

**Texas Department of Transportation**  
**BOOK 2 – TECHNICAL PROVISIONS**  
**FOR**  
**LOOP 375 - BORDER HIGHWAY WEST EXTENSION**  
**PROJECT**  
**Design-Build Project**  
**ATTACHMENT 21-1**  
**TOLL SYSTEMS RESPONSIBILITIES MATRIX**

**MARCH 14, 2014**

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## BHW Toll Responsibility Matrix – 03/13/2014

Texas Department of Transportation

Toll Systems Responsibility Matrix

LEGEND		Work Description		
Primary Responsibility	A	1	2	3
Support Responsibility	B	Design	Procure	Install and/or Construct
Coordination Responsibility Only	C			
No Responsibility	D			

Element/Task/Component/ Sub-system	TxDOT (T)			Developer (D)			CRRMA/System Integrator (SI)			Comments Other Responsibility/Information
	1	2	3	1	2	3	1	2	3	
<b>FACILITIES</b>										
Toll Zone Layout	B	D	C	B	A	A	A	B	B	Elements of the layout will be constructed by either D or SI as identified in the layout
Metered power service to roadside equipment cabinet	B	D	C	A	A	A	B	D	B	SI to provide power requirements and special requirement for construction of utilities near Toll Zone.
Electrical conductors from Equip Pad to Toll Zone Equipment	B	D	C	D	A	A	A	D	B	
Complete backup power systems: generators, automatic transfer switches, and fuel tanks	C	D	C	D	D	D	A	A	A	
Uninterruptible Power Supplies for the lane controllers/Tolling Equipment at Toll Sites	C	D	C	D	D	D	A	A	A	
Lightning Protection & Grounding	C	D	C	A	A	A	B	D	B	
Duct Bank (Toll Zones)	C	D	C	A	A	A	B	D	B	D to provide fiber in a dedicated vault separate from ITS on opposite sides of roadway.
Fiber Optic cables in Duct Bank for Toll Systems	C	D	C	A	A	A	B	D	B	

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Fiber Optic data/communication wire/fiber to ground box at Toll Zone	C	D	C	A	A	A	B	D	B	D to provide fiber, in accordance with SI specs, to ground boxes adjacent to each toll zone equipment cabinet pad
Data/communication wire/fiber from ground box at Toll Zone to toll systems equipment	B	D	C	D	D	C	A	A	A	
Installation/Electrical Design and Plans to junction box at Toll Zone	C	D	C	A	A	A	B	D	B	D to install to electrical junction box adjacent to roadside equipment cabinet.
Installation/Electrical Design and Plans from junction box at Toll Zone to toll systems equipment	C	D	C	B	D	C	A	A	A	SI to install from electrical junction box to gantries.
Toll Zone pavement and structure, using special GFRP section and conduit stub ups for pavement sensors	B	D	C	A	A	A	B	D	B	SI to provide pavement loop details with stub-up locations. Stub-ups to terminate in junction boxes adjacent to Toll Zone pavement, not on structure
Concrete Barrier Installation	B	D	C	A	A	A	D	D	D	D to provide Concrete Barrier as per Toll Plaza Layout. Barrier openings will accommodate maintenance driveways.
Pavement sensors	B	D	C	D	D	C	A	A	A	D to provide access to SI to saw cut and install pavement sensors
Gantries and foundations	B	D	C	A	A	A	B	D	B	T to provide SI specs to D for gantry design. D to coordinate locations with T

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Toll Equipment mounts on Gantries	B	D	C	D	D	C	A	A	A	SI to install any required equipment mounts on gantries. SI to coordinate with T during the design phase to incorporate any req'd framing to support equipment mounts.
Concrete Pads for power, elec, roadside toll equip, generator, LP tank	B	D	C	A	A	A	B	D	C	
Roadside equipment cabinets (including HVAC systems)	C	D	C	D	D	C	A	A	A	SI to install complete
Toll Signage	B	D	C	A	A	A	B	A	A	D to design and install foundation and structure. SI to install the SDMS.
Maintenance Driveway (including all roadway items within the toll zones)	B	D	C	A	A	A	B	D	D	For at-grade, D to provide maintenance access driveway w' a min of 6" flex base and 3" HMA
<b>ELECTRONIC TOLL COLLECTION SUB-SYSTEMS (ETC)</b>										
Automatic Vehicle Classification System and Image Capturing System (ICS) Hardware	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations.
Computer rack system, routers, hubs, switches, firewalls, VPN, modems, patch/distribution panels,	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations.
Toll Plaza Host Computer	C	D	C	D	D	D	A	A	A	

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Support equipment at designated Customer Service Center	C	D	C	D	D	D	A	A	A	
Commissioning and Operational Testing	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations.
Lane controller software	C	D	C	D	D	D	A	A	A	
Plaza Computer Software	C	D	C	D	D	D	A	A	A	
Host Computer Software	C	D	C	D	D	D	A	A	A	
Toll Collection System Application Software	C	D	C	D	D	D	A	A	A	
Maintenance Online Management System Software	C	D	C	D	D	D	A	A	A	
Site Acceptance Test	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations.
System Acceptance Test	C	D	C	D	D	D	A	A	A	
Training: (User and Maintenance)	C	D	C	D	D	D	A	A	A	
Documentation: (User and Maintenance)	C	D	C	D	D	D	A	A	A	
Documentation: ETS Installation/Electrical Design and Plans	C	D	C	D	D	D	A	A	A	

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Documentation: Civil As-built Drawings, and Contract Closeout Documents	C	D	C	A	D	D	D	A	A	
Documentation: ETS As-built Drawings	C	D	C	D	D	D	A	A	A	
FCC Licenses/Regulations as applies to toll systems	C	D	C	D	D	D	A	A	A	
Lane Controller Hardware	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations
Communication Equipment	C	D	C	D	D	C	A	A	A	D to coordinate access to roadway for installations.