

## Corrigendum

No.IIT Mandi (CW)/SE-1629/2024-25/1362-63

Dated:05-09-2024

In continuation of this office e-NIT No. IIT Mandi (CW)/SE-1629/2024-25/1234-36 Dt. 16-08-2024 for the work:-

**Construction of gabion wall and protection wall at various location at South Campus (SH: Construction of toe wall, gabion wall cascades and gabion walls, bundled SDRA Foundation & RCC walls near C-8 & C-9 and B-8 & B-9 block for toe and edge protection at South Campus of IIT Mandi).**

**Following clarification/addition are done in different item & in the special condition.**

1. A note has been added below the **item No. 22** [Revised item attached].
2. In the **page No. 29** of the special condition the minimum yield load and minimum ultimate load value are revised. [Details attached].
3. In items No. 5 and 17, there was a typo error i.e. item code & AR that has been deleted.

All other terms and conditions shall remain the same. This corrigendum shall form the part of the tender document.

For details of e-NIT visit our website <https://www.iitmandi.ac.in/tenders.php> & CPP Portal <http://eprocure.gov.in/eprocure/app>

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## 2.2 Physical and Mechanical Properties

Product Name	Test Method	Chemical Composition (in%)							
		C	Si	Mn	P	S	Cr	Ni	Cu
Self Drilling Anchor	ASTME-415:2017	0.41	0.22	0.62	0.02	0.004	0.9	-	-
Outer Diameter (mm)		38							
Inner Diameter (mm)		19							
<b>Min yield Load (Kn)</b>		<b>400</b>							
<b>Min ultimate load (Kn)</b>		<b>500</b>							
Min Elongation (%)		6							
Thread type		ISO 10208							
Type of steel		EN 10083-1							
Thread (Left/Right hand)		Left or Right							
Length (m)		5x, 6x, 7x							
Options of anti corrosion		Epoxy coating, hot dip galvanisation							

### 1.0 INSTALLATION

- The SDA is driven in the required position with help of sacrificial drill bit at the bottom of the anchor bar which facilitates in drilling the hole. The diameter, length and spacing of SDA shall be as specified.  
Anymore / lesser length or spacing of anchoring/nailing shall be carried out as per site condition and as directed by engineer-in-charge.
- The grout is pumped through the hollow bar during the drilling process. Grouting shall be done by using OPC grade 53 along with addition of suitable admixture. Mixing shall be done along with potable water so as to form the cementitious paste.
- The base plates of size 200mmx200mmx10mm shall be placed at rock interface for tightening the nuts.
- The fascia (if applicable) shall be installed in front and connected to the steel rods with base plate and nuts.

#### Equipment to be deployed on site

- Grout agitator
- Compressor – 450 to 600 CFM
- Drilling equipment per cushion/rotary type
- Expansive plasticizing agent for cement grouts shall be used, typical brand name DR.FIXIT PIDICRETE AM or FOSROC Cebex 100

### 2.0 Boulder Apron laid in Wire Crates:-

Mechanically woven wire crates shall be made of hot dipped galvanized mild steel wire of diameter not less than 2.2 mm having minimum tensile strength 350 MPa conforming to 18:280. The

### Schedule of quantity

**Name of Work: Construction of gabion wall and protection wall at various location at South Campus (SH: Construction of toe wall, gabion wall cascades and gabion walls, bundled SDR Foundation & RCC walls near C-8 & C-9 and B-8 & B-9 block for toe and edge protection at South Campus of IIT Mandi).**

Sl. No.	DESCRIPTION OF ITEMS	Qty.	UNIT	RATE (INR)	AMOUNT (INR)
1.	Demolishing cement concrete manually/ by mechanical means including disposal of material within all lead and lift as per direction of Engineer - in - charge. a) Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	24.25	Cum		
2.	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth within all lead and lift as directed by Engineer-in-Charge. a) All kinds of soil as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	5714.00	Cum		
3.	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, within all lead and lift as directed by Engineer-in-Charge. a) Hard rock (blasting prohibited) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	151.00	Cum		
4.	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, within all lead and lift as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	10.00	Cum		

5.	Excavating, supplying and filling of local earth (including royalty) by mechanical transport within all lead and lift also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc., complete as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	824.00	Cum		
6.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	156.00	Cum		
7.	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing: a) 1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	110.34	Cum		
8.	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing: a) 1:3:6 (1 Cement : 3 coarse sand(zone-III) derived from natural sources : 6 graded stone aggregate 20	24.00	Cum		

	mm nominal size derived from natural sources) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.				
9.	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level : a) 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	1928.00	Cum		
10.	Centering and shuttering including strutting, propping etc. and removal of form for : a) Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	2575.80	Sqm		
11.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. a) Thermo-Mechanically Treated bars of grade Fe-500D or more as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	281145.00	Kg		
12.	Providing and fixing 110mm dia Unplasticized rigid PVC pipe of required size for weep holes in plum concrete walls including cutting,placing and fixing in required slope all complete as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	450.00	mtrs		
13.	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required a) In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works as per entire satisfaction	2042.00	Kg		

	and direction of Engineer -in-charge including carriage of material within all lead and lift.				
14.	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	270.00	Kg		
15.	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : a) Two or more coats on new work as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	126.00	Sqm		
16.	Providing & making Gabion structure with Mechanically Woven Double Twisted Hexagonal Shaped Wire mesh Gabion Boxes as per IS 16014:2012, MORTH Clause 2500, of required size, Mesh Type 10x12 (D=100 mm with tolerance of $\pm 2\%$ ) zinc coated, Mesh wire diameter 3.0 mm, mechanically edged/ selvedged with partitions at every 1m interval and shall have minimum 10 numbers of openings per meter of mesh perpendicular to twist, tying with lacing wire of diameter 2.2mm, supplied @3% by weight of Gabion boxes, filled with boulders with least dimension of 200 mm, as per drawing, all complete as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	4536.00	Cum		

17.	Supplying & back filling with well graded stone boulders of size 150 mm to 300 mm behind retaining wall complete as per the directions of the Engineer-in-charge. (Note: 30% deductions in measurements shall be made for voids) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	204.00	Cum		
18.	Fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.) as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	297.86	Kg		
19.	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 : a) 300 mm dia Ductile Iron Class K-7 pipes as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	30.00	mtrs		
20.	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources and using recycled concrete aggregate (RCA) as coarse aggregate and fine aggregate within permissible utilization of 20% each, Portland Pozzolana /Ordinary Portland/Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete	370.00	Cum		

	<p>to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement</p> <p>a) All works upto plinth level i) Concrete of M25 grade with minimum cement content of 330 kg /cum as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>				
21.	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources and using recycled concrete aggregate (RCA) as coarse aggregate and fine aggregate within permissible utilization of 20% each, Portland Pozzolana /Ordinary Portland/Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement</p> <p>a) All works upto plinth level i) Add for using extra cement in the items of design mix over and above the specified cement content therein as per</p>	167.97	quintal		



	entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.				
22.	<p>Cement pressure grouting through Hollow/Solid Rock anchor of outer dia 76/51/38/32/25 in rock/overburden including all cost of material and equipments required to complete the grouting work at desired pressure.</p> <p>a) outer dia 76/51/38/32/25 as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p> <p><b>Note: The rate shall include all the operations needed for the execution of the item above and the cost of plasticizer etc. The payment shall be based on number of cement bags consumed.</b></p>	648.00	bag		
23.	<p>Supply and installation of Self driven rock anchor made of 40CR material with outer dia of 38mm and inner dia 19mm, Yield load carrying capacity of min 400kn/m in soil/overburden /rock suitable for drilling, placing and cement grouting. Installation with all accessories such as 76 mm dia drill bit, coupler, 10mm thick base plate and nut and bolt complete in all respect but excluding the cost of cement grouting which will be paid extra as per relevant BOQ item.</p> <p>a) 40CR material with outer dia of 38mm and inner dia 19mm as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>	432.00	mtrs		
24.	<p>Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :</p>	3.00	Each		

	<p>a) 0.91 m deep with S.F .R.C. cover and frame (heavy duty , HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :</p> <p>i) With common burnt clay F.P.S. (non modular) bricks of class designation 7.5 as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>				
25.	<p>Extra depth for circular type manhole 0.91 m internal dia (at bottom) beyond 0.91 m to 1.67 m</p> <p>a) With common burnt clay F.P.S. (non modular) bricks of class designation 7.5 as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>	3.00	mtrs		
26.	<p>Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :</p> <p>a) For pipes 250 to 300 mm diameter as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>	2.00	Nos.		
27.	<p>Providing, laying and fixing of membrane with Geotextile, 120 gsm non woven, 100% polyester of thickness 1 to 1.25 mm rapped to the backside of gabion walls as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.</p>	1137.00	Sqm		

28.	Supplying and laying high strength flexible geogrids (HSFG) as soil reinforcement / basal reinforcement as per MORTH 3100 and IRC 113, made of high tenacity polyester core with polyethylene coating with Minimum Long Term Design Strength (LTDS) of more than 50% of ultimate tensile strength at 30 degree Celcius corresponding to 12 % strain. Ultimate tensile strength- 800 kN/m as per entire satisfaction and direction of Engineer -in-charge including carriage of material within all lead and lift.	212.00	Sqm		
	<b>Total</b>				

**Note:-**

- 1. Quoted rate should be inclusive of all applicable taxes including GST (nothing extra shall be payable).**
- 2. All Statutory deduction will be made as per prevailing rates.**

Sd/-  
Superintending Engineer