OIL INDIA LIMITED
KG BASIN PROJECT
KAKINADA

AMENDMENT No. 1 Dated 23.08.2022 TO
TENDER No. CEI1059P23

1.0 This amendment is issued to notify the following:

Bid Closing / Bid Opening extended as per following:

i) Bid Closing Date & Time : Extended up to 02.09.2022 [1300 Hrs (IST)]
ii) Bid Opening Date & Time : Extended up to 02.09.2022 [1500 Hrs (IST)]

All other terms and conditions of the Tender remain unchanged.

2.0 A consolidated reply / clarification to all pre-bid queries has been enclosed herewith for ready reference.

Oil India Limited
KG Basin Project

IFB No. CEI1059P23 for 'Hiring of Geophysical and Geotechnical Investigation surveys for Offshore Block KG/OSDSF/GSKW/2018'

Bidders' Queries & Client's Responses

Sl. No.	Query reference (Clause, Section, Page no)	Description	Query/Observation/Proposal	Client's Clarification
1.	General	Tentative Schedule	Please advise tentative date of start of works	Tentatively LoA is expected to be issued by end of September / Early October
2.	General	Detailed BOQ	Please provide detailed BOQ for geotechnical investigation works indicating details like the in-situ tests, laboratory tests etc.	Details are given in Proforma B and requirements in specifications. Bidder shall work out the number of tests in accordance with the requirements.
3.	General	Coordinates of BH and PCPT locations	Please provide the BH and PCPT location coordinates in WGS 84 for better understanding.	Coordinates are provided in the attached drawings. The distance between BH and PCPT shall not exceed 3m.
4.	General	Number of locations	Kindly confirm the number of locations in present scope of work.	Number of locations shall be in accordance with specifications.

Sl. No.	Query reference (Clause, Section, Page no)	Description	Query/Observation/Proposal	Client's Clarification
5.	Part 3, Section-2, 3.0 Scope of work, Note-2, Page 80 of 200	"….Note-2: Two number of Cone Penetration Test to a depth of 100m adjacent to the borehole drilled one for east and one for west field…'	Bidder understands that PCPT up to 30 m to 40m would be adequate to meet the objective under this project. Bidder would like to propose a cost-effective solution to deploy top continuous push CPT from self-elevated platform / Jack-up to acquire CPT data up to 30 – 40m with following refusal criteria. Cone resistance (qc > 50 Mpa) • Maximum unit skin friction (fs, 1 MPa) • Slope >=15° • Total refusal (Qt > 18 Ton) Please confirm the acceptance.	Not acceptable. Bidder shall follow the specifications.
6.	Part 3, Section-2, PART-B: Geophysical Surveys, Survey Requirement sub clause (i) Page 84 of 200	"…Pre-engineering surveys for platform locations shall consists of bathymetric survey for area covering 1.5 km x 1.5 km with grid spacing of 100 m x 100 m in NS-EW direction. In addition to overall 100m x 100m survey in the overall area…"	The estimated water depth is in the order of 5m to 15m. 100m line spacing would lead to data gap. Please advise 100% seabed coverage of Multibeam bathymetry data is requirement. If 100% seabed coverage in data is required, contractors are to run additional lines and hence more time will be required. Please confirm acceptance.	Not acceptable. Bidder shall follow specification clause B.2(i). Refer to attached drawings for details of line spacing.
7.	Part 3, Section-2, Part B Geophysical Surveys, B.2 Survey Requirements, Point-n, Page 85 of 200	"…COMPANY shall have the option to designate its engineers to supervise the data collection and interpretation onboard. The vessel shall have suitable accommodation for at least two (2) COMPANY representatives…"	Our SEP is built for carrying out Geotechnical investigation with no onboard accommodation facility. However, accommodation can be provided in the supporting towing tug boat.	Not acceptable. Accommodation shall be provided.

Sl. No.	Query reference (Clause, Section, Page no)	Description	Query/Observation/Proposal	Client's Clarification
			Please confirm the acceptance	
8.	Part 3, Section-2, Part C Geotechnical Investigations, C.1 Scope of works point ii, Page 100 of 200	"…To install satellite-based data communication system…"	VHF Radio and cellular phone will be made available onboard for communication. Please confirm acceptance	Not acceptable. Bidder shall follow specification for data transfer.
9.	Part 3, Section-2, Part C Geotechnical Investigations, C.1 Scope of works point ii, Page 100 of 200	"…Position the Geotechnical vessel/ jack- up rig / Barge Jack-Up Rig /Barge using DGPS with an accuracy of +/- 2 meter…"	In marine environment positioning of jack up barge with +/-2 m accuracy may not be possible. We propose +/-5 m accuracy for positioning. Kindly confirm the acceptance.	Not acceptable.
10.	Part 3, Section-2, Part C Geotechnical Investigations, C.4 Technical Specifications, Point c, Page 104 of 200	On-board laboratory work	We propose to carry out basic classification tests like Item Nos. 1,2 and 9 onboard, whereas other advanced tests will be carried out in our laboratory at Navi Mumbai. Please confirm acceptance.	Bidders shall follow specification requirements as much as possible. Limitation if any shall be based on mutual agreement and sample should be intact and not disturbed during transfer.

11.	B.1: OBJECTIVES:	Geophysical survey using **multi-beam Echo Sounder**, single beam Echo Sounder, Side Scan Sonar, Sub-Bottom Profiler, and Magnetometer are required to be carried out around the proposed well locations and pipeline routing.	In this section only Multibeam Echosounder is mentioned. Elsewhere in the document only Single beam Echosounder is discussed. Please clarify, if Multibeam survey is required or not. If multibeam survey is required, the lines spacing mentioned in B2 Survey requirements cannot be considered for LKM calculation	Bidder to use suitable equipment based on survey line spacing provided.

			and LKM shall depend on depth and line spacing for the required coverage by the MBES.	
12.	B.2: SURVEY REQUIREMENTS:	**d.** The pipeline route should be investigated by means of minimum five (5) longitudinal profiles – one center line along the proposed route and two wing lines at 50m and 200m on either side of the proposed route.	This will provide bathymetry up to 200m on either side i.e. bathymetry corridor coverage width of 400m and Side Scan Sonar coverage up to 300m on either side i.e. a corridor coverage up to 600m. Please confirm this is acceptable. If not, to achieve a 700m corridor width coverage of Bathymetry and Side Scan Sonar you would need 7 line, 1 Centre line, 2 – 50m, 2 – 200m and 2 – 350m spaced lines, one each on either side of the Centre line.	The bathymetry shall be carried out as per B.2(d). See attached drawing for clarity. Side scan sonar coverage shall also be limited to 400m, i.e. 200m on either side of the pipeline corridor.
13.	B.5 EQUIPMENT AND TECHNICS 2 Horizontal Control	a. Primary positioning for the offshore survey is to be provided by a DGPS system. b. This system shall be capable of providing accuracy within ±2m through all phases of the survey, 24 hours per day. It is accepted that 22 hours per day of system operability may be the norm. c. ….	dGPS system providing sub-metre accuracy as compared to the ±2m accuracy specified shall be used, however points b to j of this section are not relevant as they are applicable and relevant to older, obsolete terrestrial beacon-based radio navigation systems and not dGPS hence the same may be deleted.	Bidder to provide positioning system for the accuracy sought in the tender, ie. ±2m.

14.	B.5 EQUIPMENT AND TECHNICS 5. Bathymetry	An Odom DF3200 echo sounder or similar dual frequency precision echo sounder is to be used. The transducer should preferably be hull mounted. Any over side mounting will have to be approved by COMPANY before CONTRACTOR may use it. **A temperature and salinity probe is to be provided.** The probe must be able to sample the full water column from surface to seabed. Soundings shall be reduced to Chart Datum using cotidal constants at intervals separated by 0.1m of mean spring range	Instead of temperature and salinity probe, we propose to use Sound Velocity Probe. The Depth Temperature and Salinity probe essentially logs Temperature Pressure and Salinity as the probe is lowered and retrieved. This Salinity, Temperature and Depth converted to Pressure is read into a software to calculate the Sound Velocity in water which is then set on the Echo Sounder to calibrate it. In the case of using a Sound Velocity Probe, the probe measures the time of flight of an acoustic ping over a fixed short distance to determine the sound velocity directly, which is then set on the Echo Sounder to calibrate it. Please confirm whether it is acceptable. B.5 EQUIPMENT AND TECHNICS, 4 Vertical Control clearly states that Predicted tides for the Kakinada Port shall be used for reducing raw water depths to Chart Datum. Therefore, the statement Soundings shall be reduced to Chart Datum using co-tidal constants at intervals separated by 0.1m of mean spring range, under B.5 EQUIPMENT AND TECHNICS, 5 Bathymetry, Sub-Section a. last line be considered for deletion as it conflicts with the requirement stated at B.5 EQUIPMENT AND TECHNICS, 4 Vertical Control.	Not acceptable. Bidder to follow bid specifications.

15.	B.5 EQUIPMENT AND TECHNICS 7. Sub Bottom Profile	Sub bottom profiling shall be performed with a system suitable to giving minimum penetration up to 10m or bedrock, whichever is shallower, so as to establish the geometry, structure and configuration of the geological strata along the pipeline corridors.	Two different specifications are mentioned with respect to sub bottom profiler depth of penetration where one says, “minimum up to 10m or bedrock, whichever is shallower” while the other reads “500 metres below seabed”. From our understanding of the project description, “500 metres below seabed” appears to be a typographical error. Request confirm the same please.	Bidder shall mobilize equipment to achieve penetration as per B.5 7 Sub Bottom profile.
	B.7: EQUIPMENT: Table on Page 92-93 item 5 under sub-section xiii. Indicative list of equipment but not limited to the following:	Sub bottom profilers of Sparker or equivalent type, with operating frequency up to 3.0 kHz, capable of operating in water depths up to 200 m, acquiring the data up to 500 meters below seabed. Bidder / contractor to indicate its equipment, systems and processes as per OGP/UKOOA/IMCA guidelines		
16.	B.6: SPECIAL CONDITIONS:	i. The outputs and all deliverables, reports, etc. shall be handed over to in accordance with the delivery schedule. Survey and investigation work shall be carried out round the clock 24 hrs. each day on continuous basis till completion of full Scope of Work. The entire scope of work has to be completed within **50 (fifty) days from the date of commencement of work.**	Tender Page 2, item p) in the table indicates the entire contract duration as 3 years, however under this section it is mentioned that the entire SOW of work has to be completed within 50 days from the date of commencement of work. Kindly clarify.	Entire Scope of Work has to be finished as per the timeline provided. However, Bathymetry and Side Scan Sonar survey shall be repeated for locations prior to jack-up rig mobilization in PART-D in case the difference between PART-B surveys and rig mobilization is more than 6 (six) months. Therefore, the duration of the contract is for 3 Years to accommodate the above.
17.	B.11 DIGITAL DATA Seafloor Mapping Survey:	Backscatter data will be delivered in ASCII XYZ format.	Side Scan Sonar backscatter data is acquired in binary format and cannot be provided in ASCII XYZ format.	Acceptable.

	Second point			
18.	B.11 DIGITAL DATA Seafloor Mapping Survey: Fourth point	Seafloor intervention outlines, if required in the project specifications, shall be delivered as polygon features in a GIS-compatible format.	Shall be provided in KML or KMZ format or AutoCAD DXF or DWG formats. Please confirm acceptable.	Acceptable.
19.	B.11 DIGITAL DATA Seventh Point	Vessel and sensor tracks shall be supplied as line features. The files shall be delivered in UKOOA P1/90 format.	Vessels and sensor tracks shall be supplied as line features that can be reviewed in AutoCAD drawing files in DXF or DWG formats and not in UKOOA P1/90 format. Kindly note the UKOOA P 1/90 Format is required in 2D/3D seismic surveys not such shallow seismic surveys. As indicated, we shall provide vessel and all sensor tracks as required in AutoCAD DXF or DWG formats.	AUTOCAD format is acceptable.
20.	B.11 DIGITAL DATA Sub-Seafloor Mapping Survey: sub-bottom profiling:	Sensor position in UKOOA P1/90 and P2/94 format. Contractor should deliver raw shot gather data with merged navigation (not resampled) as well as processed data (with common mid-point/image navigation merged), and the processing shall be agreed with OIL.	Not applicable in Shallow seismic sub bottom profiling. We are doing a single channel seismic profiling not multichannel.	Agreed.
21.	B.11 DIGITAL DATA Sub-Seafloor Mapping Survey: sub-bottom profiling:	Magnetic field data in ASCII X Y and Magnetic Field File; Positioning data for magnetometer sensor in UKOOA P1/90 and / or P2/94 format (alternatively IOGP P1/11 and P2/11)	Will provide track lines in AutoCAD DXF/ DWG formats. Please confirm acceptable.	Acceptable.

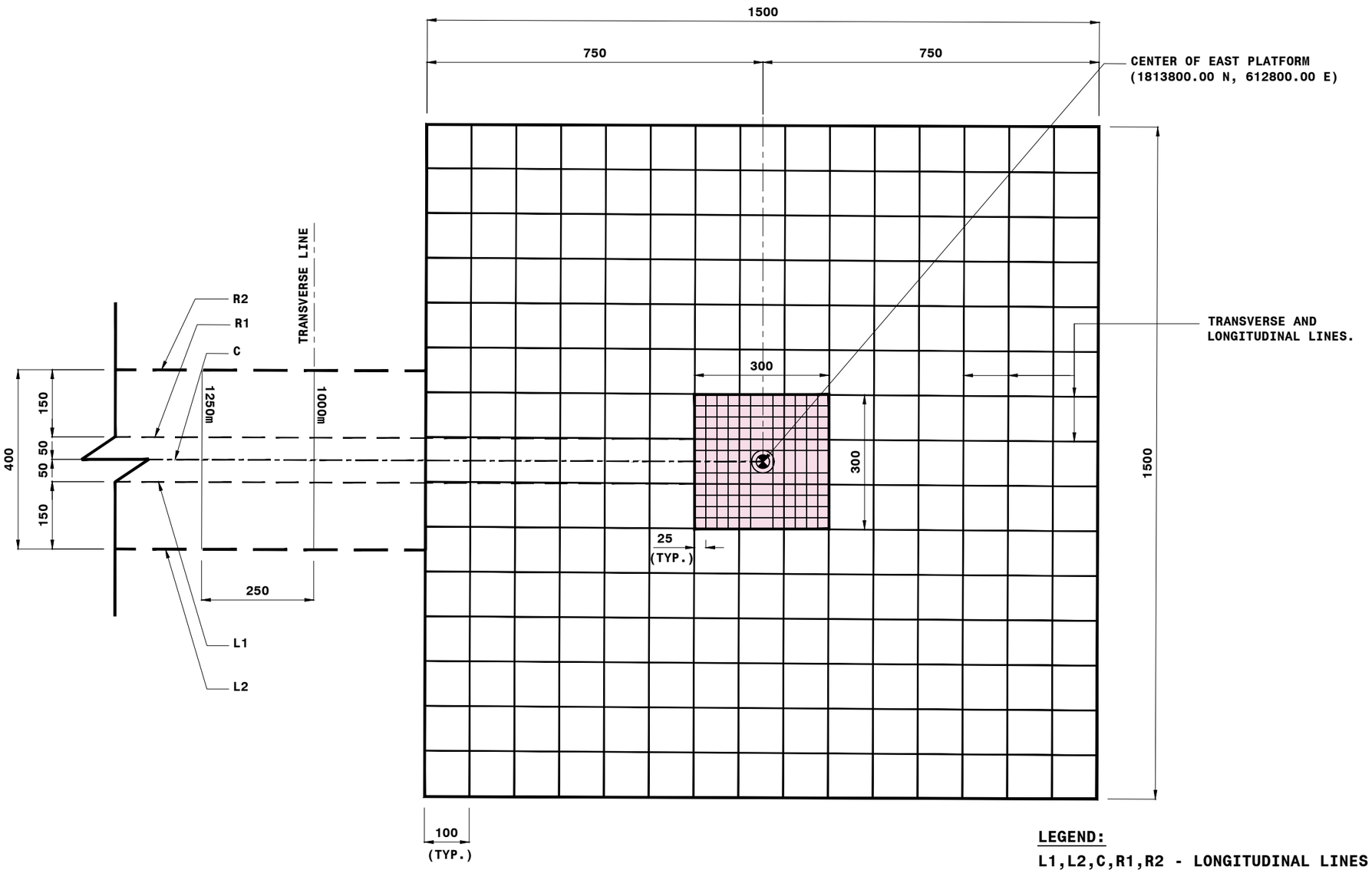
22.	B.11 DIGITAL DATA GIS based ground model of soil properties / conditions across the field	Geographic Information System (GIS) based data presentation for geophysical data shall form part of the deliverables by the Contractor. The final GIS data delivery is to consist of an ESRI ArcGIS package with all the data used and produced during the different geophysical studies (data in GIS based format shall be provided to the Contractor) including but not limited to the following:	All Geophysical data shall be presented in AutoCAD DXF/ DWG formats and not in any GIS format. Please confirm acceptable.	Acceptable.
23.	C1 Scope of Works & C.4 TECHNICAL SPECIFICATIONS:	• Two number of geotechnical bore holes at Centre of platform (one for east and one for west) to a minimum depth of 100m through all types of soil strata for east and west field • Two number of Cone Penetration Test to a depth of 100m adjacent to the borehole drilled for east and west field. & The following in-situ tests shall be performed in non-drilling mode: • Cone penetration test with pore pressure measurement (CPTU) • Full-flow penetrometer tests (T-bar or Ball) – standard and cyclic • Field vane test (FVT) - intact, residual and remoulded • Pore-pressure dissipation test using standard CPTU cone (PPDT)	As per the SoW, there will be two investigation locations where 100m soil sampling & 100m PCPT borehole are to be carried out at each location for jack-up leg penetration analysis whereas Technical Specification defines to carry out non-drilling mode PCPT, T-bar, ball penetrometers, Field Vane Shear and Dissipation tests, advance lab testing (static, dynamic & geological testing). We presume they are inadvertently put in technical specifications, please confirm.	Bidder's understanding is incorrect. Bidder shall follow specifications.

24.	C1 Scope of Works & C.4 TECHNICAL SPECIFICATIONS:	• Two number of geotechnical bore holes at Centre of platform (one for east and one for west) to a minimum depth of 100m through all types of soil strata for east and west field • Two number of Cone Penetration Test to a depth of 100m adjacent to the borehole drilled for east and west field. & • Sampling at 3m, interval between 30 to 100m depth below sea-bed, with PCPT (Piezo Cone Penetration Test), so that untested and un-sampled section do not exceed 2.5m.	As per the scope of work, there is separate borehole for PCPT. However, Alternate sampling & PCPT testing is mentioned after 30m to 100m depth in technical specifications. We understand at each location, the following 2no boreholes to be performed: - 100m continuous CPT - 1Adjacent to the above CPT location, 100m sampling borehole is to be performed with the sampling frequency as per the technical specifications Kindly confirm.	Bidders understanding is correct.
25.	C.4 TECHNICAL SPECIFICATIONS:	Soil sampling shall be done in non-drilling mode using the following type of samplers (as applicable): 1. Piston samplers having truly stationary piston with fixed reference to seafloor. 2. Box corer (besides sampling, miniature CPT/Full-flow penetrometer / vane shall also be performed on retrieved Box cores) 3. Vibro-corer for hard / non-cohesive soils	We presume they are inadvertently put and not part of the scope called for. Please confirm.	Bidders understanding is correct.
26.	C.4 TECHNICAL SPECIFICATIONS:	Advanced Geotechnical Testing	Please confirm that these lab testing are required for jack-up rig leg penetration analysis	Bidders understanding is correct.

ENLARGED VIEW OF PLATFORM SURVEY GRID-EAST PLATFORM

NOTES

1. ALL DIMENSIONS ARE IN METERS AND LEVELS ARE IN METERS U.N.O.
2. BATHYMETRY IS TAKEN FROM OLD PROJECT AND IT IS TO BE CONSIDERED AS PRELIMINARY
3. CONTOUR LINES ARE APPROXIMATE.



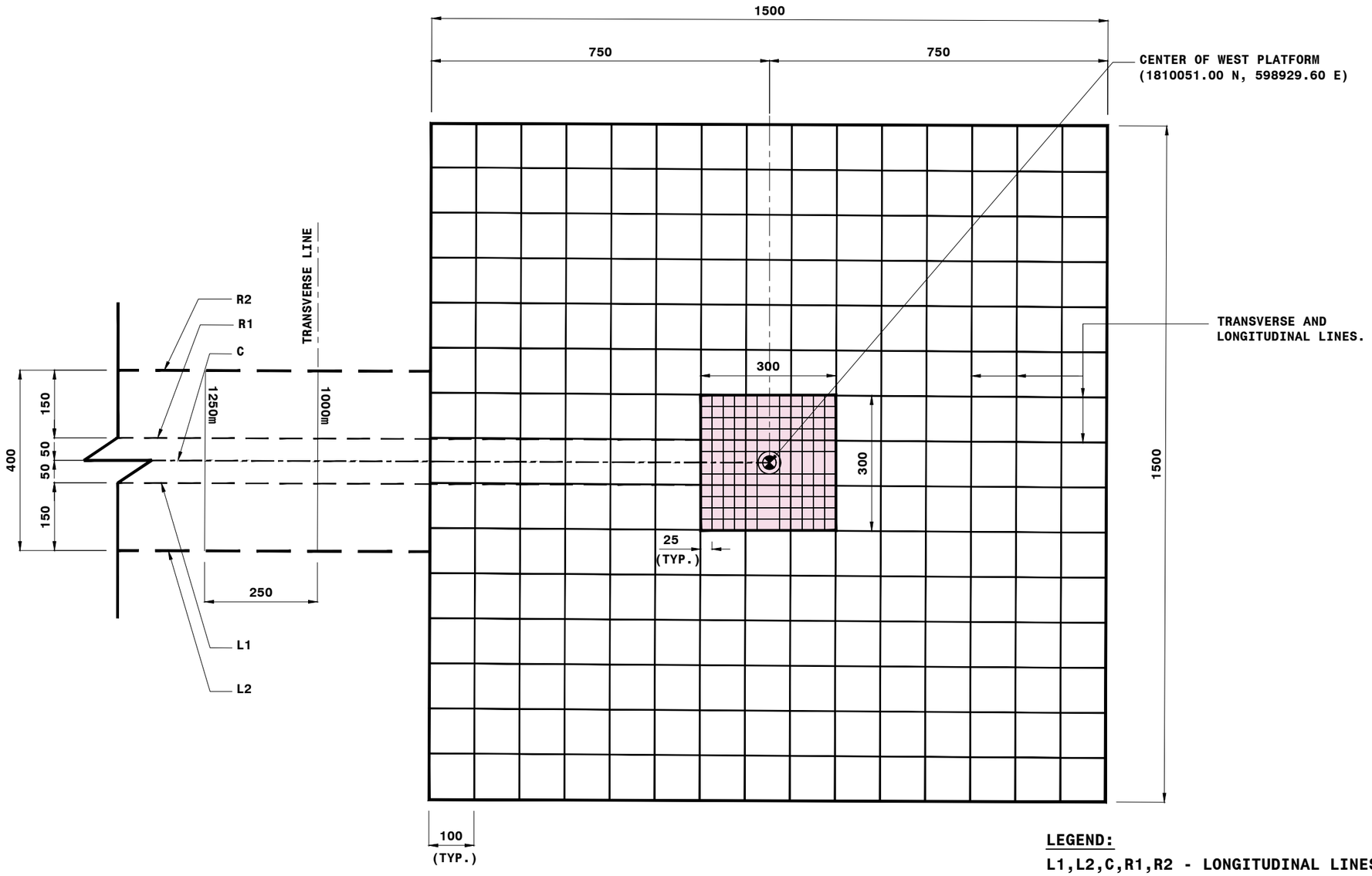
LEGEND:

L1,L2,C,R1,R2 - LONGITUDINAL LINES

ENLARGED VIEW OF PLATFORM SURVEY GRID

SCALE 1:15

ENLARGED VIEW OF PLATFORM SURVEY GRID-WEST PLATFORM



LEGEND:

L1,L2,C,R1,R2 - LONGITUDINAL LINES

ENLARGED VIEW OF PLATFORM SURVEY GRID

SCALE 1:15

NOTES

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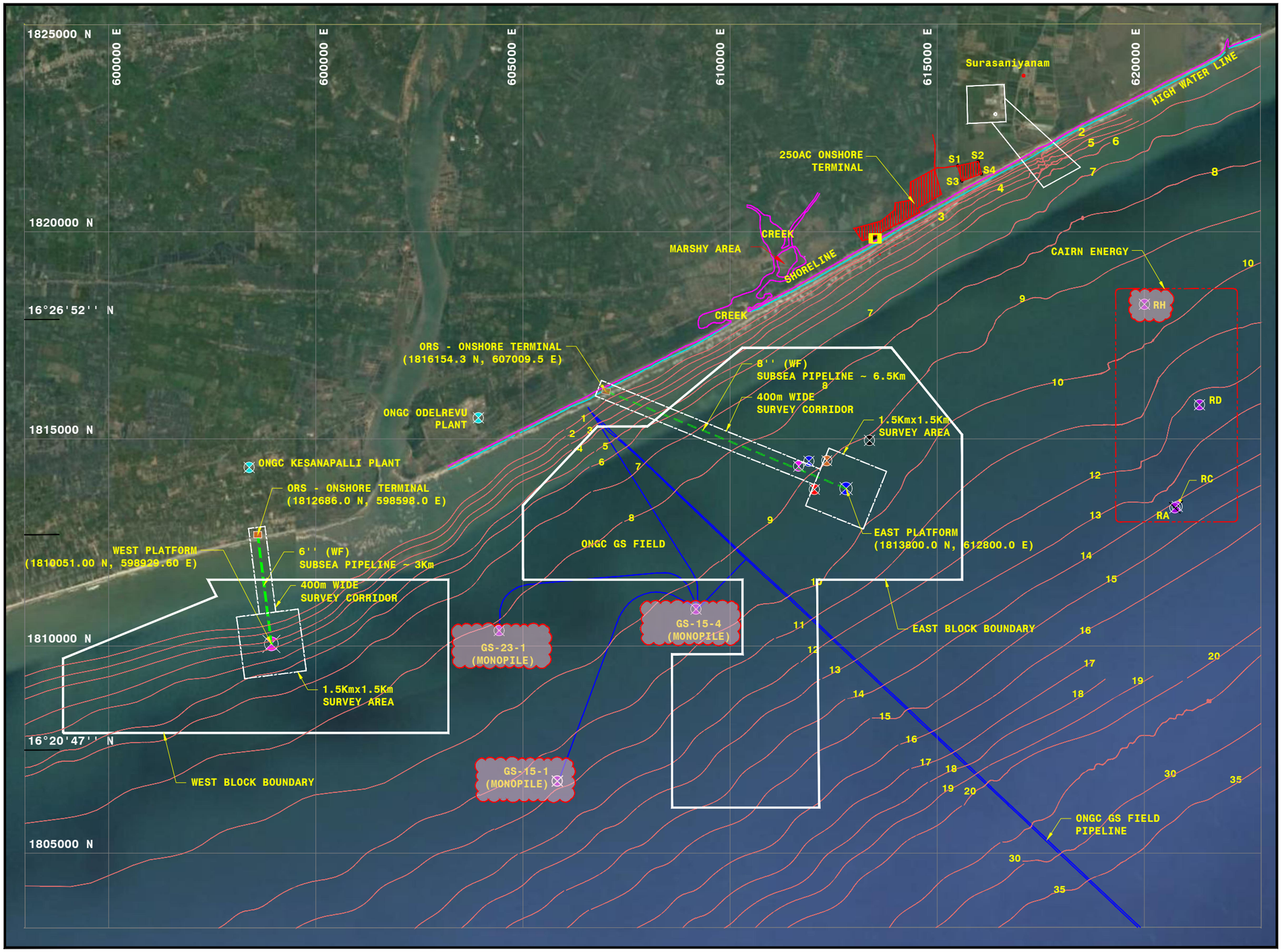
OVERALL PIPELINE LAYOUT



SURVEY AREA AND GEOTECHNICAL BORE HOLE LOCATIONS

SCALE 1:100

NOTES

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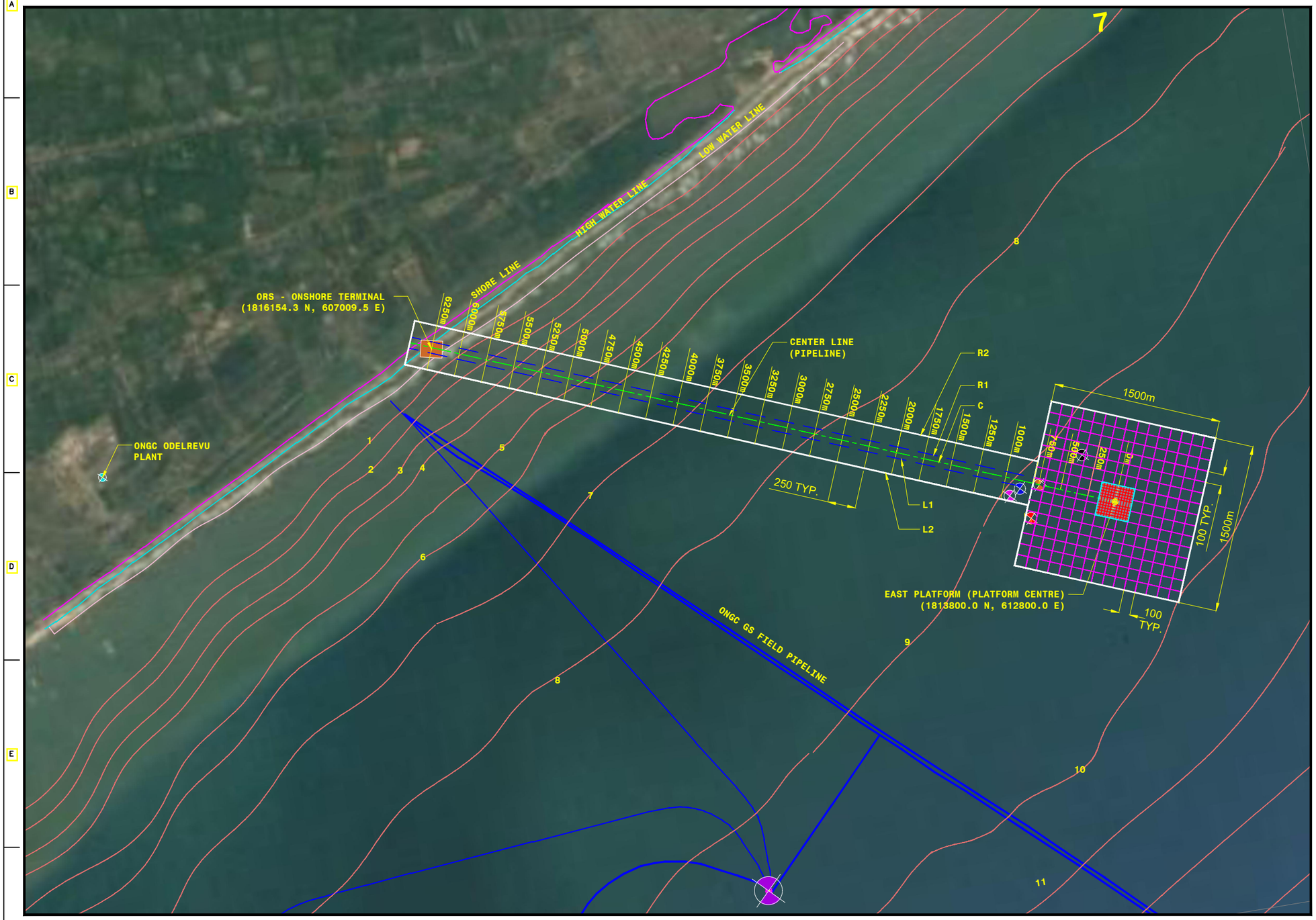
LEGEND:

WELL SLOT LOCATIONS:

- LOC-5_68-1 (SUB) OPTION - I
- LOC-5_68-1 (SUB) OPTION - II
- GS-15-8
- LOC-3 GS-48-1 A
- LOC-3 GS-48-1 B

SURVEY GRIDLINES-EAST PLATFORM



SURVEY GRIDLINES

SCALE 1:35

NOTES

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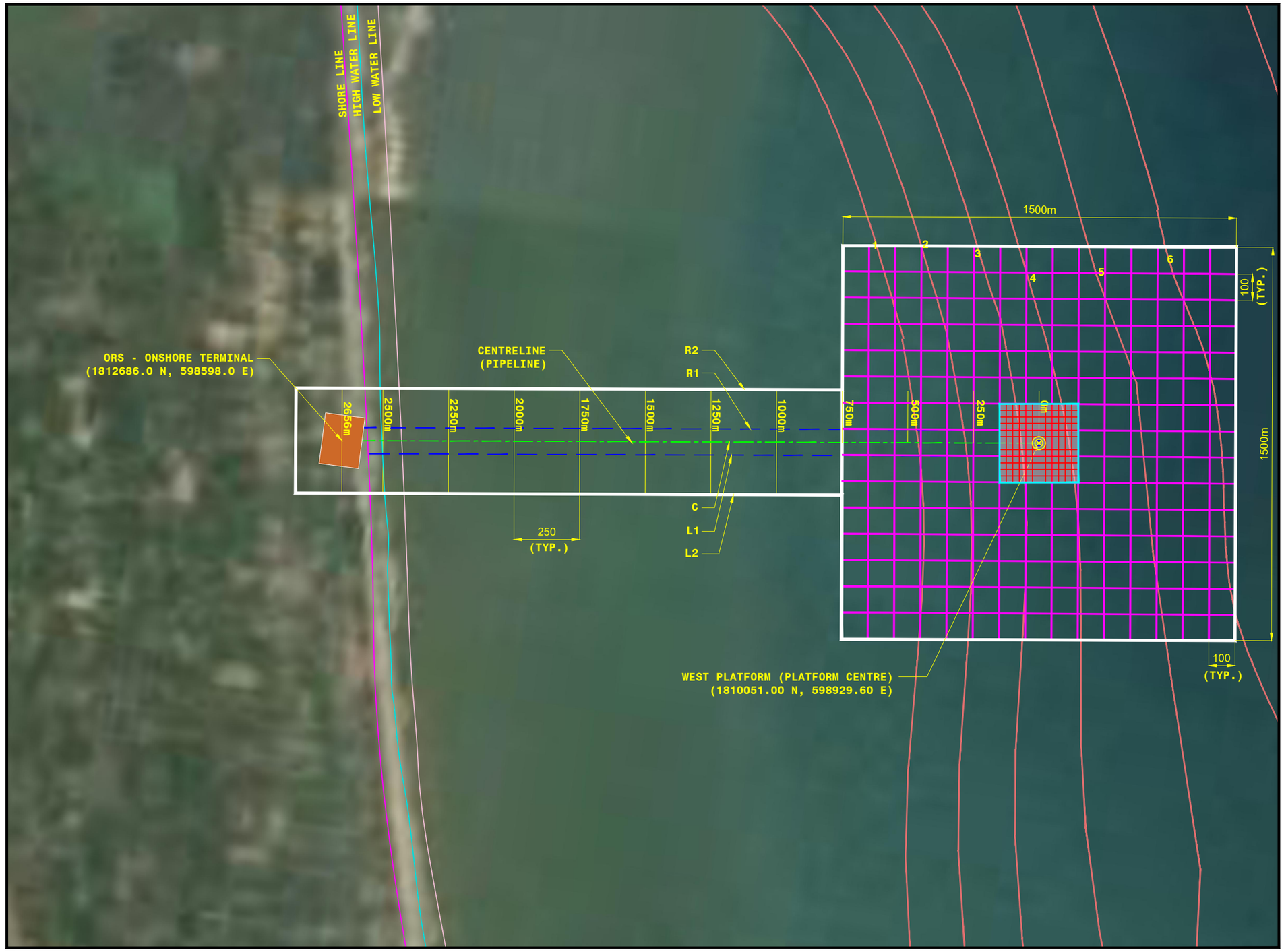
LEGEND:

WELL SLOT LOCATIONS:

- LOC-5_68-1 (SUB) OPTION - I
- LOC-5_68-1 (SUB) OPTION - II
- GS-15-8
- LOC-3 GS-48-1 A
- LOC-3 GS-48-1 B

SURVEY GRIDLINES-WEST PLATFORM



SURVEY GRIDLINES

SCALE 1:15

NOTES

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