during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation. These unlawful acts include, but are not limited to, the following:

a) Corrupt, fraudulent, collusive, coercive, and obstructive practices as defined in **ITB** Clause 3.1, unless otherwise specified in the **SCC**;

b) Drawing up or using forged documents;

c) Using adulterated materials, means, or methods, or engaging in production contrary to rules of science or trade; or

d) Any other act analogous to the foregoing.

26) Termination for Other Causes

26.1 The Procuring Entity may terminate this Contract, in whole or in part, at any time for its convenience. The HoPE may terminate this Contract for the convenience of the Procuring Entity if physical and economic conditions have significantly changed so as to render the project no longer economically, financially, or technically feasible, as determined by the HoPE; or if the HoPE has determined the existence of conditions that make project implementation impractical or unnecessary, such as, but not limited to, fortuitous events, changes in laws and government policies.

26.2 The Procuring Entity or the Contractor may terminate this Contract if the other party causes a fundamental breach of this Contract.

26.3 Other breaches of Contract shall include, but shall not be limited to, the following:

a) The Contractor stops work for twenty-eight (28) days when no stoppage of work is shown on the current Program of Work and the stoppage has not been authorized by the Procuring Entity;

b) The Procuring Entity instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within twenty-eight (28) days;

c) A payment certified by the Procuring Entity is not paid to the Contractor within eighty-four (84) days from the date of the Procuring Entity's certificate;

d) The Procuring Entity gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Procuring Entity;

e) The Contractor does not maintain a Security, which is required; and

f) The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **GCC** 18.

26.4 The Funding Source or the Procuring Entity, as appropriate, will seek the imposition of administrative sanctions as prescribed by RA No. 12009 and without prejudice to the imposition of civil and criminal sanctions as provided under

applicable against individuals and organizations deemed to be involved with corrupt, fraudulent, or coercive practices.

26.5 When persons from either party to this Contract gives notice of a fundamental breach to the Procuring Entity in order to terminate the existing contract for a cause other than those listed under **GCC** Clause 26.3, the Procuring Entity shall decide whether the breach is fundamental or not.

26.6 If this Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

27) Procedures for Termination of Contracts

27.1 The following provisions shall govern the procedures for the termination of this Contract:

a) **Verification** - Upon receipt of a written report of acts or causes which may constitute grounds for termination as aforementioned, or upon its own initiative, the End-User or Implementing Unit shall, within a period of seven (7) calendar days, verify the existence of such grounds and cause the execution of a Verified Report, with all relevant evidence attached;

b) **Notice to Terminate** - Upon recommendation by the End-User or Implementing Unit, the HoPE shall terminate contracts only by written notice to the Contractor conveying the termination of the contract. The notice shall state:

(i) that the Contract is being terminated for any of the grounds aforementioned, and a statement of the acts that constitute the grounds constituting the same;

(ii) the extent of termination, whether in whole or in part;

(iii) an instruction to the Contractor to show cause as to why this contract should not be terminated; and

(iv) special instructions of the Procuring Entity, if any.

The Notice to Terminate shall be accompanied by a copy of the Verified Report;

c) **Show Cause** - Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Contractor shall submit to the HoPE a verified position paper stating why the contract should not be terminated. If the Contractor fails to show cause after the lapse of the seven (7) day period, either by inaction or by default, the HoPE shall issue an order terminating the contract;

d) **Rescission of Notice of Termination** - The Procuring Entity may, at any time before receipt of the Contractor's verified position paper, withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Contractor's receipt of the notice;

e) **Decision** - Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the HoPE shall decide whether or not to terminate the contract. It shall serve a written notice to the Contractor of its decision and, unless otherwise provided, the contract is deemed terminated from receipt of the Contractor of the notice of the decision. The termination shall only be based on the grounds stated in the Notice to Terminate.

f) **Contract Termination Review Committee (CTRC)** - The HoPE may create a committee to assist him in the discharge of its functions under the IRR. All decisions recommended by the CTRC shall be subject to the approval of the HoPE

g) **Take-over of Contracts** - If a Procuring Entity terminates the contract due to default, insolvency, or for cause, it may enter into a Negotiated Procurement (Take-over of Contracts) pursuant to Section 35.3 of the IRR.

h) **Notice by Contractor** - The Contractor must serve a written notice to the Procuring Entity of its intention to terminate the contract at least thirty (30) calendar days before its intended termination. The contract is deemed terminated if it is not resumed in thirty (30) calendar days after the receipt of such notice by the Procuring Entity.

27.2 Notwithstanding Section 99 of RA No. 12009 and as provided by applicable laws, the Procuring Entity shall impose on Contractors after the termination of the contract, the penalty of suspension for one (1) year for the first offense, suspension for two (2) years for the second offense from participating in the public bidding process, for violations committed during the contract implementation stage, as stated in the **SCC.**

28) Approval of Drawings and Temporary Works by the Procuring Entity

28.1 All Drawings prepared by the Contractor for the execution of the Temporary Works, are subject to prior approval by the Procuring Entity before its use.

28.2 The Contractor shall be responsible for design of Temporary Works.

28.3 The Procuring Entity's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

28.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, when required by the Procuring Entity.

29) Acceleration and Delays Ordered by the Procuring Entity

29.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Procuring Entity will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.

29.2 If the Contractor's Financial Proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

30) Contractor's Right to Claim

If the Contractor incurs cost as a result of any of the events under **GCC** Clauses 22, 23 and 24 in relation to **GCC** Clause 20, the Contractor shall be entitled to the amount of such cost. If as a result of any of the said events, it is necessary to change the Works, this shall be dealt with as a Variation.

31) Dayworks

31.1 Subject to **GCC** Clause 40 on Variation Order, and if applicable as indicated in the **SCC**, the Contractor shall determine the Dayworks rates to be included or indicated in the Bid. The Dayworks rates in the Contractor's bid shall be used for small additional amounts of work only when the Procuring Entity has given written instructions in advance for additional work to be paid for in that way.

31.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Procuring Entity. Each completed form shall be verified and signed by the Procuring Entity within two (2) days of the work being done.

31.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms from both the Procuring Entity and Contractor.

32) Early Warning

32.1 The Contractor shall warn the Procuring Entity at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works.

32.2 The Contractor shall cooperate with the Procuring Entity in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Procuring Entity. Should such events or circumstances arise which increase the Contract price or delay the execution of Works, the provisions on variation order shall apply.

33) Program of Work

33.1 Within the time stated in the **SCC**, the Contractor shall submit to the Procuring Entity for approval a Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works.

33.2 An update of the Program of Work shall show the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

33.3 The Contractor shall submit to the Procuring Entity for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity may withhold the amount stated in the **SCC** from the next payment schedule and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

33.4 The Procuring Entity's approval of the Program of Work shall not alter the Contractor's obligations. A revised Program of Work produced by the Contactor

shall show the effect of any approved Variations, and shall include all Variations. The Contractor may revise the Program of Work, based on the Variation Order, and submit it to the Procuring Entity again.

33.5 When the Program of Work is updated, the Contractor shall provide the Procuring Entity with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

34) Management Conferences

34.1 Either the Procuring Entity or the Contractor may require the other to attend a Management Conference. The Management Conference shall review the plans for remaining work and deal with matters raised in accordance with the early warning procedure.

34.2 The Procuring Entity shall record the business of Management Conferences and provide copies of the record to those attending the Conference and to the Procuring Entity. The responsibility of the parties for the actions to be taken shall be decided by the Procuring Entity either at the Management Conference or after the Management Conference. The Procuring Entity shall communicate these responsibilities in writing to all who attended the Conference.

35) Bill of Quantities

35.1 The Bill of Quantities shall contain items of work for the construction, installation, testing, commissioning of work, materials, and labor among others, to be done by the Contractor.

35.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

35.3 If the final quantity of any work item completed differs from the quantity indicated in the Bill of Quantities, and the difference does not exceed twenty-five percent (25%) of the original quantity for that item, the Procuring Entity shall adjust the Contract accordingly.

This shall be allowed only if the total amount of all such changes does not go beyond ten percent (10%) of the total Contract price, subject to applicable laws, rules, and regulations.

35.4 If requested by the Procuring Entity, the Contractor shall provide the Procuring Entity with a detailed cost breakdown of any rate in the Bill of Quantities.

36) Instructions, Inspections and Audits

36.1 The Procuring Entity shall at all reasonable times during construction of the Works be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of the construction.

36.2 If the Procuring Entity instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a defect and the test shows that it does, the Contractor shall pay for the test and any samples. In the

absence of any defect, the test shall be a compensation event with no adverse consequences to the contractor.

36.3 The Contractor shall permit the Funding Source named in the **SCC** to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Funding Source, if so required by the Funding Source.

37) Identifying Defects

The Procuring Entity shall check the Contractor's work and notify the Contractor of any defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Entity may instruct the Contractor to check noted defects and test any work that the Procuring Entity considers as substandard and/or defective.

38) Correction of Defects

38.1 The Procuring Entity shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which is one (1) year from project completion up to final acceptance by the Procuring Entity.

38.2 Every time notice of a defect is given, the Contractor shall correct the notified defect within ninety (90) calendar days from the time the HoPE has issued an order to undertake repair.

38.3 The Contractor shall correct the defects which they notice themselves before the end of the Defects Liability Period.

38.4 The Procuring Entity shall certify that all defects have been duly corrected.

39) Uncorrected Defects

39.1 The Procuring Entity shall give the Contractor at least fourteen (14) days' notice of its intention to use a third party to correct a Defect. If the Contractor does not correct the Defect himself within the period, the Procuring Entity may have the Defect corrected by the third party. The cost of the correction will be deducted from the Contract Price.

39.2 The use of a third party to correct defects that are uncorrected by the Contractor will in no way relieve the Contractor of its liabilities and warranties under the Contract.

40) Variation Orders

40.1 Variation Orders may be issued by the Procuring Entity to cover any increase or decrease in quantities, including the introduction of new work items that are not included in the original contract or reclassification of work items that are either due to change of plans, design or alignment to suit actual field conditions resulting in disparity between the preconstruction plans used for purposes of bidding and the "as staked plans" or construction drawings prepared after a joint survey by the Contractor and the Government after award of the contract.

Provided, That in case of positive or additive Variation Order/s, the cumulative amount thereof shall not exceed ten percent (10%) of the original contract price; Provided, further, That the scope of works shall not be reduced as to

accommodate a positive Variation Order. In all cases, the addition of works under Variation Orders should be within the general scope of the project as bid and awarded.

40.2 Any cumulative positive Variation Order beyond ten percent (10%) of the original contract price shall be the subject of another procurement project to be bid out if the Works are separable from the original contract. In exceptional cases where it is urgently necessary to complete the original scope of work, the HoPE, upon the recommendation of the End-User or Implementing Unit, may authorize positive Variation Order/s resulting to a cumulative value of the positive Variation Orders beyond ten percent (10%) but not more than twenty percent (20%) of the original contract price.

All progress payments shall first be charged against the advance payment until the latter has been fully exhausted, at the option of the Procuring Entity.

40.3 A Variation Order may either be in the form of a Change Order or Extra Work Order:

a) A Change Order may be issued by the HoPE or duly authorized representative to cover any increase or decrease in quantities of original work items in the contract.

b) An Extra Work Order may be issued by the implementing official to cover the introduction of new work necessary for the completion, improvement or protection of the project which was not included as items of work in the original contract, such as, where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work or character provided for in the contract.

40.4 For Variation Orders, the Contractor shall be paid for additional work items whose unit prices shall be derived based on the following:

a) For additional or extra works duly covered by Change Orders involving work items which are exactly the same or similar to those in the original contract, the applicable unit prices of work items original contract shall be used.

b) For additional or extra works duly covered by Extra Work Orders involving new work items that are not in the original contract, the unit prices of the new work items shall be based on the direct unit costs used in the original contract (e.g., unit cost of cement, rebars, form lumber, labor rate, equipment rental, etc.). All new components of the new work item shall be fixed prices; Provided, The same is acceptable to both the Government and the Contractor; Provided further, That the direct unit costs of new components shall be based on the Contractor's estimate as validated by the Procuring Entity concerned via documented canvass in accordance with existing rules and regulations. The direct cost of the new work item shall then be combined with the mark-up factor (i.e., taxes and profit) used by the Contractor in its bid to determine the unit price of the new work item.

40.5 Under no circumstances shall a Contractor proceed to commence work under any Change Order or Extra Work Order unless it has been approved by the HoPE or its duly authorized representative. However, under any of the following conditions, the Procuring Entity's representative or Project Engineer may, subject to the availability of funds and within the limits of its delegated authority, allow the immediate start of work under any Change Order or Extra Work Order:

a) In the event of an emergency where the prosecution of the work is urgent to avoid detriment to public service, or damage to life and/or property; and/or

b) When time is of the essence;

Provided,however, That such approval is valid on work done up to the point where the cumulative increase in value of work on the project which has not yet been duly fully approved does not exceed five percent (5%) of the adjusted original contract price.

Provided, further, That immediately after the start of work, the corresponding Change Order or Extra Work Order shall be prepared and submitted for approval in accordance with the abovementioned rules. Payments for Works satisfactorily accomplished on any Change Order or Extra Work Order may be made only after approval of the same by the HoPE or its duly authorized representative.

Provided, finally, That for a Change Order or Extra Work Order involving a cumulative amount exceeding five percent (5%) of the original contract price, no work thereon may be commenced unless said Change Order or Extra Work Order has been approved by the HoPE or its duly authorized representative.

41) Contract Completion

Once the project reaches an accomplishment of ninety-five percent (95%) of the total contract amount, the Procuring Entity may constitute an inspectorate team to conduct preliminary inspection and submit a punch-list to the Contractor in preparation for the final turnover of the project. Said punch-list will contain, among others, the remaining Works, Work deficiencies for necessary corrections, and the specific duration/time to fully complete the project within the approved remaining contract time. This, however, shall not preclude the claim of the Procuring Entity for liquidated damages, if applicable.

42) Suspension of Work

42.1 The Procuring Entity shall have the authority to suspend the work wholly or partly by written order for such period as may be deemed necessary, due to *force majeure* or any fortuitous event or for failure on the part of the Contractor to correct bad conditions which are unsafe for workers or for the general public, to carry out valid orders given by the Procuring Entity or to perform any provisions of the contract, or due to adjustment of plans to suit field conditions as found necessary during construction. The Contractor shall immediately comply with such order to suspend the work wholly or partly.

42.2 The Contractor or its duly authorized representative shall have the right to suspend work operation on any or all projects or activities along the critical path of activities after fifteen (15) calendar days from date of receipt of written notice from the Contractor to the district engineer, regional director, consultant or equivalent official, as the case may be, due to the following:

a) There exist right-of-way problems which prohibit the Contractor from performing work in accordance with the approved construction schedule.

b) Requisite construction plans which must be owner furnished are not issued to the Contractor precluding any work called for by such plans.

c) Peace and order conditions that make it extremely dangerous, if not possible, to work. However, this condition must be certified in writing by the Philippine National Police station which has responsibility over the affected area and confirmed by the Department of the Interior and Local Government (DILG) Regional Director.

d) There was a failure on the part of the Procuring Entity to deliver government-furnished materials and equipment as stipulated in the contract.

e) Delay in the payment of Contractor's claim for progress billing beyond forty-five (45) calendar days from the time the Contractor's claim has been certified by the Procuring Entity's authorized representative that the documents are complete, unless there are justifiable reasons for the delay in payment which shall be communicated in writing to the Contractor.

42.3 In case of total suspension, or suspension of activities along the critical path, which is not due to any fault of the Contractor, the elapsed time between the effectivity of the order suspending operation and the order to resume work shall be allowed to the Contractor by adjusting the contract time accordingly.

43) Payment on Termination

43.1 If the Contract is terminated because of a breach of Contract by the Contractor, the Procuring Entity shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate, and less the percentage to apply to the value of the work not completed, as indicated in the **SCC**. Additional liquidated damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

43.2 If the Contract is terminated for the Procuring Entity's convenience, or due to a breach of Contract by the Procuring Entity, the Procuring Entity shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

43.3 The net balance due shall be paid or repaid within twenty-eight (28) days from the notice of termination.

43.4 If the Contractor has terminated the Contract under **GCC** Clauses 23 to 24, the Procuring Entity shall promptly return the Performance Security to the Contractor.

44) Extension of Contract Time

44.1 Should the amount of additional work or other special circumstances warrant the entitlement of the Contractor to an extension of contract time, the Procuring Entity shall determine the amount of such extension; Provided, That the Contractor has notified the Procuring Entity of its claim for extension of contract time prior to the expiration of the contract time, and within thirty (30) calendar days after the additional work has been commenced or the circumstances leading to such claim have arisen, as the case may be, in order to give the Procuring Entity the opportunity to investigate the claim. Failure to provide such notice shall constitute a waiver of such a claim by the Contractor. Upon receipt of full and detailed particulars, the Procuring Entity shall examine the facts and extent of the delay and shall extend the contract time to complete the contract work when, in the Procuring Entity's opinion, the findings of facts justify an extension.

44.2 No extension of contract time shall be granted to the Contractor due to ordinary unfavorable weather conditions and inexcusable negligence of the Contractor to provide the required equipment, supplies, or materials.

44.3 Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT, CPM, Precedence Diagram Method or any other project management tool.

44.4 No extension of contract time shall be granted when the reason given to support the request for extension was already considered in the determination of the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection.

44.5 Extension of contract time may be granted in the cases indicated in the **SCC.**

44.6 The written consent of the bank, or surety or insurance company, as the case may be, must be attached to any request of the Contractor for extension of contract time and submitted to the Procuring Entity for consideration and the validity of the Performance Security shall be correspondingly extended.

44.7 The Procuring Entity shall extend the Intended Completion Date if a Variation is issued which makes it impossible for the Intended Completion Date to be achieved by the Contractor without taking steps to accelerate the remaining work, which would cause the Contractor to incur additional costs. No payment shall be made for any event which may warrant the extension of the Intended Completion Date.

44.8 The Procuring Entity shall decide whether and by how much to extend the Intended Completion Date within twenty (20) days of the Contractor asking the Procuring Entity for a decision thereto after fully submitting all supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

45) Price Escalation

In the event of an extraordinary increase in prices of specific components of the Infrastructure Project, price escalation may be considered, subject to prior approval of

the GPPB. If the cost of construction components increases by more than ten percent (10%) of the unit price of work items, as determined against the prevailing price indices of the PSA, a price escalation may be authorized at a no-loss, no-gain basis, using the appropriate formula prescribed by the GPPB. For the purpose of this Section, the PSA shall ensure that its price indices are region-specific and updated on a monthly basis

46) Completion

The Contractor shall request the Procuring Entity to issue a Certificate of Completion of the Works, and the Procuring Entity will do so upon determining that the work is completed.

47) Taking Over

The Procuring Entity shall take over the Site and the Works within seven (7) days from the date of issuance of a Certificate of Completion; Provided, That it shall not release the Contractor of its responsibilities within the defects liability period.

48) Operating and Maintenance Manuals

48.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **SCC**.

48.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **SCC**, or they do not receive the Procuring Entity's approval, the Procuring Entity shall withhold the amount stated in the **SCC** from payments due to the Contractor.

SECTION V

SPECIAL CONDITIONS OF CONTRACT

Special Conditions of Contract

GCC Clause	
1.1	The **Intended Completion Date** is based on the project duration of **150** calendar days. *NOTE: The contract duration shall be reckoned from the start date and not from contract effectivity date.*
1.2	The **Procuring Entity** is: **PHILIPPINE PORTS AUTHORITY** PPA Corporate Bldg., Bonifacio Drive, South Harbor, Port Area, Manila, Philippines 1018
1.3	The **Site** is located at ***Port of Masbate, Masbate City*** and is defined in drawings.
1.4	The **Start Date** is _____. *NOTE: The start date shall be the date of receipt of the Notice to Proceed.*
1.5	The **Works** consist of the following: **A. Restoration of Port Operations Building (POB)** **B. Restoration of Transit Shed** ***C.*** **Restoration of Weighing Bridge**
2.2	*Sectional Completion:* **None**
5.1	The **Philippine Ports Authority** shall give possession of all parts of the Site to the Contractor upon commencement of the project until the date of its termination and/or issuance of Certificate of Final Acceptance by the Philippine Ports Authority.

6.5	The Contractor shall employ the following **Key Personnel:**
	Please refer to BDS ITB clause no .12.1(h)(ii)
7.1	No further instructions.
8.1	Not applicable.
9.1	No further instructions.
9.4	The first progress payment may be paid by the Procuring Entity to the Contractor; Provided, that at least *20.00%* of the Works has been accomplished as certified by the Procuring Entity.
12.7	No further instructions.
13.1	Site Investigation Report: **None**
15.3	No further instructions.
15.5	*In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:* Fifteen (15) years.
19.2	The Arbitrator is the person appointed jointly by the Procuring Entity and the Contractor: **None**
20	All partners to the joint venture shall be jointly and severally liable to the Procuring Entity.
25(a)	No further instructions.
27.2	a) Failure of the Contractor, due solely to its fault or negligence, to mobilize and start work or performance within the specified period in the Notice to Proceed ("NTP"); b) Failure by the Contractor to fully and faithfully comply with its contractual obligations without valid cause, or failure by the Contractor to comply with any written lawful instruction of the Procuring Entity or its representative(s) pursuant to the implementation of the contract. For the procurement of infrastructure projects or consultancy contracts, lawful instructions include but are not limited *to* the following: i) Employment of competent technical personnel, competent engineers and/or work supervisors; ii) Provision of warning signs and barricades in accordance with approved plans and specifications and contract provisions;

	iii) Stockpiling in proper places of all materials and removal from the project site of waste and excess materials, including broken pavement and excavated debris in accordance with approved plans and specifications and contract provisions; iv) Deployment of committed equipment, facilities, support staff and manpower; and v) Renewal of the effectivity dates of the performance security after its expiration during the course of contract implementation. c) Assignment and subcontracting of the contract or any part thereof or substitution of key personnel named in the proposal without prior written approval by the Procuring Entity. d) Poor performance by the Contractor or unsatisfactory quality and/or progress of work arising from its fault or negligence as reflected in the CPES rating sheet. In the absence of the CPES rating sheet, the existing performance monitoring system of the Procuring Entity shall be applied. Any of the following acts by the Contractor shall be construed as poor performance: i) Negative slippage of fifteen (15%) and above within the critical path of the project due entirely to the fault or negligence of the Contractor; and ii) Quality of materials and workmanship not complying with the approved specifications arising from the Contractor's fault or negligence. e) Willful or deliberate abandonment or non-performance of the project or contract by the Contractor resulting to substantial breach thereof without lawful and/or just cause. In addition to the penalty of suspension, the performance security posted by the Contractor shall also be forfeited.]
31.1	No dayworks are applicable to the contract.
33.1	The Contractor shall submit the Program of Work to the Procuring Entity within ____ days of delivery of the Notice of Award.
33.3	The period between Program of Work updates is ____ days. The amount to be withheld for late submission of an updated Program of Work is _____.
36.3	The Funding Source is the ***PPA Corporate Fund***.
43.1	The percentage to apply to the value of the work not completed is ____.
44.5	Extension of Contract Time may be granted in the following cases: a) rainy/unworkable days considered unfavorable for the prosecution of the Works at the site, based on the actual conditions obtained at the site, in excess of the number of rainy/unworkable days pre-determined

	by the Procuring Entity in relation to the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection, and/or b) major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, c) delays attributable to the Procuring Entity, such as non-delivery on time of materials, working drawings, or written information to be furnished by the Procuring Entity, non-acquisition of permit to enter private properties or non-execution of deed of sale or donation within the right-of-way resulting in complete paralyzation of construction activities, and d) other meritorious causes as determined by the Procuring Entity and approved by the HoPE such as shortage of construction materials, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others.
48.1	The date by which operating and maintenance manuals are required is _____. The date by which "as built" drawings are required is _____.
48.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is _____.

SECTION VI

TECHNICAL SPECIFICATIONS

SECTION VI – SPECIFICATIONS

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ITEM 01 : DISMANTLING AND DISPOSAL OF DEBRIS

DESCRIPTION

The work includes the furnishing of all labor, and equipment required to carry out facilities requiring dismantling due to significant damage to ceilings, lighting systems, and other architectural components, as required for the execution of the Contract.

The Contractor shall submit the proposed methodology or procedure of dismantling work with detailed drawings and calculations if necessary, to the Engineer for approval, before the execution of the Works.

The Contractor shall keep all area to and from the site of the disposal area clean and free of mud, dirt and debris during and after the execution of disposal. Disposal of debris and materials shall be as directed by the Engineer.

GENERAL PROVISIONS

1. The Contractor shall be deemed to have satisfied himself of the site conditions, and to have included in his unit prices provision for all risks that may arise during or in connection with the work.

2. The Contractor shall provide suitable equipment, skilled labor and appropriate temporary works such as scaffoldings to ensure safety in his demolition works as well as in the adjacent area.

3. Materials coming from the demolition works, except general earth, shall remain the property of the Procuring Entity, the designated part of which shall be stored by the Contractor at places specified by the Engineer/ Accepting authority. Receiving copy of Turn-Over Report shall be provided.

INTERFERENCE WITH PORT OPERATIONS

During the execution of the work, the Contractor shall not interfere with the shipping, navigation and other traffic in the port.

The Contractor shall make arrangements with the operations people on the schedule of demolition and related works to keep port operation activities undisturbed at all times.

Prior to commencement of the dismantling works, the Contractor shall inform/announce to port users the schedule of disconnection of utilities.

STORAGE AND DUMPING

Prior to the commencement of the demolition work, the Engineer shall submit to the Contractor a list in which all the materials to be salvaged and overhauled, as property of PPA, and the description of the location of their storage. Materials embedded in concrete units shall not be salvaged.

The Contractor shall separate materials to be salvaged from debris. Salvaged materials shall be loaded, transported and unloaded by the Contractor at the specified locations.

The Contractor may dump debris or extracted rocks on land areas but out of the site, which areas shall be procured and prepared at his own expense. In this case, safety measures shall be undertaken in the transporting, unloading, covering and others as requested by the Engineer.

The approximate distance of the disposal site from the project site is about five (5) kms., as designated by the PMO thru the implementing office.

EXECUTION

1. Prior to the commencement of demolition works, the alignments of the new construction / installation works to existing structure shall be checked.

2. Following these lines as guides, the architectural components designated for removal shall be carefully dismantled and removed without damaging the structural components of the facility. Removed materials shall be handled, lifted, and transported for proper disposal or storage at a designated area outside the operational work area.

3. Materials coming from the demolition works shall be properly disposed by the Contractor.

SAFETY

During the course of survey and clearing, any obstacles which are recognized and seemed to be explosive or hazardous to workers shall be removed from the site by the proper Authority.

At the end of each day's work, the Contractor shall keep the workplace in safe condition and clean so that no part is in danger of falling or creating hazard to personnel or equipment.

ITEM 02 : PROVISION OF FABRICATED STEEL SCAFFOLDING

DESCRIPTION

The work includes the supply, fabrication, delivery, erection, maintenance, dismantling, and removal of fabricated steel scaffolding required to provide safe and stable access and working platforms for personnel during the execution of the works.

GENERAL PROVISIONS

1. Contractor shall provide all necessary scaffolding components, including frames or posts, horizontal and diagonal braces, platforms, base plates, adjustable jacks, guardrails, midrails, toe boards, access ladders, couplers, clamps, ties, and other accessories necessary for a complete and safe scaffolding system.

2. The Contractor shall ensure that the scaffolding does not obstruct operational areas, access routes, emergency exits, utilities, or other ongoing activities. Where scaffolding is installed within or adjacent to an operational facility, appropriate protective measures, barricades, warning signs, and other safety provisions shall be provided.

3. The scaffolding shall be inspected by the Contractor before initial use, after erection or modification, and at regular intervals during its use. Any defective, damaged, or unsafe component shall immediately be removed from service and replaced or repaired.

4. The scaffolding shall be erected on a firm, level, and stable foundation and shall be properly braced, tied, and secured to prevent excessive movement, overturning, or collapse. Working platforms shall be adequately planked or decked, properly secured, and provided with appropriate guardrails and toe boards where required.

5. Upon completion of the work, all scaffolding shall be carefully dismantled and removed from the site. The Contractor shall restore the affected area to its original or required condition and remove all debris and temporary materials.

EXECUTION

1. Before commencing erection, the Contractor shall inspect the work area and verify the locations, dimensions, elevations, access requirements, and existing conditions that may affect the installation of the scaffolding.

2. The Contractor shall ensure that the ground or supporting surface is firm, stable, level, and capable of safely supporting the imposed loads from the scaffolding and associated construction activities.

3. Areas with soft, unstable, uneven, or otherwise unsuitable surfaces shall be properly prepared and provided with adequate base support before erection.

4. The Contractor shall identify and protect existing structures, utilities, electrical installations, equipment, walkways, and other facilities that may be affected by the scaffolding works.

5. Scaffolding shall not be erected until the supporting surface and installation area have been inspected and found acceptable.

ITEM 3 : FRAMING SUPPORT ENHANCEMENT OF ALL DOORS AND WINDOWS

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary requirements for the strengthening and securing of existing door and window frames by providing additional fixing supports using 3-inch corrosion-resistant fixing screws.

The work shall include the inspection of existing door and window frames, identification of loose or inadequately secured portions, proper alignment and positioning of the frames, drilling of appropriate fixing points, installation of 3-inch fixing screws, and tightening and securing of the frames to the existing supporting structure.

EXECUTION

1. Before commencing the work, the Contractor shall inspect all existing door and window frames to determine their condition, alignment, stability, and existing means of attachment.

2. Loose, misaligned, or inadequately secured frames shall be identified and corrected prior to installation of additional fixing screws.

3. The Contractor shall verify the condition of the supporting substrate and ensure that it is capable of receiving and securely holding the fixing screws.

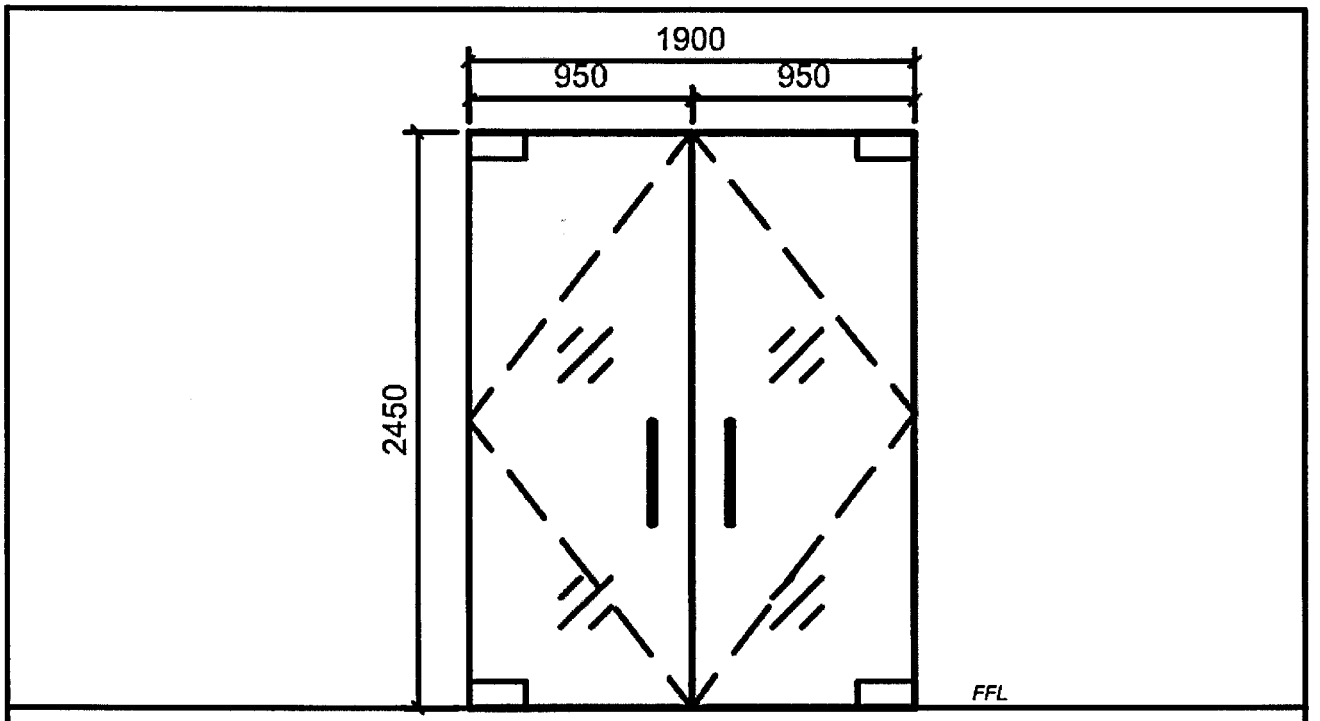
ITEM 04 : REPLACEMENT OF DAMAGED ALUMINUM FRAMED GLASS DOOR W/ FRAMELESS TEMPERED CLEAR GLASS WITH ACCESSORIES

DESCRIPTION

This work includes the furnishing and installing of doors and windows in accordance with the specifications and to the details shown below in the drawings, or as directed by the Project Engineer.

SPECIFICATION

The Doors shall be installed at location(s) shown below in the drawings, or as designated by the Engineer.



D1	TYPE:	FRAMELESS GLASS DOOR
	LOCATION:	MAIN ENTRANCE/QUEUING AREA, BOARDING GATE, EMPLOYEE'S ENTRANCE
	SETS:	SEVEN (07)

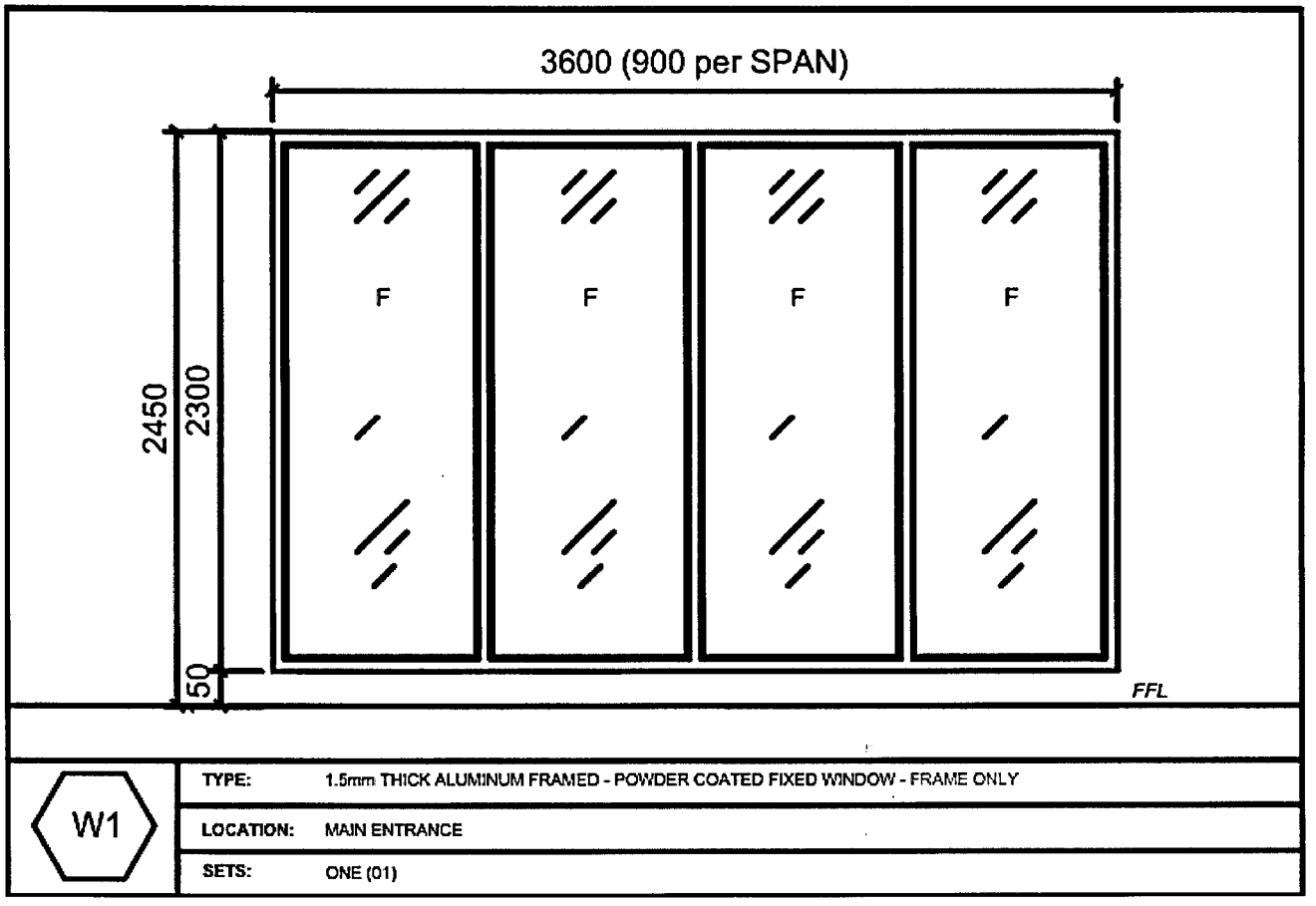
ITEM 05: RE-INSTALLATION OF DAMAGED 1-PANEL ALUMINUM GLASS WINDOW AT POB SECURITY/ CHECK-IN AREA

DESCRIPTION

This item shall include the careful removal and re-installation of the damaged aluminum glass window, including the repair or replacement of damaged aluminum frame components, glazing beads, gaskets, sealants, fasteners, and other necessary accessories.

SPECIFICATION

The Window shall be installed at location(s) shown below in the drawings, or as designated by the Engineer.



ITEM 06: WATERPROOFING INCLUDING STRIPPING OF EXISTING WATERPROOFING

DESCRIPTION

This item shall include the stripping and removal of existing waterproofing, preparation and repair of the substrate, treatment of cracks and joints, and application of a complete waterproofing system using injectable epoxy, high-elongation polyurethane sealant, and heavy-duty waterproofing paint, including all necessary labor, materials, tools, equipment, accessories, and incidentals required for a complete and watertight installation.

EXECUTION

1. Before commencing the work, the Contractor shall inspect the entire area to receive the waterproofing system and identify existing waterproofing, cracks, joints, penetrations, drains, damaged concrete, and other conditions that may affect the work.

2. Existing drains, pipes, sleeves, embedded items, fixtures, and adjacent architectural and structural components shall be identified and adequately protected during the work.

3. Existing waterproofing shall be completely stripped and removed from all designated areas.

4. Removal shall be performed using suitable hand tools, mechanical equipment, scrapers, grinders, or other approved methods appropriate for the existing waterproofing material and substrate.

5. After stripping, the exposed substrate shall be thoroughly cleaned to remove dust, dirt, grease, oil, laitance, loose particles, old adhesive, and other contaminants.

6. Cleaning shall be performed using methods appropriate to the substrate and approved waterproofing system.

7. Cracks, holes, honeycombs, voids, spalls, and surface irregularities shall be properly repaired before application of the waterproofing system.

8. Sharp projections and irregular surfaces shall be ground or otherwise treated to provide a suitable surface.

9. The substrate shall be allowed to attain the moisture condition required by the waterproofing manufacturer before application.

10. No waterproofing material shall be applied over standing water, loose materials, or contaminated surfaces.

11. Apply **heavy-duty waterproofing paint** to the prepared substrate in accordance with the manufacturer's Technical Data Sheet.

12. Apply the required number of coats at the specified coverage rate and minimum dry film thickness.

13. Allow each coat to properly cure before applying succeeding coats.

14. Ensure continuous and uniform coverage, particularly at corners, joints, cracks, penetrations, drains, and other critical areas.

15. The completed coating shall be free from pinholes, blisters, peeling, cracks, holidays, and other defects.

ITEM 07: REPAIR OF CEILING, ALUMINUM METAL CLADDING, SPANDREL CEILING AT DROP-OFF AREA

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary accessories for the repair and restoration of damaged ceiling, aluminum metal cladding, and spandrel ceiling.

The work shall include the inspection and assessment of existing damaged components; careful removal of loose, damaged, or deteriorated materials; repair or replacement of affected ceiling panels, aluminum metal cladding, spandrel panels, framing members, fasteners, trims, sealants, and other necessary accessories.

EXECUTION

1. Inspect existing ceiling, aluminum metal cladding, and spandrel ceiling and identify damaged components requiring repair or replacement.

2. Carefully remove loose, damaged, or deteriorated materials without damaging adjacent structural and architectural components.

3. Repair serviceable components and replace damaged components with matching materials, profiles, finishes, and colors, as approved by the Engineer.

4. Securely install all repaired and replacement components, ensuring proper alignment, level, fit, and fastening.

5. Seal joints, edges, corners, and penetrations were required.

ITEM 08: REPAIR OF CEILING, ALUMINUM METAL CLADDING, SPANDREL CEILING (REINSTALLATION ONLY) AT EMPLOYEES' ENTRANCE

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary accessories for the repair and restoration of damaged ceiling, aluminum metal cladding, and spandrel ceiling.

The work shall include the inspection and assessment of existing damaged components; careful removal of loose, damaged, or deteriorated materials; repair or replacement of affected ceiling panels, aluminum metal cladding, spandrel panels, framing members, fasteners, trims, sealants, and other necessary accessories.

EXECUTION

1. Inspect existing ceiling, aluminum metal cladding, and spandrel ceiling and identify damaged components requiring repair or replacement.

2. Carefully remove loose, damaged, or deteriorated materials without damaging adjacent structural and architectural components.

3. Repair serviceable components and replace damaged components with matching materials, profiles, finishes, and colors, as approved by the Engineer.

4. Securely install all repaired and replacement components, ensuring proper alignment, level, fit, and fastening.

5. Seal joints, edges, corners, and penetrations were required.

ITEM 09: REPLACEMENT OF DAMAGED CEILING, ALUMINUM METAL CLADDING, PERFORATED CEILING PANEL AT SECURITY/ CHECK-IN AREA

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary accessories for the repair and restoration of damaged ceiling, aluminum metal cladding, and spandrel ceiling.

The work shall include the inspection and assessment of existing damaged components; careful removal of loose, damaged, or deteriorated materials; repair or replacement of affected ceiling panels, aluminum metal cladding, spandrel panels, framing members, fasteners, trims, sealants, and other necessary accessories.

EXECUTION

1. Inspect existing ceiling, aluminum metal cladding, and spandrel ceiling and identify damaged components requiring repair or replacement.

2. Carefully remove loose, damaged, or deteriorated materials without damaging adjacent structural and architectural components.

3. Repair serviceable components and replace damaged components with matching materials, profiles, finishes, and colors, as approved by the Engineer.

4. Securely install all repaired and replacement components, ensuring proper alignment, level, fit, and fastening.

5. Seal joints, edges, corners, and penetrations were required.

ITEM 10 : REPAINTING OF POB EXTERIOR WALLS, INCLUDING STRIPPING OF EXISTING PAINT

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

(h) Epoxy phenolics Protective coatings consisting of two component products similar to epoxies. They are phenolic modified to improve their chemical resistance. They are normally used for severe chemical environments and as floor coatings.

(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(l) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 11 : REPAINTING OF INTERIOR WALLS OF SECURITY/ CHECK-IN AREA AND PTB, INCLUDING STRIPPING OF EXISTING PAINT

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

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(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(I) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

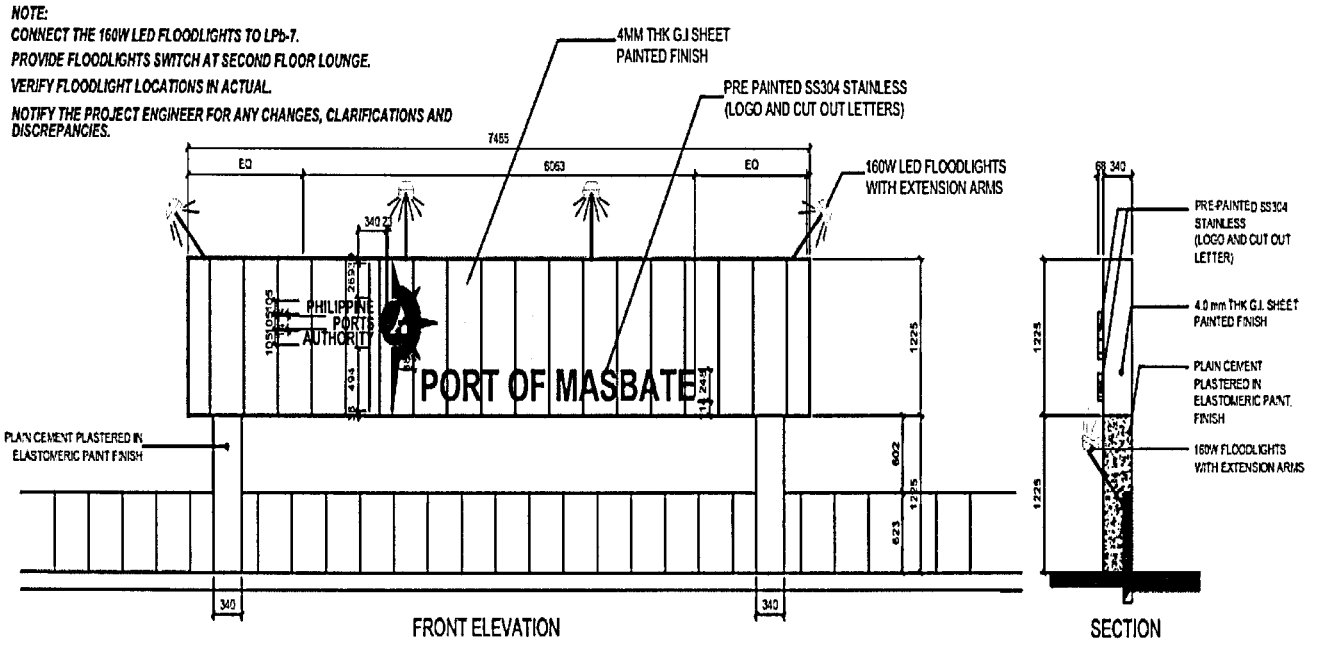
ITEM 12 : METAL STRUCTURES, PRE-PAINTED STEEL SIGNAGE (PPA LOGO)

Description

This work includes the supply, delivery, installation, testing, and commissioning of four (4) floodlights, including backing/support plates, brackets, mounting accessories, additional structural supports, fasteners, wiring connections, and other necessary materials and accessories.

SPECIFICATION

The PPA LOGO shall be installed at location shown below in the drawings, or as designated by the Engineer.



ITEM 13: REPAIR / INSTALLATION OF LIGHTING FIXTURES AT DROP-OFF AREA, EMPLOYEES' ENTRANCE, AND SECURITY/CHECK-IN AREA

DESCRIPTION

This works includes the provision of labor, materials, tools, equipment, and accessories necessary for the repair and installation of lighting fixtures, including replacement of damaged or defective lamps, fixtures, wiring, connectors, switches, mounting accessories, and other related components as required.

EXECUTION

1. Inspect existing lighting fixtures, wiring, switches, and accessories to identify damaged or defective components.

2. Safely remove defective or damaged fixtures and components requiring replacement.

3. Repair or replace damaged components and install new lighting fixtures, mounting accessories, and necessary electrical connections.

4. Securely mount and properly align all lighting fixtures and ensure wiring connections are properly terminated and insulated.

5. Test all installed and repaired lighting fixtures to verify proper operation and electrical safety.

ITEM 14 : DISMANTLING, REMOVAL OF STRUCTURES, AND DISPOSAL OF DEBRIS

DESCRIPTION

The work includes the furnishing of all labor, and equipment required to carry out facilities requiring dismantling due to significant damage to ceilings, lighting systems, and other architectural components, as required for the execution of the Contract.

The Contractor shall submit the proposed methodology or procedure of dismantling work with detailed drawings and calculations if necessary, to the Engineer for approval, before the execution of the Works.

The Contractor shall keep all area to and from the site of the disposal area clean and free of mud, dirt and debris during and after the execution of disposal. Disposal of debris and materials shall be as directed by the Engineer.

GENERAL PROVISIONS

1. The Contractor shall be deemed to have satisfied himself of the site conditions, and to have included in his unit prices provision for all risks that may arise during or in connection with the work.

2. The Contractor shall provide suitable equipment, skilled labor and appropriate temporary works such as scaffoldings to ensure safety in his demolition works as well as in the adjacent area.

3. Materials coming from the demolition works, except general earth, shall remain the property of the Procuring Entity, the designated part of which shall be stored by the Contractor at places specified by the Engineer/ Accepting authority. Receiving copy of Turn-Over Report shall be provided.

INTERFERENCE WITH PORT OPERATIONS

During the execution of the work, the Contractor shall not interfere with the shipping, navigation and other traffic in the port.

The Contractor shall make arrangements with the operations people on the schedule of demolition and related works to keep port operation activities undisturbed at all times.

Prior to commencement of the dismantling works, the Contractor shall inform/announce to port users the schedule of disconnection of utilities.

STORAGE AND DUMPING

Prior to the commencement of the demolition work, the Engineer shall submit to the Contractor a list in which all the materials to be salvaged and overhauled, as property of PPA, and the description of the location of their storage. Materials embedded in concrete units shall not be salvaged.

The Contractor shall separate materials to be salvaged from debris. Salvaged materials shall be loaded, transported and unloaded by the Contractor at the specified locations.

The Contractor may dump debris or extracted rocks on land areas but out of the site, which areas shall be procured and prepared at his own expense. In this case, safety measures shall be undertaken in the transporting, unloading, covering and others as requested by the Engineer.

The approximate distance of the disposal site from the project site is about five (5) kms., as designated by the PMO thru the implementing office.

EXECUTION

1. Prior to the commencement of demolition works, the alignments of the new construction / installation works to existing structure shall be checked.

2. Following these lines as guides, the architectural components designated for removal shall be carefully dismantled and removed without damaging the structural components of the facility. Removed materials shall be handled, lifted, and transported for proper disposal or storage at a designated area outside the operational work area.

3. Materials coming from the demolition works shall be properly disposed by the Contractor.

SAFETY

During the course of survey and clearing, any obstacles which are recognized and seemed to be explosive or hazardous to workers shall be removed from the site by the proper Authority.

At the end of each day's work, the Contractor shall keep the workplace in safe condition and clean so that no part is in danger of falling or creating hazard to personnel or equipment.

ITEM 15 : PROVISION OF FABRICATED STEEL SCAFFOLDING

DESCRIPTION

The work includes the supply, fabrication, delivery, erection, maintenance, dismantling, and removal of fabricated steel scaffolding required to provide safe and stable access and working platforms for personnel during the execution of the works.

GENERAL PROVISIONS

1. Contractor shall provide all necessary scaffolding components, including frames or posts, horizontal and diagonal braces, platforms, base plates, adjustable jacks, guardrails, midrails, toe boards, access ladders, couplers, clamps, ties, and other accessories necessary for a complete and safe scaffolding system.

2. The Contractor shall ensure that the scaffolding does not obstruct operational areas, access routes, emergency exits, utilities, or other ongoing activities. Where scaffolding is installed within or adjacent to an operational facility, appropriate protective measures, barricades, warning signs, and other safety provisions shall be provided.

3. The scaffolding shall be inspected by the Contractor before initial use, after erection or modification, and at regular intervals during its use. Any defective, damaged, or unsafe component shall immediately be removed from service and replaced or repaired.

4. The scaffolding shall be erected on a firm, level, and stable foundation and shall be properly braced, tied, and secured to prevent excessive movement, overturning, or collapse. Working platforms shall be adequately planked or decked, properly secured, and provided with appropriate guardrails and toe boards where required.

5. Upon completion of the work, all scaffolding shall be carefully dismantled and removed from the site. The Contractor shall restore the affected area to its original or required condition and remove all debris and temporary materials.

EXECUTION

1. Before commencing erection, the Contractor shall inspect the work area and verify the locations, dimensions, elevations, access requirements, and existing conditions that may affect the installation of the scaffolding.

2. The Contractor shall ensure that the ground or supporting surface is firm, stable, level, and capable of safely supporting the imposed loads from the scaffolding and associated construction activities.

3. Areas with soft, unstable, uneven, or otherwise unsuitable surfaces shall be properly prepared and provided with adequate base support before erection.

4. The Contractor shall identify and protect existing structures, utilities, electrical installations, equipment, walkways, and other facilities that may be affected by the scaffolding works.

5. Scaffolding shall not be erected until the supporting surface and installation area have been inspected and found acceptable.

ITEM 16 : FRAMING SUPPORT ENHANCEMENT OF ALL DOORS AND WINDOWS

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary requirements for the strengthening and securing of existing door and window frames by providing additional fixing supports using 3-inch corrosion-resistant fixing screws.

The work shall include the inspection of existing door and window frames, identification of loose or inadequately secured portions, proper alignment and positioning of the frames, drilling of appropriate fixing points, installation of 3-inch fixing screws, and tightening and securing of the frames to the existing supporting structure.

EXECUTION

1. Before commencing the work, the Contractor shall inspect all existing door and window frames to determine their condition, alignment, stability, and existing means of attachment.

2. Loose, misaligned, or inadequately secured frames shall be identified and corrected prior to installation of additional fixing screws.

3. The Contractor shall verify the condition of the supporting substrate and ensure that it is capable of receiving and securely holding the fixing screws.

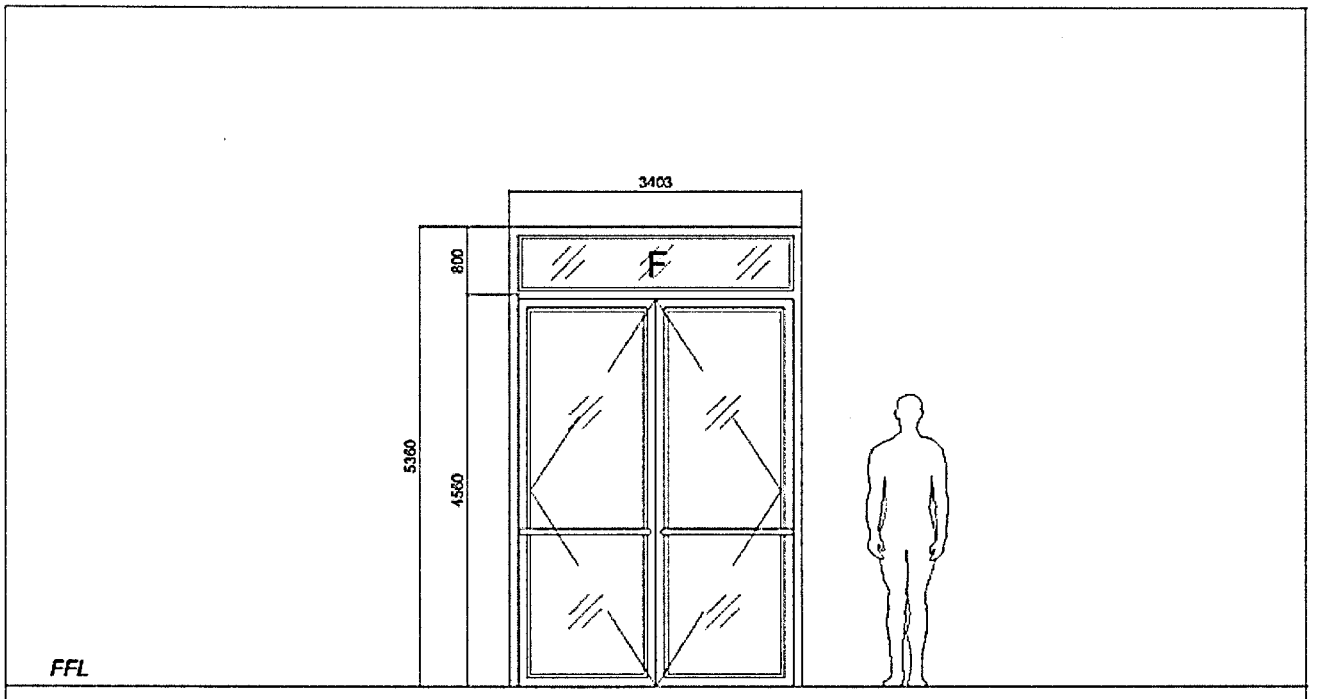
ITEM 17 : REPLACEMENT OF DAMAGED ALUMINUM FRAMED GLASS DOOR

DESCRIPTION

This work includes the furnishing and installing of doors and windows in accordance with the specifications and to the details shown below in the drawings, or as directed by the Project Engineer.

SPECIFICATION

The Door shall be installed at location(s) shown below in the drawings, or as designated by the Engineer.



TYPE:	1.5 mm THK. ALUMINUM FRAMED DOOR-POWDER COATED FIN W/ 10 mm THK. REFLECTIVE TEMPERED BROWN GLASS
LOCATION:	MAIN ENTRANCE
SETS:	ONE (1)

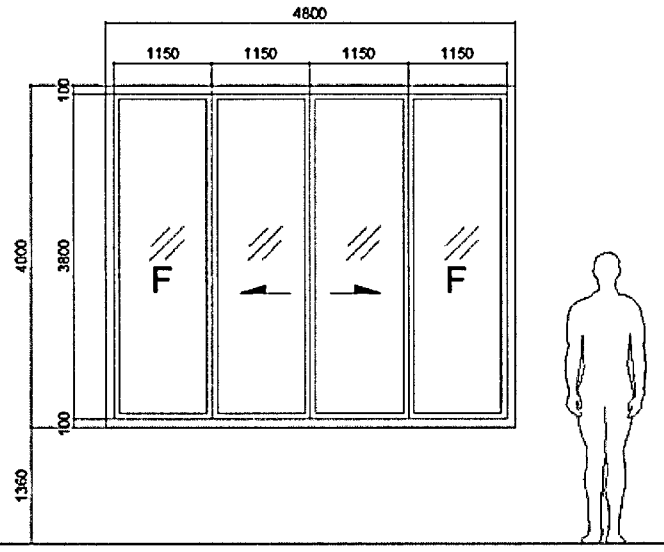
ITEM 18 : REPLACEMENT OF DAMAGED ALUMINUM GLASS WINDOWS AT TS OFFICE

DESCRIPTION

This work includes the furnishing and installing of doors and windows in accordance with the specifications and to the details shown below in the drawings, or as directed by the Project Engineer.

SPECIFICATION

The window shall be installed at location(s) shown below in the drawings, or as designated by the Engineer.



TYPE:	1.5 mm THK. ALUMINUM FRAMED POWDER COATED SLIDING TYPE WINDOW WITH 6.35mm THK. CLEAR GLASS
LOCATION:	OFFICE
SETS:	ONE (1)

ITEM 19: REPLACEMENT OF DAMAGED CEILING, ALUMINUM METAL CLADDING (PERFORATED CEILING PANEL), METAL FRAME AT TS OFFICE

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary accessories for the repair and restoration of damaged ceiling, aluminum metal cladding, and spandrel ceiling.

The work shall include the inspection and assessment of existing damaged components; careful removal of loose, damaged, or deteriorated materials; repair or replacement of affected ceiling panels, aluminum metal cladding, spandrel panels, framing members, fasteners, trims, sealants, and other necessary accessories.

EXECUTION

1. Inspect existing ceiling, aluminum metal cladding, and spandrel ceiling and identify damaged components requiring repair or replacement.

2. Carefully remove loose, damaged, or deteriorated materials without damaging adjacent structural and architectural components.

3. Repair serviceable components and replace damaged components with matching materials, profiles, finishes, and colors, as approved by the Engineer.

4. Securely install all repaired and replacement components, ensuring proper alignment, level, fit, and fastening.

5. Seal joints, edges, corners, and penetrations were required.

ITEM 20: REPAIR OF DAMAGED CEILING, 6.5MM THK., FIBER CEMENT BOARD, METAL FRAME AT TRANSIENT GOODS STORAGE AREA

DESCRIPTION

This item shall include the provision of labor, materials, tools, equipment, and other necessary accessories for the repair and restoration of damaged ceiling, aluminum metal cladding, and spandrel ceiling.

The work shall include the inspection and assessment of existing damaged components; careful removal of loose, damaged, or deteriorated materials; repair or replacement of affected ceiling panels, aluminum metal cladding, spandrel panels, framing members, fasteners, trims, sealants, and other necessary accessories.

EXECUTION

1. Inspect existing ceiling, aluminum metal cladding, and spandrel ceiling and identify damaged components requiring repair or replacement.

2. Carefully remove loose, damaged, or deteriorated materials without damaging adjacent structural and architectural components.

3. Repair serviceable components and replace damaged components with matching materials, profiles, finishes, and colors, as approved by the Engineer.

4. Securely install all repaired and replacement components, ensuring proper alignment, level, fit, and fastening.

5. Seal joints, edges, corners, and penetrations were required.

ITEM 21 : REPAINTING WORKS FOR EXTERIOR WALLS, INCLUDING STRIPPING OF EXISTING PAINT

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

(h) Epoxy phenolics Protective coatings consisting of two component products similar to epoxies. They are phenolic modified to improve their chemical resistance. They are normally used for severe chemical environments and as floor coatings.

(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(l) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 22 : REPAINTING OF STEEL TRUSSES

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

(h) Epoxy phenolics Protective coatings consisting of two component products similar to epoxies. They are phenolic modified to improve their chemical resistance. They are normally used for severe chemical environments and as floor coatings.

(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or

more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(l) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 23 : REPAINTING WORKS FOR INTERIOR WALLS, INCLUDING STRIPPING OF EXISTING PAINT

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

(h) Epoxy phenolics Protective coatings consisting of two component products similar to epoxies. They are phenolic modified to improve their chemical resistance. They are normally used for severe chemical environments and as floor coatings.

(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(l) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 24 : REPAINTING WORKS OF INTERIOR WALLS OF OFFICE & TRANSIENT GOODS STORAGE AREA, INCLUDING STRIPPING OF EXISTING PAINT

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

(g) Epoxies Protective coating consisting of two component products that are available in thin film (less than 0.25 mm (10 mils» and thick film (0.25 mm to 1.27 mm (10 mils to 50 mils» coatings. Epoxies have excellent adhesion to dry concrete and epoxies have the ability to seal porous concrete and bug holes. Epoxies also exhibit good chemical resistance, hardness, and abrasion resistance. Epoxies are typically used for interior chemically and physically abused conditions because they tend to chalk and fade in atmospheric and sunlight exposures. Epoxy formulations that develop good adhesion to wet surfaces are also available.

(h) Epoxy phenolics Protective coatings consisting of two component products similar to epoxies. They are phenolic modified to improve their chemical resistance. They are normally used for severe chemical environments and as floor coatings.

(i) Aggregate-filled epoxies Protective coatings that are thick film coatings (3.18 mm (125 mils) or more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

(I) Vinylesters and polyesters Protective coatings that are moderately thick coatings {0.76 mm to 1.27 mm (30 mils to 50 mils» with excellent resistance to acids and strong oxidizers that are applied by spray or trowel. Thicker films may be obtained with silica floor fillers and reinforcing fabric or mat.

EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 25 : REPAINTING OF FLOORING

SCOPE OF WORK

This specification covers the requirements for repainting works on masonry, concrete structures, steel, and roofing.

MATERIAL REQUIREMENTS

STEEL OR IRON

(a) Coatings, such as inorganic silicate cementitious products, Sulphur concrete, polysulfides, and others offer protection to concrete exposed to atmospheric and aggressive environments such as secondary containment structures

(b) Cementitious coatings Protective coatings that are in the tonn of decorative products which are usually modified with latex for use in mild chemical exposure conditions. Certain inorganic silicate cements may be used to waterproof concrete from the positive or negative side.

(c) Thin film urethanes Protective coatings (up to 0.13 mm (5 mils) per coat) that are used to seal concrete for nondusting, cleanability, graffiti resistance, and resistance to mild chemicals. They are used for dry interior exposures on walls and floors that have moderate physical abuse and for exterior weathering. Urethanes are available in two (2) fonns: aliphatic urethanes for color and gloss retention in exterior sunlight exposure and aromatic urethanes for exposures other than sunlight and Ultraviolet (UV) light, or where ambering and chalking are acceptable.

(d) Epoxy polyesters Protective coatings that are composed of thin film coatings (up to 0.08 mm (3 mils) per coat) designed for color, non-dusting, cleanability, and resistance to water for a brief period. They are used primarily for interior and exterior exposures on walls that experienced little physical abuse.

(e) Latexes Protective coatings that are used for color, appearance, and cleanability. For exterior use, acrylic latexes provide improved color and gloss retention (vinyl latexes are not normally recommended because they tend to hydrolyze under high pH situations). Elastomeric formulations (e.g., acrylic, silicone), which provide waterproofing and crack bridging properties, are also available.

(f) Chlorinated rubbers Protective coatings that are thin film coatings designed for color, no dusting, cleanability and resistance to water and mild chemicals. Chlorinated rubbers may chalk on exterior weathering exposures unless modified.

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more thickness) that are usually applied by spray, trowel, or aggregate broadcast methods. They are normally used in areas of severe physical abuse. These epoxies are also resistant to mild and severe chemicals and are excellent floor coatings for areas of severe physical abuse. Floor toppings can be made aesthetically pleasing through selection of the appropriate color and type of aggregates.

(j) Thick film elastomers Protective coatings (up to 3.18 mm (125 mils», such as urethane (ASTM 016 Type V) and polysulfide which are normally applied by spray, trowel, or self-leveling methods. They are normally used in areas of severe physical abuse that require a flexible coating, the rubber-like film displays excellent resistance to impact damage and the ability to bridge hairline cracks in concrete.

(k) Epoxy- or urethane-coal tars Protective coatings that are moderately thick coatings (0.38 mm to 0.76 mm (15 mils to 30 mils» with excellent water and good chemical resistance that are normally applied with a sprayer. The black color may restrict their usage for aesthetic reasons.

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EXECUTION

All concrete surfaces shall be sound, clean, and dry before protective coating is applied. Surface contaminants such as oils, dirt, curing compounds, and efflorescence which would prevent protective coating penetration, adhesion, or drying shall be removed. The use of membrane forming curing compound is not allowed wherever this treatment is to be applied. The contractor shall apply the protective coating as soon as possible after completion of a structure or portionls thereof.

The manufacturer's recommended application rate and method of application shall be followed when a protective coating is applied to concrete. The surface profile and porosity will have an effect on the application rate. A test patch is useful in determining the surface preparation, application rate, and appearance of a particular concrete coating. Before the beginning of application, the Contractor shall submit to the Engineer the documentation of the procedures to be used which shall include, but not limited to, the identification of the product to be used by brand name and name of the manufacturer and copy of the manufacturer's authorized applicator certificate for the personnel approved to perform the work.

The temperature of the concrete shall be constant or dropping when some protective coatings are applied to avoid blisters or pin holes caused by the expansion of gases inside of the concrete. The temperature of the concrete shall be above the dew point while the coating is curing to prevent water condensation on the coating.

In bridge superstructure, the protective coating shall be applied after concrete in the bridge deck has cured and has completed an initial drying period of a minimum of 14 days, unless otherwise directed by the Engineer. Also, protective coating shall be applied to exposed concrete roadway surfaces of bridge decks such as curbs, sidewalks, divisors and concrete median barriers; and to inside and top surfaces of parapets.

Coating thicknesses shall range from a few mils to 3 mm (125 mils) or more, depending on the purpose of the coating. Thin coatings «1 mm (40 mils» are normally used for dampproofing, mild chemical attack, and for decorative coatings. Thick coatings (>1mm (40 mils» are used for waterproofing, as protection against severe chemical attack, and as protection from physical damage.

If excessive cracking of bridge deck(s) occurs, additional protective coating shall be applied (two coats) to the deck as specified and as directed by the Engineer.

Delivery, Storage and Handling

(a) All materials shall be kept dry, protected from weather and stored under cover.

(b) Protective coating materials shall be stored according to manufacturer's recommendations. Do not store them near flame, heat or strong oxidants.

(c) Repair and protective coating materials shall be handled according to their material safety data sheets

ITEM 26 : REPAIR OF DAMAGED ROOFING SECTIONS

SCOPE OF WORK

The work shall include the removal, repair, and replacement of damaged, deteriorated, loose, or defective roofing sheets and related roofing components. The work shall restore the affected roofing sections to a structurally sound, properly aligned, weather-resistant, and watertight condition.

MATERIAL REQUIREMENTS

- Pre-Insulated GI Sheet 0.80 thk Hi-Rib, UPI Board 25mm thk
- Pre-painted GI Sheet 0.80 thk Fascia, 0.50m
- Pre-painted GI Sheet 0.80 thk Flashing, 0.80m
- Pre-painted GI Sheet 0.80 thk Ridge Roll, 0.65m
- Transluscent Skylight Long Span
- 10mm thk. Ficem Board Fascia

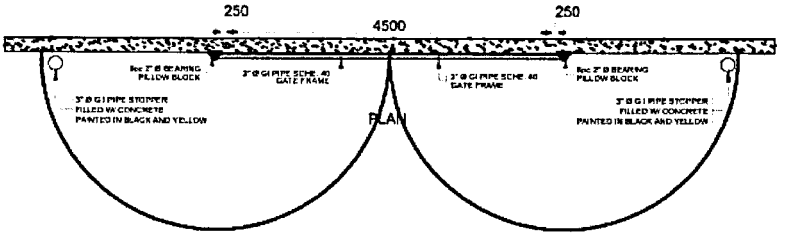
ITEM 27 : REPLACEMENT OF DAMAGED ALUMINUM ROLL-UP DOOR WITH STAINLESS STEEL DOORS

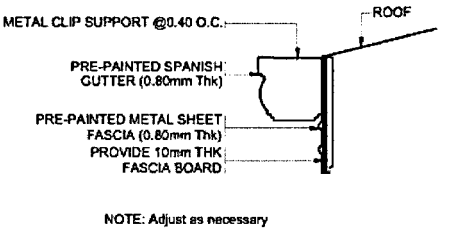
SCOPE OF WORK

The work shall include the removal and disposal of the existing damaged aluminum roll-up door and the supply and installation of new stainless steel doors, including frames, hinges, locks, hardware, accessories, and all necessary works to provide a complete, properly aligned, secure, and fully operational door assembly.

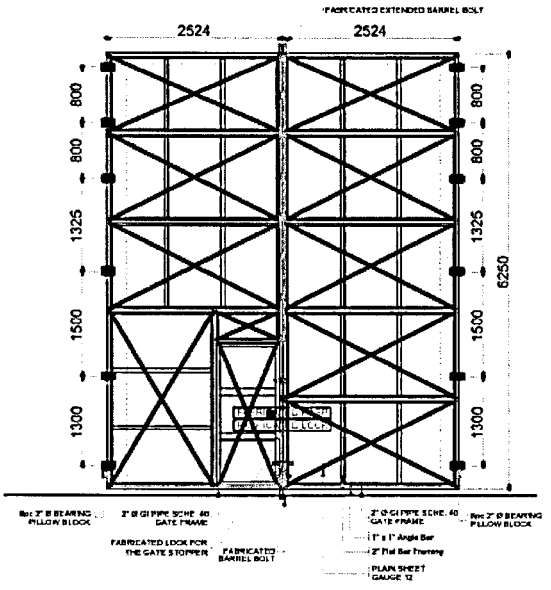
SPECIFICATION

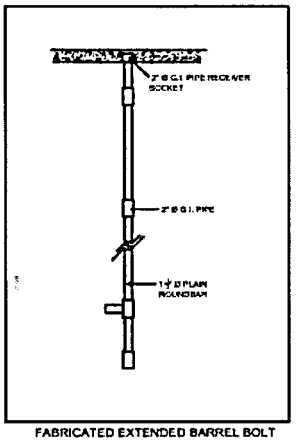
The Gate shall be installed at location shown below in the drawings, or as designated by the Engineer.



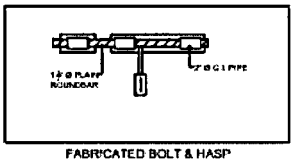


NOTE: Adjust as necessary

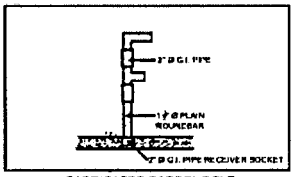




FABRICATED EXTENDED BARREL BOLT



FABRICATED BOLT & HASP



FABRICATED BARREL BOLT

NOTE:

- ***LENGTH OF THE BARREL BOLTS TO BE VERIFIED IN ACTUAL***
- ***VERIFY INSTALLATION AND PLACEMENT WITH THE PROJECT ENGINEER***

TRANSIT SHED
PROPOSED STEEL GATE
SCALE NTS

ITEM 28 : REPLACEMENT OF DAMAGED ALUMINUM FOLDING DOOR WITH ACCORDION DOOR

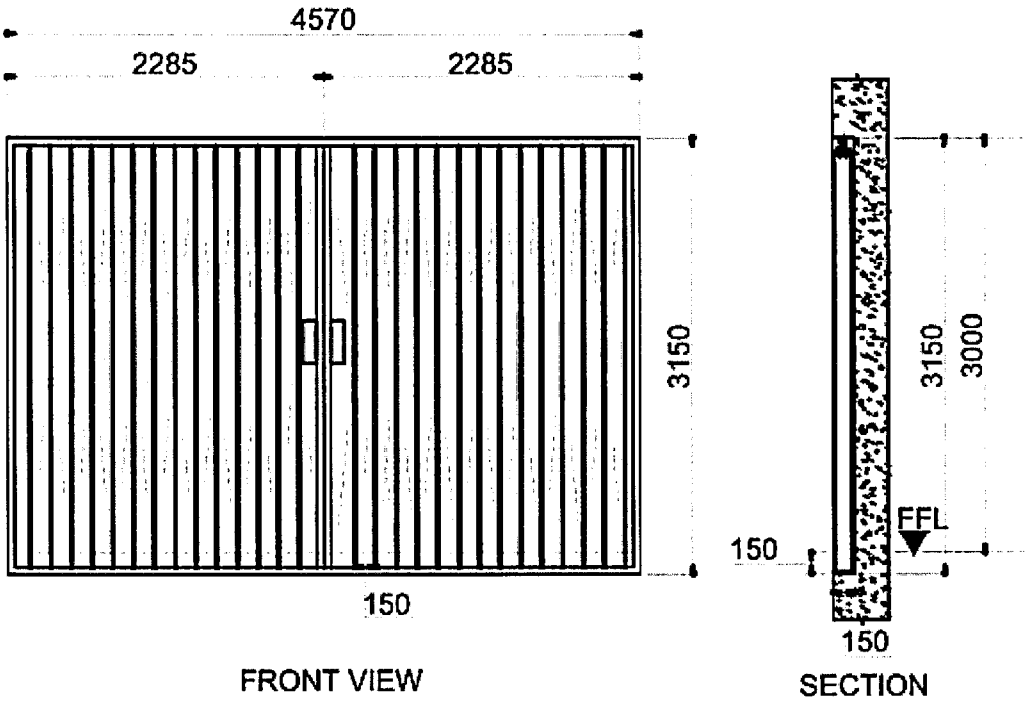
SCOPE OF WORK

The work shall include the removal of the existing damaged aluminum folding door and the supply and installation of a new accordion door, including tracks, frames, rollers, hinges, locks, handles, and all necessary accessories to provide a complete, secure, and fully operational door assembly.

SPECIFICATION

The Gate shall be installed at location shown below in the drawings, or as designated by the Engineer.

Accordion Door, 3.15m x 4.57m, Stainless



TRANSIT SHED

PROPOSED ACCORDION DOOR

SCALE 1:50 MTS

ITEM 29 : REPAIR/ REPLACEMENT OF DAMAGED SCREENED LOUVER ROOF VENTILATOR

SCOPE OF WORK

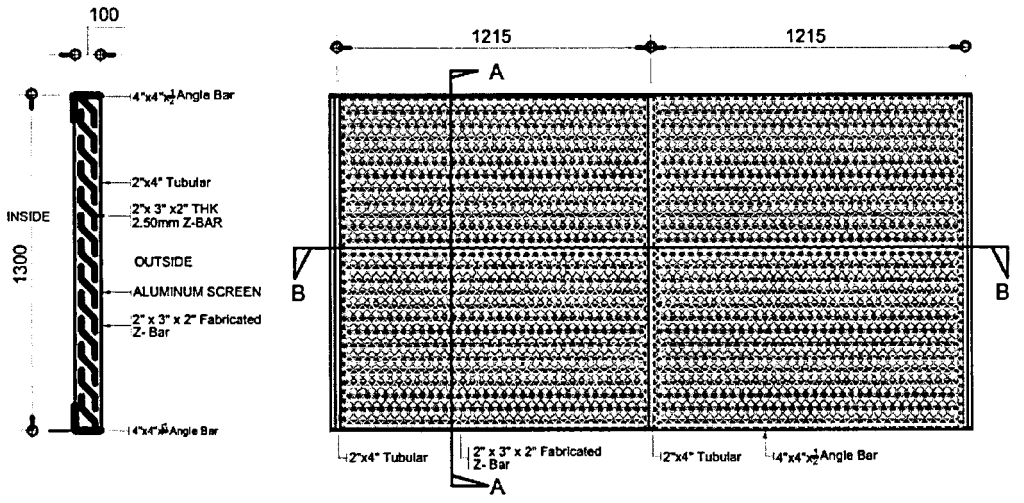
The work shall include the inspection, repair, or replacement of damaged screened louver roof ventilators, including louver panels, frames, screens, fasteners, flashing, sealants, and other necessary accessories to restore proper ventilation and weather protection.

MATERIALS

- 100mm x 100mm x 6.0mm thk. Angle Bar
- 50mm x 2.0mm thk. Flat Bar
- 75mm x 2.0mm thk. Flat Bar
- 25mm x 100mm x 4.0mm thk. Tubular Steel
- 50mm x 100mm x 4.0mm thk. Tubular Steel
- Aluminum Screen Diamond, 4ft
- Aluminum Screen Fine Mesh, 4ft

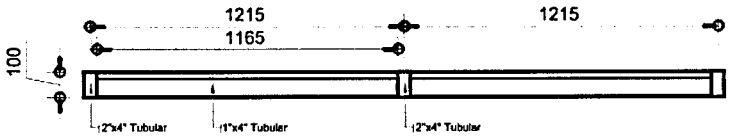
SPECIFICATION

The Screened Louver Roof Ventilator shall be installed at location shown below in the drawings, or as designated by the Engineer.



SECTION - A

FRONT VIEW



SECTION - B

TRANSIT SHED

STEEL ROOF LOUVER WINDDOW

SCALE NTS

ITEM 30 : REPAIR OF DAMAGED GUTTER & DOWNSPOUTS

SCOPE OF WORK

The work shall include the replacement of damaged, deteriorated, leaking, or defective gutters and downspouts, including brackets, hangers, joints, connections, sealants, and other necessary accessories to restore the proper collection and discharge of roof drainage.

MATERIALS

- 100mm PVC Pipe
- 100mm PVC Elbow 90d
- Pre-painted GI Sheet 0.80 thk Gutter, 1.22m

ITEM 6.31 : REPAIR OF DAMAGED ELECTRICAL SYSTEM

SCOPE OF WORK

The work shall include the inspection, repair, replacement, testing, and restoration of damaged electrical components, wiring, conduits, junction boxes, switches, outlets, circuit protection devices, and other related electrical installations necessary to restore the electrical system to a safe, functional, and reliable condition.

Refer to electrical plans/drawings for location and extent of work involved.

GENERAL REQUIREMENTS

a) All works shall be done in accordance with the requirements of the publications and agencies having jurisdiction, as well as the requirements of the approved standards.

1.	National Fire Protection Association	-	(NFPA)
2.	National Electrical Manufacturer Association	-	(NEMA)
3.	Underwriter Laboratories, Inc.	-	(UL)
4.	Philippine Electrical Code Philippine National Standard	- -	(PEC) (PNS)
5.	Federation Specification: Circuit Breaker, Molded Case, Branch Circuit and Service		
6.	American National Standard Institute	-	(ANSI)
7.	American Society for Testing and Materials	-	(ASTM)
8.	Illuminating Engineering Society	-	(IES)
9.	Light Emitting Diode	-	(LED)

b) The Contractor shall employ a licensed Registered Electrical Engineer or Master electrician to perform or to supervise and to conduct the continuous inspection of all electrical work.

c) The Contractor shall first obtain approval from the Authority before procurement, fabrication or delivery of electrical materials to the site. Partial submittals will not be acceptable and will be returned without review. Submittals shall include the Manufacturer's Name, Trade Name, Place of Manufacture, Catalog Model or Number, Nameplate Data, Size, Layout Dimensions, Capacity, Project Specification and Paragraph Reference, Technical Society Publication References and other information necessary to establish contract compliance of each item to be furnished.

d) The materials and equipment to be furnished shall be standard products of reputable manufacturer engaged in the reproduction of such materials and equipment.

e) All permits and electrical fees required for this work shall be obtained at the expense of the Contractor. The Contractor shall furnish the Engineer-in-Charge, the final Certificates of Inspections and approval from the proper government authorities after the completion