

**HOMEOWNER'S PERSPECTIVE OF AFFORDABLE HOUSING
REHABILITATION: A CASE STUDY OF A VETERAN'S PROGRAM IN THE
STATE OF TEXAS**

A Thesis

by

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ABSTRACT

This case study research focuses on the advantages and challenges experienced by homeowners who purchase and live in rehabilitated affordable houses of a Veteran's Program in the state of Texas. The Veteran's Program aims to provide low and no-cost housing to US military veterans. Semi-structured face-to-face and phone interviews were used to collect data from the homeowners. During the interviews a questionnaire based on the metrics of lean construction (safety, quality, cost, time and morale) was used. The homeowner's responses were summarized and analyzed to establish a "current state" of the Veteran's Program. Recommendations were made to propose a "future state" that will improve the program in all the areas previously analyzed. Findings showed that housing rehabilitation does provide a safe and affordable housing solution to the low income veterans. Despite some of the concerns raised by the homeowners, they considered that rehabilitated houses provided an affordable and safe home with good quality that increased the morale of their owners.

DEDICATION

To my loving family, Juan Carlos Velasco, Janeth de Velasco and Rebeca Velasco, for always been there for me and constantly supporting me in every step of my life.

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TABLE OF CONTENTS

	Page
ABSTRACT	ii
DEDICATION	iii
ACKNOWLEDGMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	viii
LIST OF TABLES	ix
1. INTRODUCTION.....	1
1.1 Background	1
1.2 Problem statement	5
1.3 Goal	5
1.4 Research objectives	6
2. LITERATURE REVIEW	7
2.1 Rehabilitation	7
2.2 Need for rehabilitation houses in the United States	7
2.3 Challenges in rehabilitation.....	8
2.4 Homeowner’s input	9
2.5 Evaluating and improving rehabilitation.....	10
3. METHODOLOGY	13
3.1 Introduction	13
3.2 Population of study.....	13
3.3 Delimitations and limitations	14
3.3.1 Delimitations	14
3.3.2 Limitations	14
3.4 Methodology	15

	Page
4. DATA ANALYSIS	17
4.1 Introduction	17
4.2 Veteran’s program	17
4.2.1 Application and buying process	17
4.3 Analysis of the data obtained from the interviews	21
4.3.1 Question 1	22
4.3.2 Question 2	23
4.3.2.1 Plus	27
4.3.2.2 Qualified	27
4.3.2.3 Delta	27
4.3.3 Question 3	28
4.3.3.1 Plus	31
4.3.3.2 Qualified	31
4.3.3.3 Delta	31
4.3.4 Question 4	32
4.3.4.1 Plus	37
4.3.4.2 Qualified	37
4.3.4.3 Delta	37
4.3.5 Question 5	38
4.3.5.1 Plus	41
4.3.5.2 Qualified	41
4.3.5.3 Delta	41
4.3.6 Question 6	42
4.3.6.1 Plus	46
4.3.6.2 Qualified	46
4.3.6.3 Delta	46
5. RECOMMENDATIONS	47
5.1 Time	47
5.2 Cost	47
5.3 Quality	48
5.4 Safety	48
5.5 Morale	49
6. CONCLUSION	50
REFERENCES	51
APPENDIX A	53

	Page
APPENDIX B	55
APPENDIX C	58

LIST OF FIGURES

	Page
Figure 1 Diagram of Lean Construction Reprinted from Rybkowski et al. (2013)	4
Figure 2 Swim Lane Diagram of the Veteran's Program.....	19

LIST OF TABLES

	Page
Table 1 Comparison of Rehab Intervention based on CUPR (2006).....	8
Table 2 Collected answers from the homeowners regarding question 2	24
Table 3 Collected answers from the homeowners regarding question 3	28
Table 4 Collected answers from the homeowners regarding question 4	32
Table 5 Collected answers from the homeowners regarding question 5	38
Table 6 Collected answers from the homeowners regarding question 6	42

1. INTRODUCTION

1.1 Background

According to Duncan (1996), rehabilitation, or “rehab,” is the practice of re-using sound but aging structures to provide decent affordable housing. Rehabilitation is typically identified with economically marginal housing developed by nonprofit organizations or agencies of local government using public subsidies to overcome affordability barriers.

Many organizations throughout the United States struggle to improve their rehabilitation programs (Smith and Hevener 2011). Besides the challenges that rehabilitation presents, most specialists in the field, like Duncan (1996), The Rehab Group Foundation (Duncan et al. 1991), NeighborWorks® (Jensen 2005) and the Center for Urban Policy Research (CUPR) (2006) agree that rehabilitation is an effective solution for achieving affordable housing, in part because of the availability of the aging of housing stock across the country.

This research is an exploratory case study that focuses on collecting and documenting the advantages and challenges experienced by homeowners who participated in an affordable housing rehabilitation program in the state of Texas from February 2013 through September 2014.

The researcher worked with a housing corporation of the state of Texas in the United States. To protect its identity, this corporation will be referred to as Corporation X. Corporation X is a 501(c)(3) nonprofit organization that provides programs for affordable housing across Texas. Its programs target the housing needs of low-income families and other underserved populations that do not have acceptable housing options through conventional financial channels. One program is aimed at working with the rehabilitation of donated houses for US veterans. During this study, the researcher will refer to this program as the “Veteran’s Program”. This program is a pilot initiative made possible through the donation of homes by a private bank and funding by local partners (non-profit general contractors). The program aims to provide low- and no-cost housing to US military veterans. Corporation X manages the real estate transfers, asset management and sales, while nonprofit housing providers handle the rehabilitation, marketing and qualification of eligible homebuyers within their local communities.

So far the literature treating rehabilitation has focused on improving the performance of rehabilitation projects and programs. Studies such as “Best Practices for Effecting the Rehabilitation of Affordable Housing” prepared by the Center for Urban Policy Research (CUPR 2006), “NeighborWorks® Housing Rehabilitation Study” (Jensen 2005), “Substantial Rehabilitation & New Construction” (Duncan et al. 1991), and “Benchmarking Current Perceptions of General contractors of Return on Investment on Rehabilitation Housing Projects: A Case Study in the State of Texas” (Diaz 2014) are based on the knowledge obtained from the general contractors and from the

organizations that execute the programs. This research is intended to help fill the gap left by these studies by collecting feedback about the homeowner's experiences. Homeowners' input was used to establish a "current state" benchmark description of the Veteran's Program and to propose a "future state" based on the areas of concern that need to be improved.

Lean construction plays an important role in this research. The terms "current state" and "future state" come from lean construction theory. A proposed graphic definition of Lean Construction (Figure 1) (Rybkowski et al. 2013) shows how a series of current states serve as a baseline for the constant improvement of any process. Furthermore, to determine the current and future state, the researcher used lean construction tools aimed at improving processes. This tools include Plus/Delta tables and Swim Lane Diagrams.

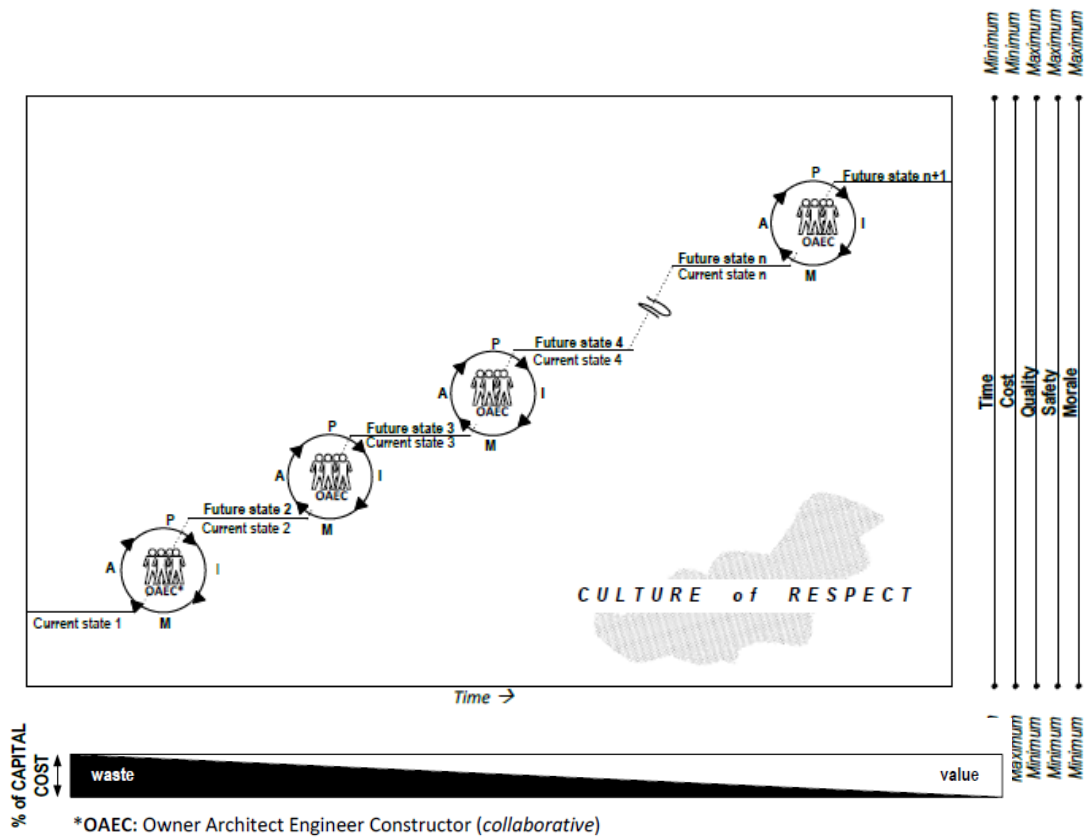


Figure 1. Diagram of Lean Construction Reprinted from Rybkowski et al. (2013)

The legend of Figure 1 is the following:

P = Plan

I = Implement

M = Measure

A = Assess

1.2 Problem statement

Rehabilitation suffers from a lack of expertise among lenders, appraisers, designers, contractors, tradespeople and even developers themselves (Duncan 1996). Rehabilitation requires more thorough, creative and cooperative problem-solving than most other forms of construction (Duncan 1996). Therefore, research in housing rehabilitation is necessary to help educate and increase cooperation among the different parties involved in the projects.

Problem: There is limited information regarding the challenges experienced by the homeowner in acquiring and living in a rehabilitated house. This case study is intended to help fill this gap by interviewing the homeowners of rehabilitated houses that participated in the Veteran's Program and established a current state of the program.

1.3 Goal

The goal of this research is to establish the current state and to propose a future state of the Veteran's Program that allows Corporation X, as well as other corporations with similar programs, to improve the quality, safety and execution time of their projects while reducing the cost of rehabilitation. Finally, all the improvements are intended to increase the morale of the homeowners such that the rehabilitation process will become more appealing as an affordable housing solution for residents and families.

1.4 Research objectives

The objectives of this case study are:

- a. Conduct interviews with homeowners to identify the Pluses and Deltas associated with the Veteran's Program.
- b. Use the categories of lean construction such as safety, quality, cost, time and morale to determine the current state of the Veteran's Program.
- c. Compare the responses from the interviews to uncover common problems experienced during the rehabilitation program.
- d. Analyze the problems and propose recommendations toward a future state of the program.

2. LITERATURE REVIEW

2.1 Rehabilitation

According to the paper “Substantial Rehabilitation & New Construction” (Duncan et al. 1991), there are basically two distinct types of rehabilitation management systems currently used in the US construction industry. These are substantial rehabilitation and selective rehabilitation. Duncan (1996) defined substantial rehabilitation, or “gut” rehabilitation as a unit that requires demolition to the structural skeleton and complete reconstruction, which can be as expensive as building a new housing unit. “Development costs average around \$60,000 per unit and construction costs, \$40,000 per unit” (Duncan et al 1991). In addition, Duncan (1996) described selective (or moderate) rehabilitation as a unit where every attempt is made to salvage existing floor plans, structures and systems, and the costs differ significantly depending on the scope of rehab. “Selective rehab amounts to approximately 300,000 units per year in the US, at an average cost of under \$15,000 per unit. It is most pervasive in local rehab programs funded by community development block grants, rental rehabilitation, and Farmer's Home Administration programs as well as local nonprofit efforts” (Duncan et al 1991).

2.2 The need for rehabilitation houses in the United States

Determining the rehabilitation needs in the United States is not a simple task. According to “Best Practices for Effecting the Rehabilitation of Affordable Housing” prepared by the Center for Urban Policy Research (CUPR) (2006), there is not a direct survey that

will provide an estimate of the number of houses that require rehabilitation across the country. Therefore, the method used to estimate the need for rehab was based on data from the 2003 American Housing Survey (AHS). The results of the CUPR investigation stated that by 2003, 4% of the nation’s housing units required substantial rehab while the required moderate rehab was estimated to be 13.8% of the total nation’s housing units. CUPR classification of types of rehab is based on Duncan (1996). The following is a comparison between the types of rehab interventions based on the result from the CUPR study (Table 1).

Table 1. Comparison of Rehab Intervention based on CUPR (2006)

Rehab Intervention	CUPR Research result	Comparison between rehab interventions
Substantial rehab	4.0%	0.29 times the moderate rehab
Moderate rehab	13.8%	3.45 times the substantial rehab

2.3 Challenges in rehabilitation

The rehabilitation, or “rehab” industry has been growing for the last 40 years as an affordable housing solution. According to the study *Rehabilitation: Affordable housing* (Duncan 1996), the rehabilitation industry has had its ups and downs since the 1970s. The Federal Government has played an important role throughout the history of housing rehabilitation. By creating grants and programs, government agencies have encouraged non-profit organizations and private entities to increase their involvement in

rehabilitating houses. Furthermore, the US Department of Housing and Urban Development (HUD) gave guidance to builders and created training centers for running efficient rehabilitation programs. Nevertheless, other parts of the government have been changing building codes, energy requirements and construction standards that make rehabilitation too expensive.

Besides the laws and regulation problems faced in housing rehabilitation, there are misconceptions of rehabilitation as a strategy; it can be considered too easy or too hard, because the builders might think at first that fixing a house will be fast and inexpensive. However, others consider rehab an impossible solution where “lead-based paint, deteriorating structures, obsolete floor plans and nonconformance to building codes make rehabilitation too difficult” (Duncan 1996). Both conceptions can vary depending on the hidden problems and the decisions faced during the rehabilitation of a house.

2.4 Homeowner’s input

Research such as “Multifamily Affordable Housing: Residential Satisfaction” (Paris and Kangari 2005) highlighted the importance of collecting the homeowner’s opinion in a post-work stage of affordable housing. Other research such as “Creating Value in Housing Projects: The Use of Post-Occupancy Analysis to Develop New Projects” (da C. L. Alves et al. 2009) collected users’ opinions about housing units in low-income housing projects and determined specific value items (importance) used in the projects that can be applied to future projects.

2.5 Evaluating and improving rehabilitation

Jensen (2005) used both numeric and open-ended questions in order to achieve quantitative and qualitative results in determining the “state of the network.” The researchers distributed a survey to all NeighborWorks organizations, to all known rehabilitation staff, and to all NeighborWorks America management consultants and district directors. They also conducted 29 telephone interviews to obtain additional input.

Jensen found three key themes:

1. Resources are insufficient to satisfy the need for housing rehabilitation .
2. Federal and local funding for housing rehabilitation are becoming increasingly scarce.
3. NeighborWorks organizations consider housing rehabilitation to be central to their business culture; however they believe that they have not paid it the attention it deserves.

Furthermore, in the second part of the study, many recommendations were made for best practices in the areas such as: Design, Inspections, Estimating, Specification Writing, Project Management and Green Building.

Another study that aimed to help organizations prepare and improve rehabilitation programs was “Substantial Rehabilitation & New Construction” (Duncan et al 1991). The information for this paper was gathered by the Rehab Work Group at The Enterprise

Foundation, a national nonprofit organization that aims to help low-income Americans obtain affordable housing. The foundation works with local nonprofit housing organizations to reduce construction costs, find low-rate financing, and increase housing production and preservation activities. In this study, the authors stated that “Americans with low and moderate incomes must rely on preservation and rehabilitation of our aging, existing housing stock, and very low cost new construction”. The author of this study tried to contribute solutions for the challenges facing the housing industry, such as changing outmoded regulations, identifying ways to cut costs without sacrificing quality, and increasing efficiency—by adopting advanced management techniques that offer practical solutions with lower overhead. The core concept of Duncan’s study is to provide a manual that focuses on the problems of design, budgeting, and the physical rehabilitation of housing that can be used by any organization interested in providing housing rehabilitation programs.

Finally, recent research by Diaz (2014) “Benchmarking Current Perceptions of General Contractors of Return on Investment on Rehabilitation Housing Projects: A Case Study in the State of Texas” investigated the perception of the general contractors who worked with Corporation X. Diaz interviewed the contractors using Plus/Deltas tables and found that the morale of general contractors is high, that cost constraints challenge their ability to meet quality standards, and that they maintain work with high safety standards. Diaz made recommendations regarding the findings that are expected to be applied by Corporation X to their future projects. Although Diaz’s research is similar in approach to

this investigation, it only focuses on the relationship between two parties; Corporation X and its general contractors. For that reason, this research will fill the information gap by obtaining the homeowner's input.

3. METHODOLOGY

3.1 Introduction

The objective of this exploratory case study research was to collect the perceptions of homeowners who currently live in rehabilitated homes from the Veteran's Program across the state of Texas.

The data was collected with a modified version of the open-ended questionnaire proposed by Diaz (2014). This questionnaire is divided along the areas of lean construction's categories: time, cost, quality, safety and morale. In addition, this questionnaire is based on a lean tool called the Plus/Delta table that helps to gather and organize data collected from the homeowners.

3.2 Population of study

The subjects who participated in this research were the final users of the Veteran's Program of Corporation X. These final users were homeowners who had already completed the process of acquiring a rehabilitated house through the Veteran's Program. The initial sample included 32 homeowners representing the whole population of the program. Contact information for each homeowner was provided by Corporation X. After the researcher approached each of the homeowners via email and telephone, a final sample of 20 homeowners agreed to participate in the study.

3.3 Delimitation and limitations

3.3.1 Delimitations

- The research focused on house rehabilitation projects only.
- The research was limited to the state of Texas in the United States of America.
- The qualifications to be considered eligible for the Veteran's Program, which were established by Corporation X are the following:
 - A. Households may not earn more than 120% of the area median income for the county in which a property is located.
 - B. US military veterans must demonstrate that they have received discharge orders other than dishonorable, if not engaged in active duty.
 - C. Households must have sufficient income to afford the long-term costs of homeownership, including taxes, insurance, property owner's fees, if any, and general maintenance.
 - D. Households must complete homebuyer education from a certified housing counselor.

3.3.2 Limitations

- The findings examine a program in one state (Texas) and as such, cannot be generalized to all the affordable housing rehabilitation programs in the US
- This is a qualitative research with semi-structured interviews and should be validated with a quantitative statistical survey.

3.4 Methodology

This research was divided into two parts. The first part was the determination of the current state of the Veteran's Program, accomplished by collecting data from homeowners and the second part was to propose a future state of the program based on analysis of the results.

The data collection was accomplished through interviews held with each homeowner. To perform these interviews a Texas A&M Institutional Review Board approval was obtained (Appendix A). After receiving the approval an Interview Protocol was created (Appendix B).

The first contact with the homeowners was made by Corporation X, which sent a letter through the US mail with information about the study. The letter also explained that the researcher would be contacting them in the following days via email to explain the purpose of the study in more detail. The researcher contacted each homeowner to set up interviews. The homeowners were asked to provide a preferred date, time and type of interview (face-to-face or by phone). All the homeowners were provided with an information sheet by email that contained all the information necessary for the understanding the study. Before the interview began, verbal consent was obtained from the homeowner to provide authorization to use audio recording during the interview.

The audio recordings were used to warrant the accuracy of the responses at the moment of compiling the answers. After the interviews were performed, a summary of each response was entered into the Plus/Delta tables.

Plus/Delta tables are a powerful tool used to gather information to improve any process, but they often misused ("Ron" 2007). The biggest mistake with pluses and deltas revolves around the proper definition of plus and delta ("Ron" 2007). Arboles (2012) defines pluses as "elements, activities, actions, ideas that are 'positive' and which we want to repeat or do more of," and explains that deltas "are not negatives or bad things, referring to the Greek symbol often used to connote change. These are things we'd like to 'change' or 'do better' the next time around." This research used the concepts of "Plus" (+) as it represents the positive responses towards the program and "Delta" (Δ) as the responses where the program can be improved to reach a future state.

4. DATA ANALYSIS

4.1 Introduction

The purpose of this section is to establish the current state of the Veteran's Program. The first step was to interview a representative from Corporation X regarding the process that a homebuyer goes through to acquire a house. The process was mapped to facilitate understanding the responsibilities from each participant as well as the time frame for each activity. The third step was to interview the 20 homeowners who participated in the Veteran's Program and currently live in their rehabilitated houses. Finally, the responses were analyzed to provide the current state of the Veteran's Program, based on the homeowners' perspective.

4.2 Veteran's program

The Veteran's Program provides rehabilitated housing to US military veterans who are disabled and/or have low-to-moderate incomes. Veterans meeting certain eligibility requirements can purchase a home at a discount (25% off the listing price), or in some circumstances, receive a home as a donation.

4.2.1 Application and buying process

The following information was collected at an interview of a representative of Corporation X:

A prospective homebuyer who wants to acquire a rehabilitated house contacts the Local Partner in charge of the sale of the property, And then the application and buying process begins.

This process was mapped as a swim lane diagram based on the information provided by the Corporation X representative. A swim lane diagram, also known as a cross-functional diagram or a Rummler-Brache diagram, provides a visual representation of a process. “Arranged horizontally or vertically, this diagram demarcates responsibilities for sub-processes. Each member is assigned to a lane(s) and the diagram looks like a swimming pool metaphorically. Each lane helps visualize a particular stage, employee or department” (Casestudyinc 2011).

The application and buying process studied in this research comprises the following 8 steps:

1. Documentation
2. Qualification
3. Verification
4. Contract
5. Inspection
6. Fixes
7. Closing
8. Post-process occupancy

These steps were mapped as mention before in the following swim lane diagram (Figure 2).

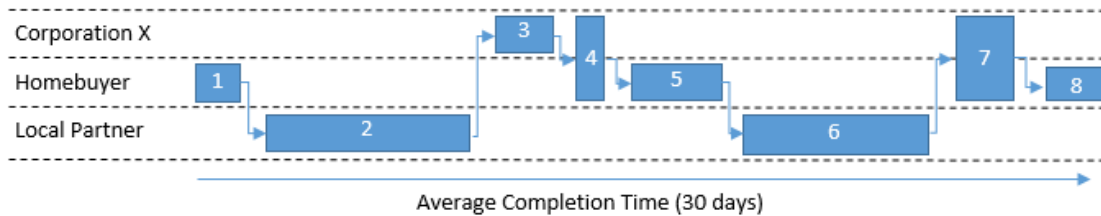


Figure 2. Swim Lane Diagram of the Veteran’s Program

1. Documentation: A homebuyer interested in acquiring a home listed under the Veteran’s Program gathers all the documentation required by the Local Partner. To meet eligibility requirements mentioned above, the homebuyers must submit the following documentation:

- A Housing Income Certification Form, completed and signed by anyone in the household over 18 years of age;
- Proof of income for everyone in the household over 18 years of age;
- US Military active duty certification or honorable discharge paperwork;
- Proof of disability status, if applicable;
- Prequalification worksheet from the lender stating that the veteran qualifies for a mortgage in the amount of at least 75% of the list price;
- Proof of registration in a Housing Counseling or Homeownership Education Course (proof of completion will be needed before closing); and
- Signed copy of Testimonial and Photo Release.

It may take several days for the homebuyer to complete and submit the paperwork for this first stage . The time is determined by the homebuyer's speed in gathering the documents and by the speed of the respective government entities that provide some of the required documents.

2. Qualification: After the homebuyer submits the documents , the Local Partner reviews the application and confirms that the homebuyer qualifies for participation in the Veteran's Program. After all the documents are reviewed and properly arranged, the Local Partner sends them to Corporation X. This secondary stage may take from 1 day to 2 weeks. The time frame is measured from the day that the Local Partner receives the homebuyer's application until the last application document is received by Corporation X.
3. Verification: In the third stage of the application process, Corporation X verifies the application. During this stage, all the documentation from the homebuyer is corroborated with the original source. This may take between 2 and 3 days to reach its completion.
4. Contract: After the homebuyer is selected to participate in the program a representative from Corporation X meets with the homebuyer. During this meeting both parties will prepare and sign the contract for the sale of the home.
5. Inspection: Once the contract is signed, the homeowner is responsible for locating a licensed inspector. The inspector checks the complete exterior and interior of the house and all the different systems within it. Then the inspector will write a complete report as well as a punch list. The buyer uses the punch list to inform the Local

Partner of all the repairs that are required before closing on the house. The inspection usually takes from 3 to 5 days to be completed.

6. Fixes: The Local Partner is in charge of performing all the repairs that he finds necessary. Although the homebuyer may request a specific repair, the decision about what will actually be fixed is left completely to the Local Partner's discretion. A representative of Corporation X performs some scheduled supervision and can request any fixing that he or she finds necessary (these repairs are mandatory for the Local Partner). The time frame for this stage is directly influenced by the amount and depth of the repairs. This stage usually lasts for 1 to 2 weeks.
7. Closing: Finally, after the Local Partner finishes the repairs, the homebuyer and the representative meet one last time to complete all the paperwork. Then the homebuyer acquires the title of the house and becomes the homeowner.
8. Post-process occupancy: Immediately after closing on the house, the homeowner may move into the rehabilitated unit.

4.3 Analysis of the data obtained from the interviews

Corporation X provided the contact information for each homeowner, which allowed the researcher to collect the responses from them. This data was collected in face-to-face interviews or through phone calls with the homeowners and was organized into Plus/Delta Charts, as described in section 3.4. It is important to clarify that the Plus/Delta responses of the homeowners are not mutually exclusive. In fact, the

interviewees were encouraged to provide pluses and deltas for each question. This type of combined Plus and Delta responses were compiled as “qualified answers”.

4.3.1 Question 1

How long have you been living in your current rehabilitated house?

A total of 20 homeowners were interviewed and their answers were:

H1: 14 months

H2: 1 month

H3: 5 months

H4: 4 months

H5: 1 month

H6: 4 months

H7: 12 months

H8: 11 months

H9: 2 months

H10: 15 months

H11: 8 months

H12: 5 months

H13: 18 months

H14: 16 months

H15: 10 months

H16: 7 months

H17: 14 months

H18: 12 months

H19: 13 months

H20: 2 months

The Veteran's Program was created in the first trimester of the year 2013 (approximately 19 months from the time of this thesis). The purpose of this question is to obtain a time reference for the responses of the next questions.

The shortest time that an interviewed homeowner had been living in the current rehabilitated house was 1 month.

The longest time that an interviewed homeowner had been living in the current rehabilitated house was 18 months.

The average time that the interviewed homeowners had been living in the current rehabilitated house was 8.7 months.

4.3.2 Question 2

Using a Plus/Delta table, collect homeowner's perceptions toward time issues faced during the acquisition process of the affordable rehabilitated housing unit.

This question collected the impression of the homeowners towards the expected average of 30 days to acquire the rehabilitated house. The acquisition process consists of the steps 1 through 8, explained in Section 4.2.1.

The collected answers from the homeowners can be observed in the Table 2.

Table 2 Collected answers from the homeowners regarding the question 2

Homeowner	+	Δ
H1	The Corporation X representative was very helpful during the buying process.	Provide more information during the buying process. The process could be a little faster. It was delayed because the local partner was looking for disabled candidates.
H2	The house acquisition was kind of quick. It was fast and easy.	The original documents from the house are taking too long to be delivered to me.
H3	Nothing to add.	The process took much longer than expected. Too much back and forth during the acquisition process. The VA loan created most of the delay.
H4	Nothing to add.	Acquiring some of the documents took too much time. Need to improve in the duration of the acquisition process.
H5	It was very fast to sign the contract. Less than what I was expecting.	After signing the contract there was a lot of fixing left to do, so a delay was created before I could move in.

Table 2 Continued

Homeowner	+	Δ
H6	Nothing to add.	The buying process was too slow. It took way longer than what I expected.
H7	It was a quick process. The people that helped me were very polite.	Nothing to add.
H8	Nothing to add.	I felt a bit lost after submitting the papers. It took longer than I was told it would take.
H9	Nothing to add.	The contract signing date was an issue for me because I had to accelerate the process for personal reasons. For me, the process is not over yet because I have complaints that at this moment have not been resolved.
H10	Nothing to add.	The time was longer than I expected. The bank didn't have enough information about the requirements for the program and that created a lot of delay. The people that we talked to during the process need to be better informed.
H11	The process was quick after we solve the issues with the bank.	It took a while. There were mix-ups with the bank about the paperwork. There was a lot of back and forth with the bank.

Table 2 Continued

Homeowner	+	Δ
H12	Everything was pretty quick. It was fast.	Nothing to add.
H13	Nothing to add.	It took quite a while. There was a lot of confusion on the lender's part during the process.
H14	Nothing to add.	It was a slow process, but we were patient.
H15	It was pretty quick after the submission of the paperwork.	The paperwork was a bit complicated to collect, but I guess that was part of my responsibilities.
H16	Nothing to add.	There was a lot of back and forth with the paperwork. It took a very long time. The people I worked with were not familiar with the program, and that caused the delay. Also, the inspection and fixes added to the delay.
H17	It was fast.	There was a small delay with the credit approval, but the program doesn't have anything to do with that.
H18	It was a pretty quick process. It was speedy.	Nothing to add.
H19	Nothing to add.	The whole thing was really long and frustrating. There were problems with the paperwork that we gathered, and later we had problems getting the house inspected, which created delays for closing the house.

\

Table 2 Continued

Homeowner	+	Δ
H20	Nothing to add.	The process took too much time. It was frustrating. The realtor kept requesting documents over and over again. I got so tired of the amount of paperwork that I almost canceled the whole thing.

4.3.2.1 Plus

Three (3) out of twenty (20) homeowners (15%) considered the acquisition process was quick (30 days or less).

4.3.2.2 Qualified

Six (6) homeowners out of the twenty (20) interviewed considered that the process was pretty quick but it have areas that needs to be improved.

4.3.2.3 Delta

Fifty five percent (11 out of 20) of the homeowners considered the process take too much time and think it should be faster.

When the homeowners were asked why they considered the process slow, one major issue was cited by the majority of interviewees. The most common cause of the delays

mentioned by the homeowners was the lack of information throughout the process. Lenders, realtors and even the homeowners lost time while going back and forth collecting, organizing and/or processing the paperwork, as well as learning what actions needed to be followed after each step.

4.3.3 Question 3

Using a Plus/Delta table, collect homeowner's perceptions toward cost issues faced during the acquisition process and post-occupation phase of the affordable rehabilitated housing unit.

The collected answers from the homeowners can be observed in the Table 3.

Table 3 Collected answers from the homeowners regarding the question 3

Homeowner	+	Δ
H1	House discount was really good.	After acquiring the house, many fixes were made that increased the cost but it was not too high.
H2	The house was donated.	Nothing to add.
H3	The cost of the house was very cheap.	The cost of the fixes did not make a big impact on the overall cost of the house.

Table 3 Continued

Homeowner	+	Δ
H4	The program offers a great deal. It really helps the veterans.	Nothing to add.
H5	It is a great discount. The final price was really good.	Nothing to add.
H6	I feel satisfied with the price/quality ratio.	Nothing to add.
H7	Amazing price.	Nothing to add.
H8	It was a good price.	I had to spent some money on repairs.
H9	Nothing to add.	It was not what I was expecting to get for what I paid. The house is not worth the price that they said.
H10	The price was absolutely amazing. The home was way lower than similar houses.	No major cost in repairs after moving in.
H11	We are very pleased with the price. Is a really nice house.	Nothing to add.
H12	The house was totally worth the price. It was way less than I was expecting to pay for the house.	Nothing to add.
H13	It was a fair price for the house.	We had to spent money that we didn't have in repairs after moving in.

Table 3 Continued

Homeowner	+	Δ
H14	The price was the main reason we took the house.	Nothing to add.
H15	The cost of the house after the discount was very good.	But the full price of the house was definitely over the actual price of it.
H16	Nothing to add.	Including the discount it is complicated because there were a lot of fixes that needed to be done after I moved in. I was able to manage the out-of-pocket expenses.
H17	No complaints. The price was very good.	Nothing to add.
H18	I think the price was great. We were informed that the house might have issues but still the house was really good.	Nothing to add.
H19	The discount on the house was good.	We had complaints about what we paid versus what we got.
H20	The price was the only reason we got the house. It was a great deal.	Nothing to add.

Providing an affordable rehabilitated house is the ultimate purpose of the Veteran's Program. Corporation X provides a discounted price of 25% off the listing price of the

house to the qualifying veterans. In some cases, Corporation X will donate the house, paying 100% of the listing price to disabled veterans who qualify for this option.

4.3.3.1 Plus

Fifty five percent (55%) of the homeowners considered that the price of the house (after discount or after donation) was very good and they felt pleased with what they paid for.

4.3.3.2 Qualified

Although the majority of the homeowners were pleased with the price they paid, 7 of the 20 homeowners commented that price presented a “great deal” and the “price was fair” but some repairs were required after occupancy. These repairs created unexpected expenses. In the majority of cases (5 out of the 7 qualified answers), however, the money spent in repairs was much less than the money saved by the discount.

4.3.3.3 Delta

Ten percent (10%) of the homeowners expressed that the price of the house did not satisfy their expectations. One had to spend too much money in repairs after moving in, which made the discount provided by the program not as profitable as he expected. The remaining homeowner was misinformed about the condition of the house and it was not what the homeowner was expecting in regards the final price of the home

4.3.4 Question 4

Using a Plus/Delta table, collect homeowner's perceptions toward quality issues faced during the post-occupation phase of the affordable rehabilitated housing unit.

The collected answers from the homeowners can be observed in the Table 4.

Table 4 Collected answers from the homeowners regarding the question 4

Homeowner	+	Δ
H1	Nothing to add.	Low Quality. Finishing such as: paint, cloaking, cabinets, drawers and roof leaks were poorly done. The general contractor did not pay attention to the required repairs. Too many repairs were required after acquiring the house.
H2	Is really good because it was a renovated house and is very nice.	Part of the roof fell in and left a hole. The explanation that I got was that there was a poor job with the A/C system.
H3	Good price/quality for the neighborhood.	After a few weeks, a problem with the plumbing system appeared, but it is understandable that general contractor didn't notice during the rehabilitation process.

Table 4 Continued

Homeowner	+	Δ
H4	Overall, satisfied with the quality of the house.	Had to do some fixes after the acquisition of the house; nothing major. The inspector mentioned that the roof only had 5 years left, and the general contractor said that they won't fix something that lasts 5 years or more.
H5	After all the repairs, the house was really good. Really good quality.	Things were not done on time that created a delay. Also, the house didn't have electricity for 2 weeks. At the end, they fixed the problem.
H6	Great quality. The contractor fixed all of the problems.	Nothing to add.
H7	The house is great. I love it.	Nothing to add.
H8	Great quality.	There were some fixes that I had to do. Nothing major, but it cost money that I was not expecting to spend.
H9	Nothing to add.	This is a huge issue for me. The quality of the house is not even close to what I expected to get. I was informed that the house was an older house, but the work that the contractor did was a mess. The work was sloppy. There were many things that were not fixed such as: old toilet seats, holes in the kitchen cabinets, old appliances, problems with the

Table 4 Continued

Homeowner	+	Δ
H9		roof, no hot water. Some of the repairs that they did were not done properly.
H10	The house is very good.	The finishes could have been done better. There were a few problems with the plumbing, but it was after moving in.
H11	Very good house. It was renovated very nicely. They did a very good job renovating it.	There were minor details, but nothing important.
H12	The general quality of the house was good.	After a few months, there were some cracks started to appear, so there may be foundation problems, but at the moment I bought the house, it was perfect.
H13	There were many things that they replaced and they accommodated some of the things that we requested.	After closing, but before we moved in, the water heater flooded the house. The floor had to be replaced before we could move in. There were problems with the foundation, but it was fixed by the contractor. There was a major cockroach infestation. Regarding the electrical system, there were many problems; we had to hire an electrician to replace major things. There was no hot water. We had a lot of requests but they didn't go through all of them.

Table 4 Continued

Homeowner	+	Δ
H14	We were told about the condition of the house. We knew we were buying it “as-is”. The quality was higher than what we were expecting, but still we wanted to make some changes.	Nothing to add.
H15	At the time of closing, the house was great.	A few weeks after moving in, there were some problems with the plumbing and electricity, but neither the contractor nor the inspector spotted the issues, so I had to fix them myself.
H16	Most of the repairs were cosmetic. It looks decent, but the major repairs were not done because of the profit margin.	The contractor only did enough to pass the inspection. After I moved in, I had to do a lot of fixing. Electricity, plumbing, insulation, everything needed repair. They didn’t want to level the house, but the contractor had to fix it to pass the inspection.
H17	Nothing to add.	They did a poor job with the tile. The water heater never worked properly.
H18	There were no major repairs required.	There were problems with the plumbing, but we fixed it.

Table 4 Continued

Homeowner	+	Δ
H19	Nothing to add.	When we did the walkthrough, we made a list of all the things that we wanted fixed, but the contractor was reluctant to make the changes. He said that they had a budget and they would fix what they found necessary. After we moved in, we found out that there were drawers that didn't work, and the paint job was very poorly executed.
H20	The quality was not bad. We told them about repairs needed in the plumbing system, the A/C unit, the water heater, and they fixed it.	There were certain repairs that the contractor skipped, but they were minor things like holes in the wall. No deal breakers.

The quality of a rehabilitated house is a complex subject, because the scope of work necessary to fully rehabilitate a house is completely subjective. The Local Partner relies on his or her criteria and experience to decide which repairs are necessary and which are not. The same situation is present from the homeowner's perspective. The homeowner can differ with the Local Partner on which repairs are a priority and which are not. Consequently, this question only accounts for the homeowner's perspective and satisfaction with the work performed on their house.

4.3.4.1 Plus

Three (3) of the twenty (20) homeowners (15%) considered their house to be of “great quality” and had no complaints during the post-acquisition phase.

4.3.4.2 Qualified

Sixty percent (65%) of the interviewed homeowners (13 out of 20) considered that their house had a good quality but there were problems present when they moved in into the house. Owing to the variety of problems faced by the homeowners, the researcher divided the problems into two groups according to impact of the repairs. The first group included 6 homeowners who had to perform “minor” repairs. These repairs were the ones that were easy to fix and did not have a large impact on the homeowner’s pocket, such as: finishing (paint, tile installation, kitchen cabinets, etc.), light fixture replacement, etc. The other group is formed by the remaining 7 homeowners who complained about the “major” repairs they faced after moving in. These repairs affected the homeowner’s quality of life or generated a large expense to the homeowner such as: water heater replacement, roof deterioration, electrical and plumbing systems failure, etc.

4.3.4.3 Delta

Four homeowners (20%) commented that their house had issues that represented a low quality home.

4.3.5 Question 5

Using a Plus/Delta table, collect homeowner's perceptions toward safety issues faced during the acquisition process and the post-occupation phase of the affordable rehabilitated housing unit.

This question was aimed to obtain not only an opinion regarding dangerous environments or events inside or outside of the house but also to consider the feeling of insecurity that the homeowner felt during the acquisition process.

The collected answers from the homeowners can be observed in the Table 5.

Table 5 Collected answers from the homeowners regarding the question 5

Homeowner	+	Δ
H1	The house is safe. Structurally sound.	Nothing to add.
H2	Besides the roof problem, there was no other problem with the house.	Parts of the roof fell in, and a report was filed and the roof is still waiting to be fixed.
H3	Everything looks and feels good. The house feels safe.	Nothing to add.
H4	Satisfied. Do not feel insecure in the house nor did I during the process.	Nothing to add.

Table 5 Continued

Homeowner	+	Δ
H5	The safety of the house is very good.	Nothing to add.
H6	The house is in great condition.	Nothing to add.
H7	The house is perfect.	Nothing to add.
H8	It feels safe.	Nothing to add.
H9	Nothing to add.	The house has a lot of problems. Just the problems with the toilet create hygienic issues.
H10	The structure is good; it has a perfect foundation.	There was a moment during the process that I thought that I might lose the house due to the delays, and I felt insecure.
H11	The house is very good.	The process was taking too long. We had other options, and we got worried because we were anxious to move in.
H12	Everything went smoothly. The house is great.	Nothing to add.
H13	Nothing to add.	There were cables exposed in the back yard, and we have kids, so that was really dangerous. Also I suffer from asthma and we had to clean the ducts, and that affected

Table 5 Continued

Homeowner	+	Δ
H13		my breathing. The house didn't have the proper accommodations for a disabled veteran, and that created a lot of safety hazards . At one point, we felt unsure because of the long time we had to wait for the house. We even thought that because of the number of repairs, they were going to say that they couldn't do the repairs and that we wouldn't get the house.
H14	There is nothing life-threatening.	Nothing to add.
H15	The safety of the house is very good.	Nothing to add.
H16	Nothing to add.	The bathroom lights came off the wall. The electrical breakers burned down.
H17	The house is in great condition.	Nothing to add.
H18	The house is pretty good.	Nothing to add.
H19	Nothing to add.	We found some cracks in the wall, but there is no problem with the foundation nor the structure.
H20	The house does not pose any hazard to us.	Nothing to add.

4.3.5.1 Plus

Most of the homeowners (70%) commented that their house was in perfect condition and that they feel it is safe for the people who live there.

4.3.5.2 Qualified

Another 10% (2 out of 20) of the homeowners considered the house to be very good but expressed feelings of uncertainty about the actual acquisition of the house owing to the many problems and delays faced during the process.

4.3.5.3 Delta

There were 4 homeowners (20%) who reported a dangerous situation in the house during the time they were living in there. The dangerous situations presented to the homeowners were the following:

- a. Part of the roof fell into the house as a result of a poor A/C job.
- b. The bathroom lights came off the wall.
- c. Hygienic issues
- d. Electrical cables were exposed; dust in the air ducts affected the asthma of one homeowner.

Furthermore, the last homeowner on the list (d) commented that the house did not have the proper accommodations for a disabled veteran, and this created many dangerous situations.

4.3.6 Question 6

Using a Plus/Delta table, collect homeowner's perceptions toward morale issues faced during the acquisition process and post-occupation phase of the affordable rehabilitated housing unit.

This question collected the overall feeling towards the program itself. The collected answers from the homeowners can be observed in the Table 6.

Table 6 Collected answers from the homeowners regarding the question 6

Homeowner	+	Δ
H1	Great deal.	Left a bad taste due to low quality of the job performed by the general contractor and because the general contractor did not take our input into consideration.
H2	I feel truly thankful.	Nothing to add.
H3	I feel very happy with the whole program and the house. It took a little bit of work, but I feel very happy.	Nothing to add.
H4	Very satisfied.	Nothing to add.

Table 6 Continued

Homeowner	+	Δ
H5	Is a great program.	I have a problem with a condition in the contract that doesn't allow me to study in another city because it says that it must be an owner-occupied house, and I cannot be living in another place. This made me very upset because it put restraints on what can and cannot do. They really need to fix those conditions because causes a lot of problems.
H6	I feel extremely thankful. Corporation X was wonderful. I am very happy with the program.	Nothing to add.
H7	It is a great program. I feel really happy and thankful.	Nothing to add.
H8	I feel satisfied with the whole experience.	Nothing to add.
H9	Nothing to add.	I am really upset. There were too many disappointments with the house, and the people that I had to deal with were rude and even arrogant. I feel that these people are not using the government's money properly. I would like to get out of the deal, but my credit will be ruined if I do that. I am currently trying to get a solution

Table 6 Continued

Homeowner	+	Δ
H9		to all of these problems. I was not properly informed about what the conditions of the house were going to be.
H10	Is an awesome program. I feel really happy. Other programs are complicated and tricky.	I would have liked to feel more informed about the process.
H11	I am very pleased with the program. Corporation X was very helpful. I will recommend it to other friends.	Nothing to add.
H12	I am grateful for the opportunity of participating in the program. It was definitely a boost to my morale because I am providing a home for my kids.	No complaints about anything.
H13	Corporation X was great. Their representatives solved all of our problems and were really nice. That made us feel good about the program.	We were misinformed. We thought that the house was going to be renovated and it was going to look brand new. We feel confused about the intention of the program because there were unethical people and sometimes we felt cheated by them.
H14	It is a very good program. I am very happy with the house and I will recommend it to someone else.	Nothing to add.

Table 6 Continued

Homeowner	+	Δ
H15	The program is really good it definitely provide help to the veterans.	Nothing to add.
H16	I feel really good about the program. It is fantastic. The people were great. I would recommend it.	The house doesn't have the quality that I was expecting, and that decreased the level of satisfaction regarding the work done to the house.
H17	I'm 100% satisfied. I am really happy with the whole process and the program	Nothing to add.
H18	We were skeptical because the program offers a discount that was too good. But at the end it was great we are completely satisfied and we feel very happy with the deal we got.	Nothing to add.
H19	The concept and goal of the program is great.	Corporation X should oversee the projects because things like this can happen to other people.
H20	The Corporation X representative made it easier for us. We are saving money for some changes and repairs to the house, but we are happy with the help provided by the program.	The people that work directly to the buyer should be better prepared, so we as buyers don't get so frustrated during the process.

4.3.6.1 Plus

Twelve (12) out of the twenty (20) homeowners (60%) expressed their satisfaction with the program. These homeowners felt very happy and thankful for the Veteran's Program and the help provided to them.

4.3.6.2 Qualified

Even though most of the homeowners felt happy and satisfied with the program, thirty five percent (35%) of the interviewees said that they would have felt better during the process if they had not had to go through all the problems mentioned in the other questions.

4.3.6.3 Delta

One homeowner (5%) felt completely disappointed with the program and the house because of the quality of the house and the problems faced with the Local Partner during the post-process occupancy phase.

5. RECOMMENDATIONS

The following recommendations are based on the analyzed responses in Section 4 to propose a future state for the Veteran's Program.

5.1 Time

Most delays faced by the homeowners resulted from miscommunication between the parties (lenders, realtors, homeowners and Corporation X). This miscommunication or lack of information generates extra work for the homeowner by having to come "back and forth" in different stages of the process. To reduce these delays, Corporation X could create a checklist that details all of the steps and documents necessary to complete the acquisition process. With this checklist, the homeowners would have a guide that allowed them to plan ahead and avoid creating delays by fulfilling their responsibilities.

5.2 Cost

Although the price of the house is fixed (discounted or donated), homeowners faced unexpected expenses in the post-process occupancy stage. These expenses were caused by necessary repairs that were not resolved by the Local Partner. Therefore, if the quality of the work done by the Local Partner improved, the homeowner would have fewer repairs necessary in the rehabilitated house. Furthermore, increasing the quality of the house, will directly increase the value of the house, making the investment even more profitable for the homeowner.

5.3 Quality

As discussed in Section 4, quality is a complicated topic because of the subjectivity of the scope of work. Therefore, it is necessary to create controls to maintain high quality standards during the rehabilitation of the house. To create these controls, Duncan (1991) suggests elaborating a punch list at the time of substantial completion with the contractor (Local Partner) for the purpose of itemizing incomplete or unacceptable work items. Also, a final inspection will be necessary to verify the completion of the punch list.

Another control suggested by Duncan (1991) that can be implemented for quality purposes is to perform a post-work performance evaluation to the Local Partner. This evaluation would provide important data that can be used to keep improving the policies and procedures of the program.

Examples of the punch list and the evaluation form can be found in Appendix C

5.4 Safety

Although there were few comments by the homeowners, safety is an issue that needs to be given priority in every project. Corporation X should require contractors to have a safety supervisor at all times while the house is being rehabilitated.

5.5 Morale

Although the morale of the homeowners is high, they mentioned that it could have been better if they did not have to face all the issues during the acquisition process. The issues presented by the homeowners during this research can be prevented for the future homebuyers and homeowners. To do this is necessary to keep improving. One thing that Corporation X can do is to create a “Homeowner Survey”. This survey will need to cover every step of the process to evaluate the performance of each person as well as the satisfaction level of the homeowner. The data provided by this survey will be used as quality and performance control that will the Veteran’s Program to continually improve.

6. CONCLUSIONS

This research documented the advantages and challenges faced by homeowners who participated in the Veteran's Program with the purpose of filling the gap left in the literature of the field respecting the homeowner's opinion toward rehabilitated houses.

During this study, lean construction concepts such as "current state" and "future state" were used as along with lean construction tools that facilitate the collection of data with Plus/Delta tables; this study also simplified the visualization of the acquisition process by creating a swim lane diagram. Furthermore, the questionnaire used in the interviews was based on the lean construction categories: time, cost, quality, safety and morale.

The current state of the Veteran's Program was determined by analyzing the responses of the current homeowners. In addition, a future state for the program was proposed through recommendations based on the results obtained in the analysis of the responses.

Findings show that rehabilitation does provide a safe and affordable housing solution for low-income veterans. Apart from some of the concerns raised by the homeowners such as major and minor repairs, rehabilitated houses are considered to be good quality homes that increase the morale of their owners.

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APPENDIX A

DIVISION OF RESEARCH
Research Compliance and Biosafety



DATE: May 28, 2014

MEMORANDUM

TO: Zofia K Rybkowski, PhD
TAMU - College Of Architecture - Construction Science

FROM: Dr. James Fluckey
Chair
Institutional Review Board

SUBJECT: Expedited Approval – Initial Review

Study Number: IRB2014-0248
Title: Affordable Housing Rehabilitation: Homeowner's Perspective a case study of a Veteran's Program in the State of Texas
Approval Date: 05/28/2015
Continuing Review Due: 04/15/2015
Expiration Date: 05/15/2015

Documents Reviewed and Approved:

Title	Version Number	Version Date	Outcome
Recruitment email_revised	Version 1.1	04/25/2014	Approved
Questions Interview Final	Version 1.1	04/25/2014	Approved
Proposal Velasco2014	Version 1.0	04/25/2014	Approved
Follow up email	Version 1.0	04/25/2014	Approved
irb letter of support tsahc	Version 1.0	04/08/2014	Approved
Consent - Information Sheet revised	Version 1.2	05/26/2014	Approved

Document of Consent: Waiver approved under 45 CFR 46.117 (c) 1 or 2/ 21 CFR 56.109 (c)1

- This research project has been approved. As principal investigator, you assume the following responsibilities:
- Continuing Review:** The protocol must be renewed by the expiration date in order to continue with the research project. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study termination, and/or loss of funding.
 - Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB.
 - Unanticipated Problems and Adverse Events:** Unanticipated problems and adverse events must be reported to the IRB immediately.
 - Reports of Potential Non-compliance:** Potential non-compliance, including deviations from protocol and violations, must be reported to the IRB office immediately.
 - Amendments:** Changes to the protocol must be requested by submitting an Amendment to the IRB for review. The Amendment must be approved by the IRB before being implemented.
 - Consent Forms:** When using a consent form or information sheet, you must use the IRB stamped

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- approved version. Please log into IRIS to download your stamped approved version of the consenting instruments. If you are unable to locate the stamped version in IRIS, please contact the office.
7. **Audit:** Your protocol may be subject to audit by the Human Subjects Post Approval Monitor. During the life of the study please review and document study progress using the PI self-assessment found on the RCB website as a method of preparation for the potential audit. Investigators are responsible for maintaining complete and accurate study records and making them available for inspection. Investigators are encouraged to request a pre-initiation site visit with the Post Approval Monitor. These visits are designed to help ensure that all necessary documents are approved and in order prior to initiating the study and to help investigators maintain compliance.
 8. **Recruitment:** All approved recruitment materials will be stamped electronically by the HSPP staff and available for download from IRIS. These IRB-stamped approved documents from IRIS must be used for recruitment. For materials that are distributed to potential participants electronically and for which you can only feasibly use the approved text rather than the stamped document, the study's IRB Protocol number, approval date, and expiration dates must be included in the following format: TAMU IRB#20XX-XXXX Approved: XX/XX/XXXX Expiration Date: XX/XX/XXXX.
 1. **FERPA and PPRA:** Investigators conducting research with students must have appropriate approvals from the FERPA administrator at the institution where the research will be conducted in accordance with the Family Education Rights and Privacy Act (FERPA). The Protection of Pupil Rights Amendment (PPRA) protects the rights of parents in students ensuring that written parental consent is required for participation in surveys, analysis, or evaluation that ask questions falling into categories of protected information.
 2. **Food:** Any use of food in the conduct of human subjects research must follow Texas A&M University Standard Administrative Procedure 24.01.01.M4.02.
 3. **Payments:** Any use of payments to human subjects must follow Texas A&M University Standard Administrative Procedure 21.01.99.M0.03.

This electronic document provides notification of the review results by the Institutional Review Board.

APPENDIX B

Questionnaire Protocol

Good morning (afternoon). My name is Carlos Velasco and I am a graduate student at the Department of Construction Science in Texas A&M. I am conducting a study on the homeowners that participated in the Veteran's Program from Corporation X. Thank you for taking the time to participate in this interview.

The purpose of this study is to collect the opinions of the current homeowners that participated in the Veteran's Program. There is no right or wrong or desirable or undesirable answers. This interview with you will help me significantly in my research. Your participation is voluntary and you may choose to withdraw from the interview at any point.

I would like you to know that I do not work for Corporation X and all your information will be kept confidential. All your responses will be written in a manner that no individual can be attributed to a particular person.

Tape recording instructions: (optional)

If it is okay with you, I will be recording our conversation. The only purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you.

Information sheet instructions:

Before we get started, please take a few minutes to read this information sheet (Hand the information sheet to the homeowner. After the homeowner returns information sheet, turn tape recorder on).

Questions

1. How long have you been living in your current rehabilitated house?
2. Using a Plus/Delta table, collect homeowner's perceptions toward time issues faced during the acquisition process of the affordable rehabilitated housing unit

+	Δ

3. Using a Plus/Delta table, collect homeowner's perceptions toward cost issues faced during the acquisition process and post-occupation phase of the affordable rehabilitated housing unit

+	Δ

4. Using a Plus/Delta table, collect homeowner's perceptions toward quality issues faced during the post-occupation phase of the affordable rehabilitated housing unit

+	Δ

5. Using a Plus/Delta table, collect homeowner's perceptions toward safety issues faced during the acquisition process and the post-occupation phase of the affordable rehabilitated housing unit

+	Δ

6. Using a Plus/Delta table, collect homeowner's perceptions toward morale issues faced during the acquisition process and post-occupation phase of the affordable rehabilitated housing unit

+	Δ

APPENDIX C

Extracted from Duncan, W. and Santucci, R.M. and Ruckle, G. and Buhl, K. and Enterprise Foundation. Rehab Work Group (1991). *Substantial Rehabilitation & New Construction*, 1st Ed., Springer Science+Business Media, New York.

EXAMPLE 43: TYPICAL PUNCH LIST ITEMS	
(Check off missing items and note location)	
ELECTRIC	<u>Location(s) of List Items</u>
—	All outlets and switches work.
—	Plates are straight and level.
—	All outlet plates installed tight to drywall.
—	Panel labeled for new circuits.
—	All lights have bulbs.
—	Final inspection completed.
—	Batteries in smoke detectors.
—	Other: _____
—	Other: _____
PLUMBING	
—	All fixtures work; not chipped.
—	Fixtures are secure to wall or floor.
—	Air gap for dishwasher installed.
—	Tub is caulked.
—	Aerators/escutcheon plates installed.
—	All gas connections working.
—	Final permit inspection completed.
—	Other: _____
—	Other: _____
PLASTER/DRYWALL	
—	Finished properly, sanded, ready for paint.
—	Other: _____
—	Other: _____
HVAC	
—	Diffuses are installed and working.
—	Return grille installed.
—	System operable.
—	Thermostat properly installed.
—	Condensate line for A/C is installed.
—	Flue is installed properly.
—	Humidifier and/or air cleaner installed, if applicable.
—	Filters installed, proper size.
—	Other: _____
—	Other: _____
CARPENTRY	
—	Trim is installed properly; nails set.
—	Kitchen cabinets installed properly; with enough screws.
—	Counter top screwed down.

EXAMPLE 44: CONTRACTOR EVALUATION FORM

	YES	NO
1. Did the work progress without unreasonable or unexplained delays?	_____	_____
2. Was the contractor receptive to program concerns?	_____	_____
3. Were technical guidelines (materials, quality, methods) followed?	_____	_____
4. Were attempts made by the contractor to deviate from the agreed-upon procedures or work?	_____	_____
5. Did the contractor respond to problems and complaints adequately?	_____	_____
6. Were appropriate behavior, attitude, and working relationships maintained by the contractor?	_____	_____
7. Should this contractor be considered for additional work?	_____	_____

ADD REMARKS ON ANY ITEMS WITH NEGATIVE EVALUATIONS:
