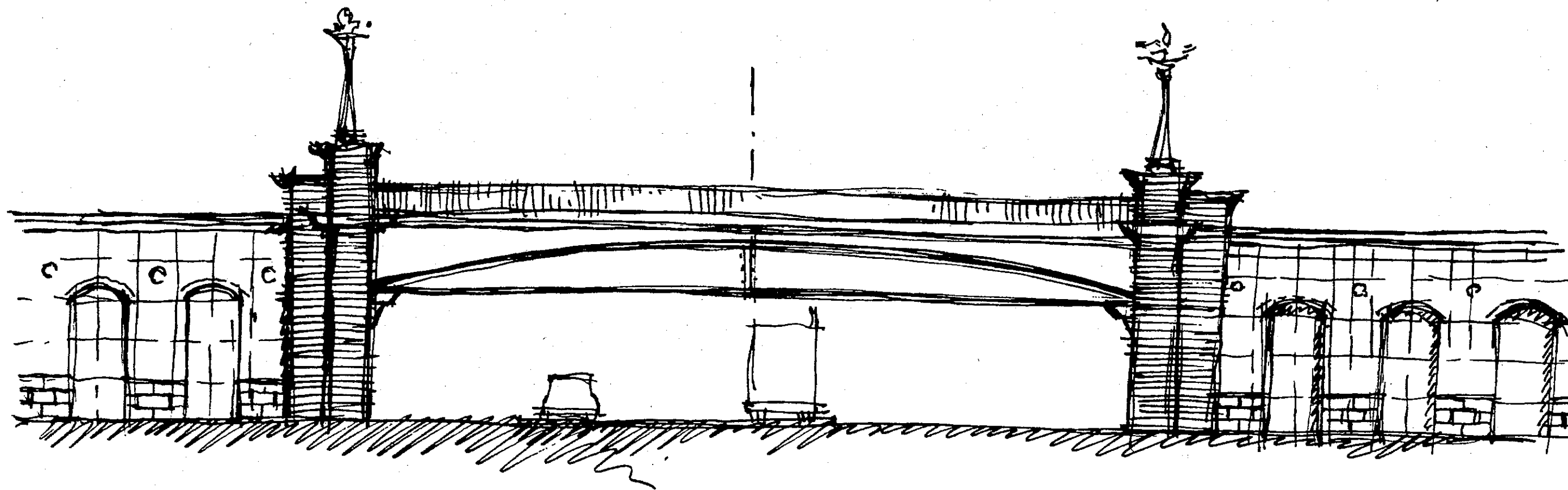


Bridge Concept 4 -
14th & 15th Street



Bridge Concept 2 -
14th & 15th Street





Bridge Concept 3 -
14th & 15th Street



YBOR CITY & CITY OF TAMPA - URBAN DESIGN CONCEPT SKETCHES

April 17, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes (IPI)/ Mark Jennings (URS Corporation)

SUBJECT: Mechanically Stabilized Earth (MSE) and Noise Wall Meeting

On Friday April 7, 2000 at 9:30 a.m., the Tampa Interstate Study (TIS) Design Aesthetics Team met at the Florida Department of Transportation (FDOT) Executive Conference Room to discuss aesthetic treatments for MSE walls and sound absorption technology for noise walls. Copies of the meeting agenda and the sign-in sheet are attached.

I. Introductions

Elaine Illes (IPI) began the meeting with introductions.

II. Presentations

Boone Bucher of Concrete Solutions, Inc. (CSI) and Buck Scott of Scott Systems were invited to the meeting to make presentations about their respective companies and products. CSI has developed a proprietary noise absorption product that is mixed with concrete in the construction of noise walls. Scott Systems has developed a proprietary form liner used for the casting of decorative concrete surfaces.

Scott Systems

Scott Systems developed and produces a rubberized "elastomeric" mat for use as a form liner to texturize concrete. While many companies make form liners, none apparently are as durable and flexible as the elastomeric mats custom made by Scott Systems which can be reused up to one hundred times. Scott System liners were used to produce the first graphic concrete for an FDOT construction project, on I-95 in Fort Lauderdale. Their product has been used by many DOTs all around the country as well as for various Art in Public Places projects. Mr. Scott showed slides of his product in use during concrete casting as well as the finished results. He also distributed some samples of the elastomeric material.

The graphic art selected for a project can be supplied by local artists or can be standard stock. The impressions start out as sculpted clay models, which are used in preparing the elastomeric mat. The impressions in the mat can be as deep as one and one-half inches. However, when viewing the finished concrete product, the texture appears to be much deeper. The secret is that several different textures in the same impression can create

different shadows that result in the appearance of dramatic relief. The concrete can then be painted or stained, brushed on or sprayed. It is Mr. Scott's observation that graffiti artists tend to avoid vandalizing textured walls with graphics.

In general, elastomeric mats are too expensive to produce to be cost effective for a single-point use. However, because the product is so durable and can be reused so many times, it becomes much more cost effective for large projects with thousands of feet of walls or abutments. And the mats can be stored and reused for other projects. It is possible to lower the cost of an elastomeric liner to approximately \$0.50/square foot, but it takes a large project to do that. Another aesthetic advantage of the elastomeric material is that it can completely eliminate the view of the joints. It is also possible to do two completely different textures on both sides of the same liner (a two-sided liner).

CSI

Next, Boone Bucher described CSI's noise absorption product for use in constructing noise walls. Sometimes, it is the perception of noise sensitive receivers that noise walls actually result in increased noise effects, due to the reflective nature of noise. The use of a noise absorptive material can heavily reduce that perception. His proprietary material creates a surface texture which is not adversely affected by wetness or UV radiation, and does not clog concrete pores. The result is a product that absorbs approximately 95 percent of the frequency of tire noise and does not reflect it back onto the roadway. The product is so efficient, it can actually result in lowering the projected height of noise walls as determined through TNM. His product produces a higher noise reduction coefficient (NRC) which when input into TNM, can in circumstances result in a lowering of the height of noise walls.

The Federal Highway Administration (FHWA) recognizes a maximum NRC of 0.95, which CSI's product can achieve. Most competing products can achieve a maximum NRC of 0.85. As a result, an insertion loss of 5 to 8 decibels can be achieved with a shorter wall incorporating CSI's sound absorption technology, than with a taller more noise reflective wall.

When asked how noise barriers are typically installed for highway projects, Mr. Bucher responded he has seen them attached to the top of, back of, and offset from Jersey barriers. Any gap between the barrier and the noise wall is typically filled with sand or gravel.

CSI has developed a proprietary light weight steel truss, approximately two inches thick, used in construction casts of noise walls. The concrete is simply poured in. The truss and sound absorb material are easily used in pre-cast applications. CSI noise walls 15 feet tall and 11.5 feet wide have been tested to 110 mph wind loads without failure. Typically the product is cast in cement-based material in horizontal molds but can also be poured in place. The proprietary sound absorb material is provided in pre-measured batch mixtures and it does not de-bond.

Both Mr. Bucher and Mr. Scott were asked about integrally colored concrete. Both prefer stains because the color of each batch of concrete can change slightly as well as fade over time. Staining they feel provides a more uniform look. Stains can last 20 to 30 years between applications and can cost as little as \$0.05/square foot. And covering the stain with a water repellant application can extend that life even further.

For the benefit of Mr. Bucher and Mr. Scott, Elaine Illes (IPI) described the weight considerations for the existing structures in Design Segment 2B (Downtown Interchange). The designers indicate they can accommodate a noise wall weighing no more than 150 pounds per linear foot. This situation necessitates a very light-weight noise wall. She asked if it is possible to construct noise wall on top of the Jersey barriers, or is it possible to construct a stand alone eight-foot tall wall including the steel support posts which meets the weight restrictions. There was much discussion about this including mention of Lexon I-Beams which are stronger than steel but much lighter. Mr. Bucher concluded that he would have to go back to his shop and develop some samples and test them.

Elaine requested that he be able to give the group an answer to whether or not he can meet the maximum 150 lbs/linear foot for an 8 foot tall wall, including the steel posts, by the 28th of April. In addition, she requested he test an H-Beam design that could be hidden from the community side and be placed behind the Jersey barrier.

Further discussions followed concerning adding a fiberglass panel to the outside of his wall to hide the Jersey barrier, if the load was too heavy to have the 8 foot wall behind the Jersey barrier.

Scott Systems then showed a slide show of various wall treatments implemented around the world. The meeting concluded at approximately 11:50 a.m.

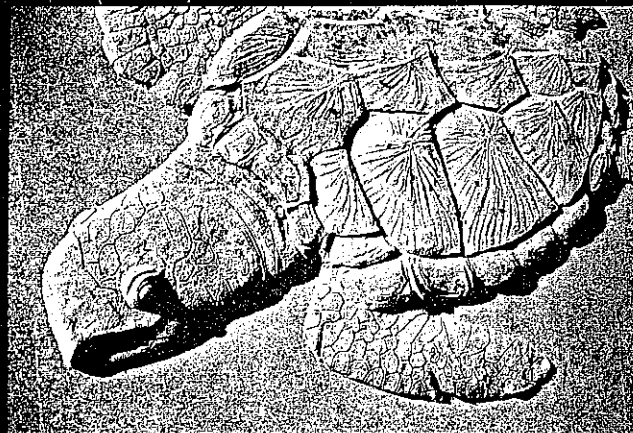
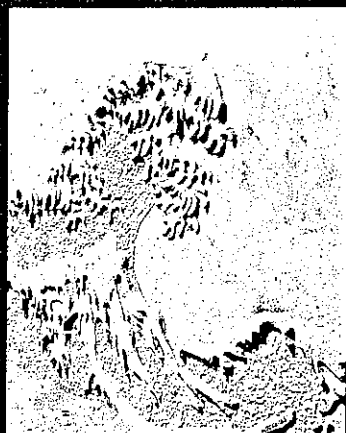
TIS Design Aesthetics Team

Noise Wall Meeting

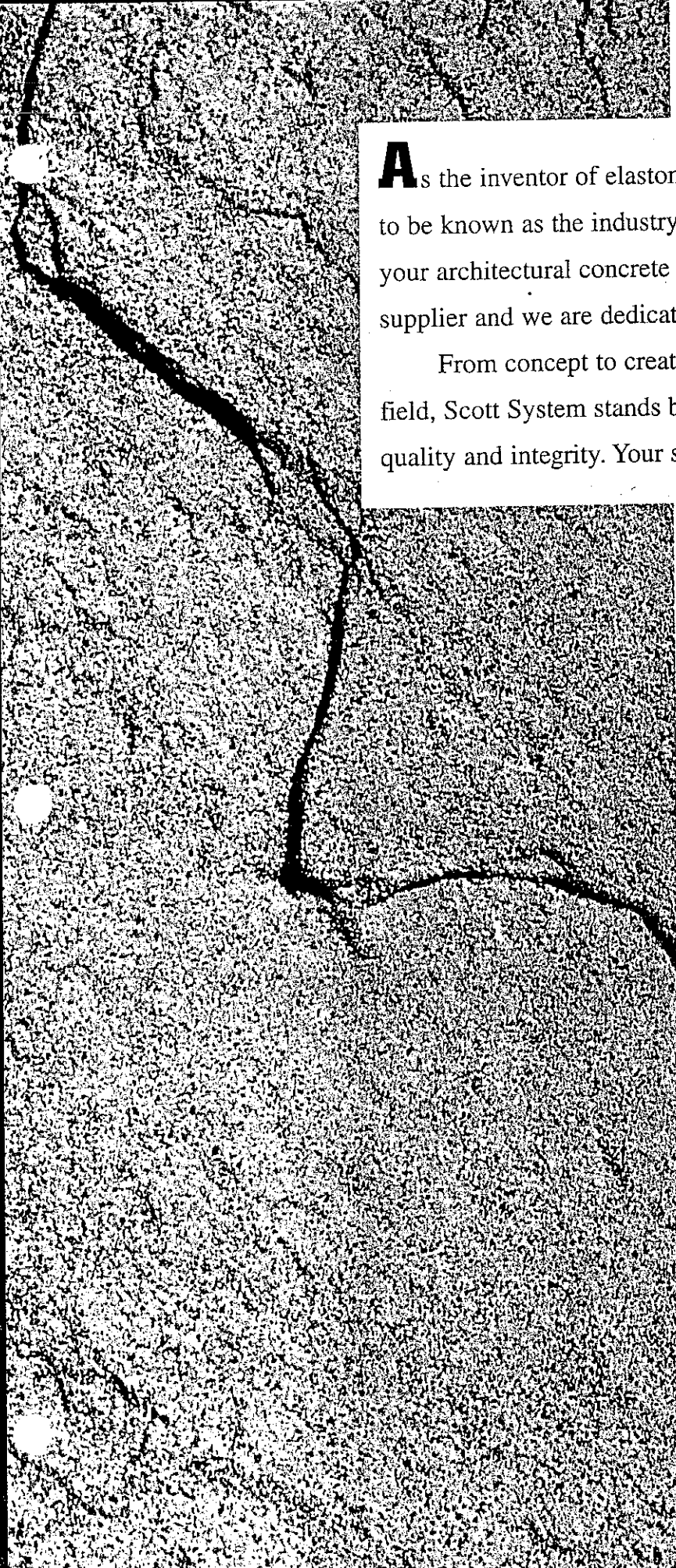
April 7, 2000

Name	Organization	Phone
Mark Jennings	URS Corp.	224-0448
JONATHAN TOWER	TERRA TECHONICS	258.4504
Robin Rhinesmith	FDOT D-7	975-6496
NEALE STRALOW	HILLSBOROUGH COUNTY	276-8387
Wilson Stair Jr.	City of Tampa	274-8402
JOHN SIMPSON	FDOT	975-6442
Buck Scott	Geo. H. System	303-341-1400
Howard Hoffman	PBQD	289-5300
LEWIS PRESCOTT	FDOT - P.M.	813-975-6168
Steve Malecki	PBS&J	877-7275
José M. Sandoval	PBS&J	(813) 877-7275
Carrol Bryant	TSI/ESA	727-572-5226
Elaine C. Illés	IPI	(813) 286-0125
David Hodge	PBQD	207-2946
LYNDA CROSCENTINI	FDOT	813.975.6171.
Jim Drapp	Kisinger Camp Assoc.	813 871-5331
DOUG STOKER	"	"
JOSE RODRIGUEZ	FDOT-STRUCTURES	813-975-6129
BOONE BUCHER	CSI	512-327-8481

FAX 512-327-5111



Scot System, Inc.



As the inventor of elastomeric form liners, Scott System is proud to be known as the industry leader and as a solution provider to your architectural concrete needs. We want to be your preferred supplier and we are dedicated to that end.

From concept to creation to product delivery and use in the field, Scott System stands behind more than 30 years of experience, quality and integrity. Your satisfaction is our first priority.

Buck Scott

Buck Scott
President

**On the cover:
Crashing waves
and swimming
turtles adorn
an erosion wall
in Virginia Beach.
Sculpture work
by Denver artist,
Janet Austin.**

Scott System[®], Inc.

Liners for Architectural Concrete

**We invented
elastomeric urethane
form liners over
30 years ago!**

Scott System has the history and expertise to provide unique and beautiful textures for architectural concrete. As the originator, we have over 70 standard patterns from Ashlar Stone to Zebra Graphics and everything in between!

Scott System Form Liners are the easy way to make a good impression.

Scott liners are guaranteed for 100 uses and reproduce the same outstanding texture in perfect detail every time. Our liners are designed to minimize rubbing, patching, sand blasting and repairing.

You have ideas and we have options.

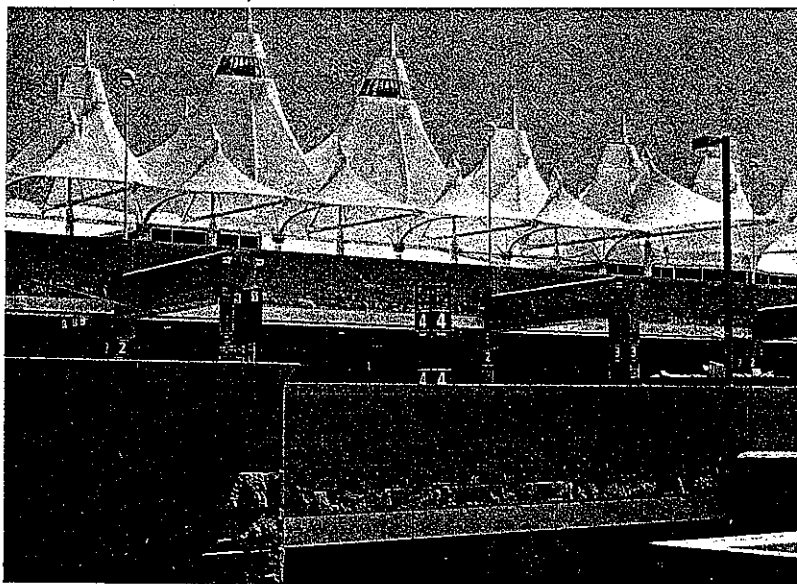
Scott System has produced form liners for public arts projects, massive graphic designs for highway and sound walls and liners over 110 feet long to avoid joint lines. We can produce the custom looks you need.

Even more options for architectural concrete:

In addition to liners for concrete textures, Scott System manufactures the **Brick Gasket** and **Brick Snap[™]** systems for integrally cast thin brick facades in tilt-up or precast concrete. Beautiful and simple ways to achieve a *real* brick exterior without the high cost of traditional field-laid masonry.

Rustication/ Chamfers/Reveals:

Nearly 300 standard rustication sizes are available in flexible elastomeric urethane or **Hydra-thane**. We can also make rustication strips in special sizes.



Fifteen different individual stone molds were created for Denver International Airport. The custom-designed Chiseled Limestone form liners were moved and rotated to create the natural look of random stone.



P. 4 Stone



P. 6 Fractured



P. 8 Wood



P. 10 Flute



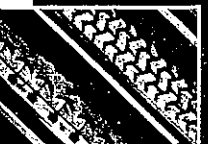
P. 11 Flat



P. 12 Brick

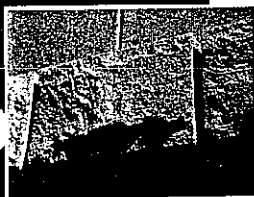


P. 16 Art



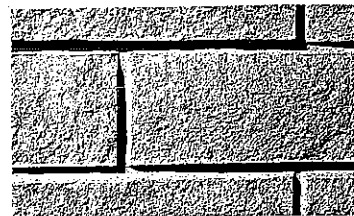
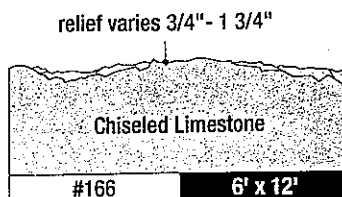
**P. 15 & 18
Custom and
Supplemental**

Stone Textures



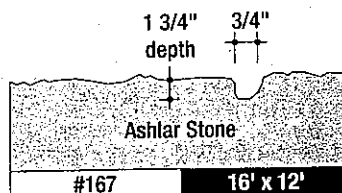
#166 Chiseled Lime Stone

Standard Size:
Individual Stones 4' x 10'
Largest size: 6' x 12'
Other sizes and depths available
Maximum Relief: 1 3/4"
Weight: 5.4 lbs./SF
Hydro-Edge: N/A



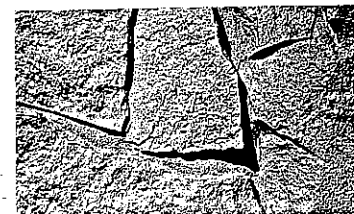
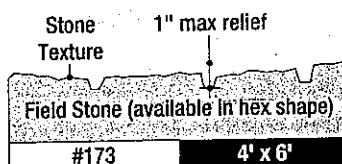
#167 Ashlar Stone

Variety of sizes
& reliefs available.
Largest size: 16' x 12'
Weight: 4.5 - 10 lbs./SF
Hydro-Edge: inquire



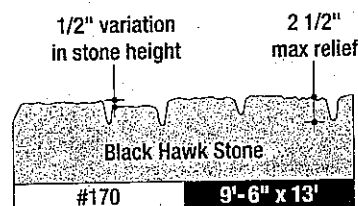
#173 Field Stone

Standard Size: 4' x 6'
Largest size: 4' x 6'
Maximum Relief: 1"
Weight: 7 lbs./SF
Hydro-Edge: N/A



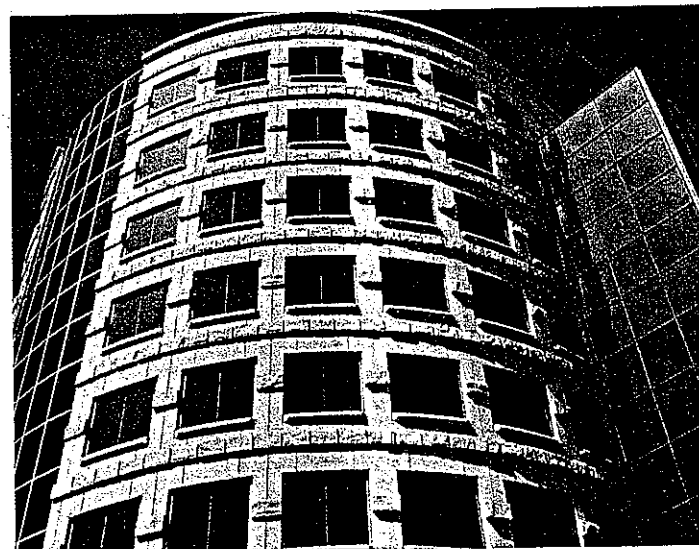
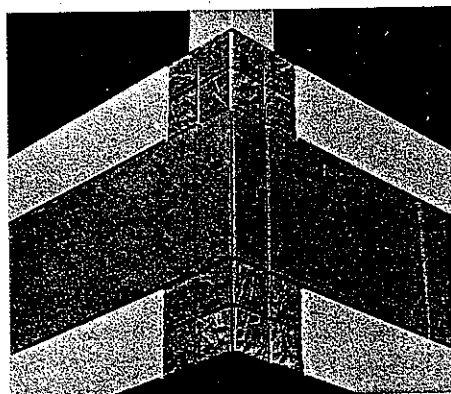
#170 Black Hawk Stone

Standard Size: 5' x 2.5'
Largest size: 9' 6\" x 13'
Maximum Relief: 2 1/2"
Stone Dimensions: varies
Weight: 8.5 lbs./SF
Hydro-Edge: 5' x 2.5'



As the use of stone in architecture grows in popularity, Scott System meets the demand by creating form liners in a wide variety of stone textures. We have matched natural rock formations for national park sound walls, created numerous rock and stone looks, and made special shapes which can be turned and keyed to prevent a "repeat" in the texture. The possibilities are unlimited.

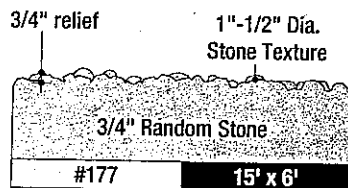
Panorama III Office Building (Englewood, CO) shown below features a Flagstone band and custom-made chiseled square stones. SEM Architects, Englewood, CO. Precast by Stresscon, Colorado Springs. Construction by Pinkard, Lakewood, CO.



Beta West Building, Englewood, CO utilized a Cut Stone look. Rocky Mountain Prestress of Denver rotated individual stone liners in their forms to create the realistic stone bands. Designed by Pouw & Associates, Denver. Construction by Alvarado, Denver.

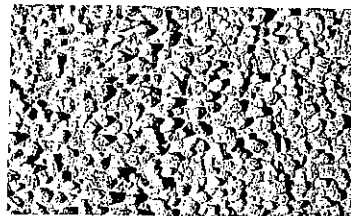
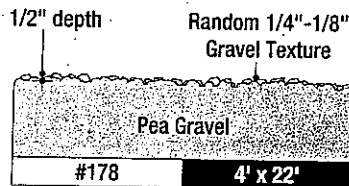
#177 3/4" Random Stone

Standard Size: 4' x 10'
Largest Size: 15' x 6'
Maximum Relief: 3/4"
Weight: 7 lbs./SF
Hydro-Edge: N/A



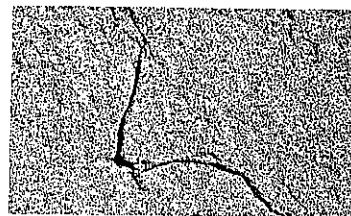
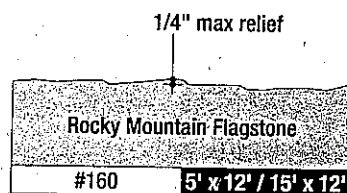
#178 Pea Gravel

Standard Size: 4' x 10'
Largest Size: 4' x 22'
Maximum Relief: 1/2"
Weight: 3.5 lbs./SF
Hydro-Edge: N/A



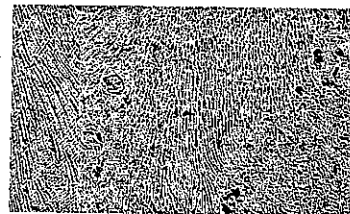
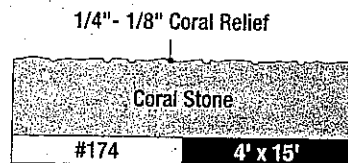
#160 Rocky Mountain Flagstone

Standard Size: 4' x 10'
Also Avail: 5' x 12' & 15' x 12'
Maximum Relief: 1/4"
Weight: 3.5 lbs./SF
Hydro-Edge: N/A



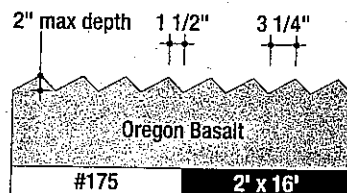
#174 Coral Stone

Standard Size: 4' x 10'
Largest Size: 4' x 15'
Maximum Relief: 1/4"
Weight: 3 lbs./SF
Hydro-Edge: N/A

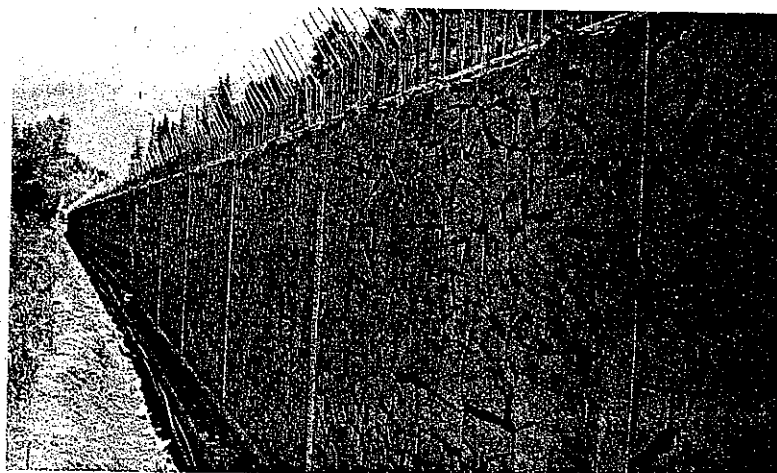


#175 Oregon Basalt

Standard Size: 2' x 16'
Largest Size: 2' x 16'
Maximum Relief: 2"
Weight: 8 lbs./SF
Hydro-Edge: N/A



Rugged Black Hawk stone retaining wall divides the Blue River and Highway 9 in Silverthorn, CO, protecting the river side open space. Centric Jones Construction, Lakewood, Co.



Liner dimensions are listed width x height. The dimensions in the black box on the drawings indicate the largest mold currently available. The number shown in the white box is the pattern number. Hydro-Edge™ is an added feature of manufacturing the form liners with a plywood embed that allows for a tight, clean seal at form joints and prevents concrete staining due to leakage. A number of our textures can be produced with Hydro-Edge™ and is so indicated in the pattern descriptions.

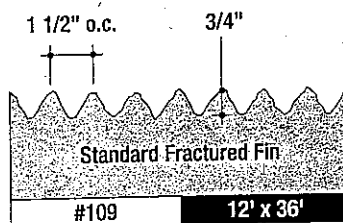
Dimensions	
Pattern Name	
Pattern #	Size

Fractured Textures



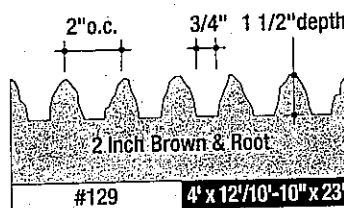
#109 Fractured Fin

Standard Size: 4' x 10'
Largest Size: 12' x 36'
Maximum Relief: 3/4"
Weight: 4.5 lbs/SF
Hydro-Edge: 4' x 10'



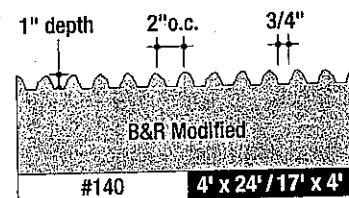
#129 Brown & Root

Standard Size: 4' x 10'
Largest Size: 10' 10\" x 23'
Maximum Relief: 1 1/2"
Weight: 7.7 lbs/SF
Hydro-Edge: N/A



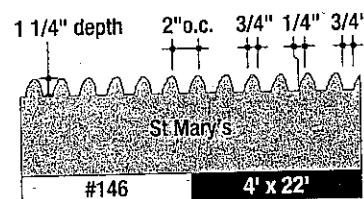
#140 B & R Modified

Standard Size: 4' x 10'
Largest Size: 4' x 24' & 17' x 4'
Maximum Relief: 1"
Weight: 5.2 lbs/SF
Hydro-Edge: N/A



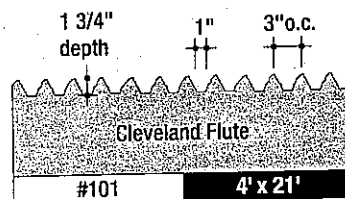
#146 St. Mary's

Standard Size: 4' x 10'
Largest Size: 4' x 22'
Maximum Relief: 1 1/4"
Weight: 6.8 lbs/SF
Hydro-Edge: 4' x 12'



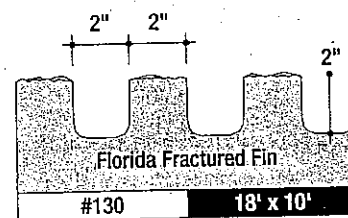
#101 Cleveland Flute

Standard Size: 4' x 10'
Largest Size: 4' x 21'
Maximum Relief: 1 3/4"
Weight: 8.3 lbs/SF
Hydro-Edge: 4' x 8'



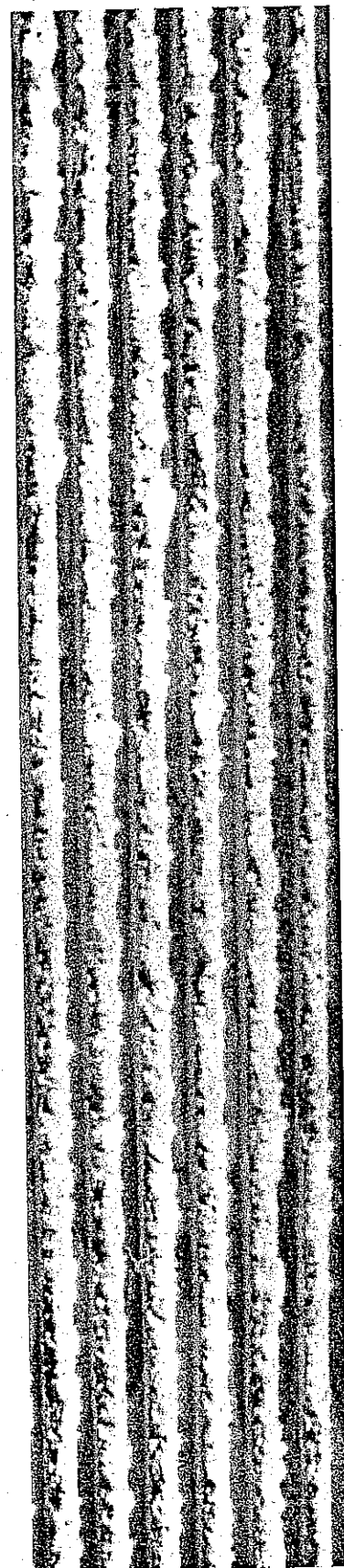
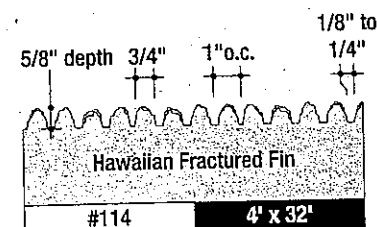
#130 Florida Fractured Fin

Standard Size: 4' x 10'
Largest Size: 18' x 10'
Maximum Relief: 2"
Weight: 7 lbs/SF
Hydro-Edge: N/A



#114 Hawaiian Fractured Fin

Standard Size: 4' x 8'
Largest Size: 4' x 32'
Maximum Relief: 5/8"
Weight: 3.6 lbs/SF
Hydro-Edge: N/A



Fractured rib patterns offer some unique textures that display rich depth in their surface. *Cleveland Flute* #101 is shown here.

#112 Fractured Rope

Standard Size: 4' x 10'

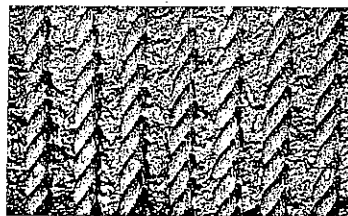
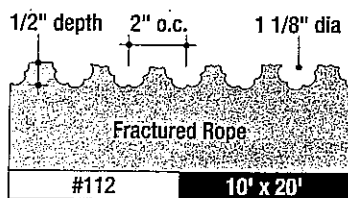
Largest Size: 10' x 20'

Also Avail: 2 1/2" Wide Rope (#137)
and Fract. Rope Reverse (#113)

Maximum Relief: 1/2"

Weight: 3.6 lbs/SF

Hydro-Edge: N/A



#111 Stone Ground Fractured Granite

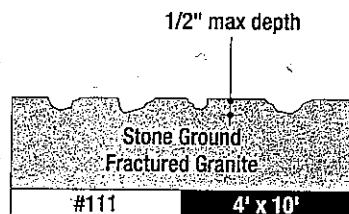
Standard Size: 4' x 10'

Largest Size: 4' x 10'

Maximum Relief: 1/2"

Weight: 2.7 lbs/SF

Hydro-Edge: N/A



#110 Fractured Granite

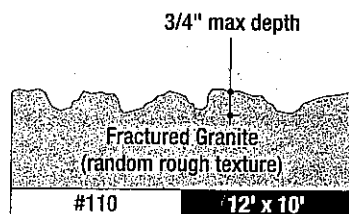
Standard Size: 4' x 8'

Largest Size: 12' x 10'

Maximum Relief: 3/4"

Weight: 4.2 lbs/SF

Hydro-Edge: 4' x 8'



#117 Phoenix Limestone

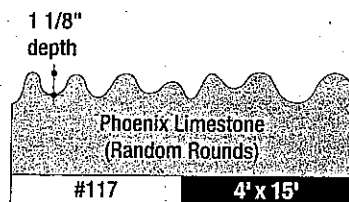
Standard Size: 4' x 8'

Largest Size: 4' x 15'

Maximum Relief: 1 1/8"

Weight: 5 lbs/SF

Hydro-Edge: N/A



#145 Colorado Drag Aggregate

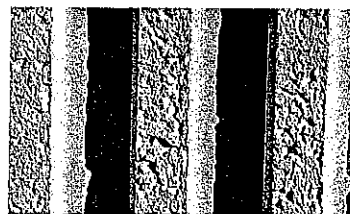
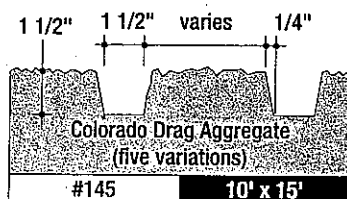
Standard Size: 2' x 10'

Largest Size: 10' x 15'

Maximum Relief: 1 1/2"

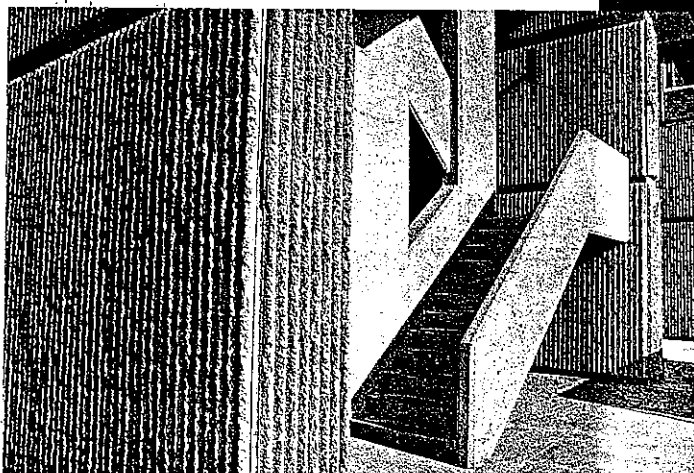
Weight: 4.7 lbs/SF

Hydro-Edge: N/A



The original "fractured" look created by Scott System is *Fractured Fin* and was produced in 1970. Although this texture is more than 30 years old, it is still one of the most specified architectural effects and has been used on high rises, sound walls, parking decks and even a boat ramp! These designs also work well when combined with some artistic cut outs like the crawfish graphic shown on page 17.

The *Cleveland Flute* texture was created especially for the Park Center project in Cleveland, OH. The poured-in-place structure boasts two 20 story towers.



#164 Standard Brick Gasket

Standard Size: 8' x 4'

Also Available in brick sizes:

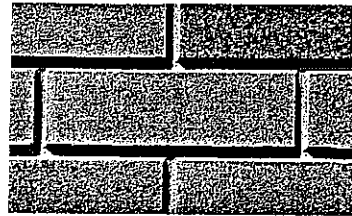
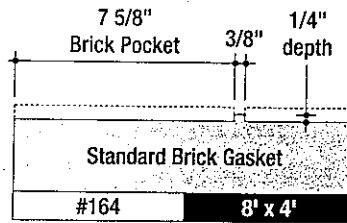
3 5/8" x 7 5/8", 2 1/4" x 11 5/8"

and 3 5/8" x 11 5/8"

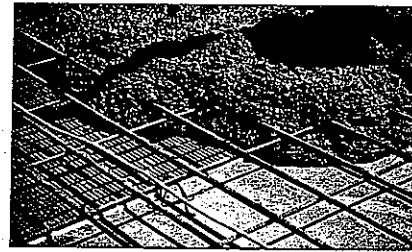
Maximum Relief: 1/4"

Weight: 3.4 lbs/SF

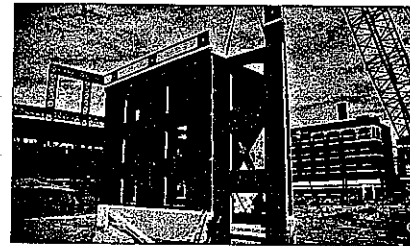
Hydro-Edge: 8' x 4'



Thin bricks are placed in pockets of the gasket liner. To protect the brick face from concrete, retarder papers are inserted prior to brick placement.

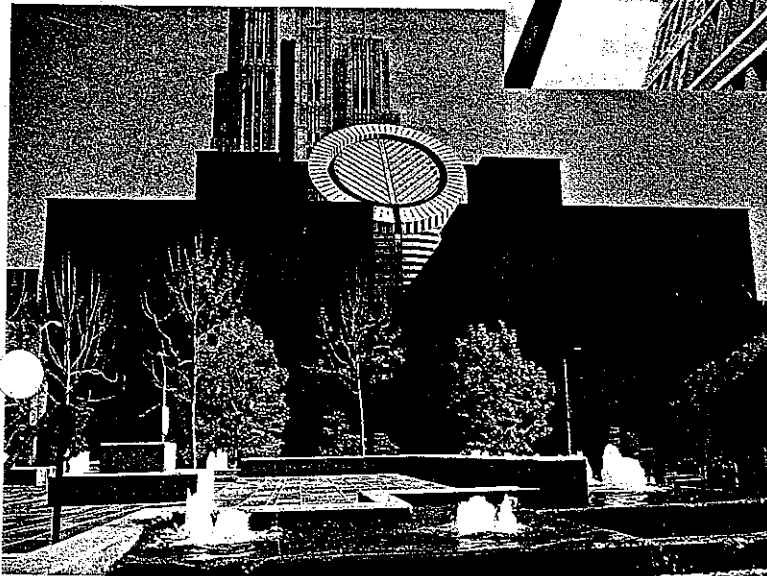


Reinforcing is placed and concrete is poured over the assembly.



Erection of brick-clad precast panel. Project: Barker Sub-station for Public Service, Denver, CO. Taylor Ball Construction, Boulder, and Rocky Mt. Prestress, Denver.

Larimer Square parking structure in Denver's lower downtown historic district appears to look like four victorian store fronts. This new structure utilized precast concrete with the brick gasket liner, thin brick and Flagstone texture to create this unique facade. Semple Brown Architects, Denver.



San Francisco Museum of Modern Art features complicated coursing patterns. Brick-in-concrete was specified due to its endorsed use in seismic zones. Designed by Mario Botta and HOK, San Francisco.

Brick Embedded Concrete Brick Gasket Liner

The Brick Gasket Liner concept is simple: A brick-patterned elastomeric form liner is made to spec; thin bricks are placed into the liner pockets and concrete is poured over the back of the assembly, integrally casting the brick tiles into the concrete. The liner is stripped revealing a hard-rock concrete panel with an elegant and permanent brick finish.

Brick Embedded Concrete Brick Snaps™

Brick Snaps™ Inlay System for PRECAST and TILT-UP concrete

Here's how **Brick Snaps™** work:

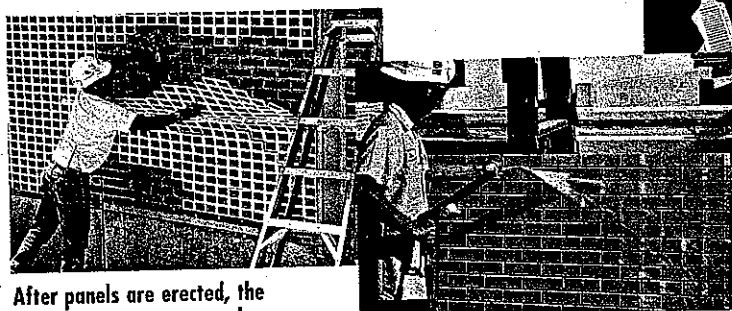
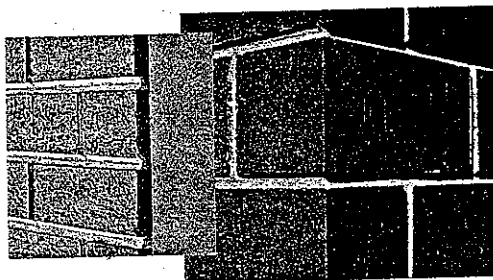
Thin brick is packaged into individual plastic holders that *snap* together on the pour surface. Once connected, concrete is poured over the back of brick assembly. When the panel is erected, the plastic *Snaps* are stripped from the face. Result: the structural integrity of concrete incorporated with the timeless beauty of brick.

Thin brick, perfectly sized and wax-coated, arrives at job site pre-assembled in the **Snap** template.

Corners are easily accommodated by connecting the **Add-A-Corner** piece to the short end of the corner brick.

End-Caps provide a mortar joint to a cut brick.

Brick Snaps are easily installed on pour surface by connecting interlocking tabs.



After panels are erected, the *Snap* carriers are removed.

The panels are cleaned to remove any concrete leakage.

Univ. of Florida Garage,
Gainesville, FL. Walker Parking, Tampa
and Dura-Stress, Leesburg, FL.



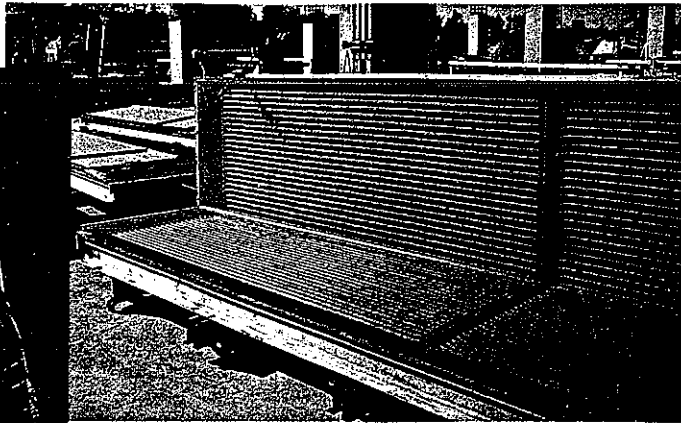
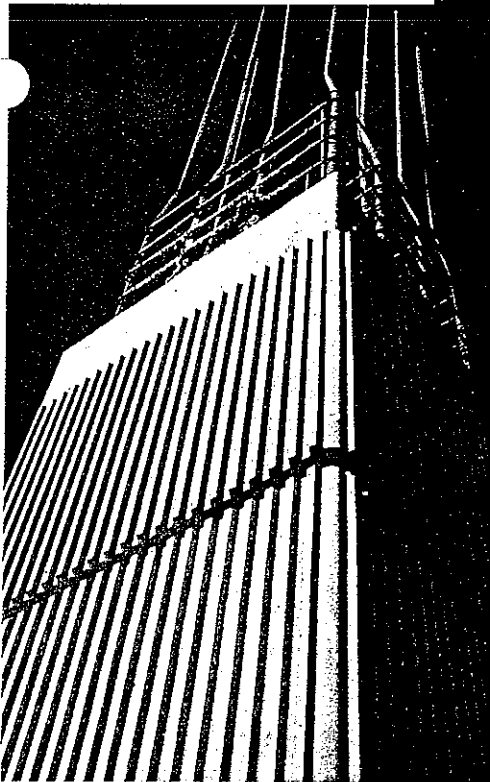
Fire Station, Blue Springs, MO,
Tilt-up by Meyer Brothers
Building Co., Blue Springs, MO.

Some advantages
Brick Snaps™ offer over
conventional field-applied brick:

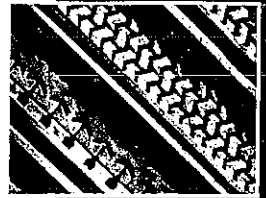
- No moisture details are required
- Fast and Easy assembly
- Reduced construction time
- Few delays due to bad weather
- Specified in seismic zones
- Weighs 1/6 of full size brick

Complete product
literature, specifications,
videos and CD-ROM
available or visit

www.bricksnap.com

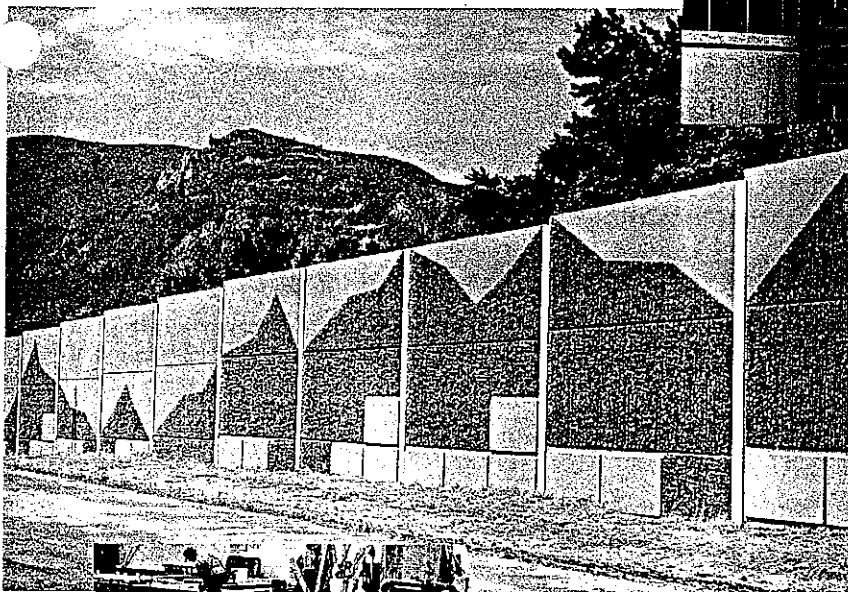
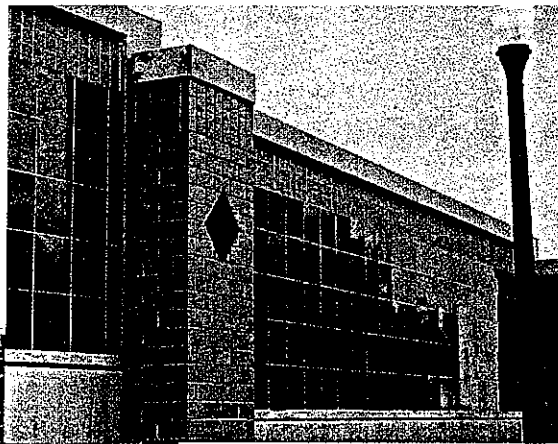


Special one-piece column form with rustication and radius corners built in for USAA Insurance Company in San Antonio, TX.

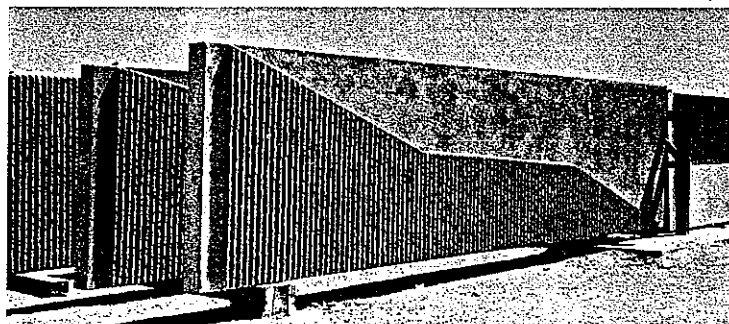


Custom Molds

Custom molds, special sizes, and creative designs are our specialty. We have produced form liners for columns, massive 110 foot long spandrels, and radius molds. Rustication strips, chamfers and special block-out pieces are all available from Scott System.

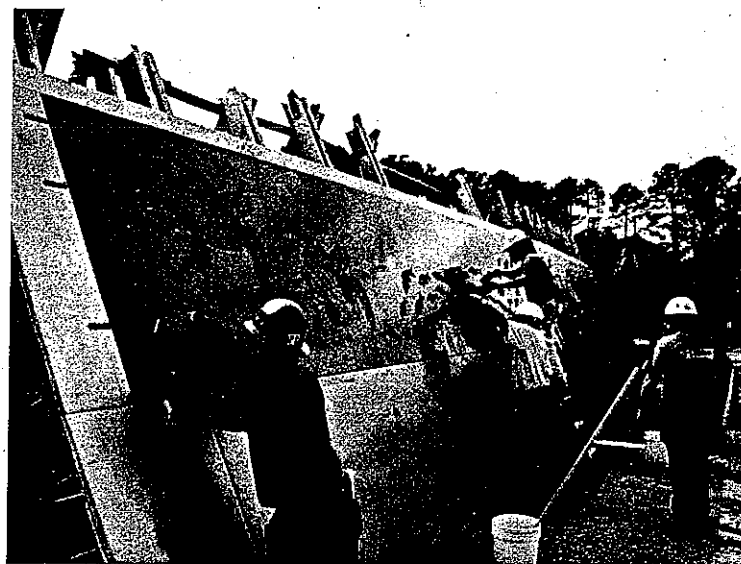
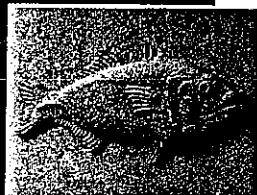


To facilitate stripping, reinforced fiber tabs were embedded into this massive 3,500 lb. form liner for a two-sided sound wall on Interstate 25 in Colorado Springs. *Cleveland Flute* was used with a block out emulating the Rocky Mountain Range on the highway side. Brick-in-concrete columns and marble tile face the residential side. Construction by SEMA of Englewood, CO.

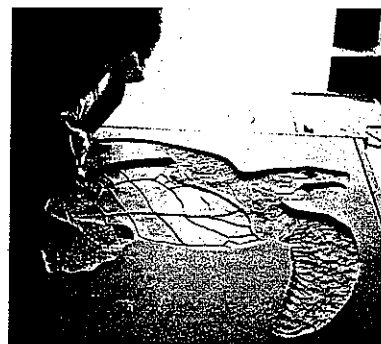


Art In Concrete

Scott System has the expertise and ability to create virtually any image in our elastomeric form liners. As the use of concrete in public art applications grows in popularity, we have expanded to meet the needs of owners, designers and neighborhood communities. A wall with creative images reduces the visual scale of massive concrete panels. Instead of feeling gray and imposing, concrete is turned into a work of art. We are pleased to offer complete design services from conception, to shop drawings, to custom mold making in our Graphics Department.

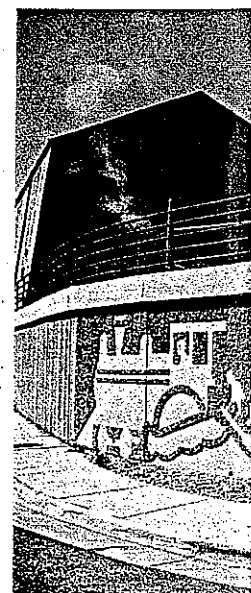


Erosion control barrier in Virginia Beach, VA displays breaking waves along with turtles, dolphins and the indigenous Bluefish produced in relief in the poured-in-place walls. The Corps of Engineers insisted that no joints would be present to interrupt the aesthetics of the original art in these 26 foot form liners.



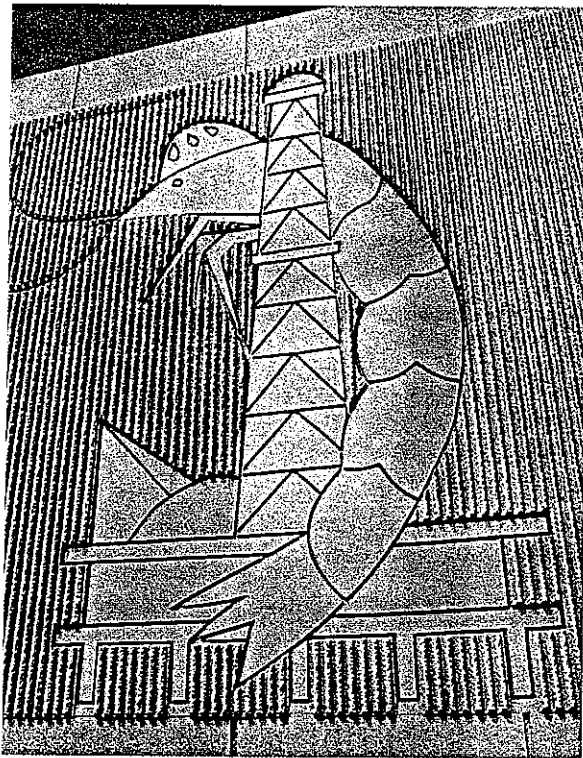
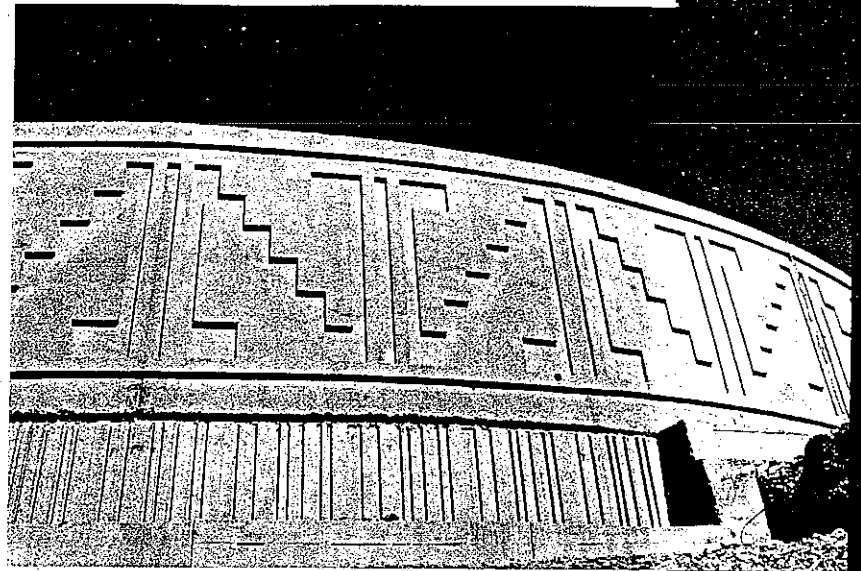
Construction by S.B. Ballard, Norfolk, VA.

Modes of transportation and outdoor activities are depicted in this barrier wall along Santa Fe Drive, south of Denver.

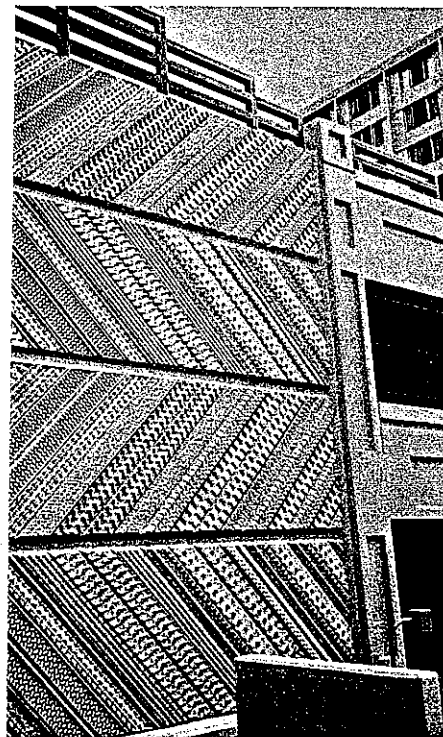




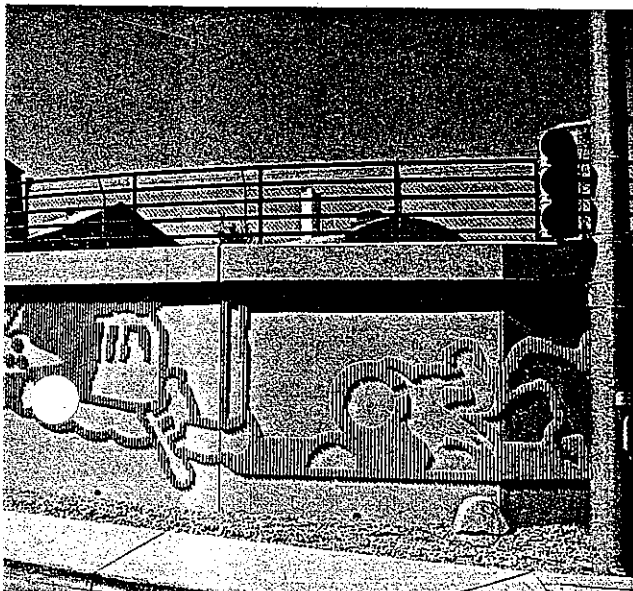
Highway sound and retaining wall in Phoenix, AZ features form liner pattern *Phoenix Flute* topped with an eight foot wide Indian motif.

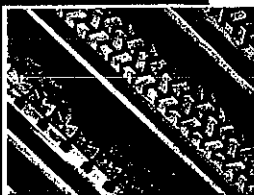


Morgan City, LA flood wall designed by U.S. Army Corps of Engineers. An 18 foot tall crawfish surrounds an offshore drilling platform symbolizing the oil industry's effort to work in harmony with the busy fishing fleets of coastal Louisiana.



Harbor View Medical Center parking structure in Seattle, WA utilizes a tire tread motif in a herringbone pattern designed by local artist, Vicki Scuri.





Concrete Feature Rustication Strips

Scott Feature Strips are made in either *Hydra-thane* (high density poly) or elastomeric urethane. *Hydra-thane* is useful for rigid applications and is highly durable. Urethane is advantageous when flexibility is desired. Both materials are reusable.

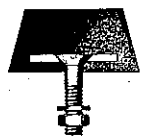
Urethane strips are available with a wood core, a sheet metal embed, steel and bolt embed or as a solid material. *Hydra-thane* is available in the solid, no-core form.



Wood Core



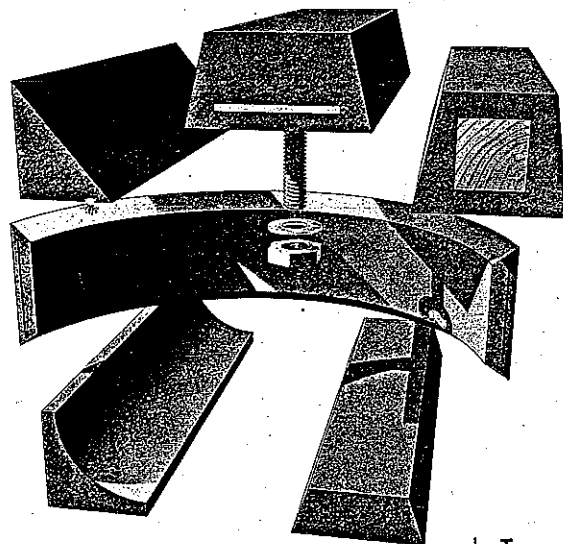
Sheet Metal



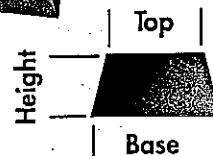
Bolts & Steel



Solid



When inquiring about a price, please indicate dimensions, H (Height) x T (Top) x B (Base)



- Form Release
- Epoxy
- Retarder

Form release and epoxy are available from Scott System.

Only approved form release agents are recommended for use with Scott System Form Liners. *Scott Lease 440* is VOC compliant and non-staining. It promotes easy stripping and clean-up of forms and reduces the formation of air voids on the concrete surface.

Face-Savers™ Retarder Paper - A handy way of providing retarder to thin brick with the **Brick Gasket** liner method. Easier to use than liquid retarders, *Face-Savers™* protect the brick face from concrete leakage.



Limited Warranty

Scott System, Inc. warrants its products against defects in materials (materials to be of consistent quality within manufacturing specifications) and workmanship and will perform as represented, provided that the concrete construction methods used are in agreement with the manufacturer's recommendations and installation instructions. Scott System assumes no responsibility for the lamination of elastomeric liners to plywood when this work is performed in the field. Manufacturer's obligation under this warranty shall be limited to replacing or refunding the purchase price of that portion of the material proven to be defective.

Material Specifications, Instructions, Limited Shop Drawings, Samples, etc. are available upon request.

Short Form Specification

Exposed architectural concrete surface treatment shall be obtained with Scott System elastomeric form liner in (pattern number & name):

(pattern number & name)

as manufactured by

Scott System, Inc., 1788 Helena Street,
Aurora, CO 80011, 303-341-1400

Joints will be tightly butted to prevent leakage. Release agent shall be approved and applied as per Scott System instructions. The liner may be factory bonded at the contractor's option to 3/4" HDO plywood or field-laminated following Scott System's printed directions.

Feature strips shall be made from Scott elastomeric urethane or *Hydra-thane* (Indicate core type or no core)

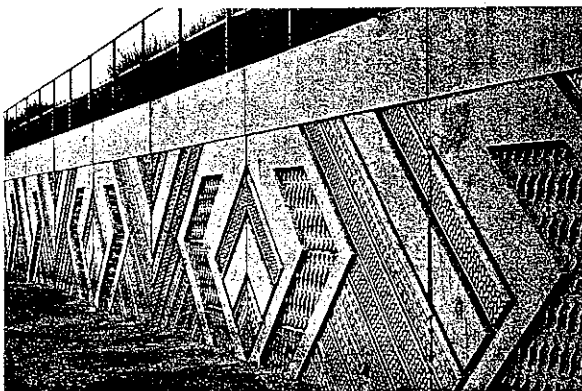
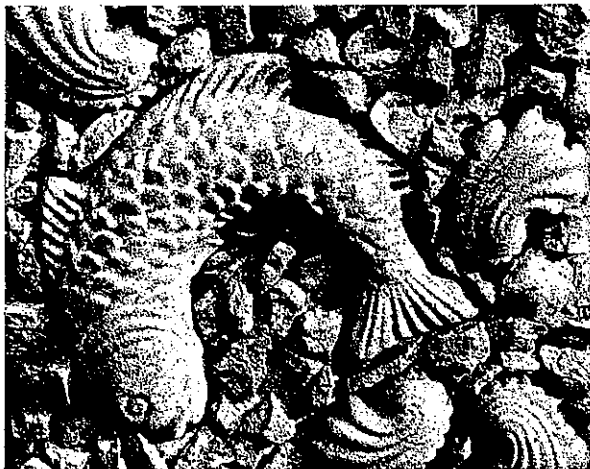
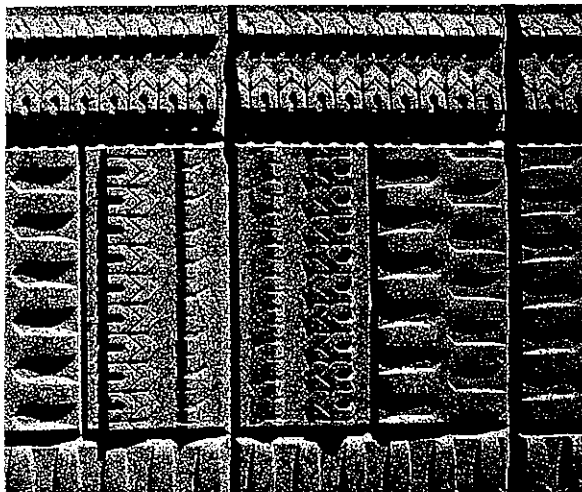
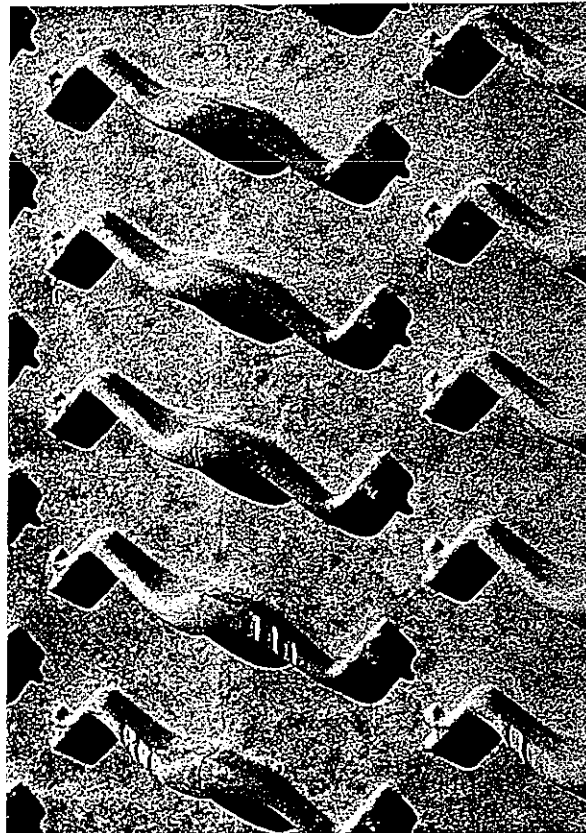
NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE PROJECT ARCHITECT OR ENGINEER.

New in 2000: *Liner Geometrics™*

Liner Geometrics™ are a revolutionary way to take ready-made textured shapes and create your own unique design combinations. We provide the pattern units and you design the layout. If you prefer, we will supply custom designs and the layout for you. We will work together to create something special for your project.

Shown here are just a few examples of how shapes and textures can be combined and rotated to create unique patterns in concrete.

Liner Geometrics™ are produced by special arrangement with Seattle artist, Vicki Scuri and Scott System, Inc. exclusively. All rights reserved.





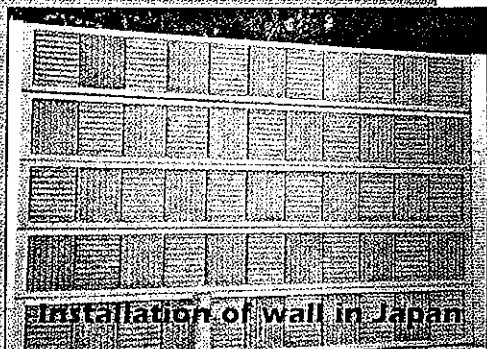
CONCRETE SOLUTIONS, INC.

SOUND SORB®

sound absorptive materials

SoundSorb®

A Common Sense Solution to Noise Abatement!



Installation of wall in Japan

QUALITY NOISE ABATEMENT: Sound Absorption tests measure the sound level reduction capabilities attributed to sound absorbing qualities of a material. The Noise Reduction Coefficient (NRC) is an average of four hertz frequency readings (250, 500, 1000, 2000) with optimal NRC values described as an NRC 1.0. At 3.5" thick, SoundSorb® achieves an NRC 1.0.

SoundSorb® Material Thickness:

3.5" = NRC 1.00

3.0" = NRC .95

2.5" = NRC .85

DURABILITY: SoundSorb®, the advanced open cellular, free draining, cementitious material, has the life span of concrete. SoundSorb® is freeze-thaw resistant due to the free draining porous nature of the material. ASTM flame tests verify that no flame nor smoke is generated by the materials.

SEISMIC AND HURRICANE RESISTANT:

Light weight wall designs which incorporate SoundSorb® can be designed to be hurricane and earthquake resistant.

WALL HEIGHT: The average noise wall height is 13 ft. SoundSorb® can be integrated into any size panel type for stacking or low cost monolithic size.

DIVERSITY OF DESIGN: CSI has aligned itself with large wall manufacturers internationally that have developed economic wall design solutions. Since

Throughout the world, sound absorptive barriers are specified by acoustical engineers, highway departments and transportation authorities to minimize the effects of highway noise. SoundSorb®, an open cellular acoustical material, exceeds acoustical requirements specified by transportation authorities, providing a realistic state-of-the-art solution to the various transportation noise concerns. Over **three million square feet** of this open cellular acoustical material has been installed in various countries. SoundSorb® ranks in the acoustical elite category of noise abatement materials.

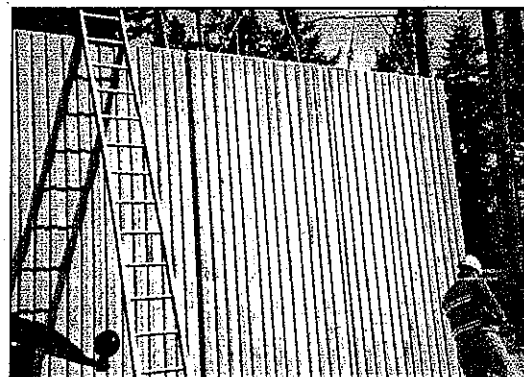
SoundSorb® is a wet-cast product, it is easily integrated into any of these unique cost effective wall designs, such as the low cost monolithic panel.

SoundSorb® is

available in almost any size, wall design, texture and color. Design engineers are urged to contact CSI during the noise barrier design phase to provide their client with diversity while specifying cost effective wall design solutions.

COST: SoundSorb® offers one of the lowest cost sound absorptive indoor and outdoor materials on the market. The cost efficiencies are derived by manufacturing and sourcing ingredients locally, as well as, utilizing efficient wall/barrier designs and avoiding long distance shipping. Lower costs are achieved when producing full height monolithic panels, thereby avoiding the high cost of the stacked panel production and installation.

RETRO-FIT: For existing noise reflective surfaces that are creating a noise problem, SoundSorb® Cladding Retro-fit panels provide a light-weight sound abatement solution. For ease of installation, these panels are sized for one person to handle. Custom design texturing and coloring is available.



Installing monolithic wall with wood grain texture. (See close-up of wood grain texture below)

Wood Grain Texture

Granite Texture

SoundSorb® WORLDWIDE OPERATIONS:

UNITED STATES, CANADA, AUSTRALIA, JAPAN, KOREA, PUERTO RICO, SOUTH AFRICA, AND CHINA.

SoundSorb® mirrors any mold liner surface!

A variety of textures are available for walls or panels, i.e. barn wood, brick, fractured granite, or graphic design. Acrylic water based stains are available to enhance the color of the noise wall and allow it to blend with the environment.

DON'T REFLECT NOISE • ELIMINATE IT!



Noise Abatement Product Line and Characteristics

SoundSorb®: This durable material is wet cast during the precast production phase and is integrated with the structural portion of the panel to become an AASHTO compliant barrier with excellent sound absorptive qualities. Typical uses are for noise reduction for highways, railways, industrial, commercial, residential, aviation, cooling towers, emergency generator stations and for transformer noise.

SoundSorb® 2000: Adjusting the mix design of the SoundSorb® material allows the creation, through a light-weight wall design, for a low cost monolithic panel for use on bridges, elevated railways, unstable soils or high water table areas. The panels exceed seismic 4 zone criteria and meets AASHTO and state NRC requirements. It is cost effective for increasing noise abatement performance on bridges, elevated railways, unstable soil or high water table areas. This panel design is ideal for all barriers.

SoundSorb® Cladding: This light-weight retro-fit cladding panel is designed to be a cost effective solution for reflective noise problems caused by existing walls. It is sized to allow easy installation by one person and is designed for emergency generator stations, transformer towers, chiller walls, industrial noise, reflective highway noise barriers, in-home entertainment rooms, theaters, and convention centers.

SorbShield: Is a unique hydrophobic solution without solids for use with porous and non-porous materials. It renders acoustical materials sound absorptive during all weather conditions. This water repellent is actually electrostatically charged by direct or indirect light within the first 24 hours and dramatically and continuously repels water. Sound can enter the porous cementitious surface, but water is prevented from entering, thereby maintaining the quality of the material. Ultraviolet lights does not deteriorate SorbShield, as it does with other water repellents, but actually enhances its' performance. Concrete Solutions, Inc. is a licensed distributor.

Characteristics	SoundSorb®	SoundSorb® 2000	Cladding/Retro-fit
NRC	1.0	80+	95+
STC	51	26	40
Zero flame & Smoke	Yes	Yes	Yes
Weight	40 pcf	35-47 psf	12 psf
Panel Types	Stacked or Monolithic Panel	Monolithic Panel	Variety of sizes and attachment methods

Contact CSI for your nearest **SoundSorb®** manufacturer: **512-327-8481**

Tire noise is the primary noise source along highways. Its frequency range is within the 400 to 1000 hz. range. **SoundSorb®** is designed to eliminate 99% of the reflection of noise within that range. This product's concentration of effectiveness within those levels is accomplished within the design matrix of the super inductive intercellular structure. Acoustical performance can be further enhanced with a textured or molded surface.

SoundSorb® & SoundSorb® Cladding

Acoustical Properties

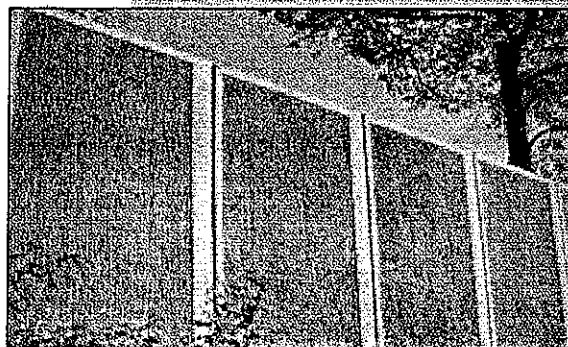
Frequency (Hz)	125	250	500	1000	2000	4000	VALUES
ASTM C-423	.29	.80	1.20	.90	.99	.89	NRC .95
ASTM E-90	39	40	45	51	58	59	STC 51

SoundSorb® 2000 Light-weight Panel

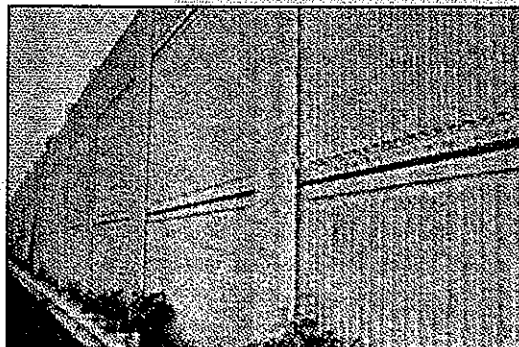
Acoustical Properties

Frequency (Hz)	125	250	500	1000	2000	4000	VALUES
ASTM C-423	.43	.85	.83	.81	.79	1.10	NRC .80
ASTM E-90	150	177	20.5	27.5	37.1	50.3	STC 26

ALL TESTING PERFORMED AT NVH&T TESTING FACILITIES. CONTACT CSI FOR ASTM 423 SOUND ABSORPTION TESTS ASSOCIATED WITH THE VARIOUS THICKNESSES OF SoundSorb®



Monolithic type with post integrated panel



Stacked panel with I-beam type post

SoundSorb® TECHNICAL INFORMATION

DESCRIPTION

SoundSorb® is a cementitious open cellular free draining nonstructural material produced by patented mixing methods using portland cement and specific proprietary ingredients.

USES

SoundSorb® material is highly sound absorptive and is used for its acoustical and fireproof values.

ACOUSTICAL VALUES

ASTM C 423 Results: NRC 1.0 @ 3.5 ft.

ASTM C 423 Results: NRC .95 @ 3 ft.

ASTM E 90 Results: STC 59 With Structural Backing

AESTHETICS

Colors

- An optional acrylic stain may be sprayed over surface allowing for greater color choices.

Textures

- Mirrors any mold surface i.e., Rustic Bark Wood, Fractured Granite, Brick, and custom designs.
- Can be designed so that the color of barrier or wall blends with the surrounding environment.

FIRE TESTING

ASTM E 84-95

Results: Class A

FLAME SPREAD

Results: Zero Flame/Smoke

THERMAL CONDUCTIVITY

Dynatech-Cambridge, MA

K = .70 per inch

R = .43 per inch

FREEZE-THAW

ASTM C-666 (passed 300 cycles)

COST COMPETITIVE

SoundSorb® absorptive barriers, depending on the wall design, can be cost competitive with reflective barriers.

GRAFFITI RESISTANT

Anti-graffiti coatings are available.

EASY TO CLEAN AND MAINTAIN

Durable weather resistant coating can be applied to surface without reducing absorption. Can be washed off. Textured surface reduces maintenance.

WEATHER RESISTANT

Durable under all weather conditions. No rotting, no rusting, no warping, no discoloration, mildew resistant. SoundSorb® is freeze-thaw resistant due to the free draining porous nature of the material.

EASY TO FABRICATE

Basic precast molding techniques are used in fabricating process.

LIGHTWEIGHT

Material weight: 38-49 lb. per cubic foot (Dry Wt.).

FULL HEIGHT PANEL SYSTEM

Material can be integrated to full size panel for easy installation.

EASY INSTALLATION

Panels can be made full size or stackable.

FLEXIBLE WALL DESIGNS

Material can be integrated into most all wall designs.

EMPLOYS LOCAL LABOR WHILE REDUCING SHIPPING COSTS

Precast company is licensed on a state or regional basis and local labor hired to manufacture and erect walls. Walls and barriers do not need to be shipped far.



**Magnified
Cross Section
of SoundSorb®**

Contact CSI for manufacturing opportunities.

CSI is a member of the National Council of Acoustical Consultants,
ASTM Committee and Transportation Research Board.

SoundSorb® ■ ACOUSTICAL APPLICATIONS:

Noise Barriers for All
Transportation systems
Airport Terminals
and Tunnels
Utility Power Plants
Correctional Facilities

Industrial Applications
Museums and Libraries
Amusement Parks
Loading Docks
Waste Treatment Plants
Dormitories

Mechanical Rooms
Athletic Facilities
Restaurants
Atriums and Lobbies
Hospitals
Auditoriums

Theaters
Classrooms
Convention Centers
Natatoriums
Exterior finishes
Kennels

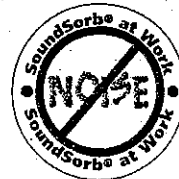


Contact CSI or authorized manufacturer for further inquiries.

Concrete Solutions, Inc. (CSI) Licensor of SoundSorb®

3300 Bee Cave Road Suite 650 ■ Austin, TX 78746 ■ 512/327-8481 ■ FAX: 512/327-5111

email: csi@soundsorb.com ■ www.soundsorb.com



**TAMPA INTERSTATE STUDY DESIGN AESTHETICS TEAM
APRIL 11, 2000**

AGENDA

I. Retaining Walls

- A. Outstanding Issues
 - 1. Size of gap between panels/ variation
 - 2. Integral Color
- B. Systemwide Treatment
 - 1. Form liner Treatment
 - 2. Coloration
- C. Specialty Areas
 - 1. Form liner Treatment
 - 2. Coloration
- D. Presentation Materials for 5/5/00
 - 1. Systemwide Perspective
 - 2. Specialty Perspective

II. Light Weight Noise Walls for Downtown Interchange

- A. Outstanding Issues
 - 1. In front of or on barrier
 - 2. Aesthetic Treatment
- B. Systemwide Treatment
- C. Specialty Areas
- D. Presentation Materials for 5/5/00
 - 1. Typical Sections
 - 2. Weight Calculations
 - 3. Perspective

III. Noise Walls for Remainder of the Interstate System

- A. Outstanding Issues
 - 1. In front of or on barrier
 - 2. Increasing Absorptive Materials to Reduce Height
 - 3. Technical Feasibility of 8-16 foot barriers
 - 4. Aesthetic Treatments
- B. Systemwide Treatment
- C. Specialty Areas
- D. Presentation Materials for 5/5/00
 - 1. Typical Sections
 - 2. Weight Calculations
 - 3. Perspectives

IV. Lighting

A. Outstanding Issues

1. Prismatic Light
2. Fixture
3. Color
4. Pole Type

B. Systemwide Treatment

C. Specialty Areas

D. Presentation Materials for 5/5/00

1. Locations of Specialty Lighting
2. Computer Images of On-System Lighting

V. Next Meeting

A. Late May

B. Landscaping

C. Fencing

TIS Design Amenities Meeting - April 11, 2000

<u>Name</u>	<u>Representing</u>	<u>Phone</u>
Mark Jennings	URS Corp	224-0448
Steve Malecki	PBS & J	877-7275
JONATHAN TONER	TERRA TECTONICS	258.4504
JANE BURMER	URS corp.	286-1711
Frank Balsam	PB & D	289-5300
Howard Hoffman	PB & D	289-5300
Elaine C. Illis	IPI	286-0125
IRWIN PRESCOTT	FIRST	975-6168

May 8, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Meeting

On Tuesday April 11, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team met at 1:30 p.m. at the offices of Terra Tectonics in Tampa to discuss aesthetics issues. A copy of the meeting agenda is attached.

Elaine Illes (TIS Aesthetics Task Manager, IPI) began the meeting by announcing that the Design Review Committee (DRC) Presentation originally scheduled for April 20th has been rescheduled for May 5th from 11:00 a.m. to 1:00 p.m. with lunch included due to DRC member schedule conflicts. The meeting location has yet to be determined. The purpose of the meeting is to present the findings of the Design Aesthetics Team regarding design standards for retaining walls and noise walls used throughout the interstate system.

I. Retaining Walls

Elaine reported that after the April 7th Meeting, Neal Stralow (Hillsborough County) and Wilson Stair (City of Tampa) mentioned their concern that interstate designers and the Department seem to be reverting back to basic inexpensive designs for structures, walls, etc. In particular, they are concerned about the appearance of the proposed MSE walls, and the apparent unwillingness to refine structural designs to accommodate aesthetics in the Downtown Interchange.

Following the field trip to Increte, Inc., there was some concern expressed about the size of the gap between the MSE wall panels and speculation if it is possible to hide the gap or visually make it disappear. MSE wall costs for design segments 3A/3B alone are \$20 million while cast in place is three to four times more expensive. Form liners will allow us to be creative with the MSE walls in terms of texture and design. There was discussion as to where the form liners should be used and it was agreed that much of the walls would not be visible. In the locations where walls will be visible, form-liner use should be considered.

Howard Hoffman (Parsons Brinckerhoff) suggested using cast in place in only the most visible areas such as Ybor City and West Tampa, and using MSE walls everywhere else. The money saved using MSE walls would pay for lots of amenities in other places. Elaine Illes said she would set up a conference call with Retained Earth to discuss

retaining wall designs, gap width, etc. We need to develop a list of questions and send it to them ahead of time so they are prepared to answer. Irwin Prescott (Project Manager, FDOT) said he would like to see how MSE walls have been used in other parts of the country.

The discussion switched to integral color, stains, and sprays. Jane Burner (URS Corp.) indicated that stains have been used on the Lee Roy Selmon Expressway as well as in other states. TexCoat makes a product but it hasn't been around long enough to know how long it lasts. Sherwin Williams recently bought a company that makes a very good concrete stain product.

Steve Malecki (PBS&J) said highway construction projects in Fort Lauderdale and West Palm Beach are using salmon-colored MSE walls that appear to be integral color concrete. Steve will call District 4 to inquire about the color process used. Elaine she will call New Jersey and Delaware DOTs. Jane will obtain additional information about stains and costs. Elaine would like to be able to make a system wide recommendation for stain or integral color by the May 5th DRC Presentation.

With the exception of several specialty areas, interstate designers need to stay with five by five MSE walls. The MSE walls should reflect the neighborhood ambience with arches and texture, but no typical Florida scenes such as sea gulls, palm trees, etc. The specialty areas would include 14th/15th Streets, 21st/22nd Streets, 50th Street, Howard/Armenia, Westshore, Dale Mabry, Himes, MacDill, Trask, and the Tampa Heights wall.

Jonathon Toner (Terra Tectonics) will identify the different form liners needed, calculate the number of repeats, and determine a cost. Elaine Illes asked Jane Burner how far do you carry the arches, maybe we use essentially the same shape with a few variations. Jonathon mentioned he was leaning toward the arches being pre-cast into the MSE wall panels and stated that they won't cost more than a few thousand dollars per panel form liner.

Irwin Prescott mentioned he would like to schedule a meeting with Mark Knapp (Construction) and Brian McKishnie (CEI) prior to the May 5th presentation.

II. Light Weight Noise Walls for the Downtown Interchange

Jonathon Toner mentioned that Scott Systems makes a snap-on brick fascia that can be tilted up. He suggests bolting a fiberglass fascia incorporating the sound absorb material onto the concrete roadway deck. It will weigh a total of ten pounds per square foot or 80 pounds per linear foot. It would be a combination aesthetic treatment/noise barrier. Don Keenan has approved the placement of noise walls on top of Jersey barriers. George Spaulding with Spaulding Craft, Inc. is currently working on a mockup using CSI's lightweight noise absorptive material. Jonathon Toner then described how the system would work.

The noise wall will consist of a light weight concrete incorporating the sound absorb material which stands above the Jersey barrier and weighs 7.5 pounds per square foot. Attached to that is a separate fiberglass fascia fastened by screw sleeves that is eight feet tall weighing 2.5 pounds per square foot for a total of ten pounds per square foot or 80 pounds per linear foot for sound absorb and fiberglass fascia.

III. Remainder of the Interstate System

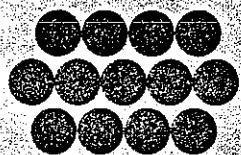
Still outstanding is the issue that some noise barriers are proposed to be up to 16 feet in height. Don Keenan discourages any over eight feet in height. Frank Balsamo is contacting the Utah Department of Transportation for photos of how taller noise walls have been constructed out there for the I-15 project.

There was some discussion of actually increasing the standard height of a Jersey barrier wall to four feet in order to add stability to the noise wall. However, noise walls and sound absorb material does the most good at the lowest levels where tire noise is generated and emitted. Making a Jersey barrier taller than normal raises the point at which the sound absorb material noise wall begins lessening its sound absorbing affect. That is an argument for not raising the height of the Jersey barriers.

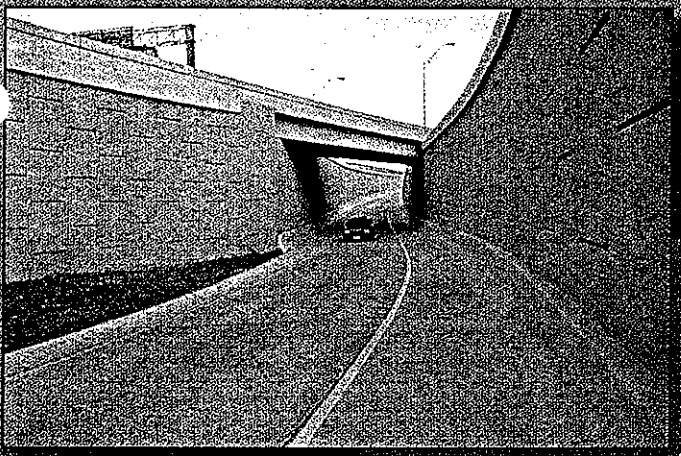
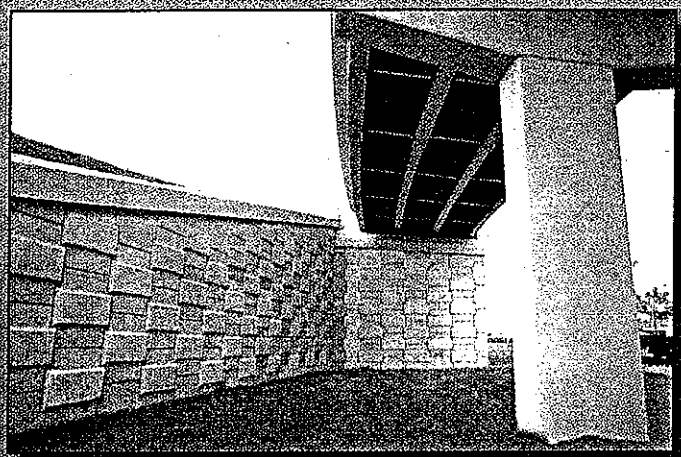
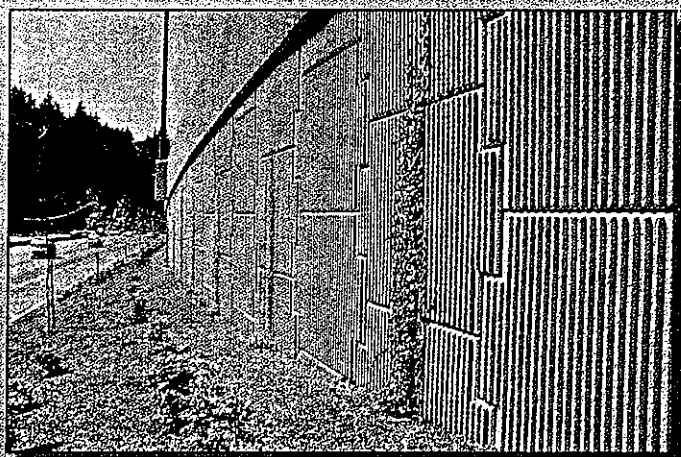
IV. Preparation for May 5th DRC Presentation

Elaine Illes mentioned that the Design Aesthetics Team needs to agree on what will be presented to the DRC and needs to be working on presentation materials. For retaining walls, Jonathon Toner will work on developing sample system-wide and specialty area examples using CAD. For noise walls, we need to develop typical sections, weight estimates, and costs. Elaine proposed a rehearsal on Monday May 1st to prepare for the presentation. The rehearsal will be at 1:30 p.m. at Terra Tectonics.

The meeting was adjourned.



The Reinforced Earth Company



**Reinforced
Earth®**

Reinforced Earth

The Engineered Solution

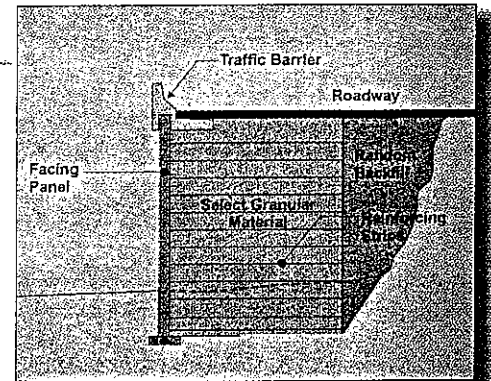
More than 30 years ago, a new composite construction material known as Reinforced Earth® was invented. This composite material consists of compacted granular soil and galvanized steel soil reinforcements. From the very beginning, the earth reinforcement of choice was discrete linear strips made of galvanized steel. Due to the high tensile strength, high modulus and documented long-term durability of galvanized steel, and due to the excellent performance of more than 27,000 Reinforced Earth structures, the earth reinforcement of choice remains unchanged.

A Reinforced Earth structure is a coherent gravity mass engineered to resist the applied loads. Reinforced Earth is used in both mountainous and level terrain for a variety of applications including retaining walls, bridge abutments, slide buttresses, structures supporting railways, seawalls, dams, bulk storage facilities, and military blast barricades. This technology is readily accepted by practicing civil engineers and owners throughout the world.

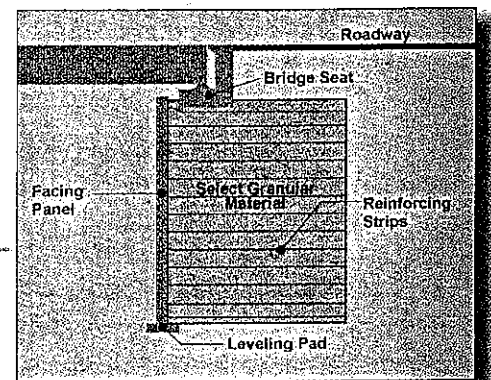
The primary reasons for the wide acceptance of Reinforced Earth technology have been its inherent economy, safety and reliability. Low cost of materials and simple, rapid, predictable construction are the basic elements of the remarkable savings achieved with Reinforced Earth.

Since 1968, more than 150 million square feet of Reinforced Earth has been erected. Use of this technology along America's highways has saved the owners of these structures, and the motoring public, more than a billion dollars when compared to the cost of conventional structures.

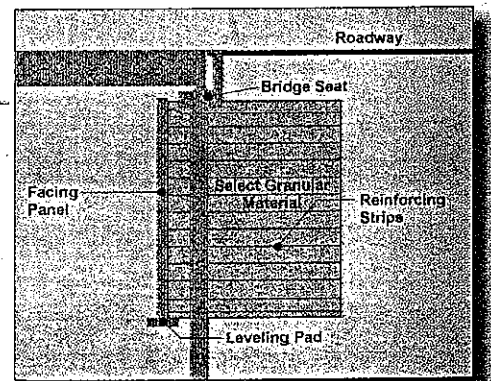
Time and time again, from small walls for commercial developments to enormous structures at industrial terminals, Reinforced Earth has been selected for its significant cost benefits, with savings in the range of 20 to 50 percent when compared with alternate solutions. With the implementation of design-build for major construction works, Reinforced Earth, more than ever before, is in the forefront of consideration by civil engineers and contractors in the United States.



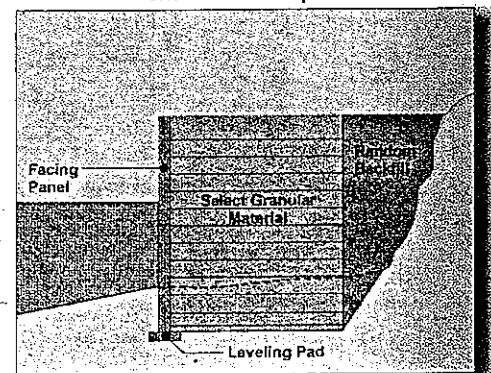
Typical section of a Reinforced Earth retaining wall.



Typical section of a Reinforced Earth abutment where the bridge seat bears directly on the Reinforced Earth volume.

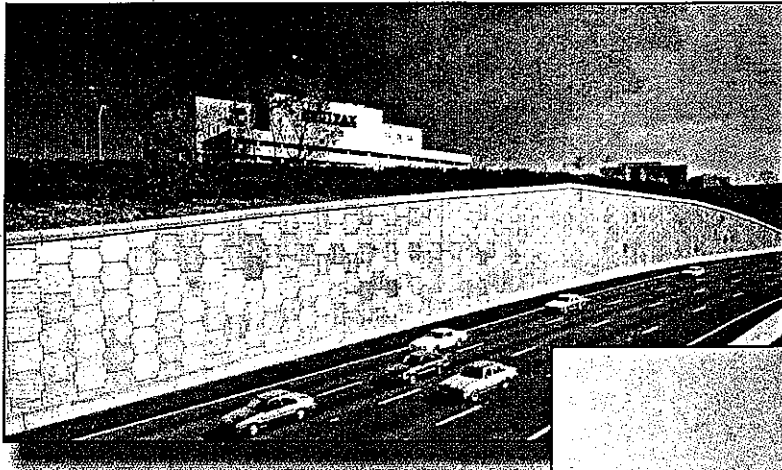


Typical section of a pile-supported Reinforced Earth abutment. Metallic strips are easily skewed around piles.

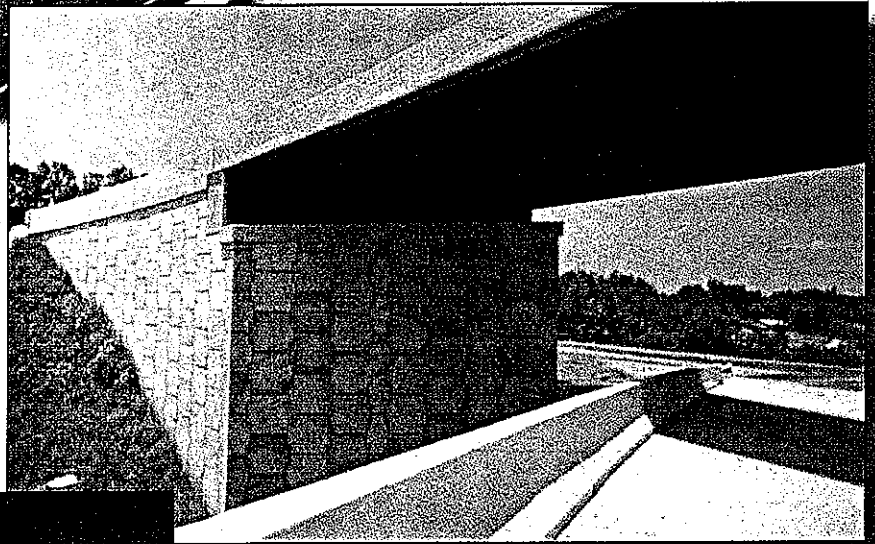


Typical section of a Reinforced Earth marine bulkhead.

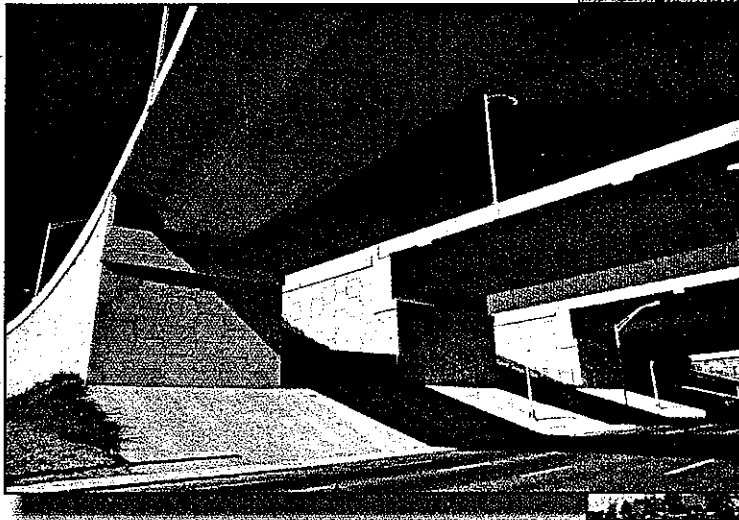
Reinforced Earth APPLICATIONS...



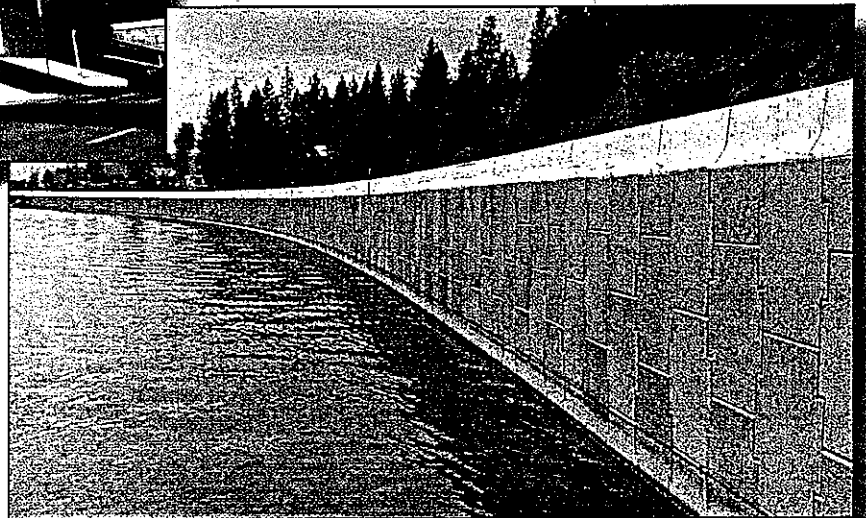
◀ RETAINING WALLS



▲
◀ BRIDGE ABUTMENTS

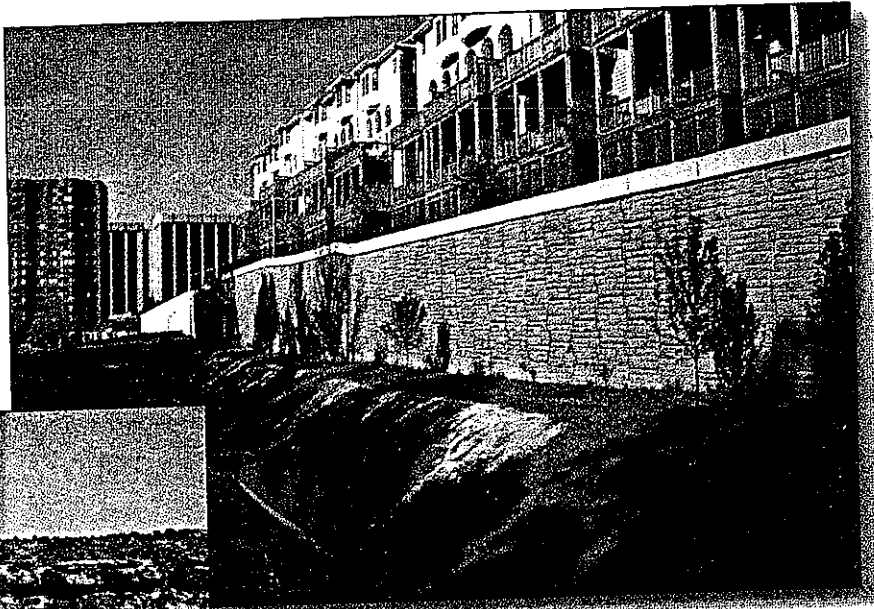


MARINE
STRUCTURES ▶

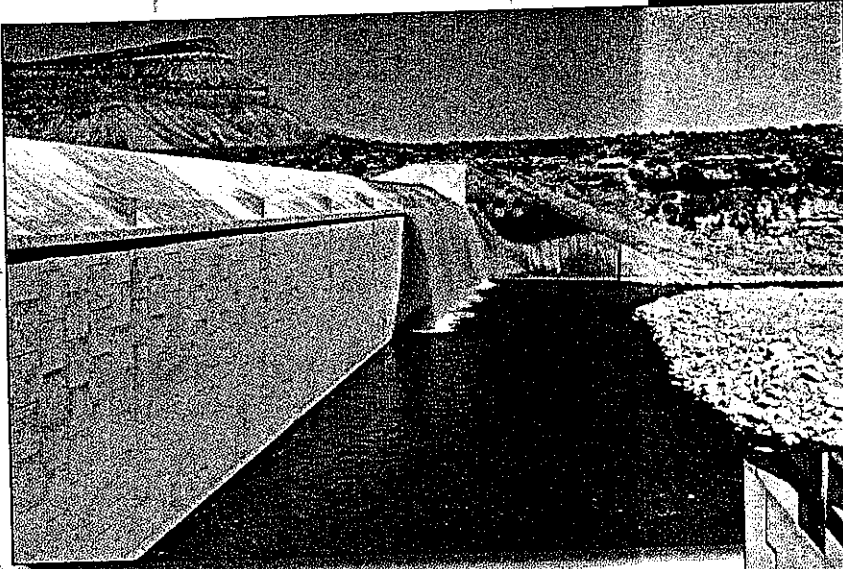


Reinforced Earth APPLICATIONS...

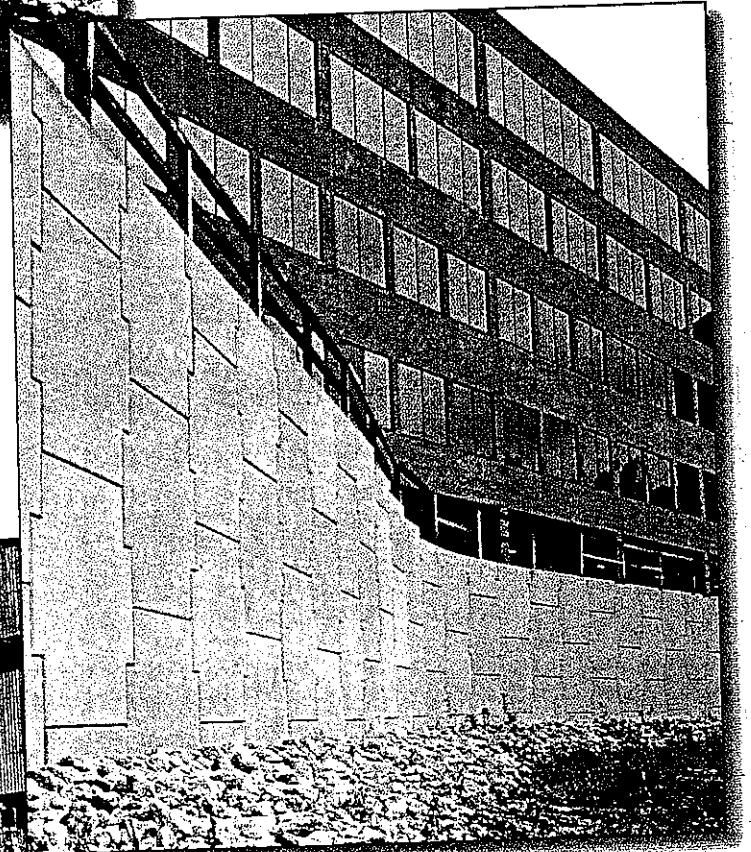
RESIDENTIAL
STRUCTURES ▶



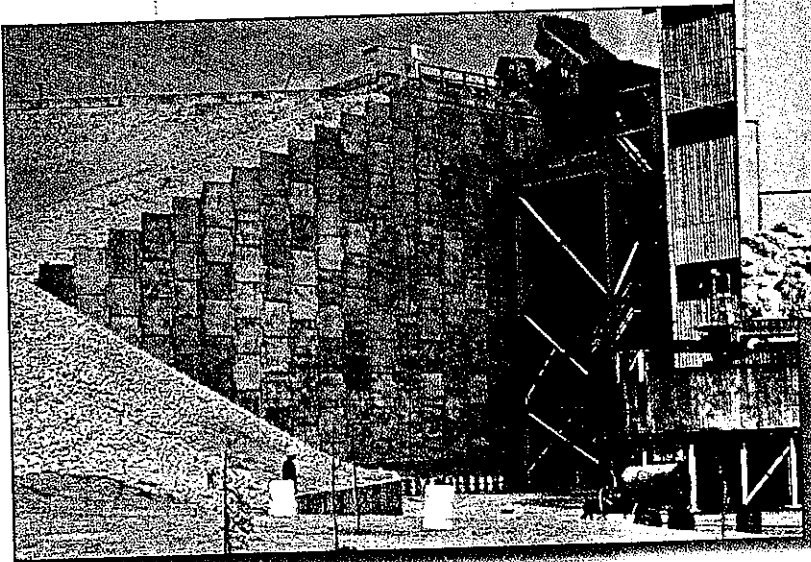
◀ DAMS

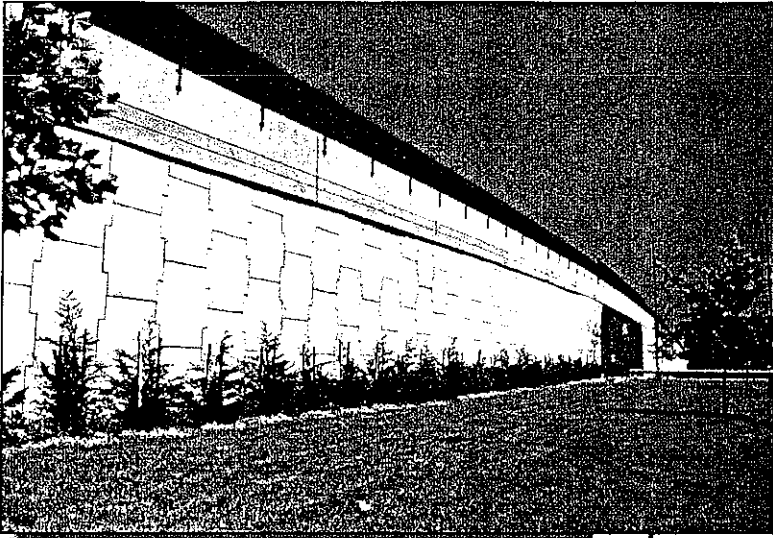


COMMERCIAL
STRUCTURES ▶

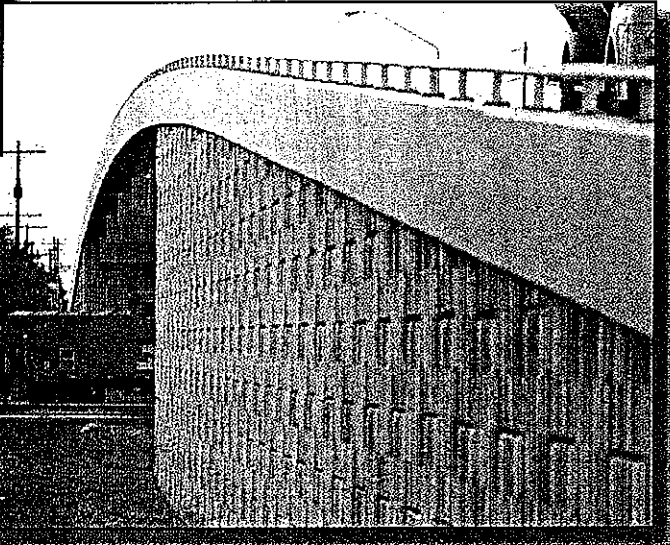


◀ INDUSTRIAL
STRUCTURES

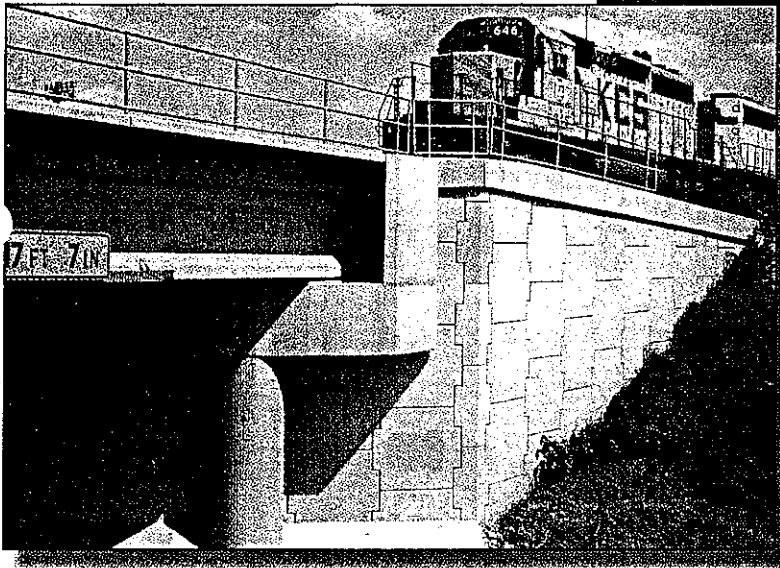




◀ **APPROACH
RAMPS**



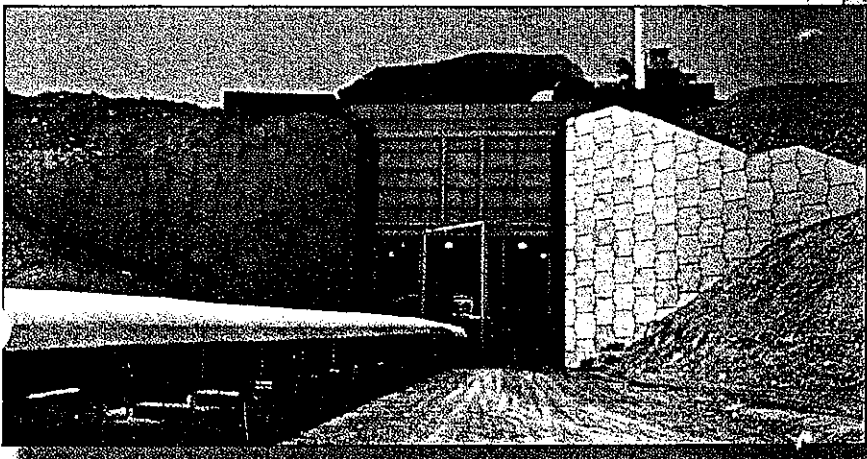
◀ **RAILWAY
STRUCTURES**



TRUCK DUMPS



▲ **RAPID TRANSIT**



Reinforced Earth

Simple, Rapid, Predictable Construction

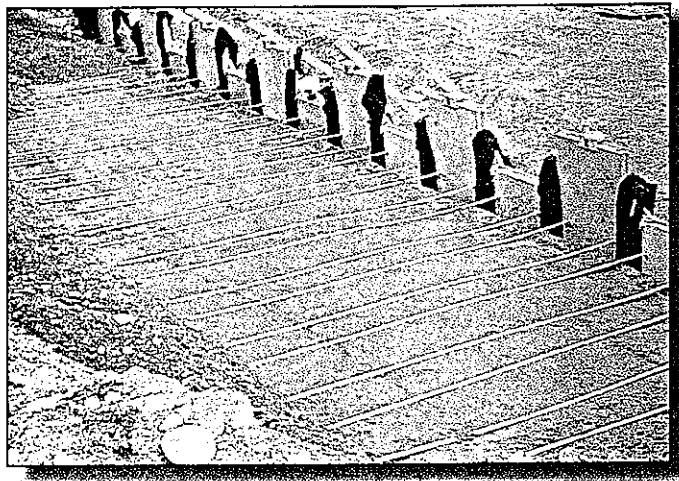
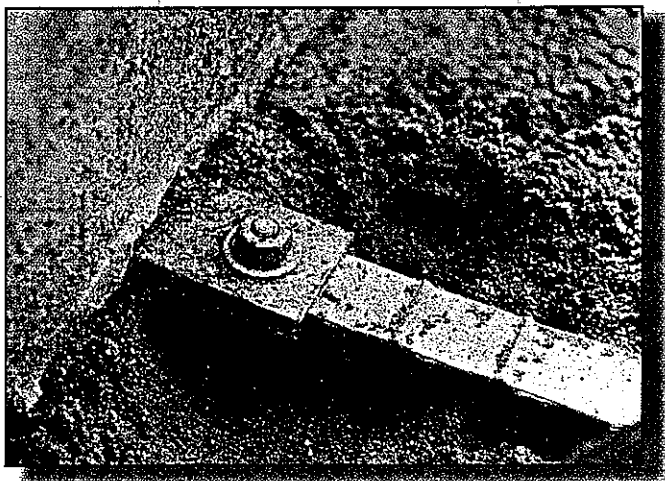
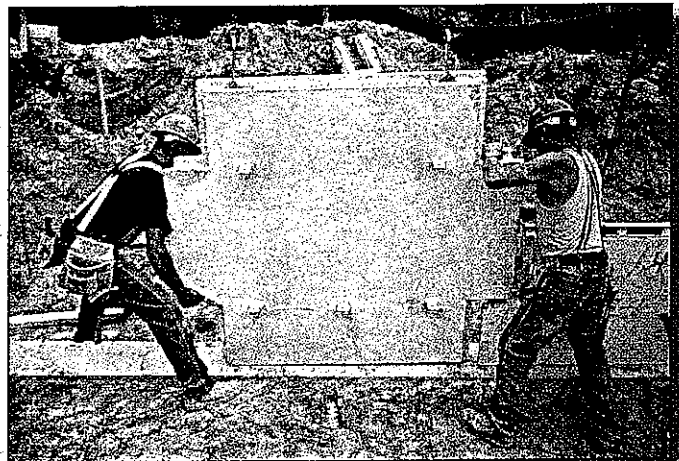
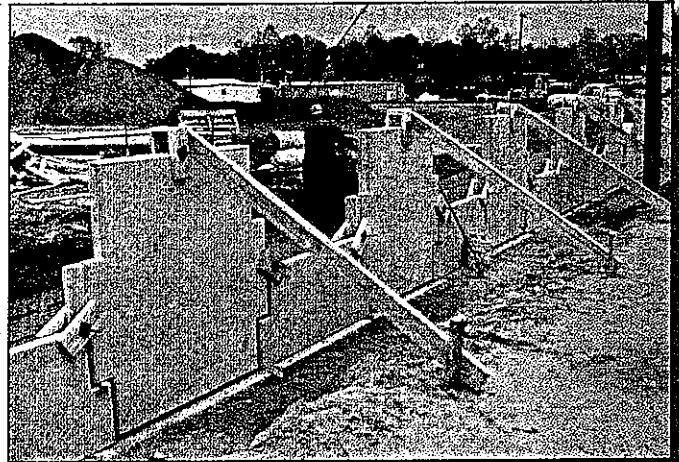
Pre-manufactured wall components are delivered to the job site and a representative of The Reinforced Earth Company provides several days of technical assistance at the start of construction.

A crew of four men and an equipment operator can complete between 750 and 1000 square feet of wall per shift including backfill placement and compaction.

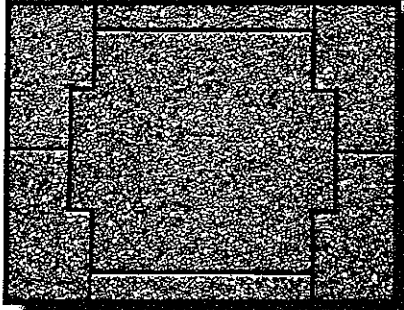
The initial course of panels is placed on an unreinforced concrete leveling pad and temporarily braced. After placing the initial course of panels, the first lift of backfill is spread and compacted. The galvanized steel reinforcing strips are placed and bolted to the panels. A second lift of backfill is then spread and compacted over the reinforcing strips.

The cycle of backfilling, compaction, and placement of strips and panels is simply repeated until the final height of the structure is reached.

After backfilling the bottom course of panels, the structure is stable during construction of all subsequent courses. Equipment may operate on top of any layer of backfill. Reinforced Earth is well suited for construction along limited rights-of-way since construction operations are performed behind the wall face.



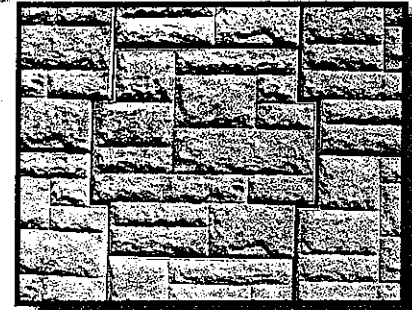
Standard and Custom Finishes Enhance the Beauty of a Reinforced Earth Structure



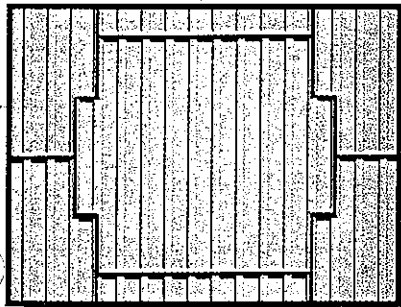
Exposed Aggregate

The Reinforced Earth Company offers a variety of architectural finishes to enhance the beauty of the completed structure.

Several of the standard finishes are shown on this page. Others may be available in your region.

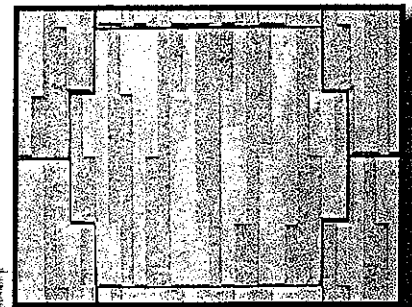


Ashlar Stone

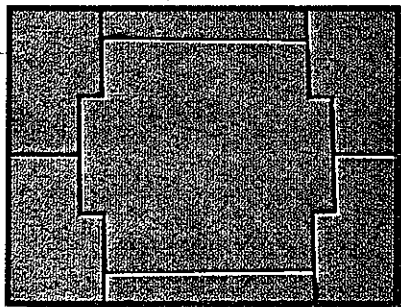


Vertical Rib

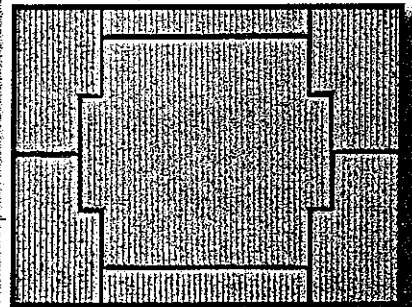
Design of a custom form-liner for your project is also possible. Consult The Reinforced Earth Company for details.



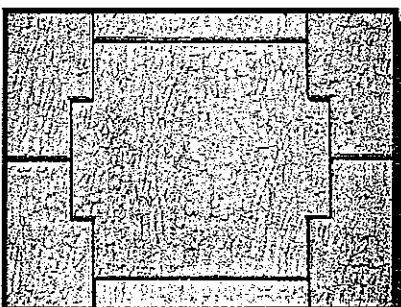
Geometric



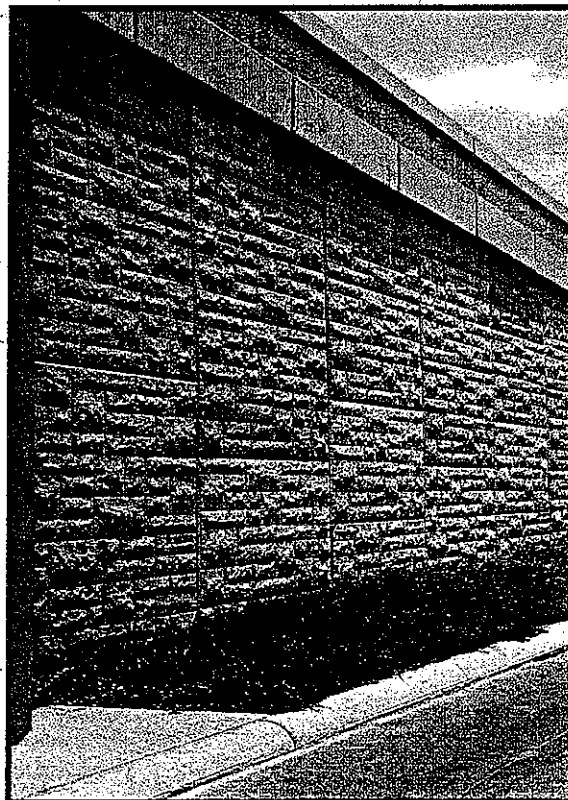
Smooth Steel Finish



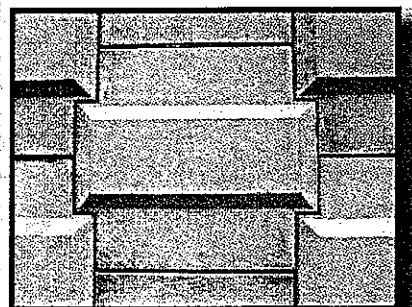
Fractured Fin



Fractured Granite



Optional rectangular panels shape

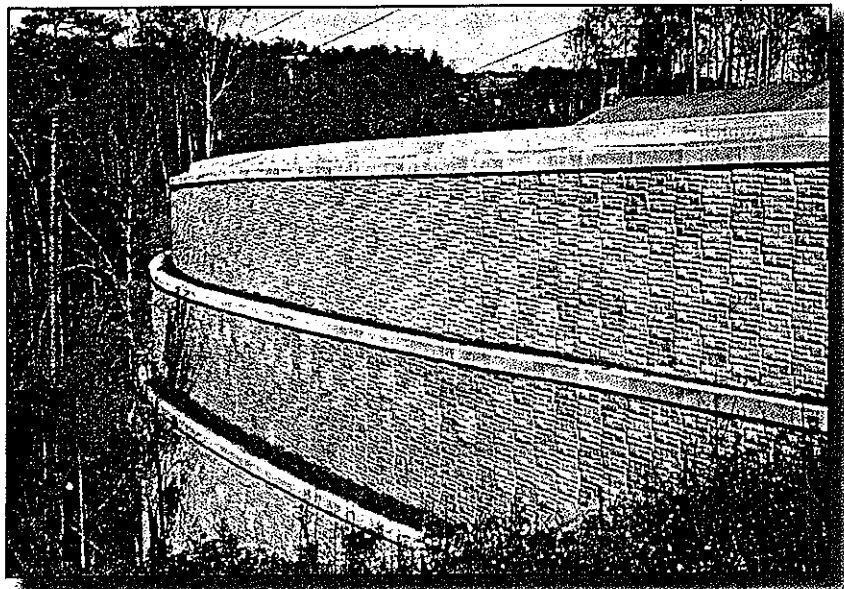


Raised Surface

The Reinforced Earth Company has more than 30 years of experience designing structures, and supplying materials to contractors and owners.

With the technological know-how gained through the construction of more than 27,000 structures, The Reinforced Earth Company consistently delivers the essentials for success: a firm price, a reliable schedule, predictable construction and a commitment to excellence in design and service.

For more information, visit our website, or call The Reinforced Earth Company office nearest you.



The Reinforced Earth Company provides feasibility studies and preliminary cost estimates.



Project managers coordinate delivery of manufactured components and provide expert advice to contractors during construction.



Professional Engineers supervise the design of every Reinforced Earth structure.



The Reinforced Earth Company

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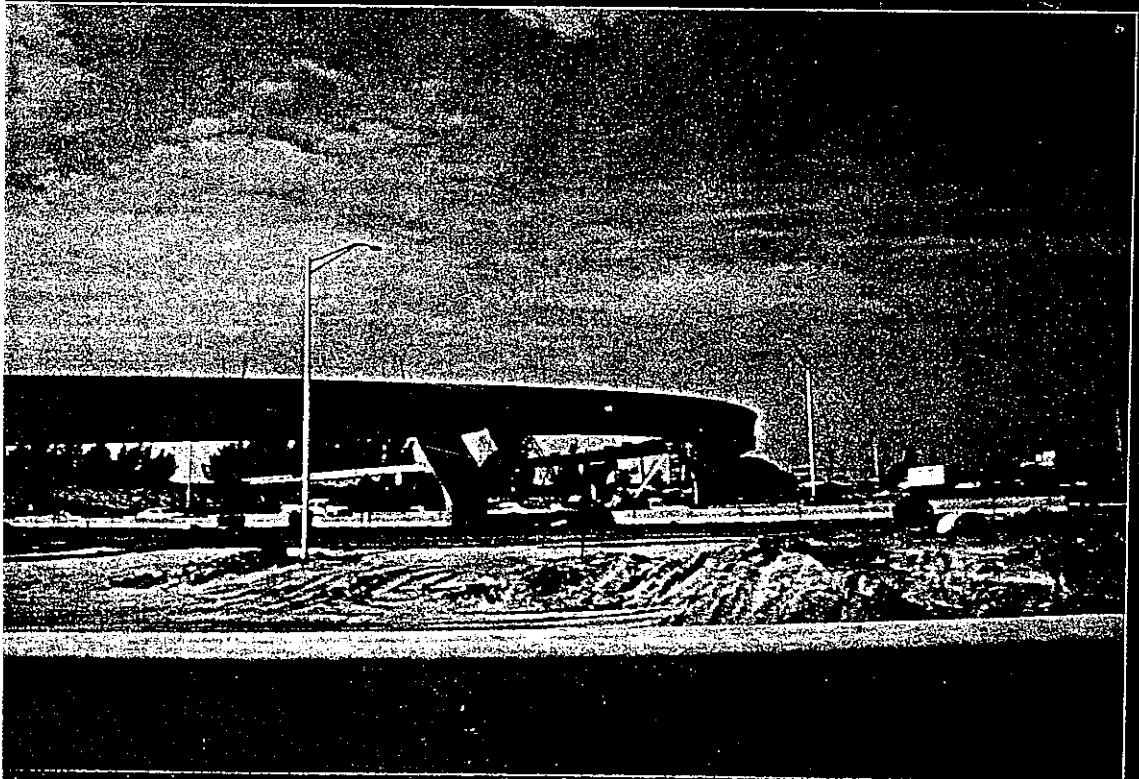
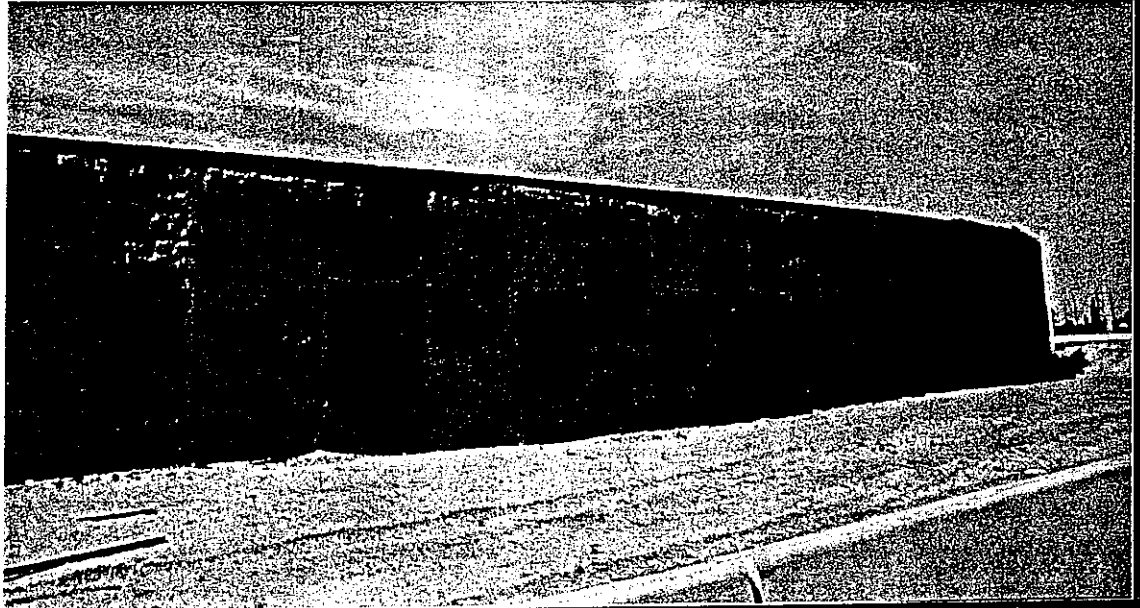
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I-95 -
Light Peach / Coral

Ashlar Stone



**TAMPA INTERSTATE STUDY
DESIGN AESTHETICS COORDINATION MEETING
WITH THE
BARRIO LATINO COMMISSION**

APRIL 14, 2000

AGENDA

- I. Introductions - Prescott
- II. Project Schedule - Prescott
- III. Background Information - Illes
- IV. Summary of the Charrette - Toner
- V. Pedestrian Level Treatments & Retention Ponds - Toner
- VI. Questions & Answers

**CITY OF TAMPA, FLORIDA
BARRIO LATINO COMMISSION
AGENDA**

MEETING DATE:	Friday, April 14, 2000
TIME:	9:00 A.M.
LOCATION:	Construction Service Center, Third Floor, 1400 North Boulevard, Tampa, Florida

Welcome to the Barrio Latino Commission. Please state your name, address and speak clearly. If you are not the agent, please observe the three-minute rule. For more information, please contact the HISTORIC PRESERVATION OFFICE at 274-8920, 306 East Jackson Street, 3rd floor, one day prior to the hearing date to confirm the agenda.

IN ORDER FOR THE BLC TO MAINTAIN AN ACCURATE RECORD OF THE PUBLIC HEARING AND FOR THE COURTESY OF THOSE ATTENDING THIS MEETING, IT IS REQUESTED THAT YOU SILENCE ALL CELL PHONES AND BEEPERS.

- I. CALL TO ORDER -- Chairman Sara Romeo
- II. SILENT ROLL CALL
- III. INTRODUCTIONS -- Chairman Sara Romeo
- IV. FLORIDA DEPARTMENT OF TRANSPORTATION: Ybor City & City of Tampa Urban Design Concepts & Sketches
- V. ADJOURNMENT

Any person who decides to appeal any decision by the Board with respect to any matter considered at this meeting will need a record of the proceedings and, for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record include the testimony and evidence upon which the appeal is to be based. The next Public Hearing of the Barrio Latino Commission is scheduled for April 18, 2000 at 9:00 a.m. at the City Council Chambers, 315 East. Kennedy Boulevard, Third Floor.

June 6, 2000

MEMORANDUM

TO: Tampa Interstate Study Cultural Resource Committee

FROM: Elaine C. Illes, IPI / Mark Jennings, URS Corp.

SUBJECT: Minutes of Presentation to the Barrio Latino Commission, April 14, 2000

On Friday April 14, 2000, members of the Tampa Interstate Study (TIS) Cultural Resources Committee (CRC) made a presentation before a working session of the Barrio Latino Commission (BLC) at 9:00 a.m. at the City of Tampa Construction Services building.

Sarah Romeo (BLC) started the session and introduced Irwin Prescott (FDOT Project Manager) who provided a brief summary of the overall interstate design and construction schedule. Mr. Prescott introduced Elaine Illes (IPI, Cultural Resources Task Manager). Ms. Illes recounted the previous presentation before the Barrio Latino Commission approximately one year ago. At that presentation, Barrio staff had requested that the CRC conduct a charrette, which took place at the office of Terra Tectonics.

Ms. Illes introduced Jonathon Toner (Terra Tectonics) who presented a set of roadway plans showing the project limits within the Ybor City area as well as design changes to the plans since the previous presentation. The most significant change was the access at 21st/22nd remained and sissor ramps which created a tunnel effect were eliminated. Mr. Toner displayed some renderings of the aesthetics currently envisioned for the Ybor area. In the vicinity of 14th/15th Streets, Mr. Toner displayed the concepts for dry and wet ponds surrounded by iron fence and brick knee wall. Vince Pardo (YCDC) asked if the dry ponds will be maintained and manicured. Irwin Prescott responded by saying yes, they would be.

Howard Hoffman (Parsons Brinckerhoff, Project Manager) then described the planned traffic circulation patterns once the improvements are complete. Jonathon Toner then described the aesthetics and gateway concepts at the 21st/22nd Street interchange. Vince Pardo expressed concern about the size of the planned retention ponds saying retention ponds have no precedent in the Ybor City National Historic Landmark District. Mr. Pardo stated that stormwater retention has become a big issue within the District.

Referencing the ponds and pedestrian green areas associated with the ponds at 14th/15th Street, Mr. Pardo asked who will use such amenities. Elaine Illes responded by saying that the project planners and designers have coordinated extensively with the community, Hillsborough Community College (HCC) and the HCC Master Plan as well as with representatives of the V.M. Ybor community. They have repeatedly expressed concern

about the separation of the communities north and south of I-4 caused by the original construction of the interstate. The proposed design with ponds and pedestrian amenities at 14th/15th helps to reconnect the two communities and compliments HCC's efforts to encourage a more pedestrian friendly atmosphere.

There was still some concern expressed by members of the BLC regarding the number and size of the ponds at that location and whether they can be made smaller. Ms. Illes stated that the ponds are needed and mentioned that initially, 14th/15th was to be the new interstate system gateway to Ybor City. If the proposed Crosstown Connector is ever constructed that gateway concept would still apply. Vince Pardo asked if they could be relocated to the median of the interstate. Irwin Prescott responded no, the median area is reserved for future roadway expansion and is too high to effectively get the water into them. Mr. Pardo asked if the dry ponds would require fences around them. Mr. Hoffman replied that sometimes you are not required to have a fence around a dry pond if the slopes and depths do not require it. However, these ponds will likely require fences.

Jonathon Toner continued to describe some of the concepts developed during the design charrette held at his office, particularly the concepts developed for the bridges in Ybor City. Mr. Pardo stated that these latest concepts are 1000 percent better than previous concepts he has seen, but there is still room for improvement. When it was mentioned that noise barriers are planned on the north side of I-4 in this area, Sarah Romeo said that Ms. Illes had told the Barrio Commission at the previous presentation there would be no noise barriers on the north or south sides of the interstate. Ms. Illes responded that was never the case, then clarified for the Barrio that the high level of aesthetic treatment and amenities proposed throughout the Ybor area are mitigation for the noise walls.

Ms. Illes then reported on the results of the noise wall survey conducted by FDOT that asked all effected property owners along the interstate if they were in favor of or against having noise walls. Approximately 55 percent of the survey forms have been returned by the recipients to date, and 85 percent of the respondents favored the installation of noise walls. Mr. Pardo questioned the statistics and what they meant and whether or not the people really understood what they were asking for. He described the planned noise wall on the north side of I-4 as "the Great Wall of China". The Barrio staff also expressed dismay over the noise wall proposed on the south side of I-4 from the vicinity of 11th Street to the vicinity of 13th Street. There was also much concern over the wall height. Wilson Stair expressed a desire to try to breakup the continuous look of the wall with trees and design amenities.

Getting back to the bridge concepts, there was some concern expressed over the height of the proposed railings along the outside of the structures as well as the mechanically stabilized earth (MSE) walls and the casting options. They asked to see some cross sections and elevation drawings with dimensions. Vince Pardo said the noise walls are out of scale with the community and so are the ponds because they have never been part of Ybor City before. Elaine Illes pointed out that the originally proposed heights of the noise walls has been reduced thanks to using the new noise model; and by utilizing the latest sound absorption technology, we may be able to reduce their height even further.

A Barrio staff member asked what we planned to do about graffiti. Jonathon Toner talked about the textured wall surfaces and artwork applied to the wall being somewhat of a deterrent to graffiti artists. Vince Pardo suggested growing vines to cover the walls. Another City staff person asked about possibly putting the retention ponds beneath the roadway. Irwin Prescott responded by saying he would officially investigate the possibility of doing so and respond to the Barrio staff. However, it would be difficult to do in the area because of the high water table and it would result in more or longer bridges.

Del Acosta asked about maintaining the landscaping. Mr. Toner replied that irrigation is planned as part of the landscaping package. When asked how watering restrictions could affect the landscaping, Irwin Prescott replied that the FDOT and the City would be under the same restrictions as everyone else and the viability of the landscaping could be compromised during water restriction conditions. The FDOT is working with the City on the maintenance agreement.

Del Acosta asked if an artist has been commissioned to explore the opportunities for public art. Elaine Illes responded that Jonathon Toner will be identifying candidate locations for public art. However, funding for public art will have to come from other sources such as Art in Public Places because it is not part of FDOT's project budget. Mr. Acosta stressed he would like to involve an artist in the overall bridge design. He envisions art in the classic sense, such as pre-World War II designs and referenced the Brooklyn Bridge as an outstanding example of classic art in design. Wilson Stair recommended that Robin Nye (Art in Public Places) be involved in the structure designs at 14th/15th Streets and at 21st/22nd Streets. Mr. Acosta stated he would like to see art integrated into the design of the structures, such as was done with the Brooklyn Bridge, not just decorations applied after the fact. Irwin Prescott reminded everyone that these structures are not free standing bridges but rather overpasses over city streets.

Discussion turned to the planned pond beneath the interstate at 21st/22nd Street, which as designed is approximately one block long by one block wide. Barrio staff asked if the pond is absolutely necessary. Jonathon Toner responded that the water feature had been included to fill in dead space beneath the interstate but the space does not actually have to be a pond at this time. The Barrio staff indicated they do not want water in that space. Irwin Prescott stated that we are designing water retention areas now for the ultimate build-out of the interstate, even though we are not building the ultimate facility at this time. Elaine Illes asked the Barrio staff for other ideas of how to use the space so it does not become a huge no-mansland with trash in the huge center of the intersection.

Ken Garcia (BLC) asked if it would be possible to create a small linear park or people space in the vicinity of the 14th/15th Street overpasses.

Conversation switched to traffic circulation. Irwin Prescott indicated that interstate signage will direct westbound heavy truck traffic down 50th Street to access Adamo Drive. The City of Tampa will be responsible for limiting truck traffic along 21st/22nd

Streets. Sarah Romeo would like to eliminate truck traffic there. Currently the Crosstown Connector is not funded. The Connector was originally intended to remove the truck traffic off of 21st / 22nd.

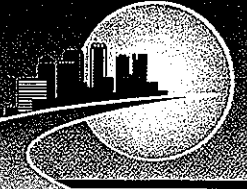
Del Acosta said that maintenance, particularly landscape maintenance, is the key to the entire interstate aesthetics package. He is concerned whether or not the City will commit to maintaining this high level of landscaping. Wilson Stair said the City will look into piping reclaimed water to the interstate for use in maintaining the landscape.

Elaine Illes proposed meeting again late in the summer in another working session format. That will provide enough time for everyone to develop the information they need to address the issues of ponds, structure designs, scale of features, overpasses, landscape maintenance, irrigation, drainage and retention, etc. Ms. Illes reminded the Barrio staff that when and if the City does agree to maintenance of the landscaping, it will be for the entire interstate system within the City limits, not just within the Ybor area. It will be a huge maintenance undertaking.

The presentation concluded at approximately 11:10 a.m.



Tampa Interstate Study

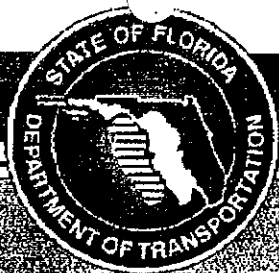


DESIGN REVIEW COMMITTEE (DRC) COORDINATION MEETING

May 5, 2000

AGENDA

- I. Purpose of the Meeting/ Overview - Illes (3 min)**
- II. System wide Recommendations**
 - A. Retaining Walls - Burmer (5 min)
 1. Type/ Panel Size
 2. Colors
 3. Surface Treatment (texture, sealant, anti-graffiti, etc)
 4. Integration within the System
 - B. 8 Foot Noise Walls - Toner (7 min)
 1. Locations
 2. Typical Section of Materials
 3. Surface Treatment
 4. Integration within the System/Transitions
 - C. 9 Foot to 16 Foot Noise Walls - Balsamo (7 min)
 1. Locations
 2. Typical Section
 3. Surface Treatment
 4. Integration within the System/Transitions
- III. Wall Treatments in Specialty Areas**
 - A. Courtney Campbell Causeway (Segment 1C) - Malecki (3 min)
 - B. Downtown Interchange (Segment 2B) - Illes (3 min)
 - C. I-4, 14th to 50th (Segments 3A/B) - Toner (5 min)
 - D. I-275, Himes to the River (Segment 2A) - Toner (3 min)
 - E. I-275, Bay to Himes (Segment 1A) - Burmer (3 min)
- IV. Questions and Answers - (20 Min)**
- V. DRC Acceptance of Recommendations/ Next Steps**
 - A. Presentation to Construction and Maintenance
 - B. Presentation to Directors
 - C. Test Results from CSI and Spalding
 - D. Meet with Tampa Heights on Specialty Area Treatments
 - E. Design Team Meeting on: Retention Ponds, On-system Lighting, On-System Signing and Begin Identification for System Wide Opportunities for Public Art
 - F. Continue Coordination with City of Tampa on Landscape Maintenance



Tampa Interstate Study

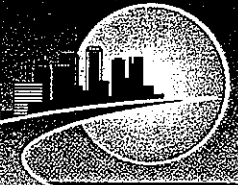
DRC Coordination Meeting

Please Sign In

May 5, 2000

Name	Phone Number	Affiliation or Group Name
1 MIKE CARTER	871-5331	KCA
2 JONATHAN TONER	258-4504	TERRA TECTONICS
3 Frank Balsam	889-5300	PBQVD
4 Howard Hoffman	889-5300	PBQD
5 K.C. LIM	1x	11
6 Conrad Bryant	727-572-5226	TSI-KSA
7 Steve Malecki	877-7275	PBS&J
8 Glenn Myers	954-772-4995	PBS&J
9 JOHN SIMPSON	975-6442	FDOT
10 Elaine C. Diles	286-0125	IP&I
11 Irwin Prescott	975-6162	FDOT
12 Jose S. Rodriguez	975-6129	FDOT
13 Wilton Stan Jr.	274-8402	C.O.T. Planning
14		
15		

Tampa Interstate Study



**Florida's Gateway
to Tampa**

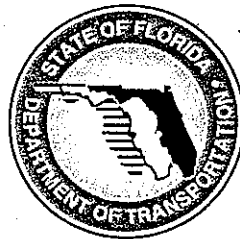
TAMPA INTERSTATE STUDY

FP No. 258643 1 32 01

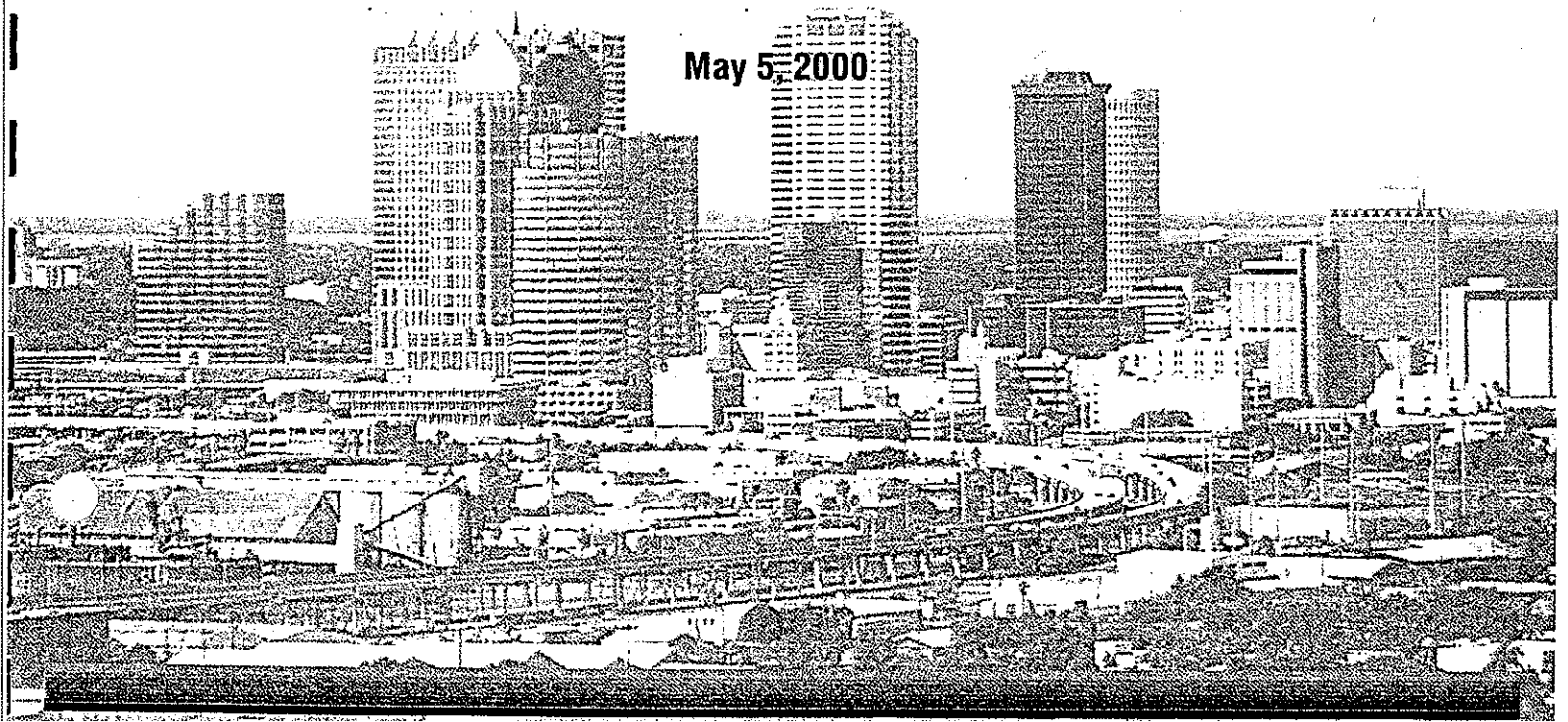
FP No. 258401 1 32 01

NOISE BARRIERS & RETAINING WALLS

**Florida Department
of Transportation
District Seven**

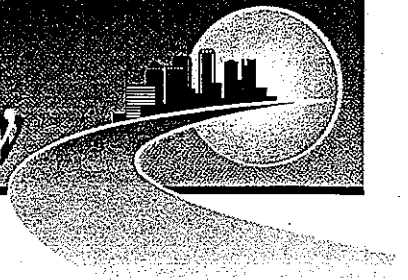


May 5 2000





Tampa Interstate Study



System Wide Recommendations for Noise Walls and Retaining Walls

After researching and reviewing materials from numerous manufacturers*, the Tampa Interstate Study Design Aesthetics Team is recommending the following treatments. Cost efficiency, maintenance and ease of constructability were seriously considered while ensuring that the intent of the Tampa Interstate Study Urban Design Guidelines were met.

Retaining Walls

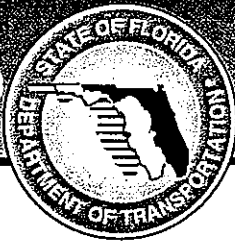
- MSE 5x5 panels
- Stained earthtone colors using natural pigments
- Fractured fin and sandstone finish

Noise Walls

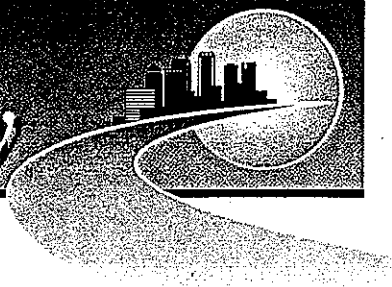
- Mounted adjacent to Traffic Barrier (TDI)
- Mounted on Traffic Barrier (3a/3b)
- Light weight Material
- Fiberglass Aesthetic Treatment on Community side
- Color matches retaining wall in non-specialty areas

*** Companies Interviewed by Team:**

Reinforced Earth Company (MSE)
Scofield (Color Concrete)
Spaulding Craft (Fiberglass)
CSI (Lightweight Noise Barriers)
Increte (Architectural Wall Treatment)
Scotts System (Walls/ Architectural Treatments)
Sherwin Williams (Concrete Stain)

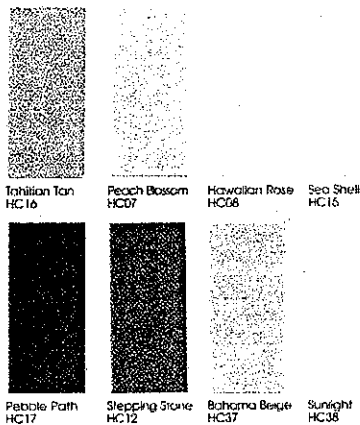


Tampa Interstate Study



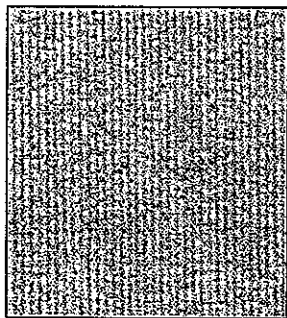
RETAINING WALLS

CONCRETE DECORATIVE SEALER & STAIN COLORS



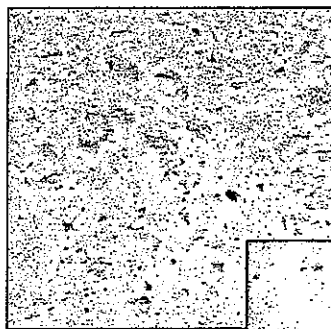
TEXTURE

Fractured Fin



Concrete/Sandstone Finish

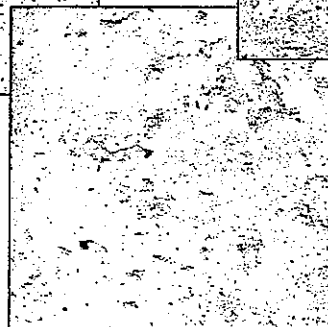
Tower Pink

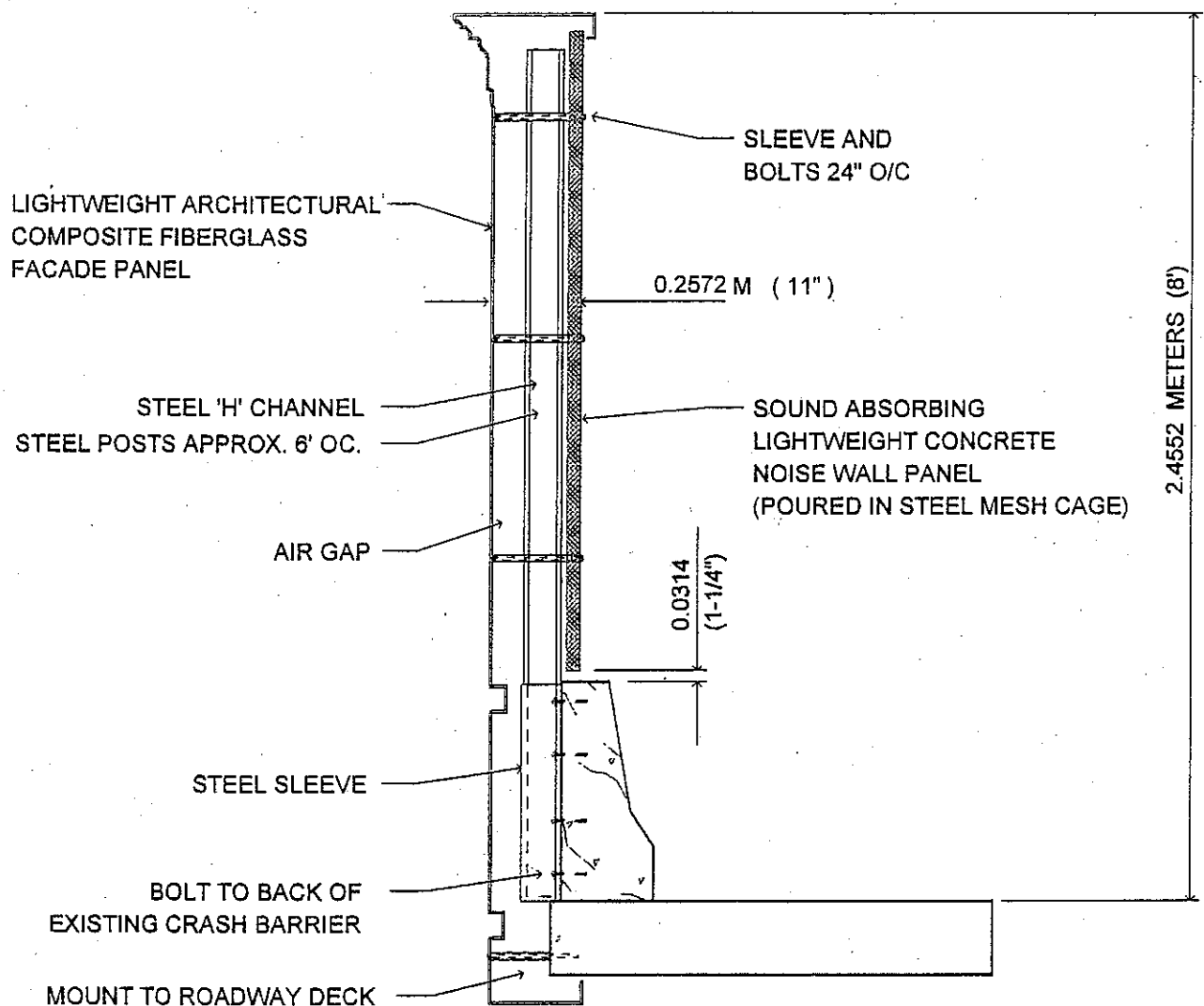


Villa M



Hunters Tan





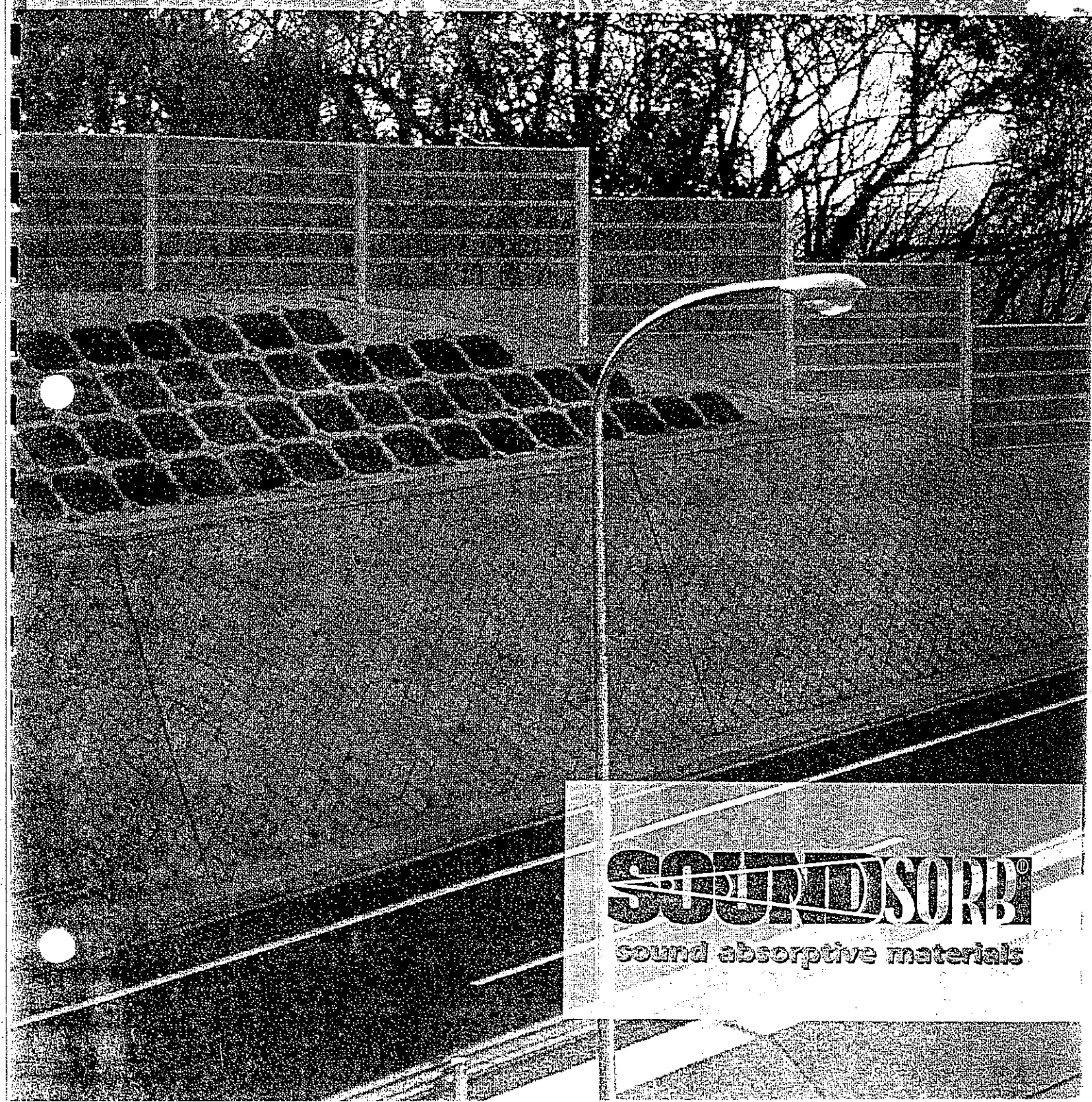
WEIGHT OF ARCHITECTURAL PANEL = 2.5 LBS SQ. FT. (1/4" THICK)
 WEIGHT OF SOUND ABSORBING CONCRETE = 5.5 SQ. FT (1-1/2" THICK)
 TOTAL WEIGHT OF WALL MATERIAL = 8 LBS SQ. FT.

8' HEIGHT WALL = 64 LBS LF

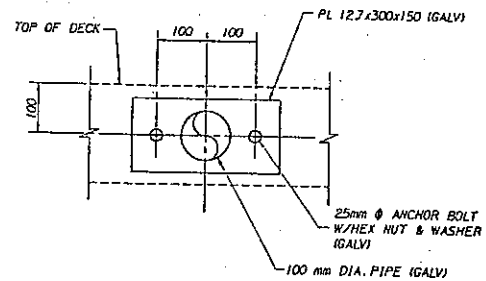
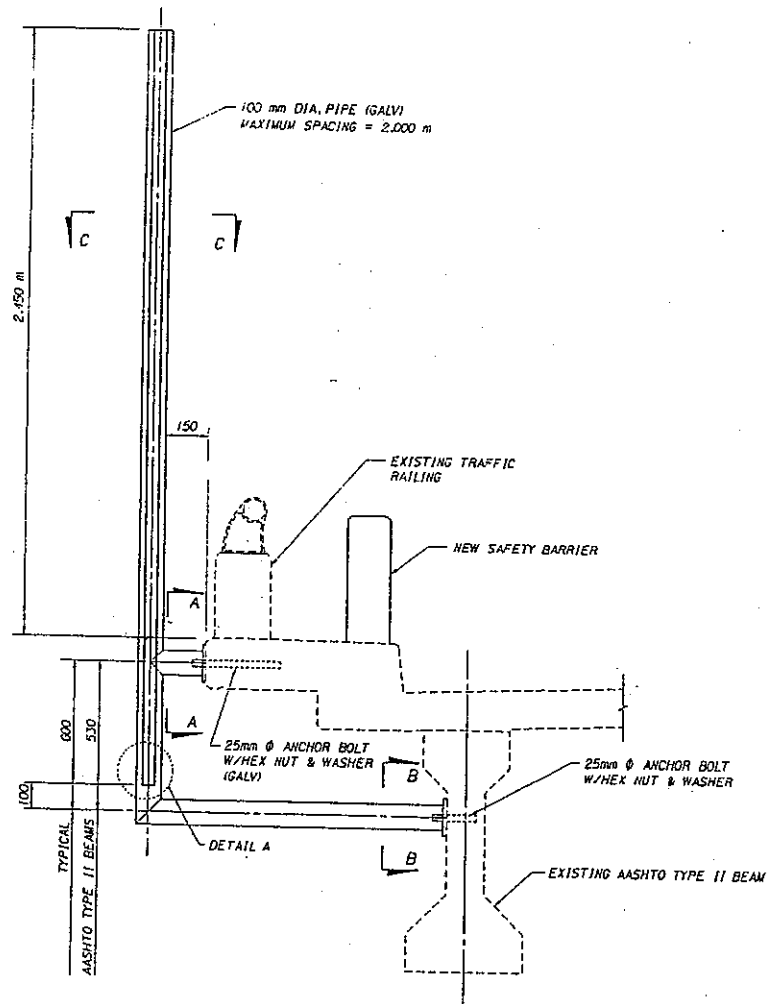
SUPPORT STRUCTURE (EST) = 10 LBS PER L/F

TOTAL ESTIMATED WEIGHT OF LIGHTWEIGHT NOISE WALL = 80 LBS L/F

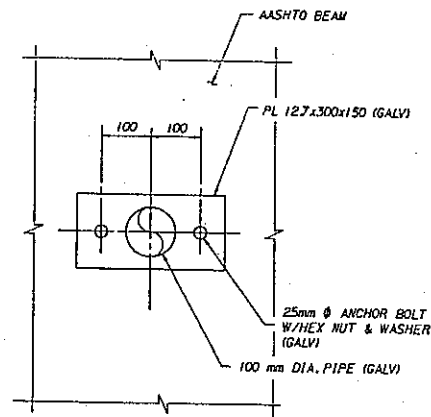
LIGHTWEIGHT SOUND ABSORBING NOISE WALL PANEL



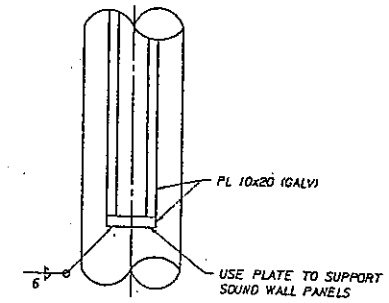
SOUND SORB®
sound absorptive materials



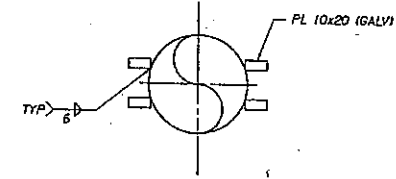
SECTION A-A



SECTION B-B



DETAIL A



SECTION C-C

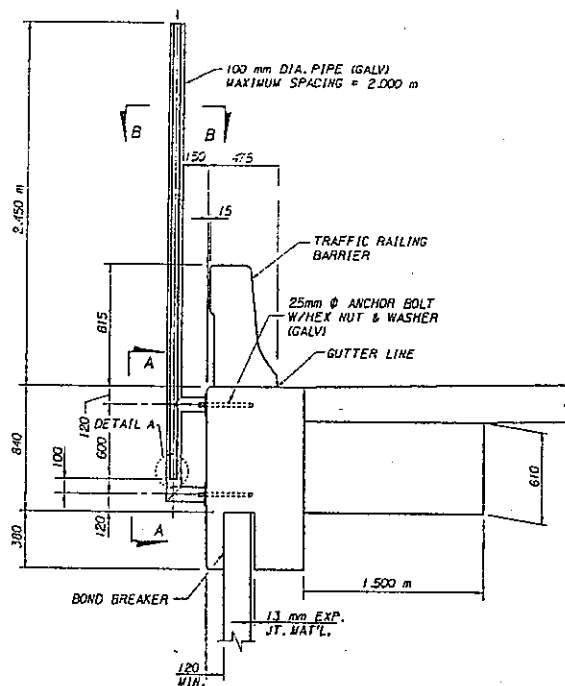
NOTES:

1. SHOP DRAWINGS SHALL BE SUBMITTED SHOWING THE GEOMETRY REQUIRED TO ATTACH TO THE BRIDGES.
2. USE ON BRIDGES SHOWN BELOW:
RAMP N-E OVER COLUMBUS DR.
I-275SB OVER HENDERSON AND CENTRAL AVE.
I-275SB OVER 7TH AVE.

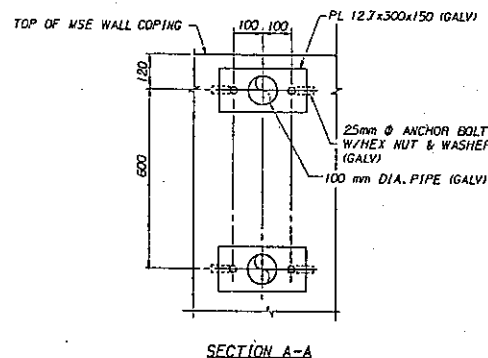
ELEVATION

12/20/99
b:\vtd\br-19sound\99\10013.dgn

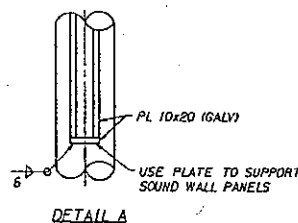
REVISIONS				ENGINEER OF RECORD		LOGO		FLORIDA DEPARTMENT OF TRANSPORTATION		SHEET TITLE		Drawing No.
Date	By	Description	Date	By	Description	Drawn by	Checked by	STRUCTURES DESIGN OFFICE		SOUND WALL ATTACHMENT DETAILS		2 OF 2
						MFC	4/99			DOWNTOWN VIADUCT BRIDGE NO 100110		Sheet No.
						PHR	4/99					
						RSO	4/99					Sheet No.
						PHR	4/99					
				Approved by		FRANK P. BALSANO		ROAD NO. 100/93 COUNTY HILLSBOROUGH STATE PROJECT NO. / FRANCH PROJECT NO. 10190-3483 / 258643-1-52-01				



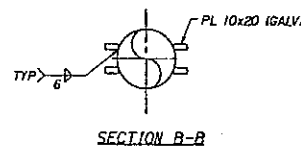
COPING DETAIL AND SOUND WALL ATTACHMENT AT MSE WALL



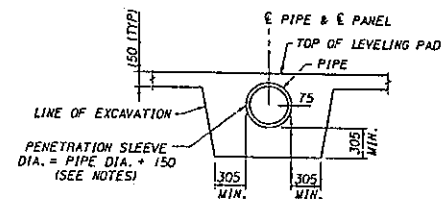
SECTION A-A



DETAIL A



SECTION B-B



ENCASEMENT OF DRAINAGE PIPE IN LEVELING PAD CONCRETE
WIDTH OF ENCASEMENT SAME AS WIDTH OF LEVELING PAD

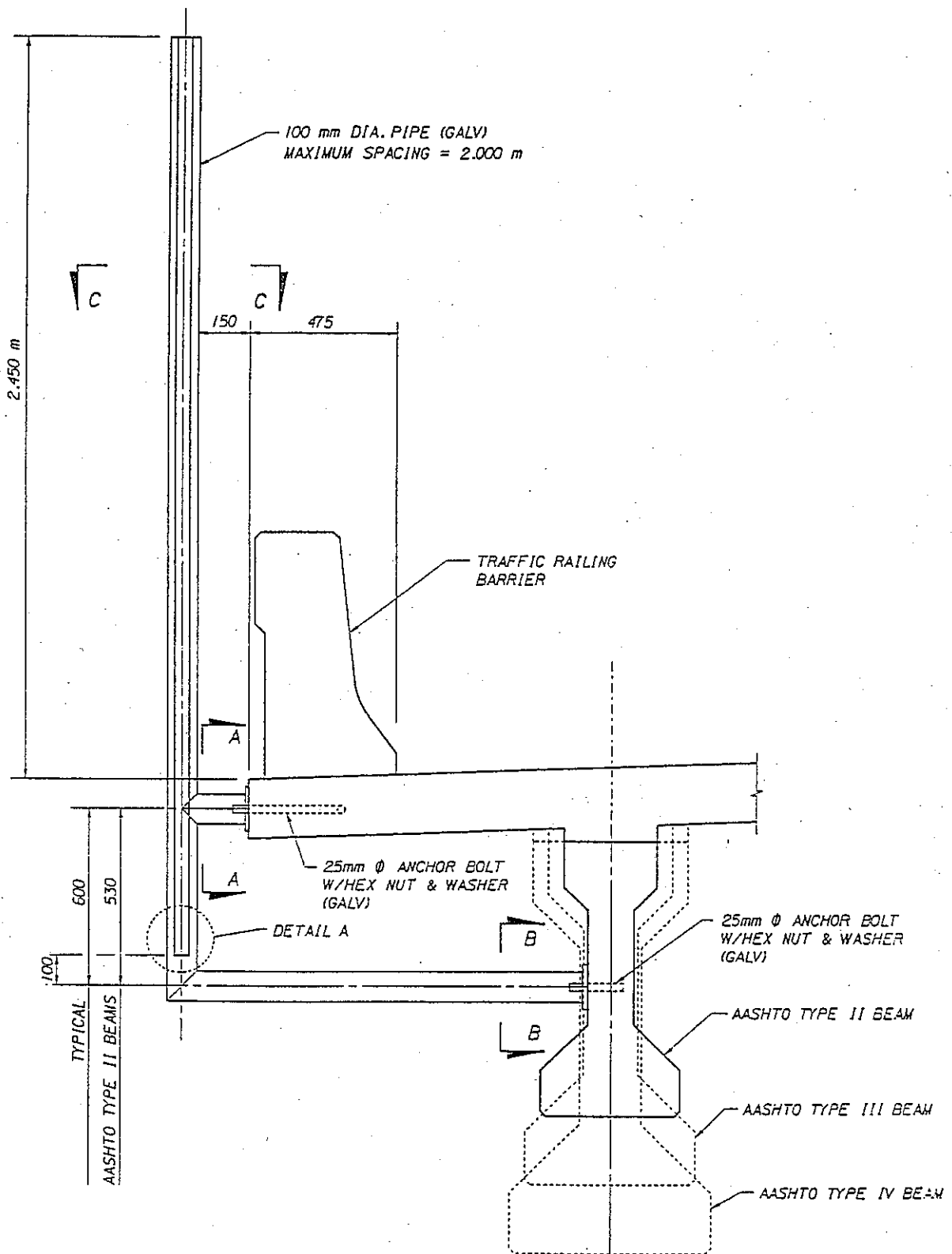
- NOTES:
1. FILL PENETRATION SLEEVE WITH CONCRETE FILL AFTER PIPE HAS BEEN SET AND BLOCKED.
 2. PIPE SHALL NOT BE PLACED DIRECTLY BENEATH THE JOINT OR A BOTTOM PANEL.
 3. CONCRETE ENCASEMENT AND CONCRETE FILL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR RETAINING WALLS.

NOTES:

1. TYPICAL WALL DETAILS SHOWN ON THESE DRAWINGS MAY BE MODIFIED TO SUIT THE INDIVIDUAL WALL COMPANY'S DETAILS.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REVISIONS

Date	By	Description	Date	By	Description	Drawn by	Checked by	Designed by	Approved by	ENGINEER OF RECORD	LOGO	FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET NO.	PROJECT NAME	PROJECT NO.
						MFC	PHR	ASD	PNR	Parsons Brinckerhoff Quade & Douglas, Inc. 1408 North Westshore Blvd, Suite 300 Tampa, Florida 33607	PB	STRUCTURES DESIGN OFFICE	2 OF 2	TAMPA DOWNTOWN INTERCHANGE	10190-3483 / 258643-1-52-01



ELEVATION



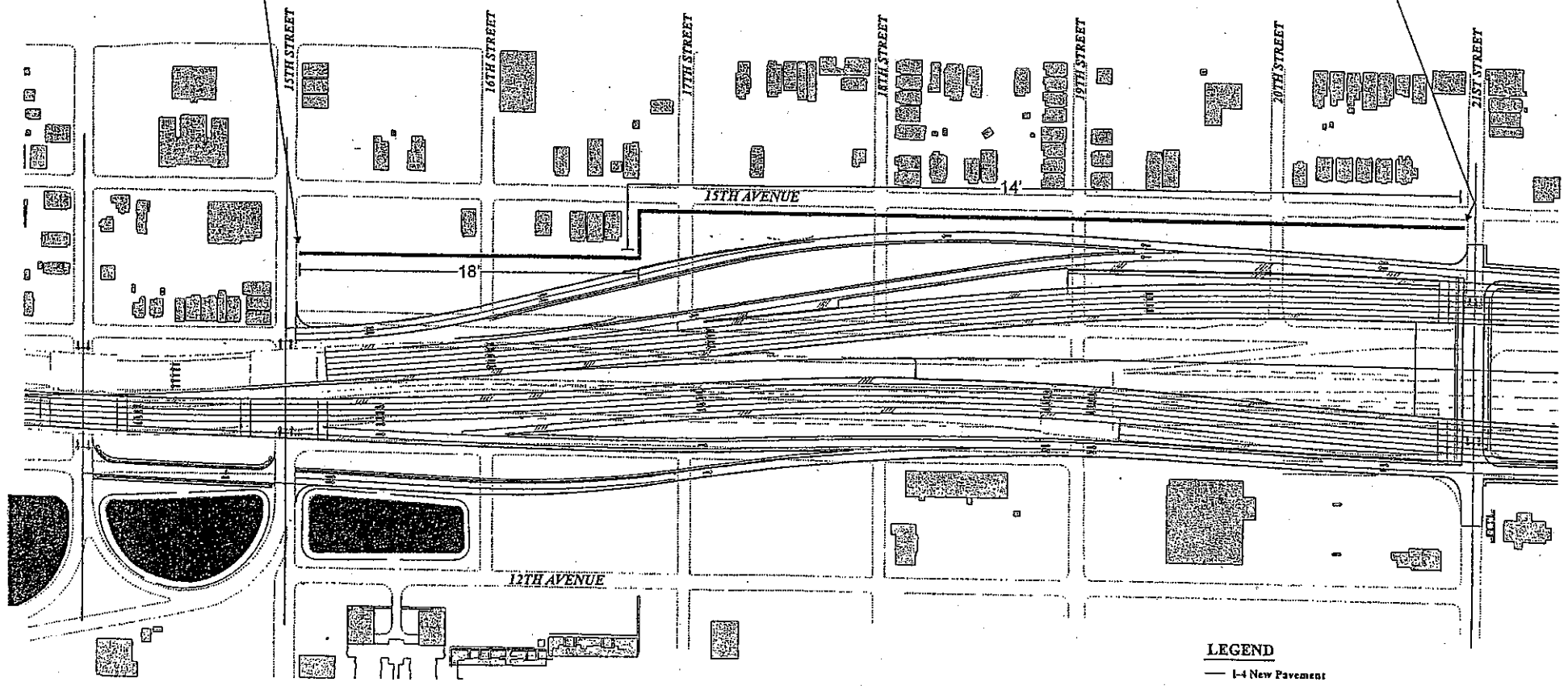
COPING DETAIL AND SOUND WALL ATTACHMENT AT MSE WALL

Interstate 4 - 3A / 3B
NOISE BARRIER LOCATION MAP
MARCH 2000

Noise Barrier 1

BARRIER 1

Noise Barrier 1



LEGEND

- I-4 New Pavement
- Existing Pavement
- Proposed Drainage Ponds
- Proposed Noise Barrier Location
- Structures
- Barrier Height

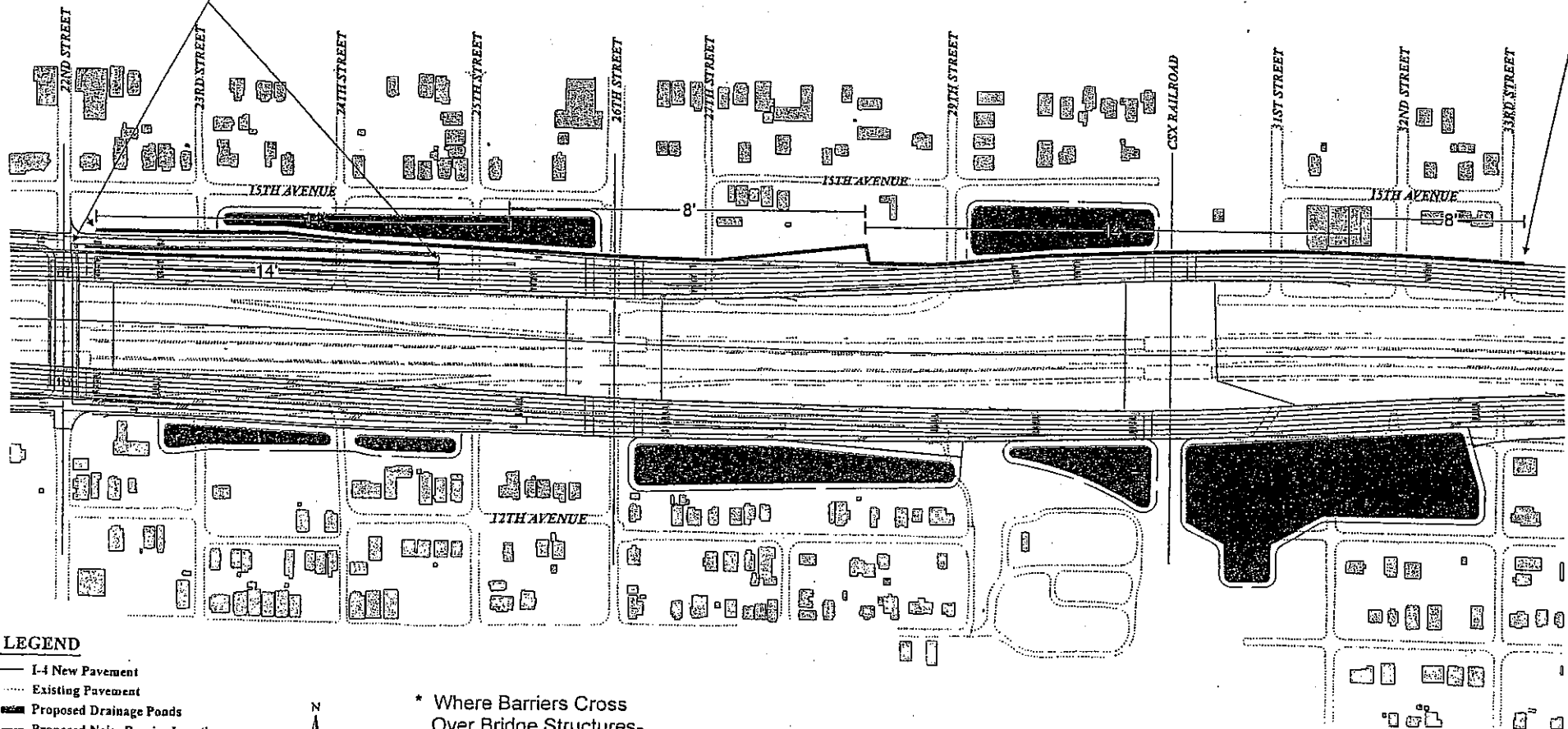


Interstate 4 - 3A / 3B
NOISE BARRIER LOCATION MAP
MARCH 2000

Noise Barrier 2&3

BARRIER 2&3

Noise Barrier 2&3



LEGEND

- I-4 New Pavement
- Existing Pavement
- Proposed Drainage Ponds
- Proposed Noise Barrier Location
- Structures
- Barrier Height



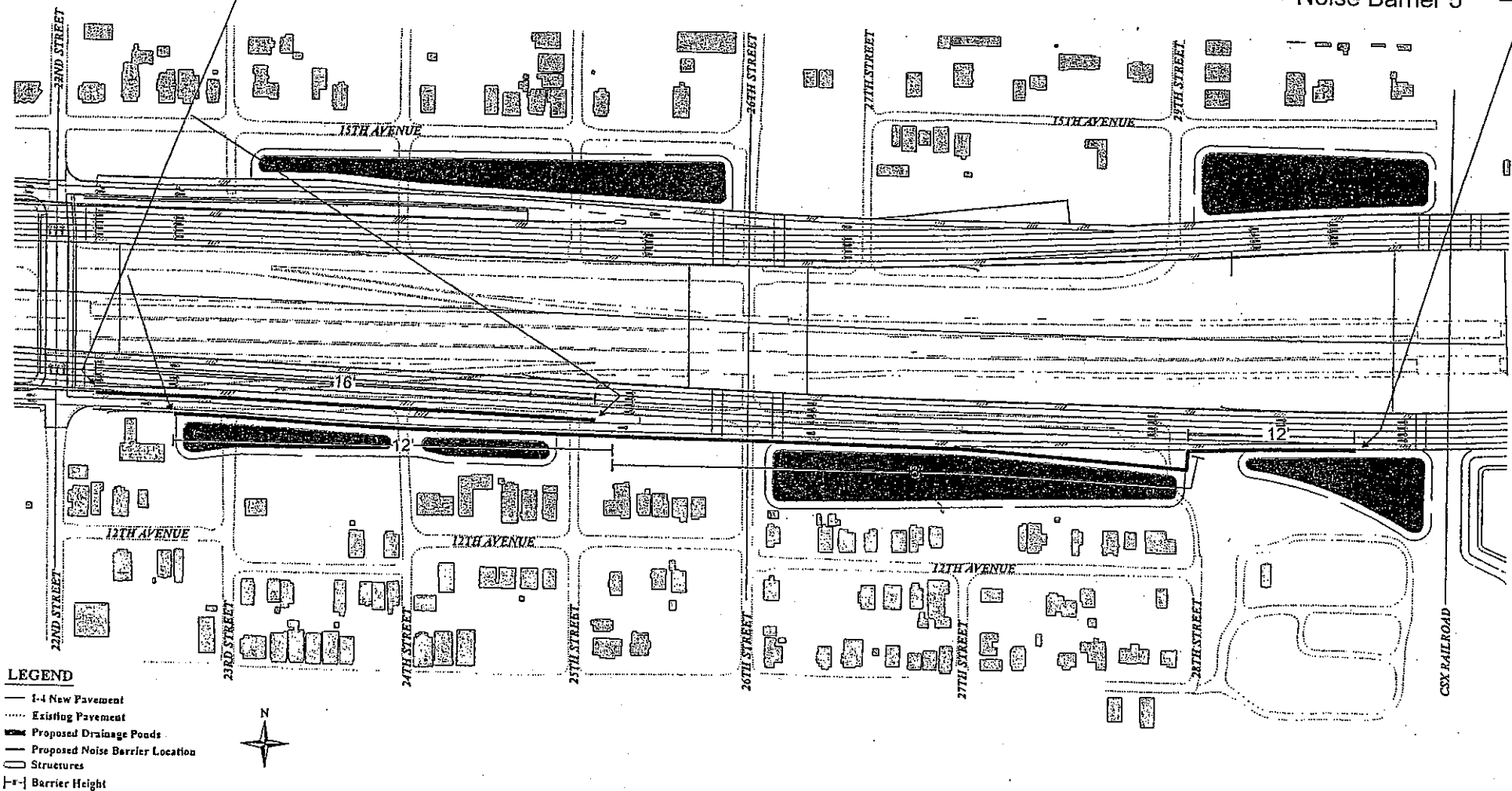
* Where Barriers Cross
Over Bridge Structures-
Barrier Height = 8'

Interstate 4 - 3A / 3B
NOISE BARRIER LOCATION MAP
MARCH 2000

BARRIER 5

Noise Barrier 5

Noise Barrier 5

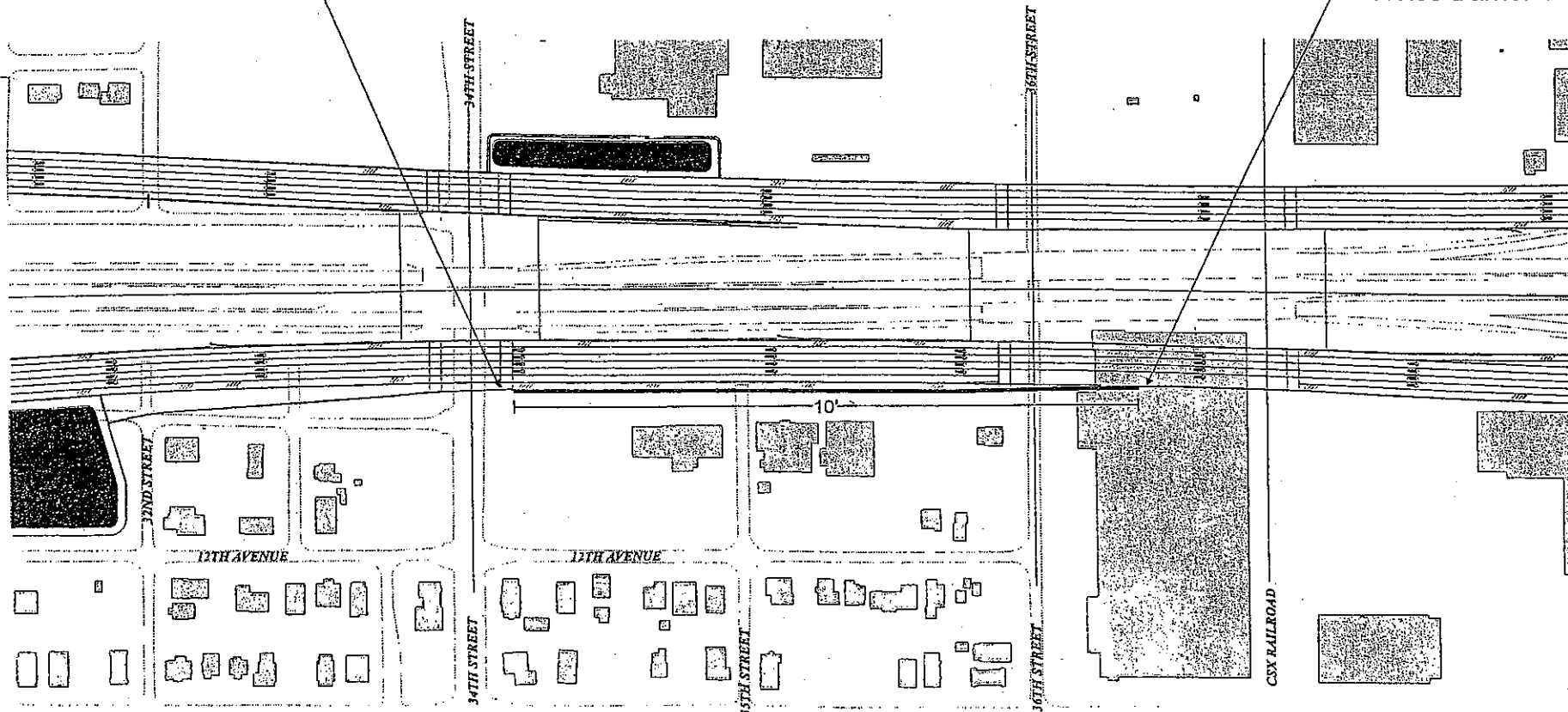


Interstate 4 - 3A / 3B
NOISE BARRIER LOCATION MAP
MARCH 2000

Noise Barrier 6

BARRIER 6

Noise Barrier 6



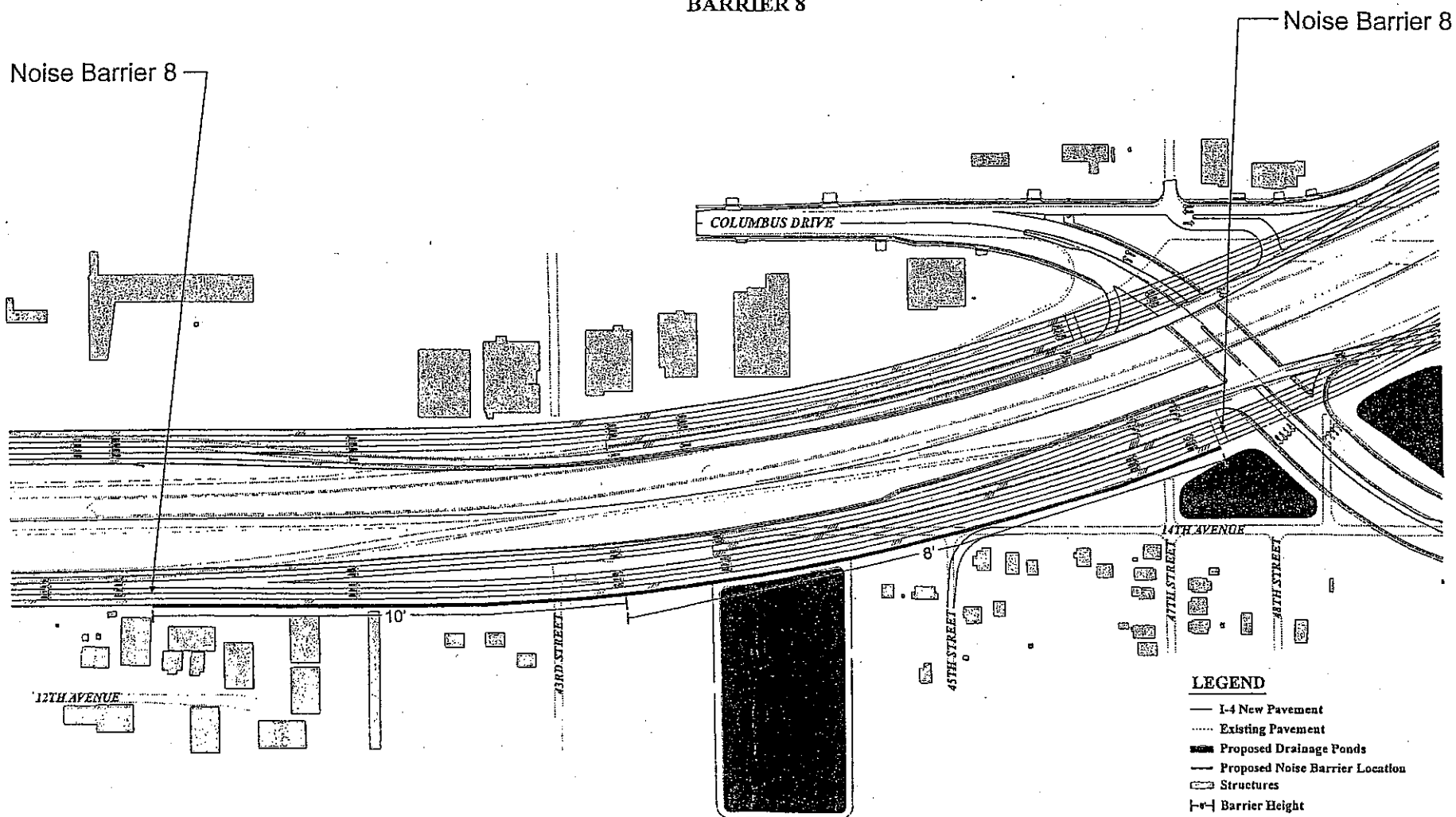
LEGEND

- I-4 New Pavement
- Existing Pavement
- ▨ Proposed Drainage Ponds
- Proposed Noise Barrier Location
- ▤ Structures
- Barrier Height



Interstate 4 - 3A / 3B
NOISE BARRIER LOCATION MAP
MARCH 2000

BARRIER 8



SOUNDWALL STUDY FOR I-4, SECTION 3A / 3B

CASE 1 -SOUNDBARRIER ON TOP OF THE TRAFFIC BARRIER

Soundwall Height Ft.	Cost of Soundwall / Square Foot (above T / roadway)			
	Moment Slab	Attachments	Soundwall	Total
8	\$11.58	\$4.12	\$8.00	\$23.70
10	\$9.26	\$3.33	\$8.80	\$21.39
12	\$12.91	\$2.75	\$9.33	\$24.99
14	\$15.54	\$2.36	\$9.71	\$27.61
16	\$19.43	\$2.06	\$10.00	\$31.49

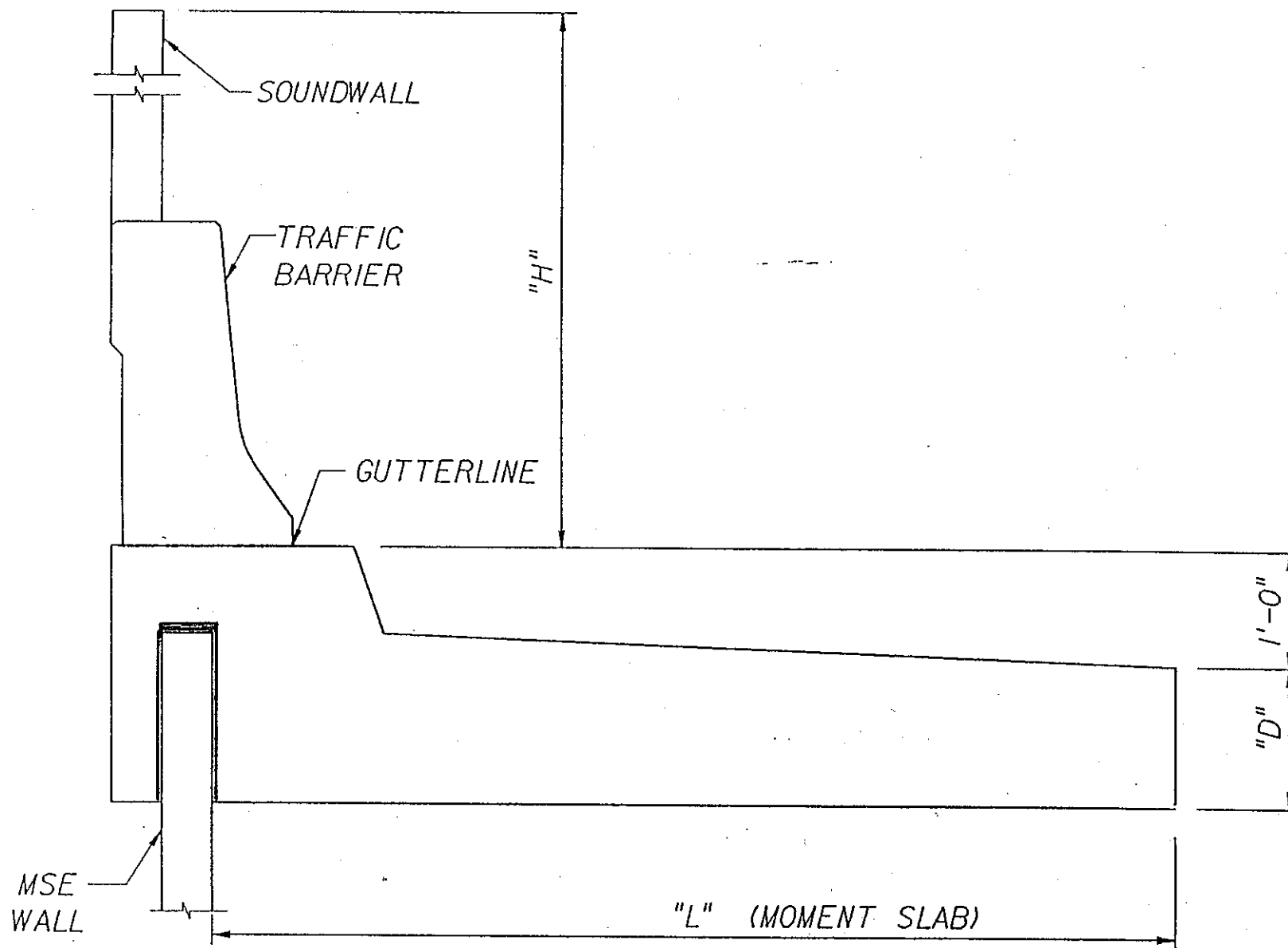
CASE 2 - SOUNDBARRIER ADJACENT TO THE OUTSIDE OF THE TRAFFIC BARRIER

Soundwall Height Ft.	Cost of Soundwall / Square Foot (above T/ roadway)			
	Moment Slab	Attachments	Soundwall	Total
8	\$11.58	\$4.12	\$16.14	\$31.84
10	\$10.39	\$3.33	\$15.31	\$29.03
12	\$12.91	\$2.75	\$14.76	\$30.42
14	\$15.54	\$2.36	\$14.37	\$32.27
16	\$19.43	\$2.06	\$14.07	\$35.56

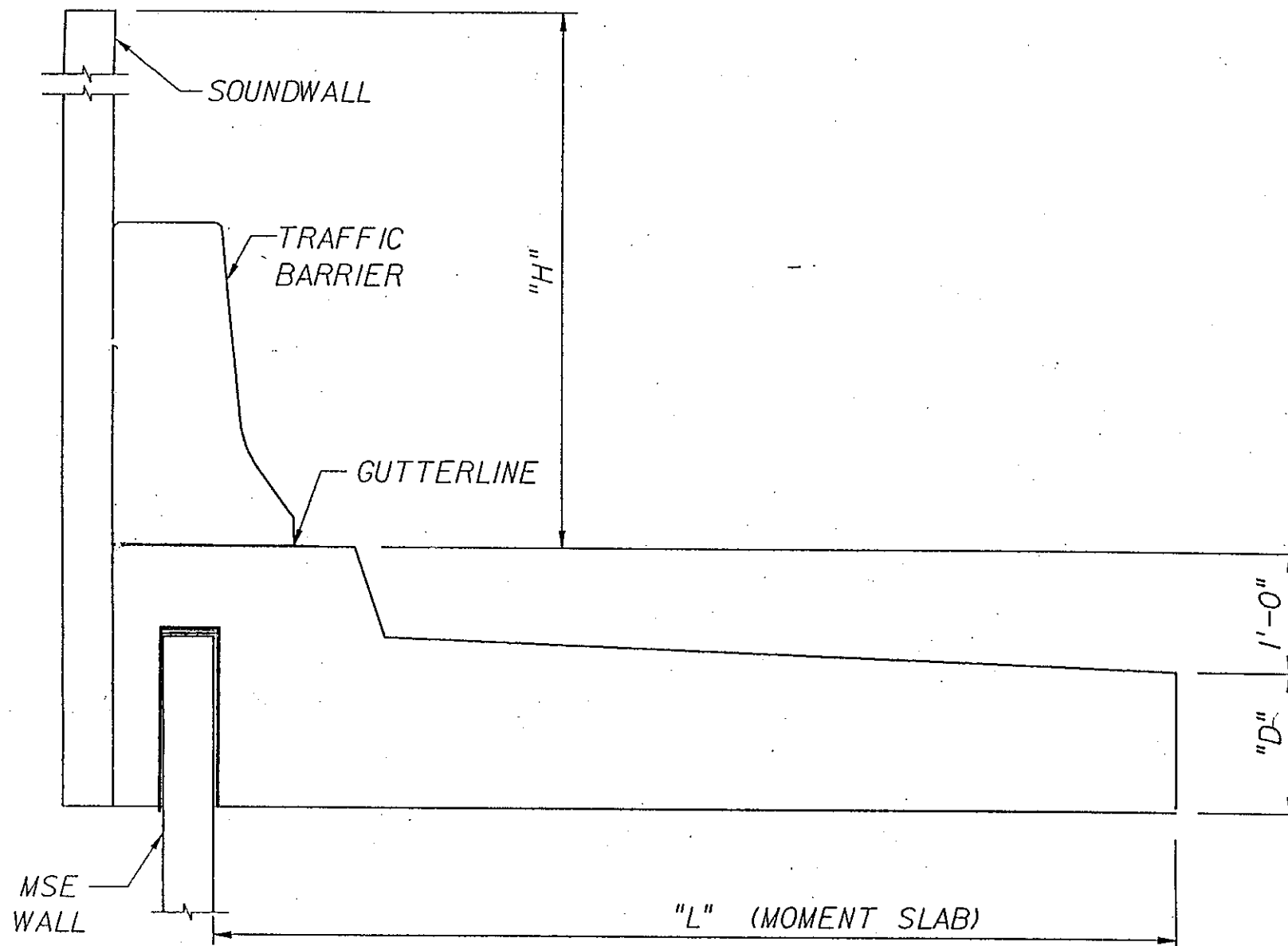
* Net = Concrete required for soundwall support - normal mse wall coping concrete

Cost include 150 lbs of rebar per cubic yard of concrete.

Cost based on \$300/cy of concrete and \$0.50 /lb of rebar steel

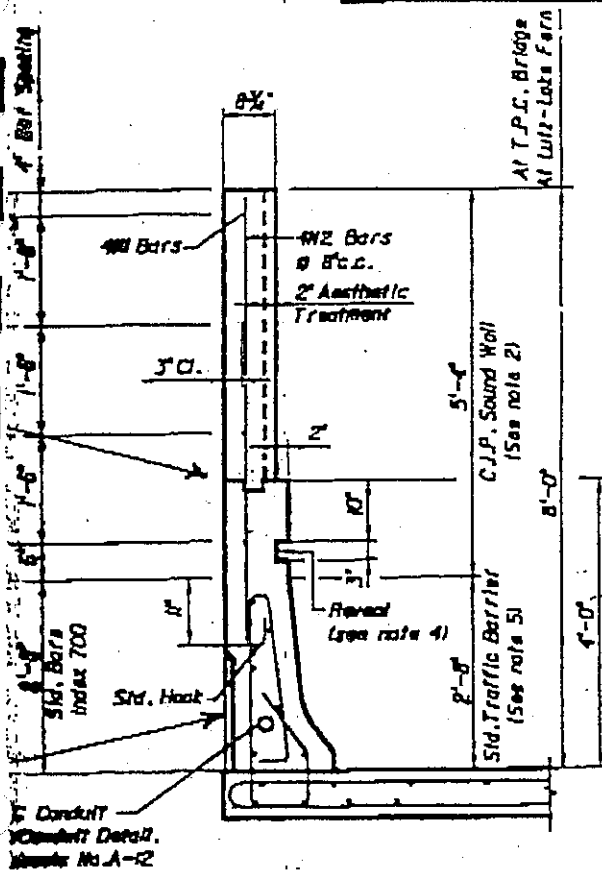


CASE 1



CASE 2

STATE	PROJECT NO.	DATE	BY
FLA			A-10

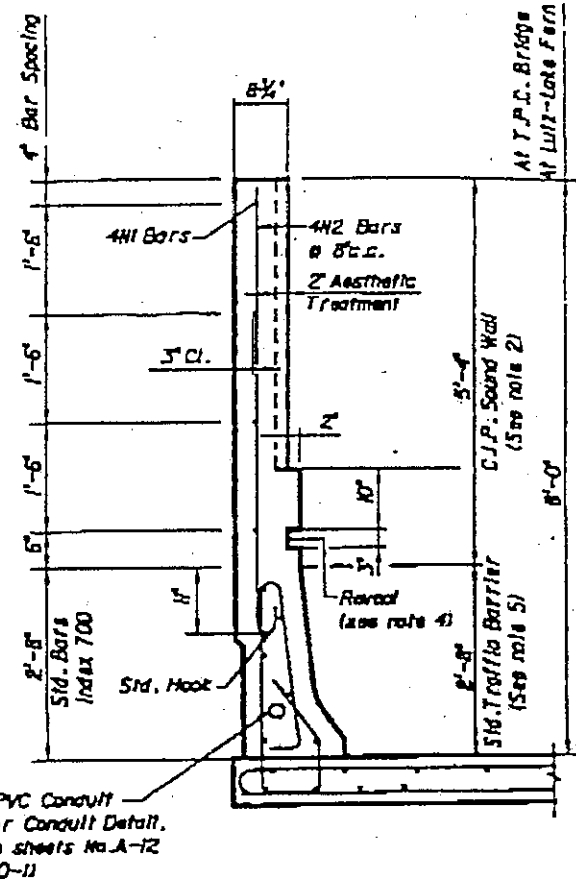


SOUND WALL

Typical Section at Bridges over TPC Blvd.
and over Lutz-Lake Fern Road

PROPOSED

STATE	PROJECT NO.	DATE	BY
FLA			



SOUND WALL

Typical Section at Bridges over TPC Blvd.
and over Lutz-Lake Fern Road

PLAN

Sound Wall Notes:

- 1.- For location see G.P.E. of Bridges.
- 2.- Sound Wall on bridges shall be paid for per square foot (Item No. 534-72-2) which shall include all concrete and reinforcing steel:
Bridge over TPC Blvd (Bridge No. 100631k) 697 Sq. Ft.
Bridge over Lutz Lake Fern Road (Bridge No. 100633k) 875 Sq. Ft.
- 3.- For Sound Wall Aesthetic Treatment see Sound Barrier Wall layout on sheet No. W-31.
- 4.- Reveal is 3" wide by 2" deep.
- 5.- Standard Traffic Barrier shall be paid for per linear foot under Item No. 400-148-1 which shall include all Concrete and Reinforcing Steel.
- 6.- No Construction Joint is allowable between Standard Traffic Barrier and C.J.P. Sound Wall.

G.P.E. of Bridges.

Bridges shall be paid for per square foot (Item No. 534-72-2).
which shall include all concrete and reinforcing steel:
for TPC Blvd (Bridge No. 100631k) 697 Sq. Ft.
for Lutz Lake Fern Road (Bridge No. 100633k) 875 Sq. Ft.

Aesthetic Treatment see Sound Barrier Wall layout on sheet No. W-31.

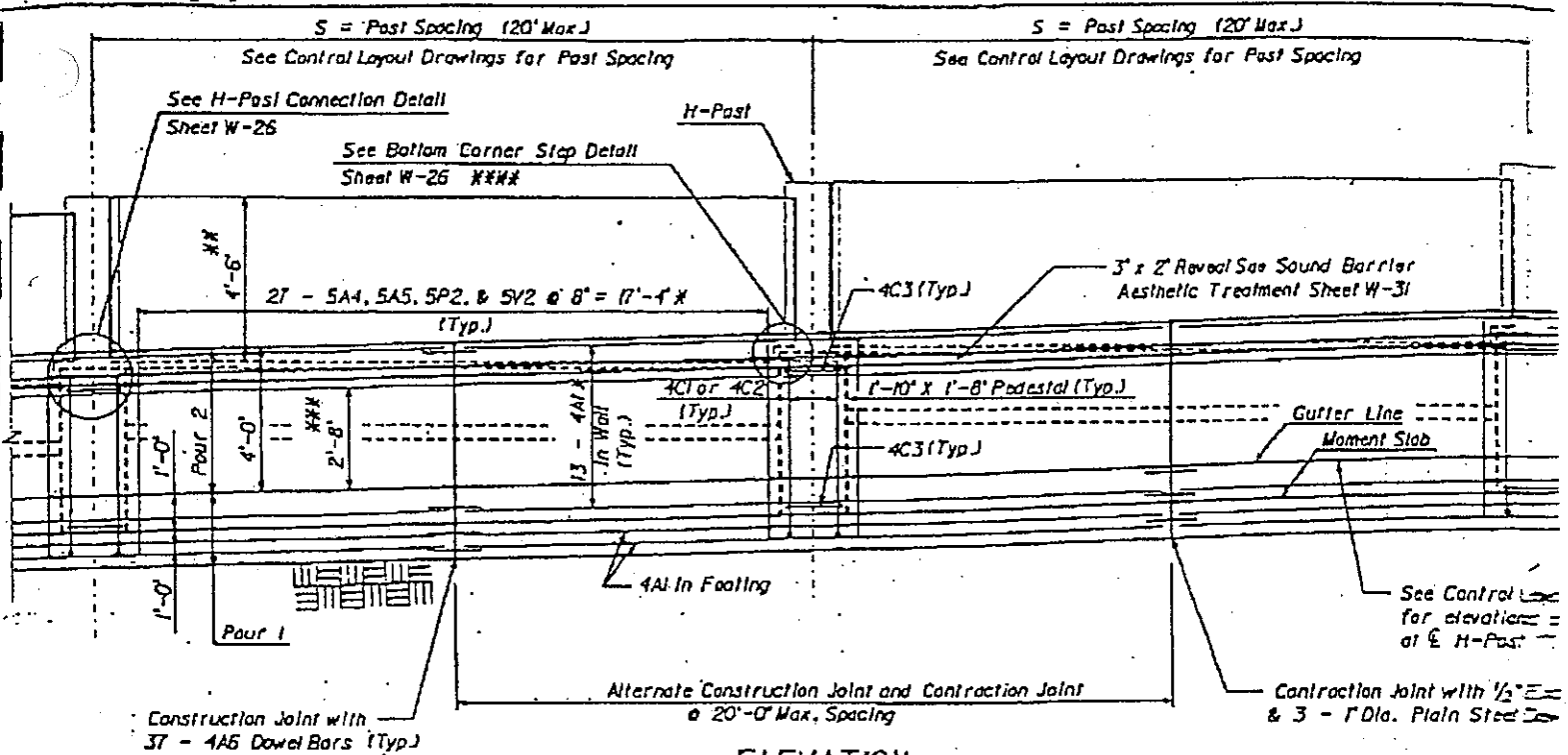
by 2" deep.

No Barrier shall be paid for per linear foot under Item No. 400-148-1 which shall include all Concrete and Reinforcing Steel.

Joint is allowable between Standard Traffic Barrier and C.J.P. Sound Wall.

8/8/78

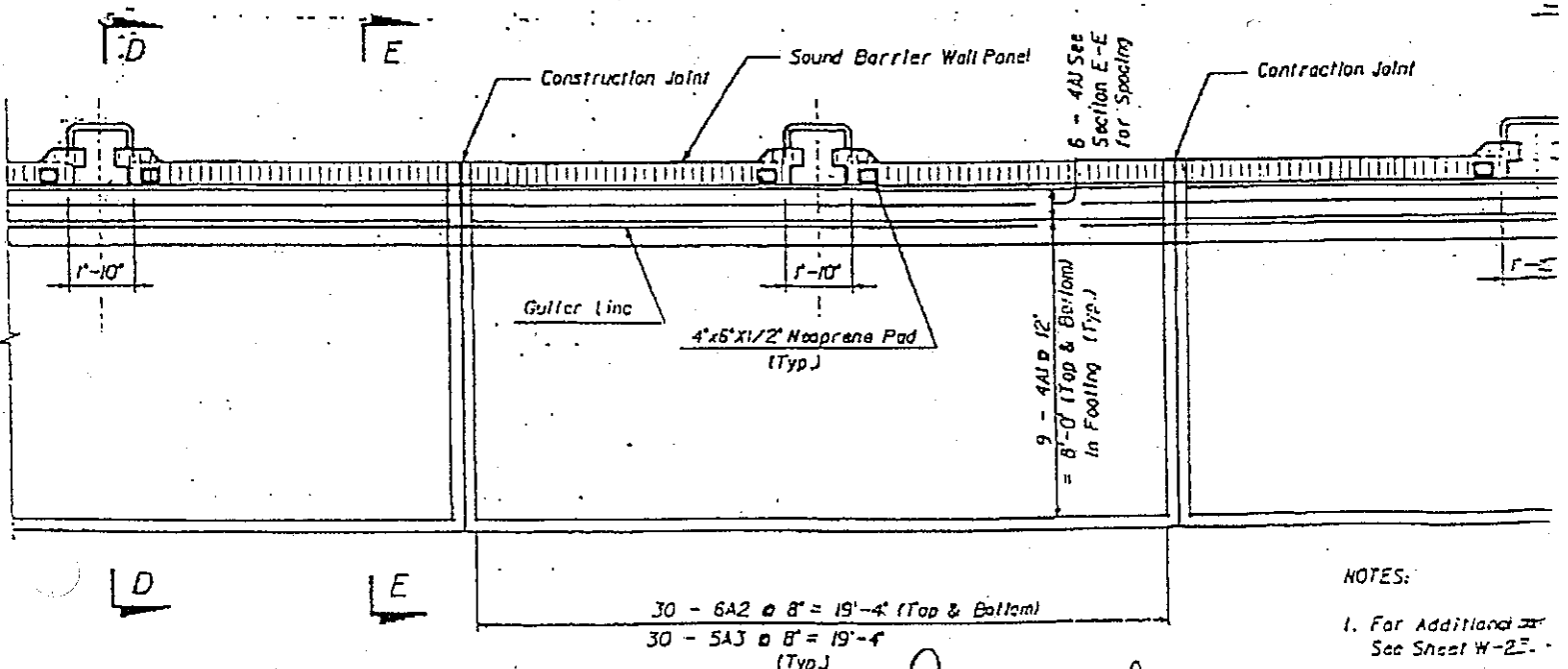
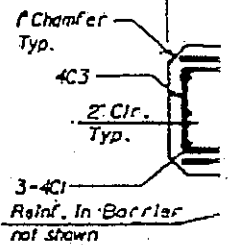
8/8/78



ELEVATION

SOUND BARRIER ON MSE WALL

- * - Quantity/Length for reinforcing shown for 20' Post Spacing. Adjustment required for post spacing less than 20'.
- ** - Post and Panel Height varies from 4'-6" (for 8' Sound Barrier Wall) to 6'-6" (for 10' Sound Barrier Wall). See Control Layout Drawings.
- *** - Height of Standard Traffic Barrier.
- **** - At Contractor's option, the top of adjacent panels may be kept at same elevation until bottom corner notch is a maximum of 5'.



NOTES:

1. For Additional See Sheet W-25.
2. For Reinforcement

PLAN

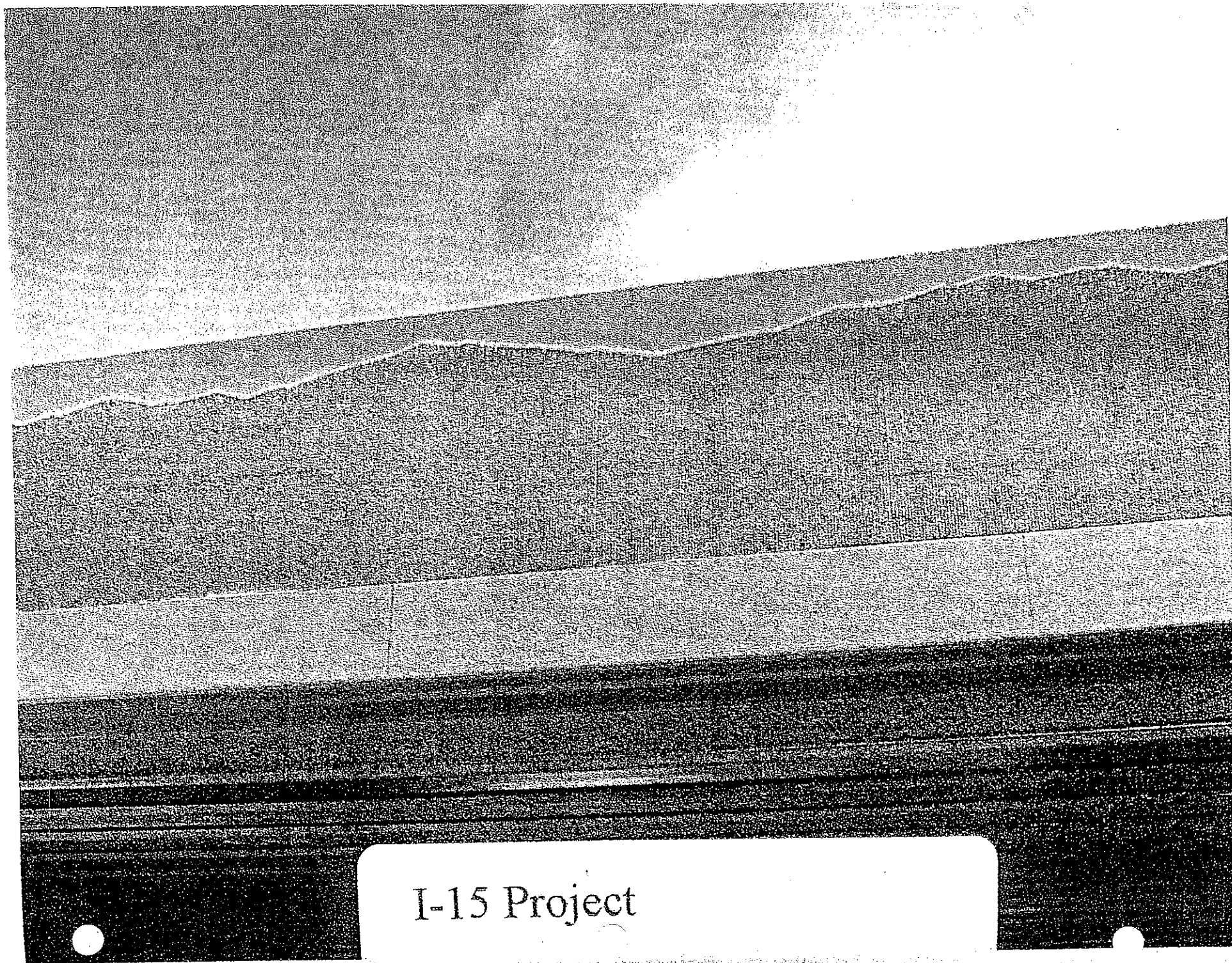
James E. Dowler
1-22-98

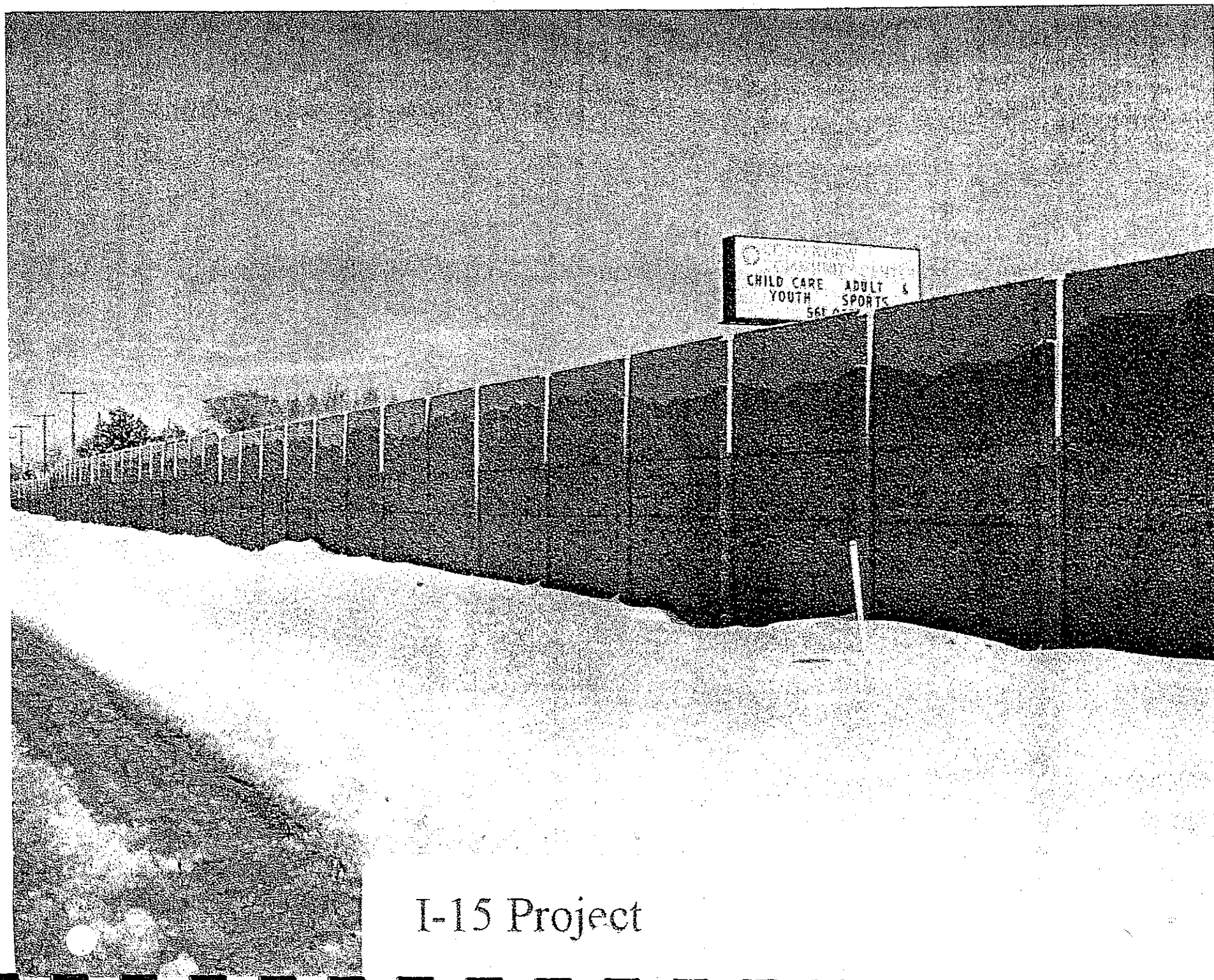
REVISIONS

Date	By	Description	Date	By	Description	Drawn by	Checked	Engineer of Record	Logo
						H.S.L.	05/97	NETAC ENGINEERING, INC.	

I-15 CORRIDOR RECONSTRUCTION

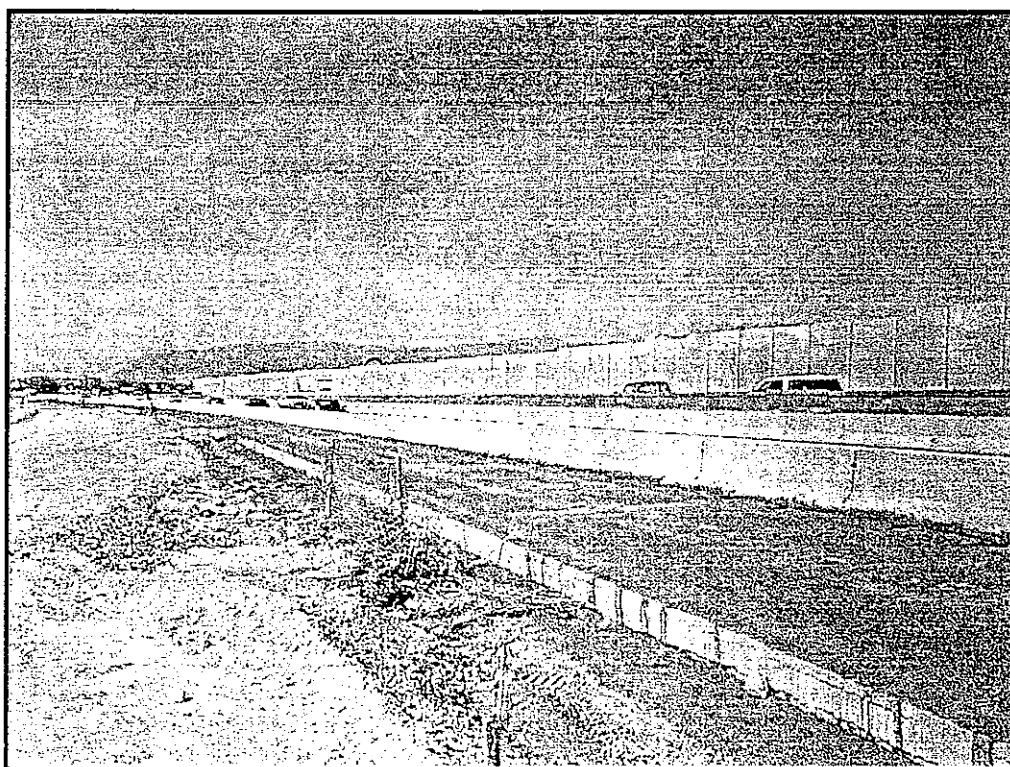
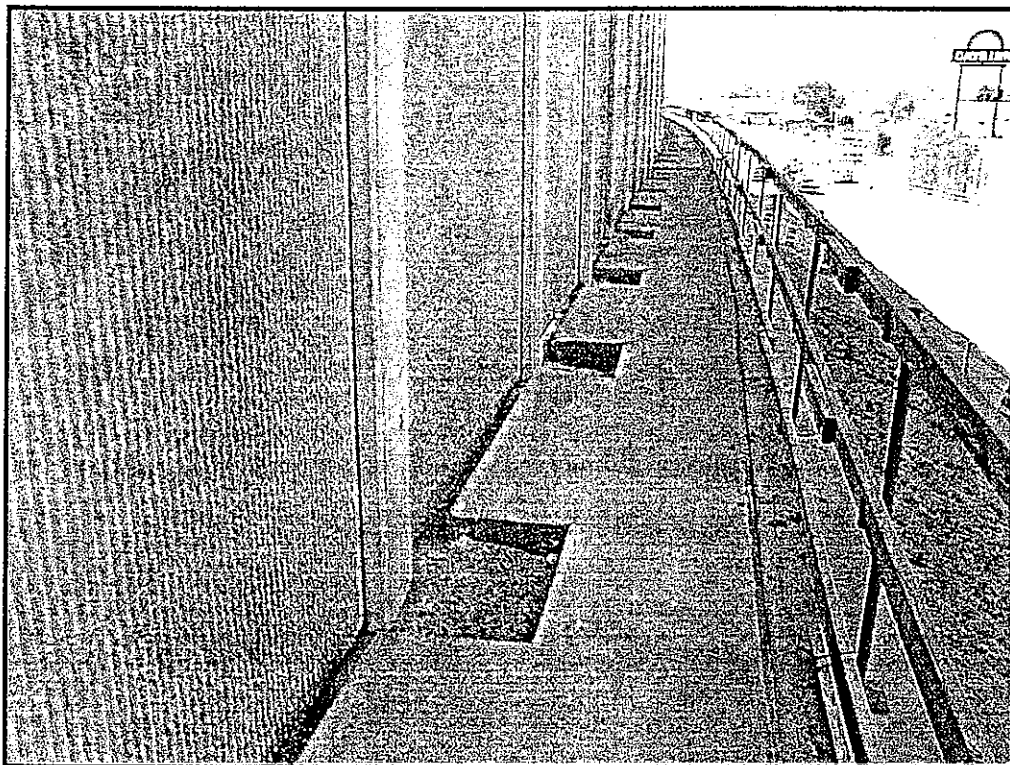
SALT LAKE CITY, UTAH



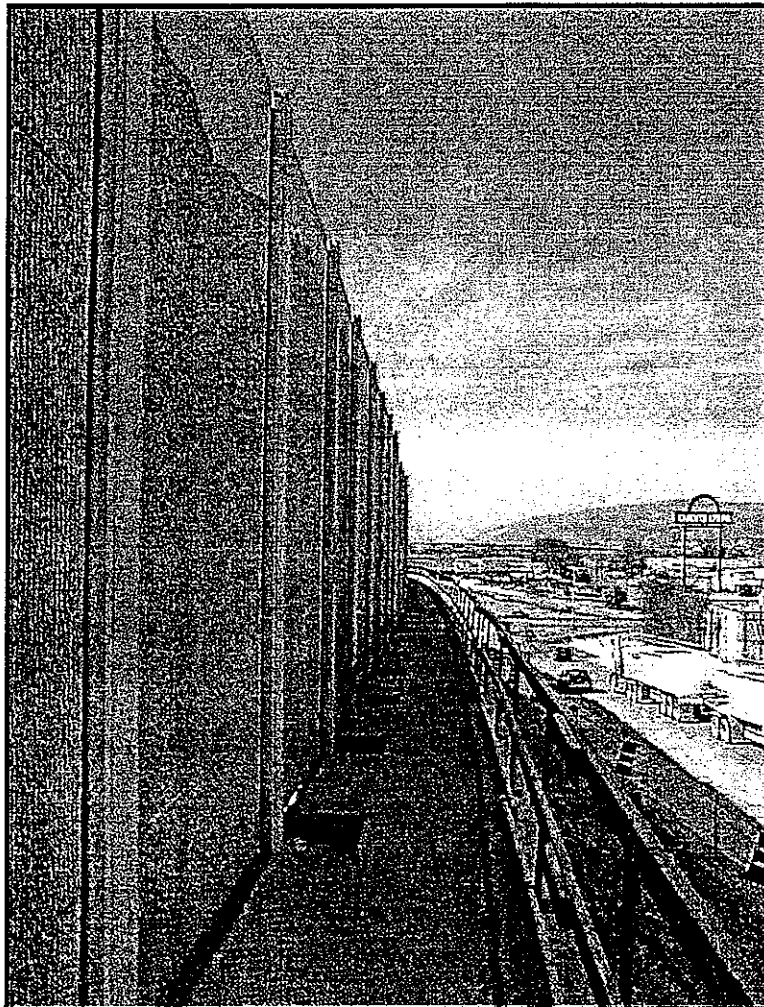


I-15 Project

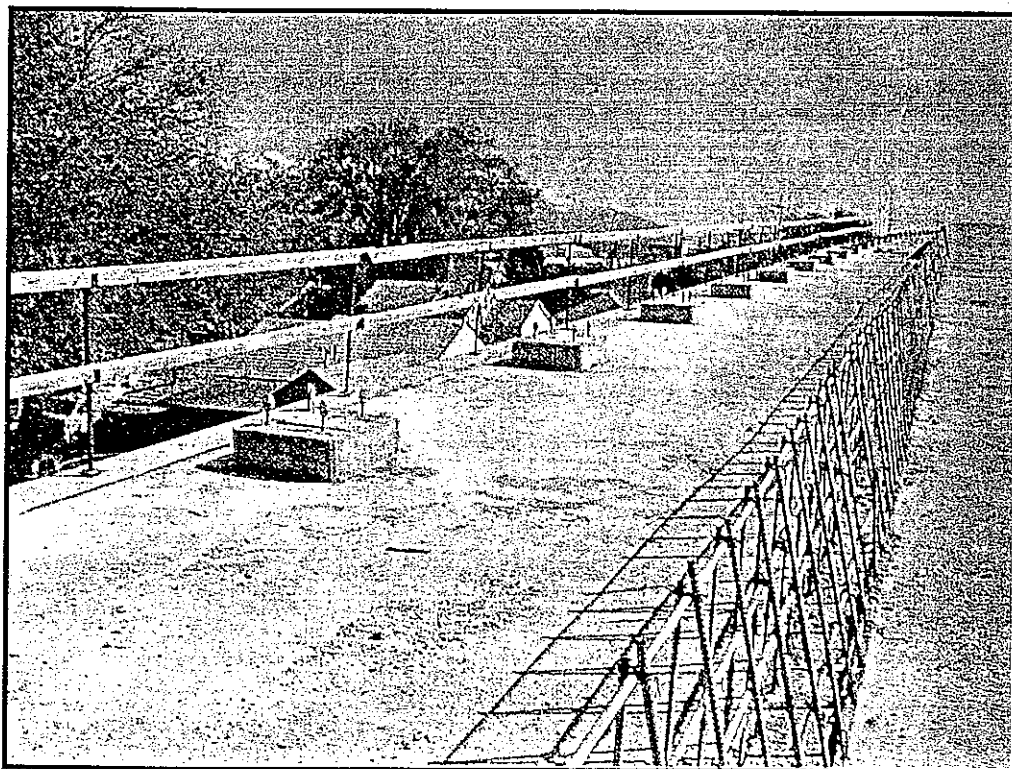
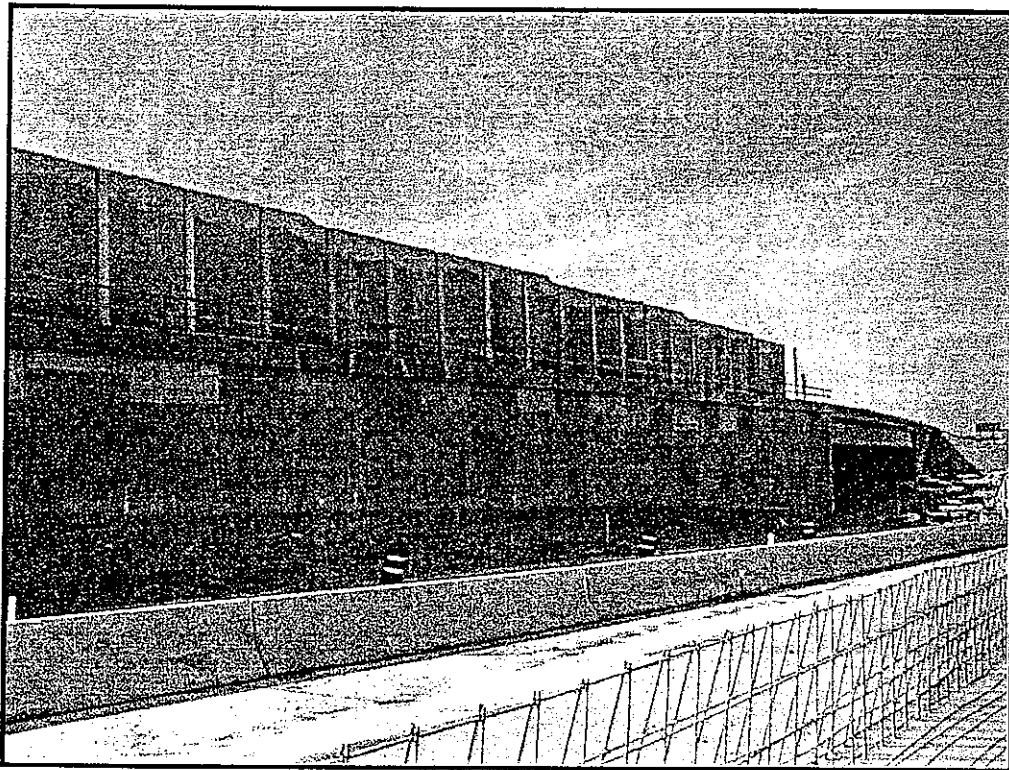
I-15 Corridor Reconstruction, Utah



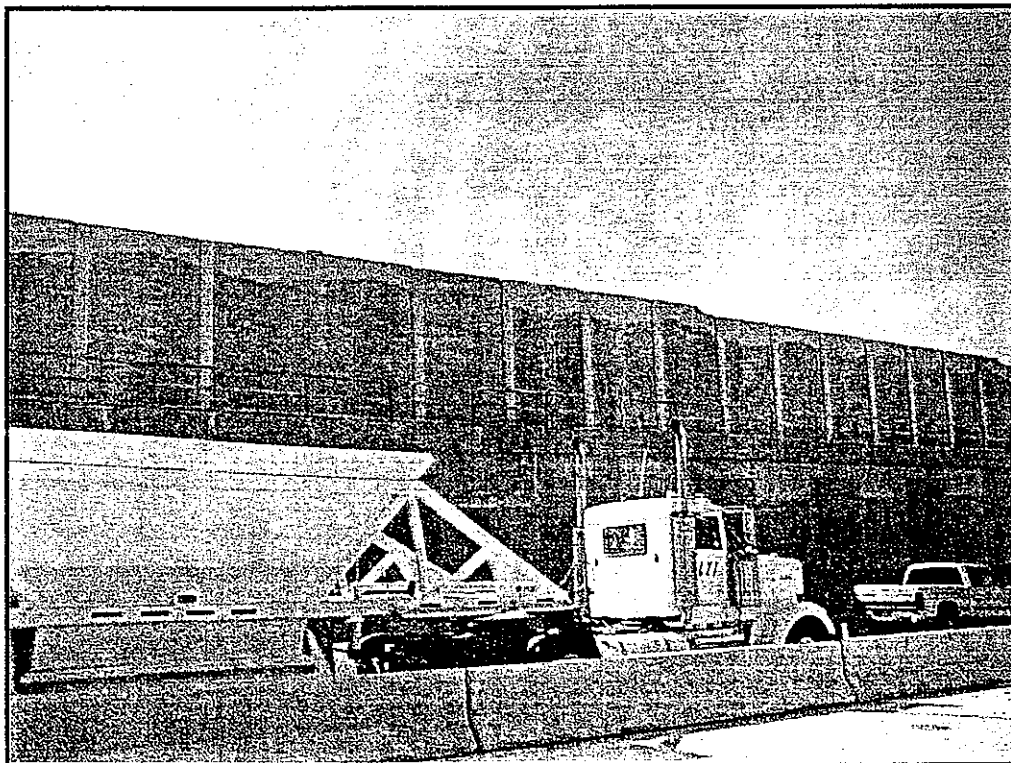
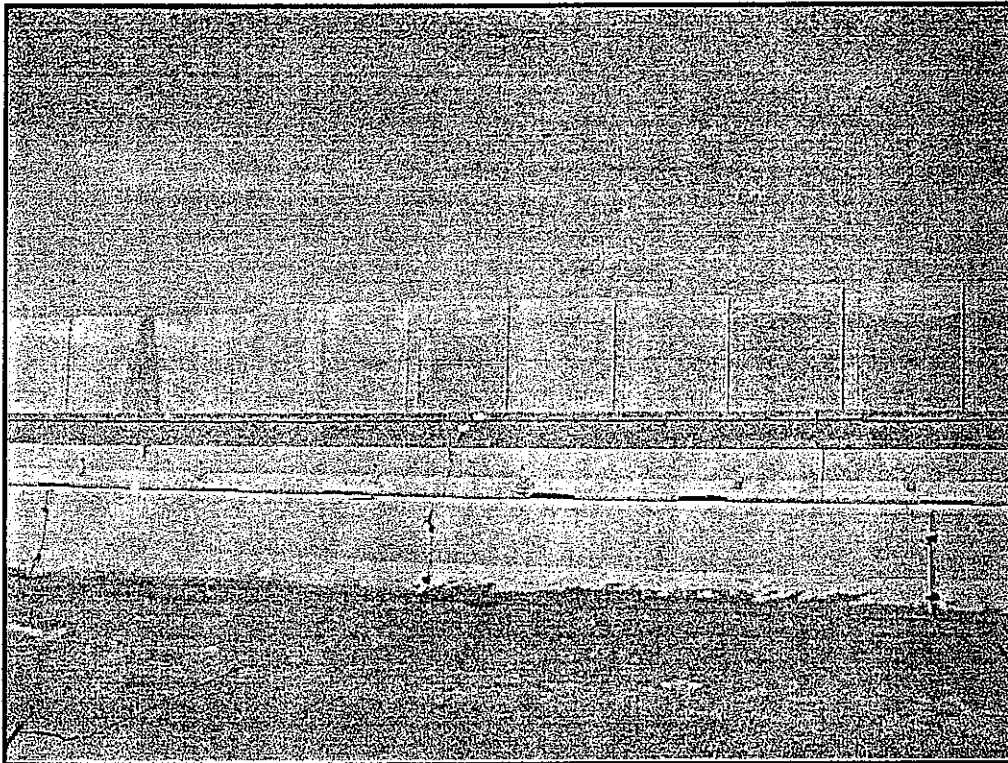
I-15 Corridor Reconstruction, Utah



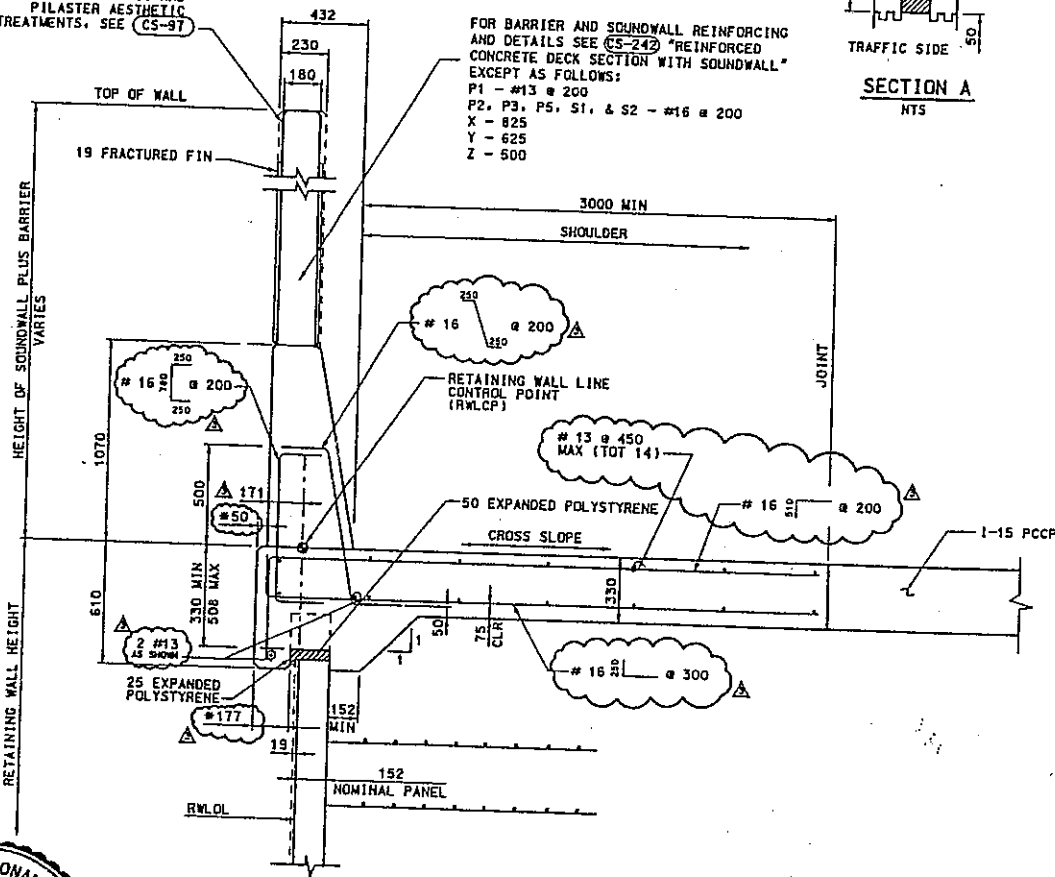
I-15 Corridor Reconstruction, Utah



I-15 Corridor Reconstruction, Utah

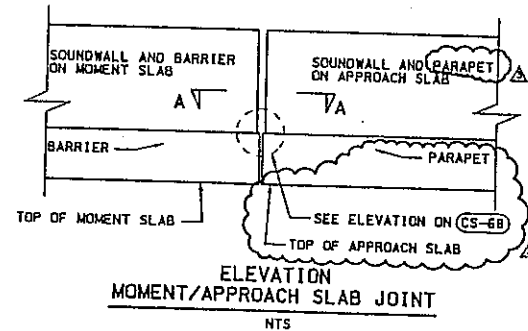
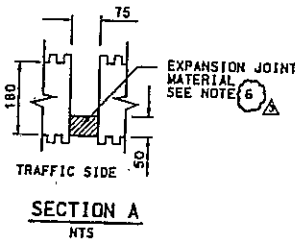


FRACTURED FIN,
TERMINUS AND
PILASTER AESTHETIC
TREATMENTS. SEE (CS-97)



MSE SINGLE STAGE WITH SOUNDWALL AND BARRIER ON MOMENT SLAB
NTS

* 50mm LIP IS OPTIONAL TO EASE PLACEMENT OF FORMWORK.
IF CONTRACTOR CHOOSES TO OMIT 50mm LIP, THEN 177mm
COPING DIMENSION SHALL BE REVISED TO 127mm.



NOTES:

- 1) ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS AA (AE) EXCEPT OTHERWISE NOTED. 4" @ 28 MOD. CHAMFER ALL EXPOSED CONCRETE CORNERS 20mm or 13mm RADIUS. PROVIDE 50mm CONCRETE COVER TO REINFORCEMENT STEEL EXCEPT WHERE SPECIFIED OTHERWISE.
- 2) ALL DIMENSION ARE IN mm UNLESS OTHERWISE NOTED.
- 3) MATCH ROADWAY CROSS SLOPES.
- 4) EXPANSION JOINTS THROUGH WALL AND BARRIER SHALL BE LOCATED AT A MAXIMUM SPACING OF 30 METERS USING DETAIL 2 ON (CS-242).
- 5) FOR SPACING AND DETAIL OF CONTRACTION JOINTS, SEE SHEET (CS-242).
- 6) EXPANSION JOINT MATERIAL SHALL BE GREY COLORED "POLYTIGHT N" OR APPROVED EQUAL AFFIXED TO SOUNDWALL WITH EPOXY AS SUPPLIED BY THE MANUFACTURER.

WASATCH CONSTRUCTORS

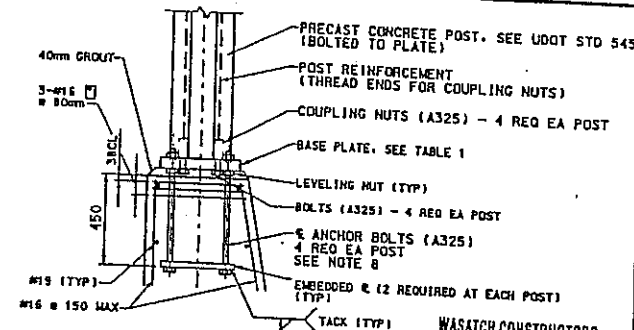
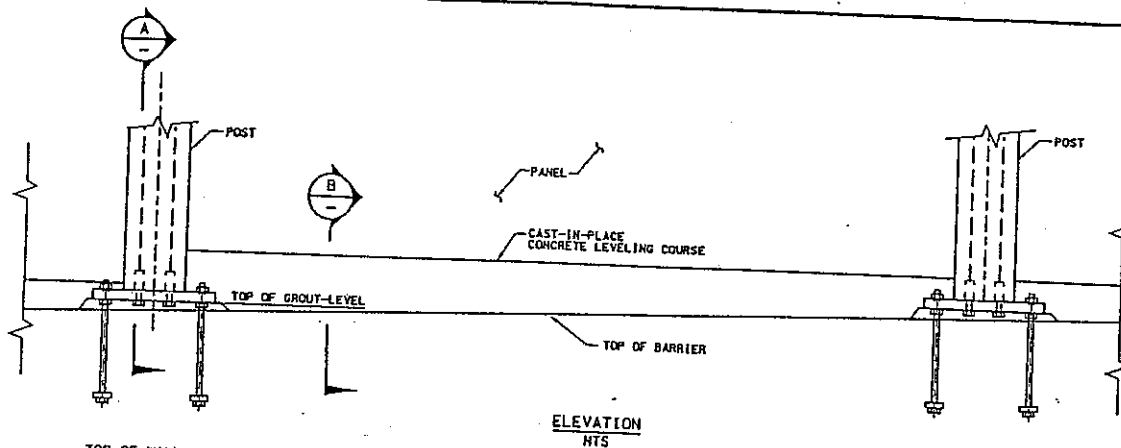
MAR 08 2000

RELEASED FOR CONSTRUCTION

RFC After Final Approval

APPROVED FOR CONSTRUCTION				UTAH DEPARTMENT OF TRANSPORTATION			
NO.	DATE	DESCRIPTION	REVISION	DESIGNED	CHECKED	IN CHARGE	DATE
1	03/11/00	INITIAL RELEASE					
2	03/11/00	WIDEN REVISIONS					
3	03/11/00	REVISED NOTES, NEAR CALLOUTS AND CIP LIP DOC 1-0341					
4	03/11/00	CLARIFY JT DETAILS DOC 7-0105					
SALT LAKE COUNTY				PROJECT: MSP-15-7(135)296			
COUNTY				SHEET: 28-2			



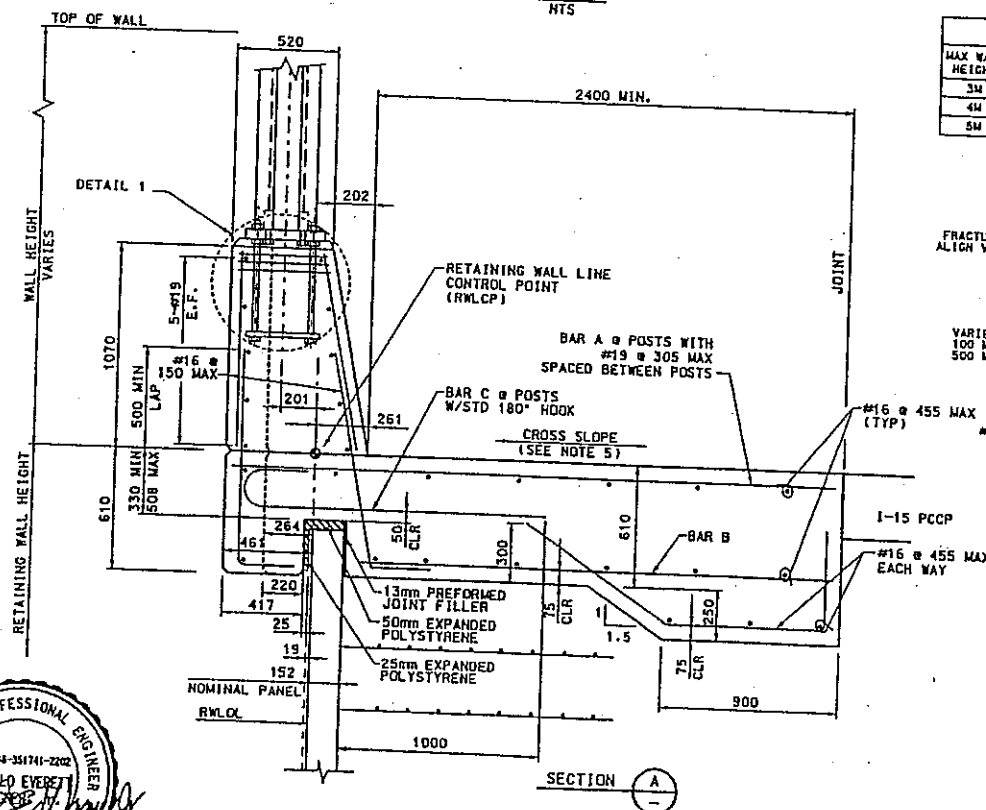


DETAIL 1
NTS

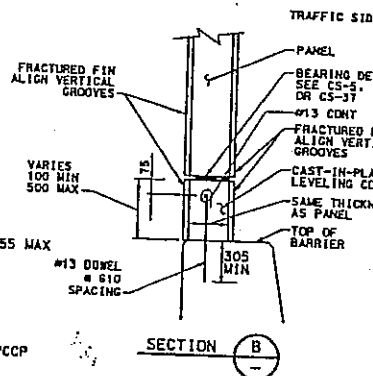
JUN - 4 1998

RELEASED FOR CONSTRUCTION

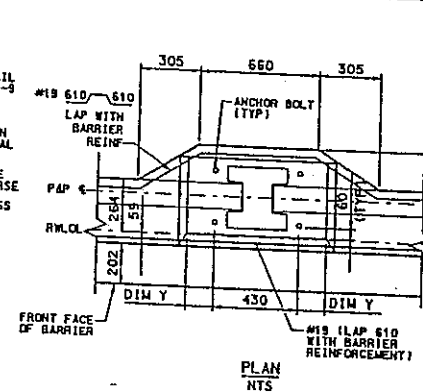
MAX WALL HEIGHT	REINF STEEL BAR			BOLTS/ COUPLING NUTS	BASE PLATE	ANCHOR BOLTS	EMBEDDED	DIM Y
	A	B	C					
3M	7-#19 @ 152	#19 @ 305 MAX	7-#19 @ 152	15.9MM DIA	35X400X560	19.1MM DIA	20X65X400	65
4M	7-#25 @ 152	#19 @ 305 MAX	7-#25 @ 152	19.1MM DIA	45X400X610	25.4MM DIA	25X90X400	90
5M	7-#29 @ 152	#19 @ 305 MAX	7-#29 @ 152	25.4MM DIA	50X400X660	31.8MM DIA	32X115X400	115



SECTION A
NTS



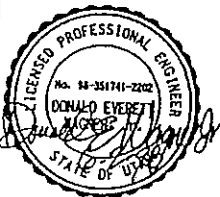
SECTION B
NTS



NOTES:

- 50mm MINIMUM COVER OVER REINFORCING UNLESS OTHERWISE SHOWN.
- USE $f'_c = 28$ MPa (4000 PSI) FOR MOMENT SLAB AND LEVELING COURSE.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- LOCATE TRANSVERSE CONSTRUCTION JOINTS AT THE SAME LOCATION AS THE PAVEMENT JOINTS.
- MATCH ROADWAY CROSS SLOPES.
- PLATE MAY BE PRECAST WITH POST AND WELDED TO REBAR. SEE SPECIFICATION 724.
- ALL ANCHOR BOLTS, NUTS, AND BASE PLATE ASSEMBLIES SHALL BE GALVANIZED. SEE SPECIFICATION 724.
- ANCHOR BOLTS MAY CONFORM TO ASTM A449 OR A325.

MSE SINGLE STAGE WITH SOUNDWALL AND BARRIER ON MOMENT SLAB
NTS



APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE	A 15-1235-1236	
UTAH DEPARTMENT OF TRANSPORTATION			
SYDERUP/DE LEUW			
DESIGNED BY	CHECKED BY	DATE	DATE
15-1235-1236	15-1235-1236	15-1235-1236	15-1235-1236
CORRIDOR STANDARD PLAN			
PROJECT NAME			
SALT LAKE COUNTY			
SHEET NO.			
CS-03-3			

SOUNDWALL STUDY FOR I-4, SECTION 3A / 3B

CASE 1 -SOUNDBARRIER ON TOP OF THE TRAFFIC BARRIER

Soundwall Height Ft.	Moment Slab		Conc Gross-CY	Concrete Net-CY *	Cost Lin Ft.	Cost SF of soundwall
	Length -Ft.	Thickness -Ft.				
8	9'-0"	1'-2	0.504	0.247	\$92.63	\$11.58
10	9'-0"	1'-2"	0.504	0.247	\$92.63	\$9.26
12	9'-0"	1'-8"	0.670	0.413	\$154.80	\$12.91
14	9'-0"	2'-2"	0.837	0.58	\$217.50	\$15.54
16	9'-0"	2'-11"	1.086	0.829	\$310.88	\$19.43

CASE 2 - SOUNDBARRIER ADJACENT TO THE OUTSIDE OF THE TRAFFIC BARRIER

Soundwall Height Ft.	Moment Slab		Conc Gross-CY	Concrete Net-CY *	Cost Lin Ft.	Cost SF of soundwall
	Length -Ft.	Thickness -Ft.				
8	9'-0"	1'-2	0.504	0.247	\$92.63	\$11.58
10	9'-0"	1'-5"	0.588	0.311	\$103.88	\$10.39
12	9'-0"	1'-8"	0.670	0.413	\$154.80	\$12.91
14	9'-0"	2'-2"	0.837	0.58	\$217.50	\$15.54
16	9'-0"	2'-11"	1.086	0.829	\$310.88	\$19.43

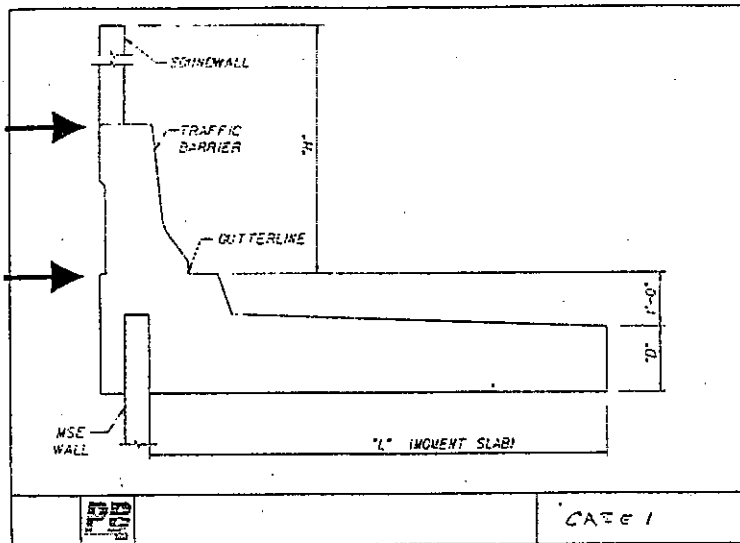
* Net = Concrete required for soundwall support - normal mse wall coping concrete

Cost include 150 lbs of rebar per cubic yard of concrete.

Cost based on \$300/cy of concrete and \$0.50 /lb of rebar steel

NOISE BARRIER COST ASSUMPTIONS

CASE 1



2' 8" of analyzed Soundwall height would be provided by height of traffic barrier

MSE Footer Cost/Linear Foot

- 8 ft barrier - \$92.63
- 10 ft barrier - \$92.63
- 12 ft barrier - \$154.80
- 14 ft barrier - \$217.50
- 16 ft barrier - \$310.00

Jersey Attachment Cost/Linear Foot

- \$5.00

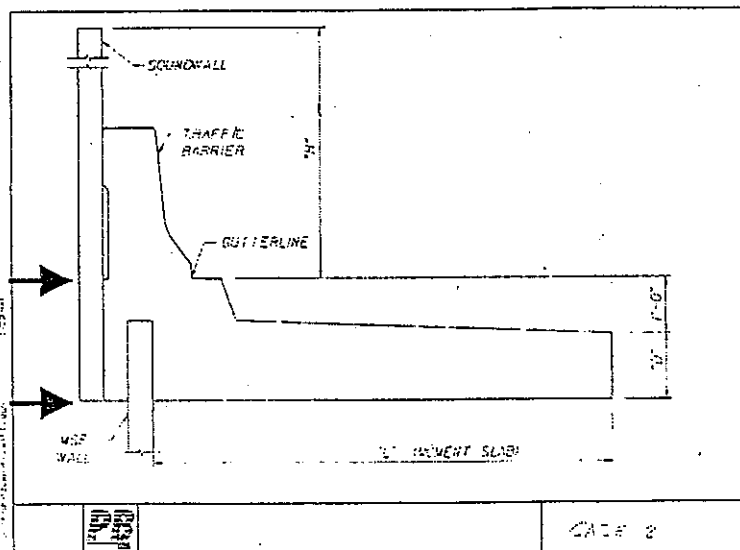
Bridge Attachment Cost/Linear Foot

- \$28.00.

Soundwall Cost/Sq. Ft.

- \$12.00

CASE 2



An additional 2' of Soundwall is needed to extend wall to bottom of traffic barrier

MSE Footer Cost/Linear Foot

- 8 ft barrier - \$92.63
- 10 ft barrier - \$103.88
- 12 ft barrier - \$154.80
- 14 ft barrier - \$217.50
- 16 ft barrier - \$310.00

Jersey Attachment Cost/Linear Foot

- \$5.00

Bridge Attachment Cost/Linear Foot

- \$28.00

Soundwall Cost/Sq. Ft.

- \$12.00

SOUNDWALL COST/SQ FT

Source	Number of Barriers	Actual & Estimated Costs		
		Wall/ Sq Ft	Pile Auger/ Linear Ft	Total/ Sq Ft
FDOT Noise Barrier Status Report - June 1999	44			\$15
3-15-00 Memo - Tom Andres to Frank Balsomo	9	\$9	\$43	\$12
Wall Journal - Lightweight Barrier Materials	N/A	\$11		
PD&E Guidelines	N/A			\$20

Based on Wall/Pile Auger Cost from 3-15-00 Memo - Wall Cost is 75% of Total Cost for ROW Walls

Calculated Wall Cost:

FDOT Noise Barrier Status Report - June 1999		\$11		\$15
PD&E Guidelines		\$15		\$20

Average Wall Cost/Sq Ft		\$12		
--------------------------------	--	-------------	--	--

ESTIMATED NOISE BARRIER COST

Project	Barrier	Benefited Sites	Cost (in thousands)					
			Total			Per Benefited Site		
			Original	Case 1	Case 2	Original	Case 1	Case 2
DTI	1	19	\$248	\$250	\$341	\$13	\$13	\$18
	2	9	\$224	\$203	\$281	\$25	\$23	\$31
	3	55	\$720	\$485	\$735	\$13	\$9	\$13
	4	16	\$216	\$141	\$218	\$14	\$9	\$14
	Total	99	\$1,408	\$1,079	\$1,575	\$14	\$11	\$16
Incr/Decr From Original				- \$328	\$167	--	--	--
3A-3B	1	25	\$725	\$469	\$647	\$29	\$19	\$26
	2-3	36	\$1,032	\$1,158	\$1,401	\$29	\$32	\$39
	5	27	\$706	\$875	\$1,056	\$26	\$32	\$39
	6	10	\$240	\$170	\$238	\$24	\$17	\$24
	8	13	\$361	\$320	\$437	\$28	\$25	\$34
	Total	111	\$3,064	\$2,992	\$3,779	\$28	\$27	\$34
Incr/Decr From Original				- \$71	\$715	--	--	--
Total			\$4,472	\$4,072	\$5,353	\$22	\$19	\$25
Incr/Decr From Original				-\$399	\$882	--	--	--

Average Barrier Cost/ft2

Source: FDOT Noise Barrier Status Report - June 1999

Construction Method	Year	Length (ft)	Height (ft)	Area (ft2)	Total Cost	Cost/ft2	Comment
Cast In Place	1994	230	9	1955	\$49,462	\$25	E of SW 105th Ave to SW 103rd Place
	1994	380	10	3605	\$81,720	\$23	E of SW 94th Ave to SW 93rd Ave
	1995	228	9	2511	\$170,642	\$68	1st barrier in District 5
	1995	643	11	6430	\$574,368	\$89	E of SW 93rd Ave to SW 92nd Ave (add on wall)
	1995	1250	8	10000	\$291,603	\$29	Located at ROW line
	1996	691	11	7256	\$221,288	\$30	Frank Steves Memorial Wall
	1997	564	10	5640	\$149,333	\$26	Let as separate contract
	1998	518	11	5180	\$86,175	\$17	Mobile Home Park Daytona Beach
	Avg	563	10	5322	\$203,074	\$39	
Post & Panel	1991	540	13	5531	\$107,689	\$19	One of 5 barriers
	1991	2103	13	28126	\$547,613	\$19	One of 5 barriers
	1991	2110	16	34236	\$666,575	\$19	One of 5 barriers
	1991	3440	15.5	53173	\$1,035,278	\$19	One of 5 barriers
	1991	4825	15.5	75365	\$1,467,357	\$19	One of 5 barriers
	1992	1090	15	16804	\$245,338	\$15	One of 11 walls
	1992	1150	16	17726	\$258,800	\$15	One of 11 walls
	1992	1520	13	19319	\$282,057	\$15	One of 11 walls
	1992	1930	14	26632	\$388,827	\$15	One of 11 walls
	1992	2575	16	41384	\$604,206	\$15	One of 11 walls
	1992	2750	14.5	39831	\$581,533	\$15	One of 11 walls
	1992	2830	18	49236	\$718,846	\$15	One of 11 walls
	1992	3710	16.5	62981	\$919,523	\$15	One of 11 walls
	1992	4133	16	66314	\$968,184	\$15	One of 11 walls
	1992	4400	16	71164	\$1,038,994	\$15	One of 11 walls
	1992	5205	15.5	80720	\$1,178,512	\$15	One of 11 walls
	1992	720	14	10080	\$232,949	\$23	One of two walls
	1992	1875	11	20625	\$374,174	\$23	One of two walls
	1994	410	21	8820	\$109,814	\$12	One of 10 barriers
	1994	530	17.5	9020	\$135,500	\$15	One of 10 barriers
	1994	1130	20	22340	\$330,632	\$15	One of 10 barriers
	1994	1610	17	28420	\$420,600	\$15	One of 10 barriers
	1994	3335	18	59735	\$884,000	\$15	One of 10 barriers
	1994	4235	16.5	69545	\$1,029,000	\$15	One of 10 barriers
	1994	5000	18	91180	\$1,349,500	\$15	One of 10 barriers
	1994	2100	18	37800	\$622,500	\$16	Precast wall
	1995	2095	17	32176	\$618,423	\$19	One of several barriers
	1995	8660	12	68644	\$1,353,144	\$19	One of several barriers
	1996	2050	18	36900	\$486,711	\$13	One of five walls
	1996	2200	20	44000	\$580,360	\$13	One of five walls
	1996	2398	20	47960	\$632,592	\$13	One of five walls
	1996	2480	20	49600	\$654,224	\$13	One of five walls
	1996	3650	22	80300	\$1,059,157	\$13	One of five walls
	1998	722	16.5	12143	\$258,403	\$21	One of 3 walls
	1998	2322	16.6	37173	\$791,048	\$21	One of 3 walls
	1998	2401	19	53173	\$1,131,521	\$21	One of 3 walls
	1998	698	20.5	14121	\$161,684	\$11	One of 8 walls
	1998	798	19.7	15942	\$182,537	\$11	One of 8 walls
	1998	938	19.04	17901	\$204,966	\$11	One of 8 walls
	1998	1688	20.2	33539	\$384,018	\$11	One of 8 walls
	1998	2602	19.4	49285	\$564,302	\$11	One of 8 walls
	1998	3070	19.5	57997	\$664,062	\$11	One of 8 walls
	1998	3106	19.9	60030	\$687,346	\$11	One of 8 walls
	1998	3390	19.7	65577	\$750,856	\$11	One of 8 walls
	Avg	2512	17	41422	\$628,713	\$15	

Soundwall Cost

Project	Linear Ft.	Sq Ft	Wall	Pile Auger	Cost		
					Wall - Sq Ft	Auger - Lin Ft	Total - Sq Ft
1	23,927	310,229	\$2,295,695	\$909,226	\$7	\$38	\$10
2	13,643	280,647	\$2,222,724	\$682,150	\$8	\$50	\$10
3	8,649	130,437	\$1,956,555	\$432,450	\$15	\$50	\$18
4	12,791	258,758	\$2,155,454	\$551,932	\$8	\$43	\$10
5	2,363	44,089	\$529,068	\$118,150	\$12	\$50	\$15
6	2,184	43,603	\$436,030	\$87,360	\$10	\$40	\$12
7	1,050	24,707	\$210,010	\$44,100	\$9	\$42	\$10
8	4,058	81,353	\$691,501	\$170,436	\$9	\$42	\$11
9	4,635	93,014	\$930,140	\$185,400	\$10	\$40	\$12
Total	73,300	1,266,837	\$11,427,177	\$3,181,204	\$9	\$43	\$12

Source: Memo from Tom Andres to Frank Balsomo 3-15-2000

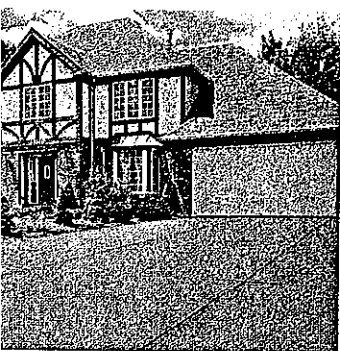
Lightweight Barrier Manufacturers	Cost/ Sq Ft
Soundzero	\$15
Industrial Acoustics	\$9
Empire Acoustical	\$9
Sound Fighter	\$8
Timber Holdings LTD	\$10
CSI	\$13
Average	\$11

Source: The Wall Journal - Issue No. 23 and personnel
communication with manufacturers

Barrier	Barrier Segment	Foundation	Length (feet)	Height (feet)	Footer Cost		Soundwall Cost		Total Cost		Original Cost	Benefitted Sites	Cost/Benefitted Site		
					\$/lin ft	Case 1	Case 2	Case 1	Case 2	Case 1			Case 2	Original	Case 1
1'	ROW	N/A	661	18	N/A	--	--	\$161,813	\$211,520	\$161,813	\$211,520	25	\$29,016	\$18,767	\$25,869
			1700	14	N/A	--	--	\$307,360	\$435,200	\$307,360	\$435,200				
		Total	2361	--	--	--	\$469,173	\$646,720	\$469,173	\$646,720					
2-3	Exit Ramp to Mainline Shoulder	Jersey	285	14	\$5.00	\$1,425	\$1,425	\$38,646	\$54,720	\$40,071	\$56,145	36	\$28,653	\$32,153	\$38,925
		MSE	1150	8	\$92.63	\$106,525	\$106,525	\$73,140	\$138,000	\$179,665	\$244,525				
		1840	14	\$217.50	\$400,200	\$400,200	\$353,280	\$649,704	\$753,480						
	Bridge	178	8	\$28.00	\$4,984	\$4,984	\$11,321	\$21,360	\$16,305	\$26,344					
	Mainline Shoulder	Jersey	165	14	\$5.00	\$825	\$825	\$22,374	\$31,680	\$23,199	\$32,505				
		MSE	704	14	\$217.50	\$153,120	\$153,120	\$95,462	\$135,168	\$248,582	\$288,288				
		Total	4322	--	--	\$667,079	\$667,079	\$490,447	\$734,208	\$1,157,526	\$1,401,287				
5	Entrance Ramp to Mainline Shoulder	MSE	1171	12	\$154.80	\$181,271	\$181,271	\$130,684	\$196,728	\$311,954	\$377,999	27	\$26,130	\$32,422	\$39,094
			1046	8	\$92.63	\$96,891	\$96,891	\$66,526	\$125,520	\$163,417	\$222,411				
	Jersey	195	16	\$5.00	\$975	\$975	\$31,122	\$42,120	\$32,097	\$43,095					
	MSE	782	16	\$310.88	\$243,108	\$243,108	\$124,807	\$168,912	\$367,915	\$412,020					
	Total	3194	--	--	\$522,245	\$522,245	\$353,138	\$533,280	\$875,383	\$1,055,525					
6	Mainline Shoulder	MSE	855	10	\$92.63/\$103.88	\$79,199	\$88,817	\$74,898	\$123,120	\$154,097	\$211,937	10	\$24,040	\$17,040	\$23,828
		Bridge	178	8	\$28.00	\$4,984	\$4,984	\$11,321	\$21,360	\$16,305	\$26,344				
	Total	1033	--	--	\$84,183	\$93,801	\$86,219	\$144,480	\$170,401	\$238,281					
8	Mainline Shoulder	MSE	675	10	\$92.63/\$103.88	\$82,525	\$70,119	\$59,130	\$97,200	\$121,655	\$167,319	13	\$27,754	\$24,597	\$33,610
			1268	8	\$92.63	\$117,455	\$117,455	\$80,645	\$152,160	\$198,100	\$269,615				
	Total	1943	--	--	\$179,980	\$187,574	\$139,775	\$249,360	\$319,755	\$436,934					
	Total		25,706		\$1,453,486	\$1,470,699	\$1,538,752	\$2,308,048	\$2,992,238	\$3,778,747	\$3,063,600	111	\$27,600	\$26,957	\$34,043
	Difference														
	Total DTI & 3A-3B		41,631		\$1,976,342	\$1,993,554	\$2,096,142	\$3,359,728	\$4,072,484	\$5,353,282	\$4,471,600	210	\$21,293	\$19,393	\$25,492
	Difference														

Used \$16/Sq Ft Cost (Average of Total Barrier Costs)

Protection... The Real Beauty of H&C.™

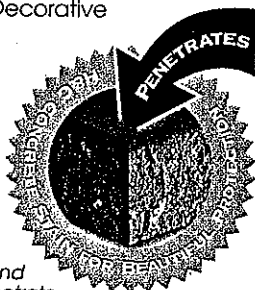


H&C™ Concrete Stains are available in a beautiful collection of colors to complement your home inside and out. But their real beauty is how well they protect your expensive concrete and masonry surfaces.

H&C Stains actually penetrate deeply and bond with concrete and masonry to form a tough shield. Outside, H&C protects driveways, patios, walkways, and steps from the ravages of weather and chemicals, such as gas, oil, and harmful de-icing salts. Inside, H&C protects garage floors, basements, and utility rooms from corrosive chemicals and provides resistance to household stains.

Because of this bonding process, H&C Concrete Stains last much longer than paint. They won't fade, flake, or peel and will keep their attractive appearance for years. We also offer an additive for slip-resistance that does not alter stain color.

Protect your concrete and masonry surfaces using H&C Concrete Stains and Decorative Sealers.



Unlike many competitive products, H&C Stains and Decorative Sealers penetrate deeply to form a bond with concrete for long-lasting protection.



H&C offers a complete line of products to protect and beautify concrete and masonry surfaces.

Silicone Acrylic Concrete Decorative Sealers

- Superior Penetration - Bonds To Concrete
- A Beautiful, Durable Finish
- Excellent Color Retention And Fade Resistance
- Resistance To Oil And Gasoline Stains
- Will Not Peel, Fade, Or Flake - Lasts Much Longer Than Paint
- Resists Hot Tire Pickup - Excellent For Driveways And Garage Floors

Shield Plus™ Concrete Stain

- Soap And Water Cleanup
- A Beautiful, Durable Finish For Interior And Exterior Surfaces
- Excellent Color Retention And Fade Resistance
- Resistance To Oil And Gasoline Stains
- Will Not Peel, Fade, Or Flake - Lasts Much Longer Than Paint
- Good Hot Tire Pickup Resistance

For Protection Without Color Change...

H&C Concrete & Masonry Waterproofing Sealer

- Vertical And Horizontal Application
- Recommended For Use On Bare Masonry Surfaces
- Durable Acrylic Formulation For Interior And Exterior Use
- Long-Lasting Effectiveness
- Non-Yellowing
- Will Not Change The Surface Color



Color Collection

Concrete Decorative Sealer & Stain Colors



QUESTIONS?
Call us at 1-800-TO-STAIN (1-800-867-8246).

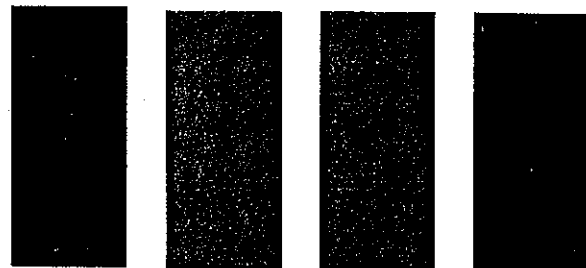
9/99 720-C009-00B
655-8654
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COMPLETE CONCRETE PROTECTION SYSTEM



Package Colors

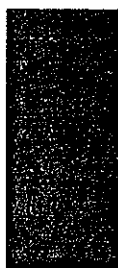


Black
HC22

Silver Gray
HC40

Terra Cotta
HC03

Tile Red
HC01



White
HC21

Pearl Gray
HC29



Sandstone
HC18



Bombay
HC14



Bombay
Sharkgrip



Gull Gray
HC28



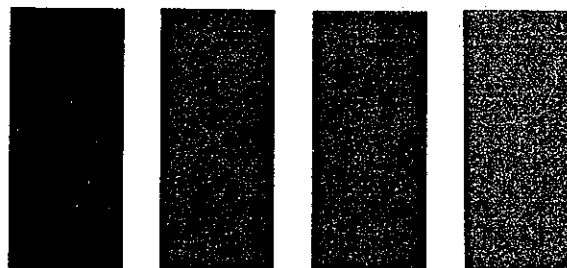
Gull Gray
Sharkgrip

Sharkgrip® Slip-Resistant Additive provides great slip-resistance to any H&C Stain, and its clear granules will not affect the color.



H&C™ Concrete Decorative Sealer & Stain Colors

Tintable Colors



Rustic Walk
HC04

Potting Shed
HC09

Clay Tile
HC06

Weathered Brick
HC05

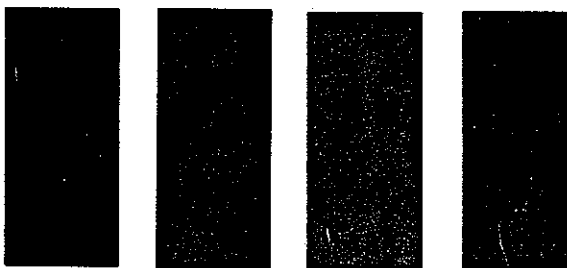


Fieldstone
HC10

Autumn Brown
HC13

Bison
HC11

Fossil Stone
HC20



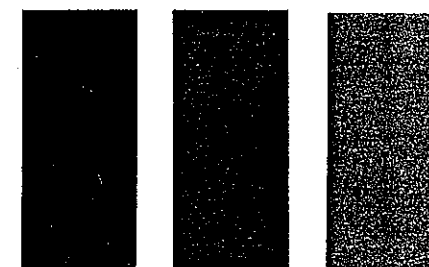
Charcoal Gray
HC30

Cobblestone
HC19

Shale
HC24

Flagstone
HC26

- Package Color Palette is for Silicone Acrylic and Shield Plus™ stains. Also Available in Clear.
- Tintable Color Palette is for Low VOC Silicone Acrylic only and Shield Plus.
- Light colors are not recommended for high-traffic areas.



Pine Trail
HC35

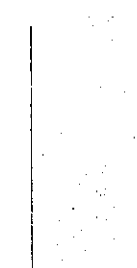
Garden Path
HC33

Sea Foam Green
HC32

Aqua Mist
HC31



Tahitian Tan
HC16



Peach Blossom
HC07



Hawaiian Rose
HC08



Sea Shell
HC15



Pebble Path
HC17



Stepping Stone
HC12



Bahama Beige
HC37



Sunlight
HC38



Kingston
HC39

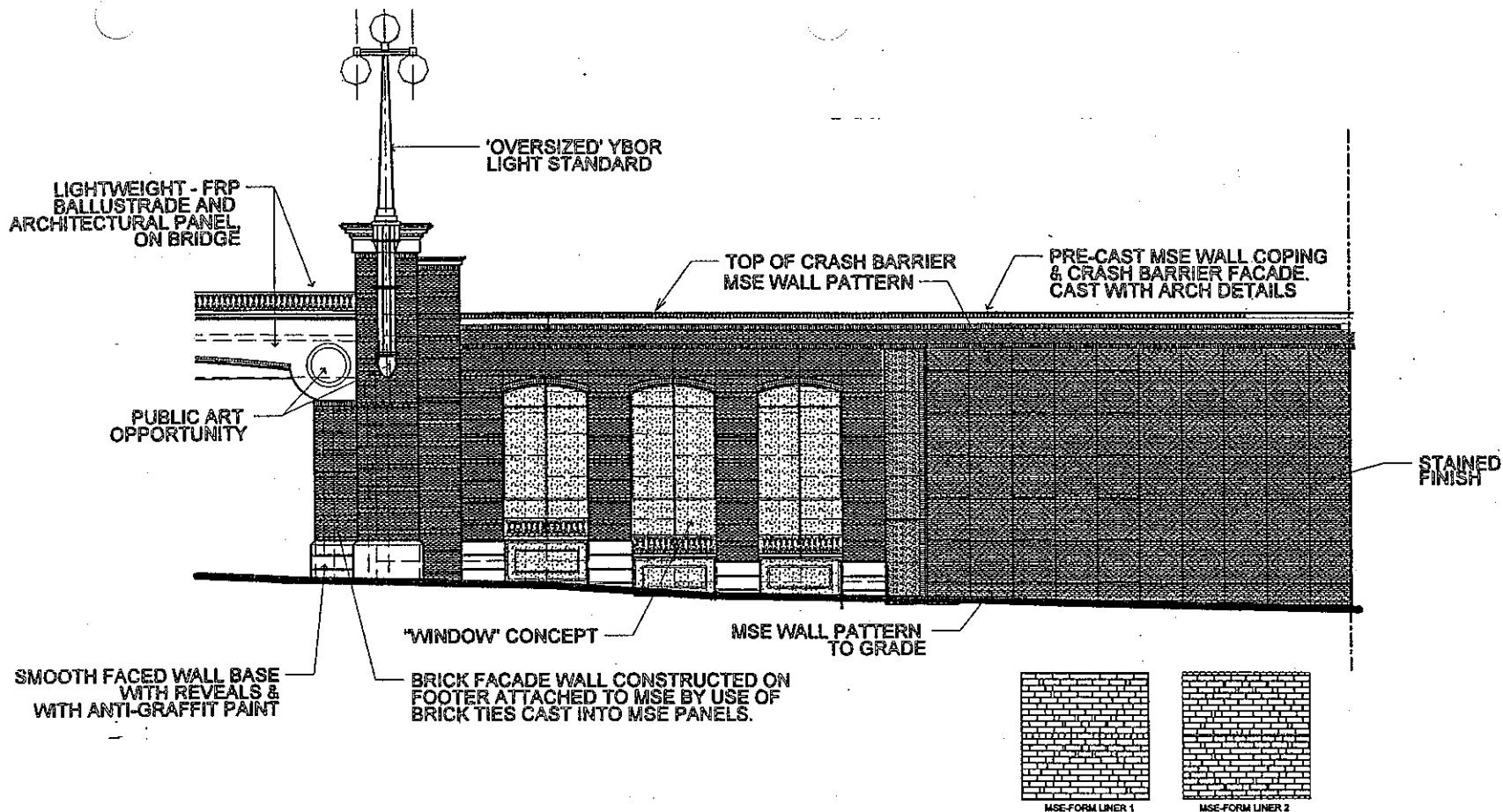


Bermuda
HC23



Caribbean Blue
HC27

Color may vary slightly due to age, lighting, substrate variances, or application conditions. Actual product has a slight sheen.



21ST AND 22ND STREETS - DETAIL

1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

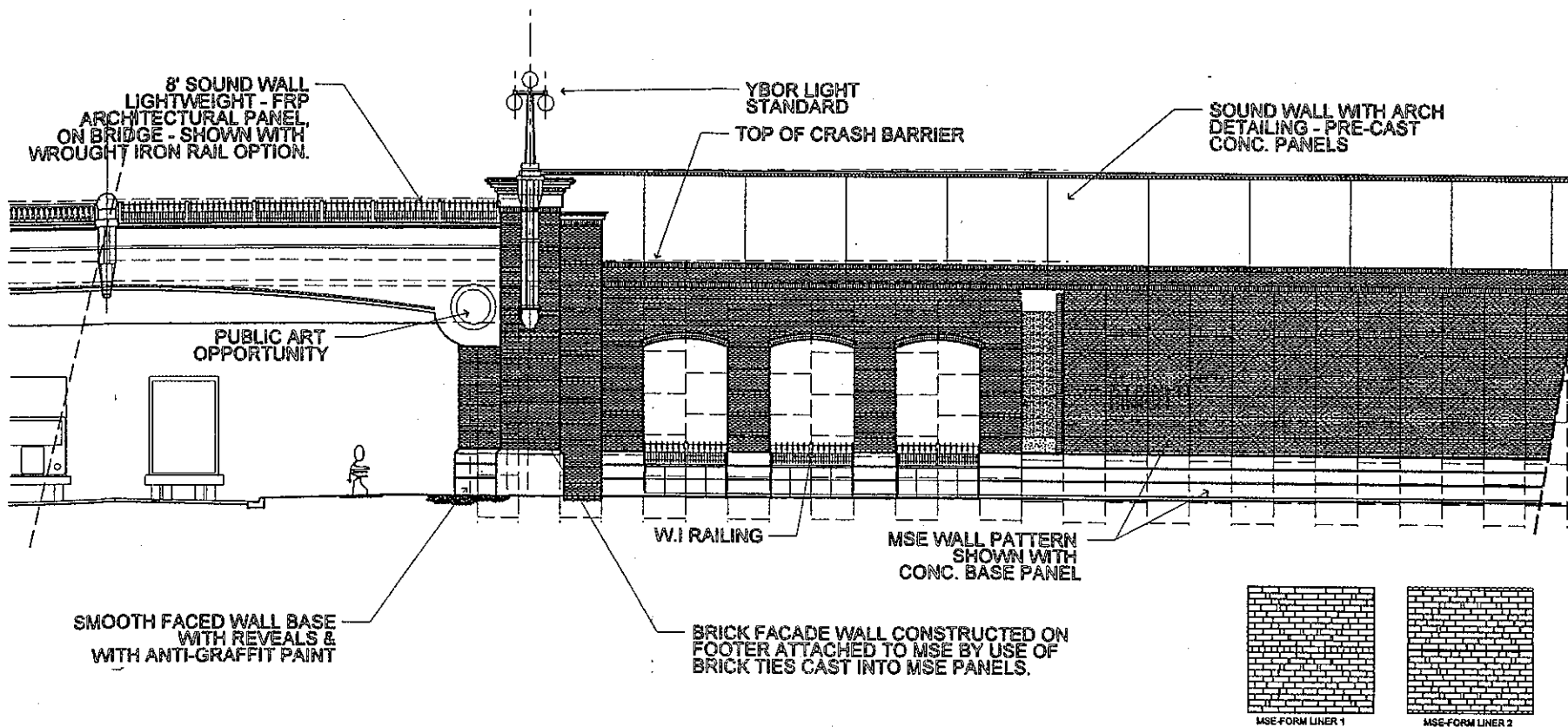
DESIGN CONCEPTS

MAY 5TH, 2000

FDOT - DRC- DESIGN REVIEW COMMITTEE PRESENTATION

PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.





26TH STREET - DETAIL

1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

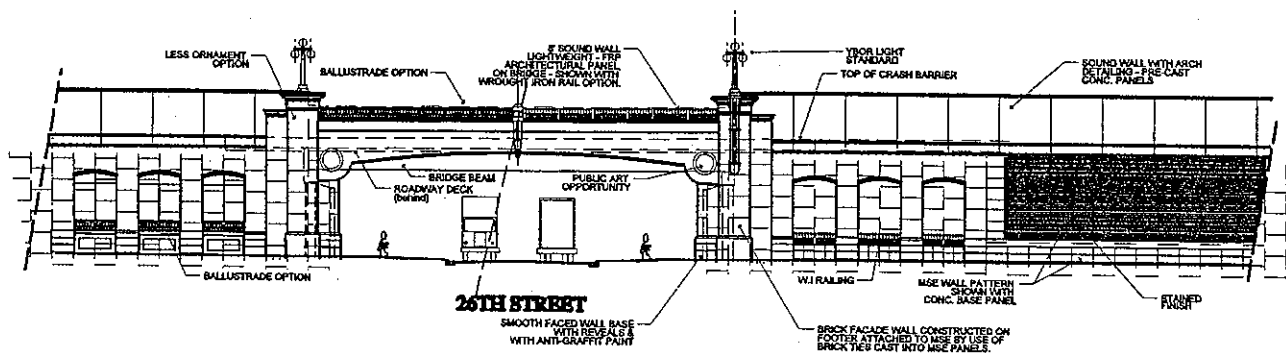
WITH
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
MAY 5TH, 2000

FDOT - DRC- DESIGN REVIEW COMMITTEE PRESENTATION



PREPARED BY:



26TH STREET - FULL ELEVATION

1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

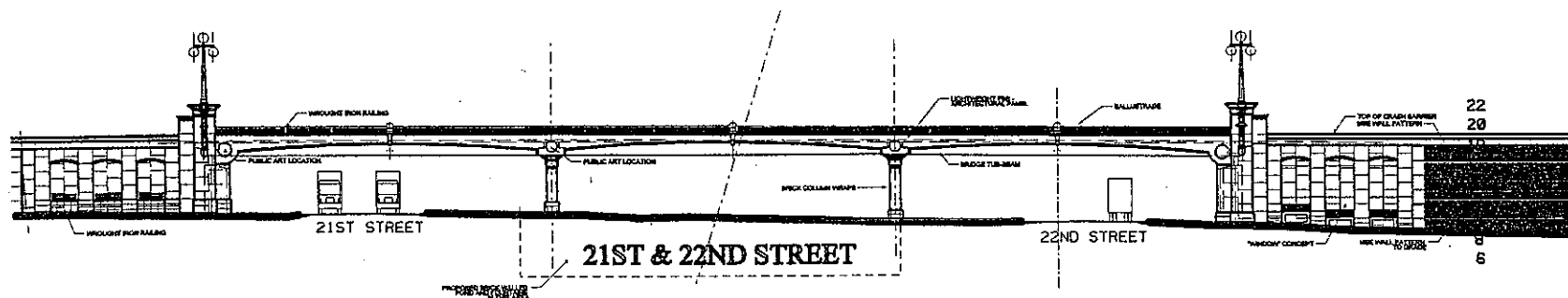
DESIGN CONCEPTS

MAY 5TH, 2000

WITH
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

FDOT - DRC- DESIGN REVIEW COMMITTEE PRESENTATION





21ST AND 22ND STREETS - OVERALL BRIDGE FACE - SOUTH SIDE

1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

DESIGN CONCEPTS

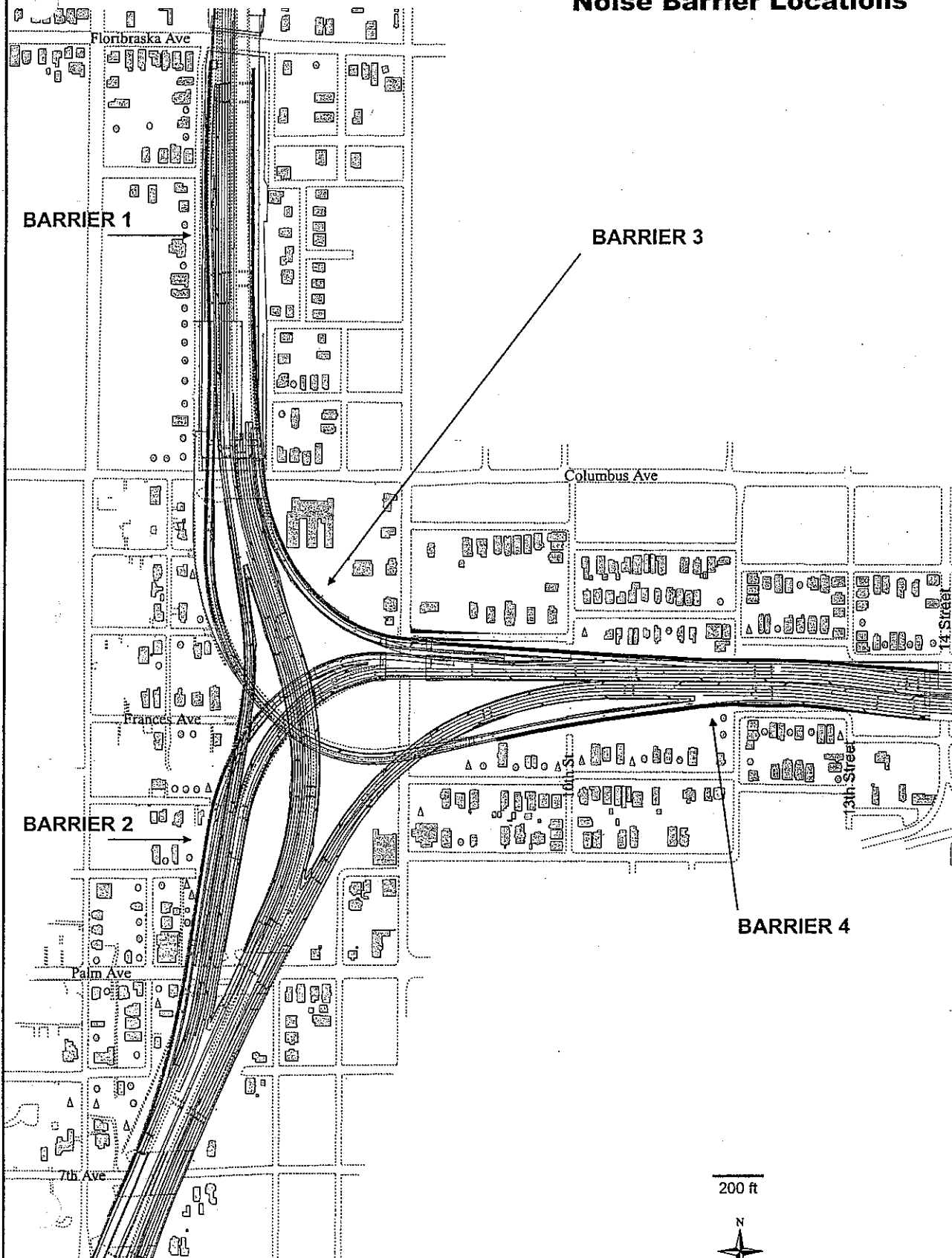
MAY 5TH, 2000

FDOT - DRC - DESIGN REVIEW COMMITTEE PRESENTATION

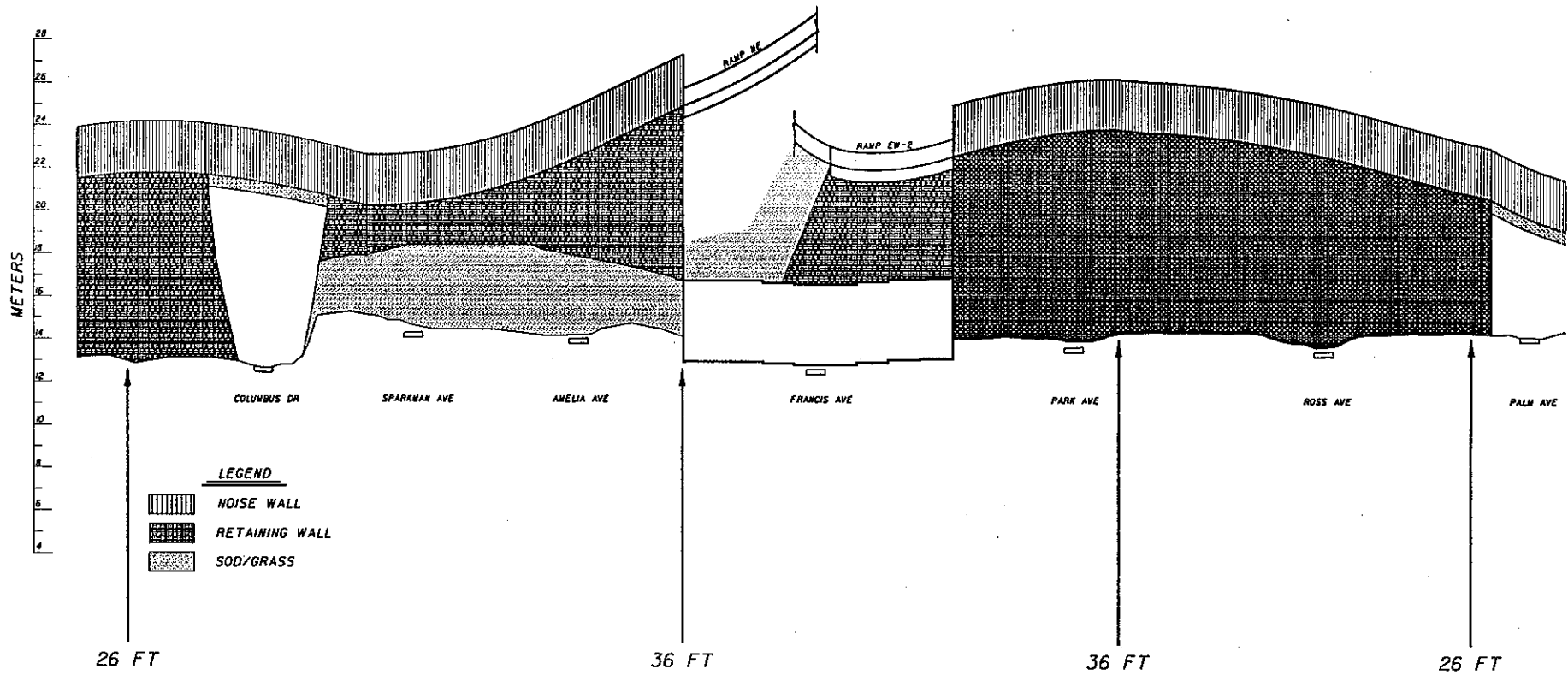
VDIS
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.



**I-4/I275 DOWNTOWN
INTERCHANGE
Noise Barrier Locations**



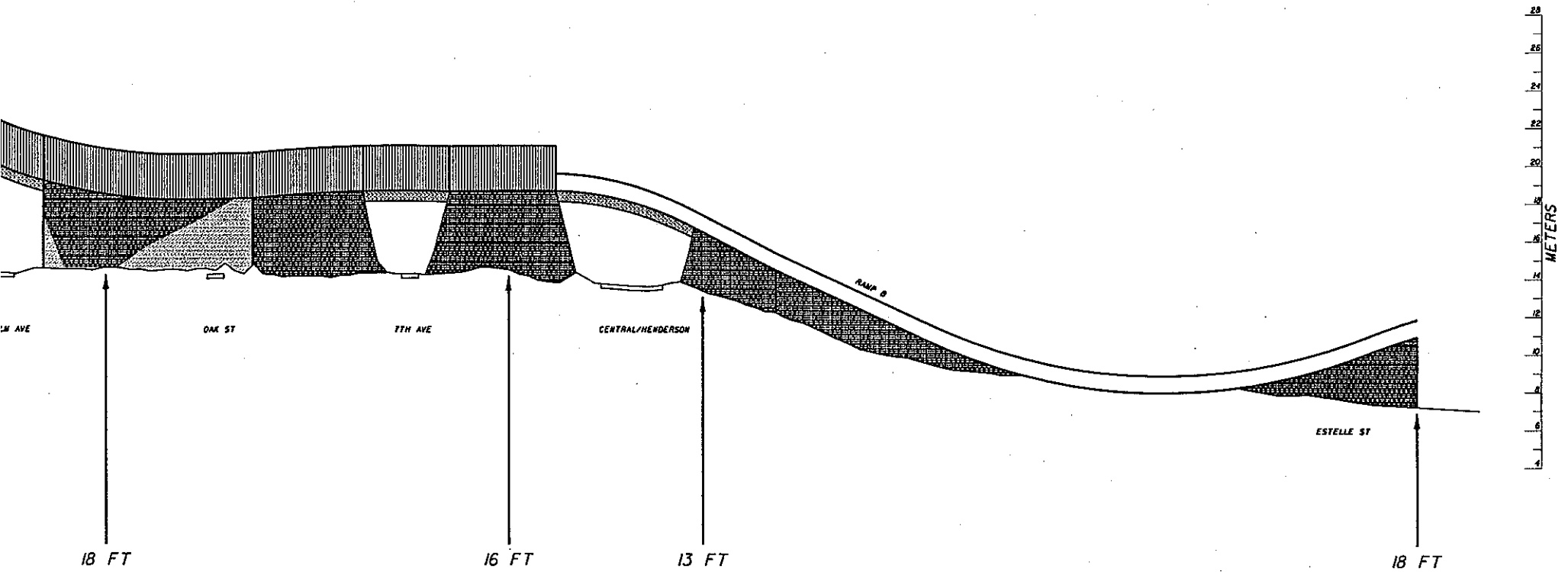
VIEW OF INTERSTATE FROM TAMPA HEIGHTS



RETAINING WALL HEIGHTS
feet above existing natural ground

SHEET 1 OF 4

VIEW OF INTERSTATE FROM TAMPA HEIGHTS



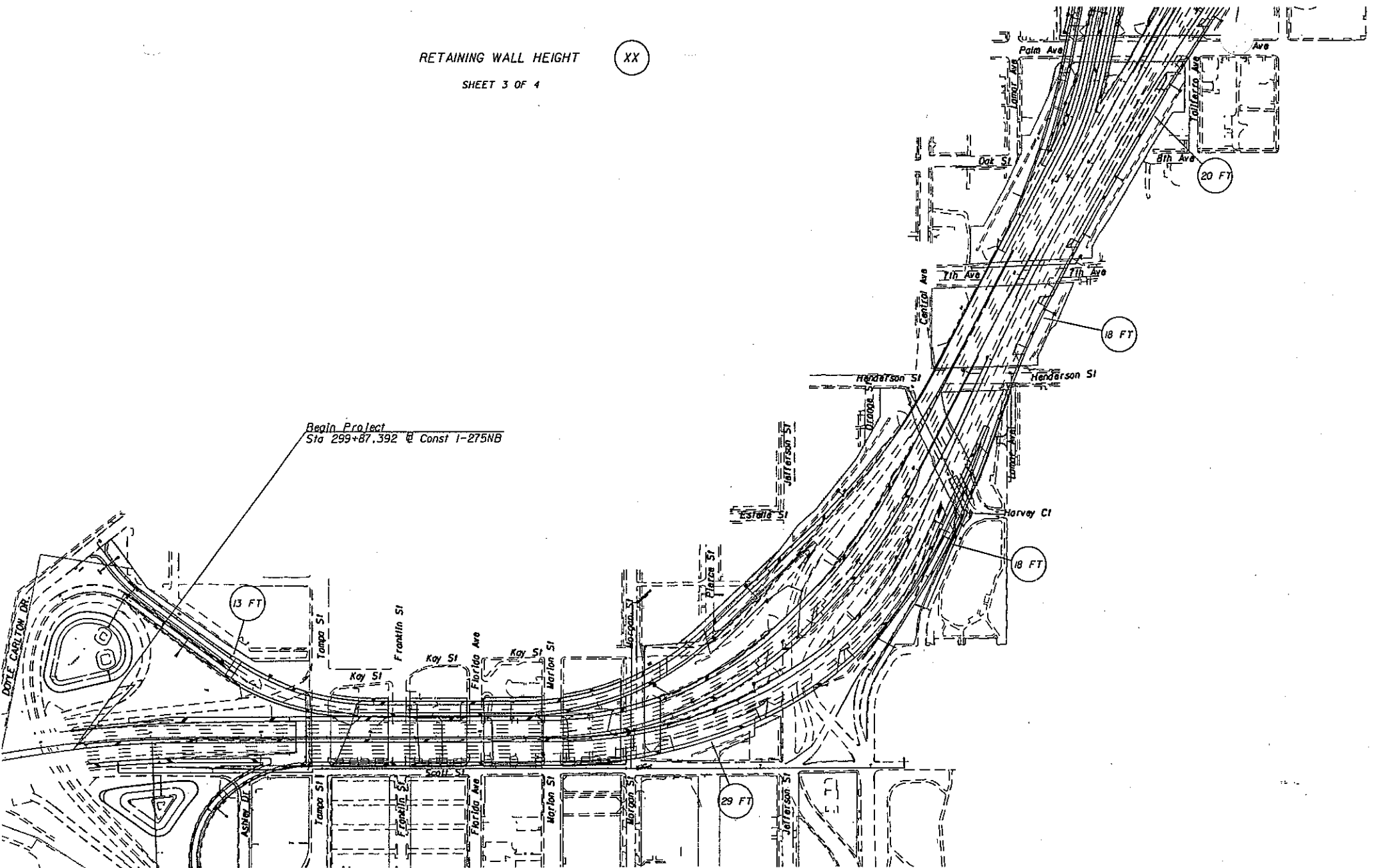
RETAINING WALL HEIGHTS
feet above existing natural ground

SHEET 2 OF 4

RETAINING WALL HEIGHT

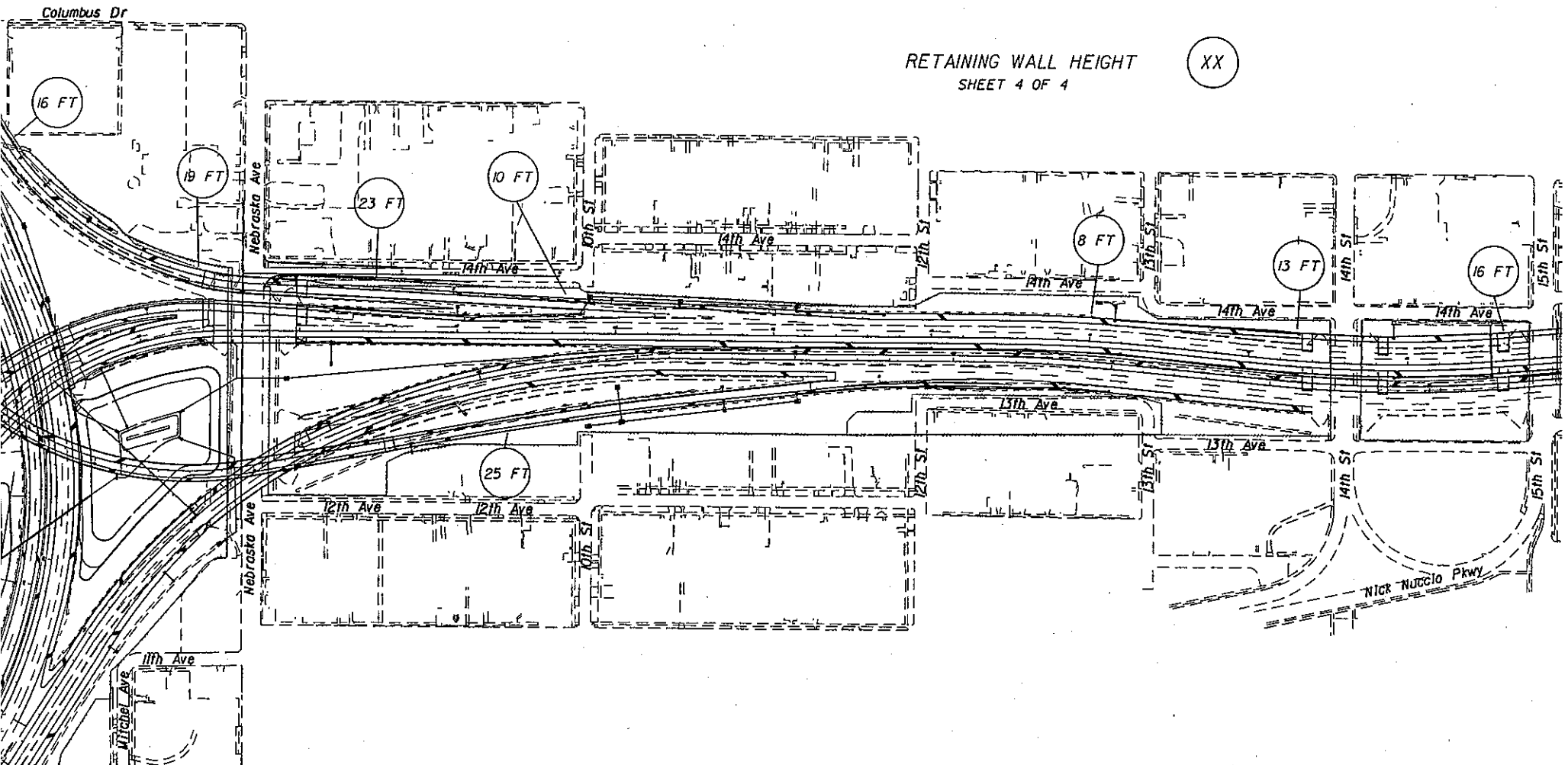
SHEET 3 OF 4

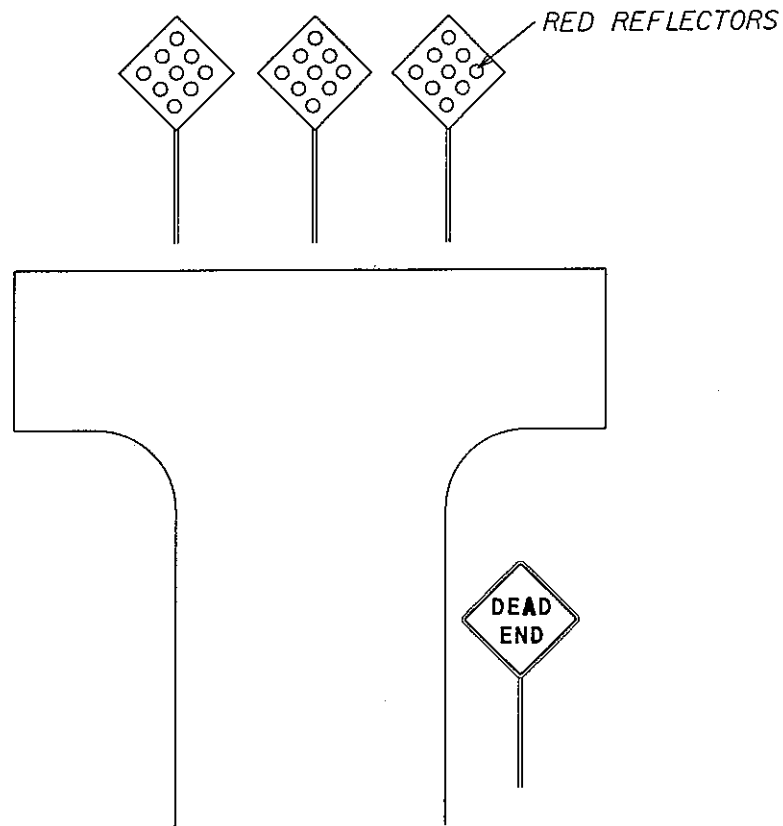
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RETAINING WALL HEIGHT
SHEET 4 OF 4

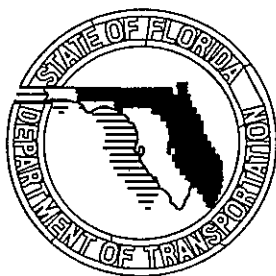
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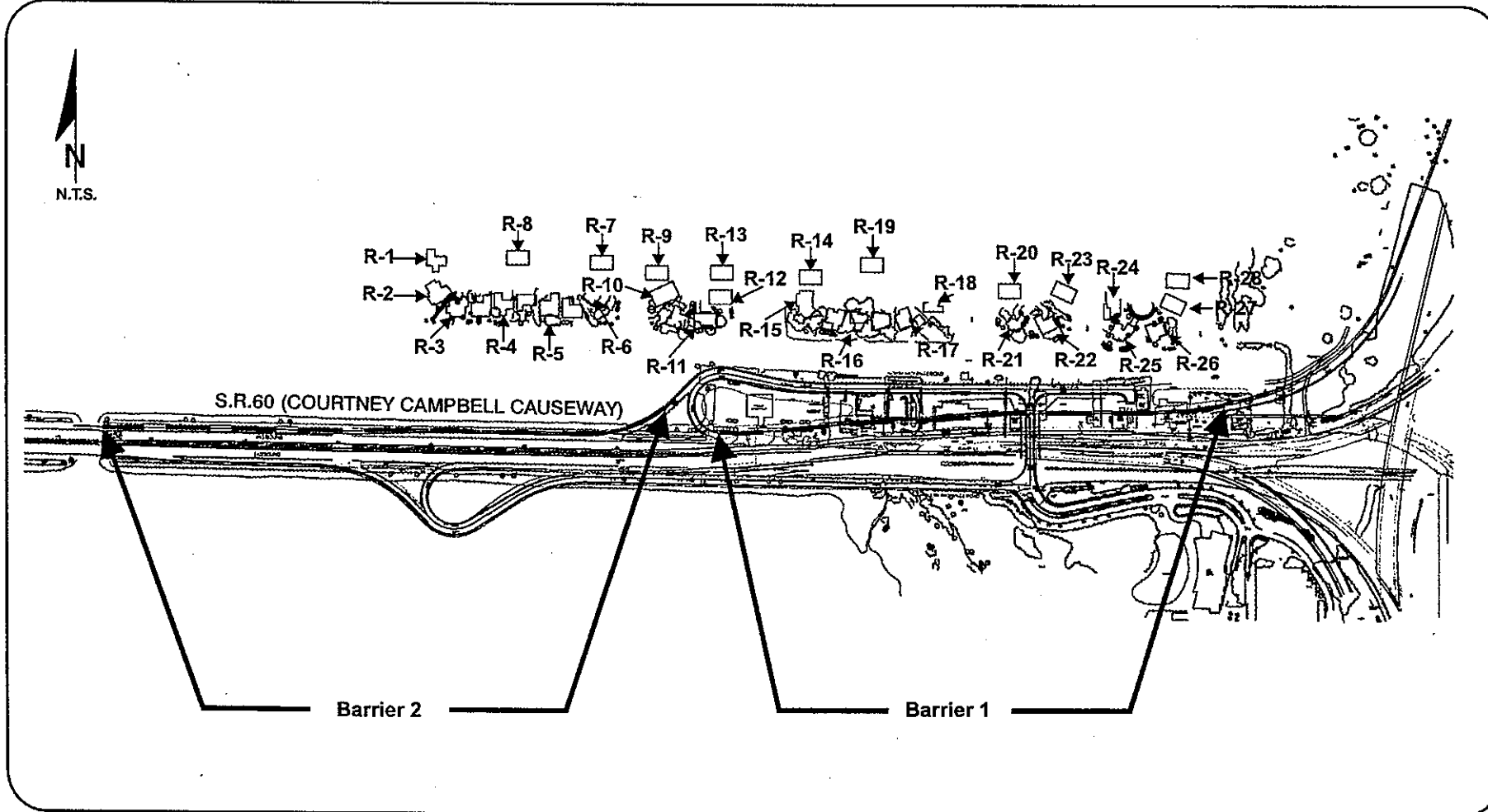


I-275/ I-4 INTERCHANGE

*TYPICAL
SIDE STREET TERMINATION*



KISINGER CAMPO
and associates corp.
engineers • planners



RECEIVER AND BARRIER LOCATIONS

— — — Barrier Location (11-foot high barrier)

R-# Receiver Number

I.P.I.

From: JOHN SIMPSON [JOHN.SIMPSON@dot.state.fl.us]
nt: Wednesday, May 10, 2000 12:23 PM
o: IRWIN PRESCOTT; ipinc7
Subject: Re: 5/05/00 DRC Presentation

Reference: Note from (WILSONST - MAIL) attached below

I will add my endorsement to Wilson's. That's two of the four DRC members in attendance. I'll forward the balance when they are received.

JS

----- ATTACHED NOTE -----

Date: 05/10/00 07:18
From: Wilson.Stair@ci.tampa.fl.us
To: SIMPSON,JOHN
Subject: Re: 5/05/00 DRC Presentation

WILSONST- MAIL
PD701JS - DOT1

This reply shall serve as an acknowledgement of acceptance of the concepts presented 5/05 relating to retaining walls, 8' noise walls, and 9-16' noise walls at the Spruce Street Interchange, the Courtney Campbell Causeway, the Downtown Interchange and I-4, 14th to 50th. However, I would recommend that you make at least one presentation of these design concepts related to noise walls to Linda Saul-Sena. Noise walls are of great concern to her. She asked your District Secretary at the Downtown Forum about the noise wall situation along the Tampa Interstate. She is not going to go away on this subject.

Wilson A. Stair Jr.
Department of Planning & Management
306 E. Jackson, 8E
Tampa, FL 33602
Phone: (813) 274-8402
Fax: (813) 274-7327
PL03@ci.tampa.fl.us

>>> JOHN SIMPSON <JOHN.SIMPSON@dot.state.fl.us> 05/09/00 08:46AM >>>

Wilson, Neale, and Jose:

Elaine Illes has requested that we acknowledge our acceptance of the concepts presented 5/05 for retaining walls, 8' noise walls, and 9-16' noise walls at the Spruce Street Interchange, the Courtney Campbell Causeway, the Downtown Interchange, and I-4, 14th to 50th. Since this was not a design phase presentation, there will be no official collective DRC recommendation, but you may provide specific comments in addition to your general reaction.

Please reply to me, and I will forward your response to Elaine and Irwin.

I.P.I.

From: JOHN SIMPSON [JOHN.SIMPSON@dot.state.fl.us]
nt: Thursday, May 11, 2000 12:09 PM
o: IRWIN PRESCOTT; ipinc7
Cc: RICHARD ADAIR
Subject: DRC 5/05 Presentation Comments

Irwin and Elaine - Three down - one to go. I'll see if I can shake something out of Jose....

Dear Mr. Simpson:

This is in response to your recent e-mail request regarding acknowledgement and acceptance of the concepts presented at the May 5, 2000 Design Review Committee (DRC) meeting.

The meeting focused upon the Florida Department of Transportation's (Department) system-wide applications for the Tampa Interstate noise barriers and retaining walls at the Spruce Street Interchange, the Courtney Campbell Causeway (CCC), the Downtown Interchange, and Interstate-4 (14th to 50th) improvements. I would relay to you that I am in general concurrence with the concepts, materials, and techniques presented, detailed in the meeting handout, and further explained by the designers during the discussions. However, I do identify the following system-wide comments for DRC members and the Department's ongoing consideration.

1. An adequate transition will need to be created between the segments utilizing varying retaining wall colors (Tower Pink, Hunters Tan, Villa M). I am concerned that view-sheds for off-system users are provided some degree of continuity where differing materials meet.
2. The use of fractured fin retaining walls in the CCC project was brought up during the presentations, and upon reflection I make this observation. Since this was the only application of fractured fin identified during the presentations, should we continue to support its relatively limited use on one segment of the interstate when compared with the potential length of the coquina texture application in the Ybor and Westshore areas?

I recognize that the CCC improvements are not included in the Urban Design Guidelines (UDG) as a Gateway or Special Design Area. However, it will potentially function as both to the overall interstate system, and specifically in the transition between the Veterans Expressway walls and the Westshore improvements. I do believe that the package of elements detailed for the Ybor segment provides an exceptional example of the Urban Treatment (Level 3) characteristics. They are more in keeping with the Candidate Retaining Wall Treatment hierarchy (Exhibit 5.3) depicted within the Urban Design Guidelines document.

I appreciate the considerable efforts that the designers and the Department

have made in advancing the principles of the Urban Design Guidelines. In particular, I believe that Jonathan Toner, RLA of Terra Tectonics has elevated the aesthetic concepts to the level of detailing that will assist the local governments in providing their support to these memorable projects. If additional information is required, please contact me at 813 / 276-8387.

Neale A. Stralow, AICP, RLA
Executive Planner, Planning & Growth Management Department

**Tampa Interstate Study
Aesthetics Coordination Team Meeting
June 1, 2000**

Agenda

I. Update of Activities since May 5th Meeting

II. Landscape Update

III. Opportunities for Public Art
 A. Locations
 B. Types/ Follow-up Items

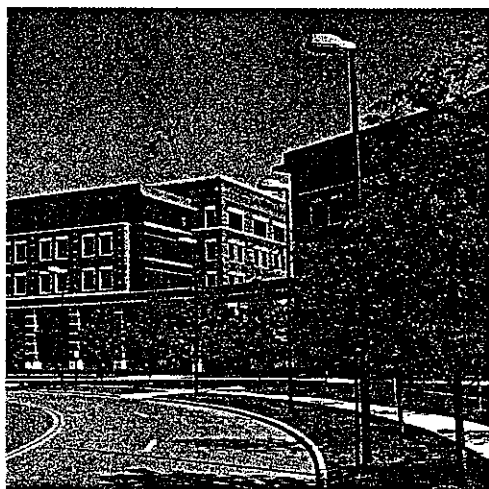
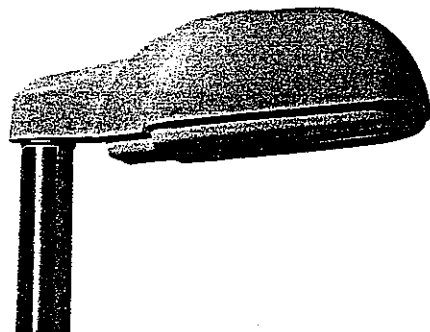
IV. On-System Signing Issues
 A. Type of Supports
 B. Color

V. On-System Lighting Issues
 A. Illuminaire
 B. Pole/ Color

TIS
Aesthetic Coordination Meeting
June 1, 2000

1. Elaine C. Dils
2. Derrick A. Lue
3. JANE BURMER
4. Steve Malecki
5. Jon Toner

HOLOPHANE *Mongoose*™ Architectural Roadway Luminaire

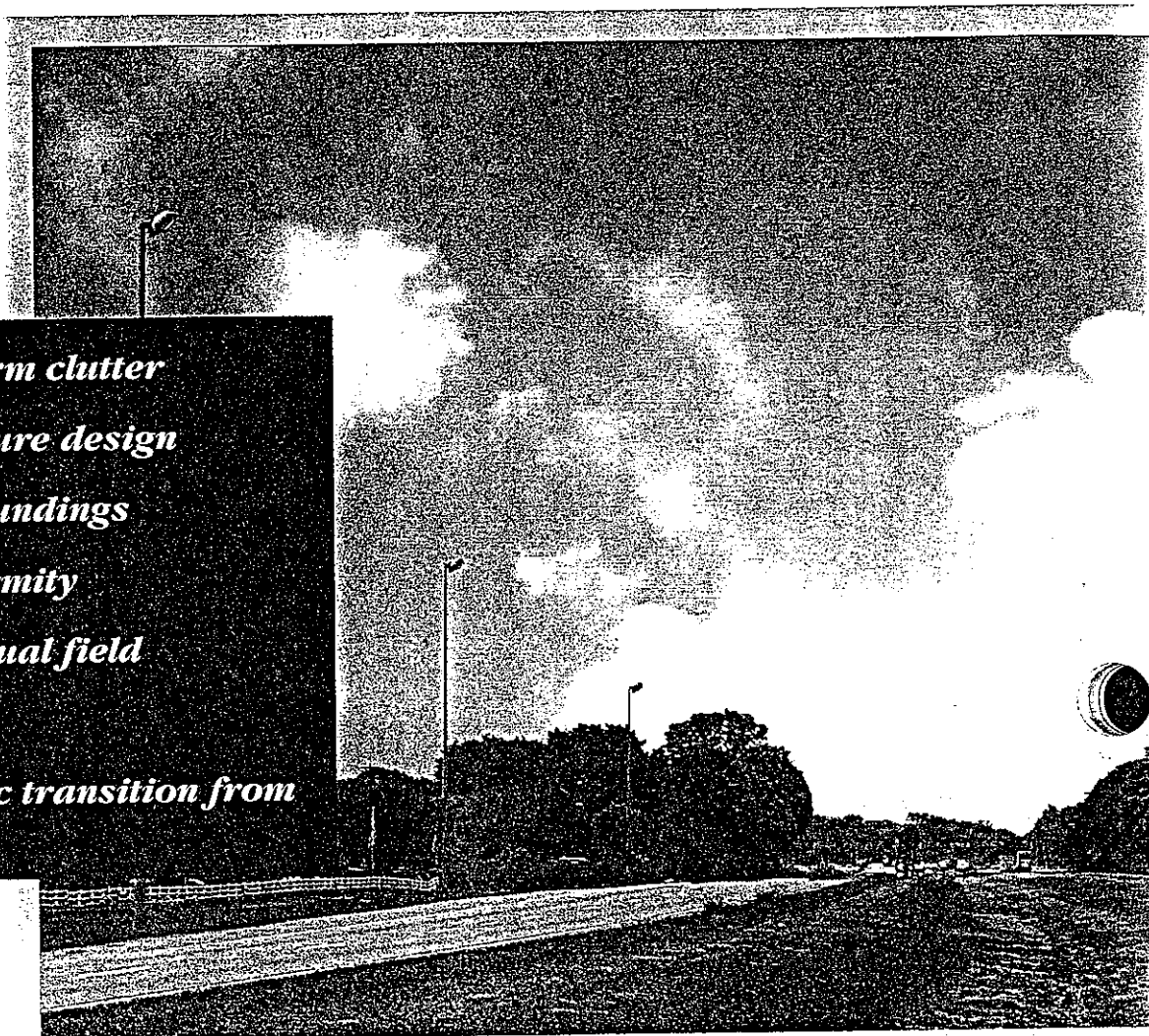


- *Obsoletes cobraheads*
- *Needs no mast arms*
- *Can be setback 0 to 50'*
- *Lowers maintenance cost*
- *Allows optimal illumination design*
- *Improves highway safety*



Mongoose™

- *Eliminates mast arm clutter*
- *Architectural fixture design*
- *Blends into surroundings*
- *Maximizes uniformity*
- *Creates broad visual field*
- *Choice of colors*
- *Provides aesthetic transition from pole to luminaire.*



Holophane has led the design of state-of-the-art roadway lighting systems for the past one hundred years. Holophane began its commitment to improved visibility at the turn of the century with the first prismatic streetlights designed to reduce glare and increase efficiency. In

later decades, Holophane continued to develop innovations in streetlighting technology such as the first ovate streetlights "cobraheads" introduced in the late 1940's. The next major invention in roadway lighting was Holophane's introduction of the

Highmast concept in the late 1960's. The Highmast system pioneered lighting for high speed limited access roadways with improved safety achieved by creating an open visual environment, increased vertical illumination, and maximized visibility.

**Commercial
Expressways**

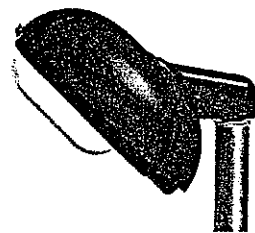
**Interstate
roadways**

Security

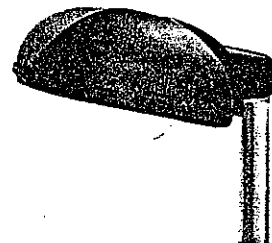
Prisons

Railyards

**Truck
terminals**



Set Back Mongoose™



Close In Mongoose™

**Holophane
Mission Statement:**

*Provide lighting
products and
solutions, giving
our customers
the greatest value
through superior:*

- *visibility*
- *energy efficiency*
- *reliability*
- *quality*
- *service*



HOLOPHANE

Now again at the turn of the century, Holophane is introducing a concept that has revolutionized roadway lighting. The new Mongoose™ Series Luminaires were designed after extensive market research to combine the best qualities of Highmast and cobrahead

illumination into an unparalleled lighting system. The visual field is maximized within the right-of-way while uniformity equals highmast applications. The offset location removes the light source from the field of view reducing a primary source of glare. First and maintenance

costs are reduced as less equipment is required and lane closures are minimized. The architectural styling of the luminaire minimizes roadway clutter and enhances roadway appearance. With these innovations, the Mongoose™ series lights the way into the next century.

Mongoose™

The Mongoose™ roadway luminaire provides an unparalleled variety of optical choices to maximize safe driving at the lowest cost.

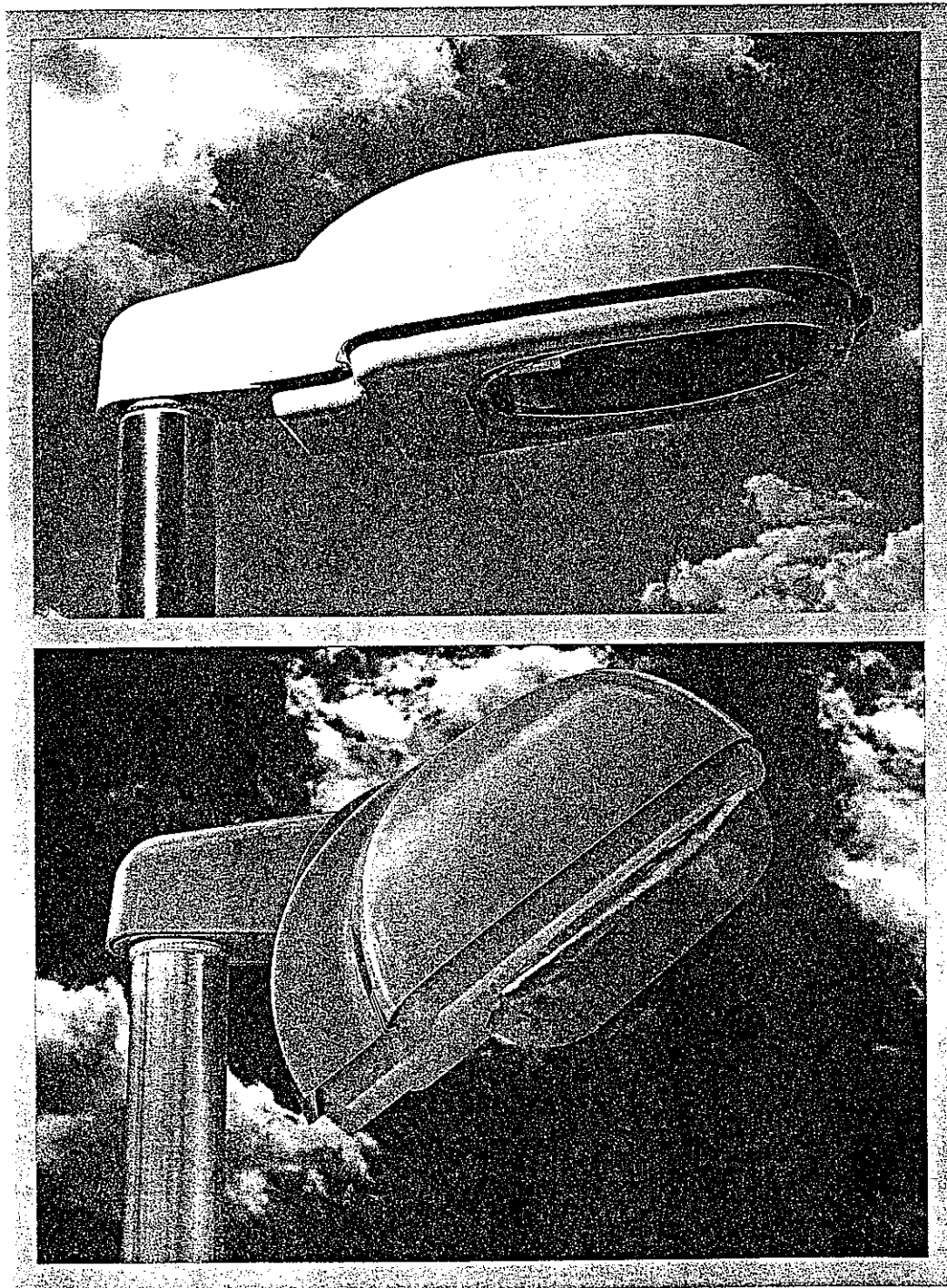
There are twelve configurations to meet any roadway lighting application, yet only one integrated maintenance system.

The multi-configuration, one platform system allows optimum performance without having to maintain a wide variety

of luminaires. Each variation of the Mongoose™ utilizes a common electrical door that allows tool-free maintenance in less than one minute.

At the heart of the Mongoose™ Series is a revolutionary optical system that obsoletes traditional "over the road" lighting systems. The unique optical choices allow for long spacings, wide roadway coverage, and low glare.

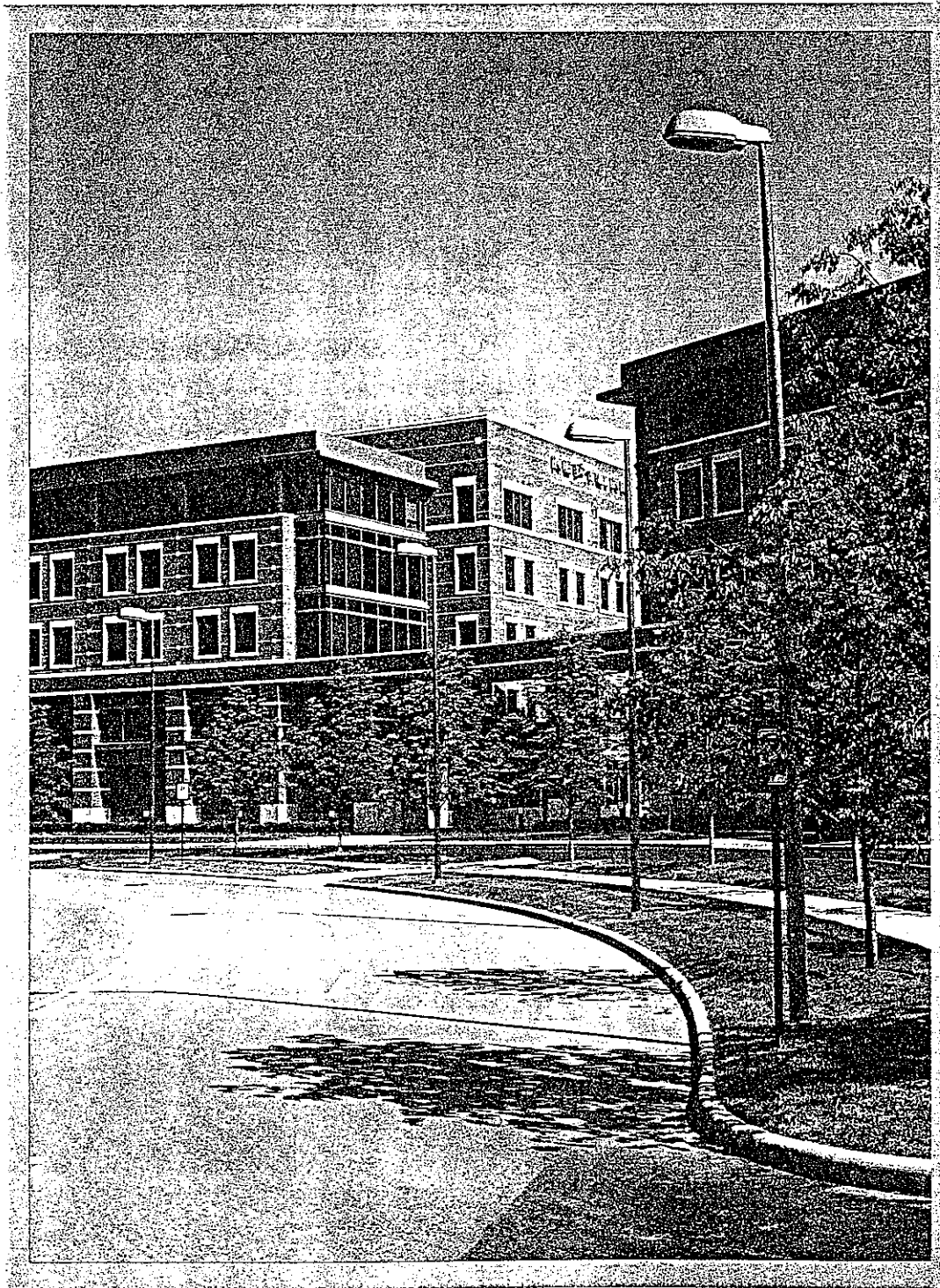
Additionally, the system increases illumination on vertical surfaces for enhanced visibility over traditional roadway



MongooseTM

systems. Poles can be setback up to 50', which maximizes the visual field and allows recognition of hazards much earlier than typical cobrahead systems.

The unique optics allows the fixtures to be mounted directly on top of the pole. This not only eases installation and maintenance, but eliminates the clutter associated with long arms required to hold traditional luminaires over the road. The architectural appearance and scale are designed to gracefully blend from the pole top avoiding the pinhead look of other tenon-mounted products.



MongooseTM

The MongooseTM fixture allows the designer to choose the best combination of fixture performance, roadway uniformity, size of the visual field and vertical luminance to maximize safe driving.

This fixture provides the closest approximation to natural lighting possible. Natural daytime lighting provides the driver maximum retinal stability and 180° field of view.

Visual field — is the space actively scanned by the driver's eyes

without special effort. In conventional cobrahead design, the lateral dimension of the visual field is approximately 40° at 60 meters. Human binocular vision can be as much as 180° and monocular can reach 120°. Wider spacing increases the visual field.

■ **Retinal stability** — a condition where the eye does not have to adjust to large differences in vertical and horizontal luminance within the field of view. Setback and fixture tilt can optimize balanced luminance.

■ **Uniformity of illumination** — the average to minimum and maximum to minimum footcandles values on the roadway between two adjacent fixtures. Off roadway placement reduces hot spot normally below the fixture.

■ **Disability glare** — the effect of stray light in the eye whereby visibility and visual performance are reduced, also known as veiling luminance. The fixture is positioned to the side and not in the primary visual field.

■ **Visibility** — provided by negative or positive contrast. With negative contrast the background is brighter than the target. The image is seen in silhouette without detail. With positive contrast the target is brighter than the background. It allows recognition of specific detail such as clothing, gender, and surface features. The variety of optics allows a choice of contrast styles to balance against other community needs.

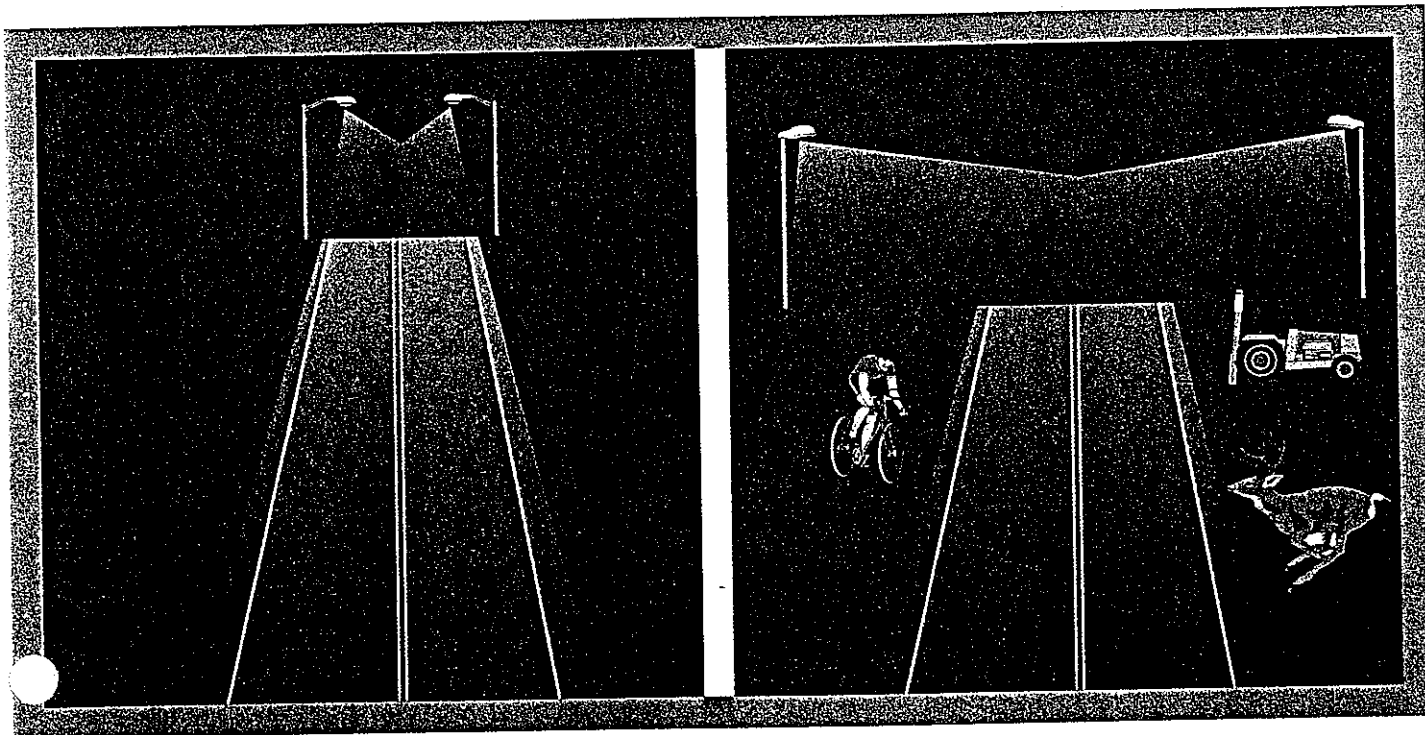


Figure 1

Figure 2

MongooseTM

Typical cobrahead lighting equipment is positioned over the roadway and dumps light directly below the luminaire (Figure 1).

The over the road position leads to a tunnel effect where the drivers field of view is limited to only the immediate roadway.

Also, the poor uniformity creates fatigue as the driver's eyes continually try to adjust to the various light levels.

The new MongooseTM systems allows the luminaires to be positioned off the roadway, greatly increasing the field of view (Figure 2). The broader field of view and greater uniformity allow the driver to recognize hazards much earlier as well as identify "off roadway" hazards that may enter the drive lanes. The increased uniformity minimizes eye fatigue by eliminating hot spots on the roadway.

A variety of reflectors allows up to six lane coverage from one side of the roadway even

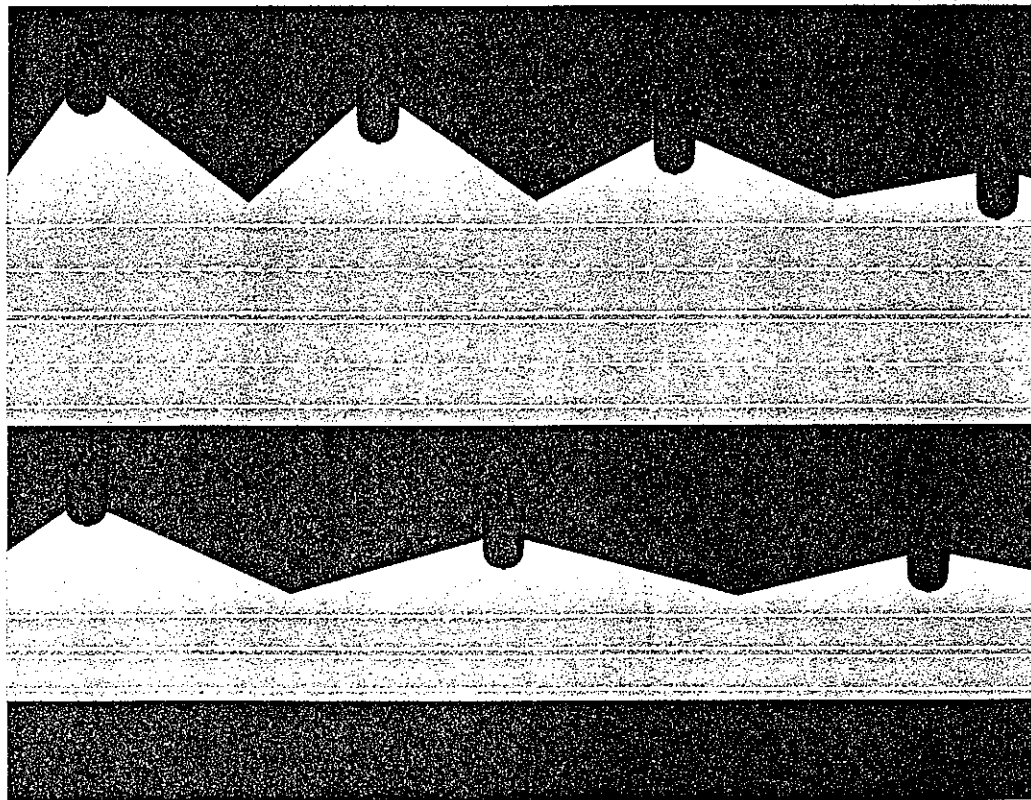


Figure 3

when the luminaire is set back up to one mounting height (Figure 3).

The flat glass optics allows a complete cutoff while maintaining excellent uniformity and wide spacings (Figure 4). This is achieved by utilizing a sophisticated series of reflectors which redirects the available light on to the roadway. Therefore, maximizing efficiency while minimizing light trespass.

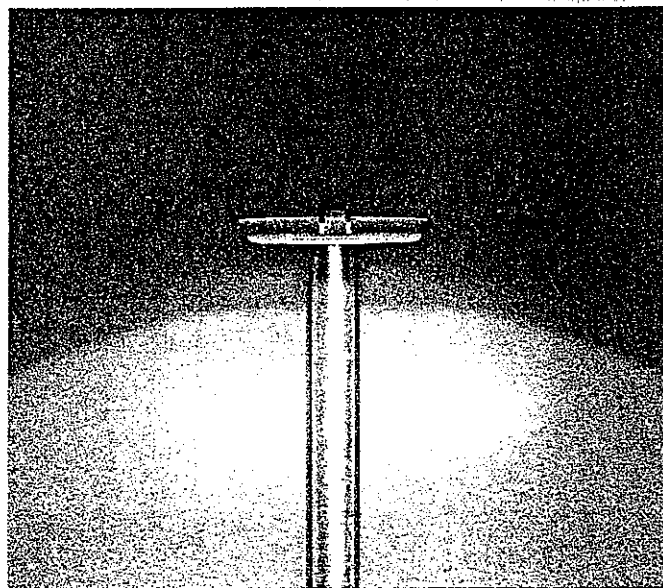
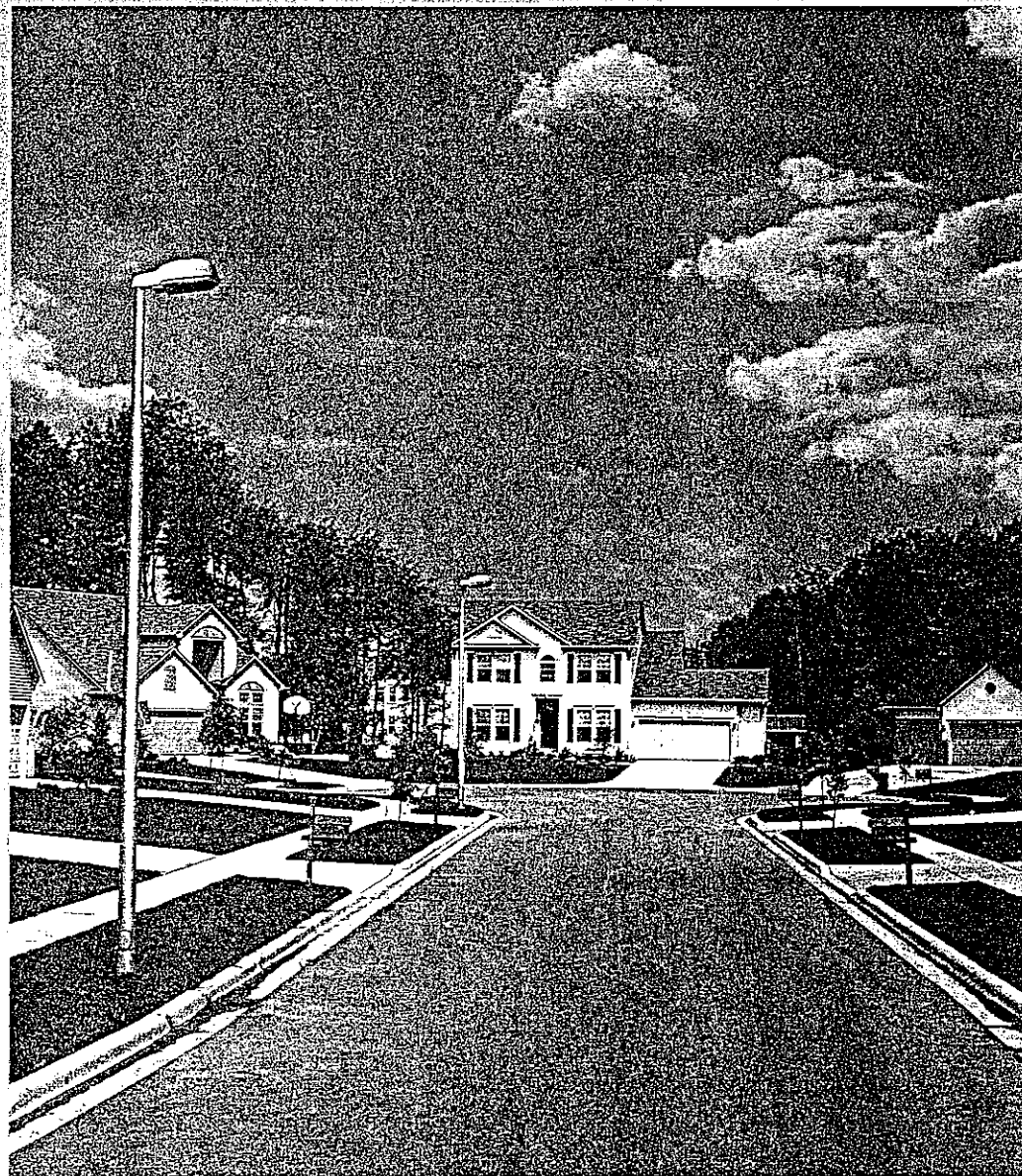


Figure 4

Mongoose™

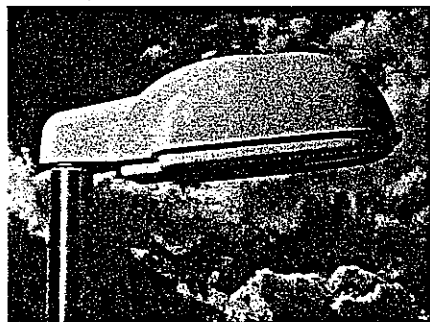
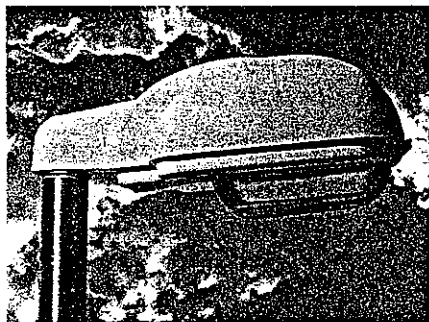


The Close In optics handles poles located from the roadway edge to 20' set back. It has either a two or four lane distribution as well as a choice of three refractors. Lighting

distributions range from cutoff through semi-cutoff. The fixture's tenon fitter has 3 tilt angles ranging up to 13° for various pole locations.

The pole top mounting of the luminaire reduces glare associated with "over the road" type fixtures and pole knockdowns are minimized by the greater setbacks

Mongoose™

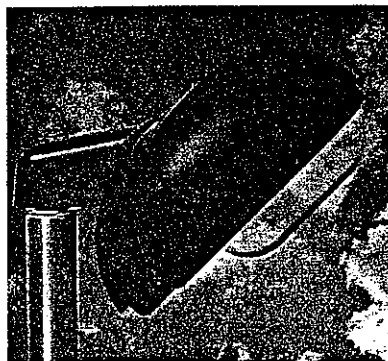


- *Optics are optimized for 0 to 20' setback*
- *Choice of flat glass, clear drop glass, and prismatic refractor for optimum performance in any application.*
- *Narrow and wide reflectors maximize efficiency on any roadway*
- *Cutoff through semi-cut-off optics for a low glare light solution*
- *Unparalleled uniformity eliminates hot spots on roadway*
- *Variable set back allows drivers the maximum visual field*
- *Provides the best combination of vertical and horizontal illumination*

available. The larger "clear zone" increases driver and maintenance personnel safety and provides a maximized visual field. The Close In Mongoose™ is

available in wattages from 100 to 400 Watts in HPS and Metal Halide light sources. The fixture is ideal for use with fiberglass, aluminum, steel or wood poles.

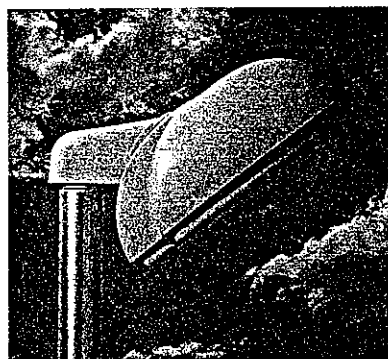
Mongoose™



■ Optics are optimized for setbacks as great as 50'.

■ Driver's visual field is maximized to provide superior safety and avoid the tunnel effect of traditional lighting systems.

■ Narrow and wide reflectors maximize efficiency on any roadway



■ Unparalleled uniformity eliminates hot spots on roadway

■ Provides the best combination of vertical and horizontal illumination

■ "Clear Zone" increases driver and maintenance crew safety while eliminating break away requirements.



The Offset optics handles poles located from 15' to up 50' set back. The Offset is available with distributions capable of

up to 6 lane coverage from one side of the roadway. The Offset Mongoose™ has a choice of clear drop, flat or prismatic

refractors. The fixture's tenon fitter has 3 factory or field set tilt angles ranging from 35 to 45° for various pole locations.

Mongoose™ Offset Version

Mongoose™



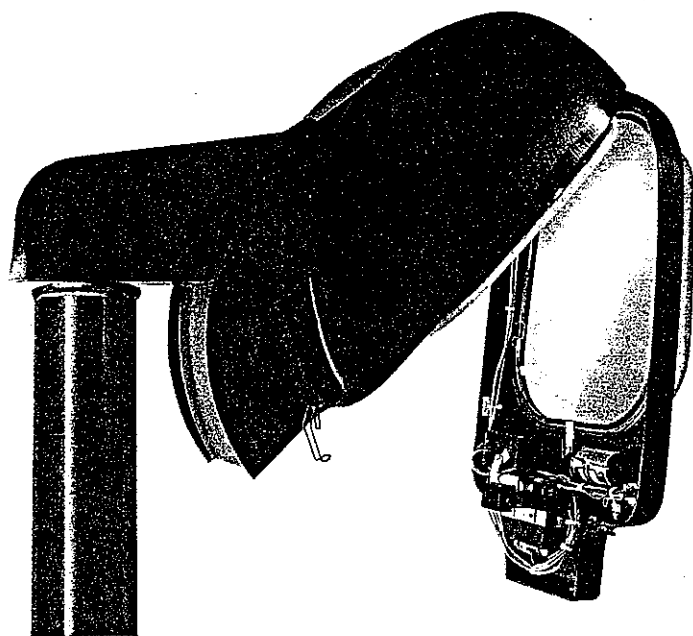
The offset location of the luminaires provides excellent uniformity and low glare while lighting the entire right-of-way.

The larger "clear zone" increases driver and maintenance personnel safety and provides a maximized visual field. The Offset

Mongoose™ is available in wattages from 150 to 400 Watts in HPS and Metal Halide light sources. The fixture is ideal for

use with fiberglass, aluminum, steel or wood poles.

Mongoose™



Installation

- No mast arms
- Lower pole cost
- Easy to handle
- One person installation
- External wiring chamber
- Less time required for maintenance

Maintenance

- Minimal lane closure
- Fewer maintenance vehicles
- 60 second, single person electrical change out
- Quick disconnect ballast door assembly eliminates need to replace the entire fixture
- Less traffic disruption
- Increased maintenance crew safety.

Superior optical performance is only half the Mongoose™ story. At the heart of the Mongoose™ Series is a dedication to reduction of long term maintenance costs. The first component of the lowest life cycle cost solution is the use of the highest grade components available. Holophane's copper wound ballasts use high grade electrical steel which means lower operating temperature and consequently longer

component life. 90°C capacitors have a rated life of 60,000 hours, almost two and a half times the life of the standard 100°C capacitors used in most roadway luminaires. All Holophane starters are encapsulated in a polyester resin which protects the electrical components from mechanical and thermal shock.

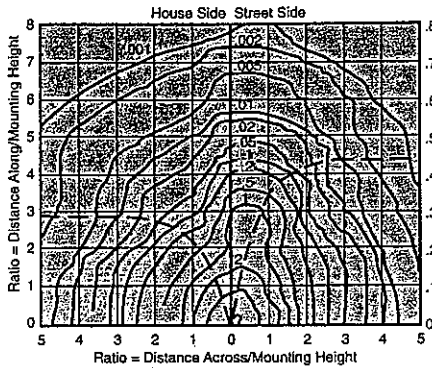
The superior design and high grade components insure that maintenance

trips to the luminaire will be minimized. However, the attention to superior performance moves beyond component design. In the rare event that an electrical component does fail, the entire electrical door can be replaced in under one minute without the need for tools. The Quick-Change electrical door allows the maintenance crew to replace only the failed components and not the entire fixture, consequently, saving

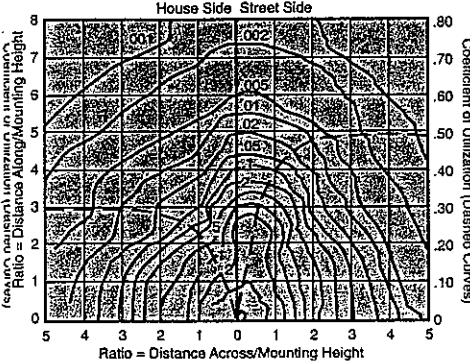
time and saving money. An added benefit is that the doors on all Mongoose™ luminaires are interchangeable. This way the crew does not need to know what type of fixture in the field requires repair. Cutoff or prismatic, narrow or wide, offset or close-in can all be maintained by simply replacing the Quick-Change electrical door.

MongooseTM

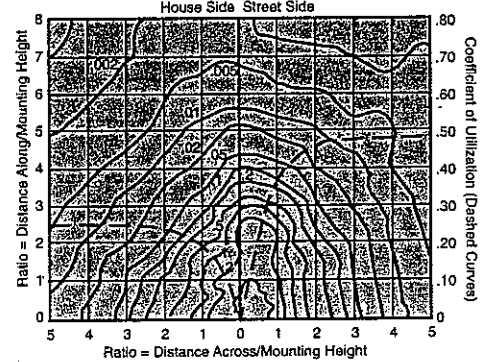
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400W Clear HPS/Test No. 49257



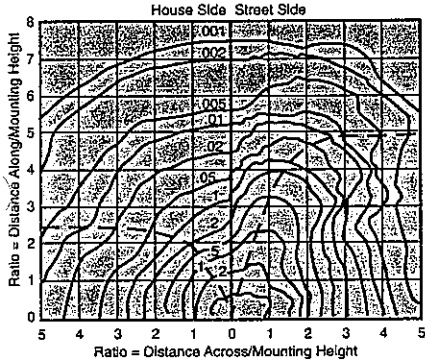
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400W Clear HPS/Test No. 49249



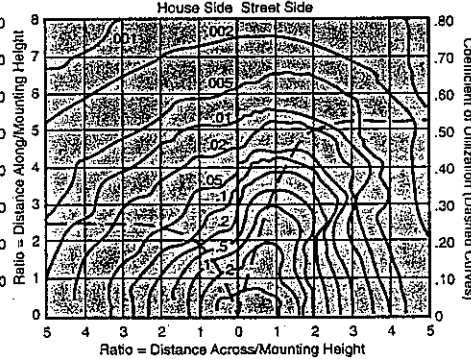
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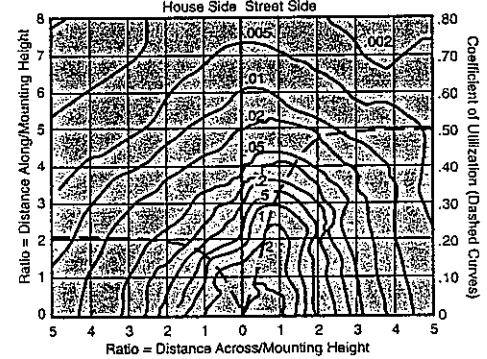
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400W Clear HPS/Test No. 49396



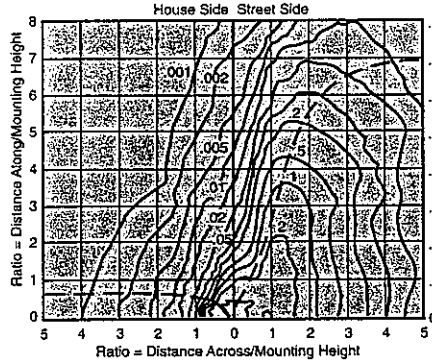
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400W Clear HPS/Test No. 49340



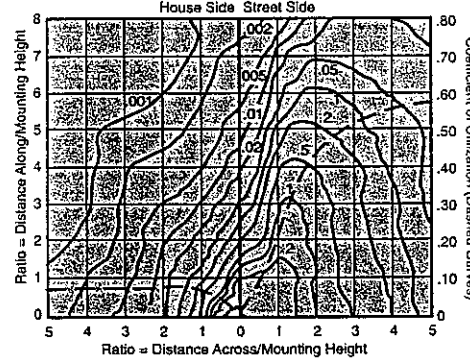
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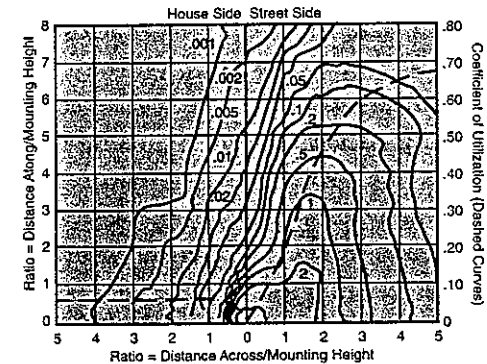
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400W Clear HPS/Test No. 49730



Cat. No. MC400HP00RG6 - RE-248
400W Clear HPS/Test No. 49732



Cat. No. MV400HP00CG6 - RE-256
400W Clear HPS/Test No. 49899



MongooseTM

Mechanical

Construction:

The housing, door and fitter shall be cast of low copper (356.1 alloy). They shall be pretreated with zinc phosphate and overcoated with an electrostatically applied 2 to 4 mil coat of TGIC polyester powder paint cured at 425°F. The finish shall withstand a 160 inch-pound impact measured with a standard Gardner impact tester. It shall have passed a 1000 hour salt spray test as specified by ASTM B-117. It shall exhibit no cracking or loss of adhesion from a 180° bend over a 1/8" mandrel diameter per ASTM D522. All external hardware shall be stainless steel. Housing access shall not require tools. The fitter shall be built in and accommodate a standard 2 inch tenon or equivalent pole top.

It shall provide 3 standard tilt angles that can be factory set or field adjustable. Electrical connection shall be inside the fitter assembly and not require fixture entry. A terminal block located inside the fitter shall be provided if specified.

Quick Disconnect Electrical Assembly:

The fixture door shall contain all ballast components and be hinged for fast tool-free removal and replacement. Complete replacement shall take less than 60 seconds.

Ballast:

Shall be copper wound, high power factor type as specified. They shall reliably start the lamp in ambient temperatures to minus 40°F. The plug in HPS starter shall be totally encapsulated with a material that electrically and thermally insulates

all components from lamp and ballast heat. A protected starter, if specified, shall sense an inoperative lamp and shut down automatically to prevent continuous pulsing and thermal damage to itself and the ballast secondary windings.

Optical and Socket Assembly:

The reflector shall consist of high purity alloy #3002 aluminum of minimum 0.08" thick sheet. Flat lens shall be 1/8" fully tempered glass. Pressed prismatic or clear drop lens shall be manufactured of borosilicate glass. The reflector and lens optical assembly shall be designed to provide the IES pattern specified. The socket shall be pulse rated, nickel-plated and lamp grip porcelain enclosed. It shall prevent undue lamp vibration and backout.

ANSI Lamp Label:

A self-adhesive label shall be provided which identifies the lamp type and size. It shall meet ANSI C-136 standards.

Warranty:

The electrical assembly shall be fully warranted for a period of 5 years and the housing for a period of 2 years from the date of manufacture.

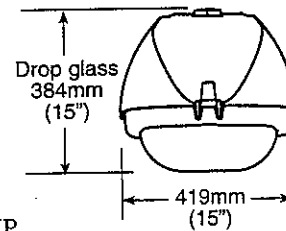
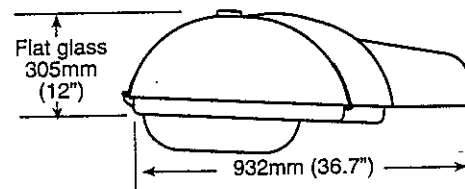
How to Construct a Catalog Number for Holophane Mongoose™

Fixture type _____

EXAMPLE: MC — 100HP — MT — NF — 1 — B
 1 2 3 4 5 6 7

Fill in _____
 Cat. no. 1 2 3 4 5 6 7

Step	Catalog number	Description
1. Luminaire type	<input type="checkbox"/> MC <input type="checkbox"/> MV	Mongoose™, Close-In Mongoose™, Offset
2. Source and wattage	<input type="checkbox"/> 100HP <input type="checkbox"/> 15AHP <input type="checkbox"/> 250HP <input type="checkbox"/> 400HP <input type="checkbox"/> 175MH <input type="checkbox"/> 250MH <input type="checkbox"/> 400MH	100W HPS, mogul base, MC version only 150W/55 volt, HPS, mogul base 250W HPS, mogul base 400W HPS, mogul base 175W Metal halide, mogul base 250W Metal halide, mogul base 400W Metal halide, mogul base
3. Voltage	<input type="checkbox"/> 12 <input type="checkbox"/> 24 <input type="checkbox"/> 48 <input type="checkbox"/> 347 <input type="checkbox"/> MT <input type="checkbox"/> VT	120 volt 240 volt 480 volt 347 volt Multivolt 120, 208, 240, 277V Varitap 120, 277 & 347V (Available in 250HP, 400HP, 400MH only)
4. Optics	MC <input type="checkbox"/> NF <input type="checkbox"/> NC <input type="checkbox"/> NR <input type="checkbox"/> WF <input type="checkbox"/> WC <input type="checkbox"/> WR MV <input type="checkbox"/> CG <input type="checkbox"/> RG	Narrow roadway, flat glass Narrow roadway, clear drop glass Narrow roadway, prismatic refractor Wide roadway, flat glass Wide roadway, clear drop glass Wide roadway, prismatic refractor Clear drop glass Glass refractor
5. Tilt	MC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 MV <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	3° 8° 13° 35° 40° 45°
6. Finish	<input type="checkbox"/> Z <input type="checkbox"/> G <input type="checkbox"/> K <input type="checkbox"/> N <input type="checkbox"/> W	Bronze Gray Black Green White
7. Options	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> B <input type="checkbox"/> W <input type="checkbox"/> D <input type="checkbox"/> T <input type="checkbox"/> A	Protected Starter NEMA Twist-lock photocontrol receptacle Terminal block 6' pigtail NEMA decal Spade termination for ballast leads (available with MT and VT ballasts only) 3" tenon adaptor
Accessories		
<input type="checkbox"/> F1 Single fuse kit		
<input type="checkbox"/> F2 Double fuse kit		
<input type="checkbox"/> LAMP Ship appropriate lamp		
<input type="checkbox"/> BKT-5-G Galvanized wood pole bracket		



Ordering number _____ Job name _____



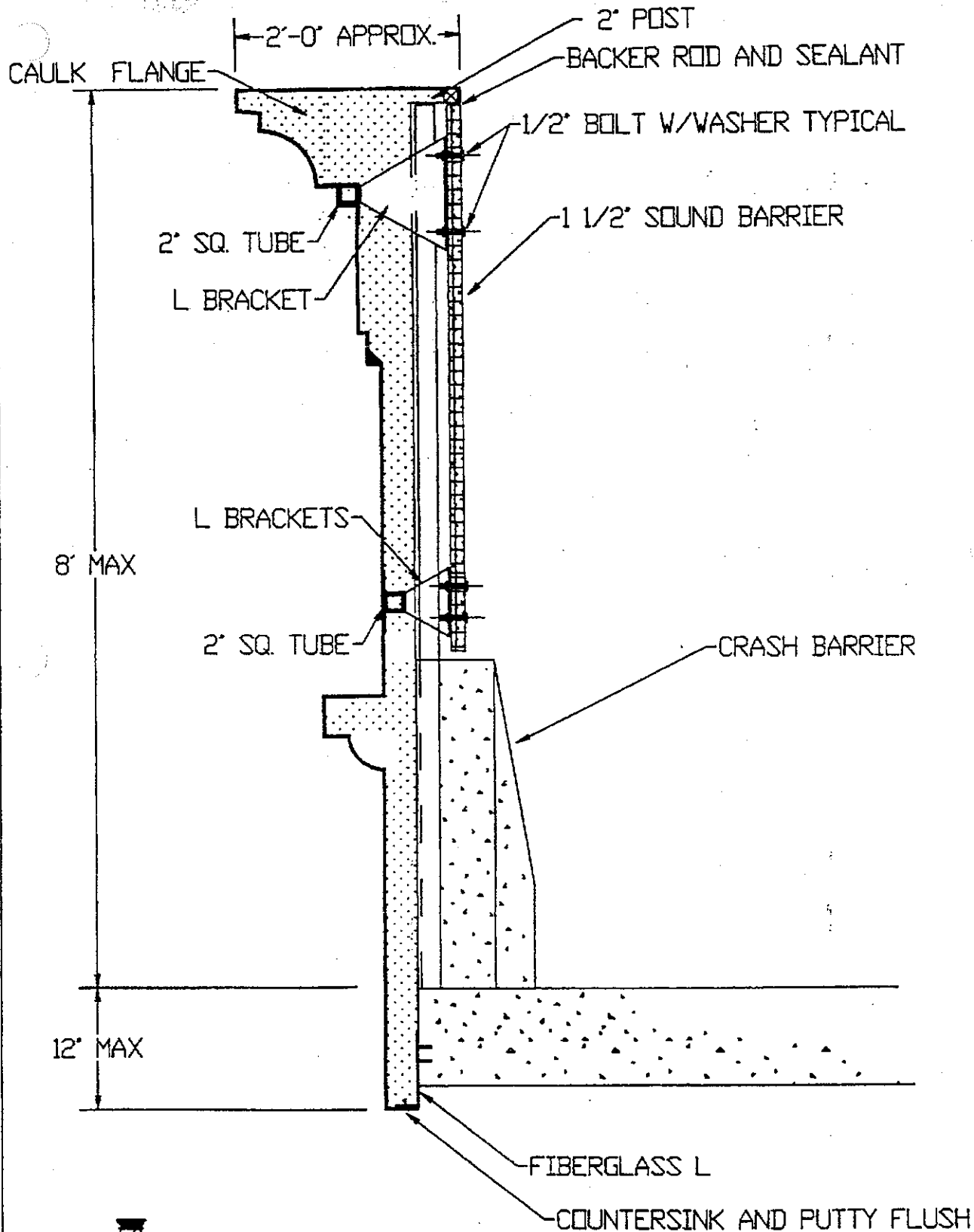
HOLOPHANE

LEADER IN LIGHTING SOLUTIONS

Holophane Corporation, 214 Oakwood Ave., Newark, NJ 07102 / Holophane Canada, Inc. 294 Walker Drive, Unit 3, Brampton, ON Canada L6T 4Z2 / Holophane Europe Limited, Bond Ave., Milton Keynes MK1 1JG, England / Unique Lighting Solutions, 13/30 Heathcote Road, Moorebank, NSW 2170 Australia / Holophane, S.A. de C.V., Apartado Postal No. 986, Naucalpan de Juarez, 53000 Edo. de Mexico.

Contact your local Holophane sales representative for application assistance, and computer-aided design and cost studies. For information on other Holophane products and systems, call the Customer Service Center at 740-345-9631. In Canada call 905-793-3111 or fax 905-793-9597.

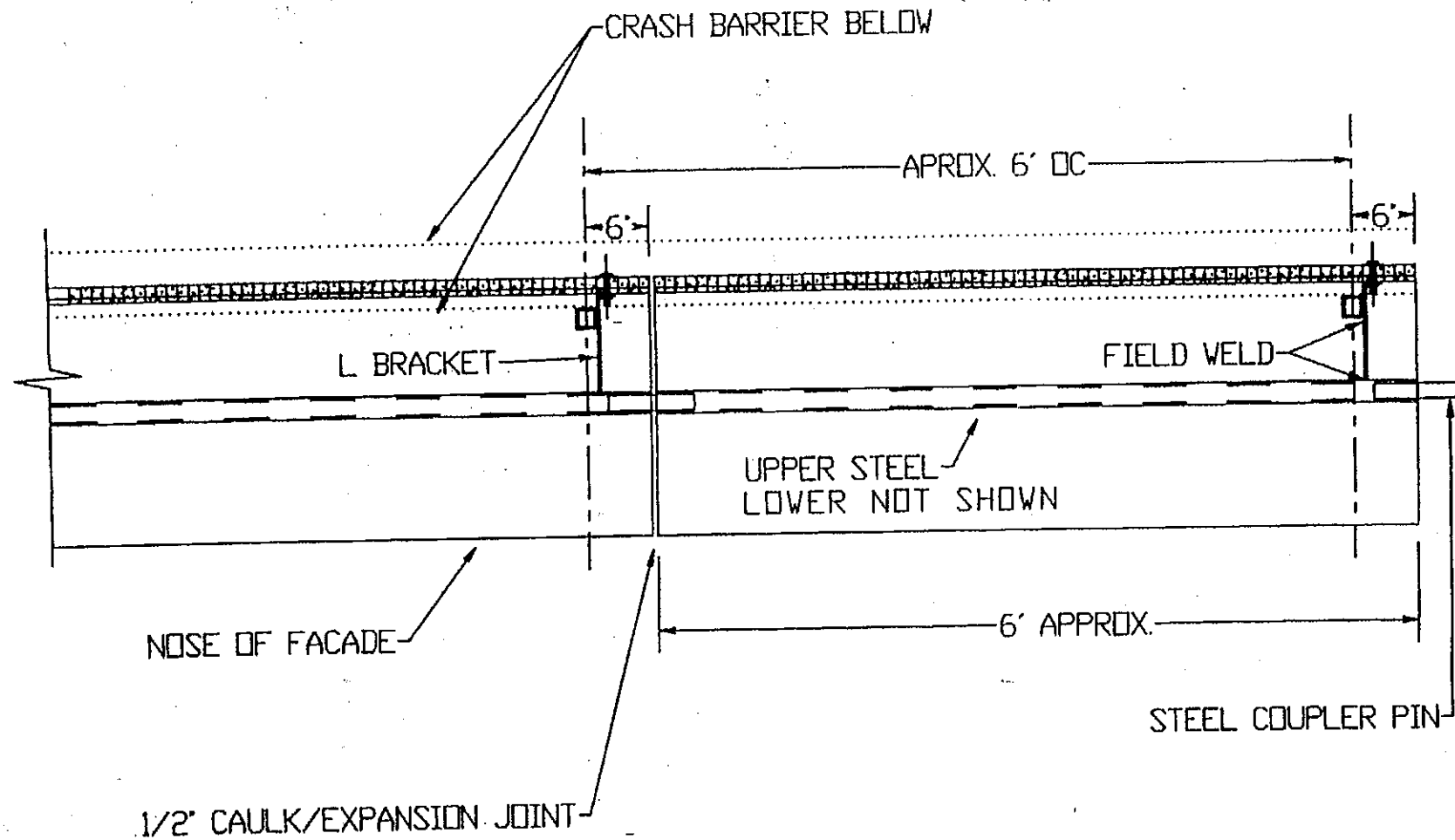
Limited Warranty and Limitation of Liability Refer to the Holophane limited material warranty and limitation of liability on this product, which are published in the "Terms and Conditions" section of the current price schedule, and is available from our local Holophane sales representative.



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TEL 727-726-2316 FAX 725-2897

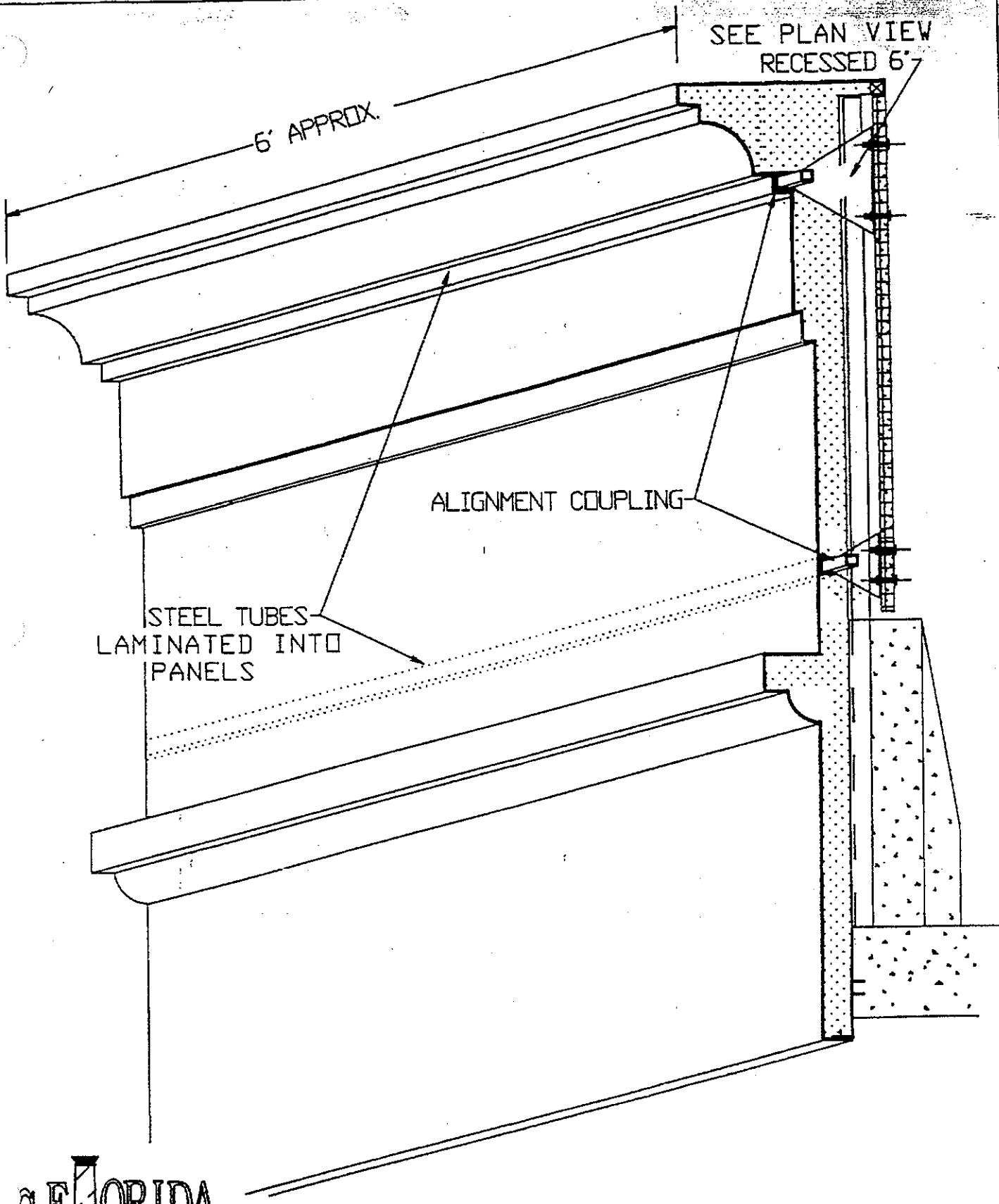


PLAN VIEW

FLORIDA
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CF FLORIDA
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**Transmittal**

**Parsons
Brinckerhoff**

1408 North Westshore Blvd., Suite 300
Tampa, FL 33607
813-289-5300
Fax: 813-289-4405

To: Mr. Irwin Prescott

From: Howard Hoffman

FDOT District 7

Date: 05/19/00

11201 McKinley Drive

Project: I-4, Segment 3A & B

Tampa, FL 33612

Project number: 15403

via:

☐ mail

☐ messenger

☐ faxed

for your:

☒ information/use

☐ approval

☐ review/comment

the following:

☐ shop drawings

☐ copy of letter

☐ prints

☐ change order

☐ plans

☐ samples

☐ specifications

☒ other

☐ _____

drawing	rev. no.	description	copies	date
		Free standing noise wall cost estimate	1	5/19/00

If enclosures are not as noted, kindly notify us at once.

Comments: Per your request, we have prepared this cost estimate for a free standing noise wall. Please note that this cost does not include the cost of the noise wall panel, only the support structure itself. Also, we have given cost per lineal foot of wall for different deflections at the top of the wall. We should probably use the cost for the 0.6 inch deflection, as the perception of a wall swaying in the breeze by the public would be not be acceptable.

Copies w/ enclosures to: Elaine Illes, Carol Bryant, Frank Balsamo, File 15403 10,31, 10/18

signature: 

Parsons Brinckerhoff, Inc.**By: MSL****Date: 5/18/00****Linear Foot Cost for Noise Walls on I4 - 3A/3B****Drilled Shaft:****6ft Dia.: \$270.00 per Lin ft x 20 ft = \$5,400.00****Steel Beams:****W14x74: \$57.72 per Lin ft x 28 ft = \$1,616.16****W27x84: \$65.52 per Lin ft x 28 ft = \$1,834.56****W36x135: \$105.30 per Lin ft x 28 ft = \$2,948.40****Using W14x74:****\$701.82 per Lin ft of wall****Deflection = 5.8 in****Using W27x84:****\$723.46 per Lin ft of wall****Deflection = 1.6 in****Using W36x135:****\$834.84 per Lin ft of wall****Deflection = 0.6 in****Notes:****Steel Beam Priced at \$.78 per lb****Deflection taken at top of Barrier Wall****Price does not include cost of Noise Wall Panels**

Parsons Brinckerhoff Computation Sheet

Subject 3A/3B - NOISE WALLS

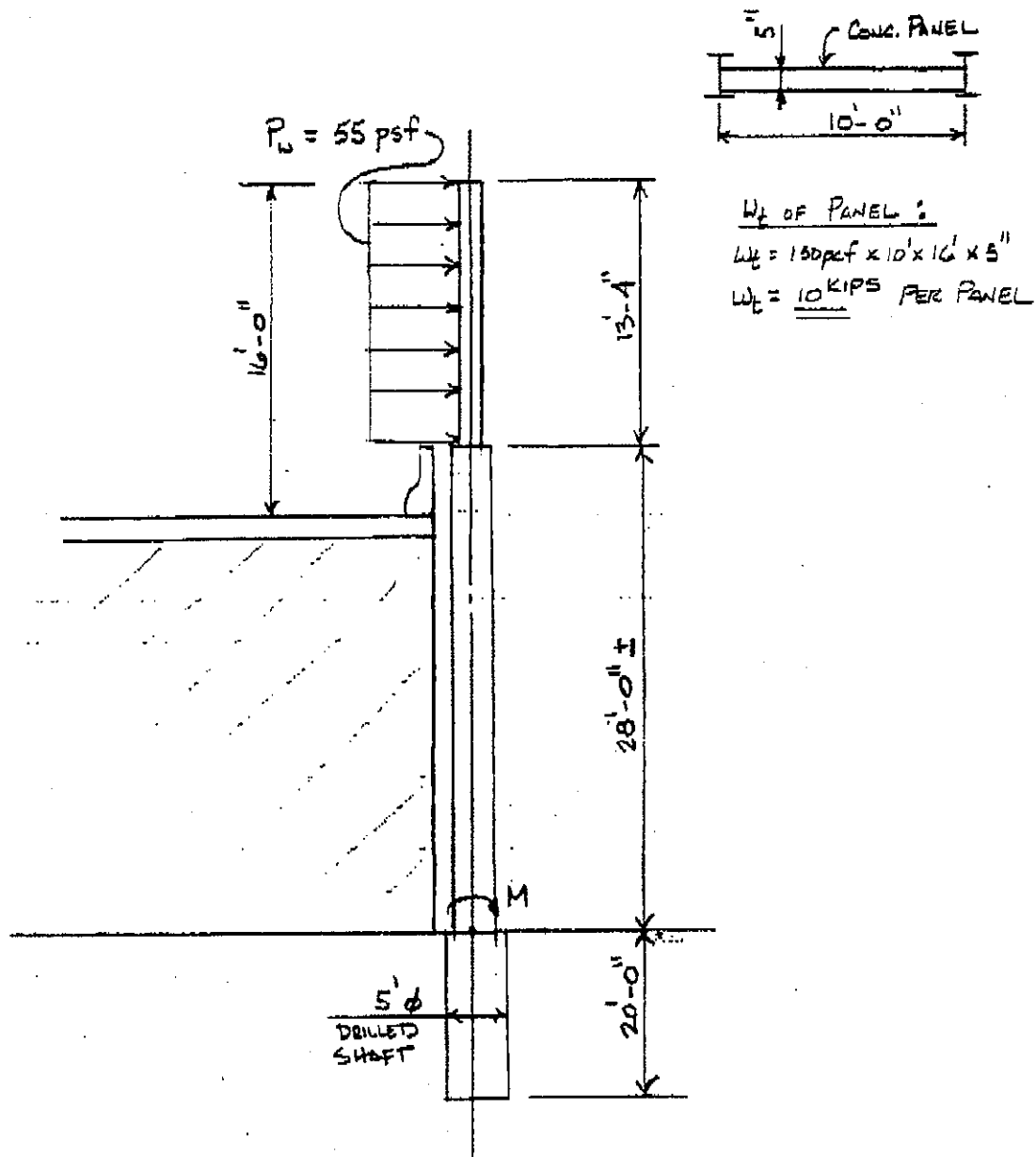
Page 1 of

Made by MSL

Date 5/18/2000

Checked by

Date



**Tampa Interstate Study
Aesthetics Coordination Team Meeting
July 21, 2000**

Agenda

- I. On-System Lighting Issues
 - A. Illuminaire
 - B. Pole/ Color
 - C. Recommendation /Next Step

- II. On-System Signing Issues
 - A. Research on Type of Supports
 - B. Research on Costs
 - C. Color consistent with Lighting?
 - D. Recommendation / Next Step

- III. Update of Noise Wall Activities since June 1st Meeting

- IV. Landscape Update

- V. Opportunities for Public Art
 - A. Current Public Art Projects within the Vicinity
 - B. Potential Complimentary Projects
 - C. Preliminary Identification of Locations within the Interstate Project

July 27, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Meeting, Friday July 21, 2000

On Friday July 21, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team met at 2:00 p.m. at McDonalds on Fowler Avenue at Nebraska Avenue to discuss aesthetics issues. A copy of the agenda is attached. In attendance were Bijan Bhzadi (FDOT), Jonathon Toner (Terra Tectonics), Steve Malecki (PBS&J), Elaine C. Illes (IPI), and Jane Burner and Mark Jennings (URS).

I. On-System Lighting Issues

From the meeting location, the Design Aesthetics Team was able to walk to Nebraska Avenue to view newly installed luminaries called the "Holophane Mongoose" mounted on polished aluminum poles. There was considerable discussion among the group about the fixtures and poles and the desire to have them blend into the background. The lights installed on Nebraska Ave are polished aluminum. After consideration of other aesthetic design features of the interstate and the desire for the poles to be "invisible" to the driver, the Design Aesthetics Team agreed that bronze colored aluminum poles are the preferred choice for mounting the lighting system.

In addition, Bijan explained that the aesthetically pleasing flush mounted glass meets the lighting design completed to date by Parsons Brinckerhoff. (Nebraska Ave. lights are not flat glass fixtures.) It was agreed that the Holophane Mongoose fixtures are much more appealing than the standard cobra head fixtures while meeting the stringent lighting requirements for the interstate system. The Holophane Mongoose is the preferred lighting system for installation along the interstate.

II. On-System Signing Issues

PBS&J followed up with Jose Rodriguez who recommended they look at a Colorado Project. Steve reported that PBS&J collected photographs and design details. Steve will forward the photos to the group following the meeting.

For the major highway signage, a curved mono-tube design similar to those in use along the Suncoast Parkway is recommended. The cost of a curved mono-tube design is approximately twice that of the standard pole design but is much more desirable from the standpoint of aesthetics. It was agreed that the mono-tube signage system will match the bronze color of the light poles for uniformity along the interstate.

III. Update on Noise Wall Activities Since the June 1, 2000 Meeting

Elaine reported that a memo from Central Office structures has been sent out requiring either any wall on top of a jersey barrier be crash tested or the wall be set back 5 feet from the jersey barrier. (See the attached memo.)

The special sound absorption noise wall material proposed for use along the interstate system has not been crash tested for use. Elaine Illes reported that Carrol Bryant (TSI/ESA) is going to re-model the proposed new noise wall design to determine any loss of noise reduction effectiveness. The six-foot wall has been crash tested and meets the intent of the memo. A follow up noise barrier meeting is to be held to further review the approach.

IV. Landscape Update

The City of Tampa has signed landscape maintenance agreements with the FDOT for the City to provide continuous maintenance of the landscaping installed along the interstate. As such, landscaping needs to be placed back into the scopes of the design firms currently working on the various interstate design segments. The FDOT is currently considering a landscaping budget of approximately \$1,000,000 per design segment but may consider the landscaping budget as a percentage of total construction cost, such as 1.5 percent per design segment as was committed to beyond years 2002.

V. Opportunities for Public Art

Jane Burmer reported that Robin Nigh of Art in Public Places will attend the next Design Aesthetics Team Meeting. At that meeting, potential complimentary projects will be discussed along with the identification of potential locations within the interstate project.

Bijan Bhazadi announced that FDOT is issuing a special assignment to URS to research the feasibility of variable message signs along the interstate system. Elaine Illes noted that URS must make sure to coordinate with the mono-tube signage supports as proposed along the remainder of the interstate.

Next Meeting:

The next meeting of the Design Aesthetics Team will be sometime during the week of August 21st, 2000.

- Jane Burmer will coordinate with Robin Nigh to make sure Ms. Nigh can attend. In addition, Ms. Burmer will make sure discussion of public art along the interstate is placed on the agenda for the upcoming Mayor's Beautification Committee Meeting.
- Elaine Illes will coordinate with Irwin Prescott (FDOT) to add landscaping back into all the design scopes. In addition, Ms. Illes will discuss with Wilson Stair (City of Tampa) the schedule for going before Tampa City Council to request perpetual landscape maintenance funds.

September 1, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Meeting, Thursday August 24, 2000

On Thursday August 24, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team met at 10:30 a.m. at the office of Terra Tectonics in Tampa to discuss aesthetics issues. In attendance were Robin Nigh (City of Tampa, Art in Public Places), Steve Malecki (PBS&J), Jonathon Toner and Tom Merrell (Terra Tectonics), Elaine C. Illes (IPI), and Jane Burner and Mark Jennings (URS Corp.).

Steve Malecki (PBS&J) reported that Irwin Prescott of the Florida Department of Transportation (FDOT) had recently discussed with him the need for a public involvement push in West Tampa. There really needs to be a presentation to the West Tampa community before October 3rd. Elaine C. Illes stated that she recommended a presentation to the West Tampa Chamber of Commerce about 5 months ago and suggested that this would still be the logical first group to start with in West Tampa.

Jane Burner (URS Corp.) suggested it was time to schedule a presentation before the Mayor's Beautification Committee regarding the recent landscape maintenance agreement between the FDOT and the City of Tampa. In addition, there has been some talk of Tampa International Airport (TIA) assuming some of the landscape and lawn maintenance responsibility along Spruce Street in the vicinity of the airport from FDOT.

Steve Malecki indicated that FDOT and TIA are talking about maintenance agreements in the vicinity of the airport. In addition, the Hyatt Westshore complex is positioning itself for a damage claim against FDOT. As a result of that, Steve has modified the roadway design plans to avoid any impacts to the Hyatt Hotel property but the revised design leaves little or no room for landscaping along the roadway.

Both Jane Burner and Steve Malecki indicated that it is time to pursue supplemental agreements with FDOT for landscape design within each design segment. None of the design firms has a landscape budget at this time with the exception of Design Segment 2A.

Elaine C. Illes distributed photos of aesthetic signposts provided by PBS&J that are currently in use in Colorado. They are the same rounded and curved style that is under consideration for implementation along the interstate in Tampa. The only change would be the color. In Tampa, the Design Aesthetics Team preferred color is bronze. That will

also be the color of the light posts that will support the mongoose holophane light fixture. The Design Aesthetics Team is in agreement on both the sign poles and light poles.

With regard to noise wall issues, Elaine reported that an FDOT noise meeting will likely be held the second week of September. Noise wall issues are still very much undecided as of this time. Crash testing of the noise walls has yet to be conducted. New designs may not provide the sound reduction required.

Robin Nigh conducted a slide presentation showing examples of public art on roadway noise and retaining walls. Uniquely designed bridge support piers were also included. As Robin explained, sometimes the artist is involved with the designers and the contractor. The specifications for the art are put into the bid documents. She talked about public art funds and Tampa's public art ordinance which raises money. She currently is overseeing projects at Union Station, Tampa's Street Car Project, along 7th Avenue in Ybor City, and at the Sulphur Springs Pool. There is a Cultural Arts District in Tampa that runs from the vicinity of the Performing Arts Center to Kennedy Boulevard along Ashley Street. Other public art opportunities include the Gateway to the Cultural Arts District, the Tampa Heights Greenway, behind Blake High School along the river, and in Ybor City. There are lots of options.

Robin suggested that the TIS Design Aesthetics Team put together a list of candidate locations for public art opportunities and try to determine what our needs are. The Public Art Community can help with some dollars and FDOT Central Office might be able to help as well.

Elaine suggested that the Design Aesthetics Team identify some opportunities and then meet again with Robin to indicate where Art in Public Places may want to participate.

Action Items:

Jonathon Toner will work on identifying public art opportunity locations in West Tampa and Ybor City. Elaine C. Illes will identify the same in the downtown interchange area.

The next meeting of the DRC will be on September 26, 2000 at 1:30 p.m. at Terra Tectonics. At that meeting the Team will be discussing pedestrian level treatments. Are there certain elements that we always want to maintain the same? Be thinking about pedestrian level treatment issues.

Jane Burmer mentioned that examples of concrete cleaning and staining can be seen along the Crosstown Expressway near Swan Avenue and Willow showing three shades of tan.

A meeting date needs to be set with Pat McCue at the Expressway Authority to go over the Ybor City gateway issues.

Robin will research how and when artists are brought into the design and construction process and TEA21 Options.

The Design Aesthetics Team should consider developing an identity logo for the Westshore Business District consisting of signing, colors, etc since this was requested early in the TIS EIS phase.



TRANSMITTAL

TO : *Elaine Illes*
CLIENT : *Impressive Products, Inc.*
ADDRESS :
PHONE NUMBER :
FAX NUMBER :

DATE : *July 31, 2000*
PBS&J PROJECT No. : *100617*
AUTHOR : *Steve Malecki*
PHONE NUMBER : *(813) 877-7275*
FAX NUMBER : *(813) 288-9072*

REFERENCE:

PROJECT NAME :	<i>SR60</i> <i>From Courtney Campbell Causeway to South of Fish Creek</i>
CLIENT NAME :	
ADDRESS :	
PHONE NUMBER :	
FAX NUMBER :	
CLIENT PROJECT No. :	<i>255630-01-52-01</i>

SUBJECT : *Monotube overhead sign structures*

Ms. Illes:

Attached please find 5 copies of sample plans, photos and notes for monotube overhead sign structures. I was unsure of your intended distribution list so hopefully 5 copies will be sufficient.

If you have any questions or need additional information call me at (813) 877-7275 Ext. No. 482

Thanks

Jay Winter

DISTRIBUTION : *File 100617, Derrick Luc, Jose Sandoval*

Interstate Aesthetics Overhead Sign Structures

July 11, 2000

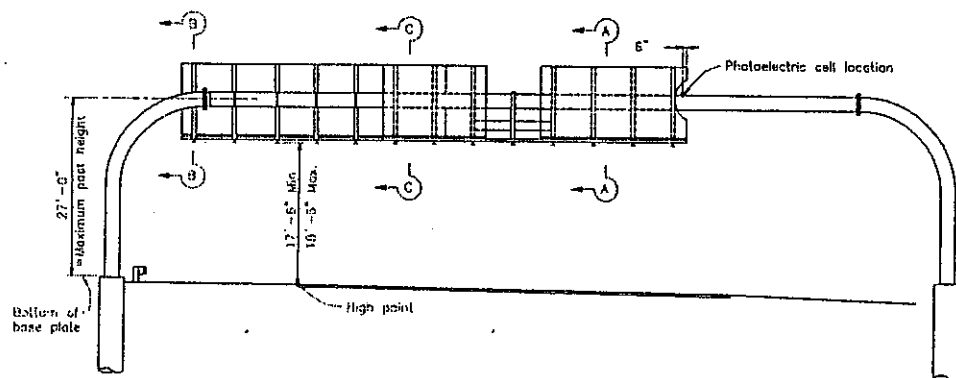
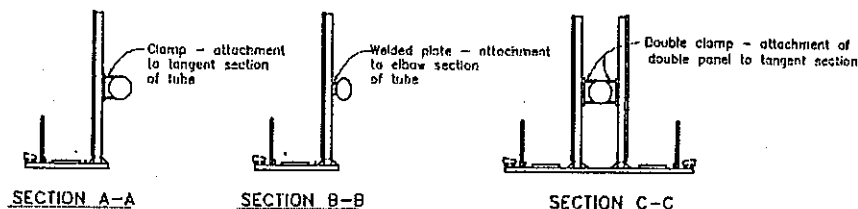
- Discussed future interstate overhead sign structures with Jose Rodriguez in June. Jose pointed out, as an example, the monotube structures in Denver, Colorado on the interstate leading to the Denver Airport.
- Obtained digital pictures of these structures for both the cantilever and sign bridge types.
- Cost Comparisons based on FDOT District 7 Pay Item Average Unit Cost Report (Jan 97 thru May 2000)

	<u>Monotube</u>	<u>Truss</u>
Cantilever (31' – 40' long, 101 – 150 sf)	\$42,000	\$21,000
Sign Bridge ((41' – 60' long, 401 – 500 sf)	\$89,000	\$48,000

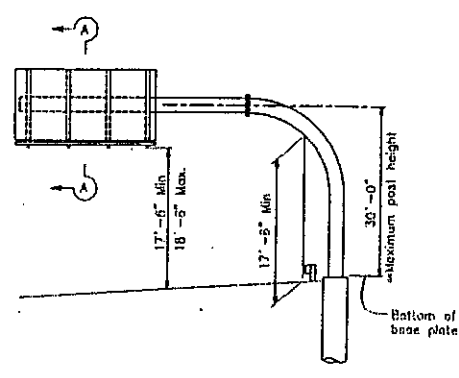
GENERAL NOTES

1. Bars, plates, and shapes shall be structural steel conforming to the specifications of ASTM Designation: A 36.
2. High-strength steel bolts, nuts and washers shall conform to the specifications of ASTM Designation: A 325. All other bolts and nuts shall conform to the specifications of ASTM Designation: A 307. Such bolts shall be furnished with commercial quality washers.
3. Pipe posts shall be welded or seamless steel pipe conforming to the specifications of ASTM Designation: A 53, Grade B. At the option of the Contractor, posts may be fabricated from structural steel conforming to the specifications of ASTM Designation: A 36. Anchor bolts shall be made from steel bar conforming to AASHTO M 314-90 with 55,000 psi min. yield stress and 75,000 psi min. tensile strength.
4. Sign structures shall be constructed true to dimensions, shall be free from kinks, twists or bends, and shall be uniform in appearance. The completed sections shall be assembled in the shop and shall be checked for straightness, alignment, and dimension. Any variations shall be corrected to the satisfaction of the Engineer.
5. Must arms shall be temporarily supported to take all load off of the field splices while bolts are being tightened in order to firmly seat the flange plates.
6. Posts for tubular sign structures shall be formed to the radii shown on the plans by heat treatment or by fabrication to such radii by methods which will not crimp or buckle the interior radius of the pipe bend.
7. Clips, eyes, or removable brackets shall be affixed to all posts and most arms, as necessary, to secure the sign during shipping and for lifting and moving during erection. This is to prevent damage to the finished galvanized or painted surfaces. Brackets on tubular sign structures shall be removed after erection. Details of such devices shall be shown on the shop drawings.
8. High-strength bolted connections, where shown on the plans, shall conform to the provisions of 509.28, Connections Using High-Strength Bolts. Assembly of high-strength bolted connections for sign structures may be performed with galvanizing or paint on the contact surfaces.
9. Bolts with diameters exceeding by up to $\frac{1}{4}$ inch the diameter of the bolts shown on the plans may be used, provided that required clearances and edge distances are not reduced below that required for the larger bolt.
10. Walkways shall only be located underneath and between sign panels. Do not locate walkways under any other portions of sign structure which do not have sign panels.

11. All sign structures shall be fabricated into the largest practical sections prior to galvanizing. Splice locations shall be submitted to the Engineer for approval and the Contractor shall not commence fabrication until such splice locations are approved.
12. Welding of steel shall conform to the requirements of AWS D1.1. All areas to be welded shall be ground to bright metal. No butt weld splices will be permitted. All welding and required testing shall be complete before any material is galvanized. All circumferential and stiffener welds shall be non-destructively tested using the enhanced magnetic particle method in accordance with Subsection 509.18(d). The acceptance criteria are stated in Table 6.1 of ANSI/AWS D1.1. All longitudinal welds within 6" of full-penetration circumferential groove welds shall be full penetration groove welds and shall be inspected as specified above. Maximum weld undercut shall be 0.01".
13. All tube members shall be hot-dip galvanized as per ASTM A123. Walkway grailings, walkway brackets, gutters, safety railings, steel mountings for light fixtures, and all nuts, bolts, and washers for sign structures shall be galvanized after fabrication as per ASTM A123 or ASTM A153, as appropriate, and shall not be painted.
14. All concrete shall be either Class B or Class B2. Reinforcing steel: $f_y = 80,000$ psi. Caisson foundations shall be completed at least 7 days before sign structures are erected thereon.
15. Structures shall be grounded in accordance with applicable electrical codes.
16. Sheets in the index marked with an * provide instructions to designers for their use in the preparation of the x-section sheets in the Roadway Plans.
17. NPS = Nominal Pipe Size; O.D. = Outside Diameter.
18. Prior to fabrication, six sets of shop drawings, which comply with the requirements of Section 105.02 of the Standard Specifications, shall be submitted to CDOT Staff Bridge, 4201 E. Arkansas Ave. Denver, Colorado 80222.



VERTICAL SIGN BRIDGE TYPE



VERTICAL CANTILEVER TYPE

REVISIONS

S-614-50

NOTES

Specifications:

Design: "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", American Association of State Highway and Transportation Officials (AASHTO), 1994

"Fatigue-Resistant Design of Cantilevered Sign, Sign and Light Supports", National Cooperative Highway Research Program (NCHRP) Report #12, 1998.

Subsection 17.4, Signs, in the Staff Bridge Branch Bridge Design Manual.

Construction: CDOT Standard specifications, these standard sheets and the project plans.

Wind loading: 80, 90 or 100 mph velocity.

Overhead sign x-section sheets should show:

1. Sign structure location (Hwy., station and direction).
2. Length of structure span.
3. Panel size and location on structure.
4. Post heights from top of caisson to 5 arm tube.
5. Caisson diameter and minimum embedment.
6. Top of caisson elevation.
7. Caisson pay length.
8. Walkway location.
9. Photoelectric cell location if required.
10. Lane line location(s) if structure is over traffic.
11. As Constructed Block.

INDEX

1. General Information
2. Cantilever Fabrication And Field Splice Details.
3. Sign bridge Fabrication Details.
4. Structural details
5. Structural details
6. Base plate details.
7. Walkway details.
8. Walkway safety railing details
9. Lighting details
10. Cantilever - pipe selection worksheet.
11. Sign Bridge - pipe selection worksheet.
12. Foundation selection worksheet.

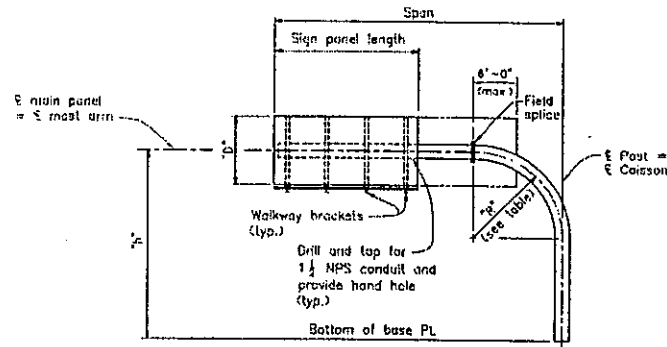
WALKWAY BRACKETS:

Maintain uniform spacing where possible. Maximum spacing shall not exceed 5'-6". Minimum clear to field splices = 1'-0" ±

COLORADO DEPARTMENT OF TRANSPORTATION

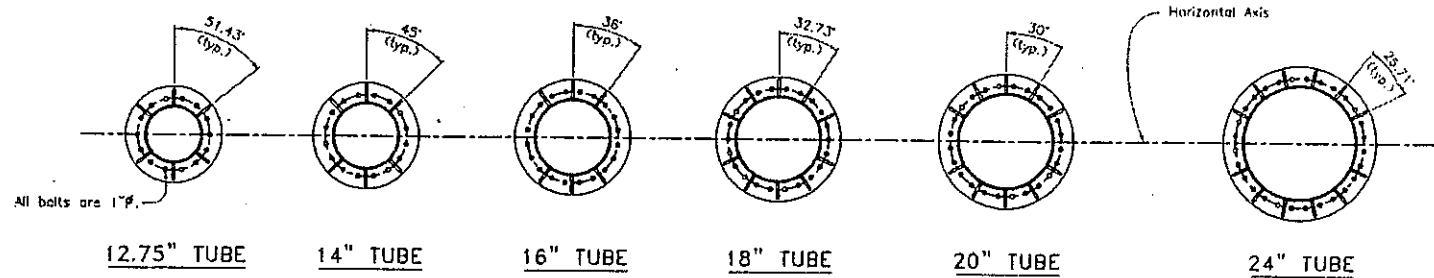
OVERHEAD SIGNS - MONOTUBE GENERAL INFORMATION

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4/10/00	ISSUED BY TRANS. SAFETY AND TRAFFIC ENGR. BRANCH
DATE REVISOR	STANDARD PLAN NO. S-614-50
DATE: Dec. 10, 1999	SHEET 1 OF 12 (ENGLISH)



VERTICAL POST CANTILEVER

PIPE POST	
Pipe OD (in.)	"R" (ft.)
12.75	8
14	8
16	8
18	8
20	8
24	10



FIELD SPICE DETAILS

Stiffeners shall be located on both sides of the field splice.

COLORADO
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS - MONOTUBE
CANTILEVER FABRICATION AND
FIELD SPICE DETAILS

9-25-99

4/10/00

ISSUED BY

DATE

REVISOR

TRANS. SAFETY AND

TRAFFIC ENGR. BRANCH

DATE: Dec. 10, 1998

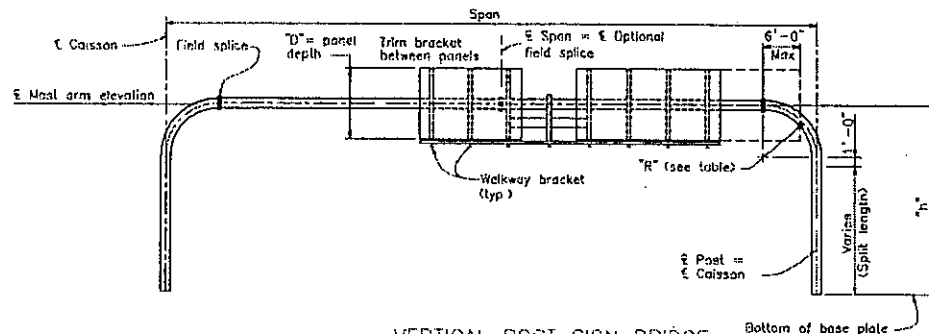
NO SCALE

STANDARD PLAN NO.

S-614-50

SHEET 2 OF 12 (ENGLISH)

MONUFAB2



VERTICAL POST SIGN BRIDGE

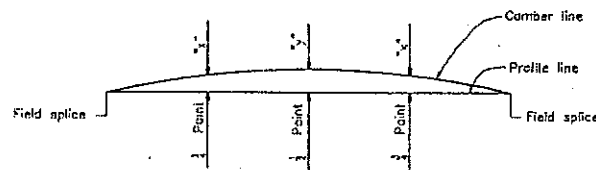
* PIPE POST

Pipe OD (in.)	"R" (ft.)	Camber type
12.75	8	(A)
14	8	(B)
16	8	(B)
18	9	(C)
20	10	(C)
24	12	(D)*

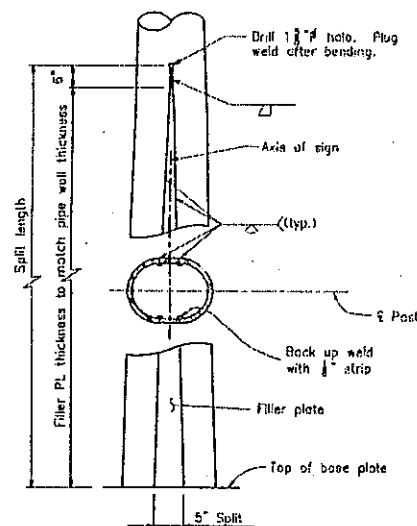
- * Use camber type C for 130' - 140'.
- * Mast arm diameter same as post.
- indicates camber type, see table.

CAMBER

Type	"x"	"y"
(A)	1 1/2"	2"
(B)	2 1/2"	2"
(C)	2 1/2"	4"
(D)	3 1/2"	5"
(E)	4 1/2"	6"



CAMBER DIAGRAM



POST SPLIT DETAILS

NOTES

- The maximum sign panel overlap onto elbow shall not exceed 6'-0" from the field splice.
- When several sign panels are to be installed with a space between the panels, the space shall be as small as possible and 2'-0" maximum.
- All posts between base plate and field splice shall have a tube wall thickness of 1/2". All mast arms shall have a tube wall thickness of 3/8".
- Before any portion of the sign frames are assembled in their final positions the Contractor shall demonstrate to the Engineer by preassembly or other approved methods that the span lengths of the frames in the no load condition match within 1/4" ± the field measured span lengths between foundations.
- If the sign frames are erected as one unit, they shall be adequately suspended to avoid distortions or changes in span length between base plates.
- For standard pipe members (Mast Arms) with lengths greater than 40'-0" an optional bolted field splice will be permitted at 1/3 of the span to facilitate galvanizing and hauling operations. For standard pipe members with lengths greater than 80'-0" two optional bolted field splices will be allowed at the 1/3 points.
- See Sheet 2 for field splice details.

COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS - MONOTUBE
SIGN BRIDGE
FABRICATION DETAILS
NO SCALE

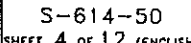
4/10/00

ISSUED BY
STAFF TRAFFIC BRANCH
DATE
REVISOR
DATE: Dec. 10, 1998

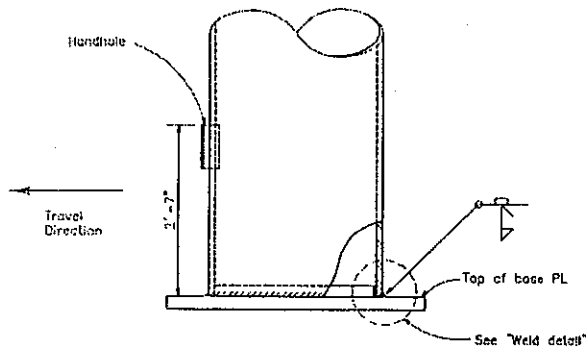
SHEET 3 OF 12

MONOFAB3

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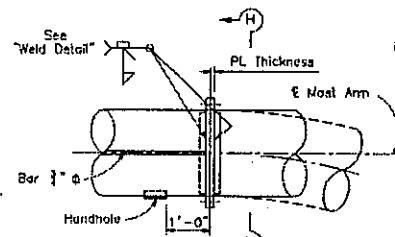


MDNOFAR4

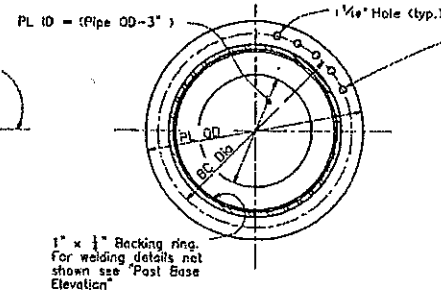


POST BASE ELEVATION

(For base PL details see "Foundation Details" sheets)

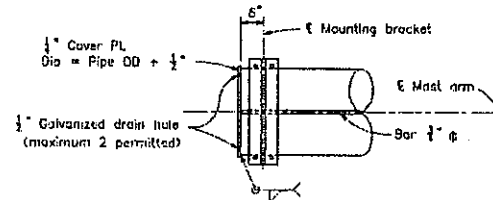
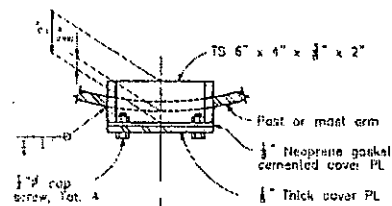


FIELD SPICE



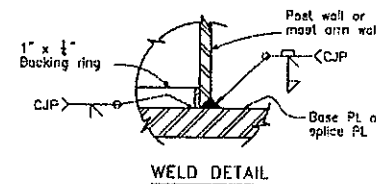
SECTION H-H

1" ASTM A-325 H.S. bolts (galvanized) equally spaced. The lubricated tightening torque is 395 ft.-lbs. for 1" bolts. Bolts shall be sequentially tightened. Assuming 12 bolts and a clock face, the tightening sequence would be 12, 6, 1, 7 etc. This process shall be continued until no loose bolts are found after all bolts have been initially tightened. See the field splice table for other details.

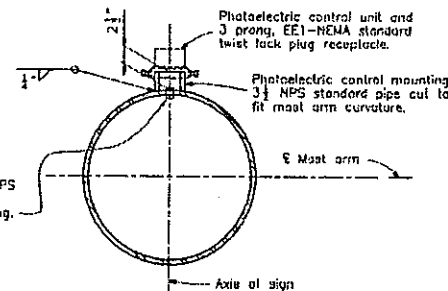


MAST ARM END DETAIL

(For "Canilever Type" only)



WELD DETAIL



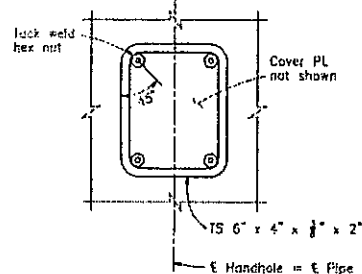
PHOTOELECTRIC CONTROL DETAILS

(See "Layout" sheet for location when required)

FIELD SPICE					
Pipe Outside Diameter (in.)	PL Thickness (in.)	BC Diameter (in.)	PL OD (in.)	# of Stiff.	# of Bolts
12.75	1 1/2	16	21	6	14
14	1 1/2	17	22	6	16
16	1 1/2	21	24	6	20
18	1 1/2	23	28	10	22
20	1 1/2	25	28	10	24
24	1 1/2	29	32	12	28

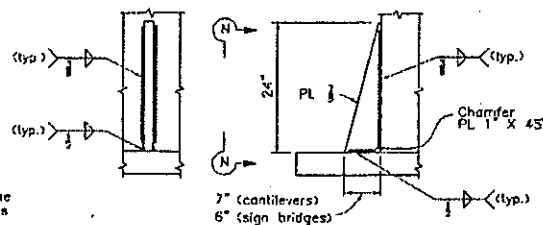
NOTES

- Design based on capacity of standard pipe.
- NPS = Nominal Pipe Size. OD = Outside Diameter.



HANDHOLE AND COVER DETAILS

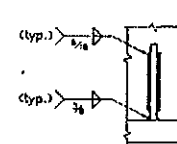
Note: Terminate weld 1/4" short of the top of the stiffener plate. At the other 3 weld terminations on these two typical welds stop the weld 1/4" short of the end of the plate.



SECTION N-N

STIFFENER DETAILS

(@ the pole base)



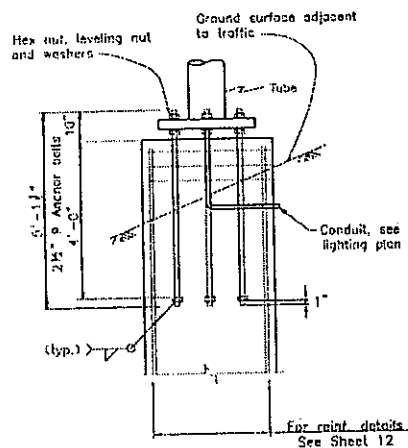
SECTION O-O

STIFFENER DETAILS

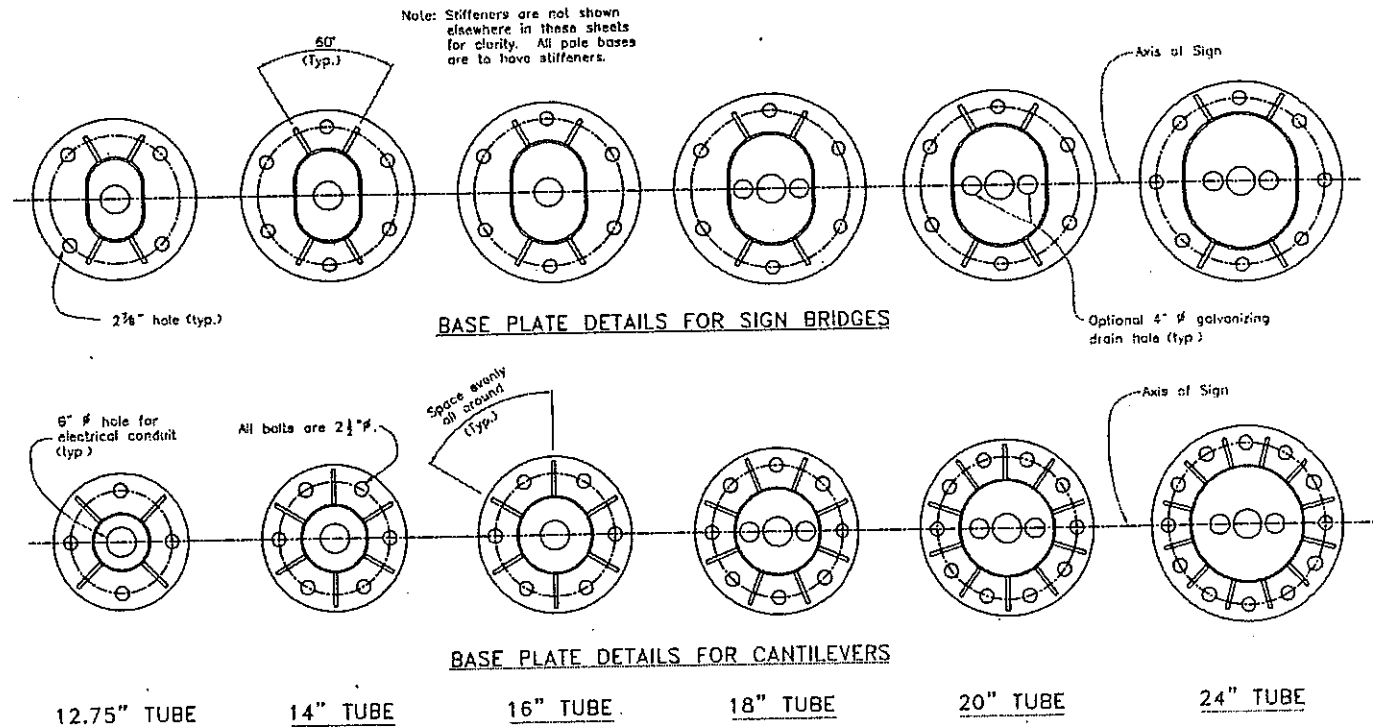
(@ the field splice)

MONOFABS

COLORADO DEPARTMENT OF TRANSPORTATION	
OVERHEAD SIGNS - MONOTUBE STRUCTURAL DETAILS	
9-25-39 4/10/50	NO SCALE
ISSUED BY TRANS. SAFETY AND TRAFFIC ENGR. BRANCH	STANDARD PLAN NO. S-614-50
DATE REVISD DATE: Dec. 10, 1958	SHEET 5 of 12 (ENGLISH)



ANCHOR BOLT DETAIL



CANTILEVERS

Pipe OD (in.)	Split (in.)	Base PL Size (Diam. x thick.) (in.)	Bolt Circle (in.)	# of Anchor Bolts	# of Stiff.
12.75	--	28" x 2.5"	21"	4	4
14	--	30" x 2.5"	23"	6	6
16	--	32" x 2.5"	25"	6	6
18	--	34" x 2.75"	27"	8	8
20	--	36" x 3.0"	29"	10	10
24	--	40" x 3.0"	33"	12	12

SIGN BRIDGES

Pipe OD (in.)	Split (in.)	Base PL Size (Diam. x thick.) (in.)	Bolt Circle (in.)	# of Anchor Bolts	# of Stiff.
12.75	6	34" x 2.5"	27"	4	4
14	5	36" x 2.5"	29"	6	4
16	5	38" x 2.5"	31"	6	4
18	5	40" x 2.75"	33"	8	4
20	5	40" x 3.0"	33"	8	4
24	5	42" x 3.0"	35"	8	4

NOTES

1. Thread upper 9" and galvanize upper 1'-0" of the anchor bolts.
2. Anchor bolts shall be set with a steel template until the concrete has cured at least two days.
3. There shall be no grout pad installed on top of the existing foundations.
4. The anchor bolts shall be tightened using the turn-of-nut method. The bolts shall first be tightened to snug tight, which is defined as the tightness that exists when the upper and lower nuts are in firm contact with the base plate. The upper and lower nuts shall then each be rotated an additional 1/8 turn ($60^\circ \pm 15^\circ$).

COLORADO
 DEPARTMENT OF TRANSPORTATION
 OVERHEAD SIGNS - MONOTUBE
 BASE PLATE DETAILS

9-25-99

4/10/00

DATE

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NO SCALE

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TRANS. SAFETY AND

TRAFFIC ENGR. BRANCH

DATE: Dec 10, 1998

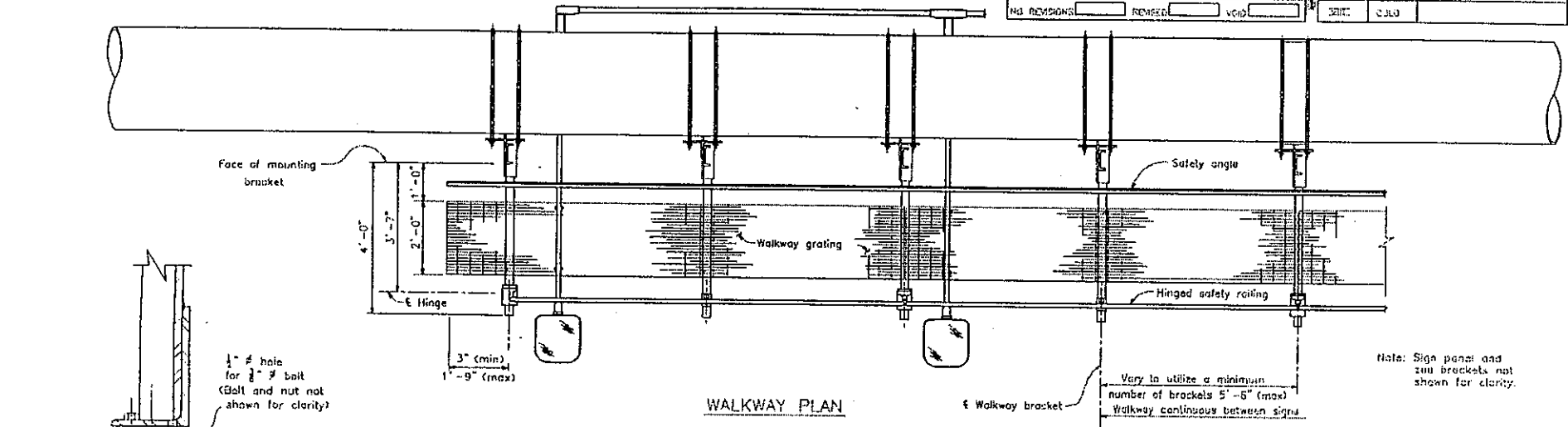
STANDARD PLAN NO.

S-614-50

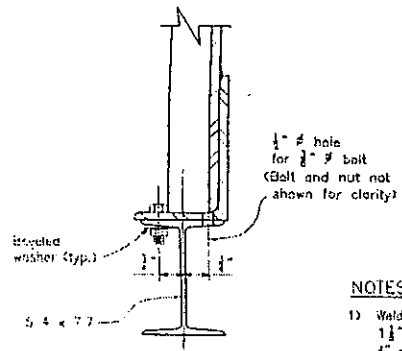
SHEET 6 of 12 (ENGLISH)

MONOTUBE

AS CONSTRUCTED			REV. ROAD RECORD	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED	VOID	DATE	C.B.O.		



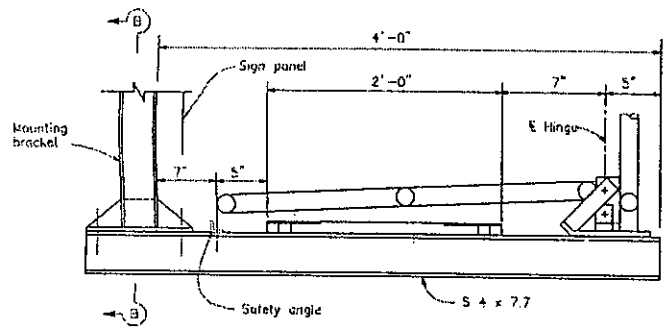
WALKWAY PLAN



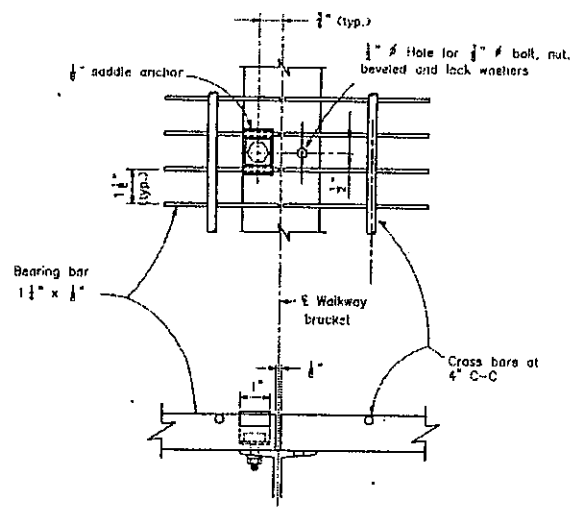
SECTION B-B

NOTES

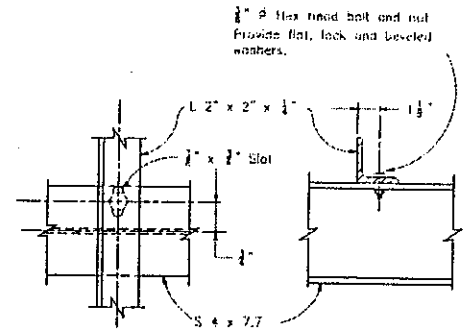
- 1) Welded type grating shall have $1\frac{1}{2}$ " x $\frac{1}{2}$ " bearing bars at $1\frac{1}{2}$ " centers with $\frac{1}{2}$ " diameter (or equal) cross bars at 4" centers. If mechanical lock grating is used, it shall be equal in strength to the welded type. Alternate hold-down clips may be submitted for approval.
- 2) Walkway grating to be continuous (no splices) over as many walkway brackets as practical consistent with fabrication, ease of handling and assembly.



TYPICAL WALKWAY SECTION



WALKWAY DETAILS

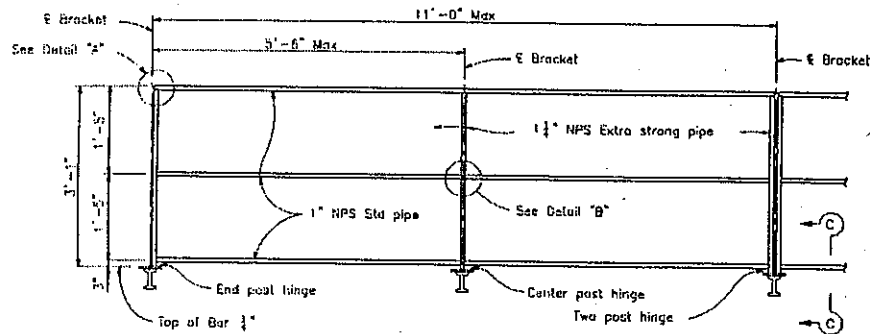


SAFETY ANGLE DETAILS

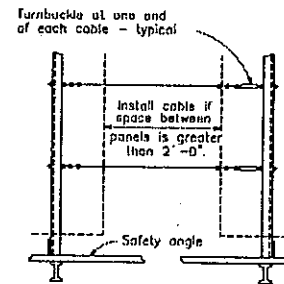
COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS - MONOTUBE
WALKWAY DETAILS

NO SCALE	
ISSUED BY STAFF TRAFFIC BRANCH	SHEET 7 OF 12
DATE REVISED DATE: Dec. 10, 1938	

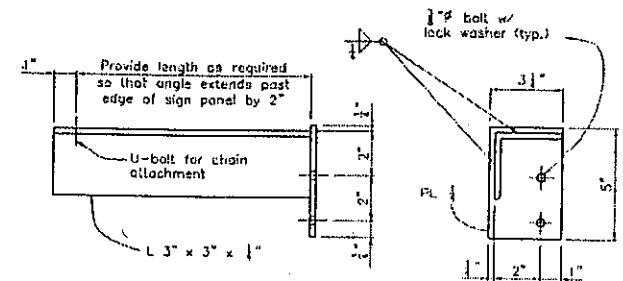
MONOFAB7



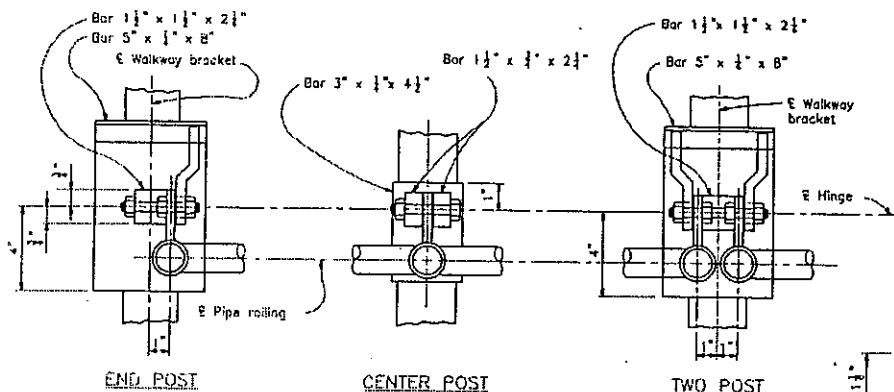
SAFETY RAILING ELEVATION



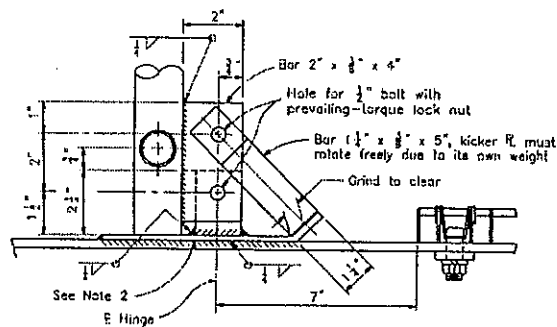
BETWEEN PANELS



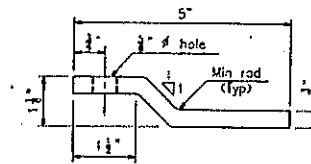
DETAIL C



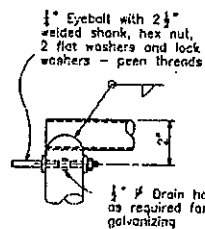
HINGE - PLAN



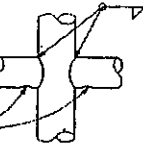
SECTION C-C



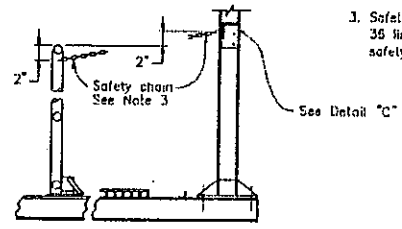
PLAN - KICKER BAR



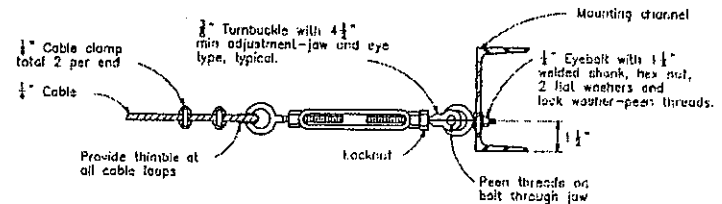
DETAIL A



DETAIL B



CHAIN ASSEMBLY



TURNBUCKLE DETAILS

NOTES

1. Special care shall be taken to insure that the complete hinge and latch assembly will hold the safety railing in a steady manner, free of wobble while in the raised position. Maximum allowable displacement from vertical at top of railing when latched shall be 1".
2. Details for bolting hinge base plate to walkway bracket may be submitted for approval.
3. Safety chain shall be 1/2" galvanized steel coil chain, approximately 36 links per yard. Length shall be minimum which allows lock-up of safety railing.

NOTES

Alternative venting methods may be used if approved by the Engineer.

COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS - MONOTUBE
WALKWAY SAFETY RAILING DETAILS

9-25-99

4/10/00

DATE

REVISED

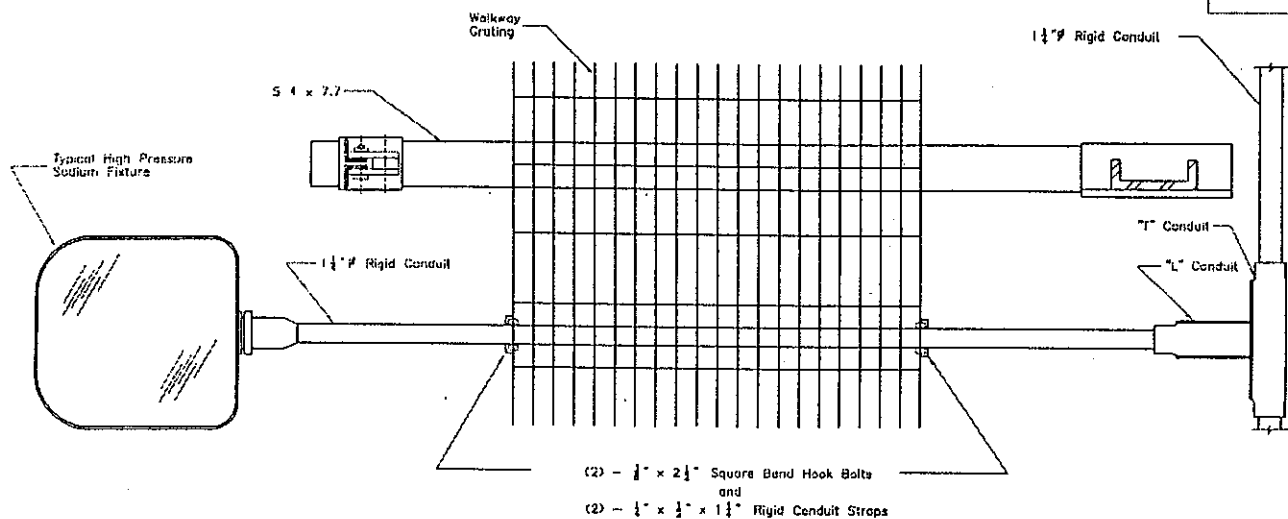
NO SCALE

ISSUED BY
TRANS. SAFETY AND
TRAFFIC ENGR. BRANCH

STANDARD PLAN NO.
S-614-50

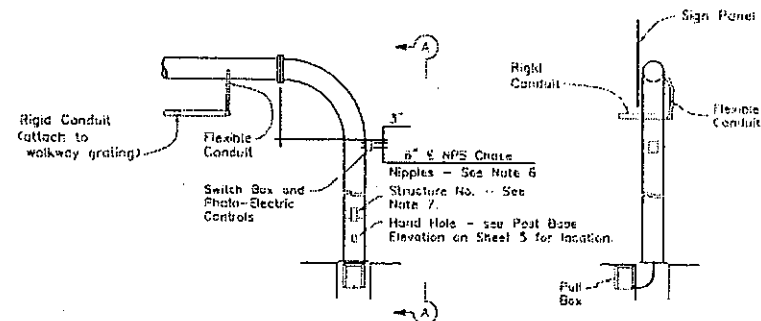
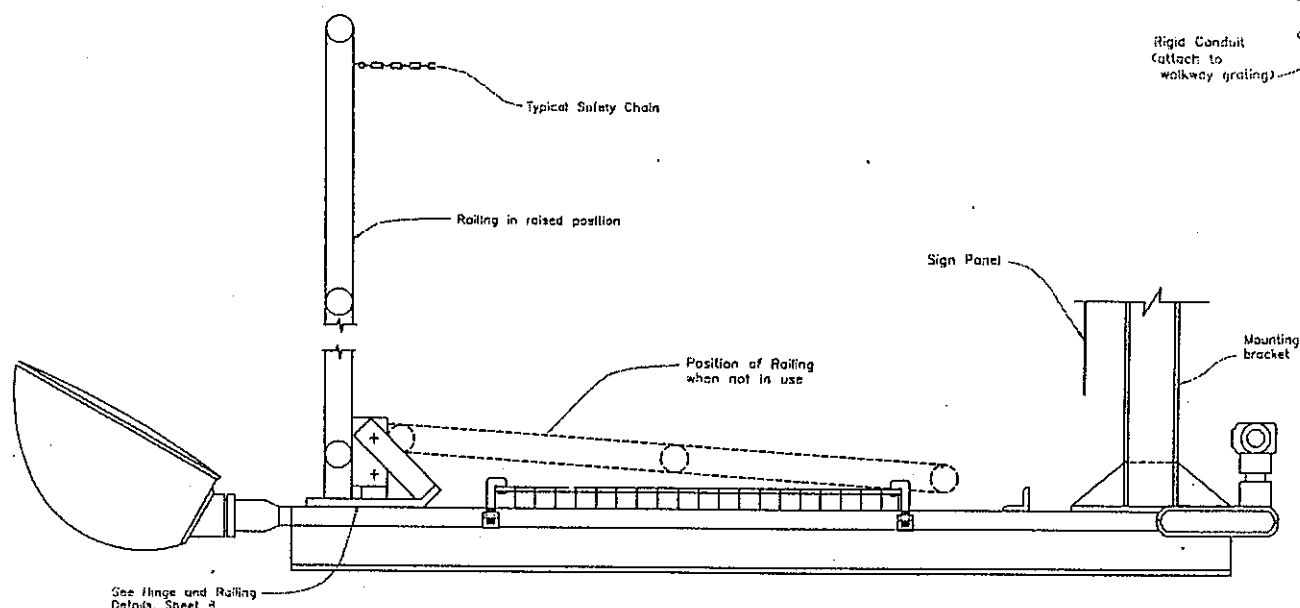
DATE: Dec. 10, 1998 SHEET 8 OF 12 (ENGLISH)

MONOFAB



LIGHTING NOTES

1. Fixtures shall be watertight, dustproof and designed for ease of lamp and ballast replacement.
2. Lamp shall be of High Pressure Sodium type (250 Watt). Lamps and ballasts shall be designed to operate over an ambient temperature range of -20°F to $+120^{\circ}\text{F}$.
3. Ballasts shall be of the magnetic regulator type specifically manufactured for use with high pressure sodium lamps, and shall operate at a minimum of 90% power factor. Operation shall be suitable with a line voltage variation of $\pm 10\%$.
4. The type, number and spacing of fixtures shall be per manufacturer's specifications to maintain a maximum initial illumination of the sign face of 30 footcandles to 50 footcandles with a maximum uniformity ratio (maximum illumination / minimum illumination) of 5:1.
5. Fixture and mounting details will be subject to approval by the Engineer.
6. Drill and tap 1 $\frac{1}{8}$ " NPS chase nipples and plug with recessed pipe plugs. Place perpendicular to sign panel axis and away from approaching traffic.
7. Install structure member in accordance with M and S standard M-514-12 using two $\frac{1}{2}$ " wide stainless steel bands and aluminum steel flared tag brackets with hex head bolts (8000 - IT D315 or equivalent).



SECTION A-A

NOTE:

See other pages in this standard for details not shown. All details which are not shown on this sheet have been omitted for clarity.

COLORADO
 DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS - MONOTUBE
LIGHTING DETAILS

9-25-94

4/10/01

DATE

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NO SALE

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TRANS. SAFETY AND

TRAFFIC ENGR. BRANC

DATE: Dec 10, 1968

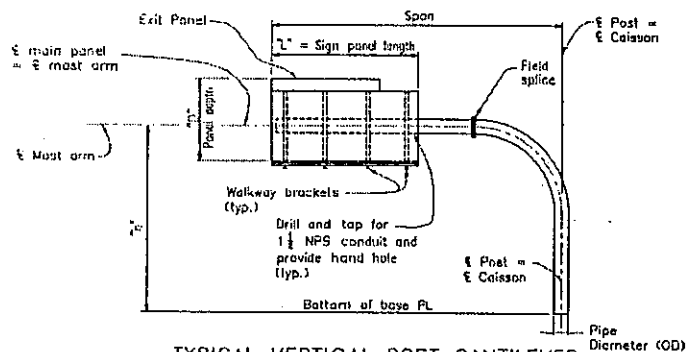
STANDARD PLAN NO.

S-614-50

SHEET 9 OF 12 (END)

STRENGTH OF MATERIALS

MCN0FAGG



TYPICAL VERTICAL POST CANTILEVER

PIPE SELECTION PROCEDURE FOR VERTICAL POST CANTILEVERS

- Coverage Percentage = $\frac{\text{Sign panel length}}{\text{Span}}$ For the span length use the span from one of the charts (25', 35', etc.), not the actual span.
- Pick the pipe outside diameter (OD) from the 0-50% or the 51-80% chart. The coverage percentage chosen should be high enough to include any sign panels which may potentially be placed on this sign in the future.
- To determine "D" for the selection charts add the area of the exit panel, if present, to the main sign panel area. Divide by the main panel length to obtain "D".
- If no tube is shown for a certain span this indicates that this span/sign panel/height combination exceeds the limits of this standard.
- On the overhead sign x-section sheet indicate the diameter of the tube, the height "h" and the span.
- Obtain the design wind speed from the overhead sign x-section sheets in the Roadway Plans.

UP TO 50% COVERAGE CHART

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	12.75	14	14	14	14	16
	25	14	16	16	16	16	18
	30	16	18	18	18	18	20
	35	18	20	20	20	24	24
	40	20	24	24	24	24	24
	45	24	24	24	24		

51-80% COVERAGE CHART

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	16	16	16	18	18	20
	25	18	18	18	20	20	24
	30	20	20	20	24	24	24
	35	24	24	24	24		
	40	24	24				
	45						

90 MPH WIND

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	14	14	16	16	16	18
	25	16	18	18	18	18	20
	30	18	20	20	20	24	24
	35	20	24	24	24	24	24
	40	24	24	24			
	45						

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	16	18	18	20	20	20
	25	20	20	20	24	24	24
	30	24	24	24	24		
	35	24					
	40						
	45						

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	16	16	16	18	18	18
	25	18	18	20	20	20	24
	30	20	24	24	24	24	24
	35	24	24	24			
	40						

"D" (ft.) →		10'		12'		14'	
"h" (ft.) →		h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30	h ≤ 25	25 < h ≤ 30
Span & h (ft.)	20'	18	20	20	24	24	24
	25	20	24	24	24		
	30	24	24				
	35						

PROCEDURE TO DETERMINE THE DESIGN WIND SPEED

80 mph is the standard design wind speed for the State of Colorado. The standard design wind speed of 80 mph is to be used at all locations except the following:

- Use the 90 mph wind speed for locations within 4 miles of either side of the base of the foothills along the front range of the eastern slope.
- Use the 100 mph wind speed for locations in Boulder County.

If there are questions concerning the proper design wind speed contact the Staff Bridge Branch

COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS - MONOTUBE
CANTILEVER
PIPE SELECTION WORKSHEET
NO SCALE
ISSUED BY
STAFF TRAFFIC BRANCH
DATE
REVISOR
DATE: Dec. 10, 1993
SHEET 10 OF 12

MONOSELL

4/10/00

DATE
REVISOR

80 MPH WIND

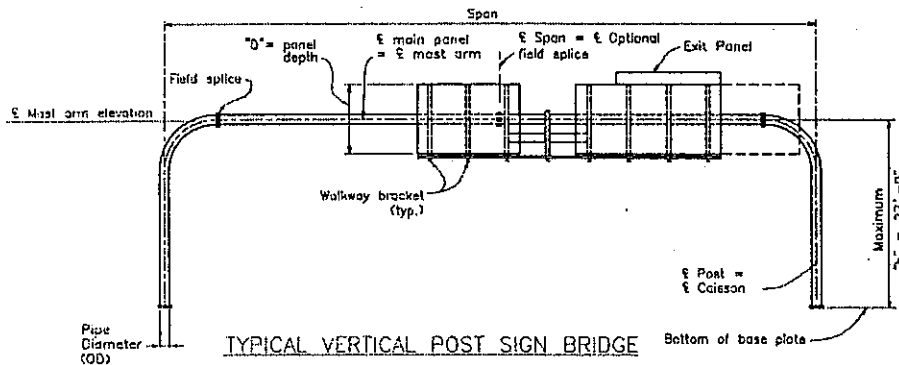
100 MPH WIND

UP TO 50% COVERAGE CHART

51-80% COVERAGE CHART

UP TO 50% COVERAGE CHART

51-80% COVERAGE CHART



TYPICAL VERTICAL POST SIGN BRIDGE

STRUCTURE SELECTION PROCEDURE FOR SIGN BRIDGES

- Design is based on a sign height of 15' with 50% of the span length covered up until the capacity of the largest pole shown is reached. Beyond this point the coverage percentage decreases.
- The maximum primary panel height is 14'. Add the area of all exit panels to the area of all primary panels to check against maximum sign panel area.
- Obtain the design wind speed from the overhead sign x-section sheets in the Roadway Plans.
- Pick pipe OD and split size from the appropriate chart. Include the area of all sign panels shown in the overhead sign x-section sheets which may potentially be placed on the sign in the future.
- Maximum difference between post heights on an individual frame = 5'-0"
- If no pole/arm size is shown for a certain span this indicates that this span/sign panel/height combination exceeds the limits of this standard.
- The overhead sign x-section sheets indicate the height "h", the span and the sign panel sizes.

80 MPH WIND

Span ≤	Maximum sign panel area (Sq. Ft.)	* PIPE POST	
		Pipe OD (in.)	Split (in.)
50'	375	12.75	5
60'	450	14	5
70'	525	16	5
80'	600	18	5
90'	675	20	5
100'	750	20	5
110'	825	24	5
120'	900	24	5
130'	780	24	5
140'	700	24	5

* Main arm diameter same as post.

PROCEDURE TO DETERMINE THE DESIGN WIND SPEED

80 mph is the standard design wind speed for the State of Colorado. The standard design wind speed of 80 mph is to be used at all locations except the following:

- Use the 90 mph wind speed for locations within 4 miles of either side of the base of the foothills along the front range of the eastern slope.
- Use the 100 mph wind speed for locations in Boulder County

If there are questions concerning the proper design wind speed contact the Staff Bridge Branch.

90 MPH WIND

AS CONSTRUCTED	FED. ROAD DISTRICT	DIVISION	PROJECT NO.	SHEET NO.
NO REVISIONS	REVISIONS	VOID		

Span ≤	Maximum sign panel area (Sq. Ft.)	* PIPE POST	
		Pipe OD (in.)	Split (in.)
50'	375	14	5
60'	450	18	5
70'	525	18	5
80'	600	20	5
90'	675	24	5
100'	750	24	5
110'	775	24	5
120'	850	24	5
130'	585	24	5
140'	525	24	5

* Main arm diameter same as post.

Span ≤	Maximum sign panel area (Sq. Ft.)	* PIPE POST	
		Pipe OD (in.)	Split (in.)
50'	375	16	5
60'	450	18	5
70'	525	20	5
80'	600	24	5
90'	675	24	5
100'	660	24	5
110'	580	24	5
120'	500	24	5
130'	450	24	5
140'	400	24	5

* Main arm diameter same as post.

COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS -- MONOTUBE
SIGN BRIDGE
STRUCTURE SELECTION WORKSHEET
NO SCALE

4/13/00

ISSUED BY
STAFF TRAFFIC BRANCH

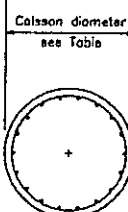
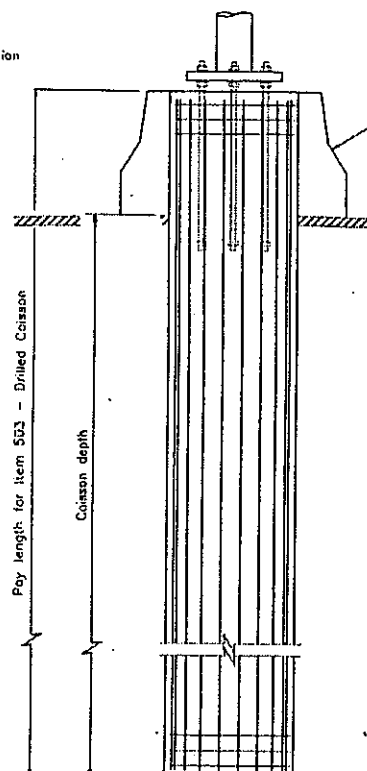
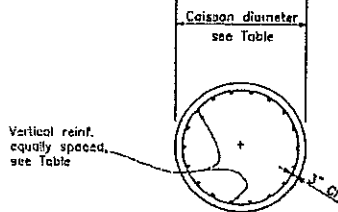
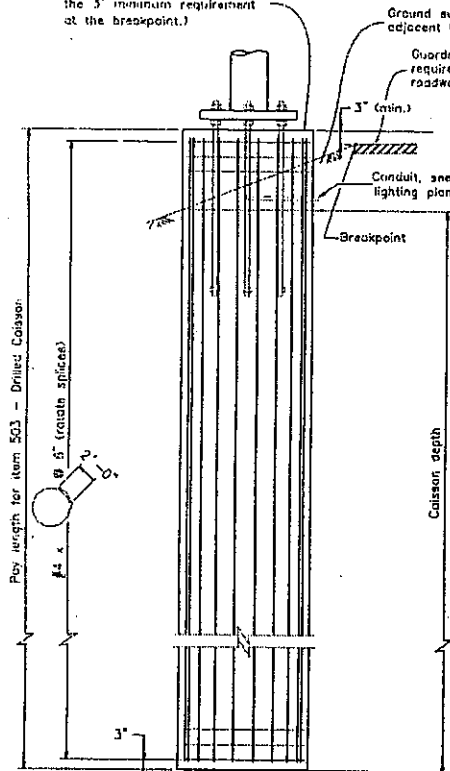
SHEET 11 OF 12

MONOSEL2

DATE
REVISED DATE: Dec. 10, 1998

Locate the top of the caisson at the elevation of the highpoint of the highway under the sign structure. (Adjust as necessary to meet the 5" minimum requirement at the breakpoint.)

Ground surface adjacent to traffic
Guardrail protection required per the roadway plans.



Type 4 Concrete Barrier
as shown in roadway plans.

CAISSON DRILLING NOTES

- Contact the Engineer if any of the following situations are encountered during drilling:
 - The soil has a high organic content or consists of saturated silt and clay.
 - The site won't support the weight of the drilling rig.
 - The foundation soils are not homogeneous.
 - Firm bedrock is encountered.
- Caissons shall be placed against undisturbed earth.
- The following soils were used for design:
 - Granular with a unit weight of 100 pcf and a 28 degree angle of internal friction (phi angle).
 - Cohesive with a unit weight of 100 pcf and a unit cohesion of 500 psf.

CAISSON FOUNDATION DETAILS

MEDIAN RAIL INSTALLATION

(See Roadside Shoulder Installation for additional information)

CAISSON FOUNDATION DETAILS ROADSIDE SHOULDER INSTALLATION

AS CONSTRUCTION		REQ. ROAD	DIVISION	PROJ. NO.	SHEET
NO REVISIONS	REVISION	DATE	CHG.		

Bridges

Pipe Outside Diameter (Inches)	Split (Inches)	Caisson Diameter (Inches)	Caisson Depth (feet)	Vertical Reinf
12.75	5	48	17	18 - #8
14	5	48	19	24 - #8
16	5	48	20	24 - #8
18	5	54	21	24 - #8
20	5	54	22	24 - #8
24	5	54	24	24 - #8

Cantilevers

Pipe Outside Diameter (Inches)	Split (Inches)	Caisson Diameter (Inches)	Caisson Depth (feet)	Vertical Reinf
12.75	-	36	13	13 - #8
14	-	42	15	18 - #8
16	-	42	16	18 - #8
18	-	42	17	18 - #8
20	-	48	19	24 - #8
24	-	48	20	24 - #8

COLORADO
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGNS - MONOTUBE
FOUNDATION SELECTION WORKSHEET

4/10/00

NO SCALE

ISSUED BY
STAFF TRAFFIC BRANCH

SHEET 12 OF 12

MONOSL

DATE
REVISED

DATE: Dec. 10, 1998

October 4, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Meeting, Tuesday, September 26, 2000

On Tuesday, September 26, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team met at 1:30 p.m. at the office of Terra Tectonics in Tampa to discuss aesthetics issues. In attendance were Robin Nigh (City of Tampa, Art in Public Places), Jonathon Toner and Daniel Wood (Terra Tectonics), Elaine C. Illes (IPI), and Jane Burner and Mark Jennings (URS Corp.). A copy of the agenda is attached.

The meeting started by not following the agenda. Robin Nigh stated that the Tampa Heights Greenway should be the focus of the Downtown Tampa interchange aesthetics package. Tampa Heights is the gateway to Tampa's Cultural Arts District.

Jonathon Toner provided some graphics showing all the aesthetic components for I-4 and identified opportunities for public art. Pedestrian areas under bridges, murals on walls, medallions, sculptures, etc.

Mr. Toner then provided an overview of the aesthetics costs and design options. The four basic aesthetic options would cost approximately \$8 million, \$6 million, \$4 million, and \$2 million respectively. The \$8 million option provides for the highest level of aesthetic treatment over the entire design segment length. The \$6 million option provides the same, but eliminates the design treatments at the Columbus Drive structure due to its excessive length. The \$4 million option eliminates design treatments at Columbus Drive and 34th Street, and reduces the amount of enhanced fencing along the project. The \$2 million option makes further cuts throughout the entire system and does not meet criteria for the highest level of aesthetic treatment.

Much discussion followed. The \$6 million option essentially delivers the aesthetic details that were committed to in the TIS FEIS. The \$6 million option takes no shortcuts and includes things such as actual brick pavers, not textured asphalt. That option seems the most reasonable and feasible.

I. Opportunities for Public Art

Robin Nigh reported there is currently no money available for public art components such as rebar trees, medallions, murals, sculptures, etc. However, if the art is a component of the design itself, it can be absorbed as part of the construction cost. The

only remaining expense would be that of the artist to design it. Robin Nigh indicated that the artist expense could be paid by Art in Public Places and the City of Tampa.

Elaine C. Illes noted that it will be necessary to have an artist selected within three to four months. Construction specifications for aesthetics are due from Terra Tectonics by the end of the year. Jane Burner noted it is important to select mural locations immediately so that walls can be specified in the construction documents as smooth in those locations. There are numerous possibilities for murals beneath the structures. Ms. Nigh said she would discuss funding with Fernando Noriega (City of Tampa).

IV. Pedestrian Level Treatments

Jonathon Toner (Terra Tectonics) has identified several candidate treatment areas throughout Segments 3A/3B but has yet to do it in Segment 2B. He will have that done by the next Design Aesthetics Team meeting. Some of the components that need to be consistent throughout the interstate system include black and white hexagonal pavers, street furniture, etc.

The Westshore area of Tampa currently lacks an overall aesthetics theme. A theme needs to be developed rapidly. It will require some work with the Westshore community to develop one.

The Design Aesthetics Team will make a presentation to the FDOT District Seven Directors on Thursday at 3:00 p.m. Mr. Toner is putting together the graphics and handouts. As a courtesy, the Design Aesthetics Team is presenting to the Directors for their comments before presenting to the TIS Design Review Committee. All handout materials will be stamped "Draft".

**Tampa Interstate Study
Aesthetics Coordination Team Meeting
September 26, 2000**

Agenda

I. Opportunities for Public Art

- A. Public Art Opportunities within the Interstate Projects
- B. Potential Options for Involving Artists in the Projects
- C. Next Step -

*DTI - Cultural Arts Gateway
- Greenway
3A/3B - design cost
map - bold medallions
11 weeks to 4 months to
Construction Documents*

II. Pedestrian Level Treatments

- A. Definition of Treatment Areas — *identify DTI + Westrup*
- B. Components that should be Consistent throughout?
- C. Appropriate Materials and Colors
- D. Local Support/ Funding? — *Mayor's Beautification*

III. Directors Meeting and DRC Presentation — Thursday 10-NOON











IV. Action Items / Next Meeting Preparations

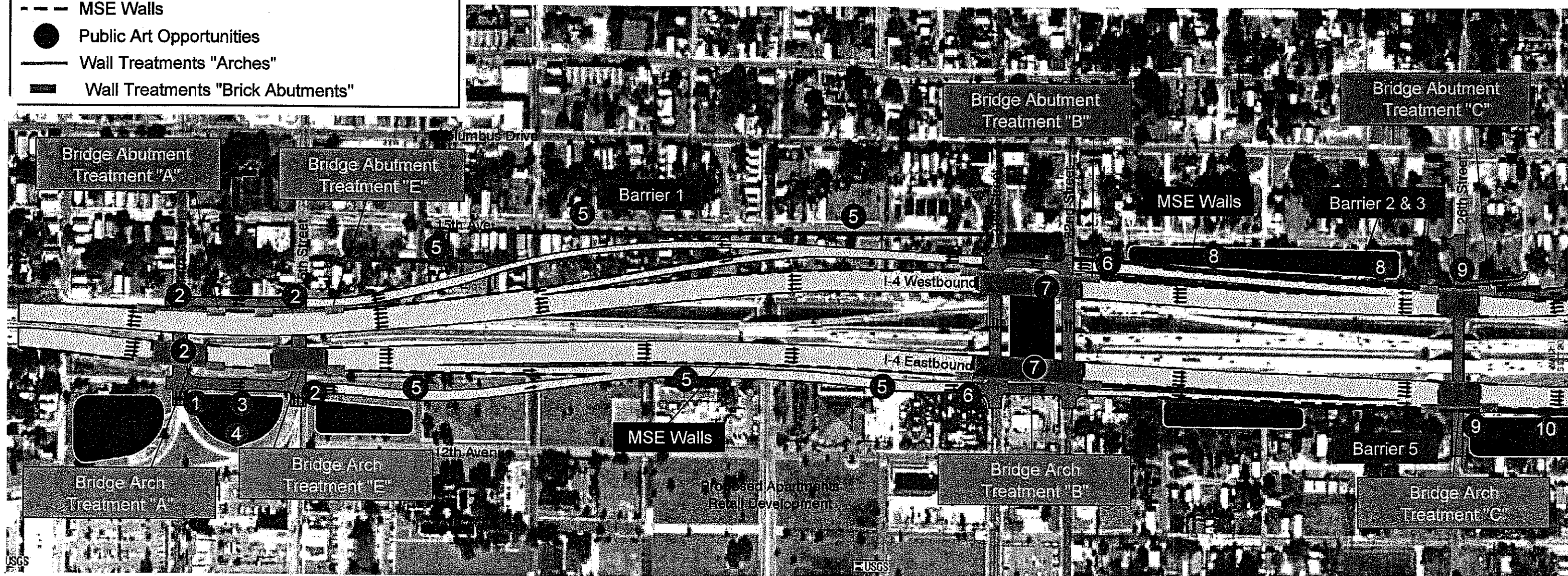
*Brick
(Aluminum instead of Ref)*

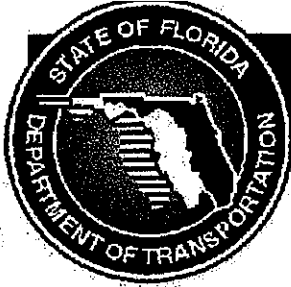
Elaine - Brick in the intersection — 8M
Brick in crosswalks 6M
" " " only ybar 4M











- 1) Hex Pavers → carry throughout black + white
- 2) Westshore needs
- 3) City of Tampa logo / Benches Public Art — black for ybar
white for Westshore

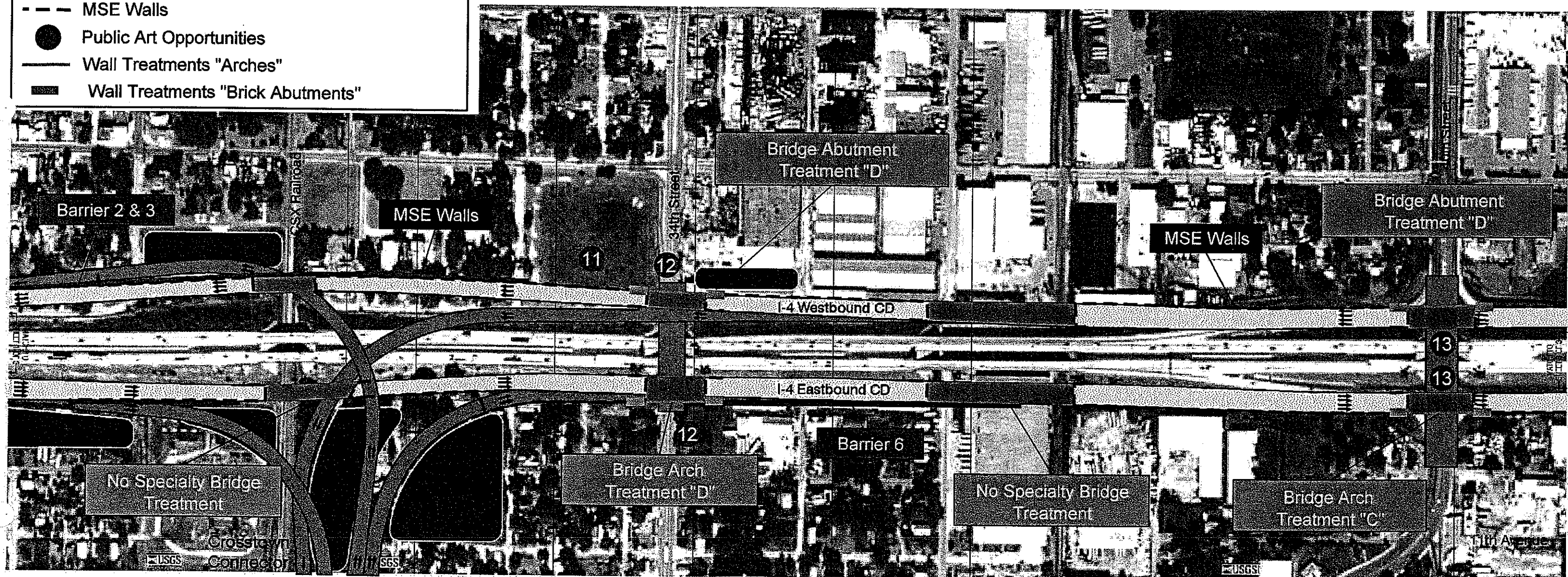
**LEGEND**

-  Financially Feasible Alternative (under design)
-  Not Currently Funded
-  Local Street Improvements
-  Potential Pond Locations
-  Proposed Noise Barriers (8' Ht. Max.)
-  Proposed Bridges
-  MSE Walls
-  Public Art Opportunities
-  Wall Treatments "Arches"
-  Wall Treatments "Brick Abutments"



**LEGEND**

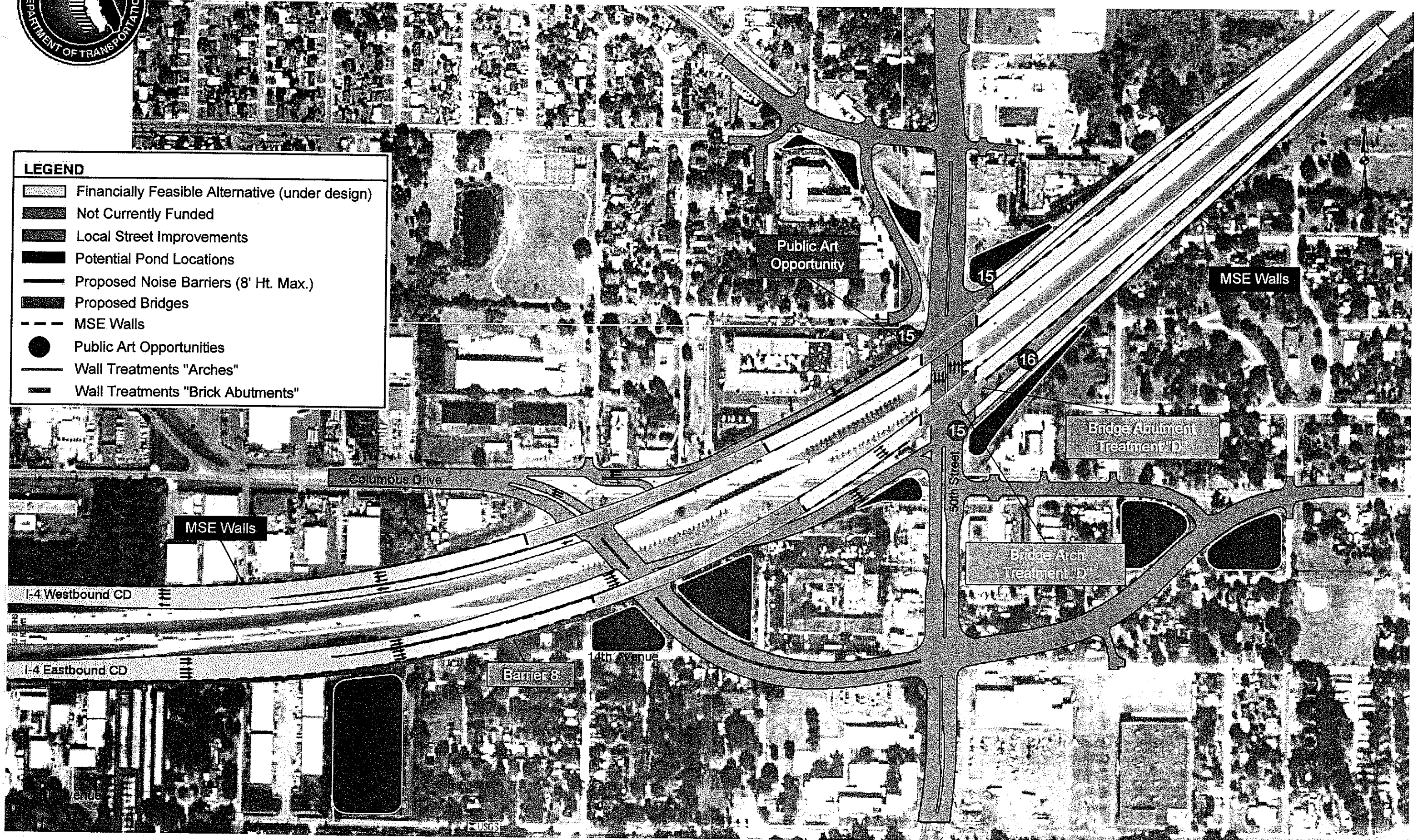
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LEGEND

- Financially Feasible Alternative (under design)
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- Potential Pond Locations
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- Proposed Bridges
- MSE Walls
- Public Art Opportunities
- Wall Treatments "Arches"
- Wall Treatments "Brick Abutments"



September 6, 2000

Art Opportunity Locations and Description:

1. Pedestrian areas crossing under the corridor. Possible locations for wall murals or embankment color treatments.
- 2)* Medallions in FRP bridge arches at 14th and 15th streets. These are currently proposed as Ybor City neighborhood location markers, in a graphic form.
3. Pond sculpture location. Proposed to be located in the center of the pond...to minimize vandalism. Highly visible from all sides.
4. Pedestrian areas, possible location for freestanding art object or "Rebar Trees" in the locations shown as tree or palm plantings. It consists of pedestrian seating areas over brick paving, against a brick knee wall with a wrought iron rail surround.
5. MSE walls and Retaining Walls, north and south sides between 15th St. and 21st. Opportunity for wall murals, or details designs within the MSE retaining walls. This can consist of a smooth faced MSE panels, with a base coating of white. This can then be used for community groups to display neighborhood murals, etc.
6. Currently we are proposing a "x" pattern form liner in the MSE wall panels. Combined shapes form a diagonal grid across the walls. This would be color stained a brick color, mimicking a brick detailed wall.
- 7)* Medallions in FRP Bridge arches, north and south sides. 21st and 22nd St.
8. Sculpture positions within the pond between 21st and 22nd Streets.
9. Wall mural possibilities on MSE walls over pond at the north side between 22nd and 26th Streets.
- 10)* Medallions in FRP Bridge arches, north and south sides, 26th St.
11. MSE wall art opportunity. This can consist of a smooth faced MSE panels, with a base coating of white. This can then be sued for community groups to display neighborhood murals, etc.
12. Medallions in FRP Bridge arches, north and south sides, 34th St.
13. Medallions in FRP Bridge arches, north and south sides, 40th St.
14. Medallions in FRP Bridge arches, north and south sides, Columbus Drive.
15. Medallions in FRP Bridge arches, north and south sides, 50th St.
16. Wall mural possibilities on MSE walls over pond at the south side of MSE wall 50th St.
17. Wall mural possibilities on MSE walls over pond at the north side of MSE wall 50th St.

[Cost of Artist - Design 2, 7, 10, 12-15

Transportation Enhancements Include Public Art

Nearly \$4 billion devoted to enhancements through TEA-21

by Dan Costello

See update Fall 1999

The notion that a small portion of highway money ought to be spent enhancing the community benefits of transportation investments grew out of the work of the Coalition for Livable Communities and became law in the Intermodal Surface Transportation Efficiency Act of 1991. By requiring state transportation agencies to set aside a small amount of federal highway allocations for activities like bike and pedestrian trails, landscaping and other scenic improvements, historic preservation, archaeology, restoration of historic transportation facilities, billboard removal and others, Congress intended that these transportation-related activities should lead eventually to a whole new way of planning highway projects in which these kinds of activities would be routinely included.

U.S. Secretary of Transportation Rodney Slater, a stalwart supporter of enhancements, understands that there is much more to surface transportation than just concrete, asphalt, and steel and preaches a gospel of recognition that roads must respect and even enhance the communities and landscapes through which they pass. It is a significant goal of the enhancements program that it be used to produce amenities and aesthetically pleasing additions to transportation corridors.

U.S. Senators John Warner of Virginia and the late John Chafee of Rhode Island, both key congressional supporters of the enhancements program, endorsed the idea that preservation-related enhancements should improve

the visual experience of the traveler and the aesthetic features of our neighborhoods and landscapes. Both senators have argued for enhancements activities of historic and cultural significance that are adjacent to or prominently visible from transportation facilities and have a beneficial effect on the experience of the traveler.

→ Transportation Enhancement Activities are now an established part of the federal-state surface transportation program. Nearly \$4 billion, just under 2 percent of what the federal government will spend on surface transportation over six years ending September 30, 2003, will be devoted to enhancements. We are estimating that another \$1 billion will be generated by the program's requirement that enhancements project sponsors provide at least 20 percent more in matching funds.

The Transportation Equity Act for the 21st Century (TEA-21), which extended the surface transportation programs until 2003, expanded and improved enhancements and added a new Transit Enhancements program for urbanized areas with populations over 200,000. These communities would be required to spend one percent of urban area federal transit formula funds for transit enhancements. About \$30 million will be spent each year by the 125 largest urban areas in the country together—certainly a modest outlay compared to transportation enhancements.

Public art is specifically listed as a transit enhancement activity, and it is implicitly included in

the "landscaping and other scenic beautification" category of the transportation enhancements program. Especially when we focus on the emphasis Congress gives to transportation corridor amenities and aesthetics, there is no doubt that public art is a legitimate and valued enhancements activity that ought to be an important part of each state's program.

Making Public Art an Enhancements Partner

The transportation enhancements program is a cooperative venture between federal and state transportation agencies, and state agencies are permitted wide ranging flexibility in setting up and administering enhancements within their borders. Specific information about state programs can be obtained by calling the state transportation agency and asking for the office that administers the enhancements program. *E.DOT*

In nearly all states, communities and local governments compete among themselves by submitting enhancements proposals to the state agency for evaluation and selection. States receive many more applications than can possibly be approved; thus it is in the best interest of those seeking funds to learn as much as they can about the eligibility rules, project priorities, and selection procedures practiced in the state. Enhancement managers are busy people, but they are proud of their programs and anxious to help those seeking to apply. State historic preservation and arts agencies are frequently able to give good advice.

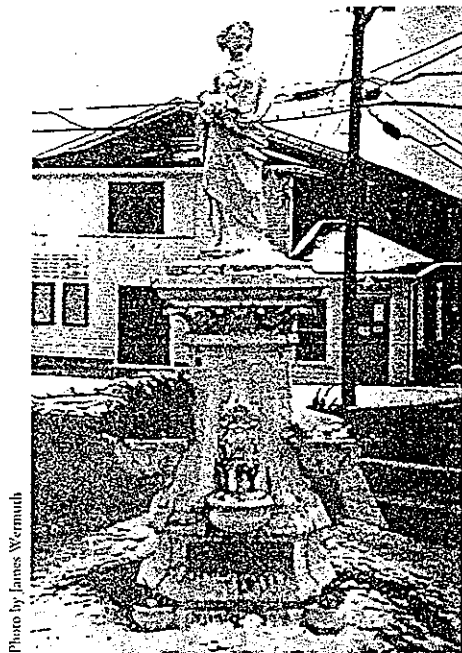


Photo by James Wernuth

The conservation of Rebecca at the Well (1896) on Block Island, Rhode Island, is being funded with TEA-21 funds.

Attitudes toward public art enhancement proposals and the relative priority they are given differs from state to state. Hopefully, it will not take much time to convince state enhancements managers that public art projects are eligible and valuable contributors to broad-based, flexible, and diverse state enhancement programs. Nearly all state programs understand how landscaping improves transportation corridors and will be able to see how sculptures and other forms of public art perform the same function in enhancing the experience of the traveler.

The Federal Highway Administration's new guidance on the enhancements program addresses the requirement that all proposals for enhancement funds be related to transportation. There was a time when critics of enhancements ridiculed amenities and aesthetics projects by

asking: "What do they have to do with transportation?" Their view of transportation is the pre-reform one that only modes of transportation directly contributing to movement of goods and people should be eligible.

FHWA guidance says that while proximity to the road alone is not sufficient to establish a relationship to transportation, it is also not necessary to establish a modal or functional transportation purpose for enhancement projects. The guidance discusses a hypothetical historic barn, but it could just as well have talked about outdoor sculpture. Being

adjacent to a road does not make the barn's restoration an eligible enhancements project. But the barn's visibility to the traveler in a way that enhances the travel experience can establish the required transportation experience. The example is important because it acknowledges that there are many ways projects can relate to transportation, and those ways need to be explained in project proposals.

Rhode Island's Department of Transportation recently approved an enhancements project on Block Island to replace an 1896 statue and fountain that has suffered serious deterioration over the years. The statue and fountain, entitled *Rebecca at the Well*, is central to New Shoreham's downtown and provides a sense of art for drivers and pedestrians moving through the downtown. *Rebecca* is a landmark attraction, prominently

visible in a manner that enhances the travel experience and the benefits that the community draws from the roads that pass around it.

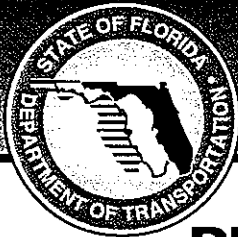
The District of Columbia is using a portion of its transportation enhancement funds to replicate the four lions that guard the historic Taft Bridge. The lions were sculpted in 1908 by Roland Hinton Perry out of precast concrete. Each is 12 feet long, 10 feet high, and weighs 36,000 pounds. The city expects the replicated lions to be gracing the Taft Bridge by July 2000.

Unfortunately, there is no complete listing of all the transportation enhancements projects nationwide involving outdoor sculpture and public art. The ones we do know of are adding substantial value to community transportation investments, making the experience of travel more meaningful and enjoyable, and graphically demonstrating how valuable it is to integrate transportation facilities into the natural and built environments through which they pass.

For more information on the enhancements, contact the National Transportation Enhancements Clearinghouse at 800-388-6832 for a copy of its *Guide to Transportation Enhancements*. The National Trust for Historic Preservation has copies of a somewhat dated but still useful enhancements guide, *Building on the Past Traveling to the Future*. The Trust is planning to publish a revised and updated version of the booklet early next year. ■

Dan Costello works in the Department of Law and Public Policy at the National Trust for Historic Preservation.

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www.enhan.org



Tampa Interstate Study

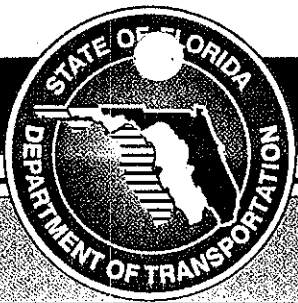


DESIGN AESTHETICS COORDINATION DIRECTOR'S MEETING

September 28, 2000

AGENDA

- I. Introductions/ History - Prescott**
- II. Review of Urban Design Guidelines - Illes**
 - A. Commitments
 - B. Levels of Treatment
 - C. Design Review Committee
 - D. Project Components
- III. Design Aesthetics Team - Illes**
 - A. Recent Activities
 - B. Decisions/ Recommendations To Date
 - 1. On-System Lighting
 - 2. On-System Signing
 - 3. Fencing
 - 4. Retaining Walls
- IV. Recommendations for Design Segments 3A & 3B - Toner**
 - A. Bridge and Specialty Areas
 - 1. Bridge Abutment Details
 - 2. Architectural Arches
 - 3. Wall Treatments in Specialty Areas
 - B. Noise Wall
 - C. Stormwater Ponds
 - D. Streetscape Improvements
 - 1. Paving
 - 2. Site Furniture
 - E. Landscape/ Irrigation
 - F. Public Art Opportunities
 - G. Aesthetic Treatment Cost Estimate
- V. Downtown Interchange Treatments**
- VI. Schedule**
 - A. DRC Presentation - October 5, 2000
 - B. 90% Public Workshop - Week of December 4, 2000
- VII. Action Items/Unresolved Issues**



Tampa Interstate Study

Directors Meeting

Please Sign In

September 28, 2000

Name	Phone Number	Affiliation or Group Name
1 Elaine C. Illés	286-0125	IPI
2 Irwin Prescott		
3 JONATHAN TOWER	298.4504	TERRA TECTONICS design group.
4 DANIEL WOODS	258 4504	TERRA TECTONICS
5 Doug Stoker	871-5331	KCA
6 Ken Hartmann	975-6639	DOT
7 John Temple		DOT
8 Don Skelton	975-6035	DOT
9 MICHAEL COLEMAN	975-6133	FDOT
10 Mark Jennings		
11		
12		
13		
14		
15		

October 3, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes, IPI / Mark Jennings, URS

SUBJECT: Design Aesthetics Presentation to Florida Department of Transportation District Seven Directors, Thursday September 28, 2000

On Thursday September 28, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team made a presentation to the Florida Department of Transportation (FDOT) District Seven Directors at 3:00 p.m. in the District Seven Executive Conference Room. A copy of the agenda is attached. The following people were in attendance: District Secretary Ken Hartmann, John Temple, Don Skelton, Mike Coleman, and Irwin Prescott (FDOT); Jonathon Toner and Daniel Woods (Terra Tectonics); Doug Stoker (KCA); Howard Hoffman (Parsons Brinckerhoff); Elaine C. Illes (IPI); and Mark Jennings (URS).

I. Introductions

Irwin Prescott (FDOT) began the meeting. This interstate design project is the first in District Seven to incorporate a highway aesthetics program. He explained the ongoing coordination with the Design Review Committee (DRC), made up of the Barrio Latino Commission and others. He mentioned Jonathon Toner's aesthetic design concept charrette held at the offices of Terra Tectonics and the resulting concept sketches. Those concepts were taken to the designers, FDOT Maintenance and Structures, and outside fiberglass contractors. Today we are presenting them to the Directors for input.

II. Review of Urban Design Guidelines

Elaine C. Illes (IPI) went on to describe the members of the DRC, including representation from the City, County, and State. There have been numerous coordination meetings with them. Today's presentation is intended to bring the Directors up to date prior to a scheduled presentation to the DRC on October 5th.

III. Design Aesthetics Team

Ms. Illes mentioned the work put in by the Design Aesthetics Team over the past several months and the recent agreement on a specific light fixture for use throughout the entire interstate system. The lighting system selected is a flat glass lamp called the Mongoose Holophane fixture. The color will be bronze. Elaine displayed photos of the fixture. Lighting coverage provided by the fixture meets all FDOT lighting standards and requirements. Bijan Bhzadi (FDOT) wants to add the fixture into the design specifications for each interstate design segment.

Secretary Hartmann asked if the fixture will be sufficient to light the many existing side streets and cul-de-sacs adjacent to the interstate. Irwin Prescott replied that we have identified a different lighting system for implementation on neighborhood streets. It is a period-type lighting fixture. John Temple asked about the maintenance of the new fixtures. Irwin Prescott indicated he thinks the new fixtures may require less maintenance than the existing cobra-head lamps. Ms. Illes said that she had spoken to Bijan Bhzadi and he stated the new fixtures will require less maintenance because there is no arm to maintain and changing the bulbs will be safer since the fixture does not hang over the roadway. Ms. Illes did not speak directly to FDOT Maintenance. Mr. Temple suggested checking with maintenance staff regarding the new fixtures.

Ms. Illes continued. Large signage will consist of a monotube system. These will be the same color bronze as the light fixtures and poles. Fencing will be a wrought-iron look alike, slightly more simple in style and made of aluminum. The Barrio Latino Commission actually suggested the more simple style and use of aluminum. They would like the interstate aesthetics to compliment the Ybor City Historic District, not attempt to mimic it. Again John Temple suggested we work out the maintenance commitments with the City prior to actually finalizing selection of a design. Mr. Temple also suggested that fence heights be appropriate for the areas in which they are installed. Not all areas may require a six-foot fence for instance. He suggested the use of a black powder coating if the fence is to be chain link.

IV. Recommendations for Design Segments 3A and 3B

Jonathon Toner (Terra Tectonics) passed out copies of *Urban Design, Architectural Specialty Treatments*, a document he has prepared which outlines the proposed urban design treatments along I-4 Design Segments 3A and 3B. He first discussed the MSE wall design features. Wall panels will be cast five feet by five feet square. Colors will be applied using stains. After some study of similar applications around the country, stains were determined to be the best method to color wall panels and most cost effective. Ms. Illes commented that the stain was also selected for its lower maintenance concerns. Sandstone will be the color and texture of the majority of wall surfaces. Fractured fin will be applied in limited locations.

Mr. Toner went on to describe the proposed bridge designs and some of the existing cultural and community characteristics incorporated into their design. Arches and the use of brick pavers are just some of the features. Mr. Toner showed a number of board mounted graphics. At 21st/22nd Street, the bridge structure will contain a mixture of locally recognizable components: arches, ballustrade, columns, and lighting sconces. All amenities were designed to be simple to construct, maintain, and minimize additional weight to structures.

The 14th/15th Street structures will incorporate some new design elements while working with some of the existing design elements. The 14th Street structure will utilize the existing abutment to the west while 15th Street structure will utilize a new brick façade on the abutment to the east.

The structures at 34th Street, 40th Street, and 50th Street are proposed to receive a lower level of treatment (Aesthetic Level 2, Moderate). The Columbus Drive structure, due to its great length and excessive cost, is recommended to not receive any aesthetic treatment at this time.

The arch elements shown as part of the MSE walls are actually separate structures standing out almost two feet from the face of the MSE wall. This two-foot space provides room for maintenance, access, and inspection.

On the actual bridge structures, the appearance of an arch will be achieved through the attachment of an architectural fiberglass material. The material can be easily attached to the structure, is very light weight, and can be repeatedly pressure washed and sandblasted up to four times. Aluminum beams will be used to bolt on the architectural fiberglass. No additional bridge beams are necessary to support the panels. They are very light and very strong.

Mr. Toner then went over some of the costs and design options. The four basic aesthetic options would cost approximately \$8 million, \$6 million, \$4 million, and \$2 million, respectively. The \$8 million option provides for the highest level of aesthetic treatment over the entire design segment length. The \$6 million option provides the same, but eliminates the design treatments at the Columbus Drive structure due to its excessive length and cost. The \$4 million option eliminates design treatments at Columbus Drive and 34th Street, and reduces the amount of enhanced fencing along the project. The \$2 million option makes further cuts throughout the entire system and does not meet criteria for the highest level of aesthetic treatment.

Much discussion followed. The \$6 million option essentially delivers the aesthetic details that were committed to in the TIS FEIS. The \$6 million option takes no shortcuts and includes things such as actual brick pavers, not textured asphalt. Jonathon Toner had questions about the durability of textured asphalt at the 21st/22nd Street intersections. Currently, the consultant's estimate includes \$6 million of hardscape costs. The \$6 million option appears to be very appealing to the Directors.

With regard to noise walls, the decision has finally been made to construct them to a maximum height of eight feet above the roadway surface. Called the Texas wall, the noise wall is essentially a vertical extension of the crash barrier, has been extensively used elsewhere, and has been crash tested in Texas.

With regard to ponds, the Barrio Latino Commission was originally against the placement of ponds within the Ybor City National Historic Landmark District. Their objection was based on a claim of exemption from storm water retention regulations because ponds were never part of Ybor City's historic fabric. At the 14th/15th Street structures, three ponds are proposed. The two outside ponds will be dry. The middle pond will have a liner to provide a wet pond and include a fountain for aesthetics and aeration.

There was the mention of opportunities for public art. Secretary Hartmann asked Ms. Illes to elaborate on the intent of including public art. Ms. Illes stated that the Urban Design Guidelines outline FDOT's responsibilities to accommodate public art in the design of the new roadway, not to fund public art. FDOT is coordinating with the Arts in Public Places to identify which opportunities they would like to participate in. The City through the Public Arts Commission will pay for the design of the art-work which can then be incorporated at no additional cost to the FDOT.

Mike Coleman (FDOT) asked about the transition from Level 3 aesthetics to Level 2 within Design Segments 3A and 3B. Level 2 aesthetics are not as grand as Level 3 and include fewer facings, less trim work, and less landscaping. However, there remains a continuity of colors, similar abutment treatments, and pavers throughout the length of the corridor.

V. Downtown Interchange Treatments

Secretary Hartmann asked about plans for the Downtown Interchange. Elaine Illes responded that the same wall colors and textures, lighting, signage, and fencing proposed for other interstate design segments would be used in the Downtown Interchange. However, due to constraints of the existing structures, no bridge treatments are included this time. Secretary Hartmann expressed concern about decorative fencing that contains sharp points on the tops. Jonathon Toner explained that the points were plastic but also assured him that fencing with a smooth top rail can be utilized instead.

Mike Coleman (FDOT) stated that based what he had seen, and knowing the commitments that were made during the FEIS process, that to do anything less than the \$6 million option would be contrary to some of the promises made to the community at that time.

Elaborating more on aesthetic treatments in general, Jonathon Toner said that the fiberglass arch attachments would work well to retrofit some of the existing bridges to look better. For landscaping, Mr. Toner has recommended a lot of irrigation infrastructure because there is no sense designing and planting that which will not be maintained. Mr. Hartmann stated that trees are a top priority to the FDOT, groundcover is a lower priority.

Secretary Hartmann suggested that the aesthetic treatments be installed last. Mr. Toner agreed saying that brick faces and fiberglass attachments will be built and bolted on right at the end of the construction process. Secretary Hartmann stated that he would like it to be sort of a pleasant surprise right before opening the facility.

The Directors agreed that the \$6 million option looks desirable to them. Secretary Hartmann asked if a financial commitment had ever been made in the FEIS. Mike Coleman responded no, that a specific dollar amount was not identified, only guidelines as to what needed to be included.

The Design Review Committee is slowly undergoing change. Neil Stralow (Hillsborough County) is leaving to work for a private consultant. Secretary Hartmann suggested that the DRC try to keep Mr. Stralow involved in the process for continuity on the 3A/3B Project. DRC member John Simpson (FDOT) has given his approval to the entire plan after years of very close scrutiny, with the exception of fine-tuning color pallets.

Secretary Hartmann expressed a strong desire to try and improve the image of the Downtown Interchange. He thinks landscaping will help a great deal and suggested that something be done to the infields to enhance the look. Jonathon Toner said that there were several options available to improve the infield areas. Irwin Prescott stated that there was \$2 million appropriated for

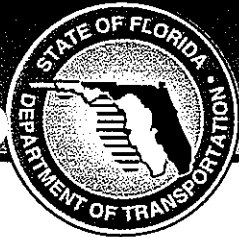
aesthetics throughout the Downtown Interchange. There was general agreement that \$2 million will be sufficient to make some significant improvements.

Regarding the Westshore area, there needs to be coordination with Westshore business and community leaders to develop an overall aesthetics theme for the area. Mr. Toner envisions a contemporary look for the area while maintaining the arches, lighting, fences, and signage proposed for the other interstate design segments.

VI. Schedule

Leo Folsum (FDOT) asked if the proposed December 4, 2000 date for the 90 percent workshop was very realistic. She suggested January or February instead. Irwin Prescott noted that the date had already been revisited and changed to January 9, 2001.

Doug Stoker (KCA) suggested powder coating the backs of roadway signs, as has been done recently on signs along the Polk County Parkway. Powder coating provides a nice aesthetic finish to what is an easily seen eyesore. He also suggested bridge pier lighting, particularly in the Downtown Interchange, for the third level structures. Something similar has been done on Sand Key in Pinellas County.



Tampa Interstate Study

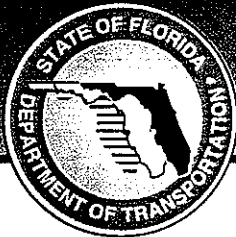


Directors Meeting

September 28, 2000

AGENCY LIAISON GROUP (ALG)

- City of Tampa Parks Department
- City of Tampa Planning Department
- City of Tampa Art in Public Places
- City of Tampa Public Works
- City of Tampa - Parks, Recreation, and Cultural Services
- Arts Council of Tampa/Hillsborough County
- Historic Tampa/Hillsborough County Preservation Board
- Hillsborough County Planning and Development Management Department
- Hillsborough County Metropolitan Planning Organization
- Florida Center for Design, University of South Florida

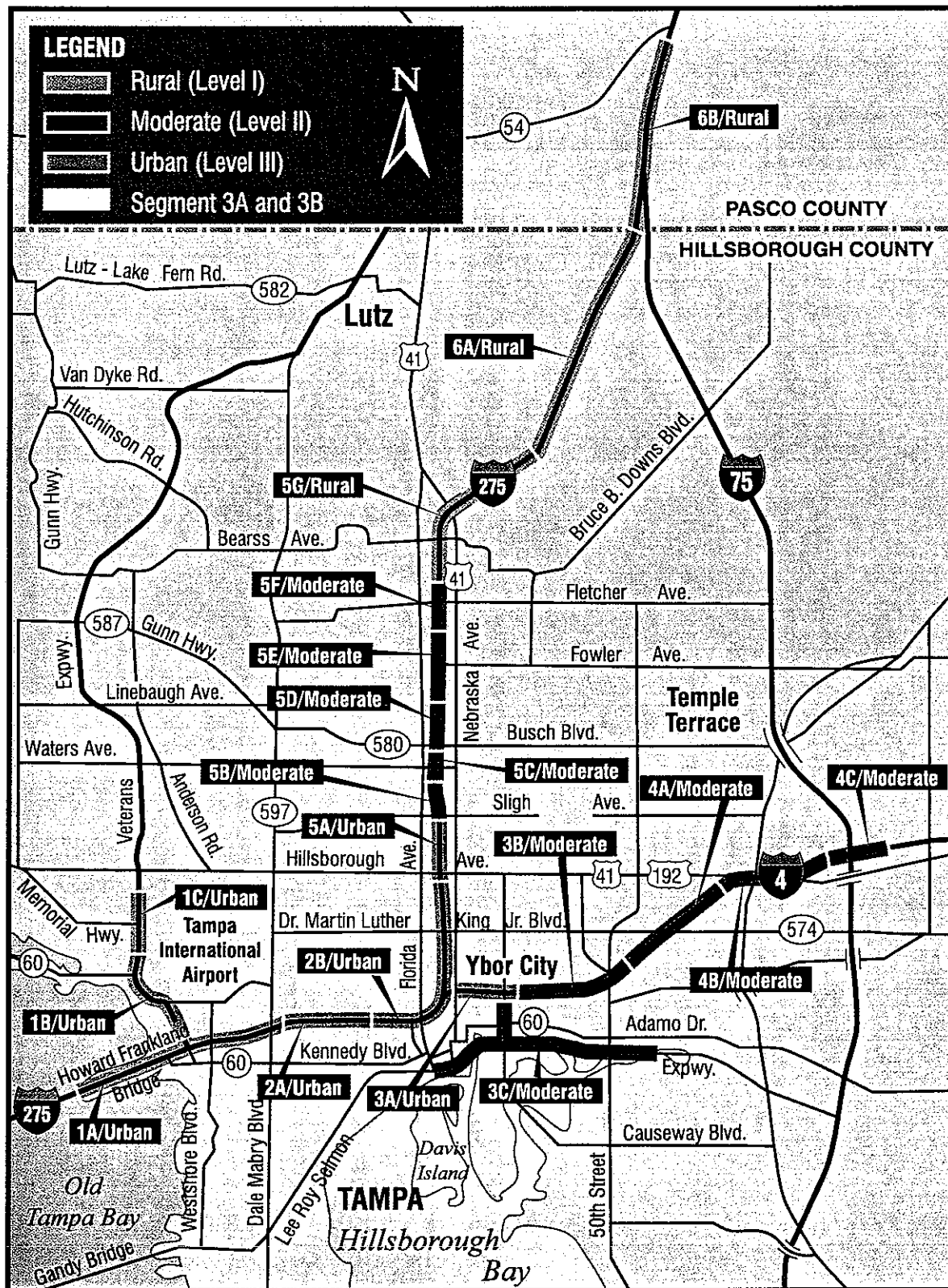


Tampa Interstate Study



LEVELS OF AESTHETIC TREATMENT

INTERSTATE
Florida's Gateway to Tampa



14 - SECTION 3A & 3B BUDGET OPTIONS

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Terra Tectonics design group international, inc. 313-258-4504

9/26/2000

8 MILLION BUDGET OPTION

- All Bridges remain enhanced. All enhanced paving remains.
- All Brick abutments details in original plans remain.
- Ponds at all locations with brick knee walls.
- Enhanced fencing at all locations.
- Enhanced paving at all locations, inside and outside of Ybor.
- All enhanced lighting remains.
- Street furniture in all locations.

6 MILLION BUDGET OPTION

- All Bridges remain enhanced, Columbus Street removed.
- Brick abutments details at 14th Street, 15th Street, 21st/22nd Street, 34th Street, 40th Street and 50th Street.
- Ponds at all locations with brick knee walls.
- Reduced enhanced fencing locations.
- Reduced enhanced paving in 3A and 3B.
- Reduced lighting locations in 3A and 3B.
- Street furniture in Ybor locations only.

4 MILLION BUDGET OPTION

- All Bridges remain enhanced, except for Columbus and 34th street.
- Brick abutments details at 14th Street, 15th Street, and 21st/22nd Street.
- Ponds at all locations with brick knee walls.
- Reduced enhanced fencing locations.
- Enhanced paving at 3A only, no enhanced paving in roadways.
- Reduced lighting locations, enhanced only within Ybor.
- Street furniture in Ybor locations only.

2 MILLION BUDGET OPTION

- Bridge Arches at 14th Street, 15th Street, 21st/22nd Street, and 50th Street.
- Brick abutments 14th, 15th, 21st & 22nd only.
- Pond at 21st/22nd Street, but no pond at 14th Street and 15th Street.
- Minor use of enhanced fencing.
- Plain finished concrete walks, no paving in roadways.
- Limited enhanced usage in 3A.
- No Street furniture.

**8-MILLION BUDGET
OPTION**

I4 - Section 3A & 3B Grand Total!

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group international, inc. 813-258-4504

9/26/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level II: Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$308,100.00	\$0.00	\$308,100.00
Sidewalk Paving under bridge (Ybor Hex.):	\$151,320.00	\$0.00	\$151,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$270,600.00	\$56,250.00	\$326,850.00
Brick wall with alum. picket:	\$240,750.00	\$149,500.00	\$390,250.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$26,000.00	\$139,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$845,000.00	\$650,000.00	\$1,495,000.00
FRP arches -westbound	\$508,306.50	\$819,842.40	\$1,328,148.90
FRP arches -eastbound	\$508,774.50	\$808,493.40	\$1,317,267.90
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$69,600.00	\$0.00	\$69,600.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	\$364,884.00	\$364,884.00
Sidewalk Paving under bridge (Concrete):	\$0.00	\$188,324.00	\$188,324.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	\$294,750.00	\$294,750.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	\$493,312.00	\$493,312.00
Pedestrian lighting (Level II lighting):	\$4,800.00	\$80,400.00	\$85,200.00
Color Concrete Stain- for 3A & 3B 88,000 SM, @ \$2.37/SM			\$201,460.00
subtotal:	\$3,730,376.00	\$3,950,155.80	

GRAND TOTAL - AESTHETIC**TREATMENTS - SECTION 3A & 3B:****TOTAL:****\$7,881,981.80**

**6-MILLION BUDGET
OPTION**

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQSD & FDOT

Tampa, Florida

Terra Tectonics design group international, Inc. 813-252-4504

9/24/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III, Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$308,100.00	\$0.00	\$308,100.00
Sidewalk Paving under bridge (Ybor Hex):	\$151,320.00	\$0.00	\$151,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$270,600.00	\$56,260.00	\$326,860.00
Brick wall with alum. picket:	\$240,750.00	\$149,500.00	\$390,250.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$26,000.00	\$139,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$820,000.00	\$475,000.00	\$1,095,000.00
FRP arches -westbound	\$508,306.50	\$260,910.00	\$769,216.50
FRP arches -eastbound	\$508,774.50	\$266,807.90	\$775,582.40
Arch Cornices	\$38,400.00	\$28,800.00	\$67,200.00
MSE wall-enhanced Liner	\$69,600.00	0.00	\$69,600.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	\$84,884.00	\$84,884.00
Sidewalk Paving under bridge (Concrete):	\$0.00	\$168,324.00	\$168,324.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	\$294,750.00	\$294,750.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	\$351,780.00	\$351,780.00
Pedestrian lighting (Level II lighting):	\$4,600.00	\$80,400.00	\$85,000.00
Color Concrete Stain- for 3A & 3B 66,000 SM, @ \$2.37/SM			\$201,460.00
subtotal:	\$3,605,376.00	\$2,623,205.90	

GRAND TOTAL AESTHETIC

TREATMENTS - SECTION 3A & 3B

TOTAL

\$6,230,031.90

**4-MILLION BUDGET
OPTION**

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Technics (design group international, inc. 813-258-4504

8/29/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III: Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$140,400.00	\$0.00	\$140,400.00
Sidewalk Paving under bridge (Ybor Hex):	\$112,320.00	\$0.00	\$112,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$0.00	\$56,250.00	\$56,250.00
Brick wall with alum. picket:	\$240,750.00	\$69,000.00	\$309,750.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$0.00	\$113,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$475,000.00	\$125,000.00	\$600,000.00
FRP arches -westbound	\$508,306.50	\$198,738.20	\$707,042.70
FRP arches -eastbound	\$508,774.50	\$204,328.80	\$713,103.30
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$34,800.00	0.00	\$34,800.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	\$136,266.00	\$136,266.00
Sidewalk Paving under bridge (Concrete):	\$0.00	\$1,120.00	\$1,120.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	\$113,250.00	\$113,250.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	\$258,792.00	\$258,792.00
Pedestrian lighting (Level II lighting):	\$4,800.00	\$12,000.00	\$16,800.00
Color Concrete Stain- for 3A & 3B			
85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$2,848,276.00	\$1,283,143.00	

GRAND TOTAL: AESTHETIC

TREATMENTS SECTION 3A & 3B:

TOTAL:

\$4,342,869.00

**2-MILLION BUDGET
OPTION**

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

12/28/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III: Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$0.00	\$0.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	\$0.00	\$0.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$0.00	\$0.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	\$0.00	\$0.00	\$0.00
Brick wall with alum. picket:	\$120,200.00	\$24,000.00	\$144,200.00
Enhanced fencing (Euro-style rectangular pattern):	\$46,000.00	\$0.00	\$46,000.00
Pedestrian lighting (Ybor standard lighting):	\$43,200.00	\$0.00	\$43,200.00
Pond-liner (PVC):	\$57,015.00	\$0.00	\$57,015.00
Fountains and pumps:	\$19,500.00	\$0.00	\$19,500.00
Pond concrete bulk-head (Concrete retaining wall):	\$168,950.00	\$0.00	\$168,950.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$200,000.00	\$125,000.00	\$325,000.00
FRP arches -westbound	\$508,306.50	\$121,738.50	\$630,045.00
FRP arches -eastbound	\$508,774.50	\$127,331.10	\$636,105.60
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$18,800.00	0.00	\$18,800.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	0.00	\$0.00
Sidewalk Paving under bridge (Concrete):	\$0.00	0.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	0.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	158,752.00	\$158,752.00
Pedestrian lighting (Level II lighting):	\$4,800.00	12,000.00	\$16,800.00
Color Concrete Stain- for 3A & 3B 85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$1,742,096.00	\$617,721.60	

GRAND TOTAL - AESTHETIC

TREATMENTS - SECTION 3A & 3B:

TOTAL:

\$2,562,067.60



Tampa Interstate Study

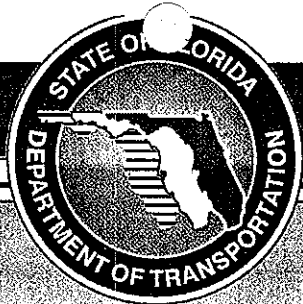


DESIGN REVIEW COMMITTEE MEETING DESIGN SEGMENTS 3A/3B

October 5, 2000

AGENDA

- I. Introduction**
- II. Systemwide Recommendations - Illes**
 - A. On-System Lighting
 - B. On-System Signing
 - C. Fencing
 - D. Retaining Walls
- III. Recommendations for Design Segments 3A & 3B - Toner**
 - A. Bridge and Specialty Areas
 - 1. Bridge Abutment Details
 - 2. Architectural Arches
 - 3. Wall Treatments in Specialty Areas
 - B. Noise Wall
 - C. Stormwater Ponds
 - D. Streetscape Improvements
 - 1. Paving
 - 2. Site Furniture
 - E. Landscape/ Irrigation
 - F. Public Art Opportunities
 - G. Aesthetic Treatment Cost Estimate
- IV. Upcoming Activities - Illes**
 - A. Barrio Latino Presentation
 - B. 90% Public Workshop - January, 2001
- V. Formal Acceptance - Prescott**



Tampa Interstate Study

DRC Coordination Meeting

Please Sign In

October 5, 2000

Name	Phone Number	Affiliation or Group Name
1 Elaine Cillés	286-0125	IPI
2 FRANK M. PRITCHETT	975-6663	FDOT
3 NEALE STRALOW	282-2444	HDR
4 Wilson Stair Jr.	274-8402	City of Tampa Planning & Mgt.
5 JOSE S. RODRIGUEZ	975-6129	FDOT - STRUCTURES
6 Megan Arasteh	975-6162	FDOT - Drainage
7 JOHN SIMPSON	975-6442	FDOT - EMO
8 LYNDIA CRESCENTINI	975-6171	FDOT - PROJ. MGMT.
9 Doug BURG	289-5550	RS & H
10 HOWARD HOFFMAN	289 5300	PBQO
11 DANIEL WOODS	258 4504	TERRA TECTONICS
12 JONATHAN TONER	258. 4504	TERRA TECTONICS design group
13 Mark Jennings	286-1711	URS Corp.
14 JANE FUTRELL BURMER	286.1711	URS CORP.
15 SHANNON PIKE	975-6000	FDOT

October 26, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes, IPI / Mark Jennings, URS

SUBJECT: Design Aesthetics Presentation to the Tampa Interstate Study Design Review Committee, Thursday October 5, 2000

On Thursday October 5, 2000, the Tampa Interstate Study (TIS) Design Aesthetics Team made a presentation to the TIS Design Review Committee (DRC) at 1:30 p.m. at the Florida Department of Transportation (FDOT) District Seven Executive Conference Room. A copy of the agenda and the sign-in sheet are attached.

I. INTRODUCTIONS

Elaine C. Illes (Aesthetics Task Manager, IPI) began the meeting with introductions. She also provided a brief summary of the aesthetics efforts which have transpired since the previous DRC Meeting in May, 2000. Jonathon Toner (Terra Tectonics) passed out copies of *Urban Design, Architectural Specialty Treatments*, a document he has prepared which outlines the proposed urban design treatments along I-4 from 14th Street to 50th Street (Design Segments 3A and 3B).

II. SYSTEMWIDE RECOMMENDATIONS

A. On-System Lighting

Ms. Illes presented an overview of the progress made in recommending a lighting system. She mentioned the efforts of the Design Aesthetics Team over the past several months and the recent agreement with the FDOT on a specific light fixture for use throughout the entire interstate system. The lighting system selected is a flat glass lamp called the Mongoose Holophane fixture. The recommended lamp and pole color is bronze. Lighting coverage provided by the fixture meets all FDOT lighting standards and requirements. Irwin Prescott (FDOT) noted that he has spoken with FDOT Maintenance personnel about the Mongoose Holophane fixture and they have no concerns with it.

B. On-System Signing

Ms. Illes went on to discuss the recommended signage system. All large sign structures will consist of a monotube system. These are proposed to be the same color as the light fixtures and poles. Several photographs of the monotube signs currently in use in Colorado Springs are included in the handout.

Jose Rodriguez asked if we had coordinated the signing with the local signing in the vicinity of 21st/22nd Streets. In Ybor City, off-street signing is currently being installed by the City. The City's signing consultant has selected black poles. Ms. Illes stated we have met with the signing consultant and Howard Hoffman (PBQD) stated he submitted construction plans to the City for coordination of sign issues. Ms. Illes also has a call in to their consultant for the Ybor signs.

John Simpson (FDOT, DRC Member) stated that he remembers objecting to the proposed bronze color, preferring instead a lighter color. He does not think bronze will blend well into the background. Ms. Illes pointed out that the color bronze is a recommendation only, but selecting the structure design for signs and the light fixtures was the major milestone.

Wilson Stair (City of Tampa, DRC Member) stated that he thinks the choice of color depends on how far off system we go with it. Possibly tying into the earth tones should be considered. John Simpson said he would like to see more color options. Ms. Illes stated that the DRC will have to meet again in approximately six months to consider the Downtown Interchange project. Perhaps at that time we can have some color samples ready for their review.

Neil Stralow (HDR, DRC Member) asked about the frequency of the large monotube signs along the interstate system. He said the large tubes are approximately 18 inches in diameter. Ms. Illes stated she will provide him with copies of the signing plans to determine their frequency.

C. Fencing

Jonathon Toner reported that decorative fencing is proposed to be a wrought-iron look alike, slightly more simple in style and made of aluminum. The Barrio Latino Commission actually suggested the more simple style and use of aluminum instead of wrought iron. They would like the interstate aesthetics to compliment the Ybor City Historic District, not set the pace for it. At the request of Secretary Hartmann, the fencing will incorporate no sharp points on the top. The Barrio Latino Commission has stated that they like the fence currently installed at the Ybor City State Museum.

John Simpson reported that the FDOT does not want to maintain any type of fence that is not standard. He stated that we need to reach an agreement with the City on maintenance of the fences. Jonathon Toner noted that there is approximately 1,000 meters (3,300 feet) of fencing to install within Design Segments 3A around the perimeter of ponds.

D. Retaining Walls

Mr. Toner discussed the MSE wall design features. Wall panels will be cast, five feet by five feet square. Colors will be applied using stains. After some study of similar applications around the country, stains were determined to be the most effective and cost reasonable method to color wall panels. Sandstone will be the color and texture (keystone) of the

majority of wall surfaces. Colors will vary slightly depending on location. Fractured fin texture may be applied to walls in limited locations.

John Simpson asked about how far the specialty design would go. Mr. Toner explained that it would vary depending on the visibility of the wall. It was noted that we should identify reasonable locations to transition the color of the MSE wall.

III. RECOMMENDATIONS FOR DESIGN SEGMENTS 3A AND 3B

A. Bridge and Specialty Areas

Mr. Toner went on to describe the proposed bridge designs and some of the existing cultural and community characteristics incorporated into their design. Arches and the use of brick pavers are just some of the features. Mr. Toner showed a number of board mounted graphics. At 21st/22nd Street, the bridge structure will contain a mixture of locally recognizable components: arches, ballustrade, columns, and lighting sconces. All amenities were designed to be simple to construct, maintain, and minimize additional weight to structures.

The 14th/15th Street structures will incorporate some new design elements to complement the existing design elements. The 14th Street structure will utilize the existing abutment to the west while 15th Street structure will utilize a new brick façade on the abutment to the east. Form liners will be used extensively to extend the look of brick as far as possible. The brick color will be stained. Jane Burner (URS) recommended that we look at actual brick color samples before we make a color selection for the brick.

The structures at 34th Street, 40th Street, and 50th Street are located within the moderate level of aesthetic treatment. The Columbus Drive structure, due to its great length, will receive minimal treatment due to the excessive cost. Ms. Illes noted that if the area redeveloped, we could add the bridge treatment later if the money becomes available.

The arch elements shown as part of the MSE walls are actually separate structures standing out almost two feet from the face of the MSE wall. This two-foot space provides room for maintenance, access, inspection and provides a more attractive three dimensional treatment.

On the actual bridge structures, the appearance of an arch will be achieved through the attachment of an architectural fiberglass material. The material can be easily attached to the structure, is very light weight, and can be repeatedly pressure washed and sandblasted three or four times. Aluminum beams will be used to attach the architectural fiberglass. No additional bridge beams are necessary to support the panels. They are very light and very strong.

Mr. Toner discussed the use of an oversized light and sconce to indicate arrival in Ybor City. Mr. Toner noted an area for a medallion which could be an opportunity for public art. Art in Public Places would fund the design. The DRC would have final say on the design selected. It could then be included in the construction for no additional cost. Noting the size difference of the period lighting proposed for on- versus off-street situations, Mr. Simpson

stated that he would like all lights to be the same size. Jose Rodriguez (FDOT) stated that the decorative walls must be located behind the barrier walls.

Mr. Toner went on discussing the different levels of aesthetic treatment. He discussed the Columbus Drive overpass and the fact that the treatments at that location will not be included due to cost. The 50th Street structure is not like the smooth concrete box structures proposed elsewhere. Because the structure at 50th Street itself will be constructed of steel, it will take a double fiberglass false arch to hide the metal structure. There was discussion about possibly eliminating aesthetic treatments at 50th Street. The design team is opposed to this because 50th Street is the beginning of the urban core and provides the first view of downtown Tampa.

B. Noise Walls

With regard to noise walls, a decision has finally been made to construct them to a maximum height of eight feet above the roadway surface. Called a "Texas wall", the noise wall is essentially a vertical extension of the crash barrier, has been extensively used elsewhere, and is currently undergoing crash testing.

C. Stormwater Ponds

With regard to ponds, Mr. Toner stated the Barrio Latino Commission was originally against the placement of ponds within the Ybor City National Historic Landmark District. Their objection was based on a claim of exemption from storm water retention regulations because ponds were never part of Ybor City's historic fabric. In reality however, Ybor City has no such exemption. At the 14th/15th Street structures, three ponds are proposed. The two outside ponds will be dry. The middle pond will have standing water, include a liner, and have a fountain. The ponds will be surrounded by decorative fencing.

Mr. Toner also mentioned the pond located beneath the 21st/22nd Street bridge, approximately an acre in size. It is not a required pond but has been proposed as a water feature. It is possible that the space be used for something else if someone can propose a better idea.

D. Streetscape Improvements

Mr. Toner reported there will be extensive use of pavers, colored and stamped asphalt. At 21st/22nd Street, Mr. Toner proposes the use of real brick because he does not think that stamped asphalt will stand up to the extremely heavy truck traffic at that location. Endicott brick from Nebraska was mentioned as a candidate due to its durability; however, it is very expensive. The common side-walk proposed throughout the interstate system will be the colored hexagonal blocks.

E. Landscape and Irrigation

For landscaping, Mr. Toner has recommended increasing the original amount of irrigation infrastructure because there is no sense designing and planting decorative vegetation that will

not survive. He noted that Secretary Hartmann has stated that trees are a top priority to the FDOT, groundcover is a lower priority.

Mr. Toner proposes extending irrigation into the Level 2 treatment areas. He promotes the use of irrigation wherever there is any kind of landscaping. He suggests a separate irrigation system just for trees because they have shown to suffer with standard irrigation systems designed for grasses and plants. It was suggested that the irrigation plan could be set up based on a program developed by Dr. Gelman at the University of Florida.

F. Public Art Opportunities

There was the mention of opportunities for public art. Ms. Illes stated that FDOT will identify the opportunity and location for public art in the design of the new roadway and the City and the Public Arts Commission will fund the design of the art work. This results in incorporating public art right into the design at no additional cost to the project. There are many opportunities for public art in the vicinity of the 14th/15th Street overpasses, and many of them have already been presented to Robin Nigh with Art in Public Places.

G. Aesthetic Treatment Cost Estimates

Mr. Toner went over some of the estimated aesthetic costs and design options. The four basic aesthetic options would cost approximately \$8 million, \$6 million, \$4 million, and \$2 million respectively. The \$8 million option provides for the highest level of aesthetic treatment over the entire design segment length. The \$6 million option provides the same, but eliminates the design treatments at the Columbus Drive structure due to its excessive length and resulting cost. The \$4 million option eliminates design treatments at Columbus Drive and 34th Street, and reduces the amount of enhanced fencing along the project. The \$2 million option makes further cuts throughout the entire system and does not meet criteria for the highest level of aesthetic treatment.


Much discussion followed. The \$6 million option essentially delivers the aesthetic details that were committed to in the TIS Final Environmental Impact Statement (FEIS). The \$6 million option takes no shortcuts and includes things such as actual brick pavers, not textured asphalt. The \$6 million option was found to be very appealing to the District Seven Directors at a presentation to them on September 28, 2000. The Design Review Committee seemed satisfied with the \$6 million option.

IV. UPCOMING ACTIVITIES

Elaine Illes talked briefly about the upcoming formal presentation to the Barrio Latino Commission scheduled for Tuesday November 17, 2000. The 90% Public Workshop has been tentatively set for January 2001.

V. FORMAL ACCEPTANCE

Elaine Illes stated that the interstate design teams need formal approval on these issues and design proposals in order to move forward with the design plans. Too much delay will result in adverse effects to the design schedules. John Simpson said he would collect comments from the DRC members and compile them in a memorandum for submission to Irwin Prescott.



I-4 Corridor Sections 3A/3B Urban Design

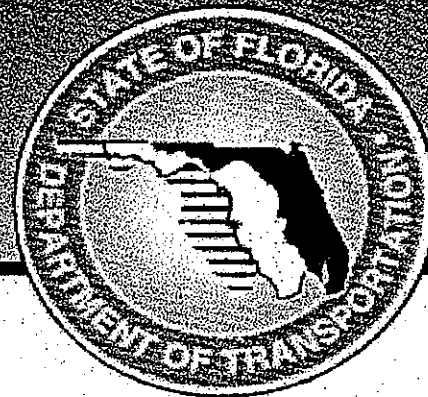
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ACDH-4-1 (141), ACDH-4-1 (142)
SPN'S 10190-1450 & 10190-1451
W.P.A. #'S 7143131 & 7143132

FDOT District 7
Hillsborough County, Florida

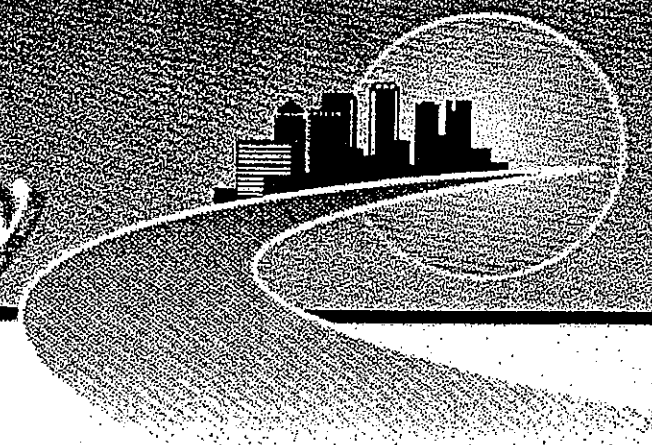
DESIGN

Architectural Specialty Treatments

September 28, 2000



Tampa Interstate Study



TAMPA INTERSTATE STUDY

I-4 Segments 3A & 3B

FP No. 258643 1 32 01

FP No. 258401 1 32 01

URBAN DESIGN TREATMENTS REVIEW PACKAGE

Florida Department
of Transportation
District Seven



September 28, 2000

TAMPA INTERSTATE STUDY

I-4 Segments 3A & 3B

FP No. 258643 1 32 01

FP No. 258401 1 32 01

URBAN DESIGN TREATMENTS

Review Package

September 28, 2000

FOR: State of Florida, FDOT
Irwin Prescott, P.E., Project Manager
11201 N. McKinley Drive, MS7-600
Tampa, Florida 33612
813-975-6129

TO: Parsons, Brinckerhoff, Quade & Douglas
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PREPARED BY: TERRA TECTONICS design group, inc.
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Tampa, Florida 33606
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COORDINATED BY: I.P.I
Elaine Illes
206 Treasure Drive
Tampa, Florida 33609
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I-4 3A & 3B URBAN DESIGN ELEMENTS



-
- . Urban Design Elements
 - . On-System Lighting
 - . On-System Signing
 - . Fencing
 - . Retaining Walls
 - . Bridge and Specialty Area
 - . Bridge Abutment Areas
 - . Architectural Arches
 - . Wall Treatments in Specialty Areas
 - . Noise Wall
 - . Stormwater Ponds
 - . Streetscape Improvements
 - . Paving
 - . Site Furniture
 - . Landscape / Irrigation
 - . Public Art Opportunities

TAMPA INTERSTATE STUDY SUMMARY OF AESTHETIC COORDINATION AND RECOMMENDATIONS

Introduction

In March of this year the Design Review Committee (DRC) that was set up during the Tampa Interstate Study (TIS) Environmental Impact Statement (EIS) phase reconvened as a work group to review and evaluate the design developments that occurred over the last two years. Since they last met, most of the interstate design segments had received additional funding and aesthetic issues had come to the forefront of community concern.

Based upon comments received in the last year and a half from the City of Tampa, the Barrio Latino Commission, Hillsborough County Metropolitan Planning Commission, Ybor City Chamber of Commerce and the input from the 60% Design Public Workshop held on March 25, 1999, the following activities took place to advance the project's aesthetic design.

- Held a design charrette with local architects who are known for their work in Ybor
- Visited a wall manufacturer and fiberglass manufacturer
- Coordinated with a paint specialist and a concrete integral color specialist
- Held a meeting with FDOT Central Office Structures and Reinforced Earth Co.
- Coordinated with light weight noise wall companies and concrete wall companies

On May 5, 2000 a DRC meeting was held to present preliminary recommendations for all the aesthetic design concepts along the corridor including retaining walls and noise walls along the interstate. Recommendations were well received. Following this informal acceptance of the concepts by the DRC, the concepts were taken to the Barrio Latino Commission and a meeting was held with FDOT maintenance and construction personnel, who were pleased with the concepts.

Recommendations

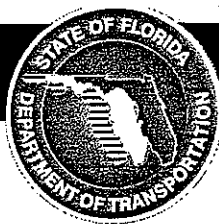
Based upon all of the research and input from these numerous experts and agencies the following recommendations resulted:

- **On-system Lighting** – Mongoose Flat Lens Light with Bronze Pole
- **On-system Signing** – Mono-tube System with Bronze Coloration
- **Fencing** – Black Architectural Aluminum with simple design

- **Retaining Walls** – MSE 5x5 Panels with beige earth-tone concrete stain & limestone texture and some areas with fractured fin texture. Specialty areas will receive an "X" pattern commonly found in Ybor made from two form liners.
- **Bridge and Specialty Areas** – Brick walls constructed in front of MSE walls with either aluminum picket detail or balustrade within the end wall arches, wall sconce lighting in key areas, cornice work in concrete or fiberglass reinforced plastic (FRP), architectural FRP bridge arches with a cut-stone look and limestone finish.
- **Noise Wall Treatments** – Color and Texture to match the MSE walls which would be limestone texture with an earth-tone color stain and would include a cornice that provides similar detail to the arch panels.
- **Stormwater Ponds** – 14th & 15th Street Area (two dry ponds with brick knee-walls and aluminum picket fence, one wet pond via pond liner with aeration fountain, brick knee-wall with aluminum picket on the top, heavy tree plantings, benches and lighting), 21st & 22nd Street Area (one wet pond via pond liner with two aeration fountains, brick wall with black aluminum 8 foot fence on top), and all other ponds (8 foot aluminum fence and planted with native plantings in water, shoreline and banks to promote more green areas).
- **Streetscape Improvements** – black and white hex pavers for the sidewalks with the exception of 21st/22nd using brick for sidewalks, brick pavers on concrete base between the sidewalks, brick paving or concrete pavers for pedestrian areas at 14th/15th and 21st/22nd Street intersections and stamped asphalt crosswalks in Level II area (34th Street to 50th Street). A bench and trash can that can be used system-wide is yet to be selected.
- **Landscape/ Irrigation** – currently designed to meet a \$1 million budget based on commitments from the City of Tampa to maintain. Plantings have been reduced in order to include additional irrigation to ensure survival of landscape investment.
- **Public Art Opportunities** – coordination efforts are on-going with the City of Tampa Art in Public Places to identify locations where they may desire to fund a public art project.

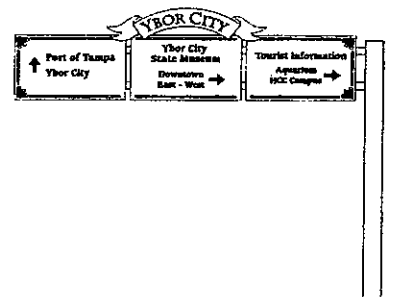
Aesthetics Cost Estimates

The current budget for landscape and irrigation is \$1 million for both Design Segments 3A & 3B. In addition to the landscaping dollars, hardscape estimates have been prepared for four options: \$8 million, \$6 million, \$4 million, and \$2 million. The current project budget allows for \$6 million in hardscape costs. The four cost estimates have been compiled to enable a comparison of end product relative to cost and to facilitate potential budget constraints and comments. We are recommending the \$6 million hardscape concept. The attached pages include details of each cost estimate.

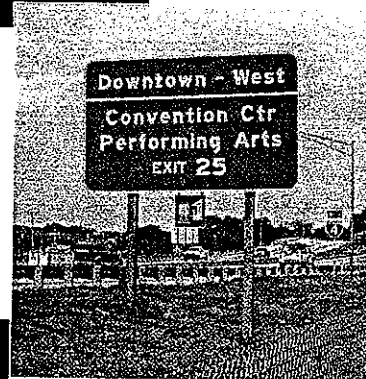
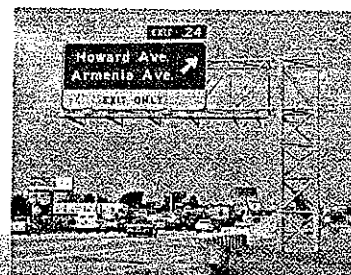
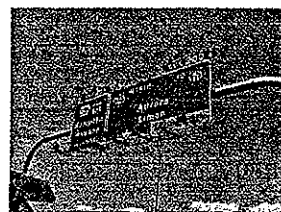


Interstate 4 - Segments 3A/3B

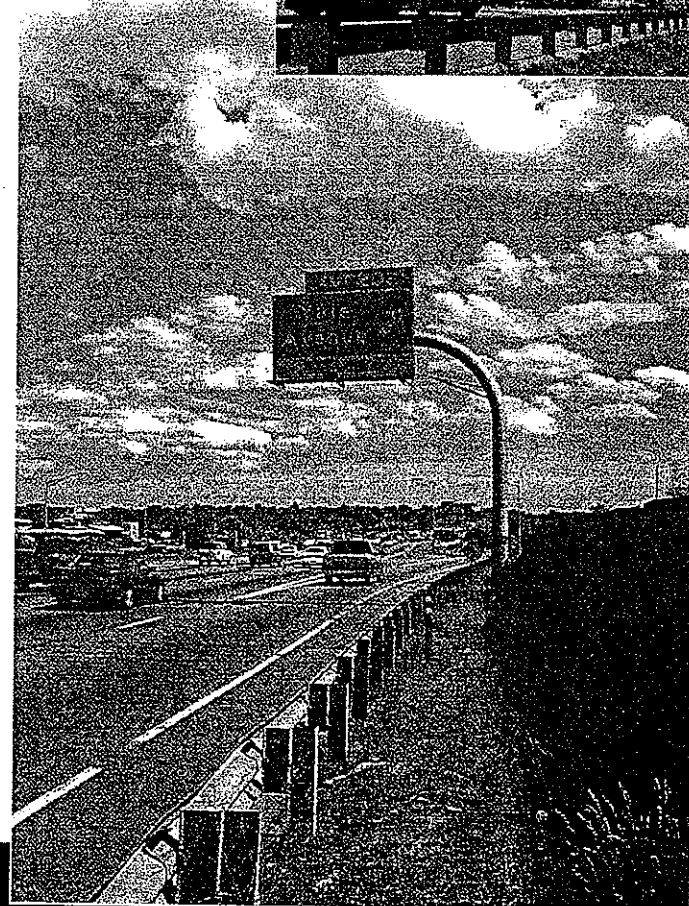
Signage & Lighting



Proposed Off-System Signage



Existing On-System Signage

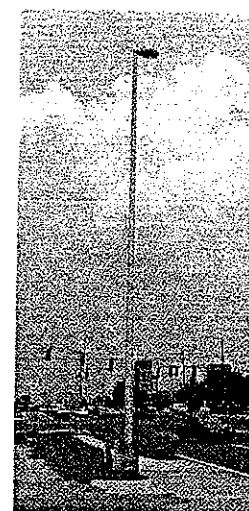
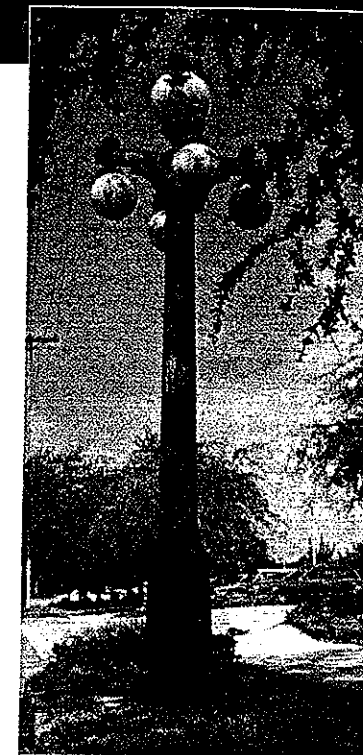


Proposed On-System Signage

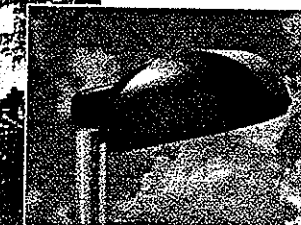
Proposed Off-System Lighting



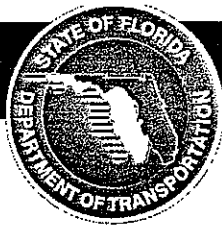
Existing Lighting



Mongoose
Flat Glass



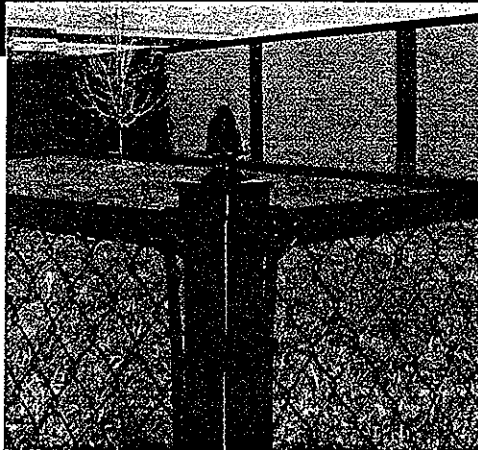
Proposed On-System Lighting



Interstate 4 - Segments 3A/3B

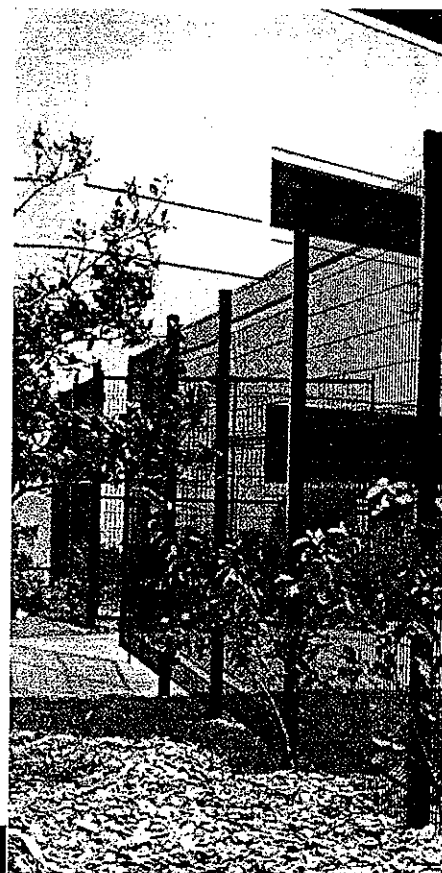
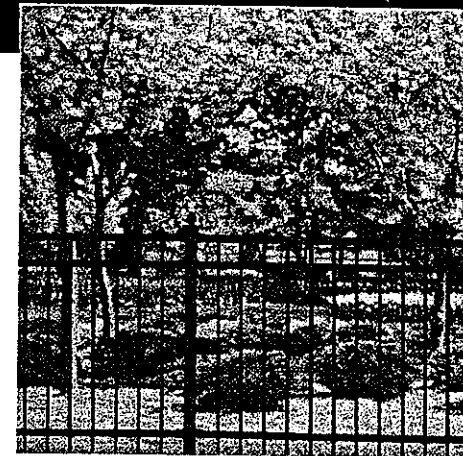
Fencing

Aesthetic Level II



Vinyl-Coated Chain-Link Fencing:

In Aesthetic Level II areas of the Interstate Design Project, vinyl-coated chain-link fencing is proposed. This type of fencing blends within its surroundings due to its polyester/vinyl color coating (black), and should prove to be more durable.



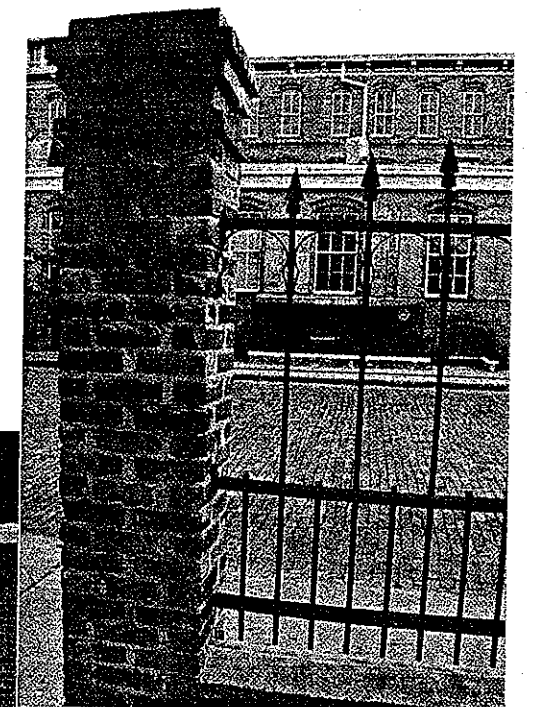
Enhanced Fencing:

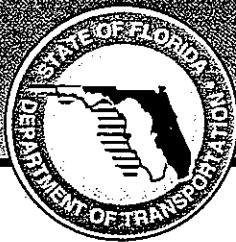
European stylized fencing is proposed for Aesthetic Level III areas where the brick knee wall / iron fence combination is not indicated. This enhanced fencing incorporates a higher level of detail and craftsmanship than does the typically used chain-link fencing. Further, the euro-design type fencing blends within its surroundings due to its polyester/vinyl color coating (black) and the more open shape of the vertical and rectangular module.

Aesthetic Level III

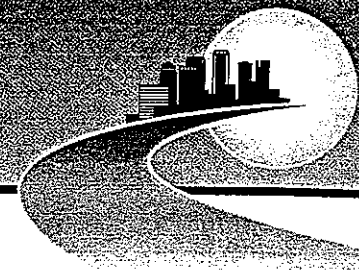
Brick Knee Wall / Iron Picket Fencing:

Special wall / fencing proposed in the Aesthetic Level III areas is a structural combination of brick knee wall topped with iron picket fencing. This combination is proposed because of the direct relationship to the materials and techniques used presently in the Ybor City National Historic Landmark District.



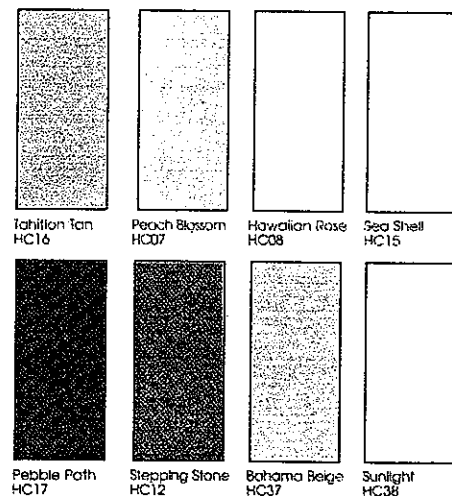


Tampa Interstate Study

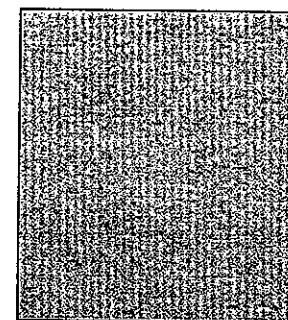


RETAINING WALLS

CONCRETE DECORATIVE SEALER & STAIN COLORS

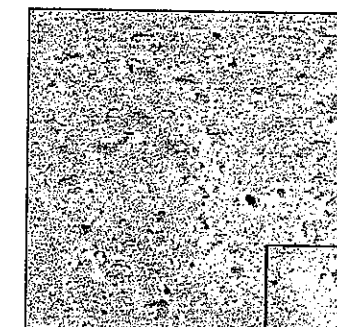


Fractured Fin

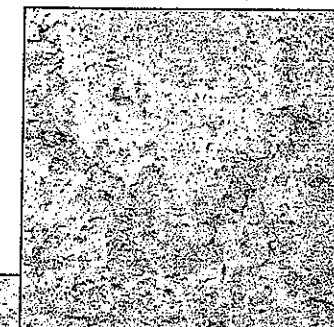


TEXTURE

Concrete/Sandstone Finish



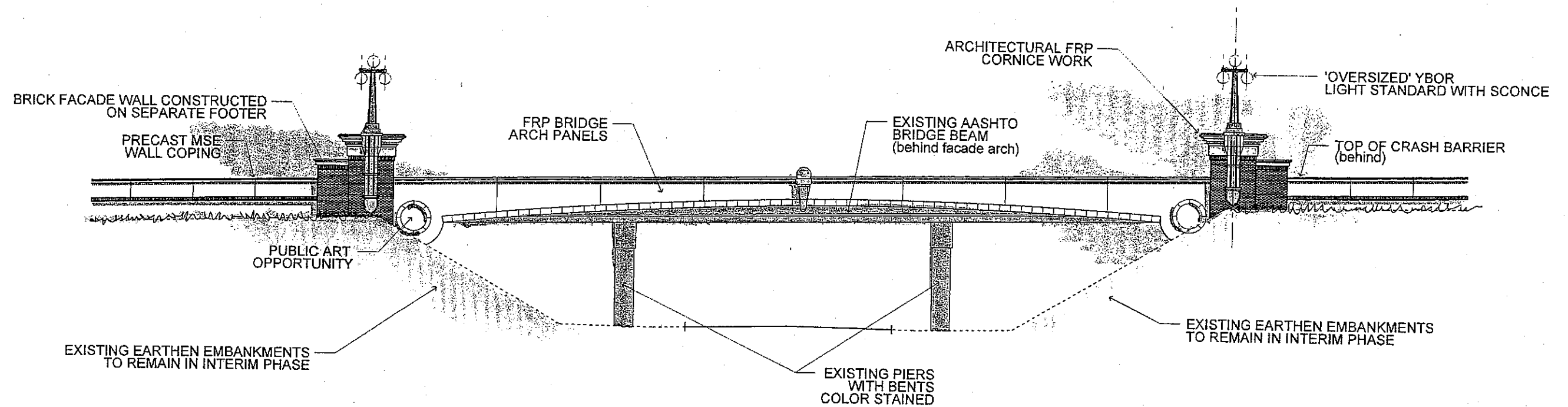
Courtney Cambell/
Spruce Street/
Westhores Blvd.
(Tower Pink)



I-4, 14th St. to 50th St.
(Villa M)



West Tampa/Downtown
Interchange (Hunters Tan)



14TH STREET - ELEVATION - SOUTH SIDE- TREATMENT A

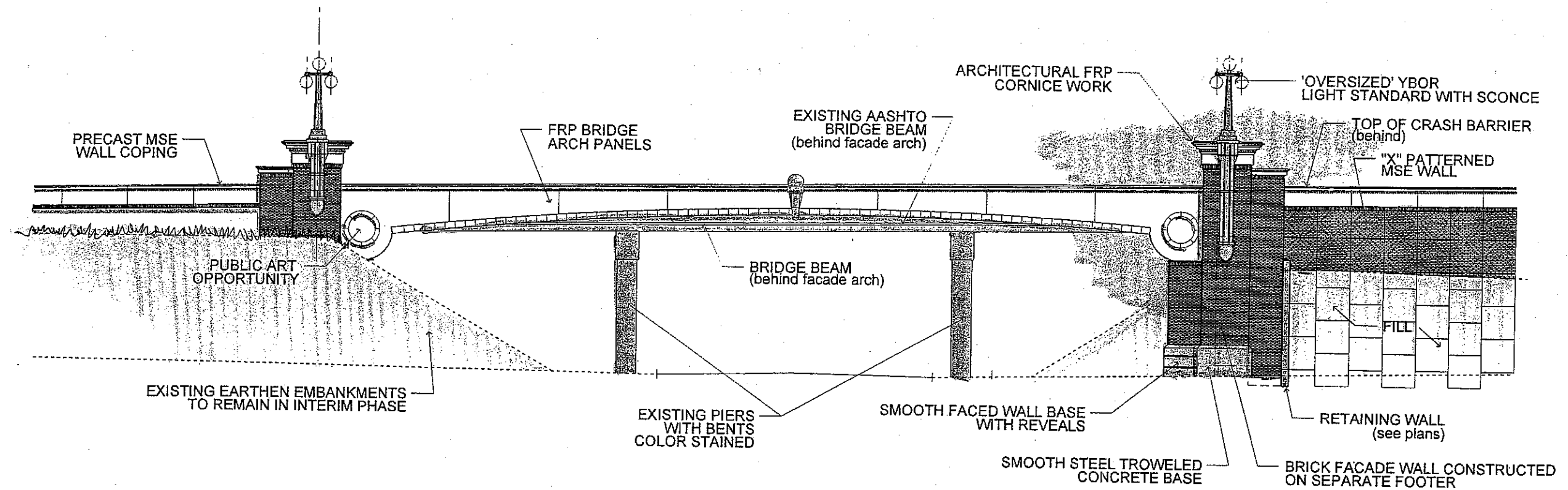
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



15TH STREET - ELEVATION - SOUTH SIDE- TREATMENT E

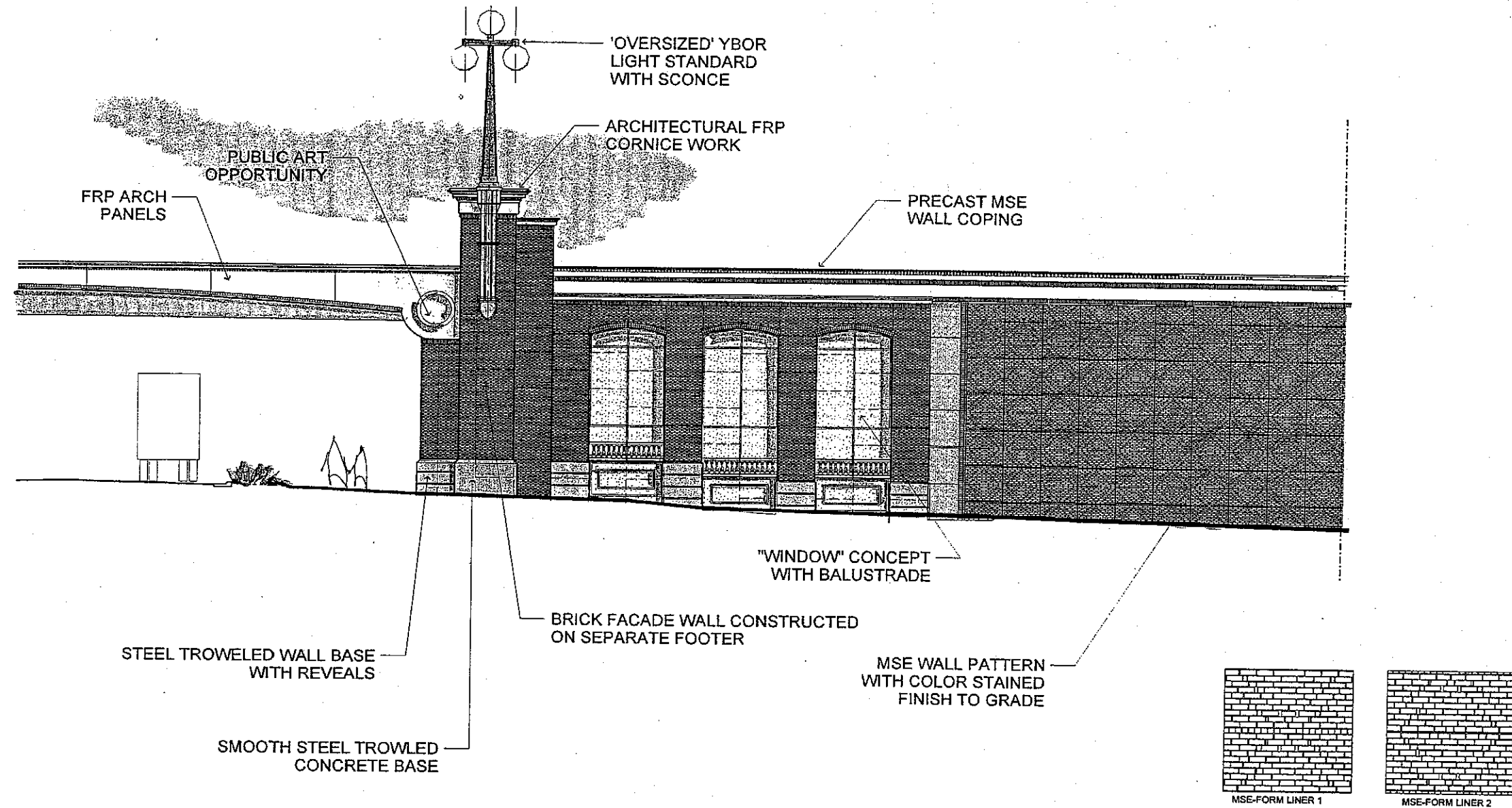
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



21ST AND 22ND STREETS - DETAIL- SOUTH SIDE- TREATMENT B

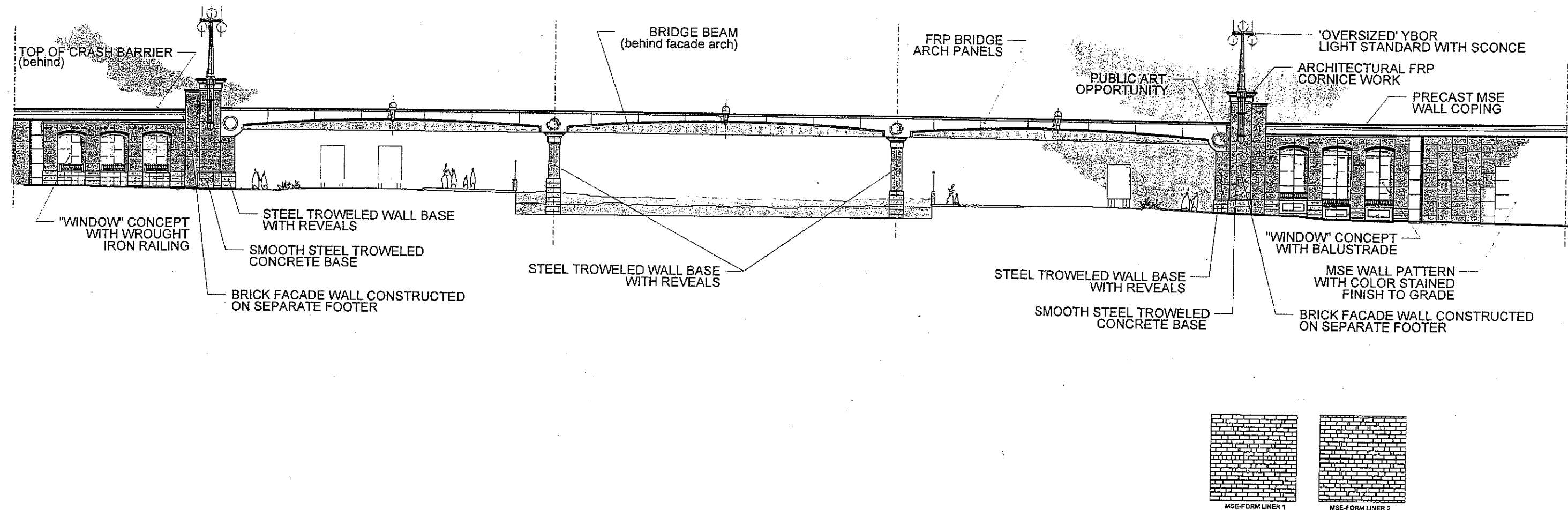
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



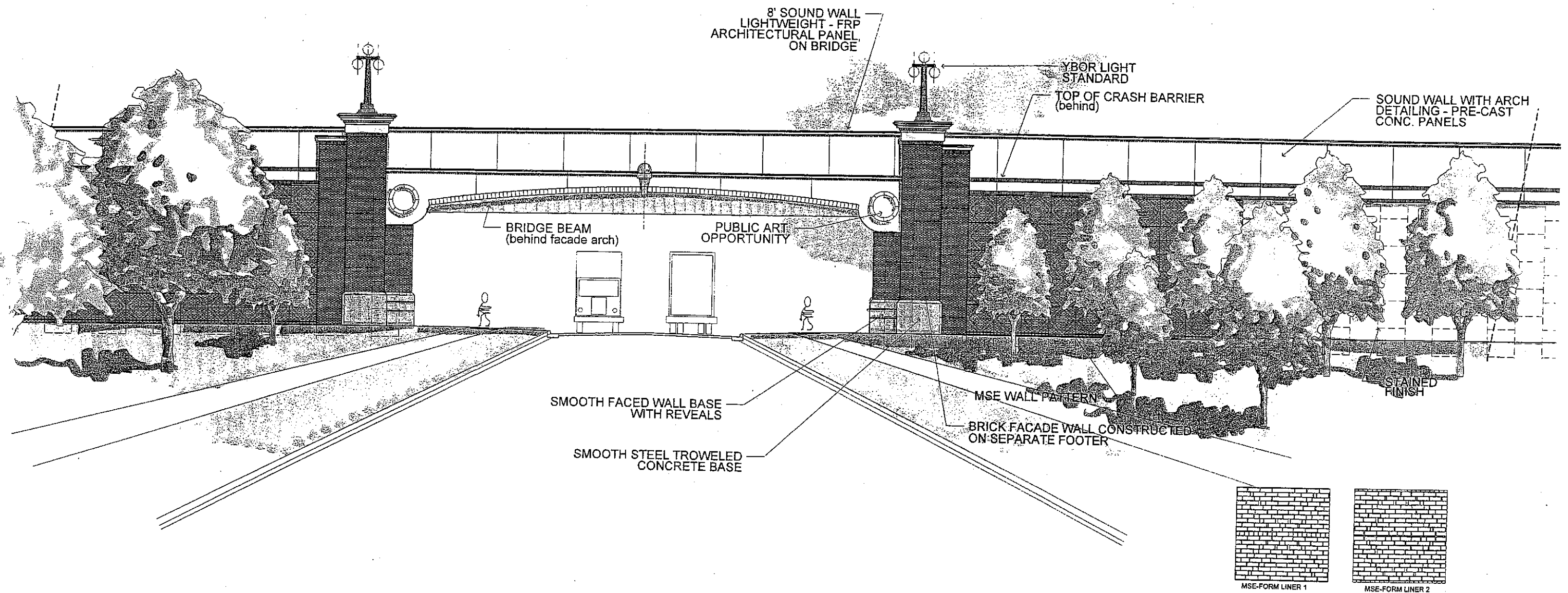
21ST AND 22ND STREETS - ELEVATION- SOUTH SIDE- TREATMENT B

1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
JULY 27TH, 2000





26TH STREET - ELEVATION - SOUTH SIDE- TREATMENT C

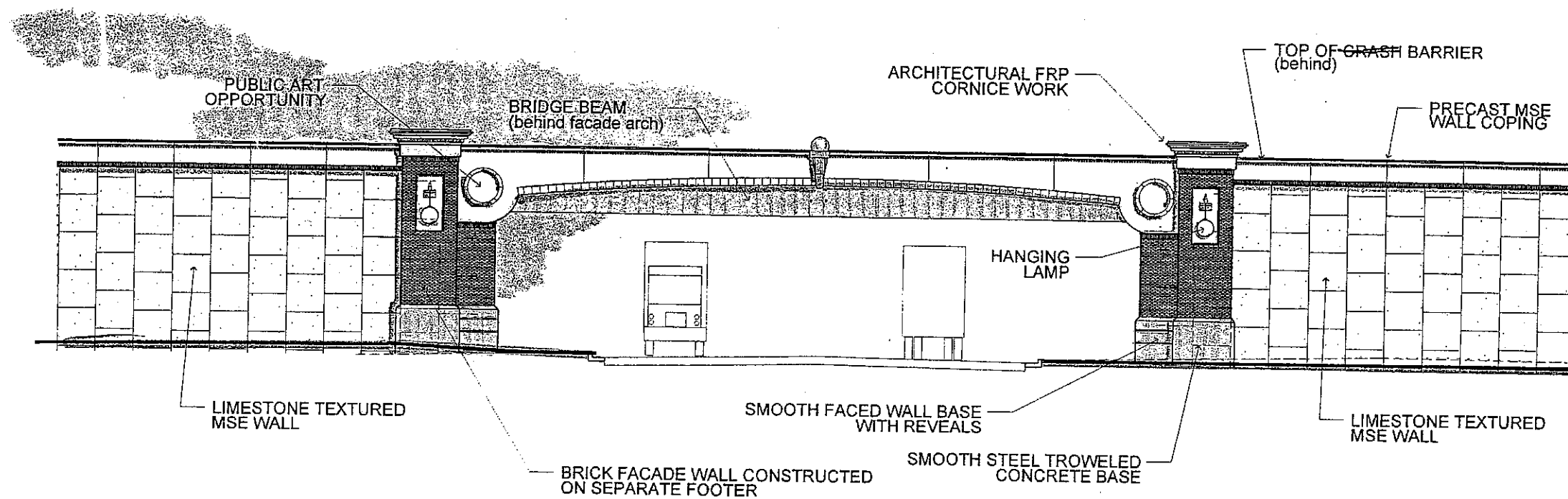
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



34TH STREET - ELEVATION - SOUTH SIDE- TREATMENT D

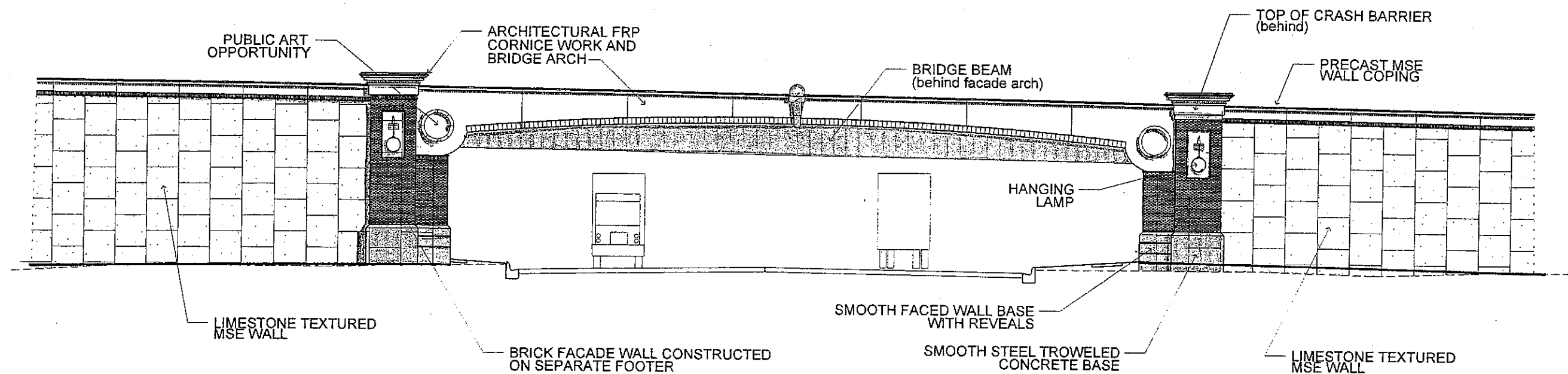
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



40TH STREET - ELEVATION - SOUTH SIDE- TREATMENT D

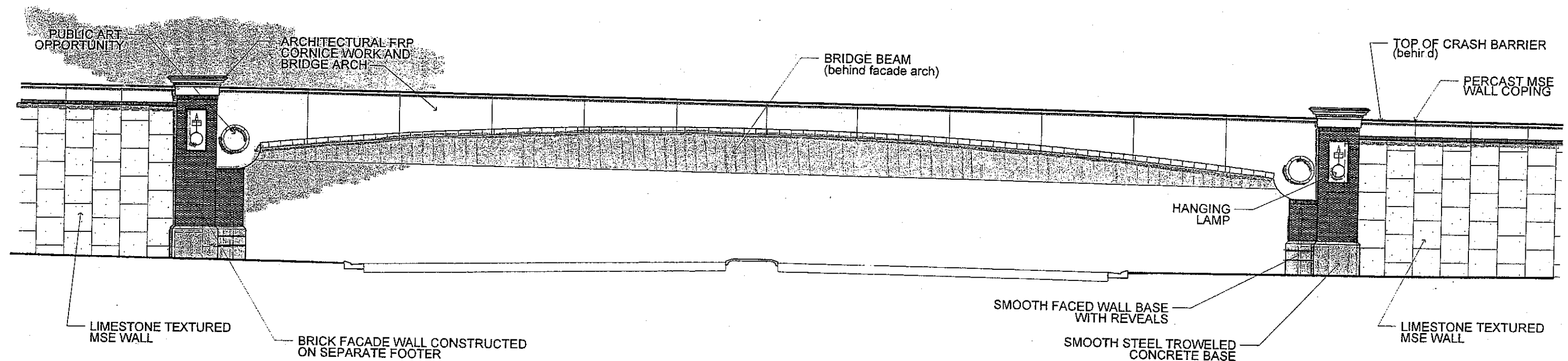
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000



PREPARED BY:



50TH STREET - ELEVATION - SOUTH SIDE- TREATMENT D

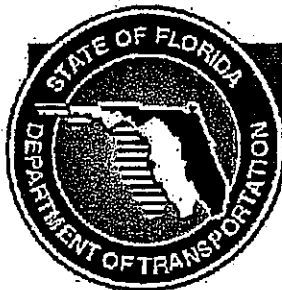
1-4 SEGMENTS 3A + 3B - URBAN DESIGN SPECIALTY AREAS

WITH:
PARSONS BRINKERHOFF
QUADE AND DOUGLAS, INC.

DESIGN CONCEPTS
SEPTEMBER 28TH, 2000

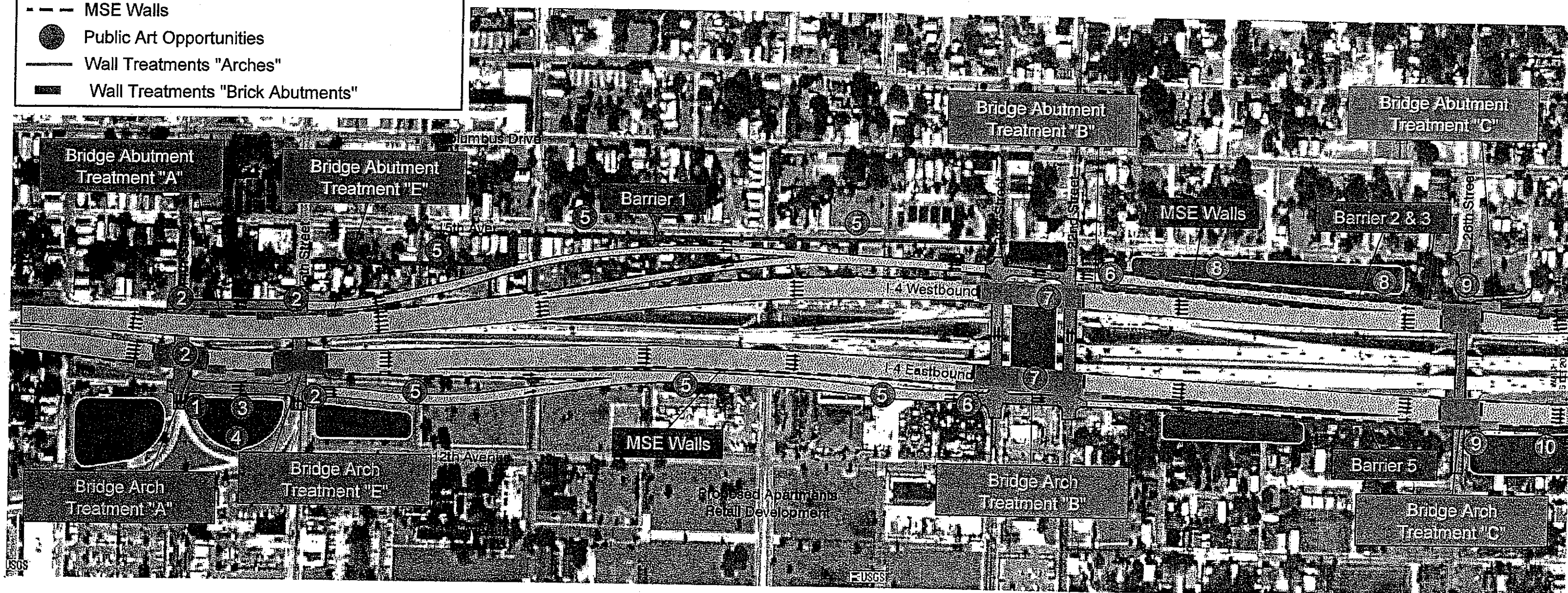


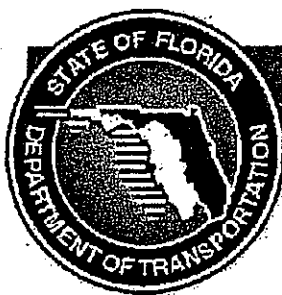
PREPARED BY:












LEGEND

- Financially Feasible Alternative (under design)
- Not Currently Funded
- Local Street Improvements
- Potential Pond Locations
- Proposed Noise Barriers (8' Ht. Max.)
- Proposed Bridges
- MSE Walls
- Public Art Opportunities
- Wall Treatments "Arches"
- Wall Treatments "Brick Abutments"

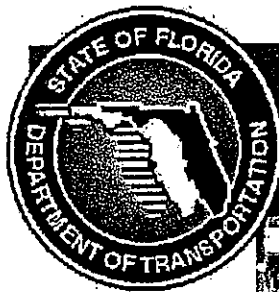




LEGEND

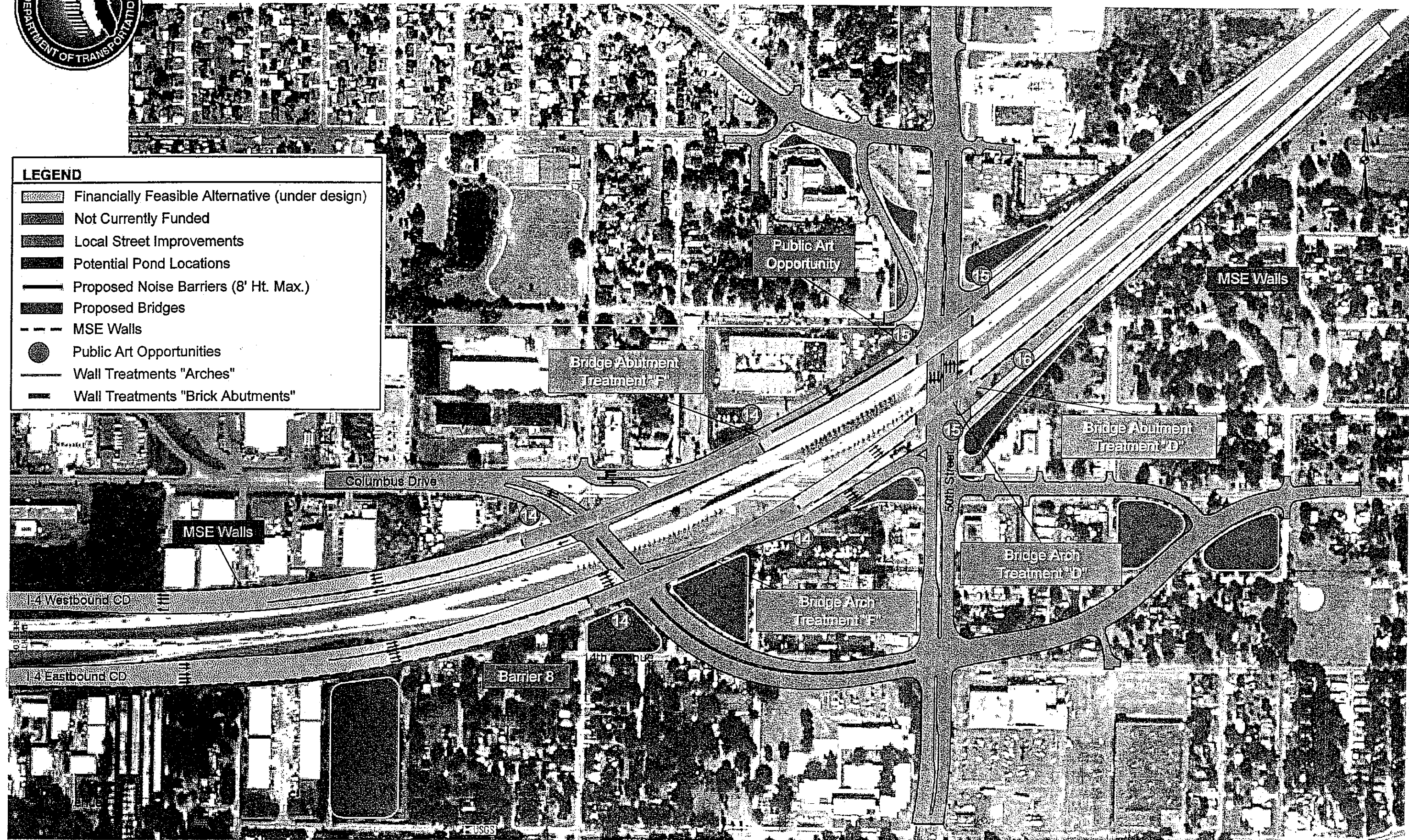
-  Financially Feasible Alternative (under design)
-  Not Currently Funded
-  Local Street Improvements
-  Potential Pond Locations
-  Proposed Noise Barriers (8' Ht. Max.)
-  Proposed Bridges
-  MSE Walls
-  Public Art Opportunities
-  Wall Treatments "Arches"
-  Wall Treatments "Brick Abutments"





LEGEND

- Financially Feasible Alternative (under design)
- Not Currently Funded
- Local Street Improvements
- Potential Pond Locations
- Proposed Noise Barriers (8' Ht. Max.)
- Proposed Bridges
- MSE Walls
- Public Art Opportunities
- Wall Treatments "Arches"
- Wall Treatments "Brick Abutments"



Public Art Opportunity Locations

I-4 Segments 3A & 3B
FP No. 258401-1-52-01

Art Opportunity Locations and Description:

1. Pedestrian areas crossing under the corridor. Possible locations for wall murals or embankment color treatments.
 2. Medallions in FRP bridge arches at 14th and 15th streets. These are currently proposed as Ybor City neighborhood location markers, in a graphic form.
 3. Pond sculpture location. Proposed to be located in the center of the pond...to minimize vandalism. Highly visible from all sides.
 4. Pedestrian areas, possible location for freestanding art object or "Rebar Trees" in the locations shown as tree or palm plantings. It consists of pedestrian seating areas over brick paving, against a brick knee wall with a wrought iron rail surround.
 5. MSE walls and Retaining Walls, north and south sides between 15th St. and 21st. Opportunity for wall murals, or details designs within the MSE retaining walls. This can consist of a smooth faced MSE panels, with a base coating of white. This can then be used for community groups to display neighborhood murals, etc.
 6. Currently we are proposing a "x" pattern form liner in the MSE wall panels. Combined shapes form a diagonal grid across the walls. This would be color stained a brick color, mimicking a brick detailed wall.
 7. Medallions in FRP Bridge arches, north and south sides. 21st and 22nd St.
 8. Sculpture positions within the pond between 21st and 22nd Streets.
 9. Wall mural possibilities on MSE walls over pond at the north side between 22nd and 26th Streets.
 10. Medallions in FRP Bridge arches, north and south sides, 26th St.
 11. MSE wall art opportunity. This can consist of a smooth faced MSE panels, with a base coating of white. This can then be used for community groups to display neighborhood murals, etc.
 12. Medallions in FRP Bridge arches, north and south sides, 34th St.
 13. Medallions in FRP Bridge arches, north and south sides, 40th St.
 14. Medallions in FRP Bridge arches, north and south sides, Columbus Drive.
 15. Medallions in FRP Bridge arches, north and south sides, 50th St.
 16. Wall mural possibilities on MSE walls over pond at the south side of MSE wall 50th St.
 17. Wall mural possibilities on MSE walls over pond at the north side of MSE wall 50th St.
- Note: Medallions can be designed and the molds created by independent artists. The molds can be then inlayed into the arch forms and the art pieces cast into the arches for no additional cost.

I-4 3A & 3B BUDGET OPTIONS



8 Million Budget Option

- All bridges remain enhanced. All enhanced paving remains.
- All brick abutments details in original plan remain.
- Ponds at all locations with brick knee walls.
- Enhanced fencing at all locations.
- Enhanced paving at all locations, inside and outside Ybor.
- All enhanced lighting remains.
- Street furniture in all locations.

6 Million Budget Option

- All bridges remain enhanced, Columbus St. removed.
- Brick abutments details at 14th St., 15th St., 21st/22nd St., 34th St., 40th St., and 50th St.
- Ponds at all locations with brick knee walls.
- Reduced enhanced fencing locations.
- Reduced paving in 3A and 3B.
- Street furniture in Ybor locations only.

4 Million Budget Option

- All bridges remain enhanced, except for Columbus and 34th St.
- Brick abutments details at 14th St., 15th St., and 21st/22nd St.
- Ponds at all locations with knee walls.
- Reduced enhanced fencing locations.
- Enhanced paving at 3A only, no enhanced paving in roadways.
- Reduced lighting locations, enhanced only within Ybor.
- Street furniture in Ybor locations only.

2 Million Budget Option

- Bridge arches at 14th St., 15th St., 21st/22nd St. and 50th St.
- Brick abutments at 14th St., 15th St., 21st St. and 22nd St. only.
- Pond at 21st/22nd St., but no pond at 14th St., and 15th St.
- Minor use of enhanced fencing.
- Plain finished concrete walks, no paving in roadways.
- Limited enhanced lighting in 3A.
- No street furniture.

6-MILLION BUDGET
OPTION

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

9/26/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$308,100.00	\$0.00	\$308,100.00
Sidewalk Paving under bridge (Ybor Hex.):	\$151,320.00	\$0.00	\$151,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$270,600.00	\$56,250.00	\$326,850.00
Brick wall with alum. picket:	\$240,750.00	\$149,500.00	\$390,250.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$26,000.00	\$139,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$620,000.00	\$475,000.00	\$1,095,000.00
FRP arches -westbound	\$508,306.50	\$260,910.00	\$769,216.50
FRP arches -eastbound	\$508,774.50	\$266,607.90	\$775,382.40
Arch Cornices	\$38,400.00	\$28,800.00	\$67,200.00
MSE wall-enhanced Liner	\$69,600.00	0.00	\$69,600.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	364,884.00	\$364,884.00
Sidewalk Paving under bridge (Concrete):	\$0.00	168,324.00	\$168,324.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	294,750.00	\$294,750.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	351,780.00	\$351,780.00
Pedestrian lighting (Level II lighting):	\$4,800.00	80,400.00	\$85,200.00
Color Concrete Stain- for 3A & 3B 85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$3,505,376.00	\$2,523,205.90	

GRAND TOTAL - AESTHETIC

TREATMENTS - SECTION 3A & 3B:

TOTAL:

\$6,230,031.90

8-MILLION BUDGET
OPTION

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

9/26/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$308,100.00	\$0.00	\$308,100.00
Sidewalk Paving under bridge (Ybor Hex.):	\$151,320.00	\$0.00	\$151,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$270,600.00	\$56,250.00	\$326,850.00
Brick wall with alum. picket:	\$240,750.00	\$149,500.00	\$390,250.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$26,000.00	\$139,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$845,000.00	\$850,000.00	\$1,495,000.00
FRP arches -westbound	\$508,306.50	\$819,842.40	\$1,328,148.90
FRP arches -eastbound	\$508,774.50	\$808,493.40	\$1,317,267.90
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$69,600.00	0.00	\$69,600.00
LEVEL II TREATMENTS			
Sidewalk Paving (Concrete):	\$0.00	364,884.00	\$364,884.00
Sidewalk Paving under bridge (Concrete):	\$0.00	168,324.00	\$168,324.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	294,750.00	\$294,750.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	493,312.00	\$493,312.00
Pedestrian lighting (Level II lighting):	\$4,800.00	80,400.00	\$85,200.00
Color Concrete Stain- for 3A & 3B 85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$3,730,376.00	\$3,950,155.80	

GRAND TOTAL - AESTHETIC

TREATMENTS - SECTION 3A & 3B:

TOTAL:

\$7,881,981.80

2-MILLION BUDGET
OPTION

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

9/26/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$0.00	\$0.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	\$0.00	\$0.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$0.00	\$0.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	\$0.00	\$0.00	\$0.00
Brick wall with alum. picket:	\$128,250.00	\$34,500.00	\$162,750.00
Enhanced fencing (Euro-style rectangular pattern):	\$46,000.00	\$0.00	\$46,000.00
Pedestrian lighting (Ybor standard lighting):	\$43,200.00	\$0.00	\$43,200.00
Pond-liner (PVC):	\$57,915.00	\$0.00	\$57,915.00
Fountains and pumps:	\$19,500.00	\$0.00	\$19,500.00
Pond concrete bulk-head (Concrete retaining wall):	\$168,950.00	\$0.00	\$168,950.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$200,000.00	\$125,000.00	\$325,000.00
FRP arches -westbound	\$508,306.50	\$121,738.50	\$630,045.00
FRP arches -eastbound	\$508,774.50	\$127,331.10	\$636,105.60
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$18,800.00	0.00	\$18,800.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	0.00	\$0.00
Sidewalk Paving under bridge (Concrete):	\$0.00	0.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	0.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	158,752.00	\$158,752.00
Pedestrian lighting (Level II lighting):	\$4,800.00	12,000.00	\$16,800.00
Color Concrete Stain- for 3A & 3B 85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$1,742,896.00	\$617,721.60	

GRAND TOTAL - AESTHETIC TREATMENTS - SECTION 3A & 3B:	TOTAL:	\$2,562,067.60
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4-MILLION BUDGET
OPTION

I4 - Section 3A & 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

9/26/2000

Item:	3A	3B	Total
Aesthetic Level II & III Planting			
Aesthetic Level III Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	\$140,400.00	\$0.00	\$140,400.00
Sidewalk Paving under bridge (Ybor Hex.):	\$112,320.00	\$0.00	\$112,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	\$50,310.00	\$0.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	\$0.00	\$56,250.00	\$56,250.00
Brick wall with alum. picket:	\$240,750.00	\$69,000.00	\$309,750.00
Enhanced fencing (Euro-style rectangular pattern):	\$184,000.00	\$0.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	\$90,000.00	\$0.00	\$90,000.00
Pond-liner (PVC):	\$113,490.00	\$0.00	\$113,490.00
Fountains and pumps:	\$39,000.00	\$0.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	\$307,925.00	\$0.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
End Panels -Brick Masonry	\$475,000.00	\$125,000.00	\$600,000.00
FRP arches -westbound	\$508,306.50	\$198,736.20	\$707,042.70
FRP arches -eastbound	\$508,774.50	\$204,328.80	\$713,103.30
Arch Cornices	\$38,400.00	\$38,400.00	\$76,800.00
MSE wall-enhanced Liner	\$34,800.00	0.00	\$34,800.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	\$0.00	136,266.00	\$136,266.00
Sidewalk Paving under bridge (Concrete):	\$0.00	81,120.00	\$81,120.00
Cross-walk paving (Concrete paver with Concrete base):	\$0.00	113,250.00	\$113,250.00
Enhanced fencing (Vinyl coated chain-link):	\$0.00	258,792.00	\$258,792.00
Pedestrian lighting (Level II lighting):	\$4,800.00	12,000.00	\$16,800.00
Color Concrete Stain- for 3A & 3B 85,000 SM, @ \$2.37/SM			\$201,450.00
subtotal:	\$2,848,276.00	\$1,293,143.00	

GRAND TOTAL - AESTHETIC TREATMENTS - SECTION 3A & 3B:	TOTAL:	\$4,342,869.00
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8-MILLION BUDGET
OPTION

14 - Section 3A Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Technics design group international, inc. 813-258-4504
9/26/2000

Item:	Quantity	Un. Unit Cost	Total
Aesthetic Level III: Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	3,950 SM	\$78.00	\$308,100.00
Sidewalk Paving under bridge (Ybor Hex.):	1,940 SM	\$78.00	\$151,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	645 SM	\$78.00	\$50,310.00
Intersection paving (Brick Paving with Concrete base):	2,460 SM	\$110.00	\$270,600.00
Brick wall with iron picket:	1,070 LM	\$225.00	\$240,750.00
Enhanced fencing (Euro-style rectangular pattern):	1,600 LM	\$115.00	\$184,000.00
Pedestrian lighting (Ybor standard lighting):	50 EA	\$1,800.00	\$90,000.00
Pond-liner (PVC):	12,610 SM	\$9.00	\$113,490.00
Fountains and pumps:	6 EA	\$6,500.00	\$39,000.00
Pond concrete bulk-head (Concrete retaining wall):	565 LM	\$545.00	\$307,925.00
ARCHITECTURAL BRIDGE TREATMENTS			
14TH STREET			
End Panels -Brick Masonry	1.00 M2	\$170,000.00	\$170,000.00
FRP arches -westbound	58.21 M2	\$1,170.00	\$68,105.70
FRP arches -eastbound	58.21 M2	\$1,170.00	\$68,105.70
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
15TH STREET			
End Panels -Brick Masonry	1 M2	\$175,000.00	\$175,000.00
FRP arches -westbound	69.79 M2	\$1,170.00	\$81,654.30
FRP arches -eastbound	69.79 M2	\$1,170.00	\$81,654.30
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	3000.00 M2	\$20.00	\$60,000.00
21ST/22ND STREET			
End Panels -Brick Masonry	1 M2	\$275,000.00	\$275,000.00
FRP arches -westbound	181.15 M2	\$1,170.00	\$211,945.50
FRP arches -eastbound	181.35 M2	\$1,170.00	\$212,179.50
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	240.00 M2	\$20.00	\$4,800.00
26TH STREET			
End Panels -Brick Masonry	1 ls	\$225,000.00	\$225,000.00
FRP arches -westbound	125.30 M2	\$1,170.00	\$146,601.00
FRP arches -eastbound	125.50 M2	\$1,170.00	\$146,835.00
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	240.00 M2	\$20.00	\$4,800.00
LEVEL II TREATMENTS			
Sidewalk Paving (Concrete):	0 SM	\$78.00	\$0.00
Sidewalk Paving under bridge (Concrete):	0 SM	\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM	\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	0 LM	\$32.80	\$0.00
Pedestrian lighting (Level II lighting):	4 EA	\$1,200.00	\$4,800.00
SECTION 3A - HARDSCAPE SUBTOTAL			\$3,730,376.00

GRAND TOTAL - AESTHETIC
TREATMENTS - SECTION 3A:

TOTAL: \$3,730,376.00

8-MILLION BUDGET
OPTION

14 - Section 3B Grand Total

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for PBQ&D & FDOT

Tampa, Florida

Terra Technics design group international, inc. 813-258-4504
9/26/2000

Item:	Quantity	Un. Unit Cost	Total
Aesthetic Level II & III: Planting			
Aesthetic Level III: Hardscape Elements:			
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM	\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM	\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM	\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM	\$110.00	\$0.00
Brick wall with iron picket:	250 LM	\$225.00	\$56,250.00
Enhanced fencing (Euro-style rectangular pattern):	1,300 LM	\$115.00	\$149,500.00
Pedestrian lighting (Ybor standard lighting):	0 EA	\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM	\$9.00	\$0.00
Fountains and pumps:	4 EA	\$6,500.00	\$26,000.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM	\$225.00	\$0.00
Aesthetic Level II: Hardscape Elements:			
ARCHITECTURAL BRIDGE TREATMENTS			
34TH STREET			
End Panels -Brick Masonry	1 LS	\$150,000.00	\$150,000.00
FRP arches -westbound	53.14 M2	\$1,170.00	\$62,173.80
FRP arches -eastbound	53.23 M2	\$1,170.00	\$62,279.10
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
40TH STREET			
End Panels -Brick Masonry	1 M2	\$150,000.00	\$150,000.00
FRP arches -westbound	65.81 M2	\$1,170.00	\$76,997.70
FRP arches -eastbound	65.81 M2	\$1,170.00	\$76,997.70
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
50TH STREET			
End Panels -Brick Masonry	1 M2	\$175,000.00	\$175,000.00
FRP arches -westbound	104.05 M2	\$1,170.00	\$121,738.50
FRP arches -eastbound	108.83 M2	\$1,170.00	\$127,331.10
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
COLUMBUS STREET			
End Panels -Brick Masonry	1 M2	\$175,000.00	\$175,000.00
FRP arches -westbound	477.72 M2	\$1,170.00	\$558,932.40
FRP arches -eastbound	463.15 M2	\$1,170.00	\$541,885.50
Arch Cornices	4.00 EA	\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	0.00 M2	\$20.00	\$0.00
LEVEL II TREATMENTS:			
Sidewalk Paving (Concrete):	4,678 SM	\$78.00	\$364,884.00
Sidewalk Paving under bridge (Concrete):	2,158 SM	\$78.00	\$168,324.00
Cross-walk paving (Concrete paver with Concrete base):	2,358 SM	\$125.00	\$294,750.00
Enhanced fencing (Vinyl coated chain-link):	15,040 LM	\$32.80	\$493,312.00
Pedestrian lighting (Level II lighting):	67 EA	\$1,200.00	\$80,400.00
SECTION 3B - HARDSCAPE SUBTOTAL			\$3,950,155.80

GRAND TOTAL - AESTHETIC
TREATMENTS - SECTION 3B:

TOTAL: \$3,950,155.80

TOTAL

ARCHITECTURAL HARDSCAPE TREATMENTS - 3A& 3B:

\$7,680,531.80

Sheet #1, 14th & 15th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, Section - 3A
Tampa, Florida
Terra Tectonics design group International, Inc. 813-258-4504
9/26/2000

Prepared for Parsons Brinckerhoff
Quade & Douglas, Inc.

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
ARCHITECTURAL BRIDGE TREATMENTS				
14TH STREET - FRP				
End Panels -Brick Masonry	1 LS		\$1,170.00	
FRP arches -eastbound	58.21 M2		\$1,170.00	\$68,105.70
FRP arches -westbound	58.21 M2		\$1,170.00	\$68,105.70
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
15TH STREET - FRP-South Side				
End Panels -Brick Masonry	1.00 LS		\$175,000.00	\$175,000.00
FRP arches -eastbound	69.79 M2		\$1,170.00	\$81,654.30
FRP arches -westbound	69.79 M2		\$1,170.00	\$81,654.30
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	3000.00 SM		\$20.00	\$60,000.00
Sidewalk Paving (Ybor city hexagon, B/W):	2,030 SM		\$78.00	\$158,340.00
Sidewalk Paving under bridge (Ybor Hex.):	1,000 SM		\$78.00	\$78,000.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	325 SM		\$78.00	\$25,350.00
Intersection paving (Brick Paving with Concrete base):	1,112 SM		\$110.00	\$122,320.00
Brick wall with alum.picket:	500 LM		\$225.00	\$112,500.00
Enhanced fencing (Euro-style rectangular pattern):	700 LM		\$115.00	\$80,500.00
Pedestrian lighting (Ybor standard lighting):	24 EA		\$1,800.00	\$43,200.00
Pond-liner (PVC):	6,175 SM		\$9.00	\$55,575.00
Fountains and pumps:	3 EA		\$6,500.00	\$19,500.00
Pond concrete bulk-head (Concrete retaining wall):	255 LM		\$545.00	\$138,975.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Concrete):	0 SM		\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM		\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	0 LM		\$32.80	\$0.00
Pedestrian lighting (Level II lighting):	0 EA		\$1,200.00	\$0.00
Hardscape Elements SubTotal:				\$1,557,980.00
Sheet #1, 14th & 15th Street				TOTAL: \$1,557,980.00

Sheet #2, 17th & 20th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, Section - 3A
Tampa, Florida
Terra Tectonics design group International, Inc. 813-258-4504
9/26/2000

Prepared for Parson Brinckerhoff

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
MSE wall-enhanced Liner	4200.00 M2		\$20.00	\$84,000.00
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Concrete):	0 SM		\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM		\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	0 LM		\$32.80	\$0.00
Pedestrian lighting (Level II lighting):	4 EA		\$1,200.00	\$4,800.00
Hardscape Elements Total:				\$4,800.00
Sheet #2, 17th & 20th Street				TOTAL: \$4,800.00

8-MILLION BUDGET
OPTION

Sheet #3, 21st & 22nd Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, Section - 3A
Tampa, Florida
Terra Tectonics design group international, Inc. 813-258-4504
9/26/2000
Prepared for Parson Brinckerhoff

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
ARCHITECTURAL BRIDGE TREATMENTS				
21ST/22ND STREET				
End Panels -Brick Masonry	1 ls		\$275,000.00	\$275,000.00
FRP arches -westbound	181.15 M2		\$1,170.00	\$211,945.50
FRP arches -eastbound	181.35 M2		\$1,170.00	\$212,179.50
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	240.00 M2		\$20.00	\$4,800.00
Sidewalk Paving (Ybor city hexagon, B/W):	1,920 SM		\$78.00	\$149,760.00
Sidewalk Paving under bridge (Ybor Hex.):	940 SM		\$78.00	\$73,320.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	320 SM		\$78.00	\$24,960.00
Intersection paving (Brick Paving with Concrete base):	1,348 SM		\$110.00	\$148,280.00
Brick wall with iron picket:	570 LM		\$225.00	\$128,250.00
Enhanced fencing (Euro-style rectangular pattern):	900 LM		\$115.00	\$103,500.00
Pedestrian lighting (Ybor standard lighting):	26 EA		\$1,800.00	\$46,800.00
Pond-liner (PVC):	6,435 SM		\$9.00	\$57,915.00
Fountains and pumps:	3 EA		\$6,500.00	\$19,500.00
Pond concrete bulk-head (Concrete retaining wall):	310 LM		\$545.00	\$168,950.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Concrete):	0 SM		\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM		\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	0 LM		\$32.80	\$0.00
Pedestrian lighting (Level II lighting):	0 EA		\$1,200.00	\$0.00
Hardscape Elements Subtotal:				\$1,634,760.00
Sheet #3, 21st & 22nd Street				TOTAL: \$1,634,760.00

8-MILLION BUDGET
OPTION

Sheet #4, Crosstown Connection & 26TH

Construction Cost Estimate, Landscape Architecture

Interstate 4, Section - 3B
Tampa, Florida
Terra Tectonics design group international, Inc. 813-258-4504
9/26/2000
Prepared for Parson Brinckerhoff

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
26TH STREET				
End Panels -Brick Masonry	1 ls		\$225,000.00	\$225,000.00
FRP arches -westbound	125.30 M2		\$1,170.00	\$146,601.00
FRP arches -eastbound	125.50 M2		\$1,170.00	\$146,835.00
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	240.00 M2		\$20.00	\$4,800.00
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	250 LM		\$225.00	\$56,250.00
Enhanced fencing (Euro-style rectangular pattern):	1,300 LM		\$115.00	\$149,500.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	4 EA		\$6,500.00	\$26,000.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$345.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	420 SM		\$78.00	\$32,760.00
Sidewalk Paving under bridge (Concrete):	480 SM		\$78.00	\$37,440.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM		\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	650 LM		\$32.80	\$21,320.00
Pedestrian lighting (Level II lighting):	14 EA		\$1,200.00	\$16,800.00
Hardscape Elements subtotal:				\$340,070.00
Sheet #4, Crosstown Connection & 26TH				TOTAL: \$340,070.00

Sheet #5, Crosstown & 7th Avenue

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

Terra Tectonics design group international, Inc. 813-258-4504

9/26/2000

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Concrete):	0 SM		\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	0 SM		\$125.00	\$0.00
Enhanced fencing (Vinyl coated chain-link):	540 LM		\$32.80	\$17,712.00
Pedestrian lighting (Level II lighting):	0 EA		\$1,200.00	\$0.00
Hardscape Elements subtotal:				\$17,712.00
Sheet #5, Crosstown & 7th Avenue			TOTAL:	\$17,712.00

Sheet #6, 36th & 39th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

Terra Tectonics design group international, Inc. 813-258-4504

9/26/2000

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
34TH STREET				
End Panels -Brick Masonry	1 ls		\$150,000.00	\$150,000.00
FRP arches -westbound	53.14 M2		\$1,170.00	\$62,173.80
FRP arches -eastbound	53.23 M2		\$1,170.00	\$62,279.10
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
40TH STREET				
End Panels -Brick Masonry	1.00 ls		\$150,000.00	\$150,000.00
FRP arches -westbound	65.81 M2		\$1,170.00	\$76,997.70
FRP arches -eastbound	65.81 M2		\$1,170.00	\$76,997.70
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	0.00 M2		\$20.00	\$0.00
Sidewalk Paving (Concrete):	560 SM		\$78.00	\$43,680.00
Sidewalk Paving under bridge (Concrete):	560 SM		\$78.00	\$43,680.00
Cross-walk paving (Concrete paver with Concrete base):	450 SM		\$125.00	\$56,250.00
Enhanced fencing (Vinyl coated chain-link):	3,400 LM		\$32.80	\$111,520.00
Pedestrian lighting (Level II lighting):	12 EA		\$1,200.00	\$14,400.00
Hardscape Elements subtotal:				\$867,178.30
Sheet #6, 36th & 39th Street			TOTAL:	\$867,178.30

8-MILLION BUDGET
OPTION

Sheet #7, 43rd & 45th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

Terra Tectonics design group international, inc. 813-258-4504

9/26/2000

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	767 SM		\$78.00	\$59,826.00
Sidewalk Paving under bridge (Concrete):	0 SM		\$78.00	\$0.00
Cross-walk paving (Concrete paver with Concrete base):	456 SM		\$125.00	\$57,000.00
Enhanced fencing (Vinyl coated chain-link):	1,435 LM		\$32.80	\$47,068.00
Pedestrian lighting (Level II lighting):	0 EA		\$1,200.00	\$0.00
Hardscape Elements subtotal:				\$163,894.00
Sheet #7, 43rd & 45th Street				TOTAL: \$163,894.00

8-MILLION BUDGET
OPTION

Sheet #8, Columbus Drive

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

Terra Tectonics design group international, inc. 813-258-4504

9/26/2000

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
COLUMBUS STREET				
End Panels -Brick Masonry	1 ls		\$175,000.00	\$175,000.00
FRP arches -westbound	477.72 M2		\$1,170.00	\$558,932.40
FRP arches -eastbound	463.15 M2		\$1,170.00	\$541,885.50
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	0.00 M2		\$20.00	\$0.00
Sidewalk Paving (Concrete):	1,316 SM		\$78.00	\$102,648.00
Sidewalk Paving under bridge (Concrete):	343 SM		\$78.00	\$26,754.00
Cross-walk paving (Concrete paver with Concrete base):	340 SM		\$125.00	\$42,500.00
Enhanced fencing (Vinyl coated chain-link):	1,865 LM		\$32.80	\$54,612.00
Pedestrian lighting (Level II lighting):	9 EA		\$1,200.00	\$10,800.00
Hardscape Elements subtotal:				\$1,522,731.90
Sheet #8, Columbus Drive				TOTAL: \$1,522,731.90

Sheet #9, 50th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

Terra Tectonics design group International, Inc. 813-258-4504

8/26/2000

Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level II & III Planting				
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
50TH STREET				
End Panels -Brick Masonry	1 M2		\$175,000.00	\$175,000.00
FRP arches -westbound	104.05 M2		\$1,170.00	\$121,738.50
FRP arches -eastbound	108.83 M2		\$1,170.00	\$127,331.10
Arch Cornices	4 EA		\$2,400.00	\$9,600.00
MSE wall-enhanced Liner	M2			\$0.00
Sidewalk Paving (Concrete):	960 SM		\$78.00	\$74,880.00
Sidewalk Paving under bridge (Concrete):	320 SM		\$78.00	\$24,960.00
Cross-walk paving (Concrete paver with Concrete base):	767 SM		\$125.00	\$95,875.00
Enhanced fencing (Vinyl coated chain-link):	4,600 LM		\$32.80	\$150,880.00
Pedestrian lighting (Level II lighting):	28 EA		\$1,200.00	\$33,600.00
Hardscape Elements subtotal:				\$813,864.60
Sheet #9, 50th Street				TOTAL: \$813,864.60

Sheet #10, 52nd to 56th Street

Construction Cost Estimate, Landscape Architecture

Interstate 4, 3A/3B

Prepared for Parson Brinckerhoff

Tampa, Florida

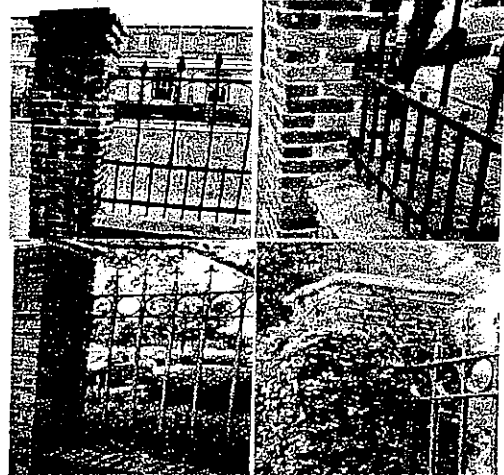
Terra Tectonics design group International, Inc. 813-258-4504

8/26/2000

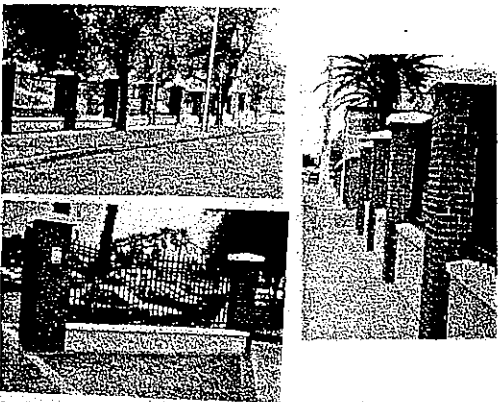
Item:	Quantity	Un.	Unit Cost	Total
Aesthetic Level III: Hardscape Elements:				
Sidewalk Paving (Ybor city hexagon, B/W):	0 SM		\$78.00	\$0.00
Sidewalk Paving under bridge (Ybor Hex.):	0 SM		\$78.00	\$0.00
Cross-walk paving (Ybor city hexagon, B/W with Concrete base):	0 SM		\$78.00	\$0.00
Intersection paving (Brick Paving with Concrete base):	0 SM		\$110.00	\$0.00
Brick wall with iron picket:	0 LM		\$225.00	\$0.00
Enhanced fencing (Euro-style rectangular pattern):	0 LM		\$115.00	\$0.00
Pedestrian lighting (Ybor standard lighting):	0 EA		\$1,800.00	\$0.00
Pond-liner (PVC):	0 SM		\$9.00	\$0.00
Fountains and pumps:	0 EA		\$6,500.00	\$0.00
Pond concrete bulk-head (Concrete retaining wall):	0 LM		\$545.00	\$0.00
Aesthetic Level II: Hardscape Elements:				
Sidewalk Paving (Concrete):	655 SM		\$78.00	\$51,090.00
Sidewalk Paving under bridge (Concrete):	455 SM		\$78.00	\$35,490.00
Cross-walk paving (Concrete paver with Concrete base):	345 SM		\$125.00	\$43,125.00
Enhanced fencing (Vinyl coated chain-link):	2,750 LM		\$32.80	\$90,200.00
Pedestrian lighting (Level II lighting):	4 EA		\$1,200.00	\$4,800.00
HARDSCAPE SUBTOTAL				\$224,705.00
Sheet #10, 52nd to 56th Street				TOTAL: \$224,705.00



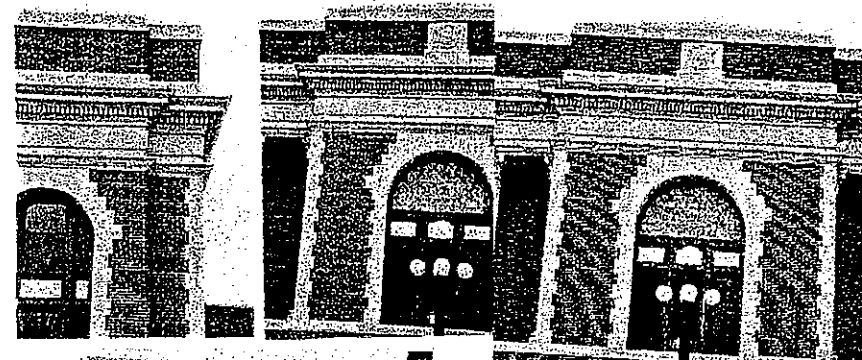
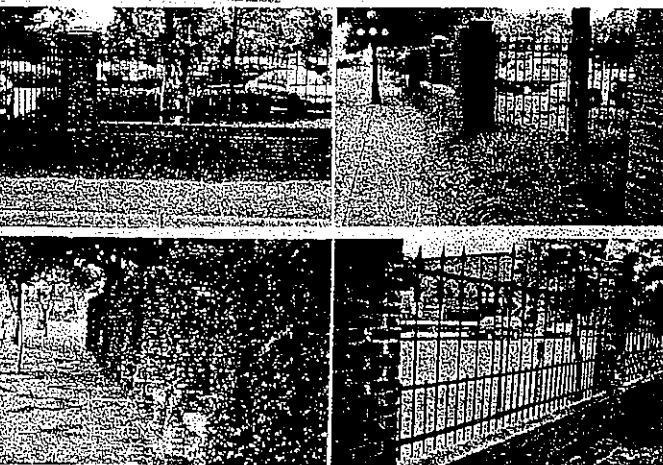
WROUGHT
IRON RAIL
DETAILS
WITH AND
WITHOUT
BRICK
COLUMNS



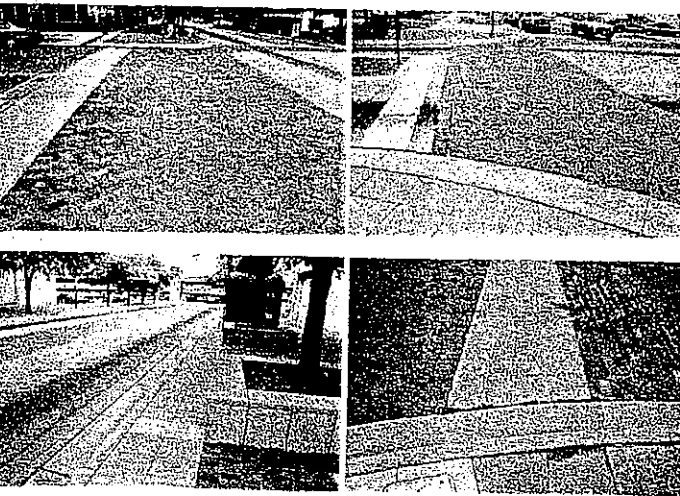
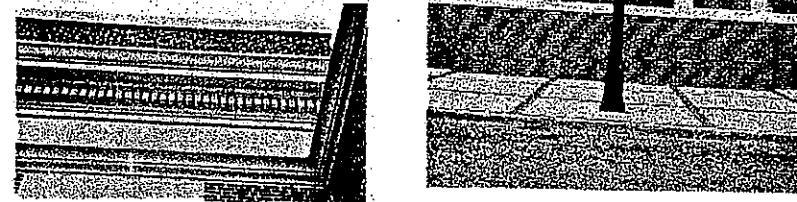
WROUGHT
IRON RAIL
DETAILS



HILTON
GARDEN
INN-YBOR
CITY RAIL
TYPES

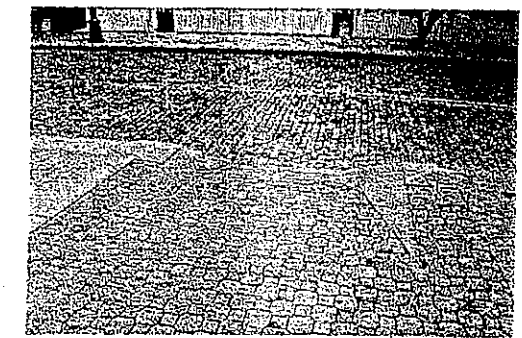


CORNICE DETAILS BRICK AND CAST STONE
USE AS A GUIDE FOR PRE-CAST ARCHITECTURAL FOR DETAIL-
ING (TAMPA UNION STATION)

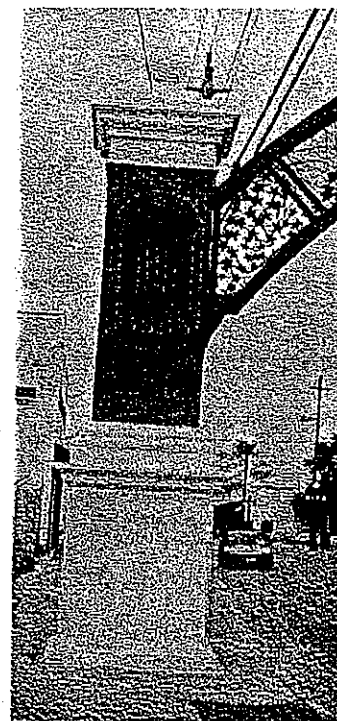
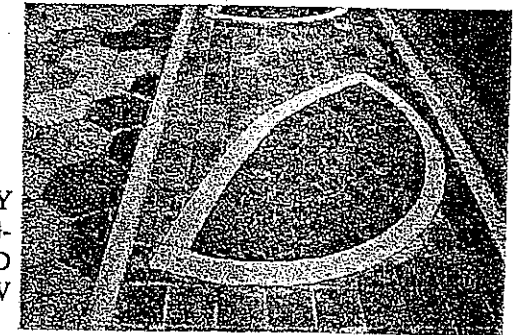


DOWNTOWN TAMPA BUS MALL PAVING DETAILS
SHOWING SOLIDITY AND DIRT MARKS
ON CONC. BUT NOT ON THE BRICK

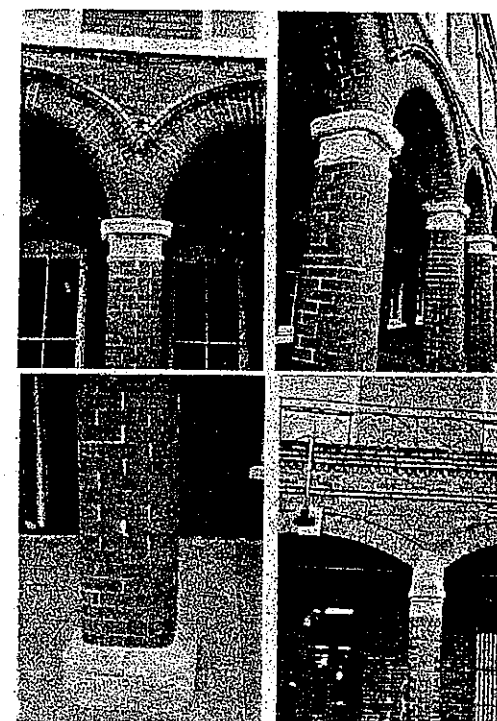
DOOR HEADER AND ARCH DETAILS



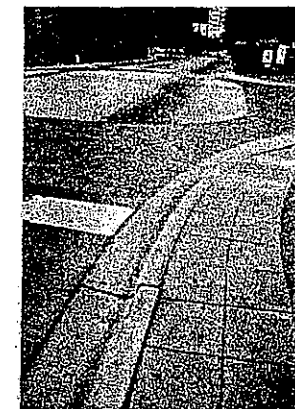
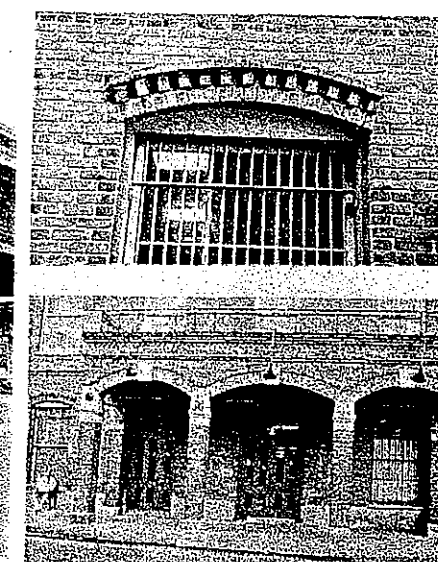
YBOR CITY
PAVING-
OLD AND
NEW



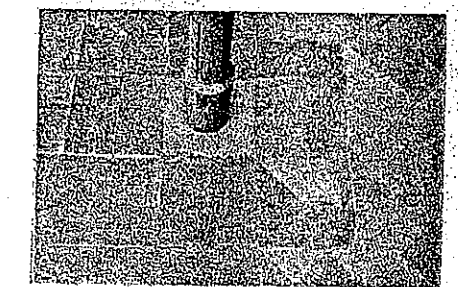
YBOR GATEWAY



PIER AND COLUMN WRAP DETAILS
WITH ARCH DETAILS

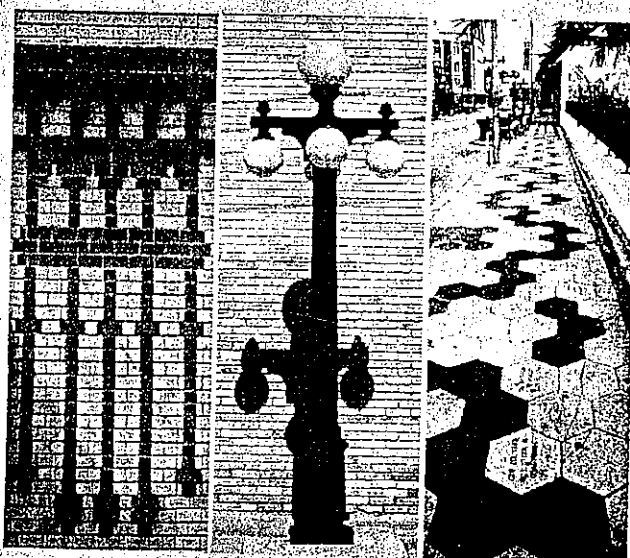
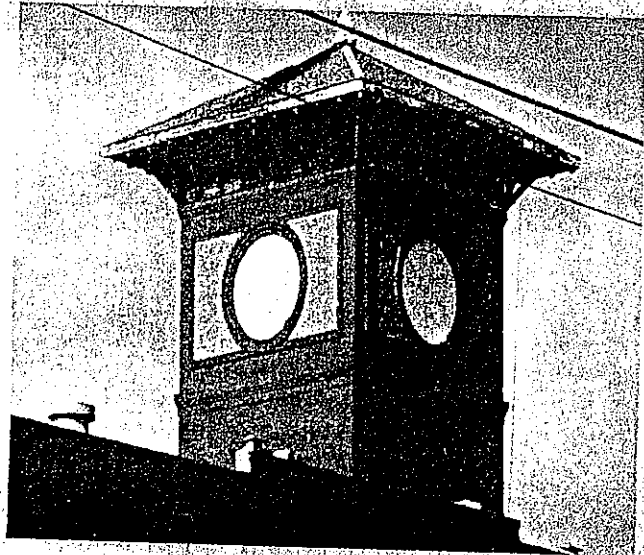
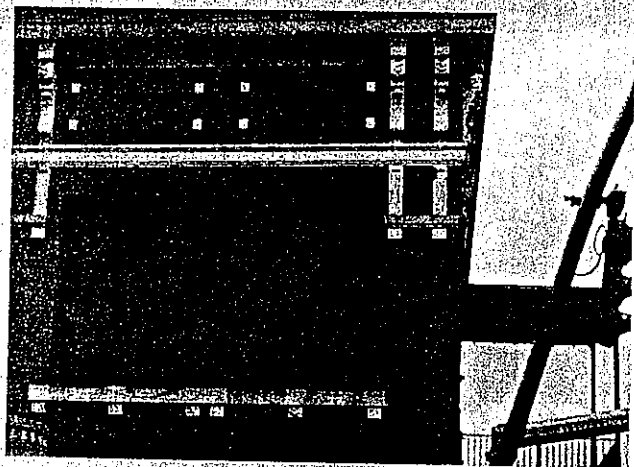


PAVING DETAILS—TAMPA BUS MALL



YBOR CITY
LOGO FOR USE
IN BRIDGE





I-4, Sections 3A & 3B

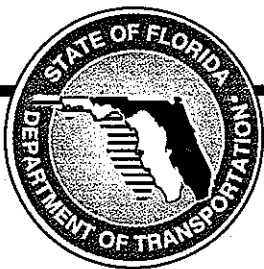
Parsons, Brinckerhoff, Quade & Douglas, Inc.
Austin Center West II
1408 North Westshore Boulevard, Suite 300
Tampa, Florida 33607
(813) 289-5300

WPI 7143131, 7143132
SPN 10190-1450, 10190-1451
SR 400/I-4
Hillsborough County
Segment 3A & 3B

Cultural Characteristics of Ybor City

TERRA TECTONICS
design group international, inc.
109 North Brush Street, Suite 175
Tampa, Florida 33602
(813) 226-2801





Aesthetic Design Presentation I-4 from 14th Street to 22nd Street

November 17, 2000
Barrio Latino Commission

Tampa Interstate Study Memorandum of Agreement

Financial Project ID: 258401-1-52-01 & 258402-1-52-01

FAP No.: ACDH-4-1 (141) & ACDH-4-1 (142)

AGENDA

I. Introduction/Overview - Illes

II. 14th/15th Street Intersection

- A. On-system Issues
- B. Off-system Perspective
- C. Pedestrian Level Treatments

III. 16th to 20th Streets

- A. On-system Issues
- B. Off-system Perspective (wall system)
- C. Pedestrian Level Treatments

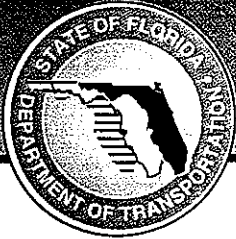
IV. 21st/22nd Street Intersection

- A. On-system Issues
- B. Off-system Perspective
- C. Pedestrian Level Treatments

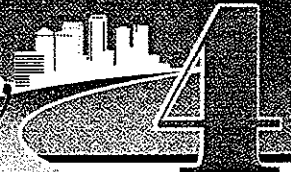
V. Questions/ Answers

VI. Upcoming Activities



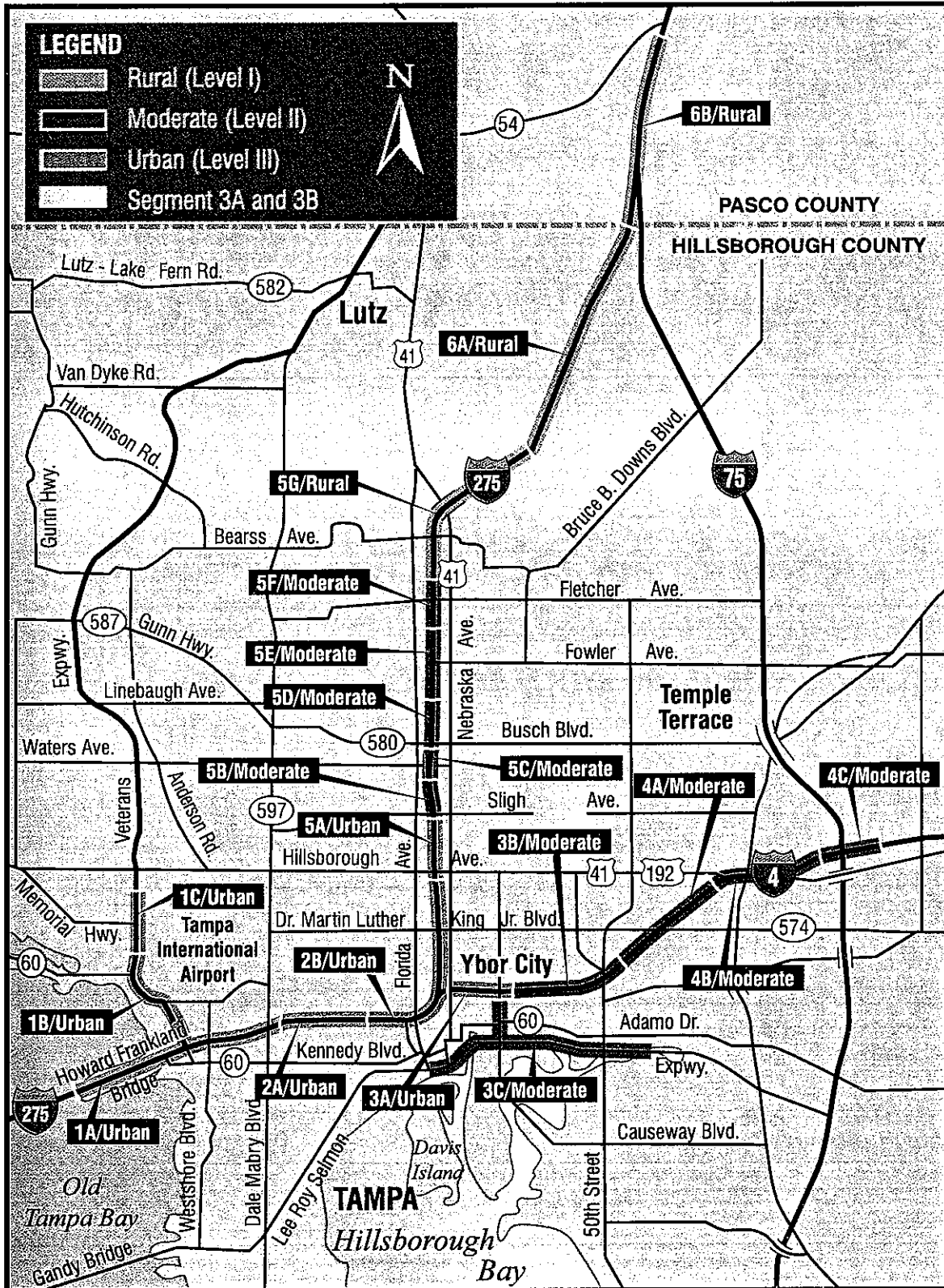


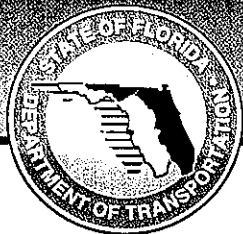
Tampa Interstate Study



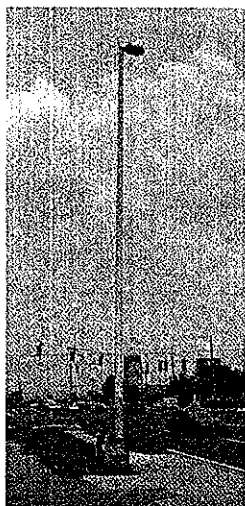
LEVELS OF AESTHETIC TREATMENT

INTERSTATE
Florida's Gateway to Tampa



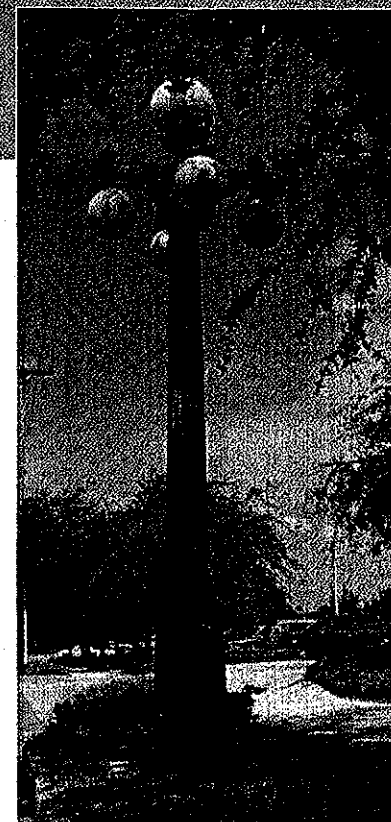


Lighting



Existing Lighting

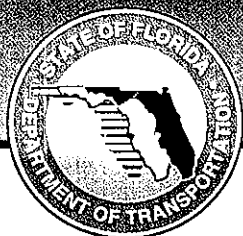
Proposed
Off-System
Lighting



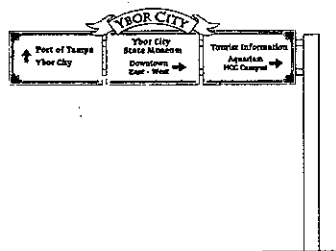
Mongoose
Flat Glass



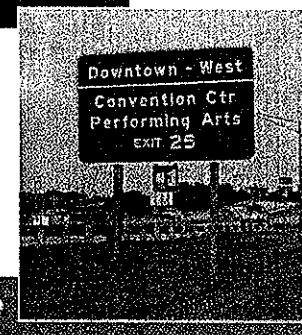
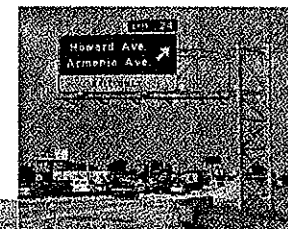
Proposed On-System Lighting



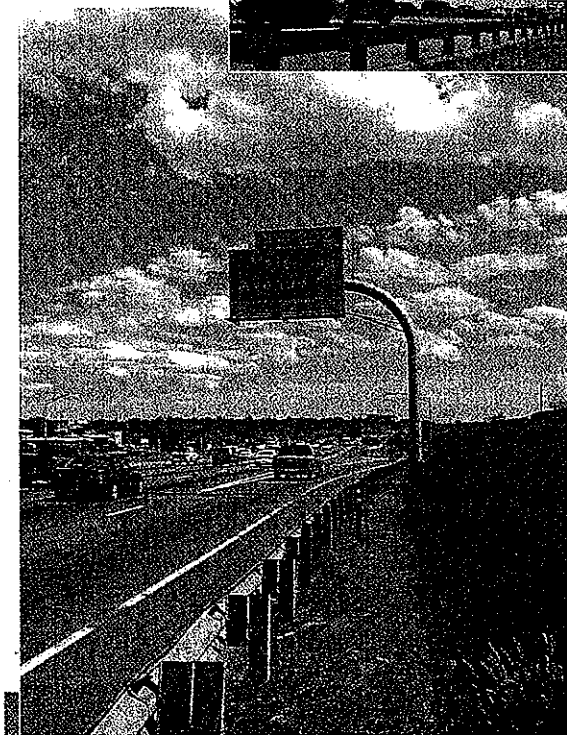
Signage



Proposed Off-System Signage



Existing On-System Signage



Proposed On-System Signage











Interstate 4 - Segments 3A/3B

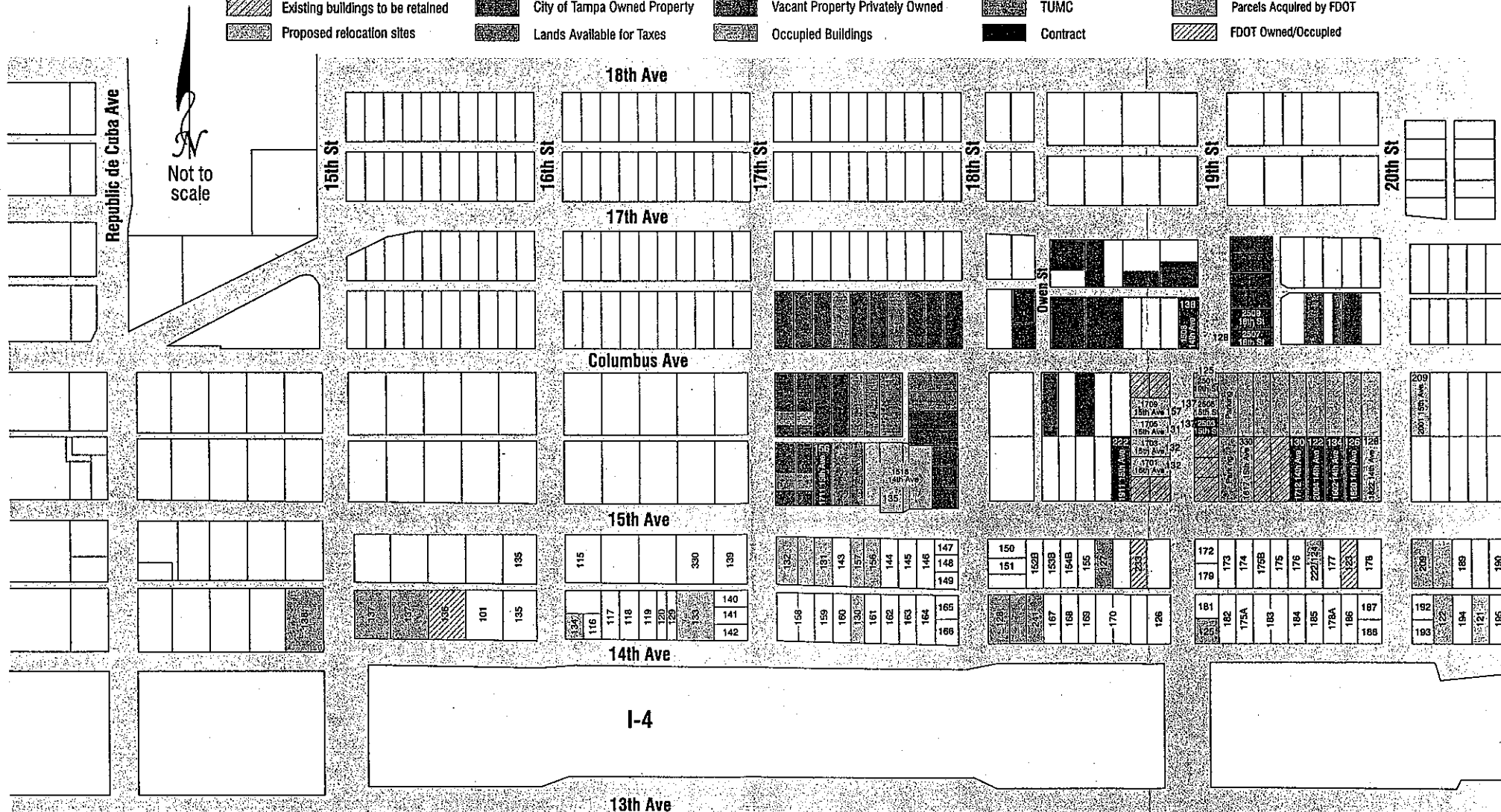
Relocation of Historic Structures

Current Property Ownership

Plan C

(September 14, 2000)

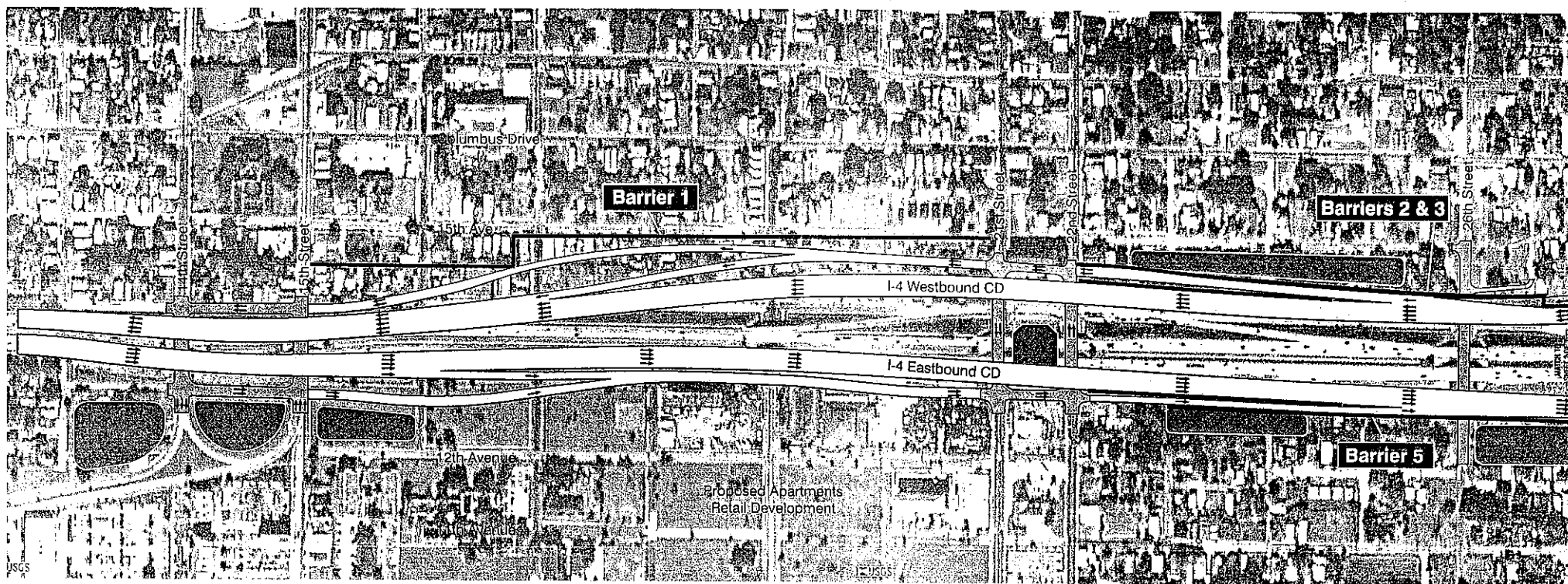
-  Existing buildings to be retained
  City of Tampa Owned Property
  Vacant Property Privately Owned
  TUMC
  Parcels Acquired by FDOT
 Proposed relocation sites
 Lands Available for Taxes
 Occupied Buildings
 Contract
 FDOT Owned/Occupied





LEGEND

- Financially Feasible Alternative (under design)
- Not Currently Funded
- Local Street Improvements
- Potential Pond Locations
- Proposed Noise Barriers





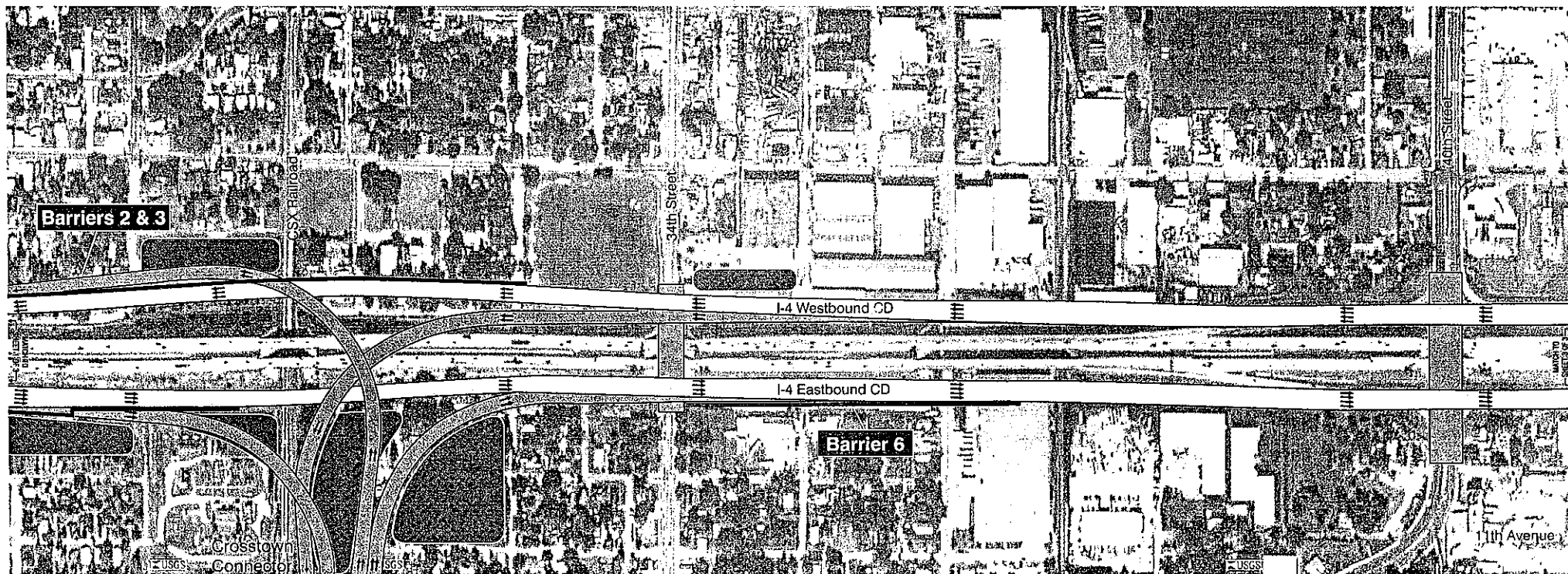
Project Improvements and Noise Wall Locations

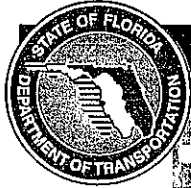
Sheet 2 of 3



LEGEND

- Financially Feasible Alternative (under design)
- Not Currently Funded
- Local Street Improvements
- Potential Pond Locations
- Proposed Noise Barriers








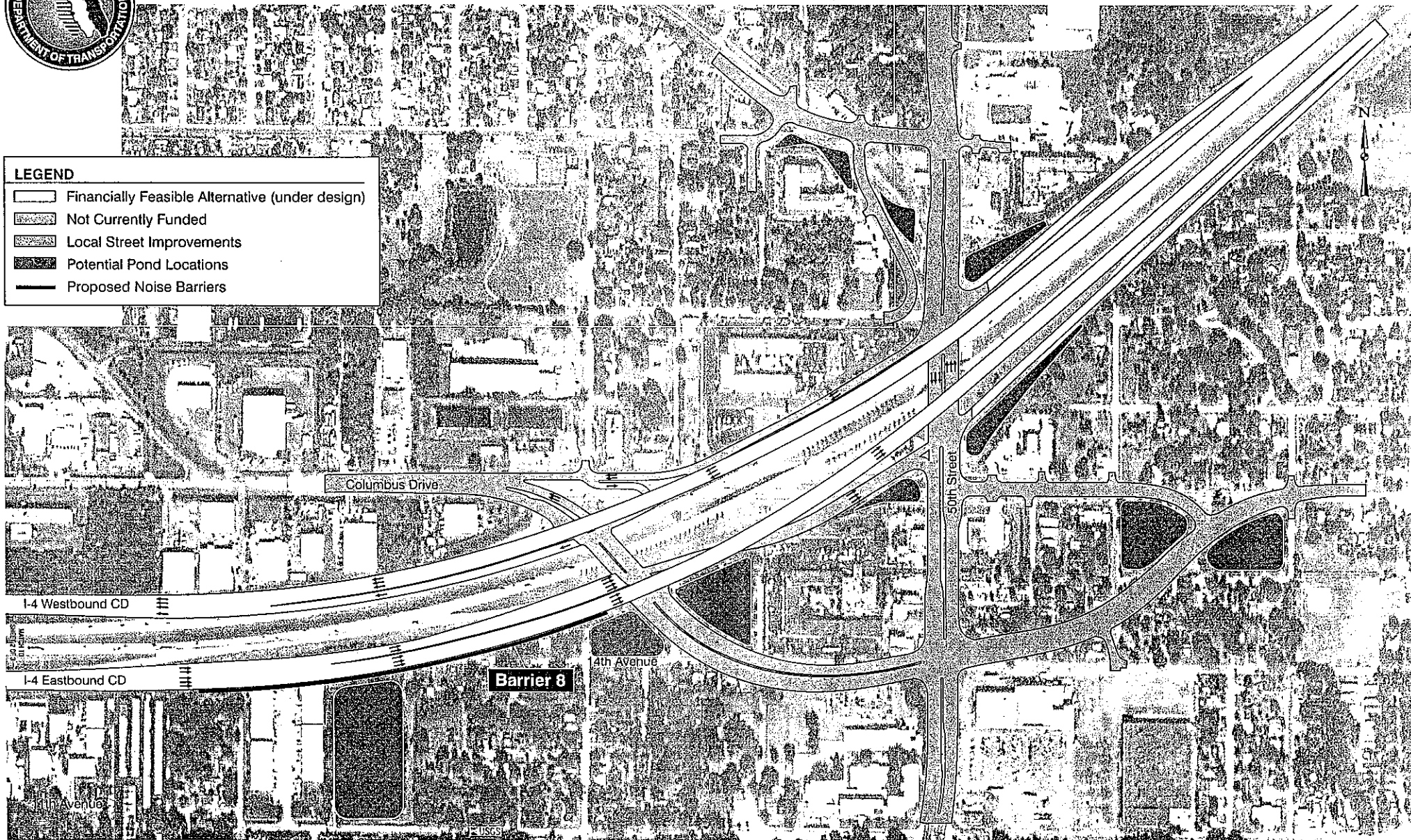


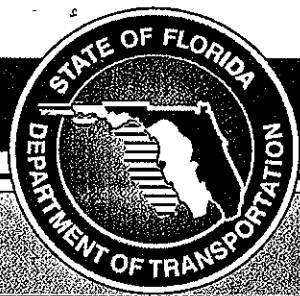
Project Improvements and Noise Wall Locations

Sheet 3 of 3

LEGEND

-  Financially Feasible Alternative (under design)
-  Not Currently Funded
-  Local Street Improvements
-  Potential Pond Locations
-  Proposed Noise Barriers





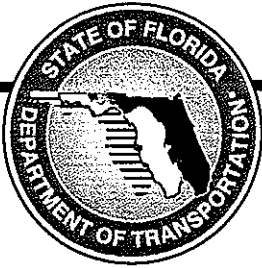
Interstate 4 Segments 3A & 3B

Mayor's Beautification Committee

Please Sign In

November 7, 2000

Name	Phone Number	Affiliation or Group Name
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		



FACT SHEET

Interstate 4 (I-4) From West of 14th Street to East of 50th Street (Segments 3A and 3B)

Financial Project ID: 2584011-1-52-01 & 2584021-1-52-01

Project Description:

The Florida Department of Transportation (FDOT) proposes to improve approximately 5.1 km (3.2 mi) of S.R. 400 or Interstate 4 (I-4) from west of 14th Street to east of 50th Street in the Ybor City section of Tampa. The project is a vital link in FDOT's I-4 Corridor Improvement Program in Hillsborough County.

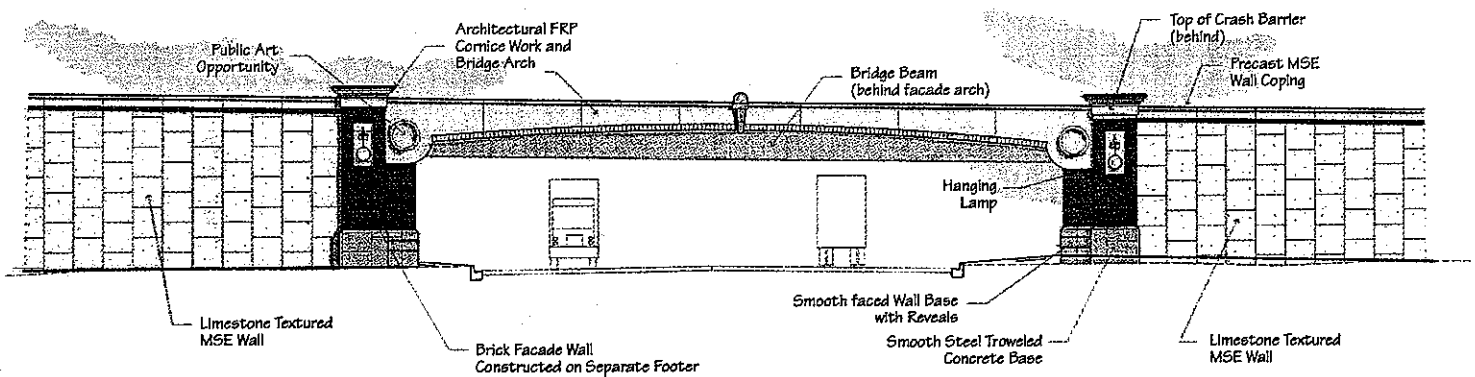
Proposed Improvements:

The project consists of reconstructing I-4 from a four-lane urban highway to a six-lane urban highway. While traffic is maintained on the existing Interstate lanes, six local-access freeway lanes (three in each direction) comprising the new Collector-Distributor (C-D) roadways will be constructed on the outside of the existing Interstate roadway. Once completed, I-4 traffic will be re-routed to the new C-D roadways.

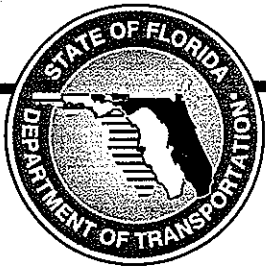
Project Schedule:

Submit Phase III Roadway Plans
Begin ROW Phase
Let Construction

January 2001
March 2000
April 2003



40th Street Overpass



FACT SHEET

Interstate 4 (I-4) From West of 14th Street to East of 50th Street (Segments 3A and 3B)

Financial Project ID: 2584011-1-52-01 & 2584021-1-52-01

Concerns/Mitigation:

Documented concerns include potential impacts to adjacent properties and commitments made by FDOT to mitigate the impacts to communities and historic districts. These commitments include: 8 ft. noise barriers where economically reasonable with aesthetic treatments; moving and rehabilitating 31 historic structures; minimizing opportunities for truck traffic routing that affects communities and historic districts; visual buffers/landscaping/aesthetic treatments; and enhancing safety, lighting, and pedestrian level treatments.

Traffic Control:

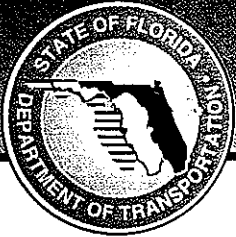
Traffic control plans have been developed to minimize the inconvenience of the traveling public while maximizing construction efficiency and safety. The first stage of construction will build the C-D roadways and ramps that connect the C-D roadways to the local street system. Once constructed, the C-D roadways will serve Interstate traffic until such time in the future that the express Interstate roadways can be constructed on the inside. During Stage One construction, traffic will be maintained on the existing Interstate roadways. Traveler inconvenience will generally be confined to the area east of 40th Street. The existing ramps at 40th Street will be permanently relocated to Columbus Drive during construction of the C-D roadways.

Local road traffic will be maintained throughout the Stage One construction. Columbus Drive will be realigned permanently from 45th Street to 53rd Street. Existing Columbus Drive traffic will be maintained through phased construction and detours until the new Columbus Drive is opened to traffic. Local road traffic will be temporarily interrupted for short periods of time during bridge beam placements over the local roadways. In general, the beam placements will be completed during off-peak traffic periods to minimize traffic delays. Where possible, traffic will be rerouted using the local road network during beam placement.

Project Funding:

PHASE	
Right-of-Way	\$ 105,000,000
Construction	\$ 121,000,000
Total	\$226,000,000



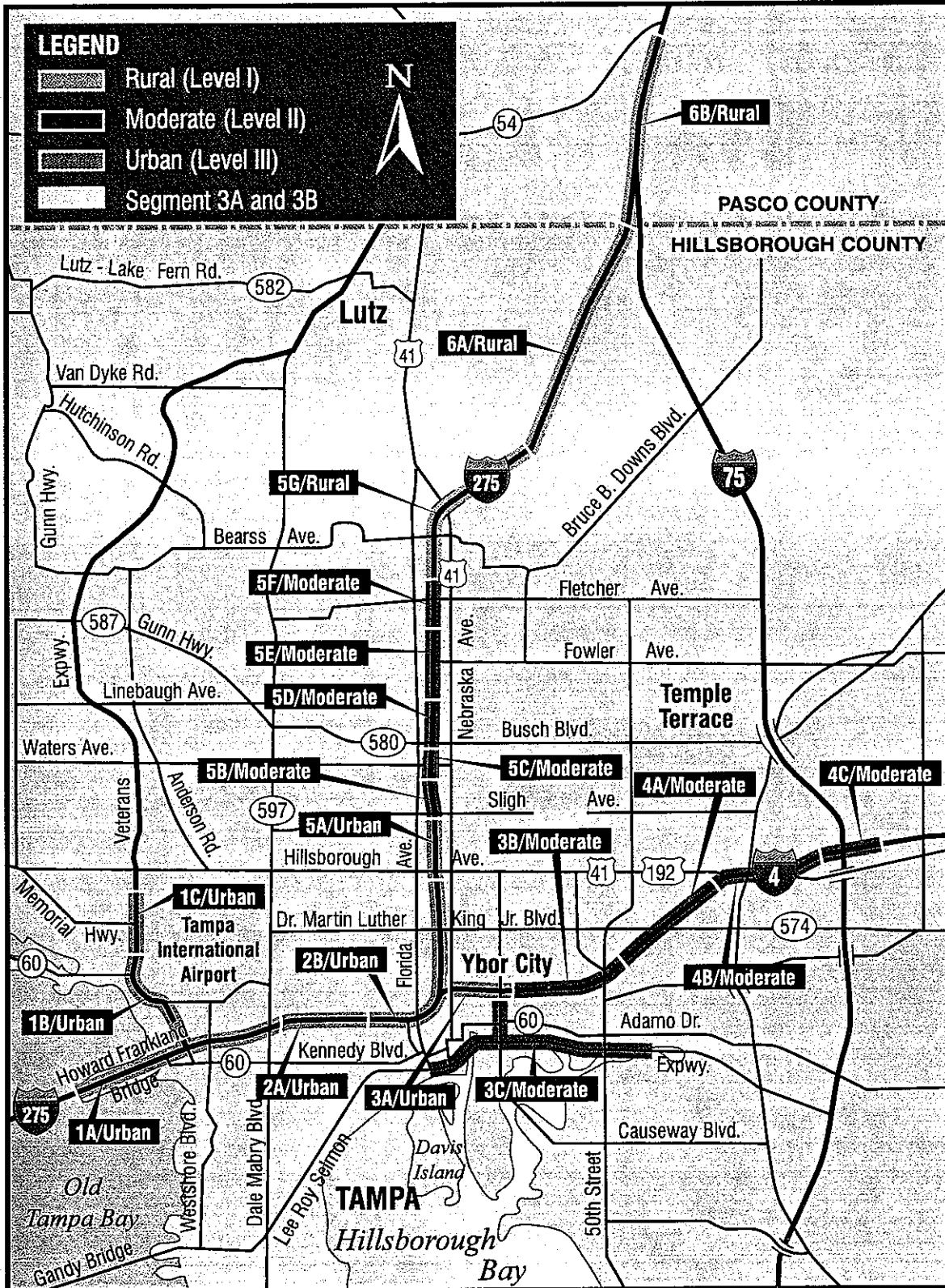


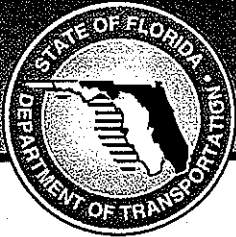
Tampa Interstate Study



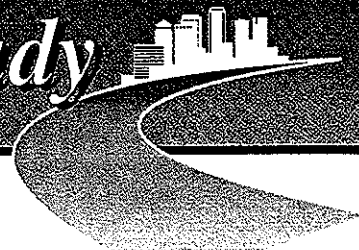
LEVELS OF AESTHETIC TREATMENT

INTERSTATE
Florida's Gateway to Tampa





Tampa Interstate Study



INTERSTATE SYSTEM WITHIN THE CITY OF TAMPA (in order of construction)

1) Downtown Operational Improvements (Design Segment 2B)

- 90% Plans due January 2001
- ROW begins December 2000
- Construction let Spring 2002

2) I-4, 14th Street to 50th Street (Design Segments 3A/3B)

- 90% Plans due January 2001
- ROW begins March 2000
- Construction let Spring 2003

3) Courtney Campbell Causeway (Design Segment 1C)

- 90% Plans due Winter 2001
- ROW begins 2002/2003
- Construction let April 2004

4) Spruce Street Interchange/TIA (Design Segment 1B)

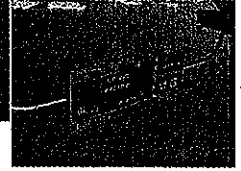
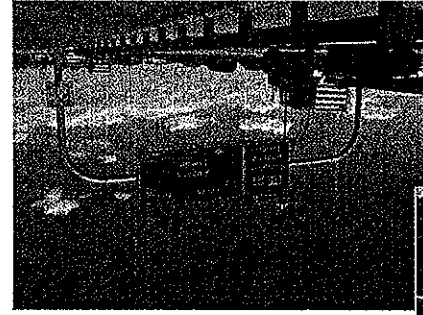
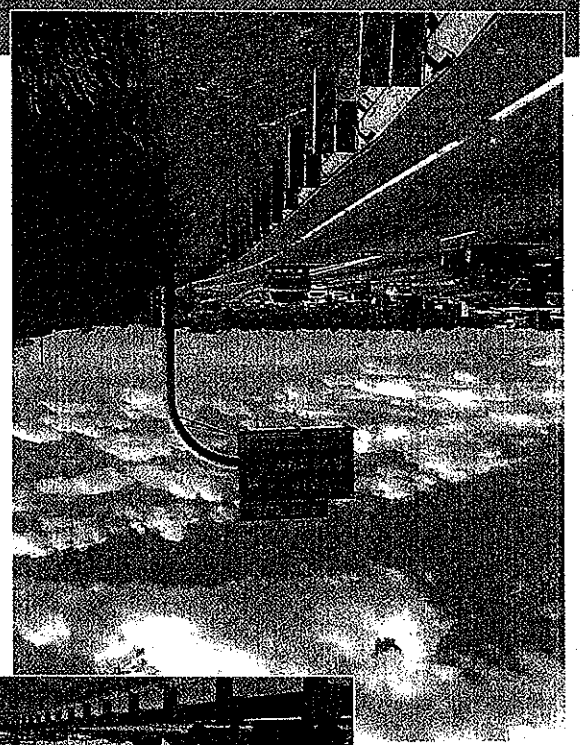
- 60% Plans due Summer of 2000
- ROW begins 2002/2003
- Construction let April 2004

5) I-275 Tampa Bay to the Hillsborough River (Design Segments 1A and 2A)

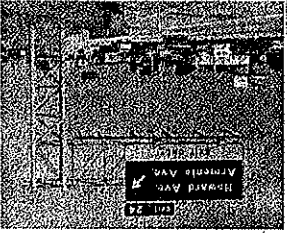
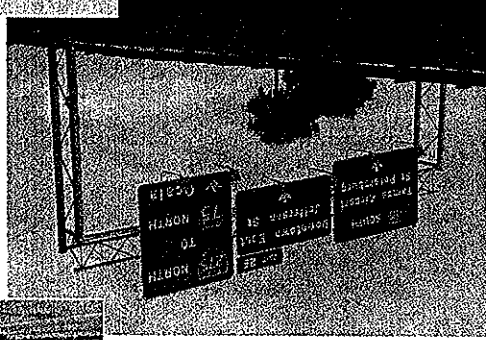
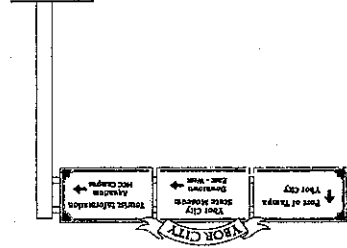
- 30% Plans due Winter 2001
- ROW begins 2001 - 2004
- Construction let July 2007

Proposed On-System Signage

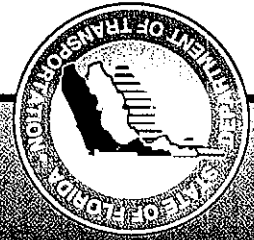
Existing On-System Signage



Proposed Off-System Signage



Signage



INTERSTATE

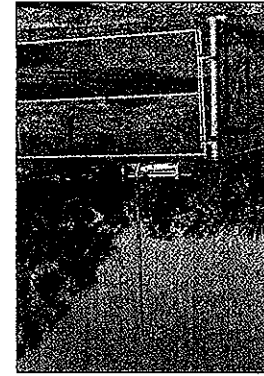
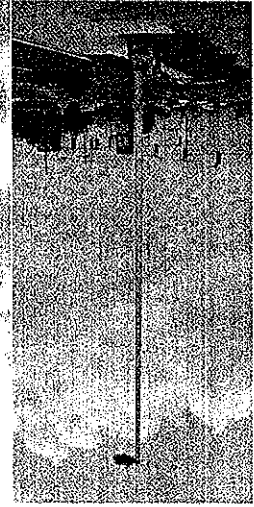


Florida's Gateway to Tampa

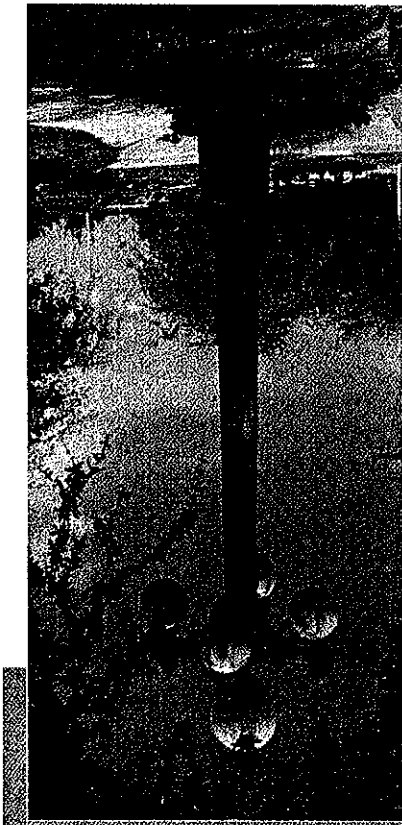


Mongoose
Flat Glass

Proposed On-System Lighting



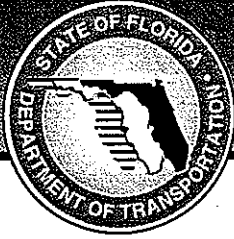
Existing Lighting



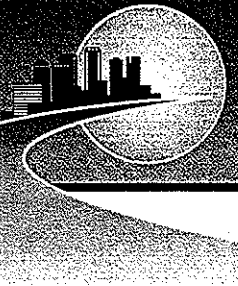
Proposed
Off-System
Lighting

Lighting



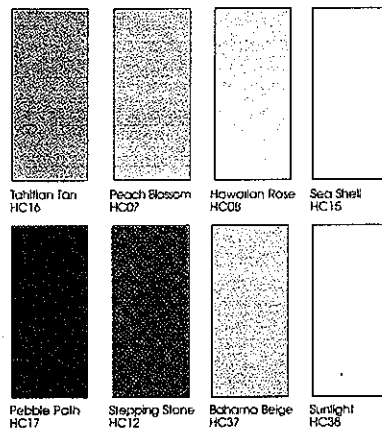


Tampa Interstate Study



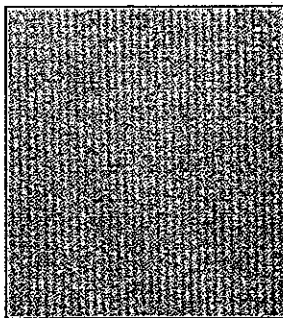
RETAINING WALLS

CONCRETE DECORATIVE SEALER & STAIN COLORS



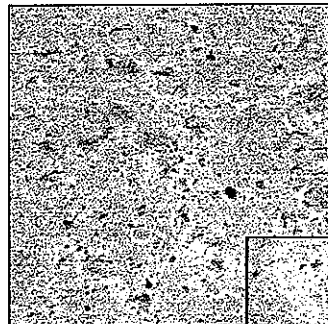
TEXTURE

Fractured Fin



Concrete/Sandstone Finish

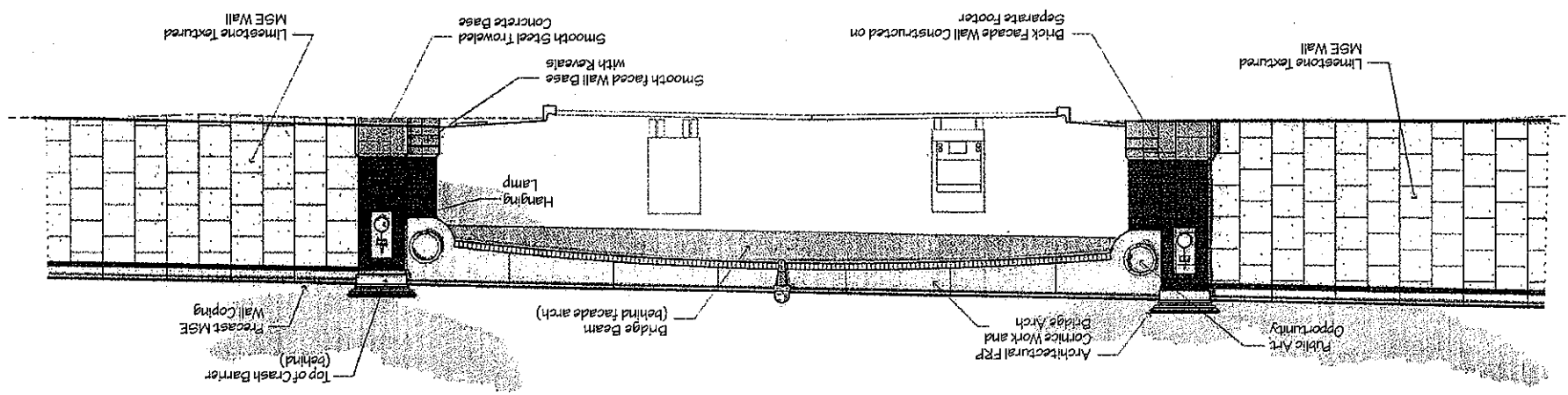
I-4, 14th St. to 50th St. (Villa M)



Courtney Cambell/
Spruce Street/
Westhores Blvd.
(Tower Pink)

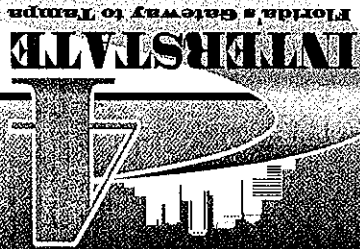
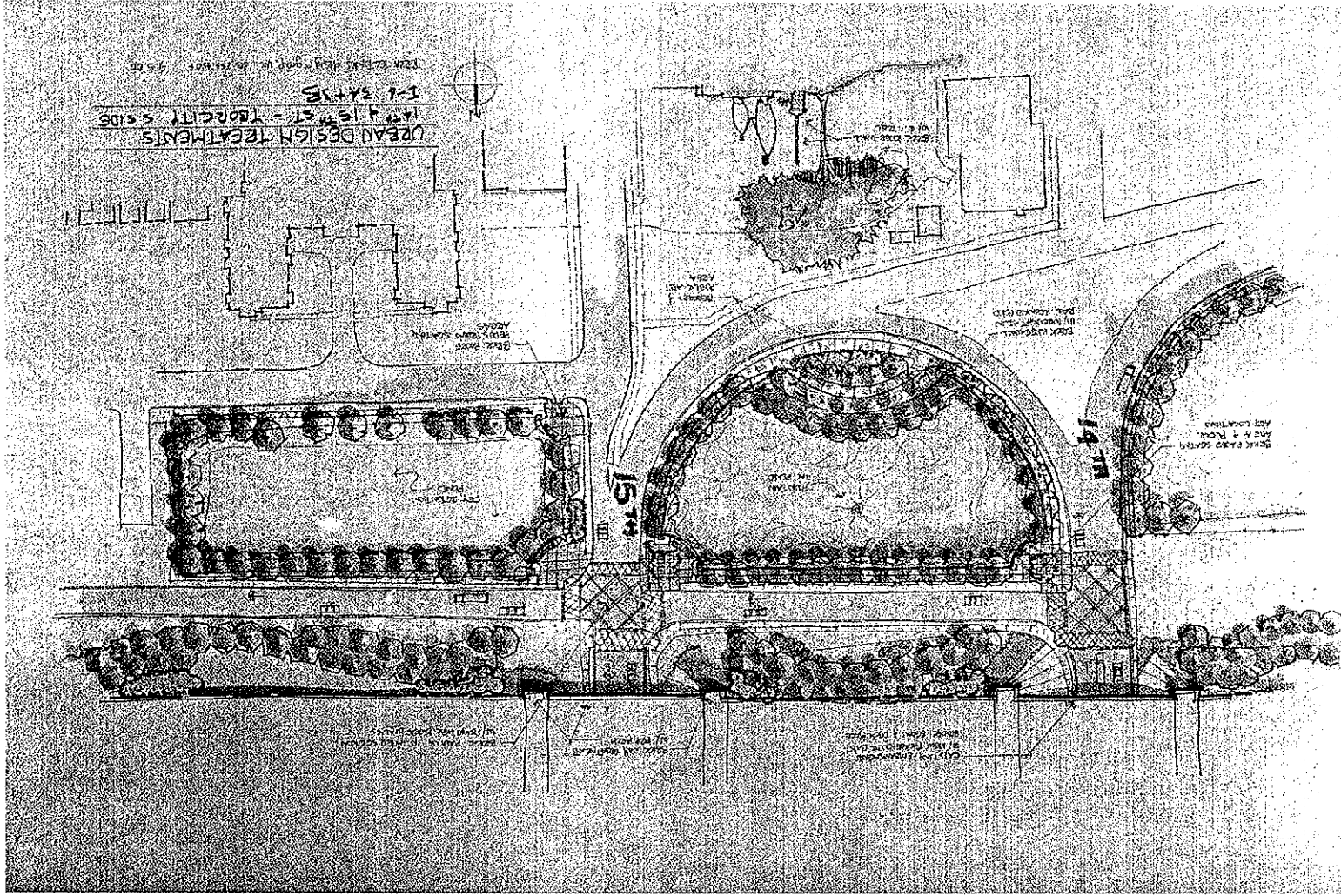


West Tampa/Downtown
Interchange (Hunters Tan)



40th Street Overpass





14th/15th Street



December 26, 2000

MEMORANDUM

TO: Tampa Interstate Study Design Aesthetics Team

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Design Aesthetics Team Presentation to City of Tampa Parks Department
Thursday, December 14, 2000

On Thursday, December 14, 2000 at 1:30 p.m., the Tampa Interstate Study (TIS) Design Aesthetics Team met with the City of Tampa Parks Department to discuss interstate aesthetics and landscaping issues. In attendance were Ross Ferlita, Jim Valentine, Henry McGriff, Bruce Engler, Doug Pierce, and Steve Graham (City of Tampa Parks Department), Wilson A. Stair, Jr. (City of Tampa), Jonathon Toner and Daniel Wood (Terra Tectonics), Elaine C. Illes (IPI), and Jane Burmer and Mark Jennings (URS Corp.). No agenda was provided.

Wilson Stair opened the meeting with a brief background on the work done to date by the TIS Design Aesthetics Team. This meeting is intended to bring the Parks Department up to date with the design elements of the Interstate Study and to discuss the proposed plant materials. The City's Parks Department will be maintaining the landscaping once it is installed by the FDOT.

Ross Ferlita said he likes most of what he has seen proposed so far but it is important for the City to have some input on the choices of plant materials. It took a lot of negotiating with the FDOT for the City to agree to maintain the interstate landscaping.

Jonathon Toner presented all of his concepts for the interstate design amenities. Mr. Toner mentioned that he has contacted the City of St. Petersburg, which actively manages the interstate landscaping within their City limits, for their experience, ideas, and issues. Overall, it has been the mission of the Design Aesthetics Team to develop a general theme and continuity of aesthetics throughout Tampa's interstate system.

Mr. Toner mentioned that irrigation will be provided wherever there is landscaping. Mr. Ferlita suggested that we try to tap into the City's expanding network of reclaimed water lines. The Parks Department will contact the Water Department to see if that is feasible.

Henry McGriff asked that access be provided for City maintenance vehicles to the interstate infield areas and that the sidewalks be reinforced where the vehicles drive over them. The City has water trucks which can pump directly from a water source if one is provided. Planted trees will have bubblers installed around them to insure adequate irrigation. Mr. Stair recommended underground irrigation to the extent possible to reduce

evaporation. Mr. McGriff stated that underground systems are generally the most efficient but are not good in all situations, such as after seed has been applied. Mr. Toner asked the City to provide him with their specifications for irrigation systems and he will make sure his design plans comply.

Mr. Stair indicated that our proposed use of native plants is good but noted that not all native plants are drought tolerant. Mr. Toner replied that we are stressing the use of drought tolerant plants over native plants. Some suggested plants included crepe myrtle, yellow and purple tabs, oaks, etc. Mr. Toner said he has not completed a planting list at this point in his plans development but will come back before the Parks Department to go over it when completed.

Mr. Valentine suggested that the City's sign ordinance staff receive a copy of the interstate landscaping plans to avoid future landscaping conflicts with permitted billboards. They do not want to get into a situation where landscaping, such as trees, need to be removed to accommodate a new sign structure.

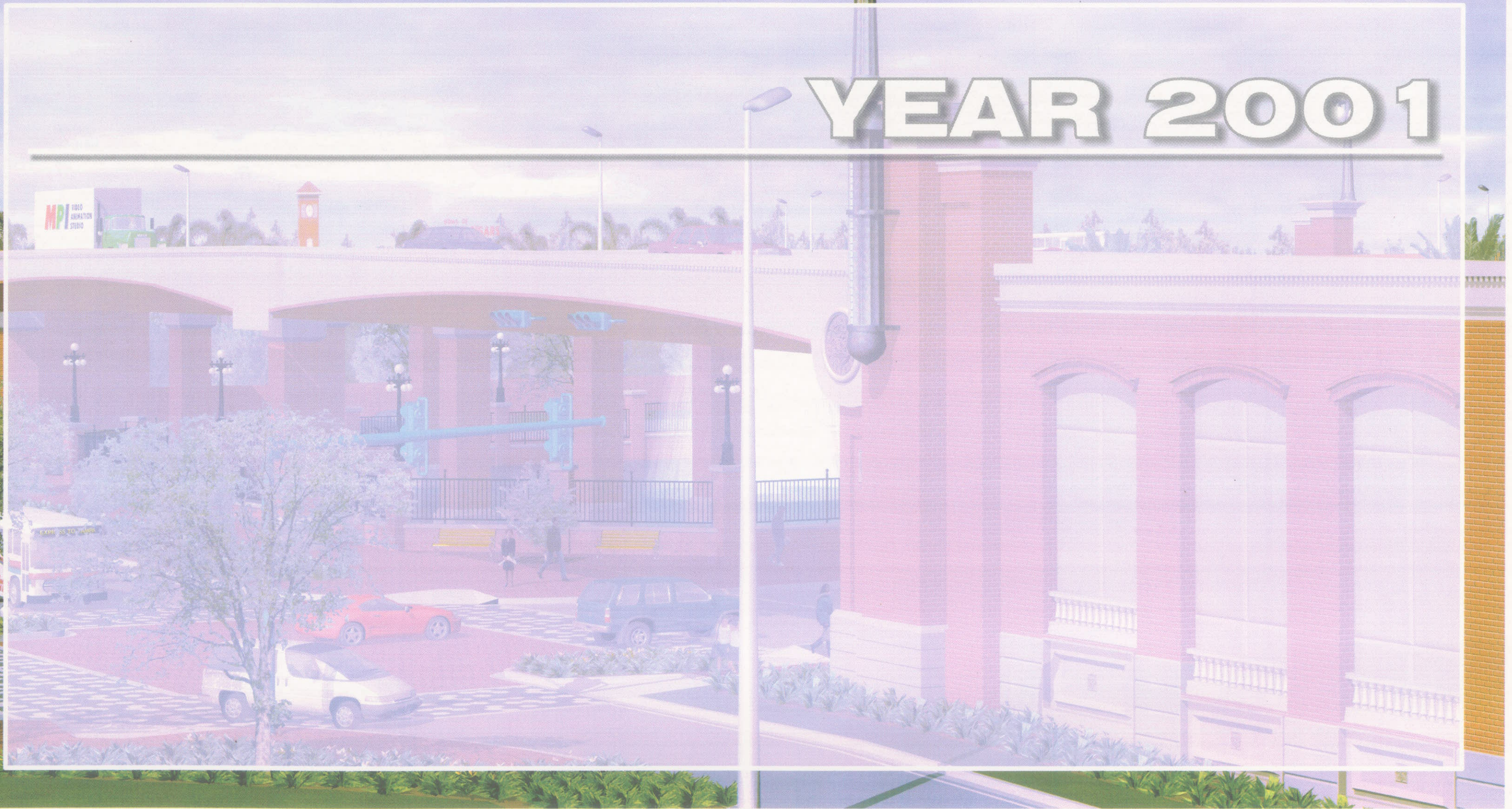
Mr. Toner mentioned that the budget for interstate landscaping and irrigation was \$1 million and the concepts shown today actually price out at \$1.2 million. Mr. Ferlita said while he likes the plans, he thinks the concepts look a little sparse in some areas and there should be more landscaping. Mr. Toner noted that significant reductions have been made in the landscaping plans due to budgetary constraints. Mr. Ferlita said he thought the current agreement was that Segment 3A would be budgeted at \$1 million and there would be \$1 million available for 3B. Ms. Illes stated that the current budget only allows for \$1 million dollars for both segments.

Mr. Ferlita asked to receive a copy of the original landscape concept plans (30% roadway submittal) so he can compare them with the plans proposed now (60% roadway submittal). He will provide comments to Wilson Stair asking that funding for interstate landscaping in Segments 3A and 3B be increased significantly. Mr. Ferlita stated if we are going to plant it, we should do it right and not go half way. That suggestion was well received by all in attendance.

The meeting was adjourned at 3:00 p.m.

Summary of TIS Design Aesthetic Coordination

YEAR 2001



SUMMARY
DOWNTOWN INTERCHANGE AND I-4 DESIGN PUBLIC WORKSHOP
JANUARY 9, 2001

A 90% Design Public Workshop was held on Tuesday, January 9, 2001 from 4 p.m. to 7 p.m. at the Italian Club in Ybor City. One hundred and seventy nine general public and forty-two FDOT employees and consultants signed in resulting in an estimated 200 people in attendance. Copies of the sign-in sheets are included as Appendix A.

Approximately two months prior to the Workshop a newsletter was distributed to property owners along I-4, interested parties and governmental bodies such as the Hillsborough County Metropolitan Planning Organization (MPO). A separate flyer was developed that announced the workshop and it was distributed three weeks prior to the workshop to all affected property owners and interested parties in both the Downtown Interchange and the I-4 project area. Public officials and local agency representatives received copies of both the newsletter and flyer as well as a letter of invitation from the FDOT. Copies of the newsletter, flyer, agency and public official sample letters and complete mailing list are included in Appendix B.

Quarter page advertisements were published on January 5, 2001 in La Gazetta, the Florida Sentinel, and the Florida/ Metro section of the Tampa Tribune. A copy of the quarter page ad is included as Appendix C.

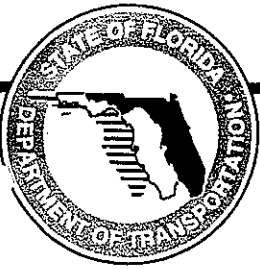
As meeting attendees entered the Italian Club, they were greeted at a sign-in table in the lobby, received a copy of the room layouts, and were directed to the first floor cantina to watch a 13-minute video on the proposed improvements. Following the video, attendees could take the elevator or stairs to either the Downtown Interchange project materials on the second floor or the I-4 project materials on the third floor. Respective project handouts were located in the lobby on each floor. A copy of the room layout, the Downtown Interchange handout, and the I-4 Project handout are located in appendix D. A copy of the video is also included in the binder.

Over fifty exhibits were on display during the workshop and copies of the majority of the exhibits are included in Appendix E. As part of the implementation of the Section 106 (Historic Preservation Act of 1966) mitigation, the Tampa Interstate Study Historic Resources Status Report was on display for public review. An opportunity to be added to a mailing list for notification of available structures was provided to attendees. Three people requested to be added to the existing list of almost eighty people.

A total of twenty-two comments were received. Nine comments were provided to the two court reporters, ten written comments were received at the workshop and three comments were received during the comment period following the workshop. A copy of each comment is included in Appendix F. The following summarizes the comments received.

- Downtown TMO is committed to working with the DOT. Irwin Prescott has done an excellent job of keeping the Downtown Partnership informed. Encourage a continued effort to include aesthetics and coordinate with City of Tampa on greenway issues. Need to take special care to "get the word out" concerning park and ride, vanpools and alternate bus routes during construction.
- Requested a copy of noise barrier from Nebraska Avenue to 15th Street.
- Should expand out to 30th Street
- Like the existing signs even though the design is boxy
- Requested ownership of vacant property (1/2 lot) at the northwest corner of 17th Street and 15th Ave.
- Requested map of I-4 and 21st Avenue area at 50th Street
- Requested map of property located at the northwest corner of 21st Avenue and 50th Street.
- It is very important to keep easy access to north/south I-4. The City of Tampa is widening 40th Street. We should have access to 40th/39th Street via I-4 improvements.
- Learned a lot. Everyone was very helpful.
- Please consider more landscaping at ground level— trees, not just grass – to help break up the concrete
- Amoco Station would like to remain in business and requests.
- How many actual labor hours will inmates from the Florida Department of Corrections be working on the project? What percentage? Why are there noise walls where there is commercial properties and not residential properties at 33rd Street and 12th Avenue?
- Request that the pond across the street from 2212 15th Avenue be a dry pond not a wet pond.
- Closing 40th Street is a safety concern for the Hollow Pines residents. Children trying to access the playground at 21st Avenue will have difficulty crossing the road with increased traffic that will be on 21st Avenue as a result of the 40th Street ramp closure. How will people get to Busch Gardens? Will traffic come through the neighborhoods more? Are they going to put in speed bumps to slow people down? What about 46th Street that is also adjacent to Hollow Pines? Is the truck traffic going to get heavier on 21st Avenue and Melbourne Boulevard?

- Ponds in the National Historic District should have brick knee walls with iron picket fencing, a ten to twenty foot fountain, and a small island of boulders for birds to have a place of refuge from the highway.
- Do not want the 40th street ramps closed. Why close 40th Street and then spend money to tie into the Crosstown Expressway at 36th Street? The large neighborhood of Hollow Pines and the businesses there are going to be terribly inconvenienced. It will be confusing for visitors to use 50th street to get to Busch Gardens
- It would seem more appropriate to use the money for the architectural treatments, which are very nice, at 40th and 50th Streets for Palm and 7th Avenues instead because they are closer to the Landmark District and the Tampa Heights National Register District. Also with the closing of 40th Street ramps it would seem that a lot of traffic would be fed through 50th Street and onto Columbus Drive. Without some coordination and improvements to Columbus it looks like a recipe for trouble.
- The interstate is moving 12 feet closer and because the other houses burnt down or the city bought them, they are telling me that I cannot have a noise wall. My house vibrates now. It will really be bad when the interstate moves closer. I want a noise wall.
- The bridges and overpasses closer to Ybor such as 7th Avenue and Palm Avenue should be receiving the same type of architectural treatments as shown in Ybor. Maybe either find some money for them or use the money from 40th and 50th Streets.
- The improvements are needed. The noise is currently bad.
- Requested a map of the Downtown Interchange improvements.
- Use an "anti-graffiti" finish to the walls and brick structures to be constructed as part of the project. Specify readily available "off-the-shelf" materials for the ornamental lighting, fencing and other amenities included in the project. This will facilitate future repair/replacement of such items by maintenance personnel. A very informative workshop!



Tampa Heights Aesthetics Coordination Meeting

March 26, 2001 - 11:45 a.m. - 1:00 p.m.

Tampa Interstate Study Memorandum of Agreement

Financial Project ID: 258401-1-52-01 & 258402-1-52-01
FAP No.: ACDH-4-1 (141) & ACDH-4-1 (142)

AGENDA

- I. Welcome/Introductions - Prescott (2 min)**
- II. Summary of Last Meeting - Illes (3 min)**
- III. Study Progress - Illes (10 min)**
 - A. I-4 Aesthetics
 - B. Downtown Interchange Limitations
 - C. Downtown Interchange Existing Inventory
- IV. Proposed Concepts - Toner (20 min)**
 - A. Landscaping
 - B. Hardscaping
 1. Fencing
 2. Lighting
 3. Paving
- V. Greenway Update**
 - A. Right-of-way Acquisition - Illes (3 min)
 - B. Dead-end Street Treatments - Toner (3 min)
 - C. Street Crossings - Toner (5 min)
 - D. Greenway Development Schedule (2 min)
 - E. Update on Jefferson Jr. High School property
- VI. Discussion/Action Items - Illes (12 min)**



I-275/I-4 Tampa Downtown Interchange & Tampa Heights Greenway Site Analysis

The assessment of the existing conditions of the Tampa Downtown Interchange is process of continuing improvement to the Tampa neighborhoods that are affected by the improvements to the Tampa Instate highway system. As part of this process, a review of the existing conditions and proposed improvements than can be made to the underpass areas, such as the street end areas, the Tampa Heights Greenway trail and other street level areas are shown as part of this analysis.

Underpass Treatments

Currently the underpass areas are dark in the daytime, under lit at night, wrought with potential dangers due to hiding places, hazardous conditions from inadequate views for pedestrians, and blowing sand and glass debris. In additions large areas were left as plant beds, but due to low light and no irrigation, and no rainfall...these areas under the roadway structure are sand bowls wand because of the wind tunnel effect, the debris and sand blow around creating an unsightly mess on the sidewalks and in the roadway. Broken glass is everywhere and collects in the sand.

The proposed improvements would be to pave with decorative concrete pavers, all areas under the underpasses. This will eliminate the sand and areas and allow for easy clean up of broken glass. The color of the paving will also lend a more urban feel to these forgotten areas and give back to the neighborhood, a more pedestrian friendly feeling. During out filed visits we encounter numerous pedestrians using these areas at all hours of the day and evening. The paving would also incorporate a re-constructed sidewalk.

Lighting would be as found at the Mobley Park Apartments. This decorative pole and lamp would be installed under the underpasses within the decorative paving in locations as shown. This would be in addition at improved overhead lighting to increase security and visibility of pedestrians.

Existing Chain-link fencing would be replaced with a black colored welded steel decorative fencing, in areas as shown on the plans. The existing chain link would be removed in most areas of the TDI-Project due to the roadway being surrounded by noise walls. Where noise walls are located, they render access to the corridor impossible, so fencing becomes unnecessary. This will in effect increase the useable land area at the street level and create a more open feeling with less obtrusive ugly fencing.

In addition to the hardscape elements, we are proposing all areas and structure that will remain, to be steamed cleaned and color stained an off-white/limestone color stain. This will lighten all areas and open them up and will have a finished appearance to all areas including the bridge undersides, walls, roadway faces and piles.

Roadway Ends

These difficult areas are proposed to received short segments of 8' long architectural fence sections, 5' ht and planted behind and in front. The fence sections would be stained white and reflect the architectural character of the neighborhoods. They would have the standard crash barrier installed in front of them. In addition to the fence section, we would propose to plant the area with some durable trees and ground covers to help buffer the dead-end view from the approaching street. In several areas the roadway ends would intersect with the Tampa Heights Greenway Trail and would tie in to allow access all along the trail, for pedestrian and bicycle.

Tampa Heights Greenway Trail

As the Trail is an on-going design, we don't have the latest locations due to the trail being dependent upon land acquisition. The information that is current and available regarding the land available is shown on the graphic. The plans indicate the approximate locations of the trail and the street crossings that would need to be installed to accommodate the trail. These can be installed as part of the TDI Improvements and the trail can be assembled behind it and between the crossings. We have shown some examples of the Pinellas Trail specifically in the Dunedin area, that indicate what might be considered a local standard for Trail design. The Pinellas Trail incorporates and 16, width trail design, 12' being for 2-way cyclists and 4' dedicated to pedestrian traffic.

In addition to the paving, the crossings become vital to maintain safety. The Pinellas Trail is constructed with a "rumble" strip 50' before the trail crossing to warn bicyclists that an upcoming intersection is present. The bollards are installed to prevent vehicles form entering the trail and the center bollards are removable to allow Emergency Vehicles to access the trail. Signs all along the Trail indicate the road rules and in some places, calls boxes have been installed for security.

We are recommending the crossing to be constructed a part of the TDI Improvements.

Cost Estimates

At this time for the items as show we have estimated the improvements to be in the range of \$700,000.00. This would include new paving, new lighting, fencing and crosswalks for the Trail. This can be modified by use of asphalt paving vs. decorative concrete pavers in some hidden areas under the underpasses etc.

This budget does not include the landscape and irrigation budget, nor does this study address those items. This is being designed under this same contract but in the next phase.

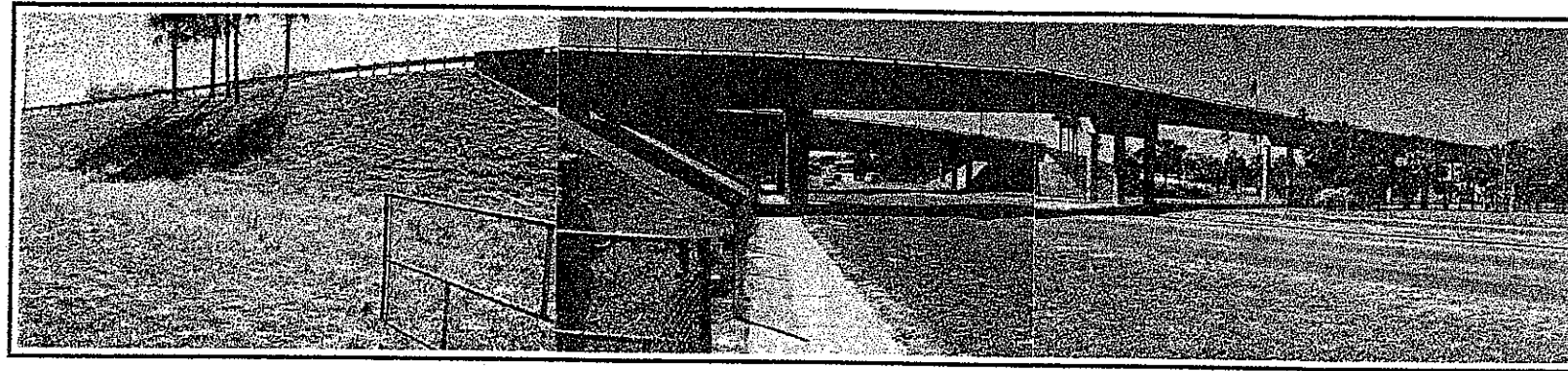


I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

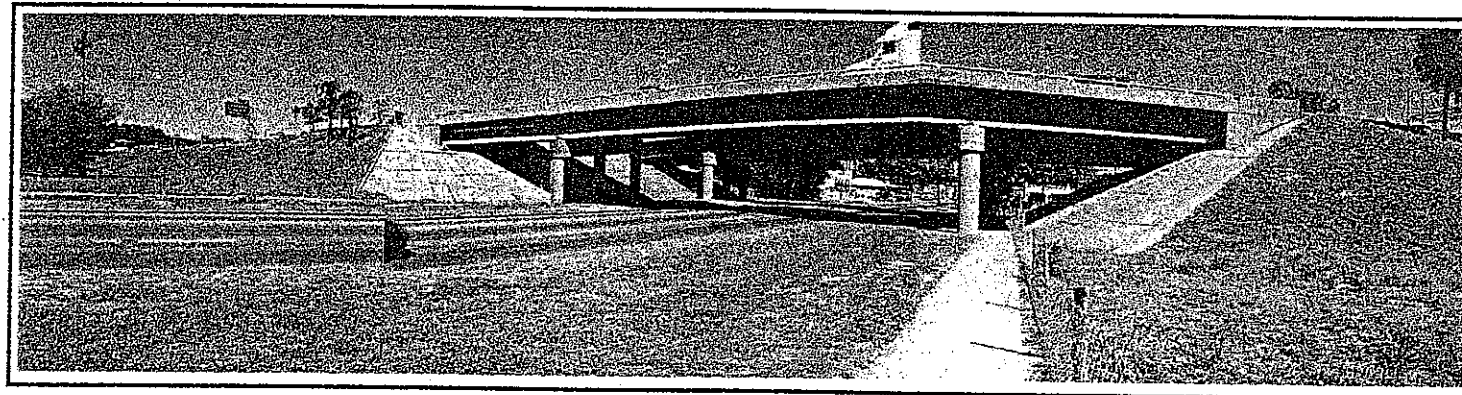
FPN: 258648 FAP: 27573001 SPN: 10190-1483 WPI: 7144457 KCA PROJECT #: 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida
March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



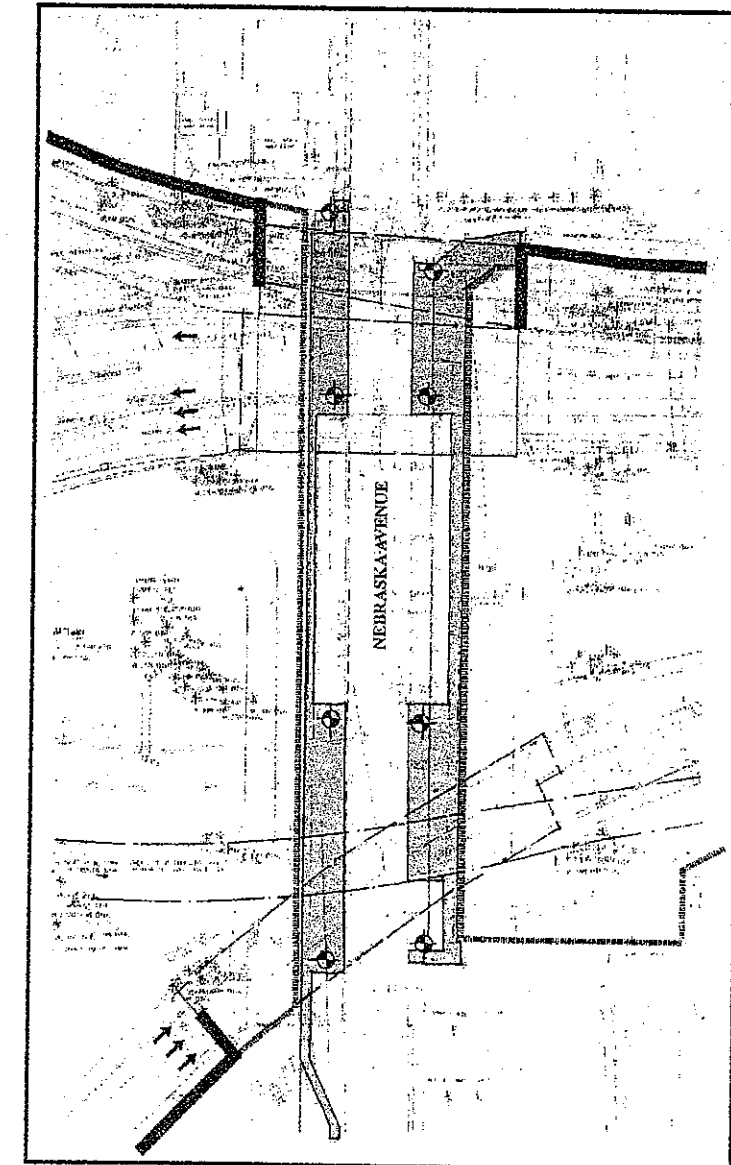
VIEW SOUTH
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW NORTH
EXISTING SITE CONDITIONS
MARCH 26, 2001

HARDSCAPE ITEMS

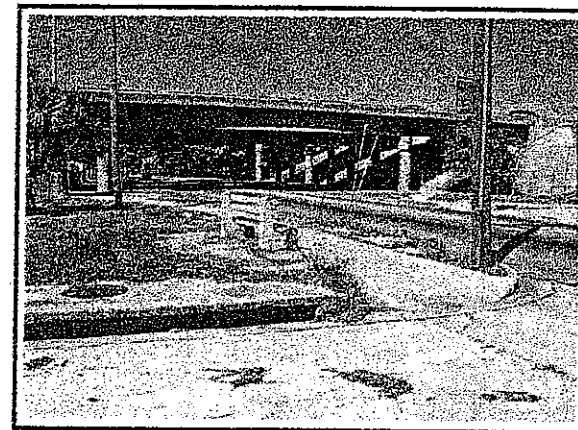
- . FENCING
350 Linear Meters
- . LIGHTING
8 Light Fixtures
- . PAVING
1590 Square Meters



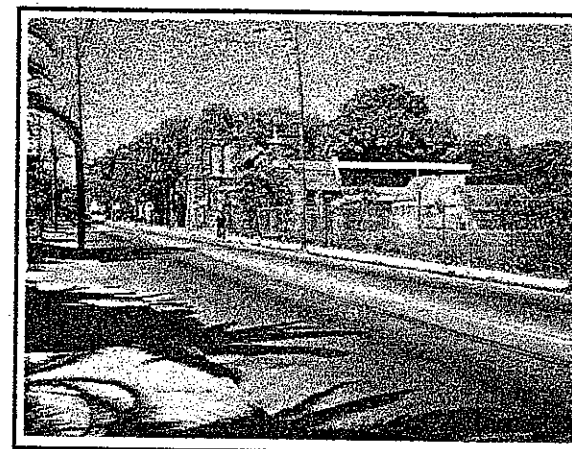
PROPOSED UNDERPASS AESTHETIC
TREATMENTS

LEGEND

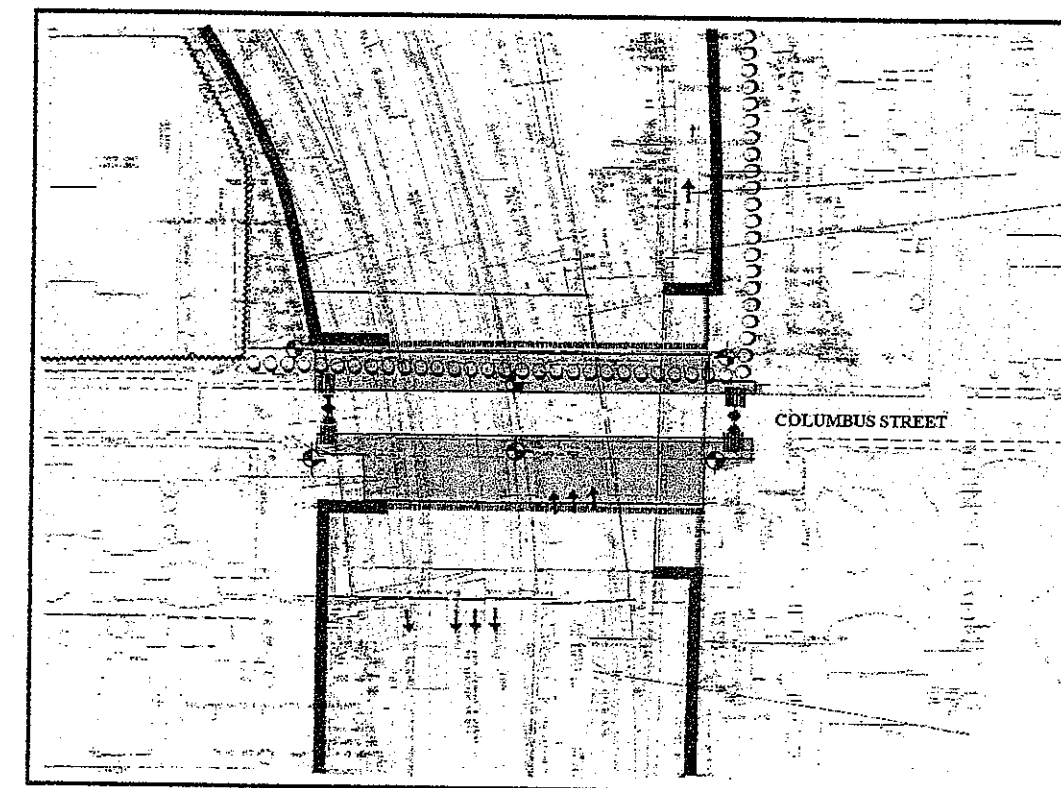
	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING



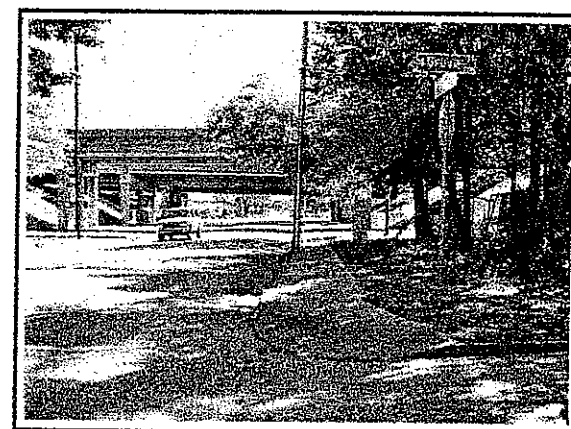
VIEW WEST
EXISTING SITE CONDITIONS
MARCH 26, 2001



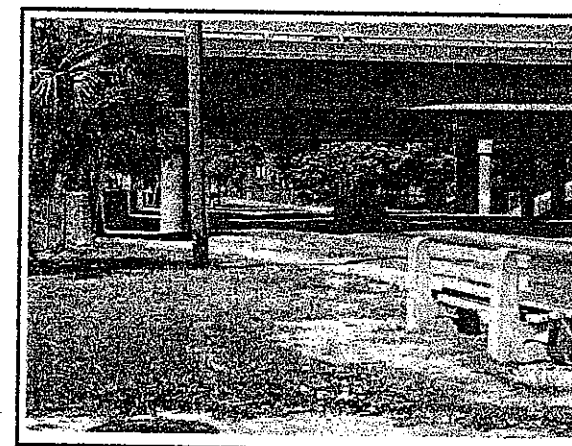
COLUMBUS—WEST OF INTERSTATE
EXISTING SITE CONDITIONS
MARCH 26, 2001



PROPOSED UNDERPASS AESTHETIC
TREATMENTS



VIEW EAST
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW WEST
EXISTING SITE CONDITIONS
MARCH 26, 2001

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

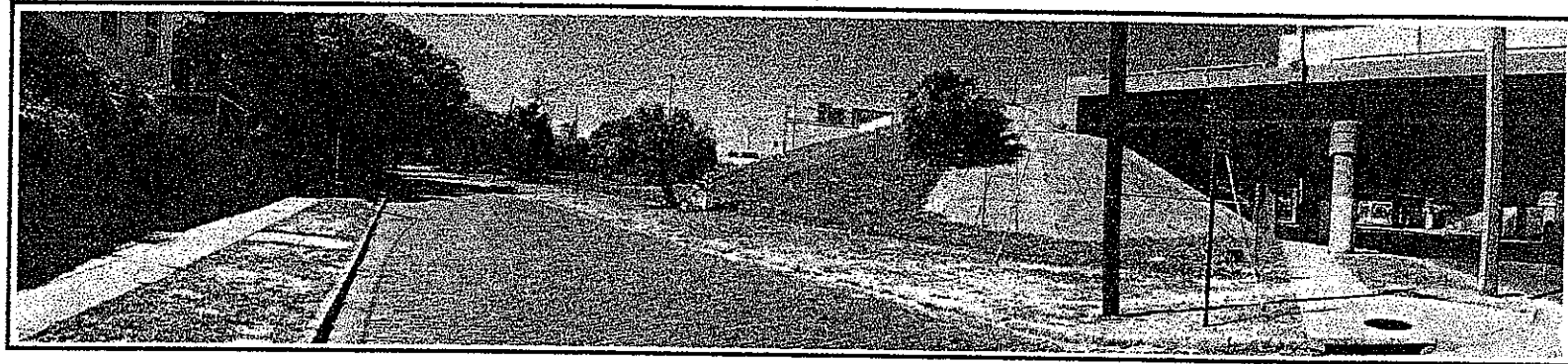
- FENCING
140 Linear Meters
- LIGHTING
6 Lighting Fixtures
- PAVING
1225 Square Meters
2 Crosswalks

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

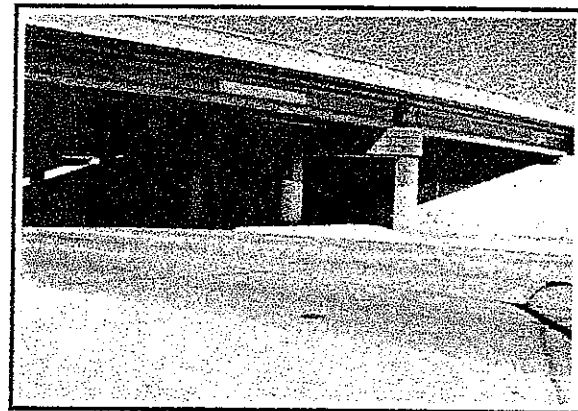
FPN: 158648 FAP: 27573001 SPN: 10190-1483 WPG: 7144457 KCA PROJECT #: 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida
March 26, 2001

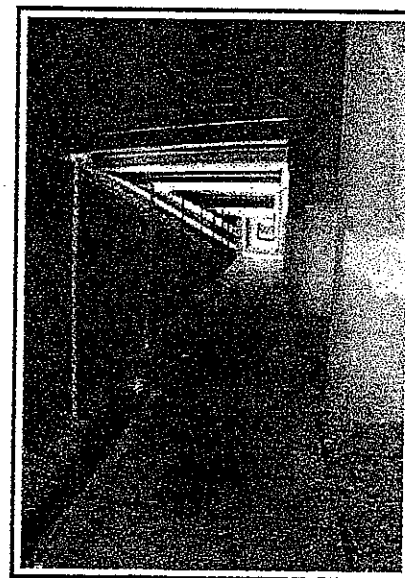
Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



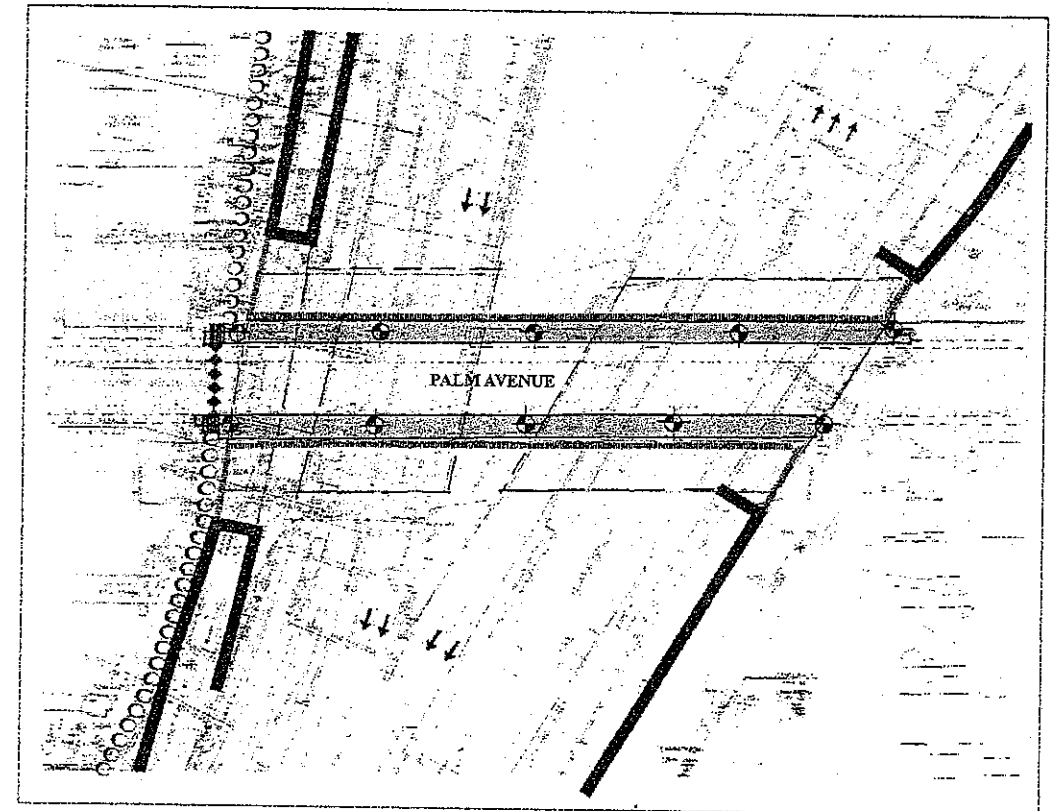
VIEW SOUTH
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW NORTHWEST
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW WEST THROUGH UNDERPASS
EXISTING SITE CONDITIONS
MARCH 26, 2001



PROPOSED UNDERPASS AESTHETIC
TREATMENTS

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

FENCING	295 Linear Meters
LIGHTING	10 Light Fixtures
PAVING	1085 Square Meters

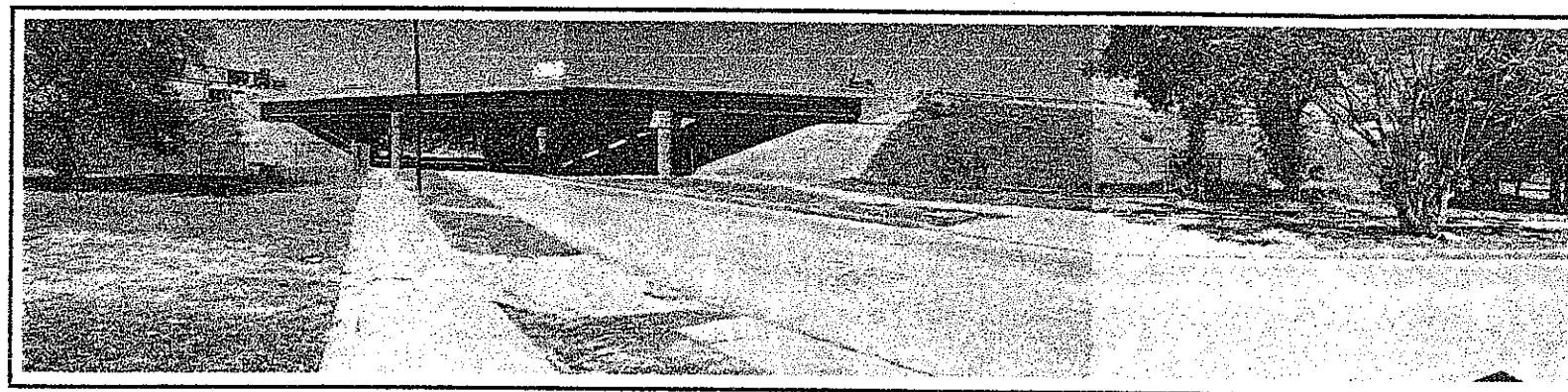
TDI UNDERPASS ANALYSIS—PALM AVENUE

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

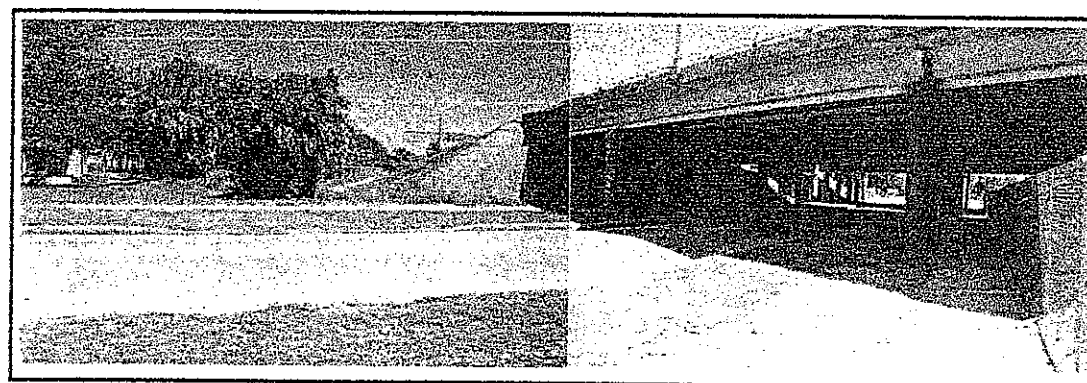
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Tampa, Florida
March 26, 2001

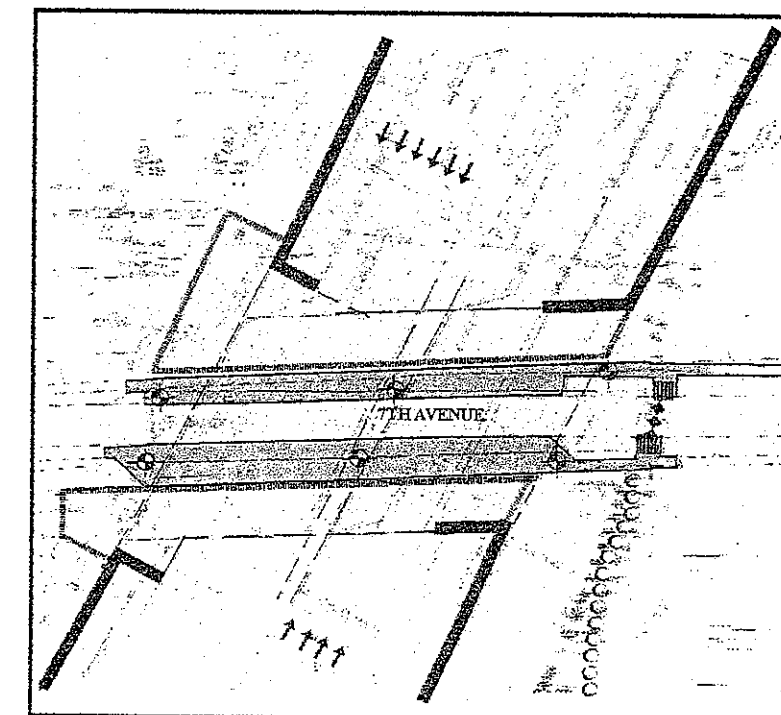
Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



VIEW WEST
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW EAST
EXISTING SITE CONDITIONS
MARCH 26, 2001



PROPOSED UNDERPASS AESTHETIC
TREATMENTS

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

- . FENCING
255 Linear Meters
- . LIGHTING
6 Light Fixtures
- . PAVING
1225 Square Meters

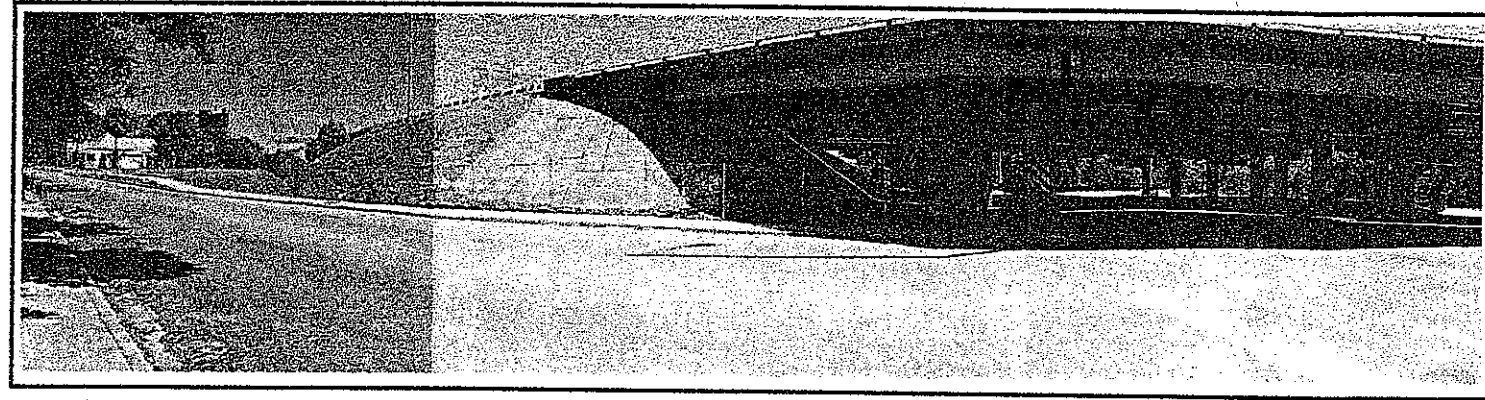
TDI UNDERPASS ANALYSIS—7TH STREET

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

FPN: 258648 FAP: 27573001 SPN: 10190-1483 WPI: 7144457 KCA PROJECT #: 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida
March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



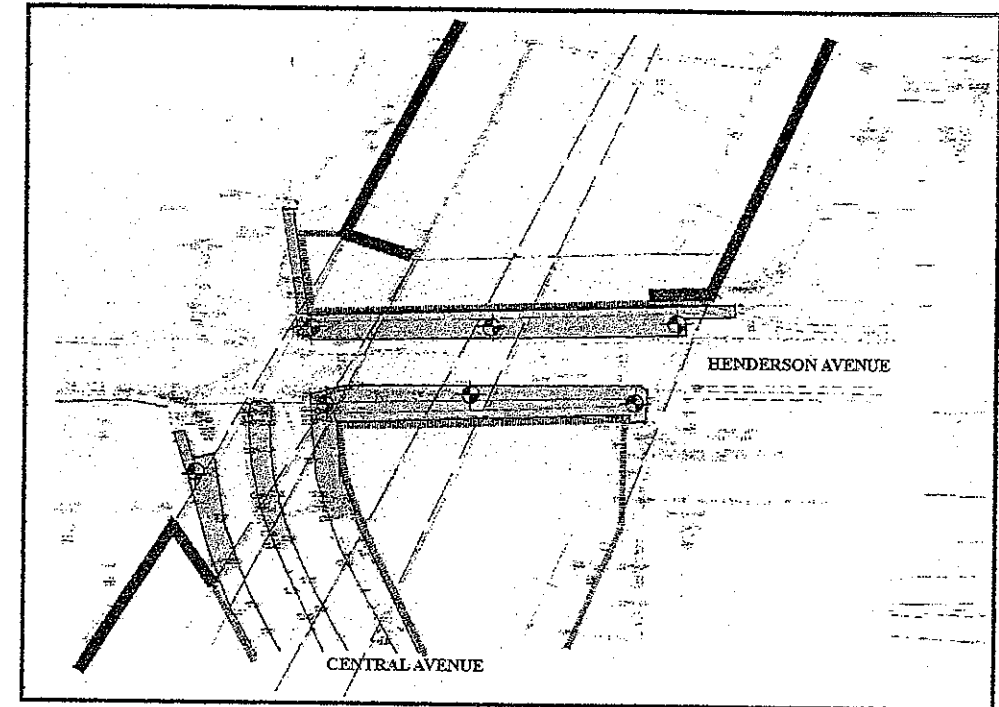
VIEW EAST
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW SOUTHEAST
EXISTING SITE CONDITIONS
MARCH 26, 2001



EXISTING BUS STOP
MARCH 26, 2001



PROPOSED UNDERPASS AESTHETIC TREATMENTS

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

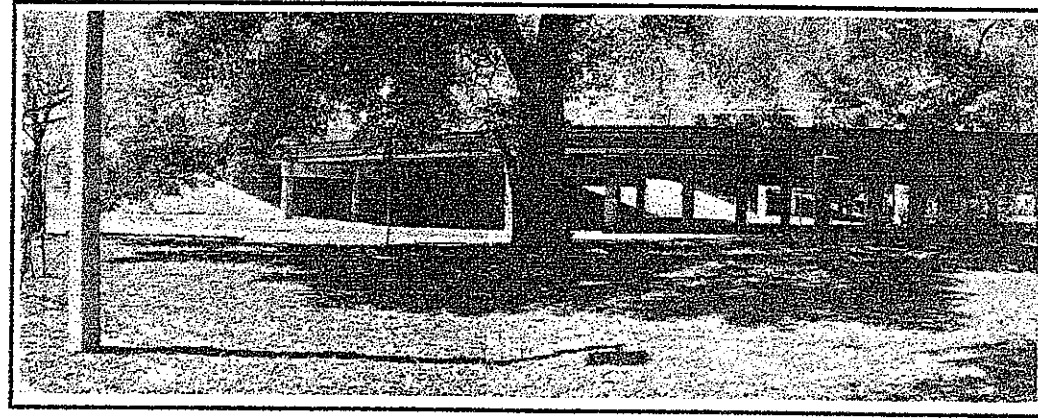
FENCING
145 Linear Meters
LIGHTING
7 Light Fixtures
PAVING
822 Square Meters

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

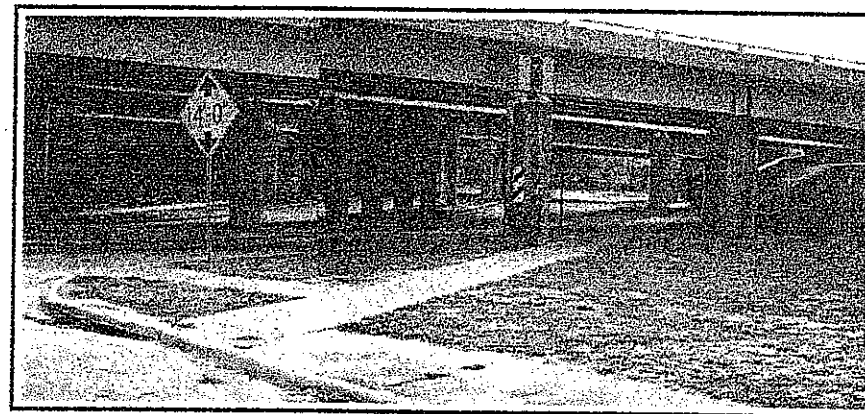
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Tampa, Florida
March 26, 2001

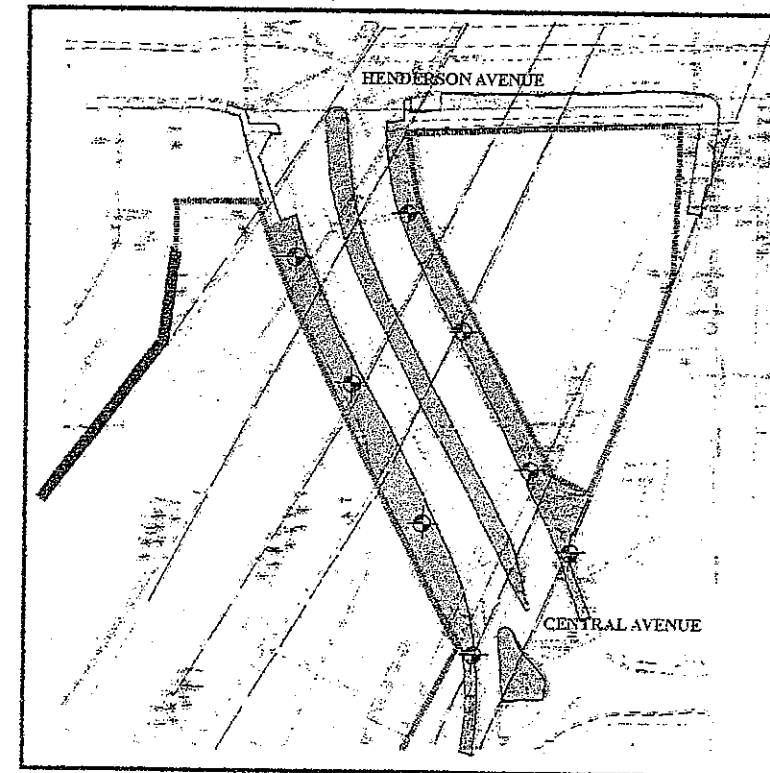
Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



VIEW SOUTH
EXISTING SITE CONDITIONS
MARCH 26, 2001



VIEW SOUTH
EXISTING SITE CONDITIONS
MARCH 26, 2001



PROPOSED UNDERPASS AESTHETIC TREATMENTS

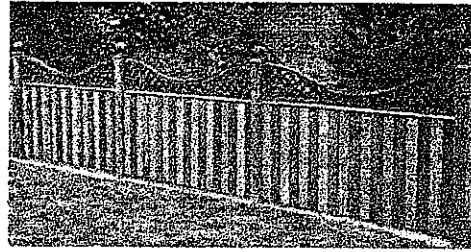
LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

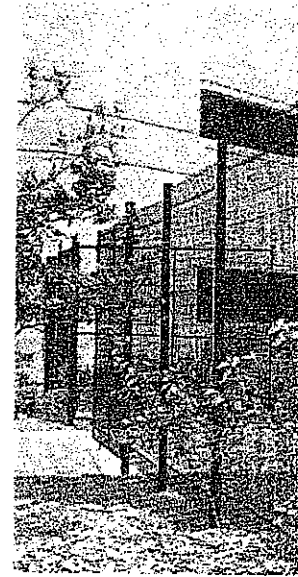
HARDSCAPE ITEMS

- FENCING
340 Linear Meters
- LIGHTING
8 Light Fixtures
- PAVING
1504 Square Meters

FENCING

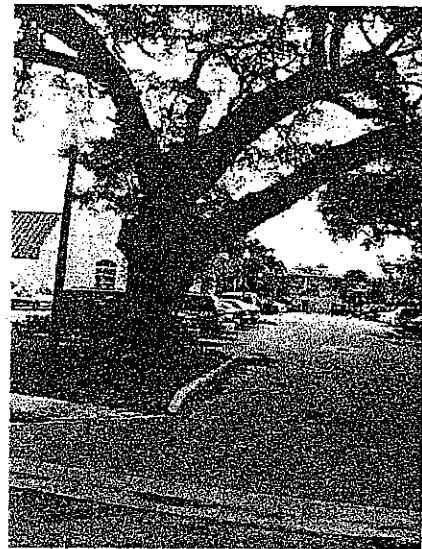


WOOD FENCING & TRELLIS
PROPOSED FOR DEAD END STREETS

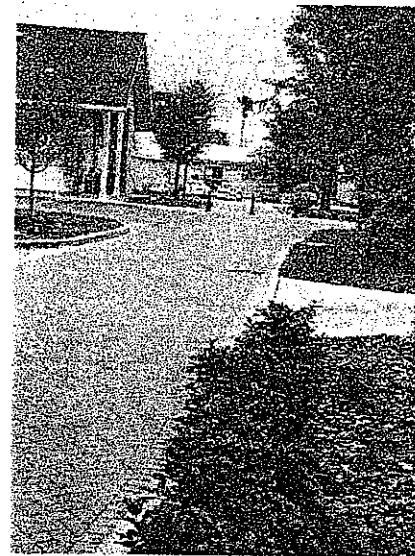


WELDED WIRE FENCE
PROPOSED FOR ROAD FRONTAGE

PAVING



BRICK PAVING
DUNEDIN, FLORIDA
PROPOSED FOR INTERSECTION
PAVING

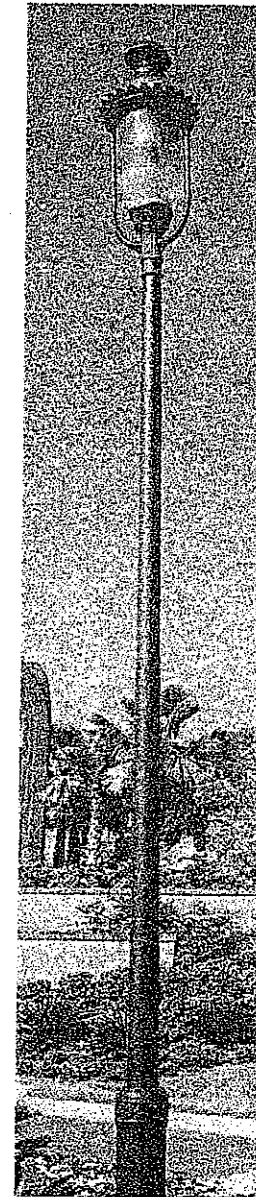


BRICK PAVING
DUNEDIN, FLORIDA
PROPOSED FOR INTERSECTION
PAVING

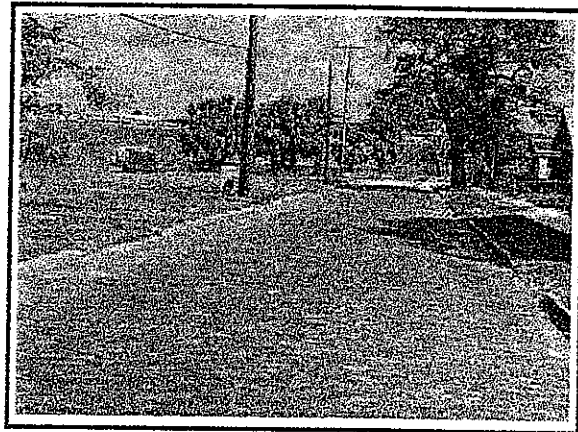
LIGHTING



MOBLEY PARK
TAMPA HEIGHTS



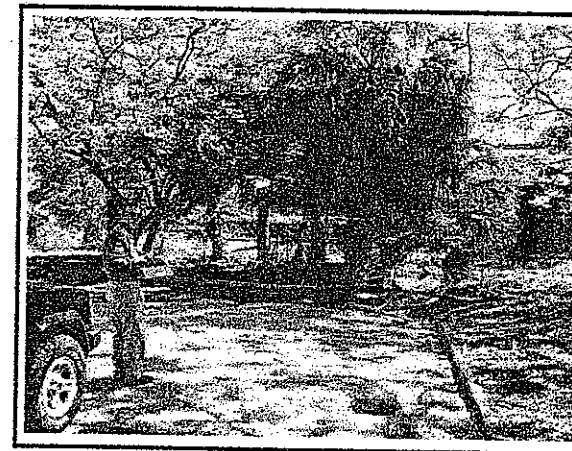
BAY VISTA OFFICE COMPLEX
CLEARWATER, FLORIDA



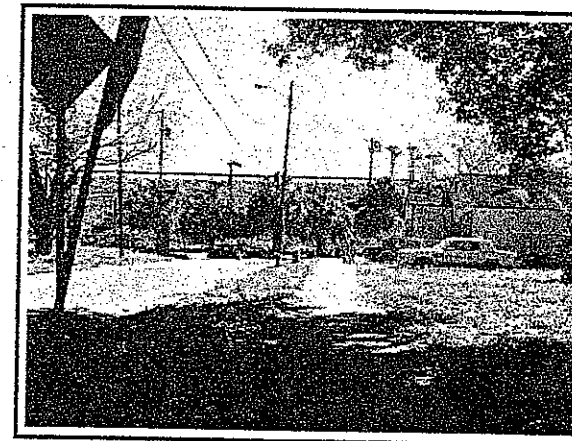
MITCHELL STREET
MARCH 26, 2001



FRANCES AVENUE
MARCH 26, 2001



ROSS AVENUE
MARCH 26, 2001

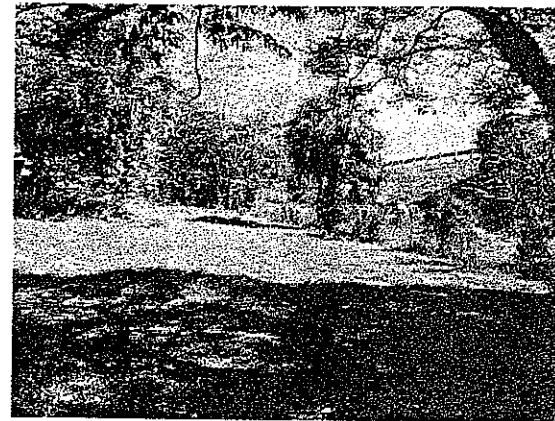


AMELIA AVENUE
MARCH 26, 2001

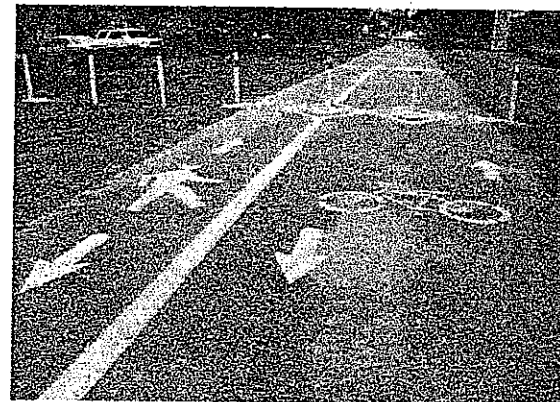
TAMPA HEIGHTS GREENWAY



VIEW FROM ROSS AVE - SOUTH
EXISTING CONDITIONS
MARCH 26, 2001

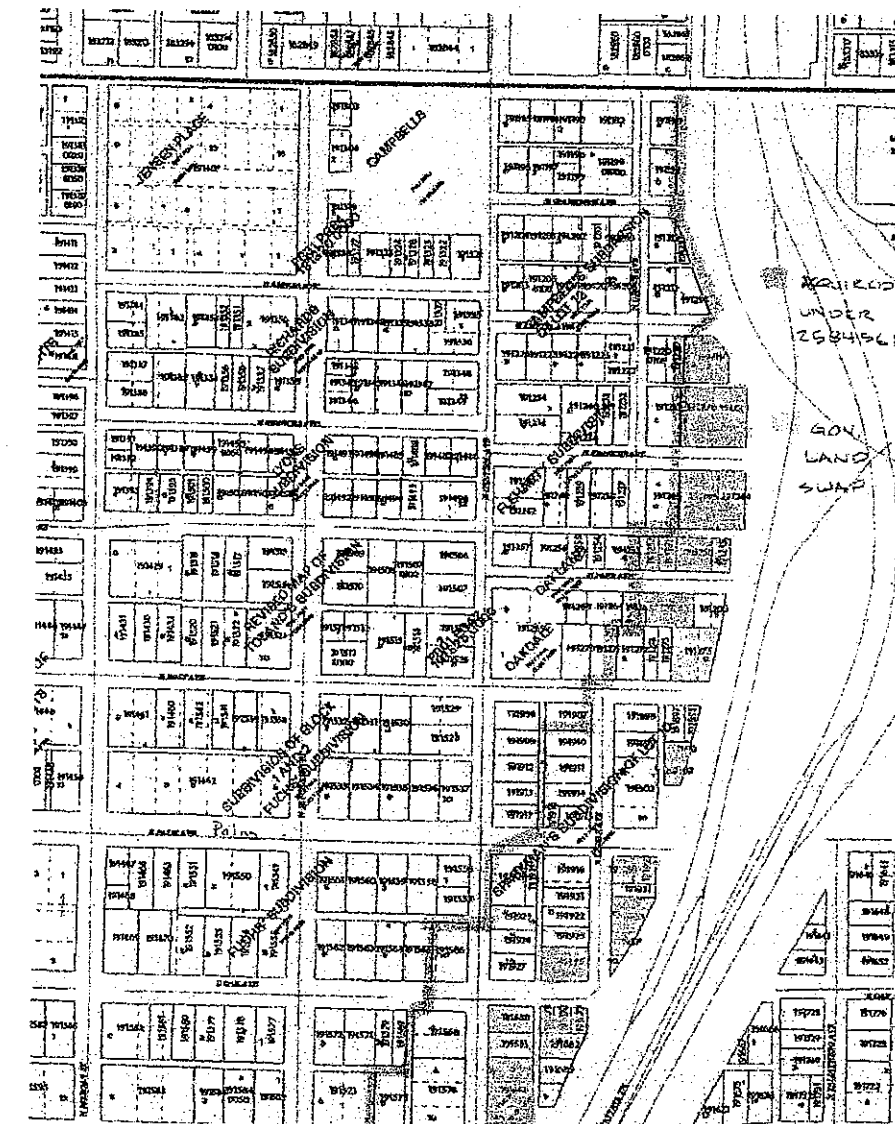
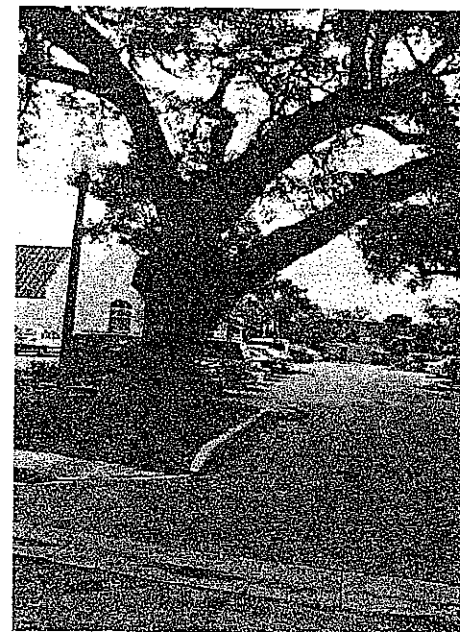


VIEW FROM ROSS AVE—NORTH
EXISTING CONDITIONS
MARCH 26, 2001



PINELLAS TRAIL DUNEDIN, FLORIDA

EXAMPLES OF PINELLAS TRAIL IN DUNEDIN, FLORIDA SHOWING:
ENHANCED PAVING
SECURITY BOLLARDS
TREE PROTECTION
STRIPING IN PAVERS
PAVEMENT MARKINGS
CROSSWALK STRIPING



PROPOSED TAMPA HEIGHTS GREENWAY TRAIL

MAP INDICATING PROPOSED LAND AREAS DEDICATED TO FUTURE USE AS PROPOSED TAMPA HEIGHTS GREENWAY TRAIL

DOWNTOWN INTERCHANGE SITE ANALYSIS—GREENWAY

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

FPN: 258648 FAP: 2757 300 1 SPN: 10190-1483 WPI: 7144457 KCA PROJECT #: 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida
March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.

Tampa Downtown Interchange

Construction Cost Estimate, Hardscape Landscape Architecture

with Kissinger Campo Associates, Inc.
Tampa, Florida
Terra Tectonics design group international, inc. 813-258-4504
3/25/2001

NEBRASKA AVENUE UNDERPASS

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	1,590SM		\$50.00	\$79,500.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	0EA		\$10,000.00	\$0.00	
Enhanced fencing (Euro-style rectangular pattern):	350LM		\$110.00	\$38,500.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	8EA		\$1,500.00	\$12,000.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$130,000.00	
			TOTAL:	\$130,000.00	

CENTRAL AVENUE INTERCHANGE

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	1,504SM		\$50.00	\$75,200.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	EA		\$10,000.00	\$0.00	
Enhanced fencing (Euro-style rectangular pattern):	340LM		\$110.00	\$37,400.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	8EA		\$1,500.00	\$12,000.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$124,600.00	
			TOTAL:	\$124,600.00	

HENDERSON AVENUE UNDERPASS

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	822SM		\$50.00	\$41,100.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	EA		\$10,000.00	\$0.00	
Enhanced fencing (Euro-style rectangular pattern):	145LM		\$110.00	\$15,950.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	7EA		\$1,500.00	\$10,500.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$67,550.00	
			TOTAL:	\$67,550.00	

PALM AVENUE UNDERPASS

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	1,085SM		\$50.00	\$54,250.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	1EA		\$10,000.00	\$10,000.00	
Enhanced fencing (Euro-style rectangular pattern):	295LM		\$110.00	\$32,450.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	10EA		\$1,500.00	\$15,000.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$111,700.00	
			TOTAL:	\$111,700.00	

7TH AVENUE UNDERPASS

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	1,225SM		\$50.00	\$61,250.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	1EA		\$10,000.00	\$10,000.00	
Enhanced fencing (Euro-style rectangular pattern):	255LM		\$110.00	\$28,050.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	8EA		\$1,500.00	\$9,000.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$108,300.00	
			TOTAL:	\$108,300.00	

COLUMBUS AVE UNDERPASS

Item:	Quantity	Un.	Unit Cost	Total	
Sidewalk Paving (Ybor city hexagon, B/W):	1,225SM		\$50.00	\$61,250.00	
Greenways Trail - Ped X-walk (Paint striping, bollards, signs):	2EA		\$10,000.00	\$20,000.00	
Enhanced fencing (Euro-style rectangular pattern):	255LM		\$110.00	\$28,050.00	
Decorative Pedestrian lighting (Tampa Heights lighting):	8EA		\$1,500.00	\$9,000.00	
Enhanced fencing (Vinyl coated chain-link):	LM		\$32.80	\$0.00	
Hardscape Elements SubTotal:				\$118,300.00	
			TOTAL:	\$118,300.00	

TOTAL UNDERPASS ENHANCEMENT AREAS:

\$660,450.00

TDI UNDERPASS ANALYSIS—HARDSCAPE COST ESTIMATE

I-4/I-275 DOWNTOWN INTERCHANGE PROJECT

FPN: 253648 FAP: 27573001 SPN: 10190-1483 WPI: 7144457 KCA PROJECT #: 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida

March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.

**DOWNTOWN INTERCHANGE DESIGN AESTHETICS
TAMPA INTERSTATE STUDY**

June 15, 2001

AGENDA

- I. Recap of Recent Coordination with Tampa Heights & City of Tampa - Illes
 - A. Civic Association Meetings
 - B. Design Aesthetics Working Group
 - C. Comments from the January 2001 Workshop
 - D. Hardscape Concept Presentations

- II. Hardscape Concepts - Toner
 - A. Existing Conditions
 - B. Proposed Improvements
 - 1. Fencing
 - 2. Lighting
 - 3. Paving

- III. Landscape - Toner
 - A. Interchange Areas
 - B. Deadend Street Area Treatments

- IV. Upcoming Activities – Illes

**DESIGN AESTHETICS UPCOMING ACTIVITIES
TAMPA INTERSTATE STUDY
June 15, 2001**

Downtown Interchange

- Receive Secretary Hartmann's approval for hardscape – June 15th
- Complete 30% landscape plans, submit to City of Tampa for review, and hold a review meeting – week of June 25th
- Hold DRC meeting for DTI and 3A/3B outstanding items – week of July 30th (see attached for Draft Agenda)
- Submit 100% landscape and hardscape plans to the City of Tampa and FDOT – August 10th
- Submit Final 100% landscape and hardscape plans – August 31st

I-4, 14th Street to 50th Street

- Present lighting locations, pond and pedestrians aesthetic details to Barrio Latino Commission – July 10th and 24th
- Hold DRC meeting for DTI and 3A/3B outstanding items – week of July 30th (see attached for Draft Agenda)
- Submit 60% landscape and hardscape plans to the City of Tampa for review – Fall 2001
- Meeting with the City to Tampa and FDOT to discuss comments for landscape/hardscape – Fall 2001
- Submit 100% landscape and hardscape plans to City of Tampa and FDOT for review – Winter 2002

Links Stages 2/3

- Display Howard/Armenia details, noise wall detail @ 30% Workshop – June 26th
- DRC Presentation – week of August 6th (see attached for Draft Agenda)
- Display landscape concepts and additional interchange areas with aesthetic treatments @ Stages 2/3 60% Workshop – Winter 2002
- Submit 100% landscape and hardscape plans – Summer 2003

Ken Garcia stated that he was not familiar with the details of the proposal for the noise wall north of the interstate. He asked how tall it would be, if it would be landscaped, etc. The wall would be a ground mounted noise wall that at its tallest point will be 18 feet tall. It will be serpentine, with a flat finish and landscaping on either side of the wall. Both a plan view and vertical perspective was shown during the discussion.

Fernandez asked if the five bulb Ybor light would provide enough roadway light for the drivers? The five bulb lights are all strictly intended for aesthetics. There are three interstate lights for the roadway and the under-deck lighting for under the bridges.

Joe Howden stated that he had the same concerns as Ken Garcia concerning the use of stamped concrete. He commented that the City of Tampa has pavers and brick stock piled and recommended that we look into the possibility of using those materials in lieu of the other options. The comment was noted and Del Acosta will be contacted to request he explore the possibility of the city donating the pavers and brick for those two intersections.

Ken Garcia noted that the city is currently tearing up bricks on 8th Avenue and 13th Street and further emphasized contacting the city.

Ken Garcia asked what the role of the Barrio was related to the aesthetics. The project is a federally funded project with mitigation requirements that relate to both historic preservation and aesthetics. The DOT has been following the CA process for historic relocations, rehabilitations, and demolitions. The FDOT is seeking concurrence from the Barrio on interstate matters that are within the Barrio Latino historic district. If there are situations where the Barrio's comments can not be addressed, FDOT will explain why; however, all reasonable efforts are being made to address concerns and comments.

Ken Garcia asked when was the appropriate time to provide the comments. Del Acosta stated during the presentation.

Conclusion

There were no comments on the locations of the lights.

Ken Fernandez complemented the design and remarked at how much it had progressed since several years ago. Other than wanting to see the fencing around the pond and the details concerning the intersection areas, the Barrio Latino Commission has been very impressed with the proposed design.

The presentation concluded at 9:55 a.m.

CITY OF TAMPA, FLORIDA
BARRIO LATINO COMMISSION
Public Hearing

www.ci.tampa.fl.us/dept_historic_preservation

MEETING DATE:	Tuesday, July 24, 2001
TIME:	9:00 A.M.
LOCATION:	City Council Chamber, 315 East Kennedy Boulevard, Tampa, Florida

AGENDA

Welcome to the Barrio Latino Commission. Please state your name, address and speak clearly. If you are not the agent, please observe the three-minute rule. For more information, please contact the HISTORIC PRESERVATION OFFICE at 274-8920, 306 East Jackson Street, 3rd floor, one day prior to the hearing date to confirm the agenda.

IN ORDER FOR THE BLC TO MAINTAIN AN ACCURATE RECORD OF THE PUBLIC HEARING AND FOR THE COURTESY OF THOSE ATTENDING THIS MEETING, IT IS REQUESTED THAT YOU SILENCE ALL CELL PHONES AND BEEPERS.

- I. **CALL TO ORDER** – Kenneth Ferlita
- II. **SILENT ROLL CALL** - Patricia Dempsey
- III. **INTRODUCTIONS** – Kenneth Ferlita
- IV. **APPROVAL OF MINUTES OF June 19 and July 10, 2001**
- V. **CONFLICT OF INTEREST STATEMENTS** - Del Acosta
- VI. **CONTINUATIONS** – Del Acosta
 - BLC 01-51, 1431 East 7th Avenue
- VII. **ANNOUNCEMENTS** – Del Acosta
 - Preservation Roundtable
 - Preservation Books catalog
 - *Only Yesterday: The Sarasota School of Architectural*” handout
 - St. Petersburg Times Article: *Historic group lists sites at risk*
 - Letter from State Representative Sara Romeo
- VIII. **YBOR CITY ACTION TEAM** - John K. McLeish and Jim Greenhalgh
- IX. **THEN AND NOW IN YBOR CITY** – Dennis Fernandez
- X. **F.D.O.T. I-4 Report** - Elaine Illes
- XI. **SWEAR-IN** – Del Acosta
- XII. **CERTIFICATES OF APPROPRIATENESS:**

BLC 01-51	OWNER:	Penet Land Corporation - Rolf Siegmund
	AGENT:	Ken Kroger
	DISTRICT:	Ybor City
	LOCATION:	1431 East 7th Avenue
	C.A.:	New Construction and Encroachment Sign, Preliminary
	PURPOSE:	Retail/Entertainment/Restaurant/Office Complex at Blue Ribbon Site
		Continued to the August 2001 Public Hearing at Agent's request.

BLC 01-55 OWNER: City of Tampa - David Vaughn
AGENT: Ralph Salagado / Sol Fleischman
DISTRICT: Ybor City
LOCATION: 1500 5th Avenue
REQUEST: **Variance:** Increase from 6 square feet to 39 square feet
C.A.: 2 Encroachment signs, Final
PURPOSE: Parking Garage

BLC 01-56 OWNER: City of Tampa
AGENT: Vince Pardo
DISTRICT: Ybor City
LOCATION: 16th Street
REQUEST: **C.A.:** Decorative Lighting, Final
PURPOSE: Public Right of Way

BLC 01-57 OWNER: Jacob Buchman
AGENT: James Mathias / Phillip Gerardi
DISTRICT: Ybor City
LOCATION: 1611 East 7th Avenue
REQUEST: **C.A.:** Renovation of Historic Façade & Interior Construction, Preliminary
PURPOSE: Commercial

BLC 01-58 OWNER: Steve Yturriaga
AGENT: William Dobson
DISTRICT: Ybor City
LOCATION: 2002 5th Avenue
REQUEST: **Variance:** Greenspace and parking reduction, Preliminary
C.A.: New Construction: 34 Condos and 7 Retail
PURPOSE: Multi-family Residential and Retail

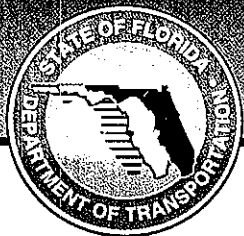
BLC 01-59 OWNER: Christopher J. Bell
AGENT: William Dobson
DISTRICT: Ybor City
LOCATION: 1914-1918 East 4th Avenue
REQUEST: **Variance:** Greenspace and parking reduction, Preliminary
C.A.: New Construction: 12 Condos,
PURPOSE: Multi-family Residential

XIII. STAFF APPROVALS

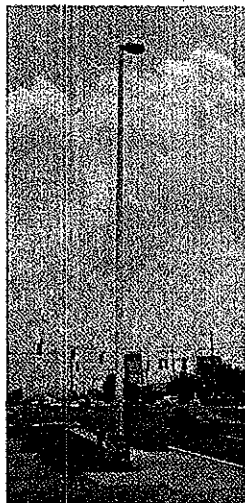
XIV. ADJOURNMENT

Any person who decides to appeal any decision by the Board with respect to any matter considered at this meeting will need a record of the proceedings and, for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record include the testimony and evidence upon which the appeal is to be based. The next Public Hearing of the Barrio Latino Commission is scheduled for August 21, 2001 at 9:00 a.m. at the City Council Chambers, 315 East. Kennedy Boulevard, Third Floor.

The Barrio Latino Commission meetings are broadcast live on City of Tampa Television – Channel 15 on Time Warner Cable. Replays will be Tuesday, July 31, August 7 and 14, 2001 at 9:00 p.m.

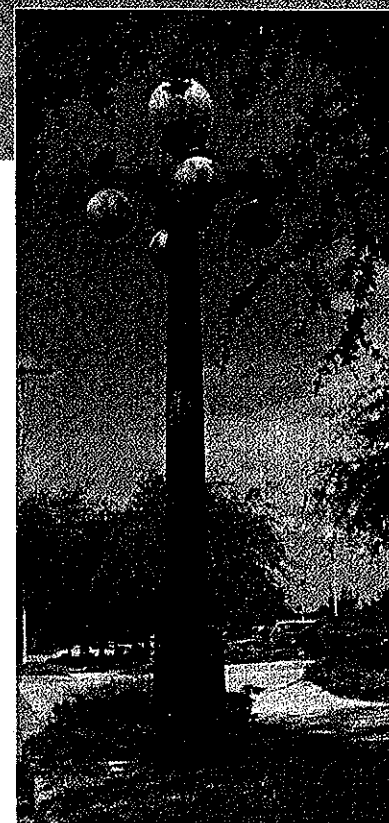


Lighting



Existing Lighting

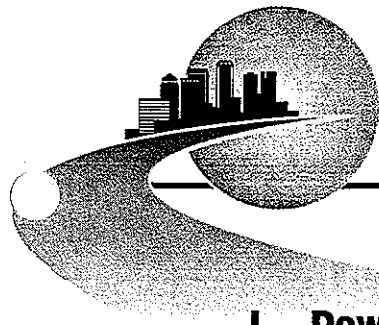
*Proposed
Off-System
Lighting*



*Mongoose
Flat Glass*



Proposed On-System Lighting



TAMPA INTERSTATE STUDY DESIGN REVIEW COMMITTEE COORDINATION MEETING

August 15, 2001

I. Downtown Interchange Remaining Issues

- A. Mongoose Lighting
 - 1. Color of Fixture
 - 2. Color of Pole
- B. Signage
 - 1. Slip joint vs. flange joint
 - 2. Color of monotube
 - 3. Color of back of sign
- C. Fencing
 - 1. Locations and slope treatments
 - 2. Type
- D. Landscape Plans
 - 1. City comments on 30% conceptual plans
 - 2. 90% plans submitted to FDOT and City for review
 - 3. Irrigation details
- E. Aesthetic Lighting
- F. Dead end Street Treatments/ Greenway Issues

II. I-4, 14th Street to 50th Street

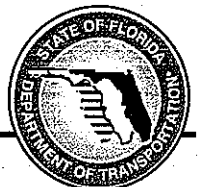
- A. Signage
 - 1. Locations
 - 2. Borders and Ybor logos
 - 3. Coordination with YCDC
- B. Fencing
 - 1. Locations
 - 2. Type
- C. Aesthetic Lighting
 - 1. Barrio consensus
 - 2. City of Tampa Agreement
- D. Enhanced Paving

III. Maintenance Issues

- A. Landscape (DTI & I-4)
- B. Lighting (DTI & I-4)
- C. Enhanced Paving (DTI & I-4)
- D. Fencing
- E. Street Furniture
- F. Fountains

IV. Upcoming DRC Meetings

- A. Coordination Meeting on Courtney Campbell Causeway - October 2001
- B. Coordination Meeting on I-4 Hardscape and Landscape - December 2001
- C. Presentation on Howard Frankland Bridge to Hillsborough River
(Stages 2/3) - February 2002



SIGN IN SHEET

DRC COORD MTS 8/15/01

	NAME	ORG	PHONE#
1	JOHN SIMPSON	FDOT	975-6442
2	Bidan Behjadi	FDOT	975-6733
3	RICHARD GRIFFIN	FDOT	975-6258
4	Sam Messick	FDOT	975-6268
5	Debra Kennough	PBOD	207-2930
6	MIKE QUARTETTI	KCA	871-5331
7	Wilson Slain	C.O.T.	274-8402
8	JOSE S. RODRIGUEZ	FDOT-STRUCTURES	975-6129
9	Jim Drapp	KCA	87-5331
10	Irwin Prescott	PBSJ	975-6168 / 232-7275
11	BIRGIT KIBELKA	TERRA TECTONICS	
12	Jonathan Toner	TERRA TECTONICS	258-4504
13	Howard Hoffman	PBOD	289-5200
14	Elaine C. Illes	IPI	286-0125
15	Nike Callahan	Hills City	276-8387
16	Mark Jennings	URS	286-1711

September 21, 2001

MEMORANDUM

TO: Tampa Interstate Study Design Review Committee

FROM: Elaine C. Illes / Mark Jennings

SUBJECT: Coordination Meeting

On Wednesday August 15, 2001, a coordination meeting was held for the Tampa Interstate Study (TIS) Design Review Committee (DRC). The meeting was held at the Florida Department of Transportation, Tarpon Room at 1:30 p.m. A copy of the meeting agenda and the sign-in sheet are attached. The meeting was facilitated by Elaine C. Illes. (IPI, Urban Design Task Coordinator).

I. Downtown Interchange Remaining Issues

Ms. Illes stressed the importance of the meeting by reminding participants that the Downtown Interchange project design specifications must be completed within the next 60 days and there are several outstanding issues remaining.

A. Mongoose Lighting

Mongoose Lighting representative Mark Kay was in attendance and brought some sample fixtures with him. The standard fixture colors are black, gray, white, bronze, and green. Custom colors are approximately \$40 extra per fixture and require some extra time in the manufacturing process. The standard fixture price is approximately \$320. Poles can be custom colored to match also at an additional charge. Mr. Kay noted the ease at which the fixtures are maintained. The ballast mechanism is located in the door. Replacing the ballast requires only replacing the door, not the entire fixture.

There are 164 light fixtures specified for the Downtown Interchange. There are an additional 380 light fixtures specified for Interstate 4 (3A/3B). FDOT typically budgets approximately \$2100 to \$2500 per fixture, including pole and base, installed. A quick calculation estimated it would cost approximately \$250,000 more than using standard colors to implement custom color light fixtures and poles along the interstate system within the urban core.

Jonathon Toner (Terra Tectonics) reminded participants that the color selected for the lights and poles must also be used for the sign supports (monotubes). Wilson Stair (City of Tampa) asked if perhaps we should try to save the \$250,000 by using a standard color and spend the savings on other aesthetic elements elsewhere along the interstate system, i.e. enhanced landscaping, etc. Both Jonathon Toner and John Simpson (FDOT) replied no, that the custom colors have been planned for all along and that the budgets on I-4

already include all the bells and whistles. Jonathan stated that he could not think of any other area that could have this much positive effect for such few dollars.

Jose Rodriguez (FDOT) asked if steel poles are less expensive than the aluminum poles typically used for the light fixtures. Bijan Behzadi stated that steel poles are actually more expensive and do not incorporate the breakaway safety feature of the aluminum poles.

The discussion again returned to the colors of the fixtures and poles. Based upon previous DRC recommendations, Jonathon Toner identified a beige-brown earth-tone color that would resist fading and match the earth tone theme proposed for the interstate system. Wilson Stair indicated he would prefer something other than brown. An FDOT Maintenance representative asked if the poles will require periodic cleaning or painting. Mark Kay indicated that the colored fixtures and poles could be periodically cleaned. They have lights that have been installed for 15 years that haven't needed painting. Mr. Toner reminded everyone that we are proposing that all sign-backs also be painted a matching color so that the sign-backs do not visually stand out to opposing traffic.

To make the color decision easier, Mr. Toner indicated that he would contact the powder coating company and ask for large color swatch samples. Ms. Illes suggested that select meeting attendees and the DRC meet again on September 11, 2001 at 1:30 p.m. at Terra Tectonics to make final color selections for the interstate palette. In the meantime, a temporary color specification can be inserted into the design plans for all light fixtures, poles, sign supports, and sign backs. URS must be notified so that they may specify the same color for the ITS applications. Mr. Toner will supply the design teams with the official color number to use in their design specifications.

B. Signage

Frank Balsamo (Parsons Brinckerhoff) noted that slip joints have proven ineffective for use on the large monotube sign supports such as those proposed for installation along the interstate. Therefore, flange joints must be used. There is really no way to avoid this situation. Mr. Balsamo noted that the shorter spans would only require small flanges. John Simpson noted that he prefers truss sign supports.

C. Fencing

Mr. Toner displayed a sample of Omega fence, to be installed along the Downtown Interchange (DTI). Rather than a roll like chain-link fence, the Omega fence is installed in sturdy rigid steel panels. Omega fence is proposed to be installed throughout the DTI. In places where the MSE wall is six feet high or higher and beneath the bridges, fence will be eliminated. The intention is that minimizing the amount of fence will create a more open pedestrian environment without compromising safety. The Omega fence panels will be bolted to matching square metal posts and all components will include a durable powder-coated black finish.

D. Landscape Plans

Retaining Walls/ Noise Walls/ Color/ Texture

Jim Drapp (KCA) inquired about the stains proposed for coloring the concrete. All concrete elements of the interstate will receive a color stain, including columns, piers, and the outside face of bridge beams. Steel beams will be painted to match the stained concrete. Along I-4 (3A/3B), bridge columns will be wrapped in brick in the Ybor City National Landmark Historic District. Outside the District stains will be applied. Stains were selected over other coloring techniques because they are easy to maintain, less expensive overall, and can be re-stained to match an existing area. They will be topped with a protective coating for anti-graffiti purposes.

All MSE walls currently specified for the Downtown Interchange and I-4 will be textured with a surface called No. 174, Coral Stone, a texture like limestone. The texturized mats used for casting the MSE walls are currently proposed to be from Scott Systems. The color of the textured stone, an applied stain, will vary by neighborhood areas but the texture will remain consistent throughout. Noise walls will not be textured. They will be finished smooth and be stained a matching color.

Mr. Toner briefly explained the form liner and casting process for the five-foot square MSE wall panels. Jose Rodriguez needs to get approval from FDOT Central Office on the textures so he requested samples and specifications from Mr. Toner. KCA staff will prepare the engineering drawings to be sent to Tallahassee.

John Simpson had several questions about the staining process. Jonathon Toner offered to re-circulate the information he has collected about stains. Mr. Toner noted that the integral noise walls would receive stain while the 2-foot 8-inch tall crash barriers will remain unstained, giving the wall a two-tone look.

Ms. Illes passed out comments received from the City of Tampa regarding the proposed landscaping plans for the interstate system. Mr. Toner presented his concept drawings. Among the highlights he noted were that a drip irrigation system will be used throughout the system. Flowerbeds will be planted around all trees to minimize weed whacking. No trees will be left freestanding. There was some discussion of species, elevated plantings, mower access, and mower signs. Mr. Toner estimates that the irrigation system will cost approximately \$600,000 of the \$1.25 million landscape budget. Irwin Prescott (PBS&J/FDOT) noted that \$750,000 has been budgeted for irrigation. Ms. Illes stated the project team would prefer that excess funds (\$150,000) be allocated toward landscaping on dead-end streets in the Tampa Heights neighborhood, which is currently not included in the plans.

E. Aesthetic Lighting

Ms. Illes passed out some hardscape plan concepts showing how to tie in interstate lighting with the local street lighting. The area around Central and Henderson Avenues is

a tricky lighting area and the City of Tampa has specifically asked FDOT for lighting on Central Avenue. Deborah Kennaugh (Parsons Brinckerhoff), during her coordination with City of Tampa Utilities Department, discovered that there are no nearby load centers for the aesthetic lighting to tie into, and it can't be combined with the interstate lighting system. Formal comments will be sent back to the City reflecting this situation. Jim Drapp said it would be prudent to install electrical conduit as part of the interchange improvements so that the City can come in later to install their own lights,

F. Dead End Street Treatments / Greenway Issues

Ms. Illes showed a plan of the Tampa Heights Greenway concept and the right-of-way that is currently being purchased as part of the DTI. Ms. Illes stated that the DRC's goal at this point is to try and buffer the roadway wall from the neighborhood using landscaping materials. The problem to overcome is that there is only 10 to 15 feet of available buffer area from the face of the wall to plant. A plan needs to be developed. Wilson Stair suggested narrow plant materials. Jonathon Toner said he wouldn't recommend anything expensive, as we are not sure who or how this area will be maintained. Jim Drapp said that his engineering drawings at this point only show the dead end streets with reflective signing at the ends. We must decide by October 1st on any additional landscaping in this area.

II. I-4, 14th Street to 50th Street

A. Signage

There had been some discussion of adding decorative borders to the road signs in the Ybor City National Landmark Historic District. Bijan Behzadi indicated that FDOT and Federal policy prohibit any type of sign that is not "standard". There will be no changes to the signing plans. Elaine displayed a proposal by the Ybor City Development Corporation to replace some existing signs and add new signs that would include Centro Ybor and other Ybor city destinations within the landmark sign. Bijan stated that he had no problem with the proposal if it met proper spacing requirements but he needed direction from his superiors before any details would be discussed.

B. Fencing

Jonathon Toner provided a sample of decorative aluminum fencing to show as well as a concept plan showing the locations of the three levels of decorative fencing. He has tried to minimize the areas where picket fence is to be applied, such as around ponds. There is still some question over who will maintain these fences. The types specified around the ponds are picket fences atop brick knee walls. Wilson stair said he will need a fencing concept plan showing the locations, types, and quantities of fencing in order to seek City approval. Howard Hoffman (Parsons Brinckerhoff) said his staff could provide the concepts with the requested information. Omega fence is being used as a compromise in many of the Level 3 Aesthetic Treatment areas.

Mike Callahan (Hillsborough County) recommends using painted galvanized steel fencing for the picket fences because aluminum is easy to bend and distort. He could envision having to replace a lot of the fencing on a regular bases if it were aluminum.

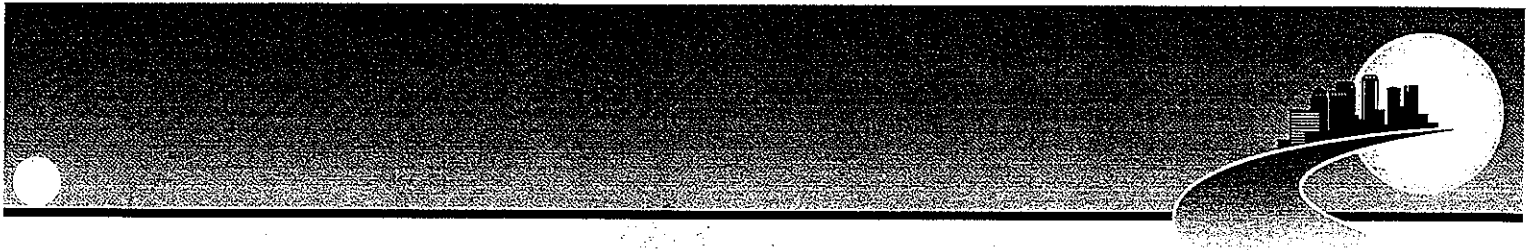
Jose Rodriguez asked about specifying the fence type. Do we get so specific that we specify Omega fence or do we specify the equivalent that meets the same specifications. After some discussion, it was decided to specify the Omega brand. Mr. Hoffman pointed out that cheaper black powder coated chain link fence is specified for use along the railroad tracks, at the TECO substation, and in the Clorox industrial area. Howard also reminded the committee that we are able to avoid fences altogether next to the tall MSE walls.

C. Aesthetic Lighting

Deborah Kennaugh questioned whether we should replace the existing lighting with the Mongoose lighting systems in the vicinity of 50th Street where the local roads are affected. She was instructed to tie into the local lighting system, whatever is currently used. Ms. Kennaugh said there would be a problem tying into the local load centers.

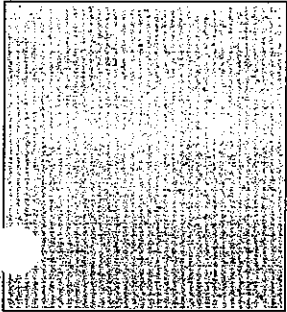
Action Items:

- Hold color selection meeting on September 11, 2001.
- Jonathan Toner will identify the specific form liner for the texture that has been approved.
- Jonathan Toner will provide Wilson Stair with quantities.
- Wilson Stair will champion the effort to get the City of Tampa to maintain the picket fence areas in the Ybor City area.
- Irwin Prescott will brief Secretary Hartmann on the no slip joint conclusion.
- Jonathan Toner will formally respond to the City of Tampa Parks Department comments.
- Jonathan Toner and Doug Stoker will finalize the noise wall detail so that Jose Rodriguez can forward it to Central Office.

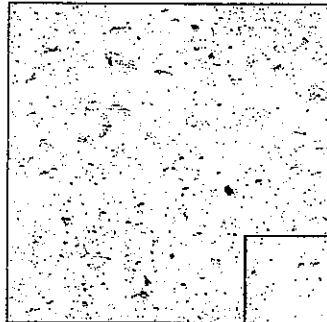


TEXTURE

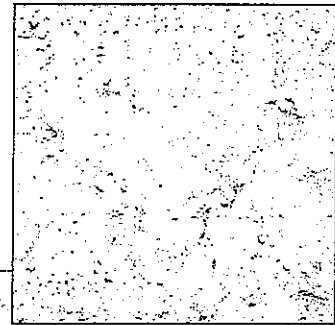
Fractured Fin



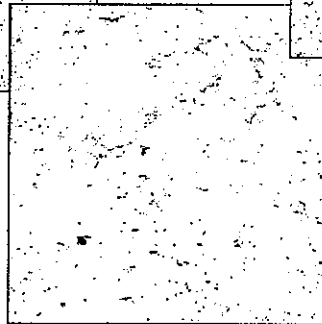
Concrete/Sandstone Finish



Courtney Cambell/
Spruce Street/
Westhores Blvd.
(Tower Pink)



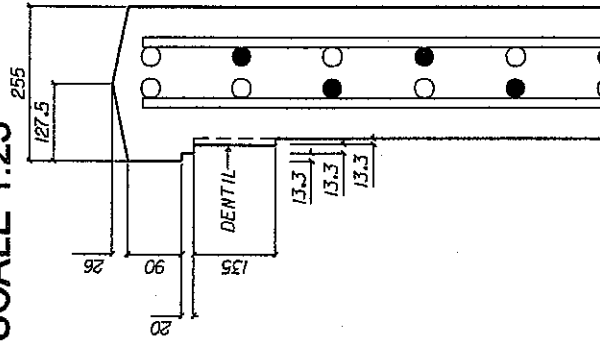
I-4, 14th St. to 50th St.
(Villa M)



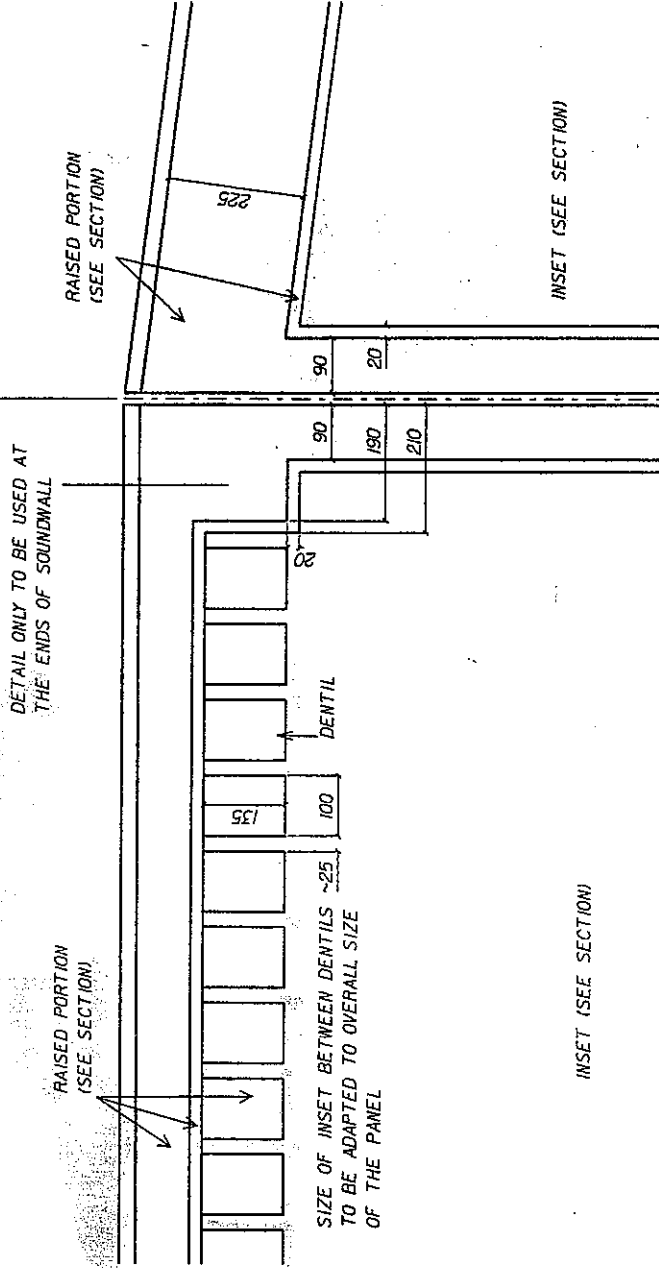
West Tampa/Downtown
Interchange (Hunters Tan)

LE 1:100

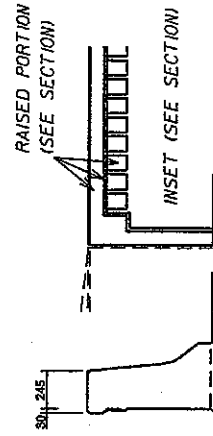
**SECTION SOUNDWALL
- STRAIGHT AREAS -
SCALE 1:25**



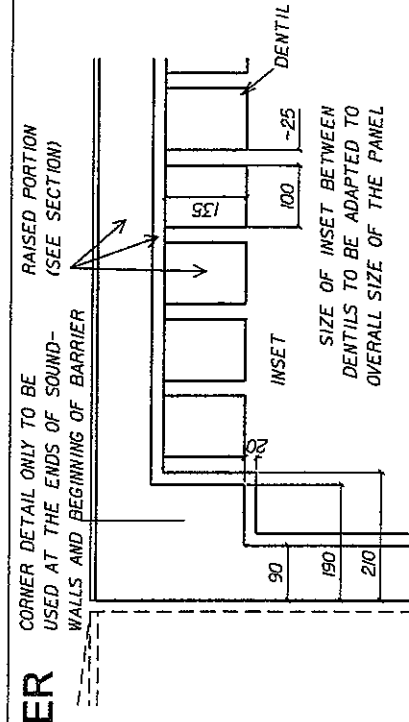
**DETAIL SOUNDWALL
SCALE 1:25**



**DETAIL BARRIER
SCALE 1:100**



**SECTION AND DETAIL BARRIER
SCALE 1:25**



**TERRA
TECTONICS**
design group international, inc.
LANDSCAPE ARCHITECTS

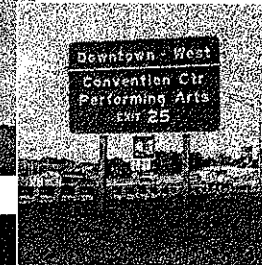
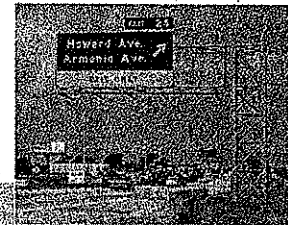
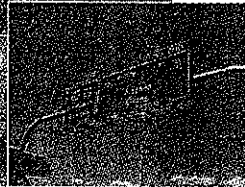
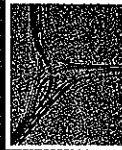
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

**SOUNDWALL/TRAFFIC RAILING BARRIER
ARCHITECTURAL TREATMENT**

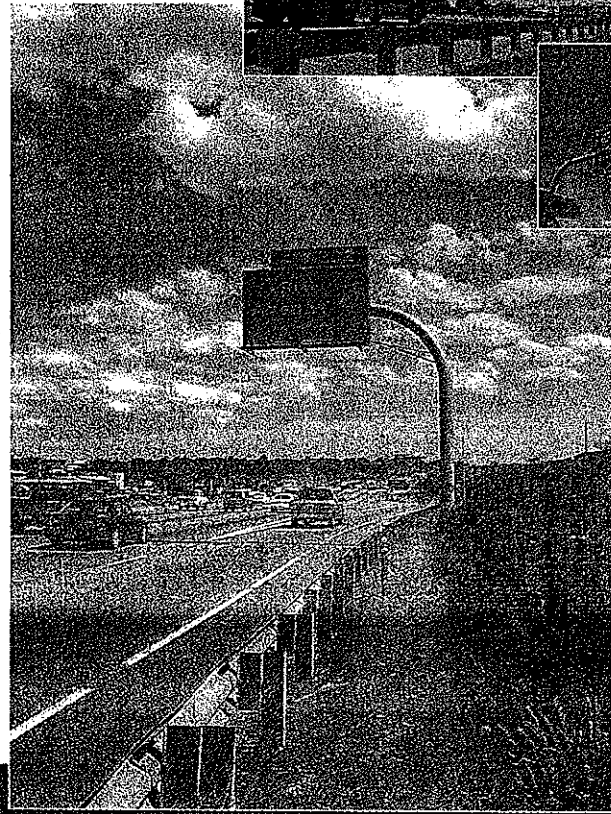
DESCRIPTION	DATE	BY	DESCRIPTION

Signage

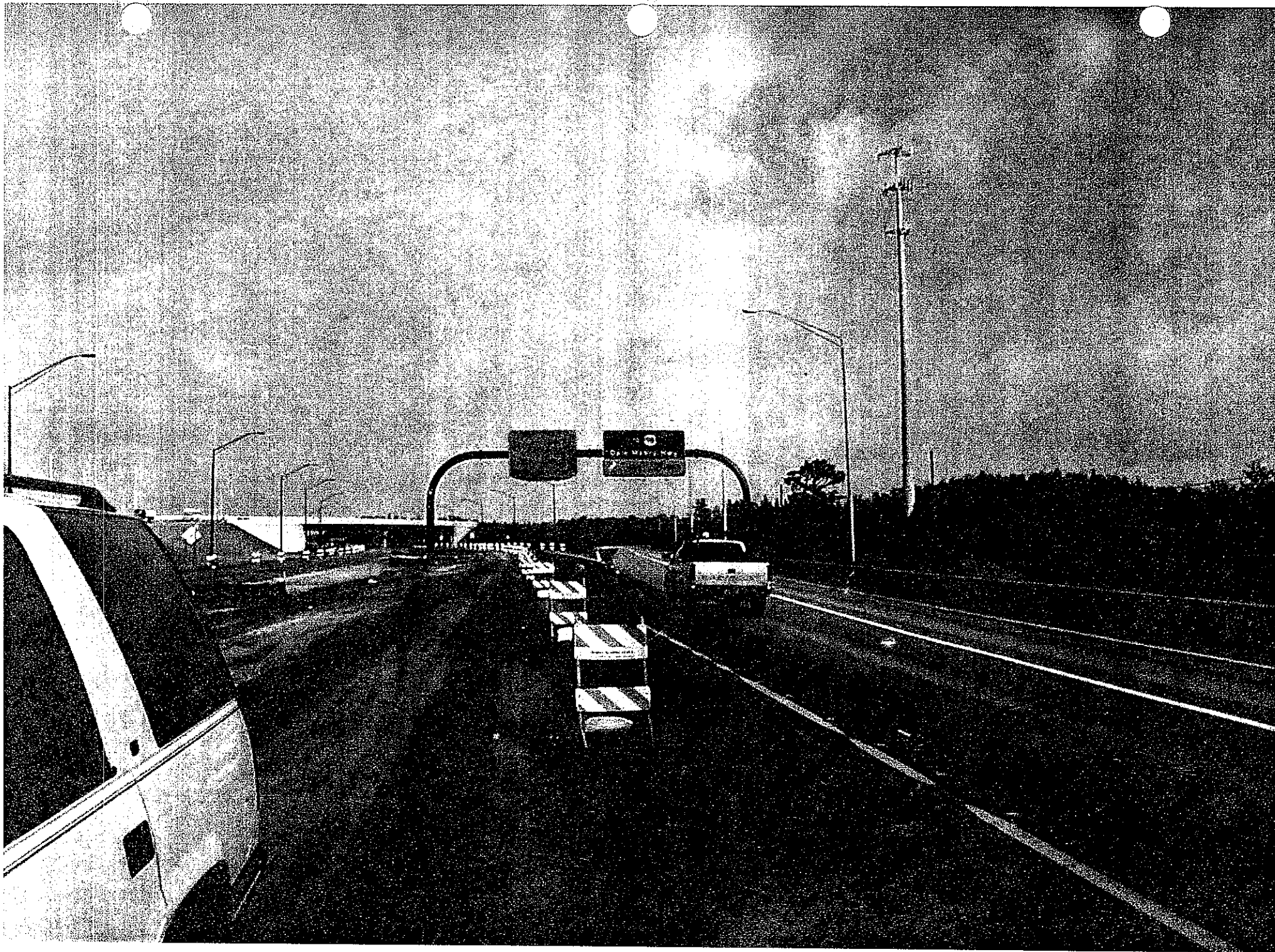
I-275/I-4 INTERCHANGE



Existing On-System Signage

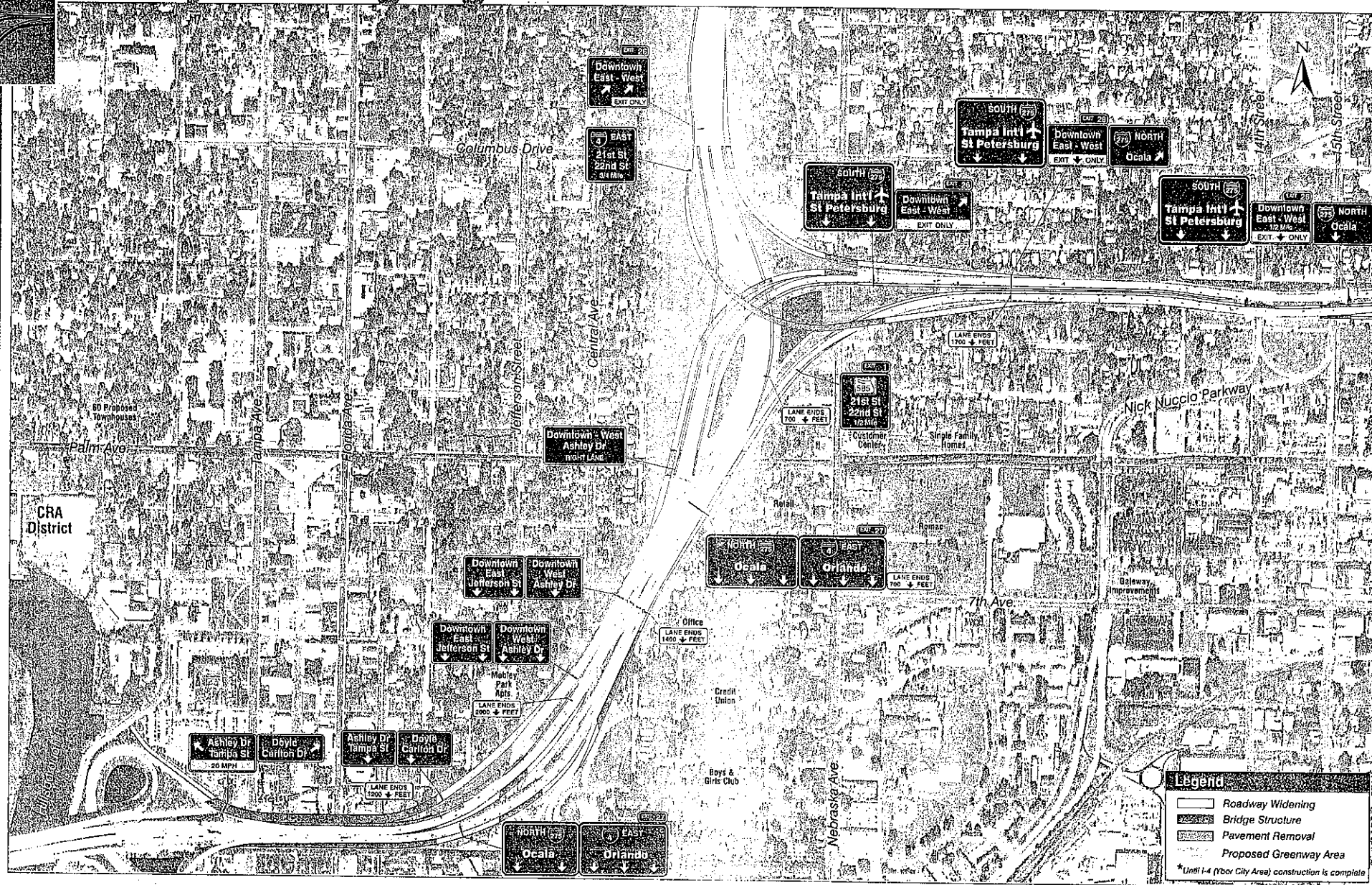


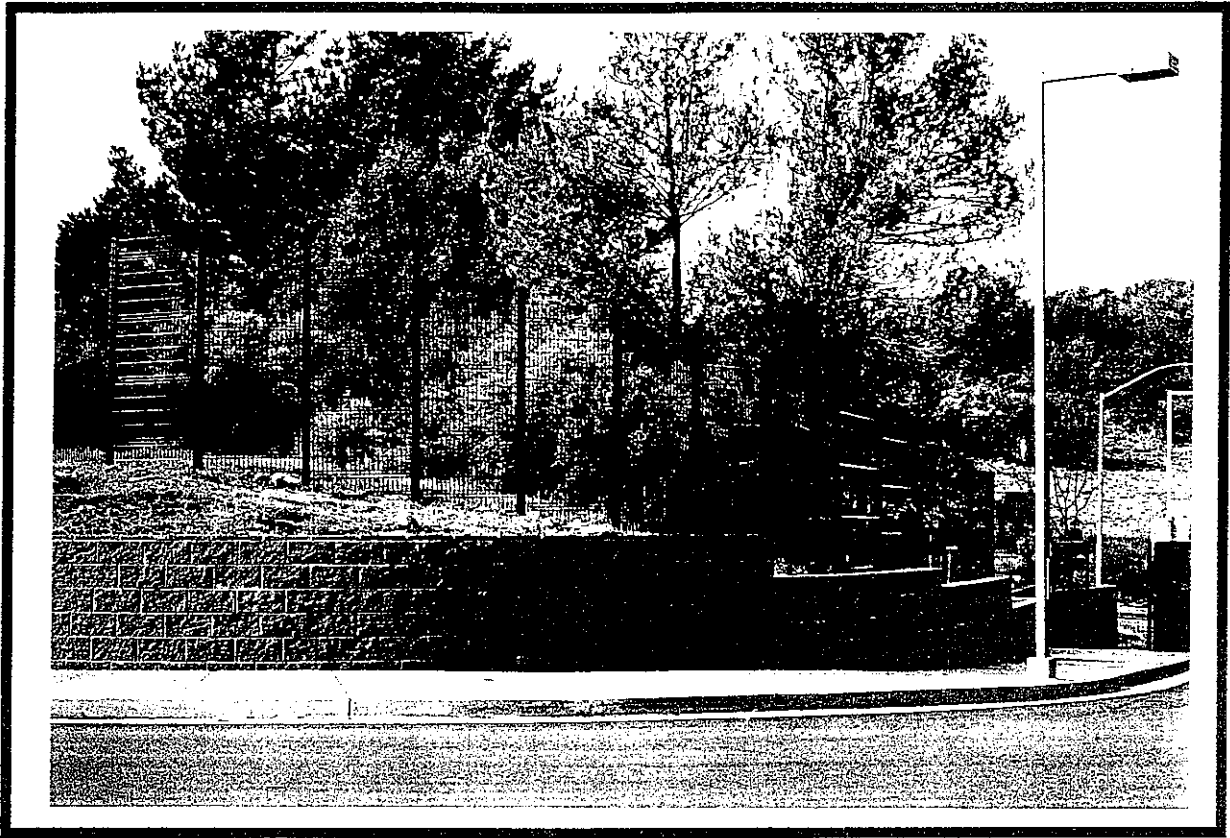
Proposed On-System Signage



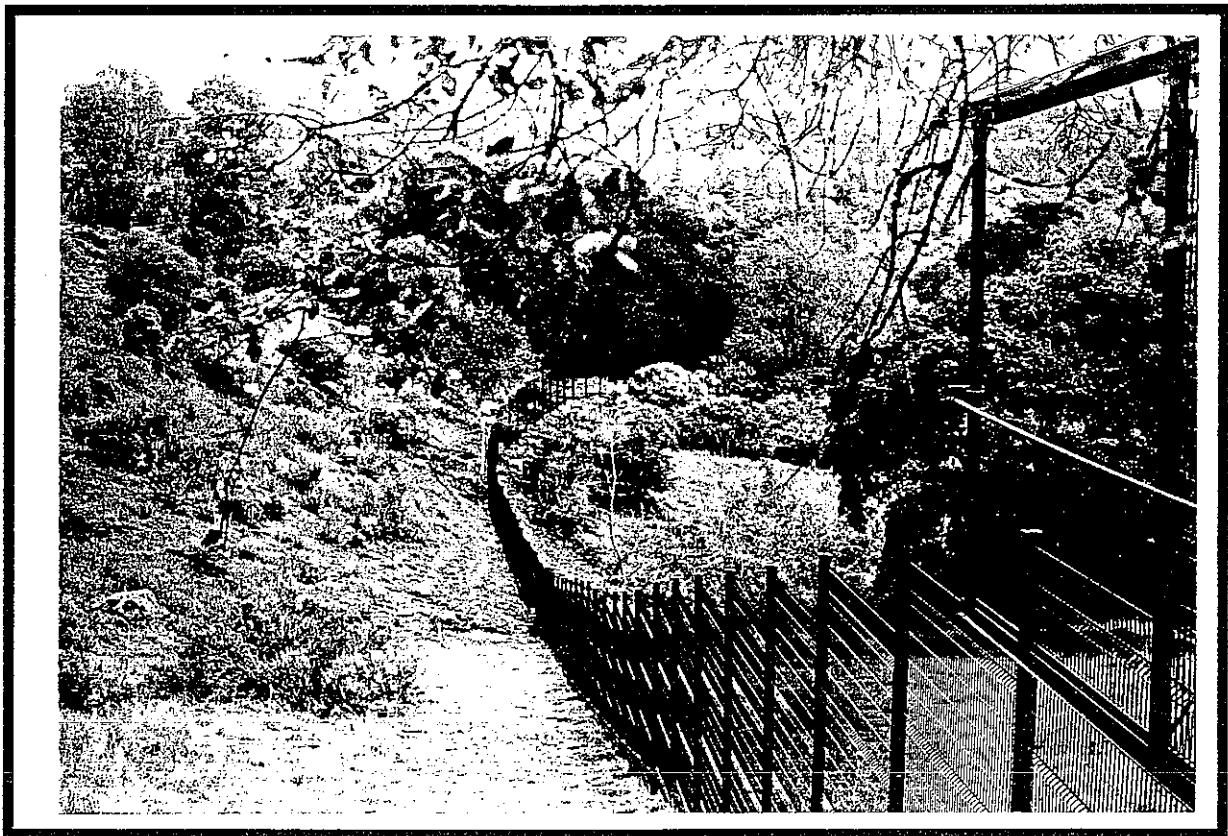
On-System Signage

I-275/I-4 INTERCHANGE

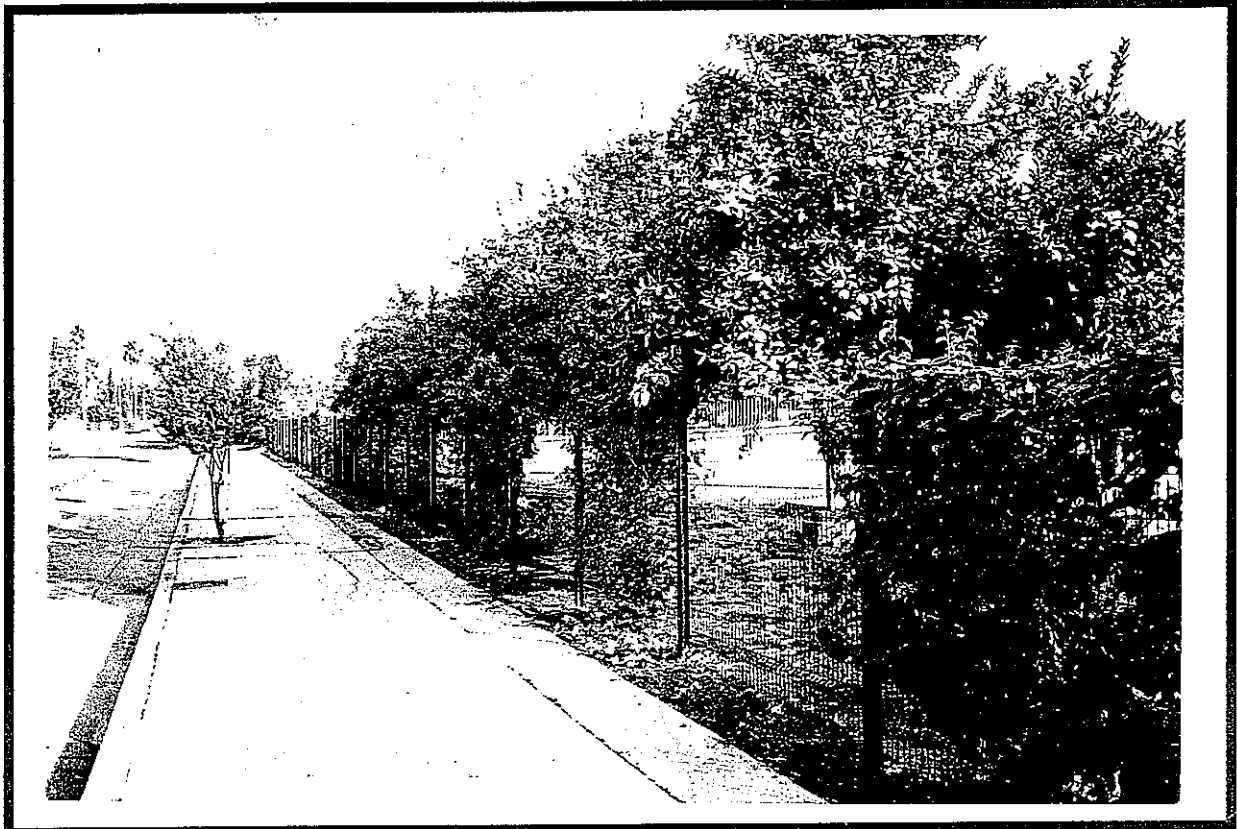




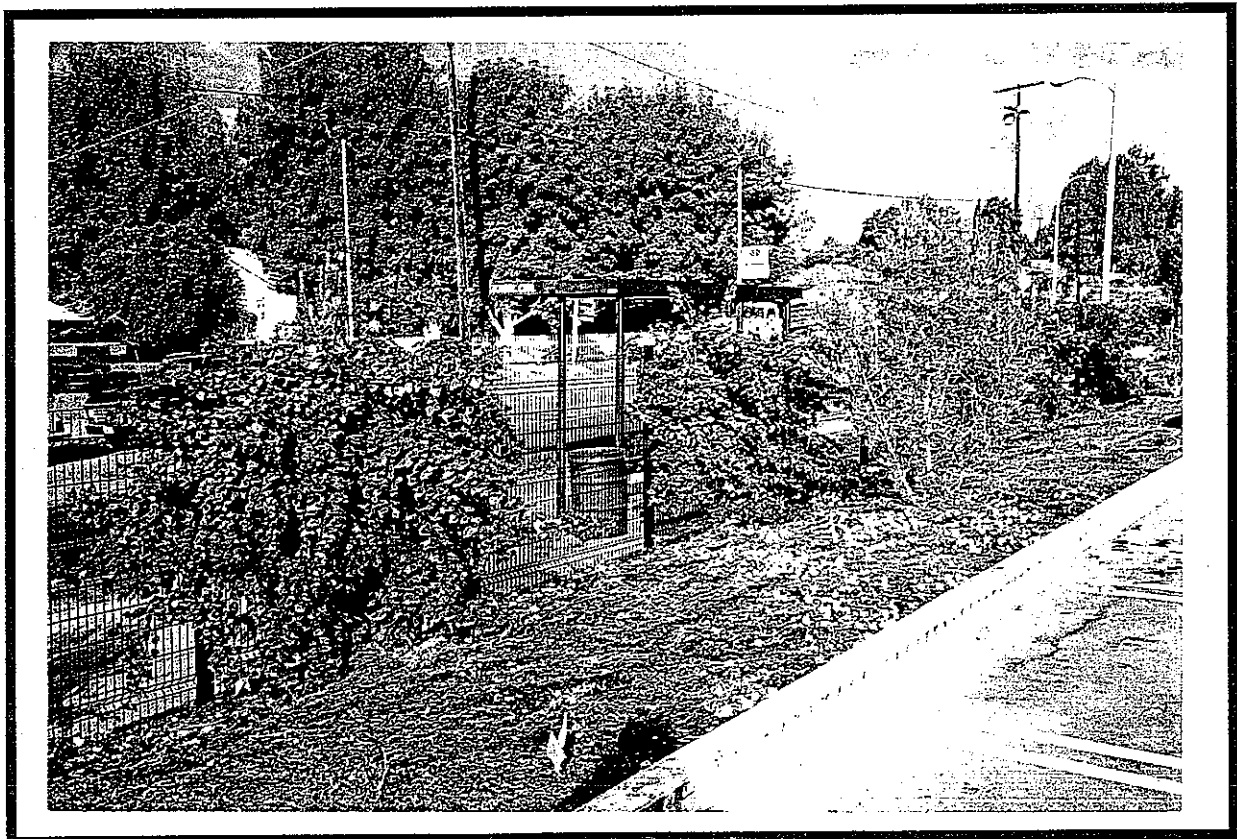
Hewlett Packard - california, U.S.



Hewlett Packard - california, U.S.



PHOENIX HOUSE



PHOENIX HOUSE



CITY OF TAMPA

Parks Department

July 5, 2001

Mr. Irwin Prescott
Florida Department of Transportation
District 7 Offices
11201 N. Malcolm McKinley Dr.
Tampa, FL 33612

RE: I-4/I-275 Downtown Interchange Schematic Planting Plans and
Underpass Analysis

Dear Mr. Prescott:

The City of Tampa Parks Department appreciates the opportunity to comment on these preliminary drawings. After a review of the schematic planting plans the Parks Department has the following comments:

1. In general, the landscape improvements are centered on the interior of the interstate, ignoring the neighborhoods adjacent to the system. The approaches to the interstate and neighborhoods should be addressed with this landscape plan where possible.
2. The proposed Holly (*Ilex cassine*) should be replaced with a different species due to sphareopsis knot problems in Holly trees. We recommend Southern Magnolia, Sweet Bay Magnolia or Red Maple.
3. The majority of groundcovers and grasses should be native plant species.
4. Irrigation in planting beds should be low volume. Trees and planting beds should be irrigated on different zones.
5. Access to each of the interchange areas for maintenance vehicles should be taken into consideration and indicated on plans.
6. Retention/detention ponds shown in the Ashley St./Downtown interchange should be wet ponds. This is the main entrance to Downtown and aesthetically this is much preferred.

We have also reviewed the Underpass analysis for this same area and have the following comments:

1. The Parks Department anticipates the continuation of the Tampa Heights Greenway from 7th Ave. south along Central Ave. and under the interstate to

Perry Harvey Park. We request that decorative lighting be continued along this route.

2. The Parks Department approves of the decorative paving proposed for under the interstate as an aesthetic solution to an otherwise unattractive area.
3. We request that any interstate slopes at these underpasses be addressed with landscaping to assist in the improved aesthetics of the area.

We look forward to working with the department on this project. Please contact Karla Price or myself at 931-2121 if you have any questions. Thank you.

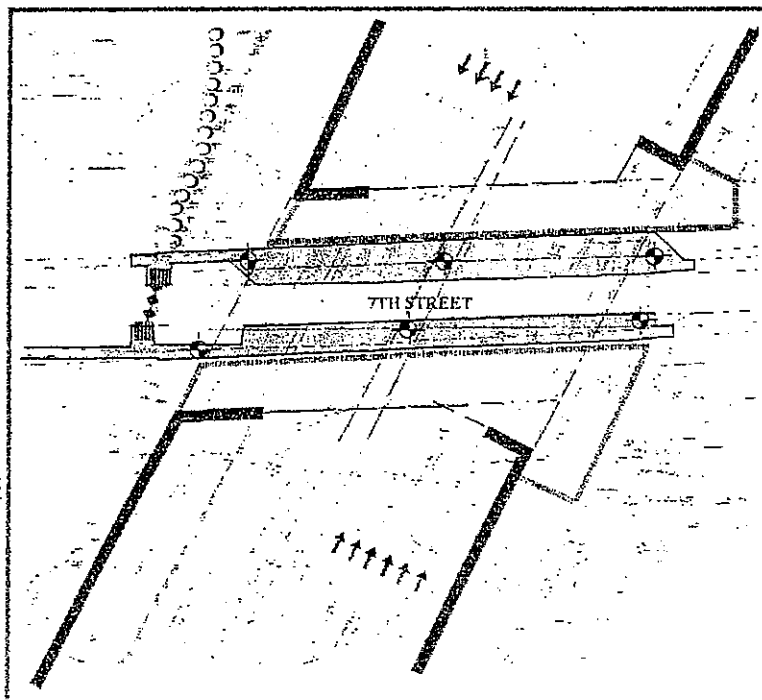
Sincerely,



Ross J. Perlita, Director
City of Tampa Parks Department

RJF/kp

Xc: Henry McGriff
Jim Valentine
Karla Price
Elaine Illes - I.P.I.
Jonathon Toner - Terra Tectonics



PROPOSED UNDERPASS AESTHETIC TREATMENTS

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

• FENCING
255 Linear Meters
• LIGHTING
6 Light Fixtures
• PAVING
1225 Square Meters
1 Crosswalk

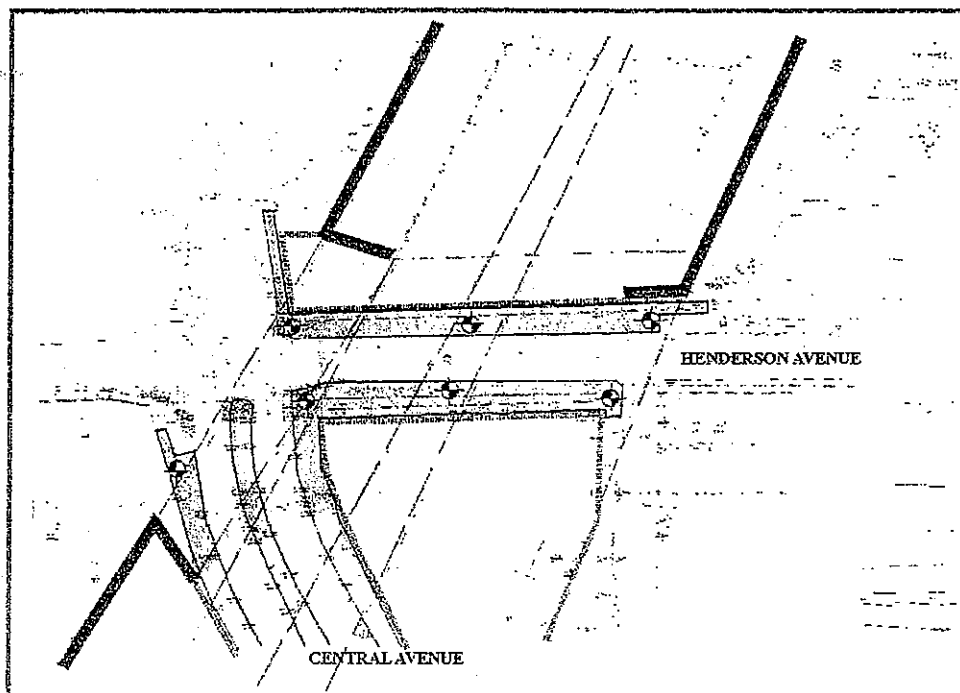
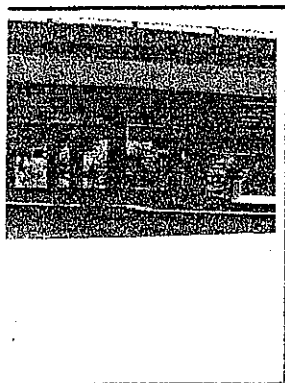
TDT UNDERPASS ANALYSIS—7TH STREET

CHANGE PROJECT

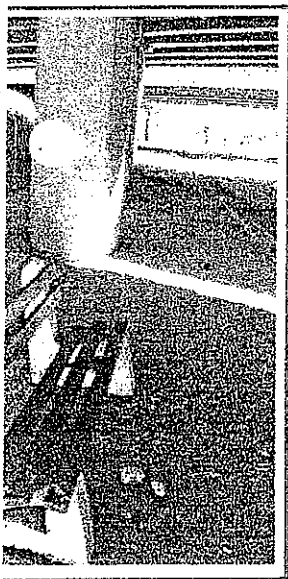
ECT# 11228616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida
March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



PROPOSED UNDERPASS AESTHETIC TREATMENTS



LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

HARDSCAPE ITEMS

FENCING

145 Linear Meters

LIGHTING

7 Light Fixtures

PAVING

822 Square Meters

TID UNDERPASS ANALYSIS—HENDERSON AVENUE

STING BUS STOP
MARCH 26, 2001

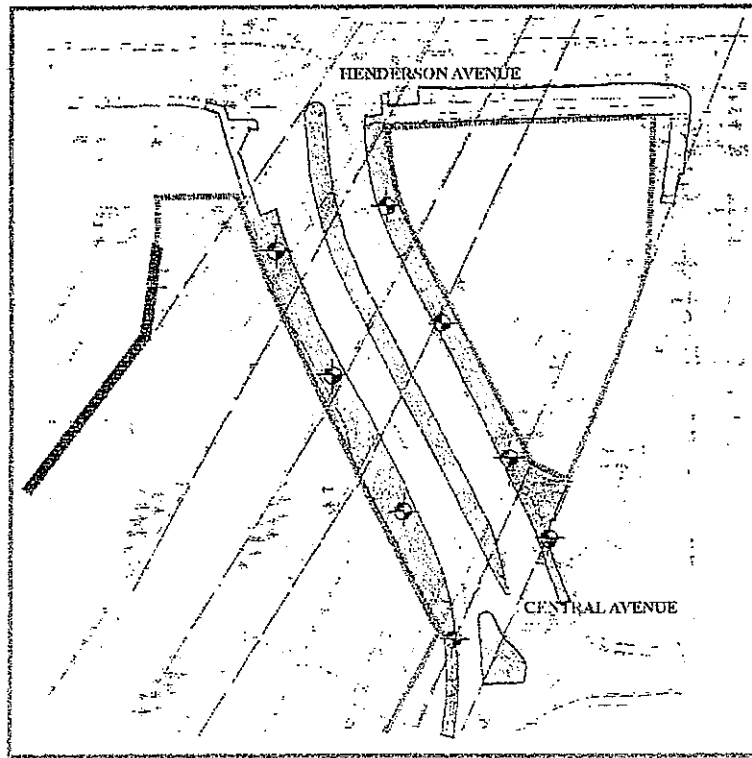
INTERCHANGE PROJECT

7 KCA PROJECT # 1199616.00 TERRA TECTONICS PROJECT #: 00-346

Tampa, Florida

March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campo & Associates Corp.



PROPOSED UNDERPASS AESTHETIC TREATMENTS

LEGEND

	- CROSSWALK PAVING
	- DECORATIVE FENCING
	- PROPOSED GREENWAY TRAIL
	- CROSSWALK STRIPING
	- DECORATIVE LAMP POST
	- DECORATIVE PAVING

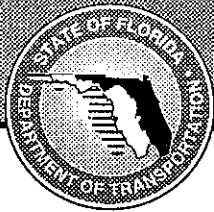
HARDSCAPE ITEMS

- FENCING
340 Linear Meters
- LIGHTING
8 Light Fixtures
- PAVING
1504 Square Meters

INTERCHANGE PROJECT

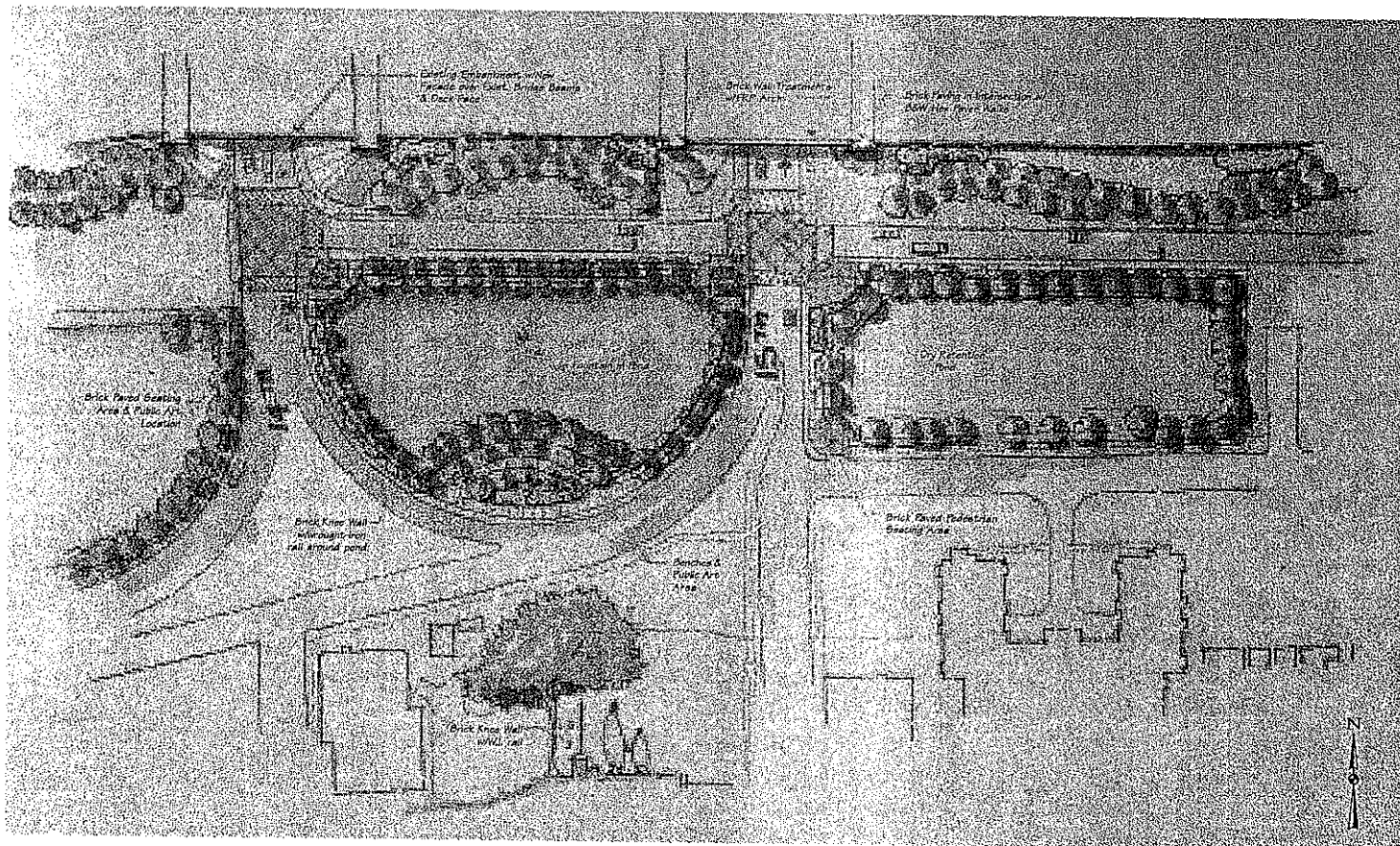
Tampa, Florida
March 26, 2001

Terra Tectonics design group international, inc.
Urban Designers—Landscape Architects
for: Kissinger Campa & Associates Corp



Urban Design Treatments

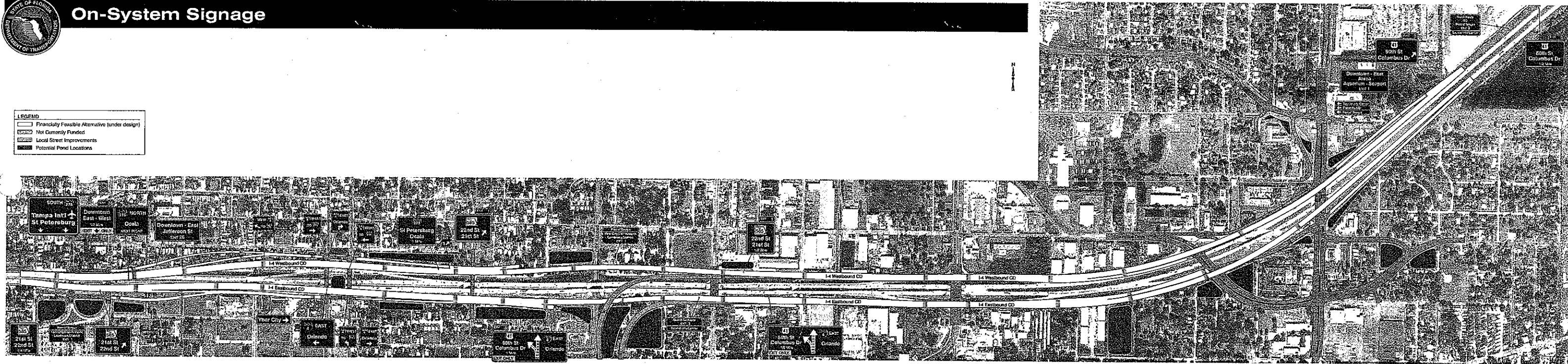
South Side - 14th/15th Street





On-System Signage

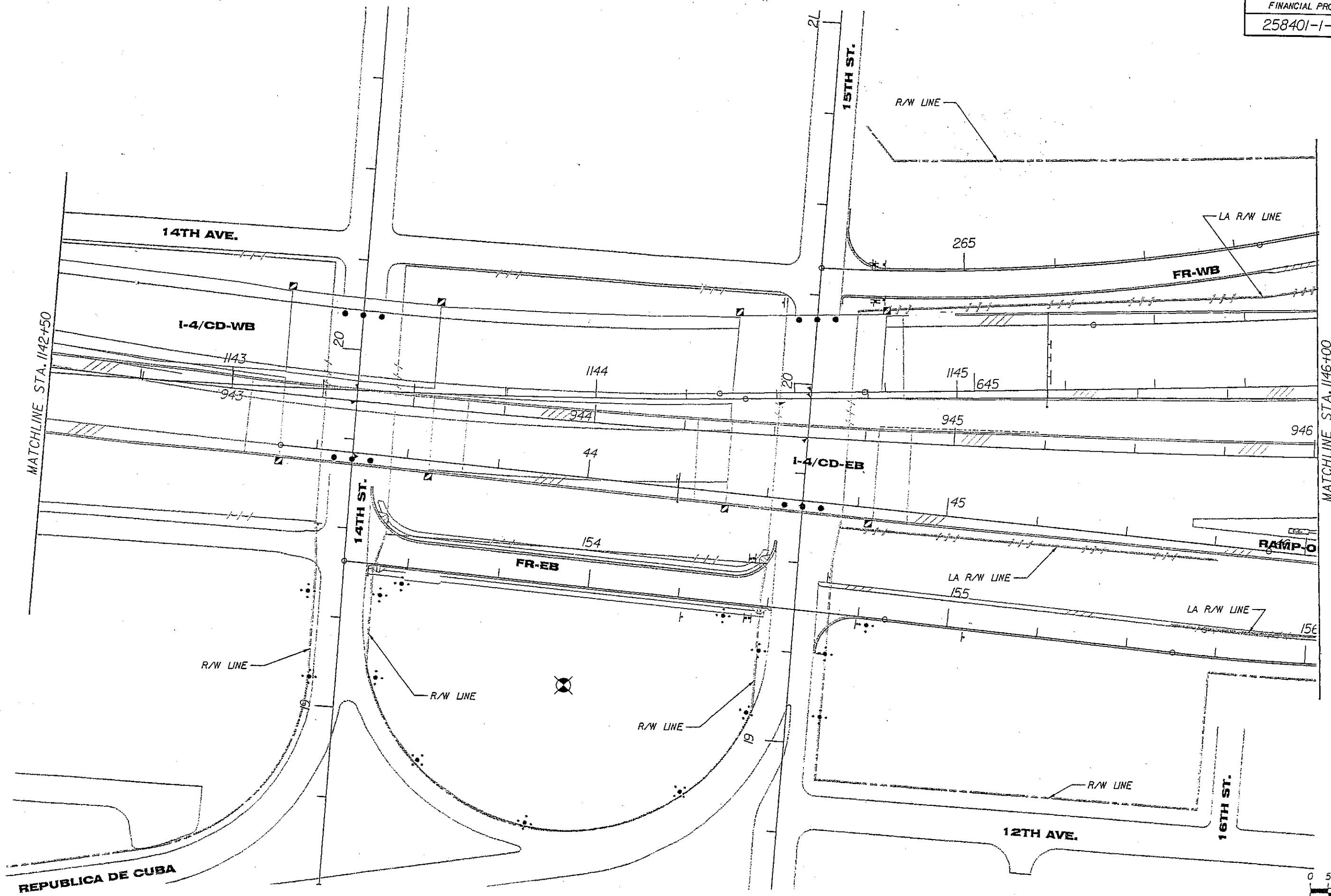
LEGEND	
	Financially Feasible Alternative (under design)
	Not Currently Funded
	Local Street Improvements
	Potential Pond Locations



DESIGN FILE LOCATION: h:\14sect3\stogel\Lighting\pldt\temp.dgn PLOT DATE: 7/6/01 PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\copy of pldt\temp.plt

CHECKED BOXES UTILIZED IN PLAN PACKAGE		SYMBOL	LEGEND DESCRIPTION
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<input checked="" type="checkbox"/>			150 WATT HIGH PRESSURE SODIUM LUMINAIRE DESIGNED FOR MEDIUM CUTOFF TYPE II DISTRIBUTION (G.E. "DECASHIELD" PHOTOMETRIC I.D. 27955.JES OR EQUAL). REGULATOR TYPE BALLAST WIRED FOR 480 VOLT OPERATION. SHOULDER MOUNT, MOUNTING HEIGHT 8.0 METERS. SHOULDER MOUNT INCLUDES CONCRETE SLAB AND ADJACENT PULL BOX, PAID FOR SEPARATELY.
<input checked="" type="checkbox"/>			DOWN LIGHTING ON BEAM UNDER ARCH.
<input checked="" type="checkbox"/>			FOUNTAIN PUMP VAULT
<input checked="" type="checkbox"/>			TOWER SCONCES

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REVISIONS

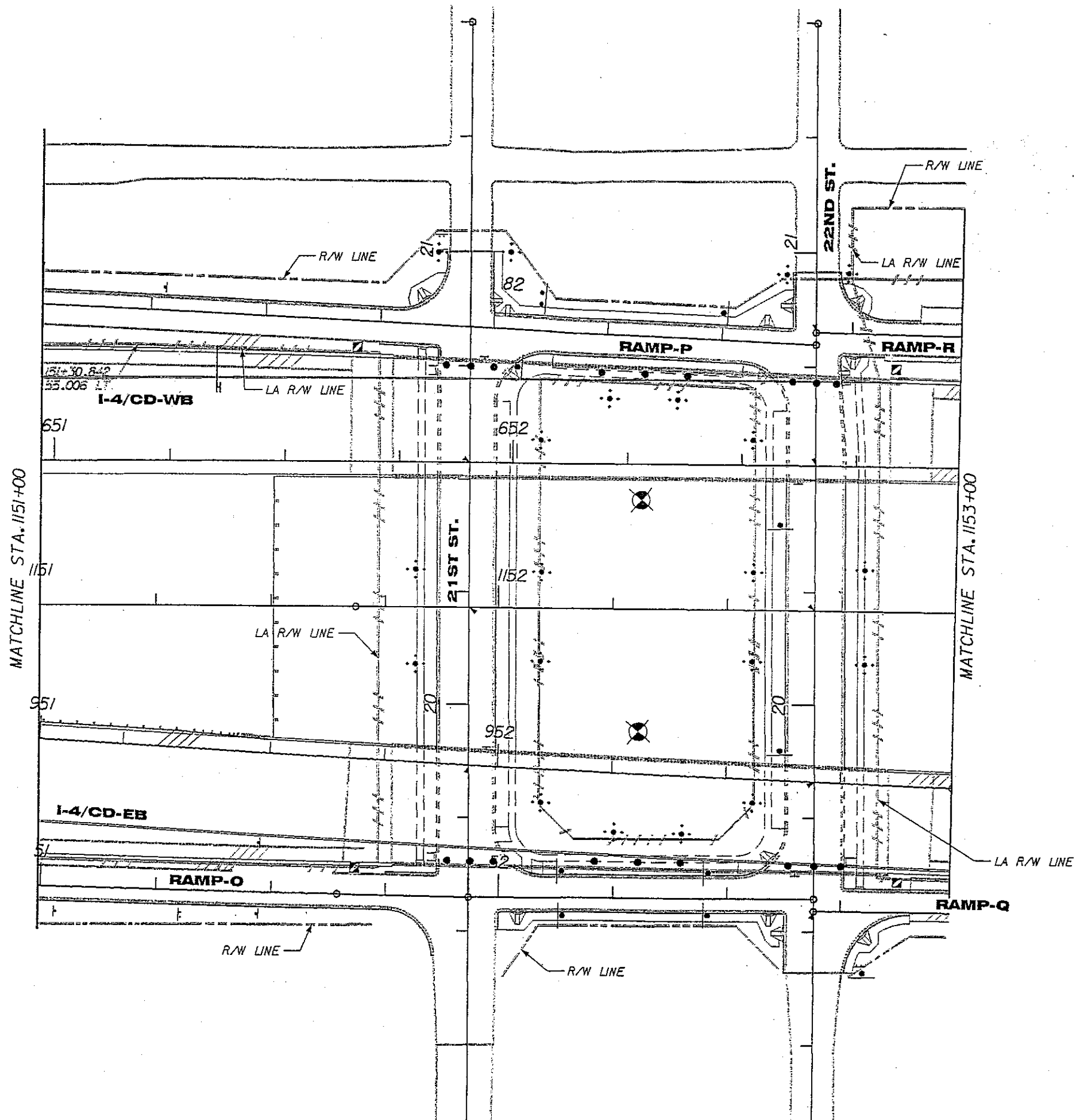
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF
TRANSPORTATION
APPROVED BY :
DATE :



ROADWAY LIGHTING PLAN (2)
I-4 (S.R. 400)
STA. 1142+50 TO STA. 1146+00

DESIGN FILE LOCATION: h:\14sect3\stopel\Lighting\plan14a.dgn PLOT DATE: 7/5/01 PLOT FILE NAME: G:\PLOTTERS\HPB000\MICRO\Copy of plan14a.prf



REVISIONS

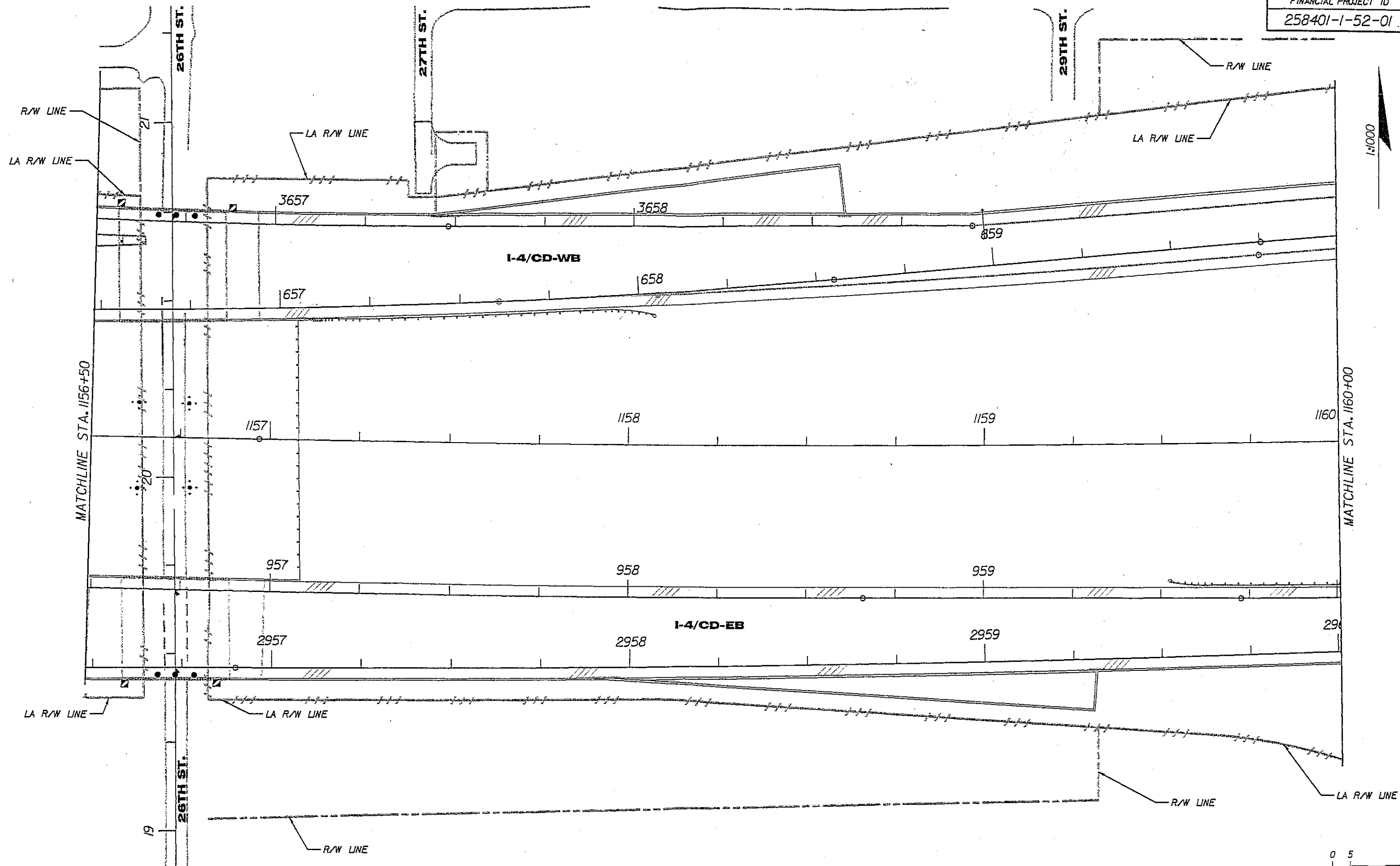
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF
TRANSPORTATION
APPROVED BY :
DATE :



ROADWAY LIGHTING PLAN (4A)
I-4 (S.R. 400)
STA. 1149+50 TO STA. 1153+00

DESIGN FILE LOCATION: h:\4sect3\stapel\Lighting\plan106.dgn PLOT DATE: 7/5/01 PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\COPY of plan106.prf



REVISIONS											
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FLORIDA DEPARTMENT OF
TRANSPORTATION

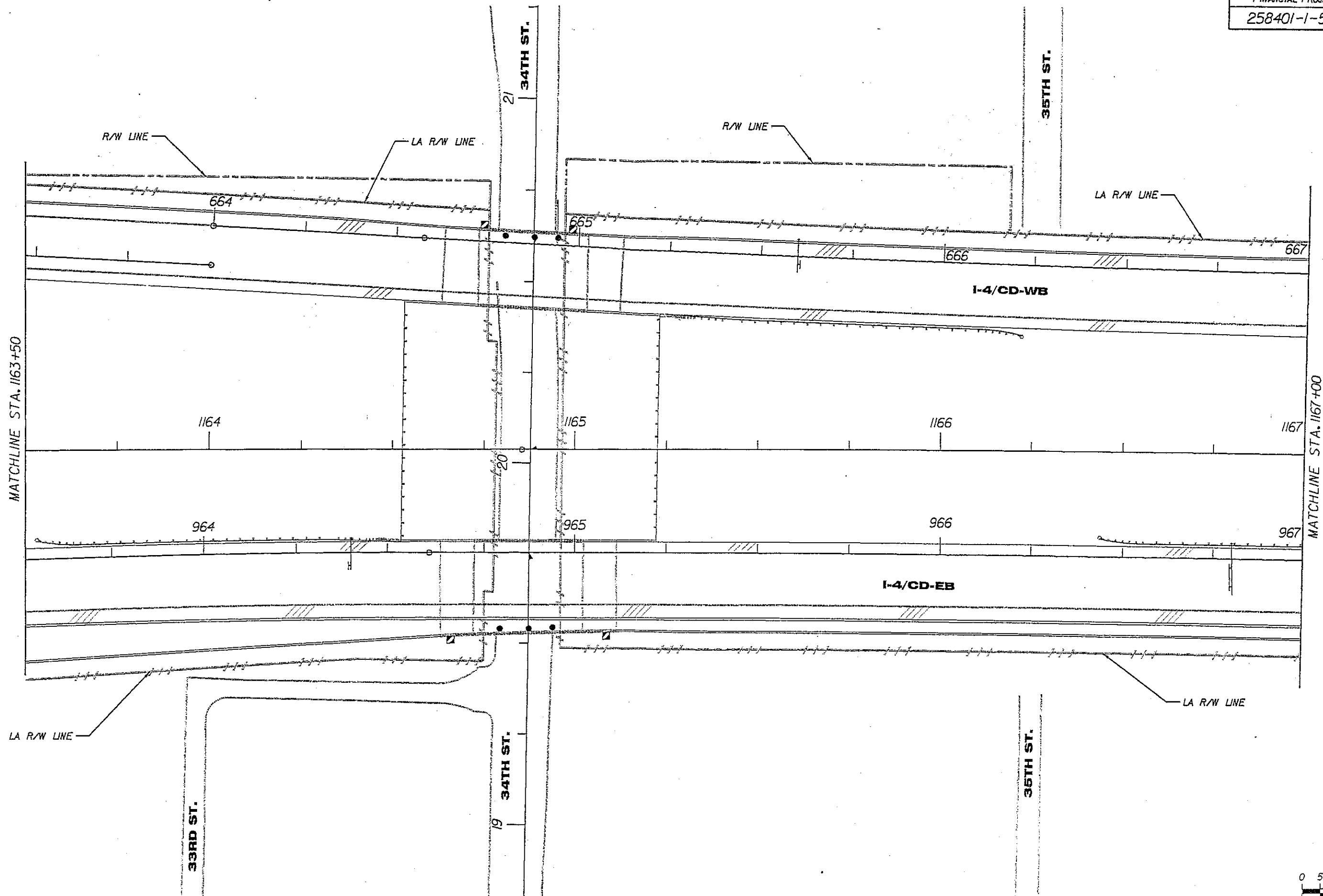
APPROVED BY :

DATE :



ROADWAY LIGHTING PLAN (6)
I-4 (S.R. 400)
STA. 1156+50 TO STA. 1160+00

DESIGN FILE LOCATION: h:\14sect3\stogel\Lighting\plan108.dgn PLOT DATE: 7/5/01 PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\Copy of plan108.plt



REVISIONS

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FLORIDA DEPARTMENT OF
TRANSPORTATION
APPROVED BY :
DATE :

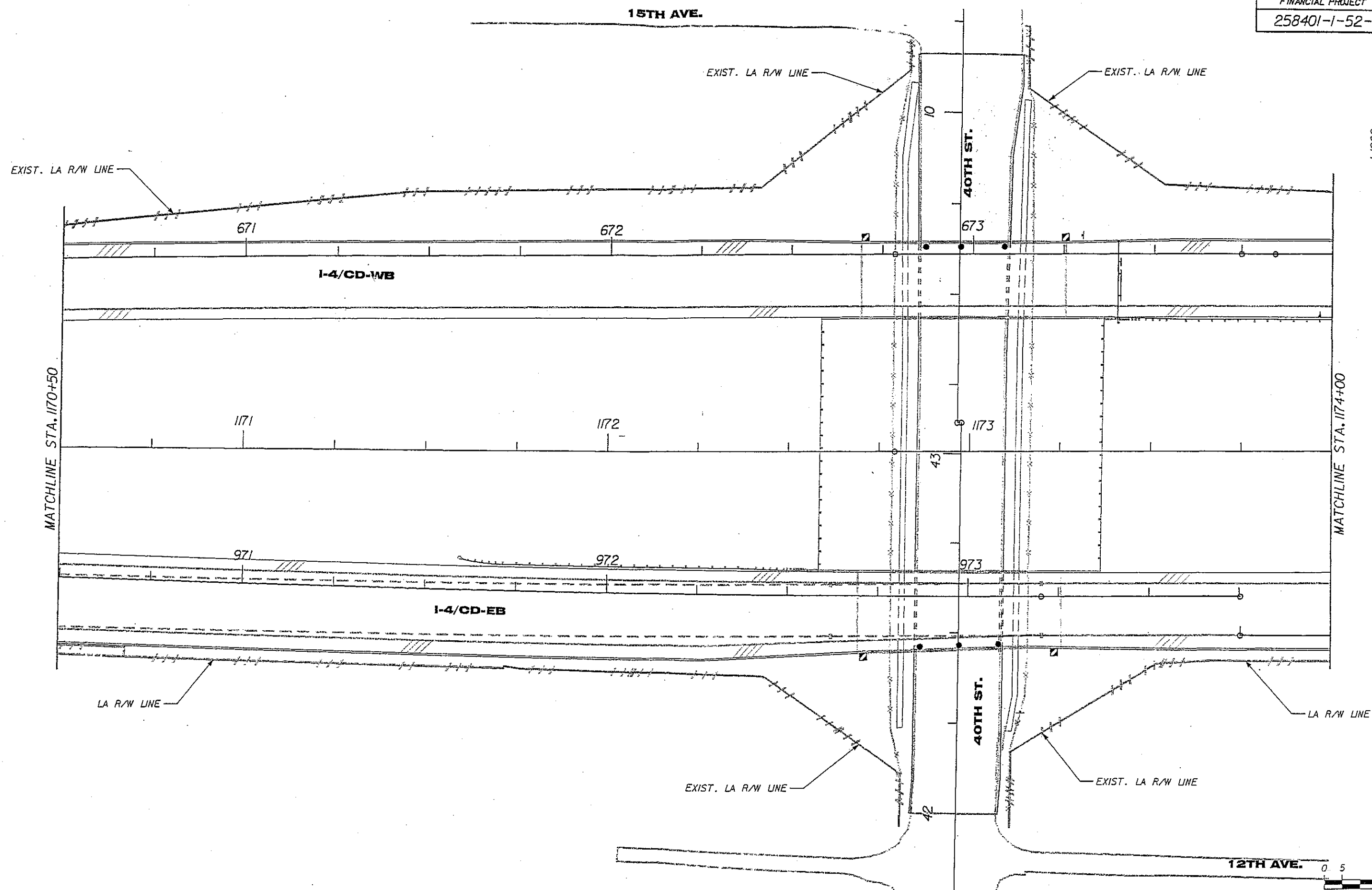


ROADWAY LIGHTING PLAN (B)
I-4 (S.R. 400)
STA. 1163+50 TO STA. 1167+00

DESIGN FILE LOCATION: h:\14sect3\sta001\Lighting\plan110.dgn

PLOT DATE: 7/6/01

PLOT FILE NAME: G:\PLOTTERS\HP8000\MICROCOPY of plan110.prt



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

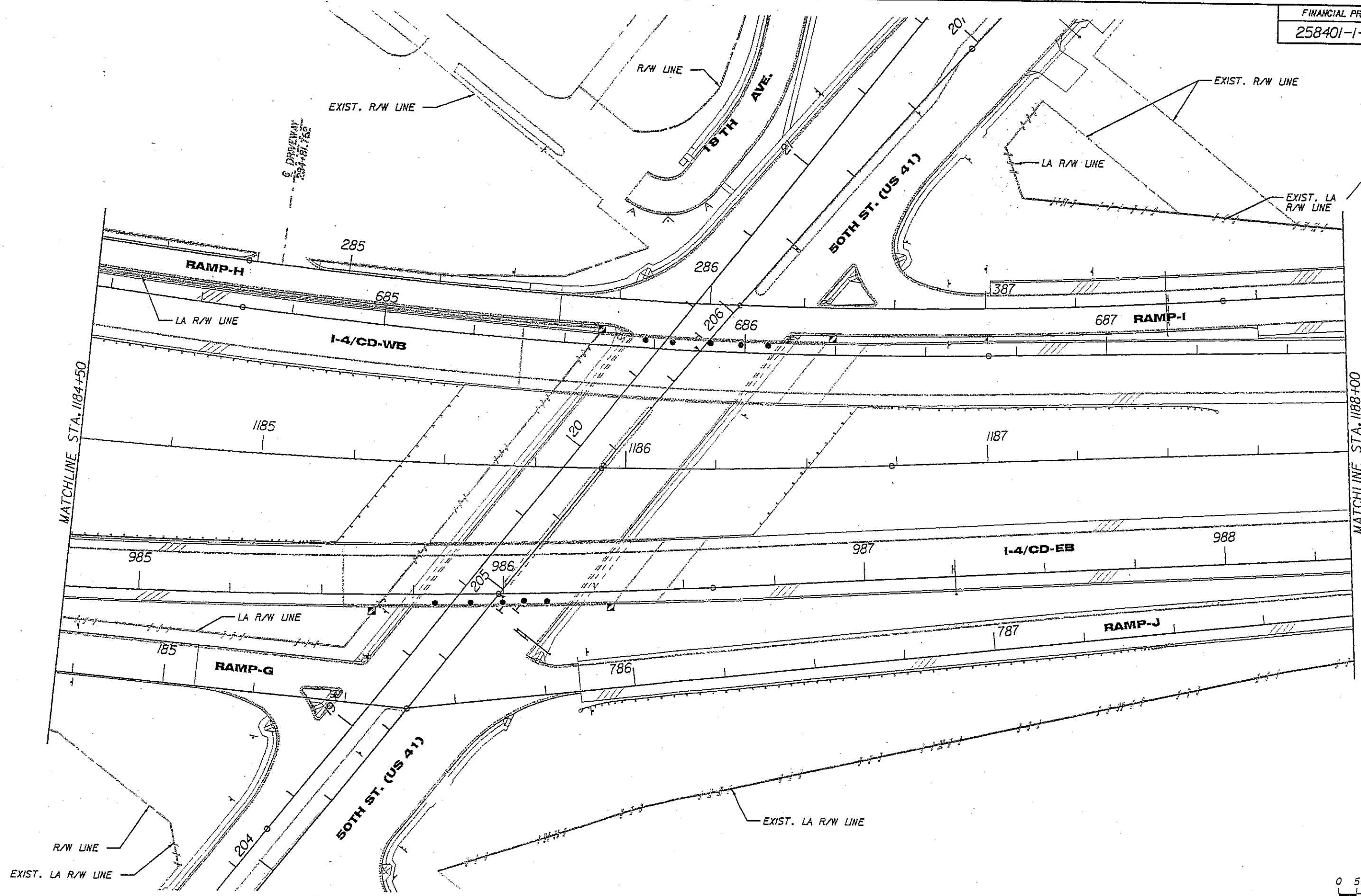
FLORIDA DEPARTMENT OF
TRANSPORTATION
APPROVED BY :
DATE :



ROADWAY LIGHTING PLAN (10)
I-4 (S.R. 400)
STA. 1170+50 TO STA. 1174+00

DESIGN FILE LOCATION: h:\14sect3\stage1\Lighting\plan114.dgn PLOT DATE: 7/6/01 PLOT FILE NAME: G:\PLOTTERS\HP8000\MICRO\Copy of plan114.pr1

FINANCIAL PROJECT ID	SHEET NO.
258401-1-52-01	L-20



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY :



ROADWAY LIGHTING PLAN (14)
I-4 (S.R. 400)

**TAMPA INTERSTATE STUDY
DRC COORDINATION MEETING
September 11, 2001**

I. Color Pallet

A. Light Poles and Fixtures

1. Interstate Mongoose Light
2. Off-system shoe box in Segment 3B

B. Sign Posts and backs of Signs

C. Retaining Walls and Noise Walls

1. Stain
2. Anti-graffiti coating
3. Steel Beams

D. Bricks

1. Ybor Vertical walls (structure area and knee walls)
2. West Tampa Vertical walls
3. Street – Pedestrian Crosswalks

II. DTI Schedule - Prescott

A. Hardscape submittals - Toner

B. Noise wall details - Drapp

C. Retaining wall and Noise wall texture – Toner

D. Acquisition/ Greenway/ Landscape Meeting with Tampa Heights - Illes

III. Maintenance Agreements

A. Landscape –Simpson

B. Fencing / Street Furniture/ Fountains – Stair

C. Lighting – Acosta/ Illes

D. Brick Streets/Pavers – Illes

IV. Next Meeting

A: DRC invitation
Sept 11

July 27, 2001

MEMORANDUM

To: ✓ Jose Rodriguez, FDOT
✓ Megan Arasteh, FDOT
✓ Steve Malecki, PBSJ
✓ Jonathan Toner, Terra Tectonics
✓ John Simpson, FDOT
✓ Wilson Stair, City of Tampa
✓ Mike Callahan, Hillsborough County
✓ Jane Burner, URS

Cc: Irwin Prescott, PBSJ
Jim Drapp, KCA

From: Elaine C. Illes

Reference: DRC Color Coordination Meeting

A follow-up meeting to the August 15th Design Review Committee Coordination Meeting is scheduled for **September 11, 2001** at the offices of Terra Tectonics at 2011 Cleveland Street, Suite E. The meeting is scheduled to begin at 1:30 p.m. and is anticipated to run till 3:00 or 3:30 p.m.

Please come prepared to make final decisions on the color of retaining walls, noise walls, brick, light fixtures and poles, sign supports and backs of signs. See you there!

**TAMPA INTERSTATE STUDY
AESTHETIC DESIGN COORDINATION MEETING**

NOVEMBER 6, 2001

- I. Summary if Specific Agreed Upon Elements
- II. Downtown Interchange
 - A. Landscape – Toner
 - B. Hardscape – Toner
 - C. Tampa Heights follow-up Meeting – Illes
- III. I-4, 14th Street to 50th Street
 - A. Landscape Schedule and Plant Material
 - B. Outstanding Hardscape Issues – Illes
 - C. Timing for Public Art – Discussion
- IV. Links 1,2 & 3 – Melecki, Burner, Howell
 - A. Landscape Schedule and Budget
 - B. Landscape locations and plant Materials
 - C. Irrigation coordination with City of Tampa to date
 - 1. Type of Irrigation
 - 2. STAR Project/ Reclaimed Water
 - D. Hardscape Opportunities? Budget?
 - E. Art and Public Places Opportunities?
- V. Issues Previously Identified that Need Follow-up
 - A. Bike Trail - Malecki
 - B. Landscaping that Considers Bird/Plane Conflict – Burner
 - C. Westshore Signing Development/ Logo – Howell

Elaine Illes

From: Hoffman, Howard L. [Hoffmanh@pbworld.com]
Sent: Thursday, November 08, 2001 10:44 AM
To: 'Elaine Illes'; 'Jonathan H. Toner, ASLA'
Cc: Balsamo, Frank; Neemeh, Abe
Subject: FW: Invitation: DRC - Landscape Meeting (Nov 21 09:00 AM EST in D7 Executive Conference Room/District 7- Headquarters)

Elaine/Jon: I need you to attend to meeting to represent I-4. E - it would be good if you and Jon could have the memo we discussed together summarizing all the DRC meeting decisions.

Frank/Abe: Your attendance is optional, but Frank, you may want to represent your interests at the meeting.

—Original Message—

From: sherri.godwin@dot.state.fl.us
[mailto:sherri.godwin@dot.state.fl.us]
Sent: Wednesday, November 07, 2001 5:00 PM
To: bijan.behzadi@dot.state.fl.us; dick_jarrett@urscorp.com; Hoffman, Howard L.; ipinc@gte.net; irwin.prescott@dot.state.fl.us; jedrapp@kcaeng.com; john.simpson@dot.state.fl.us; jose.rodriguez@dot.state.fl.us; megan.arasteh@dot.state.fl.us; pckelliher@pbsj.com; ron.glass@dot.state.fl.us; stephan_heimburg@urscorp.com
Subject: Invitation: DRC - Landscape Meeting (Nov 21 09:00 AM EST in D7 Executive Conference Room/District 7- Headquarters)

Meeting to finalize the DRC issues for the Downtown Interchange and I-4, as well as a systemwide discussion for I-275 and Links 1. In addition to those copied above, please have Elaine Illes at IPI, Jim Drapp at KCA, Howard Hoffman at PBQD, Pete Kelliher at PBSJ, Dick Jarrett and Stephan Heimburg at URS, Wilson Stair at the City of Tampa, and Mike Callahan at Hills Co. The consultants should make sure their landscape architect/urban design consultants are present.

Items to be discussed / finalized are:

- 1) Decisions on the wall color/material (stucco/brick and colors)
- 2) coping
- 3) fascia
- 4) sign poles
- 5) sign backs

- 6) light poles and heads
- 7) fences
- 8) Noise walls / barrier walls
- 9) Sidewalks
- 10) street crossings
- 11) water features
- 12) local street lighting / enhancements
- 13) any other items not noted here but discussion needed

We need to wrap up all the DTI and I-4 issues with some sort of formal concurrence/acceptance. We also need to determine which items are to be systemwide and applied to all other jobs so that direction can be distributed officially by the Department. I also want everyone still in the design effort to get a clear understanding of the DRC process and requirements, and John Simpson, DRC chair, will outline that.

AGENDA

Interstate DRC Update Meeting

- I. Who is the DRC?
- II. What criteria is being reviewed?
- III. What do they expect from consultants?
- IV. What response / action is given?
- V. System approvals vs. Project approvals

TAMPA INTERSTATE STUDY
CURRENT STATUS OF DESIGN AESTHETICS
(11/18/01)

I. Downtown Interchange

A. Landscape (\$800,000)

1. Interior Interstate Plantings
2. Greenway

B. Hardscape (\$400,000)

1. Brick paving at underpasses
2. Omega fencing throughout/ Reduced fencing*
3. Colored Retaining and Noise Walls*
4. Dental on the Barrier Wall and Noise Wall*
5. Textured Retaining Walls*

II. I-4, 14th to 50th Street

A. Landscape (\$1 Million)

1. Landscape Added to Contract/ **Waiting on NTP**
2. 30 % Concepts Reviewed by City of Tampa Parks
3. Requested an Additional 1 Million be Spent
4. 60 % Plans to be Submitted for Review in Spring 2002

B. Hardscape (\$6 Million)

1. All Details Except Pedestrian Areas and Intersections blessed by Barrio
2. **Waiting on NTP for Architect**

C. DRC Presentation for the 90% landscape/ hardscape - July 2002

III. Courtney Campbell Causeway

A. Landscape (\$1 Million)

1. Landscape Added to Contract/ **Waiting on NTP**
2. 90 % expected by March 2002

B. Hardscape (Included in Design Estimate)

1. Terraced Walls for Landscaping
2. Standard Aesthetics Package*

C. DRC Presentation for 90 % landscape – April 2002

IV. Spruce Street Interchange

A. Landscape (\$500,000)

1. Added to Contract/ Man hours Negotiated/ **Waiting on NTP**
2. Gateway to Airport was Removed and Overall Project Reduced

B. Hardscape (\$ - ?)

1. Not clear as to whether Standard Aesthetic Package has been included

C. No DRC Presentations Tentatively Scheduled

V. I-275, Hillsborough River to Himes Avenue

A. Landscape (\$1 Million)

1. 30 % Concept Plans were Displayed at the 30% Public Workshop
2. 60% Plans Expected by the end of the Year 2001

B. Hardscape (Approximately \$2 Million – included in design dollars)

1. Concepts very similar to Ybor City
2. Standard Aesthetic Package*
3. Howard / Armenia Ave Treatments shown at 30 % Public Workshop
4. Needs to Focus on Working with the Community once 60% submitted

C. DRC Presentation for 60 % landscape/ hardscape – January 2002

VI. I-275, Himes Avenue to the Howard Frankland Bridge

A. Landscape (\$1 Million)

1. Working with City of Tampa on Reclaimed Water Issue
2. Working with Westshore Alliance and COT Coordinating Area Efforts

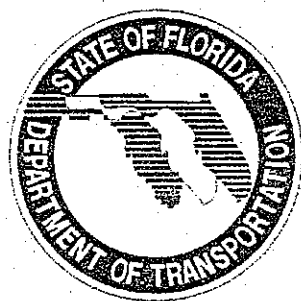
B. Hardscape (Approximately \$2 Million – included in design dollars)

1. Coordinating with Westshore Alliance/ COT
2. Brainstorming for Structures Treatment scheduled for December 2001
3. Aesthetic Presentation to Carver City/ Lincoln Gardens –January 2002
4. Includes Standard Aesthetic Package

C. DRC Presentation for 60% landscape/ hardscape – August 2002

* Standard Aesthetic Package includes the following:

- Omega fencing throughout/ Reduced fencing
- Colored 5x5 Retaining Walls and Noise Walls
- Dental on the Barrier Wall and Noise Wall
- Textured Retaining Walls
- Color Light Fixtures, Poles, Sign Supports, Backs of Signs and ITS Structures



URBAN DESIGN ELEMENTS - TIS - I-275/I-4

ITEM COLORS – MATERIALS – TEXTURES – LOCATIONS

TERRA TECTONICS design group, Inc. 813-258-4504

21-NOV-01

URBAN DESIGN ELEMENTS - TIS - I-275/I-4

ITEM COLORS - MATERIALS - TEXTURES - LOCATIONS

Terra Tectonics design group, Inc. 813-258-4504

20-Nov-01

SYSTEM-WIDE URBAN DESIGN ELEMENTS

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED-STAINED CONCRETE	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATION	NOTE - A	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
EXISTING BRIDGE BEAMS AND PILES	OUTSIDE FACE OF BEAMS & ALL EXISTING PILES AND PILE CAPS	PRESSURE CLEANED AND STAINED CONCRETE	SMOOTH GLOSSY	NOTE - A	NOTE - B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com
TRAFFIC RAILING BARRIER	ENTIRE	STAINED CONCRETE	SMOOTH CONCRETE FINISH WITH CORNICE AND DENTIL	NOTE - A	NOTE - B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com
ON-LINE SOUND WALLS AND TRANSITIONS	ENTIRE	STAINED CONCRETE	WITH CORNICE AND DENTIL	NOTE - A	NOTE - B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com
OFF-LINE SOUND WALLS AND TRANSITIONS	ENTIRE	STAINED CONCRETE	SAND FINISHED STUCCO-ON CONCRETE BLOCK, WITH BRICK COLUMNS AND PRE-CAST COLUMN CAPS	NOTE - A	NOTE - B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com
LIGHTPOLES & ITS SUPPORTS & LIGHT FIXTURE HEADS	ENTIRE	POWDERCOATED ALUMINUM	smooth glossy	COLOR: RAL-1013 SM GL TRIBO; TIGER DRYLAC USA, INC. 909-930-9100 www.tiger.at	NOTE - B	MONGOOSE LIGHT BY HOLOPHANE
BACK OF TRAFFIC SIGNS	ENTIRE	PAINTED FINISH ON ALUMINUM STRUCTURE	smooth glossy	COLOR TO MATCH: RAL 1019	NOTE - B	
SIGN SUPPORTS	ENTIRE	PAINTED FINISH ON GALVANIZED STRUCTURE	smooth glossy	color to match RAL-1013	NOTE - B	
PROPOSED STEEL BEAMS (BRIDGES)	ENTIRE	PRIMED AND PAINTED		NOTE - A		
PROPOSED CONCRETE BRIDGE BEAMS	ENTIRE	STAINED CONCRETE		NOTE - A		
EXISTING SLOPE PAVEMENT	ENTIRE	H&C-SHIELD PLUS CONCRETE STAIN		NOTE - A	NOTE - B	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com
BRIDGE FRP ARCH	SPECIFIC BRIDGES	ARCHITECTURAL FRP	SAND FINISH GEL COAT	COLOR ENTRAINED GEL-COAT TO MATCH: HC-38-P3	PART OF CONSTRUCTION SET	FLORIDA COLUMNS - SAFETY HARBOR FLORIDA

TOWER CORNICE DETAILS	SPECIFIC AREAS	ARCHITECTURAL FRP	SAND FINISH GEL COAT	COLOR ENTRAINED GEL-COAT TO MATCH: HC-38-P3	PART OF CONSTRUCTION SET	FLORIDA COLUMNS - SAFETY HARBOR FLORIDA
DECORATIVE WELDED WIRE FENCES	SPECIFIC AREAS	PAINTED FINISH FROM MANUFACTURER	smooth glossy	BLACK	WELDED GALV 6 GA STEEL; ONE PIECE MESH SHEETS ASTM A 641 (1989), CLASS I/A 185	OMEGA FENCE SYSTEMS www.omegafence.com
CHAIN-LINK FENCING	LIMITED AREAS NEAR RURAL SEGMENTS	VINYL-COATED		BLACK		
DECORATIVE BRICK PAVING -FOR WALKS AND INTERSECTIONS	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK ON CRUSHED CONCRETE BASE	SOLDIER COURSE BORDER AND BANDING, BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHWA BRICK, 4"x8"x2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8" X 8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, INC. CUSHWA PLANT WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. P.O. BOX 645 FAIRBURY NEBRASKA 68353 PH - 402-729-3323
SIDEWALK PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			NOTE - A	NOTE - B	
CROSSWALK PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			NOTE - A	NOTE - B	
INTERSECTION PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS			NOTE - A	NOTE - B	
PUBLIC ART	WITHIN ARCHITECTURAL FRP ARCH AND ALSO IDENTITY PLAQUES ON BRIDE TOWERS WITH NEIGHBORHOOD LOGO	CAST IN ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST

NOTE - A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

SPECIFIC DETAILS PERTAINING TO:

TDI - URBAN DESIGN ELEMENTS

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DETAILS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED-STAINED CONCRETE	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATION	H&C P38-SUNLIGHT	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
EXISTING BRIDGE BEAMS AND PILES	OUTSIDE FACE OF BEAMS & ALL EXISTING PILES AND PILE CAPS	STAINED CONCRETE	NA	HC-38-P3 - SUNLIGHT	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
DECORATIVE BRICK PAVING -FOR WALKS AND INTERSECTIONS	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK ON CRUSHED CONCRETE BASE	SOLDIER COURSE BORDER AND BANDING, BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHWA BRICK, 4"X8"X2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8" X 8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, INC. CUSHWA PLANT WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. P.O. BOX 645 FAIRBURY NEBRASKA 68353 PH - 402-729-3323
SIDEWALK PAVING	BROOM FINISHE CONCRETE UNLESS IN UNDERPASS AREAS - SEE PLANS FOR SPECIFIC LOCATIONS			NOTE - A	NOTE - B	
CROSSWALK PAVING		NA		NOTE - A	NOTE - B	
INTERSECTION PAVING		NA		NOTE - A	NOTE - B	
PUBLIC ART		NA	CAST IN ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST

NOTE - A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

SPECIFIC DETAILS PERTAINING TO:

I-4 YBOR CITY HISTORIC DISTRICT

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWINGS AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED-STAINED CONCRETE	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATION	HC-92181-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
EXISTING BRIDGE BEAMS AND PILES	14TH & 15TH STREETS - OUTSIDE FACE OF BEAMS & ALL EXISTING PILES AND PILE CAPS	STAINED CONCRETE	NA	HC-92181-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
PROPOSED STEEL BEAMS (BRIDGES)	40TH AND 50TH STREETS	PAINT OVER PRIMER	SMOOTH SATIN	COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		
PROPOSED CONCRETE BRIDGE BEAMS	14TH, 15TH, 21&22ND, 26TH, 34TH,	STAINED CONCRETE	SMOOTH SATIN	H&C COLOR # NOT YET AVAILABLE COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
DECORATIVE BRICK PAVING -FOR WALKS AND INTERSECTIONS	SPECIFIC AREAS - TBD BY LOCATION - SEE URBAN DESIGN PLANS	BRICK ON CRUSHED CONCRETE BASE	SOLDIER COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHWA BRICK, 4"x8"x2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8" X 8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, INC. CUSHWA PLANT WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. P.O. BOX 645 FAIRBURY NEBRASKA 68353 PH - 402-729-3323
DECORATIVE FENCES - PICKETT	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	PAINTED FINISH FROM MANUFACTURER	smooth glossy	BLACK	GALVANIZED WELDED STEEL 1/2" SQUARE TUBING. NO TOP SPEARS. SMOOTH TOP RAIL 2-1/2" SQ POSTS WITH BALL FINIAL	TBD
SIDEWALK PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK IN HISTORIC DISTRICT LOCATIONS; B&W HEXAGONAL PAVERS IN OTHER HISTORIC DISTRICT AREAS - OUTSIDE DISTRICT SHALL BE BROOM FINISHED CONC.	NA	NOTE - A		NA
CROSSWALK PAVING	14TH, 15TH, 21&22ND, 26TH STREETS	B&W HEXAGONAL PAVERS ON CRUSHED CONCRETE BASE IN HISTORIC DISTRICT	NA	NOTE - A		NA
INTERSECTION PAVING	14TH, 15TH 21&22ND AVE, 26TH STREETS	RECYCLED CITY OF TAMPA HISTORIC BRICK		NOTE - A		
PUBLIC ART	14TH, 15TH, 21&22ND, 26TH, 34TH 40TH & 50TH STREETS - WITHIN ARCHITECTURAL FRP ARCH AND ALSO IDENTITY PLAQUES ON BRIDE TOWERS WITH NEIGHBORHOOD LOGO	CAST IN ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST
PUBLIC ART - NEIGHBORHOOD MARKER	15TH STREET SOUND WALL BEGINNING	BRICK AND STEEL ARCHITECTURAL MONUMENT			SEE CONSTRUCTION DOCUMENTS	

NOTE - A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

SPECIFIC DETAILS PERTAINING TO:

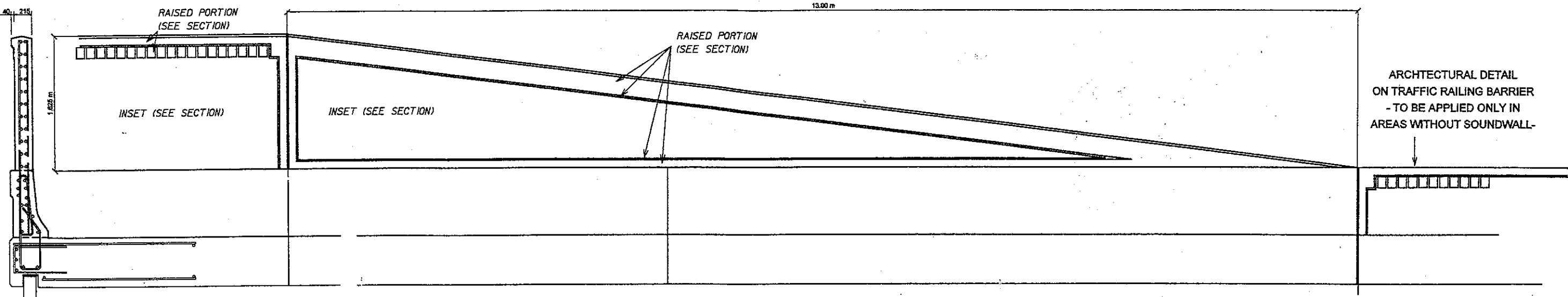
I-275-WEST TAMPA HISTORIC DISTRICT

ITEM	LOCATION	TYPE OF FINISH	TEXTURE	COLOR	DRAWING AND SPECIFICATION	MANUFACTURER
MSE WALLS	ENTIRE	FORM LINER TEXTURED-STAINED CONCRETE	FDOT-MSE-2000 TEXTURE D-1 SEE SPECIFICATION	HC-92181-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	FORM LINER: COBBLECRETE INTERNATIONAL 801-224-6662 or equal H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
EXISTING BRIDGE BEAMS AND PILES	14TH & 15TH STREETS - OUTSIDE FACE OF BEAMS & ALL EXISTING PILES AND PILE CAPS	STAINED CONCRETE	NA	HC-92181-P4 LANTERN GLOW	SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX	H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
PROPOSED STEEL BEAMS (BRIDGES)	40TH AND 50TH STREETS	PAINT OVER PRIMER	SMOOTH SATIN	COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		
PROPOSED CONCRETE BRIDGE BEAMS	HIMES, ARMENIA, HOWARD & NORTH BLVD	H&C-SHIELD PLUS CONCRETE STAIN	SMOOTH SATIN	H&C COLOR # NOT YET AVAILABLE COLOR TO MATCH GLIDDEN 25YY 57/441 'GLORIOUS'		H&C CONCRETE CARE PRODUCTS 1-800-867-8246 www.hc-concrete.com or equal
DECORATIVE BRICK PAVING -FOR WALKS AND INTERSECTIONS	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK ON CRUSHED CONCRETE BASE	SOLDIER COURSE BORDER AND BANDING. BASKET WEAVE FIELD PATTERN	FIELD BRICK: CUSHWA BRICK, 4"x8"x2-1/2" COLOR: 10-280 ROSE RED BANDING: CUSHWA BRICK COLOR #115-280 INTERSECTION SHALL BE ENDICOTT PAVER - 8" X 8" X 2-1/2" COLOR: DARK IRONSPOT	SEE ATTACHED DETAIL	REDLAND BRICK, INC. CUSHWA PLANT WILLIAMSPORT, MD 301-223-7700 ENDICOTT TILE, INC. P.O. BOX 645 FAIRBURY NEBRASKA 68353 PH - 402-729-3323
SIDEWALK PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK IN SOME LOCATIONS B&W HEXAGONAL PAVERS ON CRUSHED CONCRETE BASE IN OTHERS	NA	NOTE - A		NA
CROSSWALK PAVING	SPECIFIC AREAS - TBD BY HISTORIC DISTRICT LOCATION - SEE URBAN DESIGN PLANS	BRICK IN SOME LOCATIONS B&W HEXAGONAL PAVERS ON CRUSHED CONCRETE BASE IN OTHERS	NA	NOTE - A		NA
INTERSECTION PAVING	HOWARD AND ARMENIA	RECYCLED CITY OF TAMPA HISTORIC BRICK		NOTE - A		
DECORATIVE FENCES - PICKETT	SEE URBAN DESIGN PLANS FOR SPECIFIC LOCATIONS	PAINTED FINISH FROM MANUFACTURER	smooth glossy	BLACK	WELDED STEEL 1/2" SQUARE TUBING. NO TOP SPEARS.SMOOTH TOP RAIL 2-1/2" SQ POSTS WITH BALL	TBD
PUBLIC ART	HOWARD AND ARMENIA, N & S SIDES	CAST IN ARCHITECTURAL FRP PANEL	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST	TBD BY ARTIST
STREET FURNITURE	SPECIFIC AREAS - TBD BY LOCATION - SEE URBAN DESIGN PLANS	TBD	TBD	BLACK	TBD	TBD

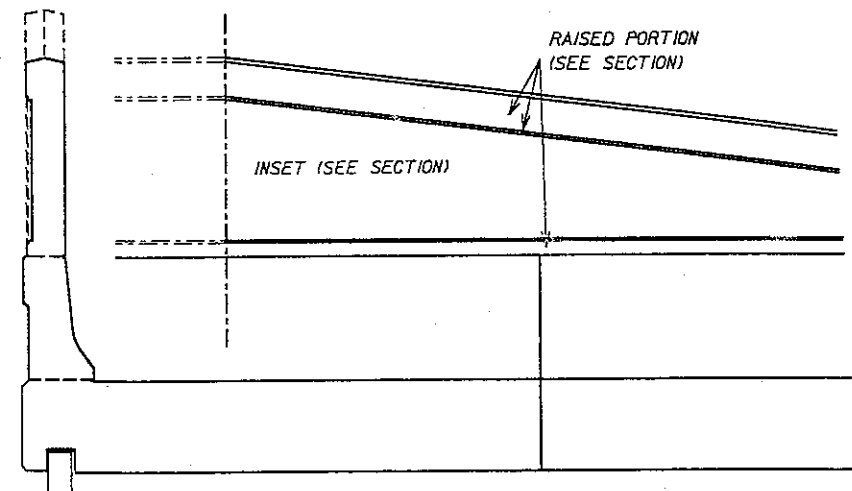
NOTE - A: SEE SPECIFIC SEGMENT LOCATIONS FOR SPECIFIC COLOR SELECTIONS

NOTE - B: SEE ATTACHED PRODUCT SPECIFICATION AND COLOR MIX

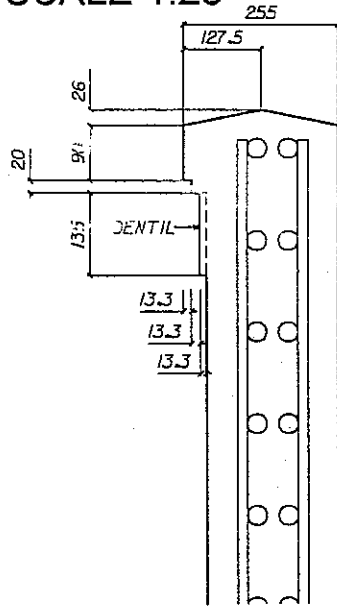
DETAIL SOUNDWALL AND TRAFFIC RAILING BARRIER , SCALE 1:100



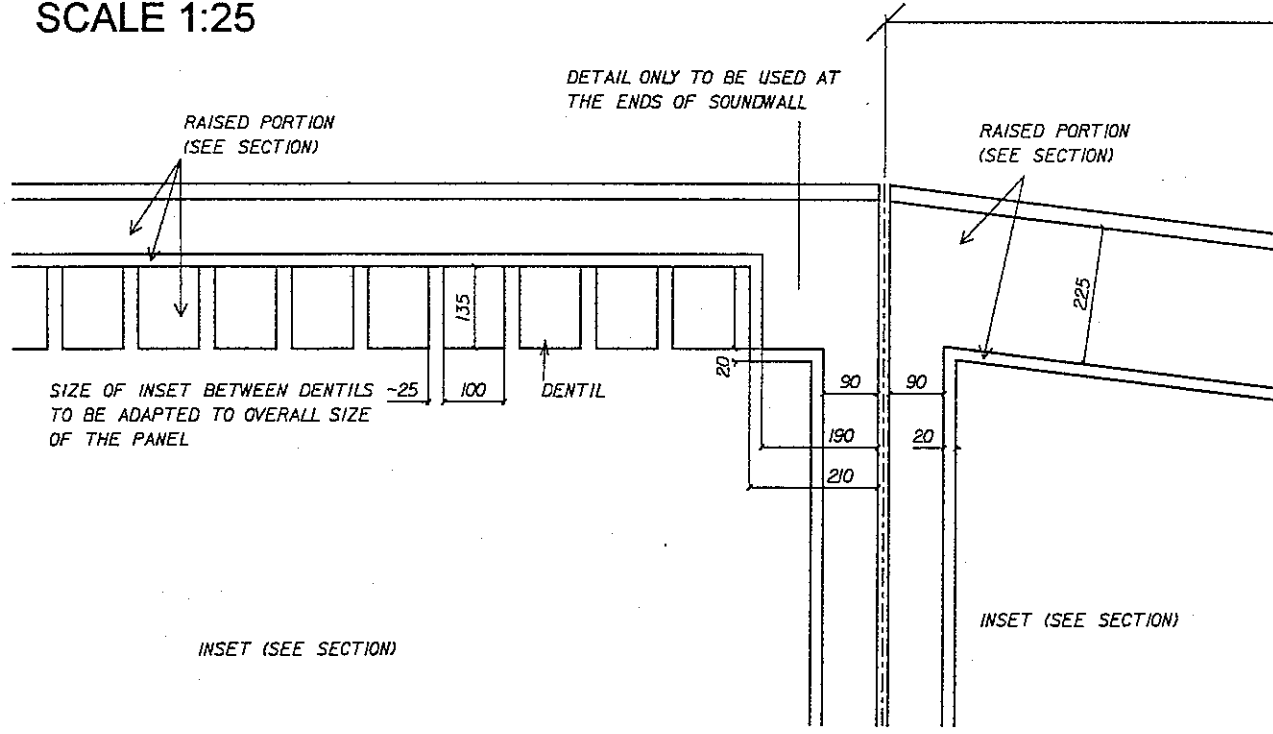
DETAIL SOUNDWALL - SLOPING AREAS, SCALE 1:100



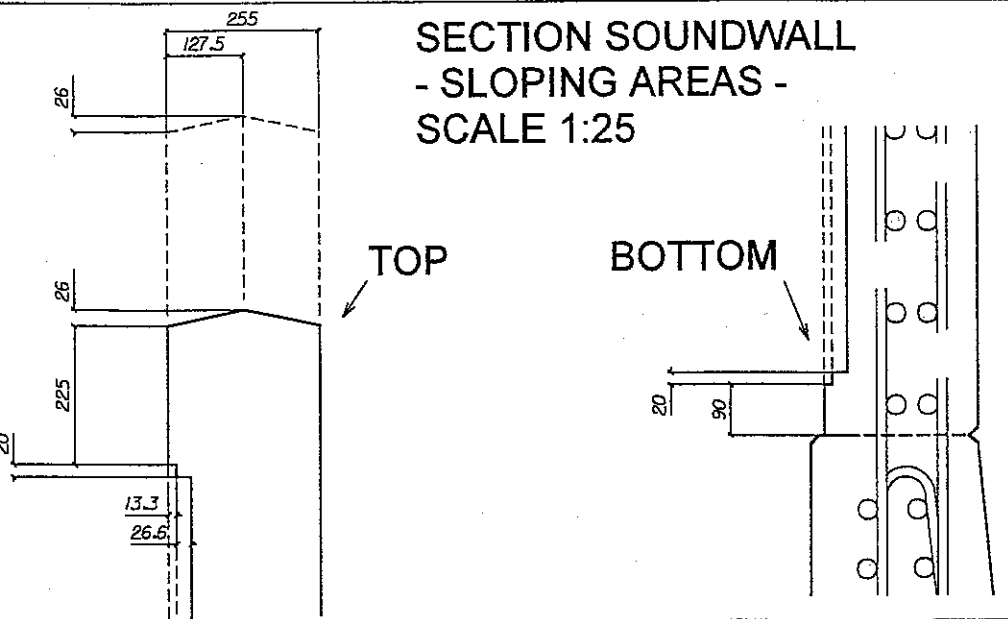
SECTION SOUNDWALL - STRAIGHT AREAS - SCALE 1:25



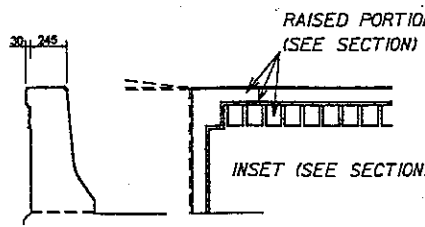
DETAIL SOUNDWALL SCALE 1:25



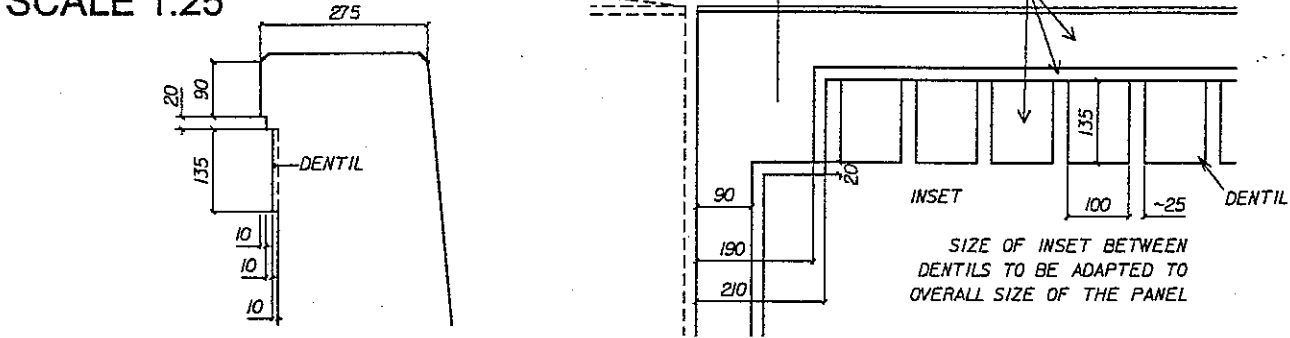
SECTION SOUNDWALL - SLOPING AREAS - SCALE 1:25



DETAIL BARRIER SCALE 1:100



SECTION AND DETAIL BARRIER SCALE 1:25



PLOTT DATE: 11/08/2001 PLOTTFILE: C:\9909-287\dgn\CD\NOISEWALL_DETAIL.dgn

REVISIONS									
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE



State of Florida Department of Transportation
Specification for MSE Form Liners

PART 1- GENERAL

1.1 SUMMARY

- A. This section specifies architectural form liner usage on MSE pre-cast panels.

1.2 SUBMITTALS

- A. Product Data: Submit product data and samples for proprietary materials and items, including form liner materials, form liner release agents and others requested by the Architect.

1.3 QUALITY INSURANCE

- A. ACI Publications: Comply with provisions of the following standards, except where more stringent requirements are indicated.

1. American Concrete Institute (ACI) 301, "Section 6 – Architectural Concrete"

- B. Field-Construction Mockup: Prior to installation of pre-cast panels, erect sample panels in place to further verify selections.

1. Provide full-scale mock-up under provisions of section 01400.
2. Mock-up shall demonstrate each forming and finishing condition required on Project using materials, workmanship and patching techniques to be used throughout project.
3. When Architect determines that the mock-up does not meet requirements, demolish and remove it from the site and cast another until the mock-up is accepted.

- C. Delivery, Storage and Handling: Deliver form liners to job site or pre-cast company and store in a protected area.



PART 2 - PRODUCTS

2.1 FORM LINER

- A. Form Liner Materials: Shall be a high quality re-usable product manufactured of high strength polyurethane rubber, with a maximum durometer of 80A and a minimum durometer of 65A. The liner back surface shall have a maximum of 1/4" thick CDX plywood mechanically adhered to control liner expansion and contraction.

1. Form liner dimensions:

Overall dimensions shall be	5'-0" by 5'-0"
Perimeter thickness shall be	1 1/4"
Interior thickness shall be	3/4"
Maximum relief shall be	1/4" to 5/16"
Drafting	+ 3%

2. Provide "FDOT MSE-2002 Form Liners" manufactured by Cobblecrete International (801) 224-6662 or approved equal.

- B. Form Release: Form liner release shall be non-staining and non-residual. Provide release agent that is compatible with form liner manufacturer.

PART 3 - EXECUTION

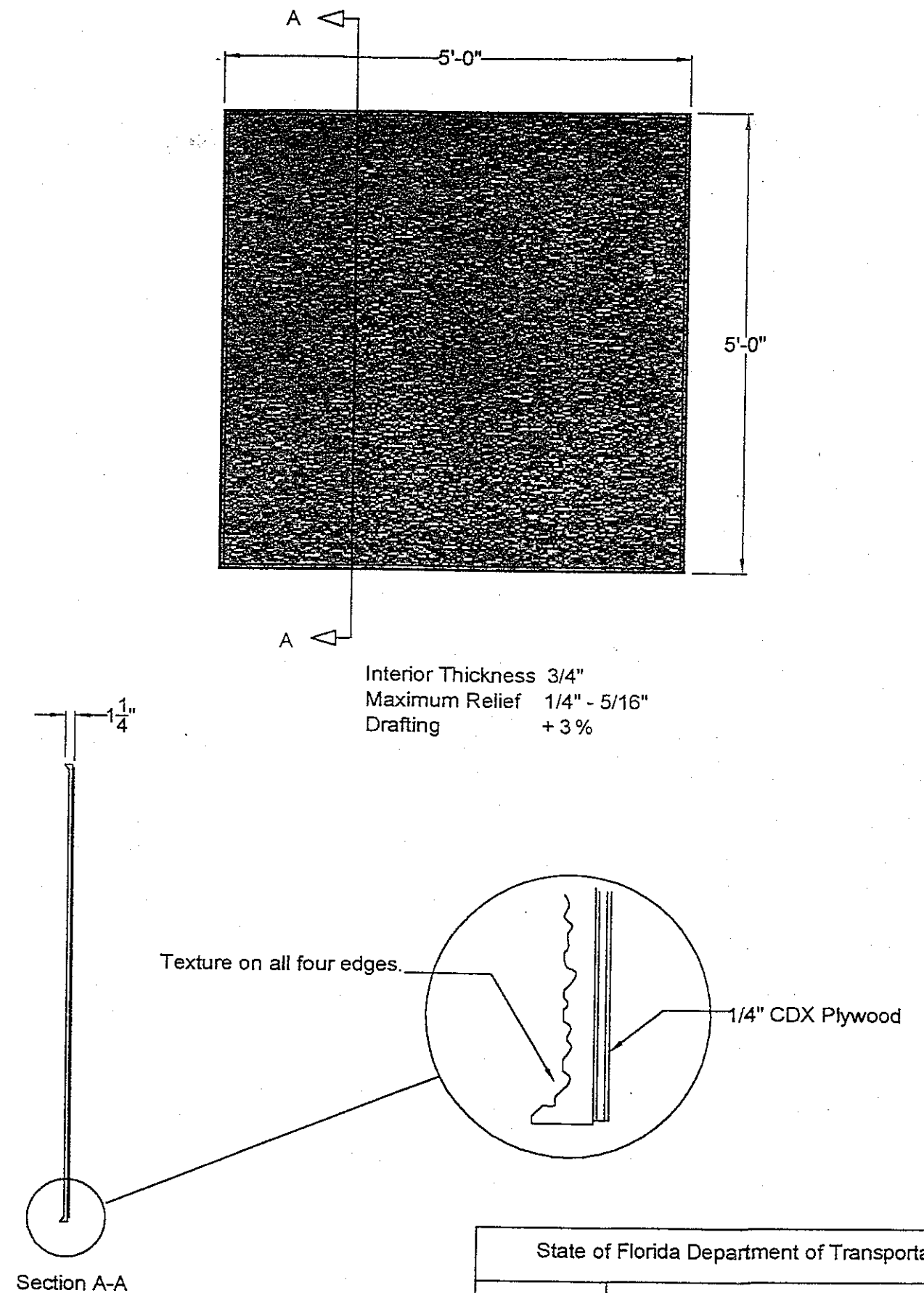
3.1 FORM LINER

- A. Installing: Liners shall be evenly placed within the formwork and the perimeter sealed with a thin bead of 100% silicone caulking and allowed to dry prior to concrete placement. Liner shall be cleaned of all prior concrete build up prior to each casting and shall be inspected for blemishes and/or tears; repair if necessary per manufacturer's recommendations. Form release shall then be applied per manufacturer's recommendations.



PART 3 – EXECUTION (cont)

- B. Stripping: Stripping of form liners shall be done once the concrete has reached sufficient compressive strength that will prevent concrete surface deterioration.
- C. Patching: Fill defects in concrete surface within 48 hours of form removal. Use the same patching materials and techniques that were approved on mock-up. Make patches with a stiff mortar made with materials from the same sources as the concrete. Adjust mortar mix proportions so dry patch matches dry adjacent concrete.



State of Florida Department of Transportation	
nts	Architectural Concrete Consultants, Inc.
D -1	FDOT MSE-2002

H&C®
SHIELD PLUS™
CONCRETE STAIN



APPLICATION	APPLICATION	CAUTIONS
<ul style="list-style-type: none">• Apply on dry to slightly damp surfaces.• Air and surface temperature should be between 50° and 90°F during and for 24 hours following application. If temperatures exceed 90°F, dampen bare concrete with a fine spray of water to reduce surface temperature.• Two coats are recommended.• Vertical applications and very porous surfaces (walls, barriers, concrete block, precast walls, stucco, etc.) do not require thinning.• Stir thoroughly before and during application. <p>Brush—Use a nylon/polyester brush Roller—Use a 3/8" - 1/2" nap cover Spray—Airless Pressure 1500 psi Tip013" - .017" Spray—Conventional Air Pressure 30 - 50 psi Fluid pressure 15 - 20 psi Cap/Tip 704/FX or equivalent HVLP Cap/Needle Titan #3 or equivalent Backrolling recommended after spraying</p> <p>Bare Concrete First Coat: Reduce H&C Shield Plus Concrete Stain with one pint of water per gallon of stain. Do not reduce for porous block walls. Apply first coat evenly, working in one direction. Allow to dry at least 2 hours before applying the second coat.</p> <p>Second Coat: Apply at package consistency. Do not thin. For best coverage, apply perpendicular to the first coat. Two coats are usually sufficient. However, extremely porous surfaces may require a third coat for a uniform appearance.</p>	<p>Asphalt and Previously Painted Surfaces. Apply two coats at package consistency. Do not thin. Allow to dry 2 hours between coats and 72 hours for heavy traffic. On freshly seal-coated asphalt, wait 90 days or until water absorbs into the surface.</p> <p>Slip Resistance Some surfaces such as inclined driveways, garages, steps, patios, etc., may require a slip resistant additive for safety. Add H&C™ SharkGrip® Slip Resistant Additive to the final coat applied following label directions. This product should not be used in place of a non-skid finish.</p> <p>CLEANUP INFORMATION Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water or a waterless hand cleaner. After cleaning, flush spray equipment with mineral spirits to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using any solvent.</p>	<p>Do not use around pools. Do not use on wood surfaces. For atmospheric use only. Non-photochemically reactive.</p> <p>Label Caution Contains CRYSTALLINE SILICA. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH approved) or leave the area. Adequate ventilation required when sanding or abrading the dried film. If adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage. FIRST AID: In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, get medical attention immediately. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Abrading or sanding of the dry film may release crystalline silica which has been shown to cause lung damage and cancer under long term exposure. WARNING: This product contains a chemical known to the State of California to cause cancer. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. LCE 4/26/2001 20.001014 08 00</p> <p>The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Sheet.</p>



www.sherwin-williams.com

H&C®
SHIELD PLUS™
CONCRETE STAIN

PRODUCT DESCRIPTION	CHARACTERISTICS	SURFACE PREPARATION																						
<p>H&C Shield Plus™ Concrete Stain is a high grade, water-reducible styrene-acrylic coating formulated with alkali-resistant pigments, designed to provide a long lasting, durable and decorative finish on masonry or asphalt.</p> <p>Features:</p> <ul style="list-style-type: none">• Protects and beautifies interior and exterior surfaces• Use on Concrete, Masonry, and Asphalt• Will not peel, flake, or fade• Resists oil, gasoline, water, and UV rays• Makes the surface easier to clean• Inhibits hot tire pick-up on rough concrete or asphalt.• Soap & water clean-up <p>Recommended Uses:</p> <ul style="list-style-type: none">• Stadium Supports• Bridges and Bridge Structures• Parking Garages• Athletic Courts• Asphalt Driveways• Block & Stucco Walls• Patios and Walkways• Other Interior Concrete Surfaces• CMU, Split face, and fluted block• Precast, poured-in-place, and tilt-up concrete. <p>For a complete color/seal system on extremely porous substrates, apply 2 coats of H&C Shield Plus Concrete Stain and a flood coat of H&C Super V™ Water Repellant.</p>	<p>Color: 12 ready mixed colors and 3 tintable bases for a variety of custom colors</p> <table><tr><td>Coverage</td><td>sq ft/gal</td></tr><tr><td>Concrete Floors</td><td>200-300</td></tr><tr><td>Porous concrete</td><td>150-250</td></tr><tr><td>Asphalt</td><td>200-250</td></tr><tr><td>Concrete block</td><td>100-150</td></tr><tr><td>Split faced block</td><td>75-125</td></tr><tr><td>Fluted block</td><td>50-100</td></tr><tr><td>Brick</td><td>100-150</td></tr></table> <p>Drying Time, @ 77°F, 50% RH: temperature and humidity dependent</p> <table><tr><td>To touch:</td><td>30 minutes</td></tr><tr><td>Light traffic and recoat:</td><td>2 hours</td></tr><tr><td>Heavy Traffic:</td><td>72-96 hours</td></tr></table> <p>Flash Point: N/A</p> <p>Finish: Low Luster</p> <p>Vehicle Type: Styrene Acrylic</p> <p>White 20.001014</p> <p>VOC (less exempt solvents): 256 g/L; 2.14 lb/gal*</p> <p>Volume Solids: 30 ± 2%*</p> <p>Weight Solids: 43 ± 2%*</p> <p>Weight per Gallon: 10.2 lb*</p> <p>* May vary by color</p>	Coverage	sq ft/gal	Concrete Floors	200-300	Porous concrete	150-250	Asphalt	200-250	Concrete block	100-150	Split faced block	75-125	Fluted block	50-100	Brick	100-150	To touch:	30 minutes	Light traffic and recoat:	2 hours	Heavy Traffic:	72-96 hours	<p>Testing: Due to the wide variety of substrates, preparation methods, application methods and environments, the customer should test the product in an inconspicuous spot for adhesion and compatibility prior to full scale application.</p> <p>All surfaces must be clean, dry and free of grease, oil, paint, sealers, etc. To clean, use H&C Degreaser, following label directions, rinse thoroughly and allow the surface to dry. If mold mildew or fungus are present, kill and remove by cleaning with a solution of 1 part household bleach to 3 parts water.</p> <p>Bare Concrete: New concrete must be cured 45 days. All horizontal concrete must be etched with H&C Concrete Etching Solution first, following label directions. For very smooth surfaces (troweled surfaces with no porosity) use H&C Concrete Etching Solution at full strength. For smooth-troweled concrete with some porosity, 1 part H&C Concrete Etching Solution to two parts water should be used. Do not etch painted surfaces. Prepared concrete should have a pH between 6 and 10. After etching, before applying the first coat, thoroughly sweep or blow off surface to remove dust.</p> <p>Asphalt Do not etch asphalt. Do not use if asphalt has been freshly sealed. Wait 90 days or until water absorbs into the surface.</p> <p>Previously Painted All old, peeling, flaking paint must be removed. Remaining paint should be rough sanded to ensure adhesion. Remove the sanding dust.</p> <p>Repair: For the best waterproofing protection on vertical concrete and masonry, patch and repair cracks and crevices where water can enter. Use ConSeal Sealants and Patches on exterior surfaces following label directions. On floor surfaces, use appropriate patching material. Patching compounds will generally be visible through clear coatings.</p>
Coverage	sq ft/gal																							
Concrete Floors	200-300																							
Porous concrete	150-250																							
Asphalt	200-250																							
Concrete block	100-150																							
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To touch:	30 minutes																							
Light traffic and recoat:	2 hours																							
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Material Safety Data Sheet

H & C Concrete Stains (formerly FLR)
101 Prospect Ave. N.W.
Cleveland, OH 44115

Emergency telephone number
Information telephone number
Date of preparation

(216) 566-2917
(216) 566-2902
May 27, 1998

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H & C SHIELD PLUS Concrete Stains

20/HC1

— Section 2 — CAS No. Hazardous Ingredients (percent by weight)						20.001014 20.001015 White Base	20.002014 20.002015 Deep Base	20.003014 20.003015 Neutral Base	20.001004 20.001005 20.001006 Clear	20.001024 20.001025 20.001026 Black	20.001034 20.001035 20.001036 Autumn Brown	20.001044 20.001045 20.001046 Bison	20.001054 20.001055 20.001056 Bombay	20.001064 20.001065 20.001066 Brick Red
ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)											
111-76-2	§ 2-Butoxyethanol	25	25	PPM (Skin)	0.6	3	4	3		3	3	3	3	3
112-34-5	§ 2-(2-Butoxyethoxy)-ethanol	Not Established				0.1	2	2	2		2	2	2	2
107-21-1	§ Ethylene Glycol.	C	50	50	PPM	0.1	2 - 5	2 - 5	2 - 5	6	2	2	2	2
14808-60-7	Quartz	0.1	0.1	Mg/M3	as Resp. Dust	11	10	11		13	13	13	14	13
13463-67-7	Titanium Dioxide.	10	10[5]	Mg/M3	as Dust [Resp. Fraction]	17	11	2			1	2	15	3
1333-86-4	Carbon Black.	3.5	3.5	Mg/M3		0 - 1	0 - 1	0 - 1		0.3	0.1			
Weight per Gallon (lbs.)						10.40	9.85	9.20	8.74	9.19	9.36	9.42	10.66	9.80
Percent Water						46.2	50.4	59.1	69.9	58.6	57.2	56.8	44.8	53.3
pH						9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
VOC (Volatile Organic Compounds) Total - lbs./gal.						0.87	0.87	0.72	0.61	0.72	0.73	0.72	0.83	0.73
VOC Less Water & Federally Exempt Solvents - lbs./gal.						2.08	2.17	2.09	2.30	2.06	2.06	2.04	1.97	1.98
Photochemically Reactive						No	No	No	No	No	No	No	No	No
Flash Point (°F)						None	None	None	None	None	None	None	None	None
HMIS (NFPA) Rating (health - flammability - reactivity)						2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2 - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

→→→ MSDS Text Page Follows →→→

7

H & C SHIELD PLUS Concrete Stains

20/HC

Section 3 — Physical Data

PRODUCT WEIGHT See TABLE
SPECIFIC GRAVITY 1.05-1.29
BOILING RANGE 212-477 °F
VOLATILE VOLUME 68-80 %
EVAPORATION RATE Slower than Ether
VAPOR DENSITY Heavier than Air
MELTING POINT N.A.
SOLUBILITY IN WATER N.A.

Section 4 — Fire And Explosion Hazard Data

FLAMMABILITY CLASSIFICATION Not Applicable
FLASH POINT See TABLE
LEL N.A.p. UEL N.A.p.
EXTINGUISHING MEDIA Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
SPECIAL FIRE FIGHTING PROCEDURES Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 5 — Health Hazard Data

ROUTES OF EXPOSURE Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.
ACUTE Health Hazards
EFFECTS OF OVEREXPOSURE Irritation of eyes, skin and upper respiratory system. In a confined area vapors in high concentrations may cause headache, nausea or dizziness.
SIGNS AND SYMPTOMS OF OVEREXPOSURE Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE None generally recognized.
EMERGENCY AND FIRST AID PROCEDURES
IF INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
IF ON SKIN: Wash affected area thoroughly with soap and water.
IF IN EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
IF SWALLOWED: Get medical attention.
CHRONIC Health Hazards Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.
Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity. Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, and blood-forming systems.
Ethylene Glycol is considered an animal teratogen. It has been shown to cause birth defects in rats and mice at high doses when given in drinking water or by gavage. There is no evidence to indicate it causes birth defects in humans.
Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 6 — Reactivity Data

STABILITY - Stable
CONDITIONS TO AVOID None known.
INCOMPATIBILITY None Known.
HAZARDOUS DECOMPOSITION PRODUCTS By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION - Will Not Occur

Section 7 — Spill or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
WASTE DISPOSAL METHOD
Waste from these products is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and local regulations regarding pollution.

Section 8 — Protection Information

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), 3 mg./m3 (respirable fraction), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

Section 9 — Precautions

DOL STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 10 — Other Regulatory Information

CALIFORNIA PROPOSITION 65
WARNING: These products, except 20.00100- Clear, contain a chemical known to the State of California to cause cancer.

TSCA CERTIFICATION
All chemicals in these products are listed, or are exempt from listing, on the TSCA Inventory.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



Material Safety Data Sheet

H & C Concrete Stains (formerly FLR)
101 Prospect Ave. N.W.
Cleveland, OH 44115

Emergency telephone number
Information telephone number
Date of preparation

(216) 566-2917
(216) 566-2902
May 27, 1998

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H & C SHIELD PLUS Concrete Stains - 2

20/HC2

— Section 2 — CAS No. Hazardous Ingredients (percent by weight)						20.001074 20.001075 20.001076 Charcoal Gray	20.001084 20.001085 20.001086 Gull Gray	20.001094 20.001095 20.001096 Light Buff	20.001104 20.001105 20.001106 Patio Green	20.001114 20.001115 20.001116 Pearl Gray	20.001124 20.001125 20.001126 Sandstone	20.001134 20.001135 20.001136 Seafoam Green	20.001144 20.001145 20.001146 Silver Gray	20.001154 20.001155 20.001156 Terra Cotta	20.001164 20.001165 20.001166 Tile Red	% BY WEIGHT
ACGIH OSHA TLV PEL <STEL> <STEL>						Units					Vapor Pressure (mm Hg)					
111-76-2	§ 2-Butoxyethanol	25	25	PPM (Skin)	0.6	3	3	3	3	3	3	3	3	3	3	
112-34-5	§ 2-(2-Butoxyethoxy)-ethanol	Not Established				0.1	2	2	2	2	2	2	2	2	2	2
107-21-1	§ Ethylene Glycol	C	50	50	PPM	0.1	2	2	2	2	2	2	2	2	2	2
14808-60-7	Quartz	0.1	0.1	Mg/M3	as Resp Dust	13	16	12	13	16	13	15	16	13	13	
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3	as Dust (Resp. Fraction)	2	5	16	2	5	11	11	5	8		
1333-86-4	Carbon Black	3.5	3.5	Mg/M3		0.3							0.2			
Weight per Gallon (lbs.)						9.35	9.74	10.73	9.52	9.76	10.22	10.23	9.75	10.37	9.33	
Percent Water						57.3	51.7	44.6	55.7	51.5	48.4	47.8	51.5	47.3	57.7	
pH						9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	
VOC (Volatile Organic Compounds) Total - lbs./gal.						0.72	0.83	0.83	0.72	0.83	0.84	0.84	0.83	0.84	0.72	
VOC Less Water & Federally Exempt Solvents - lbs./gal.						2.05	2.12	1.97	2.01	2.11	2.08	2.04	2.11	2.05	2.07	
Photochemically Reactive						No	No	No	No	No	No	No	No	No	No	
Flash Point (°F)						None	None	None	None	None	None	None	None	None	None	
HMIS (NFPA) Rating (health - flammability - reactivity)						2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	2* - 0 - 0	

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

→→→ MSDS Text Page Follows →→→

9

H & C SHIELD PLUS Concrete Stains

20/HC

Section 3 — Physical Data

PRODUCT WEIGHT See TABLE
SPECIFIC GRAVITY 1.05-1.29
BOILING RANGE 212-477 °F
VOLATILE VOLUME 68-80 %
EVAPORATION RATE Slower than Ether
VAPOR DENSITY Heavier than Air
MELTING POINT N.A.
SOLUBILITY IN WATER N.A.

Section 4 — Fire And Explosion Hazard Data

FLAMMABILITY CLASSIFICATION FLASH POINT See TABLE LEL N.Ap. UEL N.Ap.
Not Applicable
EXTINGUISHING MEDIA Carbon Dioxide, Dry Chemical, Alcohol Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
SPECIAL FIRE FIGHTING PROCEDURES Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 5 — Health Hazard Data

ROUTES OF EXPOSURE Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.
ACUTE Health Hazards
EFFECTS OF OVEREXPOSURE Irritation of eyes, skin and upper respiratory system. In a confined area vapors in high concentrations may cause headache, nausea or dizziness.
SIGNS AND SYMPTOMS OF OVEREXPOSURE Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE None generally recognized.
EMERGENCY AND FIRST AID PROCEDURES
IF INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
IF ON SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
IF IN EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
IF SWALLOWED: Get medical attention.
CHRONIC Health Hazards
Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.
Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.
Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, and blood-forming systems.
Ethylene Glycol is considered an animal teratogen. It has been shown to cause birth defects in rats and mice at high doses when given in drinking water or by gavage. There is no evidence to indicate it causes birth defects in humans.
Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 6 — Reactivity Data

STABILITY - Stable
CONDITIONS TO AVOID None known.
INCOMPATIBILITY None known.
HAZARDOUS DECOMPOSITION PRODUCTS By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION - Will Not Occur

Section 7 — Spill or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
WASTE DISPOSAL METHOD
Waste from these products is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section 8 — Protection Information

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), 3 mg./m3 (respirable fraction), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

Section 9 — Precautions

DOL STORAGE CATEGORY
Not Applicable
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 10 — Other Regulatory Information

CALIFORNIA PROPOSITION 65
WARNING: These products, except 20.00100- Clear, contain a chemical known to the State of California to cause cancer.

TSCA CERTIFICATION
All chemicals in these products are listed, or are exempt from listing, on the TSCA Inventory.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

ACCOUNT NAME Terra Techtonics JOB Westshore ^{MEMORIAL + WESTSHORE}
COLOR NAME Chalky Peach P-1 MANUAL ☒ MEMORY ☐
PRODUCT NAME H+C Concrete Stain BASE MATERIAL H+C Xylene T.W.

FORMULA

TINT	1 GALLON	5 GALLON	55 GALLON DRUM
B ₁	+01		
R ₂	1		
Y ₃	7		
G ₁	+01		
W ₁	32		

BATCH DATES

SPECIAL INSTRUCTIONS:

COLOR APPROVED BY: _____ DATE _____

ACCOUNT NAME Terra Techtonics JOB REVERAL DOWNTOWN ^{HC-38-P3}
COLOR NAME HC38-P3 MANUAL ☒ MEMORY ☐
PRODUCT NAME H+C Concrete Stain BASE MATERIAL H+C Xylene T.W.

FORMULA

TINT	1 GALLON	5 GALLON	55 GALLON DRUM
Y ₃	6		
B ₁	+01		

BATCH DATES

SPECIAL INSTRUCTIONS:

COLOR APPROVED BY: _____ DATE 11/14/01

ACCOUNT NAME Terra Techtonics JOB Downtown ^{HC-83009-P2}
COLOR NAME Pale Shadow Downtown P2 MANUAL ☒ MEMORY ☐
PRODUCT NAME _____ BASE MATERIAL H+C Xylene

FORMULA

TINT	1 GALLON	5 GALLON	55 GALLON DRUM
N ₁	4		
Y ₃	1		
R ₂	+01		

BATCH DATES

SPECIAL INSTRUCTIONS:

COLOR APPROVED BY: _____ DATE 11/14/01

ACCOUNT NAME Terra Techtonics JOB YBOA WEST TAMILA
COLOR NAME Lantern Glow HC-92181-P4 MANUAL ☐ MEMORY ☐
PRODUCT NAME H+C Xylene Int Base BASE MATERIAL _____

FORMULA

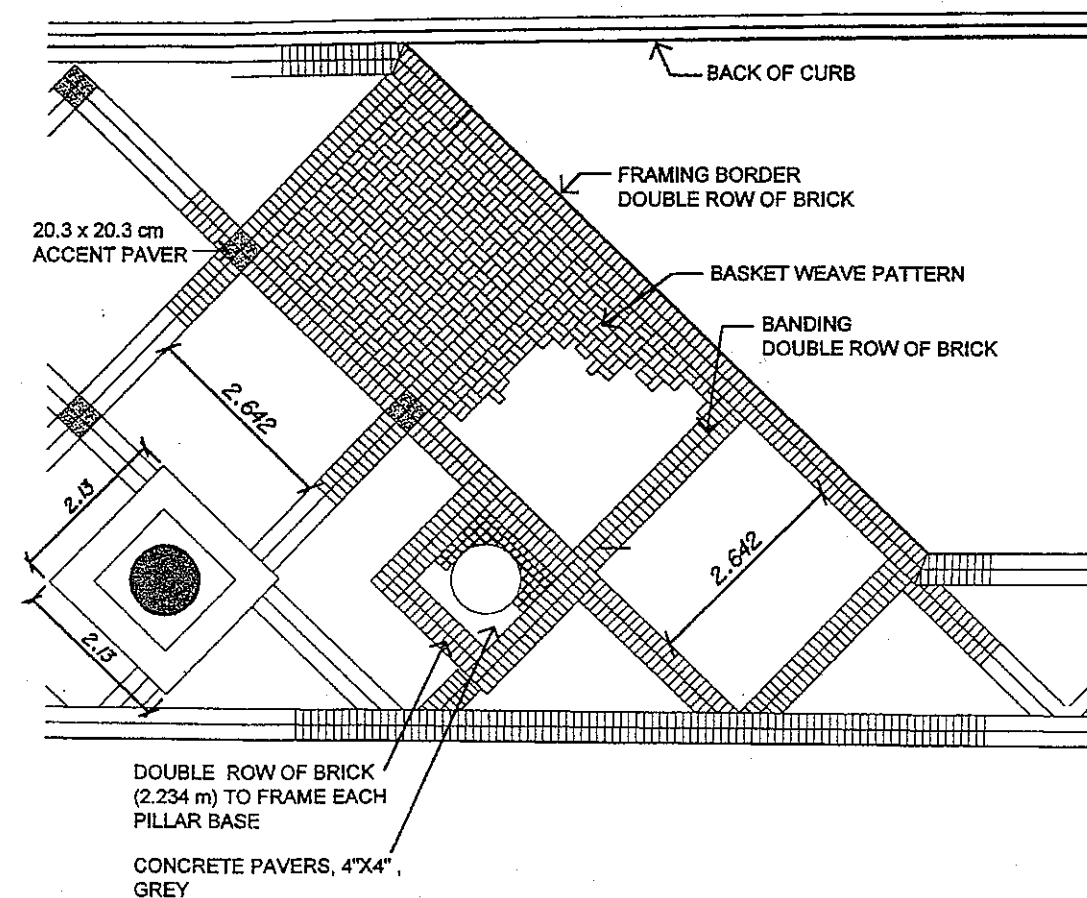
TINT	1 GALLON	5 GALLON	55 GALLON DRUM
Gold (Y ₃)	23		
Maroon (R ₂)	+11		

BATCH DATES

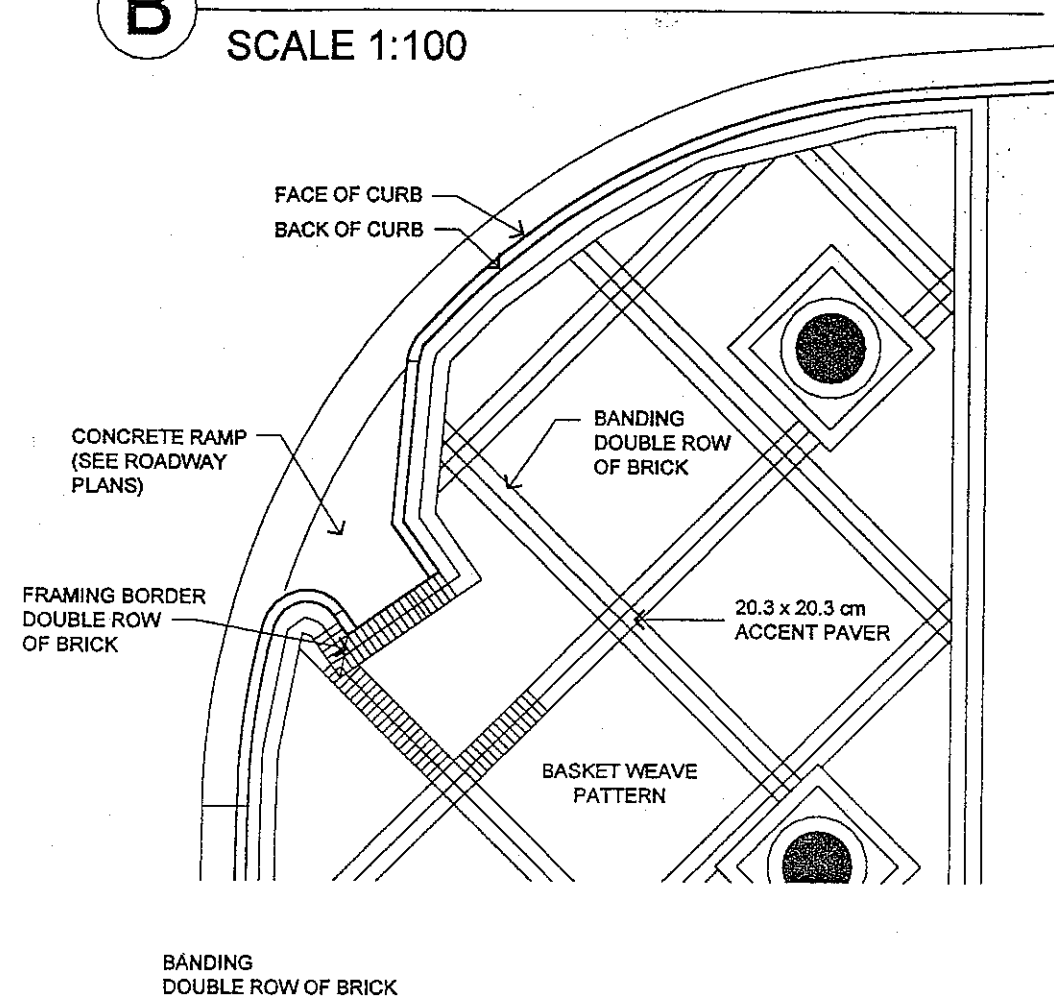
SPECIAL INSTRUCTIONS:

COLOR APPROVED BY: _____ DATE _____

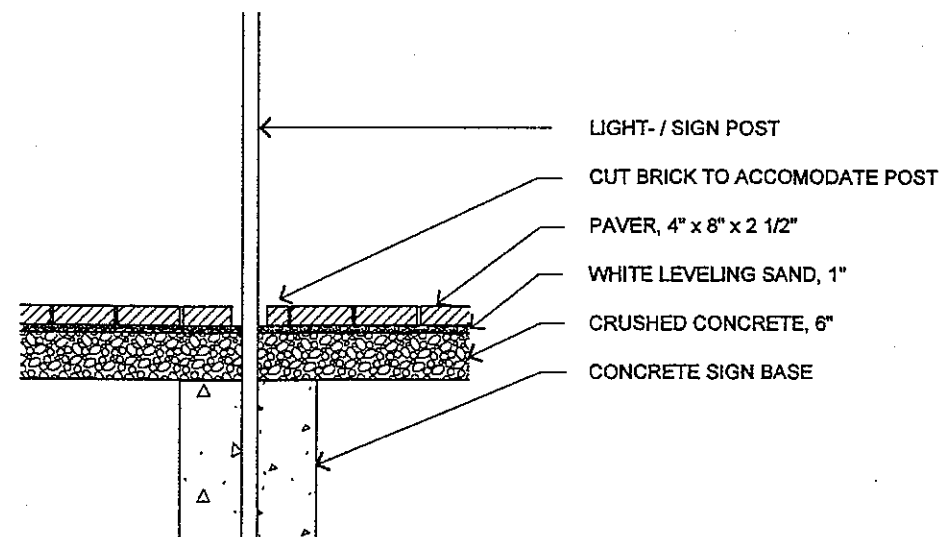
A DETAIL PAVING
SCALE 1:100



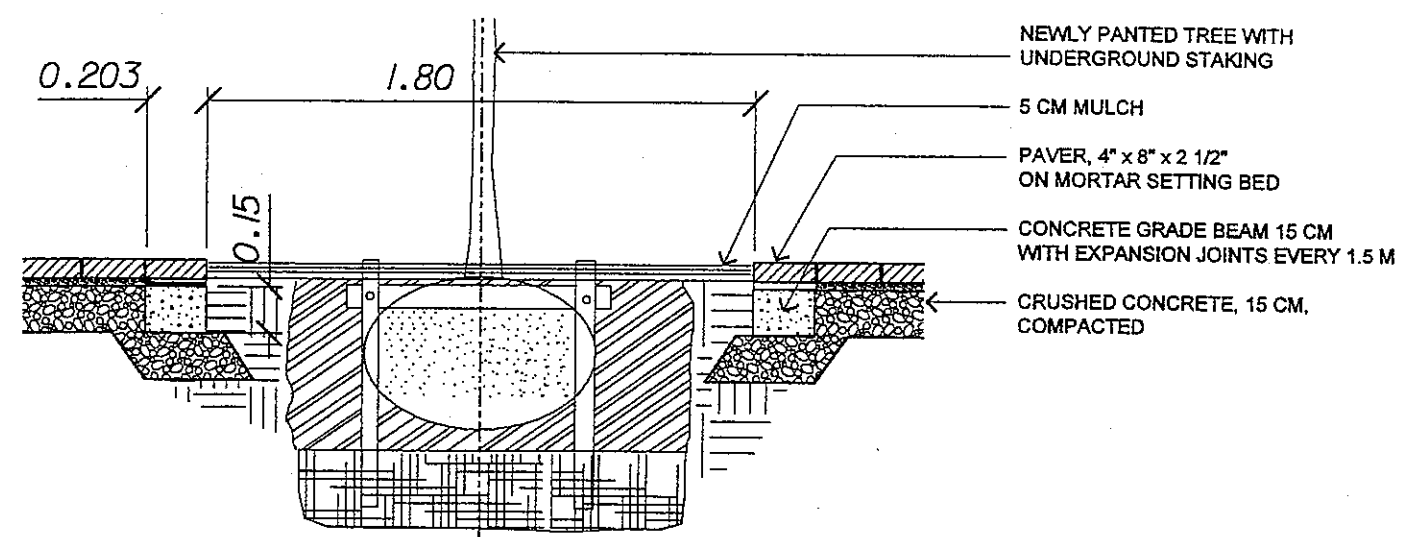
B DETAIL RAMP
SCALE 1:100



C DETAIL - LIGHT-/SIGNPOSTS IN PAVEMENT
SCALE 1:25



D DETAIL - TREE IN PAVEMENT
SCALE 1:25



Summary of TIS Design Aesthetic Coordination

YEAR 2002



**TAMPA INTERSTATE STUDY
DESIGN AESTHETICS COORDINATION MEETINGS
Maintenance and Construction**

January 9, 2002

I. Summary of Items included in DTI Plans to Date

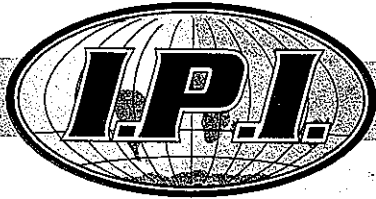
- A. Mongoose Lighting
- B. Signage
- C. Fencing
- D. Enhanced Paving

II. Maintenance Agreements Being Pursued

- A. Landscape (all segments)
- B. Ponds?
- C. Lighting (Sconce and 5 bulb lights)
- D. Brick Intersections (21st/22nd Streets)
- E. Picket Fencing (Ybor City and West Tampa)
- F. Street Furniture (potentially all segments)
- G. Fountains (Ybor City and West Tampa)

III. Sole Source Letter for 5-bulb light

IV. Revisions and Distribution of Specs and Other Details



January 12, 2002

Harvey Hunt
Tampa Maintenance Yard
2820 Lesley Road
MS 1250
Tampa, FL 33619

Re: Tampa Interstate Study Aesthetics

Dear Mr. Hunt:

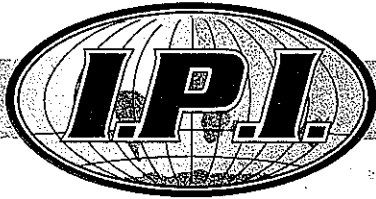
Attached please find a draft copy of the Urban Design Elements for Tampa Interstate Study for your review and comment. The Design Elements include colors, materials, textures and locations of specific details that are included as part of the system-wide aesthetics package for the urban area of the Interstate. The System-wide Aesthetics Package found on pages 1 and 2 of the attached will be applied in the following areas: the Courtney Campbell Causeway through the Spruce Street Interchange, I-275 from the Howard Frankland Bridge to Floribruska Ave. and I-4 from I-275 to 50th Street. If the opportunity arises to incorporate these items north of I-275 to the Pasco County Line, it should be considered. A few of the items have been rewritten after the Downtown Interchange submittal and review by Jackie Beebe; however, it does not change the type of materials identified to be implemented.

We would request that you provide any comments in writing by January 30th. Once we have received comments we will make any necessary revisions and then distribute a final copy to each design consultant to ensure that each set of plans includes the standard specifications. This should reduce the designers' effort, ensure consistency and provide a guideline for FDOT plans reviewers. Thank you for your time and attention to this matter.

Sincerely,

Elaine C. Illes
Aesthetics Coordinator

Cc: Ron Glass, Interstate Program Manager



January 12, 2002

Pepe Garcia
Construction Facility
2916 Lesley Road
Tampa, FL 33619

Re: Tampa Interstate Study Aesthetics

Dear Mr. Garcia:

Attached please find a draft copy of the Urban Design Elements for Tampa Interstate Study for your review and comment. The Design Elements include colors, materials, textures and locations of specific details that are included as part of the system-wide aesthetics package for the urban area of the Interstate. The System-wide Aesthetics Package found on pages 1 and 2 of the attached will be applied in the following areas: the Courtney Campbell Causeway through the Spruce Street Interchange, I-275 from the Howard Frankland Bridge to Floribaska Ave. and I-4 from I-275 to 50th Street. If the opportunity arises to incorporate these items north of I-275 to the Pasco County Line, it should be considered. A few of the items have been rewritten after the Downtown Interchange submittal and review by Jackie Beebe; however, it does not change the type of materials identified to be implemented.

We would request that you provide any comments in writing by January 30th. Once we have received comments we will make any necessary revisions and then distribute a final copy to each design consultant to ensure that each set of plans includes the standard specifications. This should reduce the designers' effort, ensure consistency and provide a guideline for FDOT plans reviewers. Thank you for your time and attention to this matter.

Sincerely,

Elaine C. Illes
Aesthetics Coordinator

Cc: Ron Glass, Interstate Program Manager

Elaine Illes

From: ram.goel@dot.state.fl.us
Sent: Tuesday, February 19, 2002 7:34 AM
To: Elaine Illes
Subject: RE: Tampa Interstate Study Aesthetics Draft- Comments



DRC22502.WPD

Elaine: Our comment # 2 was that it was our understanding that no existing bridges are being replaced under your scope. If there are any bridges being replaced, please let us know, so that we can review them further. Thanks.

Dr. Ram A. Goel, P.E.
Structures Maintenance Engineer
District 1& 7 Structures & Facilities
Florida Department of Transportation
2916 Leslie Road, Tampa, FL 33619
Ph: (813) 744-6050; Fax: (813) 744-8251
E-Mail: ram.goel@dot.state.fl.us

"Elaine Illes"
<ipinc7@gte.net> To: <ram.goel@dot.state.fl.us>
t> cc:
Subject: RE: Tampa Interstate Study
02/15/02 10:23 Aesthetics Draft- Comments
PM

Dr. Ram,

Thank you for your response. Please clarify the intent of comment 2. Do you mean to make sure that the bridges are in the ultimate plan, not an interim or temporary structure?

Also, I am attaching an invitation to our next DRC meeting.

Thanks again. Elaine

-----Original Message-----

From: ram.goel@dot.state.fl.us [mailto:ram.goel@dot.state.fl.us]
Sent: Friday, February 15, 2002 11:43 AM
To: ipinc7@gte.net
Cc: jose.garcia1@dot.state.fl.us; atiq.alvi@ecdriever.com
Subject: Tampa Interstate Study Aesthetics Draft- Comments

Elaine:

We do not have any comments other than: 1.) to be sure the proposed textures and stains are listed in the QPL. 2.) make sure the bridges will not be replaced in the proposed scope. Thanks.

Dr. Ram A. Goel, P.E.
Structures Maintenance Engineer
District 1& 7 Structures & Facilities
Florida Department of Transportation
2916 Leslie Road, Tampa, FL 33619
Ph: (813) 744-6050; Fax: (813) 744-8251
E-Mail: ram.goel@dot.state.fl.us

(See attached file: DRC22502.WPD)

**TAMPA INTERSTATE STUDY
DESIGN REVIEW COMMITTEE COORDINATION MEETING
February 25, 2002**

AGENDA

10:00 a.m. – 10:55 p.m.

- I. Summary of DRC Activity to Date
- II. Review and Acceptance of Systemwide Aesthetic Palette
- III. Downtown Interchange
 - A. Construction Schedule and Public Awareness Activities
 - B. Landscape / Hardscape Implementation Schedule
 - C. Greenway Progress
- IV. I-4, East of 14th Street to 50th Street
 - A. Design/ ROW Schedule
 - B. Construction Schedule/ Historic Preservation
 - C. Schedule for Landscape / Hardscape Design
 - D. Schedule for Public Awareness Activities

11:00 a.m. – Noon

- I. I-275, Hillsborough River to Himes Ave. Project Overview
 - A. Limits
 - B. Access/ Function
 - C. Cost
 - D. Schedule
 - E. Construction Phases
 - F. Variations of the Ultimate Design
- II. Design Elements
 - A. Lighting
 - B. Signing and Sign Supports
 - C. Utilities
 - D. Fencing
 - E. Noise Walls
 - F. Retaining Walls
 - G. Bridges
 - H. Ponds
 - I. Landscaping
 - J. Pavement/ Streetscape
 - K. Opportunities for Public Art
 - L. Architectural Elements