

STATE OF CALIFORNIA - DEPARTMENT OF GENERAL SERVICES

STANDARD AGREEMENT

STD 213 (Rev. 04/2020)

AGREEMENT NUMBER

56A0887

PURCHASING AUTHORITY NUMBER (If Applicable)

2660

1. This Agreement is entered into between the Contracting Agency and the Contractor named below:

CONTRACTING AGENCY NAME

California Department of Transportation (Caltrans)

CONTRACTOR NAME

2. The term of this Agreement is:

START DATE

August 3, 2026 (estimate), or upon approval by the California Department of Transportation (Caltrans), whichever is later

THROUGH END DATE

August 2, 2029 (estimate)

3. The maximum amount of this Agreement is:

4. The parties agree to comply with the terms and conditions of the following exhibits, which are by this reference made a part of the Agreement.

Exhibits	Title	Pages
Exhibit A	Statement of Work	145
Exhibit B	Budget Detail and Payment Provisions	2
Exhibit C *	General Terms and Conditions	1
Exhibit D	Special Terms and Conditions	8
Exhibit E	Additional Provisions	16
Exhibit F	Security and Privacy Provision	11
Attach 1	Cost Worksheet (attached at award)	TBD
Attach 2	Technical Proposal (attached at award)	TBD
Attach 3	Bidder Declaration (GSPD-05-105) (attached at award)	TBD
Attach 4	Task Order	1
Attach 5	IP Copyright Assignment Form	2
Attach 6	IP Non-Disclosure Agreement Form	3

Items shown with an asterisk (), are hereby incorporated by reference and made part of this agreement as if attached hereto.**These documents can be viewed at <https://www.dgs.ca.gov/OLS/Resources>***IN WITNESS WHEREOF, THIS AGREEMENT HAS BEEN EXECUTED BY THE PARTIES HERETO.****CONTRACTOR**

CONTRACTOR NAME (if other than an individual, state whether a corporation, partnership, etc.)

CONTRACTOR BUSINESS ADDRESS

CITY

STATE

ZIP

PRINTED NAME OF PERSON SIGNING

TITLE

CONTRACTOR AUTHORIZED SIGNATURE

DATE SIGNED

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PURCHASING AUTHORITY NUMBER (If Applicable)

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STATE OF CALIFORNIA

CONTRACTING AGENCY NAME

California Department of Transportation (Caltrans)

CONTRACTING AGENCY ADDRESS

1727 30th Street, MS 65

CITY

Sacramento

STATE

CA

ZIP

95816

PRINTED NAME OF PERSON SIGNING

TITLE

CONTRACTING AGENCY AUTHORIZED SIGNATURE

DATE SIGNED

CALIFORNIA DEPARTMENT OF GENERAL SERVICES APPROVAL

EXEMPTION (If Applicable)

SCM. Vol 2, 1503

DGS PD, PAL Tier 3

STATEMENT OF WORK

1. The work to be performed under this Agreement shall be in accordance with **Exhibit A – Statement of Work, Attachment 1 – Cost Sheet and Attachment 2 – Technical Proposal** in this Agreement. In the event of any conflicts related to this Agreement, **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 3, Order of Precedence, and Section 17, Dispute Resolution**, shall apply.
2. The services shall be performed covering Caltrans districts, 1, 2, 3, 4, 5, and 10.
3. This Agreement will commence on **August 3, 2026 (estimate)**, or upon approval by the California Department of Transportation (Caltrans), whichever is later, and no work shall begin before that time. This Agreement is of no effect unless approved by Caltrans. The Contractor shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by the Caltrans Contract Manager. This Agreement shall expire on **August 2, 2029 (estimate)**. The services shall be provided during working hours, Monday through Friday from 8:00 a.m. to 5 p.m., Pacific Standard Time (PST), except [State Holidays](#). The parties may amend this Agreement as permitted by law.
4. Agreement Amendment
 - A. Subject to the terms and conditions of the original Agreement, and contingent upon the approval of Caltrans and the Contractor, Caltrans may have the option, prior to the Agreement expiration date, to amend the Agreement. The agreement allows for an amendment for time and/or quantity, for more of the same services.
 - B. The Agreement Amendment shall be amendable up to an additional **three (3) years** and an additional **\$5,000,000.00**.
 - C. If the Agreement were amended, the Contractor's rates offered in the "Amendment Pricing" section of **Attachment 1 – Cost Sheet**, for the additional work would apply.
 - D. Any resulting Agreement Amendment will not take effect until it is signed by a Caltrans Contract Officer, and Contractor has received a signed copy of the Agreement Amendment.
5. All inquiries during the term of this Agreement will be directed to the project representatives listed in the **Table 1 – Project Representatives**, below:

Table 1 – Project Representatives

Department of Transportation (Caltrans)	Contractor: TBD
Contract Manager:	Project Manager:
Address:	Address:
Cell:	Cell:
Email:	Email:

6. Background

This contract will develop an inventory and an associated geodatabase of all traffic safety and control devices including pedestrian and bicycle facilities.

7. Description of Work

The Contractor shall collect, analyze and report on the following assets as described under Appendix A, B, and C:

STATEMENT OF WORK

- Signs,
- Traffic Safety Devices- Barriers, Guardrails, Crash Cushions & End Treatment
- Pedestrian Facilities
- Bicycle Facilities

STATEMENT OF WORK

APPENDIX A – STATEMENT OF WORK

**STATEMENT OF WORK
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STATEMENT OF WORK**LIST OF ACRONYMS**

Caltrans	California Department of Transportation
CD/DVD	Compact Disk/Digital Versatile Disk
DHIPP	Digital Highway Inventory Photography Program
FHWA	Federal Highway Administration
GB	Gigabytes
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
INT	Inertial Navigation Technology
INU	Inertial Navigation Unit
LRS	Linear Reference System
MB	Megabytes
Mbps	Megabytes per second
MUTCD	Manual on Uniform Traffic Control Devices
CA MUTCD	California Manual on Uniform Traffic Control Devices
NAD83	North American Datum of 1983
NGS	National Geodetic Survey
NHS	National Highway System
NTCD	Notice to Collect Data
ProVAL	Profile Viewing and Analysis software version
QA	Quality Assurance
QC	Quality Control
QM	Quality Management
RAM	Random-Access Memory
ROW	Right-of-Way
RS	Route Suffix
RTK-GPS	Real Time Kinematic Global Positioning System
RWP	Right Wheel Path
SCV	Sacramento Common Verification
SCVD	Sacramento Common Verification for Distress
SCVP	Sacramento Common Verification for Profile
SI	International System of Units

STATEMENT OF WORK

SOP	Standard Operating Procedure
SOW	Scope of Work
STD	Standard Agreement
TBD	To be Determined
TB	Terabytes
3D	Three Dimensional
TSN	Transportation System Network
WGS 84	World Geodetic System established in 1984
IMMS	Integrated Maintenance Management System

STATEMENT OF WORK**1. INTRODUCTION****1.1. General**

The purpose of this contract is to develop a statewide inventory and an associated geodatabase of Signs, Barriers, Guardrails, Crash Cushions, End treatments, Pedestrian Facilities, and Bicycle Facilities. The work product shall identify asset locations, attributes, and conditions (where applicable) and will support future project planning by Caltrans.

The inventory items are located on, above, and adjacent to the main lanes, interchanges, overcrossings/undercrossings, connectors, entrance and exit ramps. The exit and entrance ramps include the intersection of the ramp with the local road. See Figure A. An interchange is expected to have an on- and off-ramp for each direction of travel.

The list of included highways and their centerline miles is provided in Table 1.

This contract is expected to utilize automated data collection processes to ensure consistency in data collection and documentation. The effort is intended to support overall asset management activities related to roadway safety.

The following is a preliminary estimated timeline for data collection. Please note that the Caltrans Contract Manager may revise or update this timeline at their discretion at any point during the contract term.

TASKS	DATE
Data Collection Begins	One Month from Contract Execution
3% First Full Assets Delivered (the 3% is divided into 1.5% of total Center Line Mileage Urban and 1.5% of total Center Line Mile Rural)	Three Months from the Beginning of Data Collection
Final Remaining Asset Deliverables	18 Months from the Beginning of Data Collection
Cloud (Data) Storage	36 months from the Beginning of Data Collection

Caltrans will issue a task order for 3% of the total center line miles (CLM). Caltrans and the selected consultant will use the 3% delivery to identify any issues with what is being provided and what Caltrans is expecting. The overall project schedule shall consider the coordination anticipated following the submission of the 3% work product. Caltrans will review incoming data on a weekly basis and will strive to complete the 3% review promptly to avoid delays to the final delivery.

Upon completion of all work under this contract, ownership and title to all files, including, but not limited to, reports, documents, databases, and photo logs produced as part of this contract, will automatically be vested in the California Department of Transportation. No further agreement will be necessary to transfer ownership to the California Department of Transportation.

The Consultant shall not begin work before the kick-off meeting.

STATEMENT OF WORK**1.2. Coverage**

The Contractor shall be responsible for collecting and delivering **8,136** CLM of data from the Caltrans Highway Network (Estimated CLM is **1,814** in the Urban area and **6,322** CLM in the Rural area). Caltrans will provide Urban and Rural area shapefiles

The Consultant will be required to take measurements using U.S. Customary units—specifically, U.S. Survey feet, where 1 foot equals exactly 1200/3937 meters (or approximately 0.3048006 meters).

Caltrans' current processes have determined the following approximate centerline miles information:

TABLE 1 - ESTIMATED CENTER LINE MILES (CLM)

DISTRICT	TOTAL CLM	URBAN CLM	RURAL CLM
1	951	51	900
2	1,748	93	1,655
3	1,517	287	1,230
4	1,431	863	568
5	1,158	332	826
10	1,331	188	1,143
TOTAL CENTER LINE MILES	8,136	1,814	6,322

For District Detailed Estimated Center Line Miles, see APPENDIX B

The data shall be collected and analyzed in both directions of the Center Line Miles.

Data shall be collected at a speed not to impede the flow of traffic whenever possible and in conformance with all applicable traffic laws in California.

**TABLE 2
DISTRICTS AND COUNTIES**

D-01	D-02	D-03	D-04	D-05	D-10
DN	LAS	BUT	ALA	MON	ALP
HUM	MOD	COL	CC	SBT	AMA
LAK	PLU	ED	MRN	SLO	CAL
MEN	SHA	GLE	NAP	SB	MPA
	SIS	NEV	SF	SCR	MER
	TEH	PLA	SM		SJ
	TRI	SAC	SCL		STA
		SIE	SOL		TUO
		SUT	SON		

STATEMENT OF WORK

YOL
YUB

TABLE 3 HIGHWAY FACILITY TYPES*	
1.	Freeway
2.	Expressway
3.	Conventional Highway
4.	Off-Ramp
5.	On Ramp
6.	Connector
7.	Gore Point
8.	Overcrossing
9.	Undercrossing
10.	HOV, Toll (includes EXPRESS lanes)
11.	Local Bypass

* The highway facility types are defined under Caltrans Highway Design Manual section 62.3 “Highway Types”, section 62.2 “Types of Structures”, section 62.4 “Interchanges and Intersections at Grade”, and section 62.8 “Highway Operations”

1.3. Weather and Visibility Considerations

Contractor shall collect data in the daytime, with clear atmospheric conditions (no rain, smoke, fog, dust, or haze), when pavement is dry, and when snow accumulation on the roadside does not inhibit the visibility of the roadside assets to be collected. Locations where automated data collection is not in compliance with Section 1.4 D (Planimetric Features – Roadway Assets) shall be re-collected at no additional cost to Caltrans.

The Contractor shall use and maintain equipment capable of producing data that meets the performance requirements specified in Section 1.4. All images of Caltrans highway assets collected within Caltrans’ right-of-way must be clear and legible. Note that failure to anticipate the sun angle may negatively impact image quality. Condition assessments will be performed based on these images.

The Consultant shall use and maintain equipment capable of producing data that complies with the requirements outlined in Section 6-Data Delivery. Any unexpected events (e.g., weather, fire, traffic incidents, injuries, and equipment malfunctions) that occur during the execution of this contract must be reported to the Contract Manager as soon as possible.

STATEMENT OF WORK

1.4. Description of Services

The Consultant shall deliver each asset following the requirements outlined below and provide every asset described in this Scope of Work. The form and method for acquiring and submitting deliverables to Caltrans must be thoroughly detailed in the Technical Proposal and presented to Caltrans during the selection process

DELIVERABLES AND TASKS

- A. Street Level Imagery (The images at the native sensor resolution, which must be at least 3000 x 2000 or higher) in JPG with associated metadata (See data dictionary, APPENDIX C)
- B. Mobile Lidar
- C. Point Cloud
- D. Planimetric Features – Roadway Assets (See Data Dictionary, including condition assessment, APPENDIX C)
- E. Training and Technical Support

STATEMENT OF WORK**A. STREET LEVEL IMAGERY**

- a) Contractor shall collect clear digital images of each asset that is free of distortion and sun overexposure, at a minimum interval of 1 image per 6 meters/19.7 feet or less. The camera(s) must be mounted at a height so that no part of the vehicle is visible. The images must be of high resolution and angled to include the complete asset. Each image is to be captured as an individual file (JPG). Images must be coordinated with each other, the delivered point cloud, and the corresponding integrated GPS/Inertial navigation sensor data.
- b) Coordinate with Caltrans for image delivery and database management. The database will comply with the data dictionary (see APPENDIX C).
- c) Images shall have a minimum resolution sufficient to accurately identify, attribute, and assess the condition of the assets included in this contract. The resolution shall be at least 3000 x 2000 pixels or higher. The horizontal aspect will achieve a minimum 120-degree viewing angle in one viewable image. The Contractor shall compile metadata for each image that identifies highway number, direction, postmile, Latitude, Longitude [NAD83 (2011) horizontal reference frame, Epoch 2010.00], elevation [NAVD88 vertical datum], heading, time, and date. Digital photographs of all assets shall have sufficient resolution to allow a computer operator (human or artificial intelligence) to accurately identify the required attributes and perform condition assessments. The Contractor shall be responsible for extracting and assigning the required asset attributes.
- d) If images are determined to be unacceptable by the Department, the Contractor shall be required to provide corrected images within the duration of the corresponding scheduled data collection effort.
- e) Data collection will include the use of a multi-camera or 360°-camera system, aligned to the integrated GPS/inertial navigation sensor data, to capture digital photographs of each asset.
- f) Asset condition assessment must be able to be determined from the images (minimum resolution of 3000 x 2000 pixels or higher).
- g) The database is designed to hold a link to the image file for each asset.
- h) Provide an external portable hard drive that contains all asset images with an additional set of all digital image files captured during the data collection, stored on a cloud storage system. Collected data should be sorted by district, county, route, and direction, and in sequential Postmile order.
- i) Multiple passes must be employed in areas where obstructions occur to ensure thorough capture of imagery data. Any data gaps will be identified, and recommended solutions for those gaps will be provided. This excludes major obstructions due to landslides, wildfires, and construction.
- j) Images should be collected during daylight hours.

B. MOBILE LIDAR

- a) The field collection for signs and safety devices will utilize Mobile LiDAR. The collection must be completed with a fully integrated mobile LiDAR system. The

STATEMENT OF WORK

Mobile Terrestrial Laser Scanning (MTLS) equipment specifications and workflows are specified in the Caltrans Surveys Manual (CSM) Chapter 15. Contractor may omit some or all of the registration point targets listed in Section 15.11-6 if Contractor's quality control plan ensures the minimum asset georeferenced and local accuracy required by this contract is achieved.

- b) Multiple passes must be employed in areas where obstructions occur to ensure thorough capture of point cloud and imagery data. Any data gaps will be identified, and recommended solutions for those gaps will be provided. This excludes major obstructions due to landslides, wildfires, and construction.
- c) If the asset is obstructed, down, or its visibility is limited, it should be noted in the comment column to explain the source or reason of obstruction (e.g., overgrown vegetation).
- d) Data collection must be completed at or near traffic speeds to avoid impeding traffic while ensuring adequate spacing from surrounding traffic to avoid obstructions.

STATEMENT OF WORK**C. POINT CLOUD**

- a) One of the deliverables is to provide a validated, geospatially correct, 3D LiDAR point cloud, stored on a cloud storage system, for Caltrans's current and future utilization. The point cloud is to be delivered to Caltrans in separate deliverable point cloud files for each LiDAR head unit, containing approximately two centerline miles of coverage. Each deliverable point cloud file shall be documented in an index containing the county, route and postmile of the beginning and end of coverage, together with a Shapefile describing the file name, exterior coverage of each point cloud file, and other pertinent metadata such as collection date, datum, epoch, accuracy, contract number, laser ID, etc. The point cloud's network accuracy, local accuracy, and quality must be high enough for extracted assets to meet or exceed the minimum asset georeferenced and dimension accuracies required by this contract.
- b) The consultant's written proposal on LiDAR data collection and delivery should include the following:
 - 1. Method(s) for geo-referencing the LiDAR data, such as using real-time GPS/GNSS correction, post-processing using CORS stations, or a commercial RTN network.
 - 2. Explanation of how complex features, such as overhead signs with catwalks, will be collected so that the network accuracy and dimension accuracy required by this contract are achieved.
 - 3. Horizontal, Vertical Datum, and Epoch (see Section 2.1 C – Units)
 - 4. Mapping frame: California State Plane, with grid coordinates in the appropriate zone based on the location of data being collected, see Figure 4-4 in Caltrans Surveys Manual (CSM) Chapter 4.
 - 5. Unit: U.S. Survey feet
 - 6. Data file format: LAZ or LAS (broken down to 2-gigabyte or less blocks, with description of archival organization scheme)
 - 7. Data file format: Vehicle trajectories data and estimation of accuracy (Applanix SBET binary format or CSV format), including time, x, y, z, heading, roll, pitch, and estimated error of x, y, z, heading, roll, and pitch.
 - 8. Data file format: LiDAR scanner(s) and camera(s) calibration parameters, including x, y, z, heading, roll, and pitch offset to the system IMU
 - 9. Additional delivery method(s): external hard drive(s), network attached storage, or other.
 - 10. Naming convention of point cloud data files. Include the County, Route, and Postmile information within the naming convention.
 - 11. Metadata of point cloud files, such as intensity, classification, echo number, etc.

STATEMENT OF WORK**D. PLANIMETRIC FEATURES – ROADWAY ASSETS****D.1 SIGNS and SIGN SUPPORTS**

Locate the Signs and Sign Supports and assess the condition of the Signs at the locations described under paragraph 1.2 “Coverage”. The contracted firm shall deliver to Caltrans a database of all signs and sign supports. All references should be based on the Manual on Uniform Traffic Control Devices (MUTCD) and the California Manual on Uniform Traffic Control Devices (CA MUTCD) (old and new editions).

- The Sign inventory shall include all regulatory signs, warning signs, guide signs, Left and Exit plaques as well as Changeable Message Sign (CMS/EMS), and special signs (i.e, signs that have been modified from standard design). Construction signs and Postmile markers are excluded from the inventory.

California Sign Specifications Drawings

<https://dot.ca.gov/programs/safety-programs/sign-specs>

- For measurements (Length and Depth) of standard CA MUTCD/MUTCD signs, provide the overall dimensions for each collected sign.
- Relate Sign ID to Sign Support ID. Sign Support ID must be found in the same record for all sign panels. And the ID of each sign affixed to a particular sign support should be listed within the Sign Support ID record.
- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C).

SIGN (TAB #1)

- (1) SIGN ID - Unique ID assigned to each sign in the database. Each sign must be assigned a different numeric identification (See Example below). This Caltrans unique ID applies to all the other assets.

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Caltrans Unique ID

- The first two digits in each asset's ID will be the District Number in which the asset is identified.
- The next two digits in each asset's ID will represent the Feature Class ID.
- The last six digits in each asset's ID will be reserved for unique digits that are generated by the extraction software.

Example BARRIER ID: **11BR000362**

District Number
01
02
03
04
05
06
07
08
09
10
11
12

Feature Class	Feature Class ID
SIGN	SN
SIGN_SUPPORT	SS
GUARDRAIL	GR
BARRIER	BR
CRASH_CUSHION	CC
END_TREATMENT	ET
PEDESTRIAN_POINTS	PP
PEDESTRIAN_LINES	PL
BIKE_POINTS	BP
BIKE_LINES	BL

- (2) **LONGITUDE** – Sign Longitude measured at the bottom center of the sign panel, in decimal degrees format with 8 decimals (Example 37.76100512, -122.47684434). This format applies to all assets.
- (3) **LATITUDE** - Sign Latitude measured at the bottom center of the sign panel, in degree format with 8 decimals (Example 37.76100512, -122.47684434). This format applies to all assets
- (4) **DISTRICT** - Two-digit Caltrans District number denoting the location of the asset (see Table 2 of Section 1.2 - Coverage)
- (5) **COUNTY** - County abbreviation denoting the location of the asset (see Table 2 of Section 1.2 - Coverage)
- (6) **ROUTE** - Numeric route designation (see APPENDIX B)
- (7) **DIRECTION** - N, S, E, W. Primary route direction based on increasing postmile value. The Route Direction attribute should always be the official route direction. For example, for the N or S routes, if the road veers E or W, the direction will always be N or S. (See Figure B)
- (8) **CA MUTCD/MUTCD CODE** - CA MUTCD and MUTCD designation code or custom designation code for specialized signs.
- (9) **CA MUTCD/MUTCD DESCRIPTION** – Sign description per CA MUTCD/MUTCD.
- (10) **SIGN LEGEND** - Fully captured message of the sign.
- (11) **SIGN PANEL DEPTH** – Vertical dimension of sign panel in inches. Accuracy for measurements is +/- 1 inch.
- (12) **SIGN PANEL LENGTH** – Horizontal dimension of sign panel in inches. Accuracy for measurements is +/- 1 inch.
- (13) **SIGN MOUNTING HEIGHT** – Measured from the bottom of the sign panel to the

STATEMENT OF WORK

pavement/ground surface. Accuracy for measurements is +/- 1 inch.

- (14) SIGN PANEL TYPE – Type of sign panel: Roadside or Overhead (Formed or Laminated) (See TABLE B)
- (15) SIGN CONDITION/RETROREFLECTIVITY RATING - GOOD, FAIR, or POOR. Visual assessment of sign condition shall be assigned to each inventoried sign panel based on the images.

The reviewer will provide a daytime condition rating of the signs based on the following benchmarks:

- Poor– No longer functional. Faded, missing, knocked down, vandalized (paintball, gunshot, eggs, graffiti), button copy on a non-reflective background panel, or not legible. Extreme physical damage or deterioration; significant improper use of the sign. In need of prompt repair or replacement.
- Fair – Visible physical defects but otherwise serviceable within acceptable parameters. tree sap, dirty, weathering, cracking. Expected remaining service life of 1 – 5 years.
- Good – No apparent physical defects and deemed in satisfactory condition. Expected remaining service life greater than 5 years.

- (16) COLLECTION DATE – Date of sign asset collection
- (17) SIGN ASSESSMENT DATE- Last date that the condition status was determined.
- (18) SIGN EDITOR - User name of last editor of record
- (19) HIGHWAY FACILITY TYPE - Type of highway facility the sign is referenced to (See Table 3)
- (20) SIGN COMMENT – any additional notes
- (21) SIGN PHOTO – Photo of each sign panel
- (22) SIGN SUPPORT ID UNIQUE IDENTIFIER – List related Sign Support IDs with a clickable link to the Sign Support (See Example listed under (1) Sign ID)
- (23) Datum epoch
- (24) Network accuracy and Dimension accuracy
- (25) Contract ID number

SIGN SUPPORT (TAB #2)

- (26) SIGN SUPPORT ID -- Unique ID assigned to each sign support in the database. Each support ID must be assigned a different numeric identification
- (27) SIGN ID – List all the related sign IDs with a clickable link to the Sign
- (28) LONGITUDE – Sign Support Longitude based on increasing postmile direction, in decimal degrees format with 8 decimals (Example 37.76100512, -122.47684434). This format applies to all assets.
- (29) LATITUDE - Sign Support Latitude based on increasing postmile direction, in degree format with 8 decimals (Example 37.76100512, -122.47684434). This format applies to all assets.

STATEMENT OF WORK

- (30) POSTMILE OF SIGN SUPPORT: Caltrans will provide the contractor with a tool to convert all Latitudes/Longitudes into Postmiles. This applies to all assets.
- (31) RELATIVE POSITION - Location of the support/post relative to the roadway
 - a) Left
 - b) Right
 - c) Overhead
 - d) Median
 - e) Gore
- (32) SUPPORT TYPE – Type of sign support associated with a particular sign (See Table A). See SIGN SUPPORT TYPE EXAMPLES below.
- (33) IMMS SUPPORT CATEGORY- based on support type (see Table A)
- (34) COLLECTION DATE – Date of sign support asset collection
- (35) EDIT DATE – Date asset was last edited
- (36) SIGN SUPPORT EDITOR - User name of last editor of record
- (37) SIGN SUPPORT PHOTO - Photo of each sign support, including the signs
- (38) SIGN SUPPORT COMMENT – Any additional notes.
- (39) Datum epoch
- (40) Network accuracy
- (41) Contract ID number

STATEMENT OF WORK SIGN ATTRIBUTES

TABLE A - SUPPORT TYPE	IMMS SUPPORT CATEGORY
1. One Post Truss Cantilever	OPSS One Post Sign Structure
2. One Post Truss Butterfly	OPSS One Post Sign Structure
3. One Post Truss Unbalanced Butterfly	OPSS One Post Sign Structure
4. Two Post Truss	TPSS Two Post Sign Structure
5. One Post Tubular Cantilever	OPSS One Post Sign Structure
6. One Post Tubular Butterfly	OPSS One Post Sign Structure
7. Two Post Tubular	TPSS Two Post Sign Structure
8. One Post Box Beam Cantilever	OPSS One Post Sign Structure
9. One Post Box Beam Butterfly	OPSS One Post Sign Structure
10. Two Post Box Beam	TPSS Two Post Sign Structure
11. One Post Light Weight Type B-1 (Single Mast Arm Series)	OPSS One Post Sign Structure
12. One Post Light Weight Type B-2 (Double Mast Arm Series)	OPSS One Post Sign Structure
13. One Post Light Weight Type C-1 (Double Mast Beam Series)	OPSS One Post Sign Structure
14. One Post Light Weight Type C-2 (Trussed Mast Arm Series)	OPSS One Post Sign Structure
15. Two Post Light Weight Type A-1 (Single Cross Beam Series)	TPSS Two Post Sign Structure
16. Two Post Light Weight Type A-2 (Trussed Cross Beam Series)	TPSS Two Post Sign Structure
17. Bridge Mounted Sign	BM Bridge Mount
18. Roadside One Post	OPS One Post Support
19. Roadside Two Post	TPS Two Post Support
20. Barrier Rail Mounted	Other
21. Barrier Mounted (Flush) Strap and Saddle Bracket	Other
22. Strap and Saddle Bracket Method	Other
23. Mast Arm (On Signal Arm or Flashing Beacon)	Other
24. Guardrail Mounted	Other

TABLE B - PANEL TYPE
1. Overhead Formed
2. Overhead Laminated
3. Roadside Sign

STATEMENT OF WORK
SIGN SUPPORT TYPE EXAMPLES

1) ONE POST TRUSS CANTILEVER



STATEMENT OF WORK



2) ONE POST TRUSS BUTTERFLY



STATEMENT OF WORK



3) ONE POST TRUSS UNBALANCED BUTTERFLY



STATEMENT OF WORK



4) TWO POST TRUSS



STATEMENT OF WORK



5) ONE POST TUBULAR CANTILEVER

STATEMENT OF WORK



6) ONE POST TUBULAR BUTTERFLY

STATEMENT OF WORK



7) TWO POST TUBULAR

STATEMENT OF WORK



STATEMENT OF WORK

8) *ONE POST BOX BEAM*



STATEMENT OF WORK



9) ONE POST BOX BEAM BUTTERFLY



STATEMENT OF WORK



STATEMENT OF WORK

10) TWO POST BOX BEAM



STATEMENT OF WORK



11) ONE POST LIGHT WEIGHT TYPE B-1 (SINGLE MAST ARM SERIES)



STATEMENT OF WORK



STATEMENT OF WORK

12) ONE POST LIGHT WEIGHT TYPE B-2 (DOUBLE MAST ARM SERIES)



STATEMENT OF WORK

13) ONE POST LIGHT WEIGHT TYPE C-1 (DOUBLE MAST BEAM SERIES)



STATEMENT OF WORK



14) ONE POST LIGHT WEIGHT TYPE C-2 (TRUSSED MAST ARM SERIES)



STATEMENT OF WORK



15) TWO POST LIGHT WEIGHT TYPE A-1 (SINGLE CROSS BEAM SERIES)

STATEMENT OF WORK



16) TWO POST LIGHT WEIGHT TYPE A-2 (TRUSSED CROSS BEAM SERIES)

STATEMENT OF WORK



STATEMENT OF WORK

17) BRIDGE MOUNTED SIGN



STATEMENT OF WORK

18) ROADSIDE ONE POST



STATEMENT OF WORK

19) *ROADSIDE TWO POST*



STATEMENT OF WORK

20) BARRIER RAIL MOUNTED



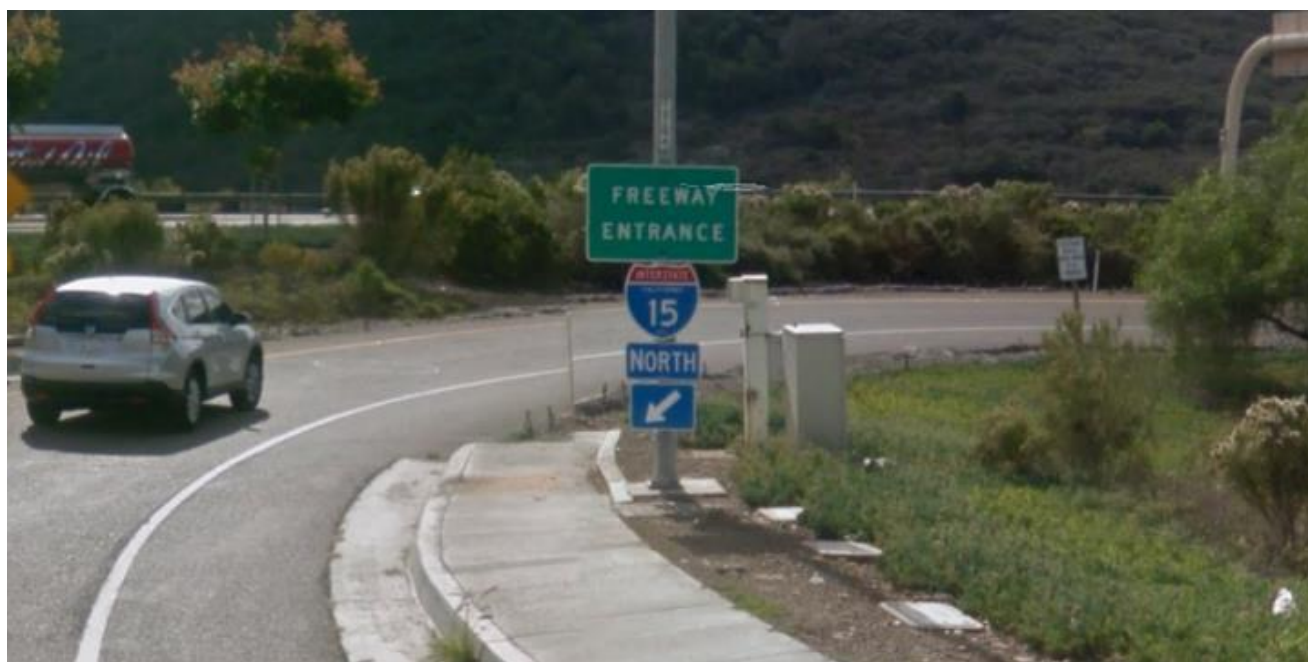
STATEMENT OF WORK

21) BARRIER MOUNTED (FLUSH) STRAP AND SADDLE BRACKET



STATEMENT OF WORK

22) STRAP AND SADDLE BRACKET



STATEMENT OF WORK

23) MAST ARM (ON SIGNAL ARM)



STATEMENT OF WORK

D.2 GUARDRAILS

Locate guardrails in the Caltrans ROW. The contractor shall deliver to Caltrans a database of all guardrails.

- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)
- If a guardrail crosses a District boundary, the barrier shall be split into its corresponding District.
- If a guardrail is less than 50' long and one side is higher than the other, report the shorter barrier height.

- (1) GUARDRAIL ID – Unique ID assigned to each guardrail in the database. Each guardrail run must be assigned a different numeric identification
- (2) DISTRICT – Two-digit Caltrans District number denoting the location of the asset (see Table 1)
- (3) COUNTY -County abbreviation denoting the location of the asset (see Table 2)
- (4) ROUTE - Numeric route designation (see APPENDIX B)
- (5) DIRECTION - N, S, E, W. Primary route direction based on increasing postmile value. The Route Direction attribute should always be the official route direction. For example, for the N or S route, if the road veers E or W, the direction will always be N or S.
- (6) HIGHWAY FACILITY TYPE - Type of highway facility the guardrail is referenced to (See Table 3)
- (7) LONGITUDE BEGIN - Beginning of guardrail based on increasing postmile direction
- (8) LATITUDE BEGIN - Beginning of guardrail based on increasing postmile direction
- (9) LONGITUDE END – End of guardrail based on increasing postmile direction
- (10) LATITUDE END – End of guardrail based on increasing postmile direction
- (11) POSTMILE BEGIN- Beginning of guardrail based on increasing postmile direction
- (12) POSTMILE END - End of guardrail based on increasing postmile direction
- (13) GUARDRAIL TYPE – Type of guardrail installed at location (see below for Product Information)
 - *Metal Beam Guardrail (MBGR) (STEEL POST or WOOD POST)*
 - *Midwest Guardrail System (MGS) (STEEL POST or WOOD POST)*
 - *Steel Backed Timber Guardrail (SBTG) (STEEL POST or WOOD POST)*
 - *Others*
- (14) GUARDRAIL HEIGHT (inches) - Guardrail height is measured at +/- 50' intervals. Accuracy for measurements is +/- 1 inch. Where a guardrail is located within 2 feet from the edge of pavement, the guardrail height shall be measured from the top of the guardrail to the edge of pavement. Otherwise, guardrail height shall be taken from the

STATEMENT OF WORK

top of the guardrail to the ground surface directly in front of the guardrail. Where the ground conditions or debris prevent accurate measurements, guardrail heights shall be adjusted so that measurements reflect the actual guardrail heights.

- (15) GUARDRAIL HEIGHT-SECONDARY (inches) - Guardrail heights measured to the pavement/ground on the other side of the guardrail, at 50' intervals (+/-). Applicable only if both sides of the guardrail face vehicle lanes. If ground conditions or debris prevent accurate measurements, guardrail heights shall be adjusted to represent their actual heights.
- (16) RELATIVE POSITION- Location of the guardrail relative to the roadway
 - a) Shoulder
 - b) Median
- (17) GUARDRAIL PHOTO- Provide a digital image of each guardrail linked to the data set and geo-referenced for location.
- (18) COLLECTION DATE – Date of guardrail asset collection
- (19) EDIT DATE - Date asset was last edited
- (20) EDITOR – Username of last editor of record
- (21) COMMENT – Any additional notes
- (22) Datum epoch
- (23) Network accuracy and Dimension accuracy
- (24) Contract ID number

STATEMENT OF WORK
GUARDRAILS TYPE EXAMPLES



GUARDRAIL MBGR (Metal Beam Guard Railing)



GUARDRAIL MGS (Midwest Guardrail System)

STATEMENT OF WORK



GUARDRAIL SBTG (Steel Backed Timber Guardrail)

STATEMENT OF WORK

D.3 BARRIERS

Locate barriers in the Caltrans ROW. The contracted firm shall deliver to Caltrans a database of all the barriers.

- If a barrier crosses a District boundary, the barrier shall be split into its corresponding District.
- If a barrier is less than 50' long and one side is higher than the other, report the shorter barrier height.
- If a barrier is part of a wall, height measurements shall be taken to the top of the barrier.
- The Type 50 to Type 60 transition shall be extracted as part of Type 50. The Type 60 to Type 60M transition shall be extracted as part of Type 60.
- Where the barrier is located within 2 feet from the edge of the pavement, the barrier height shall be measured from the top of the barrier to the edge of the pavement. Otherwise, barrier height shall be taken from the top of the barrier to the ground surface directly in front of the barrier.
- Barrier asset should stop and start at a bridge and a sign pedestal. The pedestal shall be extracted separately.
- Cable barrier heights shall be taken from the top cable to the ground surface directly in front of the barrier.
- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)

- (1) BARRIER ID UNIQUE IDENTIFIER - Unique ID assigned to each barrier in the database. Each barrier must be assigned a different numeric identification
- (2) DISTRICT - Two-digit Caltrans District number denoting the location of the asset (see Table 1)
- (3) COUNTY - County abbreviation denoting the location of the asset (see Table 2)
- (4) ROUTE - Numeric route designation (see APPENDIX B)
- (5) DIRECTION - N, S, E, W.

The primary route direction is defined by the route increasing postmile value. The Route Direction attribute must always reflect the official route direction; for example, on a north-south route, it remains N or S even if the roadway temporarily shifts east or west.

- (6) HIGHWAY FACILITY TYPE - Type of highway facility the barrier is referenced to (See Table 3)
- (7) LONGITUDE BEGIN - Beginning of barrier based on increasing postmile direction
- (8) LATITUDE BEGIN - Beginning of barrier based on increasing postmile direction
- (9) LONGITUDE END - End of barrier based on increasing postmile direction
- (10) LATITUDE END - End of barrier based on increasing postmile direction
- (11) POSTMILE BEGIN - Begin of barrier based on increasing postmile direction

STATEMENT OF WORK

- (12) POSTMILE END – End of barrier based on increasing postmile direction
- (13) BARRIER TYPE - Type of guardrail installed at location. Barrier examples include, but are not limited to:
- *BARRIER GUARD 800*
 - *THRIE BEAM*
 - *CABLE*
 - *BRIFEN TL-3 and TL-4 WRSF SYSTEM*
 - *CASS AND CABLE TERMINAL SYSTEM*
 - *CASS TL-3 and TL-4 CABLE BARRIER SYSTEM*
 - *CONCRETE REACTIVE TENSION SYSTEM (CRTS)*
 - *NUCOR NU-CABLE TL-3 and TL-4*
 - *SAFENCE TL-3 and TL-4*
 - *STEEL REACTIVE TENSION SYSTEM (SRTS)*
 - *CONCRETE BARRIER TYPE – TYPE 50, TYPE 60, 60M, 60MS, 60MD, Type K (in Non-Construction Zone), and other types listed under the Standard Plans*
 - *CONCRETE BARRIER WILDLIFE PASSAGEWAY – TYPE MS, MM, AND ML*
 - *OTHERS*
- (14) BARRIER HEIGHTS (inches) - Barrier height is measured at +/- 50' intervals. Accuracy for measurements is +/- 1 inch. Where the ground conditions or debris prevent accurate measurements, barrier heights shall be adjusted so that measurements reflect the actual barrier heights.
- (15) BARRIER HEIGHT-SECONDARY (inches) - Barrier heights measured to the pavement/ground on the other side of the barrier, at 50' intervals (+/-). Applicable only if both sides of the barrier face vehicle lanes. Where the ground conditions or debris prevent accurate measurements, barrier heights shall be adjusted so that measurements reflect the actual barrier heights.
- (16) RELATIVE POSITION - Location of the barrier relative to the roadway
- a) Shoulder
 - b) Median
- (17) BARRIER PHOTO - Provide a digital image of each barrier linked to the data set and geo-referenced for location.
- (18) COLLECTION DATE – Date of barrier asset collection
- (19) EDIT DATE – Date asset was last edited
- (20) EDITOR – Username of last editor of record
- (21) COMMENT – Any additional notes (such as any additional items on top of the barrier)
- (22) Datum epoch

STATEMENT OF WORK

(23) Network accuracy and Dimension accuracy

(24) Contract ID number

STATEMENT OF WORK
BARRIERS TYPE EXAMPLES



PRODUCT NAME Barrier Guard 800
MANUFACTURER QMB Barrier



PRODUCT NAME Thrie Beam
MANUFACTURER Gregory

STATEMENT OF WORK



PRODUCT NAME TL-4 Three Cable
MANUFACTURER Gibraltar Cable Barrier Systems, L.P.



PRODUCT NAME Brifen TL-4 WRSF System
MANUFACTURER Brifen USA INC.

STATEMENT OF WORK



PRODUCT NAME CASS TL3
MANUFACTURER Trinity Highway Products.



PRODUCT NAME CASS TL4
MANUFACTURER Trinity Highway Products.

STATEMENT OF WORK



PRODUCT NAME CASS S3
MANUFACTURER Trinity Highway Products.



PRODUCT NAME Concrete Reactive Tension System (CRTS)
MANUFACTURER LINDSAY Transportation Solutions

STATEMENT OF WORK



PRODUCT NAME Safence TL-3 and TL-4
MANUFACTURER Gregory Industries, Inc.



PRODUCT NAME Steel Reactive Tension System (SRTS)
MANUFACTURER Barrier Systems Inc.

STATEMENT OF WORK



PRODUCT NAME CONCRETE BARRIER TYPE 60



PRODUCT NAME CONCRETE BARRIER TYPE 50

STATEMENT OF WORK**D.4 CRASH CUSHIONS**

Locate crash cushions in Caltrans ROW. The contractor shall deliver to Caltrans a database of all crash cushions.

- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)
 - (1) CRASH CUSHION ID UNIQUE IDENTIFIER-- Unique ID assigned to each crash cushion in the database. Each crash cushion must be assigned a different numeric identification
 - (2) DISTRICT - Two-digit Caltrans District number denoting the location of the asset (see Table 1)
 - (3) COUNTY - County abbreviation denoting the location of the asset (see Table 2)
 - (4) ROUTE - Numeric route designation (see APPENDIX B)
 - (5) DIRECTION - N, S, E, W. Primary route direction based on increasing postmile value. The Route Direction attribute should always be the official route direction; for example, for N or S routes, if the road veers E or W, the direction will always be N or S.
 - (6) HIGHWAY FACILITY TYPE - Type of highway facility the crash cushion is referenced to (See Table 3)
 - (7) LONGITUDE - crash cushion beginning location based on increasing postmile
 - (8) LATITUDE - crash cushion beginning location based on increasing postmile
 - (9) POSTMILE
 - (10) CRASH CUSHION TYPE – Type of Crash Cushion installed at location (See below for Product Information)
 - *ADIEM*
 - *COMPRESSOR (TL-3)*
 - *CRASHGARD CC-48 SAND BARRELS*
 - *ENERGITE III System*
 - *FITCH BARRELS*
 - *N-E-A-T (NON-REDIRECTING ENERGY ABSORBING TERMINAL)*
 - *QUADGUARD Family (69")*
 - *QUADGUARD Family (90")*
 - *QUADGUARD Elite (TL-2 and TL-3) 8-bay System*
 - *QUADGUARD (TL-2 and TL-3) 6-bay System*
 - *QuadGuard LMC*
 - *QUEST CRASH CUSHION*
 - *REACT 350 WIDE (96" and 120")*

STATEMENT OF WORK

- *REACT 350 NARROW (CCB or SCBS)*
 - *SCI70GM/SCI100GM (70GM-TL2 and 100GM-TL3)*
 - *TAU II (Universal TAU-II and TAU II Wide)*
 - *TAU IIR (Universal TAU-IIR and TAU IIR Wide)*
 - *TRACC*
 - *TRAFFIC BARRELS*
 - *OTHERS*
- (11) RELATIVE POSITION - Location of the crash cushion relative to the roadway
- a) Shoulder
 - b) Median
 - c) Gore
- (12) CONDITION - "Good", "Damaged"
- (13) PHOTO - Provide a digital image of each crash cushion linked to the data set and geo-referenced for location.
- (14) COLLECTION DATE – Date of crash cushion asset collection
- (15) EDIT DATE – Date asset was last edited
- (16) EDITOR – Username of last editor of record
- (17) COMMENT – Any additional notes
- (18) Datum epoch
- (19) Network accuracy
- (20) Contract ID number

STATEMENT OF WORK
CRASH CUSHIONS TYPE EXAMPLES



PRODUCT NAME ADIEM
MANUFACTURER VALTIR



PRODUCT NAME COMPRESSOR (TL-3)
MANUFACTURER Traffix Devices Inc.

STATEMENT OF WORK



PRODUCT NAME CrashGard CC-48 Sand Barrels
MANUFACTURER Capital Barricade Safety & Sign.



PRODUCT NAME ENERGITE III System
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME Fitch Barrels
MANUFACTURER Energy Absorption Systems Inc.



PRODUCT NAME N-E-A-T (NON-REDIRECTING ENERGY ABSORBING TERMINAL)
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME QUADGUARD Family (69 inch)
MANUFACTURER Energy Absorption Systems Inc.



PRODUCT NAME QUADGUARD Family (90")
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME QUADGUARD Elite (TL-2 and TL-3) 8-bay System
MANUFACTURER Energy Absorption Systems Inc.



Type I cartridge



Type II cartridge

PRODUCT NAME QUADGUARD (TL-2 and TL-3) 6-bay System
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME QuadGuard LMC
MANUFACTURER Energy Absorption Systems Inc.

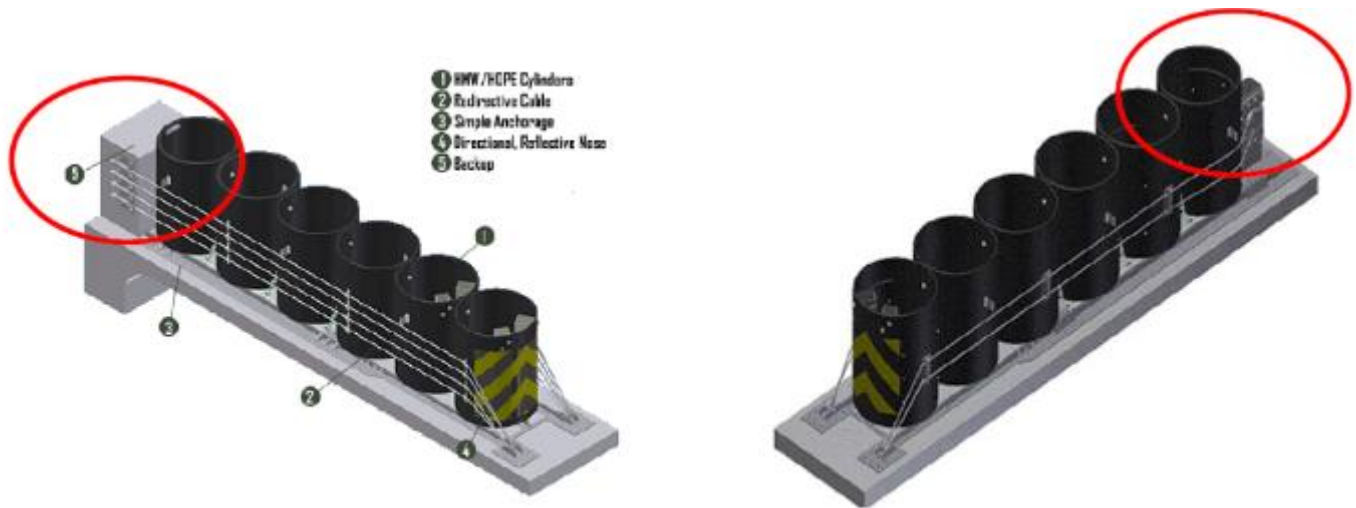


PRODUCT NAME QUEST CRASH CUSHION
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME REACT 350 WIDE (96" and 120")
MANUFACTURER Energy Absorption Systems Inc.



CCB COMPACT BACKSTOP

SCBS SELF CONTAINED BACKSTOP

PRODUCT NAME REACT 350 NARROW (CCB or SCBS)
MANUFACTURER Energy Absorption Systems Inc.

STATEMENT OF WORK



PRODUCT NAME SCI70GM/SCI100GM (70GM-TL2 and 100GM-TL3)
MANUFACTURER SCI Products, Inc.



PRODUCT NAME TAU II (Universal TAU-II and TAU II Wide)
MANUFACTURER Barrier Systems Inc.

STATEMENT OF WORK



PRODUCT NAME TAU II-R (Universal TAU-II-R and TAU II-R Wide)
MANUFACTURER Barrier Systems Inc.



PRODUCT NAME TRACC
MANUFACTURER Valtir

STATEMENT OF WORK



PRODUCT NAME TrafFix Barrels
MANUFACTURER TrafFix Devices Inc.

STATEMENT OF WORK**D.5 END TREATMENTS**

Locate end treatments in Caltrans ROW. The contractor shall deliver to Caltrans a database of all end treatments.

- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)

- (1) END TREATMENT ID UNIQUE IDENTIFIER-- Unique ID assigned to each end treatment in the database. Each end treatment must be assigned a different numeric identification
- (2) DISTRICT - Two-digit Caltrans District number denoting the location of the asset (see Table 1)
- (3) COUNTY - County abbreviation denoting the location of the asset (see Table 2)
- (4) ROUTE - Numeric route designation (see APPENDIX B)
- (5) DIRECTION - N, S, E, W.

The primary route direction is defined by the route increasing postmile value. The Route Direction attribute must always reflect the official route direction; for example, on a north-south route, it remains N or S even if the roadway temporarily shifts east or west.

- (6) HIGHWAY FACILITY TYPE - Type of highway facility the end treatment is referenced to (See Table 3)
- (7) LONGITUDE LOCATION – End treatment beginning location based on increasing postmile direction
- (8) LATITUDE LOCATION - End treatment beginning location based on increasing postmile direction
- (9) POSTMILE - based on increasing postmile direction
- (10) END TREATMENT TYPE – Type of end treatment installed at location (See below for Product Information)

- CAT-350
- *FLARED ENERGY ABSORBING TERMINAL, FLEAT 350 (WOOD/STEEL POST)*
- *FLARED ENERGY ABSORBING TERMINAL, FLEAT-MT (WOOD POST)*
- QUADTREND 350 SYSTEM
- *SEQUENTIAL KINKING TERMINAL, SKT-350 (WOOD POST)*
- *MASH SEQUENTIAL KINKING TERMINAL, MSKT-MGS (STEEL POST)*
- *SEQUENTIAL KINKING TERMINAL, SKT-MGS (WOOD POST or STEEL POST)*
- *SEQUENTIAL KINKING TERMINAL, SKT-SP-350 (STEEL POST)*
- *SLOTTED RAIL TERMINAL, SRT 27*

STATEMENT OF WORK

- *SLOTTED RAIL TERMINAL, SRT 31*
- *SLOTTED RAIL TERMINAL, SRT 350 (27" WOOD)*
- *SOFT STOP GUARDRAIL TERMINAL*
- *ET-2000*
- *ET PLUS 31*
- *X-TENSION INLINE – STEEL POST OR WOOD POST*
- *X-TENSION FLAREDL - WOOD POST OR STEEL POST*
- *X-TENSION GUARDRAIL TERMINAL (X-MAS) STEEL POST*
- *MAX TENTION TL-3 (STEEL POST)*
- *MODIFIED ECCENTRIC LOADER TERMINAL (MELT)*
- *END ANCHOR ASSEMBLY (SFT-M)*
- *END ANCHOR ASSEMBLY*
- *X-LITE END TREATMENT*

(11) RELATIVE POSITION-Location of the end treatment relative to the roadway

- a) Shoulder
- b) Median

(12) CONDITION - "Good", "Damaged"

(13) PHOTO - Provide a digital image of each end treatment linked to the data set and geo-referenced for location.

(14) COLLECTION DATE – Date of barrier asset collection

(15) EDIT DATE – Date asset was last edited

(16) EDITOR – Username of last editor of record

(17) COMMENT – Any additional notes

(18) Datum epoch

(19) Network accuracy

(20) Contract ID number

Check the following websites for more references:

Caltrans Standard Plans, Standard Specifications

<https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

Traffic Safety Devices – New Products (Caltrans) Highway Safety Features

<https://dot.ca.gov/programs/safety-programs/safety-devices/new-products>

STATEMENT OF WORK
END TREATMENT TYPE EXAMPLES



PRODUCT NAME CAT-350
MANUFACTURER Valtir

Prominent Features:

- 27" Guardrail Only
- Parallel Installation
- Double Faced Guardrail
- 6-Steel Tube Foundations
- 2 -Anchorage Cables

STATEMENT OF WORK



PRODUCT NAME Flared Energy Absorbing Terminal, FLEAT 350
MANUFACTURER Roads Systems, Inc (RSI)

UNIQUE FEATURES:

- 27" & 31" Guardrail
- Steel & Wood Option
- Flared Treatment
- Rectangular Head
- Rail Extrudes Towards Traffic Lanes
- Dual Struts on Head Unit

STATEMENT OF WORK



PRODUCT NAME	Flared Energy Absorbing Terminal, FLEAT-MT (Wood Post)
MANUFACTURER	Roads Systems, Inc (RSI)

STATEMENT OF WORK



PRODUCT NAME QuadTrend 350 System
MANUFACTURER Valtir

STATEMENT OF WORK



PRODUCT NAME Sequential Kinking Terminal, SKT-350 (Wood Post)
MANUFACTURER Roads Systems, Inc (RSI)



PRODUCT NAME MASH Sequential Kinking Terminal, MSKT-MGS (Steel Post)
MANUFACTURER Roads Systems, Inc (RSI)

STATEMENT OF WORK



PRODUCT NAME Sequential Kinking Terminal, SKT-SP-350 (Steel Post)
MANUFACTURER Roads Systems, Inc (RSI)

UNIQUE FEATURES:

- Slotted anchor rail
- Square Impact head
- Bolted hinged posts
- Steel line posts
- Anchor bracket and cable assembly

STATEMENT OF WORK



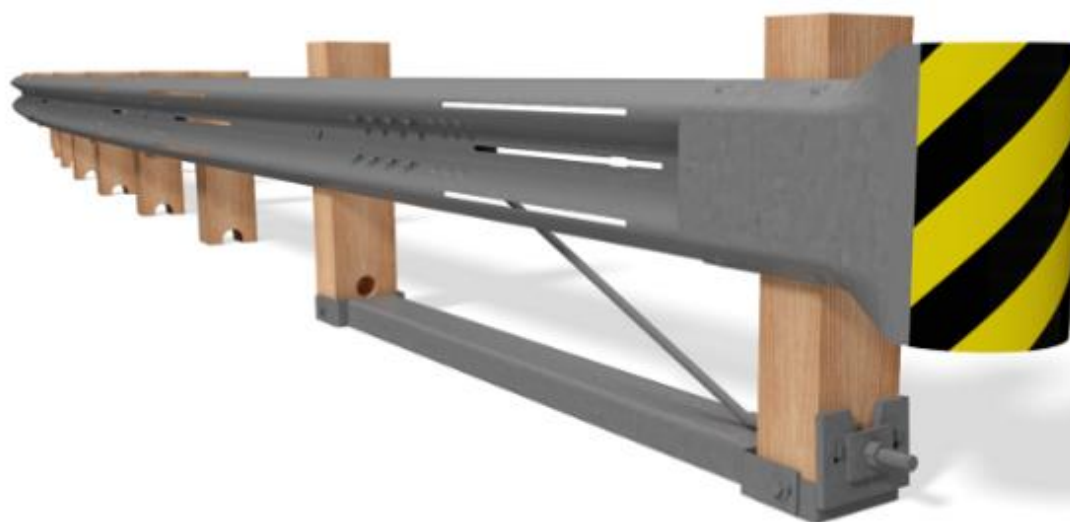
PRODUCT NAME Slotted Rail Terminal, SRT 27 (27" High) - Wood & Steel Options
MANUFACTURER Valtir



PRODUCT NAME Slotted Rail Terminal, SRT 31 (31" High) - Wood & Steel Options
MANUFACTURER Valtir

Unique Feature: Slotted Rail Product, Wood & Steel Options

STATEMENT OF WORK



PRODUCT NAME Slotted Rail Terminal, SRT 350
MANUFACTURER Valtir

NOTE: The Slotted Rail Terminal (SRT-350®) is a gating, flared-end terminal and is available in a 6-Post and 8-Post system. The SRT-350® HBA® 6-Post system has 2 steel breakaway posts, 4 wood CRT posts, and is assembled in a straight-line flare.

STATEMENT OF WORK



PRODUCT NAME	SOFT STOP Guardrail Terminal (8" block & 12" block)
MANUFACTURER	Valtir

STATEMENT OF WORK

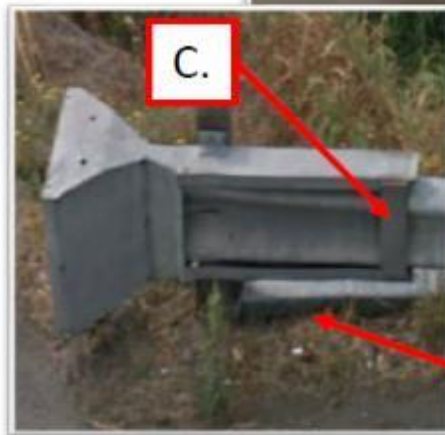


PRODUCT NAME ET-2000
MANUFACTURER Trinity Industries Inc

Unique Features:

- A. Square Head
- B. C-Chanel Post
Strut
- C. Single Strut on
Extrusion Head

ET-2000



B.

STATEMENT OF WORK



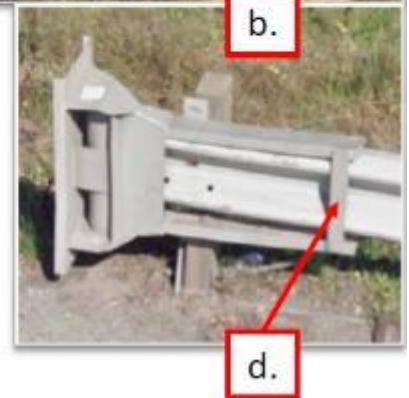
PRODUCT NAME ET PLUS
MANUFACTURER Trinity Industries Inc

ET-Plus Unique Features:

- a) Rectangular Head
- b) Flanges on Both Sides of Head Only
- c) Single Angle Strut
- d) Single Strut on Extrusion Head



ET-Plus



STATEMENT OF WORK



PRODUCT NAME X-TENSION Inline – Steel Post or Wood Post
MANUFACTURER Barrier Systems Inc.



PRODUCT NAME X-TENSION Flared – Steel Post or Wood Post
MANUFACTURER Barrier Systems Inc.

Lindsay Transportation Solutions/Barrier Systems

27" & 31" Guardrail
Flared & Parallel Installations
Steel & Wood Posts

UNIQUE FEATURE:

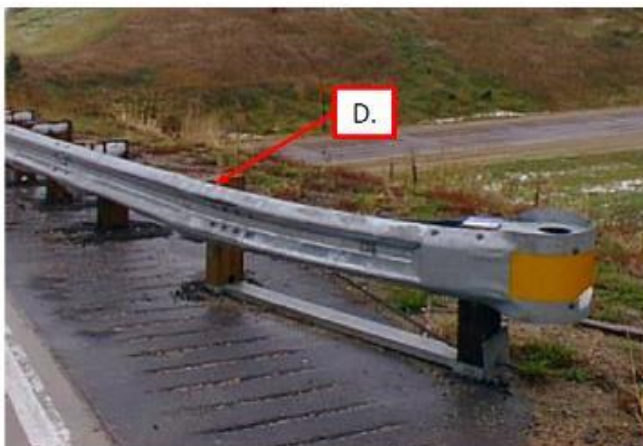
- Direct Mounted Head
- Forward Anchorage
- Slider Bracket
- Dual Tension Cables

STATEMENT OF WORK

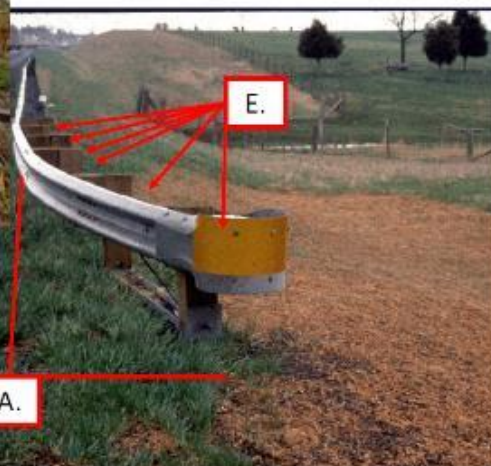


PRODUCT NAME X-TENSION Guardrail Terminal (X-MAS) Steel Post with Plastic Block Post OR Wood Post
 MANUFACTURER Barrier Systems Inc.

Modified Eccentric Loader Terminal (MELT)



(Steel Post not used by FDOT)



- A. Flared Installation
- B. Diaphragm Plate
- C. Full Return Buffered End Section
- D. Offset Block at 2nd Post
- E. 6 – Wood CRT Posts

PRODUCT NAME Modified Eccentric Loader Terminal (MELT)
 MANUFACTURER Ingal Civil Products.

STATEMENT OF WORK



PRODUCT NAME Breakaway Cable Terminal (BCT Terminal)

STATEMENT OF WORK



PRODUCT NAME Type A Anchor

STATEMENT OF WORK



MAX-Tension TL-3, TL-2 & median end treatments (lindsay.com)

End Anchor Assembly (SFT-M)



STATEMENT OF WORK

End Anchor Assembly



E-LITE END TREATMENT



STATEMENT OF WORK

D.6 PEDESTRIAN FACILITIES

Identify the presence and location of all pedestrian facilities within Caltrans ROW.

- MINIMUM Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)

- (1) PEDESTRIAN ID– Unique ID assigned to each pedestrian facility in the database. Each pedestrian asset must be assigned a different numeric identification
- (2) DISTRICT - Two-digit Caltrans District number denoting the location of the asset (see Table 1)
- (3) COUNTY - County abbreviation denoting the location of the asset (see Table 2)
- (4) ROUTE - Numeric route designation (see APPENDIX B)
- (5) DIRECTION – N, S, E, W.

The primary route direction is defined by the route increasing postmile value. The Route Direction attribute must always reflect the official route direction; for example, on a north–south route, it remains N or S even if the roadway temporarily shifts east or west.

- (6) HIGHWAY FACILITY TYPE - Type of highway facility the pedestrian facilities are referenced to (See Table 3)
- (7) LONGITUDE BEGIN - Beginning of pedestrian facility based on increasing postmile direction. Continuous pedestrian assets (sidewalks) would require beginning and end longitude and latitude locations, whereas other pedestrian features are points and would require a single longitude and latitude location. The location of measurement for sidewalks is the edge furthest from vehicle lanes.
- (8) LATITUDE BEGIN - Beginning of pedestrian facility based on increasing postmile direction. Continuous pedestrian assets (sidewalks) would require beginning and end longitude and latitude locations, whereas other pedestrian features are points and would require a single longitude and latitude location. The location of measurement for sidewalks is the edge furthest from vehicle lanes.
- (9) LONGITUDE END – End of pedestrian facility based on increasing postmile direction
- (10) LATITUDE END – End of pedestrian facility based on increasing postmile direction
- (11) POSTMILE BEGIN – Begin of pedestrian facility based on increasing postmile direction
- (12) POSTMILE END – End of pedestrian facility based on increasing postmile direction
- (13) PEDESTRIAN FACILITY TYPE – Type of pedestrian facilities installed at location (See below)
 - *Crossing Islands*
 - *High Visibility Crosswalks*
 - *Standard Crosswalks*
 - *Curb Extensions*

STATEMENT OF WORK

- *Sidewalks*
 - *Pedestrian Activated Traffic Control Devices*
 - *Rectangular Rapid Flash Beacons (RRFB)*
 - *Pedestrian Hybrid Beacons*
- (14) COLOR TREATMENT – Field that indicates if there is a colorized treatment associated with a pedestrian facility (applies to crossings only - yellow for school crossings [CVC 21368]) as part of the asset.
- (15) RELATIVE POSITION – Location of the pedestrian asset relative to the roadway
- (a) Shoulder
 - (b) Median
 - (c) Crossing
- (16) PHOTO – Provide a digital image of each pedestrian asset linked to the data set and geo-referenced for location. For continuous assets (sidewalks), photos should be taken at 50' intervals.
- (17) COLLECTION DATE – Date of pedestrian asset collection
- (18) EDIT DATE – Date asset was last edited
- (19) EDITOR – Username of last editor of record
- (20) COMMENT – Any additional notes
- (21) Datum epoch
- (22) Network accuracy
- (23) Contract ID number

STATEMENT OF WORK

PEDESTRIAN FACILITIES TYPE EXAMPLES

1) Crossing Islands

Pedestrian crossing islands are raised concrete structures located in the center of a street, either at intersections or midblock, to protect pedestrians crossing the roadway. A crosswalk may pass through the island, dividing it into sections (as shown in the photos below); however, for the contract, it should be considered as one asset.



STATEMENT OF WORK**2) Crosswalks (High Visibility)**

The 2009 MUTCD allows for two basic types of crosswalk designs - traditional parallel lines, or a high-visibility crosswalk pattern, such as a ladder, continental design, or diagonal marking. The graphic below shows the four most common types of high-visibility crosswalks that may be present on the state highway.

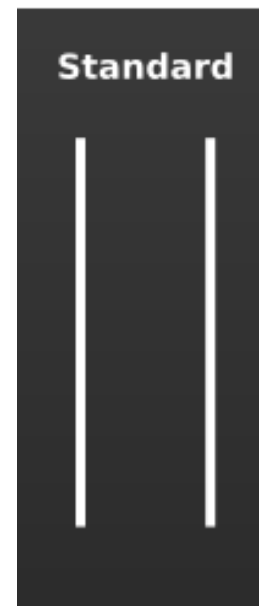


STATEMENT OF WORK

The graphic above shows four of the most common types of high-visibility crosswalks.

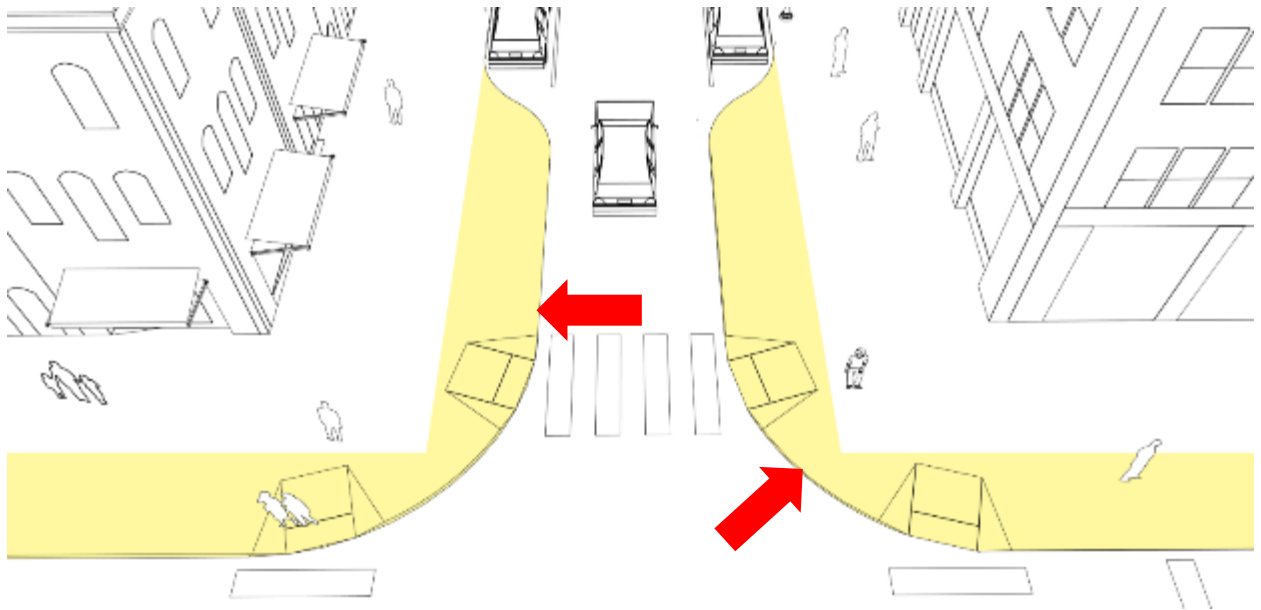
STATEMENT OF WORK**3) Crosswalks (Standard)**

Standard crosswalks consist of solid white transverse lines marking both edges of the crosswalk. This is the most common type of crosswalk striping seen on the state highway system.



STATEMENT OF WORK**4) Curb Extensions (“Bulb-Outs”)**

Curb extensions, also known as “bulb-outs”, extend the sidewalk or curb line out into the parking lane, which reduces street width and shortens crossing distance for pedestrians. Bulb-outs are most commonly seen at intersections and midblock crossings and may include landscaping and other features.



STATEMENT OF WORK

5) Sidewalks



STATEMENT OF WORK

6) Pedestrian Activated Control Devices

Rectangular Rapid Flashing Beacon (RRFB)/ Pedestrian hybrid beacon



STATEMENT OF WORK



STATEMENT OF WORK**D.7 BICYCLE FACILITIES**

Identify the presence and location of all bicycle facilities within Caltrans ROW.

- Minimum Deliverable Fields and Attributes (Reference Data Dictionary, APPENDIX C)

- (1) BICYCLE ASSET ID UNIQUE IDENTIFIER - Unique ID assigned to each bicycle facility in the database. Each bicycle asset must be assigned a different numeric identification
- (2) DISTRICT - Two-digit Caltrans District number denoting the location of the asset (see Table 1)
- (3) COUNTY - County abbreviation denoting the location of the asset (see Table 2)
- (4) ROUTE - Numeric route designation (see APPENDIX B)
- (5) DIRECTION – N, S, E, W.

The primary route direction is defined by the route increasing postmile value. The Route Direction attribute must always reflect the official route direction; for example, on a north–south route, it remains N or S even if the roadway temporarily shifts east or west

- (6) HIGHWAY FACILITY TYPE - Type of highway facility the bicycle facility is referenced to (See Table 3)
- (7) LONGITUDE BEGIN - Beginning of bicycle facility based on increasing postmile direction. Continuous bicycle assets (bikeways) would require beginning and end longitude and latitude locations, whereas other bicycle features are points and would require a single longitude and latitude location.
- (8) LATITUDE BEGIN - Beginning of bicycle facility based on increasing postmile direction. Continuous bicycle assets (bikeways) would require beginning and end longitude and latitude locations, whereas other bicycle features are points and would require a single longitude and latitude location
- (9) LONGITUDE END – End of bicycle facility based on increasing postmile direction
- (10) LATITUDE END – End of bicycle facility based on increasing postmile direction
- (11) POSTMILE BEGIN – Begin of bicycle facility based on increasing postmile direction
- (12) POSTMILE END – End of bicycle facility based on increasing postmile direction
- (13) BICYCLE FACILITY TYPE – Type of Bicycle facility installed at location (See below)
 - *Bicycle Boxes*
 - *Class II Bikeway (Non-Buffered Conventional)*
 - *Class II Bikeway (Buffered)*
 - *Shared-Lane Markings*
 - *Conflict Zone Green Paint*
 - *Class I Bikeway (only collect if detectable from roadway. See examples below)*

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- *Class IV Bikeway*

- (14) COLOR TREATMENT – Field that indicates if there is a colorized treatment associated with as part of the asset. Green paint is the only approved treatment for use with bicycle facilities.
- (15) PHOTO – Provide a digital image of each bicycle asset linked to the data set and geo-referenced for location. For continuous assets (bikeways), photos should be taken at 50' intervals.
- (16) COLLECTION DATE – Date of bicycle asset collection
- (17) EDIT DATE – Date asset was last edited
- (18) EDITOR – Username of last editor of record
- (19) COMMENT – Any additional notes
- (20) Datum epoch
- (21) Network accuracy
- (22) Contract ID number

STATEMENT OF WORK**BICYCLE FACILITIES TYPE EXAMPLES****1) Bicycle Boxes**

The intersection bicycle box is a designated area on the approach to a signalized intersection, between an advance stop line and the intersection stop line, intended to provide bicycles a space in which to wait in front of stopped motor vehicles during the red signal phase so that they are more visible to motorists at the start of the green signal phase. Green- colored pavement may be used within a bicycle box and approach bicycle lane, where one is provided.



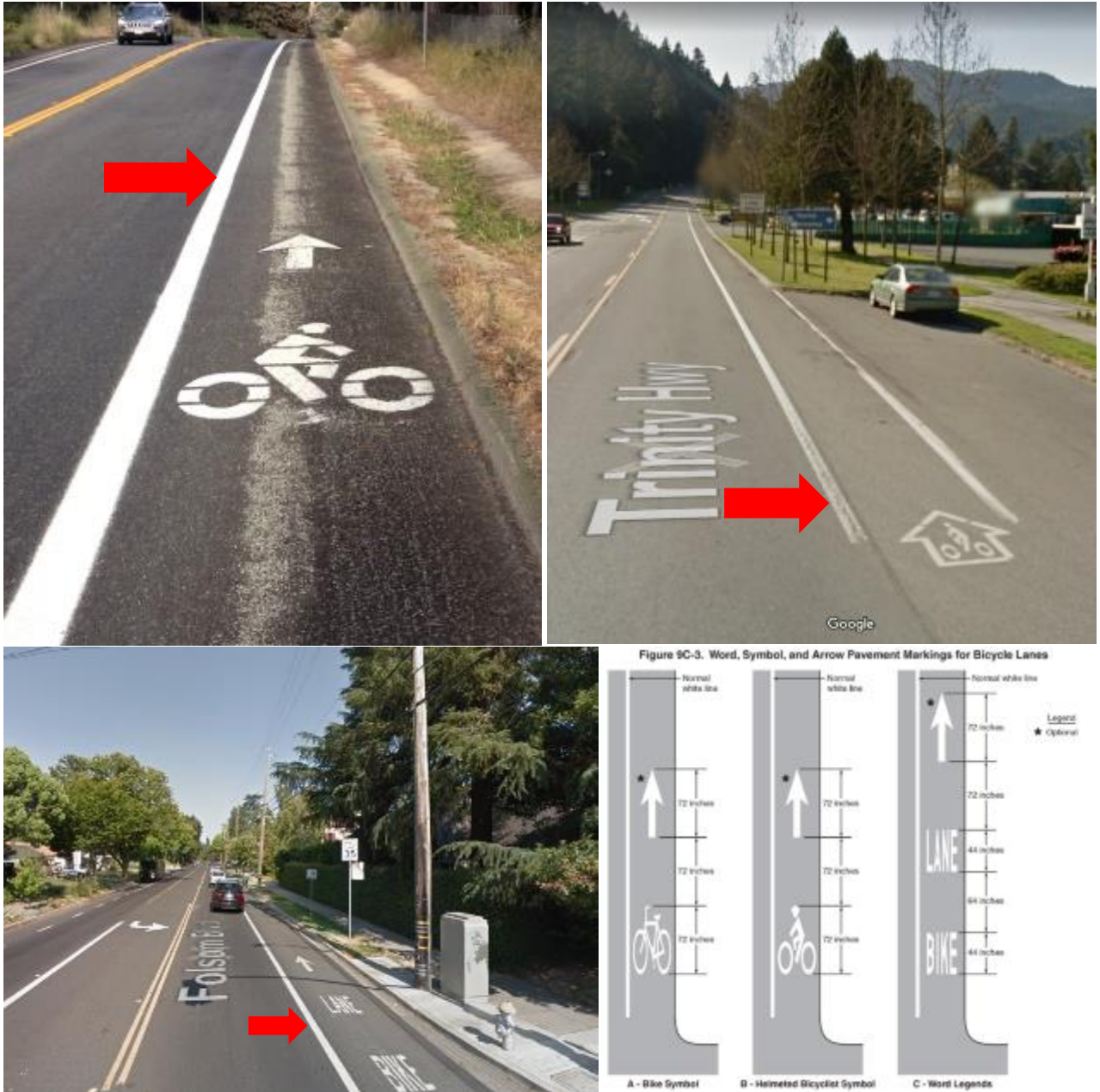
STATEMENT OF WORK



STATEMENT OF WORK

2) Class II Bikeway (Non-Buffered Conventional)

Non-buffered Class II bikeways are delineated from the roadway by a single white longitudinal pavement marking, typically accompanied by a bicycle symbol or "Bicycle Lane" text placed at the start of the lane and repeated at regular intervals. Refer to the figure below for the appropriate bicycle lane markings per the 2009 CA MUTCD.



STATEMENT OF WORK**3) Class II Bikeway (Buffered)**

Buffered Class II bikeways are similar to non-buffered Class II bikeways, with the exception that they include a painted 2-4 ft buffer that provides further separation from the roadway for bicyclists. A buffer may consist of horizontal hashed lines or colorized pavement treatment (as seen below).



STATEMENT OF WORK**4) Shared-Lane Markings (“Sharrows”)**

Shared-lane markings are typically seen alone and within the roadway to indicate a lane is shared by both vehicles as well as bicycles. Shared lane marking specifications as per the 2009 CA MUTCD are shown in the graphic below.



STATEMENT OF WORK**5) Conflict Zone Green Paint (can be used with Class II or Class IV bikeways)**

Conflict Zone Green Paint is dashed green paint, typically used to denote a continuation of a bikeway (Class II or Class IV) through an intersection, driveway, at an on/off ramp, or any place where vehicle-bicycle interactions may occur. For this contract, the beginning through the end of the dashed green paint should be counted as one asset, rather than counting each single dash.



STATEMENT OF WORK**6) Class I Bikeway**

Class I bikeways are separated from the roadway, usually by a gate or fence, but still within the Caltrans R/W. Class I facilities should only be collected to the extent that they are detectable from within the roadway. Many Class I facilities are not immediately adjacent to the roadway or will be partially obstructed from view when driving the main line.



STATEMENT OF WORK**7) Class IV Bikeway**

A Class IV Bikeway (separated bikeway) is a bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking. Class IV bikeways may vary dramatically depending on context, location, and the type of separation used. The photos below are some potential examples; however, several additional varieties are likely present on the state highway system.



Landscape Protected



Raised curb and bollard protected



Planter and curb protected



Parking Protected

STATEMENT OF WORK

Bollard protected



Bollard Protected

E. TRAINING AND TECHNICAL SUPPORT

- a) Provide two (2) in-person training sessions for HQ staff on the use of the web-based interface. The first session will be upon delivery of the first data set (initial 3%). Provide two (2) in-person training sessions for each District upon completion of district data collection.
- b) Provide technical support throughout the contract.
- c) The Consultant (or other third-party) is to host the web-based interface and:
 - 1. Provide details of level-of-service guarantees, including service availability (uptime), response times, backup, and restoration plans.
 - 2. Web-based interface must support up to 50 users concurrently
 - 3. Provide details of 3 years of cloud hosting for the duration of the contract period, including maintenance and all available upgrades.
 - 4. Provide the ability to restore data in case of data loss or corruption.
- d) Caltrans will not pay any additional amount above or beyond the bid amount for the setup, installation, and/or implementation of the web-based interface.

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2. KEY CONCEPTS AND NOMENCLATURE

2.1. Reference System Information

A published Geodetic Datum and applicable California Coordinate System (CCS) parameters shall be used to facilitate proper data sharing and exchange. The horizontal reference frame, realization, epoch date, applicable (CCS) zone (1-6), vertical datum, and horizontal/vertical accuracy shall all be included in the metadata of all deliverables. If approved by Caltrans in advance, the Contractor may utilize an updated horizontal and/or vertical National Geodetic Survey (NGS) Datum.

A. Horizontal Reference Frame

1. All horizontal positions will be referenced to the North American Datum of 1983 (NAD83) realization of 2011, epoch 2010.00.

B. Vertical Datum

1. All orthometric heights (elevations) will be based upon the North American Vertical Datum of 1988 (NAVD88) employing the most recently available National Geodetic Survey (NGS) hybrid geoid model.

C. Units

1. All linear data will be collected in meters and converted to units designated in the data dictionary for each asset (see APPENDIX C)
2. Latitudes and longitudes will be collected in decimal degrees with sufficient significant figures to meet the requirements of this SOW

2.2. Linear Referencing System (LRS)

Where Assets are required to be addressed to the Caltrans Linear Referencing System (LRS), this will be accomplished by geocoding latitude and longitude data from the field collection against the Caltrans LRS. Caltrans may provide an optional LRS for georeferencing purposes.

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3. DATA COLLECTION AND ANALYSIS REQUIREMENTS

3.1. Right-of-Way Image Collection

The minimum resolution of the ROW image is 3000 pixels in the horizontal direction and 2000 pixels in the vertical direction. Reference Section 1.5 - A: STREET LEVEL IMAGERY

3.2. Data Reference and Synchronization

The linear referencing information shall be incorporated into the data files. Additionally, the geo-reference information (longitude, latitude, epoch, and elevation) shall be incorporated into selected types of raw data to provide some data redundancy and a means of Quality Assurance (QA). The collection of all data types must be synchronized with the geo-reference information.

Latitude and longitude measurements shall be recorded in degrees and decimal degrees with at least eight (8) decimal places and referenced to the NAD83 (2011) horizontal reference frame, Epoch 2010.00. The geo-referencing equipment shall be capable of collecting continuous positional data, even in areas of poor or intermittent satellite coverage. An Inertial Navigation Unit (INU) can be utilized to augment the Global Navigation Satellite System (GNSS) technology. The geo-reference information shall be collected with at least one (1) Meter accuracy horizontally at the 1 sigma level. The latest National Geodetic Survey (NGS) geoid model shall be used. Kinematic GPS for location correction is required.

3.3. Minimum Requirements for Functionality of the Web-Based Interface

The contractor shall provide a web-based interface required to query and view the accurate georeferenced spatial data, data collected, metadata files, analyzed data, and compiled files produced during the data collection and analysis of the raw data.

Templates can be found at:

<https://dot.ca.gov/programs/ctdata/guidance-and-template>

3.4. Web-Based Interface

A. FUNCTIONALITY AND REQUIREMENT

- a) Caltrans requires a web-based interface that will allow Caltrans personnel to view all collected data. The web-based interface should be updated weekly with the post-processed data. Post-processed data must be provided in a format compatible with Caltrans's current data systems. The requirements below are general, while more specific suggested requirements can be found in Section 3.3.
- b) Provide a solution that will allow Caltrans personnel to access the planimetric features collected.
- c) All collected features must be accessible via a mobile web-based interface, as well as a desktop web-based interface.

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- d) The web-based interface will run on the ESRI product suite (ArcGIS Pro, ArcGIS Enterprise, and ArcGIS Online) or be compatible and easily integrated with the ESRI product suite, that are the standard GIS software for Caltrans.
- e) Post-processed data and spatial database should be delivered in a format acceptable to Caltrans.
- f) Provide capability to export data to a field comma-delimited format.
- g) Lidar data files for each Lidar head unit must be able to be extracted/downloaded from cloud storage, bundled with a metadata document that includes Datum, CCS zone, epoch, network accuracy, and Contract ID number. All data created as part of this contract shall have no user fees, licensing requirements, or restrictions on use for Caltrans.

B. WEB-BASED INTERFACE FUNCTIONALITY (DESKTOP)

The web-based interface functionality should provide the following capabilities and functionality:

- Be accessible via multiple machines simultaneously.
- All collected data should be accessible through a web browser, and no additional software should need to be installed locally.
- Each asset should be depicted on a separate layer of a GIS map / Shape file. View assets by Route, County, District, PM, and attributes as per APPENDIX C.
- The system should be able to handle all different types of queries (based on the attributes) from the asset database
- Be capable of inputting updates to the asset inventory,
- Allow additional inventory assets to be added in the future, not restricted to the initial inventory items.
- Access historical asset data.
- Include upgrades to the web-based interface during the duration of the contract. Caltrans has the option to ask the contractor to move the project to the Caltrans Cloud.
- Provide an administrative and a security role for a read-only environment to prevent individuals from making edits to the data.
- Include the ability to export/import mass data in various formats such as Excel, geodatabase, or others.
- Ability to select all attributes and deselect all attributes in one click
- Ability to customize an exported report
- Ability to print a report or an image
- Ability to turn on/off all asset's layers or individual layer
- Each asset should contain its own color code
- Ability to link LON/LAT to Google Map/Google Earth

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4. QUALITY CONTROL PLAN

4.1. General

- A. Quality Control (QC) and Quality Assurance (QA)
- B. The Contractor shall provide a Quality Control and Quality Assurance plan to ensure that the mutually agreed performance criteria are met for the life of the contract and describe how the Contractor will identify and remediate any deficiencies, including response time.
- C. The Department shall review the Contractor's QC/QA plan to ensure that it meets guidelines and minimum requirements established by the Department. Department approval of the quality control plan shall constitute Department agreement that it meets these criteria. The Contractor shall maintain ownership of the QC/QA plan, be fully responsible for its execution, and maintain sole responsibility for the quality and accuracy of the work.
- D. The Contractor may secure the services of a qualified firm as a subcontractor to perform Quality Control (QC) testing and data verification services on the work to be performed for the life of the Contract. If a subcontractor performs QC, the QC/QA plan shall name the evaluation firm to be employed.

4.2. Equipment Calibration and Validation

The QC Plan shall include a Standard Operating Procedure (SOP) for commonly occurring events and tasks during data collection and processing including but not limited safety, GNSS mission planning (including solar activity) to start up calibration/ synchronization procedures and contingency plans used in the event of major mechanical or electronic repairs to data collection vehicles such as re-calibration activities.

Before collecting Mobile LiDAR data, all equipment in the Mobile LiDAR system shall be calibrated to the manufacturer's specifications and serviced according to the manufacturer's recommendations. Sensor alignment (bore sighting) procedures shall be performed before scanning if the sensor(s) have been disassembled for transport or service. The user should follow the manufacturer's recommended sensor alignment procedures. Submit all calibration records to the Project Manager for review and approval.

4.3. Consistent Caltrans ID

Caltrans needs to utilize a unique ID for assets that can be used for tracking changes (history) and linking of data sets. This allows us to link assets across different data collection cycles and identify asset changes that take place over time. Refer to the Sign ID example provided in Section D.1.

4.4. Accuracy and Completeness of Work

This section specifies the positional accuracy of data collected to depict the location of assets and attributes. The horizontal and vertical accuracy requirements help determine the type of data collection equipment and data collection methodology. The combined effect of the characteristics of the positioning equipment, data collection procedures, and post-processing

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supports a specific statement of accuracy. The asset network accuracy, and the asset dimension accuracy of assets in each District shall be tested and reported in ground distances at the 95% confidence level, per FGDC-STD-007.4-2002 and FGDC-STD-007.3-1998 Part 3. Accuracy reports shall include the date of field survey, control constraints, method of survey, and required certification statement signed by a California Professional Land Surveyor (or California Civil Engineer registered prior to January 1, 1982)

<https://www.fgdc.gov/standards/projects/accuracy/part4>

<https://www.fgdc.gov/standards/projects/accuracy/part3>

- Tested XX (meters) horizontal accuracy at 95% confidence level
 - Tested XX (meters) vertical accuracy at 95% confidence level
-
- a. The point cloud and assets must be collected at a level of accuracy that meets or exceeds the network accuracy of Caltrans. 1 meter Resource Grade accuracy, per Chapter 5 of the Caltrans Survey Manual, see Figure 5-1A. In addition, certain assets may require 1" or 2.5 cm relative accuracy per the contract.
 - b. The minimum point cloud density shall be 30 - 100 pts/m², per Table 1 of NCHRP Report 748.
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_748.pdf
 - c. Feature attributes (for example, height and width) must be able to be measured within +/- 1" or as specified elsewhere in this document.
 - d. Distance measurements must be accurate to the nearest 0.001 mile and referenced to a statewide odometer based on the beginning of the route. The image spacing must be 6 meters/19.7 feet or less.

The Consultant shall be responsible for providing Quality Control (QC) data delivery reports per the above FGDC standards, documenting the accuracy and completeness of the work, and shall promptly make all the necessary revisions or corrections resulting from errors and omissions on the part of the Consultant without additional compensation. Acceptance of the work by the Department will not relieve the Consultant of the responsibility for subsequent correction of any such errors and clarification of ambiguities.

4.5. Gap Report

The QC Plan must include an evaluation of the completeness of all designated center line-miles to be collected. The Contractor must estimate the number of centerline miles to be collected within each district before the beginning of work based on the Caltrans geodatabase and the estimated number of centerline miles. Any discrepancy between estimated and collected miles should be specified by district and route in a Gap Report to be delivered to Caltrans after each district collection and analysis. The Gap Report should also specify any location that was not collected due to road construction or any other specified reason. The Gap Report must also identify locations where there was an overlap in data collection. Any overlap in collection must be corrected before submittal of data to Caltrans.

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5. ACCEPTANCE CRITERIA

5.1. General

All data delivered to Caltrans by the Contractor will be subjected to a series of quality assurance (QA) and quality control (QC) reviews by Caltrans. Data will only be accepted by Caltrans if it meets all the acceptance criteria established in this Appendix A.

It is the responsibility of the Contractor to notify the Caltrans Contract Manager that the work is complete and ready for acceptance testing or review. Work is subject to inspection and approval by the Caltrans Contract Manager or his/her designee. The Caltrans Contract Manager shall have the final authority to determine whether the Contractor has fulfilled its duties and obligations under the Agreement, including whether all work products and deliverables have been provided and whether they meet all applicable contract requirements, including any acceptance criteria or testing standards. Approval of work constitutes approval for payment and not transference or termination of the Contractor's responsibility to perform work per the terms of the Agreement, and any work that needs correction shall be made at the Contractor's sole cost and expense and in a timely manner. Regardless of any prior inspections and acceptances of work during the term of this Agreement, all work is subject to final inspection and approval by the Caltrans Contract Manager or his/her designee.

Caltrans will review the data using either internal staff or contracted consultant resources. The Contractor will be notified of the results. The Contractor shall investigate data failing to meet the acceptance criteria at no cost to Caltrans. The Contractor must conduct the forensic investigation in a timely manner and report the results of the investigation. At a minimum, the forensic investigation report shall include the following components:

- Description of the non-compliance and/or errors in the data.
- Reasons/factors for the problems.
- Data that is affected by the same problems.
- Corrective measures, including but not limited to repair and/or recalibration of equipment.
- Debugging and/or recoding of the computer programs used for data collection and data analysis.
- Re-collection and/or re-analysis of the affected data.
- Corrective measures that the Contractor will employ to avoid similar problems in the future. Caltrans will perform quality assurance on the initial batches of data delivered

The analyzed data shall be submitted to Caltrans for review and re-evaluated in conjunction with the forensic investigation report.

Caltrans reserves the right to suspend new data collection and/or analysis until the resubmitted data meet all the acceptance criteria and the forensic analysis report is approved by the Caltrans Contract Manager.

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5.2. Image Quality

Caltrans will evaluate images per the requirements noted in Section A of this Appendix. No more than 10 images in a mile section or 2 consecutive images in a mile provided by the Contractor can be of inferior quality as specified in this Appendix. Images should be as described under Section 1.4 - A: STREET LEVEL IMAGERY. Caltrans reserves the right to reject any unsatisfactory collected images. Caltrans may require the Contractor to re-collect the images for affected sections of highway at no additional cost to Caltrans.

5.3. Rejection of Data and Termination Criteria

Caltrans reserves the right to reject any unsatisfactory collected data. The Asset Collection Survey data shall be accepted if it complies with Section 3 of this Appendix. If stopped, the Contract shall not resume until the Contractor provides satisfactory evidence that it can provide the required quality of data. Any corrections of the submitted data, including and up to the entire statewide data set, must be performed within fifteen (15) working days after the consultant is notified of these errors. The Contractor shall resurvey or re-analyze any rejected roadway sections at no extra cost to Caltrans. Caltrans shall have sole discretion to determine whether the data is acceptable.

Examples of unsatisfactory data include, but are not limited to, the following:

1. Incorrect asset identification.
2. Missing data, including dimension.
3. Data that are mislabeled or misnamed.
4. Corrupted electronic files, geo-reference.
5. Identification of the wrong type of safety devices
6. Images are not stitched or georeferenced correctly.
7. Data collected in conflict with the QC plan.

This contract may be stopped and ultimately terminated if Caltrans QA determines that the Contractor's data cannot satisfactorily meet the requirements of the SOW. For instance, if the Contractor fails to deliver acceptable re-analyzed data to Caltrans after a second attempt, the Contract Manager may terminate the Contract.

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6. DATA DELIVERY

6.1. Contract Data

The Contractor shall deliver complete data tables to Caltrans, organized by District. The analyzed data must also be delivered to Caltrans every two weeks and within fifteen (15) working days after the end of data collection, so that Caltrans can start its QA process to ensure a continuous flow of data for QA. All data tables will be reviewed and approved by the Project Manager.

The Caltrans Contract Manager will define the districts and may also specify the counties and routes for data collection and analysis. The Contractor may, at their discretion, collect data on routes that cross district or county boundaries, or at other locations as needed.

The Contractor, however, will only be paid for a complete district that meets all reporting requirements as established in this contract document. The data shall consist of raw data elements and aggregated data in the format described in APPENDIX C.

6.2. Data Format

A. FILE NAMING AND MANAGEMENT

All file types produced under the Asset Collection Survey contract must adhere to a consistent naming convention, which must be approved by the Caltrans Contract Manager. Depending on the naming convention proposed by the Contractor, file names may include linear reference information. The file names and file directory structures must be compatible with the data viewing/analysis software provided by the Contractor. The data elements and data segments naming convention must follow APPENDIX C.

B. DATA DELIVERY SCHEDULE

Completion of data delivery is defined as the Contractor's completion of data collection, extraction, analysis, and final delivery. The data will be considered complete only upon acceptance by the Caltrans Contract Manager.

All deliverables must be submitted to the Caltrans Contract Manager per the approved Work Plan (see Section 7). If data needs to be reanalyzed at any time, the Contractor shall do it at no cost to Caltrans.

The Contractor shall collect data per the geodatabase provided by Caltrans. The geodatabase will define the boundaries and lengths of roadway segments to be included in the data collection.

C. DATA DELIVERY PLAN

The Contractor shall prepare a Data Delivery Plan addressing the following issues in detail:

- File naming conventions and file directory structure conventions.
- Proposed file formats for raw profile data.
- Method of embedding linear reference information in image files and raw profile data. The submittal deadline and approval requirements for the Data Delivery

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Plan shall be the same as those specified for the Work Plan.

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7. WORK PLAN

7.1. General

The Contractor shall develop a complete and detailed Work Plan for each district collection. The Work Plan must include a detailed description of well-identified milestones, such as the completion of a district survey, the activities considered necessary to achieve those milestones, and all deliverables described in this Appendix.

The Work Plan must provide a thorough description of the Contractor's staffing and equipment, which must be adhered to throughout the contract.

The Work Plan shall describe in detail the Contractor's approach for planning, monitoring, submitting, and implementing the activities specified herein. The Work Plan shall also identify the duration and schedule for completion of each task.

7.2. Personnel

The Work Plan shall include a list of all personnel assigned to the project. For each individual, provide their title, qualifications, summary of similar work or studies performed, resume, the percentage of time to be dedicated to the project, and a description of the tasks to be performed. The Contractor shall not substitute members of the project team without prior written approval of Caltrans. The positions below may be combined if an individual possesses the qualifications.

Project Manager: This individual shall be in responsible charge of the work, shall ensure Contractor's safety procedures meet or exceed Caltrans safety standards, especially for work performed on or near the traveled way, and shall review all measured and calculated data before submission to Caltrans. The project manager must have a working knowledge of asset collection related to roadway safety and an ability to recognize the various types of assets.

Database Manager: This individual shall lead the data handling and database management for this contract. The individual is expected to be familiar with the data processing software and hardware used for data collection, processing, and storage. This individual shall be proficient in database information retrieval and data report formatting, and shall have demonstrated experience and knowledge of current computer equipment, distributed network hardware, database systems, and supporting software.

Professional Land Surveyor: A California Professional Land Surveyor (or California Civil Engineer registered before January 1, 1982) shall lead the contracting, performance, validation, certification, and delivery of the applicable products and services being provided under this contract.

7.3. Equipment

The Work Plan shall list all equipment that will be used on the project, including:

- Manufacturer Name of the Equipment Used in this contract
- Manufacturer Address City, State, Zip Code
- Brief Description of Equipment
- Equipment Certification and Calibration Dates

If any equipment is changed during data collection, the Contractor shall notify Caltrans of the change. The replacement equipment shall be certified by the manufacturer prior to use for data collection.

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8. CONTRACTOR REPORTING REQUIREMENTS

8.1. Data Report

A. WEEKLY REPORT

The weekly report shall detail the progress and status of work completed in each of the districts and must have the following information-

- Center Line-miles estimated
- Center Line-miles collected
- Center Line-miles extracted
- Center Line-miles delivered
- Percentage of collection complete

Lane-mile data is not acceptable.

The weekly progress reports shall have the status of data collection, extraction, and delivery. It shall also include the total assets collected and the breakdown of each asset by condition. The Consultant shall submit to Caltrans the locations where vegetation overgrowth or other line-of-sight or obstructions may exist in the weekly report.

For pedestrian and bicycle facilities, a summary of the total assets collected will suffice, as this contract does not require condition determination of the pedestrian and bicycle facilities.

The status shall be provided for the overall project as well as for each District.

Each progress report must also document any issues encountered. A weekly log is required even if no work was performed that week. In addition, the Contractor must include a brief plan outlining the routes scheduled for data collection, extraction, and delivery.

All weekly reports must also include an updated project schedule as specified in the Work Plan (Section 7).

The Contractor must also submit a complete District Report at the end of the collection and analysis for each district.

B. Weekly Meetings

A weekly online meeting will be held with the Caltrans QC team. The weekly report shall be submitted before the weekly meeting.

8.2. Point Cloud - Hosting the Data

The Contractor must host all Point Cloud data collected on a cloud storage system for a three-year period. All collected and analyzed data shall be accessible 24 hours a day during the contract period, have a minimum data transfer rate of 10 Mbps, and be password-protected and free of malware. The consultant must provide access to this data until it has been relinquished to Caltrans. All data must be stored in LAZ or LAS files with the prescribed format in Section 1

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of this APPENDIX. Data folders must be organized by District number and applicable state plane zone(s).

Analyzed data must be available within fifteen (15) working days of data acceptance by Caltrans. The alternative data storage site must not be located at the primary data storage location.

All drives are to be delivered no more than fifteen (15) working days after the data acceptance by Caltrans. Caltrans will review the submitted data for accuracy and completeness. Any discrepancies shall be remedied by the Contractor before payment, and at no cost to Caltrans.

8.3. Ownership of Extracted Asset/Inventory Data

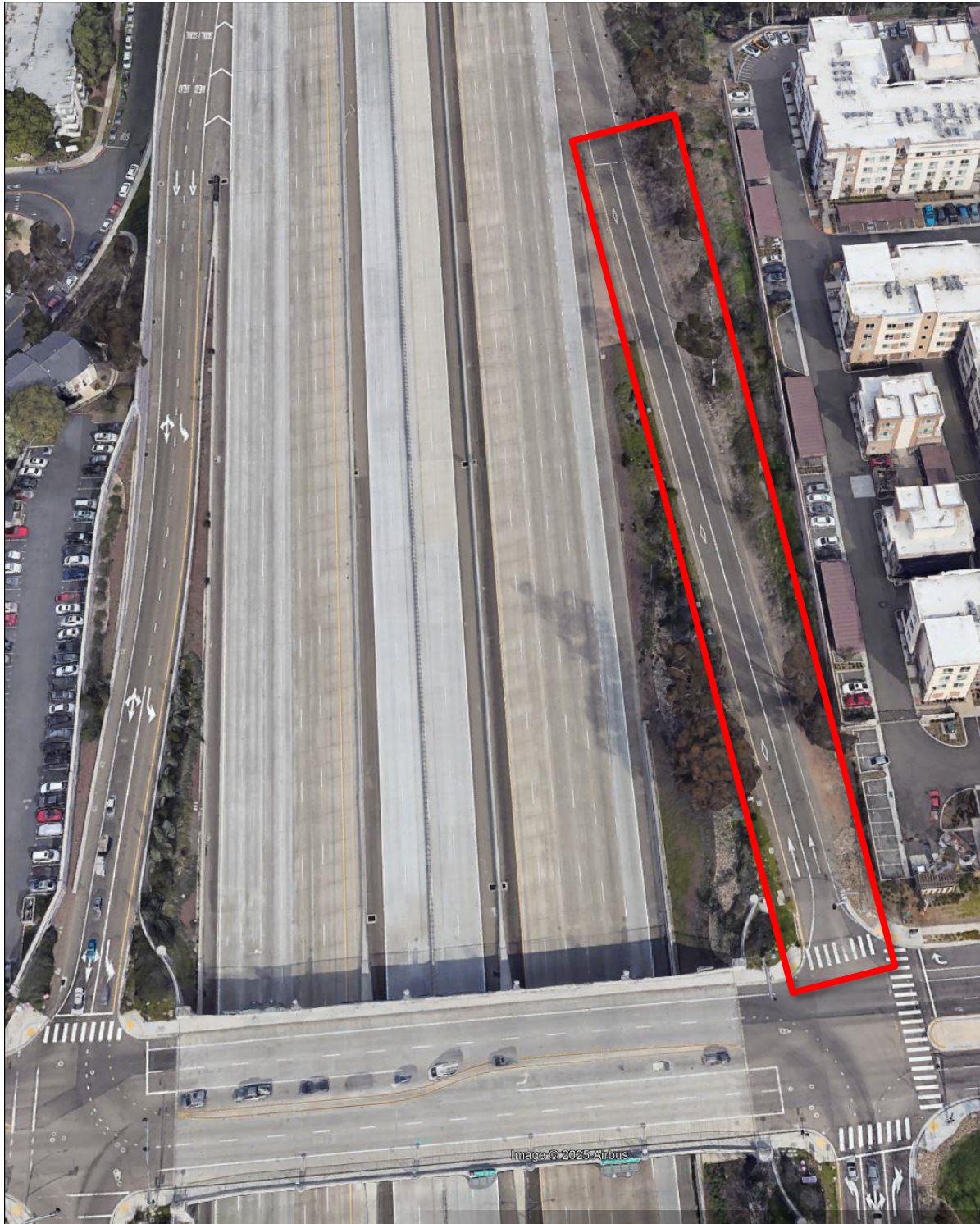
All assets inventory, point cloud, image files, and stored data become and remain forever the property of Caltrans. Upon termination of the contract for any reason, all road data extracted by the Contractor under the contract must be returned to Caltrans.

A complete set of all asset inventory will be provided to Caltrans on a portable external hard drive with a USB-3 connection. The data sets will include:

- The most recent extraction cycle
- All Extraction cycles, including the most recent (integrated)
- The above will include images, GIS maps, reports, and data files

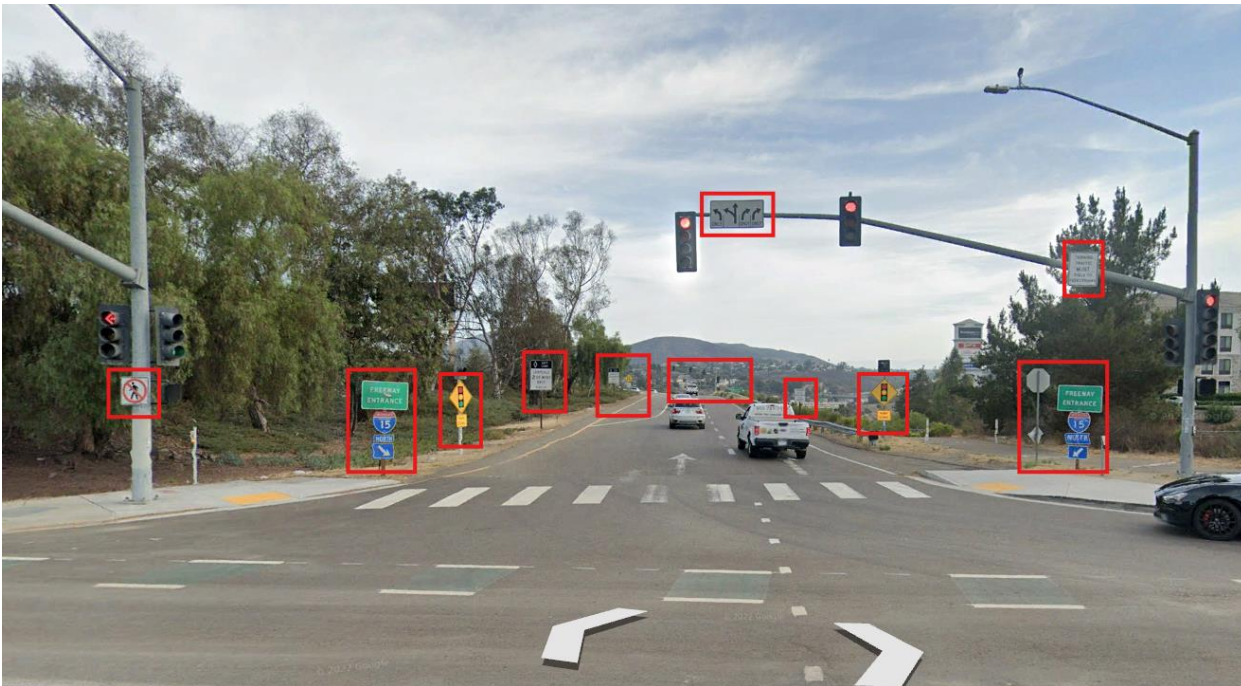
STATEMENT OF WORK
FIGURE A

ON RAMP



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SIGNS ASSET TO BE COLLECTED FOR ON-RAMP



STATEMENT OF WORK

OFF RAMP



STATEMENT OF WORK

SIGNS ASSET TO BE COLLECTED FOR OFF-RAMP



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FIGURE B: DIRECTION OF TRAVEL



STATEMENT OF WORK

APPENDIX B – DISTRICTS CENTER LINE MILES

STATEMENT OF WORK

APPENDIX B – DISTRICTS CENTER LINE MILES

DISTRICT 1 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
1	103	0	103
20	93	0	93
29	51	6	45
36	46	0	46
53	7	0	7
96	44	0	44
101	287	40	247
101U	3	0	3
128	51	0	51
162	34	0	34
169	24	0	24
175	37	0	37
197	7	0	7
199	36	0	36
200	3	0	3
211	6	0	6
222	2	0	2
253	17	0	17
254	32	0	32
255	9	0	9
271	15	0	15
281	3	0	3
283	0	0	0
299	42	4	38
GRAND TOTAL	951	51	900

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

STATEMENT OF WORK

DISTRICT 2 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
3	146	0	146
5	190	56	134
32	25	0	25
36	203	0	203
44	107	7	101
49	7	0	7
70	100	0	100
89	124	0	124
96	102	0	102
97	54	0	54
99	25	0	25
139	122	0	122
147	12	0	12
151	7	7	0
161	19	0	19
172	9	0	9
263	8	0	8
265	1	0	1
273	17	17	0
284	8	0	8
299	262	7	255
395	200	0	200
GRAND TOTAL	1748	93	1654

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

STATEMENT OF WORK

DISTRICT 3 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
5	127	37	90
12	6	0	6
16	70	4	66
20	122	15	107
28	11	0	11
32	52	12	39
45	70	0	70
49	153	1	151
50	110	52	57
51	9	9	0
65	30	12	18
70	82	14	68
80	152	68	84
84	16	0	16
89	87	0	87
99	117	45	72
104	18	0	18
113	38	9	29
128	10	0	10
149	5	0	5
153	1	0	1
160	48	5	44
162	78	0	78
174	13	0	13
191	11	0	11
193	36	1	34
220	3	0	3
244	1	1	0
267	12	0	12
275	0	0	0
395	6	0	6
505	22	1	22
GRAND TOTAL	1517	287	1230

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

STATEMENT OF WORK

DISTRICT 4 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
1	162	20	142
4	49	40	9
9	11	6	6
12	63	25	38
13	10	10	0
17	14	14	0
24	14	14	0
25	3	1	2
29	54	21	34
35	46	18	27
37	22	9	13
61	7	7	0
77	0	0	0
80	75	65	10
82	42	42	0
84	71	35	36
85	24	24	0
87	9	9	0
92	26	19	7
101	176	156	20
109	1	1	0
112	2	2	0
113	23	0	22
114	1	1	0
116	46	13	33
121	33	7	26
123	7	7	0
128	61	1	60
130	20	3	16
131	4	4	0
152	35	8	27
156	1	0	1
160	3	3	0
185	7	7	0
205	1	0	1
220	3	0	3

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221	3	3	0
237	12	12	0
238	10	10	0
242	3	3	0
260	2	2	0
262	1	1	0
280	60	58	2
380	2	2	0
505	11	4	7
580	67	50	17
680	73	64	9
780	8	8	0
880	48	48	0
880S	3	3	0
980	2	2	0
GRAND TOTAL	1431	863	568

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

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DISTRICT 5 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
1	265	78	186
9	27	16	11
17	13	8	5
25	72	0	72
33	13	0	13
35	7	1	6
41	47	8	39
46	53	7	46
58	57	2	55
68	22	22	0
101	270	114	156
129	14	5	9
135	21	10	12
144	1	1	0
146	11	0	11
150	2	1	1
152	11	9	2
154	33	3	30
156	24	6	18
166	71	3	69
183	10	5	5
192	21	21	0
198	26	0	26
217	2	2	0
218	3	3	0
225	0	0	0
227	9	3	6
229	9	0	9
236	17	4	13
246	26	2	24
GRAND TOTAL	1158	332	826

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

STATEMENT OF WORK

DISTRICT 10 - ESTIMATED CENTER LINE MILES (CLM)

ROUTE	TOTAL CLM	URBAN CLM	RURAL CLM
4	144	10	134
5	111	21	90
12	46	6	40
16	9	0	9
26	62	3	59
33	55	0	55
49	124	0	124
59	34	6	29
88	122	2	120
89	24	0	24
99	101	83	18
104	10	0	10
108	84	16	68
120	101	13	88
124	10	0	10
132	76	8	67
140	101	8	94
152	43	0	43
165	38	1	38
205	13	7	6
207	1	0	1
219	5	5	0
580	16	0	16
GRAND TOTAL	1331	188	1143

ROUTE SUFFIX:

S = Supplemental Routes

U = Unrelinquished Routes

STATEMENT OF WORK

APPENDIX C – DATA DICTIONARY REQUIREMENTS

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APPENDIX C – SIGN ASSEMBLY

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
SIGN	SIGN_ID	Unique ID assigned to each sign in the database	1234567890	INTEGER	10		9999999999	NULL
SIGN	LONGITUDE	Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
SIGN	LATITUDE	Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
SIGN	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
SIGN	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
SIGN	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE TABLE 1	NULL
SIGN	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
SIGN	CA_MUTCD_CODE	CA MUTCD designation or custom designation for specialized signs		VARCHAR				
SIGN	CA_MUTCD_DESC	Sign description per CA MUTCD/MUTCD		VARCHAR				
SIGN	SIGN_LEGEND	Text displayed on the sign	DO NOT ENTER	VARCHAR	255		ALL	NULL
SIGN	SIGN_PANEL_SIZE_L	Horizontal dimension of the sign panel in inches	110	INTEGER	3		999	INCHES
SIGN	SIGN_PANEL_SIZE_D	Vertical dimension of the sign panel in inches	96	INTEGER	3		999	INCHES
SIGN	SIGN_MOUNTING_HEIGHT	Vertical distance from the bottom of the sign panel to the pavement	256	INTEGER	4		9999	INCHES
SIGN	PANEL_TYPE	Type of sign panel (Overhead formed, overhead laminated, or Roadside sign)	OVERHEAD FORMED	VARCHAR	100		See Table B	NULL
SIGN	SIGN_CONDITION	Visual assessment of sign condition	GOOD	VARCHAR	8		GOOD, FAIR, POOR	NULL
SIGNS	SIGN_EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
SIGN	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
SIGN	SIGN_ASSES_DATE	The last date of assessment was determined	12/12/2018	DATE			99/99/9999	NULL
SIGN	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
SIGN	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
SIGN	HIGHWAY_FACILITY_TYPE	Type of road facility the sign is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
SIGN	SIGN_PHOTO	Photo of each sign		BLOB				NULL
SIGN	SIGN_COMMENT	Any additional notes		VARCHAR	100			NULL
SIGN	SIGN_SUPPORT_ID	Unique ID assigned to the sign support	1234567890	INTEGER	10		9999999999	NULL
SIGN	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL

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SIGN	NETWORK_AND_DIMENSION_ACCURACY	Asset positional accuracy and asset dimension accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	NULL
SIGN	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

APPENDIX C – SIGN ASSEMBLY (CONT'D)

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
SIGN_SUPPORT	SUPPORT_ID	Unique ID assigned to each sign support in the database	1234567890	INTEGER	10		9999999999	NULL
SIGN_SUPPORT	LONGITUDE	Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
SIGN_SUPPORT	LATITUDE	Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
SIGN_SUPPORT	POSTMILE	Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
SIGN_SUPPORT	SUPPORTREL_POS	Location of the support/post relative to the roadway	LEFT	VARCHAR	8		LEFT, RIGHT, OVERHEAD, MEDIAN	NULL
SIGN_SUPPORT	SUPPORT_TYPE	Type of sign support associated with a particular sign	TWO POST TRUSS	VARCHAR	100		See Table A	NULL
SIGN_SUPPORT	IMMS_SUPPORT_CATEGORY	Category the sign support is assigned to	TPSS	VARCHAR	5		See Table A	NULL
SIGN_SUPPORT	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
SIGN_SUPPORT	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
SIGN_SUPPORT	SIGN_SUPPORT_EDITOR	Username of last editor of record	JSMITH	VARCHAR	100		ALL	NULL
SIGN_SUPPORT	SIGN_SUPPORT_PHOTO	Photo of each Sign Support that includes its signs		BLOB				NULL
SIGN_SUPPORT	SIGN_SUPPORT_COMMENT	Any additional notes		VARCHAR	100			NULL
SIGN_SUPPORT	SIGN_ID	List of all the related sign IDs with a clickable link to the Sign	1234567890	INTEGER	10		9999999999	NULL
SIGN_SUPPORT	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
SIGN_SUPPORT	NETWORK_ACCURACY	Asset positional accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY	NULL
SIGN_SUPPORT	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

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APPENDIX C – GUARDRAIL

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
GUARDRAIL	GUARDRAIL_ID	Unique ID assigned to each guardrail in the database	1234567890	INTEGER	10		9999999999	NULL
GUARDRAIL	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
GUARDRAIL	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
GUARDRAIL	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE APPENDIX B	NULL
GUARDRAIL	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
GUARDRAIL	HIGHWAY_FACILITY_TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
GUARDRAIL	LONGITUDE_BEGIN	Begin Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
GUARDRAIL	LATITUDE_BEGIN	Begin Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
GUARDRAIL	LONGITUDE_END	End Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
GUARDRAIL	LATITUDE_END	End Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
GUARDRAIL	POSTMILE_BEGIN	Begin Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
GUARDRAIL	POSTMILE_END	End Postmile measure.	R12.123	VARCHAR		3	00.000-999.999	MILES
GUARDRAIL	GUARDRAIL_TYPE	Type of guardrail installed at the location	MBGR	VARCHAR	4		SEE ATTACHMENT 1	NULL
GUARDRAIL	GUARDRAIL_HEIGHTS	Guardrail heights measured every 50 feet	24	INTEGER	2		0-99	INCHES
GUARDRAIL	REL_POSITION	Location of the asset relative to the roadway	SHOULDER	VARCHAR	8		SHOULDER, MEDIAN	NULL
GUARDRAIL	PHOTO	Photo of guardrail		BLOB				NULL
GUARDRAIL	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
GUARDRAIL	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
GUARDRAIL	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
GUARDRAIL	COMMENT	Any additional notes		VARCHAR	100			NULL
GUARDRAIL	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
GUARDRAIL	NETWORK_AND_DIMENSION_ACCURACY	Asset positional accuracy and asset dimension accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	NULL
GUARDRAIL	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

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APPENDIX C – BARRIER

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
BARRIER	BARRIER_ID	Unique ID assigned to each barrier in the database	1234567890	INTEGER	10		9999999999	NULL
BARRIER	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
BARRIER	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
BARRIER	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE APPENDIX B	NULL
BARRIER	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
BARRIER	HIGHWAY_FACILITY TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
BARRIER	LONGITUDE_BEGIN	Begin Longitude of asset	-123.123457	FLOAT		7	-999.9999999	NULL
BARRIER	LATITUDE_BEGIN	Begin Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
BARRIER	LONGITUDE_END	End Longitude of asset	-123.123457	FLOAT		7	-999.9999999	NULL
BARRIER	LATITUDE_END	End Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
BARRIER	POSTMILE_BEGIN	Begin Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
BARRIER	POSTMILE_END	End Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
BARRIER	BARRIER_TYPE	Type of guardrail installed at the location	CABLE	VARCHAR	100		SEE ATTACHMENT 1	NULL
BARRIER	BARRIER_HEIGHTS_PRIMARY	Barrier heights measured every 50 feet	24	INTEGER	2		0-99	INCHES
BARRIER	BARRIER_HEIGHTS_SECONDARY	Barrier heights measured from the adjacent side, every 50 feet	24	INTEGER	2		0-99	INCHES
BARRIER	REL_POSITION	Location of the asset relative to the roadway	SHOULDER	VARCHAR	8		SHOULDER, MEDIAN	NULL
BARRIER	PHOTO	Photo of barrier		BLOB				NULL
BARRIER	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
BARRIER	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
BARRIER	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
BARRIER	COMMENT	Any additional notes		VARCHAR	100			NULL

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BARRIER	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
BARRIER	NETWORK_AND_DIMENSION_ACCURACY	Asset positional accuracy and asset dimension accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY AND +/- 1 INCH DIMENSION ACCURACY	NULL
BARRIER	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

APPENDIX C – CRASH CUSHION

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
CRASH_CUSHION	CRASH_CUSHION_ID	Unique ID assigned to each crash cushion in the database	1234567890	INTEGER	10		9999999999	NULL
CRASH_CUSHION	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
CRASH_CUSHION	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
CRASH_CUSHION	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE APPENDIX B	NULL
CRASH_CUSHION	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
CRASH_CUSHION	HIGHWAY_FACILITY_TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
CRASH_CUSHION	LONGITUDE	Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
CRASH_CUSHION	LATITUDE	Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
CRASH_CUSHION	POSTMILE	Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
CRASH_CUSHION	CRASH_CUSHION_TYPE	Type of Crash Cushion installed at the location	ADIEM	VARCHAR	100		SEE ATTACHMENT 1	NULL
CRASH_CUSHION	REL_POSITION	Location of the asset relative to the roadway	SHOULDER	VARCHAR	8		SHOULDER, MEDIAN, GORE	NULL
CRASH_CUSHION	CONDITION	Visual Assessment of Crash Cushion	DAMAGED	VARCHAR	7		GOOD, DAMAGED	NULL
CRASH_CUSHION	PHOTO	Photo of the crash cushion		BLOB				NULL
CRASH_CUSHION	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
CRASH_CUSHION	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
CRASH_CUSHION	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
CRASH_CUSHION	COMMENT	Any additional notes		VARCHAR	100			NULL

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CRASH_CUSHION	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
CRASH_CUSHION	NETWORK_ACCURACY	Asset positional accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY	NULL
CRASH_CUSHION	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

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APPENDIX C – END TREATMENT

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
END_TREATMENT	END_TREATMENTL_ID	Unique ID assigned to each end treatment in the database	1234567890	INTEGER	10		9999999999	NULL
END_TREATMENT	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
END_TREATMENT	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
END_TREATMENT	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE APPENDIX B	NULL
END_TREATMENT	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
END_TREATMENT	HIGHWAY_FACILITY TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
END_TREATMENT	LONGITUDE	Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
END_TREATMENT	LATITUDE	Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
END_TREATMENT	POSTMILE	Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
END_TREATMENT	END_TREATMENTL_TYPE	Type of end treatment installed at the location	CAT 350	VARCHAR	100		SEE ATTACHMENT 1	NULL
END_TREATMENT	REL_POSITION	Location of the asset relative to the roadway	SHOULDER	VARCHAR	8		SHOULDER, MEDIAN	NULL
END_TREATMENT	CONDITION	Visual Assessment of End Terminal	DAMAGE	VARCHAR	7		GOOD, DAMAGED	NULL
END_TREATMENT	PHOTO	Photo of the end treatment		BLOB				NULL
END_TREATMENT	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
END_TREATMENT	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
END_TREATMENT	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
END_TREATMENT	COMMENT	Any additional notes		VARCHAR	100			NULL
END_TREATMENT	DATUM_EPOCH	Epoch date in decimal year to two	2010.00	FLOAT		2	1991.35+	NULL
END_TREATMENT	NETWORK_ACCURACY	Asset positional accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY	NULL

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END_TREATMENT	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL
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APPENDIX C – PEDESTRIAN FACILITIES

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
PEDESTRIAN	PED_ASSET_ID	Unique ID assigned to each pedestrian facility in the database	1234567890	INTEGER	10		9999999999	NULL
PEDESTRIAN	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
PEDESTRIAN	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
PEDESTRIAN	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	880S	VARCHAR	4		SEE APPENDIX B	NULL
PEDESTRIAN	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
PEDESTRIAN	HIGHWAY_FACILITY_TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
PEDESTRIAN	LONGITUDE_BEGIN	Begin Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
PEDESTRIAN	LATITUDE_BEGIN	Begin Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
PEDESTRIAN	LONGITUDE_END	End Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
PEDESTRIAN	LATITUDE_END	End Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
PEDESTRIAN	POSTMILE_BEGIN	Begin Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
PEDESTRIAN	POSTMILE_END	End Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
PEDESTRIAN	PED_FACILITY_TYPE	Type of pedestrian facility installed at the location	SIDEWALKS	VARCHAR	50		SEE ATTACHMENT 1	NULL
PEDESTRIAN	COLOR_TREATMENT	Colorized treatment associated with pedestrian facility	YELLOW	VARCHAR	6		ALL	NULL
PEDESTRIAN	REL_POSITION	Location of the asset relative to the roadway	SHOULDER	VARCHAR	8		SHOULDER, MEDIAN, CROSSING	NULL
PEDESTRIAN	PHOTO	Photo of each pedestrian facility (every 50' for sidewalks)		BLOB				NULL
PEDESTRIAN	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
PEDESTRIAN	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
PEDESTRIAN	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
PEDESTRIAN	COMMENT	Any additional notes		VARCHAR	100			NULL
PEDESTRIAN	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
PEDESTRIAN	NETWORK_ACCURACY	Asset positional accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY	NULL
PEDESTRIAN	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

STATEMENT OF WORK

APPENDIX C – BICYCLE FACILITIES

TABLE_NAME	FIELD_NAME	FIELD_DEFINITION	EXAMPLE_VALUE	FIELD_TYPE	FIELD_LENGTH	FIELD_DECIMAL	ACCEPTABLE_VALUES	FIELD_UNITS
BICYCLE	BICYCLE_ASSET_ID	Unique ID assigned to each Bicycle facility in the database	1234567890	INTEGER	10		9999999999	NULL
BICYCLE	DISTRICT	Two-digit Caltrans District number	08	INTEGER	2		SEE TABLE 1	NULL
BICYCLE	COUNTY	County abbreviation denoting the location of the asset	SD	VARCHAR	3		SEE TABLE 2	NULL
BICYCLE	ROUTE	3 Integer Numeric route designation may include an Alpha Suffix	8805	VARCHAR	4		SEE APPENDIX B	NULL
BICYCLE	DIRECTION	Primary route direction	N	VARCHAR	1		N, S, E, W	NULL
BICYCLE	HIGHWAY_FACILITY_TYPE	Type of road facility the asset is referenced to	On Ramp	VARCHAR	100		SEE ATTACHMENT 1	NULL
BICYCLE	LONGITUDE_BEGIN	Begin Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
BICYCLE	LATITUDE_BEGIN	Begin Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
BICYCLE	LONGITUDE_END	End Longitude of asset	-123.1234567	FLOAT		7	-999.9999999	NULL
BICYCLE	LATITUDE_END	End Latitude of asset	48.1234567	FLOAT		7	999.9999999	NULL
BICYCLE	POSTMILE_BEGIN	Begin Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
BICYCLE	POSTMILE_END	End Postmile measure	R12.123	VARCHAR		3	00.000-999.999	MILES
BICYCLE	BICYCLE_FACILITY_TYPE	Type of Bicycle facility installed at the location	CLASS II BIKE LANE	VARCHAR	50		SEE ATTACHMENT 1	NULL
BICYCLE	COLOR_TREATMENT	Colorized treatment associated with the Bicycle facility	GREEN	VARCHAR	5		ALL	NULL
BICYCLE	PHOTO	Photo of each bicycle facility		BLOB				NULL
BICYCLE	COLLECTION_DATE	Date of asset collection	12/12/2018	DATE			99/99/9999	NULL
BICYCLE	EDIT_DATE	Date the asset was last edited	12/12/2018	DATE			99/99/9999	NULL
BICYCLE	EDITOR	Username of the last editor of record	JSMITH	VARCHAR	100		ALL	NULL
BICYCLE	COMMENT	Any additional notes		VARCHAR	100			NULL
BICYCLE	DATUM_EPOCH	Epoch date in decimal year to two decimal places (CA PRC 8815.1)	2010.00	FLOAT		2	1991.35+	NULL
BICYCLE	NETWORK_ACCURACY	Asset positional accuracy (FGDC-STD-007.1-1998)	<1 METER NETWORK ACCURACY	VARCHAR	59		<1 METER NETWORK ACCURACY	NULL
BICYCLE	CONTRACT_ID_NUMBER	Caltrans contract ID number	56A12345	VARCHAR	10			NULL

BUDGET DETAILS AND PAYMENT PROVISIONS

1. Invoicing and Payment

- A. For services satisfactorily rendered, and upon approval of services by Caltrans Contract Manager, and upon receipt and approval of the invoices, Caltrans agrees to compensate Contractor for actual expenditures incurred in accordance with the rates in **Attachment 1 – Cost Sheet** and this **Exhibit B – Budget Details and Payment Provisions**. Incomplete or disputed invoices shall be returned to Contractor, unpaid, for correction.
- B. Invoices shall be submitted via email and include:
- 1) Agreement number 56A0887
 - 2) Dates of Service
 - 3) Task Order Number
 - 4) Dates of Services
 - 5) Caltrans District Number
 - 6) Centerline Miles (if applicable)
 - 7) Number of Hours for Data Base Support (if applicable)
 - 8) Training Meetings (if applicable) Data Transfer (if applicable)
 - 9) Any other specific information that identifies line-item charges in accordance with Attachment 1, the Cost Worksheet Sheet.
 - 10) Classification/Hourly Rates per **Attachment 1 – Cost Sheet**
- C. Invoices shall include the Agreement Number and shall be submitted in triplicate not more frequently than monthly in arrears to:
- Department of Transportation
D-56/Maintenance
Attention: TBD
TBD@dot.ca.gov
- D. Contractor shall be compensated for Asset Collection in accordance with the rates listed in the Contractor's Cost Worksheet, **Attachment 1** on per centerline mile basis for centerline miles collected.
- E. Contractor shall be compensated for Data Hosting in accordance with the rates listed in the Contractor's Cost Worksheet, **Attachment 1** on per Month basis for actual months hosted.
- F. Contractor shall be compensated for On-Call Data Base Support in accordance with the rates listed in the Contractor's Cost Worksheet, **Attachment 1** on per hourly basis for actual months hosted. No guarantee is made or implied as the number of hours that will be needed.
- G. Contractor shall be compensated for Training Meetings in accordance with the rates listed in the Contractor's Cost Worksheet, **Attachment 1** on per Training Meeting basis for actual meetings requested by Caltrans and satisfactorily conducted by the Contractor.
- H. Contractor shall be compensated for Data Transfer to Caltrans cloud in accordance with the rates listed in the Contractor's Cost Worksheet, **Attachment 1**.

BUDGET DETAILS AND PAYMENT PROVISIONS

- I. Tasks and deliverables in progress may be invoiced in arrears for the costs incurred during the billing period. Invoices must be itemized and provide detail on the specific progress toward the completion of the tasks and deliverables in accordance with the Contractor's Cost Worksheet, **Attachment 1**, and include supporting documentation.
- J. Caltrans shall retain 10% of each invoice until satisfactory completion of all work under this Agreement as determined by the Caltrans Contract Manager

2. Cost Including in Rates

Contractor costs related to items such as materials, supplies, and the cost of employer payments to or on behalf of employees, subsistence, travel and per diem, compensation, insurance premiums, unemployment contributions, social security taxes, Agreement bond premiums, and any other taxes or assessments including sales and use tax required by law or otherwise are the costs of Contractor and shall be inclusive of the hourly rates specified in **Attachment 1 – Cost Sheet**, and no additional allowance will be made thereof, and will not be paid separately as part of this Agreement.

3. Cost Limitation

- A. Total amount of this Agreement shall not exceed **\$TBD**.
- B. It is understood and agreed that this total is an estimate, and that Caltrans will pay only for those services actually rendered as authorized by Caltrans Contract Manager up to the total amount set forth in section 3.1, above.

4. Rates

Rates for these services may be found on **Attachment 1 – Cost Sheet** of this document.

5. Allowable Costs and Payments

- A. Contractor shall not commence performance of work or services until this Agreement has been approved by Caltrans. No payment will be made prior to approval nor for any work performed prior to approval of this Agreement.
- B. The total amount payable by Caltrans shall not exceed **\$TBD**.

6. Cost Principles

- A. Contractor agrees that the Cost Principles and Procedures in 48 CFR Part 31, and the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, in 2 CFR Part 200, shall be used to determine the allowable individual items of cost.
- B. Any costs for which payment has been made to Contractor that are determined by subsequent audit to be unallowable under 48 CFR, Part 31 or 2 CFR, Part 200, are subject to repayment by Contractor to Caltrans.
- C. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this clause.

GENERAL TERMS AND CONDITIONS

Department of General Services Procurement Division, Information Technology – General Provisions Cloud-Computing Services, DGS PD 402-ITGP (Cloud) (Revised and Effective 02/20/2025)

<https://www.dgs.ca.gov/-/media/Divisions/PD/Acquisitions/Solicitation-Document-Attachments/IT-General-Provisions-Cloud-DGS-PD-402ITGP-Revised-02202025.pdf>

SPECIAL TERMS AND CONDITIONS**1. Subcontractors**

- A. Nothing contained in this Agreement or otherwise, shall create any contractual relation between the State and any Subcontractor, and no subcontract shall relieve Contractor of its responsibilities and obligations hereunder. Contractor agrees to be as fully responsible to the State for the acts and omissions of its Subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by Contractor. Contractor's obligation to pay its Subcontractors is an independent obligation from the State's obligation to make payments to the Contractor. As a result, the State shall be under no obligation to pay or to enforce the payment of any monies to any Subcontractor.
- B. Contractor shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted except for Subcontractors listed on **Attachment 3 – Offeror's Technical Proposal, Bidder Declaration (GSPD-05-105)**. The electronic fill-in form must reference Agreement number **56A0887** and can be found at <https://www.documents.dgs.ca.gov/dgs/fmc/gspd/gspd05-105.pdf>.
- C. Any subcontract in excess of \$25,000 entered into as a result of this Agreement shall be subject to all of the provisions stipulated in this Agreement.
- D. Any substitution of Subcontractors must be approved in writing by Caltrans Contract Manager in advance of assigning work to a substitute Subcontractor.

2. Evaluation of Contractor

Performance of Contractor under this Agreement will be evaluated upon completion of the Contract. The evaluation shall be prepared on Contract/Contractor Evaluation (STD 4), and maintained in the Office file, and DGS, Office of Legal Services, if the evaluation is negative and the contract price is over \$5,000.

3. Contractor's Reports and/or Meetings

Any document or written report prepared as a requirement of this Agreement shall contain, in a separate section preceding the main body of the document, a list of all Contracts and subcontracts (including dollar amounts) relating to the preparation of those documents or reports if the combined costs for work by non-employees of Contractor exceed \$5,000.

4. State-Owned Data-Integrity and Security

- A. Contractor shall comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable computing devices and portable electronic storage media.
 - 1) Encrypt all State-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space.
 - 2) Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules.
 - 3) Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another.

SPECIAL TERMS AND CONDITIONS

- 4) Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only.
- 5) Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement.
- 6) Notify Caltrans Contract Manager immediately of any actual or attempted violations of security of State-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data.
- 7) Advise the owner of the State-owned data, the agency Information Security Officer, and the agency Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data.

- B. Contractor shall use the State-owned data only for State purposes under this Agreement.
- C. Contractor shall not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) (State Administrative Manual (SAM) Section 5335.1).
- D. Contractors have appropriate systems and controls in place to ensure the operation, use, and maintenance of both Caltrans-funded and vendor furnished software will not violate federal and state copyright laws, rules and regulations.

5. Reporting Disabled Veteran Business (DVBE) Utilization

If this Agreement requires DVBE participation, it is the responsibility of Contractor to track DVBE goal progress and Contractor must report the actual amount paid to certified Subcontractors. Contractors must comply with Government Code Section 14841 and Military and Veterans Code Sections 999.5(d) and 999.7 by reporting the actual utilization of certified Subcontractor(s) during the performance of this Agreement. Contractor shall prepare and submit the Report of Utilization of Small/Micro Business and Disabled Veteran Business Enterprise State Funded Contracts Only (ADM-3059) (<https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=ADM3059>) to Caltrans Contract Manager with each invoice.

If Contractor fails to submit the ADM-3059 with the final invoice, Caltrans Contract Manager shall withhold \$10,000, or the full payment if it is less than \$10,000, from the final payment on the Agreement until Caltrans Contract Manager receives a complete and satisfactory ADM-3059. Caltrans Contract Manager shall notify Contractor by email that Contractor must submit a complete and satisfactory ADM-3059 within 30 days from the date of the notice. If Contractor fails to fully complete and submit the ADM-3059 within this 30-day period, Caltrans shall permanently withhold payment of the final invoice.

Upon Caltrans Contract Manager's request, Contractor shall provide proof of payment for the work performed by the DVBE subcontractor(s).

6. Reporting Small Business/Micro Business (SB/MB) Utilization

If SB/MB Subcontractor participation is a requirement of this Agreement, Contractor must report the actual amount paid to certified Subcontractors. Contractor must comply with Government Code Section 14841 by reporting the actual utilization of certified Subcontractor(s) during the performance of this Agreement. Contractor shall prepare and submit the Report of Utilization of Small/Micro Business and Disabled Veteran

SPECIAL TERMS AND CONDITIONS

Business Enterprise State Funded Contracts Only (ADM-3059)

(<https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=ADM3059>) to Caltrans Contract Manager with each invoice.

7. DVBE Participation (Required)

- A. Contractor has complied with the requirements of Public Contract Code Sections 10115 et seq. DVBE participation requirements achieved are expressed as a percentage of the estimated dollar value of this Agreement and are identified on the **Bidder Declaration (GSPD-05-105), Attachment 3**.
- B. The following participation requirement percentage is are Contractor's commitment set forth in this Agreement based upon the estimated total dollar amount to be expended*
- ____ % of work for DVBE(s) *If this Agreement is amended and the additional work can be included in the subcontracted work, the participation requirements may be amended to reflect this change. A revised **Bidder Declaration form, GSPD-05-105** must be attached to and made a part of the amended Agreement.

8. Substitutions of DVBEs

DVBE subcontractors shall be used per the California Code of Regulations, Title 2, Section 1896.70 unless a substitution is approved in writing by the DGS, Office of Small Business and Disabled Veteran Business Enterprise (OSDS). A DVBE subcontractor shall be replaced by another DVBE to perform the work originally stated. The substitution shall maintain, at minimum, the level of participation required, as stated in the bid.

- A. Contractor shall simultaneously notify the DVBE and Caltrans Contract Manager of the intended substitution. The written notice shall contain the reasons for the substitution and be sent by certified mail. Contractor shall submit the following to Caltrans Contract Manager:

- 1) proof of delivery, provide the certified mail receipts.
- 2) A copy of the DVBE's consent or opposition to the substitution. In the absence of the consent or opposition, provide the returned and unopened certified mail.
- 3) The name and supplier number of the business being substituted and the name and supplier number of the proposed replacement. If a DVBE cannot be identified as a replacement, the Contractor shall document the absence of DVBEs. This documentation shall include but is not limited to:
 - a) Contact the Caltrans Small Business Advocate at smallbusiness.advocate@dot.ca.gov and the Department of Veterans Affairs at advocate@calvet.ca.gov regarding the absence of DVBEs to perform the specific work.
 - b) Search results from the DGS website for DVBEs to perform the specific work.
 - c) Communication with a DVBE Community Organization nearest the worksite regarding the absence of DVBEs, if applicable.
 - d) Documented communication with DVBEs describing the work to be performed, its percentage of the overall contract, the corresponding dollar amount, and their responses to the request.

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- B. The DVBE shall have up to five (5) business days from the postmark date to consent or oppose the substitution. A copy of the DVBE's reply shall be sent simultaneously by certified mail to the Contractor and the Caltrans Contract Manager.
- C. When written oppositions to a substitution are filed, Caltrans shall grant the DVBE a hearing. The hearing notice shall be issued within five (5) business days from receipt of the opposition. If Caltrans grants the substitution, continue to G, below.
- D. Caltrans Contract Manager shall submit the substitution request to the DGS, OSDS:
 - 1) The request must meet the criteria as specified above or Section 4107 of the Public Contract Code for Public Works.
 - 2) The substitution request shall be accompanied by the hearing decision, when applicable.
- E. The OSDS will respond to substitution requests within three (3) business days. The OSDS shall consent to the substitution of another DVBE, or in the absence of a DVBE, a California certified Small Business in any of the following situations:
 - 1) When the DVBE becomes bankrupt, insolvent or goes out of business.
 - 2) When the DVBE does not perform as listed in the Bidder Declaration.
 - 3) When the DVBE does not meet the bond requirements of the contractor.
 - 4) When the DVBE's name is incorrect due to an inadvertent clerical error. In the case of public works contracts, compliance with § 4107.5 of the Public Contract Code is required.
 - 5) When the DVBE is not licensed as required by any State of California regulatory agency.
 - 6) When Caltrans, or its duly authorized officer, determines that the DVBE:
 - a) Did not perform in accordance with the plans and specifications; or
 - b) Has delayed or disrupted the progress of the work.
- F. The DVBE substitution process shall not be used as an excuse for noncompliance with any provision of law. This includes, but is not limited to, the Subletting and Subcontracting Fair Practices Act (Public Contract Code Sections 4100 et seq.) or any Agreement requirements relating to substitution of subcontractors.
- G. Contractors who proceed with work pending a substitution decision may be subject to Agreement termination, recovery of damages under rights, remedies and penalties. This is outlined in Military and Veterans Code Section 999.9, Public Contract Code Sections 10115.10 or 4110 (applies to public works only). Failure to adhere to the DVBE participation in the performance of the Agreement may be cause for Agreement termination and recovery of damages under the rights and remedies due Caltrans.
- H. Any DVBE firm acting/working under subcontract must be responsible for providing materials, supplies, equipment or services and must carry out its responsibility by actually performing, managing, or supervising the work involved that is normal for its business services and functions.
- I. The Contractor shall maintain records of all subcontracts entered into with DVBE Subcontractors including records of materials purchased from DVBE suppliers. Such records shall show the name

SPECIAL TERMS AND CONDITIONS

and address of each DVBE Subcontractor or supplier and the total dollar amount paid to each one. Upon completion of the Agreement, a summary of these records shall be prepared and certified correct by Contractor or his authorized representative and the summary shall be furnished to the Caltrans Contract Manager.

9. Prohibition from Bidding

This Agreement is subject to the provisions of Public Contract Code Section 10365.5, which states: "No person, firm, or subsidiary thereof who has been awarded a consulting services contract may submit a bid for, nor be awarded a contract for, the provision of services, goods or supplies, or any other related action which is required, suggested or otherwise deemed appropriate in the end product of the original consulting services contract."

10. Consultant Contractor's Rights and Obligations

Contractor is advised that the provisions of Public Contract Code Sections 10335 through 10381 pertaining to the duties, obligations, and rights of a consultant service Contractor are applicable to this Agreement.

11. ADA Compliance

All entities that provide electronic or information technology or related services that will be posted online by Caltrans must be in compliance with Government Code Sections 7405 and 11135 and the Web Content Accessibility Guidelines (WCAG) 2.0 or subsequent version, published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success. All entities will respond to and resolve any complaints/deficiencies regarding accessibility brought to their attention.

12. Electronic Signatures

Each party agrees that the electronic signatures, whether digital or encrypted, of the parties included in this Agreement are intended to authenticate this writing and to have the same force and effect as manual signatures for this Agreement. Documents that are referenced by this Agreement may still require manual signatures.

13. Generative Artificial Intelligence (GenAI)**A. Definitions**

- 1) **Artificial Intelligence (AI):** an engineered or machine-based system that varies in its level of autonomy and that can, for explicit or implicit objectives, infer from the input it receives how to generate outputs that can influence physical or virtual environments (Gov Code §§ 11549.64 & 11546.45.5).
- 2) **GenAI Training Data:** any content, information, or data that is used to train, tune, test, or validate a GenAI, including text, images, video, audio, code, or similar types of input.
- 3) **Generated Data:** any output, results, content, or other data that is produced by GenAI, including but not limited to text, images, video, audio, code, or similar types of output.
- 4) **Generative AI (GenAI):** an AI system that can generate derived synthetic content, including text, images, video, and audio, that emulates the structure and characteristics of the system's GenAI Training Data (Gov Code §11549.64).

SPECIAL TERMS AND CONDITIONS

- 5) **Hallucination:** Generated Data that is nonsensical, false, or misleading, and is not based on real or existing data, but is instead produced by bias or the GenAI's extrapolation or creative interpretation of its Gen AI Training Data.
- 6) **Materially Impacts:** shall have the same meaning set forth in State Administrative Manual (SAM) 4986.2.
- 7) **Prompt:** any written, spoken, or rendered information provided as a query, command, or other form of input, to any GenAI in connection with this Contract. For avoidance of doubt, Prompt includes any input automatically detected or created by the GenAI, as well as any derivate works of a Prompt or collection of Prompts.

B. GenAI Disclosure Obligations**1) Disclosure Obligations**

- a) Contractor must immediately notify the State in writing if it: (1) intends to provide GenAI as a Deliverable to the State; or (2) intends to utilize GenAI, including GenAI from third parties, to complete all or a portion of any Deliverable that materially impacts: (i) functionality of the System, (ii) risk to the State, or (iii) Contract performance. For avoidance of doubt, the term "materially impacts" shall have the same meaning set forth in State Administrative Manual (SAM) § 4986.2 Definitions for GenAI.
- b) Such notification shall be provided to the State designee identified in this Contract.
- c) At the direction of the State, Contractor shall discontinue the provision to the State of any previously unreported GenAI that results in a material impact to the functionality of the System, risk to the State, or Contract performance, as determined by the State.
- d) If the use of previously undisclosed GenAI is approved by the State, then Contractor will update the Deliverable description, and the Parties will amend the Contract accordingly, which may include incorporating the GenAI Special Provisions into the Contract, at no additional cost to the State.

- 2) **Failure to Disclose or Discontinue GenAI Use:** The State, at its sole discretion, may consider Contractor's failure to disclose or discontinue the provision or use of GenAI as described above, to constitute a material breach of Contract when such failure results in a material impact to functionality of the System, risk to the State, or Contract performance. The State is entitled to seek any and all remedies available to it under law as a result of such breach, including but not limited to termination of the contract, for default pursuant to **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 16, Termination.**

3) Contractor's Obligations for Responsible Use:

- a) Contractor shall ensure that it has obtained all necessary consents, permissions, and licenses from data subjects and third parties to use the GenAI for this Contract. Subject to **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 11, Indemnification**, Contractor represents and warrants, it has the appropriate U.S. Intellectual Property Rights associated with any GenAI used in the Deliverables provided under the Contract.

SPECIAL TERMS AND CONDITIONS

- b) Contractor shall ensure that the GenAI included, or made available as part of the Deliverables is equitable, non-discriminatory, and reasonably well-designed to avoid harmful, offensive, dangerous, and unlawful impact. (Government Code 11549.63. Contractor shall be liable for any Hallucination produced by the GenAI that has an adverse impact on Generated Data or a Deliverable.
- c) Contractor shall comply with all applicable laws and regulations, including as set forth in **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 13, Statutory & Regulatory Requirements; Contractor Certifications** above and these General Provisions in relation to the provision or use of any GenAI in the Deliverables.

4) GenAI Training Data Ownership:

Except as otherwise agreed to by the Parties, Contractor shall retain all ownership and intellectual property rights in the GenAI Training Data it provides.

5) Rights to State Generated Data:

In addition to Government Purpose Rights set forth in **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 9, Rights in Work Product & Government Purpose Rights**, the Parties agree that Generated Data created from a State provided Prompt is not a derivative work of the GenAI Training Data. Notwithstanding the preceding sentence, in the event a court of competent jurisdiction determines that Generated Data created from a State-provided Prompt constitutes a derivative work of the GenAI Training Data, Contractor agrees to grant the State an unlimited, irrevocable, worldwide, perpetual, royalty-free, non-exclusive right, and license to use, modify, reproduce, perform, release, display, create derivative works from, and disclose the Generated Data for any State Government Purpose Rights.

6) Contractor's Use of State Data:

Contractor shall not incorporate any Non-Public State Data into GenAI Training Data and shall not otherwise utilize Non-Public State Data to train, tune, maintain, improve, or develop GenAI, except with the express written authorization from the State specifying the Non-Public State Data that may be used along with the acceptable scope of such usage.

14. Executive Order N-6-22 – Russia Sanctions

On March 4, 2022, Governor Gavin Newsom issued Executive Order [N-6-22](#) (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law unless the contract has been Federalized (i.e. there is federal participation in any phase). The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The State shall provide Contractor advance written notice of such termination, allowing Contractor at least thirty (30) calendar days to provide a written response. Termination shall be at the sole discretion of the State.

ADDITIONAL PROVISION**1. General Provisions Required in All Insurance Policies**

- A. Deductible: Contractor is responsible for any deductible or self-insured retention contained within the insurance program.
- B. Coverage Term: Coverage must be in force for the complete term of this Agreement. If insurance expires during the term of this Agreement, a new certificate must be received by the Caltrans Contract Manager at least ten (10) days prior to the expiration of the insurance. Any new insurance must continue to comply with the original terms of this Agreement **56A0887**.
- C. Policy Cancellation or Termination and Notice of Non-Renewal: Contractor shall provide, to the Caltrans Contract Manager within five (5) business days, following receipt by Contractor, a copy of any cancellation or non-renewal of insurance required by this Agreement. In the event Contractor fails to keep, in effect at all times, the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event, subject to the provisions of this Agreement.
- D. Primary Clause: Any required insurance contained in this Agreement shall be primary, and not excess or contributory, to any other insurance carried by the State.
- E. Inadequate Insurance: Inadequate or lack of insurance does not negate the Contractor's obligations under this Agreement.
- F. Endorsements: Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- G. Insurance Carrier Required Rating: All insurance companies must carry a rating acceptable to the Department of General Services, Office of Risk and Insurance Management (ORIM). If the Contractor is self-insured for a portion or all of its insurance, review of financial information, including a letter of credit, may be required. Department of General Services, ORIM Website: <https://www.dgs.ca.gov/ORIM>.
- H. Contractor shall include all of its Subcontractors as insureds under Contractor's insurance or supply evidence of insurance to the State equal to the policies, coverages and limits required of Contractor.
- I. The State will not be responsible for any premiums or assessments on the policy.

2. Insurance Requirements**A. Commercial General Liability**

- 1) Contractor shall maintain general liability on an occurrence form with limits not less than **\$1,000,000** per occurrence and **\$2,000,000** aggregate for bodily injury and property damage liability. The policy shall include coverage for liabilities arising out of premises, operations, independent Contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured Agreement. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Contractor's limit of liability.
- 2) The policy must include:

ADDITIONAL PROVISION

Agreement Number **56A0887** Caltrans, State of California, its officers, agents, and employees are included as additional insured, but only with respect to work performed for the State of California under this Agreement. The additional insured endorsement must accompany the certificate of insurance.

- 3) This endorsement must be supplied under form acceptable to the Department of General Services, Office of Risk and Insurance Management.

B. Automobile Liability

Contractor shall maintain motor vehicle liability with limits not less than **\$1,000,000** combined single limit per accident. Such insurance shall cover liability arising out of a motor vehicle including owned, hired and non-owned motor vehicles. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.

C. Workers' Compensation and Employer's Liability

Contractor shall maintain statutory workers' compensation and employer's liability coverage for all its employees who will be engaged in the performance of the Agreement. Employer's liability limits of **\$1,000,000** are required. When work is performed on State owned or controlled property the workers' compensation policy shall contain a waiver of subrogation in favor of the State. The waiver of subrogation endorsement shall be provided to the Caltrans' Contract Manager.

D. Professional Liability

Contractor shall maintain Professional Liability at **\$1,000,000** covering any damages caused by a negligent error, act, or omission. The policy's retroactive date must be displayed on the certificate of insurance and must be before the date this Agreement was executed or before the beginning of this Agreement work. The Contractor is responsible to maintain continuous coverage for up to three years after the notice of completion.

E. Satisfying a Self-Insured Retention (SIR)

All insurance required by this Agreement must allow, but not require, the State to pay any SIR and/or act as the Contractor's agent in satisfying any SIR. The choice to pay any SIR and/or act as the Contractor's agent in satisfying any SIR is at the State's discretion. If the State chooses to pay any SIR and/or act as the Contractor's agent in satisfying any SIR, the Contractor shall reimburse the State for the same.

F. Available Coverage Limits

In the event the insurance coverages obtained by the Contractor is broader in scope than, and/or the limits are higher than, those required under the contract, all such broader coverage and/or higher limits available to the Contractor shall also be available and applicable to the State.

3. Prohibition of Delinquent Taxpayers

Public Contract Code Section 10295.4 prohibits the State from entering into an Agreement for goods or services with any taxpayer, whose name appears on either list maintained by the California Department of Tax and Fee Administration or the Franchise Tax Board pursuant to Revenue and Taxation Code Sections 7063 and 19195, respectively, of the 500 largest tax delinquencies. Public Contract Code Section 10295.4 provides no exceptions to these prohibitions.

ADDITIONAL PROVISION**4. Contractor Name Change**

An amendment is required to change the Contractor's name as listed on this Agreement. Upon receipt of legal documentation of the name change, the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.

5. Corporate Qualifications to Do Business in California

Contractor needs to be aware of the following provisions regarding current or former State employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

6. Conflict of Interest

Contractor needs to be aware of the following provisions regarding current or former State employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

A. Current State Employees

- 1) No officer or employee shall engage in any employment, activity, or enterprise from which the officer or employee receives compensation or has a financial interest, and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.
- 2) No officer or employee shall contract on his or her own behalf as an independent Contractor with any State agency to provide goods or services.

B. Former State Employees

- 1) For the two-year period from the date he or she left State employment, no former State officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decision-making process relevant to the contract while employed in any capacity by any State agency.
- 2) For the 12-month period from the date he or she left State employment, no former State officer or employee may enter into a contract with any State agency if he or she was employed by that State agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving State service.

C. If Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void (Pub. Cont. Code Section 10420).

D. Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time, and payment for per diem (Pub. Cont. Code Section 10430€).

7. Warranty

Notwithstanding, **Exhibit C – General Terms and Conditions, Section 8:**

- A. Limited Services Warranty and Remedy for Breach. In addition to the warranties provided in **Exhibit C**, Contractor warrants to Caltrans that, for the period beginning on the date of the Agreement and continuing for 90 days after final acceptance of all Services pursuant to the Agreement, Contractor will

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render all Services under such Agreement with reasonable care and skill. If Caltrans notifies Contractor within the warranty period of a breach of the foregoing warranty, Contractor will re-perform such Services in compliance with the foregoing warranty. With regard to the warranties set forth in this **Section 7**, if despite its reasonable efforts, Contractor is unable to provide Caltrans with Services in compliance with the foregoing warranty, then, subject to the limitations set forth in **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 12, Limitation of Liability**, Caltrans may pursue its remedy at law to recover direct damages resulting from the breach of this limited warranty. For the purposes of this Agreement, “Services” means professional services as specified in **Exhibit A – Statement of Work** of this Agreement.

- B. Limited Software Warranty by Contractor and Remedy for Breach. In addition to the warranties provided in **Exhibit C**, Contractor warrants that each Software licensed to Caltrans will operate in accordance with its Documentation for a period of 12 months from the Delivery Date (“Warranty Period”). Contractor warrants that the media on which the Software is delivered will be free of material defects in material and workmanship for a period of 12 months from the Delivery Date. With regard to the warranties set forth in this **Section 7**, Contractor’s sole obligation with respect to a breach of either of the foregoing warranties shall be to repair or replace the Software or media giving rise to the breach of warranty so that each Software licensed to Caltrans operates in accordance with its Documentation. With regard to the warranties set forth in this **Section 7**, if Contractor is unable to repair or replace such Software or media within a reasonable period of time (not to exceed 45 days unless otherwise agreed by the parties), then, subject to the limitations set forth in **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 12, Limitation of Liability**, of this Agreement, Caltrans may pursue its remedies at law to recover direct damages resulting from the breach of the applicable warranty. Caltrans must provide notice to Contractor of any warranty claim within the warranty period. The parties agree the duration of the Warranty Period specified above is offered by Contractor solely in reliance upon Caltrans’s commitment to renew annual Support through the Warranty Period. The support period specified herein is a binding term with respect to the ongoing availability of the Limited Software Warranty and Support may not be cancelled or terminated during this time without terminating the remainder of the Warranty Period.

8. Confidential Information

- A. The following is added to **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 10, Confidentiality; Data Rights**. Except as otherwise permitted under this Agreement, the Recipient will not disclose to any third party, or make any use of the Discloser’s Confidential Information. The Recipient will use at least the same standard of care to maintain the confidentiality of the Discloser’s Confidential Information that it uses to maintain the confidentiality of its own Confidential Information, but in no event less than reasonable care. Except in connection with the computer software programs licensed by Contractor to Caltrans (“Licensed Software”) and any software provided with the Licensed Software, the non-disclosure and non-use obligations of this Agreement will remain in full force with respect to each item of Confidential Information for a period of 10 years after Recipient’s receipt of that item. However, Caltrans’s obligations to maintain both the Licensed Software and any software provided with the Licensed Software as confidential will survive in perpetuity. Notwithstanding the foregoing, this Section is not intended to prevent a Recipient from using Residual Knowledge, subject to any Intellectual Property Rights of the Discloser. “Recipient” means the party receiving Confidential Information of the Discloser. “Discloser” means the party providing Confidential Information

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to the Recipient. "Residual Knowledge" means ideas, concepts, know-how or techniques related to the Discloser's technology and Confidential Information that are retained in the unaided memories of the Recipient who had rightful access to Confidential Information.

- B. Notwithstanding the foregoing, in the event that a court or other governmental authority of competent jurisdiction issues an order, subpoena, or other lawful process requiring the disclosure of the Confidential Information, Caltrans shall notify Contractor immediately upon receipt thereof to facilitate Contractor efforts to prevent such disclosure, or otherwise preserve the confidentiality of the Confidential Information. Caltrans shall not be in violation of the Agreement if (a) Caltrans notifies the Contractor that a third party seeks to obtain the Confidential Information pursuant to a court order and Contractor fails to obtain relief from said court order before the date that Caltrans is required to disclose the Confidential Information, (b) Caltrans notifies the Contractor that a third party seeks to obtain the Confidential Information under right provided by law (such as the California Public Records Act) and Contractor takes no legal action to prevent the disclosure within 30 days from the day of said notice, or (c) Contractor notifies Caltrans that Contractor will take no legal action to maintain the confidentiality of the Confidential Information or does not object to the disclosure of the Confidential Information.

9. Non-solicitation

Subject to the terms of California law, including, without limitation, Business and Professions Code Sections 16600 et al., during the period that Contractor is providing Services pursuant to this Agreement and for a period of one (1) year following the completion of such Services, neither Contractor nor Caltrans will offer to hire, hire, Solicit for employment or retention as an independent Contractor, or in any way employ any Resource of the other party without the prior written consent of the other party. "Solicit" as used in this Section does not include general solicitations, such as advertisements in newspapers, trade publications or on the internet. "Resource" for purposes of this Section means: (a) employees of the non-hiring party who directly worked on the Services project at Caltrans's location (the "Project"), and (b) former employees of the non-hiring party who directly worked on the Project and whose employment with that party ended less than six (6) months prior to the date of such offer to hire, hire, Solicitation, or employment.

10. Termination

The following is added to **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 16, Termination**:

- A. Termination due to Project Abandonment. This Agreement may be terminated in whole or in part in accordance with this Section by either party if the other party abandons the Project. For purposes of this Section, the Project will be considered abandoned if either party (i) stops work on the Project for a period of 30 days, (ii) disbands its Project Team, (iii) refuses in a material and substantial way to undertake its responsibilities in the Project Plan for a period of 60 days, or (iv) refuses to Go Live for reasons unrelated to the performance of the Services by Contractor. Notwithstanding any other provision in this Agreement, abandonment does not include action or inaction by Caltrans' under **Exhibit C – General Terms and Conditions, DGS PD 402-ITGP (Cloud), Section 18, Stop Work**. To effect termination on this Section, the non-abandoning party shall deliver a written notice to the other party which specifies the extent to which the Services under this Agreement are terminated ("Notice of Termination"). The Notice of Termination will become effective no earlier than 30 days from the date of the Notice of Termination ("Termination Date"). Termination shall be effective as of 11:59 p.m., Pacific Time, on the Termination Date. Upon Project terminating under this Section, the non-abandoning party

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shall promptly proceed with the following obligations, as applicable, regardless of any delay in determining or adjusting any amount of payment due to Contractor under this Section. If the non-abandoning party is Caltrans, Contractor shall: (i) stop work as specified in the Notice of Termination, (ii) place no further subcontracts for materials, Services, or facilities except as necessary to complete any continuing portion of the Contract, (iii) terminate all subcontracts to the extent they relate to the work terminated, and (iv) settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts. Caltrans may engage Contractor under a separate Agreement to provide Services for any outstanding Deliverables originally within the scope of this Contract, but which remain open due to termination under this Section. In no event shall payment pursuant to this provision exceed the amount payable to Contractor if the Agreement had been fully performed. The parties shall possess any and all other remedies available under the Agreement.

- B. Payment for Services. In the event of all or any partial termination of this Agreement under this Section, Contractor shall be entitled to the unpaid compensation for services actually rendered and expenses incurred, up to and including the Termination Date. If within 60 days following the Termination Date, the parties have not agreed upon the amount for the Services rendered as of the Termination Date, then the issue will be treated as a dispute under this Agreement. In no event shall payment pursuant to this provision exceed the amount payable to Contractor if the Agreement had been fully performed.

11. Maintenance

The following terms and conditions are superseded and replaced by any alternate or inconsistent terms and conditions in the Agreement.

- A. The correction of any residual errors in any Software Product that may be discovered by Contractor or by the State will be considered maintenance. Such maintenance will be performed by Contractor without additional charge for the duration of this Agreement. Suspected errors discovered by the State in the Software Products will be handled by the following procedures.
- 1) A listing of the output and a copy of the identical input data in machine-readable form will be submitted to Contractor, along with a completed copy of the appropriate Contractor information form and, if appropriate, a listing of the contents of the memory of the CPU at the time the error condition was noted.
 - 2) Errors in the Software Product as verified by Contractor will be corrected by providing a new copy of said Software Product (or of the affected portions) in machine-readable form.
 - 3) The Contractor shall attempt to correct Software Product errors within a reasonable time.
- B. Contractor will be available to assist the State in isolating and correcting error conditions caused by the State's particular Hardware or Operating System at rates in accordance with the Agreement's **Exhibits A and B**, and **Attachment 1**.
- C. If Contractor is called upon by State to correct an error caused by State's negligence, modification by State, State supplied data, machine or operator failure, or due to any other cause not inherent in the original Software Products, Contractor reserves the right to charge State for such service on a time and material basis, or rates in accordance with the Agreement's **Exhibits A and B**, and **Attachment 1**.

ADDITIONAL PROVISION**12. Acceptance of Software**

Notwithstanding the set in **Exhibit C – General Terms and Conditions, , Section 3, Order of Precedence** or any other provision of this Agreement, the following definitions shall control in this Agreement.

- A. **Commercial Software.** Acceptance of Commercial Software will be governed by the terms and conditions of the Agreement of the parties.
- B. **Custom Software.** Unless otherwise provided in the Statement of Work, acceptance procedures for Custom Software will be as set forth in this Agreement. No payment for Custom Software will be due before Acceptance thereof, except to the extent required by progress payment terms in the Statement of Work. Any notice of rejection will explain how the Custom Software Product fails to substantially conform to the functional and performance specifications of this Contract. Contractor will, upon receipt of such notice, investigate the reported deficiency and exercise reasonable best efforts to remedy it promptly. The State, in its sole discretion, will have the option to re-perform the acceptance test. If the Contractor is unable to remedy the deficiency within sixty (60) days of notice of rejection, the State shall have the option of accepting substitute Software, terminating for default the portion of the Contract that relates to such Custom Software, or terminating this Contract in its entirety for default.

13. Ownership of Intellectual and Proprietary Property

For the purposes of this section (Ownership of Intellectual Proprietary Property) of **Exhibit E** of this Agreement (herein after referred to as “this Agreement”) the following definitions shall apply:

Work: As delineated in **Exhibit A** of the Agreement.

Intellectual Property: means technical information, inventions, developments, discoveries, know-how, methods, techniques, formulae, algorithms, data, processes and other proprietary ideas, whether or not patentable or copyrightable, patent applications, patents, copyrights, trademarks, trade secrets, and any other legally protectable information, including computer software.

Intellectual Property Work ("Work"): means any work or activity performed by the Contractor or jointly with the Contractor's Subcontractor and/or the Contractor's Subcontractor's employee's with one or more employees, within the scope of performance of any Caltrans Intellectual Property Work effort, pursuant to the Statement of Work (SOW), or any other written terms in this Agreement and paid by the California Department of Transportation (Caltrans).

Government: means Caltrans.

Project Research Data: means information including, without limitation, documents, drawings, models, designs, data, memoranda, tapes, drives, disks, any other electronic storage medium, records, and databases, in hard copy form or in electronic form, developed during performance of the Work and regardless of whether paid for by Caltrans, its Contractor(s)/Grant Recipient(s), or subcontractors.

Work Product: As defined as Deliverable in **Exhibit A** of the Agreement including but not limited to, all Work and Deliverables conceived or made, or made hereafter conceived or made, either solely or jointly with others during the term of this Agreement and during a period of six (6) months after the termination thereof, which relates to the Work commissioned or performed under this Agreement. “Work Product” includes all deliverables, inventions, innovations, improvements, or other works of authorship Contractor

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may conceive of or develop in the course of this Agreement, whether or not they are eligible for patent, copyright, trademark, trade secret, or other legal protection.

Inventions: Any idea, methodologies, design, concept, technique, invention, discovery, improvement or development which is or may be patentable or otherwise protectable under Title 35 of the United States Code made solely by the Contractor or jointly with the Contractor's Subcontractor and/or the Contractor's Subcontractor's employee's with one or more employees during the term of this Agreement and in performance of any Work under this Agreement, provided that either the conception or reduction to practice thereof occurs during the term of this Agreement and in performance of Work issued under this Agreement.

Subject Invention: Any invention of the Contractor conceived or first actually reduced to practice in the performance of work under this contract.

Practical Application: To manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

Made: When used in relation to any invention means the conception or first actual reduction to practice of such invention.

Small Business Firm: A small business firm as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR121.3-8 and 13 CFR 121.3-12, respectively, will be used.

Nonprofit Organization: A university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

A. Ownership of Work Product and Rights:

1) Ownership of Work Product:

Except in regard to Pre-existing Works, all Work Product derived by the Work performed by the Contractor, its employees or by any of the Contractor's Subcontractor's employees under this Agreement, shall be owned by Caltrans and shall be considered works made for hire by the Contractor's Subcontractor for Caltrans. Caltrans shall own all United States and international copyrights in the Work Product.

As such, all Work Product shall contain, in a conspicuous place, a copyright designation consisting of a "c" in a circle followed by the four-digit year in which the Work Product was produced, followed by the words "California Department of Transportation." For example, a Work Product created in the year 2012 would contain the copyright designation © 2012 California Department of Transportation.

2) Vesting of Copyright Rights:

Contractor, its employees or any of Contractor's Subcontractor's employees agrees to perpetually assign, and upon creation of each Work Product automatically assigns, to Caltrans, its successors

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and assigns, ownership of all United States and international copyrights in each and every Work Product, insofar as any such Work Product, by operation of law, may not be considered work made for hire by the Contractor's Subcontractor from Caltrans. Contractor, its employees or any of Contractor's Subcontractor's employees agree to execute the **Attachment 5 – Caltrans Intellectual Property (IP) Copyright Assignment Agreement Form**, attached to this Agreement, acknowledging Caltrans undivided copyright interest to the Work. From time to time upon Caltrans' request, the Contractor's Subcontractor and/or its employees shall confirm such assignments by execution and delivery of such assignments, confirmations or assignment, or other written instruments as Caltrans may request. Caltrans, its successors and assigns, shall have the right to obtain and hold in its or their own name(s) all copyright registrations and other evidence of rights that may be available for Work Product. Contractor hereby agrees to waive all moral rights relating to identification of authorship restriction or limitation on use, or subsequent modifications of the Work.

B. Inventions**1) Vesting of Patent Rights:**

The Contractor, its employees and any Contractor's Subcontractors hereby agrees to assign to Caltrans, its successors, and assigns, all Inventions, together with the right to seek protection by obtaining patent rights therefore and to claim all rights or priority there under, and the same shall become and remain Caltrans' property regardless of whether such protection is sought. The Contractor, its employees and Contractor's Subcontractor shall promptly make a complete written disclosure to Caltrans of each Invention not otherwise clearly disclosed to Caltrans in the pertinent Work Product, specifically pointing out features or concepts that the Contractor, its employees and Contractor's Subcontractor believes to be new or different. Contractor, its employees and Contractor's Subcontractor agree to execute the **Attachment 6 – Caltrans Intellectual Property Non-Disclosure Agreement**, attached to this Agreement. The Contractor, its employees and Contractor's Subcontractor shall, upon Caltrans' request and at Caltrans' expense, cause patent applications to be filed thereon, through solicitors designated by Caltrans, and shall sign all such applications over to Caltrans, its successors, and assigns. The Contractor, its employees and Contractor's Subcontractor shall give Caltrans and its solicitors all reasonable assistance in connection with the preparation and prosecution of any such patent applications and shall cause to be executed all such assignments or other instruments or documents as Caltrans may consider necessary or appropriate to carry out the intent of this Agreement.

2) Agency:

In the event that Caltrans is unable for any reason whatsoever to secure the Contractor's, its employees' and/or Contractor's Subcontractor's signature to any lawful or necessary document required or desirable to apply for or prosecute any United States application (including renewals or divisions thereof), Contractor, its employees and Contractor's Subcontractor hereby irrevocably designates and appoints Caltrans and its duly authorized officers and agents, as its agent and attorney-in-fact, to act for and on Contractor, its employees and Contractor's Subcontractor's behalf and stead, to execute and file such applications and do all other lawfully permitted acts to further the prosecution and issuance of any copyrights, trademarks or thereon with the same legal force

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and effect as if executed by Contractor, its employees and/or Contractor's Subcontractor. Caltrans shall have no obligations to file any copyright, trademark, or patent applications.

3) Avoidance of Infringement

In performing services under this Agreement, Contractor and its employees agree to avoid designing or developing any items that infringe one or more patents or other intellectual property rights of any third party. If Contractor or its employees becomes aware of any such possible infringement in the course of performing any work under this Agreement, Contractor or its employees shall immediately notify Caltrans in writing.

4) Pre-Existing Works and License:

Contractor acknowledges that all Work Product shall be the sole and exclusive property of Caltrans, except that any pre-existing works created by Contractor and third parties outside of the Agreement but utilized in connection with the Agreement (the "Pre-existing Works") shall continue to be owned by Contractor or such parties. Contractor agrees to notify Caltrans' Contract Manager in writing of any Pre-existing Works used in connection with any Work Product produced under this Agreement and hereby grants Caltrans, without additional compensation, a permanent, non-exclusive, royalty free, paid-up, worldwide, irrevocable, perpetual, non-terminable license to use, reproduce, manufacture, sell, offer to sell, import, export, modify, publicly and privately display/perform, distribute, and dispose Contractor's Pre-existing Works with the right to sublicense through multiple layers, for any purpose whatsoever, to the extent it is incorporated into the Work Product resulting from this Agreement.

- 5) To Caltrans a non-exclusive, perpetual, royalty-free license to utilize the Pre-existing Works in connection with the Work Product.

C. Additional Provisions to Subcontractors:

Contractor shall affirmatively bind by contract any of its Subcontractors or service vendors (hereinafter "Contractor's Subcontractor") providing services under this Agreement to conform to the provisions of this Exhibit E. Contractor's Subcontractor shall then provide the signed contract to the Contractor, who shall provide it to Caltrans' Contract Manager prior to the commencement of any work. In performing services under this Agreement, Contractor's Subcontractor agrees to avoid designing or developing any items that infringe one or more patents or other intellectual property rights of any third party. If Contractor's Subcontractor becomes aware of any such possible infringement in the course of performing any Work under this Agreement, Contractor's Subcontractor shall immediately notify the Contractor in writing, Contractor will then immediately notify the Caltrans Contract Manager in writing.

D. Ownership of Data:

- 1) Upon completion of all work under this Agreement, all intellectual property rights, ownership and title to all reports, documents, plans, specifications, and estimates, produced as part of this Agreement will automatically be vested in Caltrans and no further agreement will be necessary to transfer ownership to Caltrans. The Consultant shall furnish Caltrans all necessary copies of data needed to complete the review and approval process.

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- 2) It is understood and agreed that all calculations, drawings, and specifications, whether in hard copy or machine readable form, are intended for one-time use in the construction of the project for which this Agreement has been entered into
- 3) The Consultant is not liable for claims, liabilities or losses arising out of, or connected with, the modification or misuse by Caltrans of the machine readable information and data provided by the Consultant under this Agreement; further, the Consultant is not liable for claims, liabilities or losses arising out of, or connected with, any use by Caltrans of the project documentation on other projects, for additions to this project, or for the completion of this project by others, excepting only such use as may be authorized, in writing, by the Consultant
- 4) Any sub-agreement in excess of twenty-five thousand (\$25,000.00) dollars, entered, into as a result of this Agreement, shall contain all of the provisions of this clause.

E. Patent Rights (Small Business Firms and Nonprofit Organizations):**1) Allocation of Principal Rights:**

The Contractor may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor retains title, Caltrans shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

2) Invention Disclosure, Election of Title and Filing of Patent Application by Contractor:

- a) The Contractor will disclose each subject Invention to the Caltrans Contract Manager within two months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the Invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure, the Contractor will promptly notify the Caltrans Contract Manager of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor.
- b) The Contractor will elect in writing whether or not to retain title to any such invention by notifying the Caltrans Contract Manager within two years of disclosure. However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened to a date that is no more than sixty (60) days prior to the end of the statutory period.
- c) The Contractor will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Contractor will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent

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application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

- d) Requests for extension of the time for disclosure, election, and filing under subparagraphs (a), (b), and (c) may, at the discretion of Caltrans, be granted.

3) Conditions when the Government May Obtain Title:

The Contractor will convey to the Caltrans Contract Manager, upon written request, title to any subject invention:

- a) If the Contractor fails to disclose or elect title to the subject invention within the times specified in (2), above, or elects not to retain title; provided that the agency may only request title within sixty (60) days after learning of the failure of the Contractor to disclose or elect within the specified times.
- b) In those countries in which the Contractor fails to file patent applications within the times specified in (2) above; provided, however, that if the Contractor has filed a patent application in a country after the times specified in (2) above, but prior to its receipt of the written request the Contractor shall continue to retain title in that country.
- c) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

4) Minimum Rights to Contractor and Protection of the Contractor Right to File:

- a) The Contractor will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the Contractor fails to disclose the Invention within the times specified in (2), above. The Contractor's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the Contractor is a party and includes the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of Caltrans except when transferred to the successor of that party of the Contractor's business to which the invention pertains.
- b) The Contractor's domestic license may be revoked or modified by Caltrans to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the Contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of Caltrans to the extent the Contractor, its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.
- c) Before revocation or modification of the license, Caltrans will furnish the Contractor a written notice of its intention to revoke or modify the license, and the Contractor will be allowed thirty (30) days (or such other time as may be authorized by Caltrans for good cause shown by the

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Contractor) after the notice to show cause why the license should not be revoked or modified. The Contractor has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and agency regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

5) Contractor Action to Protect the Government's Interest

- a) The Contractor agrees to execute or to have executed and promptly deliver to the Caltrans Contract Manager all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Contractor elects to retain title, and (ii) convey title to the Caltrans Contract Manager when requested under paragraph (3) above and to enable the Government to obtain patent protection throughout the world in that subject invention.
- b) The Contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Contractor each subject Invention made under contract in order that the Contractor can comply with the disclosure provisions of paragraph (2), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (2)(a), above. The Contractor shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.
- c) The Contractor will notify the Caltrans Contract Manager of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.
- d) The Contractor agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by Caltrans. The Government has certain rights in the invention."

6) Subcontracts:

- a) The Contractor will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the Contractor in this clause, and the Contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.
- b) The Contractor will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by (cite section of agency implementing regulations or FAR).
- c) In the case of subcontracts, at any tier, when the prime award with Caltrans is a contract (but not a grant or cooperative agreement), the agency, subcontractor, and the Contractor agree that

ADDITIONAL PROVISION

the mutual obligations of the parties created by this clause constitute a contract between the subcontractor, Caltrans with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (9) of this clause.

7) Reporting on Utilization of Subject Inventions:

The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject Invention or on efforts at obtaining such utilization that are being made by the Contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as the agency may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (9) of this clause. As required by 35 U.S.C. 202(c)(5), the agency agrees it will not disclose such information to persons outside the Government without permission of the Contractor.

8) Preference for United State Industry:

Notwithstanding any other provision of this clause, the Contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by Caltrans upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

9) March-In Rights:

The Contractor agrees that with respect to any subject Invention in which it has acquired title, Caltrans may require the Contractor, an assignee or exclusive licensee of a subject Invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Contractor, assignee, or exclusive licensee refuses such a request Caltrans has the right to grant such a license itself if Caltrans determines that.

- a) Such action is necessary because the Contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use
- b) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Contractor, assignee or their licensees;
- c) Such action is necessary to meet requirements for public use specified by State regulations and such requirements are not reasonably satisfied by the Contractor, assignee or licensees; or

ADDITIONAL PROVISION

- d) Such action is necessary because the agreement required by paragraph (8) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject Invention in the United States is in breach of such agreement.

10) Special Provisions for Contracts with Nonprofit Organizations:

If the Contractor is a nonprofit organization, it agrees that:

- a) Rights to a subject invention in the United States may not be assigned without the approval of Caltrans, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the Contractor;
- b) The Contractor will share royalties collected on a subject invention with the inventor, including State employee co-inventors when Caltrans it appropriate.
- c) The balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and
- d) It will make efforts that are reasonable under the circumstances to attract licensees of subject Invention that are small business firms and that it will give a preference to a small business firm when licensing a subject Invention if the Contractor determines that the small business firm has a plan or proposal for marketing the Invention which, if executed, is equally as likely to bring the Invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the Contractor is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Contractor. However, the Contractor agrees that the Secretary may review the Contractor's licensing program and decisions regarding small business applicants, and the Contractor will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the Contractor could take reasonable steps to implement more effectively the requirements of this paragraph (10)(d).

SECURITY AND PRIVACY PROVISIONS

The Agreement (and the services and work product produced under the Agreement) must be in compliance with this Exhibit (Security and Privacy General Provisions) to ensure the confidentiality, security, privacy, integrity, and availability of information assets, data, and systems.

Contractor agrees to protect all California Department of Transportation (Caltrans) information by implementing all controls and procedures necessary to comply with the provisions of this Exhibit and all State mandated data security and privacy requirements provided in the California State Administrative Manual (SAM), the State Contract Manual (SCM), all data security and privacy standards of the National Institute of Standards and Technology (NIST), all Federal Information Processing Standards (FIPS), all California State law (including, but not limited to, Government Code §11015.5 and §11019.9, the California Information Practices Act (IPA), the California Consumer Privacy Act (CCPA) and Civil Code §1978 et seq), and all promulgated or published State of California and Caltrans regulations and policies relating to data security and privacy. Contractor further agrees to implement the minimum administrative, physical, and technical safeguards described in this Agreement. Contractor also further agrees to respond to Caltrans surveys and inquiries regarding compliance with the terms and conditions of this agreement. Contractor shall protect Caltrans Data in accordance with this Exhibit for as long as the Contractor is in possession of, maintaining, or accessing Caltrans Data. Contractor shall ensure that all subcontractors and third parties with whom Contractor works comply with this Agreement and agree in writing to adhere to the provisions of this Agreement.

1. DEFINITIONS For purposes of this Exhibit, the following definitions shall apply:

Contractor shall generally refer to the "Contractor" as identified in this Agreement.

Data shall mean a representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automated means.

Caltrans Data shall refer to Data owned by Caltrans.

Confidential Information means any and all nonpublic information relating to the current and future operations and services of Caltrans, including but not limited to, planning, specifications, concepts, technical information, techniques, drawings, sketches, models, know-how, data, databases, electronic information, emails, processes, designs, photographs, apparatus, equipment, specifications, software programs, source code, software documentation, manuals, and formulae. The parties further agree that Confidential Information shall also include information received by Recipient prior to the execution of this Agreement and that would otherwise qualify as Confidential Information as provided herein. Confidential Information does not include information that (a) is lawfully within the public domain other than through disclosure or default by the Recipient; (b) was lawfully obtained from a third party who was legally in possession of the information, and who is authorized in writing by Caltrans to disclose it; (c) was independently developed by Recipient without the use of the Confidential Information, or any derivative works, and without the use of knowledge learned from accessing the Confidential Information; or (d) is subject to the requirements of the California Public Records Act ("CPRA") or otherwise required to be disclosed by order of a court, administrative agency or other governmental body with competent jurisdiction provided that Recipient notifies Caltrans within three (3) business days of receipt of such an order so that Caltrans may, in its sole discretion, seek a protective order from a court of competent jurisdiction preventing or restricting disclosure.

Personal Information shall have the meaning established by California law (including without limitation the IPA) and administrative manuals (including without limitation the SAM and SCM).

SECURITY AND PRIVACY PROVISIONS

Sensitive Information shall have the meaning established by California law (including without limitation the IPA) and administrative manuals (including without limitation the SAM and SCM).

Personnel shall refer to any Contractor employees, volunteers, sub-contractors and third parties commissioned, employed by, or otherwise engaged by Contractor to perform work under this Agreement.

Systems shall refer to workstations, laptops, servers, applications, network, and other information processing components.

Users shall refer to any Contractor personnel with access to Caltrans Data.

2. ADMINISTRATIVE SAFEGUARDS

- A. **Data Ownership:** Caltrans Data provided under this Agreement shall be the sole and exclusive property of Caltrans. Confidential, sensitive, and personal information should not be disclosed to any third-party and it requires special precautions to protect from loss and unauthorized use, disclosure, modification, or destruction. This information must not be shared without the written permission from an authorized representative of Caltrans.

Contractor agrees that it is responsible to protect the confidentiality of information in their custody as provided by this Agreement and to ensure such information is disclosed to only those parties to whom disclosure is permitted under this Agreement.

Contractor shall have a non-exclusive right to use and process the Caltrans Data for only the purposes stated in this Agreement. This right shall be revoked immediately upon termination of this Agreement. Disclosure of the Caltrans Data does not transfer ownership of information to the Contractor or any third party.

- B. **Use Of Information:** Contractor acknowledges and agrees that the information furnished or secured pursuant to this Agreement shall be used only for the purposes described in this Agreement, and Contractor agrees to implement its own policies and procedures to ensure that the confidentiality of said information is maintained in accordance with the provisions of this Agreement.

Contractor further agrees that information obtained under this Agreement shall not be reproduced, copied, published, sold, or released in original or any other form for any purpose other than the purposes set forth in this Agreement. Only the Caltrans Data that is required to perform purposes of this Agreement may be processed, stored, or transmitted by Contractor.

Contractor shall not use any Caltrans Data that identifies any natural person for any purpose that is not set forth in this Agreement, including for testing, training, or research.

- C. **Statement Of Confidentiality and Requirements:** Caltrans Data may be exempt from disclosure under the provisions of federal and state laws. Contractor understands and acknowledges that under California Penal Code §502, it is a public offense to knowingly and without permission alter, damage, delete, destroy, copy, or otherwise use any Caltrans Data. Such action can be prosecuted civilly or criminally, and it is punishable by fine and/or imprisonment.

Contractor shall ensure that all users sign a confidentiality statement, attesting to the fact that he/she is aware of the confidential nature of the Caltrans Data and that there are penalties for unauthorized disclosure of the Caltrans Data under applicable federal and state law. Copies of signed confidentiality statements must be made available to the Caltrans Information Security Office upon request.

SECURITY AND PRIVACY PROVISIONS

D. **Information Security and Privacy Awareness Training:** Contractor shall ensure that all persons that process or have contact with Caltrans Data will take information security and privacy awareness training prior to accessing and/or using such information, and annually thereafter. Information security and privacy awareness training must contain instructional components such as, but not limited to, information about the confidential nature of information, laws and regulations protecting the confidentiality of information, user responsibility for protecting the information, and the consequences and legal liability of unauthorized use, access, or disclosure of said information. Upon request, the Contractor must provide the Caltrans Chief Information Security Officer (CISO) or Privacy Officer with a copy of its information security and privacy awareness training components and certification of its annual information security and privacy awareness training completion.

E. **Employee Access to Information:** Contractor agrees that the Caltrans Data shall be kept in the strictest confidence and made available to only authorized personnel on a "need-to-know" business basis, and only for the purposes authorized under this Agreement. The term "need-to-know" refers to those authorized persons who need specific information to perform their official duties in connection with the purposes described in the Agreement.

Contractor shall maintain records of all authorized users and the authorization level of access granted to the information access and/or used under this Agreement with the purpose described in this Agreement.

F. **Cyber Risk Assessment:** A Cyber Risk Assessment (CRA) must be conducted every two years on all systems which input, process, store or transmit Caltrans Data, or sooner if there is a significant change to the system or environment. The risk assessment must meet requirements provided by SAM 5305.7; and if Contractor cannot meet this requirement, Caltrans may require a CRA be conducted by Caltrans or a third party at Contractor's expense. Risk assessment results must be provided to the Caltrans CISO upon request. If the risk assessment reveals risks or vulnerabilities, Caltrans will request in writing that the risks and vulnerabilities be corrected within a reasonable period of time set by Caltrans; and, if such risks and vulnerabilities are not corrected within the period of time set by Caltrans, Caltrans may immediately terminate the Agreement at no cost.

G. **Incident Reporting:** Contractor shall immediately notify the Caltrans CISO or their Designee of any actual or suspected security event involving Caltrans Data that is accessed or obtained under this Agreement. Contractor shall cooperate fully with Caltrans to comply with the incident reporting requirements to which Caltrans is subject, including without limitation the requirements described in Civil Code section 1798.29 and SAM section 5340.4, as amended.

Contractor shall thoroughly investigate all unauthorized or suspected unauthorized access, use, and/or disclosure of Caltrans Data subject to this Agreement. Caltrans reserves the right to participate in the investigation of any information security incident involving its data; Caltrans may conduct its own independent investigation, possibly including Caltrans authorized vendors in such investigation; and the Contractor shall cooperate fully in such investigations.

In addition, Contractor shall provide a preliminary report within three (3) working days of discovery of any breach or unauthorized use or disclosure. The report shall include, but not be limited to, the information specified above, as well as any pertinent preliminary information. In addition, the Contractor shall then provide a full written report of the investigation to the Caltrans CISO and Privacy Officer within ten (10) working days of the discovery of the breach or unauthorized use or disclosure.

SECURITY AND PRIVACY PROVISIONS

The report shall include, but not be limited to, the information specified above, as well as a full, detailed corrective action plan, including information on the measures that were taken to halt and/or contain the improper use or disclosure of the data, the measures to identify the source, method or process used to obtain improper use or disclosure of the data, and the measures to identify the parties who were involved in the improper use or disclosure of the data.

Caltrans reserves the right to take corrective action at any time.

- H. **Breach Or Disclosure of Caltrans Data:** Disclosure of any Caltrans Data to any person or entity that is not specifically authorized in this Agreement is strictly prohibited. Personnel assigned to work with Caltrans confidential information shall not publish, disclose, reveal, share, or divulge to any person or entity any of the confidential information provided under this Agreement, except as authorized by the provisions of this Agreement or required by law.

Contractor shall immediately notify the Caltrans contract manager in writing of any actual or attempted violations of security of Caltrans Data, including lost or stolen computing devices, files, or portable electronic storage media containing Caltrans Data.

Contractor shall advise the Caltrans CISO in writing of vulnerabilities that may present a threat to the security of Caltrans Data and of specific means of protecting that Caltrans Data.

Contractor shall notify Caltrans immediately by telephone call and email upon the discovery of breach of security of personal information, sensitive information, or confidential information (PSCI) when such data is, or is reasonably believed to be, acquired by an unauthorized person, or within two (2) hours by email of the discovery of any suspected security incident, intrusion or unauthorized use or disclosure of State data in violation of this Agreement, this provision, the law, or potential loss of confidential data affecting this Agreement. In the event of a breach caused by the Contractor, upon the written request of Caltrans, and after Caltrans approves the content of the notifications (as described below), the Contractor shall be responsible for sending out any and all notifications to individuals whose personal information is breached as defined in the Civil Code section 1798.29 and SAM section 5340.4.

Contractor shall bear all costs and expenses associated with sending out any such notices and will strictly comply with the requirements of Civil Code section 1798.29. In the event Contractor fails to send out the requisite notices, Caltrans in its sole discretion may notify all affected individuals, and Contractor shall bear all costs and expenses arising from any notifications sent out by Caltrans.

The Caltrans CISO and Legal Office shall review the content of any and all notifications and written approval must be obtained before notification can be made under this Agreement.

Caltrans shall not be held liable for any breach of Contractor systems that results in the release of any information provided by Caltrans and/or Contractor's breach of this Agreement. Contractor agrees to indemnify and hold harmless Caltrans, its officers, and representatives from and against any liability, losses, costs, damages, or expenses (including but not limited to attorney fees) resulting from any claims arising from the performance of this Agreement, including but not limited to any and all liability, damages, costs, expenses, or attorney fees resulting from a breach of security of the system as defined in the California IPA unless such damages are determined to be the direct result of the gross negligence or willful misconduct of Caltrans, its officers, employees, or representatives. If consumer protective services, such as credit monitoring, are deemed appropriate by Caltrans due to the data breach, all costs associated with such services shall be paid by Contractor.

SECURITY AND PRIVACY PROVISIONS

- 3. DEPARTMENT POLICIES:** Contractor must review the standards, manuals, and other references set forth in this Exhibit, and ensure that their operations comply with the standards, manuals, and other references, as amended from time to time. For general guidance on Caltrans Information Security policies, refer to SIMM 5300-B Foundational Framework.

By virtue of signing this contract, Contractor agrees to and agrees to adhere to Caltrans terms, covenants and conditions set forth in this Security Exhibit and to be responsible for its breaches of these terms, covenants, and conditions.

- A. Access Control:** Contractor shall ensure information in all forms, such as, but not limited to CDs, DVDs, USB flash drives, or other removable media must be stored in areas that are physically secure and free from access by unauthorized persons as described in this Agreement.

Contractor shall ensure that computer monitors, printers, hard copy printouts, or any other forms of information accessed or obtained under the performance of this Agreement cannot be viewed by unauthorized persons as described in the Agreement.

Contractor shall adhere to all access management protocols including the use of industry-standard multi-factor authentication solutions.

- B. Supervision Of Data:** Caltrans Data in paper form shall not be left unattended at any time, unless it is locked in a file cabinet, file room, desk, or office. "Unattended" means that information is not being observed by an employee authorized to access the information. Caltrans Data in paper form shall not be left unattended at any time in transportation vehicles (including planes) and shall not be checked as baggage on commercial airplanes.

Contractor shall maintain confidentiality of all Caltrans Data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of Caltrans Data assets to State purposes only.

- C. Escorting Visitors:** Visitors to areas where Caltrans Data is contained shall be escorted and Caltrans Data shall be kept out of sight while visitors are in the area.

- D. Removal Of Data:** Caltrans Data must not be removed from the premises of the Contractor without express written permission by Caltrans.

Contractor shall not transfer Caltrans Data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) including State Administrative Manual (SAM) section 5335.1.

4. TECHNICAL SAFEGUARDS

- A. Data Retention and Destruction:** Caltrans Data may be retained only to the extent that it is necessary to perform the required business purposes of this Agreement.

All data received by the Contractor under this Agreement and any data created, copied, attributed to data received shall be destroyed when no longer needed for the purposes of this Agreement for which they were obtained, or within thirty (30) calendar days of termination of this Agreement. Data must be destroyed in accordance with the requirements specified by NIST Special Publication (SP) 800-88, Guidelines for Media Sanitization, and other promulgated or published State of California and Caltrans regulations and policies, as amended or superseded.

SECURITY AND PRIVACY PROVISIONS

- B. **Encryption:** Confidential, sensitive, or personal information shall be encrypted in accordance with Federal Information Processing Standards 140-2 (or most current version), Security Requirements for Cryptographic Modules, and other promulgated or published State of California and Caltrans regulations and policies, as amended or superseded.

The data encryption used by Contractor shall use government-certified Advanced Encryption Standard (AES) cipher algorithms with a 256-bit or better encryption key with cryptographic technology that has been tested and approved against exacting standards, meeting FIPS 140-2 level 2 Security Requirements for Cryptographic Modules or better.

Contractor shall encrypt all Caltrans Data stored on portable computing devices and portable electronic storage media to protect Caltrans Data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and unused disk space.

Contractor shall encrypt all Caltrans Data at rest if there is a reasonable likelihood that data storage media may be lost, stolen, or copied, such as when transferring to offsite backup storage.

Contractor shall encrypt, as described above, all Caltrans Data transmitted from one computing device or storage medium to another when traversing an open, public, or other unprotected network (such as the Internet).

- C. **Data At Rest and In Transit:** All Caltrans Data at rest and in transit must be encrypted in accordance with the security and privacy provisions specified within this Agreement.
- D. **Endpoint Protection:** All workstations, laptops and other systems that input, process, store, or transmit Caltrans Data must install and actively use endpoint protection with automatic updates scheduled at least daily. Contractor shall install and maintain current anti-virus software and endpoint protection, security patches, and upgrades on all computing devices used during the agreement.

Contractor shall ensure that it shall apply anti-malware controls to the services to help avoid malicious software gaining unauthorized access to state data, including malicious software originating from public networks. Such controls shall always equal or exceed the controls consistent with the industry standards for such data, but in no event less than the controls that contractor applies to its own internal corporate electronic data of like character.

- E. **Vulnerability Management:** Systems which input, process, store, or transmit Caltrans Data must be scanned for vulnerabilities at least on a monthly basis, and at any time when new vulnerabilities that potentially affect the system are identified and reported. Vulnerabilities by severity must be remediated within the following timeframe:

- 1) Critical (three (3) business days or less)
- 2) High (twenty-one (21) days)
- 3) Medium (sixty (60) days)
- 4) Low (ninety (90) days)

The CISO must be notified within twenty-four (24) hours if critical vulnerabilities cannot be remediated within the required timeframe.

SECURITY AND PRIVACY PROVISIONS

Note: vulnerability severity ratings referenced above must follow the NIST scoring system (<https://nvd.nist.gov/vuln-metrics/cvss>).

- F. **Intrusion Detection:** All systems which store, process, or transmit Caltrans Data that are accessible via the Internet must be protected by a comprehensive intrusion detection and prevention solution.
- G. **Warning Banners:** All systems which input, process, store, or transmit Caltrans Data must display a warning banner stating that data is confidential, systems are logged, and system use is for business purposes only by authorized users. User must be directed to log off the system if they do not agree with these requirements.
- H. **Identification:** All users accessing Caltrans Data must be issued unique user identification.
- I. **Multi Factor Authentication:** Multi factor authentication must be enabled for all users.
- J. **Password Controls:** Passwords must be changed at least every 120 days.

Passwords must be a minimum of 15 characters and must be composed of a minimum one character each from the following four groups:
 - 1) Upper case letters (A-Z)
 - 2) Lower case letters (a-z)
 - 3) Arabic numerals (0-9)
 - 4) Non-alphanumeric characters (punctuation symbols)
- K. **User Accounts:** User accounts must be immediately disabled or deleted upon personnel termination or a change in assigned duties which no longer require access to Caltrans Data.
- L. **Session Lock:** Systems must not be left unattended and logged on. Systems must be configured to prevent access by initiating a session lock after no more than 10 minutes of inactivity. Session locks must be retained until the user reestablishes access using established identification and authentication procedures.
- M. **Change Control:** Contractor shall notify Caltrans thirty (30) days prior of any changes to systems, hardware, software, applications, file structure, data, or record layout which input, process, store, or transmit Caltrans Data. Caltrans shall notify the Contractor of any changes to Caltrans systems, hardware, software, applications, file structure, data, or record layout which input, process, store, or transmit information in the performance of this Agreement at the discretion of Caltrans.
- N. **Auditing:** Contractor shall maintain an audit trail and record data access of authorized users and the authorization level of access granted to information based on job function. Said logs must be made available to Caltrans upon request. Contractor shall allow audits or inspections by individuals authorized by Caltrans at the Contractor premises during regular business hours, with seven (7) business days prior notice for purposes of determining compliance with the terms of this Agreement.
- O. **Protection Of Proprietary Software and Other Proprietary Data:** Contractor shall agree in writing that all material that is marked or identified in writing as proprietary and furnished hereunder by Caltrans to Contractor are provided for the Contractor's exclusive use for the purposes of this contract only. All such proprietary data shall remain the property of the State. Contractor agrees to take all reasonable steps to ensure that such proprietary data are not disclosed to others, without prior written

SECURITY AND PRIVACY PROVISIONS

consent of the State, subject to California public records act, or other lawful process (e.g., in response to a subpoena), and to review such steps (at commercially reasonable intervals) to ensure the proprietary data is not disclosed.

Contractor will ensure, prior to disposing of any media, that any licensed materials contained thereon have been erased or otherwise destroyed.

Contractor agrees that it will take appropriate action by instruction, agreement or otherwise with its employees or other persons permitted access to proprietary materials to satisfy its obligations in this contract with respect to use, copying, modification, protection and security of proprietary materials and data, subject to the California Public Records Act and other applicable law.

- P. **Cloud Services:** The applicable Department of General Services Procurement Division, INFORMATION TECHNOLOGY - GENERAL PROVISIONS CLOUD - COMPUTING SERVICES, DGS PD 402-ITGP (Cloud) (hereafter referred to as, the "Cloud Computing Services") are incorporated by reference.

Compliance with SAM section 4983 and SIMM 5315-B Cloud Security Standard must be followed by the Contractor.

- Q. **Remote Access:** Any remote access to Caltrans Data or systems shall be transmitted and executed only over an encrypted method that is approved in writing by Caltrans. All remote access shall be limited to minimum necessary and least privilege principles. Remote Access shall meet security standards as defined in SAM 5360.1 and SIMM 5360-A.

- R. **Out Of Country Storage and Remote Access:** Caltrans Data cannot be stored or accessed by Caltrans employees, agents, representatives, or contractors located outside the United States of America (U.S.) "Outside the U.S." means outside the geographical boundaries of the United States, the United States territories, embassies, or military installations. Furthermore, Caltrans Data may not be received, processed, stored, transmitted, or disposed of by information technology (IT) systems located outside the U.S. All contractor data centers utilized as part of this contract must be located within the U.S., and all Caltrans Data must be located within the U.S. For reference, see California State Administrative Manual (SAM) Section 4983.1 (#15) -Out of country requirements.

Contractors may receive specific provisional access under the terms of this contract provided they submit the following data and abide by the following provisions: they submit the data to, and they received written approval by, the Contract Manager, Deputy Director of Administration or the District Deputy Director of Administration and State CISO:

REQUIRED CONTRACTOR INFORMATION

- 1) First and Last Names of all contractors working outside the U.S.
- 2) Start and end date of the outside of U.S. access.
- 3) Terms and conditions for the outside of U.S. data breach responsibilities of the Contractor.
- 4) Terms covering Contractor handling of Caltrans Data
- 5) Name(s) of all Caltrans system(s), network zones and applications the Contractor will have access to from outside the U.S.

SECURITY AND PRIVACY PROVISIONS

- 6) All capabilities the Contractor will have to Caltrans applications (user account provisioning, data modification, etc.)
- 7) Third-party Cyber Risk Assessment conducted by a vendor selected by Caltrans at Contractor's expense.

DATA TYPE, CLASSIFICATION AND USE

- 1) Classification of data the Contractor be able to access on from outside the U.S.
 - 2) If the Contractor will have access to confidential, sensitive, or personal data from outside of the U.S. the following additional information is required:
 - a. Will the Contractor have access to production data or synthetic (obfuscated) data?
 - b. If the Contractor will have access to Caltrans Data from outside the U.S. list the specific types of data the contractor will be able to access (SSNs, Credit Cards, Names and Addresses, etc.)
 - c. Will the Contractor be able to modify Caltrans Data from outside the U.S.?
 - d. Name(s) of Caltrans Program Manager(s) responsible for ensuring proper handling of Caltrans Data by the Contractor.
 - e. Why the service cannot be offered from within the U.S.?
- S. **Hardware and Software Requirements:** Contractor must use State issued equipment to access the Caltrans network and systems or use remote connectivity solutions provided by Caltrans IT.
- T. **Material Return/Destruction:** Contractor shall warrant that all materials provided by Caltrans will be returned promptly after use and that all copies or derivations of the materials will be physically and/or electronically destroyed. Contractor shall meet the standards as set forth in NIST 800-88 for destruction of data. All personal, sensitive, and confidential information shall be wiped from systems when the data is no longer necessary. The wipe method shall conform to Department of Defense standards for data destruction. Contractor will include with all returned materials, a letter attesting to the complete return of materials, and documentation evidencing the destruction of copies and derivations. Failure to so comply will subject the Contractor to liability, both criminal and civil, including all damages to the State and third parties. Contractor authorizes the State to inspect and verify the above. Any data that Contractor is legally required to maintain after contract termination is to be disclosed to Caltrans prior to contract initiation and again at contract termination.
- U. **Compliance With Laws, Regulations and Policies:** Contractor will comply with all federal and state laws, regulations and policies that are enacted, promulgated, or published and that govern the subject matter of this Agreement.
- V. **Contact Information:** Direct security and privacy communications to the below referenced Caltrans staff. Caltrans reserves the right to make changes to the contact information below by giving written notice to the Contractor. Said changes shall not require an amendment to this Exhibit or the Agreement to which it is incorporated.

SECURITY AND PRIVACY PROVISIONS

Caltrans Contract Manager	Caltrans Privacy Officer	Caltrans Chief Information Security Officer (CISO)
See the agreement for State Contract Manager information	Paul Flores CA Department of Transportation 1120 N Street Sacramento, CA 95814 Email: paul.flores@dot.ca.gov Telephone: (916) 639-1013	Paul Flores CA Department of Transportation 1120 N Street Sacramento, CA 95814 Email: paul.flores@dot.ca.gov Telephone: (916) 639-1013

References:

Department of General Services Procurement Division, INFORMATION TECHNOLOGY - GENERAL PROVISIONS CLOUD - COMPUTING SERVICES, DGS PD 402-ITGP (Cloud)

SAM sections 4800 through 5900 et. seq.

SIMM 5300-B Information Security Foundational Framework

SIMM 5315-B Cloud Security Standard

SIMM 140 Cloud Security Guide

Caltrans Policies, Procedures and Practices (available through Caltrans Contract Manager)

Websites:

<https://www.dgs.ca.gov>

<https://cdt.ca.gov/policy/simm>

<https://www.nist.gov/>

CALIFORNIA DEPARTMENT OF TRANSPORTATION Print Name and Title of Signatory		CONTRACTOR'S BUSINESS NAME Print Name and Title of Signatory	
Signature of Above Person		Signature of Above Person	
Date		Date	

CALTRANS INTELLECTUAL PROPERTY (IP) COPYRIGHT ASSIGNMENT AGREEMENT FORM

RSM-0005 (NEW 11/2018)

INSTRUCTIONS: This form is to be used for documenting copyrightable works owned by Caltrans from a contractor and/or consultant. You can obtain additional information by visiting the Caltrans IP website at: <https://ip.onramp.dot.ca.gov/>. If you need assistance filling out this form, contact your manager/supervisor.

THIS AGREEMENT is dated _____, 20____, and made by and between the California Department of Transportation (Caltrans) and _____, Assignor.
(Assignor name and address)

RECITALS:

- (A) Whereas the Assignor is the author of certain copyrightable Works (the "Work"), created in performance of Assignor's Work under Contract No. _____, and intends by this Assignment to transfer, convey, and irrevocably assign to Caltrans all of Assignor's Copyright ownership rights, title, and interests, in the Work, including but not limited to, Assignor's entire and exclusive Copyrights under federal and state copyrights laws, in the United States and all jurisdictions outside the United States, including any renewals or extensions associated in the Work pursuant to the terms and conditions set forth below; and
- (B) Assignor for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agrees to the following terms and conditions set forth below in assigning and transferring to Caltrans the proprietary ownership rights, interest, title and entire and exclusive Copyrights in the Work, which is more specifically described herein.

NOW IT IS AGREED AS FOLLOWS:

1. Assignor hereby assigns, transfers, conveys, and irrevocably assigns to Caltrans all of Assignor's Copyright ownership rights, title, and interest in the Work, including but not limited to, Assignor's rights in: (1) Assignor's entire and exclusive Copyrights under federal and state copyright laws, in the United States and all jurisdictions outside the United States; (2) Assignor's entire and exclusive common law Copyrights; (3) any and all other privileges and rights in the Work attributed to a copyright owner; and (4) all other intellectual property rights, including but not limited to, Assignor's full-term, renewal-term and extensions associated and subsisting in the copyrightable Work. A correct copy (or description) of the Work, as described under Contract No. _____ is attached as Exhibit "A" and is hereby incorporated by reference and made part of this Assignment. Caltrans shall be the sole and exclusive copyright owner of Assignor's Copyright ownership rights in the Work from the effective date forward. Assignee shall have the sole and exclusive right to secure registration of the Copyrights in the Work internationally. No Copyright ownership rights in the Work and/or Copyrights in the Work, shall be retained by Assignor, nor shall there be any reversion of those rights to Assignor in the future.
2. The rights assigned by this Assignment include, but are not limited to, rights to any and all versions of the Work, including the right to copy or reproduce the Work, the right to distribute the Work, the right to display the Work publicly, the right to create derivative works, the right to renew or extend the copyright in the Work to the extent permitted by law, and the right to bring suit or make any claim in Caltrans name for prior or future infringement of rights in the Work.
3. Assignor hereby warrants and represents that: (1) the Work is an original work of authorship of Assignor; (2) Assignor as creative originator is the sole proprietor of the Work; (3) the Work does not infringe any existing Copyrights; (4) Assignor has not entered into any assignments, transfers, licenses, contracts, or mutual understandings in conflict with the terms and conditions of this assignment and transfer of Copyrights and Copyright ownership; and (5) there are no claims currently pending or threatened, nor does Caltrans have any reason to believe that any claims will be brought or threatened in the future, against Caltrans' right, title, or interest in the Work.
4. **Covenant to Cooperate by Assignor:** Assignor does hereby covenant and agrees to cooperate with Caltrans whereby, Caltrans may enjoy to the fullest extent the exclusive Copyright ownership right, title, and interest herein conveyed. Such cooperation shall include: (1) prompt execution of all papers (prepared at the expense of Caltrans) which are deemed necessary or desirable by Caltrans to perfect its the right, title, and interest herein conveyed; and (2) prompt execution of all petitions, oaths, specifications, declarations, or other papers (prepared at the expense of Caltrans) which are deemed necessary by Caltrans for obtaining copyright registration with the United States Copyright Office covering said Work.
5. **Indemnification:** Assignor agrees to indemnify, defend and hold harmless Caltrans, its officers, agents, and employees from any and all third party claims, lawsuits, legal actions, costs (including without limitation to reasonable attorneys' fees), and losses arising in any way as a result of a violation of this Assignment or acts or omissions of Assignor or any of Assignor's affiliates, agents, subcontractors, employees, or representatives, including but not limited to, any copyright infringement claims, property claims, breach of contract claims, or damage claims. Such defense and payment will be conditioned upon the following:
 - a. Caltrans will notify Assignor of any such claim in writing and tender the defense thereof within a reasonable time; and
 - b. Assignor will have sole control of the defense of any action on such claim and all negotiations for its settlement or compromise; provided that (i) when substantial principles of government or public law are involved, when litigation might create precedent affecting future State operations or liability, or when involvement of the State is otherwise mandated by law, the State may participate in such action at its own expense with respect to attorneys' fees and costs (but not liability); (ii) where a settlement would impose liability on the State, affect principles of California government or public law, or impact the authority of the State, the California Department of General Services will have the right to approve or disapprove any settlement or compromise, which approval will not unreasonably be withheld or delayed; and (iii) the State will reasonably cooperate in the defense and in any related settlement negotiations.

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6. **Release and Discharge:** Assignor releases and discharges Caltrans from any and all claims and demands arising out of, or in connection with, any use of the Work, including but not limited to, any and all claims of libel, moral rights, invasion of privacy, and/or any claims under the Visual Artists Rights Act and the California Artists Preservation Act. Assignor realizes that he or she cannot withdraw their consent after executing this Assignment, and acknowledges that this Assignment is binding on Assignor and his or her heirs, legal representatives, and other assigns.
7. **Severability:** The parties hereto agree that if any provision of this Assignment is found to be illegal or unenforceable, such term or provision shall be deemed stricken and the remainder of the Assignment shall remain in full force and effect. Either party having knowledge of such term or provision shall promptly inform the other of the presumed non-applicability of such provision.
8. **Waiver of Rights:** Any action or inaction by Caltrans or the failure of Caltrans on any occasion, to enforce any right or provision of this Assignment shall not be construed to be a waiver by Caltrans of its rights hereunder and shall not prevent Caltrans from enforcing such provision or right on any future occasion. The rights and remedies of Caltrans hereunder are cumulative and are in addition to any other rights or remedies that Caltrans may have in law or equity.
9. **No License:** No license, either express or implied, is granted hereby to Assignor, with respect to the Work. Assignor agrees that the Work is and will remain the sole property of Caltrans.
10. **Entire Assignment; Duplicate Originals:** This Assignment constitutes the entire agreement with respect to the Work described in Exhibit "A" of the contract and supersedes all prior or contemporaneous oral or written agreements concerning the Work. This Assignment may be executed in duplicate counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same Assignment.
11. **Modification by Subsequent Agreement:** This Assignment may be modified by subsequent agreement of the parties only by an instrument in writing signed by the assignor and Caltrans.
12. **Applicable Law:** This Assignment shall be governed by and shall be interpreted in accordance with the laws of the State of California, and venue for any action to enforce the terms of this Assignment will be in Sacramento County, California.
13. **Declaratory Relief:** Assignor acknowledges that damages alone would not be an adequate remedy for the breach of any of the provisions of this Assignment. Accordingly, in addition to any other rights and remedies it may have, Caltrans shall be entitled to obtain declaratory relief from a court of competent jurisdiction preventing or restricting the use of the Work by Assignor, or any other breach of this Assignment.
14. **Delivery:** Assignor must provide Caltrans with this Assignment, properly executed, signed, dated, and notarized and attach the required Exhibit A, necessary to give effect to this Assignment. Assignor shall provide to Caltrans the "original wet signature" of this Assignment. Assignor will receive a copy of the fully executed Assignment.
15. **Copyright Designation:** All displays or publications of the Work shall bear Caltrans' copyright designation notice as suggested by the U.S. Copyright Office.
16. **Term:** The Copyrights protection term of this irrevocable and exclusive assignment shall be for the full term of the copyrighted work, including its renewal term and any applicable extended renewal term of the Copyrights' protection. The terms, covenants, and provisions of this Assignment shall inure to the benefit of Caltrans, its officers, successors, assigns, and/or other legal representatives, and shall be binding upon said Assignor.

Recipient:

Signature _____
Name _____
Title _____
Date Signed ____ / ____ / ____

Caltrans:

Authorized Representative Signature _____
Authorized Representative Name _____
Authorized Representative Title _____
Date Signed ____ / ____ / ____

CALTRANS INTELLECTUAL PROPERTY (IP) NONDISCLOSURE AGREEMENT FORM

RSM-0004 (NEW 11/2018)

INSTRUCTIONS: This form is to be used for documenting IP nondisclosure agreements between Caltrans and Contractor(s)/Consultant(s). You can obtain additional information by visiting the Caltrans IP website at: <https://ip.onramp.dot.ca.gov/>. If you need assistance filling out this form, contact your manager/supervisor.

THIS AGREEMENT is dated _____, 20____, and made by and between the California Department of Transportation (Caltrans) and _____.

(Recipient name and address)

RECITALS:

- (A) Caltrans possesses Confidential Information that is nonpublic, confidential, and proprietary, which Caltrans is willing to disclose to Recipient on the terms and conditions set forth below; and
- (B) Recipient, for valuable consideration the sufficiency of which is hereby acknowledged, agrees to the following terms and conditions in accepting the Confidential Information, and to use the Confidential Information solely for the purpose of: _____ ("the Permitted Purpose").

NOW IT IS AGREED AS FOLLOWS:

1. **"Confidential Information"** means any and all nonpublic information relating to the current and future operations and services of Caltrans, including but not limited to, planning, specifications, concepts, technical information, techniques, drawings, sketches, models, know-how, data, databases, electronic information, emails, processes, designs, photographs, apparatus, equipment, specifications, software programs, source code, software documentation, manuals, and formulae. The parties further agree that Confidential Information shall also include information received by Recipient prior to the execution of this Agreement and that would otherwise qualify as Confidential Information as provided herein. Confidential Information does not include information that:
 - a. Is lawfully within the public domain other than through disclosure or default by the Recipient;
 - b. Was lawfully obtained from a third party who was legally in possession of the information, and who is authorized in writing by Caltrans to disclose it;
 - c. Was independently developed by Recipient without the use of the Confidential Information, or any derivative works, and without the use of knowledge learned from accessing the Confidential Information; or
 - d. Is subject to the requirements of the California Public Records Act ("CPRA") or otherwise required to be disclosed by order of a court, administrative agency, or other governmental body with competent jurisdiction provided that Recipient notifies Caltrans within three (3) business days of receipt of such an order so that Caltrans may, in its sole discretion, seek a protective order from a court of competent jurisdiction preventing or restricting disclosure. Recipient will not oppose any action instituted by Caltrans but will instead cooperate with Caltrans to obtain an appropriate protective order.
 - e. Was ordered to be publicly released by court order or by the lawful order of a governmental agency.
2. **Recipient undertakes for a period of five (5) years from the date of this Agreement:**
 - a. To protect the secrecy of all Confidential Information that it may acquire in any manner by, at a minimum, implementing reasonable, industry-standard controls to maintain its confidentiality and to prevent unauthorized disclosures;
 - b. To prevent the Confidential Information from falling into the public domain or into the possession of unauthorized individuals or entities;
 - c. To use the Confidential Information exclusively for the Permitted Purpose, unless Recipient first obtains the written consent of Caltrans;
 - d. Not to disclose such Confidential Information whether verbally or in writing, except to authorized representatives of Recipient who needs to have access to the Confidential Information in order to effectuate the Permitted Purpose;
 - e. To inform any third party to whom Recipient discloses Confidential Information that it is confidential, and obtains their written agreement to keep it confidential on the same terms as this Agreement;
 - f. To return Confidential Information immediately upon Caltrans' request or when no longer required for the purposes of this Agreement, or to destroy all copies of the Confidential Information maintained in hard copy, electronic media, or in any other form whatsoever, as requested by Caltrans; and
 - g. To notify Caltrans immediately upon learning of any unauthorized disclosure by someone or some entity to which the Recipient has disclosed the Confidential Information, and to cooperate with Caltrans in enforcing Caltrans' legal right to protect the Confidential Information.

CALTRANS INTELLECTUAL PROPERTY (IP) NONDISCLOSURE AGREEMENT FORM

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3. **Indemnification:** Recipient agrees to indemnify, defend, and hold harmless Caltrans, its officers, agents, and employees from any and all third party claims, costs (including but without limitation reasonable attorneys' fees and costs), and losses arising in any way as a result of a violation of this Agreement or acts or omissions of Recipient or any of Recipient's affiliates, agents, subcontractors, employees, or representatives. Such defense and payment will be conditioned upon the following:
 - a. Caltrans will notify Recipient of any such claim in writing and tender the defense thereof within a reasonable time; and
 - b. Recipient will have sole control of the defense of any action on such claim and all negotiations for its settlement or compromise; provided that (i) when substantial principles of government or public law are involved, when litigation might create precedent affecting future State operations or liability, or when involvement of the State is otherwise mandated by law, the State may participate in such action at its own expense with respect to attorneys' fees and costs (but not liability); (ii) where a settlement would impose liability on the State, affect principles of California government or public law, or impact the authority of the State, Caltrans will have the right to approve or disapprove any settlement or compromise, which approval will not unreasonably be withheld or delayed; and (iii) the State will reasonably cooperate in the defense and in any related settlement negotiations.
4. **Severability:** The parties hereto agree that if any provision of this Agreement is found to be illegal or unenforceable, such term or provision shall be deemed stricken, and the remainder of the Agreement shall remain in full force and effect. Either party having knowledge of such term or provision shall promptly inform the other of the presumed non-applicability of such provision.
5. **Assignment:** This Agreement shall not be assignable by the Recipient in whole or in part without the written consent of Caltrans. In the event Caltrans approves an assignment in writing, Recipient remains jointly and severally liable for the obligations set forth in this Agreement.
6. **Waiver of Rights:** Any action or inaction by Caltrans or the failure of Caltrans on any occasion, to enforce any right or provision of this Agreement shall not be construed to be a waiver by Caltrans of its rights hereunder and shall not prevent Caltrans from enforcing such provision or right on any future occasion. The rights and remedies of Caltrans hereunder are cumulative and are in addition to any other rights or remedies that Caltrans may have in law or equity.
7. **Survival:** This Agreement shall govern all communications between the parties. Recipient understands that its obligations under Paragraph 2 shall survive the termination of any relationship between Recipient and Caltrans. Upon termination of any relationship between the Parties, Recipient will promptly deliver to Caltrans all documents and other materials furnished to Recipient by Caltrans and will certify in writing that any remaining Confidential Information of Caltrans or derivative works thereof have been destroyed and removed from the possession of Recipient. Notwithstanding the foregoing, the Recipient shall be entitled to retain in its legal department a confidential file containing one (1) archival copy of all such information strictly for purposes of monitoring of its ongoing obligations under this Agreement and its compliance therewith.
8. **No License:** No license, either express or implied, is granted hereby to Recipient, with respect to the Confidential Information other than to use the Confidential Information in the manner and to the extent authorized by this Agreement. Recipient agrees that Confidential Information is and will remain the sole proprietary property of Caltrans.
9. **No Intellectual Property Rights in Confidential Information:** Recipient will not apply for or obtain any intellectual property protection in any of the Confidential Information or related derivative works. All intellectual property rights to any and all materials created, developed, and/or derived from the use of the Confidential Information shall be and remain the sole intellectual property of Caltrans, and Recipient hereby agrees to automatically transfer and assign to Caltrans any and all rights in any derivative works, created, developed or derived from the use of the Confidential Information.
10. **No Liability or Warranties:** In no event shall Caltrans be liable for any damages arising from or related to this Agreement. Caltrans expressly disclaims any and all warranties, express or implied, including without limitation any implied warranty of merchantability, fitness for a particular purpose and non-infringement of third-party rights. Permission to use the Confidential Information is granted "AS IS." No warranty is made that the use of the Confidential Information will be uninterrupted, or that any errors or defects in the Confidential Information will be corrected. No warranty is made regarding the results of use of the Confidential Information. Requester assumes all responsibility for investigating and avoiding any possible infringement of copyright laws or reproduction rights, and any and all other third party intellectual property rights, that may arise from the reproduction or publication of the Confidential Information and/or derivative works.
11. **Entire Agreement; Duplicate Originals:** This Agreement constitutes the entire agreement between both parties pertaining to the Confidential Information disclosed herein and supersedes all prior or contemporaneous oral or written agreements or transactions concerning such Confidential Information. This agreement may be executed in duplicate counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same agreement. Any and all other written or oral agreements existing between the parties hereto regarding such transactions are expressly canceled.
12. **Modification by Subsequent Agreement:** The terms of this Agreement may only be modified by a written subsequent agreement duly signed by both parties hereto. Variance from the terms and conditions of this Agreement by Recipient or other written notification will be of no effect.

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13. **Applicable Law:** This Agreement shall be governed by and shall be interpreted in accordance with the laws of the State of California, and venue for any action to enforce the terms of this Agreement will be in Sacramento County, California.
14. **Declaratory Relief:** Recipient acknowledges that damages alone would not be an adequate remedy for the breach of any of the provisions of this Agreement. Accordingly, in addition to any other rights and remedies it may have, Caltrans shall be entitled to obtain declaratory relief from a court of competent jurisdiction preventing or restricting the disclosure or use of the Confidential Information, or any other breach of this Agreement.

Recipient:

Signature _____
Name _____
Title _____
Date Signed ____ / ____ / ____

Caltrans:

Authorized Representative Signature _____
Authorized Representative Name _____
Authorized Representative Title _____
Date Signed ____ / ____ / ____