

**Enhanced Houston Roadway Flood Warning System  
(HRFWS)**

**Systems Report**

**December 2020**

**Prepared for**





## System Overview and Needs

The Houston Roadway Flood Warning System (HRFWS) consist of the following components:

- **High Water Sensors.**
- **Master Control Station.**
- **Advance Warning Flashers.**
- **Approach Warning Flashers.**
- **Backup Power.**
- **Video Monitoring.**
- **Backflow Preventers.**
- **Dynamic Message Signs (DMS).**
- **Communications.**
- **Gates.**

The HRFWS needs include the following:

- Need 1: Measure water depth conditions with multiple level indications. Where wet-well is not available, sensors measure depth condition on roadway.
- Need 2: Transmit water depths under two scenarios;
  - Pump station locations at underpasses;
    - Communicate with TxDOT/City of Houston/Harris County;
    - Sensor report water level in wet well;
    - Notification of Level One Alert - low water level in wet well;
    - Sensor reports high water level in wet well;
    - Notification of Level Two Alert – high water level in wet well;
    - Radar sensors are activated for underpass;
    - Water rises to street level (top of manhole);
    - Notification of Level Three Alert – advance yellow flashing warning signals are activated;
    - TranStar, Harris County Flood Control, and identified locations receive Yellow Alert notification;
    - Traffic signal dispatcher looks at the area using CCTV cameras;
    - CCTV cameras used to monitor system;
    - DMS signs are activated and populated by dispatcher;
    - TranStar map updated by dispatcher;
    - Alerts pushed to the public by dispatcher;
    - Water reaches curb level (6 inches or above);
    - Notification of Level Four Alert – Overhead flashing red signals activated;
    - Street sensors are activated;
    - Road closure begins (gate closure)
    - TranStar, Harris County Flood Control, and identified locations receive Red Alert notification;
    - Traffic signal dispatcher looks at the area using CCTV cameras;
    - CCTV cameras used to monitor system;



- DMS signs are activated and populated by dispatcher;
- TranStar map updated by dispatcher;
- Alerts pushed to the public by dispatcher;
- At-grade Locations;
  - Water rises to street level (across outside lane);
  - Notification of Level One Alert – advance yellow flashing warning signals are activated;
  - TranStar and identified locations receive Yellow Alert notification;
  - Traffic signal dispatcher looks at the area using CCTV cameras;
  - CCTV cameras used to monitor system;
  - DMS signs are activated and populated by dispatcher;
  - TranStar map updated by dispatcher;
  - Alerts pushed to the public by dispatcher;
  - Water reaches curb level (across all lanes of travel, 6 inches or above);
  - Notification of Level Two Alert – Overhead flashing red signals activated;
  - Street sensors are activated;
  - Road closure begins (gate closure)
  - TranStar and identified locations receive Red Alert notification;
  - Traffic signal dispatcher looks at the area using CCTV cameras;
  - CCTV cameras used to monitor system;
  - DMS signs are activated and populated by dispatcher;
  - TranStar map updated by dispatcher;
  - Alerts pushed to the public by dispatcher.
- Need 3: Provide information on current roadway conditions that may impact motorists;
  - Use push notifications to motorist to provide;
    - Pre-trip condition information;
    - En-route condition information;
    - Roadside passive warning system (e.g., static signing);
    - Roadside active warning system (e.g., flashing beacons and DMS signs).
- Need 4: Provide information to invoke on-site situational control;
  - Access control and roadway closure (by agency staff or LEO) – including activating alternative signal control strategies;
  - Provide on-site monitoring (by agency staff or LEO).

Requirement Description	User Need	Source	Priority	Agency/Responsibility
<b>High Water Sensors</b>				
The high water sensors (guided wave radar) shall comply with National ITS Standards	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall comply with the Regional ITS Architecture	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The HRFWS high water sensors shall access existing city communication protocols to communicate to field devices	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall comply with pertinent legal restrictions	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall be compliant with operational agreement constraints	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall comply with applicable operating agreements regarding interagency control of transportation management systems	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall be compliant with existing City, County, and TxDOT IS operating system constraints	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
The high water sensors shall be compliant with City, County, and TxDOT internet services constraints	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
City, County, TxDOT shall retain necessary spare equipment for high water sensors	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
City, County, TxDOT shall provide maintenance for high water sensors	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
<b>Master Control Station</b>				
Master control station components shall be placed in a modified traffic signal cabinet	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
Master control station shall have the ability to receive signals from the highwater sensors	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
Master control station shall transmit signals to advance and approach warning flashers	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
Master control station shall receive and transmit signals via wireless antenna to the central traffic signal management system (Houston TranStar)	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
Master control station shall comply with National ITS Standards	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
Master control station shall comply with the Regional ITS Architecture	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
City, County, TxDOT shall retain necessary spare equipment for master control station	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
City, County, TxDOT shall provide maintenance for master control station	1,2	Con Ops Section IV & VII	High	City, County, TxDOT
<b>Advance Warning Flashers &amp; Approach Warning Flashers</b>				
Advance warning flashers shall be placed at each location where appropriate	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers shall consist of static signage and yellow LED flashers	1,2	Con Ops Section IV & VII	High	HRFWS System
Approach warning flashers shall be placed at each location where appropriate	1,2	Con Ops Section IV & VII	High	HRFWS System
Approach warning flashers shall consist of overhead sign and red LED flashers on mast arms	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be powered by the City, County, TxDOT (hard wire power or solar)	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall communicate via wireless communications	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall comply with National ITS Standards	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall comply with the Regional ITS Architecture	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall comply with pertinent legal restrictions	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be compliant with operational agreement constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be compliant with applicable operating agreements regarding interagency control of transportation management systems	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be compliant with existing City, County, and TxDOT IS operating system constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Advance warning flashers & approach warning flashers shall be compliant with City, County, and TxDOT internet services constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall retain necessary spare equipment for Advance warning flashers & approach warning flashers	1,2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall provide maintenance for Advance warning flashers & approach warning flashers	1,2	Con Ops Section IV & VII	High	HRFWS System
<b>Backup Alternative Power Generators</b>				
Backup Power notifications shall be sent to the PLC when generator at pump station kicks on	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power to provide power for the pump station, approaching flashing signals, advance flashing signals, PTZ CCTV & wireless communications	1,2	Con Ops Section IV & VII	High	HRFWS System
Notifications for Backup Power activation & operation shall communicate via wireless communications	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power shall comply with pertinent legal restrictions	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power shall be compliant with operational agreement constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power shall comply with applicable operating agreements regarding interagency control of transportation management systems	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Backup Power shall be compliant with existing City, County, and TxDOT IS operating system constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
Approach warning flashers shall be compliant with City, County, and TxDOT internet services constraints	1,2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall retain necessary spare equipment for approach warning flashers	1,2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall provide maintenance for approach warning flashers	1,2	Con Ops Section IV & VII	High	HRFWS System
<b>Video Monitoring PTZ</b>				
Video Monitoring PTZ shall communicate with the Master Control Station	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall communicate from the Master Control Station to Houston TranStar and identified City/County locations	2	Con Ops Section IV & VII	High	HRFWS System

Requirement Description	User Need	Source	Priority	Agency/Responsibility
Video Monitoring PTZ shall comply with National ITS Standards	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall comply with the Regional ITS Architecture	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall comply with pertinent legal restrictions	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall be compliant with operational agreement constraints	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall comply with applicable operating agreements regarding interagency control of transportation management systems	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall be compliant with existing City, County, and TxDOT IS operating system constraints	2	Con Ops Section IV & VII	High	HRFWS System
Video Monitoring PTZ shall be compliant with City, County, and TxDOT internet services constraints	2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall retain necessary spare equipment for Video Monitoring PTZ	2	Con Ops Section IV & VII	High	HRFWS System
<b>Dynamic Message Signs (DMS)</b>				
DMS shall communicate with the Master Control Station	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall communicate from the Master Control Station to Houston TranStar and Identified City/County locations	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall comply with National ITS Standards	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall comply with the Regional ITS Architecture	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall comply with pertinent legal restrictions	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall be compliant with operational agreement constraints	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall comply with applicable operating agreements regarding interagency control of transportation management systems	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall be compliant with existing City, County, and TxDOT IS operating system constraints	2	Con Ops Section IV & VII	High	HRFWS System
DMS shall be compliant with City, County, and TxDOT internet services constraints	2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall retain necessary spare equipment for DMS	2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall provide maintenance for DMS	2	Con Ops Section IV & VII	High	HRFWS System
<b>Communications</b>				
HRFWS shall communicate with the traffic signal management software via the City of Houston fiber optic network	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS shall communicate with the traffic signal management software via the City of Houston Win-Max system where the fiber optic network is not accessible	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS shall have backup communication provided through commercial cellular networks	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall comply with National ITS Standards	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall comply with the Regional ITS Architecture	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall comply with pertinent legal restrictions	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall be compliant with operational agreement constraints	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall comply with applicable operating agreements regarding interagency control of transportation management systems	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall be compliant with existing City, County, and TxDOT IS hardware supplier constraints	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall be compliant with existing City, County, and TxDOT IS operating system constraints	2	Con Ops Section IV & VII	High	HRFWS System
HRFWS communications shall be compliant with City, County, and TxDOT internet services constraints	2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall retain necessary spare equipment for HRFWS communications	2	Con Ops Section IV & VII	High	HRFWS System
City, County, TxDOT shall provide maintenance for HRFWS communications	2	Con Ops Section IV & VII	High	HRFWS System
<b>HRFWS Security Requirements</b>				
The HRFWS System shall use the City firewall	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall use existing City security solutions to validate HRFWS users	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to manage HRFWS administrator and operator users	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to create, modify, and delete user accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to modify user information	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to set user passwords and password expirations	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to provide mechanism for assigning permissions to user accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to manage user groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to create user groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to modify user groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to assign users to groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to delete users from groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to delete user groups	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to modify user group privileges	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall have the capability to manage external (external to City) users	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall provide an interface for external users to create accounts for customized services	2	Con Ops Section IV & VII	High	HRFWS System

Requirement Description	User Need	Source	Priority	Agency/Responsibility
The HRFWS System shall provide an interface for external users to modify accounts for customized services	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall provide an interface for external users to delete accounts for customized services	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS System shall provide an interface for a HRFWS administrator to delete accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall have the capability to manage data interchange services	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall have the ability to create information interchange accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall have the ability to modify information interchange accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall have the ability to delete information interchange accounts	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS should have system backup and restore tools	2	Con Ops Section IV & VII	High	HRFWS System
The HRFWS shall provide workstation backup and restore tools	2	Con Ops Section IV & VII	High	HRFWS System
<b>Training and Documentation</b>				
The HRFWS Developer shall provide operator user manuals	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall provide hardcopy system operator user manuals	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall provide electronic system operator user manuals	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall prepare "train the trainer" course and documentation	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall prepare a "train the trainer" course for HRFWS operators, maintenance and administrators	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall prepare a "train the trainer" user manuals for HRFWS operators, maintenance and administrators	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall conduct two "train the trainer" courses for HRFWS operators, maintenance and administrators	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall train COH operators (or other staff as assigned) on HRFWS System use (2 courses)	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall provide maintenance documentation	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall train maintenance staff	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall provide an administrator user manual	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall train system administrators	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall provide an on-line user manual for public users (how to use the interface, what the output means, etc.)	4	Con Ops Section IV & VII	High	HRFWS System
City will document system enhancements	4	Con Ops Section IV & VII	High	City
City will document system modifications	4	Con Ops Section IV & VII	High	City
The HRFWS shall provide a permanent training lab at City	4	Con Ops Section IV & VII	High	HRFWS System
The training lab shall simulate actual operations of a typical installation for each device	4	Con Ops Section IV & VII	High	HRFWS System
The training lab shall tie into the central software system	4	Con Ops Section IV & VII	High	HRFWS System
The central software systems shall be configured to conduct full operations of each device in a "test" setting separate from typical live operations	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS developer shall provide a 1 page (double sided is acceptable) laminated maintenance and troubleshooting guide for each ITS device deployed - 10 copies of each	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS developer shall provide as a deliverable a list of parts (make, model, full description) of system parts for spares to maintain the system	4	Con Ops Section IV & VII	High	HRFWS System
<b>HRFWS External System Requirements</b>				
The HRFWS shall comply with all City IS infrastructure	4	Con Ops Section IV & VII	High	City
The HRFWS shall comply with City IS security systems and firewalls	4	Con Ops Section IV & VII	High	City
The HRFWS shall comply with City network infrastructure	4	Con Ops Section IV & VII	High	City
The HRFWS shall comply with City power systems (normal and backup)	4	Con Ops Section IV & VII	High	City
City partner agencies and any other agencies participating in the HRFWS shall ensure that operating agreements defining conditions for receiving transportation network	1,2,3,4	Con Ops Section IV & VII	High	City
City partner agencies and any other agencies participating in the HRFWS shall have operating agreements regarding HRFWS control of transportation management systems	1,2,3,4	Con Ops Section IV & VII	High	City
City partner agencies and any other agencies participating in the HRFWS shall prepare HRFWS operational procedures	1,2,3,4	Con Ops Section IV & VII	High	City
City shall prepare an HRFWS maintenance and enhancement plan	1,2,3,4	Con Ops Section IV & VII	High	City
City shall prepare system administration policy and procedures	1,2,3,4	Con Ops Section IV & VII	High	City
City agency partners shall include HRFWS in center disaster recovery plans	1,2,3,4	Con Ops Section IV & VII	High	City
City shall prepare an HRFWS staffing plan	1,2,3,4	Con Ops Section IV & VII	High	City
City shall prepare an HRFWS security plan (which may correspond to existing City security policies)	1,2,3,4	Con Ops Section IV & VII	High	City
City shall train system administrators on the HRFWS security plan	1,2,3,4	Con Ops Section IV & VII	High	City
<b>HRFWS System Ongoing Lifecycle Requirements</b>				
City and County/TxDOT shall designate a primary contact for HRFWS project management	4	Con Ops Section IV & VII	High	City
City and County/TxDOT shall designate a primary contact for HRFWS technical system operation	4	Con Ops Section IV & VII	High	City
City shall designate an HRFWS primary contact that will interface with County/TxDOT primary contact	4	Con Ops Section IV & VII	High	County/TxDOT
The HRFWS Developer shall deliver documents required for the systems engineering process	1,2,3,4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a revised concept of operations as needed	1,2,3,4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a revised systems requirements document as needed	1,2,3,4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a high level design document	1,2,3,4	Con Ops Section IV & VII	High	HRFWS System

Requirement Description	User Need	Source	Priority	Agency/Responsibility
The HRFWS Developer shall deliver for approval a detailed design document	1.2.3.4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a subsystem verification plan document	1.2.3.4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a subsystem verification plan document	1.2.3.4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a system validation plan document	1.2.3.4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS Developer shall deliver for approval a system validation plan document	1.2.3.4	Con Ops Section IV & VII	High	HRFWS System
City and County/TxDOT shall document all reviews	1.2.3.4	Con Ops Section IV & VII	High	City + County/TxDOT
City and County/TxDOT shall document all approvals	1.2.3.4	Con Ops Section IV & VII	High	City + County/TxDOT
City and County/TxDOT shall document system modification activities	1.2.3.4	Con Ops Section IV & VII	High	City + County/TxDOT
City and County/TxDOT shall document system maintenance activities	1.2.3.4	Con Ops Section IV & VII	High	City + County/TxDOT
City and County/TxDOT shall engage in configuration management of the HRFWS	1.2.3.4	Con Ops Section IV & VII	High	City + County/TxDOT
<b>HRFWS Field Device Requirements</b>				
The HRFWS shall provide field controllers	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS field reader shall be NTCIP compliant	4	Con Ops Section IV & VII	High	HRFWS System
The HRFWS field reader shall comply with TxDOT Special Specification 6022	4	Con Ops Section IV & VII	High	HRFWS System