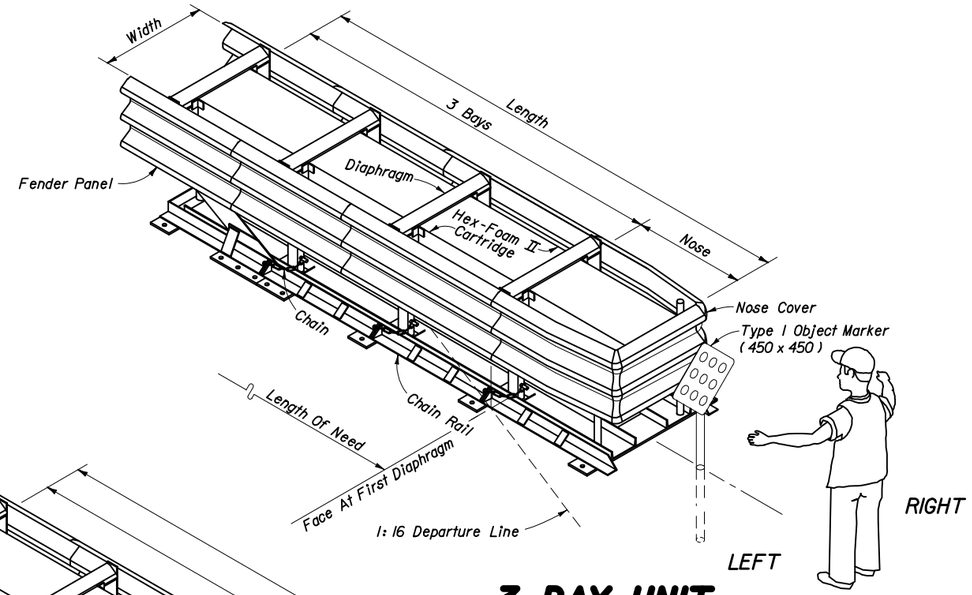
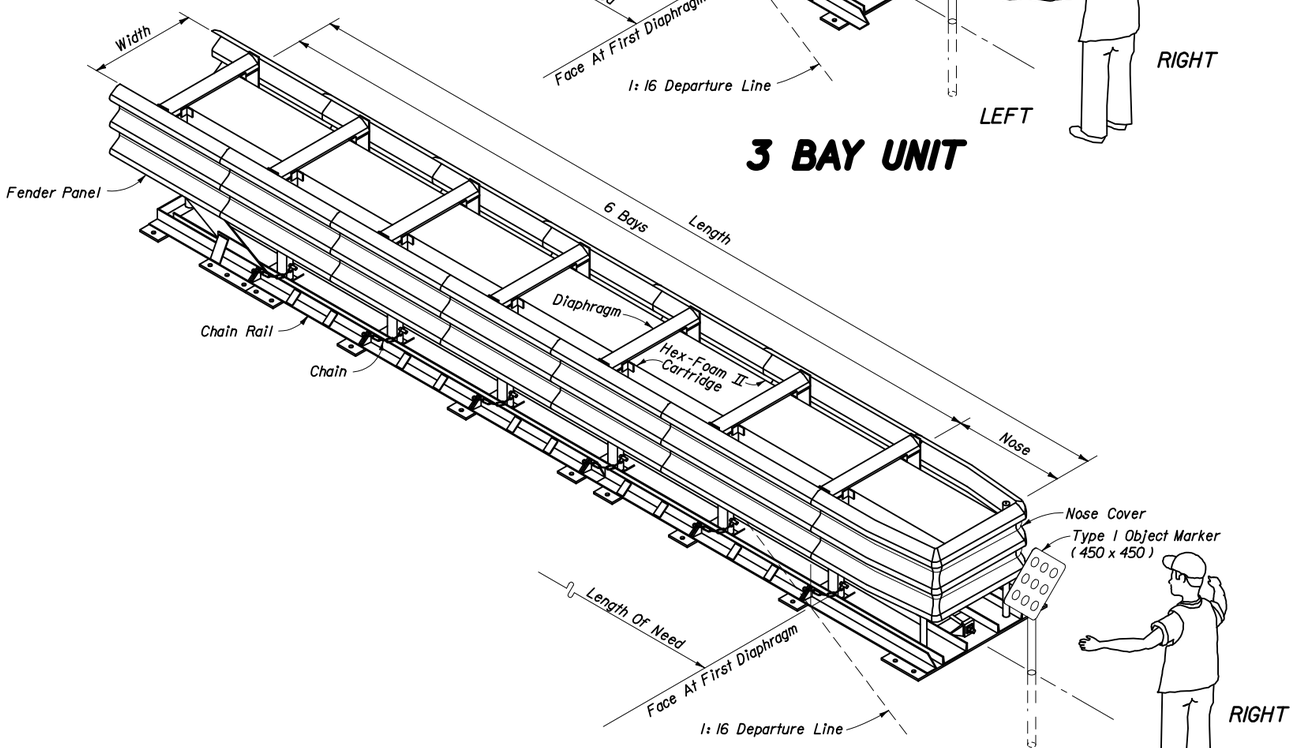
FINANCIAL PROJECT ID	STATE PROJ. NO.	SHEET NO.



3 BAY UNIT



6 BAY UNIT

GENERAL NOTES

1. The energy absorbing system represented on this standard drawing is a proprietary design by Energy Absorption Systems, Inc. and marketed under the trade name G-R-E-A-T_{CZ} , short for Construction Zone Guard Rail Energy Absorbing Terminal. Any infringement on the rights of the designer shall be the sole responsibility of the user.
2. This standard drawing is produced by the Florida Department Of Transportation solely for use by the Department and its assignees. This standard drawing provides the general graphics and information necessary to field identify component parts of the G-R-E-A-T_{CZ} System (G-R-E-A-T_{CZ}) and their incorporation into a whole system.
3. This standard drawing is sufficient for plan details for the G-R-E-A-T_{CZ} installed as a free standing system or installed in connection with concrete barrier walls and other fixed barrier systems, and precludes the requirement for shop drawing submittals unless the plans otherwise call for such submittals.
4. The G-R-E-A-T_{CZ} is suitable for use in work zones with speeds of ≤ 70 km/h (≤ 45 mph).
5. The G-R-E-A-T_{CZ} shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures and specifications.
6. The standard widths for the 3 bay and 6 bay G-R-E-A-T_{CZ} are 610 mm and 762 mm; nominal widths 610 mm and 760 mm.
7. Connection between the G-R-E-A-T_{CZ} and guardrail shall be as shown on Sheet Nos. 5 and 6.

   For temporary concrete barrier wall with unidirectional traffic there is no connection between the G-R-E-A-T_{CZ} and the wall. The G-R-E-A-T_{CZ} should abut the end of the wall, but a space not to exceed 280 mm is allowed. For temporary concrete barrier wall with bidirectional traffic, the transitional panel shown on the "Tension Strut Backup Assembly 'INSET'" details shall be the only connection between the G-R-E-A-T_{CZ} and the wall; for additional information on use with temporary concrete barrier wall see Index No. 415.

   Variation from the connections described above shall be as detailed in the plans or as prescribed by the manufacturer.
8. Only the G-R-E-A-T_{CZ} Hex-Foam II cartridges shall be used in all bays and the nose section.
9. The G-R-E-A-T_{CZ} shall be constructed on cross slopes 1: 10 or flatter.
10. All metallic components shall meet the galvanizing requirements for guardrail, Index No. 400.
11. A yellow Type I Object Marker shall be centered 1.0 m in front of the nose of the G-R-E-A-T_{CZ}. Mounting hardware shall be in conformance with Index No. 11860 and 11865.
12. Chemical bolt anchors (MP-3 anchors) are supplied with each G-R-E-A-T_{CZ} unit purchase. The standard Florida package will not include anchor pins. Anchor pins will be supplied by the manufacturer only when called for in the plans. For units that are relocated and require reset anchorage, the user shall reinstall the unit with manufacturer supplied new MP-3 anchors.
13. Temporary crash cushions can be either new or functionally sound used devices. New G-R-E-A-T_{CZ} crash cushions purchased after October 1, 1998 can not be used. Performance of intended function is the only condition for acceptance, whether the crash cushion is new, used, refurbished, purchased, leased, rented, on loan, shared between projects, or made up of mixed new and used components. Units that have been impacted by vehicles can remain in use as long as the unit is economically repairable. Units to be repaired and remain in service shall have design condition anchorages when restorations are complete. Units with disturbed anchors can be repositioned over undisturbed foundation and reset, or, reset in place with the disturbed portions of their foundations restored to design condition. All disturbed anchors are to be replaced with new MP-3 anchors.
14. The G-R-E-A-T_{CZ} manufacturer's 'Driveable Pile Anchor System' (DPA system) is not a part of this standard. Any use of the DPA System will require shop drawing approval.
15. Use of the 6 bay G-R-E-A-T_{CZ} unit has been discontinued for high speed work zones, but can be substituted for 3 bay unit applications with speeds ≤ 70 km/h (≤ 45 mph).
16. Quantity for payment is based on each independent location as called for in the plans or as directed by the Engineer. The cost for foundations, subgrade preparation and miscellaneous asphalt shown on this index shall be included in the cost for the G-R-E-A-T_{CZ} System. The G-R-E-A-T_{CZ} System will be paid for under the contract unit price for Vehicle Impact Attenuator (Temporary) (Redirective Option), LO.

DESIGN NOTES AND GUIDELINES

1. The G-R-E-A-T_{CZ} System (G-R-E-A-T_{CZ}) is designed to cushion automobile end-on hits and to redirect automobiles from side hits. The G-R-E-A-T_{CZ} is designed to shield narrow fixed hazards or the ends of other fixed barrier systems.
2. The G-R-E-A-T_{CZ} is a restorable system that is particularly suited to shielding hazards subject to high volume traffic, and/or traffic with a history of frequent errant vehicle departures from the roadway or the potential exists for such departures. The G-R-E-A-T_{CZ} alone is not suited to shielding a wide hazard. The G-R-E-A-T_{CZ} is particularly suited to shielding hazards where the approach space is limited; and, is particularly suited to conditions where the terminal must be located close to the traffic lane.
3. The G-R-E-A-T_{CZ} is suitable for the optional applications outlined in the general notes above but is not an equally suitable alternative to other proprietary units due to the range and limitations of applications for accepted systems, and until such alternatives are available, the G-R-E-A-T_{CZ} need not be bid against other proprietary items.

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

NOTICE

THE G-R-E-A-Tcz CAN BE USED ON PROJECTS LET TO CONTRACT PRIOR TO JUNE 30, 2004 FOR THE LIFE OF THE PROJECT OR UNTIL THE UNIT REACHES THE END OF ITS SERVICE LIFE, WHICHEVER COMES FIRST.

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE G-R-E-A-T

INTERIM STANDARD

THIS INDEX IS A SUPPLEMENT TO THE ROADWAY AND TRAFFIC DESIGN STANDARDS, BOOKLETS DATED JANUARY 2000.

APPROVED BY Roadway Design Engineer

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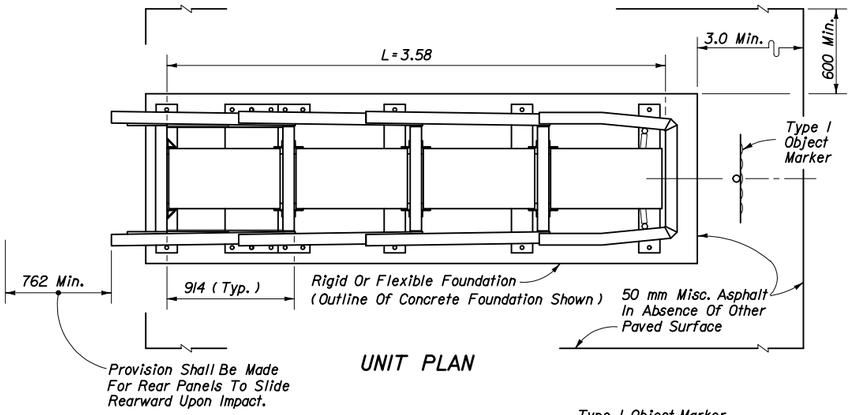
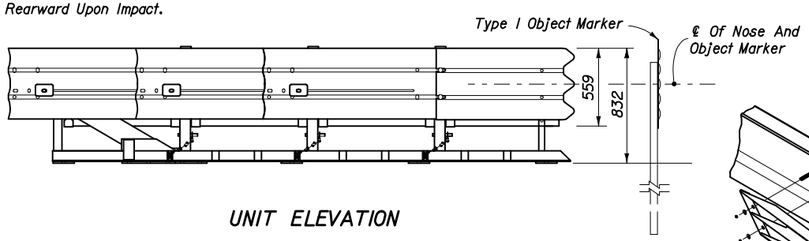
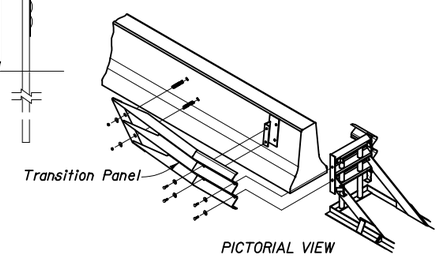


UNIT PLAN

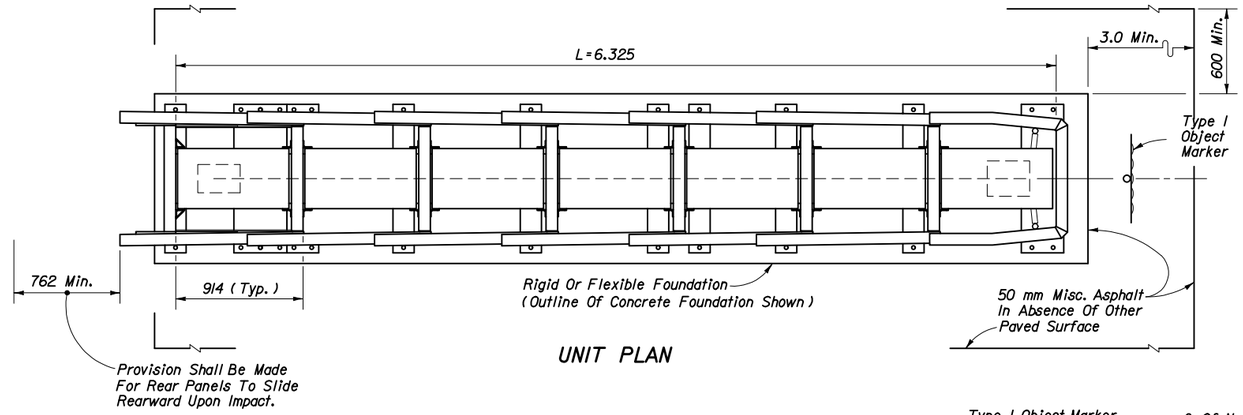


UNIT ELEVATION

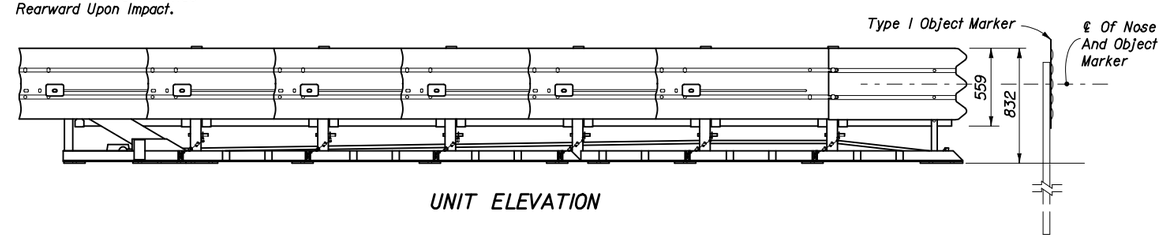


PICTORIAL VIEW

INSET



UNIT PLAN



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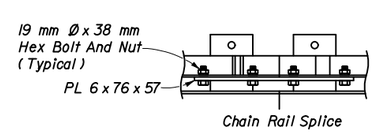
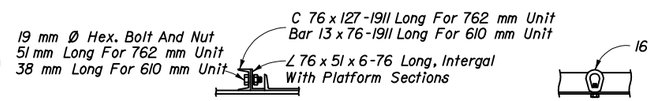
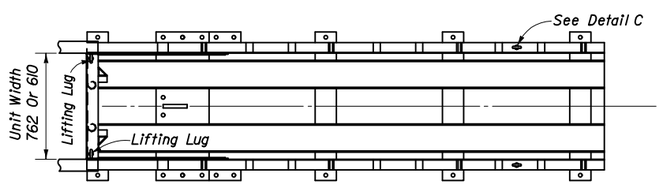


Chain Rail Splice
DETAIL A

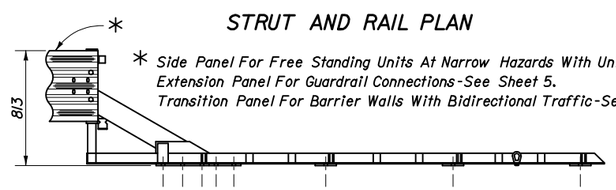


Channel Splice
DETAIL B

Lifting Lug
DETAIL C



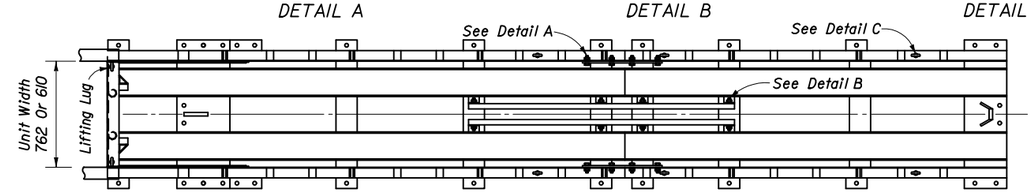
STRUT AND RAIL PLAN



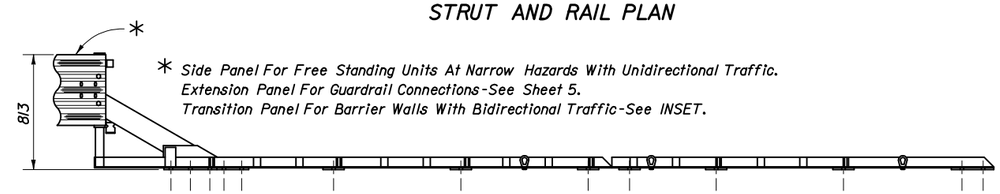
* Side Panel For Free Standing Units At Narrow Hazards With Unidirectional Traffic.
Extension Panel For Guardrail Connections-See Sheet 5.
Transition Panel For Barrier Walls With Bidirectional Traffic-See INSET.

STRUT AND RAIL ELEVATION

3 BAY UNIT



STRUT AND RAIL PLAN



* Side Panel For Free Standing Units At Narrow Hazards With Unidirectional Traffic.
Extension Panel For Guardrail Connections-See Sheet 5.
Transition Panel For Barrier Walls With Bidirectional Traffic-See INSET.

STRUT AND RAIL ELEVATION

6 BAY UNIT

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

TENSION STRUT BACKUP ASSEMBLY

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE
G-R-E-A-T

INTERIM STANDARD

THIS INDEX IS A SUPPLEMENT TO THE ROADWAY AND TRAFFIC DESIGN STANDARDS, BOOKLETS DATED JANUARY 2000.

APPROVED BY
Roadway Design Engineer

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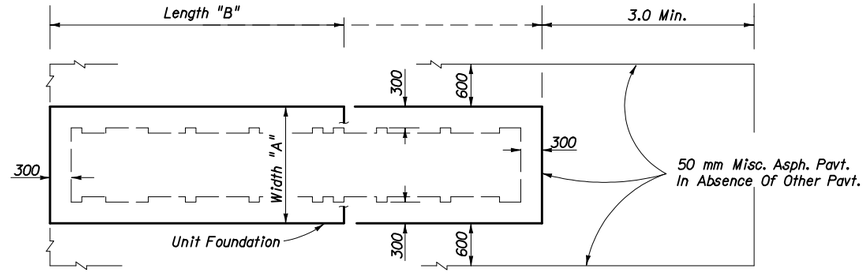
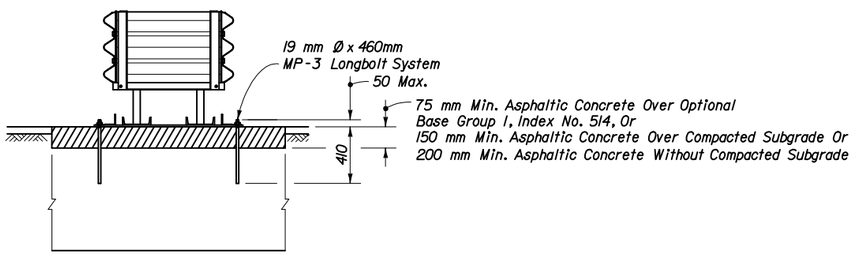


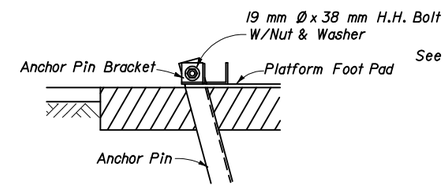
PLAN

FOUNDATION DIMENSIONS			
UNIT		Width "A" (m)	Length "B" (m)
Bays	Width (mm)		
3	610	1.5	4.32
	762	1.7	4.32
6	610	1.5	7.07
	762	1.7	7.07

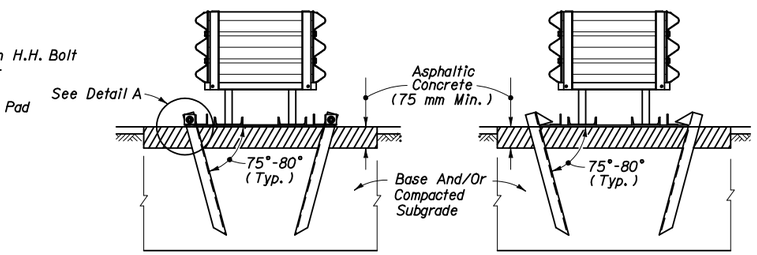
FOUNDATION PAD & MISCELLANEOUS ASPHALT PAVEMENT



SECTION CC

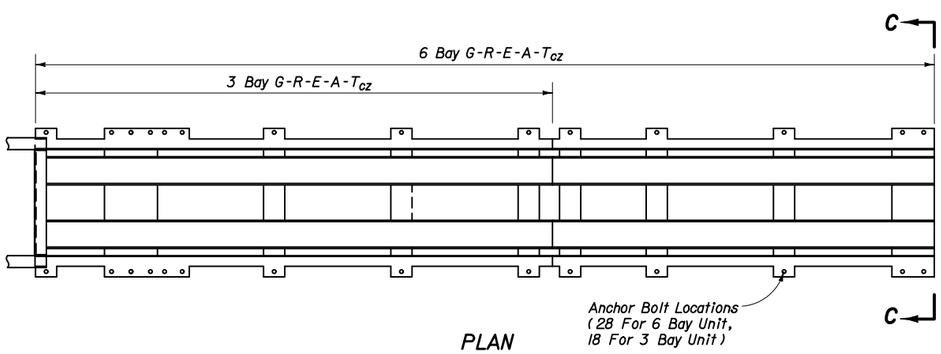


DETAIL A



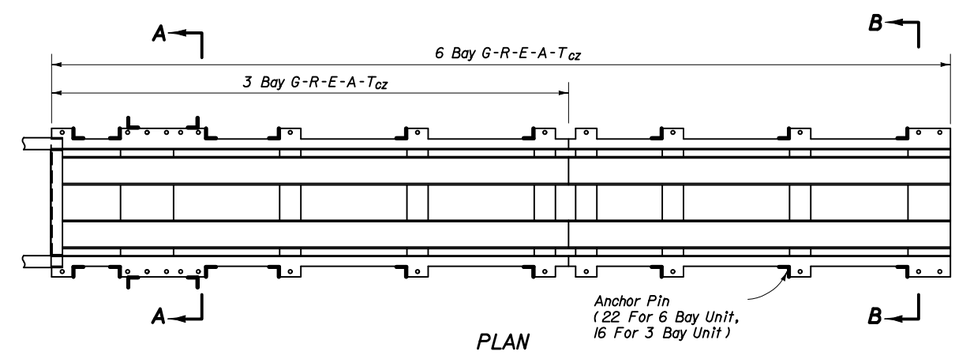
SECTION AA

SECTION BB



PLAN

MP-3 LONGBOLT ANCHOR SYSTEM



PLAN

Note: Anchor pin system is to be used only when called for in the plans. See General Notes Nos. 12 & 13.

ANCHOR PIN SYSTEM

FLEXIBLE FOUNDATIONS

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE
G-R-E-A-T

INTERIM STANDARD

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Roadway Design Engineer

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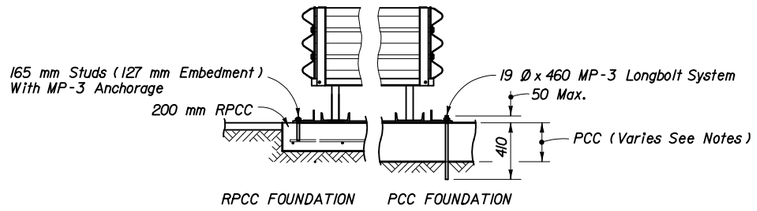
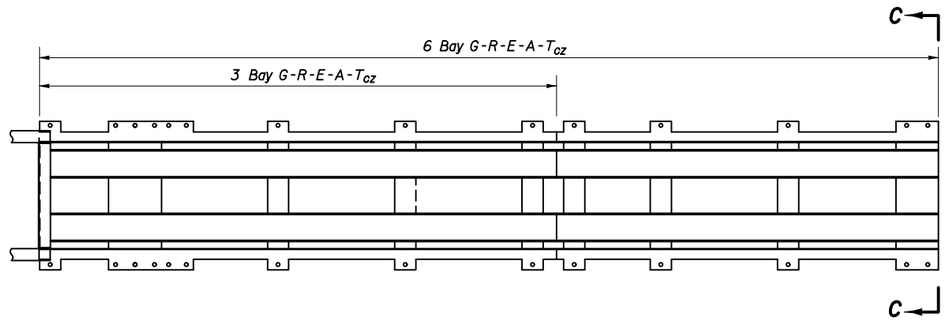


SECTIONS CC (HALF SECTIONS)



PLAN

MP-3 ANCHOR SYSTEM

RIGID FOUNDATION NOTES

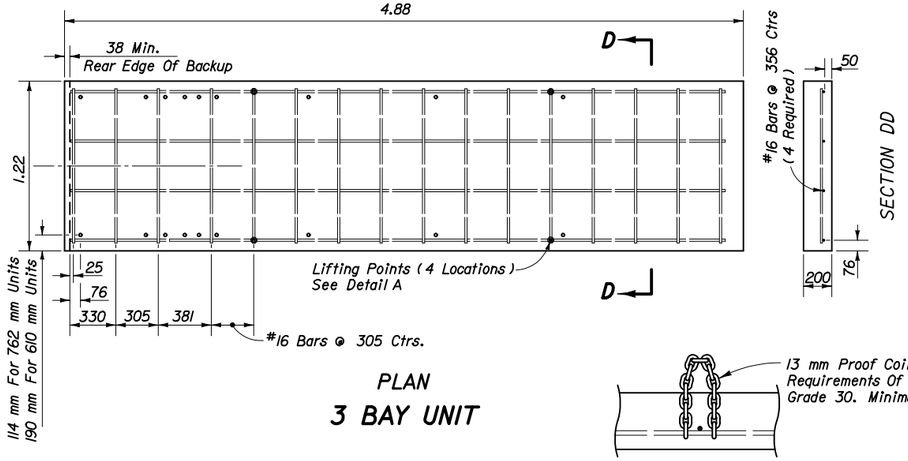
1. The reinforced portland cement concrete (RPCC) foundation is designed to make the G-R-E-A-T_{CZ} a transportable system. The slab foundation shall be constructed with 28 MPa min. compressive strength concrete. The slab shall be seated so the top of the slab is flush with the surface intended for approaching vehicles. The surrounding surface shall be paved as shown in this index on the 'Unit Plan' for the 'Tension Strut Backup Assembly'. The G-R-E-A-T_{CZ} shall be anchored exclusively with the 165 mm MP-3 anchor system supplied with the G-R-E-A-T_{CZ} unit, unless another anchor is supplied or approved by the G-R-E-A-T_{CZ} manufacturer.

2. The nonreinforced portland cement concrete (PCC) foundation shall be Class I concrete, having plan dimensions equal to or greater than those for the RPCC foundation. The PCC foundation utilization options are as follows: (a) Poured in place as an expendable slab, having a thickness of not less than 150 mm; disposal of the slab will be as approved by the Engineer, (b) Project constructed roadway PCC pavement, or, (c) Existing 230 mm PCC roadway pavement.

   The utilization option applied shall be as approved by the Engineer on a site specific basis. The top of the PCC foundation shall be flush with the surface intended for approaching vehicles. In absence of surrounding pavement the surrounding surface shall be paved as shown in this index on the 'Unit Plan' for the 'Tension Strut Backup Assembly'.

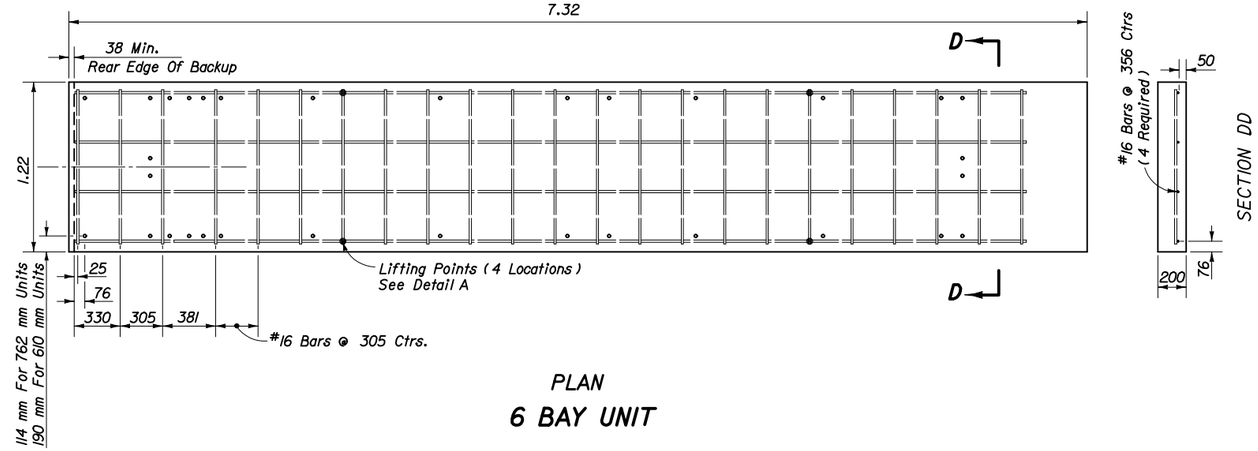
   The G-R-E-A-T_{CZ} installed on PCC pavement shall be anchored only with the MP-3 Longbolt system supplied with the G-R-E-A-T_{CZ} unit. Holes for the 460 mm anchors shall be drilled through both existing and new pavements. When the G-R-E-A-T_{CZ} is removed from the project pavement or from existing pavement that is to remain in place, the longbolt anchor shall be cut off flush with the top of the pavement, unless the plans call for other treatment.

3. For additional information see the General Notes.



PLAN
3 BAY UNIT

DETAIL A



PLAN
6 BAY UNIT

REINFORCED CONCRETE PAD SYSTEM (RPCC)

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

RIGID FOUNDATIONS

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE
G-R-E-A-T

INTERIM STANDARD

THIS INDEX IS A SUPPLEMENT TO THE ROADWAY AND TRAFFIC DESIGN STANDARDS, BOOKLETS DATED JANUARY 2000.

APPROVED BY
Roadway Design Engineer

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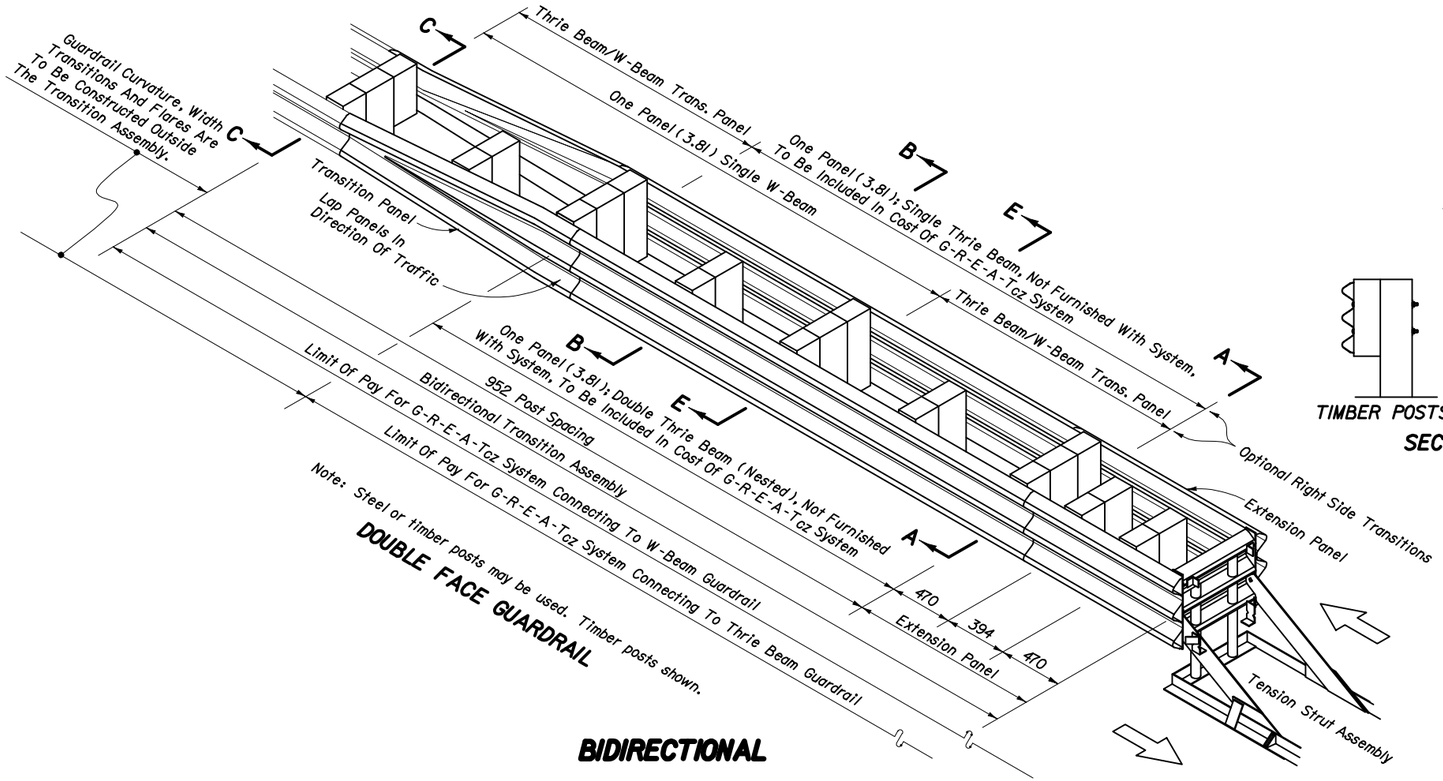
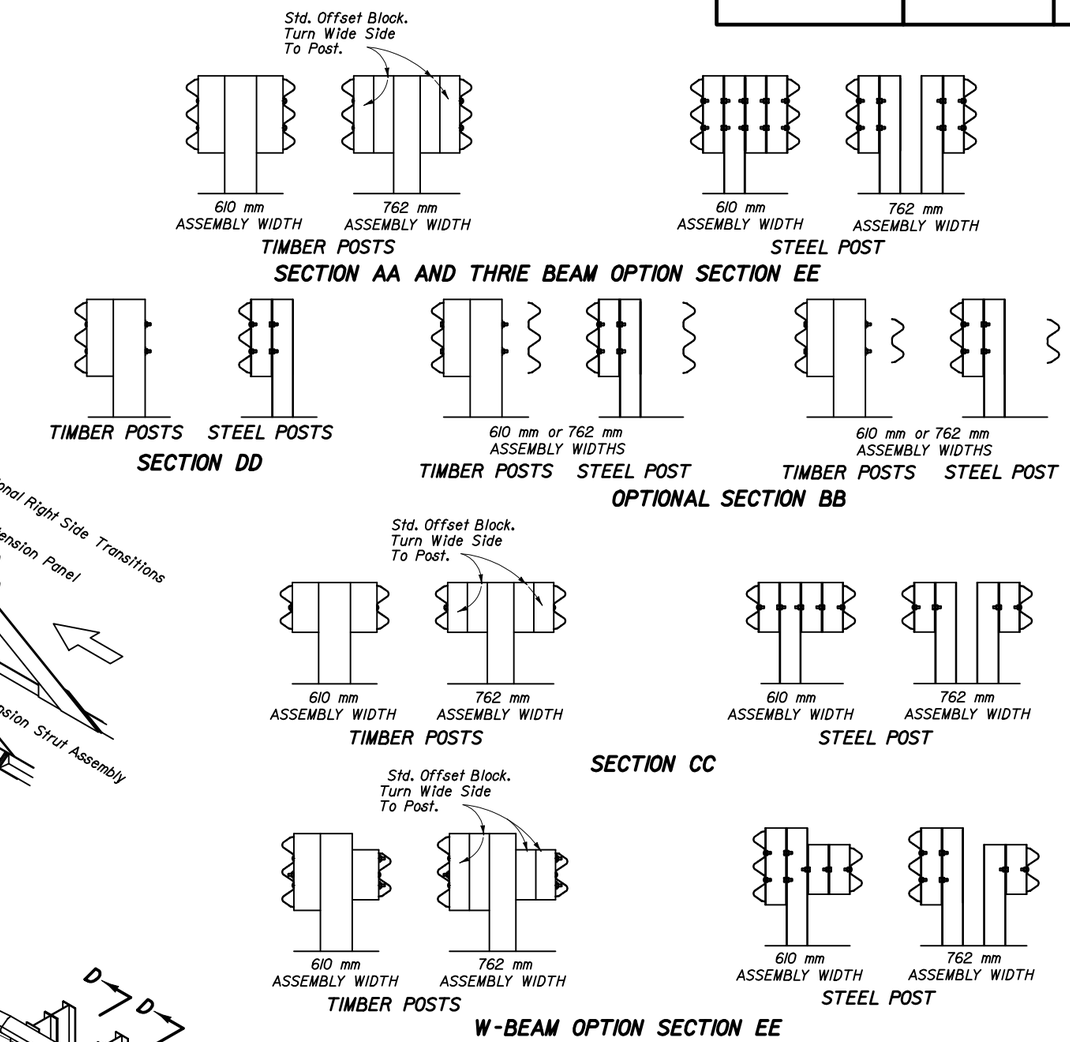
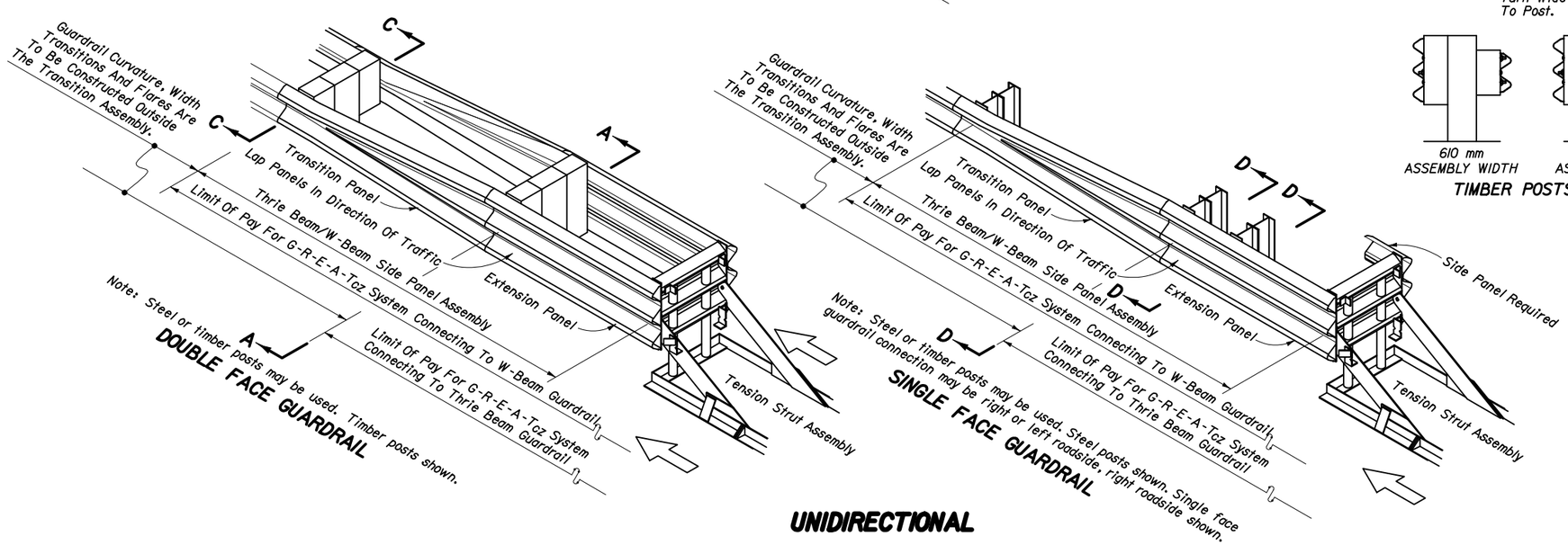


DOUBLE FACE GUARDRAIL

BIDIRECTIONAL





DOUBLE FACE GUARDRAIL

SINGLE FACE GUARDRAIL

UNIDIRECTIONAL

NOTE

1. For additional information see the General Notes and backup assembly details.

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

TRANSITION ASSEMBLIES FOR CONNECTIONS TO GUARDRAIL

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE
G-R-E-A-T

INTERIM STANDARD

THIS INDEX IS A SUPPLEMENT TO THE ROADWAY AND TRAFFIC DESIGN STANDARDS, BOOKLETS DATED JANUARY 2000.

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Roadway Design Engineer

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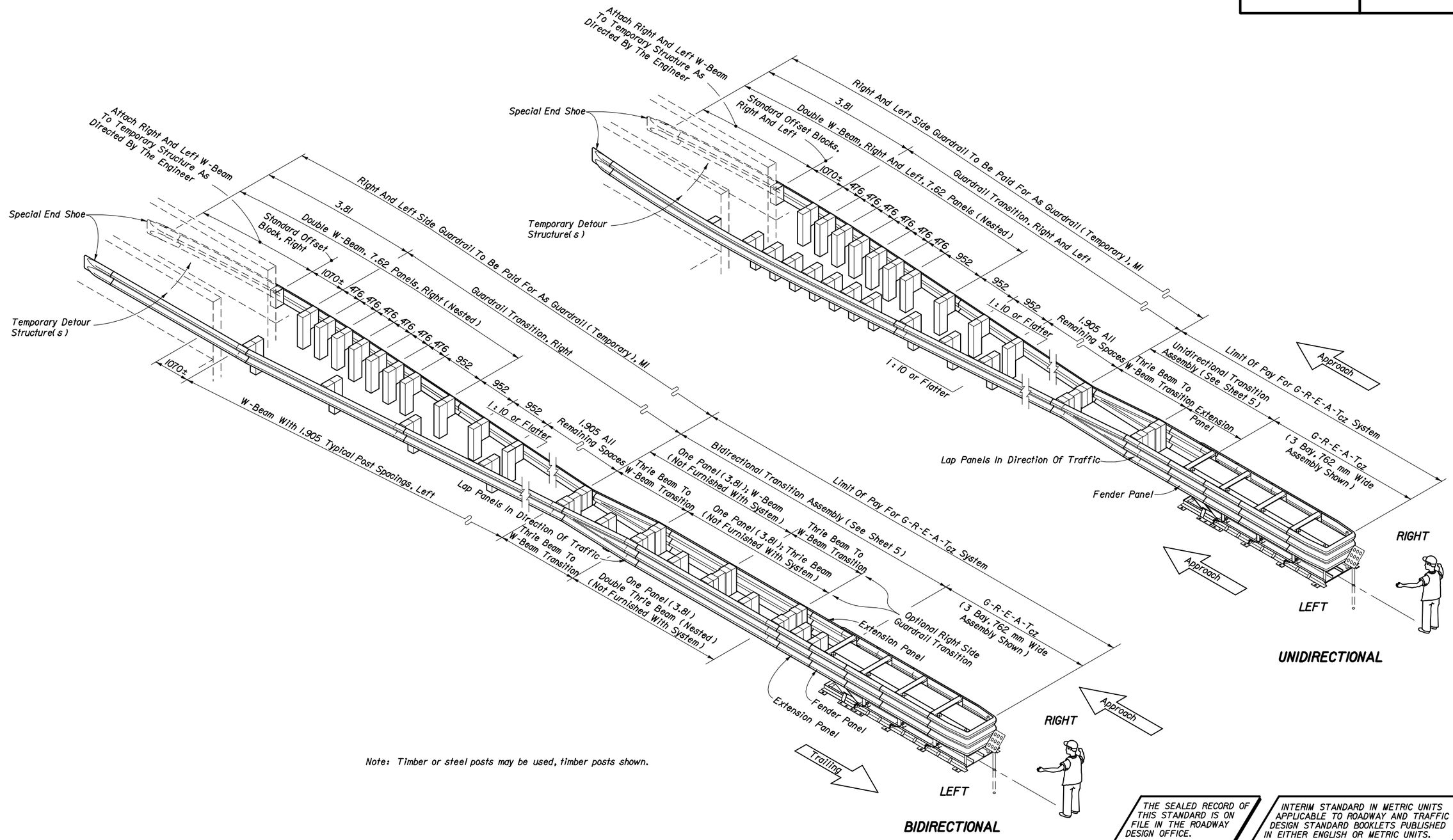

Note: Timber or steel posts may be used, timber posts shown.

THE SEALED RECORD OF THIS STANDARD IS ON FILE IN THE ROADWAY DESIGN OFFICE.

INTERIM STANDARD IN METRIC UNITS APPLICABLE TO ROADWAY AND TRAFFIC DESIGN STANDARD BOOKLETS PUBLISHED IN EITHER ENGLISH OR METRIC UNITS.

GUARDRAIL TRANSITION TO TEMPORARY DETOUR STRUCTURES

Revised: 10-10-01

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ZONE G-R-E-A-T

INTERIM STANDARD

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