

XIX. Granite Counter Top

This Item shall consist of furnishing all waterproofing materials, labor, tools, equipment and other facilities and undertaking the proper installation works required as shown on the Plans and in accordance with this Specification.

17mm thk. – China Natural Granite Lavatory Counter Top, Manila White

- o Males & Females Comfort Room

XX. Metal Works

This Item shall consist of furnishing all materials, labor, tools and equipment required in undertaking all metal works which includes G.I pipe Railings and Meta window grills as shown on the Plans and in accordance with this Specification.

1. All materials to be incorporated in the metal works shall be of good quality. Before incorporation in work, all materials shall have been inspected/accepted by the Project Monitoring Committee.
2. G.I pipes, and other metallic structural materials either plain or fabricated shall be stored above the ground upon platforms, skids, or other supports. It shall be kept free from dirt, grease, or other foreign matter and shall be protected as far as practicable from corrosion.
3. The steel bars and other metallic structural materials shall be coated with red oxide primer (two coats) before installation or after welding works.
4. Workmanship and finish shall be per the best general practice. Portions of the work exposed to view shall be finished neatly. Shearing, flame-cutting, and chipping shall be done carefully and accurately.
5. No welding works shall be done on areas coated with paint.
6. Shop drawings shall be submitted by the Contractor for TPC approval before fabrication and installation.
7. Submission of shop drawings for evaluation/approval shall be submitted seven (7) days before fabrication and installation.
8. All materials for metal works to be used shall be brand new. Usage of scrap and tarnishing metals is strictly prohibited. The Contractor shall promptly remove and replace any scrap, old, and used materials installed on site.
9. Provide and install the following as specified (see details):

XX.A. Metal Works (G.I. Pipe Railing)

- a. The Contractor shall ensure that all materials to be used shall be in accordance with the required specifications:
 - 50mmØ G.I. Pipe, Schedule 40 Top Rail
 - 38mmØ G.I. Pipe, Schedule 40 Baluster / Vertical Support

XX.B. Metal Works (Window Grills)

- a. The Contractor shall ensure that all materials to be used shall be in accordance with the required specifications:
 - 10mm thk. Square Bar Grills for Main Frame and horizontal members
 - 4.5mm thk. Connector plate with 12mmØ Expansion Bolts
- b. This scope includes provision of Window Grills as listed below:

GENERAL SPECIFICATION	WINDOW TAG	NO. OF SET	TECHNICAL DIMENSION
Window Grills	G1	6 sets	1800mmW x 1720mmH

XXI. Cementitious Waterproofing Works

This Item shall consist of furnishing all waterproofing materials, labor, tools, equipment and other facilities and undertaking the proper installation works required as shown on the Plans and in accordance with this Specification.

1. Cement-base waterproofing powder mix shall be cement-base, aggregate type, heavy duty, water-proof coating for reinforced concrete surface and masonry exposed to water. When mixed with other ingredients are free flowing, water-proof coatings that possesses strength durability and density.
2. Water shall be clean, clear and potable.
3. Second Floor Shower Room & Comfort Room, Roof decks and parapet walls and other area indicated on the plans to be waterproof shall first be rendered with cement-based waterproofing before any type of waterproofing is applied.
4. Concrete surface to be applied with waterproofing shall be structurally sound, clean and free of dirt, loose mortar particles, paints films oil, protective coats, efflorescence laitance, etc.
5. All defects shall be properly corrected and carefully formed to provide a smooth surface that is free of marks and properly cured prior to application works.
6. Drainage connections and weep holes shall be set to permit the free flow of water.
7. Any expansion and contraction joints shall be cleaned, primed, fitted with a backing rod and caulked with sealant.
8. Prepared surfaces shall be cured and kept wet by sprinkling with water at regular intervals for a period of at least three days and allow surface to actually set within seven days.
9. Ensure that the prepared surface has completely set and all defects repaired.
10. Prior to application of membrane concrete surfaces should be sound and cured without the use of curing compound.
11. Application shall be done one direction strip to assure uniform thickness. Apply waterproofing membrane at shower rooms & comfort room second floor level and roof deck.
12. Allow primer to dry until it is ready to receive next coat or layer as specified in the manufacturing instructional manual.
13. After application, surface shall be uniformly smooth, free from irregularities folds and knots.
14. Where weather disturbance interrupts the work and exposing the membrane to moisture remove the layer exposed to moisture and repeat procedure until completion of the process.
15. Provide concrete cement topping of at least minimum 25mm thick on the membrane after five days where protective coatings have been applied.

XXII. Self-Leveling Polyurethane Sealant

This Item shall consist of furnishing of Self-Leveling Polyurethane Sealant materials, labor, tools, equipment and other facilities and undertaking the proper installation works required as shown on the Plans and in accordance with this Specification.

1. This Item includes application of self-leveling polyurethane sealant with polyethylene foam backing rod to seal horizontal expansion joints in concrete and cementitious slabs at ground floor & second floor hallway & roof deck as per plan and specifications.

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2. Proper surface preparation shall be observed. Joint walls must be sound, clean, dry, frost-free, and free of oil and grease. Curing compound residues and any other foreign matter must be thoroughly removed.
3. Install bond breaker tape or backer rod to prevent bond at base of joint and give the sealant the correct thickness. Backing rod diameter shall be approximately 20% - 30% larger than the joint width.
4. Concrete must be of good quality and strength prior to application.
5. Application method and tools shall be in accordance with the manufacturer's recommendation. Any improper setting shall be reworked/ reapplied by the Contractor.
6. Product limitation shall also be taken into consideration when applying per manufacturer's recommendation so as not to affect the ability of the sealant to gain proper adhesion.

XXIII. Phenolic Toilet Partition

This Item shall consist of furnishing all phenolic toilet partition materials, labor, tools and equipment required in undertaking the toilet partition system as shown on the Plans and in accordance with this Specification.

1. For all assembly and fabrication works the cut ends shall be true and accurately jointed, free of burrs and rough edges. Cut-out recesses, mortising, grinding operation for hardware shall be accurately made and properly reinforced when necessary.
2. Upon delivery, phenolic boards and accessories shall be stored on a flat and stable surface to avoid cambers upon installation.
3. Provide and install 12mm thk. 5ft x 6ft - Neuform Compact Laminate Phenolic Board, color combination of Prussia Blue (NSD 2613) & Warm Grey (NSD 1562).
4. Provide stainless steel partition profile and accessories such as Top rail, h-profile, U profile and corner profile.
5. Provide partition accessories for such as adjustable foot and other accessories for every cubicle. See phenolic comfort room cubicles isometric details. All accessories shall be made of Stainless Steel.
6. Use proper profile fittings on all corners and edges of the partition system.
7. Use appropriate cutting equipment. Clearances in fitting phenolic boards shall be avoided.
8. Any improper work shall be reconstructed by the Contractor.
9. The Contractor shall assign well-versed personnel in the installation procedure of the phenolic toilet partition system.

PART D. PLUMBING/ SANITARY WORKS

XXIV. Plumbing & Sanitary Works

All works shall be done under the direct supervision of a licensed Master Plumber and in strict accordance with these specifications and of the methods as prescribed by the national Plumbing Code of the Philippines.

1. All Materials delivered on site shall be brand new and have an Approved Material Inspection Report from the Project Monitoring Committee.
2. Provide proper support and hangers for all pipes (see details on plan).
3. Complete water leak testing of plumbing works shall be done before closing or installation of ceiling panels.
4. Pipe sleeve shall not be located within the distance 2 times depth of beam from face of support.
5. Pipe fitters and Installers Shall have competency Certificate (NCII).
6. Provide proper pipe sleeves on all pipes crossing along Structural and Architectural members (see structural details and pipe sleeves details on plan).

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7. Provide correctly located opening of proper sizes where required in walls and floors for pass of pipes.
8. Care shall be taken as not to weaken the structural integrity of the building.
9. Relocation or modification of pipes required proper execution and provide shop drawings approved by Monitoring/Planning Engineer.
10. All plumbing works shall be done by experienced plumber/pipe fitters/installers and shall be supervised by a duly Registered Master Plumber.

XXIV.A. Cold Water Line Piping

- a. All pipes and fittings shall be clean before joining.
- b. All cold waterline pipes and fittings shall be PPR-PN10 (Neltex).
- c. Use PPR fusing machine in joining pipes and fittings.
- d. Provide air chamber for each fixture.
- e. Provide heavy duty type brass Gate Valves, Stainless Steel flush valves for urinals, and Stainless-Steel angle valves for sanitary fixtures located as per plan.
- f. Connection of water supply from the campus main water line.
- g. Leak test shall be conducted before closing of pipes.



XXIV.B. Plumbing & Sanitary Piping

- a. All pipes and fittings shall be clean before joining.
- b. All PVC pipes and fittings shall be series 1000 (Moldex) it includes Waste Pipe, Soil Pipe, Vent Pipe and storm drains.
- c. Provide P-traps on lavatory and floor drains located as per plan.
- d. Provide cast iron cover for all floor cleanouts.
- e. All cleanouts shall be accessible for maintenance purposes.
- f. Storm drain pipe outlets shall be connected to nearest campus drainage.
- g. Vent stack thru roof pipe shall be extended 300mm to above roof level and provide insect screen. (see details)
- h. Provide pipe casing (plaster) for all riser down spouts and exposed pipes.

XXIV.C. Plumbing Fixtures

The following shall be provided and installed;

- a. Four (4) sets High-end Vessel Type Branded Lavatory w/ SS Chi Faucet (Complete W/ Accessories) - Round, White
- b. Ten (10) set High-end OSIRIS CS4025BC Coupled Water Closet Incl. Stainless Steel Handheld Bidet complete with accessories.
- c. Ten (10) sets Urinal including flush valve and Complete W/ Accessories.
- d. Twenty (20) sets Stainless Floor Drain.
- e. Four (4) sets Stainless Faucet.

SPECIFICATION	QTY/ LOCATION	FIXTURE
sets High-end Vessel Type Branded Lavatory w/ SS Chi Faucet	4sets – Comfort rooms	
High-end OSIRIS CS4025BC Coupled Water Closet Handheld Bidet (Hygienic Spray)	10 sets-Comfort Rooms	

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