

# IPENZ ONLINE WORK HISTORY AND COMPETENCE RECORDING TOOL

## EXEMPLAR (1): A PROJECT DESCRIPTION AGAINST ELEMENTS 3 AND 7 OF THE COMPETENCE STANDARD

**ORGANISATION:** ENGINEERING SERVICES LTD, GOTHAM CITY  
**POSITION TITLE:** SENIOR TRAFFIC ENGINEER  
**EMPLOYMENT PERIOD:** FROM MARCH 2006 TO NOVEMBER 2008

These are the details of an employment period.

### PROJECT/ACTIVITIES

**PROJECT/ACTIVITY NAME:** GOTHAM ROAD MID-BLOCK WIDENING

#### PROJECT/ACTIVITY DESCRIPTION:

I am the project manager for this scheme to widen Gotham Road along its entire length to provide full time shared bus / cycle facilities and indented bus stops as well as streetscape improvements. Gotham Road is a major arterial route within Gotham City which carries to the order of 25,000 vehicles per day. Gotham City set down a designation to undertake this work several years ago, which is due to expire in 2013. A key component of the project is to ensure that all works are carried out within this designation as any diversion from this would require new negotiations.

This is the name and description of a project/activity you worked on while in the employment position, including your role in it. You only need to include pertinent details.

**GOOD EXAMPLE OF THE FOLLOWING COMPETENCE ELEMENTS: 3, 7**

You have chosen this project/activity as one of your best examples of Competence Element 3—Analyse Problems and Element 7—Risk Management

### ELABORATION OF COMPETENCE ELEMENT 3—ANALYSE PROBLEMS

DEFINE, INVESTIGATE AND ANALYSE COMPLEX ENGINEERING PROBLEMS IN ACCORDANCE WITH GOOD PRACTICE FOR PROFESSIONAL ENGINEERING

I developed a scheme assessment report for this project, which required that I also address a number of constraints along the route, including service locations, residential access constraints, tree locations that avoid major services and do not reduce sight distances from side roads, building line locations, building canopies that overhang the proposed kerblines, on-street car parking for commercial premises and bus stop locations that are convenient to major trip generators.

I established a project reference group, comprising representatives from various City Council departments, including Transport Planning, Road Safety, Urban Design, Planning and Utility Services and project team members responsible for urban design, lighting and bus shelters. Each stakeholder group had their own set of objectives and requirements for the project and their own set of standards to be adhered to, which frequently conflict with those of other stakeholder groups,

This is your elaboration explaining why this project/activity is a particularly good example of Element 3. It details a good example of analysis of an engineering (or engineering management) problem

I also held meetings with each of the 8 service providers that have services located in the existing carriageway and berm and may be affected by the proposed scheme as well as bus operators and cycle advocacy groups that have their own requirements and desired outcomes for the project.

To ensure that all (or as many as possible) of each stakeholder's desired features were accommodated the project was separated by a number of hold points, following which a project reference group meeting was held to ensure that all concerns had been addressed. Prior to each meeting, stakeholders were provided with a set of deliverables and asked to provide comments prior to, or at each meeting.

### **ELABORATION OF COMPETENCE ELEMENT 7—RISK MANAGEMENT**

IDENTIFY, ASSESS AND MANAGE ENGINEERING RISK (IN THE CONTEXT OF COMPLEX ENGINEERING PROBLEMS)

As part of the Gotham Road Mid-Block Widening project, I have worked closely with our HR Risk specialist developing a register of risks for each project stage including preliminary design, detailed design and construction. A risk workshop was held with all stakeholders to identify and discuss risks associated with all disciplines. I have recently completed an update of this register with our Risk specialist.

The analysis included assessments of the consequences and likelihood of occurrence of each risk and development of an action plan to mitigate any significant effects using Transit New Zealand's standard risk assessment procedures.

This is your elaboration explaining why this project/activity is a particularly good example of Element 7.

It details a good example of the application of engineering risk management strategies that support your practice as an engineer.

SAMPLE

# EXEMPLAR (2): A PROJECT DESCRIPTION AGAINST ELEMENTS 2 AND 3 OF THE COMPETENCE STANDARD

**ORGANISATION:** ENGINEERING SERVICES LTD, GOTHAM CITY

**POSITION TITLE:** DIRECTOR

**EMPLOYMENT PERIOD:** FROM AUGUST 2007 TO NOW

These are the details of an employment period.



## PROJECT/ACTIVITIES

**PROJECT/ACTIVITY NAME:** GOTHAM CITY CLIFF-TOP HOME

### PROJECT/ACTIVITY DESCRIPTION:

I am managing the second stage of design and construction of a \$3M cliff-top home for which I have had total project management responsibility since design started in 2003. The project is complex because the site lies on a cliff in a densely populated and old established suburb.

This is the name and description of a project/activity you worked on while in the employment position, including your role in it. You only need to include pertinent details.



## GOOD EXAMPLE OF THE FOLLOWING COMPETENCE ELEMENTS: 2, 3

### ELABORATION OF COMPETENCE ELEMENT 2—LOCAL KNOWLEDGE

*COMPREHEND AND APPLY KNOWLEDGE OF THE ACCEPTED PRINCIPLES UNDERPINNING GOOD PRACTICE FOR PROFESSIONAL ENGINEERING THAT IS SPECIFIC TO THE JURISDICTION IN WHICH HE/SHE PRACTICES (NZ)*

I was extensively involved with City Council through the resource consent and building consent process. I am required to have a working knowledge of the town planning ordinances the NZ Building Code, the RMA, the Building Act, the Construction Contracts Act, NZS 3910 and a host of other related standards.

I frequently attended meetings with consenting authorities, geotechnical and structural engineers to establish best practice and formulate design parameters for the project.

You have chosen this project/activity as one of your best examples of Competence Element 2—Local Knowledge and Element 3—Analyse Problems.

This is your elaboration explaining why this project/activity is a particularly good example of Element 2.

It details a good example of your compliance with NZ legislation or regulation, or working with standards or codes of practice relevant to NZ.

### ELABORATION OF COMPETENCE ELEMENT 3—ANALYSE PROBLEMS

*DEFINE, INVESTIGATE AND ANALYSE COMPLEX ENGINEERING PROBLEMS IN ACCORDANCE WITH GOOD PRACTICE FOR PROFESSIONAL ENGINEERING*

I had to closely analyse an apparent problem of water absorption into a basement slab. The slab was located 2 metres below natural ground towards a lower part of the cliff and a problem had arisen with direct stick carpet not properly adhering to the concrete. This was in spite of the slab having been poured 3 months prior and the slab and footings having been completely enveloped in a bentonite waterproofing system.

The investigation involved me taking relative humidity readings all over the floor slab using an accepted process over the period of a month through varying weather conditions and analyzing possible causes for locally high RH readings. There was much conflicting information gathered from tests and internet research. Many reasons were given by others without substantiation. I searched for factors which no-one had thought of such as unique site topography and knock-on effects. In the end I was able to demonstrate that the readings were within acceptable margins and that the problem lay with the glue and not a damp slab. The carpet supplier re-glued the carpet and the problem has not reoccurred.

This is your elaboration explaining why this project/activity is a particularly good example of Element 3.

It details a good example of analysis of an engineering (or engineering management) problem