THE PROCUREMENT OF INDIGENOUS SOCIAL HOUSING IN
AUSTRALIA: A PROJECT ALLIANCE APPROACH

MARCUS JEFFERIES¹, STEVE ROWLINSON² and ADAM SCHUBERT¹

¹SCHOOL OF THE ARCHITECTURE AND BUILT ENVIRONMENT, THE UNIVERSITY OF NEWCASTLE, NEWCASTLE, AUSTRALIA
²DEPARTMENT OF REAL ESTATE AND CONSTRUCTION, THE UNIVERSITY OF HONG KONG, HONG KONG, CHINA

Poor living conditions for indigenous Australians in remote areas of the Northern Territory (NT) is a common problem and challenge in the development of social housing. Various models of project delivery have failed to address issues of overcrowding and insufficient infrastructure that have led to poor health and reduced life expectancy amongst the indigenous population. Delivery models for indigenous social housing and infrastructure is in need of reform to overcome the mounting problems and disadvantage in indigenous communities. A current Government initiative is the Strategic Indigenous Housing and Infrastructure Program (SIHIP). This program is using an Alliance approach to deliver the planning, design and construction stages for social housing. Relational contracting methods, such as Project Alliancing, provide value for money, trust, management of team goals, multi-disciplinary expertise and develop innovation in order to deliver the best possible solutions for successful project delivery. Alliance projects are characterised by arrangements that ensure that risk is shared across all stakeholders under a pain/gain-share system to overcome adversarial and inefficient traditional contractual approaches. Using a case study approach, this paper analyses the SIHIP Project Alliance framework and focuses on specific outcomes of the Alliance stakeholders. The SIHIP has delivered sustainable housing projects for indigenous Australians and was particularly successful with regards to community involvement and consultation, developing a regional focus and providing value for money.

Keywords: Australia, indigenous culture, project alliancing, social housing, sustainable procurement

INTRODUCTION

The management of construction projects is grounded in achieving successful production throughout the life cycle of the construction process. Effective management and use of resources throughout the entire process is the key to producing a successful product in the built environment (Harris et al., 2006). Project success is influenced by the procurement approach that provides a framework for all the aspects of construction to be holistically brought together (Walker, 2008). Procurement strategies can effectively drive the success, efficiency and sustainability of a construction project, and it is this that governs the aim of this paper, which sets out to identify issues with the provision of adequate and appropriate housing for remote indigenous communities. This has been identified as a serious problem throughout Australian history by the likes of Memmot (1989), Pholeros (1993) and Read (2000), who discuss the social, political and cultural problems with the construction and provision of houses in the remote Northern Territory (NT) of Australia.

According to Cheung at al. (2005), Jefferies et al. (2006), and Walker and Rowlinson (2008) recent innovations in procurement have led to the development of contracting frameworks that aim to address the increasing nature of change and complexity of the construction industry. Formed around the characteristics of developing relationships, sharing risk and collaborative and innovative development of solutions, Project Alliancing is a contracting system which embraces change, adapts to obstacles and enables participants to work together to achieve increased project performance and improve the key outcomes of time, cost and quality. It is the implementation of a Project Alliancing framework for the delivery of remote indigenous housing (IH) in the Strategic Indigenous Housing and Infrastructure Program (SIHIP) that forms the basis of this paper.

Subsequently, the aim of this paper is to:

“Evaluate the SIHIP Project Alliancing procurement model in delivering culturally, economically and socially successful Indigenous Housing outcomes.”

The problems associated with indigenous housing are significant and evidence is wide spread. With overcrowded houses, poor performance of utilities, no maintenance and deteriorated, unsafe buildings (Pholeros, 1993) N.S.W.: Healthabitat, c1993, (ABS,
Indigenous Australians in the remote areas of NT have the lowest socio-economic profile of all Australians. Long and Memmott (2007) identify IH as having to incorporate all aspects of production, management, maintenance and occupation of indigenous living environments. The NT’s Department of Local Government and Housing, in identifying problems with current IH, have proposed a solution which involves the use of different procurement models to provide adequate housing and services to remote indigenous communities.

The development of the SIHIP led to the choice of Project Alliancing as the most effective contracting method for successful delivery of IH (FaHCSIA, Australian Dept. of Families 2009). Therefore, drawing on issues of remote IH and the successful attributes of Project Alliancing, this paper will evaluate the success of the SIHIP in solving problems that plague the NT indigenous communities.

**HISTORY OF INDIGENOUS HOUSING**

The management and quality of housing and infrastructure have always been a primary determinate of indigenous disadvantage, particularly in remote communities. The 1970s saw the first official identification of these issues and how it served as a major element of concern for the living conditions, health and overall social wellbeing of the indigenous Australians. Rowley (1971) described housing as an issue decaying the standard of living of many remote aboriginal communities and the poor standards of living including poverty, lack of education, violence and health issues became attributed to the primary issue of insufficient and inappropriate housing. Heppell (1979) drew similar conclusions along with the need for improved government policy aiming at the immediate need to develop long term strategic solutions to solve the problems with IH in remote Australia.

Insight into housing policy for indigenous Australians was provided by Memmott (1990) and Saunders (1990) and they covered the need for both state and federal policies to understand the specific need for housing development. This related to holistic provision including design, construction and delivery of the projects that would be appropriate to the needs of remote Indigenous communities by paying particular attention to culture, living standards and sustainability. The situation in recent years has continued to be problematic with issues of overcrowding, low quality construction, poor planning, and lack of basic services and utilities (ABS 2002). Reviews of government programs also confirmed these problems, and not only with the housing itself, but also with the method of delivery, and focused specifically on poor construction, lack of maintenance, inexperienced management of housing, fragmented housing organisations and an ill allocation of funding (FaHCSIA, Australian Dept of Families 2007).

Pholeros (1993) identified the need for a system of procurement involving industry, government and community partnership and he stated that it is time to develop solutions to improve the day to day living environment. He went further by stating that the policies must match the practical work, which is often difficult with the complexity of previous and current policy. From his work in the communities he identified the problems with IH were attributed to inferior design, poor construction standards and inefficient management of the construction process. According to Barker (2003), it was also identified that for Government programs to achieve their objectives the process of implementation and construction must be managed and organised better. Reference has even been made to developing a specific section of the Building Code of Australia (BCA) for indigenous and remote housing and infrastructure (AIHW, 2005).

The current SIHIP is utilising almost A$700M funding and is the largest IH program undertaken by the Australian and NT governments (FaHCSIA, Australian Dept. of Families 2009). The primary aims reflect those of similar policies and past programs, with additional objectives to improve remote indigenous built environments through the construction, rebuild and refurbishment of houses.

**PROJECT ALLIANCING**

Construction projects are dynamic, ever changing and inherent with risks. These levels of risk and the growing size and complexity of projects has attributed to the adversarial and fragmented nature of the construction industry (Noble, 2007). Project Alliancing aims at effectively managing risks and encouraging more collaborative and relational partnerships between stakeholders to better achieve the objectives and improve overall project performance. Alliancing utilises the principles of sharing risks to better develop relationships and integrate the project team to maximise project performance (Walker, 2008). According to the Victoria Governments ‘Project Alliancing Practitioners Guide’ (Dept. of Treasury and Finance, 2006), an Alliance is defined as “a commercial/legal framework
between a department, agency or government-business enterprise as ‘owner-participant’ and one or more private sector parties as ‘service provider’ or ‘non-owner participants’ for delivering one or more capital works projects.” Alliancing demonstrates characteristics of a partnership in that there is a collective sharing of almost all project risks and benefits, a no blame/no disputes agreement, with an integrated project team selected on best placed entities and a principle based strategic management process. In partnership, each entity provides their services on a net cost basis, and upon completion of the project the parties share in the profits and or losses respectively.

Traditional forms of contract, such as Construct Only or Design and Construct, consist of project risks being allocated to the party believed best placed to manage the risk. The terms and conditions of traditional contracts aim at predicting all possible outcomes and assign liability and when changes or alterations occur, the result often ends in dispute. Whereas Project Alliancing is built on partnering in order to embrace collaboration, change and innovation in project delivery (Sakal, 2005). Another prime characteristic of an Alliance is the early involvement of contractors and other stakeholders to encourage innovation, collaboration and allow the design, construction and occupation of the project to be integrated (Scheublin, 2001).

Alliance systems have been used on numerous capital works and infrastructure projects in the Australian public sector. To take advantage of this approach, some Australian State Governments have developed a set of guidelines detailing the processes and framework for using Alliances to deliver major capital works. Australian projects utilising Alliances include Sydney water infrastructure works, Defence Department infrastructure, and major road and civil works from both local and state governments (Dept. of Treasury & Finance, 2006). However, the use of Project Alliances to deliver building projects has been limited, with the National Museum in Canberra a notable exception, and the SIHIP is one of the first major building projects to utilise this system. The following table lists the benefits and risks associated with using an Alliance based contracting system such as Project Alliancing.

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th>RISKS</th>
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<tr>
<td>‘Best for Project’ not ‘Best for Individual’ commercial focus.</td>
<td>Participants are responsible for larger range of risks &amp; liable for the performance of other participants.</td>
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<td>Improved ability to manage risk, uncertainty and change through shared responsibility and resources.</td>
<td>The absence of competitive tendering and pricing may lead to questioning the VFM.</td>
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<td>Early involvement of contractors and consultants.</td>
<td>Larger levels of involvement by senior participants.</td>
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<td>Reduced need for contract administration, reduced disputes, claims and litigation.</td>
<td>Resource intensive.</td>
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<td>Encourages innovation and high standard of work.</td>
<td>No maximum or capped pricing for clients/owners.</td>
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<td>Collaboration provides development opportunities for client and alliance teams.</td>
<td>Risking profit and overheads for non-owner participants.</td>
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<td>Increased accountability and cost transparency, more robust budgeting and value for money.</td>
<td>Relatively high costs of tendering.</td>
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<td>Project objectives aligned and achieved efficiently through incentives for non-owner participants.</td>
<td>Requires full commitment and may reduce the ability to perform normal business activity.</td>
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<tr>
<td>Costs and budgets are developed over the course of the project to reduce overall prices providing VFM.</td>
<td>Legal recourse against participants is limited to wilful default or acts of insolvency.</td>
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**RESEARCH METHODOLOGY**

Primarily, the data collected for this paper focused on published literature and secondary data. This allowed the researchers to understand the themes based entirely on the information at hand without opinion or subjectivity (Knight, 2008). The preliminary stages of research analysed current and historical literature to gain an understanding of the issue of remote indigenous housing and identified the need for a procurement approach specific to this problem. The principles of IH were established via a review of the literature which were identified as both problems and contributors to successful outcomes. Subsequently developed into criteria, the principles were used to evaluate a case study of the Project Alliancing procurement system developed for the SIHIP in the Northern Territory of Australia. The evaluation was based on the performance review documentation and published statistical data representing the outcomes of the SIHIP.
FINDINGS AND DISCUSSION: THE STRATEGIC INDIGENOUS HOUSING AND INFRASTRUCTURE PROGRAM (SIHIP)

The Strategic Indigenous Housing and Infrastructure Program (SIHIP) is a current initiative of both the Australian Federal and NT State governments and is aimed at improving housing outcomes for indigenous Australians in rural and remote areas of the NT. The program is the largest of its kind and SIHIP will construct new houses and refurbish existing houses in over 70 remote regions in the NT. Delivered using Alliance contracting, the SIHIP was developed to achieve the objectives of national IH policy and address the issues of previous projects through timely and cost-efficient delivery.

DEVELOPMENT OF SIHIP

The SIHIP, as a part of the reform agenda depicted in the National Partnership Agreement on Remote Indigenous Housing (NPA RIH), was initiated in 2007 and formally announced in April 2008. The program replaced the previous arrangements of the Aboriginal Rental Housing and Community Housing and Infrastructure Programs, following the trend of joint federal and state funding and state controlled delivery of this type of program. It was the agreement between the federal and NT governments which initiated the SIHIP in response to the recognition that previous housing programs had been unable to achieve the desired outcomes (COAG 2008). The project aimed to address the large shortfall in housing stock, overcrowding, poor living conditions and overall community, social and economical disadvantage to the Indigenous population in remote NT (ABS 2006).

Recognition that previous programs were failing to achieve the desired outcomes prompted a change in program structure and project delivery. As the general delivery method was previously standard one-off, lump-sum contract agreements, the programs failed to achieve value-for-money and the economies of scale that are needed for successful outcomes in a unique project such as this. Presented with a range of business and policy challenges unique to the remote Indigenous regions of the NT, such as cultural and social considerations, history and heritage, environmental and climate restrictions and limited resources, the government agreed that an alternative procurement approach may be able to achieve the required outcomes (FaHCSIA, Australian Dept. of Families, 2009). A system which provided an incentive for quality outcomes, sharing of risk, responsibility and benefits, and greater elements of indigenous employment, training and overall community development would be a significant driver for change to achieve more sustainable improvement.

The SIHIP aimed to deliver new housing, refurbish and upgrade of existing housing, improve living conditions and provide new infrastructure and capital works. The program was initially provided with $538 million worth of funding from the Australian Government an additional $100 Million from the State Government. The NT Government delivered the program through the Project Alliancing procurement system and was also responsible for property management, collection of rent and routine maintenance through the public housing framework. The Australian government would provide support throughout the program, oversee the delivery and provide governance and guidance of key decisions and the strategic direction of the program.

THE PROJECT ALLIANCE APPROACH FOR SIHIP

A Strategic Alliance procurement system was adopted as it was determined that this would be the most effective approach to achieving the program objectives through best practice procurement. Alliancing had the potential to achieve greater economies of scale, better value for money, and grab the attention of innovative and successful companies who had the ability to partner with smaller local firms capable of integrating and engaging the local community (FaHCSIA, Australian Dept. of Families, 2009). Initiated in 2007, the SIHIP was based around the Victorian Governments 'Project Alliancing Practitioners Guide' and the procurement approach is based around the following characteristics:

- Collective sharing of project risks;
- No fault/No blame and no dispute between Alliance participants;
- Payment of NOPs for their services under a ‘3-limb’ compensation model:
  - Reimbursement of NOPs project costs on a 100 percent open book basis;
  - A fee to cover corporate overheads and normal profit; and
  - A gainshare/painshare regime where the rewards for good performance and the penalties for poor performance are shared equitably.
- Unanimous principle based decision making on all key project issues;
- Integrated project team selection based on best person for each position; and
- Early involvement of contractors.

Specific details of the SIHIP Project Alliance are summarised in Table 2.
### Table 2: The Structure and Details of the SIHIP Project Alliance

| PROCUREMENT SYSTEM | Alliance Contract System:  
|-------------------|-----------------------------------------------|
|                   | • Separated into 3 regional project alliance partners assigned work packages in separate geographical regions. Engaged to collaboratively manage the delivery, design, construction, refurbishment and management/maintenance of the project  
| GOVERNANCE        | **NT Government:** Contracting entity, responsible for the delivery of the program, management of contracts, organisation of land tenure, capital works and development planning.  
|                   | **Australian Government:** Strategic guidance and management of the program and contracts; development and support during procurement process and program establishment.  
| ALLIANCE STRUCTURE| Governed by the agreement between the federal and NT governments the alliances consist of a combination of the following:  
|                   | • Head Contractor; Developer; Local Construction Firm; Engineering firm; Civil Contractor; Specialist Trade Contractor; Building service company; and Suppliers  
| DELIVERABLES      | The alliance method led the Australian and NT Governments to select and engage professional services including:  
|                   | • Program management services; Cost management; Design coordination; Construction management; Financial Audit services; Value for money.  
| TIME FRAME        | Completed by the end of 2013  
| HOUSING DELIVERABLES |  
|                   | New Houses = 750 Houses  
|                   | Rebuilds = 250 Houses  
|                   | Refurbishments = 2500 Houses  
| DELIVERY METHOD   | **Phase 1:**  
|                   | Selection of alliance partners:  
|                   | • Selection and engagement of for a collaborative alliance construction consortia though public and select tendering. Non-competitive environment to encourage partnering, innovation and commitment.  
|                   | • Public Expressions Of Interest (EOI) in May 2008  
|                   | • Selective Request For Proposal (RFP) in June 2008  
|                   | • Detailed Selection and evaluation panel  
|                   | • Engagement and development of alliance terms  
|                   | **Phase 2:**  
|                   | **Planning and Development:**  
|                   | • Develop cost and scope packages based on community engagement  
|                   | • Employment & Workforce Development including minimum of 20% local indigenous training & employment  
|                   | • Detailed design and planning  
|                   | **Phase 3:**  
|                   | **Delivery/ Construction:**  
|                   | • Procurement of local services  
|                   | • Delivery of Houses  
|                   | • Construction, refurbishment and rebuilding of houses  
|                   | • Continuous community involvement, training and employment  
| PARTNERS          | **Earth Connect Alliance:**  
|                   | • Canstruct Pty Ltd; WorleyParsons Services Pty Ltd; Force 10 International Pty Ltd; Greene & Associates Pty Ltd; and Ostwald Bros. Pty Ltd  
|                   | **New Future Alliance:**  
|                   | • Leighton Pty Ltd; Broad Construction Services Pty Ltd; Opus Pty Ltd; and Ngarda Civil & Mining Pty Ltd  
|                   | **Territory Alliance Partners:**  
|                   | • Sitzler Pty Ltd; Laing O’Rourke Australia Construction Pty Ltd; McMahon Services Australia Pty Ltd  
|                   | With a Sub Alliance Participant:  
|                   | • Compass Group (Australia) Pty Ltd  
| INITIAL BUDGET    | Australian Government:  
|                   | $ 547 Million  
|                   | NT Government:  
|                   | $ 100 Million  
|                   | Additional:  
|                   | $ 25 Million  
|                   | **Total:**  
|                   | $672 Million  
| ESTIMATED UNIT COST | **New House Target Cost:**  
|                   | $350,000  
|                   | **Estimated Regional Package Cost:**  
|                   | $30-$50 million
The following discussion of 3 of the key principles for success draws upon the outcomes and results of the SIHIP in accordance with ‘The Review’ (FaHCSIA, Australian Dept. of Families, 2009) and the PRA (SIHIP Post Review Assessment, 2010).

Community involvement and consultation
Further to the findings of Tipple and Willis (1991), who identified participant observation and involvement as fundamental to the successful development of low socio-economic and remote communities, the evidence of previous housing initiatives in the NT attribute success to the involvement of the community and the occupants of the new houses (HealthHabitat, 2009). Community involvement should not only be during the planning stages but throughout the processes of design, construction and asset management. This can ensure a greater understanding and sense of participation in the project (Ross, 1990), and indigenous involvement can also lead to increased employment, education and training opportunities in addition to the improvement of supplementary social and health issues.

The key objectives of the SIHIP detailed the development of relationships as a primary outcome with a strong emphasis placed on community consultation and local involvement. The Alliance partners collaborated with local stakeholders from the housing reference group, community members and with local land councils. The processes aimed at improving the outcomes of the housing delivery through community visits, workshops and information sessions to establish relationships and allow the community to participate and provide input into the decision making process (FaHCSIA (Australia Dept, of Families), 2009). Routine correspondence with housing groups and regional local government officers attributed to the local knowledgebase. Communities were given the opportunity to provide a high degree of input when developing the scope of works, design considerations, location, size and planning. These processes were instrumental in prioritising and programming work packages with temporary works and training.

Regional focus
Addressing regional focus when delivering a remote IH project is important to ensure that each project maintains ‘localised’ in order to meet the specific needs of the geographical location (PriceWaterhouseCoopers, 2007). Along with the need for cultural and social considerations, many other aspects change over the various 73 community locations that were part of the SIHIP and this warrants the need for the procurement and contract system to encourage a regional focus in its project delivery.

The Alliance team is under agreement to utilise the input from the community and local officers from government, housing reference groups and land councils. This enables the Alliance to obtain a greater understanding for each of the specific regional areas within the SIHIP, while developing relationships with the occupants and users by allowing them to gain an understanding of the construction processes so that they can feel involved in the projects implementation. This regional focus is supported by the requirement under the
alliance agreement to employ a minimum of 20% local indigenous resources. Up until March 2010, the Alliance partners employed 36% local indigenous workers, contractors and subcontractors (Donald and Canty-Waldron 2010). A major component of the SIHIP Alliance approach is to address the principle of regional focus by triggering construction activity and this was achieved by not only direct indigenous employment, but also the use of local contractors, suppliers and consultants.

Value for money
Accurately determining the standard unit cost per new dwelling is difficult to determine due largely to the previous use of lump sum contracts and varying unit prices quoted by contractors which led to large variations in standard unit costs. The Alliance approach allows a standard target cost to be developed across the range of projects within the alliance providing greater accountability and transparency of costs per dwelling. Developing these standard costs provides a target for the alliance partners to work towards to achieve the outcomes of the program. Successful project outcomes when using Alliancing are strongly attributed to the fact that no entity is able to make extra profit by transferring costs to another party. This encourages and initiates parties to cooperate in a way that is not typically seen in the construction industry (Scheublin 2001). One feature of the SIHIP alliance agreement is the development of the works packages through the Project Development Report (PDR), which was developed by the Alliance team prior to works being started and involved community consultation to propose a scope of works and costing which is assessed and approved based on numerous criteria including the ability to provide value for money (FaHCSIA (Australia Dept. of Families), 2009). Once approved the contractors are locked-in to the specified budget and all cost over-runs and under-runs are shared according to the pain/gain-share agreement.

Under the SIHIP Alliance, participants are paid under the 3-limb compensation model, which through open book accounting and detailed reporting of all levels of cost ensures transparency and accountability within the project. The model is headed by Limb 1: which are guaranteed and represent the direct costs and site/project overheads; Limb 2: the potential and limit of payment in the form of corporate overheads and profit; and Limb 3: the Painshare/Gainshare commercial arrangement which is a defining characteristic of the alliance model, and are dependent on the outcomes of the project. This system encourages participants to achieve, innovate and improve outcomes, while ensuring that costs are transparent and fully reportable. This is an improvement on traditional forms of contracting with fixed prices where construction and combined costs which are not detailed or conveying in the overall price (Sakal, 2007; Dept. of Treasury and Finance, 2006). One of the challenges that this alliance payment system addresses is the unit cost of housing construction. Due to cost implications of building in remote communities where resources, materials and workforce is scarce, the cost reporting and transparent claim system allows for these cost to be monitored, where previous procurement methods failed in obtaining value for money and delivering sustainable outcomes (Donald and Canty-Waldron, 2010).

CONCLUSIONS
Living conditions for indigenous Australians in remote areas of the NT are below the standards of the remainder of the population. Problems of overcrowding, poor living conditions, homelessness and severe shortage of appropriate housing have not been addressed by previous programs. Delivery methods for remote Indigenous housing are in need of reform to address the problems and disadvantage of remote Indigenous communities. Successful housing outcomes are driven by the procurement of design, construction, management and maintenance services. Using a case study analysis of the SIHIP Project Alliance, 11 principle success factors were identified as being critical for the project. This paper identified these 11 principles, but due to word limit constraints only reported in detail on 3 of them. The 3 reported principles being ‘community involvement and consultation,’ ‘regional focus’ and ‘value for money’.

The SIHIP is the largest scale IH program and is improving the outcomes of remote Indigenous housing. Project Alliancing is identified in this paper as providing a shift from traditional contracting methods and subsequently offered a range of benefits toward the improvement of IH. The SIHIP Alliance framework was found to encourage collaboration, embrace innovation and allowed all participants to work as an integrated team towards reaching the project objectives. Alliancing is characterised by arrangements which ensure shared risk and responsibility and a pain/gain-share payment system which collectively ties project objectives together and ensures all participants are working together towards goals and either win or lose as a group. Repeatedly defined as being suited to complex and dynamic projects that have an undefined scope of works, Alliancing is as an appropriate procurement method to be applied to the ever-changing problem of remote IH delivery. Project Alliancing is a pioneering procurement method and the SIHIP is the first time this approach has been applied to a Capital Works program in Australia’s NT. Innovative procurement methods such as Alliancing have the potential to contribute successfully to remote IH and significantly improve future outcomes. Through greater
experience and further commitment with relational contracting methods, Alliancing will be at the forefront of project delivery of IH programs for remote Australians and ultimately close the disadvantage gap.

The findings reported in this paper warrant further research into the procurement of remote IH. SIHIP has shown that Project Alliancing has the potential to improve the outcomes of similar challenging projects and has the ability to change the way in which other large-scale Public Sector projects are procured. The following areas are recommended for further research in order to improve IH procurement:

- Report on the other SIHIP ‘success’ principles not detailed in this paper;
- Conduct further analysis of SIHIP outcomes on project completion in 2013;
- Assess the impact of policy and legislation on standard methods of procurement for IH; and
- Develop relational contract conditions for Australian construction contracts such as AS2124 and GC21.

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