

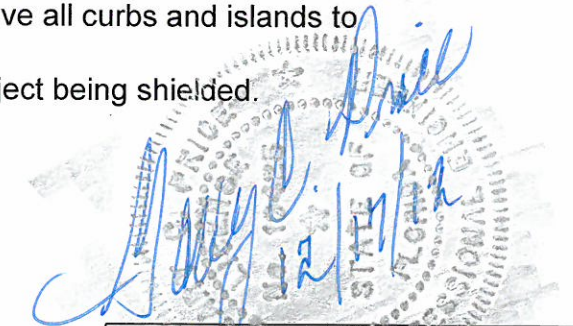
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### SCI Smart Cushion General Notes

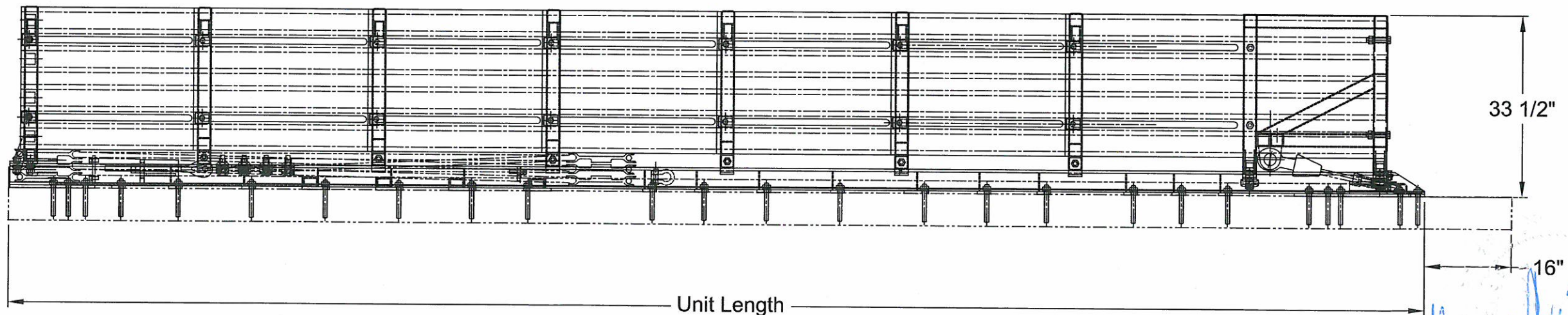
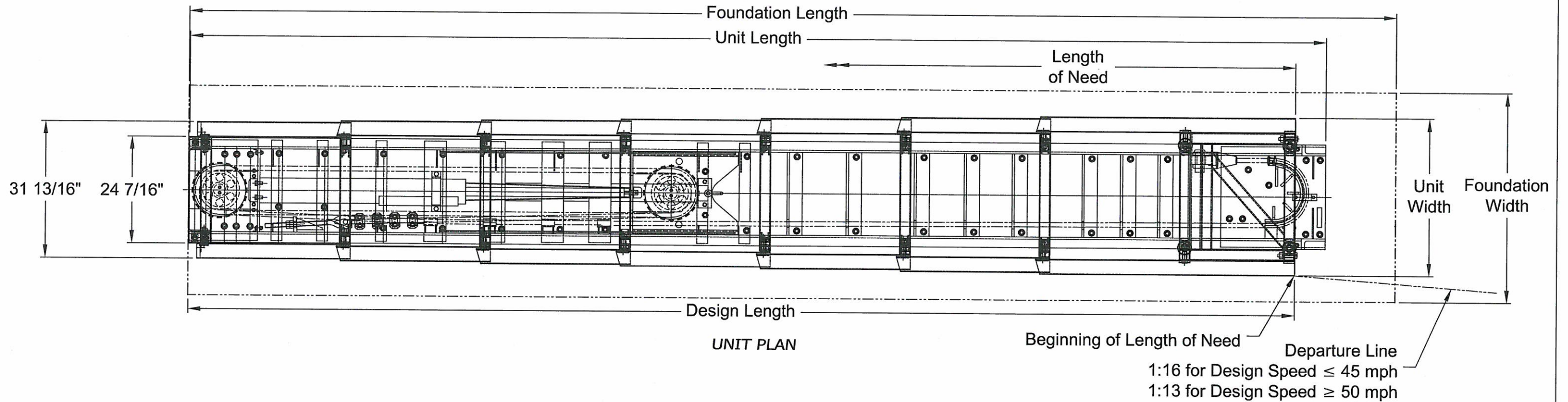
1. The energy absorbing system represented on these Qualified Products List (QPL) drawings is a proprietary design by Work Area Protection Corp./SCI Products Inc. and marketed under the name Smart Cushion.
2. The Smart Cushion is a non-gating, redirective crash cushion which is suited for shielding hazards. The Smart Cushion is used for permanent installations. The beginning length of need shall be at the point of intersection between the face of the crash cushion and the departure line.
3. The Smart Cushion has been evaluated to NCHRP Report 350 crash test criteria and is suitable for Test Level 2 and Test Level 3 crash cushion applications.
4. The Smart Cushion shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures, specifications, product manual or installation guide. Information and copies of the above manual are available on the Qualified Product List (QPL).
5. The Smart Cushion is available in 24" widths and utilizes transitions to accommodate wider widths. The system width will be as called out in the plans, permit or other contract document for each location.
6. The Smart Cushion uses a variable force hydraulic cylinder to supply the proper forces for a safe deceleration. The cylinder is ported for speed and will increase forces for higher speeds while decreasing forces for lower speeds to provide the necessary deceleration forces.
7. Metallic components shall meet the galvanizing requirements for guardrail, section 967 of the FDOT specifications.
8. A yellow Type 1 Object Marker shall be centered 3' in front of the nose of the Smart Cushion. Mounting hardware shall be in conformance with Section 993 of the FDOT Specifications. The cost of the Object Marker shall be included in the cost of the Smart Cushion. As an option, the contractor may install reflective sheeting on the nose of the crash cushion. The sheeting to be used must be solid yellow, Type III or better and must be a product listed on the Department's Qualified Products List (QPL). The sheeting to be applied to the nose of the crash cushion shall be a minimum of 360 square inches with a minimum height of 15 inches.
9. Quantity for payment is based on each independent location as called for in the plans or as directed by the Engineer. The cost of foundations, subgrade preparation and other appurtenant construction will be included in the cost for the Smart Cushion.
10. In compliance with the AASHTO 2011 Roadside Design Guide, remove all curbs and islands to ensure proper impact performance.
11. Supply adequate transition from the Smart Cushion system to the object being shielded.
12. Units of measure are in English units.



State of Florida Department of Transportation				
SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions				
	by	date	QPL NO. S544-0032	
Drawn	PE	11/17/12		
Checked	JS	11/17/12	Rev. 0	Sh. 1 of 11

Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	180"	157"	< 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	276"	253"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of < 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



UNIT ELEVATION

GENERAL SYSTEM FEATURES

NOTES:

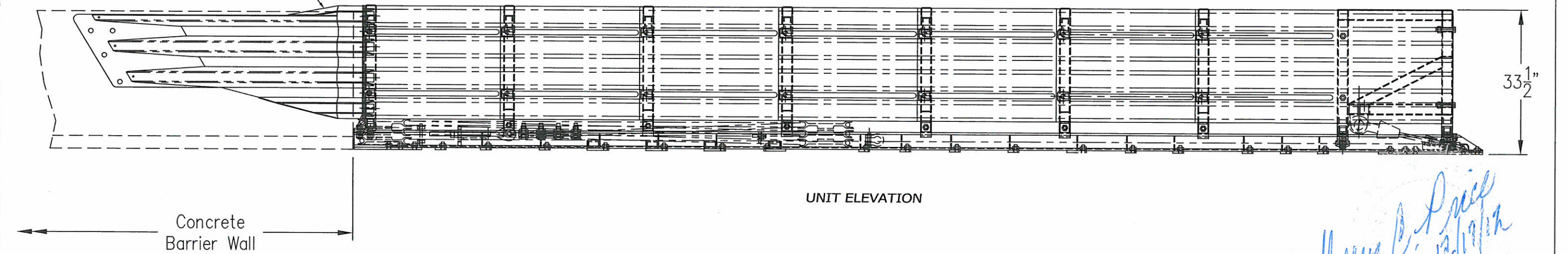
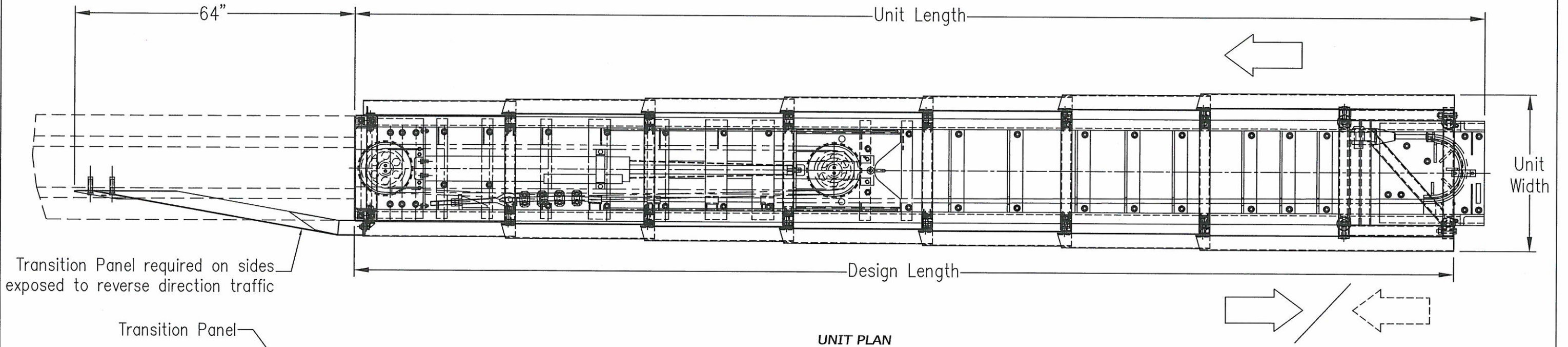
- PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.
- 6" MINIMUM REINFORCED 4000 PSI P.C. CONCRETE FOUNDATION OR 8" MINIMUM UNREINFORCED 4000 PSI P.C. CONCRETE FOUNDATION. SEE FOUNDATION DRAWINGS FOR ADDITIONAL SPECIFICATIONS AND OPTIONS.

*Handwritten signature and date: 12/17/12*

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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
Drawn	by	date	QPL NO. S544-0032
Checked	PE	11/17/12	
	JS	11/17/12	Rev. 1 Sh. 2 of 11

Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	180"	157"	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	276"	253"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



TRANSITION TO CONCRETE BARRIER WALL, F SHAPE

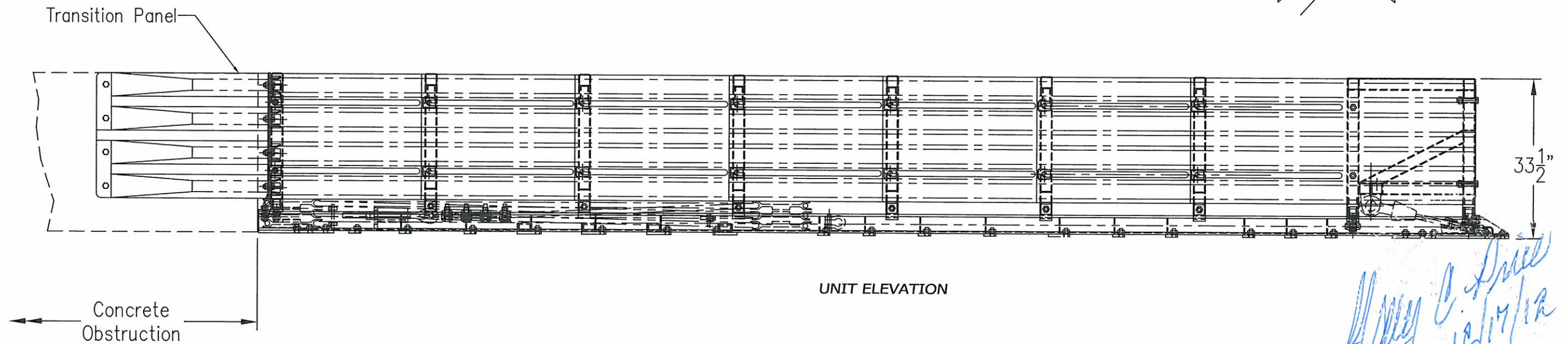
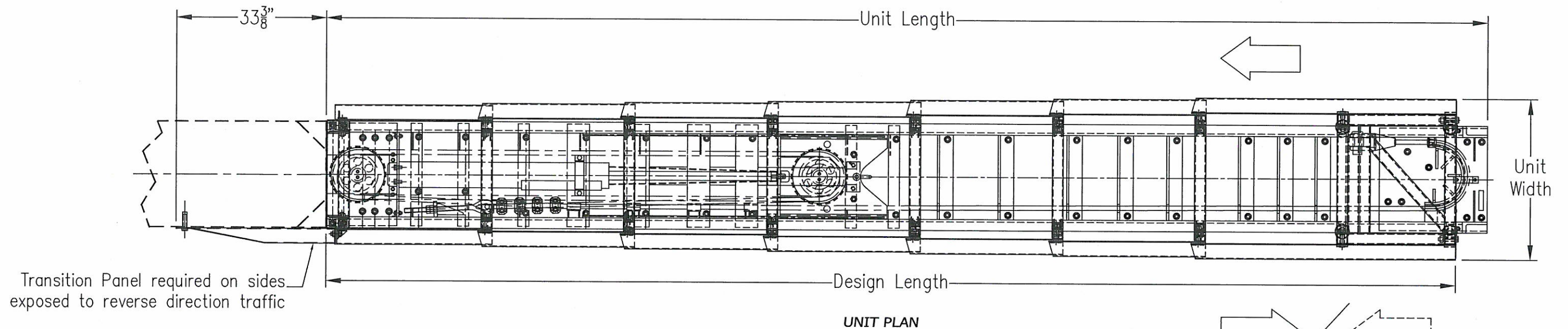
NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

*Handwritten signature: J. Price*

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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
by	date	QPL NO. S544-0032	
Drawn	PE	11/17/12	
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Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	180"	157"	< 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	276"	253"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of < 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



TRANSITION TO 24" BLOCK

NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

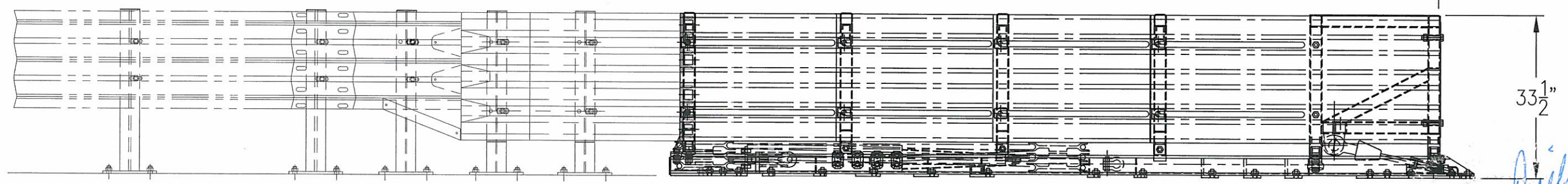
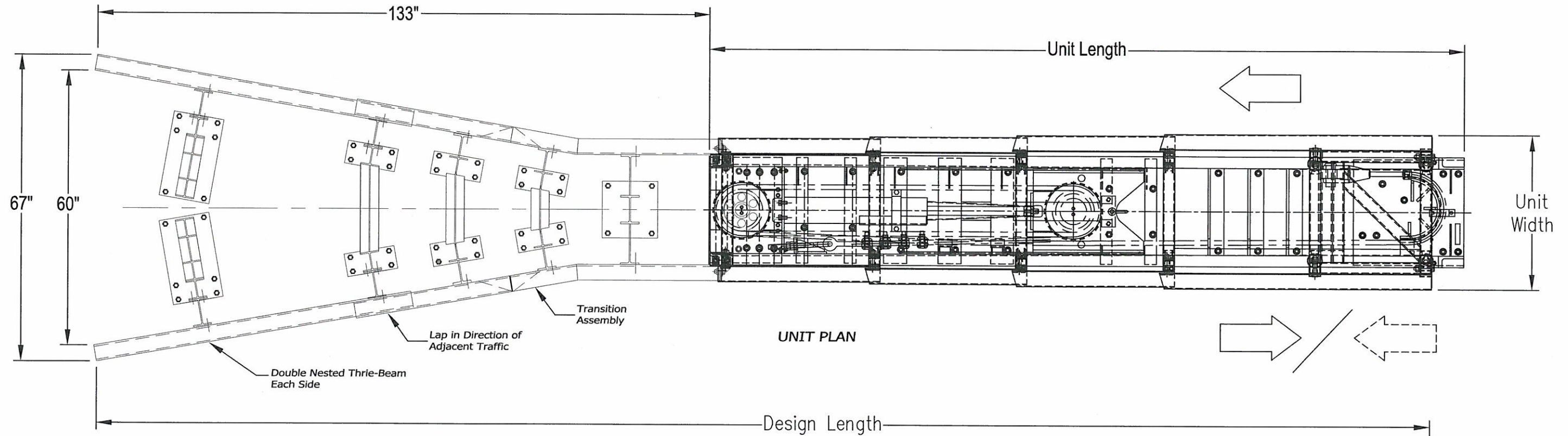
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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
by	date	QPL NO. S544-0032	
Drawn PE	11/17/12		
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Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	Varies	Varies	Varies	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	Varies	Varies	Varies	≥ 50 mph	TEST LEVEL 3

Note: Can accommodate any width. Wider widths may require additional leg braces and guardrail. Contact manufacturer for dimensions and parts requirements.

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



UNIT ELEVATION

**TRANSITION TO VARIABLE WIDTH TAPER**

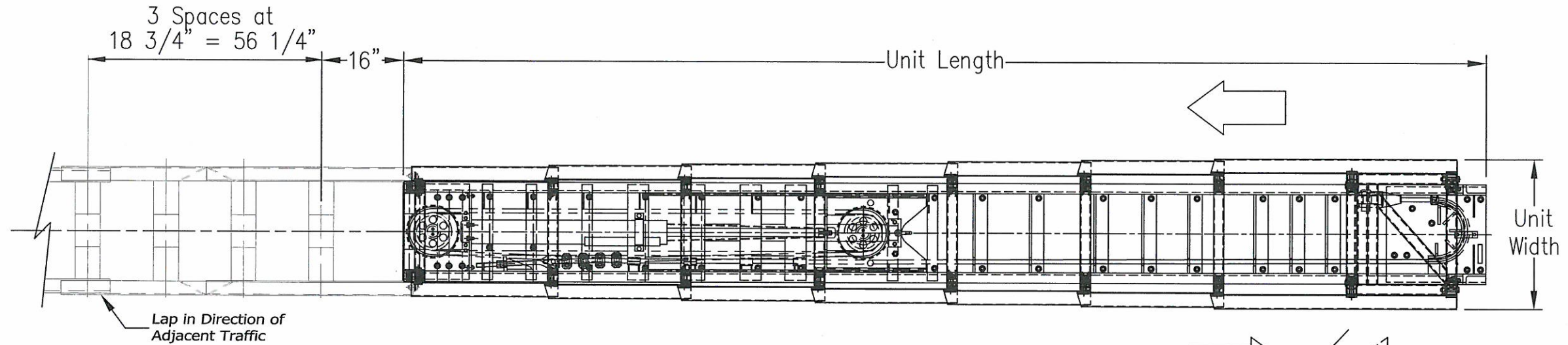
NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

*Handwritten signature and date: 11/17/12*

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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
by	date	QPL NO. S544-0032	
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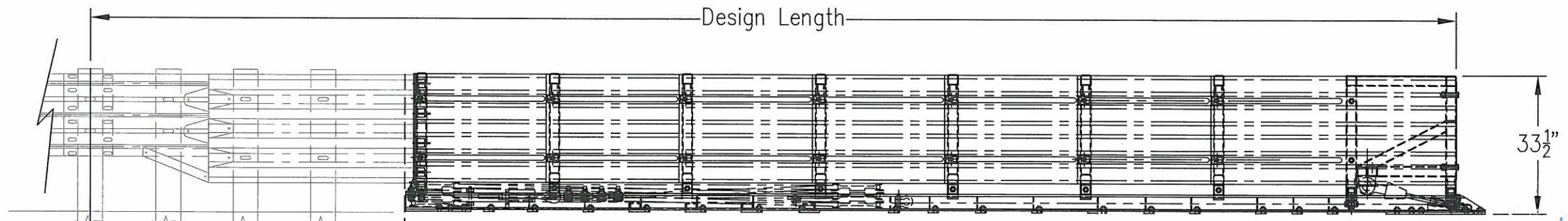
Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	180"	230"	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	276"	326"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



UNIT PLAN

Note: Guardrail is only needed on the traffic side of a system for shoulder applications.



UNIT ELEVATION

End Measurement of Guardrail Payment

Manufacturer's Transition

TRANSITION TO THRIE BEAM

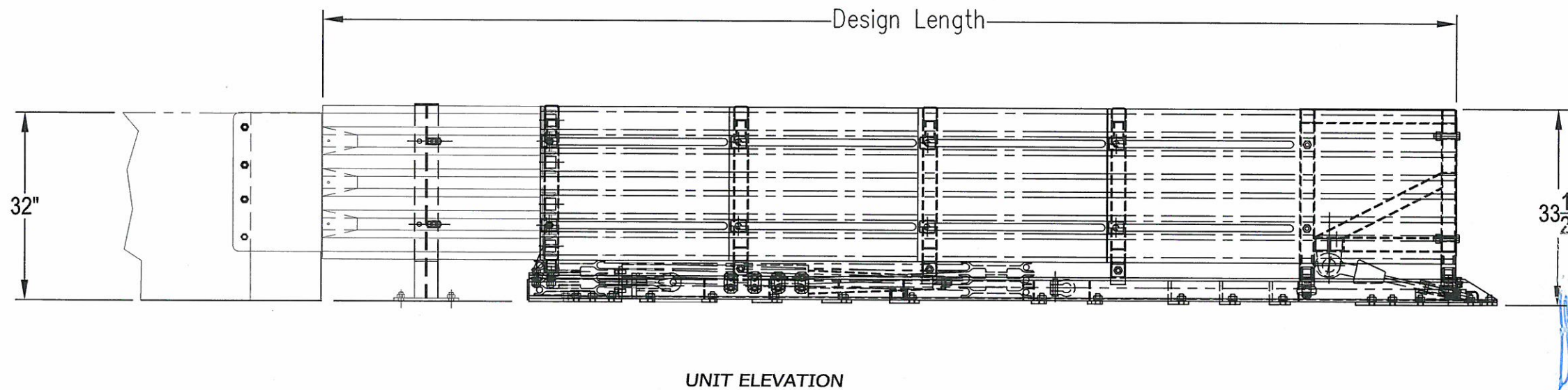
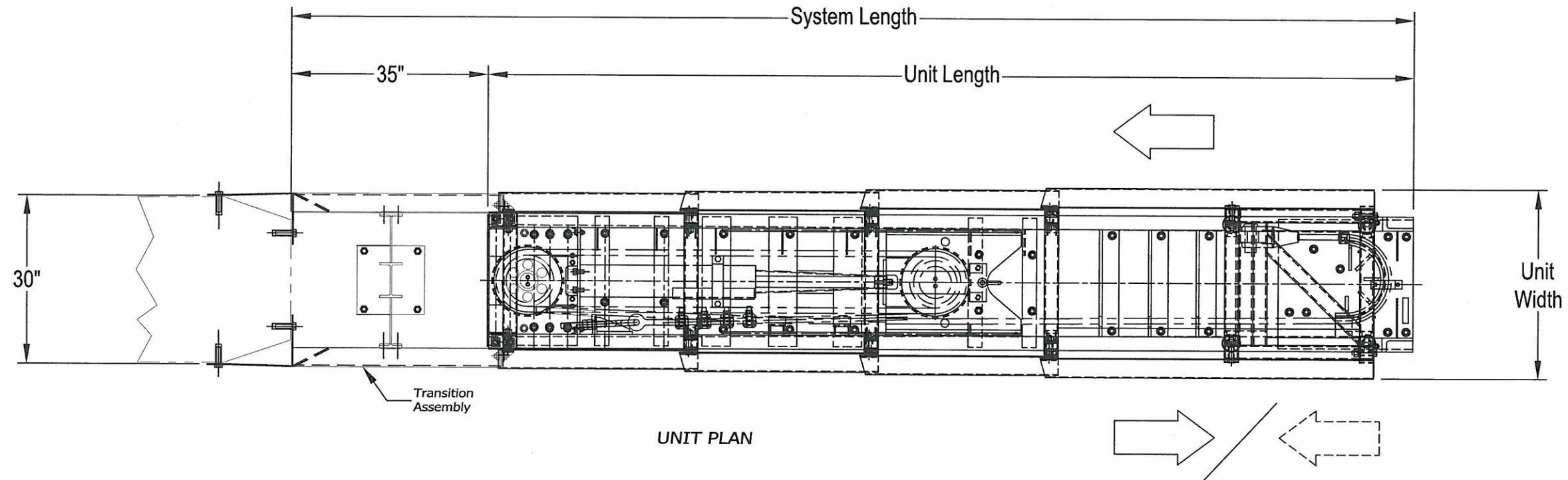
NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

*Handwritten signature and date: 11/17/12*

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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
by	date	QPL NO. S544-0032	
Drawn	PE	11/17/12	
Checked	JS	11/17/12	Rev. 1 Sh. 6 of 11

Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	215"	192"	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	311"	288"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



TRANSITION TO 30" BLOCK

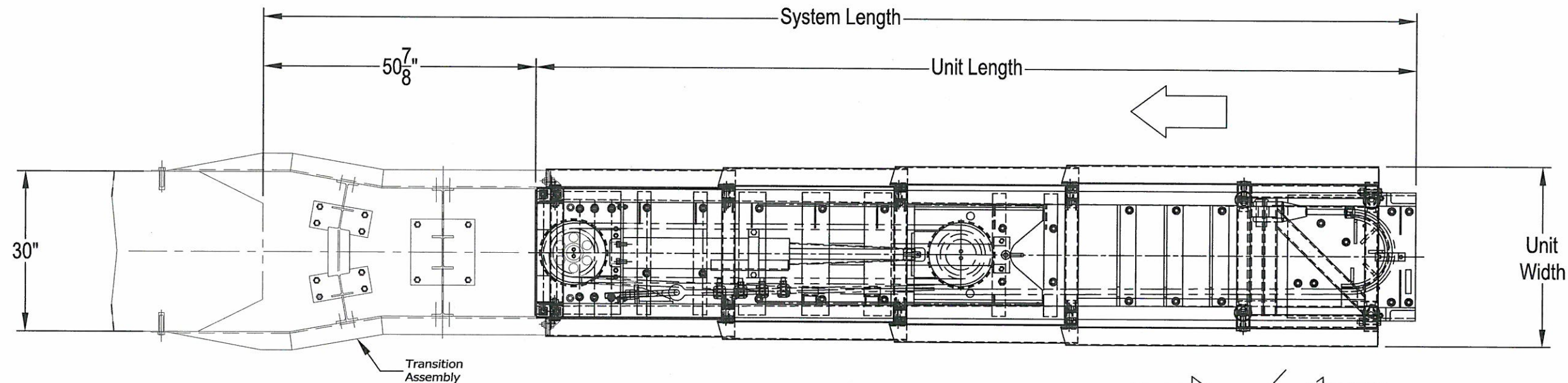
NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

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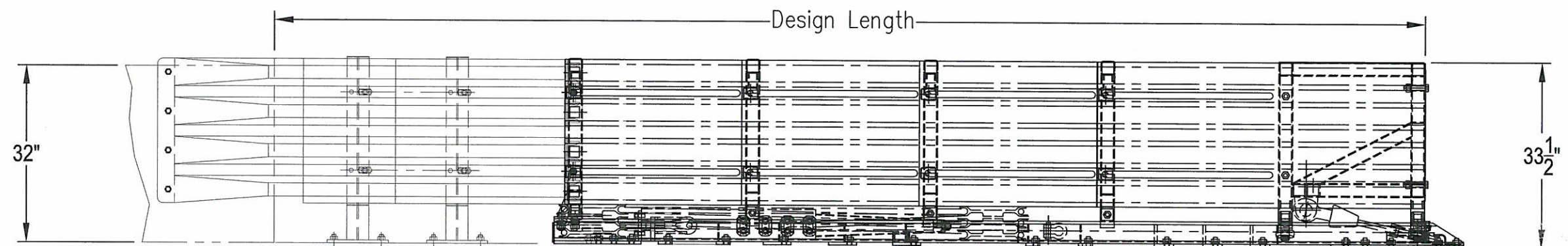
State of Florida Department of Transportation			
SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
Drawn	by	date	QPL NO. S544 - 0032
Checked	JS	11/17/12	Rev. 1 Sh. 7 of 11

Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	231"	208"	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	327"	304"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



UNIT PLAN



UNIT ELEVATION

TRANSITION TO 30" BLOCK, FLARED

NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

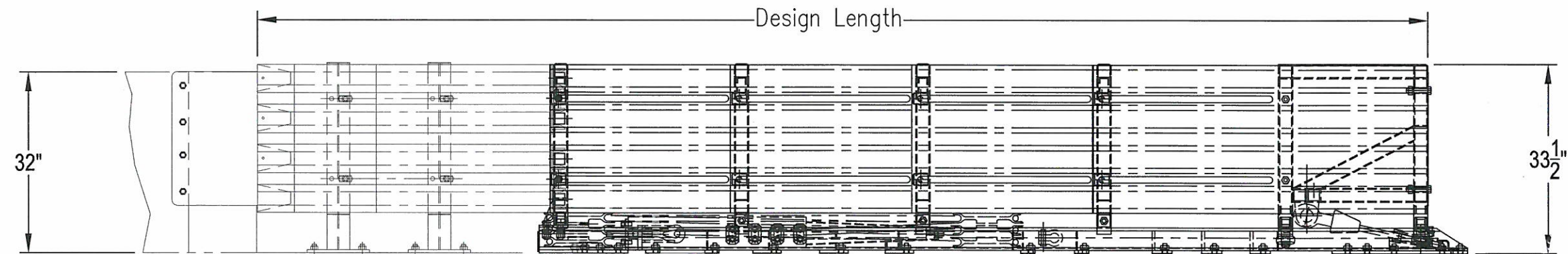
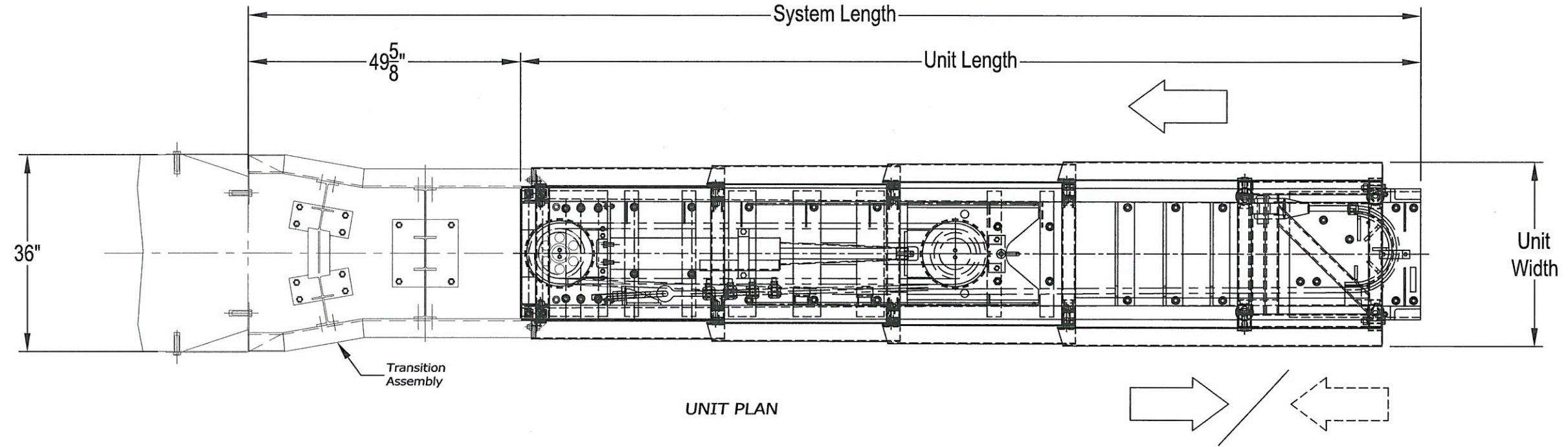
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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
Drawn	PE	date	QPL NO. S544 - 0032
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Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI170GM	36"	164"	48"	230"	207"	≤ 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	326"	303"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of ≤ 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System



*Handwritten signature: Gary C. Smith 12/17/12*

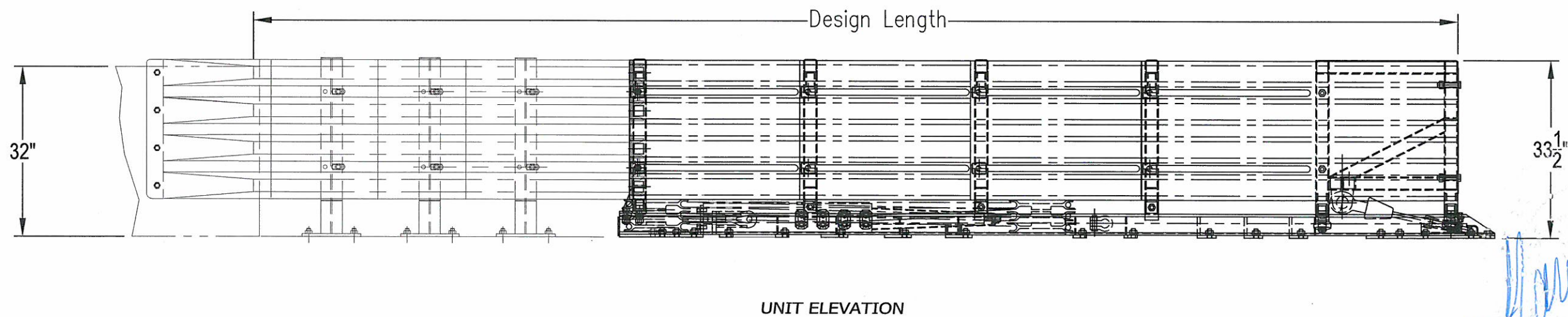
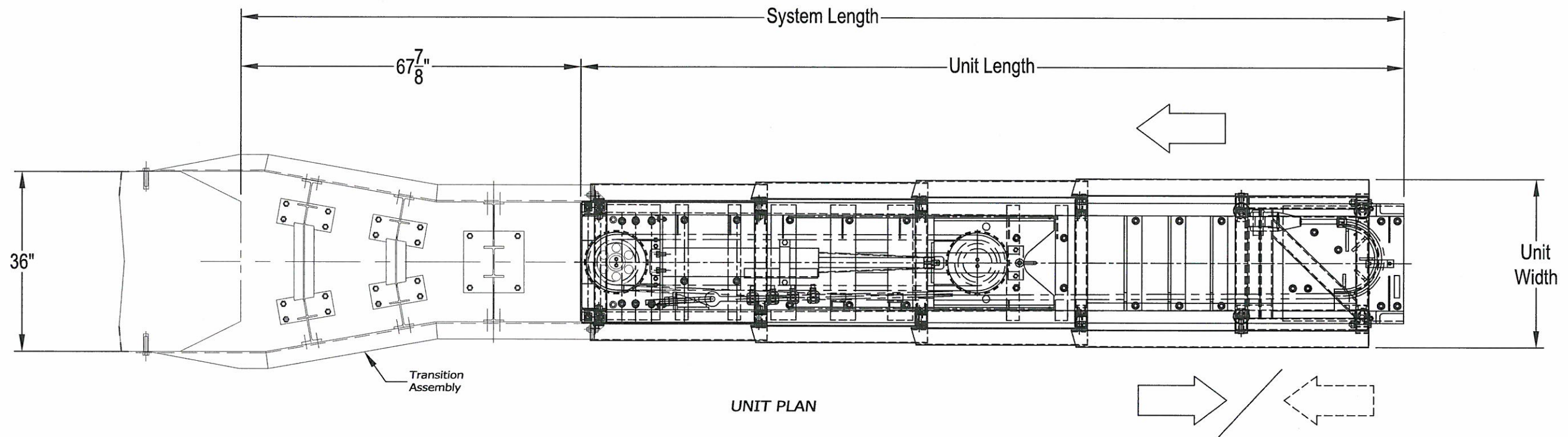
TRANSITION TO 36" BLOCK

NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

State of Florida Department of Transportation			
SCI Products Inc. SCI100GM & SCI170 GM Crash Cushions			
Drawn	PE	11/17/12	QPL NO. S544 - 0032
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Specifications							
Model Number	Unit Width	Unit Length	Foundation Width	Foundation Length	Design Length	Design Speeds	Test Level Designation
SCI70GM	36"	164"	48"	248"	225"	< 45 mph	TEST LEVEL 2
SCI100GM	37"	260"	48"	344"	321"	≥ 50 mph	TEST LEVEL 3

Note: For Low Speed Facilities with Design Speed of < 45 mph Use a TL-2 System  
 For High Speed Facilities with Design Speed of ≥ 50 mph Use a TL-3 System

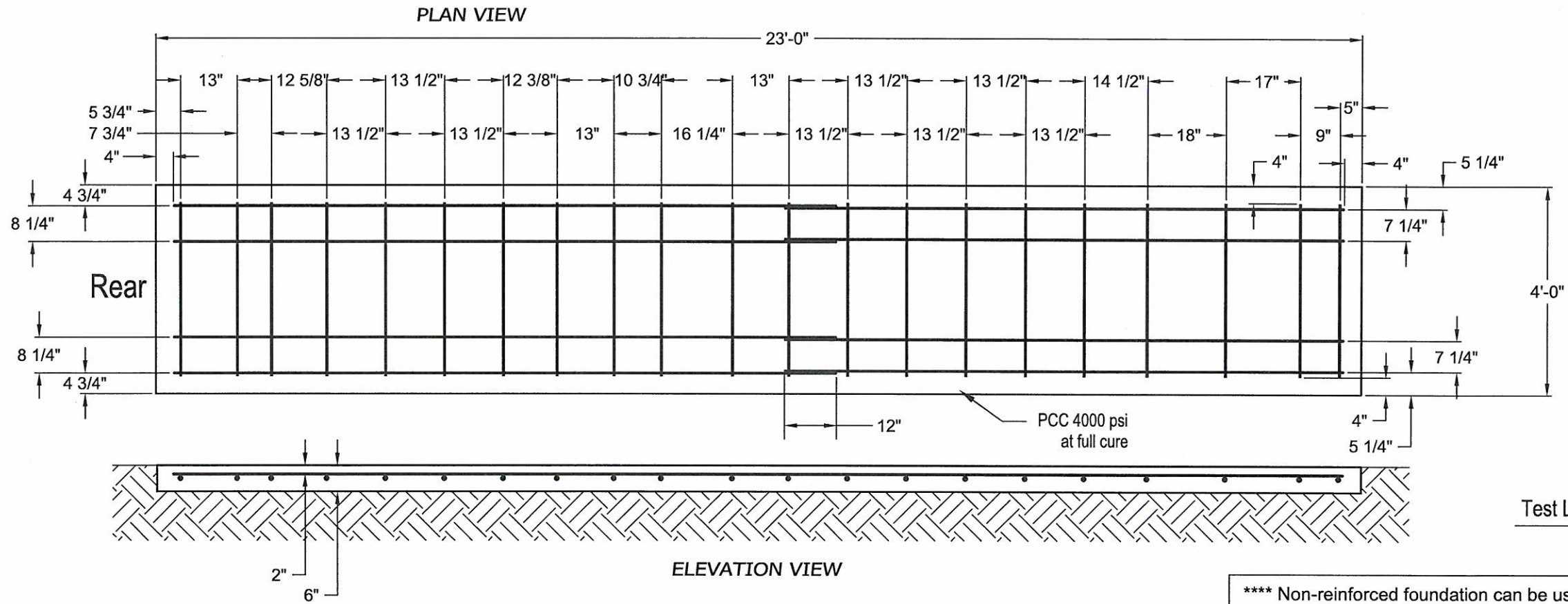


TRANSITION TO 36" BLOCK, FLARED

NOTES:  
 1. PROVISION SHALL BE MADE FOR REAR FENDER PANELS TO SLIDE REARWARD ON IMPACT 30" MINIMUM.

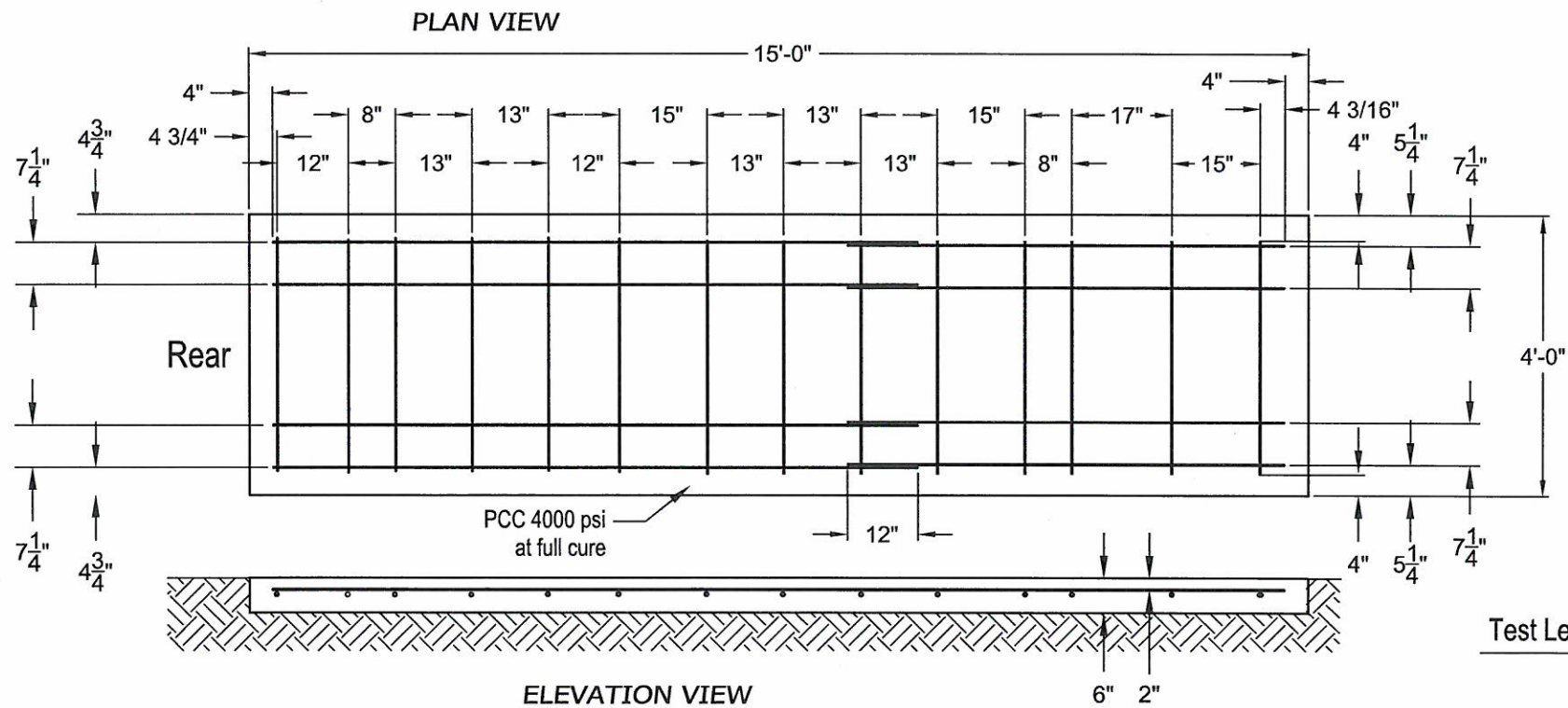
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SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
by	date	QPL NO. S544 - 0032	
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SCI100GM  
Test Level 3 System

\*\*\*\* Non-reinforced foundation can be used by providing a thickness of 8" instead of 6" specified above. Other dimensions stay the same. \*\*\*\*



SCI170GM  
Test Level 2 System

**SPECIFICATIONS**

All reinforcing steel - straight #4 ASTM-A36

Embedment requirements:

6" reinforced concrete pad with anchor embedment of 5 1/2"

8" nonreinforced concrete pad with anchor embedment of 5 1/2"

The contractor shall furnish a certification for material installed to the following requirements:

6" reinforced concrete (PCC) sampling per ASTM C31-84, testing per ASTM C39-84

8" nonreinforced concrete (PCC) sampling per ASTM C31-84, testing per ASTM 39-84

Anchors will be 3/4" x 7" (A194-B7) attached using

Epoxy Type: Epcon A7-FL Spec. #S937-0108

Concrete strength shall be minimum 4000 psi @ 28 days

*Handwritten signature and date: 11/17/12*

**FOUNDATION SPECIFICATIONS**

State of Florida Department of Transportation			
SCI Products Inc. SCI100GM & SCI70 GM Crash Cushions			
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Drawn	PE	11/17/12	
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