CORRIGENDUM No. 2 TO BIDDING DOCUMENT
FOR PROCUREMENTOF COMMERICAL OFF-THE-SHELF (COTS) SOFTWARE FOR ODISHA ROAD ASSET MANAGEMENT SYSTEM (O-RAMS)

Sl. No.	Section & Clause No.	Section & Clause description as per the Bid Document	Modification as per Corrigendum No. 2
1	Section VI, Clause 2.3.4 (Page 75)	2.3.4 **Database Software and Development Tools:** The O-RAMS shall operate using a relational database management system (RDBMS) developed using fourth generation language (compatible with either Microsoft SQL Server OR Oracle latest versions or by both). **The COTS software supplier must specify the RDBMS platform (and version supporting full use database license) of his choice on which the software will operate, and provide cost of licensing the same for financial evaluation. The Client may require the COTS supplier to supply the license for the RDBMS.**	2.3.4 **Database Software and Development Tools:** The O-RAMS shall operate using a relational database management system (RDBMS) developed using fourth generation language (compatible with either Microsoft SQL Server OR Oracle latest versions or by both). The Client intends to have a full license of the RDBMS along with the COTS software and to be used as the underlying technology for all O-RAMS applications. **It may also be used for developing any other application in future by Client.** **The COTS software supplier must specify the RDBMS platform (and version supporting full use database license) of his choice on which the software will operate, and provide cost of licensing the same for financial evaluation. The Client may require the COTS supplier to supply the license for the RDBMS.**
2	Section III, Sl. No. 4. Postqualification Requirements (ITB 38.2) (b) Experience and Technical Capacity (Page 38)	(b) **Experience and Technical Capacity** The Bidder shall furnish documentary evidence from the Purchasers to demonstrate that it meets the following experience requirement(s): (i) In last 10 years COTS Software (with RIS, PMS and BIS) must have been supplied to and implemented in at least five road agencies. (ii) Amongst road agencies, at least three must be using the COTS Software satisfactorily till the date of bid submission; or Amongst road agencies, at least three must have renewed AMC for at least 3 years after implementation and acceptance of the COTS software.	(b) **Experience and Technical Capacity** The Bidder shall furnish documentary evidence from the Purchasers to demonstrate that it meets the following experience requirement(s): (i) In last 10 years COTS Software (with RIS, PMS and BIS) must have been supplied to and implemented in at least five road agencies. (ii) Amongst road agencies, at least three must be using the COTS Software satisfactorily at least for last three years; or Amongst road agencies, at least three must have renewed AMC for at least 3 years after implementation and acceptance of the COTS software.

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		The documentary evidences shall include the following: (i) Name of all agencies and address including contact number, and details on number and type of licenses with mention of year in which system were accepted in respective agencies. A certificate from purchaser/ agencies is required confirming implementation year; (ii) Documentary evidence such as support agreement / Annual Maintenance Contract etc. to fulfill requirement of 4.b (i) & (ii)	**The documentary evidences shall include the following:** (i) Name of all agencies and address including contact number, and details on number and type of licenses with mention of year in which system were accepted in respective agencies. A certificate from purchaser/ agencies is required confirming implementation year; (ii) Documentary evidence such as support agreement / Annual Maintenance Contract etc. to fulfill requirement of 4.b (i) & (ii)
3	Section VI, Clause 1.1.1 (Page 63)	1.1.1 The components of O-RAMS will be implemented at all Divisions, Circles, and Headquarter offices of OWD. There are approximately forty (40) Division offices throughout Odisha which are managed by Circles, the latter expected to number up to about ten (10) in the near future. The main server running the application and database will be housed in the Data Center at Department of IT or National Informatics Centre (NIC), located offsite from the OWD Headquarters. It will have a dedicated link to the O-RAMS management unit at OWD Headquarters to access the full functional version of the application. The connectivity will likely to be either via OSWAN (Odisha State Wide Area Network) or through a leased-line service, the modality of which will be decided at a later stage. The web-version will be hosted through a web server. It will be accessible to all Division and Circle offices through a user ID and password. The user ID and password will also be used to authenticate the user for accessibility to various functions and levels of O-RAMS. A schematic representation of the proposed configuration/ architecture at various levels/ offices in the OWD is shown in Figure 1.	1.1.1 The components of O-RAMS will be implemented at all Divisions, Circles, and Headquarter offices of OWD. There are approximately forty (40) Division offices throughout Odisha which are managed by Circles, the latter expected to number up to about ten (10) in the near future. The main server running the application and database will be housed in the Data Center at Department of IT or National Informatics Centre (NIC), located offsite from the OWD Headquarters. It will have a dedicated link to the O-RAMS management unit at OWD Headquarters to access the full functional version of the COTS application. All functions related to PMS and administrative operations such as managing rights for user, role etc. will be performed in HQ accessing database through dedicated leased line. The connectivity will likely to be either via OSWAN (Odisha State Wide Area Network) or through a leased-line service, the modality of which will be decided at a later stage. The web-version of the COTS software and bespoke systems (GIS, TIS and RMMS) will be hosted through a web server separately. It will be accessible to all Division and Circle offices through a user ID and password. The user ID and password will also be used to authenticate the user for accessibility to various functions and levels of O-RAMS (COTS and bespoke applications). It is required that the remote users will access COTS software through a web

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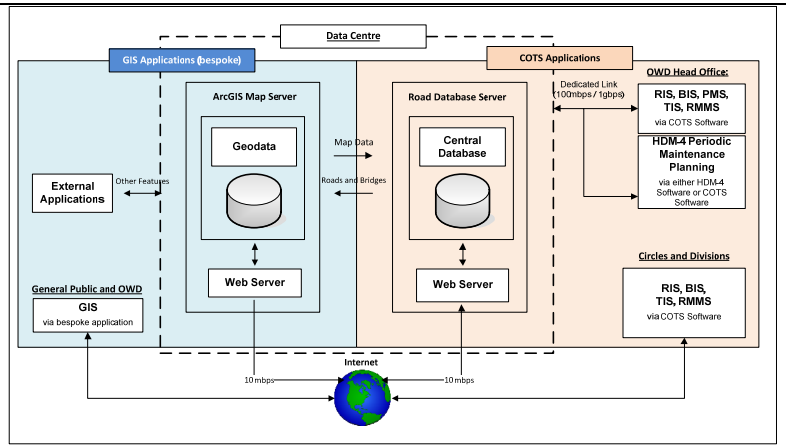
<tr><th>Sl. No.</th><th>Section & Clause No.</th><th>Section & Clause description as per the Bid Document</th><th>Modification as per Corrigendum No. 2</th></tr>
<tr><td></td><td></td><td> 

Figure 1: Proposed O-RAMS System Architecture</td><td>browser to perform selected functions such as view, edit, query, print data/ reports.

A schematic representation of the proposed configuration/ architecture at various levels/ offices in the OWD is shown in Figure 1.

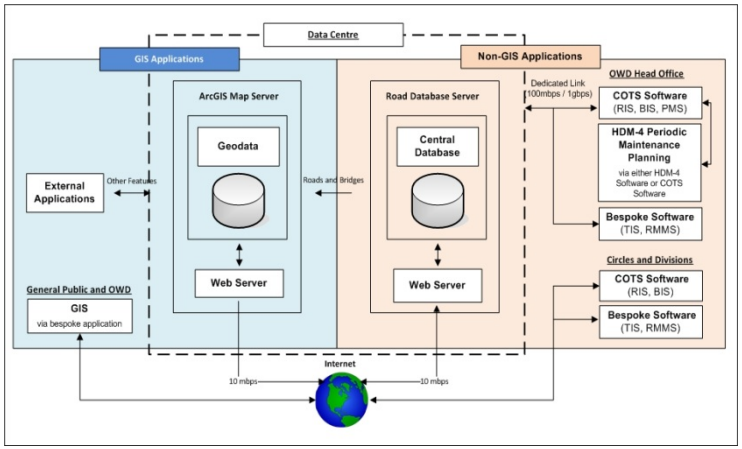


Figure 1: Proposed ORAMS System Architecture</td></tr>
<tr><td>4</td><td>Section VI, Clause 2.5.1 (Page 76)</td><td>2.5.1 System Integration: The geographic location of all road assets will be defined in external GIS being developed separately by the Implementation Consultant. This will be linked to the O-RAMS database containing network definition and attribute data. The integration requirements will be jointly undertaken by the Implementation Consultant and the COTS software supplier.</td><td>2.5.1 System Integration: The geographic location of all road assets will be defined in external GIS being developed separately by the Implementation Consultant. This will be linked to the O-RAMS database containing network definition and attribute data. The integration requirements will be jointly undertaken by the Implementation Consultant and the COTS software supplier.

The integration of the TIS and RMMS with the COTS software will entail, as a minimum, a read-only access of the data contained in the COTS database by the external application for purposes of referencing the locations of external data against the road network entities that are managed by the COTS software. Data that is generated by</td></tr>
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			the external application and subsequently to be populated in the COTS could be done through an import process. Any changes to the network entities that have occurred by time of importing this data should be tracked by the COTS software through a log file and the data in the external systems will be corrected manually."
5	Section VI, Clauses 1.4.5 and 1.4.6 (Page 68 & 69)	1.4.5 The RIS data model shall be capable of managing data recorded as both point (e.g. km stones) and linear elements (e.g. roughness data), and as well be able to accommodate overlapping locations for certain types of attributes (e.g. roughness data recorded against lanes, more than one traffic sign at one location, etc.). It should also allow for interface with a geographic information system (GIS) for mapping purposes. 1.4.6 The Client is in the process of establishing a Geographic Information System (GIS) using ESRI tools, including ArcMap client software and ArcGIS Server. The COTS software should be able to link seamlessly to the geo-database for integration of attribute and map data to display GIS thematic maps. The COTS software should have capability to provide attribute data of roads in a user-configurable interface. It should have the following capabilities for: • Integration with road, culvert, bridge, R-O-W feature and related data; • GIS data export feature to external application(s); • GIS map plotting/ thematic map preparation capability; • Dynamic segmentation capability (to be able to show the attribute(s) of a segment or group of segments as needed); • A mechanism to compare the depicted length of the graphical representation with the defined length as stored in O-RAMS, in order to ensure correspondence of data and to highlight anomalies for user investigation; • From the O-RAMS, while reviewing a particular road section, the user should be able to view and highlight that road section. The interface should highlight if there is any missing GIS representation for a given road section; • Selected attributes of the road section, as stored in O-RAMS, should be able to be viewed. These attributes	1.4.5 The RIS data model shall be capable of managing data recorded as both point (e.g. km stones) and linear elements (e.g. roughness data), and as well be able to accommodate overlapping locations for certain types of attributes (e.g. roughness data recorded against lanes, more than one traffic sign at one location, etc.). 1.4.6 The Client is in the process of establishing a Geographic Information System (GIS) using ESRI tools, including ArcMap client software and ArcGIS Server. The COTS software should have capability to provide attribute data of roads in a user-configurable interface to external GIS.

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		should include all section-wide attributes including section identifier, road identifier, defined direction of the section, road classification etc.; • The GIS interface should enable viewing of video data as stored or referenced by the COTS software, according to the direction and chainage of the video lookup tables stored in the database.	
6	Section VI, H. Attachments (Page 86)	**H. ATTACHMENTS** This bid document has no attachments.	**H. ATTACHMENTS** 1. Bridge Inventory Data Format 2. Bridge Condition Data Format

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BRIDGE INVENTORY DATA

Road Name : **Division :** **Way Point:** **Road No.** *SH No._____, MDR NO._____, ODR*

Section : **From km_____ To km_____** **Date of Inventory : (dd/mm/yy)** **Name Of Engineers : (I) (II)**

Sl. No.	Bridge Type (Major/Minor)	Chainage/ Location (km)	Name of river	Year of construction	Number of spans	Span arrangements (no. X span length in m)	Clear span (m)	Length of bridge (m) (between inner faces of dirt walls)	High level or submersible	Carriage way width between kerbs (m)	Outer to outer width of bridge (m)	Width of footpath (m)	Super structure					Wearing coat		Sub-structure									Foundation				Protection works		Skew angle (degree)	Vertical clearance (m)	Road formation level (m) at center line of CW	Direction of flow	Clear waterway (m)	Design loading IRC Class	High flood level (HFL) (m)	Lowest water level (m)	Design discharge (cumecs)	Maximum design velocity (m/sec)	Maximum Scour Level (m)	Remarks
																			Type			Thickness/ Diameter of pier (m)			Material			Pier		Abutment													
													Type (Slab/Girder & Slab/ Balanced Cantilever/ Arch / Steel Girder)	Type of bearings (elastomeric/pot-cum-PTFE/roller-rocker)	Thickness (m) (Deck Slab)	Material (RCC/PSC & RCC/Masonry/Steel)	Handrail / parapet (thickness & height in m)	Type (CC / Flexible)	Thickness (mm)	Abutment (Wall / Spill through)	Pier (Columns / Wall)	Wing wall (Return/Splay/Butter fly)	Top	Bottom	Height of pier & abutment (m)	Abutment (Masonry/PCC/RCC)	Pier (Masonry/PCC/RCC)	Wing wall (Masonry/PCC/RCC)	Type (Well/Piles/Raft/Open)	Material	Type (Well/Piles/Raft/Open)	Material	Bed	Abutment & Approach Pitching												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47

Signature : Date:

Name: Designation:

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BRIDGE CONDITION DATA

Road Name			**Road No.** SH _____ MDR _____ ODR
Bridge No.		**Bridge Location / Chainage**	**Way Point:**
Span Arrangement		**Division**	**Date of Survey** / **Surveyor's Name:**

Damage	**Cracking**										**Spalling / Loosening of Masonry**										**Corrosion**										**Settlement / Scour / Floor Protection Work**									
Substructure	**A1**		**P1**		**P2**		**P3**		**A2**		**A1**		**P1**		**P2**		**P3**		**A2**		**A1**		**P1**		**P2**		**P3**		**A2**		**A1**		**P1**		**P2**		**P3**		**A2**	
Bridge Element / **Rating** / **Type**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**	**Extent**	**Severity**
Foundation																																								
Protective Works																																	**A1-P1**		**P1-P2**		**P2-P3**		**P3-A2**		
Substructure (Abutments / Piers)																																								
Substructre (Wing.Walls)																																								
Span	**A1-P1**		**P1-P2**		**P2-P3**		**P3-A2**				**A1-P1**		**P1-P2**		**P2-P3**		**P3-A2**				**A1-P1**		**P1-P2**		**P2-P3**		**P3-A2**													
Superstructure (Girder/T-Beams/Box Girder/Steel Girder)																																								
Superstructure (Deck.Slab/Masonry Arch)																																								
	Bearings										**Expansion Joint**										**Drainage Spout**										**Others**									
Additional Comments																																								

Overall Condition Rating	**Good**	**Fair**	**Poor**	**Severe** (Very Poor)

Type	C = Concrete	M = Masonry	S = Steel	
Extent	N = Nil	F= Few	M = Moderate	E = Extensive
Severity	N = Nil	L = Low	M = Medium	H= High

Signature: Date:

Name: Designation:

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Sl. No.	Section & Clause No.	Section & Clause description as per the Bid Document	Modification as per Corrigendum No. 1
7	Section VI, Clause 2.5.2.1 (Page 76)	2.5.2.1 The COTS software supplier will train O-RAMS core group (Implementation Consultant's staff and selected Client staff of Asset Management Cell) during configuration of the software at Bhubaneswar for three (3) weeks.	2.5.2.1 The COTS software supplier will train O-RAMS core group (Implementation Consultant's staff and selected Client staff of Asset Management Cell) during configuration of the software at Bhubaneswar for three (3) weeks. It is expected that about 10 members will take part in the COTS software training. This training will focus on a train-the-trainer type syllabus so that they can carry forward configuration work with support from COTS software supplier. Training on System use to OWD staff is the responsibility of Implementation Consultant.
8	Section VI, Clause 2.4.2 (Page 75)	2.4.2 **User and usage administration:** The Client requires unlimited named users. A maximum five (5) **concurrent** users will access the system, of which two (2) concurrent users will be able to use analytical functions. The data editing/importing will be initially performed at OWD Headquarters. This function may be shifted to the remote offices as implementation and roll-out progress in future. Therefore, additional licenses for the COTS software will likely be required allowing data editing/importing from offices across the State. The COTS software supplier should indicate a unit price for such additional licenses.	2.4.2 **User and usage administration:** The Client requires unlimited named users. A maximum five (5) **concurrent** users will access the system, of which two (2) concurrent users will be able to use "analytical functions". **Analytical functions** concerns to all functions related to PMS and administrative operations such as managing rights for user, role etc. The data editing/importing will be initially performed at OWD Headquarters. This function may be shifted to the remote offices as implementation and roll-out progress in future. Therefore, additional licenses for the COTS software will likely be required allowing data editing/importing from offices across the State. The COTS software supplier should indicate a unit price for such additional licenses.

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Sl. No.	Section & Clause No.	Section & Clause description as per the Bid Document	Modification as per Corrigendum No. 1
9	Section VI, G. Technical Responsiveness Checklist, Tech. Require. No. 4, Road Information System (Page 84)	5. Support to field data collection devices	5. Support to field data collection devices – Road Information System (RIS) is able to import the data collected in standard database formats by various data collection devices.
10	Section VI, G. Technical Responsiveness Checklist, Tech. Require. No. 8, Application, Database and Technology (Page 85)	2. System architecture (Web-based for each of the versions including ability to switch to offline mode) [also specify supported modes eg. Desktop, Client- Server etc.]	2. System architecture (Web-based for each of the versions) [also specify supported modes eg. Desktop, Client- Server etc.]

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