Government of South Australia
Department for Environment and Water

# SOUTH AUSTRALIA - ADDITIONAL EFFICIENCY MEASURES CRITERIA ASSESSMENT OUTCOME

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| **Project Reference No:** | 78251 |
| **Outcome:** | Compliant with the Efficiency Measures assessment |
| **Date recommended to proceed to public comment** | 16 September 2020 |
| **Date recommended to proceed to the Australian Government's detailed assessment stage** | 18 December 2020 |

**Overview**

The applicant is proposing to redevelop two existing but under performing wine grape properties comprising a total of 37.0ha located near Renmark in the SA Riverland region.

The redevelopment will involve the removal and replacement of the existing irrigation and vineyard infrastructure and will deliver significant improvements to the productivity of on-farm water use. Currently production is well below district averages and as such the works are expected to increase the profitability and the longer term sustainability of the properties. Gross annual turnover is projected to increase significantly post project through improved yields (t/ha) noting that this is currently constrained by both the age of the existing vines and the inefficiency of the on-farm irrigation systems.

The primary water savings for the proposal will be generated through the conversion of the existing overhead and under vine sprinkler irrigation systems and on one property (private diversion) the pump station, primary filtration and mainline will also be fully upgraded along with the automation and control system. Additional water savings will also be generated by replanting existing old and own rooted vines to new vines on drought resistant root-stocks.

Water savings in addition to the volume being transferred will be retained by the applicant which will assist with providing greater flexibility and adaptability for the two properties during periods of reduced water availability. The additional water savings will also increase the volume of water available for production within the consumptive pool.

The proposed works will facilitate improved irrigation efficiency which will reduce irrigation induced salinity impacts on the River Murray and surrounding wetlands and floodplains acknowledging the important contribution eco-tourism and recreation provide for the local regional community and economy.

A conservative water saving of 99.9ML is expected to be achieved through the project works.

## Part 1 - State Assessment - Efficiency Measures criteria

**Assessment Approach**

This assessment is reliant on the information provided by the applicant. The comments provide a summary of the information provided by the applicant which is deemed relevant by the assessor to demonstrate that the Efficiency Measures – Agreed Criteria have been met.

**Water Savings Substantiation**

The water savings expected to be achieved by the project have been verified by an Independent Approved Irrigation Professional.

The existing vineyards are irrigated with overhead (24.0ha) and under vine sprinklers (13.0ha) with the larger 33.0ha property currently having fixed speed pumping infrastructure while the smaller property is serviced by the Renmark Irrigation Trust (RIT). As the existing irrigation systems and vines are very old, the efficiency and productivity of water use is well below industry benchmarks for the Riverland growing region.

The conversion from overhead and under vine sprinkler irrigation to surface drip irrigation is expected to yield water savings of up to 2.0-2.5ML/ha through the more targeted application of irrigation water. These water savings are consistent with published benchmarks for such irrigation system conversions and Riverland winegrape irrigation requirements.

The new vines will also be planted on drought and salinity tolerant Paulsen 1103 rootstocks which will assist with ensuring the proposed water savings are realised by the applicant. The adoption of the rootstocks will also add enhanced adaptability and resilience to manage periods of reduced water availability and/or higher salinity irrigation water. A conservative 1.0ML/ha has been included for this assessment.

In addition to the key components described above a new mainline, sub-mains and field values will also be installed as part of the proposal together with flushing sub-mains. These works are expected to consolidate the achievement of the proposed water savings and generate significant labour efficiencies.

The Cooltong (Pelican St) vineyard will be operated with a new irrigation control system with remote management capability and this will assist with optimising irrigation scheduling noting the proponent lives remote from this property. The water savings for the automation and control upgrades have been captured within the 2.0-2.5ML/ha irrigation system conversion water saving as outlined in the table below.

The project is expected to return a conservative 99.9 ML to the environment, with the applicant retaining 23.1 ML of water savings.

| Water Saving Component | Area ha | Water Saving (ML/ha) | Estimated Water Saving (ML) | Total volume of Eligible Water Rights offered for transfer (ML) |
|---|---|---|---|---|
| Overhead Sprinkler - Surface Drip Conversion | 24.0 | 2.5 | 60.0 | **99.9** |
| Under Vine Sprinklers - Surface Drip Conversion | 13.0 | 2.0 | 26.0 | |
| Re-Plant to Drought & Salinity Tolerant Rootstock | 37.0 | 1.0 | 37.0 | |
| **Total Water Saving** | | | **123.0** | |

| Efficiency Measures Criteria | Project Responses to Efficiency Measures Criteria | Adequate Response Y/N | State Assessment |
|---|---|---|---|
| **Evidence of engagement with community, industry and government agencies during project design (Criteria 9, 6a, 6b)** | 9. As captured in 6b.direct engagement with the IIO, industry and peak industry groups, Local and State Government's has occurred on the broader program and where applicable on an individual project basis. The works proposed are consistent with local plans and strategies with respect to the adoption of sustainable irrigation practices.<br><br>The water recovered through projects such as this is subsequently used to benefit local environmental assets and other priority sites located across the sMDB system which delivers positive outcomes for recreation and tourism values.<br><br>It is unlikely that the property located within the IIO network would remain viable into the future without irrigation modernisation works (such as those proposed) being undertaken. Therefore consultation has focused on assisting to identify proposals that provide benefits and outcomes and multiple scales - property, local community, regional, State and Basin scale. This proposal is considered to deliver benefits and outcomes at all those scales as is captured in the responses to the agreed criteria.<br><br>6a. Renmark Irrigation Trust Statement has been provided with the proposal which demonstrates direct engagement with the Irrigation Infrastructure Operator (IIO) and their consent to the release of water subject | Y | The application has demonstrated that the delivery partner has consulted with relevant industry bodies, Irrigation Infrastructure Operators, local governments and regional development organisations on a strategic regional approach to developing projects under the Water Efficiency Program.<br><br>The application has also provided evidence that the relevant network operator – Renmark Irrigation Trust, is involved in or aware of the project for the parcel of land that falls within its trust footprint. |

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| | to the proposals approval.<br><br>6b. As mentioned in 6a. the IIO that services the property has been directly engaged on the project which is evidenced by Renmark Irrigation Trust Statement to the proposal.<br><br>Regional industry/commodity groups along with Local Government have also been engaged on the broader Water Efficiency Program and have indicated their support where agreed socio-economic are assessed to have been met. | | |
| **Potential Direct Water Market Impacts (Criteria 7a, 7b, 7c, 7d)** | 7a. Renmark Irrigation Trust Statement indicates that the volume of water access entitlements that are proposed to be returned through this proposal are both owned by the proponent and also meet the 3 year ownership requirement under the program.<br><br>The proposal has also been independently assessed with water savings to be achieved through the conversion from overhead and under-vine sprinkler irrigation to surface drip irrigation. Drought and salinity tolerant rootstocks will also be planted which will contribute further water savings.<br><br>7b. As referred to above in 7a. Renmark Irrigation Trust Statement has been provided to confirm that the nominated water access entitlements have been held for a minimum of 3 years.<br><br>7c. Based on the Delivery Partner's best projection of likely water recovery volumes through the Water Efficiency Program this | Y | The application has demonstrated that:<br>• The water rights to be transferred as part of the project have been independently verified as a conservative estimate of the water savings that can be generated and that the project will not transfer more water than the project will save.<br>• The water entitlements to be transferred have been held for a minimum of 3 years at the time of application.<br>• The project will generate water savings above the volume returned to the environment and will effectively increase the water available for productive uses in the consumptive pool. The increase in available water will have no direct impact on reliability, and will put downward pressure on water market prices. |

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| | project and others are not expected to have a direct impact on the reliability of water.<br><br>The basis of this assessment is that the volume of water recovery projected through the DP represents ~0.09% of the SDL in the southern connected MDB system.<br><br>7d. The assessed total water saving for this proposal is 123.0ML and the nominated water return is 99.9ML resulting in 23.1ML of the total water saving being retained by the applicant. This delivers a net positive outcome with respect to water demand post project as the result of implementing the proposal. This will mean the project will not have a direct impact on water price both in the permanent and seasonal allocation water markets. | | |
| **Contribution to Proponent Businesses and Irrigation District Viability (Criteria 4a, 4b, 4c)** | 4a. As mentioned in criterion 2 this proposal involves works across two properties, one of which is located within an irrigation infrastructure operator network. In terms of the property located inside the IIO it is in need of renewal and therefore the works will ensure the property remains viable and sustainable into the future. In the absence of investment and modernisation there is a risk the property would become unviable and therefore the works will benefit the IIO through ensuring the longer term sustainability of the property.<br><br>4b. The property that is within the IIO network is located in the centre of the IIO's water distribution footprint and therefore will continue to remain serviced by the IIO into the future. | Y | The application has demonstrated that:<br>• The project will contribute to the longer term sustainability of the business and the irrigation district more generally.<br>• The project is focused on modernising existing inefficient irrigation systems which will position the business to capitalise on improved returns for winegrape production in the SA Riverland.<br>• The project will contribute to the longer term viability of the properties which will provide benefits across the irrigation district and the trust more broadly which is consistent with current business plans. |

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| | 4c. As outlined in 4b. the property located within the IIO is surrounded by existing irrigation properties and therefore the works are consistent with the longer term business strategies and plans of the IIO. | | |
| **Support for Regional Economies (Criteria 5a, 5b, 5c, 5d, 6c)** | 5a. All works proposed under this proposal will be delivered by service providers that are based in the local community meaning the project will have flow on economic benefits to the community and the region. The improvements that are enabled via the works will create casual employment opportunities both during the implementation phase and on an on-going basis post project.<br><br>As has already been mentioned the wine industry is critical to the regional economy of the SA Riverland so the works will indirectly secure employment along the processing and distribution supply chains.<br><br>5b. Both properties involved in the proposal are currently under-performing due to the age of vines and the inefficient overhead and under-vine sprinkler irrigation systems. This is resulting in poor returns per unit of water application compared to district averages. Therefore the works will deliver benefits at the farm, IIO, community and regional scale which is consistent with local land and water management plans and sustainable irrigation strategies.<br><br>5c. The works are expected to increase the productive capacity of the local IIO via the improved adaptability and profitability of the proponent. | Y | The application has demonstrated that the project will:<br><br>• Support the winegrape industry which is an important sector of the Riverland and SA State economy.<br><br>• Improve the profitability and resilience of the business and ensure that the economic contribution can be sustained over time.<br><br>• Generate benefits for the broader region and not just the applicant through sourcing of local farm input supplies by the participating business and generating regional employment.<br><br>• Increase regional and Basin wide productivity through increasing the volume of water available for consumptive uses on the water market.<br><br>The proposal is also well aligned to a number of the key themes within Riverland Wine's Strategic Plan (2014-2019) including Competitiveness, Market Growth & Profitability & Sustainability. |

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| | Currently the proponent's annual water use is on the limit of held delivery rights volume (9.28ML/ha) with the IIO so the works will build a buffer into the system and provide greater flexibility with water management into the future.<br><br>5d. As discussed in 5a. all materials will be sourced through local service providers and project implementation will also be undertaken by local contractors. The works are also expected to generate additional casual employment on an on-going basis post project due to the improved productivity that will be achieved at the properties.<br><br>6c. As has been described in other criteria the proposed works are expected to have positive impacts at the local, regional and State scales. The improvements in irrigation efficiency are also likely to deliver benefits at the broader Basin scale by reducing water demand noting the additional water savings that will be retained by the applicant. | | |
| **Social and Environmental Benefits (Criteria 2a, 2b, 2c)** | 2a. This proposal involves works across two properties totalling 37ha, one property being a private diversion (33ha) and the other (4ha) is located within an irrigation infrastructure operator network. Both properties grow winegrapes which are the dominant irrigated crop type grown in the SA Riverland. Therefore works that improve the efficiency and productivity of the winegrape industry ensure that the flow on benefits to local communities and regional and State economies continues into the future. | Y | The application has:<br>• demonstrated that the project will:<br>○ Improve the profitability and resilience of the business and ensure that the economic contribution can be sustained over time.<br>○ Generate benefits for the broader region and not just the applicant through sourcing of local farm input supplies by the participating business and generating regional employment. |

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| | Local industry and commodity groups along with irrigation infrastructure operators have been engaged by the Delivery Partner and the proponent on both the broader Water Efficiency Program and proponent specific activities.<br><br>2b. This proposal only involves the under-taking on on-farm works however the irrigation diversion point for one of the properties is directly from Ral Ral Creek. Ral Ral Creek is a key recreation site in the local Renmark area so the modernisation of the pump station, rising main, primary filtration along with the overall improved efficiency of application will deliver water quality outcomes for the Ral Ral Creek.<br><br>2c. N/A – Project is not over $4 Million threshold. | | ○ Increase regional and Basin wide productivity through increasing the volume of water available for consumptive uses on the water market.<br><br>• The proposed works are on-farm and will not affect the amenity to local communities of weirs, storages and parks. Accordingly, 2b is not applicable.<br><br>The project is below the $4 million threshold for large projects and is not required to address criteria 2c. |
| **Work health and safety laws (Criteria 2d)** | 2d. The Delivery Partner has been involved in the implementation of Australian Government funded irrigation efficiency programs since 2010. As a result it has developed and adopted clear WHS processes that specifically focus on the key risks of the types of activities that are funded through these programs.<br><br>A Risk Management Plan at a whole of program scale has been developed and a Risk Assessment is prepared in partnership with project proponents that are tailored to the project activities that are being undertaken.<br><br>All proponents are required to provide | Y | The application has demonstrated that the applicant and delivery partner have an understanding of all relevant legislation or regulation that will require approval prior to works commencing and that they will comply with all relevant laws including work health and safety laws. |

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| | evidence of the currency of all required insurance certificates prior to any project related payments being made by the Delivery Partner. | | |
| **Business Resilience, including Drought and Climate Change Impacts (Criteria 10a, 13a, 12)** | 10a. As addressed in 9b and other responses this proposal is based on adopting long proven water savings technologies and as such will provide benefits and outcomes at multiple scales.<br><br>The works are also consistent with local, regional and State land and water management plans and strategies and aligned to best practice irrigation management principles.<br><br>13a. As was described above in 12. the works proposed through this project will generate water savings over and above the volume nominated for return. The proponent currently holds sufficient water access entitlements to meet annual irrigation requirements and therefore the retained savings will provide a buffer against reduced and potentially more volatile water availability that is likely to be experienced into the future.<br><br>It is highly unlikely that the properties would remain viable with the existing inefficient irrigation systems as a result of increased water requirements and reduced productivity.<br><br>The redevelopment of the two properties to drought and salinity tolerant rootstocks will also ensure the properties are better | Y | The application has demonstrated that the project will:<br>• Address under-performing irrigation areas which will allow water to be used as efficiently as possible while maximising output (yield).<br>• Generate additional water savings that will be retained by the applicant to improve the capacity of the proponent to better manage periods of reduced water availability.<br>• Provide the enterprise with an increased ability to endure and adapt to future climate variability and water availability by generating productivity improvements and improving profitability. |

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| | protected and adapted to periods of severe water shortages such as those experienced during the Millennium drought and which potentially will be more common in the future given the prolonged periods of reduced inflows into the MDB.<br><br>12. As was described in 7a the proposal has been subject to an independent assessment which confirmed the water savings (123.1ML) to feasible and achievable. The assessment also confirmed that water savings (23.1ML) in addition to the volume nominated for return (99.9ML) will be generated by the proposal.<br><br>The water return represents a 2.7ML/ha saving across the areas involved which is conservative given the existing irrigation systems that are in place and the proposed modernisation to best practice surface drip irrigation.<br><br>The water savings will be generated through the conversion from inefficient overhead and under-vine sprinklers to surface drip irrigation. The project will also upgrade the pump station, rising main and primary filtration on a 33.0ha property so represents a complete renewal of the irrigation system at this property. | | |
| **Cultural Benefits**<br>**(Criteria 8a, 8b, 8c)** | 8a. As has been mentioned in previous responses all materials and services will be sourced and delivered by local contractors. The properties are located in the Renmark region which is under-pinned by the irrigated agriculture sector. | Y | The application has described the expected cultural benefits of the proposed project, including the strategy for increasing the cultural benefit to participants and their communities through local sourcing of goods, services and labour. |

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| | 8b. As was described within other criteria all goods, services and labour for this project will be sourced locally which will ensure the economic stimulus provided by the broader program and the individual project remains in the local community and region.<br><br>Recent analysis undertaken by the Delivery Partner revealed that on average 3.4 unique businesses were involved in the delivery of projects funded through the COFFIE Pilot Program. This highlights the economic stimulus that the programs provide in local communities and regions.<br><br>The proposed works will also set the business up to be sustainable and profitable into the future and ensure existing economic contributions are maintained, or enhanced post project.<br><br>8c. 2c. N/A | | The total project value is below $3 million and is not required to identify cultural heritage sites and manage any impacts in accordance with relevant Commonwealth and State laws. |

**In-Principle Recommendation**

The application has adequately addressed the Efficiency Measures – Agreed Criteria and demonstrated that the project will have neutral or positive socio-economic impacts and not have negative third party impacts on irrigation systems, water markets or regional communities. Accordingly, the South Australian Government provides in-principle approval for the project and recommends that the application proceed to the **public comment stage**.

## Part 2 - State Response – Public Comments

| Relevant Public Comments to be responded to | Response to Relevant Public Comments |
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| While the amount of water to be recovered is relatively small, it is the cumulative impact of additional water recoveries that amount to significant third party impacts.<br><br>Any project that decreases the total pool available to food production results in negative outcomes as there will simply be less water available for agriculture.<br><br>On-farm projects reduce the total amount of water available to agriculture. While this proponent claims they will become more efficient with their water use, agriculture as a whole in the Basin will be worse off as there is simply less for agriculture to use. | The South Australian Government prefers efficiency measures to recover water for the environment, as they provide real and positive outcomes to irrigation businesses, while supporting communities that would otherwise be hard hit by the reduction in regional productivity or the closure of businesses through water leaving the consumptive pool through buybacks.<br><br>Unlike water buybacks that remove water from the consumptive pool, efficiency measures increase the volume of water available. Properly constructed efficiency measures projects recover water that is effectively "lost" through evaporation, leaky infrastructure and inefficient irrigation systems or overwatering and is unavailable for use until projects are completed.<br><br>The water savings for all South Australian on-farm projects have been independently verified as a conservative estimated of water savings. Those water savings were not previously available to the consumptive pool.<br><br>Additionally, proponents of all on farm projects in South Australia under the efficiency measures program have retained a portion (ranging from 12 percent to 89 percent) of the water savings with this increasing supply and putting downward pressure on water market prices.<br><br>Accordingly, South Australian projects are increasing the water available for consumptive uses across the southern connected Murray-Darling Basin and have not reduced the amount of water available for agricultural use. |
| On-farm efficiency measures are creating upward pressure on water prices as reported in independent research completed by ABARES and Aither and do not meet principle 7d – Projects must not directly increase the price of water. | Both the ABARE and Aither reports have acknowledged that it is difficult to separate the impact of water recovery from other major trends such as climate change and the significant growth in industries and as such the findings should be treated with caution.<br><br>The ABARE report draws heavily on a recent study undertaken by ABARES, available at https://onlinelibrary.wiley.com/doi/full/10.1111/1467-8462.12396?af=R This study found that some on-farm program participants subsequently purchased water to increase their irrigated production. The study did not however directly link this to participation in the program and noted that many other demographic and economic factors are likely to influence business decisions. In fact, it is specifically stated that the study did not attempt to define or separately |

| Relevant Public Comments to be responded to | Response to Relevant Public Comments |
|---|---|
| Independent research over a number of years, most recently from the University of Adelaide, has demonstrated that irrigators who participate in on-farm projects are highly likely to purchase additional water following the implementation of the project and the resulting increase in enterprise profitability. | quantify direct and indirect effects of on-farm efficiency measures projects on water prices.<br><br>The ABARES study also evaluated many projects that would not meet the criteria agreed by the MDB Ministerial Council and as a result, no conclusions can be drawn between the findings of this study and on-farm efficiency measures projects that have been submitted since these criteria were agreed.<br><br>The Aither report appears to treat water recovered through on-farm efficiency measures the same as buybacks. This fails to recognise that on-farm efficiency measures are reducing demand by the same amount and in most cases more than the corresponding reduction in supply.<br><br>Accordingly, it would be incorrect to infer that South Australian on-farm projects are directly attributable to increased water use and higher water market prices when they are consistently reducing water demand and increasing supply.<br><br>Any expansion of irrigated area and hence water use that occurs post on-farm project is an indirect effect of the program and is likely to be driven by many other complex and interrelated economic and social factors. These indirect impacts are not considered as part of the socio economic assessment. |
| The application does not provide details of how it will impact the irrigation network, nor does it provide details of the local and regional plans for the area and how the project aligns with relevant objectives. | These criteria have been addressed in various places in the application and the proponent has demonstrated that their proposed project will:<br><br>• Increase productivity in terms of return per ML for the business and region.<br><br>• Improve the business's long term resilience and viability which will have flow on benefits to the local, regional and State economies.<br><br>• Source goods and services for the project from local companies which will add further economic stimulus to the Riverland community.<br><br>• Increased regional and Basin wide productivity through increasing the volume of water available for consumptive uses on the water market.<br><br>The application has also provided evidence that the relevant network operator is involved in or aware of the project |

**Final Recommendation**

The application has adequately addressed the Efficiency Measures – Agreed Criteria and demonstrated that the project will have neutral or positive socio-economic impacts and not have negative third party impacts on irrigation systems, water markets or regional communities. Accordingly, it is recommended that the application proceed to the Australian Government's detailed assessment stage.

# Water Savings Substantiation – Water Efficiency Program

**Project ID:** [redacted]

**Crop Type: Vines (Wine)**

**Project Summary:**

The applicant is proposing to redevelop two existing but underperforming wine grape properties comprising a total of 37.0ha located near [redacted] in the SA Riverland. The redevelopment will involve the removal and complete replacement of existing irrigation & vineyard infrastructure and is expected to deliver significant efficiencies both in terms of water use efficiency and production.

A conservative water saving of 99.9ML is projected to be achieved through the project works.

**Water Saving Methodology:**

The existing vineyards are irrigated with overhead (24.0ha) and under vine sprinklers (13.0ha) with the larger 33.0ha [redacted] property currently having fixed speed pumping infrastructure while the smaller property is serviced by the Renmark Irrigation Trust (RIT). As the existing irrigation systems and vines are very old, the efficiency and productivity of water use is well below industry benchmarks for the Riverland growing region.

The conversion from overhead and under vine sprinkler irrigation to surface drip irrigation is expected to yield water savings of up to 2.0-2.5ML/ha through the more targeted application of irrigation water. These water savings are consistent with published benchmarks for such irrigation system conversions and Riverland winegrape irrigation requirements (*Refer: Crop Water Use by System Type-Riverland*). As the vineyards will be redeveloped and planted to new vines at the same time it is expected the water savings will be achieved more immediately due to the vines not requiring a transitional management phase from the full cover sprinkler irrigation systems to partial wetting of surface drip irrigation as is often the case.

The new vines will also be planted on drought and salinity tolerant Paulsen 1103 rootstocks which will assist with ensuring the proposed water savings are realised by the applicant. The adoption of the rootstocks will also add enhanced adaptability and resilience to the properties capacity to manage periods of reduced water availability and/or higher salinity irrigation water. Letters of support (attached) indicate the achievement of significant potential water savings as a result of adopting drought and salinity tolerant rootstocks without experiencing any yield penalty in Riverland winegrape production systems. A conservative 1.0ML/ha has been included for this assessment.

The main pumping and primary filtration infrastructure at the 33.0ha [redacted] vineyard will be completely upgraded including the installation of 3 x new pumps and motors fitted with variable speed drives which will deliver maximum flexibility with respect to irrigation scheduling and ensure water applications accurately align to vine water demand throughout the growing season. The extraction point for the 33.0ha property is located within Ral Ral Creek (an anabranch of the Murray) so irrigation water is often of a lower quality (higher EC & turbidity) than the main River Murray channel meaning primary filtration is a critical component of on-going irrigation system management, maintenance and hence overall performance and longevity.

In addition to the key components described above a new mainline, sub-mains and field values will also be installed as part of the proposal together with flushing sub-mains. These works are expected to consolidate the achievement of the proposed water savings and generate significant labour efficiencies.

The [redacted]) vineyard will be operated with a new irrigation control system with remote management capability and this will assist with optimising irrigation scheduling noting the proponent lives remote from this property. The water savings for the automation and control upgrades have been captured within the 2.0-2.5ML/ha irrigation system conversion water saving as outlined in the table below.

| **Water Saving Component/Technology** | **Area (ha)** | **Water Saving (ML/ha)** | **Total Potential Water Saving (ML)** | **Conservative Nominated Water Saving (ML)** |
|---|---|---|---|---|
| Overhead Sprinkler - Surface Drip Conversion (20ha – [redacted]; 4ha – [redacted]) | 24.0 | 2.5 | 60.0 | |
| Under Vine Sprinklers - Surface Drip Conversion (13ha – [redacted]) | 13.0 | 2.0 | 26.0 | |
| Re-Plant to Drought & Salinity Tolerant Rootstock (33ha – [redacted]; 4ha – [redacted]) | 37.0 | 1.0 | 37.0 | |
| **Total Water Saving** | | | **123.0ML** | **99.9ML** |

**Project Budget:**

Project costs have been based on quotes provided [redacted] **and the proponent.**

**Irrigation Design/Plan:**

Irrigation Plans have been completed by [redacted] and are included as attachments to the application.

**Approvals/Environmental:**

Development approval has already been received to construct the proposed new pump station on Crown Land however additional approvals will also be required prior to the works commencing.

The specific irrigation efficiency improvements will contribute to reducing deep drainage beyond the crop root zone and hence improved salinity outcomes for the River Murray.

Additional information on environmental aspects of the proposal are included in Attachment D.

[redacted]

# 1 PROJECT DETAILS:

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|---|---|---|---|
| **CID Name:** | [redacted] | **Date:** | 21/05/2020 |
| **CID No:** | [redacted] | **Client Name:** | [redacted] |
| **Project Name:** | [redacted] | **Project No:** | [redacted] |
| **Submitted By:** | [redacted] | **Contractors:** | [redacted] |

# 2 PREAMBLE AND PROJECT SCOPE:

The above project was assessed on the below mentioned scope and is limited to project data supplied, including any documentation and designs as being true and correct in every respect.

I declare, as an Independent Approved Irrigation Professional agreed to under the Deed, that:

a) I have carried out the technical and practical feasibility assessment for the Works; and
b) I have had no previous involvement in preparing this Project Proposal.

I certify that the Project Works are technically and practically feasible, including that:

a) the projected water savings they will generate are reasonable and realistic, including being appropriate to the crops, soils, climates, water delivery system and topography of the Eligible Irrigator's Property;
b) the rationale for the water savings assessment is clearly explained;
c) the projected water savings can be achieved while maintaining the agricultural production potential of the Property on which the Works would be completed as part of a Project;
d) the engineering solutions they entail are achievable and appropriate to the needs of the Eligible Irrigator and the Property;
e) the projected costs are reasonable and realistic, and within the expected range for that type of infrastructure and scale of installation; and
f) the projected water savings they will generate represent the conservative or minimum feasible volume that could be derived from completing the Works.

[redacted]

[redacted]
Certified Irrigation Designer

[redacted]