

| <u>Burayu TVET</u> | | | |
|-----------------------|-----------------------------|------|--------|
| | | | |
| <u>Summary of BOQ</u> | | | |
| No | Items | Unit | Amount |
| 1 | ACCESSIBLE TOILET | Birr | |
| 2 | Septic Tank | | |
| 3 | RC elevated water tank slab | Birr | |
| 4 | Walkway | Birr | |
| 5 | Ramps | Birr | |
| 6 | Signage | Birr | |
| | TOTAL Amount | Birr | |
| | REBATE | | |
| | Total Amount After Rebate | | |
| | VAT 15% | Birr | |
| | GRAND TOTAL | Birr | |

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| No | SUMMARY OF TOILET(Burayu TVET) | | |
|------|---------------------------------|------|--|
| | <u>SUB-STRUCTURE</u> | | |
| 1 | EXCAVATION & EARTH WORKS | Birr | |
| 2 | CONCRETE WORKS | " | |
| 3 | MASONRY WORKS | " | |
| | | | |
| | <u>SUPER-STRUCTURE</u> | | |
| 1 | CONCRETE WORK | Birr | |
| 2 | ROOFING | " | |
| 3 | METAL WORK | " | |
| 4 | FLOORING | " | |
| 5 | PLASTERING WORKS | " | |
| 6 | PAINTING WORK | " | |
| 7 | CERAMIC WORK | " | |
| 8 | SANITARY INSTALLATION | " | |
| 9 | CEILING WORK | " | |
| 10 | ELECTRICAL INSTALLATION | " | |
| 11 | RAMP WORKS | " | |
| 12.1 | Metal work (Signage Pole) | " | |
| 12.2 | Signage Plate | " | |
| | TOTAL | " | |



| BILL OF QUANTITY | | | | | |
|---------------------------------------|--|----------------|--------|------|--------|
| Toilet (Burayu TVET) | | | | | |
| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| A. SUB-STRUCTURE | | | | | |
| 1.EXCAVATION & EARTH WORKS | | | | | |
| 1.01 | Excavate for site clearing to a depth of 20cm to remove to soil and cut trees | m ² | 33.15 | | |
| 1.02 | Bulk excavation in ordinary soil not exceeding 700mm from NGL. | m ³ | 20.34 | | |
| 1.03 | Trench Excavation up to depth of 1.15m below NGL | m ³ | 29.80 | | |
| 1.04 | Back fill with non expansive material & compact in layers not exceeding 20cm thickness. | m ³ | 7.01 | | |
| 1.05 | Selected Fill under hard-core to maintain the desired level with selected borrowed material and compact in layers not exceeding 200mm. | m ³ | 5.28 | | |
| 1.06 | Cart away surplus excavated material to a distance not exceeding 2kms. | m ³ | 49.76 | | |
| 1.07 | 200mm. thick sound basaltic or equivalent stone hard-core finished and blinded with crushed stone. | m ² | 13.13 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 2.CONCRETE WORKS | | | | | |
| 2.01 | 50mm thick lean concrete in C-5 with minimum cement content of 150kg/m ³ of concrete under: | | | | |
| | a) footing pad | m ² | | | |
| | b) grade beam | m ² | | | |
| | c) Trench Masonary wall | m ² | 7.44 | | |
| | d) 150mm thick ground floor slab | m ² | 13.125 | | |
| 2.02 | Reinforced concrete in class C-25 (with a 28-day 150mm cube crushing strength of 25MPa), cast into formworks and vibrated around rod reinforcement bars.(formwork & reinforcement bars are measured separately.) in: "Type of cement to be ordinary Portland cement (OPC)" | | | | |
| | a) footing pad | m ³ | | | |
| | b) foundation column | m ³ | | | |
| | c) grade beam | m ³ | 1.4625 | | |
| | d) 150mm thick ground floor slab | m ² | 13.125 | | |
| 2.03 | Sawn zigba wood form work for: | | | | |
| | a) footing pad | m ² | | | |
| | b) foundation column | m ² | | | |
| | c) grade beam | m ² | 11.55 | | |
| | d) ground floor slab | m ² | | | |
| 2.04 | Reinforcement steel bars according to structural drawing. Price includes cutting, bending, placing in position and tying wires. | | | | |
| | a) dia. 8mm deformed bar, c/c 200mm spacing for slab and grade beam | kg | 91.54 | | |
| | b) dia. 12mm deformed bar for grade beam | kg | 82.59 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |

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|------|--|----------------|--------|--|--|
| | 3. MASONRY WORKS | | | | |
| 3.01 | 500mm thick Stone masonry foundation wall bedded in cement mortar (1:3) in full joints. | m ³ | 7.2 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | B. SUPER-STRUCTURE | | | | |
| | 1. CONCRETE WORKS | | | | |
| 1.01 | Reinforced concrete in class C-25 (with a 28-day 150mm cube crushing strength of 25MPa), cast into formworks and vibrated around rod reinforcement bars.(formwork & reinforcement bars are measured separately.) in: "Type of cement to be ordinary Portland cement (OPC)" | | | | |
| | a) Elevation column | m ³ | 1.044 | | |
| | b) Top tie beam | m ³ | 0.792 | | |
| | c) Lintel Beam | m ³ | 0.11 | | |
| 1.02 | Sawn zigba wood form work for: | | | | |
| | a) Elevation column | m ² | 16.80 | | |
| | b) Top tie beam | m ² | 12.80 | | |
| | c) Lintel Beam | m ² | 1.56 | | |
| 1.03 | Reinforcement steel bars according to structural drawing. Price includes cutting, bending, placing in position and tying wires. | | | | |
| | a) dia. 8mm deformed bar | kg | 80.54 | | |
| | b) dia. 12mm deformed bar | kg | 172.36 | | |
| 1.04 | HCB wall bedded with 1:4 cement sand mortar | | | | |
| | a) 20cm thick external hcb wall | m ² | 56.76 | | |
| | b) 15cm thick internal HCB wall | m ² | 8.94 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 2. ROOFING | | | | |
| 2.1 | Supply and fix C-28 CIS sheet including 5cm.x7cm.Zigba wood purline placed c/c 90 cm. spacing including washers and roof ridge cover and truss. Truss members are made of wood at c/c spacing 100cm. Roof cover includes Ridge, Flushing, and all incidental works as shown in the drawing, the area is measured horizontally. | m ² | 21.6 | | |
| 2.2 | Galvanized steel copping G-28 deve.length 33cm | ml | 12 | | |
| 2.3 | UPVC down pipe attached to external wall surface with leader straps c/c 120 cm. and finally painted with two coats of synthetic paint. | ml | 9.20 | | |
| 2.4 | Ditto but to gutter of size 25cm.x 20cm. with development length of 60 cm. and painted with two coats of synthetic paint. | ml. | 6 | | |
| 2.5 | provide and supply 0.25 mm thick 25cm width Australian fascia board painted | ml. | 7.2 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 3. METAL WORK | | | | |



| | | | | | |
|---------------------------------|--|----------------|--------|--|--|
| | All doors are manufactured from LTZ 38mm profile frames. All works should be cut and assembled to sizes and shapes of the door schedule upon submitting workshop drawing by the contractor. Unit price includes the necessary iron monger anchorbolts cover plates approved lock , doors stoppers, other necessary accessories for completing the work and one coat of primer or antirust and two coats of synthetic paint. All according to door and window schedule as specified | | | | |
| 3.1 | METAL DOOR | | | | |
| | MD1) Size 1000 x 2100mm (2.1m2). Where the door handle should be fixed at 1.10m above finished floor. | pcs. | 2 | | |
| 3.2 | Supply and Install 100mm diameter wire mesh in window section where the mesh opening must be minimum to prevent entrance of flies to the toilet room | | | | |
| | Window opening Size 400 x 800mm (0.32m2). | pc. | 2 | | |
| 3.3 | Supply & fix dia. 50mm with 3mm thick, 650mm long, and 700mm high from finished floor surface CHS steel pipe fixed garb bar secured to the floor by means of anchoring pieces from same material including all the necessary work procedures (apply antirust, metallic paint, anchorage) | LS | 4 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 4. FLOORING | | | | | |
| | 48mm thick cement sand mortar mix (1:3) screed finished fine smooth to receive ceramic tile flooring. The levelness of the screed should be at a level of perfection to avoid visual wave on the finished surface. | | | | |
| 4.1 | Supply and fix 300x300x20mm approved rough ceramic tile flooring glued with approved type adhesive to cement screed. Price shall include 48mm thick cement screed (1:3). Colour and quality to be approved by the Engineer. | m ² | 14.04 | | |
| 4.2 | Supply and fix 100mm pvc skirting .Price shall including all the necessary works. | ml | 19.20 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 5. PLASTERING WORKS | | | | | |
| 5.1 | Apply three coats of plaster in cement mortar (1:3) up to fine finish to all internal and external wall surfaces. Plastering work shall include all surface pre-cleaning preparation, chiseling, polishing, job plastering, plastering to edges and cleaning at the end of finishing work. | m ² | 156.89 | | |
| 5.2 | Rendering for external wall. Plastering work shall include all surface pre-cleaning preparation, chiseling, polishing and cleaning at the end of finishing work. | m ² | 56.76 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 6. PAINTING WORK | | | | | |
| 6.1 | Apply in three coats of plastic emulsion paint to all internal and external plastered wall surfaces. The work shall include all surface pre-cleaning preparation, chiseling, polishing and cleaning at the end of painting work. Color shall be decided by the consultant in discussion with the client | m ² | 149.69 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 7. CERAMIC WORK | | | | | |



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|---|---|----------------|-------|--|--|
| 7.01 | Supply and lay 3 mm thick ceramic wall tiles of approved type bedded and jointed with ceramic approved adhesive as approved by the consultant or with cement sand mortar (1:3) grouted at joints with white cement wash. Price shall include 3 cm thick cement mortar backing or approved adhesive application before laying of the ceramic, polishing, cleaning and all other related necessary works. Color and Size Subject to engineers approval. | m ² | 34.56 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 8.SANITERY INSTALLATION | | | | | |
| SANITARY EQUIPMENT (FIXTURES) | | | | | |
| | All fixtures which differs from that specified below is subject to the owner's approval, based on samples, catalogues and brochures presented by the Contractor. Unit Price shall include all the necessary fixing brackets or hooks and all the necessary assistance civil works such as chiseling of walls, floors, beams and etc... | | | | |
| ALL FIXTURES ARE APPROVED EUROPEAN BRAND | | | | | |
| 8.01 | Supply and fix RAK or equivalent hand wash basins at 70cm height with stainless steel cold water mixer tap made of white vitreous china, complete with pedestal stand, mixing battery plug, chrome plated chain holder, P-smell trap with connection pipe and with all other necessary accessories. | | | | |
| | Size :- 500 x 400 mm | No | 2.00 | | |
| 8.02 | Supply and fix RAK or equivalent wash down water closets made of white vitreous china with plastic seat and cover including all accessories. | No | 2.00 | | |
| 8.03 | Supply and fix flexible water Hose pipe with all necessary accessories. | No | 2.00 | | |
| 8.04 | Supply and fix RAK or equivalent toilet paper holder with chrome plated brass wall flanged roll with chrome plated fastening screws and other accessories. | No | | | |
| 8.05 | Supply and fix crystal glass mirrors for toilets and wash basins with copper back protection, size: 500/400 mm including chrome plated brass mirror clips with chrome plated screws and etc... for hand wash basins. | No | 2.00 | | |
| 8.06 | Supply and fix RAK or equivalent soap holder in white vitreous china of size 150 x 150 mm complete with the necessary fixing and other accessories for hand wash basins. | No | 0.00 | | |
| WATER SUPPLY PIPE LINE AND VALVES | | | | | |
| | Cold and hot water pipes shall be PPR pipes for cold and hot water respectively, and be fixed to slabs, walls, beams or etc... with metal straps or similar material. Unit price shall include all assistance civil works and necessary fittings such as T, bends etc. according to where shown on the drawing. All water pipes shall be tested two times the working pressure or 50 meters head, which ever is greater at the expense of the contractor. | | | | |



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|------|---|----------------|--------|--|--|
| 8.07 | Supply and install PPR, PN-10 pipes to internal cold water distribution system as shown on the drawing. Complete with all the necessary fittings and accessories. | | | | |
| | Dia. 15 mm | ml | 112.20 | | |
| 8.08 | Supply and fix chrome service angle valves of approved standard before hand wash basins, water closets and other fixtures. Complete with unions, elastic water proofing, hand wheels of normal quality and with all other necessary accessories. | | | | |
| | Dia. 15 mm | No | 10.00 | | |
| | WASTE, VENT AND RAIN WATER PIPES AND ACCESSORIES | | | | |
| | All domestic waste, vent and storm water pipe lines shall be comply to BS45/4:1983 and DIN 19531 uPVC, PN-4 pipes and shall be provided with a minimum slope of 1.5%. Pipes and necessary fittings shall be standard quality and be free from damage during storage, construction and etc. Unit price shall include all the necessary assistance civil works, such as excavation cartaway, fixing or hanging to walls, beams or slabs. etc., necessary fittings such as bends, Y, T, etc. Storm water PVC pipes shall resist the external temperature and the quality shall meet the purpose. | | | | |
| 8.09 | Supply and lay internal & External uPVC, PN-4 waste pipes according to where shown on the drawings. Complete with all the necessary fittings. | | | | |
| | Dia. 110 mm | ml | 24.5 | | |
| 8.10 | Supply and fix dia 50mm vent caps made of uPVC at the roof terminal of vent pips. complete with all accessories and water proofing works | | | | |
| | Dia. 50 mm | No. | 10 | | |
| 8.11 | Fix floor drain 80mm brass plated necessary accessories all of approved standard. Price shall include all the necessary civil works. | No. | 2.00 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 9. Ceiling | | | | |
| 9.01 | 600mm X 60mm Plastic ceiling with all necessary fittings | m ² | 17.64 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 10. Electrical Installation Works - | | | | |
| | All fixtures which differs from that specified below is subject to the owner's approval, based on samples, catalogues and brochures presented by the Contractor. Unit Price shall include all the necessary fixing brackets or hooks and all the necessary assistance civil works such as chiseling of walls, floors, beams and etc... | | | | |
| 10.1 | Supply and Install Distribution Board Panels, Power Outlets, HD Conduits and Pipes and Light Switch Points and also bulbs. Light switch buttons should be fixed at 1.2m height. | LS | 2.00 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 11. Ramp Works - | | | | |



| | | | | | |
|-------|---|----|------|--|--|
| 11.1 | The ramp shall be constructed with 6.0% slope with a width of 2m. The ramp should also have a 50mm diameter and 2.5mm thick handrail where the vertical posts should be fixed at each 0.9m spacing and the horizontal bar at 0.1m, 0.60m and 0.90m height from the finished floor on both sides and it should be coated with antirust and metallic paint. The color of the handrail should contrast visually with the wall or the ramp. Price should include landing at directional changes and at entrance and all the necessary works required for accessibility. | LS | 1.00 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 12. SIGNAGE | | | | |
| | 12.1 METAL WORK(signage pole) | | | | |
| 12.11 | Supply & fix dia. 50mm with 3mm thick metal pipe mounted on anchor with 150mm curbs at its bottom and it is 2.5m high above the ground. (all metal surfaces should be coated with antirust and metallic paint) | no | 1.00 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | 12.2 SIGNAGE PLATE | | | | |
| 12.21 | Supply and fix 2 mm thick 2mm thick aluminium cladding sign board plate on which each letters should be 7cm in UV print and on one signage pole one plate is mounted. And the plate is contrasted with blue background surface and white letters. | No | 1.00 | | |
| 12.22 | Supply and fix 2 mm thick aluminium cladding sign board plate on which each letter should be 7cm written in UV print and each plate is mounted on the side of the door. And each plate is contrasted with blue background surface and white letters. sex and international disability symbol is printed on it (UV print). As per Engineer's approval | No | 2.00 | | |
| 12.23 | Supply and fix 2 mm thick aluminium cladding sign board plate on which each letters should be 5cm and each plate is mounted on the middel front side of the toilet as per the engineer's order. And each plate is contrasted with blue background surface and white letters. And the sign of donor's logo with proper word is printed on it. All letters and logo has to be printed in UV print. As per the Engineer's approval | No | 1.00 | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | TOTAL CARRIED TO SUMMARY | | | | |
| | TOTAL CARRIED TO SUMMARY | | | | |



| Specification & Bill of quantities for Burayu TVET | | | | | |
|--|---|----------------|--------|------|--------|
| 4X4X3m size septic tank | | | | | |
| Item | Discription | Unit | Qty. | Rate | Amount |
| <u>1.Exacavation & earth work</u> | | | | | |
| 1.1 | Clear the site an average depth of 200mm. | m ² | 20.25 | | |
| 1.2 | Excavate Bulk for 270cm depth for the tank and 85cm thick stone masonry | m ³ | 48.80 | | |
| 1.3 | Back fill with non expansive material & compact in layers not exceeding 20cm thickness. | m ³ | 10.75 | | |
| 1.4 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 52.85 | | |
| Total Carried to Summary | | | | | |
| <u>2. Concrete work</u> | | | | | |
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m3 of concrete filled into form work and vibrated around steel reinforcement (Form work and Rebar measured separately.) Rebar Grade -40 | | | | |
| | In 50mm thick lean concret under 85cm thick masonry wall and PVC pipe for sluge removal from toilet to septic tank | m ² | 12.71 | | |
| | In 15cm thick manhole (60cmX60cm) | m2 | 1.00 | | |
| | PVC Pipe for sludge removal from Toilet room to Septic tank based on the engineers' approval | ml | 10.00 | | |
| 2.2 | 150mm thick RC slab | m3 | 2.40 | | |
| 2.3 | 200X200mm Rc grade beam | m3 | 0.61 | | |
| 2.4 | Steel reinforcement according to structural drawings including cutting, bending, tying wires & placing in position. | | | | |
| | Φ12mm deformed bar | Kg | 396.85 | | |
| | Φ8mm deformed bar | Kg | 21.57 | | |
| Total Carried to Summary | | | | | |
| <u>3. Form Work</u> | | | | | |
| 3.1 | 350mm height & 12 mm thick form work and soffit for masonry wall, grade beam and slab with eucalyptus and all other necessary fittings. | m ² | 21.44 | | |
| Total Carried to Summary | | | | | |
| <u>4. Stone Masonry</u> | | | | | |



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|--------------------------|---|----------------|-------|--|--|
| 4.1 | 85cm thick at the bottom and 50cm thick at the top hard trachytic or equivalent masonry stone foundation wall bedded on cement & sand mortar mix (1:3) ratio below ground level and apply three coats of plaster in cement mortar (1:3) up to fine finish to all masonry surfaces. Plastering work shall include all surface pre-cleaning, preparation, chiseling, polishing and cleaning at the end of finishing work. | m ³ | 25.50 | | |
| 5 | Supply and fix a 2m3 (2000Lt) water tank in fiberglass to be mounted on extended concrete columns with all the necessary pumps, pipes for the water supply line, fittings, and accessories all of the approved standard. | No | 1.00 | | |
| Total Carried to Summary | | | | | |
| Total Carried to Summary | | | | | |

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| Specification & Bill of quantities for Burayu TVET | | | | | |
|---|---|----------------|-------|------|--------|
| 1.2*1.2m size elevated water tank slab at 3.5m height above NGL | | | | | |
| Item | Discription | Unit | Qty. | Rate | Amount |
| | <u>1.Exacavation & earth work</u> | | | | |
| 1.1 | Clear the site an average depth of 200mm. | m ² | 2.56 | | |
| 1.2 | Excavate Bulk for 150cm depth for footing pad and footing column | m ³ | 3.84 | | |
| 1.3 | Back fill with non expansive material & compact in layers not exceeding 20cm thickness. | m ³ | 3.41 | | |
| 1.4 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 4.35 | | |
| | Total Carried to Summary | | | | |
| | <u>2. Concrete work</u> | | | | |
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m3 of concrete filled into form work and vibrated around steel reinforcement (Form work and Rebar measured separately.) Rebar Grade -40 | | | | |
| | In 50mm thick lean concrete under 1x1m footing pad | m ² | 1.00 | | |
| 2.2 | RC class C-25, in 1m by 1m and 0.3m depth footing pad | m3 | 0.30 | | |
| 2.3 | RC class C-25, in 0.3mx0.3 and 1.5m high footing column below NGL | m3 | 0.14 | | |
| 2.4 | RC class C-25, in 0.3mx0.3 and 3.5m high tanker column above NGL | m3 | 0.36 | | |
| 2.5 | RC class C-25, in 1.2mx1.2m and 0.15m thick slab for the tanker | m3 | 0.22 | | |
| 2.6 | Steel reinforcement according to structural drawings including cutting, bending, tying wires & placing in position. | | | | |
| | Φ12mm deformed bar | Kg | 42.67 | | |
| | Φ14mm deformed bar | Kg | 58.08 | | |
| | Φ8mm deformed bar | Kg | 18.96 | | |
| | Total Carried to Summary | | | | |
| | <u>3. Form Work</u> | | | | |
| 3.1 | 350mm height &12 mm thick form work and soffit for masonry wall, grade beam and slab with eucalyptus and all other necessary fittings. | m ² | 9.78 | | |
| | Total Carried to Summary | | | | |
| | Total Carried to Summary | | | | |



| SUMMARY OF Walkway Burayu TVET | | | |
|---------------------------------------|-------------------|-------------|--|
| | Description | Unit | |
| 1 | Walkway to toilet | Birr | |
| | SUB TOTAL | Birr | |



Specification & Bill of quantities for Burayu TVET College

Access route for Toilet (a 60m long by 2m width (including curb stone) RC concrete walkway with curb stone)

| Item | Discription | Unit | QTY | RATE | Amount |
|---------------------------------------|--|----------------|--------|------|--------|
| 1.Exacavation & earth work | | | | | |
| 1.1 | Clear the site to an average depth of 200mm. | m ² | 183 | | |
| 1.2 | Bulk Excavation to a depth of 250mm and compact the natural ground (subgrade) to fill with select material & gravel | m ³ | 30 | | |
| 1.3 | Fill with non-expansive select material and compact to maintain the desired level by sprinkling water if it is dry in layers not exceeding 200mm | m ³ | 24 | | |
| 1.5 | Fill crushed gravel (01) as a surfacing material blinded with 00 aggregate under the concrete slab. | m ³ | 8.4 | | |
| 1.6 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 66.6 | | |
| Total Carried to Summary | | | | | |
| 2. Concrete work | | | | | |
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m3 of concrete filled into formwork and vibrated around steel reinforcement (Form work and Rebar measured separately.) | | | | |
| | In 100mm thick ground floor slab, segment the concrete surface at each 2m. The top surface of the walkway should be rough to avoid a slippery surface. | m ² | 120 | | |
| | In 130mm thick and 150mm high Curb including plastering for making a smooth finished surface. | m3 | 2.34 | | |
| 2.2 | Put a 50mm diameter PVC pipe under the curbstone to carry the rainoff out of the drainpipe and out in to the ground | No | 15 | | |
| 2.3 | Steel reinforcement according to structural drawings including cutting, bending, tying wires & placing in position. | | | | |
| | Φ8mm c/c 300mm deformed bar | Kg | 344.42 | | |
| Total Carried to Summary | | | | | |
| 3. Form Work | | | | | |
| 3.1 | form work for Curb stone | m ² | 48.5 | | |
| Total Carried to Summary | | | | | |
| Total Summary For Walk way | | | | | |



| SUMMARY OF Ramp Burayu TVET | | | |
|------------------------------------|------------------|-------------|--|
| | Description | Unit | |
| 1 | Ramp 1 | Birr | |
| 2 | Ramp 2 | Birr | |
| 3 | Ramp 3 | Birr | |
| | SUB TOTAL | Birr | |



Ethiopian Center for Disability and Development (ECDD)

Specification & Bill of quantities for Burayu TVET

L-shaped amp at the Garment Department (width=1.46m elevation= 39cm & length= 7.06m (7%)) with handrails on both sides

| Item | Description | Unit | Qty. | Rate | Amount |
|---------------------------------------|---|----------------|-------|------|--------|
| 1.Exacavation & earth work | | | | | |
| 1.1 | Clear the site to an average depth of 200mm | m ² | 14.72 | | |
| 1.2 | demolish the existing ceramic floor stair | m ² | 3.80 | | |
| 1.3 | Bulk Excavation with 40cm depth for stone masonry and hardcore without working space | m ³ | 2.63 | | |
| 1.4 | Trench excavation for masonry with no working space | m ³ | 0.77 | | |
| 1.5 | Back fill with non expansive material & compact in layers not exceeding 40cm thickness including excavation for hard-core | m ³ | 0.00 | | |
| 1.6 | 250mm thick basaltic or sound approved stone Hard core and blinded with 20mm crushed aggregate. | m ³ | 0.74 | | |
| 1.7 | Fill under hard-core to maintain the desired level with selected borrowed material and compact in layers not exceeding 200mm. | m ² | 0.00 | | |
| 1.8 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 6.34 | | |
| Total Carried to Summary | | | | | |
| 2. Concrete work | | | | | |
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m ³ of concrete filled into form work and vibrated around steel reinforcement (Form work and Rebar measured separately). Rebar Grade -40 | | | | |
| | In 25mm thick lean concrete C-5 concrete grade under masonry | m ² | 5.91 | | |
| | In 100mm thick Ramp C-25 RC slab. The top surface of the ramp should be rough to avoid a slippery surface. | m ³ | 1.03 | | |
| 2.2 | Steel reinforcement according to structural drawings including cutting, bending, tying wires & placing in position. | | | | |
| | Φ8mm c/c 300mm deformed bar | Kg | 30.66 | | |
| Total Carried to Summary | | | | | |
| 2. Form Work | | | | | |
| 3.1 | 30mm thick formwork for Ramp and landing | m ² | 2.82 | | |
| Total Carried to Summary | | | | | |
| 4. Stone Masonry | | | | | |



| | | | | | |
|-----|---|----------------|-------|--|--|
| 4.1 | 400mm thick hard trachytic or equivalent masonry stone foundation wall bedded on cement & sand mortar mix (1:4) ratio below ground level and Apply three coats of plaster in cement mortar (1:4) up to fine finish to all internal wall surfaces. Plastering work shall include all surface pre-cleaning preparation, chiseling, polishing and cleaning at the end of finishing work. | m ³ | 1.06 | | |
| | Total Carried to Summary | | | | |
| | <u>5. Metal work</u> | | | | |
| 5.1 | Provide and fix a 40mm diameter and 3mm thick circular horizontal handrail at a height of 0.1m, 0.7m, and 0.9 mounted from the finished floor surface level on both sides of the Ramp. It should be coated with antirust and paint it two coats of dark green metallic paint. | ml | 42.36 | | |
| 5.2 | Provide and fix 40mm diameter and 3mm thick circular vertical hand rail with a height of 0.9m from finished floor surface and C/C 0.9m mounted on both sides of the Ramp. It should be coated with antirust and paint it two coats of dark green metallic paint. | ml | 16.69 | | |
| | Total Carried to Summary | | | | |
| | Total Summary For Ramp 1 | | | | |

2m*1.6m Concrete ditch cover laying on a masonry at hair drying and accounting department

| Item | Description | Unit | Qty. | Rate | Amount |
|------|---|----------------|------|------|--------|
| | <u>1.Exacavation & earth work</u> | | | | |
| 1.1 | clear the site to an average depth of 200mm | m ² | 3.20 | | - |
| 1.2 | Trench Excavation for 40cm thick and 35cm depth stone masonry with working space on both sides of the ramp | m ³ | 0.00 | | - |
| 1.3 | Back fill with non expansive material & compact in layers not exceeding 40cm thickness including excavation for hard-core | m ³ | 0.00 | | - |
| 1.4 | 250mm thick basaltic or sound approved stone Hard core and blinded with 20mm crushed aggregate. | m ³ | 0.29 | | - |
| 1.5 | Fill under hard-core to maintain the desired level with selected borrowed material and compact in layers not exceeding 200mm. | m ² | 0.00 | | - |
| 1.6 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 0.00 | | - |
| | Total Carried to Summary | | | | - |
| | <u>2. Concrete work</u> | | | | |



| | | | | | |
|-----|---|----------------|-------|--|---|
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m3 of concrete filled into form work and vibrated around steel reinforcement (Form work and Rebar measured separately). Rebar Grade -40 | | | | |
| | In 50mm thick lean concrete C-5 concrete grade | m ² | 3.20 | | - |
| | In 100mm thick Ramp C-25 RC slab. The top surface of the ramp should be rough to avoid a slippery surface. | m ³ | 0.32 | | - |
| | Curb stone of 120mm high and 120mm wide on both sides of the ramp. | m ³ | 0.06 | | |
| 2.2 | Steel reinforcement including cutting, bending, tying wires & placing in position. (placing horizontally and vertically) for ramps and landings | | | | |
| | Φ8mm deformed bar, with c/c 300mm spacing | Kg | 0.00 | | |
| | Φ12mm deformed bar, with c/c 150mm spacing for RC ditch cover | Kg | 21.42 | | - |
| | Total Carried to Summary | | | | - |
| | <u>2. Form Work</u> | | | | |
| 3.1 | 30mm thick form work for Ramp and landing | m ² | 0.80 | | - |
| | Total Carried to Summary | | | | - |
| | <u>4. Stone Masonry</u> | | | | |
| 4.1 | 400mm thick hard trachytic or equivalent masonry stone foundation wall bedded on cement & sand mortar mix (1:4) ratio below ground level and Apply three coats of plaster in cement mortar (1:4) up to fine finish to all internal wall surfaces. Plastering work shall include all surface pre-cleaning preparation, chiseling, polishing and cleaning at the end of finishing work. | m ³ | 0.19 | | - |
| | Total Carried to Summary | | | | - |
| | Total Summary For Ramp 2 | | | | - |

Ramp and walkway to ICT Department (Ramp width=2.7m, elevation= 38cm & length= 7.6 m (5%) and 1.5m long and 2.7m wide landing) (walkway with a length of 12.4 and a width of 2.7) with 10cm thickness of C25 concrete slab and curb stone on both sides of the ramp and make an opening on the curb to provide a passage for water to leave the surface of the ramp.

| Item | Description | Unit | Qty. | Rate | Amount |
|------|--|----------------|-------|------|--------|
| | <u>1.Exacavation & earth work</u> | | | | |
| 1.1 | clear the site to an average depth of 200mm | m ² | 75.85 | | - |
| 1.2 | Demolish the existing masonry ramp | m ³ | 0.57 | | |
| 1.3 | Bulk Excavation to a depth of 250mm and compact the natural ground (subgrade) to fill with select material & gravel | m ³ | 14.51 | | - |
| 1.4 | Fill with non-expansive select material and compact to maintain the desired level by sprinkling water if it is dry in layers not exceeding 200mm | m ³ | 11.61 | | - |



| | | | | | |
|--------------------------|---|----------------|--------|--|---|
| 1.5 | 250mm thick basaltic or sound approved stone Hard core and blinded with 20mm crushed aggregate for the ramp and landing. | m ³ | 2.82 | | - |
| 1.6 | Fill crushed gravel as a surfacing material blinded with 00 aggregate under the concrete slab for the walkway. | m ³ | 1.67 | | - |
| 1.7 | Cart away surplus excavated material to a distance not exceeding 5km from the site. | m ³ | 29.68 | | - |
| Total Carried to Summary | | | | | - |
| <u>2. Concrete work</u> | | | | | |
| 2.1 | Reinforced Concrete class C-25, 400kgs of cement /m3 of concrete filled into form work and vibrated around steel reinforcement (Form work and Rebar measured separately). Rebar Grade -40 | | | | |
| | In 50mm thick lean concrete C-5 concrete grade under masonry | m ² | 8.20 | | - |
| | In 100mm thick Ramp C-25 RC slab. Segment the concrete surface at each 2m. The top surface of the ramp should be rough to avoid a slippery surface. | m ³ | 5.81 | | - |
| | Curb stone of 120mm high and 120mm wide on both sides of the ramp. | m ³ | 0.62 | | |
| 2.2 | Steel reinforcement including cutting, bending, tying wires & placing in position. (placing horizontally and vertically) for ramps and landings | | | | |
| | Φ8mm deformed bar, with c/c 300mm spacing | Kg | 161.34 | | |
| | Φ12mm deformed bar, with c/c 150mm spacing for RC ditch cover | Kg | 42.32 | | |
| Total Carried to Summary | | | | | |
| <u>2. Form Work</u> | | | | | |
| 3.1 | 30mm thick form work for Ramp and landing | m ² | 15.54 | | |
| Total Carried to Summary | | | | | - |
| <u>4. Stone Masonry</u> | | | | | |
| 4.1 | 400mm thick hard trachytic or equivalent masonry stone foundation wall bedded on cement & sand mortar mix (1:4) ratio below ground level and Apply three coats of plaster in cement mortar (1:4) up to fine finish to all internal wall surfaces. Plastering work shall include all surface pre-cleaning preparation, chiseling, polishing and cleaning at the end of finishing work. | m ³ | 3.11 | | |
| Total Carried to Summary | | | | | - |
| Total Summary For Ramp 3 | | | | | - |



| <u>SUMMARY OF SIGNAGE for Burayu TVET</u> | | | |
|---|--------------------------|------|--|
| | SUB-STRUCTURE | | |
| 1 | EXCAVATION & EARTH WORKS | Birr | |
| 2 | CONCRETE WORKS | " | |
| | SUB-TOTAL (A) | | |
| | SUPER-STRUCTURE | | |
| 1 | METAL WORK | Birr | |
| 2 | SIGNAGE PLATE | " | |
| | SUB-TOTAL (B) | | |
| | TOTAL | | |



| BILL OF QUANTITY | | | | | |
|---------------------------------------|--|----------------|-------|------|--------|
| Signage (Burayu TVET) | | | | | |
| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| A. SUB-STRUCTURE | | | | | |
| 1.EXCAVATION & EARTH WORKS | | | | | |
| 1.01 | Excavate for site clearing to a depth of 20cm to remove to soil | m ² | 0.30 | | |
| 1.02 | Bulk excavation in ordinary soil not exceeding 1000mm | m ³ | 0.30 | | |
| 1.03 | Selected Fill under the concrete to maintain the desired level with selected borrowed material and compact in layers not exceeding 200mm. | m ³ | 0.20 | | |
| 1.04 | Cart away surplus excavated material to a distance not exceeding 2kms. | m ³ | 0.36 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 2.CONCRETE WORKS | | | | | |
| 2.01 | 50mm thick lean concrete in C-5 with minimum cement content of 150kg/m ³ of concrete under: | | | | |
| | a) footing pad | m ² | 0.13 | | |
| 2.02 | Reinforced concrete in class C-25 (with a 28-day 150mm cube crushing strength of 25MPa), cast into formworks and vibrated around rod reinforcement bars.(formwork & reinforcement bars are measured separately.) in: "Type of cement to be ordinary Portland cement (OPC)" | | | | |
| | a) footing pad | m ³ | 0.10 | | |
| 2.03 | Sawn zigba wood form work for: | | | | |
| | a) footing pad | m ² | 0.00 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| B. SUPER-STRUCTURE | | | | | |
| 1. METAL WORK(signage pole) | | | | | |
| 1.01 | Supply & fix five poles with dia. 50mm with 3mm thick metal pipe mounted on anchor with 150mm curbs at its bottom and it is 2.5m high above the ground. (all metal surfaces should be coated with antirust and metallic paint) | No | 5.00 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |
| 2.SIGNAGE PLATE | | | | | |
| 2.1 | Supply and fix 60x30cm and 3mm thick aluminum cladding pole mounted sign board.plate on which each letters should be 7cm written in UV print. The plate should be contrasted with blue black background surface and white letters. And the sign of donor's logo, ECDD and symbol of accessibility should be printed on one of the plates as required. All letters and logo has to be printed in UV print on both side (face) of the plate. On one signage pole, at least five plates supported in metallic frame should mounted. | No | 25.00 | | |
| TOTAL CARRIED TO SUMMARY | | | | | |

