

**TELECOMMUNICATIONS V'S WATER UTILITIES
NATURE STRIP CONGESTION**



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*38th Annual WIOA Qld Water Industry Operations Conference
Parklands, Gold Coast
4 June to 6 June, 2013*

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ABSTRACT

Nature strip congestion has become a serious problem within Wagga Wagga for Riverina Water County Council over the last decade. This congestion on the nature strip is primarily due to the numerous telecommunication carriers with an optic fibre network in the city, of which there are currently six. The result of this congestion is significantly increased construction times and costs being incurred by Riverina Water. A recent job to replace 550m of 450mm DICL pipe resulted in 6 months work and \$80,000 expenditure to identify a suitable alignment on the nature strip. In the end, we were unable to construct on the nature strip & the pipeline was built under sporting fields. These costs and a number of other incidences resulted in us posing the question "why we have no rights on the nature strip, when The Telecommunications Act 1997 gives telco's the right to do whatever they want?" Water utilities have to work with the largest & least flexible material of all utilities on the nature strip, yet we are the ones with no rights when it comes to installing and maintaining our asset. With the NBN rollout having just started in Wagga, this situation is only going to get worse, going by our first experience with NBN Co.

1.0 INTRODUCTION

Over the last 25 years, we have seen a significant change in the way utility providers cooperate. Each utility generally had a large, local workforce with a good knowledge of their assets in all the major centres throughout Australia. On site locations were a common and free service provided by all utilities to identify and protect their assets. This is no longer the case. The deregulation of the telecommunications industry in the 1990's has resulted in new companies entering the market, a drop in construction standards, a knowledge drain due to retrenchments and the loss of local on-site assistance.

Since the introduction of optic fibre cable and the decrease in utility cooperation, construction times and costs have increased significantly. This is having a major impact on the capital works budgets at organisations such as Riverina Water. A number of recent incidences and conflict with optic fibre resulted in staff questioning our Director of Engineering what approach Riverina Water would like to take when working in the vicinity of this cable. We asked why we lose all right to mechanically excavate on our asset, which may have been in place for 50 years, because an optic fibre cable has been installed on the nature strip. With the existing networks in Wagga and the NBN roll out beginning, we could see a time in the not too distant future when we would lose our right to mechanically excavate around a large percentage of our water mains throughout Wagga. We also wanted to see if others were experiencing the same problems as us with regard to telco's, or if it was a more localised problem we were experiencing.

Another major concern is the quality and accuracy of information supplied by telco's through the Dial Before You Dig service. We have found the information to be inaccurate and not at all representative of what has been constructed. Considering the fines and jail terms indicated on the Duty of Care responses from the telco's, they should have a responsibility to supply accurate information through this service. As the responsibility for locating cable falls entirely on the person doing the excavation, they should be able to rely on the information supplied as being correct. We are finding this is not the case.

2.0 DISCUSSION

Riverina Water feel there is an obligation on all utilities in regard to construction, identification and location of their asset. Utilities should be constructing their asset to a measureable standard, including alignment, depth, clearances from other utilities and identifiable through marking and locating. As the nature strip is a shared corridor to be used by all utilities, there should be a mutual agreement to respect others which have to work in this confined zone. Riverina Water went searching to see what standards Telco's such as NBN Co. were constructing their asset to. Sorting through legislation of the Telecommunications Act 1997, the Australian Communications & Media Authority, the Telecommunications Ombudsman & the Communications Alliance led to the conclusion that no standards apply, unless an individual Telco chooses to enforce one on itself.

Recent communication with the Technical Regulation Development Section of the AMCA stated that "there is no enforceable consumer code which deals with this type of cabling. There is an industry code but it has not been registered and is therefore not enforceable. Even if it was, most of the provisions include the term 'should' which does not mean must". Although the Telco's all say they are constructing assets to a standard, this is not what we are finding throughout Wagga. The following points are the critical areas which need addressing to ensure the nature strip remains a viable asset corridor for all utilities, not just Telco's.

2.1 Alignment

All utilities within the Wagga Wagga LGA have an allocation to construct their asset on, with communications having two. The problem Riverina Water is experiencing is that cables aren't being installed in the correct allocation and they constantly change alignment. There are numerous new fibre installations throughout Wagga where the cable has been directionally bored, and as these are not installed with copper cable, are untraceable using traditional location devices. Due to the lack of construction standards and the vagueness of plans, it is very time consuming and costly to hand dig or pothole the entire nature strip to locate a fibre cable.

2.2 Depth

The inconsistent depths at which cables are installed also create significant problems for staff when working in the nature strip. We are finding cable at both ends of the spectrum. One case in Wagga was a cable which was so shallow it was encased in the concrete footpath only 40 mm deep. We intended to remove the slab, then hand dig to locate the cable, but when cutting the slab for removal, we damaged the cable. When a damage bill was received from Telstra and we questioned our responsibility for the damage, they stated that as we knew the cable was there, we should have broken the concrete into small pieces by hand before removing it to ensure the cable wasn't in the concrete. The other end of the scale is the extremely deep cables which have been directionally bored.

Optic fibre should be installed within stipulated depth guidelines, and anything which is outside this guideline should be recorded and available through Dial Before You Dig requests. It would make locating cable so much easier if we knew what depth to start looking.

2.3 Clearance Standards

Telco's are happy to list minimum clearance standards on their Duty of Care responses when working near their asset, but this standard doesn't seem to apply when they construct near anyone else. We recently discovered a conduit under a 450 mm AC water main which had been directionally bored. It had been installed in the sand bedding hard against the bottom of the pipe and all the collars were damaged by the bore head as it followed our trench. No-one was willing to admit responsibility for this conduit. Another case recently was an optic fibre cable which has been directionally bored inside a sewer main. The end result was the telco stating that they wouldn't be replacing the cable; the sewer main would have to be replaced. This is another example of the power of the Telecommunications Act.

The minimum clearance standards stipulated by telco's are unreasonable and add substantial cost to the final total of a construction job. The standards state that when boring parallel to a fibre cable, the cable must be exposed every 5 metres. We recently had to bore a 400 m section of 250 mm main in Wagga next to a fibre cable installed under the footpath. By these guidelines, Riverina Water has to remove the concrete footpath every 5 metres and expose the cable with all the costs associated with the removal and restoration of the footpath being borne by Riverina Water. Unless Telco's can develop a means to accurately locate their cable or install something with their cable to allow traditional location techniques, it is completely unreasonable to expect a company such as Riverina Water to follow these unreasonable guidelines, as the financial cost would total many hundred thousand dollars each year.

2.4 Dial Before You Dig

Telecommunications carriers have a responsibility to ensure that their plans supplied through the Dial Before You Dig service contain accurate and informative information. Telstra is happy to supply a list of technical detail on the cables, but nothing in relation to depth and alignment, the two critical pieces of information required when trying to locate a cable. The first page of the Duty of Care responses sent with the plans all state that *"exact cover and alignment cannot be provided"* and that *"plans are provided as a guide only and information contained cannot be guaranteed"*. These statements go against the reason the service was established in the first place, which was to supply helpful information to assist in the identification of utility assets. We have had numerous examples recently where the plans have been totally inaccurate, some cases resulting in damage to cables through no fault of our own.

A recent example was when a fibre cable was damaged during a horizontal bore under a busy street in Wagga. Two sets of plans both showed the cable in existing conduits. These conduits were exposed and boring commenced. Whilst back reaming the bore, the cable was cut as it had been directionally bored underneath the existing conduits, a point missed by two separate companies.

In another case, while planning for a water main renewal, Optus plans were supplied showing a fibre cable running the length of the street. Usually, Riverina Water staff would then go and locate this cable. As we had a number of problems with Telco's recently, we decided to contact Optus and see how long it would take to get some on-site assistance.

Optus stated that it would take about a week to get someone there but three days later we

received a call from their representative stating that there is no cable in the street, as it never got past the planning stage. They have sent out information for a cable that doesn't exist, and unless we contacted them, we could have potentially been there for days looking for a cable that was never installed.

And finally, during realignment of a 450 mm main at Charles Sturt University, plans showed one 100 mm conduit containing all the Telstra cables, plus the new NBN fibre cable. As we knew the contractor who installed the NBN cable and knew that it wasn't in the Telstra conduit, we contacted NBN Co. to see their response to the incorrect information supplied and what assistance they would offer to resolve the problem. They were quite surprised by our request to help locate their cable and said they had no process in place for this. They finally decided an engineer would have to come from Sydney, but this would take two weeks. Two days later they called back, stating that they would not be sending anyone, and no further assistance would be offered. Their response was "*try some of the guys who do work for Telstra and see if they can help you*".

These are just a few of the many recent examples we have experienced in Wagga during the last couple of months of 2012 of incorrect information supplied through Dial Before You Dig. We have no confidence in the plans being supplied, as we are finding that very few of the plans received are either helpful or accurate.

2.5 Locating Optic Fibre Cable

As optic fibre cable is not traceable using traditional location devices, an alternative means of reliably detecting optic fibre need to be developed. When Riverina Water installs PVC or PE water mains in rural areas, we also put a 2.5 mm earth wire in the trench. This allows us to accurately trace these lines for others when we are doing an on-site location. If this was done on direct buried fibre cable or in conduits where there is no copper cable, it would make locating cables so much easier. When working parallel to a direct buried fibre cable in a rural area, Telco's state that if you are within 10 m of that cable, you must pothole the cable every 5 metres for the length of the job. As Riverina Water covers an area of over 15,000 square kms, we have hundreds of kilometres of rural pipe lines running next to fibre cable. If we were to replace a 5 km section of main, Riverina Water is responsible for the cost of 1000 potholes along that cable.

3.0 CONCLUSION

As a work supervisor responsible for running four construction crews, I approached management at Riverina Water to voice my concerns over the problems we are dealing with daily in regard to the telecommunications carriers, and particularly with the optic fibre network. The uncooperative response I received from NBN Co. when trying to identify their asset was the final straw for me. Upon researching the Telecommunication Act and going on site to see first-hand what crews have to deal with, and the quality of the material supplied through Dial Before You Dig, the Director of Engineering at Riverina Water, Mr Greg Finlayson, was quite astounded. Through Mr Finlayson's contacts and effort, Riverina Water hopes to get a dialogue started which will look at the powers of the telecommunications carriers and the standards by which they operate.

As the NBN rollout expands throughout Australia, we would like to see them held to similar standards to those which we operate under.

As noted earlier, unless telco's are constructing to a standard, then the nature strip will

become unworkable for a water utility such as Riverina Water. NBN Co. state that the fibre network will bring Australia into the 21st century. This may well be the case for communications, but it is going to send us back to the 19th century, when pipelines were constructed with a pick and shovel.

The way the situation is with telco's at the moment, it is not a matter of what happens if we damage an optic fibre cable; it is a matter of how often we are going to damage one. Riverina Water staff do their very best to ensure that communication assets aren't damaged during the construction of water mains. We would like the telco's to show the same commitment by constructing to a standard and supplying relevant and accurate information.

At Riverina Water, we are aware that this is impossible to address these problems on existing infrastructure, but by airing our concerns into an open forum, we are hoping that these same mistakes don't reoccur during the NBN rollout. Unless the mistakes of the past aren't addressed, then the nature strip will no longer be a viable corridor for water main construction in the future.

4.0 ACKNOWLEDGEMENTS

Mr Greg Finlayson (Director of Engineering-Riverina Water County Council).
Mr Dominic Puiu (NSW/ACT State Manager-Dial Before You Dig).
The Australian Communications & Media Authority.
Riverina Water Construction Staff.

5.0 REFERENCES

Telecommunications Act 1997.
Telecommunications Code of Practise 1997.
Telecommunications (Low Impact Facilities) Determination 1997.