

ASSETS IN OPERATION

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ABSTRACT

Starting as a graduate engineer at Western Bay Council in 2010 I began my role as Utilities Asset Engineer Drainage. The structure of the Utilities department was undergoing changes with the operations and maintenance areas of Utilities coming back in-house after being managed by a Professional Service Provider (PSP). During the transition a new Drainage Field Engineer and Operations Manager were appointed. Interestingly the remaining Utilities staff (numbering 20) had all transferred from the PSP.

With the change in staff both in the Operations and Maintenance team (Operations team) and Asset team there was a loss of valuable historical knowledge. Communication between the two teams was not clearly defined resulting in communication breakdowns. As a result of this I experienced several issues with gaining information to prepare my Asset Management Plan's (AMPs).

This paper explores the difficulties experienced, methods used to overcome them and the importance of an integrated approach between different sectors within the Utilities team at Council to achieve our Levels of Service (LOS). The requirement of a cohesive team is becoming more apparent to achieve the LOS as the economic climate becomes tighter and we are required to push our assets to the limit and clearly justify all capital expenditure.

I am sure this situation is familiar to other Councils throughout New Zealand and will be a contentious issue going forward.

KEYWORDS

Asset Management, Communications, Operational, Levels of Service, Team Structure

1 INTRODUCTION

The Utilities team at Western Bay of Plenty District Council (WBOPDC) is responsible for providing, managing and operating the three water networks (water, wastewater and stormwater) and solid waste services for the Western Bay of Plenty district. This can be a difficult task under the current economic climate. An integrated approach between different sectors within the Utilities team is important in order to meet Levels of Service set by the Council.

This paper explores the experience we have had at WBOPDC in developing a cohesive team to deliver the best possible service to our communities. It also points to the fact that there must be a culture of 'continued improvement' to maintain effective communication between team members.

2 BACKGROUND

2.1 WESTERN BAY OF PLENTY

Western Bay of Plenty is on the east coast of the North Island and home to 45,000 residents. The district spans from Waihi Beach to Pukehina and services all communities in between. Western Bay is a rural district serving many coastal communities. It has a large area, small population, precipitous topography and isolated infrastructure networks.

WBOPDC is a small Council with just over 160 staff. The three waters (stormwater, wastewater and water) and solid waste are managed and operated in-house by Councils Utilities team. The maintenance of all three water assets is carried out by Councils maintenance contractor City Care.

The Utilities team is a relatively small team totaling 24, with big challenges and a variance in quality of infrastructure, making it a difficult task to manage the networks on an individual basis.

Figure 1: Western Bay of Plenty District

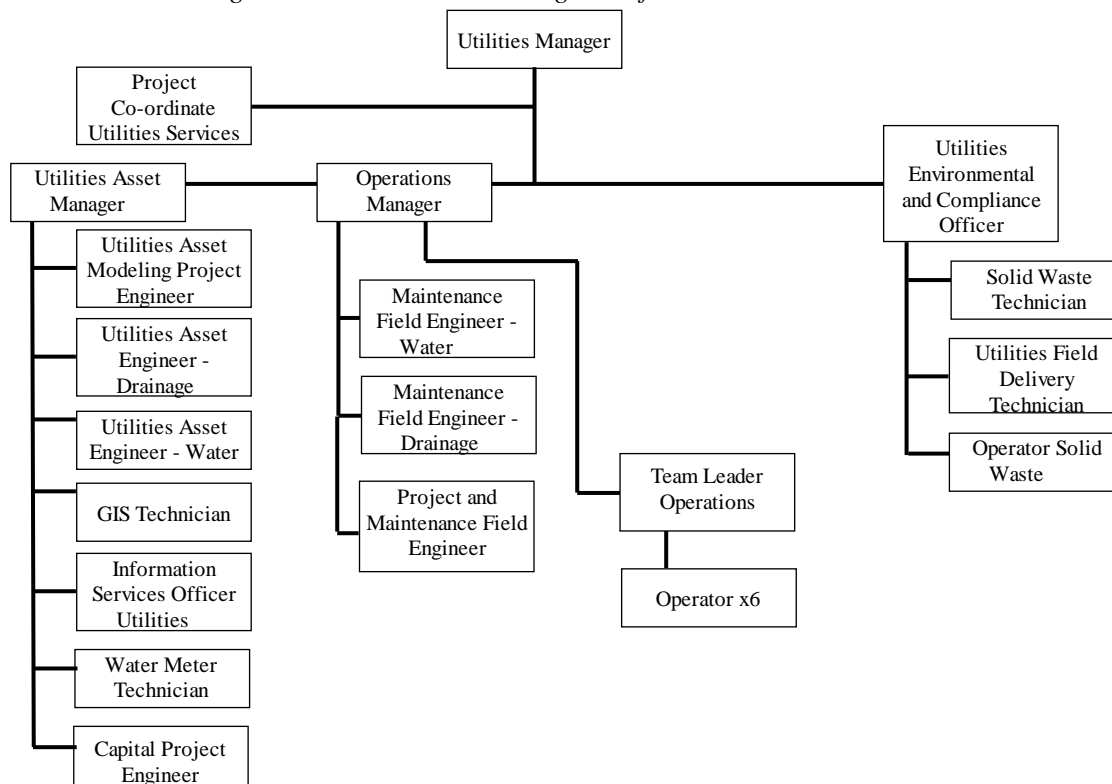


2.2 TEAM STRUCTURE

Prior to 2008 asset management and the operation of Council’s Utilities assets was carried out by Councils Professional Service Provider (PSP) CPG Global Consultants. On 1 July 2008 the asset management returned to Council. For the following two years the two teams worked in separation from each other. Asset management and planning was carried out in-house and operations and maintenance was carried out offsite. Regular fortnightly meetings between the two teams were held to keep everyone informed on business, operational and maintenance matters and project progress.

With the PSP contract running its course, opportunity existed to also bring the management of the day to day operational part of the business in-house. At the time considerable savings were possible and key operational staff were not opposed to joining Council. Therefore on 1 July 2010 the Operations team was also brought in-house. The physical maintenance works continued to be done by an external contractor. The purpose behind having the Utilities team all under one roof was to ensure key knowledge and key decisions were made by Council staff in-house, as well as ensuring financial prudence for our communities. The shift in-house also retained intellectual knowledge in the hands of Council. The structure of Councils utilities team was as follows:

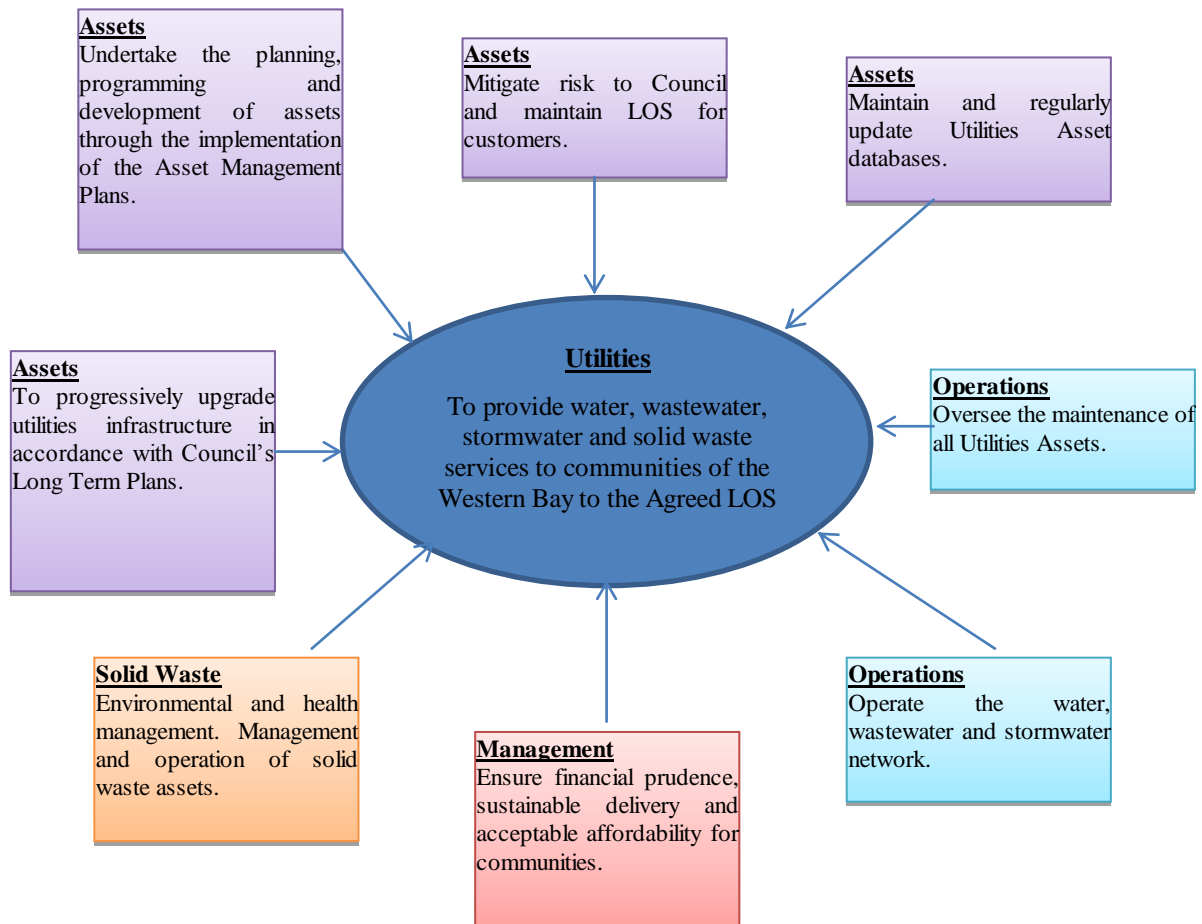
Figure 2: Structure diagram of the Utilities Team



2.3 ROLE OF THE TEAMS

Within Utilities we have four sectors. The four sectors of Utilities include; Operations and Maintenance, Asset Management, Solid Waste and Management. While each sector has a core purpose, interaction between the sectors is vital in order to achieve our common goal 'To provide water, wastewater, stormwater and solid waste to the communities of the Western Bay to the agreed Levels of Services (LOS) as outlined in Councils Long Term Plan (LTP). The diagram below outlines the main function of each team.

Figure 3: Responsibilities within the Utilities Team



2.4 INTERACTION BETWEEN THE TEAMS

Focusing mainly on the asset management and operation of the assets the interaction between these two teams is vital. The role of each team is clearly defined. The Asset team are responsible for the planning, programming and implementation of capital upgrades for all three water infrastructures. The Operations team are responsible for managing the maintenance of water infrastructure and operating the three water networks. Effectively Operations are responsible for the reactive planning (practical) while the Asset team are responsible for the proactive planning (theoretical). Each team requires input from the other in order to reach their individual goals.

The Operations team requires input from the Asset team to ensure:

- Required funding is available to carry out the operation and maintenance of the assets
- Assets are progressively upgraded
- GIS and asset data bases are kept up-to-date
- Infrastructure is capable to deliver the LOS and legislative requirements.

The Asset team relies on Operation team input for:

- Implementation of the planned works and processes
- Regular feedback on how the network is operating and performing
- Updated plant/network upgrades information
- Information on upgrades required
- Information on asset failures
- Input/data collection for Asset Management Plans.

3 THE PROBLEM

When the PSP shifted in-house in 2010 the first year can be described as the typical honeymoon stage. Surveys came back showing staff were happy, customers were happy and no issues were identified. Things appeared to be going smoothly. Following that first year however feedback from inside the team, external customers and management identified that things were not going as cohesively as initially thought.

- Projects were carried out without the proper planning/budgeting by the operational team
- The Asset team was carrying out future planning and asset development without interaction or detailed feedback from the Operational team
- High quality Asset Management Plans were produced but lacked traction or buy-in, in terms of deliverance by the team
- A number of capital projects and upgrades were carried out in isolation.

3.1 INVESTIGATION / ANALYSIS

To better understand the issue within the Utilities team, or even to understand if there is an issue, I conducted a short survey that was sent out to all Utilities staff members.

The following questions were asked:

- Do we work together enough to understand each other's roles?
- How does your work output affect the rest of the Utilities team?
- Do you think sectors within the Utilities team communicate well? Why/Why not?
- Do we depend on each other to succeed? Why/Why not?
- Having answered Q1-Q4 do you have any suggestions or comments regarding
 - Working together and understanding roles
 - Helping each other succeed
 - Our communication

The survey was sent out to 14 staff members within the Utilities team and 8 responses were received. Because of the number of respondents the impact of the survey is limited. The purpose of the survey was to see if we can collectively improve the way we work together. In some instances answers were varied but overall a common theme was found 'We are all working together towards a common goal, but we could do better'.

3.2 DO WE WORK TOGETHER ENOUGH TO UNDERSTAND EACH OTHER'S ROLES?

The general census for this question was yes. However a number of people highlighted that this could still be improved upon, whilst others believed it was sufficient to have a general understanding of others role. A few were of the view that a more in-depth knowledge of what other team members are responsible for is required for a better understanding of how they link in via processes or outcomes.

3.3 HOW DOES YOUR WORK OUTPUT AFFECT THE REST OF THE UTILITIES TEAM?

A varied response showed that each individual felt their work output affected the Utilities team in different ways. Some respondents felt their work went unnoticed as it does not have a direct impact on any one else in the team, while others felt their work only affected individuals within the team. Most people felt if they did not do their work properly or efficiently it will flow onto others within the team, causing issues and increased work loads.

3.4 DO YOU THINK SECTORS WITHIN THE UTILITIES TEAM COMMUNICATE WELL? WHY / WHY NOT?

This question sparked the biggest response. Commonly people felt that communication had improved over the previous few months but still felt communication between the sectors could be improved further. It is felt that the gap in communication existed mainly between the Assets and Operations sectors, including the communication between the leaders within the sectors. A common comment was that people are busy and focused on getting the job done, which can lead to the communication breakdowns. Another point raised by a number of people is that they can become protective of their work, not wanting others to interfere, or even increase their work load. Perhaps there is a mind-set change required?

3.5 DO WE DEPEND ON EACH OTHER TO SUCCEED? WHY / WHY NOT?

A strong message came from this question. Yes we do depend on each other to succeed. We are all part of a bigger team, which can work together and learn from each other, all working towards a common goal. This is an important aspect in ensuring future growth of the one team culture.

4 GAP ANALYSIS AND DISCUSSION

Drawing on experiences I have had, discussions with other team members and results from the survey I have found there are three common themes:

- Communication
- Work load (time management)
- Mind sets

4.1 COMMUNICATION

Communication is key in any relationship. If there is a communication breakdown between sectors we need to address these to be able to better manage our three water network's and provide a service to the community. Communication needs to be driven from the top down, with regular communication between team leaders to 'lead by example'. The team leaders then need to instill this 'mind set' culture into team behaviour's.

In our modern world we have a number of avenues for communication, emails, smartphones, calendars etc however these are not always the best option for communication. Within the team we hold regular fortnightly meetings between the Assets, Operations and Solid Waste and management sectors of the team. These meetings are minuted and have a rigid structure to them. There is an opportunity to have an open session at the end of the meeting. We also hold monthly meetings for the full Utilities team.

While the meetings provide an excellent opportunity for communication they are not always well utilised. They have become more of 'box checking exercise' rather than an opportunity to share projects. Perhaps regular weekly meetings between counter parts (eg Asset Engineer – Drainage and Field Engineer – Drainage) should be held on a regular basis to discuss workload for the week and where they would like input or help.

4.2 WORKLOAD

I believe that communication and work load are inter-linked to a certain degree. Because work load is high, people want to get on and do a job, and miss out on the vital communication part of each project. However if projects were planned from the outset communication input from other team members could be built into the project structure, clearly showing each team members role, responsibilities and inherently defining reliance on each other. This method is being used to improve the Asset Management Plan's (see case study section 5.2).

In order to achieve this time management is important. There needs to be enough training and focus from management, supporting better time management skills to help our busy workloads.

4.3 MIND-SET

I have found that within the Utilities team there appears to be a central focus on individual's defined roles with no acknowledgement of counterparts or others goals. We are so busy 'getting on with the job' we do not think about how what we are doing can influence or enhance other sectors. It may even be a double up of work. To address this there needs to be leadership, ownership and a change of thinking. We need to see each other as customers and think 'How does this help the assets/operations team?'

A change of mindset is no easy task. It needs to be driven from the top through regular communication and by example. Just as importantly people need to recognize and take responsibility on a personal level to make behavior changes to support each other to achieve our common goal.

5 WHERE TO FROM HERE?

Leadership can have the greatest effect on the output from a team. It is a leader's role to inspire and drive the team therefore any improvements, including the required change in mindset within the team should be modeled and driven by the team leaders.

Having made the above comments, all individuals within the team also have an ability to play a leadership role. By taking ownership of an individual issue we may then be able to work towards an outcome. This could be done from a project manager perspective. For example the project manager, as leader of the project needs to identify from the outset of a project:

- All relevant communication required
- Who needs to know about the project or be part of the project team
- What input/output could affect other team members
- What resources are required.

The leadership role could also be taken at an individual level. As an issue (such as communication breakdowns) is identified we could take ownership of the issue to drive a solution.

Two improvement initiatives that have been recently implemented within the Utilities team include a change in the current structure (section 5.1) and project planning improvements (section 5.2).

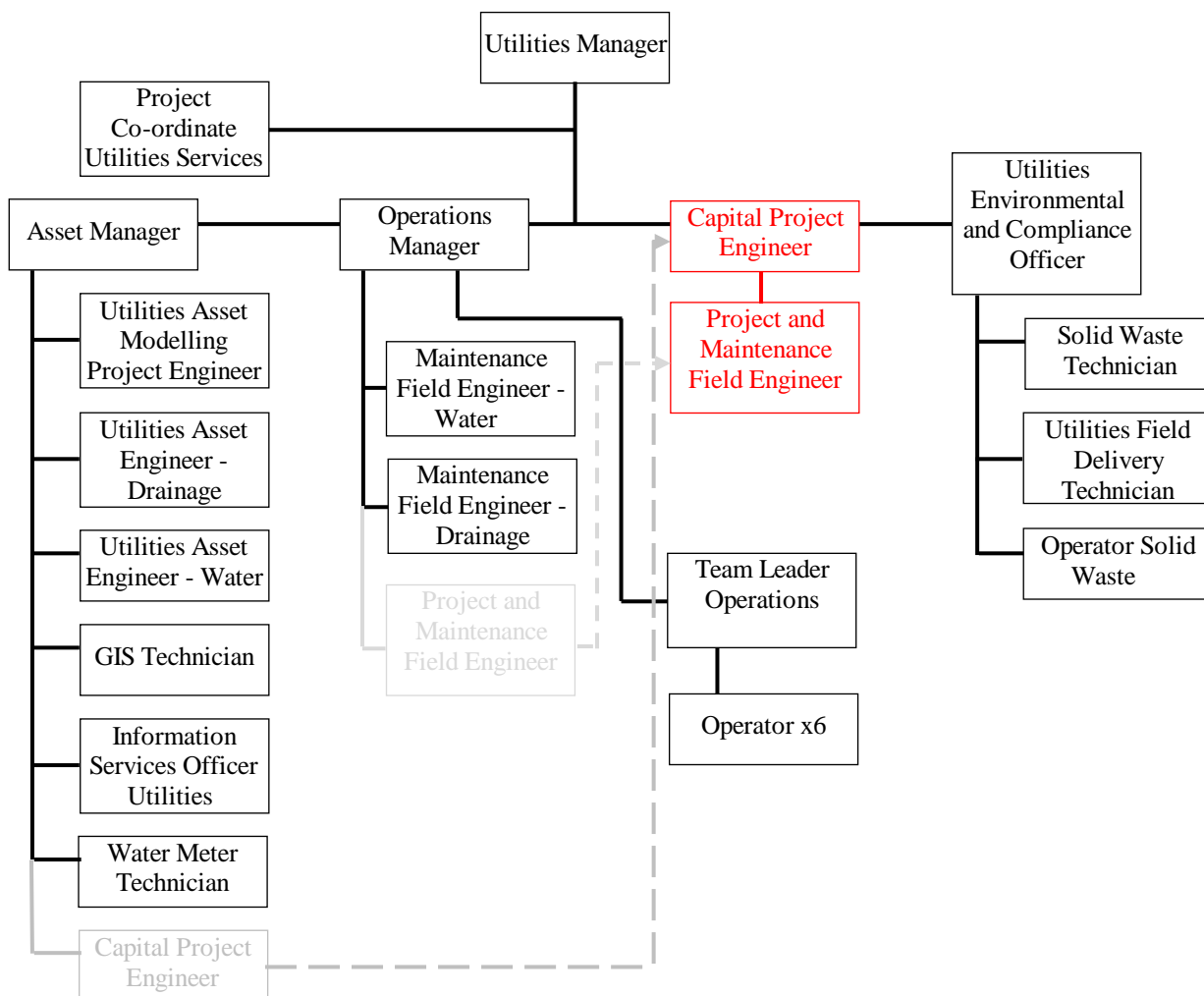
5.1 TEAM STRUCTURE

One identified issue within the Utilities team was often projects or upgrades were undertaken by either the Assets or Operations team in isolation from each other. It led to a waste of resources and a lack of co-ordination. To address this, a slight change of structure within the Utilities team was implemented. A new sector was introduced; 'Capital Projects'. It has become the responsibility of the Capital Projects sector to implement and manage capital upgrades to both treatment plants and infrastructure. Figure 4 below outlines the change in structure.

By creating an individual sector to manage all capital projects it provides a definite point for both Operational and Asset team members to communicate with. The change in structure also allows the Utilities Manager to have the direct report line in place to manage and co-ordinate all capital and operational projects. A standard

procedure of procurement and management is adopted with an independent perspective to the works program, ensuring that the money being spent is in the long term beneficial for Council.

Figure 4: New Utilities team structure.



5.2 CASE STUDY: ASSET MANAGEMENT PLANS (THREE-WATERS AMPS)

The Utilities team are responsible for the water, wastewater, stormwater and solid waste Asset Management Plans. The purpose of the Asset Management Plans is to manage Council’s assets to the agreed Levels of Service as set out in the Long Term Plan. The water, wastewater and stormwater Asset Management Plans are managed and updated in-house by the Asset Engineers. The plans are audited by independent external consultants on a three yearly basis. The most recent assessment awarded an advanced status.

While the three water AMPS are of an advanced standard they are substantial and detailed documents and need to be read through to be appreciated and to understand their direction. The Asset Engineers responsible for the AMPS found it difficult to implement them within the Utilities team to drive the outcomes required for the business.

In order to continue to develop and improve the AMPs, information input is required from the Operations team. It quickly became apparent however that the Operations team had no clear understanding of what an AMP is, its role in Council and the information it contained. The Operations team had adopted a ‘short term approach’ to all work only looking 18 months ahead. This is contrary to the long term view that should be adopted in order to manage our assets in a cost effective manner.

In recognizing the need to improve the Operations sectors understanding of the three water AMPs, the Asset Engineers delivered a training session explaining the structure, sections and planning detail from the plans. During this session it was discovered that there were several unknown avenues for gaining information.

This highlighted the gap in the communication between the two sectors and that they worked somewhat in isolation from each other.

Follow up meetings were held with the Operation and Asset teams to discuss the asset management processes in more detail. It became apparent that the Operation sectors perception of what the Asset Engineers require to develop the plan was quite different to reality. They initially understood that the data collected from field operation was of sufficient detail to forward plan capital and renewals projects. However the reality is, that Operations staff who have first hand knowledge is vital for the optimized decision making process, used in asset management planning. The Operation sector has a better understanding of how the assets are operating, where the issues are and if assets may fail earlier than initially anticipated.

Consequently the Asset Engineers saw the need to be able to present the relevant AMP information to the Operations sector in a better, more easily understood format, highlighting the areas of the plan which requires their action, involvement and input.

A task based implementation plan is being developed by the Asset Engineers to support the Plan Improvement Program (PIP) within the AMPs. The PIP is an on-going program to increase the accuracy and confidence of data capture and therefore understanding of the assets. The Implementation Plan will be a driving and living document that includes the people, resources and timeframes required to achieve the planned outcomes. Below is an example task sheet for one task within the PIP. The purpose of the Implementation Plan is to be a time management and resource management tool to better engage with key team members through out the Utilities team required to carry out the task.

Figure 5: Plan Improvement Plan example task sheet.

Task 1 – Gap Analysis of all water assets.

Timeframe: June 2014 (12 Months) then on-going.

Funding: 3 x \$20,000

Milestones	Resources	Timeframe
1) Run Gap Analysis	GIS Technician/ Asset Engineer - Water / Information Services Officer	Aug 2013
2) Produce base plans of each gap for validation	GIS Technician / Asset Engineer - Water / Information Services Officer	Aug 2013
3) Carry out field investigations	Asset Engineer - Water /Maintenance Field Engineer – Water/contractor	ESZ - Nov 2013 CSZ - Feb 2014 WSZ - May 2014
4) Input Data	GIS Technician /Information Services Officer	ESZ - Jan 2014 CSZ - April 2014 WSZ - June 2014

6 CONCLUSIONS

I am sure the issues experienced in the Utilities team at WBOPDC are not limited to our department or Council. While cohesion within the Utilities team has improved over the last year, as we have become more aware of the issues, there are still improvements that can be made. Overall the key points which have been implemented, but could be improved upon further include:

- Leaders should instil a culture of co-operation and one team approach
- Plan, plan, plan - defining project team members and responsibilities
- Ensure ownership/responsibilities and consequences are obvious to all of the project team
- Maintain a vigilant watch on the business and strive for continuous improvements

Preparing this paper has given me the opportunity to think about our team and how we work together. I have learnt that the team is made up of a group of dynamic individuals with different ways of doing things. I have no doubt that we will work together as a cohesive team to continuously improve our general business and resolve the challenges that lay ahead of us.

ACKNOWLEDGEMENTS

Thanks to the team members who participated in my survey and the support and guidance given to me by the Utilities Manager and Paul van den Berg in putting my ‘thoughts on paper’.

REFERENCES

Nil