

Meeting title	Southern Darling Downs Community Consultative Committee meeting 4		
Attendees			
Mr Graham Clapham – Chair (Chair)	Mr Ken Murphy – IDD member (KM)		
Mr Barry Bowden – SDD member (BB)	Ms Maria Oliver – SDD member (MO)		
Mr Graeme Clarke – SDD member (GC)	Mr Larry Pappin – IDD member (LP)		
Mr Jeff Chandler – SDD member (JC)	Ms Kylie Schultz – IDD member (KS)		
Mr Norm Chapman – SDD member (NC)	Ms Jenny Schmidt – IDD member (JS)		
Mr Brad Christensen – SDD member (BC)	Ms Marcia Smith – SDD member (MS)		
Mr Ross Fraser – SDD member (RF)	Ms Kim Stevens – SDD member (KS)		
Mr Gary Hayes – SDD member (GH)	Mr Alan Bolton – FFJV (AB)		
Mr Chris Joseph – IDD member (CJ)	Mr Martin Boshoff – FFJV (MB)		
Mr Brett Kelly – SDD member (BK)	Ms Laura Jarman – ARTC Inland Rail (LJ)		
Ms Georgina Krieg – SDD member (GK)	Dr Mark Jempson – FFJV (MJ)		
Dr Rob Loch – IDD member (RL)	Ms Fiona Kennedy – ARTC Inland Rail (FK)		
Ms Rosalie Millar – SDD member (RM)	Mr Robert Smith – ARTC Inland Rail (RS)		
Apologies			
Mr Robert Barrett – SDD member (RB)	Mr Justin Saunders – SDD member (JS)		
Mr Paul Hanlon – IDD member (PH)			
Location	Brookstead Hall, Madelaine Street, Brookstead	Secretariat	Laura Jarman
Date	7 November 2018	Time	6:00 – 8:00pm

Topic	Discussion
1. Introductions and welcome	<ul style="list-style-type: none"> • The Chair opened the meeting, welcomed SDD members and IDD members with respect to the Condamine floodplain crossing section. <ul style="list-style-type: none"> ○ Noted apologies from RB, JS and PH. • The Chair welcomed observers and advised if the committee concluded its business prior to 8pm, he would open questions to the floor. • The Chair welcomed Dr John Macintosh and Nathan Dunning from Water Solutions. <ul style="list-style-type: none"> ○ John has been appointed by the SDD committee to provide some explanation of the issues arising on the Condamine floodplain. ○ I hosted John this afternoon to give him a flavour of issues in the area. ○ John will be running an independent process, which will involve community engagement and you will be advised ahead of time of those activities. ○ John won't be participating in this meeting, as such; but please feel free to engage with him before we leave here tonight, if you have some issues that you want to discuss with him. <p>Actions from previous meeting</p> <ul style="list-style-type: none"> • Provide copy of ARTC weed hygiene procedure. <ul style="list-style-type: none"> ○ FK advised that ARTC is preparing a weed fact sheet that will be available in the coming weeks.

- Provide information on procurement to MO.
 - RS advised this had been closed out.
- Confirm whether 2010/11 flood event is considered the largest
 - MB – There are a number of large flood events on record and the 2010/2011 floods aren't the largest on record. The 1956 flood and a flood in the late 1800s were considered to be larger than the 2010 flood. The reason why the 2010/11 flood is hydrologically important for us is because it's a recent flood event and the floodplain conditions during that flood event is relatively well-known; and there's good data and good anecdotal information available for that event. The floodplain has also changed significantly, especially in the 1980s to late 1990s due to proliferation of ring tanks.
- Send through copy of social survey once it is available
 - FK – ARTC has prepared the survey and it will be online on the Inland Rail website from 10 November. Alternatively, people can phone and request a hard copy of the survey. In addition, we will have hard copies available at the upcoming community information sessions.
- Clarify if dry banks have been accounted for in flood model
 - MB – My interpretation of “dry banks” was levee banks, which potentially change the flow paths in the floodplain. The LIDAR data that we have used as part of our flood modelling is quite accurate in picking up local nuances in the topography. The digital terrain model that we use in our flood model, is slightly coarser than the LIDAR. We have gone through an exercise to identify major levee banks and major flow paths in the floodplain and that's been enforced in our digital terrain model for our flood model.
- Provide detail on margins of error in model
 - MB – The margin of error in flood modelling is well-recognised in the industry as a limitation. There are a lot of factors playing a role in flood modelling; such as uncertainty of the flows, land form, and floodplain roughness. It's difficult to provide an exact margin of error in a flood model because there are so many variables going into the modelling. We carry out model calibration and sensitivity analysis as part of our work to overcome this.
The uncertainty exists in our baseline modelling as well as our developed case modelling. When we start looking at design options and have two sets of models that we can compare to assess impacts, the margin of error is in the baseline model as well as in the developed case model. Meaning that the margin of error reduces significantly in a comparative assessment, when you look at relative change.
- Provide map of surveyed flood markers.
 - MB advised this would be covered in the upcoming presentation.
- Provide update on timing of Macintyre River flood modelling results.
 - MB – In the greater Macintyre catchment, there are a number of key crossing points. The alignment crosses the Macintyre River and skirts the floodplain around Inglewood, through the Macintyre Brook catchment; and then there are a couple of smaller tributaries of the Macintyre system, including Canning Creek and Bringalily Creek.
We have a number of flood models that are in development at the moment. Macintyre River flood model is a model that we obtained from the Office of Environment and Heritage, New South Wales (OEH) office. That is a recently developed flood model of the Border Rivers floodplain; that's been calibrated to a number of historic events. As part of our exercise, we have undertaken an

	<p>additional calibration to the 2011 event as well.</p> <p>The Macintyre River flood modelling is on par with the Condamine and is nearing completion. The Macintyre Brook and the other catchments models are still under development.</p> <ul style="list-style-type: none"> • Forward details of Federal funding. <ul style="list-style-type: none"> ◦ Chair – I have not sent on anything as there is nothing to forward at this point in time. Travis Tobin from the Queensland Farmers Federation has been in touch with Canberra and the program is currently not funded and not running. He's pursuing options to see if there is something available. <p><i>Questions and discussion</i></p> <ul style="list-style-type: none"> • JC – Where are the levels being taken in the Macintyre system? <ul style="list-style-type: none"> ◦ MB – We have access to a flood study conducted by Goondiwindi Regional Council. We received it a few days ago and are reviewing to see if it is fit for purpose. If it is not, then we will augment that with additional surveys, if required. • BK – Is the Macintyre going to receive the same level of scrutiny as the Condamine? <ul style="list-style-type: none"> ◦ MB – Internally, we are doing all the studies to same level of standard.
<p>2. Conflicts of interest</p>	<ul style="list-style-type: none"> • No new conflicts of interest were raised.
<p>3. Project update</p>	<p>Preliminary Condamine floodplain crossing</p> <p>RS provided an introduction to the preliminary Condamine floodplain crossing solution:</p> <ul style="list-style-type: none"> • ARTC had an early deliverable to identify potential solutions for the crossing of the Condamine floodplain and report back to key stakeholders. • The Condamine floodplain is approximately 12.5 kilometres wide at the Inland Rail crossing location and the alignment lies within the existing Queensland Rail Millmerran Branch rail corridor. The alignment is being designed to 1% AEP (1 in 100 year) flood immunity requiring the rail height to be raised in places. • Significant work has been undertaken to develop the flood model and preliminary crossing design in consultation with landowners and other key stakeholders. • This preliminary design identifies that in a 1% AEP (1 in 100 year) event, there would be 10 landowners that would experience increased flooding at houses or sheds. These already experience a degree of flooding at ground level. ARTC has held individual meetings with 32 landowners to discuss the flood modelling results and preliminary crossing solution. • ARTC will now be seeking further consultation with landowners to identify, understand and mitigate impacts to validate the model. Mitigation may include raising houses, building levee structures and further design development of the crossing solution. This is to ensure that there is no unacceptable worsening/adverse impact to external properties. • The design is preliminary and will continue to be refined through the process of further stakeholder consultation, mitigation of impacts and ongoing design work. <p><i>Questions and discussion</i></p> <ul style="list-style-type: none"> • RL – You've reported impacts on houses and sheds. I think that is a poor metric by which to consider flood impacts. • RL – Are we going to see a geotechnical report?

- RS – We have finished geotechnical investigations, but the report hasn't been finalised. I will see if we can distil report into an appropriate format.
- RL – I would like to see the original report before the EIS.
 - RS – I will have to go away and look at appropriate format for distribution. I am agreeing to share information with you.
- Chair – One of the things that's come out this afternoon, as Dr John MacIntosh and a few of us have driven round is that water flows are important as an economic resource. So changes in access to that flow in terms of duration, volume, all of those things are important to those people. Has ARTC assessed that aspect?
 - MB – Houses and sheds are not the only indicators we look at. We are talking to affected landowners on the Condamine floodplain and agencies like TMR, as every landowner has different concerns/drivers and operations.

MB presented the preliminary Condamine floodplain solution:

- The purpose of tonight is to present the preliminary solution that FFJV/ARTC think can work. That is what we are tabling tonight for feedback. It is preliminary and may change through the design process. If anything changes, then impacts will change as well and we will be keeping people informed as to how that might change through the design development.
- ARTC has developed a baseline flood model of the Condamine floodplain catchment area in TUFLOW and URBS software using data from many different sources.
- Updated hydrology to *Australian Rainfall and Runoff (ARR) Guidelines* 2016.
- The new model now includes additional inflows and a larger boundary compared to Phase 1 works. This include Back Creek and Rocky Creek and other tributaries.
- ARTC surveyed 29 historic private and public flood level markers and spoke to landowners about their experiences to validate the flood model.
- The model has been calibrated against the 1991 and 2010 flood events. The model calibrates very well to those gauges where we have data.
- Numerous design options were analysed including:
 - Phase 1 concept design – three bridges (1.8 kilometres of openings) crossing the three main channels supplemented by embankment with culverts
 - full viaduct with limited embankment and culverts.
- We are trying to come up with a solution that balances all the different engineering constraints. Flooding and water conveyance is obviously one of the most critical ones. But there's also other engineering considerations such as geotechnical conditions, local access roads and existing sidings.
- The preliminary solution that we have identified crosses 12.5 kilometres of Condamine floodplain. The Condamine floodplain, when you consider Back Creek and Rocky Creek, as the Gore Highway runs, is a wider floodplain, but where the proposed rail alignment crosses the main Condamine floodplain, it is 12.5 kilometres in a 100-year ARI event.
- The preliminary solution includes:
 - Five bridges with a total bridge opening of approximately six kilometres – placed to accommodate major flow paths
 - Embankment perforated by more than 500 large culverts ranging in size from 900 millimetres in diameter to 2.1 metres in diameter.
 - Cost increased by about 25% from the concept phase.

- Further design considerations include grouping of culverts and scour and erosion control.
- ARTC will work with landowners to design mitigation measures at affected buildings. Again, "mitigation" means something different to different people, depending on their operations. It might mean lifting a house, a levee, further small design tweaks in how the access road arrangements work to try and mitigate impacts. We will be having those discussions with landowners.

Questions and discussion

- GK – Are the increased water levels upstream and the decreased water levels downstream, or is it a mix?
 - MB – Increases are mostly upstream, and decreases mostly downstream.
- BK – You need to go back to stage two – understanding landowner expectations. Any change is unacceptable. We told you that we wanted a bridge. Don't know why you came up with this half-baked idea. You say that Condamine is 12.5 kilometres wide, but Back Creek is part of this catchment. There is a lot of water that goes into the Condamine from above. Not sure how you have come up with 10 landowners impacted. I think it is 10 wide and 10 deep. Mitigation is not acceptable to this community. We didn't put our houses there to be lifted up or have levee banks put around them.
- GC – You have a 25% cost increase on this solution and you're still going to flood 10 houses.
- LP – If I was going to build a house there I would get some geotechnical done as this could influence cost of building. You haven't done geotechnical yet so how can you come up with a 25% cost increase when you haven't even got the facts yet.
 - AB – We have initial information from geotechnical results. Initial results from the boreholes show extremely weathered silt stone and sandstone – extremely weathered and very low strength – at 30m. Under the Australian standards, it is classified as rock. At the moment our piles for the bridges, are bored piles – 26-33m for the piers and 20m for abutments, but we need final results to confirm assumptions. We have information on road bridges like the Centenary Bridge. They are pre-stressed concrete piles and are 20m and 15m driven piles. Our piles will be deeper as rail bridges carry more load.
- LP – Have you disregarded request from community for a bridge?
 - RS – As far as modelling and understanding the impacts to the flood behaviour, I don't believe we have disregarded that request. We have modelled it and we do understand what the impacts are from a flood perspective; however, there are a number of complicating factors that AB can speak to further.
 - AB – The Yandilla siding is a constraint. We can't put something too high up in the air. We would have to go up 5.4m at Elsdon Road and Hall Road to meet Toowoomba Regional Council's standards and the ramp would go a long way back. That would necessitate a wider embankment – a 50m footprint at the bridge ends before getting back to ground level. There are other factors we have to take into consideration as well. When we look at the local roads that the alignment needs to cross – that 5.4m may not be enough for farm machinery to cross under. We are trying to keep it low so machinery can cross over it.
- GC – You have presented this as the best option and it was accepted by the political masters and now you are controlling engineering to keep the cost down. The

engineering also has to be the best option.

- AB – Agree we need to get the best engineering solution, but we need to take all stakeholders into consideration in developing the design.
- Chair – Where water discharges on the downstream side of pipes and culverts, there are issues with increased velocity and concentration of flows. Has there been any solution to that issue proposed with what you have done so far?
 - MB – We are not seeing any significant changes to velocities across the floodplain, however there are some localised impacts around inlets and outlets. Mitigation for increased velocities in these locations is a work in progress. We can talk to a number of standard engineering solutions, but the focus of our flood modelling and design development, is to make sure that the conveyance works and that we can minimise impacts.
- KM – Are you also considering other buildings?
 - MB – We are also looking at sheds, silos, paddocks, land. We have consulted with 32 private landowners, in total. There are 159 private lots within that area, owned by 33 landowners., and 87 lots owned by government, spread across four government entities. There are a total of 246 lots expected to experience change in flooding behaviour; and those lots are owned by 33 landowners. So the "ten landowners" that I quoted on in the first slide relates to houses only.
- KM – You need to be careful with your wording. If you want to get community on side, you can't come out with "don't worry we're only affecting 10 houses".
 - RS – It wasn't my intention to be misleading. We don't want to diminish the fact that any change is a cause for concern. All change needs to be managed appropriately.

MB invited MJ to continue with the presentation:

- I have been engaged as an industry expert to monitor what the FFJV team are doing.
- One of the important things that we look at in any of these what we call "linear infrastructure projects" - so it is not just particular to a Condamine River - is the issue of debris accumulating against culverts and bridges and what that might do to the impacts upstream.
- Obviously, if you get a lot of debris accumulation, that will change how much the level upstream increases because the drainage structures aren't as efficient, if they have got debris blocking them.
- I have been involved in landowner consultation and know there are issues with debris, especially crop stubble that you get mixing with the eroded soil during floods and potentially blocking culverts.
- Debris is variable depending on crop type and stage in cycle.
- The Australian Rainfall and Runoff Guideline has provided some guidance for designers to make some assumptions around what sort of blockage occurs. It's only a guideline and there's still a lot of interpretation needed by the modellers, when applying that.
- In this case, we have allowed for 25% blockage of structures across the floodplain. We apply a 25% blockage to each of the culverts to allow some redundancy in there to allow for this sort of blockage.
- Over 50% of the culverts are 2.1m diameter culverts, which allow a lot of debris to pass through, which reduces the risk of debris accumulating.
- Another consideration in trying to minimise the risk of the effects of debris blockages is how we group the culverts. The culverts will be in groups across the floodplain so they

won't be all concentrated in one area. By distributing them across the floodplain, that helps reduce the risks of debris accumulating against all of your culverts.

- The other aspect of managing debris is regular inspection and maintenance protocols being in place. If you have got smaller events that have come through and there starts to be some sediment and so on building up in the culverts, the idea is that ARTC will be coming through and cleaning them out on a regular basis. So when a bigger flood comes through, it again reduces the risk.

Questions and discussion

- GK – Why do you choose 25% blockage?
 - MJ – Australian Rainfall and Runoff guidelines outlines the process, which we took into consideration and followed.
- GH – You haven't taken into account hay bales. They may block up a kilometre of culverts – they won't choose every fourth culvert. Disappointed that you talk about issues with height of viaduct. These were all things that were pointed out in the last consultation process and were told. The cost increase should raise a big flag to take to the minister as this option was chosen as it was the cheapest.
 - RS – This stage of design development doesn't mean that this solution is final. We are focussed on finding practical solutions that work. We are trying to find a solution that is a good balance. It is subject to consultation and ongoing design development. I can see that some people are not agreeing to that, so we need to continue those discussions.
- MJ – I thought you might have said that there was a statement made that there would be no impacts. I don't think that's correct because I was at a CCC meeting and Martin, who gave the presentation on the process, clearly stated that "putting structures at this crossing, there will be impacts as this is a major piece of infrastructure." He made that point that it wasn't possible to provide this sort of structure without impacts; and the process is to manage those impacts and work with the people that are impacted, to see if we can come to an acceptable solution. So there hasn't been a statement, as far as I am aware, that this would not have impacts.
- LP – What is going to be your maintenance regime? I am concerned that culverts may become blocked by grass and other paraphernalia before the wet even comes.
 - RS – It is ARTC's responsibility to properly maintain its network. Inland Rail has a service offering we need to meet of a 24-hour transit time and we can't have the traffic being shut down as a result of a poor maintenance program. It would be reasonable to assume that a sensitive area like the Condamine floodplain would have a bespoke maintenance plan.
- LP – Fencing?
 - RS – ARTC has a number of standard designs for fencing, but we may look at options such as breakaway fencing or fencing up and over wingwalls through the Condamine. There are solutions in play that are practical that would mitigate impacts.
- BB – Do you intend to fence along the whole railway line? I have seen whole fences flattened by debris. I don't think safety is a big issue for farmland – more an issue near towns.
 - RS – It is the ARTC standard to fence railway line for safety reasons, but we may look at other options.

- AB – One of the options that the design team is looking at is guideposts rather than fencing for demarcation.
- KM – How many landowners in floodplain vs how many affected?
 - MB – *Took question on notice.*
- JC – Is it just 10 of 33 that are adversely affected?
 - MB – The 10 relates to houses that are impacted. 33 relates to land, houses, sheds, silos, all infrastructure.
- Chair – We have an independent reviewer whose process is running in parallel with ARTC. Please provide them with your thoughts, concerns and the issues that are important to you; because it is a unique opportunity to get an outcome out of here that gives you the data or the ability to present your case. I would also like to acknowledge that ARTC is funding that ability; so, you know, make the most of it.
- MB – Want to clarify 12.5km floodplain. It doesn't include Back Creek floodplain where the Gore Highway runs through (not the rail) and 12.5km is the length of the rail line for Inland Rail through the 100 year ARI floodplain.

Focused area of investigation

RS provided an overview of the focused area of investigation:

- As a result of our design development, options assessment, site investigations and consultation to date the two-kilometre wide study area has been refined to the focused area of investigation.
- What this allows us to do, moving forward, is to have contact with those people in the focussed area of investigation; explain our design development progress; and indicate to them, moving forward, we are going to be discussing with them the potential impacts to their property; and that may involve ongoing discussions about the land acquisition process.
- Over the coming months, ARTC will continue to develop the design, including bridges, the interface with public roads and private crossings, to identify a 40-60m rail corridor.
- Overview of focused area of investigation:
 - Kurumbul-Yelarbon – The focused area of investigation follows the existing rail corridor through Yelarbon to Whetstone.
 - Whetstone-Inglewood – The focused area of investigation has been developed in consultation with Goondiwindi Regional Council and landowners and seeks to align with the property boundaries.
 - Inglewood-Millmerran – The focused area of investigation is close to Millmerran-Inglewood Road and seeks to avoid impacts on key infrastructure. It is quite a constraint having the Commodore Mine and power station there. But we are working with them to work through those challenges.
 - Condamine – The focused area of investigation follows the existing rail corridor.
 - Brookstead – The focused area of investigation in Brookstead was selected following consultation with adjacent landowners and community members. It is to the south of the existing rail line.
 - Pittsworth/Southbrook – To reduce the impacts to properties, the focused area of investigation follows the northern highway and property boundaries, where possible and practical. It does not go through the township of Pittsworth.
 - Wellcamp/Charlton/Gowrie – The focused area of investigation runs on the northern side of the study area.

Questions and discussion

- GC – I understand there will be five to six passing loops between Inglewood and Gowrie. Where are they? My main concern is noise impact of passing loops and where they are situated in relation to townships.
 - RS – We have some preliminary results from the capacity modelling team and we will have five crossing loops (correct term) between Yelarbon and Gowrie. The locations have not yet been set, but we need to lock down quickly. We will provide a briefing at the next meeting.

Environmental Impact Statement

- FK provided an update on the EIS.
- We are awaiting the final Terms of Reference (ToR) from the Coordinator-General.
- We will be undertaking some noise monitoring across the full study area.
- We are proceeding with technical investigations, including surface water and aquatic ecology and doing some supplementary geotechnical work to obtain further soils and groundwater data for the EIS.
- The current activities include planning for the visual assessment along the full focused area; and, also, planning for the cultural heritage survey of the full focused area of investigation.

Questions and discussion

- Chair – Is there any indicative timeframe for the release of the ToR?
 - FK – No. It is up to the Coordinator-General.
- JC – is this the only section that hasn't finalised the EIS?
 - FK – No. Each section has its own EIS.
- MO – If we haven't got the ToR, why have that community survey so early; when we don't properly understand the impacts of the potential benefits? At the moment, they haven't come back to us with a procurement model so we don't understand the benefits for local communities and local contractors and we can't comment on that in the community survey.
 - FK – We are starting it now because we have narrowed down that focused area. The release of the survey is timed to fit in with the Christmas break period. It will be open for a period of six weeks up until Christmas and then we will circle back to the community. I take your point on notice.
- JC – What is the timeframe for returning the survey that was sent to affected landowners?
 - RS – As soon as possible would be great. We will start following up those survey results. We really need to talk to those people who are identified as having a level crossing, and even those who aren't; to understand what that means for them and how it will be implemented on their property or otherwise.
- JC – Stock access crossings will also be required.
- MO – Will you be personally meeting with every landholder that is impacted?
 - RS – We do offer that. Whether it is accepted or not is up to that individual.
- JC – What is the timing of the interactive map?
 - LJ – The interactive map is imminent and will be coming out in the next few weeks.

**4. Communicati
on update**

- LJ provided an update on communication and engagement activities:
 - Focus of recent consultation has been the preliminary Condamine floodplain

	<p>solution, the focused area of investigation, and access for field investigations such as noise monitoring.</p> <ul style="list-style-type: none"> ○ The team has contacted by phone and sent letters to landowners in the focused area of investigation. The team is now having one-on-one meetings with landowners about potential property impacts and in relation to private rail crossings and public road crossings. ○ We are about to kick off a series of information sessions in key towns in the project area. Members are encouraged to attend.
<p>5. General business</p>	<p>Next meeting</p> <ul style="list-style-type: none"> ● Chair – The next meeting will be held in the first quarter of 2019. <p><i>Questions and discussion</i></p> <ul style="list-style-type: none"> ● BK – Clearly the latest plan is not acceptable to us. How many goes at it will you have before you have what we asked for? <ul style="list-style-type: none"> ○ RS – As mentioned, we have already done more than 100 iterations, but we need to keep developing the design to get it right and make sure that we can demonstrate that we have met with every individual landowner to further develop the design and talk about mitigation strategies. ● MO – Will tonight’s slides be provided? <ul style="list-style-type: none"> ○ RS – Will provide to the committee.
<p>6. Conclusion and confirmation of actions</p>	<p>Actions</p> <ul style="list-style-type: none"> ● ARTC to provide more information on the results of the geotechnical testing. ● ARTC to confirm the number of landowners in the Condamine floodplain. ● ARTC to provide information on the procurement model proposed to inform the local community of potential opportunities. ● ARTC to provide information on the proposed location of crossing loops. <p>Meeting closed at 8.10pm.</p>