BID DOCUMENT

Name of the work: " Construction of RCC Rigid Pavement Road on Existing Ash Dyke Top at Tilia Ash Pond Phase # 2 (Unit 3 & 4), OPGC".

SAFE & CLEAN POWER IS OUR COMMITMENT

ODISHA POWER GENERATION CORPORATION LIMITED

Ib Thermal Power Station, Banaharpali, Jharsuguda – 768234
(ODISHA)

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ODISHA POWER GENERATION CORPORATION LIMITED
(A Government of Odisha undertaking)
AT-IB THERMAL POWER STATION, PO: BANAHARPALI, DIST: JHARSUGUDA, ODISHA-768234
Phone no: (Land Line No. 06645-289232/221/355/356/245)

NOTICE INVITING TENDER

OPGC invites sealed bids from bona fide and financially sound Registered Agencies /Firms /Companies for execution of the following Works for its Thermal Power Plant at Banharpali.

S/N	Name of the Work	Tender cost(Rs.)	EMD (Rs.)
1	Construction of RCC Rigid Pavement Road on Existing Ash Dyke Top at Tilia Ash Pond Phase # 2 (Unit 3 & 4), OPGC	As specified in MSTC	29,92,000/-

Online EMD Collection:- https://payments.billdesk.com/bdcollect/bd/odishapowergenerationcorporationltd/19850

In addition to the conventional modes of submission, Bank Guarantees in the form of Electronic Bank Guarantee (e-BG) shall be accepted for all purposes including Earnest Money Deposit (EMD)/Bid Security, Performance Security, Defect Liability Security, and Security against Mobilization Advance.

Participation -MSTC

Mandatory Registration: All prospective bidders must register themselves on the MSTC e-Procurement Portal (www.mstcecommerce.com) to participate in the tendering process. Since this tender is hosted and published exclusively on the MSTC platform, bids submitted through any other mode will not be entertained.

Cost of bid document (non-refundable) shall be paid by Demand Draft in favour of OPGC Ltd. drawn on State Bank of India (Code-9510) / Union Bank of India (Code-UBIN0806625) / Central Bank of India (Code-283899) payable at ITPS, Banharpali or ICICI Bank (Code-ICIC0003679) payable at Telenpali. Cost of bid document shall have to be submitted along with the bid and the DD towards the tender cost (separate from EMD) should be prepared on or before the last date of submission/receipt of tender, otherwise the bid shall be liable for rejection. Small scale industries/National Small-Scale Industries Corporation/ MSME firms are exempted from payment of Cost of bid document only if they are entitled for exemption of the offered service. Tenderers seeking exemption shall claim in advance along with the photocopy of Valid Registration Certificates at least two days before the due submission date. However, OPGC reserves the right to accept/ reject the exemption request if the same is found unauthenticated or not relevant to the offered item. In case of any discrepancy found between tender document submitted by the agency and the master copy in our office, the latter should prevail. No claim on this account shall be entertained.

NB: Bidders having the requisite qualifying requirements as specified in the bid document shall only be considered for tender evaluation.

DGM-CONTRACTS

SAFE & CLEAN POWER IS OUR COMMITMENT

OPGC encourages all existing or new vendors/suppliers to register with us as empaneled vendors. Please visit our website www.opgc.co.in for details.

ODISHA POWER GENERATION CORPORATION LIMITED
Ib Thermal Power Station, Banaharpali

Name of the work: "Construction of RCC Rigid Pavement Road on Existing Ash Dyke Top at Tilia Ash Pond Phase # 2 (Unit 3 & 4), OPGC"

Bid Document & Instruction to Bidders

Bid Document

The Bid documents consist of the following documents:

1. Copy of NIT
2. Bid document & Instruction to Bidders
3. Qualifying Criteria
4. General Conditions of contract
5. Safety, Health & Environment (SHE) Rules & Regulations for Contractors
6. Scope of Work
7. Special Conditions of Contract
8. Rules and Regulations of the e-Reverse Auction
9. Blank Price bid

Techno-Commercial Bid:

The bidder must Upload the following along with the techno-commercial bid:

1) EMD
2) GST Registration Certificate, Provident Fund Registration Certificate, ESI Registration Certificate and IT PAN.
3) Signed & Stamped Bid Documents (all pages) as a token of acceptance.
4) Filled in and signed formats as specified in Annexure of GCC.
5) Credentials in support of qualifying requirements.
6) Commercial terms and conditions and deviation statement.
7) MSME (Micro/small/medium)/NSIC/SSI status of your firm.
8) Documents and undertakings as per the Qualification criteria requirement.

Instruction to the Bidder:-

1. As the tendering process will be conducted through E-bidding, bidders are required to submit their bids exclusively **via MSTC Portal**. **No hard copy of the bid is required to be submitted by the bidders.**

2. Bidders must not include any price details or price-related information in the techno-commercial bid. Any bidder who includes such information in the techno-commercial bid is liable to be disqualified/rejected.

3. Small scale industries/National Small Scale Industries Corporation/ MSME firms shall be exempted from payment of Earnest Money Deposit/Security Deposit/Tender Fees only if they are entitled for exemption of the offered service. However, OPGC reserves the right to accept/ reject the exemption request if the same is found unauthenticated or not relevant to the offered item.

Qualification criteria

The bidder who wishes to participate in the bidding shall meet the Qualifying Requirements stipulated hereunder:

2.1	**Technical Criteria:**
2.1.1	Experience of successfully completed and/or ongoing *Similar Nature of Works during the preceding seven (07) years as on the date of Techno-Commercial Bid Opening. Credentials for successful executed the supply must be submitted along with the Bid. Relevant PO copy and Client's completion certificate, certificate for ongoing works will be considered as the credential/documentary proof. Similar works shall be considered in either of the following. a) Three completed similar works costing not less than Rs. 5.98 Cr. OR b) Two completed similar works costing not less than Rs. 7.47 Cr. OR c) Single completed similar works costing not less than Rs. 11.96 Cr.
2.2.2	Order copies and satisfactory completion certificate with executed value & completion date, issued by the client to be submitted as supporting documentary evidence along with the technical bid
*Similar Work	Similar of work refers to construction of RCC / CC rigid pavement roads, dyke-top roads / industrial areas.
2.2.	**Financial Criteria**
2.2.1	The bidder should be financially sound and shall have average annual financial turnover during last financial year FY- March 2022, FY- March 2026 and FY-2026 of minimum Rs. 4.48 Cr. The bidder shall submit audited balance sheet including Profit & Loss statement as documentary evidence in support of the qualifying criteria. For the purpose of calculating financial turnover, revenue from Trading Business and Other Income is not admissible. OR In cases where a bidder is not required to prepare or obtain audited Balance Sheets and Profit & Loss Statements in accordance with the applicable Government Financial Circulars, Acts, Rules, or Regulations, the bidder shall

	submit certified copies of the relevant financial statements duly certified by a Registered Practicing Chartered Accountant. Notwithstanding anything contained in the above clause, Bidder(s) must not be in loss making financial status and should have a positive net worth during the financial years mentioned above.
2.3	**General Criteria**
2.3.1	Safety requirement-Bidder loss time hours must have been less than 200Hrs in last 3 years. (Contractor's self-certification).
2.3.2	The bidder must have its own Provident Fund Registration certificate, ESI Registration certificate, Income Tax PAN and GST certificate. Photocopies of these documents must be submitted along with Techno-commercial Bid.
2.3.3	The bidder must submit an undertaking that it is not blacklisted or debarred from participation in tenders during the last 02(Two) years on ground of performance for the similar nature of job. (Contractor's Self Certification) AND Insolvency: Bidder should not be under NCLT, insolvency proceedings, liquidation etc.
Note:	Notwithstanding anything stated above, OPGC reserves the right to assess the capability and capacity of the Bidder to perform the contract should the circumstances warrant such an assessment in the overall interest of OPGC. • For all qualification criteria all supporting documents to be provided. Owner reserves the right to obtain necessary documents and also to assess the qualification of the Bidder, subsequent to submission of bid, as deemed necessary by Owner to establish bidder's qualification. • Sufficient documentary proof in support of the above must be submitted along with the Techno-Commercial Bid. • Tenders submitted without the above techno-commercial requirements shall be liable for rejection. • Any other documents in addition to the above which the applicant wants to submit. • The bidders who are found qualified in the above will be invited for the opening of the price • OPGC reserves the right to do due diligence of the credentials submitted by the bidders.

Scope of Work and Technical Specifications

Name Of Work: - Construction of RCC Rigid pavement Road on Existing Ash Pond Dyke Top at Tilia Ash Pond phase #2 (Unit-3 & 4), OPGC"

Background

The existing ash pond dyke top at Tilia Ash Pond Phase #1 (Unit–3 & 4), OPGC is presently subjected to frequent movement of ash-loaded heavy vehicles. Continuous truck movement over the dyke top has caused and is likely to further cause severe distress, deformation, and weakening of dyke sections, thereby posing a risk to long-term dyke stability.

To ensure safe, permanent, and uninterrupted movement of ash-loaded vehicles and to maintain the structural integrity and long-term stability of the ash dyke, it is proposed to strengthen the dyke-top road using a geocell-reinforced pavement system topped with RCC rigid pavement. This strengthening measure is intended to safely distribute the additional dynamic loads induced by vehicle movement within the design limits originally considered for the dyke.

Scope of Work

The scope of work shall broadly include, but not be limited to, the following activities:

Item: Scarifying the Existing Dyke Top Surface for Granular Sub-Base

Scarifying the existing dyke top surface to the required depth for receiving granular sub-base shall consist of loosening, breaking, and pulverizing the existing surface material using approved mechanical or manual means, as directed by the Engineer-in-Charge.

The work shall include:

- Scarifying the dyke top to the specified depth (generally 75 mm to 150 mm or as directed) to achieve proper bonding with the granular sub-base.
- Removal of vegetation, roots, organic matter, loose and unsuitable material encountered during scarification.
- Dressing, reshaping, and leveling the scarified surface to the required camber, cross-fall, line, and grade.
- Moistening the scarified surface, if required, and compacting lightly to provide a firm and uniform base prior to laying of the granular sub-base.
- Disposal of surplus and unsuitable material arising out of scarification to an approved location, including loading, transportation, unloading, and spreading, as directed by the Engineer-in-Charge.

The prepared surface shall be free from soft spots, ruts, loose pockets, and shall present a stable, well-keyed base for the subsequent granular sub-base layer.

All operations shall be carried out strictly in accordance with the relevant provisions of **MoRTH Specifications (latest revision)**, sound engineering practice, and the instructions of the Engineer-in-Charge.

The rate shall be inclusive of all labour, machinery, tools, fuel, watering, handling, lead and lift for disposal, and all incidental works necessary for proper completion of the item.

Item: Levelling and Dressing of Existing Road Surface

Levelling and dressing of the existing road surface shall comprise bringing the surface to the required line, level, profile, and camber by means of cutting and filling operations, complete in all respects, as directed by the Engineer-in-Charge.

The work shall include:

- Correction of longitudinal profile and formation of camber at **1 in 120** or as specified in the drawings.
- Cutting of high spots and filling of low areas using approved material obtained from site or imported material as directed.
- Removal of loose, soft, organic, and other unsuitable material encountered during levelling operations.
- Dressing and shaping the surface to the required cross-fall, width, and grade, ensuring uniformity and smoothness.
- Watering the prepared surface to achieve optimum moisture content prior to compaction.
- Compaction of the surface using approved rollers or compacting equipment to achieve the required density and stability, as specified or directed.

The finished surface shall be firm, even, well-compacted, free from undulations, loose pockets, ruts, and soft spots, and shall conform to the specified line, level, camber, and tolerances before proceeding with subsequent layers.
All works shall be carried out strictly in accordance with the relevant provisions of **MoRTH Specifications (latest revision)**, approved drawings, good engineering practice, and the directions of the Engineer-in-Charge.
The rate shall be inclusive of all labour, materials, equipment, tools, watering, compaction, disposal of unsuitable material within specified lead and lift, and all incidental operations necessary for proper completion of the item.

Item: Providing and Laying Moorum Filling as Levelling Course
Providing and laying moorum filling as a levelling course over the prepared and approved surface shall include supply of approved moorum material, spreading, watering, dressing, and compaction, complete in all respects, as directed by the Engineer-in-Charge.
The work shall include:

- Supplying moorum of approved quality, free from organic matter, clay lumps, roots, and other deleterious materials, conforming to the specifications approved by the Engineer-in-Charge.
- Transportation of moorum from approved quarry/source, including payment of all royalties, taxes, duties, and incidental charges.
- Spreading the moorum in uniform layers of approved thickness (generally not exceeding 150 mm loose thickness or as directed).
- Dressing the moorum layer to the required line, level, width, gradient, and camber as per drawings and specifications.
- Watering the moorum layer to achieve optimum moisture content for effective compaction.
- Compacting each layer thoroughly using **Pneumatic Rubber Roller (PRR)** of approved capacity, including hire and running charges, to achieve the specified density and a firm, stable surface.
- Turfeding/rolling, if required, and repeated watering and compaction until the desired compaction and finish are achieved.

The completed levelling course shall be true to line, level, and camber, well-compacted, free from loose pockets, segregation, or soft spots, and shall be approved by the Engineer-in-Charge before laying of subsequent layers.
All works shall be executed strictly in accordance with the relevant provisions of **MoRTH Specifications (latest revision)**, approved drawings, good engineering practice, and instructions of the Engineer-in-Charge.
The rate shall be inclusive of cost of materials, labour, machinery, PRR hire and running charges, watering, dressing, royalties, lead and lift, testing, and all incidental operations necessary for proper completion of the item.

Item: Providing and Laying Granular Sub-Base (GSB) – 300 mm Thick (in 3 Layers)
Providing, laying, spreading, watering, and compacting **Granular Sub-Base (GSB)** of **300 mm compacted thickness in three layers**, each layer not exceeding **100 mm compacted thickness**, over the prepared and approved dyke top surface, complete in all respects, as directed by the Engineer-in-Charge.
The work shall include:

- Supplying approved graded GSB material conforming to the grading, physical, and mechanical requirements specified in **MoRTH Clause 401 (latest revision)**, free from organic matter, clay lumps, and other deleterious substances.
- Transportation of GSB material from approved quarry/source, including loading, unloading, stacking, handling, and payment of all royalties, taxes, duties, and incidental charges.
- Spreading the GSB material uniformly over the prepared surface using mechanical means to the specified thickness, line, level, width, camber, and cross-fall as per approved drawings.
- Watering the GSB layer uniformly to achieve optimum moisture content prior to compaction.
- Compacting each layer separately using approved vibratory roller or other suitable compaction equipment to achieve the specified density, generally not less than **98% of the Maximum Dry Density (MDD)** as determined by the Modified Proctor Test, unless otherwise specified.
- Carrying out necessary checks, including level, thickness, and surface regularity, and making good any deficiencies by scarifying, reshaping, re-watering, and re-compacting as required.

The finished GSB layer shall be well-compacted, dense, and uniform, conforming to the specified thickness, line, level, gradient, and camber, and shall be free from loose pockets, segregation, rutting, or soft spots. Each layer shall be approved by the Engineer-in-Charge before laying the subsequent layer.
All works shall be executed strictly in accordance with **MoRTH Clause 401**, approved drawings, good engineering practice, and the directions of the Engineer-in-Charge.
The rate shall be inclusive of cost of materials, labour, plant and machinery, watering, compaction, testing, lead and lift, royalties, and all incidental operations necessary for proper completion of the item.

Item: Providing and Installing HDPE Geocells (1.3 mm Thick) in Two Layers
Providing and installing **High Density Polyethylene (HDPE) geocells of 1.3 mm nominal thickness** in **two layers of 100 mm compacted thickness each** over the prepared and approved base, complete in all respects, as directed by the Engineer-in-Charge.
Materials

- The geocells shall be manufactured from **virgin HDPE** with a nominal thickness of **1.3 mm**, ultrasonically welded, and conforming to approved international/Indian standards (such as ASTM/ISO or equivalent), as approved by the Engineer-in-Charge.
- The geocells shall have adequate tensile strength, weld strength, chemical resistance, and durability suitable for heavy-load and aggressive environmental conditions.
- The infill material shall be **approved Granular Sub-Base (GSB)** conforming to **MoRTH Clause 401**, free from organic or deleterious materials.

Preparation of Base

- The underlying base/subgrade shall be prepared to the required line, level, camber, and cross-fall, compacted to the specified density, and approved by the Engineer-in-Charge prior to laying of geocells.
- Any soft or weak spots shall be rectified before installation.

Installation

- The geocell panels shall be placed over the prepared base, stretched uniformly to the specified dimensions, and aligned properly.
- Geocells shall be **anchored firmly using approved anchoring pins/pegs** of suitable length and diameter at specified spacing to prevent movement during filling and compaction.
- Adjacent geocell panels shall be connected using approved fasteners, staples, or ties to ensure continuity and load transfer.
- Care shall be taken to maintain the specified **100 mm thickness per layer**.

Filling and Compaction

- The geocells shall be filled with approved GSB material progressively, ensuring uniform filling without damaging or displacing the cells.
- Watering shall be carried out as required to achieve optimum moisture content.
- Compaction shall be done using suitable light mechanical compactors or rollers to achieve the specified density, generally not less than **98% of Maximum Dry Density (MDD)**, or as directed by the Engineer-in-Charge.
- After completion of the first layer, the second layer of geocells shall be laid, filled, and compacted in a similar manner.

Finish and Acceptance

- The completed geocell layers shall be uniform, stable, and well-compacted, conforming to the specified line, level, thickness, and camber.
- The surface shall be free from wrinkles, loose pockets, or exposed geocell material.
- Each layer shall be inspected and approved by the Engineer-in-Charge before proceeding to the next construction stage.
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Compliance and Measurement

- All works shall be carried out in accordance with the approved drawings, relevant **MoRTH specifications**, manufacturer's recommendations, good engineering practice, and the directions of the Engineer-in-Charge.
- The rate shall be inclusive of supply of geocells, anchoring pins, fasteners, infill material, labour, machinery, compaction, watering, testing, lead and lift, and all incidental works required for proper completion of the item.

echnical Specification

Item: Providing and Laying Design Mix Cement Concrete (M-30 Grade)

Providing and laying **design mix cement concrete of M-30 grade** for pavement/road works, using cement content as per approved mix design, coarse sand and graded stone aggregate of **40 mm nominal maximum size**, in appropriate proportions to achieve the specified strength and durability, complete in all respects as directed by the Engineer-in-Charge.

Materials

- **Cement:** Ordinary Portland Cement (OPC-53 Grade) conforming to relevant IS codes, from approved sources.

- **Fine Aggregate:** Clean, hard, durable coarse sand conforming to IS specifications, free from silt, clay, organic matter, and deleterious substances.
- **Coarse Aggregate:** Crushed stone aggregate of **40 mm nominal size**, well graded, clean, and conforming to IS standards.
- **Water:** Clean and potable, free from harmful salts, oils, acids, or organic matter.
- **Admixtures:** Only if specified in the approved design mix and conforming to relevant IS codes.

Mix Design

- Concrete shall be **design mix M-30 grade**, established through laboratory trials and approved by the Engineer-in-Charge.
- Cement content, water-cement ratio, aggregate proportions, and admixture dosage shall strictly conform to the approved mix design.
- Minimum characteristic compressive strength shall meet M-30 requirements at 28 days.

Preparation and Laying

- The prepared base/sub-base shall be clean, sound, and approved prior to concreting.
- Concrete shall be batched, mixed, transported, and placed within the permissible time limits to prevent segregation and loss of workability.
- Concrete shall be laid continuously within the specified panel dimensions to the required thickness, line, level, and camber/slope.

Compaction

- Compaction shall be carried out mechanically using **needle (internal) vibrators and surface vibrators**, ensuring full compaction without segregation or honeycombing.
- Over-vibration shall be avoided.

Joints and Load Transfer Devices

- **Dowel bars with sleeves** and **tie bars** shall be provided at transverse, longitudinal, contraction, and expansion joints wherever required, as per approved drawings and specifications.
- Dowel bars shall be aligned accurately, properly supported, and adequately lubricated/sleeved to allow free movement.
- Joints shall be formed using **groove cutting machines** at specified spacing and depths.
- All joints shall be cleaned and filled with **approved joint filler and sealant** as per specifications.

Finishing

- The concrete surface shall be finished to the required **texture**, camber, slope, and smoothness using approved finishing methods.
- Surface shall be free from laitance, irregularities, and surface defects.

Curing

- Curing shall commence immediately after finishing and shall be continued for the specified period using water curing, curing compounds, or other approved methods to ensure proper strength development.

Quality Control and Acceptance

- Sampling, testing, and quality control shall be carried out for materials and concrete as per relevant IS/MoRTH provisions.

- Cube strength, surface finish, thickness, joint alignment, and overall workmanship shall conform to specified tolerances.

Completion

- The finished concrete pavement shall be dense, durable, crack-free, true to line and level, and suitable for intended traffic loads.
- Opening to traffic shall be permitted only after achieving the required strength and with approval of the Engineer-in-Charge.

Compliance and Measurement

- All works shall be executed in accordance with **MoRTH / IRC specifications (latest revision)**, approved drawings, good engineering practice, and instructions of the Engineer-in-Charge.
- The rate shall be inclusive of cost of all materials, labour, plant and machinery, dowel bars, tie bars, joint fillers and sealants, groove cutting, curing, testing, and all incidental works necessary for proper completion of the item.

Item: Providing, Fixing and Removing Formwork / Edge Shuttering for RCC Pavement
Providing, fixing, maintaining, and removing **steel or wooden formwork / edge shuttering** for RCC pavement works, complete in all respects, as directed by the Engineer-in-Charge.

Materials

- Formwork shall be of **steel plates or seasoned wooden planks** of adequate thickness, strength, and rigidity to withstand fresh concrete pressure without deformation.
- Formwork surfaces in contact with concrete shall be smooth, true, and free from warping, bends, or damage.
- Approved **shuttering oil/release agent** shall be applied uniformly to prevent adhesion of concrete.

Erection and Alignment

- Formwork shall be erected to the required **line, level, width, camber, and profile** as per approved drawings.
- Adequate **supports, struts, braces, wedges, stakes, and anchors** shall be provided to maintain proper alignment and prevent movement during concreting and vibration.
- Joints in formwork shall be tight to prevent leakage of cement slurry.

During Concreting

- Formwork shall remain firmly in position during placing, vibration, and finishing of concrete.
- All adjustments, realignment, or tightening required during concreting shall be carried out promptly to maintain dimensional accuracy.

Removal of Formwork

- Formwork and shuttering shall be removed carefully after the concrete has attained sufficient strength, as approved by the Engineer-in-Charge, without causing damage to the concrete surface or edges.
- Any minor defects or surface irregularities observed after removal shall be rectified immediately.

Finish and Tolerances

- The exposed concrete edges and faces shall be straight, smooth, and true to line and level.
- Formwork shall ensure clean edges without honeycombing, bulging, or offsets.

Compliance and Measurement

- All works shall be executed in accordance with relevant **MoRTH / IRC specifications**, approved drawings, good engineering practice, and the directions of the Engineer-in-Charge.
- The rate shall be inclusive of cost of materials, labour, erection, supports, alignment, shuttering oil, dismantling, cleaning, reuse, handling, and all incidental works required for proper completion of the item.

Technical Specification

Item: Supplying, Placing and Fixing of Reinforcement, Dowel Bars and Tie Bars

Supplying, placing, and fixing of **reinforcement steel, dowel bars, and tie bars** of approved diameter and length for RCC pavement works, complete in all respects, as directed by the Engineer-in-Charge and in accordance with **MoRTH Clause 602 (latest revision)**.

Materials

- **Reinforcement Steel:** High Yield Strength Deformed (HYSD) bars conforming to relevant IS specifications, clean, free from loose rust, oil, grease, or other deleterious materials.
- **Dowel Bars:** Plain mild steel bars of approved diameter and length, straight, smooth, and free from surface defects.
- **Tie Bars:** Deformed steel bars of approved diameter and length.
- **Epoxy Coating:** Where specified, dowel and/or tie bars shall be epoxy coated as per relevant IS/ASTM standards to prevent corrosion.
- **Sleeves and Caps:** Approved PVC or metal sleeves and end caps shall be provided on dowel bars to allow longitudinal movement at joints.

Fabrication and Placement

- Bars shall be cut, bent, and fabricated accurately to the shapes and dimensions shown in approved drawings.
- Dowel bars shall be positioned accurately at transverse joints using approved dowel baskets, supports, or spacers to ensure correct alignment and spacing.
- Tie bars shall be fixed firmly at longitudinal joints to maintain lane alignment and load transfer.

Alignment and Anchorage

- Dowel bars shall be placed parallel to the pavement centerline and surface, with tolerances strictly as per MoRTH Clause 602.
- Adequate anchorage shall be ensured by providing correct embedment lengths.
- Sleeves and caps shall be fixed securely to permit free expansion and contraction of concrete.

Fixing and Stability

- Reinforcement, dowel bars, and tie bars shall be tied securely with binding wire or approved fasteners to prevent displacement during concreting.
- Bars shall be supported on approved chairs, spacers, or supports to maintain required cover.

Inspection and Quality Control

- Alignment, spacing, diameter, length, coating integrity, and cleanliness of bars shall be checked and approved by the Engineer-in-Charge prior to concreting.
- Any bent, damaged, improperly coated, or misaligned bars shall be rectified or replaced.

Compliance and Measurement

- All works shall be carried out in strict accordance with **MoRTH Clause 602**, approved drawings, good engineering practice, and instructions of the Engineer-in-Charge.
- The rate shall be inclusive of supply of steel, epoxy coating, sleeves, caps, cutting, bending, placing, fixing, supports, wastage, handling, testing, and all incidental works necessary for proper completion of the item.

Item: Providing and Fixing Pre-Moulded Joint Filler in Expansion Joints of RCC / CC Pavements
Providing and fixing **pre-moulded joint filler** in expansion joints of **RCC roads / cement concrete pavements**, complete in all respects, as directed by the Engineer-in-Charge.

Materials

- The pre-moulded joint filler shall be made of **bitumen hot sealing compound impregnated fibre board** with impregnation **not less than 35% by weight**.
- The fibre board shall conform to **IS:1838**.
- The hot sealing bitumen compound used for impregnation shall conform to **IS:1834 (Grade A)**.
- The joint filler shall be of approved thickness, width, and depth as per drawings and specifications, and shall be resistant to water absorption, deformation, and weathering.

Preparation of Joints

- Expansion joints shall be formed true to line, level, and dimensions as shown in approved drawings.
- Before fixing the joint filler, the joint faces shall be **thoroughly cleaned and made dust-free** using **high-pressure air jet cleaners**.
- All loose particles, laitance, moisture, oil, and foreign matter shall be completely removed to ensure proper seating of the filler.

Fixing of Joint Filler

- Pre-moulded joint filler boards shall be cut accurately to size and fixed vertically in the joint to the full depth specified.
- The filler shall be placed truly plumb and flush with the concrete surface, ensuring tight contact with joint faces without gaps or distortion.
- Care shall be taken to prevent damage to the filler during concrete placement and compaction.

Finishing and Acceptance

- The joint filler shall remain intact, properly aligned, and undamaged after completion of concreting and finishing operations.
- Any damaged or displaced filler shall be removed and replaced to the satisfaction of the Engineer-in-Charge.

Compliance and Measurement

- All works shall be executed in accordance with the relevant **IS codes**, applicable **MoRTH / IRC specifications**, approved drawings, good engineering practice, and directions of the Engineer-in-Charge.
- The rate shall be inclusive of cost of joint filler material, cleaning of joints with air jet, cutting, fixing, labour, tools, wastage, handling, and all incidental works required for proper completion of the item.

Item: Providing and Filling Rubberized Bitumen Hot Sealing Compound in Expansion Joints

Providing and filling in position **rubberized bitumen hot sealing compound** for sealing of expansion joints in **roads / cement concrete pavements**, complete in all respects, as directed by the Engineer-in-Charge.

Materials

- The sealing compound shall be **rubberized bitumen hot-poured type**, conforming to **IS:1834 – Grade 'A'**.
- The compound shall possess adequate elasticity, adhesion, cohesion, resistance to weathering, and durability suitable for expansion and contraction movements of concrete pavements.
- Primer, if required, shall be compatible with the sealing compound and approved by the Engineer-in-Charge.

Preparation of Joints

- Expansion joints shall be of correct width and depth as per approved drawings.
- Joint faces shall be **thoroughly cleaned** using high-pressure air jet or other approved methods to remove dust, debris, moisture, laitance, and loose particles.
- Joints shall be completely dry before application of the sealing compound.
- Where specified, joint faces shall be primed uniformly and allowed to dry as per manufacturer's recommendations.

Heating and Application

- The sealing compound shall be heated in a **double-jacketed, thermostatically controlled kettle** to the temperature specified by the manufacturer, ensuring uniform heating without overheating or degradation.
- The molten compound shall be poured carefully into the prepared joints to the required depth, ensuring complete filling without air entrapment.
- The compound shall be finished flush with or slightly recessed below the pavement surface as directed.

Curing and Protection

- Sealed joints shall be protected from traffic, dust, moisture, and disturbance until the sealing compound has cooled and set properly.
- Any excess material spilled on the pavement surface shall be removed immediately.

Inspection and Acceptance

- The sealed joints shall be uniform, continuous, and free from cracks, voids, or segregation.
- Any defective sealing observed during inspection shall be rectified by removal and reapplication to the satisfaction of the Engineer-in-Charge.

Compliance and Measurement

- All works shall be carried out in accordance with **IS:1834**, relevant **MoRTH / IRC specifications**, approved drawings, good engineering practice, and the directions of the Engineer-in-Charge.
- The rate shall be inclusive of cost of sealing compound, heating equipment, labour, priming (if any), joint preparation, application, protection, wastage, and all incidental works necessary for proper completion of the item.

Item: Supplying and Fixing RCC Guard Posts (15 cm Dia × 1.00 m Long)

Supplying, casting, and fixing **RCC guard posts of 150 mm diameter and 1.00 m length**, complete in all respects, as directed by the Engineer-in-Charge.

Materials

- **Concrete:** Plain cement concrete of proportion **1:2:4** (cement : coarse sand : graded stone aggregate).
- **Coarse Aggregate:** Hard, durable **black granite stone chips of 12 mm nominal size**, clean and free from dust, clay, or deleterious materials.
- **Fine Aggregate:** Clean coarse sand conforming to relevant IS specifications.
- **Cement:** OPC/PPC from approved source.
- **Reinforcement Steel:** HYSD/Mild steel bars with total steel content of **7.5 kg per guard post**, clean and free from rust, oil, or grease.
- **Water:** Clean and potable.

Casting and Construction

- Guard posts shall be cast either in situ or precast in approved moulds ensuring accurate dimensions and smooth finish.
- Necessary **centering, shuttering, moulds, supports, and bracing** shall be provided to maintain shape and alignment during concreting.
- Concrete shall be mixed, placed, and compacted properly to ensure dense and homogeneous concrete.
- Reinforcement shall be fixed centrally with adequate cover as per standard practice.

Curing

- All RCC guard posts shall be cured adequately by watering for a minimum period of **7 days** or as directed to achieve required strength.

Fixing and Installation

- Guard posts shall be fixed vertically in position at the specified locations, ensuring proper embedment in ground/shoulder and firm seating.
- Alignment, spacing, and positioning shall be true to line and level as per drawings and instructions of the Engineer-in-Charge.

Painting and Marking

- After curing and drying, guard posts shall be painted with **two coats of approved black and yellow enamel paint** over a suitable primer.
- The black and yellow bands shall be applied in alternate manner as per standard road safety practice.
- **Chainage markings** shall be painted clearly on the guard posts at **every 50 m interval**, using approved paint and lettering style.

Finish and Acceptance

- The finished guard posts shall be smooth, crack-free, well-aligned, and firmly fixed.
- Painting shall be uniform, durable, and free from peeling or patchiness.

Compliance and Measurement

- All works shall be executed in accordance with relevant **PWD / MoRTH / IRC specifications**, approved drawings, good engineering practice, and the directions of the Engineer-in-Charge.
- The rate shall be inclusive of cost of all materials, reinforcement, labour, centering, shuttering, curing, painting, carriage, handling, wastage, and all incidental works necessary for proper completion of the item.

SPECIAL CONDITIONS

Name of work: "Construction of RCC Rigid pavement Road on Existing Ash Pond Dyke Top at Tilia Ash Pond phase #2 (Unit-3 & 4), OPGC".

1. 5% of the gross bill amount shall be withheld towards statutory dues, which will be refunded after submission of authenticate document by the agency.
2. The period of contract is 06 (Six) months (Excluding rainy season, and excluding mobilization period of 15 days) from the date of issue of LOA / Work order.
3. The contractor is required to mobilize his men, materials, plant & equipment at his work site within 15 days of the date of issue of LOA/Work order at the commencement of the contract, failing which the Engineer-In-Charge will annul the contract agreement at his discretion. In the event of any such annulment, the owner reserves the right to recover the cost and other financial losses from the contractor in any manner deemed legally correct besides forfeiture of the EMD converted as ISD. The responsibility of proving that the delay in mobilization was beyond the control lies with the contractor, the Engineer-in-charge after satisfying himself with the reason for the delay if any, may allow extension of time to avoid the annulment of the contract.
4. The offer shall be submitted in double bid system.
5. All the vehicles/equipments used for the purpose of the work should have proper documents and driver should have professional license.
6. Any defective work noticed within the defect liability/ warrantee period of one year shall be rectified by the contractor immediately on receipt of information without extra financial burden to OPGC.
7. Contractor must arrange all machineries and T&P required for the work.

Bill of Quantities (BOQ)					
Name Of Work: - Construction of RCC Road on Existing Ash Pond Dyke Top at Tilia Ash Pond Phase #2 (Unit-3 & 4), OPGC."					
Sl No	**Description of Item**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Scarifying the existing dyke top surface to the required depth to receive granular sub-base including loosening of material, dressing and disposal of surplus material complete as per MoRTH specification and direction of Engineer-in-Charge.	Sqm	29700		
2	Levelling and dressing of the existing road surface to the required line and level including correction of profile and formation of camber at **1 in 120**, by cutting and filling, removing loose and unsuitable material, watering and compacting the surface complete as per specifications and direction of the Engineer-in-Charge.	Sqm	29700		
3	Providing and laying **moorum filling as levelling course** over the prepared surface, including supply of approved moorum, spreading in uniform layers, watering, dressing to required line, level and camber, and compacting with PRR including hire and running charges of PRR & turfeding, watering etc. including all cost, incidental charges, royalties, complete as per specifications and direction of the Engineer-in-Charge.	Cum	2970		
4	Providing, laying, spreading, watering and compacting **Granular Sub-Base (GSB) 300 mm thick (3 layers)** over prepared dyke top with approved graded material conforming to **MoRTH Clause 401**, complete as directed by Engineer-in-Charge.	Cum	8316		

5	Providing and installing **1.3 mm thick HDPE geocells in two layers (100mm each layer)** over prepared base after base preparation, including anchoring with pins, stretching and fixing, and **filling the geocells with approved granular sub-base (GSB) material**, compacted to required density complete as per specification and direction of Engineer-in-Charge.	Sqm	27720		
6	Providing and laying design mix cement concrete of M-30 grade, using cement content as per design mix, using coarse sand and graded stone aggregate of 20 mm nominal size in appropriate proportions as per approved & specified design criteria, providing 125 micron PVC separation sheet, dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, making provision for contraction/ expansion, construction & longitudinal joints by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge.	Cum	8781		
7	Providing, fixing and removing steel/wooden formwork or edge shuttering (of 300mm height) to RCC pavement including all supports, alignment and finishing complete as directed by Engineer-in-Charge.	M	11000		
8	Supplying, placing and fixing of reinforcement, dowel bars and tie bars of approved diameter and length including sleeves, caps, epoxy coating, alignment and anchorage complete as per **MoRTH Clause 602** and direction of Engineer-in-Charge.	MT	350		
9	Providing and fixing pre-moulded joint filler in expansion joints of RCC roads / CC pavements after making the joints dust free with high pressure air jet cleaners, all complete as per direction of the Engineer-in-Charge. (Pre-moulded joint fillers shall be made of bitumen hot sealing compound impregnated fibre board having impregnation more than 35%, conforming to IS:1838 for fibre board and IS: 1834 for hot sealing bitumen compound grade A.)	RM	7920		

10	Providing and filling in position rubberized bitumen hot sealing compound for sealing of expansion joints in roads / pavements all complete as per direction of the Engineer-in-Charge. Using grade 'A' sealing compound conforming to IS: 1834.	RM	29270		
11	Supplying and fixing 15cm dia 1.00m long guard posts of RCC (1:2:4) using 7.5Kg of steel for each guard post with 12mm size black hard granite stone chips including cost of all reinforcement and materials centering shuttering and watering carrying etc complete. The work includes painting of guard posts with Black/yellow paints two coats depicting the chainages at every 50m interval.	EACH	1584		
			Total	**Rs.**	
			GST @ 18%	**Rs.**	
			Total Amount Including GST	**Rs.**	

Rules and Regulations of the e-Reverse Auction

Buyer's Name/Owner	Ib Thermal Power Station (A Unit of Odisha Power Generation Corporation Limited)
Auction To Be Conducted By	MSTC Limited
Name of the work	Construction of RCC Rigid Pavement Road on Existing Ash Dyke Top at Tilia Ash Pond Phase # 2 (Unit 3 & 4), OPGC
Date & Time Of Auction	Auction Date: [To be intimated later] Online e-Reverse Auction Time : [To be intimated later] URL: www.mstcecommerce.com/eprochome/opgc
Special Instructions	Bidding in the last minutes and seconds should be avoided in the bidders own interest. Neither the Service Provider nor OPGC will be responsible for any lapses /failure on the part of the vendor, in such cases.
Auto Extension of Closing Time	5 minutes NB: If any bidder quotes 5 minutes before closing time, the closing time will be extended automatically for another 05 minutes and so on till 05 minutes idle time between the bids.
Decremental Value	Minimum decrement will be intimated before E-RA
Start Price	The start bid price as decided by OPGC tender committee shall be displayed at MSTC Limited auction platform during start of the e-RA.

1. The financial bid process will comprise of two rounds. In the first round, the IPO of the techno-commercially qualified bidders will be opened & ranked on the basis of ascending order for determination of qualified bidders. Best five (L-1 to L-5) bidders would be qualified bidders for E-RA and such qualified bidders shall be eligible to participate in the E-RA and submit their FPO with respect to the bid.
2. In case of tie for L5 bid, all the bidders offering L5 will be allowed for e-RA.
3. Bidders must be a registered user to bid for Buyer ("OPGC") in MSTC portal www.mstcecommerce.com/eprochome/opgc. Bidders need to have their Login ID and Password prior to e-Reverse Auction.
4. Bidders have to participate as per the e-Reverse Auction time and date communicated to them & based upon e-Reverse Auction invitation for particular Auction.
5. Quotation once submitted through e-Reverse Auction cannot be withdrawn /deleted. Otherwise, the EMD submitted by the bidder shall stand forfeited.
6. Buyer reserves the right to ban the bidder from participating in e-Reverse Auction without any explanation/reason at any stage of e-Reverse Auction.
7. Buyer reserves the rights to extend / cancel the e-Reverse Auction.
8. E-Reverse Auction shall be conducted in Indian Rupees only.
9. All prices submitted by Bidder in e-Reverse Auction shall be as per Tender's Terms & Conditions.
10. Validity of bids: As mentioned in Tender Document.
11. Written Confirmation shall be taken in advance regarding participation in the e-Reverse Auction to buyer along with the Authorized person name and details.

12. Buyer reserves the right to award the Purchase Order / Service Order as per buyer's discretion irrespective of Live Auction Rank.
13. Buyer reserves the right to repeat the e-Reverse Auction of same package.

14. **After completion of e-Reverse Auction, the lowest evaluated bid of all the bids submitted in manual and e-Reverse Auction process shall be considered for award of the Purchase order / Work order.**
15. The bidders shall quote from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.
16. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, OPGC at its own discretion shall debar the bidder from the e-Reverse Auction/Tender and future participation also.
17. OPGC reserves the right to cancel the e-Reverse Auction process/ tender at any time, before ordering, without assigning any reason and may go for manual opening of price bids as per standard practice.

18. OPGC shall not be liable for any interruption or delay in accessing the MSTC portal irrespective of any cause. In such cases, the decision of OPGC shall be binding on the bidders.
19. Other terms and conditions shall be as per NIT, bidder's techno-commercial Bid and other latest correspondences/ final confirmations, (if any) against the NIT.
20. If any item is not quoted by a bidder, the maximum price quoted by the other participated bidders for that item shall be considered for arriving evaluated price of that bidder.
21. The total L1 Price obtained through e-Reverse Auction shall be proportionately distributed among each line item in line with the price quoted and evaluated in the hard copy price bid.
22. The price quoted in e-Reverse Auction is the total price for all the items and quantity as per Price Schedule of NIT irrespective of any omission by the bidder in the hard copy price bid.
23. In case, the L1 Bidder in e-Reverse Auction and manual Tender happens to be the same bidder, then minimum price among both shall be considered as L1. If the bidder disagrees to accept the said condition, then his EMD shall be forfeited. Apart from this the bidder will be debarred from participating in future e-Reverse Auction/Tender of OPGC.
24. Each Bidder shall get the final loading factor (%age of the quoted price) from OPGC before e-Reverse Auction for the deviations, if any, taken by them in the techno-commercial bid.
25. The Price quoted in the e-Reverse Auction shall be inclusive of all applicable taxes, duties and levies, deviations considering the loading factor (got from OPGC/Tender Condition as mentioned in above clause) on his quoted price. However, the GST shall be paid extra as applicable and not included in the loading factor as well as total price.

UNDERTAKING

I hereby undertake that I agree to the **"Rules and Regulations of the e-Reverse Auction"** mentioned herein.

Signature:

Name:

Date:

Company Name: **Seal:**

Signature Not Verified
Digitally signed by MANOJ KUMAR PRADHAN
Date: 2026.11.10 17:04:23 IST
Reason: Secure Document
Location: India