

## EXHIBIT 2

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Attachments:

- Attachment 1 Performance and Measurement Table
- Attachment 2 Not Used
- Attachment 3 Maintenance Limits
- Attachment 4 Maintenance Management Plan Contents
- Attachment 5 Not Used
- Attachment 6 Restrictions On Traffic Management
- Attachment 7 Maintenance Planning Activities & Associated Function Codes

# 1 GENERAL

## 1.1 Maintenance Obligations

Throughout the Maintenance Period, DB Contractor shall be responsible for and shall carry out Maintenance Services for the Maintenance Elements within the Maintenance Limits. DB Contractor shall establish and maintain an organization that effectively manages all Maintenance Services in a manner set forth in the approved Maintenance Management Plan (MMP) and the requirements of the COMA Documents. DB Contractor shall take all necessary actions to achieve the following:

- Coordinate Maintenance Services with other entities with interests or activities within the Maintenance Limits, including Emergency Services, public law enforcement, toll operator agencies, towing companies, and regional traffic management center.
- Provide Incident and Emergency response management and reporting.
- Conduct regular patrols of all lanes of the Project to identify conditions that are unsafe or have the potential to become unsafe, conditions that could threaten the infrastructure, and to attend to existing or changing conditions.
- Maintain the Maintenance Elements in a manner appropriate for a facility of the character of the Project and maintain all lanes in accordance with the required standard of maintenance.
- Minimize delay and inconvenience to Users and, to the extent under DB Contractor's control, users of adjacent and connecting roadways.
- Monitor and observe weather and weather forecasts to proactively deploy resources to minimize delays and safety hazards due to heavy rains, snow, ice, or other severe weather events.
- Minimize the risk of damage, disturbance, or destruction of third-party property during the performance of Maintenance Services.
- Coordinate with and enable TxDOT and others with statutory duties or functions in relation to the Project to perform such duties and functions.
- Perform Maintenance Services including inspections, Incident response, traffic control, routine or periodic maintenance, and Renewal Work in accordance with the provisions of DB Contractor's MMP and the COMA Documents.
- Promptly investigate reports or complaints received from all sources.
- Maintain traffic signals, lighting, and ITS equipment, but DB Contractor is not responsible for metered utility costs for these Maintenance Elements.

The Maintenance Manager shall be responsible to oversee and perform the Maintenance Services in accordance with the COMA Documents including ensuring proper training of its maintenance personnel and resources available for conducting Maintenance Services.

## 1.2 Maintenance Management Plan

Within 60 days after issuance of Maintenance NTP1, the MMP shall be submitted to TxDOT and be consistent with the general maintenance obligations described in Section 1.1 of this Exhibit 2. Attachment 4 lists the main contents of the MMP.

The MMP shall include:

- Processes and procedures that will be employed by DB Contractor to meet the Performance Requirements, including response times to mitigate hazards, permanently remedy, and permanently repair Defects, and the necessary inspection procedures and frequencies.
- Procedures and proposed cycle times for safety patrols, sweeping, litter pickup, and debris pickup within the Maintenance Limits.
- The most recent approved version of the applicable Performance and Measurement Table. As part of an update of the MMP to be undertaken at least annually, DB Contractor shall propose, for TxDOT's approval, updates to the Performance and Measurement Table in compliance with the requirements of Section 1.3.2 of this Exhibit 2.
- DB Contractor shall update this plan as required, or at least annually and shall submit to TxDOT by each anniversary of the Initial Maintenance Term Commencement Date.

The MMP shall also include a detailed process by which Defects are handled and processed in conformance with the COMA Documents including:

- Training - This includes developing and implementing a training program to prepare responsible individuals for Defect identification. DB Contractor shall maintain evidence of attendance and the frequency with which training updates are attended by relevant staff.
- Notification - This includes Defect identification, notification triggers (periodic or inspection based), responsible individuals, and entities or individuals to be notified.
- Categorization - This includes how Defects are categorized as a Category 1 Defect or Category 2 Defect.
- Action - By Defect category type, this includes a description of how the actions are carried out stating the responsible individuals and the duration it will take to complete such actions in accordance with the requirements of this Exhibit 2.
- Remedy - This includes how the Defect is remedied, stating necessary notification and the individuals to be notified for such Defect remedy.
- Documentation - This includes how Defects are entered, updated and closed in the Maintenance Management System.

The MMP shall address impacts to adjacent and connecting roadways, in addition to the general sequence of Maintenance Services and schedule deadlines.

The MMP shall include procedures for managing records of inspection and Maintenance Services, including appropriate measures for providing protected duplication of the records.

### **1.3 Performance Requirements**

#### **1.3.1 Defect Categorization**

For each Defect identified, DB Contractor shall make a determination as to whether:

- it represents an immediate or imminent health or safety hazard to Users or road workers,
- there is a risk of immediate or imminent structural failure or deterioration,



- there is an immediate or imminent risk of damage to a third party's property, or
- there is an immediate or imminent risk of damage to the environment.

Should a Defect meet any of the above criteria, DB Contractor shall record it as a Category 1 Defect (Hazard Mitigation) and take all necessary action to mitigate the Defect. Any other Defect not meeting the foregoing criteria shall be assigned as a Category 2 Defect. DB Contractor shall take necessary action to avoid any Category 2 Defect from becoming a Category 1 Defect (Hazard Mitigation). DB Contractor shall monitor Category 2 Defects to verify the condition of the affected Maintenance Element prior to repair and shall inform TxDOT immediately should any such Defect deteriorate to a Category 1 Defect (Hazard Mitigation). TxDOT can notify the DB Contractor of any Defect that should be categorized as a Category 1 Defect. DB Contractor shall provide training to all relevant personnel on the categorization of Defects. DB Contractor shall maintain a record of the circumstances of the Defect and how it was categorized.

For Category 1 Defects, DB Contractor shall take necessary action such that any hazard to Users is mitigated within the period specified in the column with the heading "Category 1 Hazard Mitigation" in the Performance and Measurement Table and shall permanently remedy the Defect within the period identified in the column with the heading "Category 1 Permanent Remedy" in the Performance and Measurement Table. For Category 2 Defects, DB Contractor shall undertake the permanent repair within the period specified in the column with the heading "Category 2 Permanent Repair" in the Performance and Measurement Table unless an earlier repair is required to prevent deterioration to a Category 1 Defect (Hazard Mitigation).

The remedy or repair of any Maintenance Element shall meet or exceed the standard identified in the column entitled "Target" in the Performance and Measurement Table. Where action is taken to remedy or repair any Defect in any Maintenance Element of the Project, DB Contractor shall create a Maintenance Record that identifies the nature of the remedy or repair. DB Contractor shall include within the relevant Maintenance Record a measurement record in accordance with the requirements set forth in the column entitled "Measurement Record" in the Performance and Measurement Table.

The Defect Remedy Period set forth in the Performance and Measurement Table shall commence upon the earlier of: (i) the date and time DB Contractor became aware of the Defect; and (ii) the date and time DB Contractor should have known of the Defect.

### **1.3.2 Performance and Measurement Table Update**

DB Contractor may propose changes to the Performance and Measurement Table for TxDOT approval. In its annual update of the MMP, DB Contractor shall propose for TxDOT's approval such amendments to the "Inspection and Measurement Methods" and "Measurement Records" as are necessary to cause these to comply with this Exhibit 2. TxDOT may, at any time, require DB Contractor to adopt amendments to the columns with the headings "Measurement Record" and "Inspection and Measurement Method" in the Performance and Measurement Table where such updates are required to comply with then current Good Industry Practice.

TxDOT shall require the adoption of a new Target only when this is required because the "Inspection and Measurement Method" or "Measurement Record" no longer complies with Good Industry Practice. In this case, the new Target shall be determined using the principle that it shall achieve no less than the standard of Maintenance Services that would have been achieved through DB Contractor's compliance with the original "Inspection and Measurement Method", "Measurement Record", and Target.

DB Contractor shall provide updates to the Performance and Measurement Table to take into consideration specific attributes of the Final Design (for example, where the Final Design

incorporates a feature that is not included as a Maintenance Element in the Performance and Measurement Table).

#### **1.4 Inspections**

DB Contractor shall establish inspection procedures and a plan to implement a program of inspections of the Project to be included within the Maintenance Services Deliverable Schedule that:

- verifies the continuing safety of the Project for Users;
- prioritizes Category 1 Defects;
- ensures that all Category 1 Defects are identified and repaired such that the hazard to Users is mitigated within the period given in the column entitled "Category 1 Hazard Mitigation" in the Performance and Measurement Table;
- ensures that all Category 1 Defects are identified and permanently remedied within the period given in the column entitled "Category 1 Permanent Remedy" in the Performance and Measurement Table;
- identifies Category 2 Defects to be included for repair either within DB Contractor's annually recurring highway maintenance and repair program or as Renewal Work;
- ensures that all Category 2 Defects are identified and permanently repaired within the period given in the column entitled "Category 2 Permanent Repair" in the Performance and Measurement Table;
- is responsive to reports or complaints received from Customer Groups;
- takes account of Incidents and Emergencies affecting the Project;
- monitors the effects of extreme weather conditions; and
- collates data to monitor performance of the Project and to establish priorities for future Maintenance Services.

DB Contractor shall ensure that personnel performing inspections of road pavements and structures are certified as inspectors and/or raters in accordance with TxDOT's PMIS program or applicable certifying agency for the type of inspection being performed. Inspections, reviews, and testing performed in respect of Maintenance Services shall only be performed by personnel with appropriate training and qualifications, using appropriate equipment that is accurately calibrated and maintained in good operating condition at an AMRL (AASHTO R18, "Establishing and Implementing a Quality System for Construction Materials Testing Laboratories") accredited facility, or at a facility with comparable certification (e.g., ISO 17025, "General requirements for the competence of testing and Calibration laboratories").

In performing inspections to identify Category 1 Defects and Category 2 Defects, DB Contractor shall, for any Maintenance Element, conform at a minimum to the inspection standards set forth for that Maintenance Element in the column entitled "Inspection and Measurement Method" on the Performance and Measurement Table.

Maintenance Records shall be kept for the Maintenance Period and shall be provided to TxDOT at the time the Project is delivered to TxDOT, at either the expiration of the Maintenance Period or earlier termination of the Comprehensive Maintenance Agreement. All records obtained during the Warranty Periods shall be kept and provided to TxDOT at the end of the last Warranty Period.

### 1.4.1 General Inspection

DB Contractor shall perform General Inspections in accordance with the MMP so that the repairs of all Defects are included in planned programs of work.

DB Contractor shall record details of the manner of inspection (e.g., center Lane Closure or shoulder), the weather conditions and any other unusual features of the inspection, on Maintenance Records in respect of General Inspections.

DB Contractor shall submit to TxDOT non-conformance reports within seven Days of issuance and shall notify TxDOT of Nonconforming Work within two Days of discovering the Nonconforming Work. TxDOT will issue a non-conformance report if TxDOT discovers any Nonconforming Work.

### 1.4.2 Specialist Inspections

DB Contractor shall undertake Specialist Inspections for Maintenance Elements listed in Table 1 and shall include the inspection results as Maintenance Records.

**Table 1 – Specialist Inspections**

<b>Maintenance Element</b>	<b>Specialist Inspection</b>
All Maintenance Elements in the Maintenance Element Category 'Pavement' in the Performance and Measurement Table	Annual survey of pavement condition for the entire Project, including main lanes, ramps, and frontage roads, undertaken using automated condition survey equipment to measure all necessary criteria including: ruts, skid resistance and ride quality according to the "Inspection and Measurement Methods" set forth in the Performance and Measurement Table.
All Maintenance Elements in the Maintenance Element Category 'Structures' in the Performance and Measurement Table	Inspections and load rating calculations at the frequency specified in the COMA Documents. In addition, NBIS inspections as per FHWA regulations and at the frequency specified in FHWA regulations.
Pavement Markings Maintenance Element for all lane lines, edge lines, centerline/no passing barrier-line	Annual Mobile Retro-reflectivity Data Collection (MRDC) in accordance with Special Specification 8094 Mobile Retro-reflectivity Data Collection for Pavement Markings.

## 1.5 Audits

### 1.5.1 Performance Sections

As part of the MMP, DB Contractor shall prepare drawings identifying the Performance Sections and shall submit and update these plans with the applicable part of the MMP. The drawings shall identify the boundaries of each Performance Section and shall cross reference to an inventory describing each Maintenance Element of the Project contained within each Performance Section.

DB Contractor shall implement the Texas Reference Marker (TRM) System used by TxDOT to establish Performance Sections for records in accordance with the MMP. DB Contractor shall use the existing TRM System established on existing sections of the Project. DB Contractor shall coordinate with TxDOT prior to submittal of MMP to establish the TRM System on newly constructed sections of roadway.

### 1.5.2 Audit Inspections

DB Contractor shall undertake Audit Inspections of TxDOT's randomly selected Performance Sections for audit purposes at least once quarterly. The Audit Inspections shall be conducted on a minimum of 5% of the available Performance Sections such that over a period of five (5) years the Audit Inspections provide coverage of 100% of the Project. DB Contractor shall assess the condition of each Maintenance Element using the inspection and measurement method set forth in the column entitled "Inspection and Measurement Method" in the Performance and Measurement Table.

DB Contractor shall create a new Maintenance Record for each Maintenance Element physically inspected in accordance with the column entitled "Measurement Record" on the Performance and Measurement Table. Audit Inspections shall be undertaken to a schedule agreed with TxDOT on Performance Sections randomly selected by TxDOT. TxDOT shall be given the opportunity by seven days' notice, to accompany DB Contractor when it undertakes the physical inspections associated with the Audit Inspections.

### 1.5.3 Asset Condition Score

Within ten days following each quarterly Audit Inspection, DB Contractor shall assess its achievement of the Performance Requirements by self-scoring against the Targets set forth in the Performance and Measurement Table.

DB Contractor shall report quarterly to TxDOT a Maintenance Element Asset Condition Score for each Maintenance Element and a Mean Asset Condition Score for each Maintenance Element Category, to include all of the Performance Sections inspected in the most recent Audit Inspection. DB Contractor shall calculate the Maintenance Element Asset Condition Scores according to the measurement criteria set forth in Table 2.

**Table 2 – Maintenance Element Asset Condition Score Criteria**

Score	Criteria
5	<ul style="list-style-type: none"><li>• Targets for individual Maintenance Elements are almost entirely met (90% to 100% compliance with the relevant Targets for each Maintenance Element within each Performance Section), and</li><li>• Is fully functional and in nearly new condition, meeting or exceeding Performance Requirement.</li></ul>
4	<ul style="list-style-type: none"><li>• Targets for individual Maintenance Elements are substantially met (less than 90% compliance and 80% or greater compliance with the relevant Targets for each Maintenance Element within each Performance Section), and</li><li>• Is functional and in good condition, meeting Performance Requirement.</li></ul>
3	<ul style="list-style-type: none"><li>• Targets for individual Maintenance Elements are mostly met (less than 80% compliance and 70% or greater compliance with the relevant Targets for each Maintenance Element within each Performance Section), and</li><li>• Is in fair condition, but suggesting need for early replacement, renewal or repair of individual Maintenance Element and/or maintenance or operation improvement action to meet Performance Requirement.</li></ul>
2	<ul style="list-style-type: none"><li>• Targets for individual Maintenance Elements are barely met (less than 70% compliance and 60% or greater compliance with the relevant Targets for each Maintenance Element within each Performance</li></ul>

	<p>Section), or</p> <ul style="list-style-type: none"> <li>• In poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintenance Element and/or immediate change to MMP.</li> </ul>
1	<ul style="list-style-type: none"> <li>• Targets for individual Maintenance Elements are not met (less than 60% compliance with the relevant Targets for each Maintenance Element within each Performance Section), or</li> <li>• In very poor condition demonstrating need for immediate replacement, renewal or repair of individual Maintenance Element and/or immediate change to MMP.</li> </ul>

Notes to Table 2:

1. The calculation of Maintenance Element Asset Condition Score for a Maintenance Element is demonstrated by the following example:

Assume there are 520 Performance Sections, of these 5%, or 26 are audited each quarter. There are five Targets to be assessed for Maintenance Element “pavement markings.” There are therefore,  $5 \times 26 = 130$  “Measurement Records” for pavement markings. If 125 of these “Measurement Records” meet the Target, there would be 96% compliance and a Maintenance Element Asset Condition Score of five assigned for that Maintenance Element.

2. A Maintenance Element Asset Condition Score of less than 3 for any Maintenance Element is deemed a Noncompliance Event.
3. A Mean Asset Condition Score for each Maintenance Element Category shall be calculated to 1 decimal point. A Mean Asset Condition Score across Maintenance Elements of less than 3.5 (for any Maintenance Element Category) is deemed a Noncompliance Event.
4. “Mean” in this context shall be the arithmetic mean of each of the Maintenance Element Asset Conditions Scores within the Maintenance Element Category.
5. Where a measurement record relates to a service measured over time or a Maintenance Element that is not represented in more than 25% of Performance Sections then the Maintenance Element Asset Condition Score will be based on the total service and not a 5% random sample. This applies to the performance measurement of Maintenance Element Categories: Structures, Traffic Signals, Snow and Ice Control, Incident Response, Customer Response or other Maintenance Element Categories meeting the above criteria identified following establishment of the Performance Sections.
6. DB Contractor acknowledges that the Maintenance Element Asset Condition Score is a mechanism to benchmark the performance of the Project against the performance of other similar facilities and that TxDOT may, during the Maintenance Period, alter the Maintenance Element Asset Condition Score criteria to reflect Good Industry Practice.
7. Where Defects are recorded for a Maintenance Element within a Performance Section, these Defects shall be deemed to meet Performance Requirements for the purpose of the Maintenance Element Asset Condition Score and will be removed from the sample and not scored, if both of the following conditions are met:
  - a. DB Contractor can document that the Defect was observed and recorded prior to the DB Contractor’s Audit Inspection, and

- b. all "Category 1 Hazard Mitigation" has been performed and all "Category 1 Permanent Remedy" and all "Category 2 Permanent Repair" activities are ongoing and within the allowable Defect Remedy Period in the Performance and Measurement Table.

Where specific measurement criteria are not provided in the Performance and Measurement Table, DB Contractor shall use Good Industry Practice to assess the Maintenance Element Asset Condition Score against the general criteria stated in Table 2.

## **1.6 Maintenance Management System**

DB Contractor shall implement a computer-based Maintenance Management System (MMS), compatible with TxDOT MMS, to record asset inventory and system condition, failures, repairs, maintenance activities, inspections performed and a record of all Noncompliance Events.

The MMS shall include relevant Maintenance Element information including but not limited to, horizontal and vertical locational accuracy that complies with or exceeds Good Industry Practice, using the posted reference marker number, Geographic Information System (GIS) data and control number for bridge class structures, asset description, date of installation, type of failure, date-time of failure, date-time of response to the site and date-time returned to service, preventive maintenance work, scheduled work, work repair code, time of failure, and time of repair. The MMS shall be configured to report work by TxDOT "function code" shown in Attachment 7, Maintenance Element, reference marker, and unit of measurement, as the same described in the TxDOT Maintenance Management Manual, to categorize the Maintenance Services performed by DB Contractor.

The MMS shall be able to record all complaints/service requests and DB Contractor shall report weekly to TxDOT, on a format approved by TxDOT, information on any complaints or service requests received by DB Contractor. This information will include the following:

- The date and time of the complaint;
- The location and nature of the problem;
- Injuries and police involvement, including agency, name and badge number;
- Who made the complaint; and
- Date and action taken to address the complaint.

The MMS shall be able to record all accidents/incidents. DB Contractor shall report in writing to TxDOT, no later than the 15th of each calendar month on a format approved by TxDOT, information from the previous month on any accident or Incident related to Maintenance Services being performed by DB Contractor or within a work zone, including:

- accidents involving DB Contractor or any Subcontractor personnel, equipment, barricades or tools;
- traffic accidents within the Maintenance Limits or in the vicinity of any Maintenance Services being performed by DB Contractor or any Subcontractors;
- Releases of Hazardous Materials;
- any accident involving DB Contractor or the traveling public that causes damage to any Project appurtenance, structure, improvement or fixture;
- with respect to any accident/Incident, the information provided shall include as a minimum:

- The date and time of the accident/Incident;
- The location of the Incident;
- The nature of the Incident;
- All parties involved in the Incident, including names, addresses, telephone numbers and their involvement (including witnesses);
- Responsible party and insurance information;
- Action taken to address the Incident; and
- Documentation of traffic control in place at location.

When a Maintenance Element is constructed, installed, maintained, inspected, modified, replaced or removed, DB Contractor shall update the MMS within three days of completion of such work. Defects shall be recorded on the MMS within 3 days of coming to the attention of DB Contractor. All other recording requirements shall be recorded on the MMS within 15 days of completion or occurrence of the relevant activity.

90 days prior to the Initial Maintenance Term Commencement Date, the MMS shall be fully populated and operational and DB Contractor shall demonstrate to TxDOT the functionality and use of the MMS and that it is fully compliant with the requirements of the COMA Documents. The MMS shall be kept updated and operational for the duration of the Maintenance Period.

As part of the demonstration, DB Contractor shall provide equipment, facilities and training necessary to permit remote, real-time, dedicated high-speed access to the MMS, via one terminal each, for up to three TxDOT employees. DB Contractor shall repeat the training and demonstration annually and whenever system changes are implemented. DB Contractor shall transfer inventory and condition data to TxDOT at the date when DB Contractor's MMS is fully operational prior to the commencement of Maintenance Services and transfer the updates of the inventory and condition data quarterly afterwards throughout the Maintenance Period. At a minimum, the following data shall be transferred to TxDOT:

- An inventory of all elements, components, and equipment to be maintained;
- A description of each item with location, tag number, serial number, and equipment nameplate (size, model, and serial number);
- Inspection history and reports; and
- Condition data for each element.

DB Contractor shall handover the MMS and everything required for its operation to TxDOT, or other entity as directed by TxDOT, upon expiration or earlier termination of the Comprehensive Maintenance Agreement.

## **2 RENEWAL WORK REQUIREMENTS**

### **2.1 Obligation to perform Renewal Work**

DB Contractor shall promptly perform Renewal Work to renew, repair, or replace any Maintenance Element when any of the following conditions occur:

- The Maintenance Element is scheduled for replacement, rehabilitation or renewal in accordance with the Renewal Work Schedule.
- The condition of any Maintenance Element is such that early replacement, rehabilitation or renewal is needed to enable Performance Requirements to be reliably achieved.

- Defects have occurred or may be expected to occur on a frequent basis and there is a risk that DB Contractor will be unable to comply with its obligation to remedy and repair such Defects within the applicable Defect Remedy Period.
- Within any Performance Section, the minimum required Maintenance Element Asset Condition Score or Mean Asset Element Condition Score is not achieved.
- The reliability is less than 99.7 percent for any safety-critical Maintenance Element.
- The reliability is less than 90 percent for any Maintenance Element other than a safety-critical Maintenance Element.
- The Maintenance Element ceases to function or dies (as in the case of plantings).
- The frequency of repair is higher than that recommended in the manufacturer's preventive maintenance schedule.

The term "safety-critical" means that should a Maintenance Element fail, the safe operation of the Project would be in jeopardy or an immediate or imminent safety hazard would result.

The term "reliability" as used above shall be calculated as the in-service time measured over a moving 365-day period. For example, if a Maintenance Element is out of service for 20 days of 365 days, its "reliability" is 94.5 percent (i.e.,  $(365 - 20)/365 \times 100$ ).

Prior to the expiration or earlier termination of any part of the Maintenance Services, DB Contractor shall submit to TxDOT a complete set of Record Drawings and supporting calculations and details that accurately show all Renewal Work and any other changes to the Project during the performance of the Maintenance Services. All Renewal Work shall follow the applicable design and construction requirements within the Technical Provisions as applicable to the original design, installation or construction unless such Technical Provisions have been superseded by Good Industry Practice. When a Maintenance Element is renewed or replaced, and upon the first installation of the renewed or replaced Maintained Element into the Project, DB Contractor shall not have the benefit of any Defect Remedy Period. DB Contractor shall cause all Renewal Work to achieve the Target applicable to the Maintenance Element as shown on the Performance and Measurement Table from the date that the renewed or replaced Maintenance Element is incorporated into the Project.

## **2.2 Renewal Work Submittal**

As part of the MMP, DB Contractor shall submit to TxDOT the first Renewal Work Submittal. The Renewal Work Submittal shall include the timing, scope, and nature of work that DB Contractor proposes during each year for which DB Contractor is responsible for Renewal Work. DB Contractor shall set forth, by Maintenance Element:

- The estimated Useful Life;
- The description of the Renewal Work anticipated to be performed at the end of the Maintenance Element's Useful Life;
- A brief description of any Renewal Work anticipated to be performed before the end of the Maintenance Element's Useful Life including reasons why this work should be performed at the proposed time; and
- Renewal Work Schedule planned for current year and for the next five-year period.

DB Contractor shall develop a Renewal Work Schedule in accordance with the requirements set forth in Section 2 of the Technical Provisions for developing a Project Schedule.



Not later than 120 days before each anniversary of the Initial Maintenance Term Commencement Date, DB Contractor shall prepare and submit, for TxDOT's review and approval, either: (a) a revised Renewal Work Submittal for the upcoming year and for the next five-year period or (b) the then-existing Renewal Work Submittal, accompanied by a written statement that DB Contractor intends to continue in effect the then-existing Renewal Work Submittal without revision for the upcoming year (in either case, referred to as the "updated Renewal Work Submittal").

DB Contractor shall make revisions as reasonably required by experience and then-existing conditions respecting the Project, changes in technology, changes in DB Contractor's planned means and methods of performing the Renewal Work, and other relevant factors. The updated Renewal Work Submittal shall show the revisions, if any, to the prior Renewal Work Submittal and include an explanation of reasons for revisions. If no revisions are proposed, DB Contractor shall include an explanation for the lack of revisions.

### **3 MAINTENANCE SERVICES DELIVERABLE SCHEDULE**

As part of the MMP, DB Contractor shall prepare a Maintenance Services Deliverable Schedule.

The Maintenance Services Deliverable Schedule shall include a listing of all Submittals or deliverables as called out in the COMA Documents. Submittal activity durations shall include specific durations for TxDOT review and/or approval of the DB Contractor's Submittals as called out elsewhere in the COMA Documents.

With the exception of activities relating to Environmental Approvals by Governmental Entities, each activity for the Submittals depicting the DB Contractor's maintenance operations shall have duration of not more than 20 Days, and not less than one Day, except as otherwise approved by TxDOT.

DB Contractor shall update the approved Maintenance Services Deliverable Schedule to reflect the current status of the Project, including approved Change Orders or provide a notification of no change to the current schedule, on a quarterly basis. Each Maintenance Services Deliverable Schedule update shall accurately reflect all activities as of the effective date of the updated schedule and shall include a schedule narrative report which describes the status of the Maintenance Services.

DB Contractor shall submit a hardcopy of the Maintenance Services Deliverable Schedule on full-size (11" x 17") color plot sheets, as well as an electronic version of the schedule in its native format for each submittal of the schedule along with a narrative.

### **4 MAINTENANCE PROCEDURES**

#### **4.1 Maintenance Services Quality Management Plan**

As part of the MMP, DB Contractor shall prepare and submit a Maintenance Services Quality Management Plan (MSQMP). The MSQMP is intended to: (a) place the responsibility for the quality of all design, construction, maintenance and repair associated with the Maintenance Services on DB Contractor; and (b) allow TxDOT to oversee the Maintenance Services. DB Contractor shall undertake all quality control in accordance with the MSQMP and the requirements set forth in the COMA Documents.

DB Contractor shall incorporate quality processes as part of its MSQMP including planned and systematic activities undertaken by a party independent of the construction or maintenance process.

The MSQMP shall capture all Maintenance Services performed by DB Contractor and its Subcontractors and shall contain detailed procedures for the DB Contractor's quality control activities, including a complete description of the quality policies and objectives that the DB Contractor shall implement throughout its organization. The policies shall demonstrate the DB Contractor senior management's commitment to implement and continually improve the maintenance quality system.

The MSQMP shall contain detailed descriptions of the inspection and test plans, including the timing and frequency of testing, as well as detailed systems and procedures for the following:

- Control of quality records
- Management reviews
- Resource allocation
- Measurement of customer satisfaction
- Control of nonconforming products and services
- Internal audits

DB Contractor shall update the MSQMP as needed to ensure current versions of the following information are contained in said plan:

- The organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships;
- Descriptions of the roles and responsibilities of all quality management personnel and those who have the authority to stop activities;
- Identification of testing agencies, including information on each agency's capability to provide the specific services required for the activities, certifications held, equipment, and location of laboratories; and
- Resumes for all quality management personnel.

DB Contractor shall revise its MSQMP when its own quality management organization detects a repeating or fundamental non-conformance in the work performed or in the manner the Maintenance Services are inspected or tested, or when TxDOT advises the DB Contractor of such a problem.

DB Contractor shall ensure that the MSQMP meets all requirements set out in ISO standards relating to quality systems, plans and audits in effect as of the Effective Date.

Quality terminology, unless defined or modified elsewhere in the COMA Documents, shall have the meaning defined in ISO 9001. Terms used in ISO 9001 shall have the meanings defined below:

- Organization - DB Contractor's organization, including any Affiliates and Subcontractors
- Customers - the Users of the roadways, TxDOT, Customer Groups, and key stakeholders that have an adjacent property interest or connecting roadway
- Suppliers - Contractors
- Product - Maintenance Services
- Quality control - the part of quality management focused on fulfilling quality requirements
- Quality Management Plan - the MSQMP

DB Contractor shall make all quality records available to TxDOT for review upon TxDOT's request and shall submit to TxDOT the results of all internal audits within seven Days of their completion.

At all times during the Maintenance Period, DB Contractor shall have a Maintenance Quality Manager who is responsible for independently overseeing and performing all quality responsibilities for the Maintenance Services in accordance with the MSQMP and who shall have the authority to stop Maintenance Services for quality-related issues. The MSQMP shall demonstrate the Maintenance Quality Manager's functional independence from the DB Contractor work forces and the Maintenance Manager, and shall report directly to the DB Contractor's principals. The Maintenance Quality Manager shall be responsible to see that the methods and procedures contained in approved MSQMP are implemented and followed by DB Contractor and Subcontractors in the performance of the Maintenance Services. Maintenance Quality Manager shall be a Registered Professional Engineer.

#### **4.2 Maintenance Safety Plan**

As part of the MMP, DB Contractor shall prepare and submit a comprehensive safety plan ("Maintenance Safety Plan"). The Maintenance Safety Plan shall fully describe the DB Contractor's policies, plans, training programs, and work site controls to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Maintenance Period.

DB Contractor's Maintenance Safety Plan shall address procedures for immediately notifying TxDOT of all Incidents arising out of or in connection with the performance of the Maintenance Services, whether on or adjacent to the Project.

A Maintenance Safety Manager shall be assigned to the Project throughout the Maintenance Period. The Maintenance Safety Manager shall be responsible for the health and safety of personnel involved with Maintenance Services and the general public affected by the Project and shall serve as the point of contact for DB Contractor in communication with TxDOT and in coordination activities with other entities during Emergency events. The Maintenance Safety Manager shall be responsible for carrying out the Maintenance Safety Plan and all safety-related activities, including training and enforcement of safety operations. The Maintenance Safety Manager shall have the authority to stop all work on the Project. Upon TxDOT's approval, this position can be fulfilled by another employee of the DB Contractor if the employee can meet all qualification requirements and can be available on site to the extent needed to perform the level of oversight deemed necessary for the work being performed. Requirements for the Maintenance Safety Manager include:

- Roadway construction and safety enforcement experience;
- Ten (10) years of progressive safety management experience, five years of which must be safety management experience on similar operations and maintenance projects;
- Designation, at or before the Effective Date, as a Construction Health and Safety Technician® (CHST) by the Board of Certified Safety Professionals (BCSP), or designation as a Certified Safety & Health Official (CSHO), either of which may be substituted for two years of safety management experience;
- Completion of the OSHA #500 course – Trainer Course in OSHA Standards for Construction;
- Training and current certification for CPR and first aid; and
- Completion of the following training sponsored by an accredited agency:

- Work zone traffic control; and
- Flaggers in work zones.

### **4.3 Incident and Emergency Management Plan**

As part of the MMP, DB Contractor shall prepare and implement an Incident and Emergency Management Plan (IEMP) to address Incident and Emergency response, including:

- Descriptions of contact methods, personnel available, and response times for any Emergency condition requiring attention during off-hours.
- Procedures to identify Incidents and notify Emergency Services providers;
- Procedures for establishing traffic control for Incident management activities in a timely manner;
- Procedures for removal of stalled, broken down, wrecked or otherwise incapacitated vehicles from the travel lane, including coordination with Emergency Services and towing services to clear the Incident and return lane availability within one hour of notification, at the User's expense;
- Procedures to institute all measures for cleanup of objects foreign to the roadway surface where lane availability cannot be restored within one hour of notification; and
- Procedures to identify and contain all hazardous material spills and appropriate disposal of such materials.

Where an Incident or Emergency has an effect on the operation of the Project, DB Contractor shall clear obstructions and repair damage to the Project under the supervision of the relevant Emergency Services if necessary, such that the Project is returned to normal operating standards and safe conditions as quickly as possible.

Where liquid or soluble material spills are involved, DB Contractor shall take all necessary measures to minimize pollution of watercourses or groundwater in accordance with the Hazardous Materials Management Plan.

Where structural damage to structures is suspected, DB Contractor shall cause that a suitably qualified bridge engineer or specialist inspector is available to evaluate the structure and to advise on temporary repairs and shoring needed to provide safe clearance of the Incident or Emergency.

Where such an Incident or Emergency involves a personal injury, DB Contractor shall not remove any vehicle or other item that may assist a potential investigation by Emergency Services until authorized to do so by such agency or agencies.

### **4.4 Snow and Ice Control Plan**

As part of the MMP, DB Contractor shall prepare and implement a Snow and Ice Control Plan (SICP) that contains detailed operational procedures for performing snow and ice control work throughout the Maintenance Period. The SICP shall comply with all applicable Law, codes, and regulations governing the operation of equipment on public highways.

The SICP shall address the following:

- Weather forecasting
- Advance preparation procedures
- Call-out procedures

- Response protocol
- Operational requirements
- Training
- Record keeping/reporting
- Environmental management
- Anti-icing and de-icing chemical storage
- Anti-icing and de-icing materials, including salt and alternative substances
- Equipment.

As part of the MMP updates, DB Contractor shall incorporate any changes in strategy and equipment levels designed to rectify faults identified by DB Contractor, and TxDOT in DB Contractor's snow and ice removal operations during the preceding winter season.

#### **4.5 Hazardous Materials Management Plan**

As part of the MMP, DB Contractor shall prepare and submit a Hazardous Materials Management Plan (HMMP) for the safe handling, storage, treatment and/or disposal of Hazardous Materials, whether encountered at or brought onto the Project by the DB Contractor, encountered or brought onto the Project by a third party, or otherwise, during the Maintenance Period. The HMMP shall include:

- a) the identification and contact information for designated responsible individuals in the management of Hazardous Materials, including procedures compliant with all applicable Environmental Laws and include, at a minimum:
- b) procedures for updating Material Safety Data Sheets (MSDS), per OSHA requirements, for all chemicals used on the Project for the Maintenance Period;
- c) designated individuals responsible for implementation of the HMMP;
- d) procedures for identifying and documenting potential contaminated sites which might impact Project development;
- e) procedures for mitigation of contamination during the operation and maintenance of the Project;
- f) procedures for developing a detailed Spill Response Plan for the Maintenance Period including the prevention, control, and mitigation of fugitive noxious or toxic vapors or particulate matter (dust), contaminated soil, and contaminated groundwater during disturbance of noxious or hazardous materials and media;
- g) processes for training personnel for responding to and mitigating Incidents involving contamination or waste;
- h) provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project throughout the Maintenance Period;
- i) provisions for a Hazardous Materials training module; and
- j) procedures for preparing an Investigative Work Plan (IWP) and Site Investigative Report (SIR) in the event that Hazardous Materials are discovered during operations or maintenance activities.

The HMMP shall include provisions for making all on-Site workers aware of and able to recognize the potential Hazardous Materials to which they may be exposed, limiting DB Contractor's workers' exposure to Hazardous Materials and providing all necessary personal protection equipment to protect workers from exposure. The HMMP shall require DB Contractor to provide any non-DB Contractor personnel who visit the Project with the appropriate personal protection equipment.

The HMMP shall require that all personnel of DB Contractor-Related Entities handling Hazardous Materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 1910.120 (HAZWOPER Training).

The HMMP shall include procedures for ensuring that all applicable certifications, licenses, authorizations and Governmental Approvals for DB Contractor personnel handling Hazardous Materials are current and valid throughout the Maintenance Period.

#### **4.6 Environmental Compliance and Mitigation Plan**

As part of the MMP, DB Contractor shall prepare and submit an Environmental Compliance and Mitigation Plan (ECMP) to document and fully detail compliance strategies and procedures to be employed in accordance with the requirements of applicable Environmental Laws and Environmental Approvals. The ECMP shall provide, at a minimum:

- a) Procedures for maintaining the environmental commitments required to verify that any discharge from the Project into a sanitary sewer system complies with appropriate codes and standards of the sanitary sewer owner;
- b) Procedures for identifying and mitigating any potential traffic noise caused by conducting Maintenance Services;
- c) Procedures for providing all other environmental monitoring within the Project area and submitting all necessary environmental documentation and monitoring reports to the appropriate Governmental Entities and, when applicable, to TxDOT, to the extent necessary to maintain compliance with applicable Environmental Approvals; and
- d) Procedures for training personnel to avoid or take appropriate action to minimize environmental impacts caused by conducting Maintenance Services.

DB Contractor shall meet the environmental requirements of Section 4 of the Technical Provisions during the performance of Renewal Work.

#### **4.7 Maintenance Document Management Plan**

As part of the MMP, DB Contractor shall establish and maintain an electronic document control system ("Maintenance Document Management Plan") to store, catalog, and retrieve all Project-related documents in a format compatible with TRM System used by TxDOT. Unless otherwise directed by TxDOT, record retention shall comply with the requirements of the Texas State Records Retention Schedule.

#### **4.8 Maintenance Communications Plan**

As part of the MMP, DB Contractor shall prepare and submit a comprehensive communications plan ("Maintenance Communications Plan").

The Maintenance Communications Plan shall describe the processes and procedures for communication of Project information between the DB Contractor's organization and TxDOT and shall describe how the DB Contractor's organization will respond to unexpected requests

for information, communicate changes or revisions to necessary DB Contractor personnel, and notify TxDOT before and after changes are made to the COMA Documents.

#### **4.9 Maintenance Transition Plan**

At sixty (60) days prior to the end of this Comprehensive Maintenance Agreement, or upon earlier termination, DB Contractor shall submit a comprehensive transition plan ("Maintenance Transition Plan") to TxDOT which includes the following items:

- Maintenance Transition punch list
- List and status of equipment Warranties
- Vendors' test reports
- DB Contractor's test reports
- Record Drawings for Renewal Work
- Maintenance Records (including NBIS records)
- Copies of Warranty and service contracts
- List of spare parts purchased as part of the Maintenance Services

At sixty (60) days prior to the end of this Comprehensive Maintenance Agreement, the DB Contractor shall submit to TxDOT a complete set of Record Drawings. The Record Drawings and documentation shall be an organized, complete record of drawings and supporting calculations and details that accurately represent what the DB Contractor constructed. DB Contractor shall ensure that the Record Drawings reflect the actual condition of the Maintenance Services construction.

DB Contractor shall coordinate the identification of Maintenance Transition punch list items required to be completed by DB Contractor prior to maintenance transfer. Maintenance Transition punch list shall include (a) estimated completion dates, (b) responsible Party(s), and (c) items that must be completed prior to maintenance transfer.

DB Contractor shall be responsible to prepare (in conjunction with TxDOT), administer and complete all items on the Maintenance Transition punch list to the satisfaction of TxDOT prior to the transfer of maintenance responsibilities to TxDOT.

### **5 TRAFFIC MANAGEMENT REQUIREMENTS**

#### **5.1 General Requirements**

Throughout the Maintenance Period, DB Contractor shall conform with the requirements set forth in this Section 5 of this Exhibit 2, and shall provide for the safe and efficient movement of people, goods, and services, through and around the Project, while minimizing negative impacts to Users, residents, and businesses.

While planning and carrying out Maintenance Services, DB Contractor shall take into account the restrictions set forth in Attachment 6 to this Exhibit 2 and shall coordinate its Traffic Management Plan (TMP) with the traffic management to be performed by others to minimize disruption to Users of the Project.

DB Contractor shall analyze overweight load permit applications from the Texas Department of Motor Vehicles (TxDMV). Refer to: <http://www.txdmv.gov/motor-carriers/oversizeoverweight-permits> for a description of permit types. Notification of an overweight load permit application

will come from and response shall be returned to the TxDMV. DB Contractor shall respond to each overweight load permit request within seven days.

## **5.2 Traffic Management Plan**

As part of the MMP, DB Contractor shall prepare and implement a TMP to be used throughout the Maintenance Period that includes the following items:

- Descriptions of the qualifications and duties of the traffic engineering manager, traffic control coordinator, and other personnel with traffic control responsibilities;
- Procedures to identify and incorporate the needs of transit operators, Utility Owners, Governmental Entities, local governmental agencies, Emergency Service providers, school districts, business owners, and other related Users, Customer Groups or entities in the Project corridor and surrounding affected areas;
- Procedures for obtaining acceptance of detours, road and Lane Closures and other traffic pattern modifications from applicable Governmental Entities, and implementing, maintaining and removing those modifications;
- Procedures for obtaining approval of traffic control plans for Lane Closure from TxDOT;
- Procedures for installation, maintenance and removal of interim signing and the corresponding handling of permanent signing during maintenance operations;
- Procedures for installation, maintenance, replacement and removal of traffic control devices, including pavement markings and traffic barriers, if used;
- Procedures and process for the safe ingress and egress of construction vehicles in the work zone;
- Provisions to provide continuous access to established truck routes and Hazardous Material routes, and to provide suitable detour routes, including obtaining any approvals required by the appropriate Governmental Entities for these uses;
- Procedures to modify plans as needed to adapt to changing Project circumstances;
- Procedures to communicate TMP information to DB Contractor's public information personnel and notify the public of maintenance of traffic issues; and
- Descriptions of contact methods, personnel available, and response times for any Emergency conditions requiring TxDOT attention during off-hours.

DB Contractor shall use the procedures set forth in the approved TMP and the standards of the TMUTCD to develop traffic control plans for Lane Closures per Attachment 6 to this Exhibit 2 that provide for all Maintenance Services, as well as all required switching procedures. The traffic control plans shall include details for all detours, traffic control devices, striping, and signage applicable to each maintenance activity. Information included in the traffic control plans shall be of sufficient detail to allow verification of design criteria and safety requirements, including typical sections, alignment, striping layout, drop off conditions, and temporary drainage. The traffic control plans shall clearly designate all temporary reductions in speed limits. Changes to posted speed limits will not be allowed unless specific prior approval is granted by TxDOT. If at any time the traffic queue resulting from the Maintenance Services cannot be dispersed within 10 minutes, DB Contractor shall immediately undertake modifications to alleviate the traffic congestion. A contingency plan of how traffic congestion can be alleviated should be included with the traffic control plan.



### **5.3 Traffic Operation Restrictions**

DB Contractor shall keep the number of Lane Closures to an absolute minimum and shall keep each Lane Closure to the shortest time necessary for safe and efficient operations and in accordance with Attachment 6.

DB Contractor shall ensure that opposing traffic on a normally divided roadway shall be separated with appropriate traffic control devices, shall maintain signing continuity within the Project and intersecting streets at all times, and shall ensure all streets and intersections remain open to traffic to the greatest extent possible.

DB Contractor shall maintain access to all adjacent streets and shall provide for ingress and egress to public and private properties at all times.

### **5.4 Construction Requirements**

Construction shall be in accordance with DB Contractor's TMP, the manufacturer's directions or recommendations where applicable, and the applicable provisions of the TMUTCD. If at any time TxDOT determines DB Contractor's traffic control operations do not meet the intent of the TMP or any specific traffic control plan, DB Contractor shall immediately revise such operations to correct the deficient conditions or discontinue such operations.

DB Contractor shall provide TxDOT the names of the traffic control coordinator and support personnel, and the phone number(s) where they can be reached 24 hours per day, seven days per week.

DB Contractor shall maintain existing bicycle and pedestrian access and mobility with the frontage roads and across all cross streets. DB Contractor shall maintain access to existing transit stop locations during construction or reasonable alternative locations shall be provided.

DB Contractor shall maintain all detours in a safe and traversable condition. DB Contractor shall provide a pavement transition at all detour interfaces, suitable for the posted speed of the section.

### **5.5 Public Information and Communications**

It is vital to the success of the Project that TxDOT and the DB Contractor gain and maintain public support. The public will better support TxDOT and the DB Contractor if they are kept abreast of Project information in a timely manner, are notified in advance of potential impacts, have an opportunity to identify issues and recommend solutions, receive timely and appropriate feedback from the DB Contractor, and perceive a high quality, well executed communications plan for keeping them informed, engaged, and educated.

DB Contractor shall provide information within 24 hours of a request by TxDOT, such that TxDOT may communicate such information to interested parties.

Subject to the Lane Closure restrictions set forth in Attachment 6 to this Exhibit 2, DB Contractor shall provide TxDOT and appropriate Customer Groups a minimum of two weeks advance notice for Lane Closures and/or traffic switches planned to be in effect longer than 24 hours, and a minimum of 48 hours advance notice for Lane Closures that are planned to be in effect less than 24 hours. In addition, DB Contractor shall be responsible for the rental and placement of portable messaging signs (dynamic and static) as required by the approved traffic control plan to alert the public to traffic impacts/road closures. DB Contractor shall ensure that messaging on the signs is current and accurate at all times. DB Contractor shall input all Lane Closures (or an event that results in Lane Closures) in accordance with the Houston District Highway Conditions Report (HCR) manual for the respective fiscal year. Additional emphasis and efforts will be expected related to scheduled closures anticipated to have major traffic

impacts and/or emergency situations that result in Lane Closures. For planned Lane Closures and Emergency Closures, as appropriate, the DB Contractor shall coordinate Lane Closures that may affect crossing TxDOT facilities with appropriate TxDOT District and area offices, as needed, to ensure that no conflicts occur.

For all Emergency events, DB Contractor shall take timely and appropriate action to inform TxDOT and appropriate Customer Groups of all pertinent details. DB Contractor shall provide these details through the use of appropriate tools to ensure effective communication. These tools include, but are not limited to: dynamic message signs (DMS), TxDOT's HCRs, and TxDOT Beaumont and Houston District Office Highway Advisory Reports. DB Contractor shall continue to provide updated information, as available and on a timely basis, until the Emergency no longer exists. In the event of an unforeseen Emergency, timely notification shall mean as soon as practicable, but in no event longer than within one hour of the occurrence. If advanced warning is available for an Emergency event such as ice/snow, timely notification shall mean as soon as practicable, but in no event longer than within one hour of the time the information is available. In both situations, DB Contractor shall continue to provide updated information, as available and on a timely basis, until the Emergency no longer exists.

## **6 REPORTING REQUIREMENTS**

### **6.1 Quarterly Maintenance Services Report**

The Quarterly Maintenance Services Report shall identify all of the Maintenance Services for the period, the actual Maintenance Services performed for the period, and confirmation that all Maintenance Services performed were in compliance with the MMP. The Quarterly Maintenance Services Report shall identify the Defects, Incidents, accidents, Incident response times, operations logs, service requests, severe weather Incidents, and security Incidents that occur over the preceding quarter. The Quarterly Maintenance Services Report shall include a system for referencing each activity/event, the time and date of commencement, and the date of resolution.

The Quarterly Maintenance Services Report shall be submitted quarterly and shall be broken down for each month of the quarter. The Quarterly Maintenance Services Report shall include the following data and information:

- Summary of the status of all parts of the Project for which DB Contractor is responsible for Maintenance Services for the month identifying all Lane Closures.
- For each Defect, the report shall identify the location, the nature and cause of the Defect and the steps that will be, or have been, taken to address the Defect.
- Summary of the Maintenance Services including Renewal Work performed and completed for each month of the quarter.
- Detailed results of all Renewal Work and other maintenance work that was performed during each month of the quarter.
- Summary of Lane Closures for the coming quarter. This report shall include details describing the location, duration, and reason of each.
- Detailed results of all inspections, assessments, and testing activities, including the procedures and forms.
- Equipment Out-of-Service Report. This report shall list all traffic control and traffic surveillance, mechanical, and electrical equipment that was not functional at some time during every month of the quarter and include data such as durations, reasons, and

cross-references to any events or Incidents that may be related to the out-of-service equipment.

- Quality assurance review of the DB Contractor actions and lessons learned where appropriate.
- Summary of staff and hours worked for each month during the quarter.
- A listing of all assets in the maintenance program, including individual equipment and assets, with a summary of all of the maintenance activities performed during each month of the quarter for assets in the maintenance program including individual equipment and assets and a reference to the complete history of maintenance for the asset available through the MMS.
- DB Contractor event log data, including all actions and event details for traffic and systems events, Incidents, security Incidents, weather Incidents, and the details of DB Contractor's Incident response, including response time data, and response records.

## **6.2 Annual Report**

DB Contractor shall submit an annual report to TxDOT by each anniversary of the Initial Maintenance Term Commencement Date. This annual report shall include the following elements:

- An assessment of the actual Maintenance Services achievements versus the planned goals established in the MMP, as well as corrective actions and measures to be taken in the ensuing year to ensure that any shortcomings are corrected.
- An assessment of compliance with the various traffic control requirements and limitations contained in Section 3.4 of the Comprehensive Maintenance Agreement and the traffic control plans developed in accordance with Section 5.2 of this Exhibit 2, as well as any corrective measures taken to correct any breach or violation of such requirements and limitations and any corrective measures necessary to prevent such future breach or violation of such requirement and limitations.
- A report of the quality inspections and tests performed as part of the MMP and as required by the Performance and Measurement Table, the results of such inspections and tests, and occurrences and the measures taken to correct Nonconforming Work.
- A report of the Renewal Work performed in the immediately preceding year. The report shall describe: (a) by location, the Maintenance Element, as listed in the Renewal Work Submittal, and any other Project component for which Renewal Work was performed; (b) the type of Renewal Work performed; (c) each specific item replaced; (d) any warranty information associated with any replacement item; (e) the dates of commencement and completion of such Renewal Work; and (f) such other information as is reasonably requested by TxDOT.

## **6.3 Quarterly Noncompliance Events Report**

The Quarterly Noncompliance Events Report shall be submitted in accordance with Section 19.2.1.3 of the Comprehensive Maintenance Agreement. The Quarterly Noncompliance Events Report shall contain the information required in Section 19.2.4.1 of the Comprehensive Maintenance Agreement.

## **7 ADDITIONAL REQUIREMENTS**

### **7.1 Rail**

Should the Project cross a railroad right of way owned by an operating railroad, DB Contractor shall coordinate the Maintenance Services with the operating railroad and shall be responsible for obtaining the required approvals, permits, and agreements as required for the Maintenance Services, including any railroad related maintenance activities.

Whenever an agreement for construction, maintenance and use of railroad right of way between the operating railroad and TxDOT is required, DB Contractor shall prepare all the documentation required to obtain the agreement, including preparation of the agreement application on behalf of TxDOT, the drawings and specifications, making necessary modifications as required, and preparation of the agreement. DB Contractor shall submit the draft agreement to TxDOT for transmittal to the operating railroad. After all comments have been incorporated or satisfactorily resolved by the DB Contractor, railroad or TxDOT, DB Contractor shall submit a complete and final agreement to TxDOT for execution. DB Contractor shall comply with all construction requirements and specifications set forth in the agreement.

DB Contractor shall arrange with the operating railroad for railroad flagging as required. DB Contractor shall comply with the operating railroad's requirements for contractor safety training prior to performing Maintenance Services or other activities on the operating railroad's property.

DB Contractor shall cooperate and coordinate with all operating railroads for access by the operating railroad and/or their agents to the rail right-of-way as necessary for rail maintenance and operations activities.

DB Contractor shall procure and maintain, prior to working adjacent to and entry upon operating railroad property, insurance policies naming TxDOT, TxDOT's consultants, and railroad as named insured. DB Contractor shall obtain insurance per Exhibit 10 of the COMA Documents. All insurance policies shall be in a form acceptable to the operating railroad. Copies of all insurance policies shall be submitted to TxDOT prior to any entry by the DB Contractor upon operating railroad property. DB Contractor shall be responsible for scheduling the work to be completed by operating railroad as well as the work to be completed by its own forces. DB Contractor shall be responsible for all costs associated with the railroad/transit force account work.

### **7.2 Toll Interface**

#### **7.2.1 Incident Response**

DB Contractor shall notify the TxDOT Statewide System Integrator (SI) with a copy to TxDOT no later than 2 hours following the DB Contractor's first awareness of any circumstance that is adversely affecting or has the potential to adversely affect power, communications, or structures supporting Electronic Toll Collection System (ETCS) equipment.

#### **7.2.2 Maintenance Services**

Following an ETCS event, DB Contractor shall coordinate with the SI to install infrastructure for purposes of re-establishing damaged ETCS equipment with the objective of minimizing impact to revenue collection.

Whenever DB Contractor plans to undertake Maintenance Services that may adversely affect the performance of the ETCS equipment, DB Contractor shall inform TxDOT, in writing, 28 days in advance of performing any such Maintenance Services. DB Contractor shall avoid any adverse impact on ETCS equipment wherever possible and shall comply with any restrictions

and requirements applicable to the Maintenance Services that may be imposed by TxDOT in its sole discretion.

Where adverse impact on ETCS equipment as a result of Maintenance Services is unavoidable, DB Contractor shall prepare and submit an ETCS equipment impact mitigation plan, no later than 28 days in advance of the planned Maintenance Services, for TxDOT's approval in its sole discretion that shall identify the nature and duration of the potential impacts associated with the Maintenance Services and the mitigation measures DB Contractor proposes. Upon approval by TxDOT of the mitigation plan and completion of the Maintenance Services, DB Contractor shall provide safe access to TxDOT and the SI for the purpose of re-installation and / or re-calibration of affected ETCS equipment. DB Contractor shall be solely responsible for the provision of safe access to TxDOT and the SI including all necessary traffic control to facilitate and enable the SI to re-install and/or re-calibrate ETCS equipment (as needed).

### **7.2.3 Replacement of System Integrator**

Upon TxDOT's 90 days' notice to the SI of its replacement, TxDOT may perform a hands-on inspection conducted jointly with TxDOT, DB Contractor and the outgoing SI to inspect the ETCS and adjacent Maintenance Elements including structures and conduits supporting the ETCS to determine any Defects that may affect the SI transition. The DB Contractor shall provide a permanent repair of any Defect that may affect the SI transition prior to the date the replacement SI is scheduled to commence. The DB Contractor shall provide safe access and traffic control for the purpose of the inspections and shall accompany TxDOT in the performance of inspections.

## **8 CLOSE-OUT REQUIREMENTS**

No later than 180 days prior to the end of the Maintenance Period, DB Contractor shall complete a Close-Out Inspection for 100% of the Project, and shall prepare a Close-Out Punch List. The Close-Out Punch List shall include (a) a description of each Defect identified in the Close-Out Inspection, (b) details of the Maintenance Services that will be undertaken, and (c) schedule for completing required Maintenance Services.

The Close-Out Punch List submitted to TxDOT shall be signed and sealed by a Registered Professional Engineer.

DB Contractor shall undertake the necessary hazard mitigation, permanent remedy, and permanent repair for each Close-Out Punch List item so that the affected Maintenance Element meets or exceeds the Target contained in the Performance and Measurement Table no later than 60 days prior to the end of the Maintenance Period.

DB Contractor shall cause the Close-Out Inspection to follow the latest inspection guidelines (at the time of the Close-Out Inspection) issued by TxDOT. DB Contractor shall provide to TxDOT a minimum of 14 Days' notice to witness any of the inspections and/or tests. DB Contractor shall deliver to TxDOT, within ten days after it is created, the output data arising from any testing and any interpretation thereof made by the testers.

The Close-Out Inspection for Maintenance Elements requiring a Specialist Inspection in accordance with Section 1.4.2 of this Exhibit 2 shall be performed by independent engineers, testing facilities and specialists from TxDOT's list of engineering firms qualified for such work.

**EXHIBIT 2, ATTACHMENT 1: PERFORMANCE AND MEASUREMENT TABLE**

Performance and Measurement Table									
MAINTENANCE ELEMENT CATEGORY	REF	MAINTENANCE ELEMENT	PERFORMANCE REQUIREMENT	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	MEASUREMENT RECORD	TARGET
				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
1) PAVEMENT									
							Unless stated otherwise, measurements shall be conducted using procedures, techniques, and measuring equipment consistent with TxDOT’s <i>Pavement Management Information System Rater’s Manual</i> . Unless otherwise stated, pavement performance measurement records relate to 0.1-mile sections as described in the <i>Pavement Management Information System Rater’s Manual</i> .		
	1.1	Ruts	All roadways are free from surface depressions in wheel path.	24 hrs	28 days	6 months	Depth as measured using an automated device in compliance with TxDOT Standards.	(i) Percentage of wheel path length with ruts greater than ¼" in depth in each Performance Section  • Mainlanes, shoulders and ramps - equal to or more than 3%  • Frontage roads – equal to or more than 10%	Nil
							10 ft straight edge used to measure rut depth for localized areas.	(ii) Depth of rut at any location greater than 0.5”	Nil
	1.2	Ride quality	All roadways have a smooth surface course (including bridge decks, covers, gratings, frames and boxes).	24 hrs	28 days	6 months	Measurement of International Roughness Index (IRI) according to TxDOT standard Tex-1001-S, Operating Inertial Profilers and Evaluating Pavement Profiles	(i) For 80% of all Performance Sections measured, IRI throughout 98% of each Performance Section is less than or equal to:  • Mainlanes, ramps - 95" per mile  • Frontage roads - 120" per mile	100%
							(Renewal Work and new construction subject to construction quality IRI standards, refer to Section 8.3.2 of Technical Provisions)	(ii) IRI measured throughout 98% of Performance Section is less than or equal to:  • Mainlanes, ramps - 120" per mile  • Frontage roads - 150" per mile  • Mainlanes, ramps, 0.1 mile average - 150" per mile  • Frontage roads, 0.1 mile average - 180" per mile	100%
							10-ft straightedge used to measure discontinuities	(iii) IRI measured throughout 98% of each lane containing a bridge deck in any Performance Section, 0.1 mile average - 200" per mile  (iv) Individual discontinuities greater than 1/4”	100%  Nil

Performance and Measurement Table									
MAINTENANCE ELEMENT CATEGORY	REF	MAINTENANCE ELEMENT	PERFORMANCE REQUIREMENT	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	MEASUREMENT RECORD	TARGET
				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	1.3	Failures	All roadways are free from failures.	2 hrs	28 days	N/A	Instances of failures exceeding the failure criteria set forth in the TxDOT PMIS Rater’s Manual, including potholes, base failures, punchouts and jointed concrete pavement failures	Occurrence of any failure	Nil
	1.4	Edge drop-offs	All roadways are free from edge drop-offs	24 hrs	28 days	6 months	Physical measurement of edge drop-off level compared to adjacent surface	Instances of edge drop-off greater than 2"	Nil
	1.5	Skid resistance	All roadways have adequate skid resistance	24 hrs	28 days	6 months	ASTM E274/E274M-11 Standard Test Method for Skid Resistance Testing of Paved Surfaces at 50 MPH using a full scale smooth tire meeting the requirements of ASTM E524-08.	(i) Sections investigated as to potential risk of skidding accident where average Skid Number for 0.5-mile section is below: • Mainlanes, shoulders and ramps – 30 • Frontage roads – 30	100%
			Road Users warned of potential skidding hazards	24 hrs	7 days	N/A		(ii) Perform a site investigation and required corrective action when the skid number is below 25 and/or when required by the Wet Weather Accident Reduction Program, for areas categorized as high risk.	100%
								(iii) Instances where road Users warned of potential skidding hazard where remedial action is identified.	100%
	1.6	Crossovers and other paved areas	Crossovers and other paved areas are free of defects based on visual survey	2 hrs	28 days	N/A	Instances of failures exceeding the failure criteria set forth in the TxDOT PMIS Rater’s Manual, including potholes, base failures, punchouts and jointed concrete pavement failures	Occurrence of any failure	Nil
1.7	Joints in concrete	Joints in concrete paving are sealed and watertight	24 hrs	28 days	6 months	Visual inspection of joints	Length unsealed joints greater than ¼"	Nil	
		Longitudinal joint separation				Measurement of joint width and level difference of two sides of joints	Joint width more than 1" or faulting more than ¼”	Nil	
2) DRAINAGE									
	2.1	Pipes, ditches, and channels	Each element of the drainage system is maintained in its proper function by cleaning, clearing and/or emptying as appropriate including any vegetation, debris and silt from the point at which water drains from the travel way to the outfall or drainage way.	24 hrs	28 days	6 months	Visual inspection supplemented by CCTV where required to inspect buried pipe work	Length with less than 90% of cross-sectional area clear (feet)	Nil
	2.2	Drainage treatment devices	Drainage treatment and balancing systems, flow and spillage control devices function correctly and their location and means of operation is recorded adequately to permit their correct operation in Emergency.	24 hrs	28 days	6 months	Visual inspection	Devices functioning correctly with means of operation displayed	100%
	2.3	Travel way	The travel way is free from water to the extent that such water would represent a hazard by virtue of its position and depth.	24 hrs	28 days	6 months	Visual inspection of water on surface	Instances of hazardous water build-up	Nil

Performance and Measurement Table									
MAINTENANCE ELEMENT CATEGORY	REF	MAINTENANCE ELEMENT	PERFORMANCE REQUIREMENT	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	MEASUREMENT RECORD	TARGET
				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	2.4	Discharge systems	Surface water discharge systems perform their proper function and discharge to groundwater and waterways complies with the relevant legislation and permits.	24 hrs	28 days	6 months	Visual inspection and records	Non-compliances with legislation	Nil
	2.5	Protected species	Named species and habitats are protected.	24 hrs	28 days	6 months	Visual inspection	Compliance with the requirement	100%
	2.6	Erosion	Address erosion greater than 12” deep along ditches, swales, ponds, and channels	24 hrs	28 days	3 months	Visual inspection and records	Compliance with the requirement	100%
	2.7	Channels and ditches – Permanent Erosion Control Measures	Where permanent erosion control measures such as rock or concrete riprap are utilized: repair undermined or damaged erosion control measures	24 hrs	28 days	3 months	Visual inspection	Inspection records showing compliance	100%
3) STRUCTURES									
	3.1	Structure components (Structures having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or springlines of arches or extreme ends of openings or multiple boxes)	(i) Substructures and superstructures are free of: <ul style="list-style-type: none"><li>undesirable vegetation</li><li>debris and bird droppings</li><li>blocked drains, weep pipes manholes and chambers</li><li>blocked drainage holes in structural components</li><li>defects in joint sealants</li><li>defects in pedestrian protection measure</li><li>scour damage</li><li>corrosion of rebar</li><li>paint system failures</li><li>impact damage</li></ul> (ii) Expansion joints free of: <ul style="list-style-type: none"><li>dirt, debris and vegetation</li><li>defects in drainage systems</li><li>loose nuts and bolts</li><li>defects in gaskets</li></ul> (iii) The deck drainage system is free of all debris and operates as intended. (iv) Parapets free of: <ul style="list-style-type: none"><li>loose nuts and bolts</li><li>blockages of hollow section drain holes</li><li>graffiti</li><li>vegetation</li><li>accident damage</li></ul> (v) Bearings and bearing shelves are clean. (vi) Sliding and roller surfaces are clean and greased to ensure satisfactory performance. Additional advice contained in bearing manufacturers' instructions in the Structure Maintenance Manual is followed. (vii) Special finishes are clean and perform to the appropriate standards. (viii)All non-structural items such as hoists and electrical fixings, operate correctly, are clean and lubricated as appropriate, in accordance with the manufacturer's recommendations and certification of lifting devices is maintained.	24 hrs	28 days	6 months	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650, the TxDOT Bridge Inspection Manual, and the Federal Highway Administration’s Bridge Inspector’s Reference Manual.	Records as required in the TxDOT Bridge Inspection Manual  Occurrences of condition rating below seven (7) for any deck, superstructure or substructure	100%  Nil



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	3.2	Non-bridge class culverts	Non-bridge-class culverts are free of: <ul style="list-style-type: none"><li>• vegetation and debris and silt</li><li>• defects in sealant to movement joints</li><li>• scour damage</li></ul>	24 hrs	28 days	6 months	Visual inspection	Number with vegetation, debris and silt  Number with defects in sealant and movement joints  Number with scour damage	Nil  Nil  Nil
	3.3	Load ratings	All structures maintain the design load capacity.	24 hrs	28 days	6 months	Load rating calculations in accordance with the Manual for Bridge Evaluation and the TxDOT Bridge Inspection Manual.  Load restriction requirements as per the TxDOT Bridge Inspection Manual	Number of load restrictions for Texas legal loads (including legally permitted vehicles)	Nil
	3.4	Gantries and high masts	Sign signal gantries, high masts are structurally sound and free of: <ul style="list-style-type: none"><li>• loose nuts and bolts</li><li>• defects in surface protection systems</li></ul>	24 hrs	28 days	6 months	Visual inspection	Number with loose assemblies  Number with defects in surface protection	Nil  Nil
	3.5	Access points	All hatches and points of access have fully operational and lockable entryways.	24 hrs	28 days	6 months	Visual inspection	Number of Defects in locks or entryways	Nil
	3.6	Mechanically stabilized earth and retaining walls	Mechanically stabilized earth and retaining walls free of: <ul style="list-style-type: none"><li>• blocked weep holes</li><li>• undesirable vegetation</li><li>• defects in joint sealants</li><li>• defects in pedestrian protection</li><li>• scour damage</li><li>• corrosion of reinforcing bars</li><li>• paint system failure</li><li>• concrete spalling</li><li>• impact damage</li></ul> Parapets free of: <ul style="list-style-type: none"><li>• loose nuts and bolts</li><li>• blockage of drain holes</li><li>• undesirable vegetation</li><li>• impact damage</li><li>• concrete spalling</li></ul>	24 hrs	28 days	6 months	Perform inspection and assessment using Good Industry Practice of all mechanically stabilized earth and retaining walls	Mechanically stabilized earth and retaining walls are 95% free of blocked weep holes, undesirable vegetation, defects in joint sealants, defects in pedestrian protection, scour damage, corrosion of reinforcing bars, paint system failure, concrete spalls and impact damage  Number of parapet areas with loose nuts & bolts, blockage, undesirable vegetation, impact damage or concrete spalling in the Performance Section.	100%          Nil
4) PAVEMENT MARKINGS, OBJECT MARKERS, BARRIER MARKERS AND DELINEATORS									
	4.1	Pavement markings	Pavement markings are: <ul style="list-style-type: none"><li>• clean and visible during the day and at night</li><li>• whole and complete and of the correct color, type, width and length</li><li>• placed to meet the TMUTCD and TxDOT’s Pavement Marking Standard Sheets</li></ul>	24 hrs	28 days	6 months	a) Markings - General  Maintain pavement markings and perform annual Mobile Retroreflectivity Data Collection (MRDC) in accordance with TxDOT’s Special Specification 8094 Mobile Retroreflectivity Data Collection for Pavement Markings.          Physical measurement	Length meeting the minimum retroreflectivity 175 mcd/m²/lx for white          Length meeting the minimum retroreflectivity 125 mcd/m²/lx for yellow          Length with more than 5% loss of area of material at any point	100%          100%          Nil

Performance and Measurement Table									
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				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	4.1 cont.			24 hrs	28 days	6 months	b) Profile Markings Visual inspection	Length with spread more than 10% of specified dimensions.	Nil
								Length performing its intended function and compliant with relevant regulations	100%
	4.2	Raised reflective markers	Raised reflective pavement markers are: <ul style="list-style-type: none"><li>• clean and clearly visible</li><li>• of the correct color and type</li><li>• reflective or retroreflective as TxDOT standard</li><li>• correctly located, aligned and at the correct level</li><li>• are firmly fixed</li><li>• are in a condition that will ensure that they remain at the correct level.</li></ul>	24 hrs	28 days	6 months	Visual inspection	Number of markers associated with road markings that are ineffective in any 10 consecutive markers. (Ineffective includes missing, damaged, settled or sunk)	Nil
								A minimum of four markers should be visible at 80' spacing when viewed under low beam headlights	100%
								Uniformity (replacement raised reflective pavement markers have equivalent physical and performance characteristics to adjacent markers).	100%
	4.3	Delineators & markers	Object markers, mail box markers and delineators are: <ul style="list-style-type: none"><li>• clean and visible</li><li>• of the correct color and type</li><li>• legible and reflective</li><li>• straight and vertical</li></ul>	24 hrs	28 days	6 months	Visual inspection	Less than 5% of object markers or delineators defective or missing	100%
5) CURBS, GUARDRAILS, SAFETY BARRIERS AND IMPACT ATTENUATORS									
	5.1	Curbs	Curbs are free of cracks, chips and separation and are in good alignment.	24 hrs	28 days	6 months	Visual inspection	Continuous curb lengths where more than 10% of the length has defects such as cracks and chips	Nil
							Physical measurement	Continuous curb lengths where more than 5% of the length has a separation exceeding 0.25" between curb face and adjacent roadway surface	Nil
							10 feet straight edge will be used to measure each curb alignment	Deviation from original alignment greater than 1”	Nil
	5.2	Guard rails and safety barriers	All guardrails, safety barriers, and concrete barriers are maintained free of Defects. They are appropriately placed and correctly installed at the correct height and distance from roadway or obstacles. Installation and repairs shall be carried out in accordance with the requirements of NCHRP 350 standards.	24 hrs	28 days	6 months	Visual inspection	Length of road restraint systems correctly installed	100%
								Length free from defects	100%
								Length at correct height	100%
								Length at correct distance from roadway and obstacle	100%
	5.3	Impact attenuators	All impact attenuators are appropriately placed, correctly installed, and free of damage.	24 hrs	7 days	6 months	Visual inspection	Number correctly placed and installed	100%

Performance and Measurement Table									
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6) TRAFFIC SIGNS									
	6.1	General – All signs	(i) Signs are clean, correctly located, clearly visible, legible, reflective, at the correct height and free from structural and electrical defects  (ii) Identification markers are provided, correctly located, visible, clean and legible  (iii) Sign mounting posts are vertical, structurally sound and rust free  (iv) All break-away sign mounts are clear of silt or other debris that could impede break-away features and shall have correct stub heights  (v) Obsolete and redundant signs are removed or replaced as appropriate  (vi) Visibility distances meet the stated requirements  (vii) Sign information is of the correct size, location, type and wording to meet its intended purpose and any statutory requirements  (viii) All structures and elements of the signing system are kept clean and free from debris and have clear access provided.  (ix) All replacement and repair materials and equipment are in accordance with the requirements of the TMUTCD	24 hrs	28 days	6 months	a) Retroreflectivity Coefficient of retroreflectivity  b) Face damage Visual inspection  c) Placement Visual inspection  d) Sign Information Visual inspection	Number of signs with reflectivity below the requirements of TxDOT’s TMUTCD  Number of signs with face damage greater than 5% of area  Signs are placed in accordance with TxDOT’s Sign Crew Field Book including not twisted or leaning  Sign information is of the correct size, location, type and wording to meet its intended purpose	Nil  Nil  100%  100%
	6.2	General - Safety critical signs	Requirements as 6.1, Plus: "Stop," "Yield," "Do Not Enter," "One Way" and "Wrong Way" signs are clean legible and undamaged.	2 hrs	7 days	N/A	Visual inspection	Number of damaged safety critical signs	Nil
7) TRAFFIC SIGNALS									
	7.1	General	(i) Traffic Signals and their associated equipment are: <ul style="list-style-type: none"><li>• clean and visible</li><li>• correctly aligned and operational</li><li>• free from damage caused by accident or vandalism</li></ul> (ii) Signal timing and operation is correct  (iii) Contingency plans are in place to rectify Category 1 defects not immediately repairable to assure alternative traffic control is provided during a period of failure	2 hrs	24 hrs	6 months	a) General condition Visual inspection  b) Damage Visual inspection  c) Signal timing Timed measurements  d) Contingency plans Records review	Signals are clean and visible  Signals are undamaged  Installations have correct signal timings  Full contingency plans are in place	100%  100%  100%  100%

Performance and Measurement Table									
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				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	7.2	Soundness	Traffic signals are structurally and electrically sound	24 hrs	28 days	6 months	a) Structural soundness Visual inspection  b) Electrical soundness Testing to meet NEC regulations	Inspection records showing safe installation and maintenance	100%  100%
	7.3	Identification marking	Signals have identification markers and the telephone number for reporting faults are correctly located, clearly visible, clean and legible	N/A	28 days	6 months	Visual inspection	Inspection records showing identification markers and other information are easily readable	100%
	7.4	Pedestrian elements and vehicle detectors	All pedestrian elements and vehicle detectors are correctly positioned and fully functional at all times	24 hrs	28 days	6 months	Visual Inspection	Inspection records showing compliance	100%
8) LIGHTING									
	8.1	Roadway lighting – General	(i) All lighting is free from defects and provides acceptable uniform lighting quality (ii) Lanterns are clean and correctly positioned (iii) Lighting units are free from accidental damage or vandalism (iv) Columns are upright, correctly founded, visually acceptable and structurally sound	24 hrs	28 days	6 months	a) Mainlane lights operable Night time inspection or automated logs  b) Mainlane lights out of action Night time inspection or automated logs	Performance Sections with less than 90% of lights functioning correctly at all times  Instances of more than two consecutive lights not functioning	Nil  Nil
	8.2	Sign lighting	Sign lighting is fully operational	24 hrs	28 days	6 months	Night time inspection or automated logs	Instances of more than one bulb per sign not working	Nil
	8.3	Electrical supply	Electricity supply, feeder pillars, cabinets, switches and fittings are electrically, mechanically and structurally sound and functioning	24 hrs	7 days	28 days	Testing to meet NEC regulations, visual inspection	Inspection records showing safe installation and maintenance	100%
	8.4	Access panels	All access panels in place at all times.	24 hrs	7 days	28 days	Visual inspection	Instances of missing access panels	Nil
	8.5	High mast lighting	(i) All high mast luminaries functioning on each pole (ii) All obstruction lights are present and working (if required) (iii) Compartment door is secure with all bolts in place (iv) All winch and safety equipment are correctly functioning and maintained without rusting or corrosion  (for structural requirements refer to Maintenance Element Category 3)	24 hrs	7 days	28 days	Night time inspections or automated logs	Instances of two or more lamps not working per high mast pole  Identification of other defects	Nil  Nil
9) FENCES, WALLS AND SOUND ABATEMENT									
	9.1	Design and location	Fences and walls act as designed and serve the purpose for which they were intended	24 hrs	28 days	6 months	Visual inspection	Inspection records showing compliance in each Performance Section	100%
	9.2	Construction - fences	Integrity and structural condition of the fence is maintained	24 hrs	28 days	6 months	Structural assessment if visual inspection warrants	Inspection records showing compliance in each Performance Section	100%
	9.3	Construction - walls	Integrity and structural condition of the walls are maintained	24 hrs	28 days	6 months	Structural assessment if visual inspection warrants	Inspection records showing compliance in each Performance Section	100%

Performance and Measurement Table									
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				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	9.4	Operation	Fences, Walls, and Sound Abatement elements free of: <ul style="list-style-type: none"><li>• blocked weep holes</li><li>• undesirable vegetation</li><li>• defects in joint sealants</li><li>• defects in pedestrian protection</li><li>• scour damage</li><li>• corrosion of reinforcing bars</li><li>• paint system failure</li><li>• concrete spalling</li><li>• impact damage</li></ul>	24 hrs	28 days	6 months	Structural assessment if visual inspection warrants	Inspection records showing compliance in each Performance Section	100%
10) ROADSIDE MANAGEMENT									
	10.1	Vegetated areas – Except landscaped areas – General	Vegetation is maintained so that: <ul style="list-style-type: none"><li>(i) Height of grass and weeds is kept within the limits described for rural areas. Mowing begins before vegetation reaches the maximum height.</li><li>(ii) Spot mowing at intersections, ramps or other areas maintains visibility of appurtenances and sight distance.</li><li>(iii) Grass or vegetation does not encroach into or on paved shoulders, mainlanes, sidewalks, islands, riprap, traffic barrier or curbs.</li><li>(iv) A herbicide program is undertaken in accordance with the TxDOT Herbicide Manual to control noxious weeds and to eliminate grass in pavement or concrete.</li><li>(v) A full width mowing cycle is completed after the first frost</li><li>(vi) Wildflowers are preserved utilizing the guidelines in the mowing specifications and TxDOT Roadside Vegetation Manual.</li></ul>	24 hrs	7 days	28 days	a) Rural areas Physical measurement of height of grass and weeds b) Encroachment Visual inspection of instances of encroachment of vegetation c) Wildflowers Visual inspection with audit of process. d) Sight lines Visual inspection	Individual measurement areas to have 95% of height of grass and weeds between 5” and 30”  Occurrences of vegetation encroachment in each Performance Section  Adherence to vegetation management manuals  Instances of impairment of sight lines or sight distance to signs	100%  Nil  100%  Nil
	10.2	Landscaped areas	<ul style="list-style-type: none"><li>(i) All landscaped areas are maintained to their originally constructed condition. Landscaped areas are as designated in the Plans.</li><li>(ii) Mowing, litter pickup, irrigation system maintenance and operation, plant maintenance, pruning, insect, disease and pest control, fertilization, mulching, bed maintenance, watering is undertaken as per MMP.</li><li>(iii) The height of grass and weeds is kept between 2“ and 8”. Mowing begins before vegetation reaches 8”</li><li>(iv) Damaged or dead vegetation is replaced.</li></ul>	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance	100%
	10.3	Fire hazards	Fire hazards are controlled	24 hrs	7 days	28 days	Visual inspection	Instances of dry brush or vegetation forming fire hazard	Nil

Performance and Measurement Table									
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	10.4	Trees, brush and ornamentals	(i) Trees, brush and ornamentals on the right of way, except in established no mow areas, are trimmed in accordance with TxDOT standards.  (ii) Trees, brush and ornamentals are trimmed to insure they do not interfere with vehicles or sight distance, or inhibit the visibility of signs.  (iii) Dead trees, brush, ornamentals and branches are removed. Potentially dangerous trees or limbs are removed.  (iv) All undesirable trees and vegetation are removed. Diseased trees or limbs are treated or removed by licensed contractors.	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance	100%
	10.5	Wetlands	Wetlands are managed in accordance with the permit requirements	24 hrs	7 days	28 days	Visual inspection, assessment of permit issuers	Instances of permit requirements not met	Nil
	10.6	Sidewalks and pedestrian curb ramps	Maintain at a standard to be free of defects as follows:  (i) unsealed cracks or joints  (ii) broken sections  (iii) vertical displacement or misalignment	24 hrs	7 days	28 days	Visual inspection	Inspection records showing compliance with TxDOT Design Standards and Americans with Disabilities Act (ADA) requirements.	100%
11) REST AREAS AND PICNIC AREAS (Not Used)									
12) EARTHWORKS, EMBANKMENTS AND CUTTINGS									
	12.1	Slope failure	All structural or natural failures of the embankment and cut slopes of the Project are repaired	24 hrs	28 days	6 months	Visual inspection by geotechnical specialist and further tests as recommended by the specialist	Recorded instances of slope failure	Nil
	12.2	Slopes - General	Slopes are maintained in general conformance to the original graded cross-sections, the replacement of landscaping materials, reseeding and re-vegetation for erosion control purposes and removal and disposal of all eroded materials from the roadway and shoulders	24 hrs	28 days	6 months	Visual inspection	Inspection records showing compliance	100%
	12.3	Slopes – Erosion	Slopes are maintained to prevent erosion leading to further deterioration	24 hrs	28 days	3 months	Visual inspection	Length of erosion greater than six inches ( > 6") deep	Nil
	12.4	Slopes - Permanent Erosion Control Measures	Where permanent erosion control measures such as rock or concrete riprap are utilized: repair undermined or damaged erosion control measures	24 hrs	28 days	3 months	Visual inspection	Inspection records showing compliance	100%

Performance and Measurement Table									
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13) ITS EQUIPMENT									
	13.1	ITS Equipment	All ITS equipment is fully functional and housing is functioning and free of defects.  (i) All equipment and cabinet identification numbers are visible, sites are well drained and access is clear  (ii) Steps, handrails and accesses are kept in a good condition  (iii) Access to all communication hubs, ground boxes, cabinets and sites is clear  (iv) All drainage is operational and all external fixtures and fittings are in a satisfactory condition  (v) All communication cable markers, cable joint markers and duct markers are visible and missing markers are replaced  (vi) Backup power supply system is available at all times	24 hrs	14 days	28 days	Visual inspection	Inspection records showing compliance with requirements for maintenance of ITS equipment in each Performance Section.	100%
	13.2	Dynamic message sign equipment	Dynamic message signs are free from faults such as:  (i) Any signal displaying a message which is deemed to be a safety hazard  (ii) Failure of system to clear sign settings when appropriate.  (iii) 2 or more contiguous sign failures that prevent control office setting strategic diversions  (iv) Signs displaying an incorrect message.	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance	100%
	13.3	CCTV equipment	CCTV Systems are free from faults that limit the availability of the operators to monitor the area network, such as:  (i) Failure of CCTV Systems to provide control offices with access and control of CCTV images  (ii) Failure of a CCTV camera or its video transmission system.  (iii) Failure of a pan / tilt unit or its control system.  (iv) Moisture ingress onto CCTV camera lens  (v) Faults that result in significant degradation of CCTV images	2 hrs	24 hrs	14 days	Defect measurement dependent on equipment	Inspection records showing compliance	100%
	13.4	Vehicle detection equipment	All equipment free of defects and operational problems such as;  (i) Inoperable loops.  (ii) Malfunctioning camera controllers.	2 hrs	24 hrs	28 days	Defect measurement dependent on equipment  Traffic detector loops:  Loop circuit's inductance to be > 50 and < 1,000 micro henries.  Insulation resistance to be > 50 meg ohms.	Inspection records showing compliance   Instances of loops out of compliance	100%   Nil
14) TOLLING Facilities and Buildings (Not Used)									

Performance and Measurement Table									
MAINTENANCE ELEMENT CATEGORY	REF	MAINTENANCE ELEMENT	PERFORMANCE REQUIREMENT	DEFECT REMEDY PERIOD			INSPECTION AND MEASUREMENT METHOD	MEASUREMENT RECORD	TARGET
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15) AMENITY									
	15.1	Graffiti	Graffiti is removed in a manner and using materials that restore the surface to a like appearance similar to adjoining surfaces	4 hrs	7 days	N/A	All graffiti is considered a Category 1 defect.	Inspection records showing compliance	100%
	15.2	Animals	All dead or injured animals are removed	2 hrs	N/A	N/A	Visual inspection	No dead or injured animals are present	100%
	15.3	Abandoned vehicles and equipment	All abandoned vehicles and equipment are removed	1 hr	3 days	N/A	Visual inspection	No abandoned vehicles or equipment present	100%
16) SNOW AND ICE CONTROL									
	16.1	Travel lanes	Maintain travel way free from snow and ice	1 hr or 2 hrs as noted.	N/A	N/A	Maximum 1 hr response time to complete manning and loading of spreading vehicles  Maximum 2 hrs from departure from loading point to complete treatment and return to loading point  Maximum 1 hr response time for snow and ice clearance vehicles to depart from base	Inspection records showing compliance	100%
	16.2	Weather forecasting	Weather forecast information is obtained and assessed and appropriate precautionary treatment is carried out to prevent ice forming on the travel way	2 hrs	N/A	N/A	MMP and SICP details the process and procedures in place and followed	Inspection records showing compliance	100%
	16.3	Operational plans	Operate snow and ice clearance plans to maintain traffic flows during and after precipitation resulting in snowfall or ice and restore the travel way to a clear condition as soon as possible.	2 hrs	N/A	N/A	MMP and SICP details the process and procedures in place and followed	Inspection records showing compliance	100%
17) INCIDENT RESPONSE									
	17.1	General	Respond to Incidents in accordance with the MMP and IEMP.	1 hr	N/A	N/A	Response times met for 98% of Incidents measured on a 1 year rolling basis. No complaints from Emergency Services.	Inspection records showing compliance	100%
	17.2	Hazardous Materials	For any Hazardous Materials spills, comply with the requirements of the MMP.	1 hr	N/A	N/A	MMP details the process and procedures in place and followed.	Inspection records showing compliance	100%
	17.3	Structural assessment	Evaluate structural damage to structures and liaise with Emergency Services to ensure safe working in clearing the Incident	1 hr	N/A	N/A	Inspections and surveys as required by Incident	Inspection reports showing compliance	100%
	17.4	Temporary and permanent remedy	Propose and implement temporary measures and permanent remedies or repairs to Defects arising from the Incident.  Ensure the structural safety of any structures affected by the Incident	24 hrs	28 days	N/A	Review and inspection of the Incident site	Performance Section inspection records showing compliance	100%
18) CUSTOMER RESPONSE									



Performance and Measurement Table									
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				Category 1 Hazard Mitigation	Category 1 Permanent Remedy	Category 2 Permanent Repair			
	18.1	Response to inquiries	Timely and effective response to customer inquiries and complaints.	48 hrs	14 days	N/A	Contact the customer within 48 hours following initial customer inquiry.  All work resulting from customer requests is scheduled within 48 hours of customer contact.  Follow-up contact with the customer within 72 hours of initial inquiry.  All customer concerns/requests are resolved to TxDOT’s satisfaction within 2 weeks of the initial inquiry.	Number of responses within specified times	100%
	18.2	Customer contact line	Telephone line manned during business hours and 24 hour availability of messaging system. Faults to telephone line or message system rectified	24 hrs	N/A	N/A	Instances of line out of action or unmanned	Operations records showing non availability including complaints from public.	nil
19) SWEEPING AND CLEANING									
	19.1	Obstructions and debris	Roadway and clear zone free from obstructions and debris including at a minimum objects, luminaire poles, and tires.	2 hrs	N/A	N/A	Visual Inspection	Number of obstructions and debris	Nil
	19.2	Sweeping	(i) Keep all channels, hard shoulders, gore areas, ramps, intersections, islands and frontage roads swept clean, (ii) Clear and remove debris from traffic lanes, hard shoulders, verges and central reservations, footways and cycle ways (iii) Remove all sweepings without stockpiling in the right of way and dispose of at approved tip.	24 hrs	3 days	N/A	Buildup of dirt, ice rock, debris, etc. on roadways and bridges not to accumulate greater than 24" wide or 1/2" deep	Inspection records showing compliance	100%
	19.3	Litter	(i) Keep the Project in a neat condition, remove litter regularly (ii) Pick up large litter items before mowing operations. (iii) Dispose of all litter and debris collected at an approved solid waste site.	24 hrs	3 days	N/A	No more than 20 pieces of litter per roadside mile shall be visible when traveling at highway speed.	Inspection records showing compliance	100%

**NOTES FOR PERFORMANCE AND MEASUREMENT TABLE**

<sup>1</sup> “Category 1 Hazard Mitigation” shall be an action taken by DB Contractor to mitigate a hazard to Users or imminent risk of damage or deterioration to property or the environment such that the Category 1 Defect no longer exists.

<sup>2</sup> “Category 1 Permanent Remedy” shall be an action taken by DB Contractor to restore the condition of a Maintenance Element following “Category 1 Hazard Mitigation” of a Category 1 Defect: (a) to the standard required for new construction / Renewal Work; or (b) to a condition such that the Target is achieved for each Measurement Record.

<sup>3</sup> “Category 2 Permanent Repair” shall be an action taken by DB Contractor to restore the condition of a Maintenance Element for which a Category 2 Defect has been recorded: (a) to the standard required for new construction / Renewal Work; or (b) to a condition such that the Target is achieved for each Measurement Record.

**ATTACHMENT 2: NOT USED**

### **ATTACHMENT 3: MAINTENANCE LIMITS**

[SEE ATTACHED]

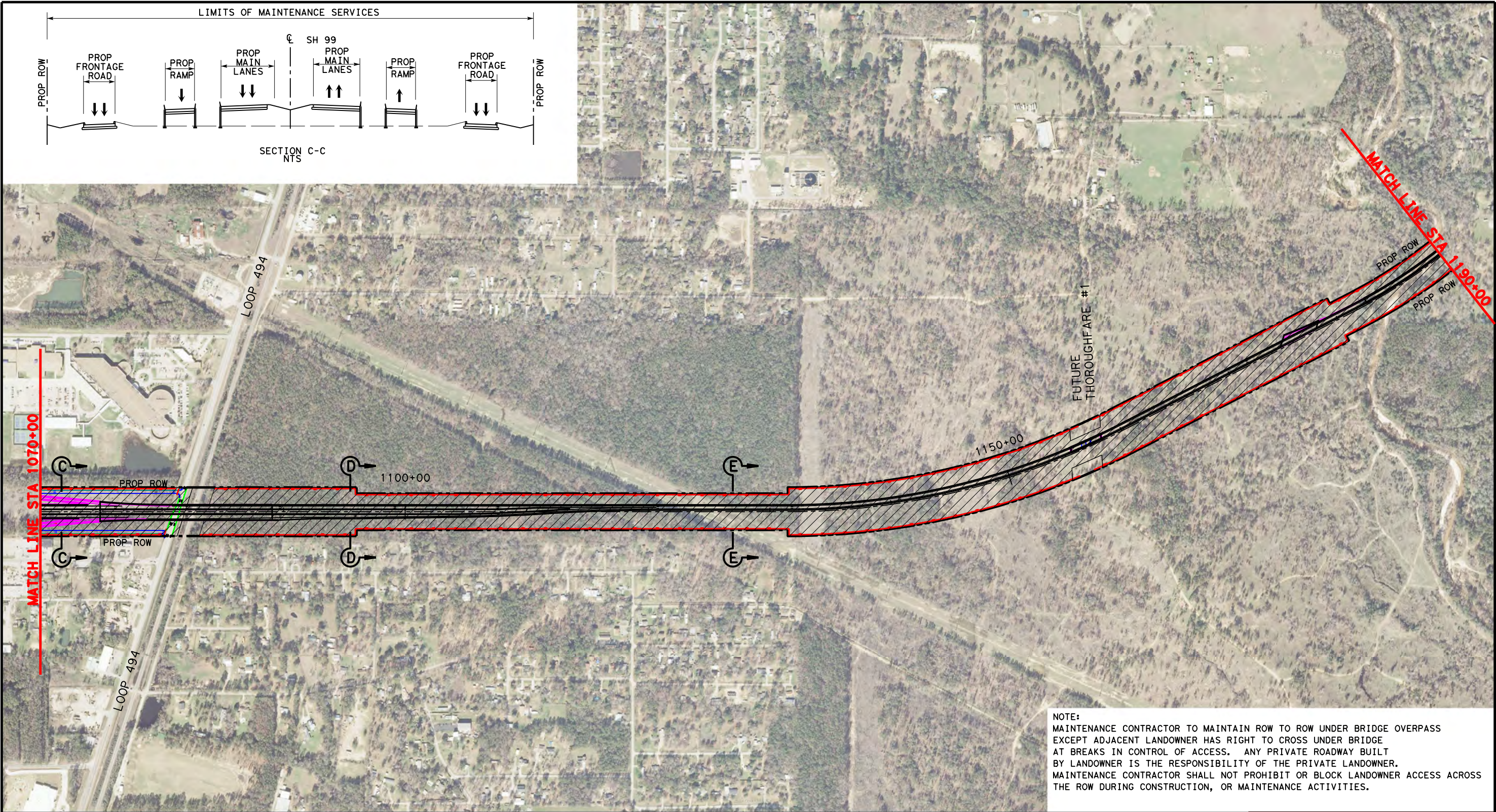






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NOTE:  
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS  
EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE  
AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT  
BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER.  
MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS  
THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.

LIMITS OF MAINTENANCE SERVICES

SH 99

PROP MAIN LANES

PROP ROW

SECTION D-D  
NTS

LIMITS OF MAINTENANCE SERVICES

SH 99

PROP MAIN LANES

PROP ROW

SECTION E-E  
NTS

**LEGEND**

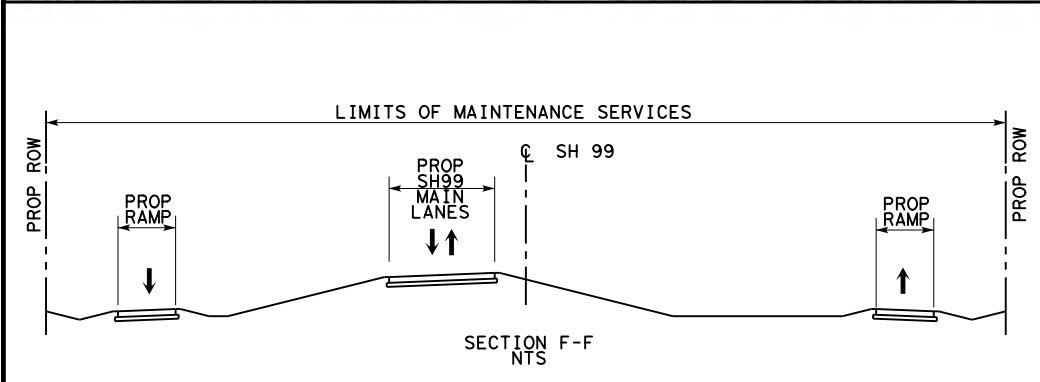
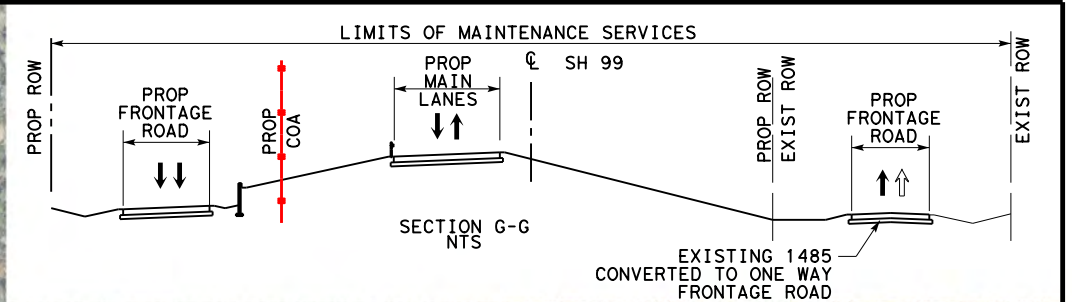
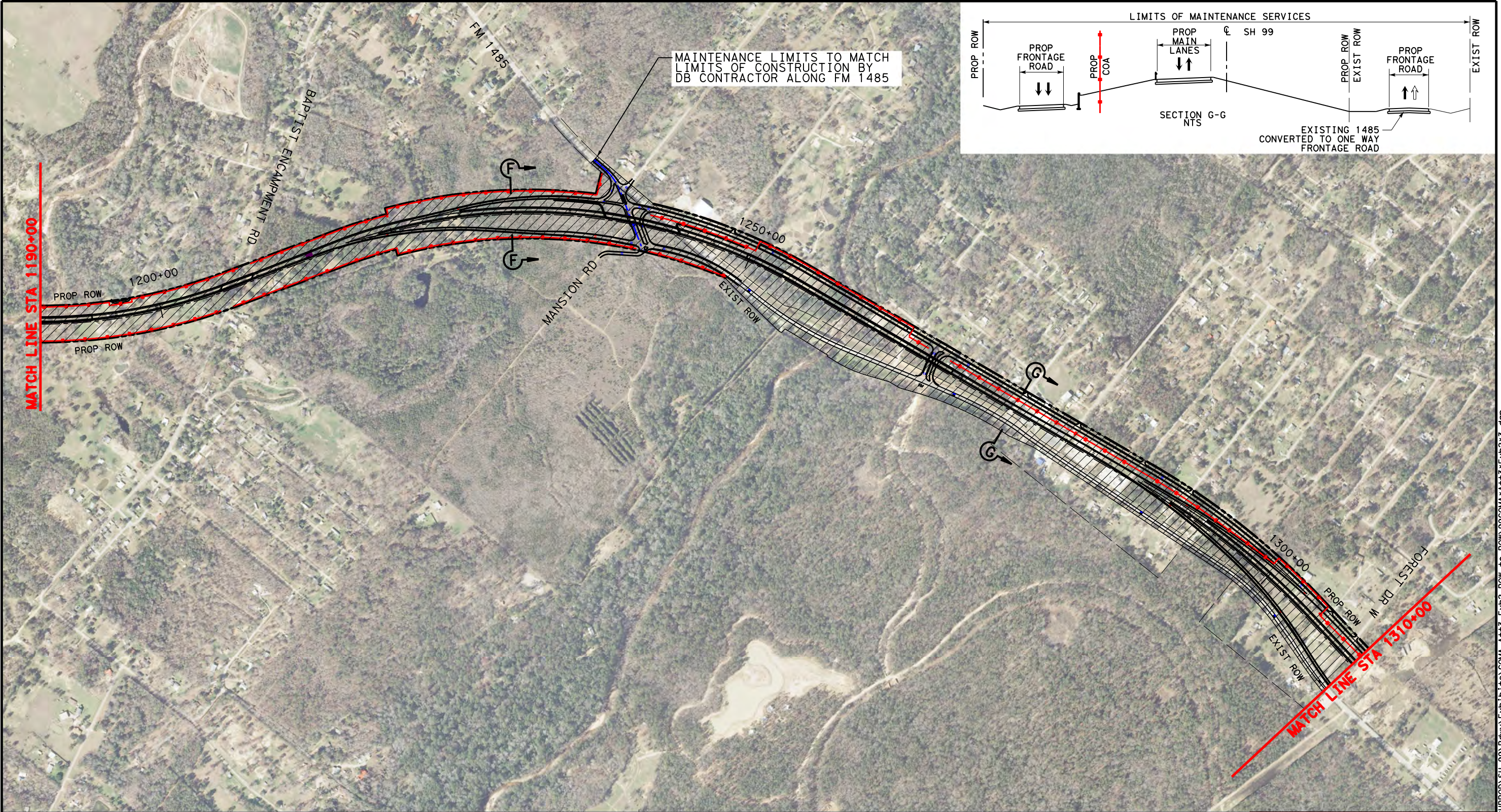
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- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.		HIGHWAY NO.
CK:	6	TEXAS			SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
CK:					SHEET NO. 2







**LEGEND**

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

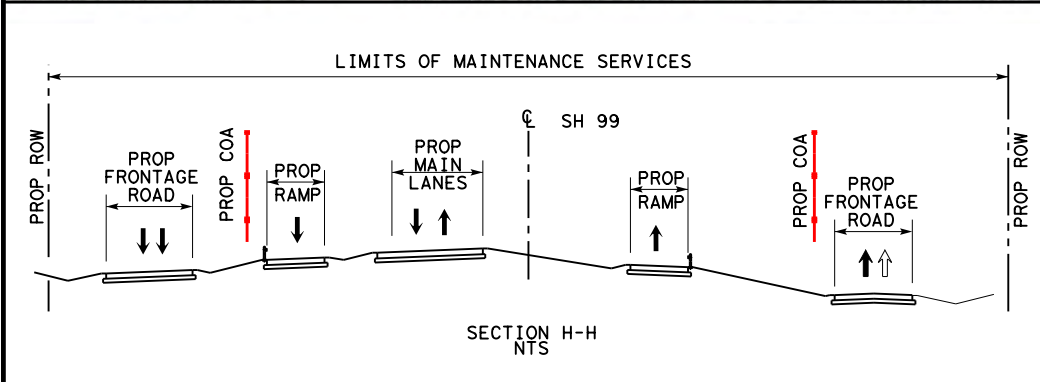
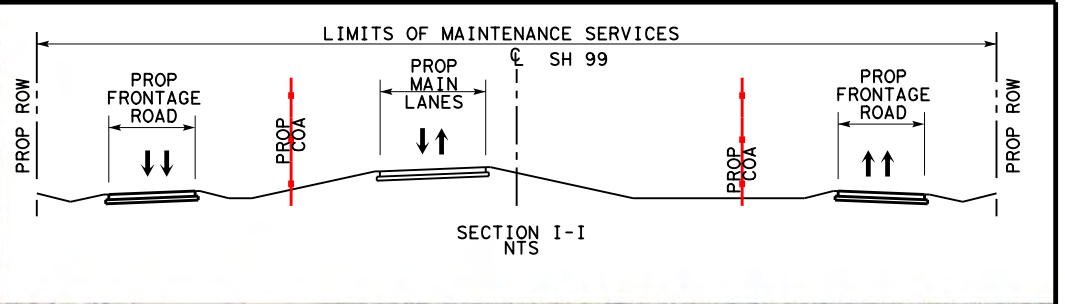
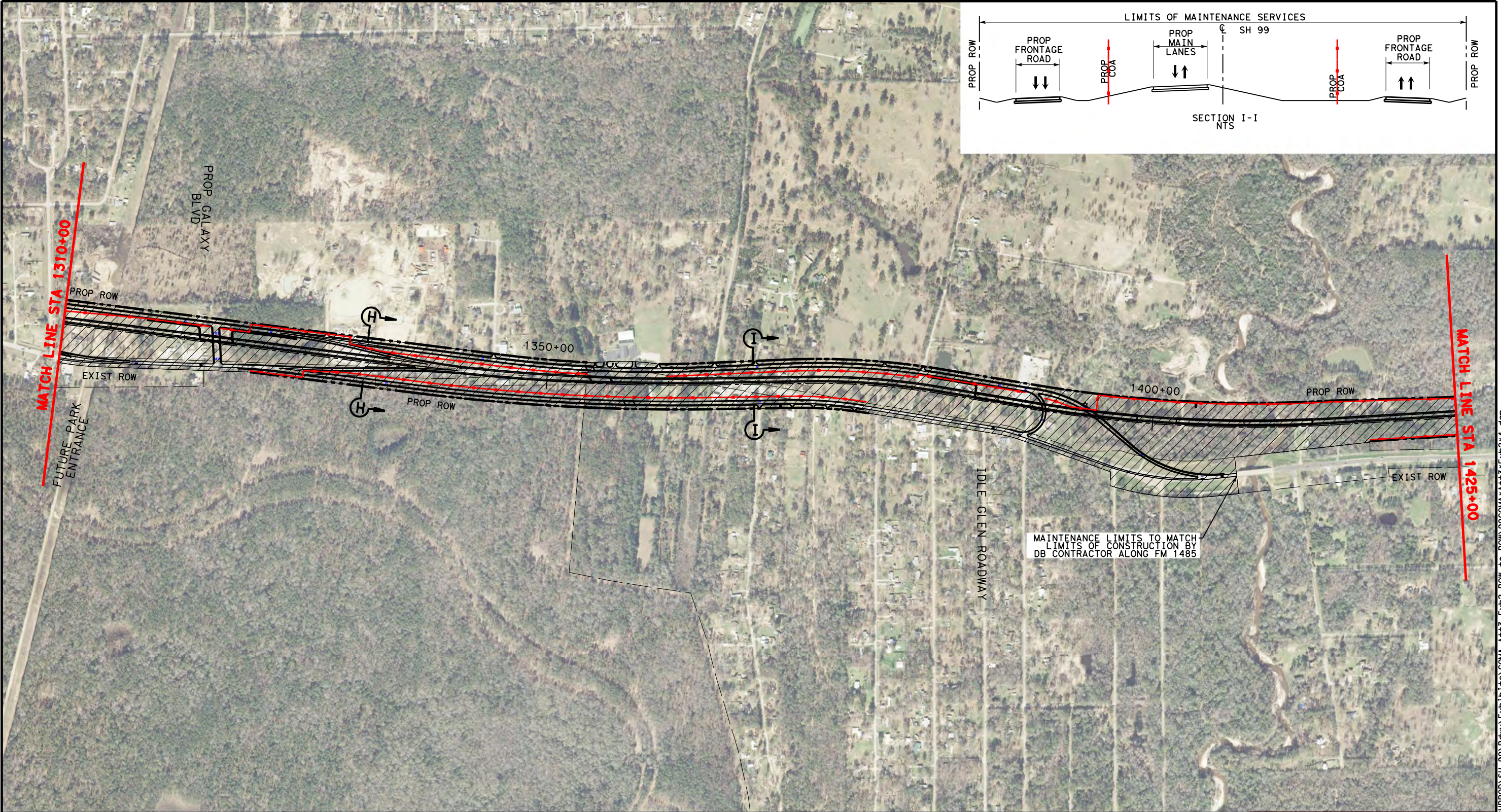
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SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.		HIGHWAY NO.
CK:	6	TEXAS			SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
CK:					3





**LEGEND**

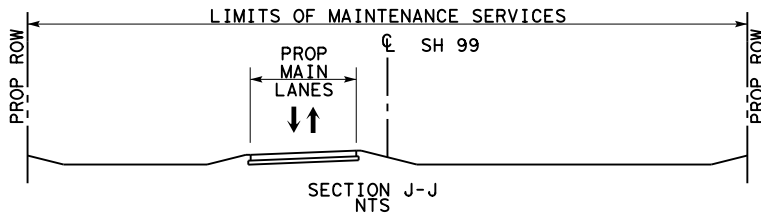
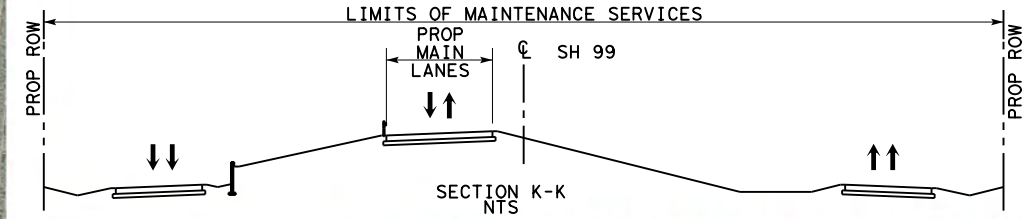
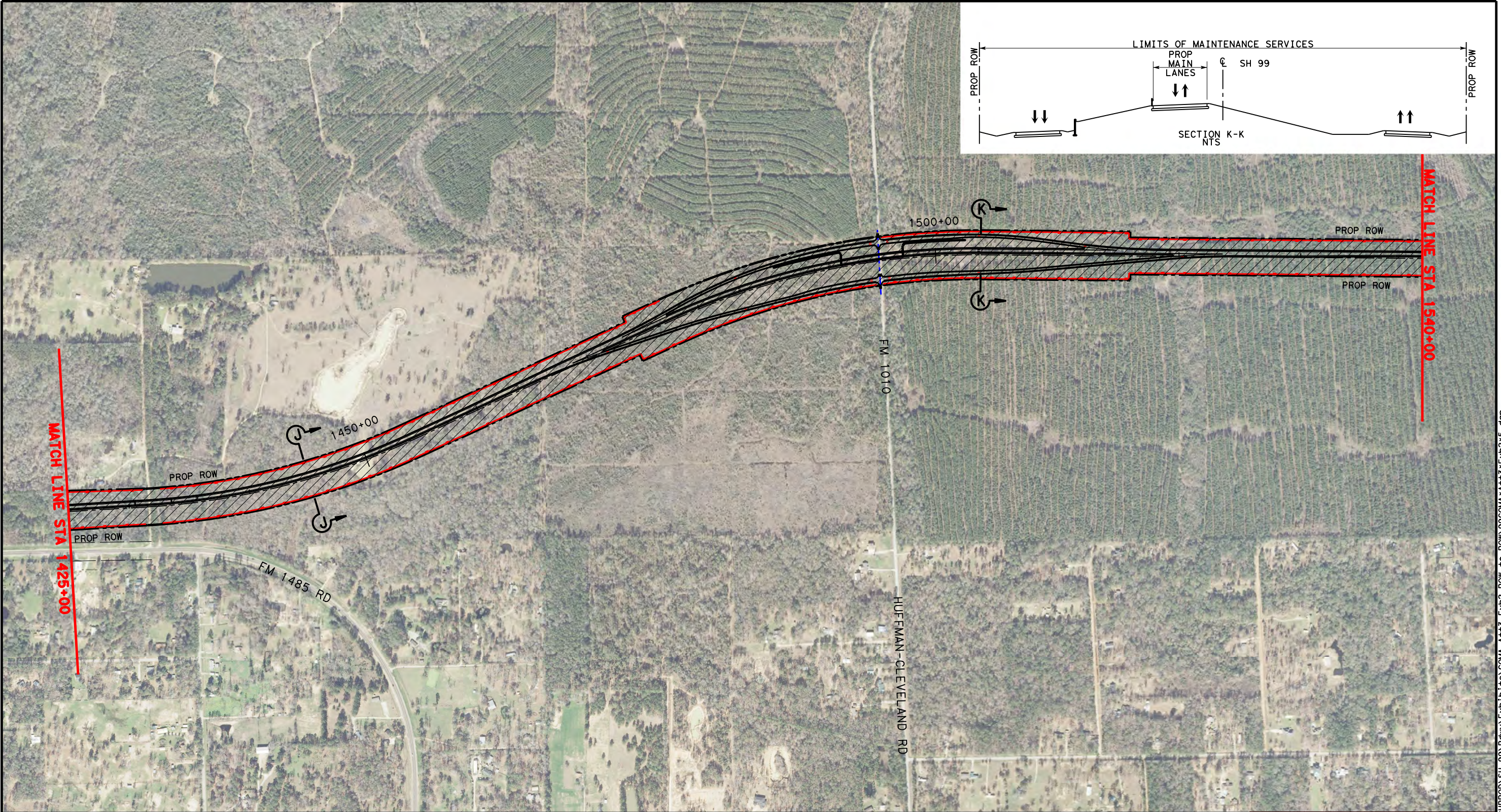
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- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.		HIGHWAY NO.
CK:	6	TEXAS			SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
CK:					SHEET NO. 4





LEGEND

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
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- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)



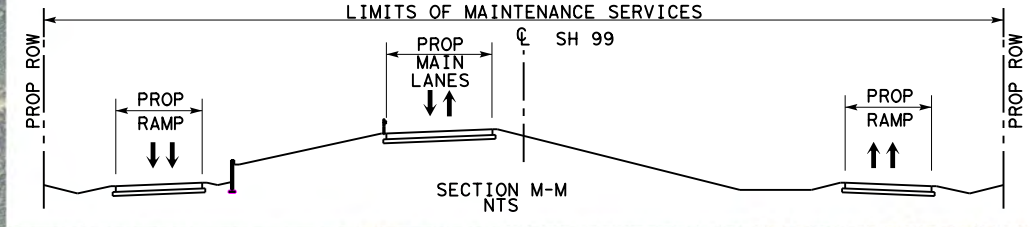
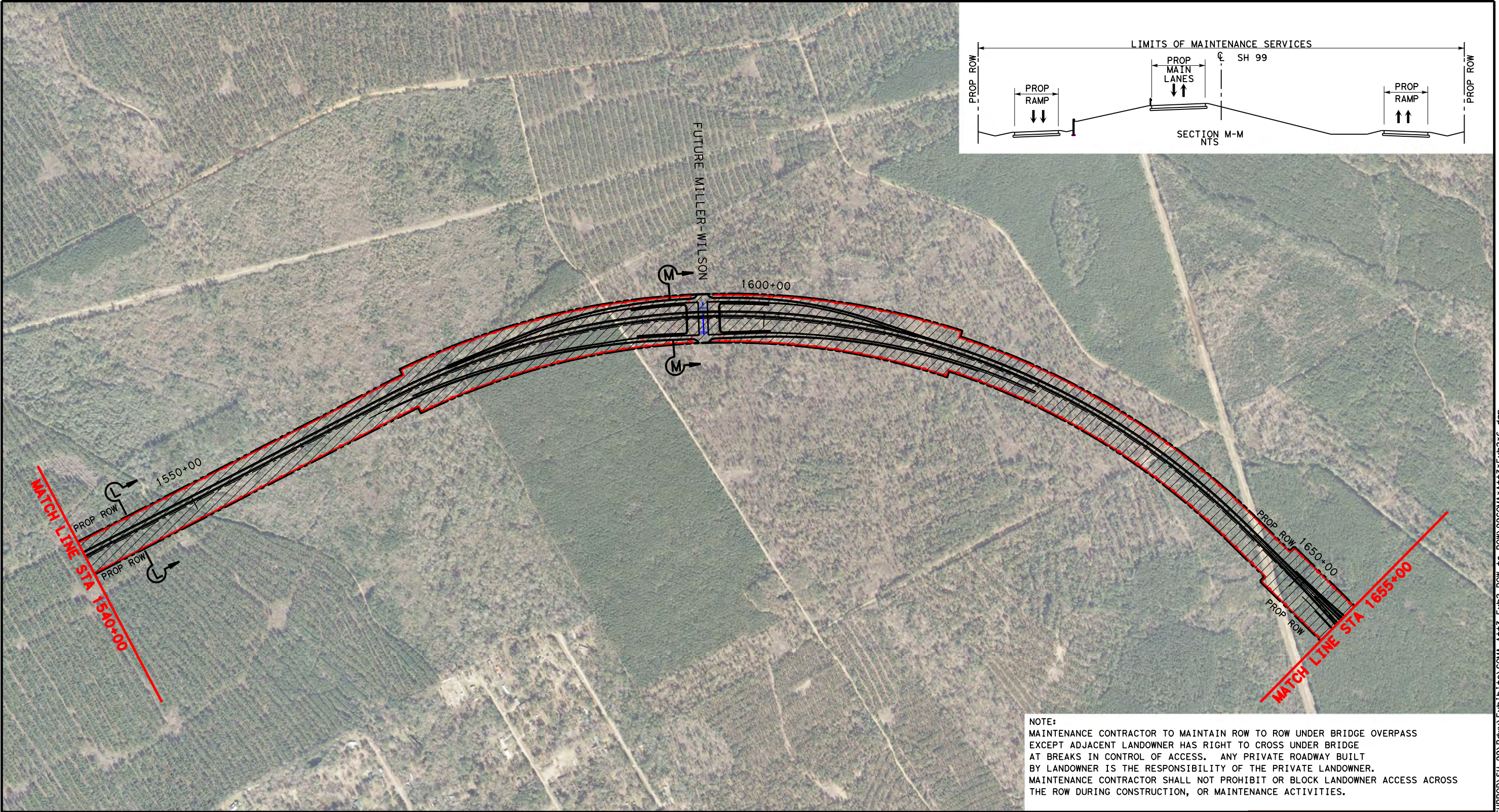
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ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
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DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
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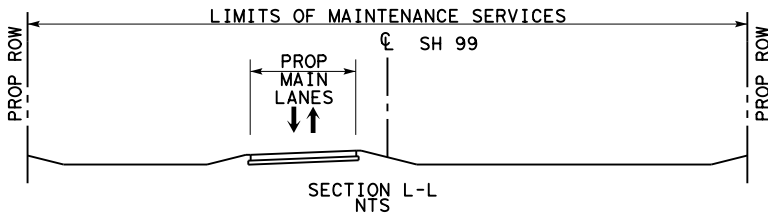


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NOTE:  
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.



- LEGEND**
- [Hatched Box] LIMITS OF MAINTENANCE SERVICES
  - [Solid Black Line] PROPOSED GRAND PARKWAY
  - [Dashed Black Line] PROP ROW
  - [Red Line with Cross-Ticks] PROP CONTROL OF ACCESS
  - [Dashed Orange Line] EXISTING ROW
  - [Dashed Orange Line] PROPERTY LINE
  - [Dashed Purple Line] PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

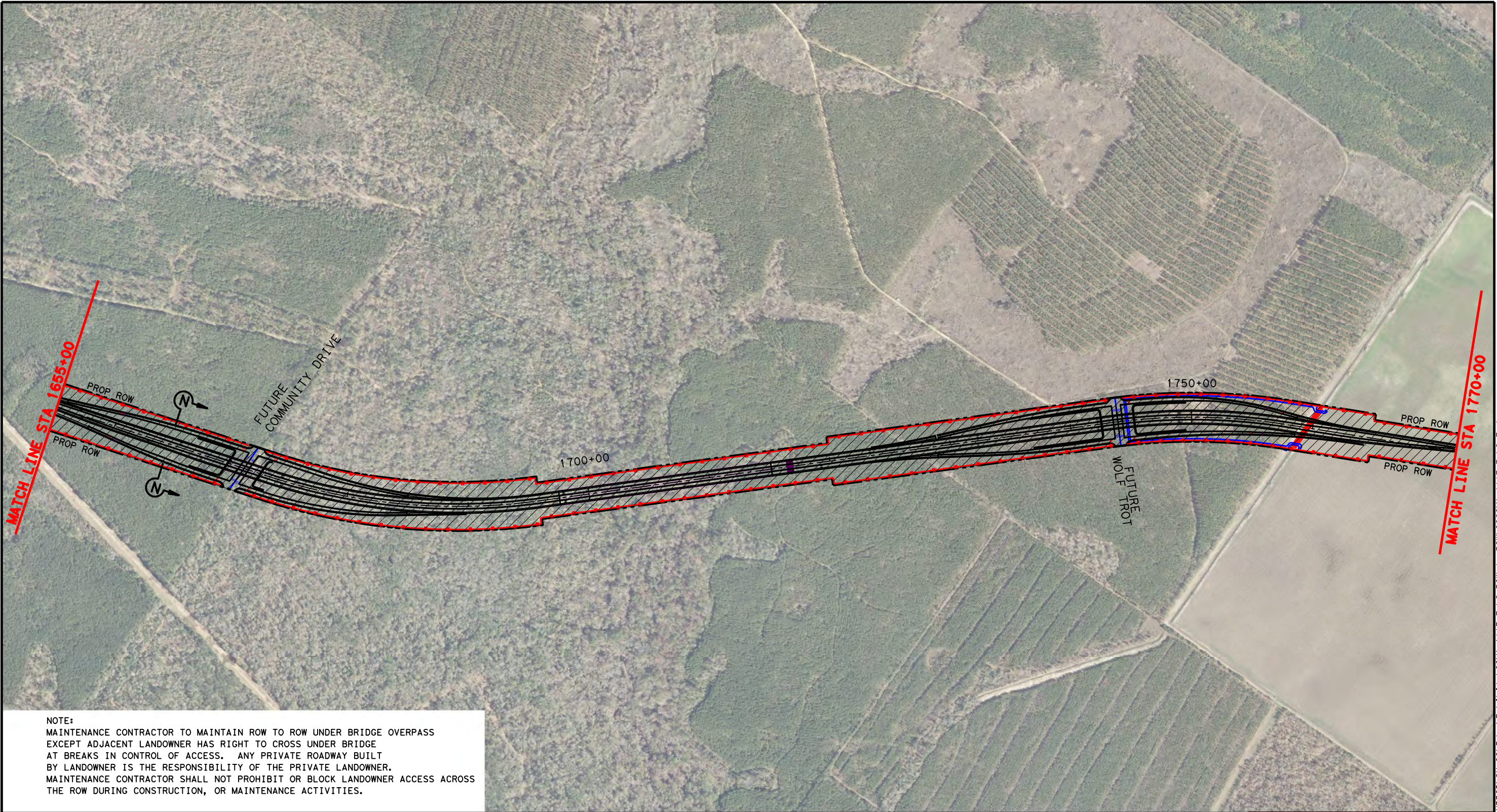


SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

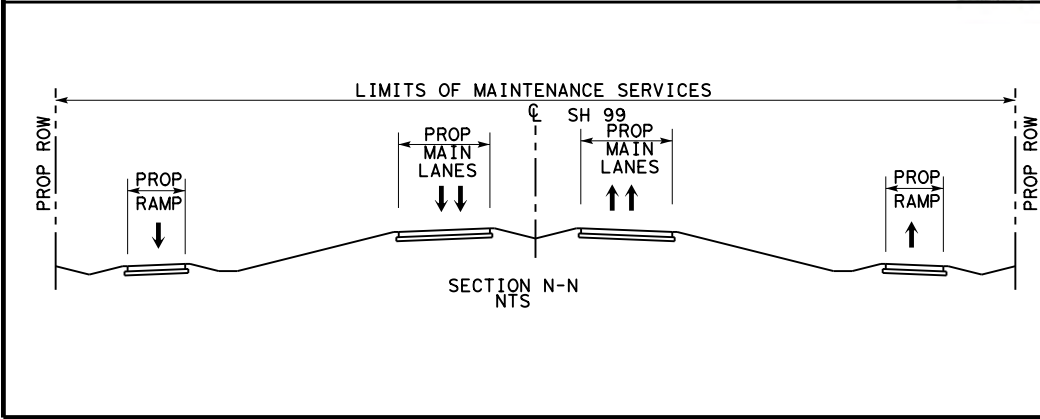
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NOTE:  
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**LEGEND**

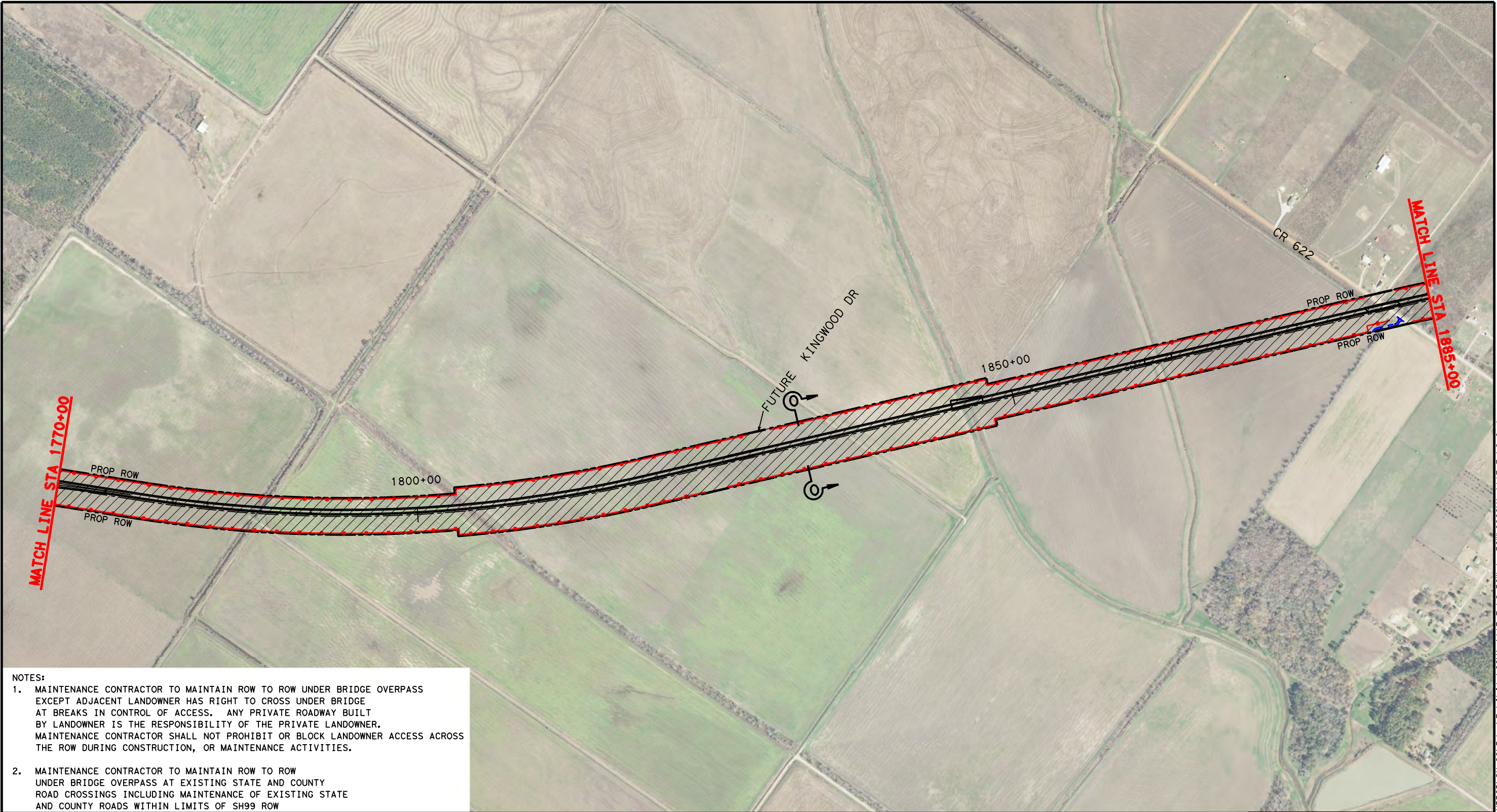
- [Hatched Box] LIMITS OF MAINTENANCE SERVICES
- [Solid Line] PROPOSED GRAND PARKWAY
- [Dashed Line] PROP ROW
- [Red Line with Cross-Ticks] PROP CONTROL OF ACCESS
- [Thin Solid Line] EXISTING ROW
- [Dashed Line] PROPERTY LINE
- [Purple Dashed Line] PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

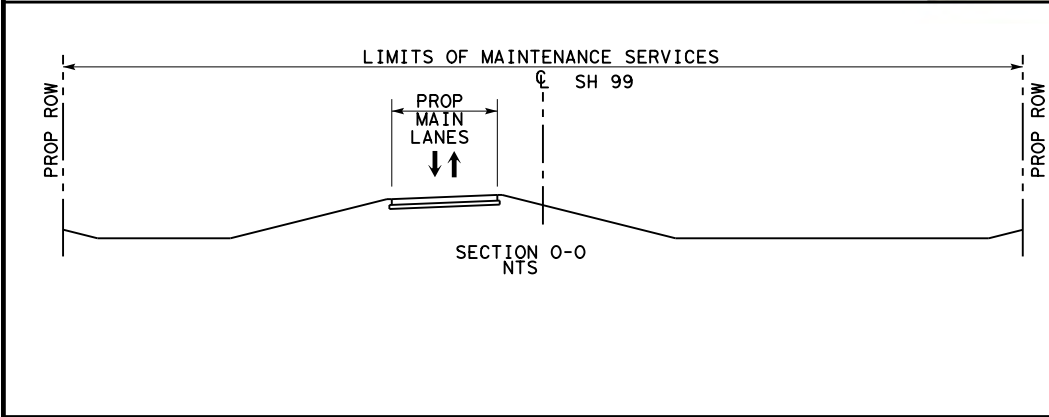
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SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CK:	6	TEXAS				SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						7





- NOTES:
1. MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.
  2. MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS AT EXISTING STATE AND COUNTY ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING STATE AND COUNTY ROADS WITHIN LIMITS OF SH99 ROW



**LEGEND**

- [Hatched Box] LIMITS OF MAINTENANCE SERVICES
- [Solid Line] PROPOSED GRAND PARKWAY
- [Dashed Line] PROP ROW
- [Red Line with Cross-Ticks] PROP CONTROL OF ACCESS
- [Thin Solid Line] EXISTING ROW
- [Thin Dashed Line] PROPERTY LINE
- [Purple Dashed Line] PROPOSED GRAND PARKWAY BY OTHERS

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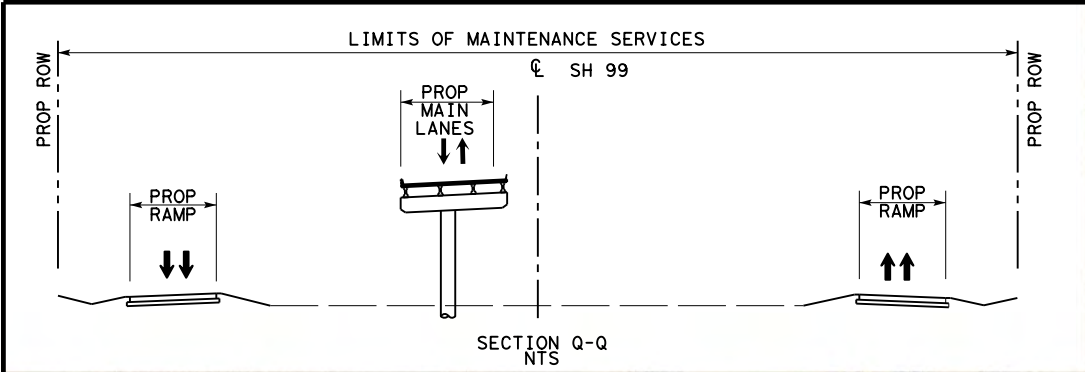
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SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
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LIMITS OF MAINTENANCE SERVICES

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CK:	6	TEXAS				SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						8

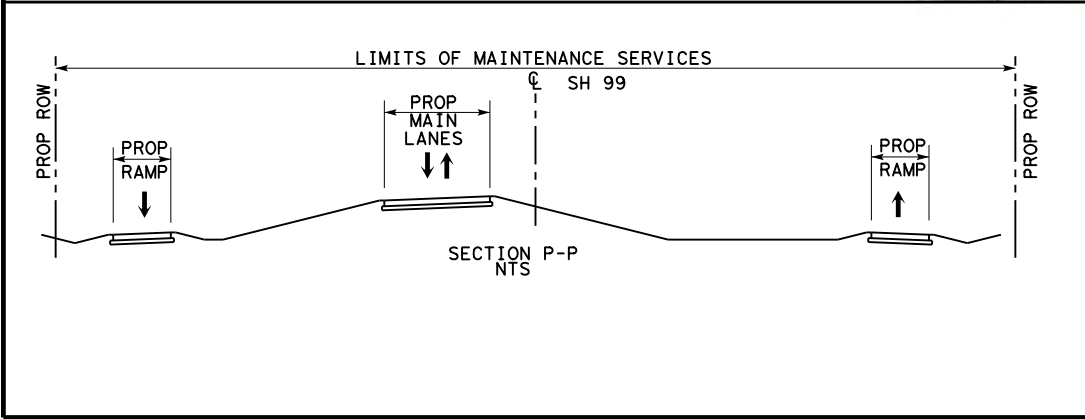


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NOTE:  
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LIMITS OF MAINTENANCE SERVICES

PROPOSED GRAND PARKWAY

PROP ROW

PROP CONTROL OF ACCESS

EXISTING ROW

PROPERTY LINE

PROPOSED GRAND PARKWAY BY OTHERS

0 200 400 800 (H)

TEXAS

Department of Transportation

STATE HIGHWAY 99

GRAND PARKWAY H&I

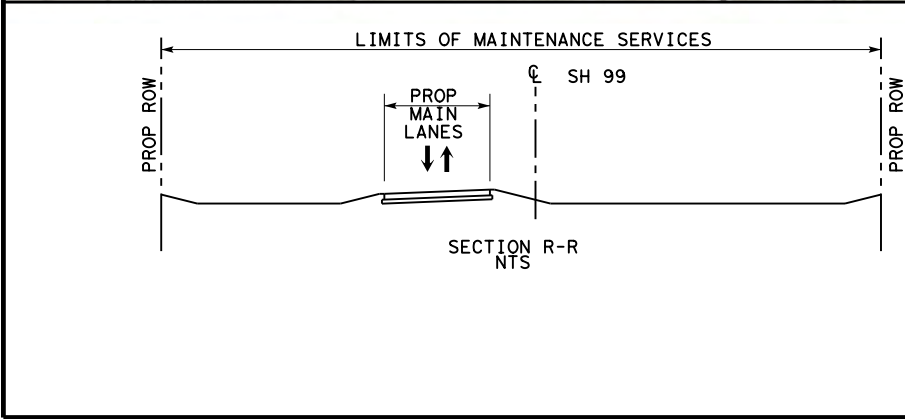
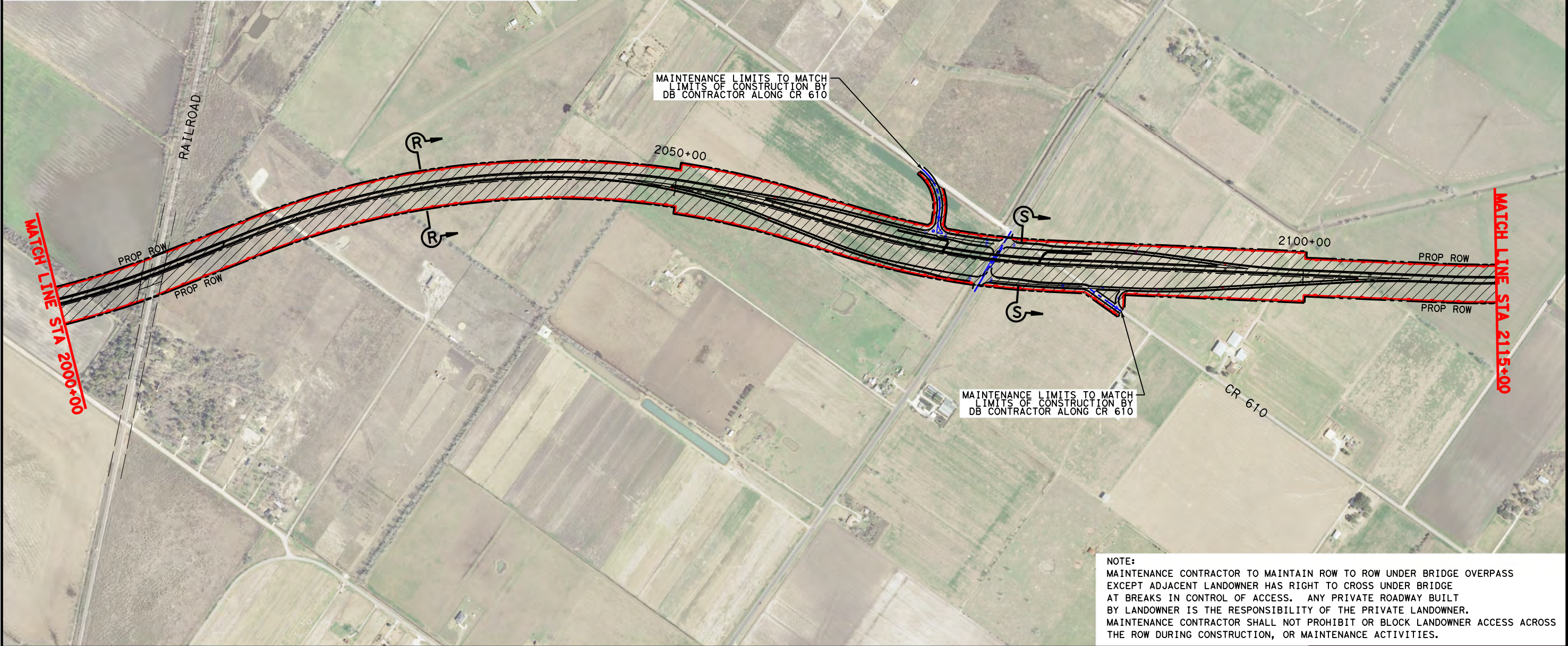
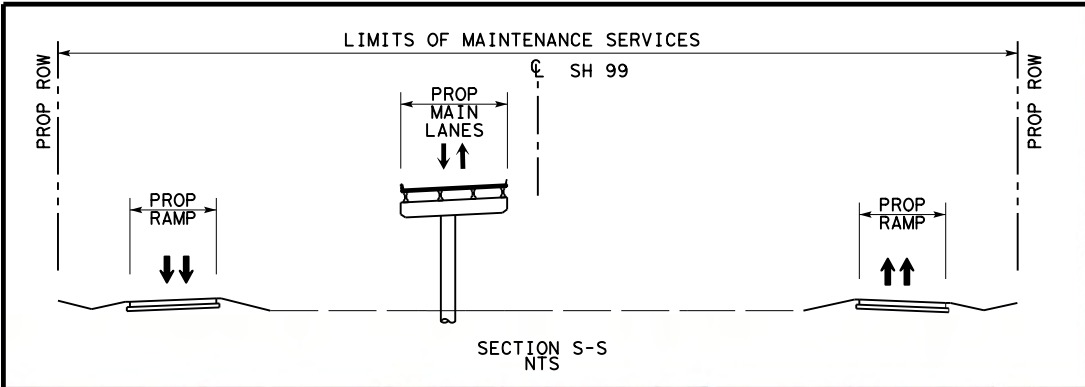
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SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
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LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.	HIGHWAY NO.
CK:	6	TEXAS		SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.
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- LEGEND**
- LIMITS OF MAINTENANCE SERVICES
  - PROPOSED GRAND PARKWAY
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  - PROP CONTROL OF ACCESS
  - EXISTING ROW
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  - PROPOSED GRAND PARKWAY BY OTHERS

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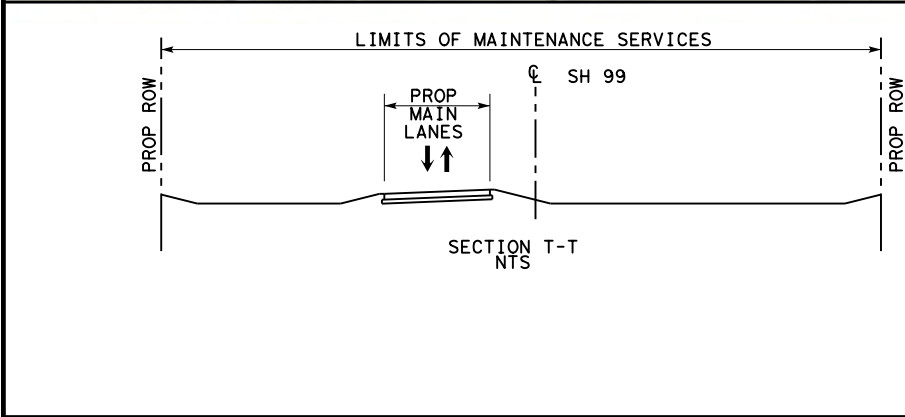
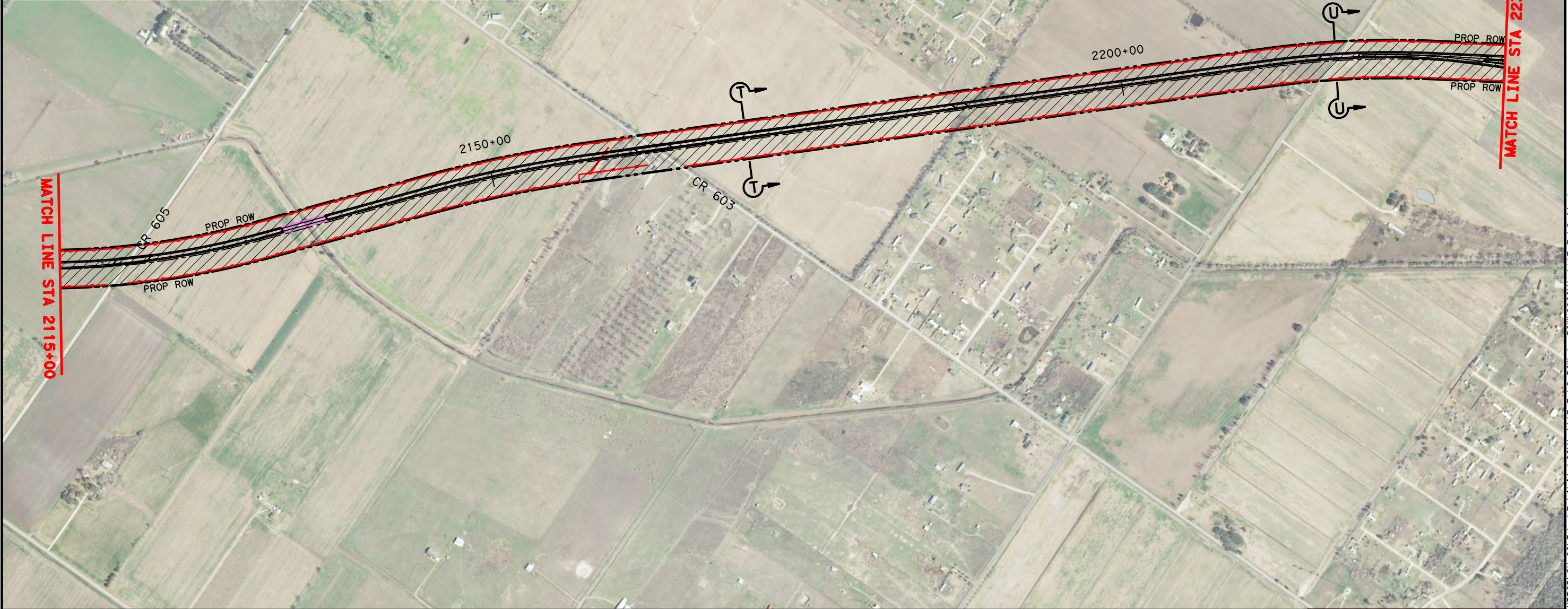
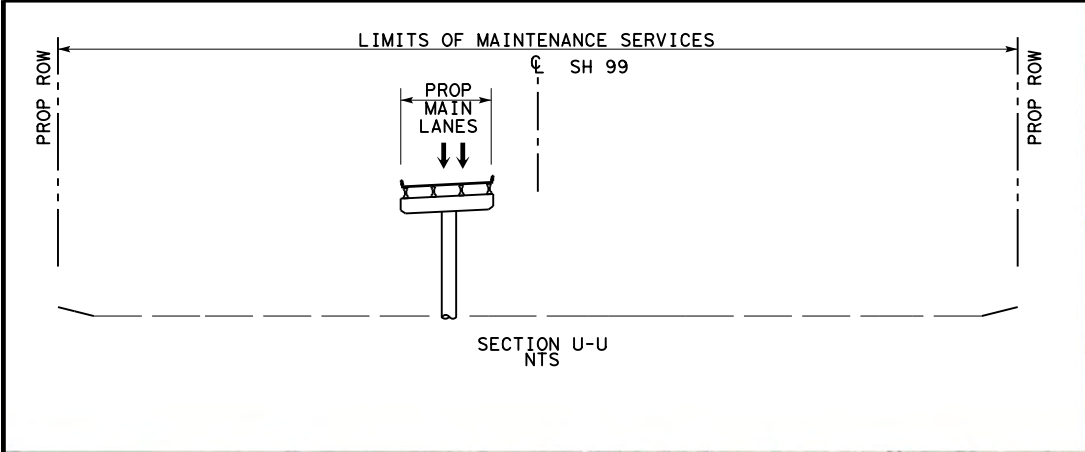
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COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
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DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						10

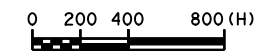




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- LEGEND**
- LIMITS OF MAINTENANCE SERVICES
  - PROPOSED GRAND PARKWAY
  - PROP ROW
  - PROP CONTROL OF ACCESS
  - EXISTING ROW
  - PROPERTY LINE
  - PROPOSED GRAND PARKWAY BY OTHERS





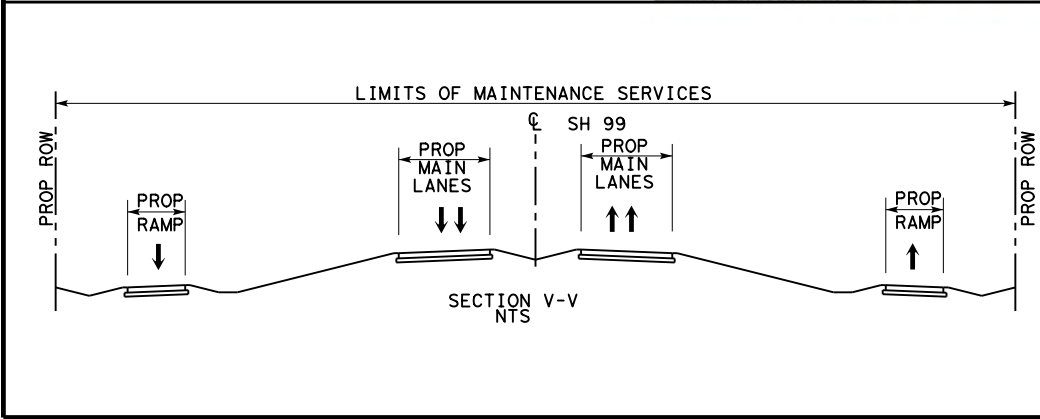
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ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.		HIGHWAY NO.
CK:	6	TEXAS			SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
CK:					SHEET NO. 11





NOTE:  
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW  
UNDER BRIDGE OVERPASS AT EXISTING STATE AND COUNTY  
ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING  
STATE, AND COUNTY ROAD WITHIN LIMITS OF SH99 ROW



**LEGEND**

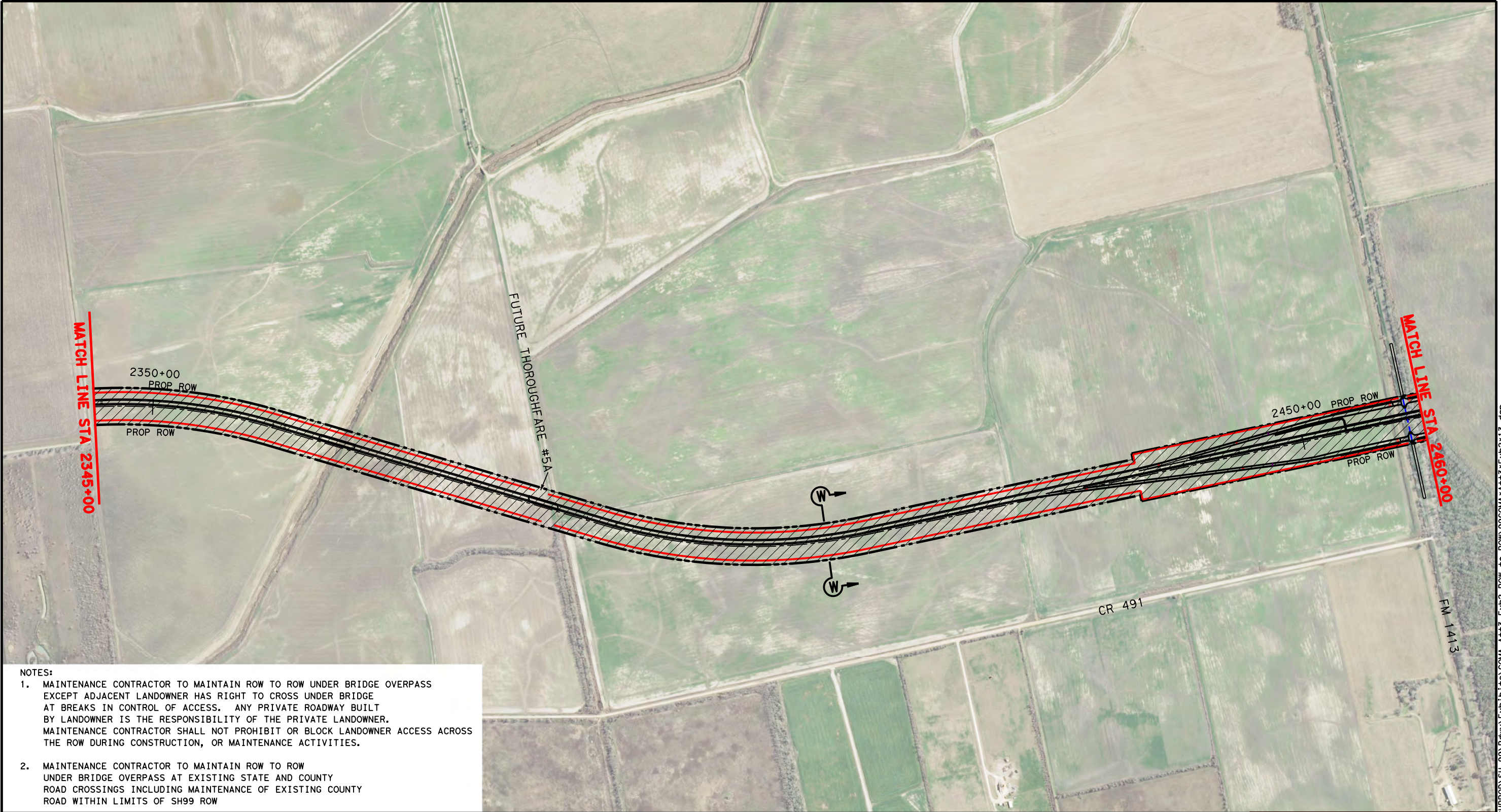
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- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

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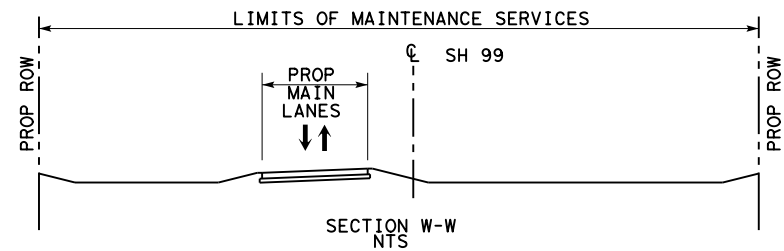
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SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CK:	6	TEXAS				SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						12







- NOTES:
1. MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS EXCEPT ADJACENT LANDOWNER HAS RIGHT TO CROSS UNDER BRIDGE AT BREAKS IN CONTROL OF ACCESS. ANY PRIVATE ROADWAY BUILT BY LANDOWNER IS THE RESPONSIBILITY OF THE PRIVATE LANDOWNER. MAINTENANCE CONTRACTOR SHALL NOT PROHIBIT OR BLOCK LANDOWNER ACCESS ACROSS THE ROW DURING CONSTRUCTION, OR MAINTENANCE ACTIVITIES.
  2. MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS AT EXISTING STATE AND COUNTY ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING COUNTY ROAD WITHIN LIMITS OF SH99 ROW



**LEGEND**

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

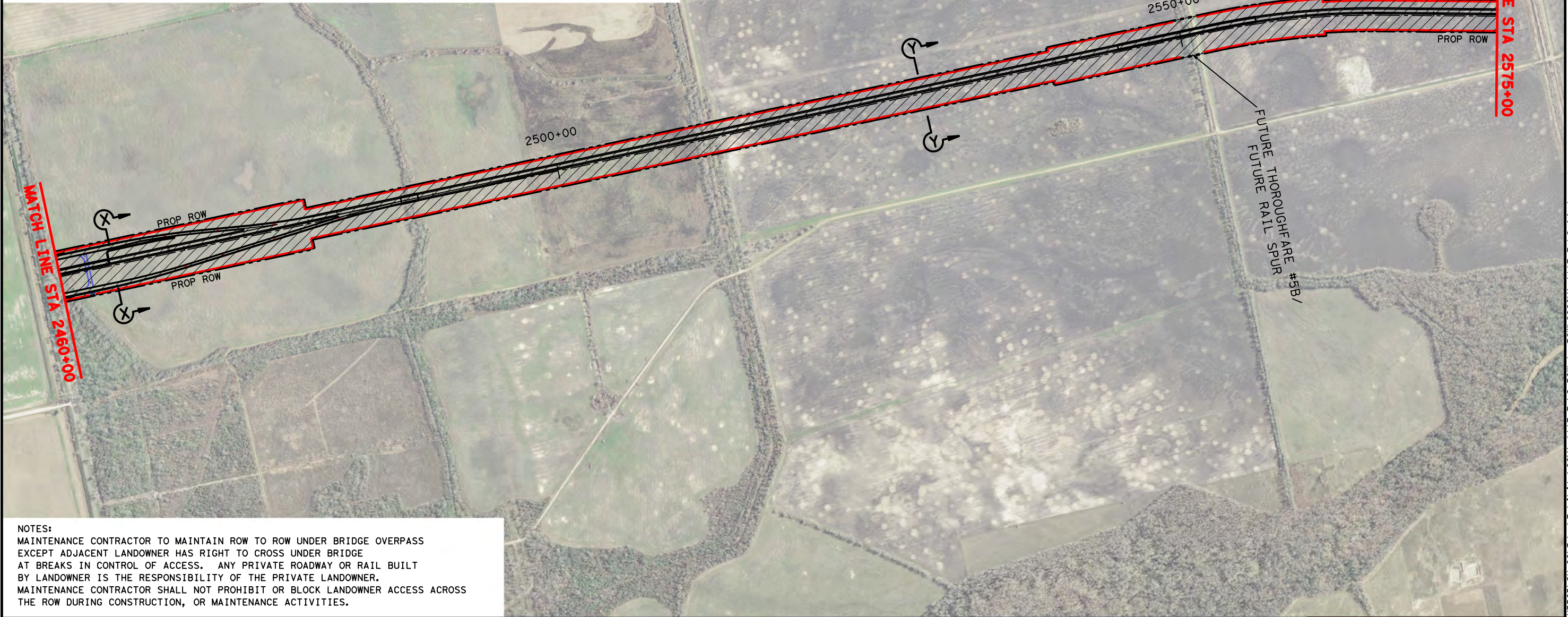
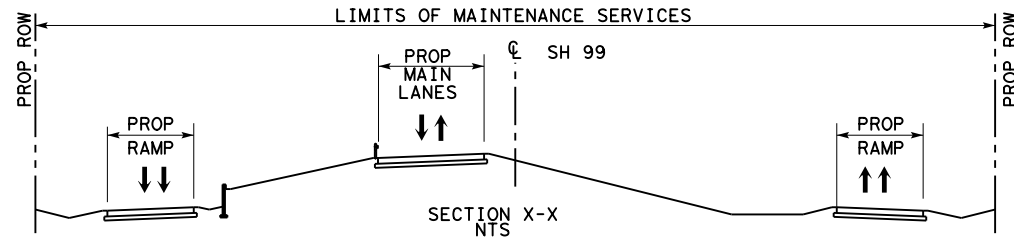
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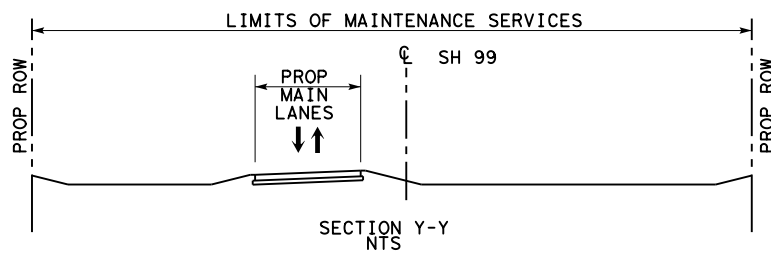
SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.		HIGHWAY NO.
CK:	6	TEXAS			SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
CK:					13





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- LEGEND**
- LIMITS OF MAINTENANCE SERVICES
  - PROPOSED GRAND PARKWAY
  - PROP ROW
  - PROP CONTROL OF ACCESS
  - EXISTING ROW
  - PROPERTY LINE
  - PROPOSED GRAND PARKWAY BY OTHERS



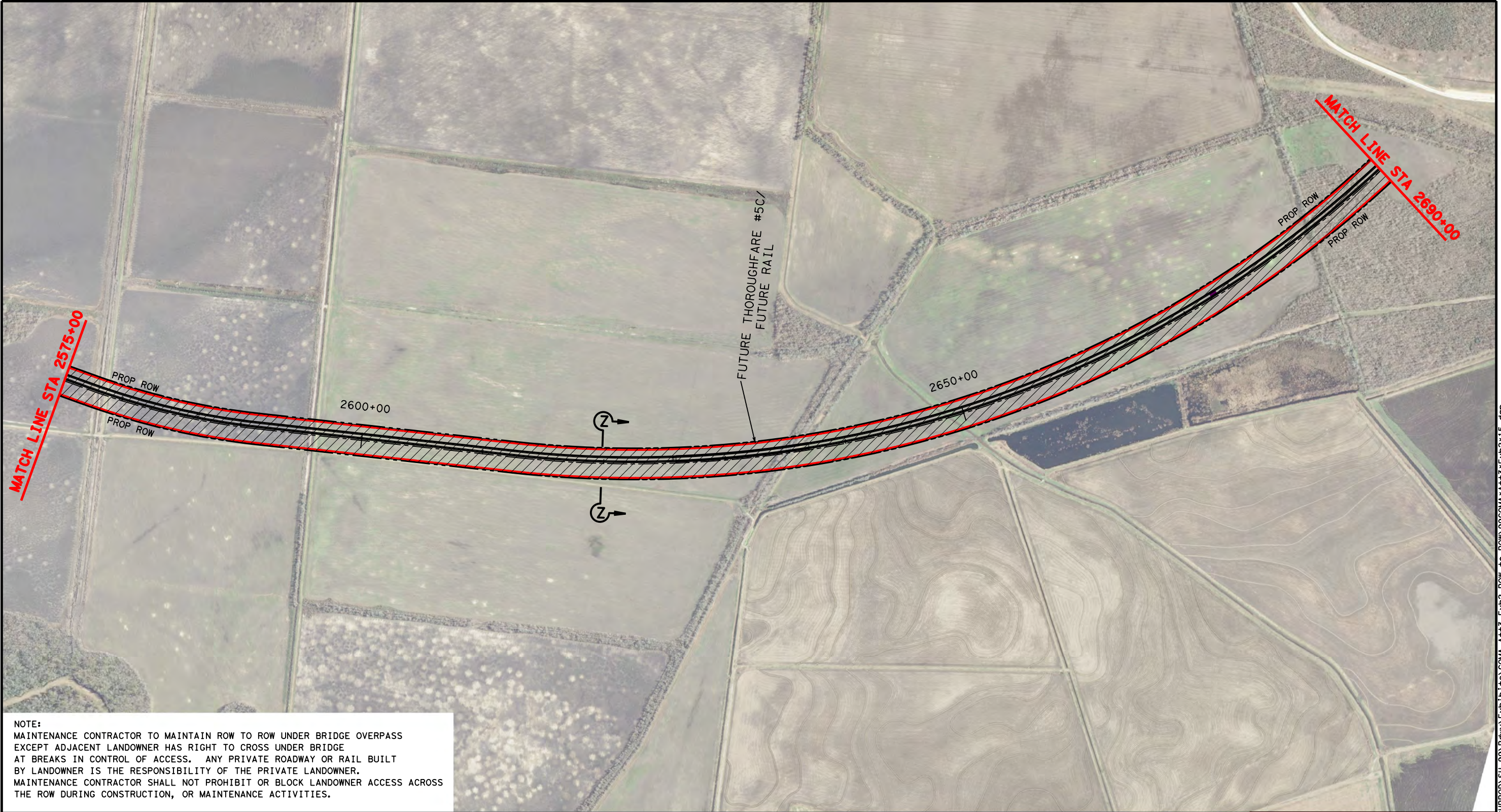
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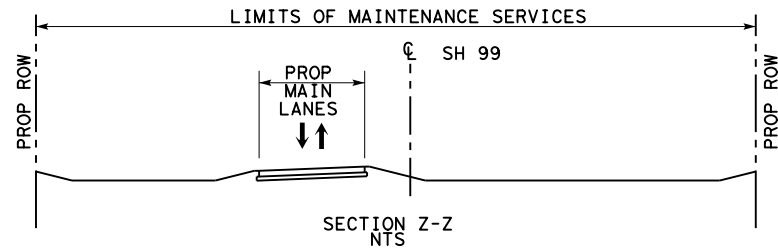
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SEGMENT H, I-1 AND I-2  
COMPREHENSIVE MAINTENANCE AGREEMENT  
ATTACHMENT 3 OF EXHIBIT 2  
LIMITS OF MAINTENANCE SERVICES

DSN:	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CK:	6	TEXAS				SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						14





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- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
- PROPOSED GRAND PARKWAY BY OTHERS

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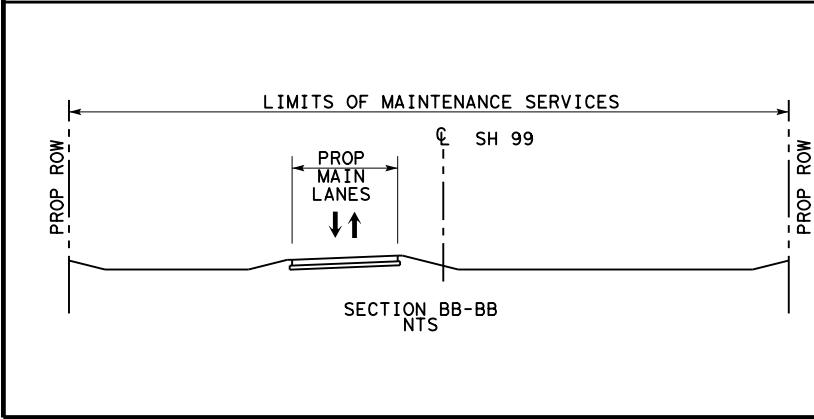
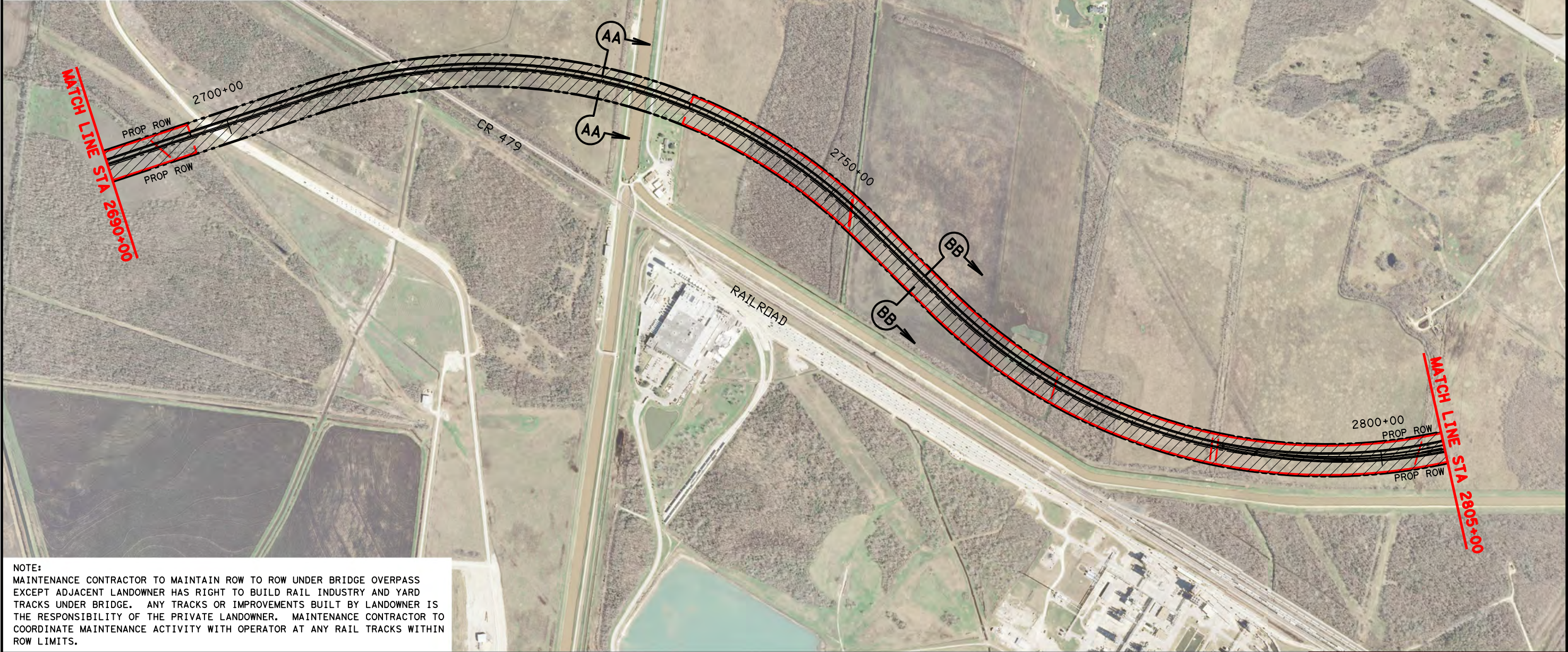
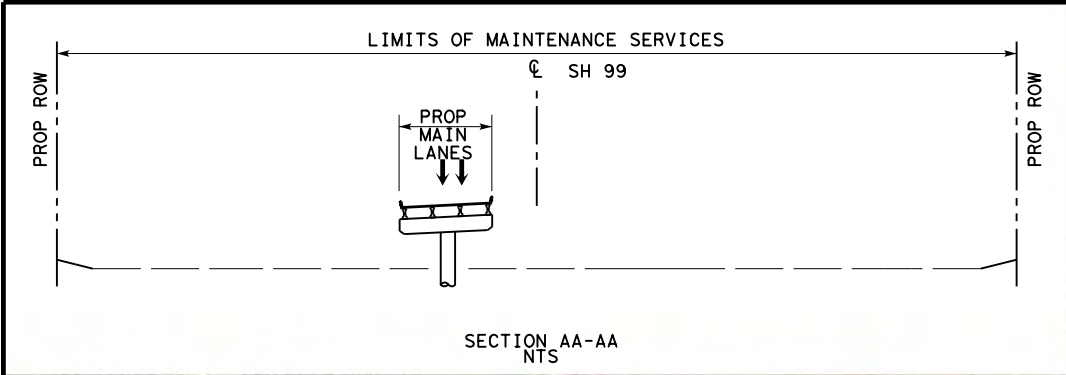
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**LEGEND**

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- EXISTING ROW
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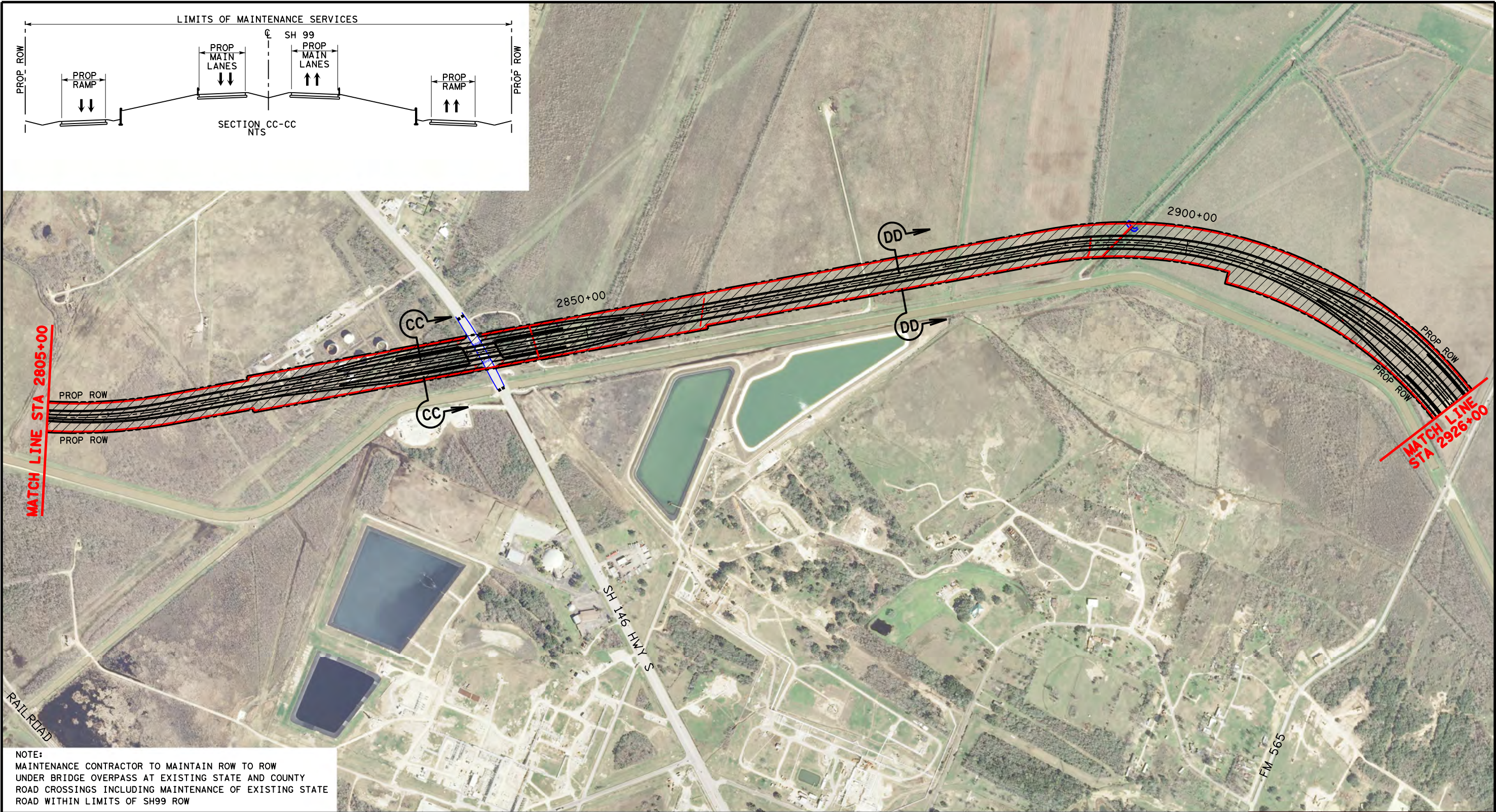
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NOTE: MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW UNDER BRIDGE OVERPASS AT EXISTING STATE AND COUNTY ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING STATE ROAD WITHIN LIMITS OF SH99 ROW

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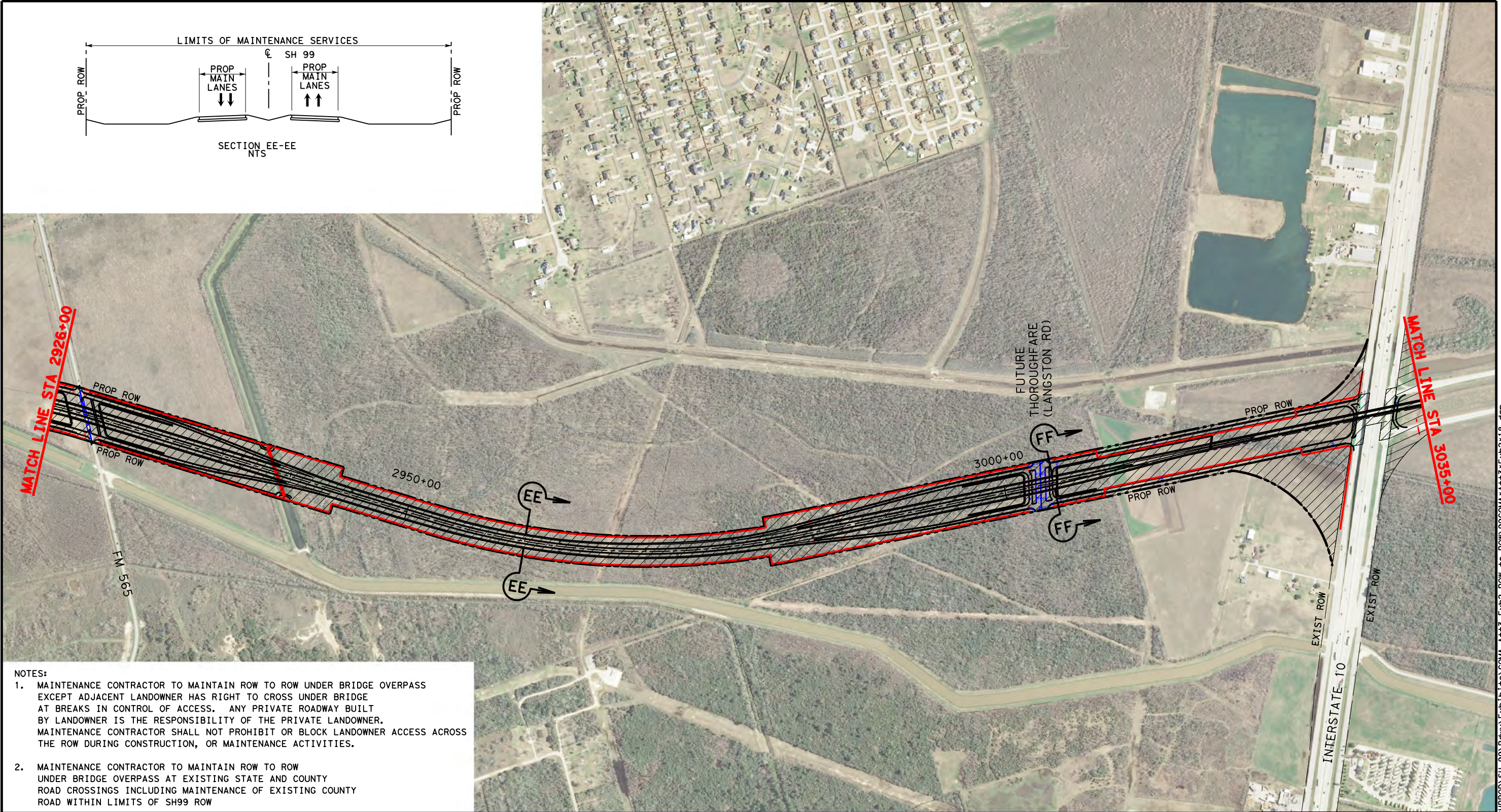
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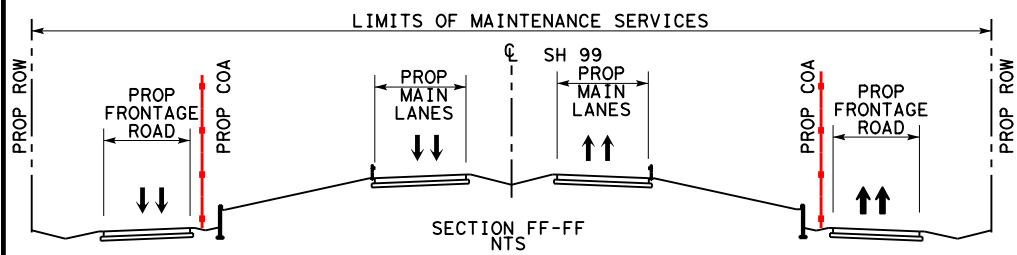
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				SHEET NO.
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- NOTES:
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**LEGEND**

- [Hatched Box] LIMITS OF MAINTENANCE SERVICES
- [Dashed Line] PROPOSED GRAND PARKWAY
- [Dashed Line] PROP ROW
- [Red Line with Cross-Ticks] PROP CONTROL OF ACCESS
- [Solid Line] EXISTING ROW
- [Dashed Line] PROPERTY LINE
- [Purple Dashed Line] PROPOSED GRAND PARKWAY BY OTHERS

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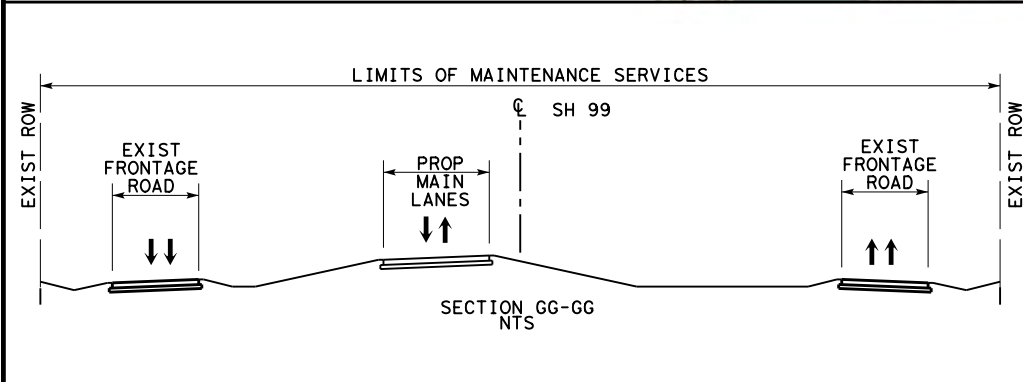
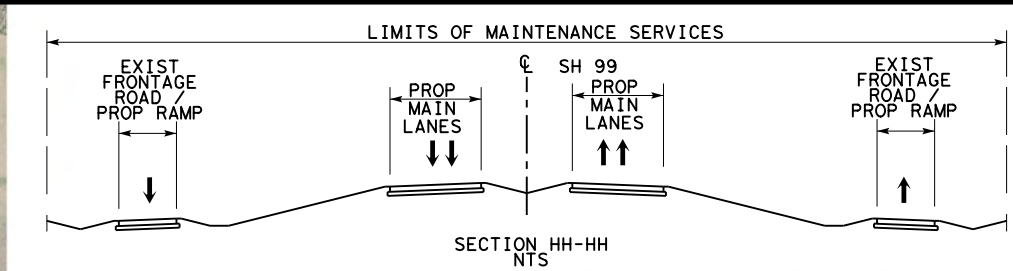
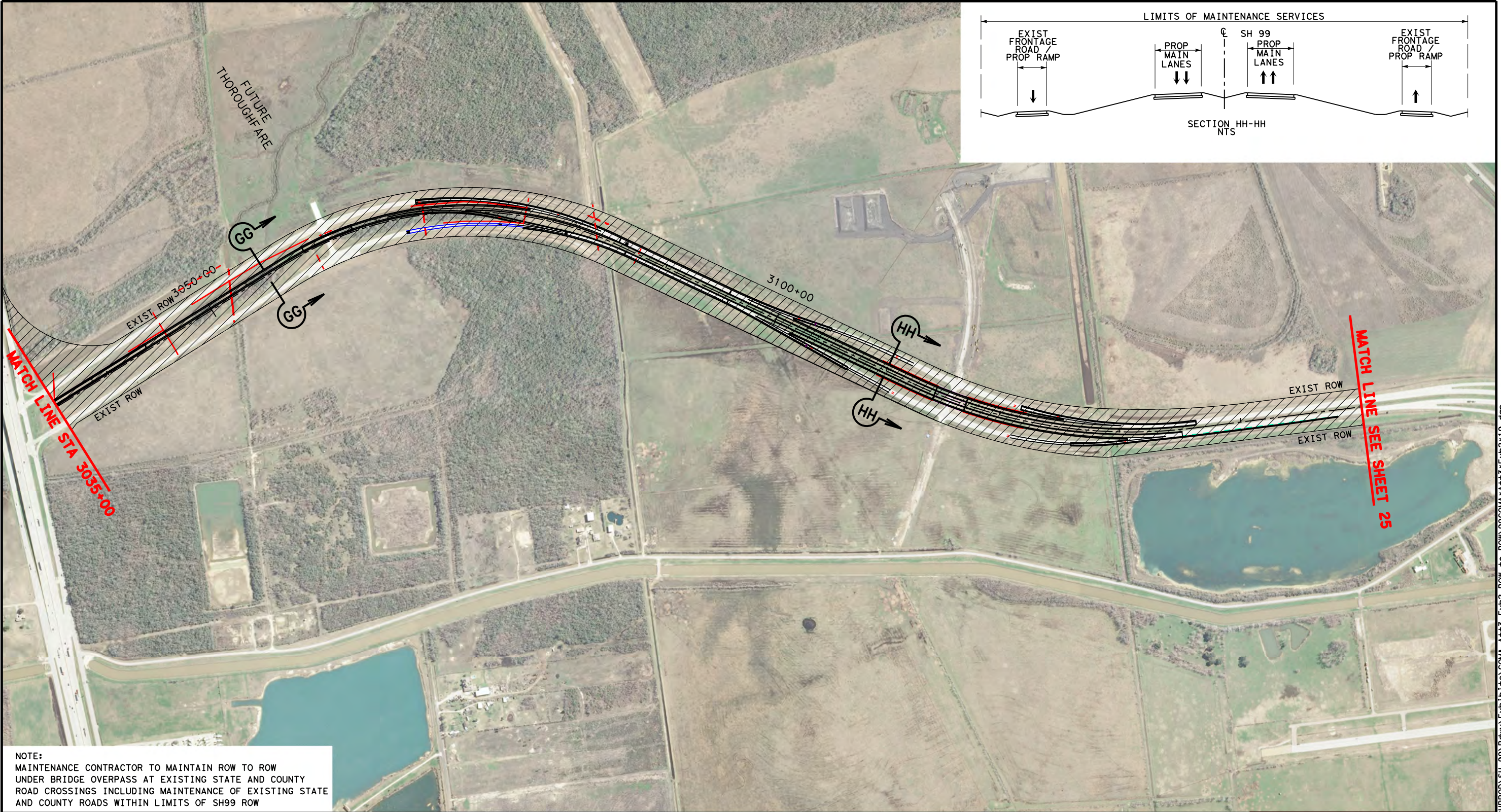
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**LEGEND**

- LIMITS OF MAINTENANCE SERVICES
- PROPOSED GRAND PARKWAY
- PROP ROW
- PROP CONTROL OF ACCESS
- EXISTING ROW
- PROPERTY LINE
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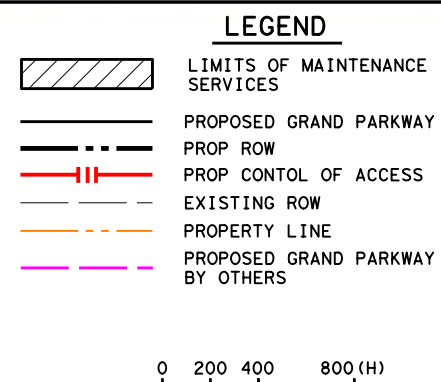
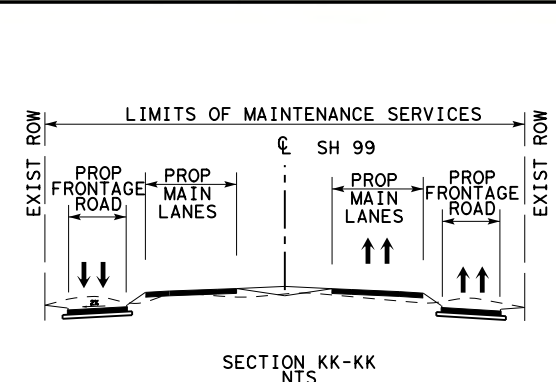
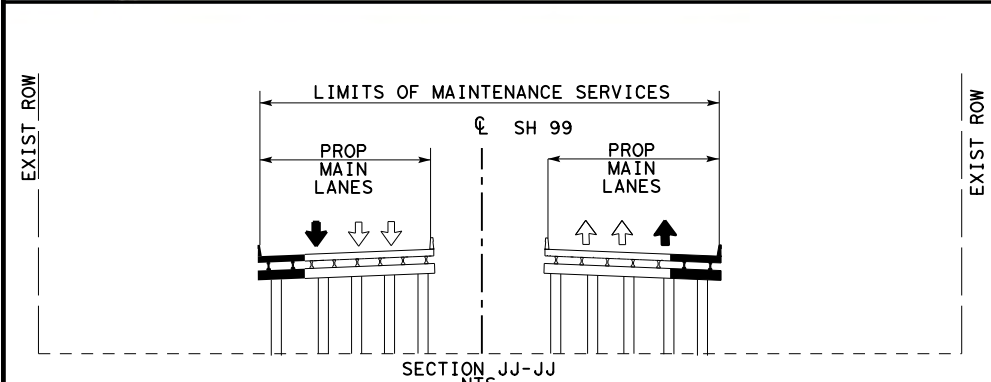
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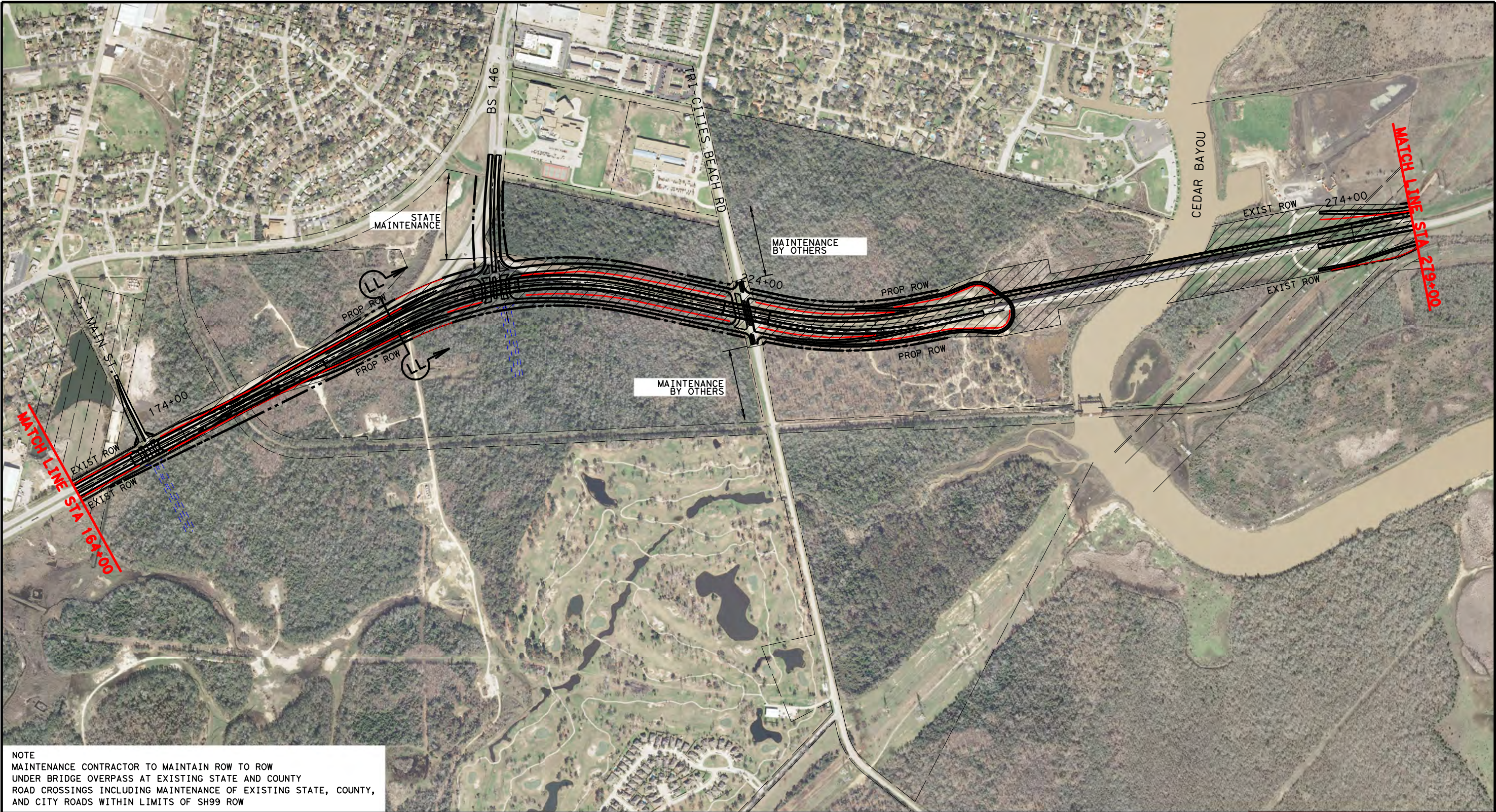




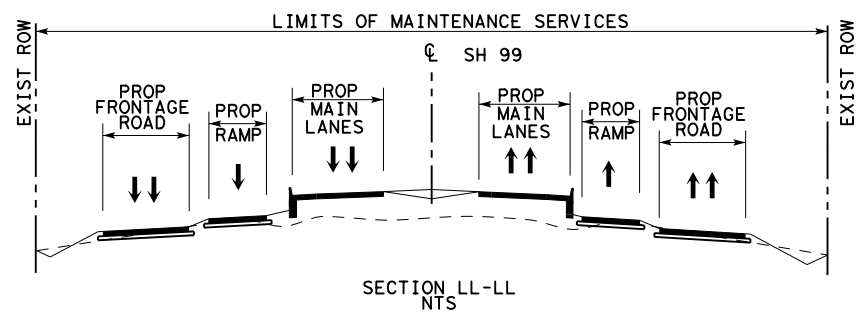
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DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.
CK:				JOB NO.
				SHEET NO.
				20







NOTE  
MAINTENANCE CONTRACTOR TO MAINTAIN ROW TO ROW  
UNDER BRIDGE OVERPASS AT EXISTING STATE AND COUNTY  
ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING STATE, COUNTY,  
AND CITY ROADS WITHIN LIMITS OF SH99 ROW



- LEGEND**
- [Hatched Box] LIMITS OF MAINTENANCE SERVICES
  - [Solid Line] PROPOSED GRAND PARKWAY
  - [Dashed Line] PROP ROW
  - [Red Line with Cross-Ticks] PROP CONTROL OF ACCESS
  - [Dotted Line] EXISTING ROW
  - [Orange Dashed Line] PROPERTY LINE
  - [Purple Dashed Line] PROPOSED GRAND PARKWAY BY OTHERS

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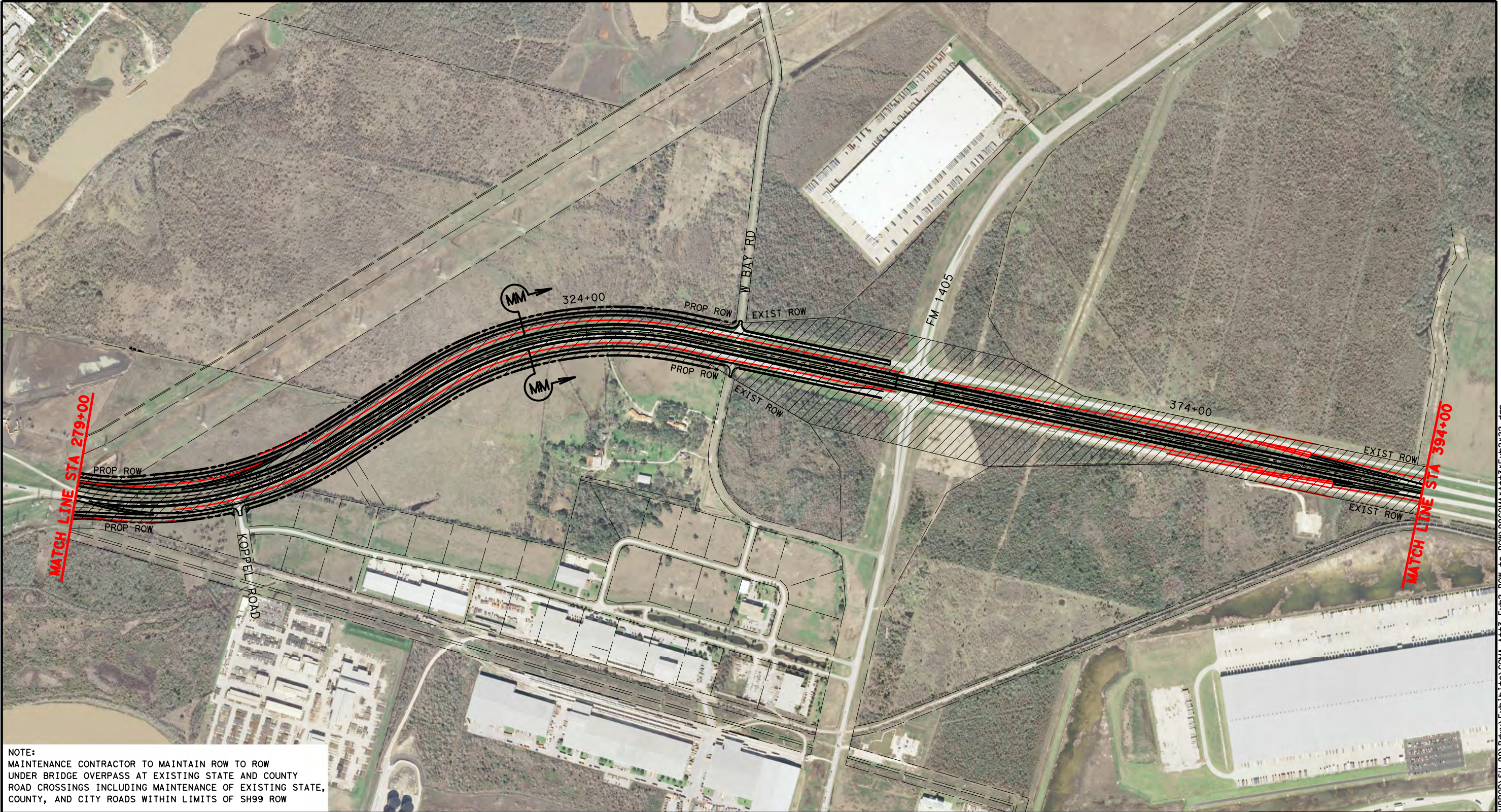




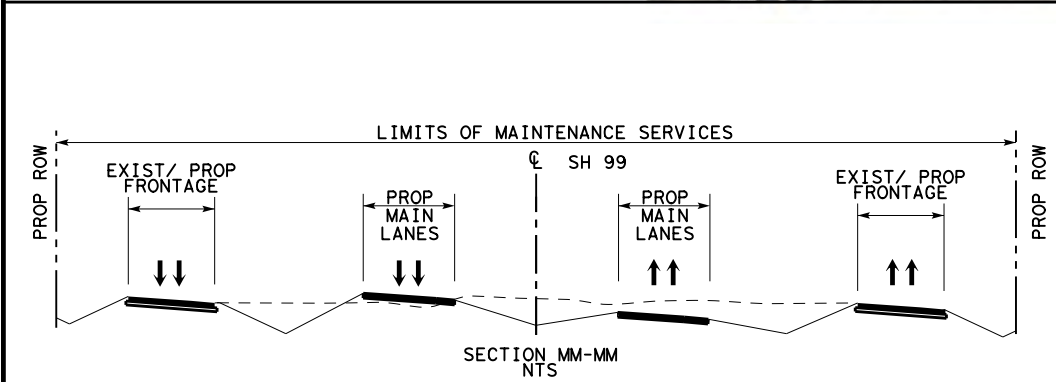
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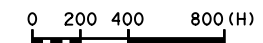






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ROAD CROSSINGS INCLUDING MAINTENANCE OF EXISTING STATE,  
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  - PROP ROW
  - PROP CONTROL OF ACCESS
  - EXISTING ROW
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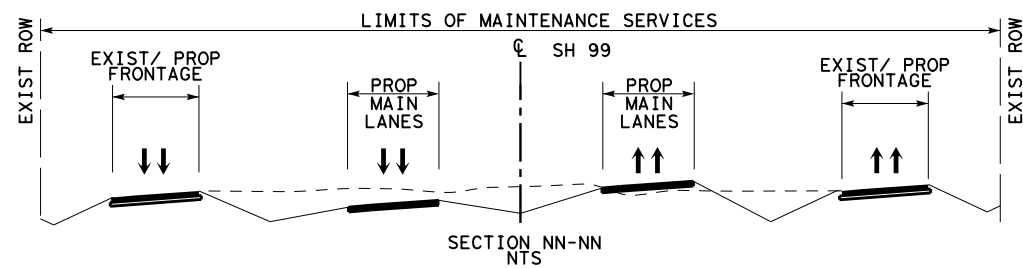
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CK:	6	TEXAS				SH 99
DRN:	STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CK:						22





NOTE:  
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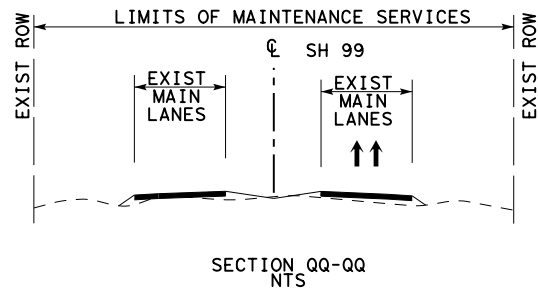
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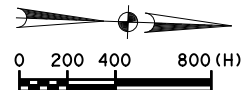




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SH99 GRAND PARKWAY  
SEGMENT H, I-1 AND I-2  
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LIMITS OF MAINTENANCE SERVICES

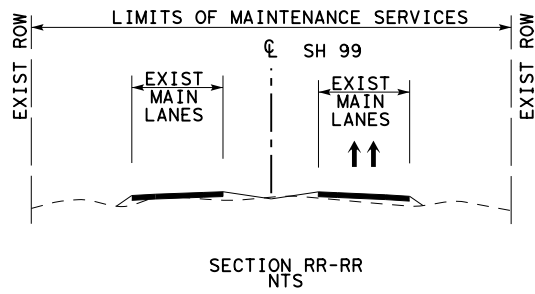
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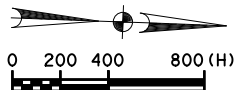


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#### LEGEND

- LIMITS OF MAINTENANCE SERVICES
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CK:						25



## **ATTACHMENT 4: MAINTENANCE MANAGEMENT PLAN CONTENTS**

Part	Ref	Section	Contents
1. Project Administration			
	1.1	Organization	DB Contractor's main contractual arrangements
			Organizational structure covering the activities to be performed in accordance with the COMA Documents
	1.2	Personnel	DB Contractor's approach to provide experienced personnel for the maintenance of the Project including Subcontractors
			Arrangements for coordinating and managing staff interaction with TxDOT and its consultants including collocation of Key Personnel and description of approach to coordinating work of off-site personnel
			Names and contact details, titles, job roles of principal personnel for Subcontractors and any third party with which DB Contractor will coordinate its activities
			Names and contact details, titles, job roles of Key Personnel
			Procedures for providing training for personnel involved with environmental mitigation activities and hazardous materials handling
	1.3	Procurement	Procedures for procurement of services, materials and products including methods to ensure best value
	1.4	Subcontractors	Overall control procedures for Subcontractors, including consultants and subconsultants
			Responsibility of Subcontractors and Affiliates
			Steps taken to ensure Subcontractors and Suppliers meet the obligations imposed by their respective Subcontracts
			Procedures for providing training for employees of Subcontractors involving with environmental mitigation activities and Hazardous Materials handling
2. Schedules			
	2.1	Maintenance Services Deliverable Schedule	Schedule to include all principal submittals in connection with the Maintenance Services
	2.2	Renewal Work Submittal	See Section 2.2 of this <u>Exhibit 2</u> .
3. Emergency Response			
	3.1	Incident and Emergency Management Plan	Procedures setting out how DB Contractor will respond to accidents and Incidents on the Project
			Procedures to establish protocols with Emergency Services and others in Emergencies
	3.2	Snow and Ice Control Plan	Procedures for performing snow and ice control
4. Maintenance Services			
	4.1	Principal Activities	Procedures for how the principal activities will be performed during the Maintenance Term: to include routine maintenance, Renewal Work, and inspections regime
			Procedures and proposed cycle times for safety patrols, sweeping, litter pickup, and debris pickup on travel lanes within the Maintenance Limits

Part	Ref	Section	Contents
	4.2	Performance Requirements	Procedures to meet the Performance Requirements, measurement procedures, threshold values at which maintenance is required, inspection procedures and frequencies, and subsequent maintenance to address Defects, as well as thresholds for rehabilitation in accordance with the Performance and Measurement Table of the COMA and Good Industry Practice.
			Performance and Measurement Table
			Process for handling and processing Defects including training, notification, categorization, action, closure and documentation set forth in Section 1.2 of <u>Exhibit 2</u> .
	4.3	Traffic Management Plan	Procedures for setting out how contractor will coordinate lane closure, and traffic control for conducting maintenance services
	4.4	Complaints	Procedures to respond to comments and/or complaints received from Users and others
	4.5	Maintenance Limits	Updated Maintenance Limits set forth in Section 3.1.1.1 of the Comprehensive Maintenance Agreement.
	4.6	Performance Sections	Performance Section drawings as set forth in Section 1.5.1 of <u>Exhibit 2</u> .
5. Environmental			
	5.1	Hazardous Materials Management Plan	Procedures for handling Hazardous Materials
	5.2	Environmental Compliance and Mitigation Plan	Compliance strategies and procedures to be employed in accordance with in accordance with the requirements of applicable Environmental Laws and Environmental Approvals
6. Safety			
	6.1	Maintenance Safety Plan	Policies, plans, training programs, and work site controls to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Maintenance Term.
			Procedures for notifying TxDOT of Incidents arising out of or in connection with the performance of the Maintenance Services
7. Communication			
	7.1	Maintenance Communications Plan	Procedures for communication of Project information between the DB Contractor's organization and TxDOT
8. Document Management			
	8.1	Maintenance Document Management Plan	Procedures for maintaining maintenance records
9. Maintenance Services Quality Management Plan			
	9.1	Procedure	Procedures for quality control activities including a complete description of the quality policies and objectives
	9.2	Document Management	Procedures for maintaining quality records
10. Maintenance Transition Plan			
	10.1	Procedure	Procedures for preparing list of items to be transferred to TxDOT

**ATTACHMENT 5: NOT USED**

## **ATTACHMENT 6: LANE CLOSURE REQUIREMENTS**

### **6.1 General Requirements**

Lane Closures will be permitted as part of a traffic control plan when DB Contractor can demonstrate that the Lane Closure is necessary to complete Maintenance Services and complies with the restrictions set forth in Table 6-1 (for which the maximum number of lanes closed at any time during the Lane Closure does not exceed the “maximum lanes permitted for closure” for the applicable roadway type and time period). TxDOT will approve additional Lane Closures only if DB Contractor can demonstrate that the Lane Closure is essential for the safe performance of Maintenance Services and will subject to an approval of a traffic control plan.

Lane Closures must be coordinated with adjacent projects. Where multiple requests for traffic control are received from the DB Contractor and Governmental Entities that would adversely affect Users if implemented simultaneously, TxDOT will give priority to the closure submitted first. The safety of workers and the traveling public must be the first consideration when determining the appropriate time to implement a Lane Closure.

DB Contractor shall coordinate Lane Closures that may affect any roadways adjacent to, connecting with or crossing under or over the Project with TxDOT and Governmental Entities, to ensure that no conflicts occur.

The DB Contractor shall provide traffic control plans and advance notification of all Lane Closures as shown below:

- The traffic control plan for a Partial Lane Closure should be submitted to TxDOT for review no later than 10 days before implementation.
- The traffic control plan for a Full Lane Closure should be submitted for TxDOT approval no later than 14 days before implementation.

The following TxDOT policy and procedure manuals and references apply for all Lane Closures:

- Texas Manual of Uniform Traffic Control Devices (TMUTCD)
- TxDOT Traffic Control Plan Standards
- TxDOT Barricade and Construction Standards
- TxDOT Standard Specifications “Item 502 (Barricades Signs and Traffic Handling)”

The Lane Closure requirements in Section 6.2 to 6.5 supplement the above list of manuals and references for the Project.

### **6.2 Lane Closure Restrictions**

Table 6-1 defines the restrictions applicable to Lane Closures for the Project. In addition,

- DB Contractor shall maintain a minimum of one driveway per business at all times. For businesses with multiple driveways, when driveway closure is necessary to progress Maintenance Services, no driveway may be closed for more than thirty (30) consecutive days or more than forty-five (45) days in a ninety (90) day period.
- DB Contractor shall not close two consecutive entrance ramps or two consecutive exit ramps at the same time.



**Table 6-1: Lane Closure Restrictions**

<b>Roadway</b>	<b>Roadway Lanes</b> (one direction)	<b>Lane Closure Types (Maximum Lanes Permitted for Closure)*</b>		
		Peak Periods Monday-Friday (5:00 a.m. - 9:00 p.m.) and Major Events and Holidays	Off-Peak Periods Monday-Friday (9:00 p.m. to 10:30 p.m.) and Saturday	Lowest Volume Periods Monday-Friday (10:30 p.m. - 5:00 a.m.) and Sunday
Mainlanes	3 (if applicable)	None	Type 3	Type 4
	2	None	Type 2	Type 3
	1	None	Type 1	Type 2
Ramps	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Direct Connectors (if applicable)	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Frontage Roads	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3
Cross Streets	3 (if applicable)	None	Type 4	Type 5
	2	None	Type 3	Type 4
	1	None	Type 2	Type 3

\* Lane Closure Types (Type 1 with least lanes closed and Type 5 with most lanes closed):

- Type 1: Close 1 shoulder only
- Type 2: Close 1 travel lane or 1 shoulder but not both
- Type 3: Close 1 travel lane or 1 shoulder or 1 travel and 1 shoulder
- Type 4: Close 2 travel lanes or 2 travel lanes and 1 shoulder
- Type 5: Close 3 travel lanes or 3 travel lanes and 1 shoulder

### 6.3 Emergency Closures

Additionally, the following events are considered Emergency Closures and will not be subject to Lane Closure restrictions in Table 6-1.

- a Lane Closure due to a TxDOT-Directed Change;
- a Lane Closure specified, caused or ordered by, and continuing only for so long as required by, TxDOT or any Governmental Entity, or a Utility Owner performing work under a permit issued by TxDOT;
- a Lane Closure required due to a Force Majeure Event; or
- a Lane Closure required solely for the hazard mitigation of a Category 1 Defect and persisting for no longer than the Defect Remedy Period.

For each event set forth above, the Lane Closure will be an Emergency Closure only if DB Contractor is using commercially reasonable efforts to: (i) mitigate the impact of such event, (ii) reopen the affected segment to traffic, and (iii) minimize the impact of DB Contractor's activities and the Lane Closure to traffic flow.

## 6.4 Detour Usage

DB Contractor shall use State routes for detour routes, wherever applicable. If State routes are unavailable, DB Contractor shall use local roadways, provided that DB Contractor has obtained TxDOT's approval and the necessary permits from the Governmental Entity having jurisdiction.

DB Contractor shall provide motorists with guidance on the use of alternate routes to divert traffic around the construction, detouring around specific construction sites, and traveling through the construction areas. This shall include the installation and maintenance of temporary regional signs and changeable message signs to divert traffic around the Project. Motorist guidance to and along detour routes shall be provided, together with regional guidance.

## 6.5 Restricted Hours

### A. Holiday Restrictions

No Lane Closure that restricts or interferes with traffic shall be allowed from 12:00 PM (noon) on the day proceeding to 10:00 PM on the day after the following holiday schedule. No additional lane or ramp closure that restricts or interferes with traffic shall be allowed. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant.

- New Year's Eve and New Year's Day (December 31 through January 1)
- Easter Holiday Weekend (Friday through Sunday)
- Memorial Day Weekend (Friday through Monday)
- Independence Day (July 3 through noon on July 5)
- Labor Day Weekend (Friday through Monday)
- Thanksgiving Holiday (Wednesday through Sunday)
- Christmas Holiday (December 23 through December 26)

### B. Major Event Restrictions

DB Contractor shall coordinate with TxDOT regarding Lane Closures during regional events. TxDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant. TxDOT also has the right to modify the list of major events as they are added, rescheduled or warranted.





ATTACHMENT 7 : MAINTENANCE PLANNING ACTIVITIES & ASSOCIATED FUNC. CODES

DISTRICT CROSS REFERENCE CODE CHART 12 (FIMS SEGMENT 78, AND PORTIONS OF 70, 71 AND 72)

All segment 78 functions are trackable

120	P03	CY	Removal and Replacement Removal of base and/or subgrade materials from distressed or failed areas and replacement with suitable materials. (Includes resurfacing.) In Place Repair In place repair base and/or subgrade material. (Includes resurfacing, and may or may not include additional stabilizing material.) Install and/or Maintain Underdrains Installation, repair and maintenance of all types of underdrains. Unpaved Road Maintenance Repair of gravel or dirt roads, including blading, addition of base, etc.	522	R0	MI	Street Sweeping Routine street sweeping. Units are the actual miles swept regardless of centerline miles. Debris Routine patrolling to remove and dispose of debris, including dead animals. Spot Litter Spot removal and disposal of litter, including dead animals, from the right of way. Adopt-A-Highway Installation of posts and signs, materials furnished to groups, and the personnel and equipment used to assist in removal and disposal of collected litter. Deleted replaced by 522 Hand Sweeping Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc. Removal of Graffiti Removal of graffiti from fixtures, wing walls, bridge structures, etc. Not to be used in lieu of function 733 (Vandalized Signs), 731 or 732 (Sign Installation). Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description. Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	593	T04	LF	Cable Median Barrier Installation and maintenance of high tension cable median barrier systems, including the cable, posts and end treatments. Concrete Barrier Installation, removal and maintenance of concrete barriers, including attached headlight barrier fence. Guard Fence Installation and maintenance of guard fence, MBGF, turn down ends, headlights barrier fence, including posts, metal beams, etc. (End treatment other than turn down ends, see function 596.) Guardrail End Treatment Systems Installation and maintenance of guardrail end treatment systems. (For attenuators other than GETS, see function 725). Mailboxes, Installation and Maintenance	733	T03	EA	Vandalized Signs Replacement or repair of signs damaged by vandalism. Installation and Maintenance of Flashing Beacons Installation and maintenance of overhead flashing beacons, pedestal or sign mounted flashing beacons, etc.
211	P01	SY	Leveling or Overlay with Laydown Machine The application of asphaltic tack coat and placing of asphaltic concrete materials to improve the ride qualities or level up low spots. Leveling or Overlay with a Maintainer The application of asphaltic tack coat and placing layers of asphaltic concrete material.	526	R0	SY	Deleted replaced by 522 Hand Sweeping Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc. Removal of Graffiti Removal of graffiti from fixtures, wing walls, bridge structures, etc. Not to be used in lieu of function 733 (Vandalized Signs), 731 or 732 (Sign Installation). Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description. Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	596	T05	EA	Guard Fence Installation and maintenance of guard fence, MBGF, turn down ends, headlights barrier fence, including posts, metal beams, etc. (End treatment other than turn down ends, see function 596.) Guardrail End Treatment Systems Installation and maintenance of guardrail end treatment systems. (For attenuators other than GETS, see function 725). Mailboxes, Installation and Maintenance	742	T07	EA	Illumination Installation, maintenance and operation of illumination systems, including continuous lighting, safety lighting and sign illumination. Installation and Maintenance of Isolated Traffic Signals Maintenance and operation of isolated traffic signals, diamond interchange signals, etc. Replaced by Function Code 743 Traffic Management System Maintenance and operation of traffic management systems on freeways or non-freeways, entrance/exit ramps, motorist information (e.g. changeable message signs, highway advisory radio, etc.) surveillance and related communications equipment. (ITS Control Center personnel should charge to segment 70, detail 0570.)
212	P01	SY	Leveling or Overlay with a Maintainer The application of asphaltic tack coat and placing layers of asphaltic concrete material.	527	R0	SY	Hand Sweeping Hand sweeping of riprap, islands, medians, curb & gutter, bullpens, driveways, etc. Removal of Graffiti Removal of graffiti from fixtures, wing walls, bridge structures, etc. Not to be used in lieu of function 733 (Vandalized Signs), 731 or 732 (Sign Installation). Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description. Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	597	T03	EA	Mailboxes, Installation and Maintenance	743	T06	EA	Installation and Maintenance of Isolated Traffic Signals Maintenance and operation of isolated traffic signals, diamond interchange signals, etc. Replaced by Function Code 743 Traffic Management System Maintenance and operation of traffic management systems on freeways or non-freeways, entrance/exit ramps, motorist information (e.g. changeable message signs, highway advisory radio, etc.) surveillance and related communications equipment. (ITS Control Center personnel should charge to segment 70, detail 0570.)
213	P01	SY	Leveling by Hand The application of asphaltic tack coat and placing layers of asphaltic concrete material by hand. This includes repair of pavement areas greater than one square Leveling or Overlay with Drag Box The application of asphaltic tack coat and placing layers of asphaltic concrete material.	530	S10	SF	Removal of Graffiti Removal of graffiti from fixtures, wing walls, bridge structures, etc. Not to be used in lieu of function 733 (Vandalized Signs), 731 or 732 (Sign Installation). Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description. Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	598	S06	HRS	Boat Ramp Maintenance Work performed in maintaining boat ramps, including mowing, litter removal, emptying litter barrels, maintenance of paved and unpaved areas, etc. Bridge, Movable Span Operation, routine maintenance and inspection of movable span bridges (swing barge, lift or turn). Restricted use: Beaumont, Houston, Pharr and Yoakum Districts only. Bridge, Portable Installation, removal, maintenance and inspection of portable bridges.	750	T09	EA	Installation and Removal of Pavement Markers Installation and/or removal of traffic buttons or reflective pavement markers.
214	P01	SY	Leveling or Overlay with Drag Box The application of asphaltic tack coat and placing layers of asphaltic concrete material.	531	S06	HRS	Picnic Area Maintenance (Without Restrooms) Refer to function 532 for description. Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	610	S04	HRS	Bridge, Movable Span Operation, routine maintenance and inspection of movable span bridges (swing barge, lift or turn). Restricted use: Beaumont, Houston, Pharr and Yoakum Districts only. Bridge, Portable Installation, removal, maintenance and inspection of portable bridges.	790	S07	HR	Miscellaneous Traffic Services All traffic surveys (including all motor vehicle and pedestrian counts at intersections and directly related locations) and other traffic services not covered elsewhere. Note: Traffic control performed during the pavement evaluation process should be charged to segment 71, detail 3214 and the appropriate function (600 thru 690).
225	P06	LM	Sealing Cracks Cleaning, filling and sealing cracks in the pavement using asphaltic rubber or other sealants.	532	S06	HRS	Rest Area Maintenance (With Restrooms) Work performed in janitorial and grounds maintenance, including mowing, litter pickup, emptying litter barrels, maintenance of plantings, cleaning restroom, cleaning arbors, graffiti removal, minor paintings, etc. This item shall also include special maintenance required to repair/replace arbors, picnic tables, fixtures, litter barrels, paved areas, etc. (including maintenance of treatment plants and dump stations).	611	S04	HRS	Bridge, Portable Installation, removal, maintenance and inspection of portable bridges.	799	S07	HR	Traffic Control The placement, maintenance and removal of barricades, signs, cones, lights and other such devices needed to handle traffic during emergencies or special events. This includes flaggers.
231	P05	SY	Seal Coat Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over the full width of the lane or a shoulder (greater than 6' in width) for a minimum of 1000 continuous feet. Strip or Spot Seal Coat Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over areas less than the full width of the lane or shoulder (6' or less in width), or the full width of the lane or shoulder but less than 1000 feet in length. Fog Seal Retain aggregate, enliven surface and/or seal hairline cracks by the application of a thin layer of asphaltic material.	533	S06	HRS	Rest Area Facility Maintenance through Regional Contracts (Maintenance Division Use Only) Maintenance of Specialty Facilities All maintenance costs to specialty facilities including border safety inspection facilities (BSIFs), toll booths, service plazas, fencing and associated appurtenances. This includes both temp and perm facilities. The highway class code will determine the type of facility.	620	S05	CY	Bridge Channel Maintenance Removal of silt and drift, filling eroded areas, channel maintenance (including easements) and maintenance and repair of jetties and dikes.	806			Replaced by Function Code 799
232	P04	SY	Strip or Spot Seal Coat Application of a single layer of asphaltic material followed by the application of a single layer of aggregate over areas less than the full width of the lane or shoulder (6' or less in width), or the full width of the lane or shoulder but less than 1000 feet in length. Fog Seal Retain aggregate, enliven surface and/or seal hairline cracks by the application of a thin layer of asphaltic material.	535	S0	HRS	Maintenance of Specialty Facilities All maintenance costs to specialty facilities including border safety inspection facilities (BSIFs), toll booths, service plazas, fencing and associated appurtenances. This includes both temp and perm facilities. The highway class code will determine the type of facility.	628	S02	LF	Bridge Rail Maintenance of bridge rail, posts & post connections to deck, including painting.	807			Replaced by Function Code 799 Accident Flag selected
233	P04	SY	Fog Seal Retain aggregate, enliven surface and/or seal hairline cracks by the application of a thin layer of asphaltic material.	538	R0	AC	Pest Control Activities related to use of predatory animal and insect control whether in turf and ornamental sites or on the ROW.	645	S02	LF	Bridge Joint Maintenance Repair of bridge joints, including cleaning and sealing	809			Replaced by Function Code 799 Disaster Project;Task number
235	P04	SY	Microsurfacing The application of a polymer modified high performance emulsion coupled with fine graded aggregate, mineral fillers and special additives in a slurry, to full ruts or to a new wearing surface. (Caution: Should not be used to seal cracked pavements.)	540	R0	HRS	Hand Vegetation Control Hand cleaning vegetation out of islands, medians, riprap, drainage channels, etc. by chemical, manual or mechanical means.	646	S02	LF	Bridge Joint Replacement Replacement of bridge joints	810			Replaced by Function Code 523 Disaster Project;Task number
241	P09	EA	Pothole Repair The repair of holes with an area of less than or equal to one square yard. Charge to Function 213 if greater than one square yard. Replaced by Function 241	541	R0	AC	Chemical Vegetation Control, Edges Complete control of vegetation encroaching in pavement edges, shoulders, medians, islands and curbs with herbicides.	650	S01	SF	Bridge Deck Repair to bridge decks.	811	S07	HR	Snow and Ice Response Emergency response to clear roads during or after a snow/ice event. Includes sanding, deicing, clearing and removal, etc.
242			Replaced by Function 241	542	R0	AC	Chemical Vegetation Control, Overspray Control of undesirable vegetation growth by overspraying wide areas of the right of including fixtures (i.e. signs, delineators, guardrails, culverts, etc.) with herbicides.	660	S01	SF	Bridge Superstructure, Concrete Routine maintenance of the concrete components of the bridge superstructure, including bearings, concrete diaphragms, and beams.	843			Replaced by Function Code 799, 523 Disaster Project;Task number
245	P10	SY	Adding or Widening Pavement Widening travel lanes up to 2 feet, adding shoulders up to 4 feet to correct a maintenance problem (includes sub-grade, base & surfacing), or adding turn lanes to improve safety.	544	R0	AC	Chemical Vegetation Control, Rope-wick Control of tall vegetation (i.e. Johnsongrass) in the right of way with a wick applicator.	665	S01	SF	Bridge Superstructure, Steel Routine maintenance of the steel components of the bridge superstructure, including steel diaphragms and beams.	844			Replaced by Function Code 563 Disaster Project;Task number
252	P02	SY	Milling and Planing The removal of pavement surface by milling or planing.	545	R0	HRS	Chemical Vegetation Control, Basal Application Control of undesirable brush species in the right of way with a low volume basal bark application.	670	S03	SF	Bridge Substructure, Concrete Routine maintenance of the concrete components of the bridge substructure, including caps, columns, abutments, wingwalls, pilings, etc.	821			Deleted
253	P02	SY	Spot Milling The removal of pavement surface by milling using a small milling machine (4 feet or less drum width).	548	R0	SY	Seeding, Sodding, Hydromulching and Blanketing Seeding, sodding, hydromulching and/or placing soil retention blankets.	675	S03	SF	Bridge Substructure, Steel and Timber Repairs by whatever Function Code, Disaster or Damage Claim Project;Task number	822			Replaced by Function Code 360 Disaster Project;Task number
265	P04	SY	Treat Bleeding Pavement Treatment of excess asphalt on the pavement surface.	551	R0	AC	Landscaping The installation or maintenance of landscape plantings and their facilities including planter walls, borders, sprinkler systems, etc. (excluding picnic and rest areas).	680	S03	SF	Bridge Painting Cleaning and painting of superstructure or substructure.	823			Replaced by Function Code 360 Disaster Project;Task number
270	P07	LF	Edge Repair Repair of raveled, low or damaged pavement edges with asphaltic materials.	552	R0	CL	Tree and Brush Control The trimming, pruning and disposal of shrubs, vines, and trees (excluding picnic and rest areas).	690	S04	HRS	Bridge, Mechanical and Electrical Maintenance and repair of the electrical & mechanical components of a bridge.	824			Replaced by Function Code 211, 212, 213, 214
315	P08	SY	Slab Stabilization / Jacking Leveling concrete pavement through the use of hydraulically placed material.	558	R0	LF	Storm Water Pollution Protection Maintenance or installation of storm water pollution protection plan (SW3P) in accordance with EPA regulations on projects designated by area engineers.	695	S04	HRS	Fender Systems Installation and maintenance of fender systems.	825			Replaced by Function Code 231, 232 Disaster Project;Task number
325	P06	LF	Cleaning and Sealing Joints and Cracks Cleaning, filling and sealing joints and cracks in concrete pavement.	560	R06	SY	Riprap Installation and Maintenance Installation and maintenance of ditch liners, retards, down drains, riprap, flumes, concrete mowing strips, gabions, retaining walls and other erosion protection.	711	T01	LF	Paint and Bead Striping Striping or re-striping lane lines, centerlines and edge lines using paint and beads.	826			Appropriate Bridge, Disaster Project;Task number
330	P08	SY	Blowouts and Stress Relief Repair of blowouts and cutting pavement for stress relief.	561	R04	CY	Ditch Maintenance Removal and hauling of silt, drift, and/or filling eroded areas. Not to be used for work at culverts or bridges (see functions 570 or 620).	712	T02	LF	High Performance Striping Striping or re-striping lane lines, centerlines and edge lines using thermoplastic or other high performance materials.	827			Replaced by Function Code 743; Disaster or Damage Claim Project;Task number
345	P08	SY	Repair Spalling Clean and repair spalled areas (not full depth of concrete slab).	562	R04	LF	Reshaping Ditches Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts or bridges (see functions 570 or 620).	713	T02	EA	Specialty Markings Medians, islands and other pavement markings not covered under function 711 or 712. (Including make-ready operations for all stripe alignment, such spotting, tabs, temporary tape, etc.)	828			Replaced by Function Code 721, 731, 732; Disaster or Damage Claim Project;Task number
360	P08	SY	Full Depth Removal and Replacement The removal and replacement of failed areas for the full depth of the concrete slab.	563	R06	SY	Slope Repair/Stabilization Slope repair and/or stabilization. Not to be used for work at culverts or bridges (see functions 570 or 620).	715	T02	LF	Removal of Pavement Striping Use when striping is not going to be replaced.	829			Replaced by Function Code 742; Disaster or Damage Claim Project;Task number
455	P07	LF SY	Reshaping Unpaved Shoulders Restore sod or flexible base shoulders to original sections. Includes reshaping front slope to eliminate low pavement edges along a paved shoulder.	566	R04	LF	Reshaping Ditches Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts or bridges (see functions 570 or 620).	716	S11	LM	Performance Based Contract Distribution (Contract Payments ONLY) These contracts are set up to pay the contractor a fixed price on a periodic basis of type of work performed and/or amount of work performed	830	R1	HR	Hazardous Material Clean up, Spills or Leaking Storage Tanks Investigations, testing, clean up, removal, disposal and restoration work associated with a spill or leaking storage tanks.
480	S08	SY	Side Road Approaches, Crossovers and Turnouts The installation or maintenance of side road approaches, crossovers, historical markers, mailbox and litter barrel turnouts, etc.	567	R04	LF	Reshaping Ditches Reshaping ditches using maintainer and/or gradall, etc. Not to be used for work at culverts or bridges (see functions 570 or 620).	721	T03	EA	Delineators Installation, maintenance and/or replacement of damaged or missing reflectors and/or posts. This function shall include straightening of posts. Measured by each post and each reflector replaced.	831	R1	HR	Hazardous Material Clean up, Abandoned Materials Investigations, testing, clean up, removal, disposal and restoration work associated with abandoned hazardous materials of unknown ownership.
488	S08	SY	Concrete Appurtenance Installation and Maintenance The maintenance, installation, or removal of concrete appurtenances which include curbs and/or gutters, raised medians, sidewalks and sound barriers.	570	R0	EA	Culvert and Storm Drain Maintenance The installation, repair and maintenance of culverts up to bridge classification (twenty feet measured along centerline of roadway). This work includes silt and debris removal from inlet, storm drains, retention ponds and culverts (except those costs associated with function 571).	724	T04	LF	Roadway Access Control Installation and maintenance of barriers (other than those covered by functions 594 or 595) designed to control access on highways, including post and cable fences, ROW fences and cattle guards.	Segment 70			Maintenance Section Overhead Costs Detail 08XX (XX = Office No.); not reasonably identifiable to a roadway
495	S06	SY	Parking Area Maintenance Repair of sub-grade, base or surface of areas including parking lots, park and ride lots and camping pads.	571	R0	EA	Storm Water Pump Station Maintenance Repair and maintenance of motors, pumps, generators, wet wells, dry wells, debris screening baskets, buildings, etc., including costs of utility services.	725	T05	EA	Vehicle Attenuators Installation and maintenance of vehicle attenuators, crash cushions, etc. (Excludes the end treatment devices on guard fence.)	400			Training (informal or on-the-job training)
511	R02	AC	Mowing Mowing of the right of way.	580	T03	EA	Removal of Illegal Signs on ROW, TEMP (Temporary, no special handling required.) Removal of illegal signs on right of way, including disposal and written notice to owners.	731	T03	EA	Installation/Maintenance of Small Signs The installation and maintenance of signs (less than 4 ft. X 4 ft.). Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Measured by each post and each sign maintained.	401			Meetings (non-coded meetings; Safety Banquets)
513	R02	HRS	Spot Mowing Spot mowing of the right of way.	581	T03	EA	Removal of Illegal Signs on ROW, PERM (Permanent, special handling required.) Removal of illegal signs on right of way, including disposal and to written notice to owners.	732	T10	EA	Installation/Maintenance of Large Signs The installation or maintenance of signs (equal to or greater than 4 ft. X 4 ft.) Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 731 (Installation of Small Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway)	402			Yard Maintenance and Inspections (maintenance/inspections to facilities or yard)
520	R10	CY	Illegal Dumpsite Removal and Disposal Removal and disposal of debris discarded or deposited in an unauthorized area in the right of way such as under a bridge, overpass, culvert, etc.	582	S10	HRS	Removal of Encroachments, Other than Signs Removal of illegal encroachments (other than signs) on the ROW, including disposal and written notice to owners.	733	T10	EA	Installation/Maintenance of Large Signs The installation or maintenance of signs (equal to or greater than 4 ft. X 4 ft.) Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 731 (Installation of Small Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway)	403			Office/Section Administration (pick up/purchase supplies, HR admin., office tech duties)
521	R03	AC	Litter Removal and disposal of litter from the entire right of way, excluding paved areas, picnic and rest areas.	585	S08	SY	Driveway Installation/Removal and Maintenance See access management policy.	734	T10	EA	Installation/Maintenance of Large Signs The installation or maintenance of signs (equal to or greater than 4 ft. X 4 ft.) Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 731 (Installation of Small Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway)	404			Section Support (customer support, contractor support, damage claims)
				591	S09	HRS	Utilities and Driveway Inspection See access management policy.	735	T10	EA	Installation/Maintenance of Large Signs The installation or maintenance of signs (equal to or greater than 4 ft. X 4 ft.) Includes the installation of an old sign on a new post, the installation of a new sign on an existing post, removing or straightening of signs and posts. Not to be used in lieu of function 731 (Installation of Small Signs), function 733 (Vandalized Signs), or function 525 (Adopt-A-Highway)	405			Section Management (checking on crews, supervisor admin, meeting with local govts.)
												406			Material Management (inventory mgmt, material deliveries from WH to yard, hauling)
												407			Standby Time (weekend and weekday)
												408			General Overhead