

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097.13 DPWH
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DEPARTMENT ORDER)
NO. 01)
Series of 2018 *Ad. 05.18*)

**SUBJECT: GUIDELINES AND PROCEDURES ON
COST ESTIMATION AUDIT OF DPWH
REGIONAL AND DISTRICT
ENGINEERING OFFICE**

In line with the Department's Quality Policy to implement projects at the right cost, and in order to enhance efficiency in the preparation and approval of cost estimates such as Program Of Works (POW), Approved Budget for the Contract (ABC) and Detailed Unit Price Analysis (DUPA) for infrastructure projects and variation orders, as well as improve the capability and performance of DPWH Implementing Offices, this Guidelines and Procedures on the Cost Estimation Audit of DPWH Regional and District Engineering Offices, hereto attached as Annex A with the Cost Estimation Audit Checklist as Annex B, is hereby issued for the annual cost estimation assessment of DPWH Field Offices.

To ensure continuous and proper implementation, the Bureau of Construction (BOC) is hereby designated to conduct the annual Cost Estimation Audit of DPWH Regional and District Engineering Offices.

This Order shall take effect immediately.


MARK A. VILLAR
Secretary

6.1 WRO/RCA

Department of Public Works and Highways
Office of the Secretary



WIN8W02047

ANNEX A

Guidelines and Procedures on the Cost Estimation Audit of DPWH Regional and District Engineering Offices

1.0 RATIONALE

In line with the continuing efforts of the DPWH to provide cost-effective infrastructure facilities, the Bureau of Construction (BOC), as the lead support bureau providing technical and management services on construction works, established this Cost Estimation Audit Guidelines and Procedures aiming to institutionalize audit of DPWH Regional Offices (ROs) and District Engineering Offices (DEOs) in terms of cost estimation-related operations and processes.

This Cost Estimation Audit Guidelines and Procedures was developed to properly assess the DPWH Implementing Offices' (IOs) capacity and capability to prepare, evaluate and approve cost estimates such as the Program of Works (POW), Approved Budget for the Contract (ABC), Detailed Unit Price Analysis (DUPA), and other cost derivation estimates e.g. Hauling Cost analysis, etc., in accordance with the existing rules and regulations such as Republic Act 9184 and all DPWH existing cost estimation-related issuances like Department Orders, Cost Estimation Manuals, Memoranda and Special Orders.

Further, since Cost Estimation is one of the core processes in the DPWH Process Model where poor controls may lead to project cost overruns/underruns, this Cost Estimation Audit Guidelines and Procedures can serve as a general guide to understand as well as review/evaluate the cost estimation works done by the DPWH IOs, which in return would strengthen, enhance and improve their performance in the delivery of cost-effective infrastructure facilities.

In this connection, the result of the audit prescribed in this Cost Estimation Audit Guidelines and Procedures is a manifestation that the DPWH IOs can efficiently prepare, evaluate and approve POW, ABC and DUPA corresponding to their existing delegated authorities.

2.0 OBJECTIVES

In line with the institutionalization of Cost Estimation Audit in DPWH IOs, enumerated hereunder are the main objectives of the said audit:

- 2.1 To minimize cost leakages of the DPWH-implemented projects in line with the Department's Quality Policy of implementing the right projects at the RIGHT COST, right quality, delivered right on time by the right people.
- 2.2 To ensure that the IOs had appropriately utilized the standard Detailed Unit Price Analysis (DUPA) prescribed in the DPWH Construction Cost Estimation Manuals for infrastructure projects.
- 2.3 To ascertain that provisions of existing laws and other cost estimation-related issuances, such as RA 9184 and Department Orders (future revisions and amendments) of the DPWH are being employed in the preparation and approval of the Program of Works (POW) and Approved Budget for the Contract (ABC).
- 2.4 To assess the weaknesses and develop ways to strengthen, enhance and improve the performance of DPWH IOs in the delivery of cost estimation-related operations and processes.

3.0 AREAS TO BE AUDITED

The following are the areas and aspects to be audited:

3.1. Compliance to Existing Law

- 3.1.1. Republic Act 9184 and Revised Implementing Rules and Regulations – Government Procurement Reform Act, or as amended.

All cost estimates should be prepared in accordance with the cost estimation-related provisions of the said Republic Act especially in the establishment of the Approved Budget for the Contract (ABC), Variation Orders, etc.

3.2. Compliance to DPWH Cost Estimation-Related Issuances

This covers utilization of all DPWH cost estimation-related issuances (or as amended) stipulating guidelines, procedures, applicability and limitations of provisions therein; such as, but not limited to the following:

- 3.2.1. D.O. 197, Series of 2016 – Revised Guidelines on the Preparation of Approved Budget for the Contract.
- 3.2.2. D.O. 71, Series of 2012 – Guidelines for the Establishment of Construction Materials Price, Standard Labor and Equipment Rental Rates Data Base. (Price Monitoring Committee)
 - 3.2.2.1. Construction Materials Price Data (latest issuance)
 - 3.2.2.2. Standard Labor Rates (based on DOLE-prescribed indices)
 - 3.2.2.3. Equipment Rental Rates (referred to ACEL Equipment Guidebook)
- 3.2.3. D.O. 68, Series of 2016 – Road Construction Cost Estimation Manual (RCCCEM)
- 3.2.4. D.O. 207, Series 2016 – Bridge Construction Cost Estimation Manual (BCCCEM)
- 3.2.5. D.O. 163, Series of 2015 – Standard Forms of Program of Works (POW), Approved Budget for the Contract (ABC) and Detailed Unit Price Analysis (DUPA).
- 3.2.6. D.O. 05, Series of 2017 – Revised Standard Pay Items of Works for Civil Works Construction for Infrastructure Projects.
- 3.2.7. D.O. 80, Series of 2017 – Allocation of Authorized 3.5% Deductions from Project Funds for Engineering and Administrative Overhead (EAO) for FY 2017.
- 3.2.8. D.O. 46, Series of 2007, Application of Daywork and Provisional Sum Item in Contract Management
- 3.2.9. D.O. 08, Series of 2006, Guidelines in the Construction of Engineer's Building/s and Facilities for the Implementation of Local and Foreign Assisted Projects

3.2.10. D.O. 03, Series of 2010, Guidelines on the Acquisition of Motor Vehicles for Use in Infrastructure Project Supervision

3.2.11. D.O. 56, Series of 2005, Guidelines for the Implementation of DOLE D.O. No. 13 S. of 1998, On Occupational Safety and Health in the Construction Industry

3.2.12. D.O. 42, Series of 2017 – Revised Limits of Delegated Authority to Regional Directors and District Engineers to Approve Detailed Engineering Design, As-staked and As-built Plans, POW and ABC, and Procure and Implement Projects.

Latest cost estimation-related issuances as well as Department Orders relative to Standard Construction Durations for Infrastructure Projects, or as amended, are also covered by this Cost Estimation Audit Guidelines and Procedures.

3.3. Correctness of Estimates

This focuses on the technical aspect of cost estimation audit which includes checking of adequacy of each component of the estimates such as material, manpower, equipment, construction methodology, productivity output, and consistency with approved plans. This area concentrates on the accuracy and appropriateness of methods and references used in arriving at a particular estimate of each pay item.

3.3.1. Consistency of the Estimates with the Approved Plans and Specifications - this covers the consistency of the cost estimates with the provisions of the approved plans such as, but not limited to, pay items involved (item numbers/subscripts, descriptions, quantities and unit of measure), specified materials, and other provisions in the general notes and specifications.

For pay items' numbers/subscripts, descriptions, quantities and unit of measure:

3.3.1.1. Check the consistency between pay items indicated in the plans and those reflected in the approved POW, ABC and DUPA.

3.3.1.2. Check the consistency between quantities of pay items indicated in the plans and those reflected in the approved POW, ABC and DUPA.

3.3.1.3. For projects already funded but are not yet bid-out, verify the appropriateness of each pay item if deemed necessary for the project.

3.3.1.4. Clarify to the Designer the programmed pay items that are not indicated in the approved plans but necessary (e.g. non-provision of pay item for Aggregate Base Course in new Asphalt Paving works); and pay items that are included in the program but are found irrelevant/inappropriate for the project (e.g. having a pay item for steel craneway wherein embankment craneway can suffice).

For material components:

3.3.1.5. Check the consistency between materials programmed in the cost sheets (DUPAs) and those specified in the approved plans.

3.3.1.6. Check the unit prices of materials adopted by the IO versus those specified in the latest CMPD issuance.

3.3.1.7. For materials not included in the latest approved CMPD, check supporting canvassed prices (at least from three (3) suppliers) and consider reasonableness based on prevailing market prices.

3.3.2. **Conformance of the Estimates with the appropriate Construction Methodology** - this focuses on checking the adequacy of the estimated components (manpower, equipment and materials) with the appropriate construction methodology employed for the project.

3.3.2.1. Check the construction methodology employed to undertake works indicated on the design plans if appropriate based on the actual project site conditions. This is likely to affect the estimated productivity output of pay item involved.

3.3.2.2. Check the variations in manpower designation, equipment type and make, productivity outputs and combinations relative to the Construction Methodology Manuals if appropriate and in accordance with the actual requirements (site conditions, availability of resources, etc.).

3.3.3. **Correctness of Computations** - all calculations rendered are free from arithmetical errors.

3.3.4. **Variance of Estimates** – this is one of the manifestations of the correctness of estimates. This focuses on the determination of variance between the IO's approved total project cost and Cost Estimation Audit Team's (CEAT's) evaluated total project cost.

3.4. Document Requirements and Management

This involves compliance with the document requirements necessary for the conduct of review and evaluation of the cost estimates and checks the adequacy and control of flow of documents with proper annexing and recordkeeping.

3.4.1. **Document Requirements** - checks completeness of documents in accordance with the existing D.O. 70, Series 2017- Implementation of Document Tracking System (DoTS) for Civil Works or as amended.

3.4.2. **Document Management** – focuses on the flow of documents such as receiving, evaluating, recording and tagging; i.e. dependent upon the process flow adopted by the implementing office in accordance with related issuances of the DPWH. This recognizes the implementation of check-and-balance in the cost estimation procedures adopted by the IOs, i.e. existence of cost estimate evaluators and personnel to "review as to unit cost".

4. COST ESTIMATION AUDIT TEAM (CEAT) COMPOSITION AND ACTIVITIES

4.1. CEAT Composition

4.1.1. Bureau of Construction (shall be endorsed by the Preconstruction Division)

One (1) – Engineer III

One (1) – Engineer II

4.1.2. Regional Office Representative (shall be endorsed by the Regional Office – Construction Division)

One (1) – Engineer III or II

4.2. Pre-Audit Activities

4.2.1. Upon receipt of the BOC Director's Directive to undertake Cost Estimation Audit of the specific IO, the CEAT shall prepare a memorandum addressed to the concerned RO/DEO, to be signed by the BOC Director with the following contents:

- a. Advance information (maximum of three (3) working days prior to the first day of Audit) regarding the schedule of audit to give ample time for the IO to arrange schedules and itinerary as well as designate their representative to form part of the audit team.
- b. Request for the RO and/or DEO concerned to prepare all the necessary documents relative to the said Audit.
- c. Shortlist of projects from where the team will randomly select projects to be audited.

4.2.2. The Preconstruction Division shall conduct a pre-departure briefing to the CEAT.

4.3. Audit Activities

4.3.1. Coordination Meeting at Regional and/or District Engineering Offices

The CEAT must coordinate with the head of the concerned IO, Regional Director and/or District Engineers and/or any authorized Representative, and shall request the presence of the Head/Chief of Divisions/Sections in-charge of the preparation of POW/ABC. This is to provide the team with the pertinent documents necessary in the audit and to assist the team in the conduct of audit.

4.3.2. Inventory of References, Tools, etc.

The CEAT must assess the IO's document management system and methodology including the use of standard references and standard forms in the actual preparation of estimation works. This includes the utilization of the cost estimation manuals, latest approved CMPD, labor rates and ACEL equipment rental rates, etc.

4.3.3. Review/Evaluation of the Cost Estimates (POW, ABC, DUPA)

This encompasses the auditing proper. The CEAT must check/evaluate the cost estimates such as POW, ABC and DUPA per audit area defined in Section 3.0 of this Guidelines.

4.3.4. Conduct of Field Validation

In case that any of the programmed pay items' components are verifiable in the actual project site, the CEAT shall conduct validation, such as, but not limited to the following:

- 4.3.4.1. Disposal site, if less or more than 3.0 km from the project site (as prescribed in the Cost Estimation Manuals).
- 4.3.4.2. Construction methodology employed to undertake works indicated on the design plans. (see Section 3.3.2. of this Guidelines)
- 4.3.4.3. Manpower and equipment utilized as prescribed in the standard DUPA per Cost Estimation Manuals, or any justifiable deviations thereof, that suit the actual field conditions/requirements.
- 4.3.4.4. Time motion analysis and/or hauling cost computations from material source to project site, if any.

4.3.5. Preparation and Submission of Cost Estimation Audit Report

The CEAT must establish findings and recommendations based on the facts and documents gathered. The following Audit Reports must be established:

- 4.3.5.1. Initial Report that should be presented to the Head of IO, or any authorized representative, on an exit conference to be conducted after the said audit; this must only include the findings, observations, and initial recommendations to immediately rectify defects/deficiencies found in the cost estimates (POW, ABC, DUPA) and to prevent these from recurring.
- 4.3.5.2. Final Draft of Audit Report that should include ratings and recommendations, thoroughly checked/reviewed by the Cost Estimation Section Chief and the Preconstruction Division Chief prior to submission to the BOC Director thru the BOC Asst. Director, for review and perusal.
- 4.3.5.3. Final Cost Estimation Audit Report to be submitted to the Undersecretary for Technical Services for information, together with the Memorandum, for his signature, to the concerned implementing offices, informing the actions that must be taken on the findings and recommendations of the CEAT.

4.4. Post-Audit Activities

Based on the Cost Estimation Audit Report, appropriate actions must be undertaken to incorporate the rating of the IO from the said Cost Estimation Audit to the overall performance rating of the IOs.

- 4.4.1. Evaluation of the response of the concerned IO relative to the memorandum signed by the Undersecretary for Technical Services.
- 4.4.2. Inclusion of the results of the Cost Estimation Audit as reference in rating the performance of the implementing offices.

Performance of the IOs shall be rated based on the accuracy and appropriateness of the methods and references used by the DPWH IOs in the preparation of POW, ABC and DUPA (see Section 7.3).

- 4.4.3. Creation of Cost Estimation Audit Report Database

The Cost Estimation Section will keep all the reports, retain all the records, and maintain all other essential documents relative to the Cost Estimation Audit.

5. CONTRACTS/PROJECTS TO BE AUDITED

5.1. Project Selection

- 5.1.1. The CEAT shall generate a shortlist of all contracts funded under the two (2) latest GAA from the PCMA prior to the conduct of audit.
- 5.1.2. For on-going projects, variation order costings shall be included in the audit, if any.
- 5.1.3. Contracts/projects must be well represented and sorted per category such as: Roads, Bridges, Buildings, and Flood Control and Drainage Structures.
- 5.1.4. From the shortlist, the team shall select projects to be audited randomly per category.

5.2. Quantity of Contracts/Projects to be Audited

- 5.2.1. For Regional Office's implemented contracts/projects, the CEAT should evaluate a minimum of three (3) projects preferably from different categories, i.e. one (1) Road Project, one (1) Bridge Project, one (1) Building Project and/or one (1) Flood Control and Drainage Structure Project or any combination.
- 5.2.2. Likewise, for District Engineering Offices' implemented contracts/projects, the CEAT should evaluate at least three (3) projects following the above criteria.
- 5.2.3. In case that the IO does not have any project/contract from one of the categories:

- 5.2.3.1. The audit team shall request for projects, of that category, in the previous funding years; given that the POW/ABC was prepared after the issuance of D.O. 42, S. 2017.
- 5.2.3.2. Projects from other categories may only be allowed as substitute to compensate the deficiency if the IO does not have any projects of that category prepared subsequent to the issuance of the aforementioned D.O.

6. FREQUENCY AND DURATION OF COST ESTIMATION AUDIT

6.1. Frequency of Audit

- 6.1.1. All Regional and District Engineering Offices must be audited once a year; The schedule of audit is random and not fixed.
- 6.1.2. The Cost Estimation Section of the Preconstruction Division shall be responsible for the annual scheduling of audit ensuring that all of the ROs and DEOs will be audited once a year, per approval of the BOC Director.

6.2. Duration of Audit

- 6.2.1. The conduct of Audit in the Regional and District Engineering Offices shall not be longer than two (2) weeks per Region until all ROs and DEOs were audited for the current year.
- 6.2.2. The cost estimation audit report shall be submitted within six (6) working days upon return of the audit team.

7. RATING SYSTEM

7.1. Rating Areas

The CEAT shall accomplish a Cost Estimation Audit Checklist (**Annex "B"**) during the audit proper. The Cost Estimation performance of the Regional and District Engineering Offices shall be evaluated based on the following areas.

7.1.1. Document Requirements

See Section 3.4.1; The CEAT shall check the completeness of documents including all necessary attachments of the POW/ABC/DUPA with reference to Annex K of D.O. No. 70, Series of 2017 (or as amended). This area is worth **5%** of the total rating of the project being audited.

7.1.2. Document Management

See Section 3.4.2; The CEAT shall check proper recordkeeping, indexing, and proper document flow such as receiving, assigning to an evaluator prior to releasing (proof of check-and-balance done by the IO as prerequisite of approval of any cost estimates). The CEAT shall also verify the existence of a data repository for cost estimates such as POW, ABC and DUPA. This area is worth **5%** of the total rating of the project being audited.

7.1.3. Cost Estimation-Related Issuances

See Section 3.2; The CEAT shall verify if cost estimation-related issuances of the Department are available and being utilized by the IO. This audit area aims to check the awareness of the IOs of the DPWH latest issuances especially those issuances that are being updated regularly (e.g. CMPD, Labor Rates, etc.). This area is worth **5%** of the total rating of the project being audited.

7.1.4. Correctness of Estimates

See Section 3.3 of these guidelines. This rating area is worth 85% of the overall rating of the project being audited. This area is divided into five sub-areas such as:

7.1.4.1. Consistency with the approved plans **(15%)**

(See Section 3.3.1 of these guidelines) This sub-area focuses on consistency of the programmed pay items with the approved plans, specifications as well as with the construction methodology.

This rating sub-area is to be audited in terms of the following requirements/measures:

- a. Programmed pay items are consistent with the approved plans;
- b. Programmed quantities are consistent with the approved plans;
- c. Programmed pay items and quantities are appropriate with the requirements of the approved plans;
- d. Construction Methodology is consistent with the approved plans and specifications
- e. Pay items number/subscript and descriptions are based from the latest issuance of the DPWH

7.1.4.2. Appropriateness of DUPA components **(30%)**

This gives emphasis on appropriateness of utilization of the DPWH construction cost estimation manuals. This area considers the case of deviation from the provisions of the said manuals, provided with valid bases and justifications, and must be compatible with the construction methodologies (See Section 3.3.2 of these guidelines) or actual project site requirements; thus, affecting the components of the DUPA.

This rating sub-area is to be audited in terms of the following requirements/measures:

- a. Manpower utilized is appropriate with the required construction methodology;
- b. Equipment utilized is appropriate with the required construction methodology;
- c. Materials used are based on the provisions of the approved plans and specifications;
- d. Output per hour per pay item was based on the variations in Manpower and Equipment used; and
- e. Appropriate utilization of the standard cost sheets (DUPA)

7.1.4.3. Accuracy of Direct Costs Used (25%)

This rating sub-area deals with the utilization of existing and latest issuances and references for prices of materials (CMPD), cost of manpower (Standard Labor Rates), rental rates for equipment (ACEL Equipment Guidebook), and other components of the project estimated direct cost, considering the date of preparation/approval of the cost estimates.

This rating sub-area is to be audited in terms of the following requirements/measures:

- a. Utilization of the existing CMPD considering the date of POW/ABC preparation;
- b. Utilization of the ACEL Equipment Guidebook as basis for the rental rates of equipment;
- c. Utilization of DPWH-issued Standard Labor Rates in estimating Manpower costings;
- d. Provision of at least three (3) reasonable canvassed prices of programmed materials not included in the CMPD; and
- e. Cost estimates of Part A (Facilities for the Engineers) and Part B (Other General Requirements) are in accordance with existing DPWH issuances
- f. Construction Duration adopted is in accordance with existing DPWH issuances.

7.1.4.4. Correctness of Indirect Cost (Mark-ups) used (5%)

This area checks the correctness of the percent mark-ups, such as a) Overhead, Contingency and Miscellaneous (OCM) expenses, b) Contractor's Profit (CP) and c) Value Added Tax (VAT), used and how these indirect costs were applied on the estimates in accordance with D.O. No. 197 S. 2016, or as amended.

7.1.4.5. Variance of Estimates (10%)

(See Section 3.3.4 of these guidelines) This sub-area is rated based on the amount of variance between the estimates approved by the IO and the estimates evaluated by the CEAT. (see Section 7.2.1.2b for computations and equivalents)

7.2. Rating Mechanics

The score of each evaluation area per project to be audited shall be the basis of the overall rating of the Regional and District Engineering Office; the overall rating to be established by the CEAT will depict the capability of the DPWH IO to prepare project cost estimates (POW, ABC and DUPA). This section deals with how scores for each evaluation/rating area are computed/established:

7.2.1. Rating through the Cost Estimation Audit Checklist (**Annex "B"**)

7.2.1.1. For Rating Areas mentioned in Section 7.1.1., 7.1.2. and 7.1.3. of this Guidelines, put a check mark (✓) corresponding to the cell of the measure/requirement if complied by the IO (see Page 1 of 2 of the Checklist):

YES – if the requirement/measure in the checklist is indicated, provided or complied in the POW/ABC/DUPA being audited;

NO – if neither provided nor complied or if provided but with major defect/deficiency; and

N/A – if the POW/ABC/DUPA of the project being audited did not require the presence or compliance to that certain requirement/measure in the checklist; or simply not applicable for the project being audited

Equivalent Compliance points:

YES = 1.00 credit point (compliant)

NO = 0.00 credit point (non-compliant, provided but with major defect/deficiency)

N/A = 1.00 credit point (the non-applicability was evident and/or justified)

To determine actual scores for the said rating areas, the following formula shall be used:

$$\text{Actual Score} = \Sigma (\text{Maximum score} \times \text{Compliance})$$

Whereas:

Maximum Score = the maximum allowable weight of a certain requirement/measure in the checklist

Compliance = Equivalent points for either YES, NO or N/A

YES may also be checked for PARTIAL COMPLIANCE (*compliant but with minor deficiency*), but only half credit (50%) of the maximum score of the measure may be given provided with valid basis and justification.

7.2.1.2. For Correctness of Estimates (see Page 2 of 2 of the Checklist), rating shall be based on the sub-areas mentioned in Section 7.1.4 of this Guidelines. These sub-areas are broken down into specific requirements/measures (except for variance of estimates), each having its own score/weight that contributes to the overall rating of the project being audited.

- a. The score for each sub-area is the summation of scores given to specific requirement/measure under each sub-area (sections 7.1.4.1., 7.1.4.2., 7.1.4.3., and 7.1.4.4.). The compliance with the requirement/measure will be rated as follows:

YES – 1.00 credit point

- If 100% of the observation is compliant with the mentioned requirement/measure over total observations.

NO – 0.90 credit point

- If 90-99% of the observation is compliant with the mentioned requirement/measure over total observations.

NO – 0.80 credit point

- If 80-89% of the observation is compliant with the mentioned requirement/measure over total observations.

NO – 0.70 credit point

- If 70-79% of the observation is compliant with the mentioned requirement/measure over total observations.

NO – 0.60 credit point

- If 60-69% of the observation is compliant with the mentioned requirement/measure over total observations.

NO – 0.00 credit point

- If only below 60% of the observation is compliant with the mentioned requirement/measure over total observations.

Whereas, the term 'OBSERVATION' can be the project's pay items (number, descriptions, quantities), material components/prices, equipment components/rental rates, labor components/cost, and/or any of the cost estimating components to be audited depending upon the specified requirement/measure stipulated in the checklist.

- b. For Variance of Estimates (see Section 7.1.4.5. of this Guidelines), the rating is determined using the following table:

Variance	Score
2.50% and below	10.00
2.50% - 5.00%	7.50
5.00% - 10.00%	5.00
Above 10.00%	0.00

For the ease of Variance determination, use the following formula:

$$\% \text{ Variance} = \frac{100 \times [(\text{IO's Approved Project Cost}) - (\text{CEAT's Evaluated Project Cost})]}{\text{IO's Approved Project Cost}}$$

Further, negative variance shall be given full 10 percent, subject to the condition that the said variance is not due to erroneous arithmetical calculations or any errors that will sacrifice the quality and requirements of the project; otherwise, the negative variance will be converted to its absolute value then the above table shall also apply.

- c. The score for Correctness of Estimates shall be given by the formula:

$$\text{Actual Score} = \Sigma (\text{Maximum score} \times \text{Compliance})$$

Note: Product of Maximum Score and Compliance for each requirement/measure under Correctness of Estimates is already provided in the checklist.

7.2.2. Score per Project is the summation of the computed scores per area:

Rating Area	Score
Document Requirements	5.00
Document Management	5.00
Cost Estimation References	5.00
Correctness of Estimates	85.00
a. Consistency with approved Plans	15.00
b. Appropriateness of DUPA components	30.00
c. Accuracy of Direct Cost Used (materials, equipment, labor)	25.00
d. Correctness of Indirect Cost (Mark-up) used	5.00
e. Variance of Estimates	10.00
f.	
TOTAL	100.00

7.2.3. In case that the IO will not provide the POW, ABC, DUPA and other supporting documents for any of the randomly selected project/contract necessary in the conduct of audit, that specific project/contract will automatically get a score of zero (0). This is because there will be no other means for the CEAT to conduct the audit without at least the POW, ABC and DUPA of the project/contract to be audited.

7.3. Performance Rating

7.3.1. Overall Rating (OR)

Performance of the IO to be audited will have its Overall Rating (OR). It is the average of the computed scores per project:

$$\text{OR} = \frac{\Sigma \text{ Scores per Project Evaluated}}{\text{No. of Projects Evaluated}}$$

Adjective Rating	Overall Rating
Outstanding	91-100
Very Satisfactory	81-90
Satisfactory	71-80
Fair	61-70
Unsatisfactory	Below 61

7.3.2. Passing Rate and Bearings of the Rating

Note that the Passing Rate is 70%, but the IO must maintain a Very Satisfactory Rating (81-90) which shall be the basis of the Bureau of Construction to recommend retention of the IO's delegated authority to approve Cost Estimates such as POW, ABC and DUPA.

Otherwise, the BOC will have to recommend adjustments in the delegation of IO's authority to approve cost estimates.



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF CONSTRUCTION
COST ESTIMATION AUDIT CHECKLIST
ANNEX B

Doc. Code	DPWH-BOC-CEA-F001
Revision No.	00
Date	11-Oct-17
Page No.	1 of 2

Name of Project : _____

Project Location : _____
Implementing Office : _____
Funding Year : _____

PROJECT ID : - -
CONTRACT ID :
Project Category : _____
Project Cost : _____
Date Audited : _____

CHECK IF THE FOLLOWING WERE APPROPRIATELY PROVIDED/UNDERTAKEN

REQUIREMENTS/MEASURES	MAX SCORE	COMPLIANCE			ACTUAL SCORE <small>(max score x compliance)</small>	FINDINGS/OBSERVATIONS/REMARKS
		YES (1)	NO (0)	N/A (1)		
DOCUMENT REQUIREMENTS						
1. Executive Summary	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		FOR DOCUMENT REQUIREMENTS, MANAGEMENT and COST ESTIMATION-RELATED ISSUANCES: YES - shall be given full credit of the max score (provided) NO - shall be given no credits/score (not provided or provided but with major defect/deficiency) N/A - shall also be given full credits provided that the not applicability is valid and justified YES - may also be checked for PARTIAL compliance (compliant but with minor defect/deficiency); hence, shall be given half credit of the max score
2. Detailed Unit Price Analysis	2.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2.1 Canvassed Price and/or derivation of cost of materials delivered at site	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2.2 Construction Methodology, if applicable/necessary	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2.3 Location Map showing road network, DEO, project site and quarry sources	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2.4 Location Map showing disposal site (value engineering was used in determination)	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Approved Plans	1.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Computation of Estimated Project Duration	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Bill of Quantities	0.25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. Source of Funds	0.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. Right-of-way resettlement/acquisition certificate	0.15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
TOTAL MAXIMUM SCORE	5.00	ACTUAL SCORE				

DOCUMENT MANAGEMENT

1. Proper recordkeeping (storage)	0.50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. Appropriate indexing (annexing or index tagging)	0.50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Proper flow of documents (receiving, releasing)	3.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Existence of Database for POW, ABC, and DUPA	1.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
TOTAL MAXIMUM SCORE	5.00	ACTUAL SCORE				

COST ESTIMATION-RELATED ISSUANCES

1. DPWH Construction Cost Estimation Manuals	1.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. Latest Construction Materials Price Data	1.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Current ACEL Equipment (Rental Rates) Guidebook	0.50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Latest Standard Labor Rates (DOLE-based)	0.50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Cost Estimation-related issuances	2.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
TOTAL MAXIMUM SCORE	5.00	ACTUAL SCORE				

AUDITED BY:

Engineer III - Audit Team Leader

Engineer II - Audit Team Member

DISTRIBUTION: ☐ Audit Team ☐ Construction Section ☐ Head of Implementing Office



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF CONSTRUCTION
COST ESTIMATION AUDIT CHECKLIST
ANNEX B

Doc. Code	DPWH-BOC-CEA-F001
Revision No.	00
Date	11-Oct-17
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CHECK IF THE FOLLOWING WERE APPROPRIATELY PROVIDED/UNDERTAKEN

REQUIREMENTS/MEASURES	MAX SCORE	COMPLIANCE						ACTUAL SCORE	FINDINGS/ OBSERVATIONS/ REMARKS									
		YES (100%)	NO (90-99%)	NO (80-89%)	NO (70-79%)	NO (60-69%)	NO (below 60%)											
CORRECTNESS OF ESTIMATES																		
1. Consistency with Approved Plans	15.00								NOTE: Zero (0) credit shall be given if the non-compliance is made to major pay item involved that impacted the total project cost of more than 10%.									
1.1 Programmed pay items are consistent with the approved plans	3.00	3.00	2.70	2.40	2.10	1.80	0.00											
1.2 Programmed quantities per pay item are consistent with the approved plans	3.00	3.00	2.70	2.40	2.10	1.80	0.00											
1.3 Programmed pay items and quantities are appropriate with the requirements	3.00	3.00	2.70	2.40	2.10	1.80	0.00											
1.4 Construction methodology adopted is consistent w/ the approved plans	5.00	5.00	4.50	4.00	3.50	3.00	0.00											
1.5 Pay items no. and descriptions are based from the latest issuance of the department	1.00	1.00	0.90	0.80	0.70	0.60	0.00											
2. Appropriateness of DIPA Components	30.00								NOTE: Full credit may be given to adoption of unit price aside from the data in the existing CMPD, provided with acceptable justification. Zero (0) credit shall be given if the unit price of material used is not in accordance with the CMPD and not justified resulting to an increase in the total pay item cost of more than 15% Full credit shall be given if the adopted Construction Duration is backed up with acceptable justification.									
2.1 Manpower components are appropriate with the construction methodology requirements	7.50	7.50	6.75	6.00	5.25	4.50	0.00											
2.2 Equipment components are appropriate with the methodology and site requirements	7.50	7.50	6.75	6.00	5.25	4.50	0.00											
2.3 Materials used are based on the provisions of the approved plans and specifications	5.00	5.00	4.50	4.00	3.50	3.00	0.00											
2.4 Outputs per hour were based on the variations in Manpower and Equipment used	5.00	5.00	4.50	4.00	3.50	3.00	0.00											
2.5 Appropriate utilization of the Construction Cost Estimation Manual	5.00	5.00	4.50	4.00	3.50	3.00	0.00											
3. Accuracy of Direct Costs Used	25.00																	
3.1 Existing CMPD was utilized (consider date of POW/ABC preparation)	9.00	9.00	8.10	7.20	6.30	5.40	0.00											
3.2 Equipment rental rates are based on current ACEL Equipment Guidebook	6.00	6.00	5.40	4.80	4.20	3.60	0.00											
3.3 Existing DPWH-issued Standard Labor Rates were utilized	4.00	4.00	3.60	3.20	2.80	2.40	0.00											
3.4 At least three (3) Canvassed prices of materials (not in the CMPD) were provided	2.00	2.00	1.80	1.60	1.40	1.20	0.00											
3.5 Cost estimates for Part A and Part B are in accordance with existing DPWH issuances	2.00	2.00	1.80	1.60	1.40	1.20	0.00											
3.6 Construction Duration adopted is in accordance with existing DPWH issuances	2.00	2.00					0.00											
4. Correctness of Indirect Cost (Mark-ups) used	5.00								Note: For Projects with approved Variation Order/s, the said adequacy of variation order costing should also be evaluated. The rating will be considered in the Variance of Estimates.									
4.1 Accuracy/Appropriateness of OCM percent mark-up used based on existing DPWH issuance	2.00	2.00	1.80	1.60	1.40	1.20	0.00											
4.2 Accuracy/Appropriateness of CP percent mark-up used based on existing DPWH issuance	2.00	2.00	1.80	1.60	1.40	1.20	0.00											
4.3 Accuracy/Appropriateness of VAT percent mark-up used based on existing DPWH issuance	1.00	1.00	0.90	0.80	0.70	0.60	0.00											
5. Variance of Estimates	10.00																	
5.1 Total Project Cost as Approved by the Implementing Office	Php	Equivalent points/score for the computed percent Variance:																
5.2 Total Project Cost as Evaluated by the Cost Estimation Audit Team	Php	<table border="1"> <tr> <th>Variance</th> <th>Score</th> </tr> <tr> <td>2.50% and below</td> <td>10.00</td> </tr> <tr> <td>2.50% - 5.00%</td> <td>7.50</td> </tr> <tr> <td>5.00% - 10.00%</td> <td>5.00</td> </tr> <tr> <td>Above 10.00%</td> <td>0.00</td> </tr> </table>						Variance		Score	2.50% and below	10.00	2.50% - 5.00%	7.50	5.00% - 10.00%	5.00	Above 10.00%	0.00
Variance	Score																	
2.50% and below	10.00																	
2.50% - 5.00%	7.50																	
5.00% - 10.00%	5.00																	
Above 10.00%	0.00																	
5.3 Percent Variance between Total Project Costs [i.e. 100*(5.1 - 5.2)/(5.1)]	%																	
TOTAL MAXIMUM SCORE	85.00																	
TOTAL POSSIBLE SCORE	100.00	TOTAL ACTUAL SCORE																

AUDITED BY:

 Engineer III - Audit Team Leader

 Engineer II - Audit Team Member

DISTRIBUTION:

☐ Audit Team

☐ Construction Section

☐ Head of Implementing Office