Quality standards of road surveying in Morocco

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Introduction

1. Moroccan Context:

- Economic Development
- Launching of Important Road Projects
- Road Infrastructure
2. Road Projects problems:

- Realization Delay
- Cost of the Project
- Organization and Technical problems

To give some solutions to these problems and to achieve the quality requirements, the setting up of a documentary structure of the surveying operations is important:

1. Process of every step of the road project
2. Surveying check planning
   - Surveying standards
3. Monitoring and realization forms
Process Approach: Identify and manage each surveying task as a process.

Example

- **Inputs**
  - Road plans
  - Coordinates of base points

- **Process**
  - Setting out of the road centre line

- **Outputs**
  - Setting out of pegs showing the road centre line
Quality Approach

Documentation

1. Insure the communication of information to facilitate the follow-up of the project.
2. Give the proof of conformity of each intervention.
3. Share the knowledge between different experiences.

Deming Wheel (PDCA)

Plan

Act

Check

Do
We propose a guide to organize the surveyor operations and to implement a quality approach in surveying services related to road projects in Moroccan context.

This guide gives:

- Process of all surveying tasks;
- Monitoring and Check forms;
- Standards of conformity of Surveying operations;
- How to do surveying checks.

The surveying follow-up Guide is organized according to four categories:

A. Preliminary tasks
B. Earthworks and water sanitation
C. Pavement works
D. Structures construction
We propose a quality approach of the surveyor interventions in the execution of road.

This approach is based mainly on the documentation principle of the standard ISO 9001/2000.

The structure of this documentation essentially tooks the shape of a guide following the Deming wheel (Plan, Do, Check, Act).

This guide is going to permit to the Moroccan surveyors to valorize and to guarantee the quality of their operations.
We recommend the development of the following aspects:

1. Revise the tolerances of surveying check according to the importance and the type of every task and according to new surveying equipment.

2. Study the standards in order to integrate the GPS, scanners, aerial and spatial images in the different phases of road projects.