

ROOTED IN COMMUNITY:
NATIVE AMERICAN COLLABORATION
ON SMART GROWTH AND GREEN DESIGN



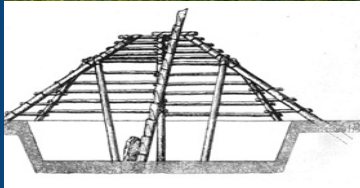
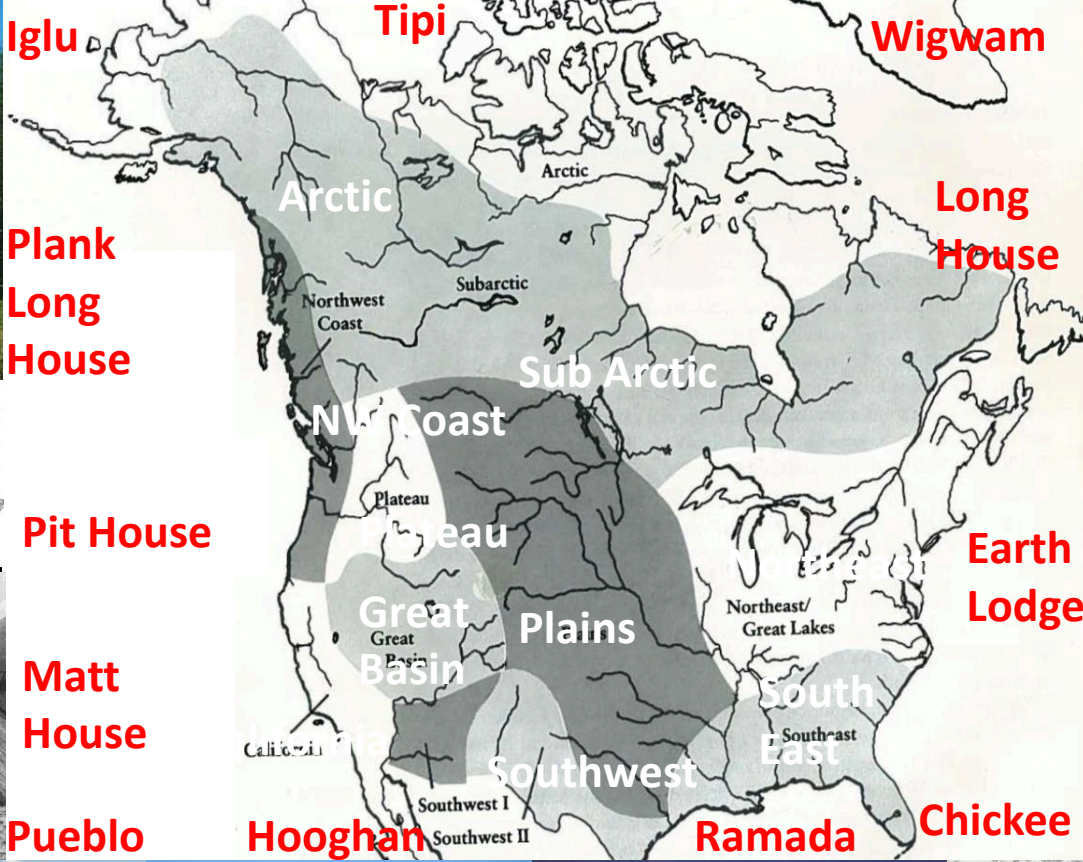
Sustainable Native Communities Collaborative

Trisha Miller, Jamie Blosser, Tomasita Duran

www.sustainablecommunities.org

www.enterprisecommunity.com

www.aosarchitects.com



- Community designers, architects, development leaders and sustainability advocates working with American Indian communities to develop a road map to sustainable development
- Collaboration, technical assistance – providing access to green building resources for long-term sustainability
- Helping communities reduce their impact on the environment, gain self-sufficiency and build healthy, affordable housing
- Case studies and research on tribal housing projects that are currently under development or have been recently completed by tribes

www.sustainablenativecommunities.org

SUSTAINABLE NATIVE COMMUNITIES COLLABORATIVE



Santo Domingo Planning Department Master Plan
Jicarilla Apache Housing Authority Scattered Site
Navajo Housing Authority Sustainable Design
NW Band of Shoshone Nation Clustered Housing
Ohkay Owingeh Owe'neh Bupingeh Rehabilitation





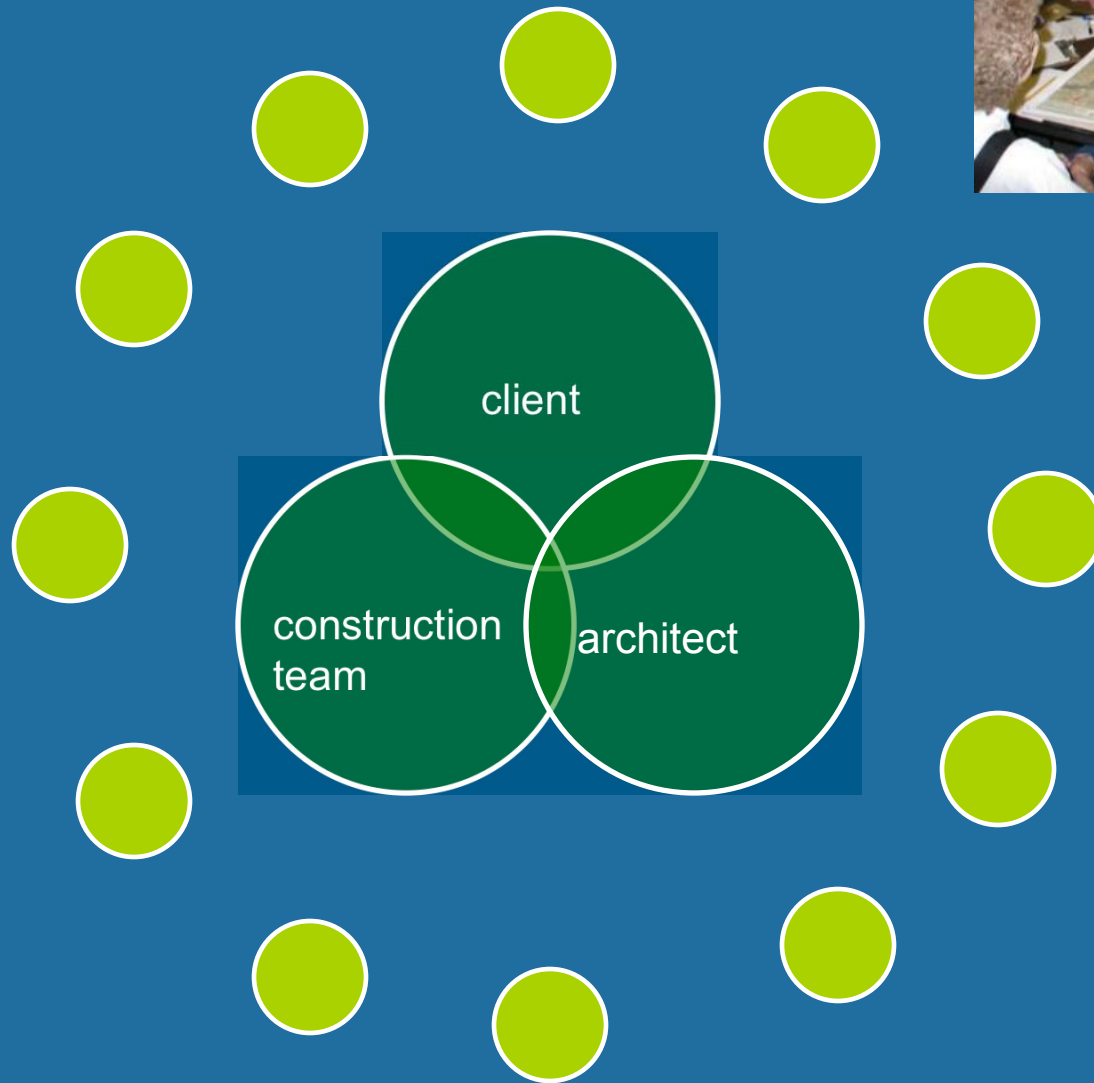
2011 Enterprise Green Communities Criteria

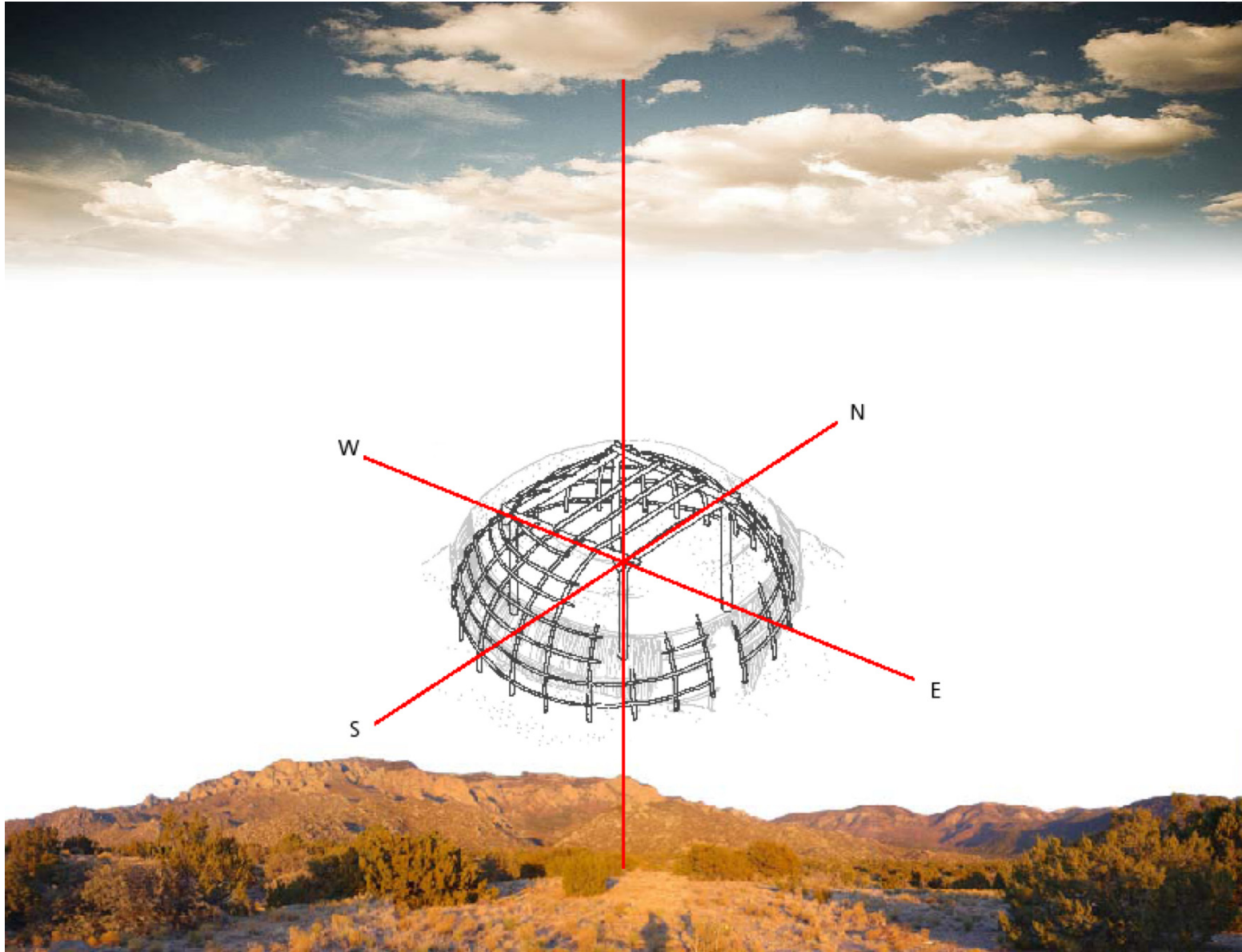
2011 Enterprise Green Communities Criteria

- Different building types
(single family, multifamily)
- Different construction types
(new construction, rehabilitation)
- Geographic Locations
(urban, suburban, rural, tribal, town)



Integrative Design



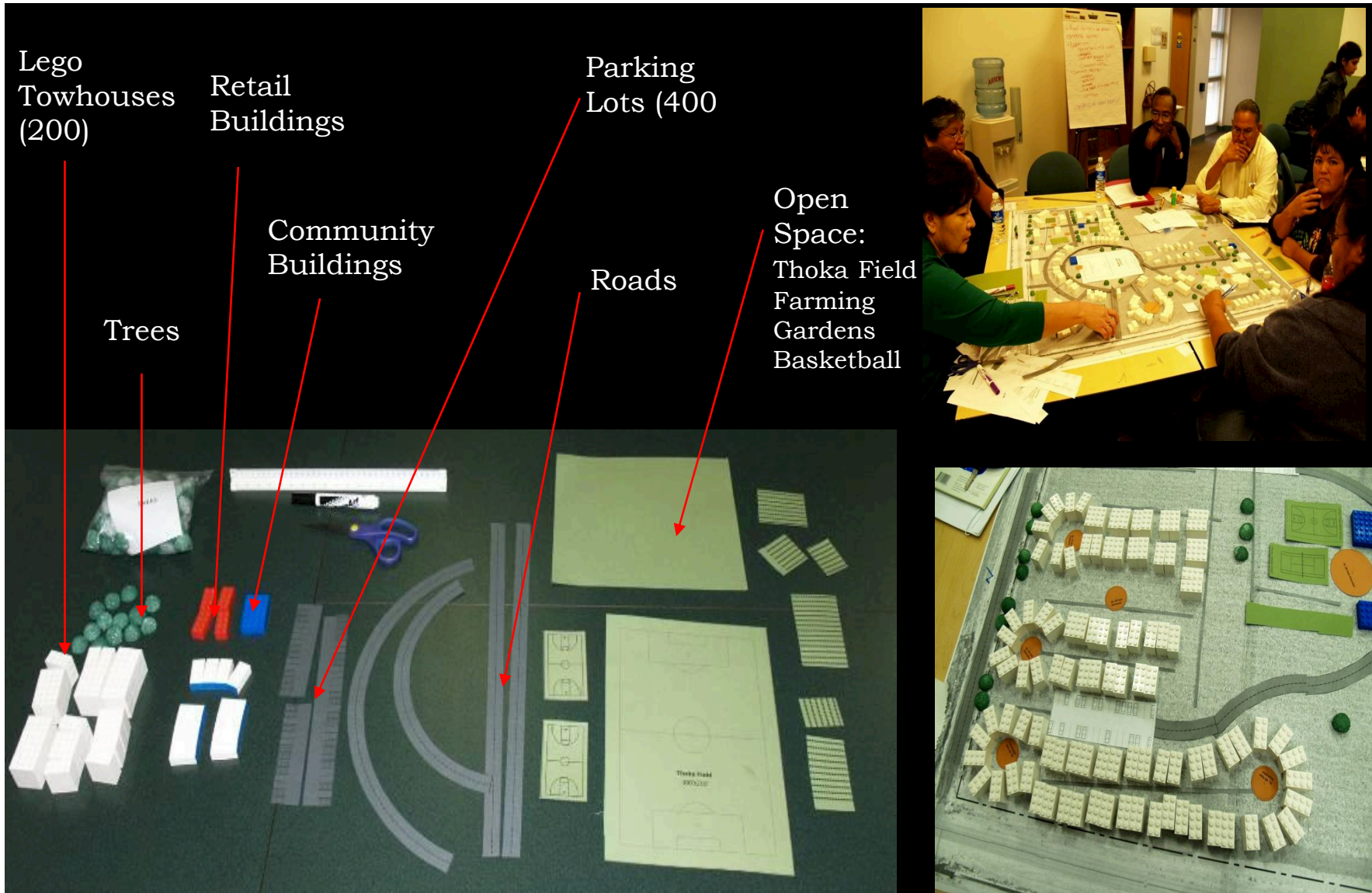


+ People
+ Economy
+ Animals

+ Culture
+ Lifestyle
+ Plants

+ Landscape
+ Resources
+ Earth and Sky

Integrative Design Meeting (Charrette)



Location + Neighborhood Fabric



Tsigobugeh Village

Desert Farmers at
the River's Edge
The Hohokam and Pueblo Grande



Phoenix, AZ

1200

Compact , multi-use development
preserved open space for agriculture, local renewable and massive materials suited to desert climate



2012

Low-density suburban sprawl, separation of uses, urban heat island effect , loss of agricultural land, non-local materials unsuitable to desert

Connect to Existing Infrastructure & Compact Development

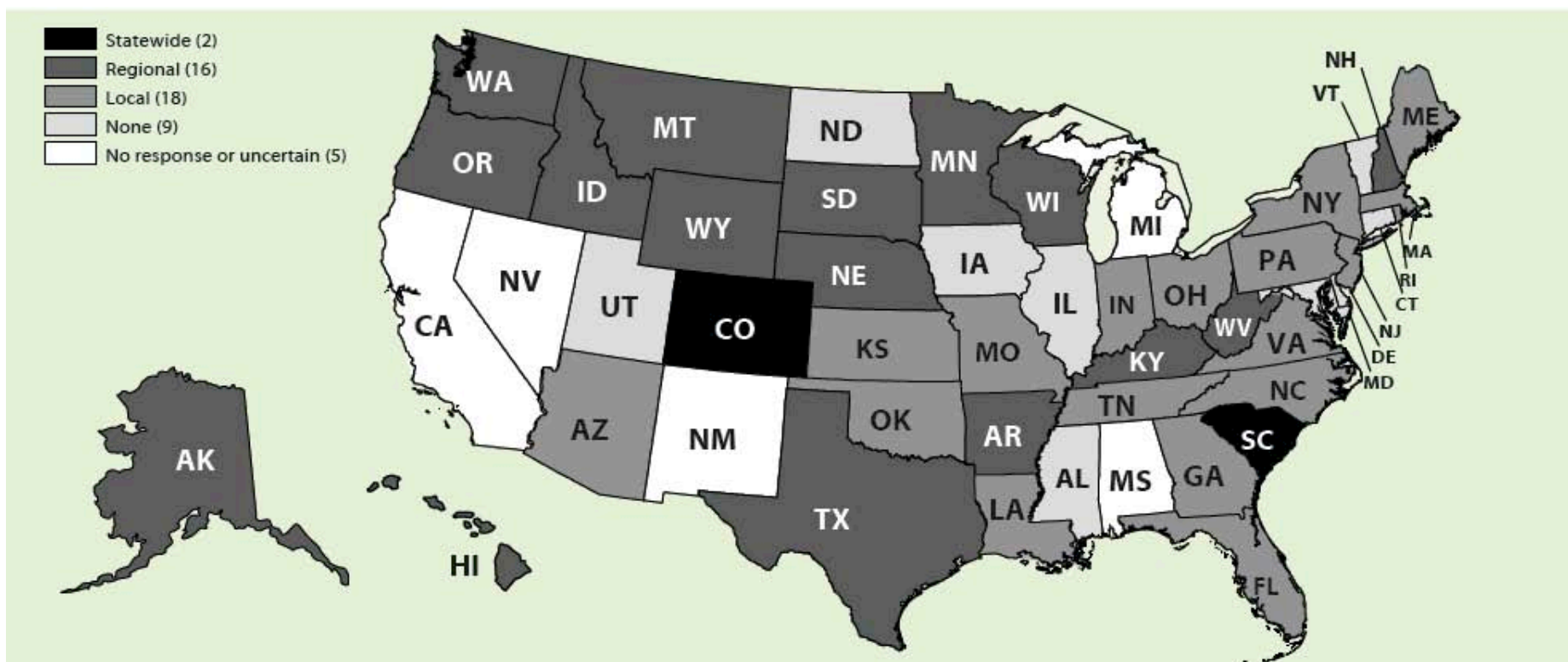
Salt River Pima Indian Community Solar Village



Site Improvements



Anticipated Water Shortages



Source: GAO analysis of state water managers' responses to GAO survey

- Extent of State Shortages Likely over the Next Decade under Average Water Conditions
- White & Light Gray states expect some shortages



Low Impact Development

stormwater management, road design, sidewalks

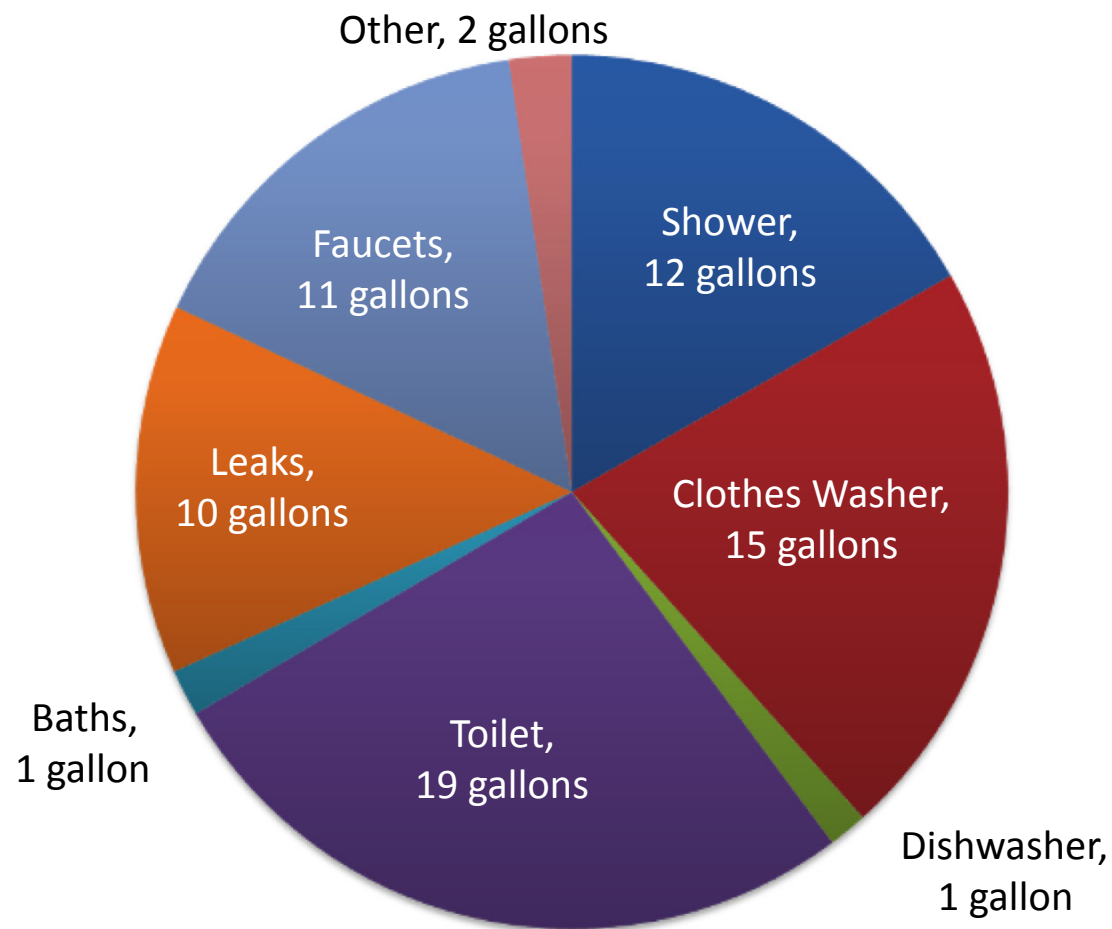


Water Conservation

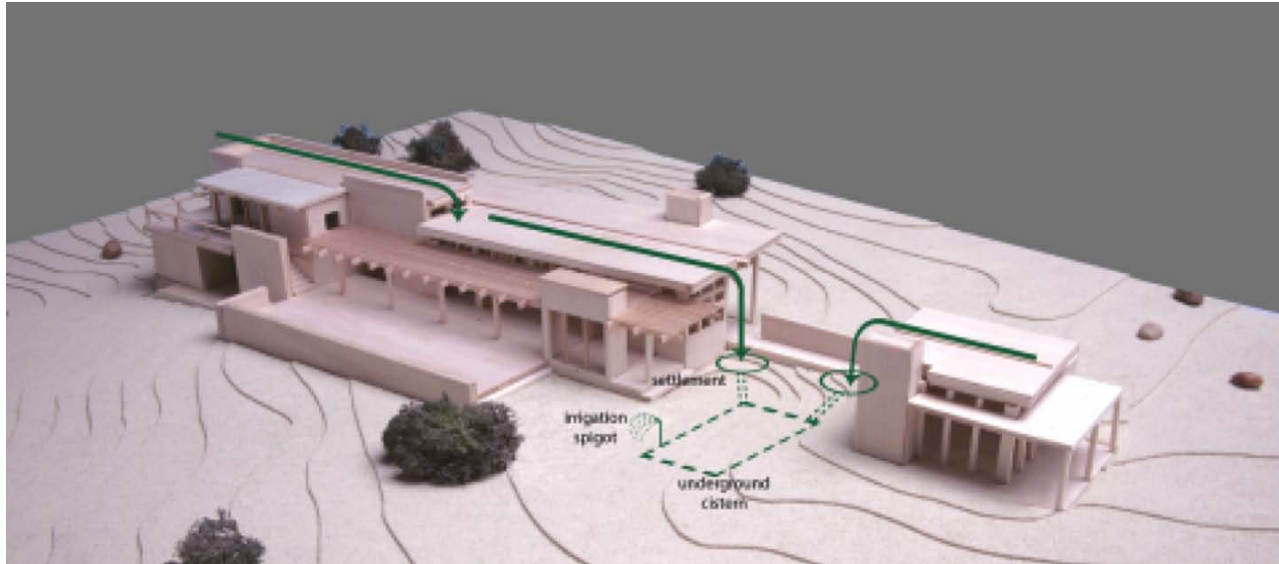


What uses the most water?

69 gallons/person/day



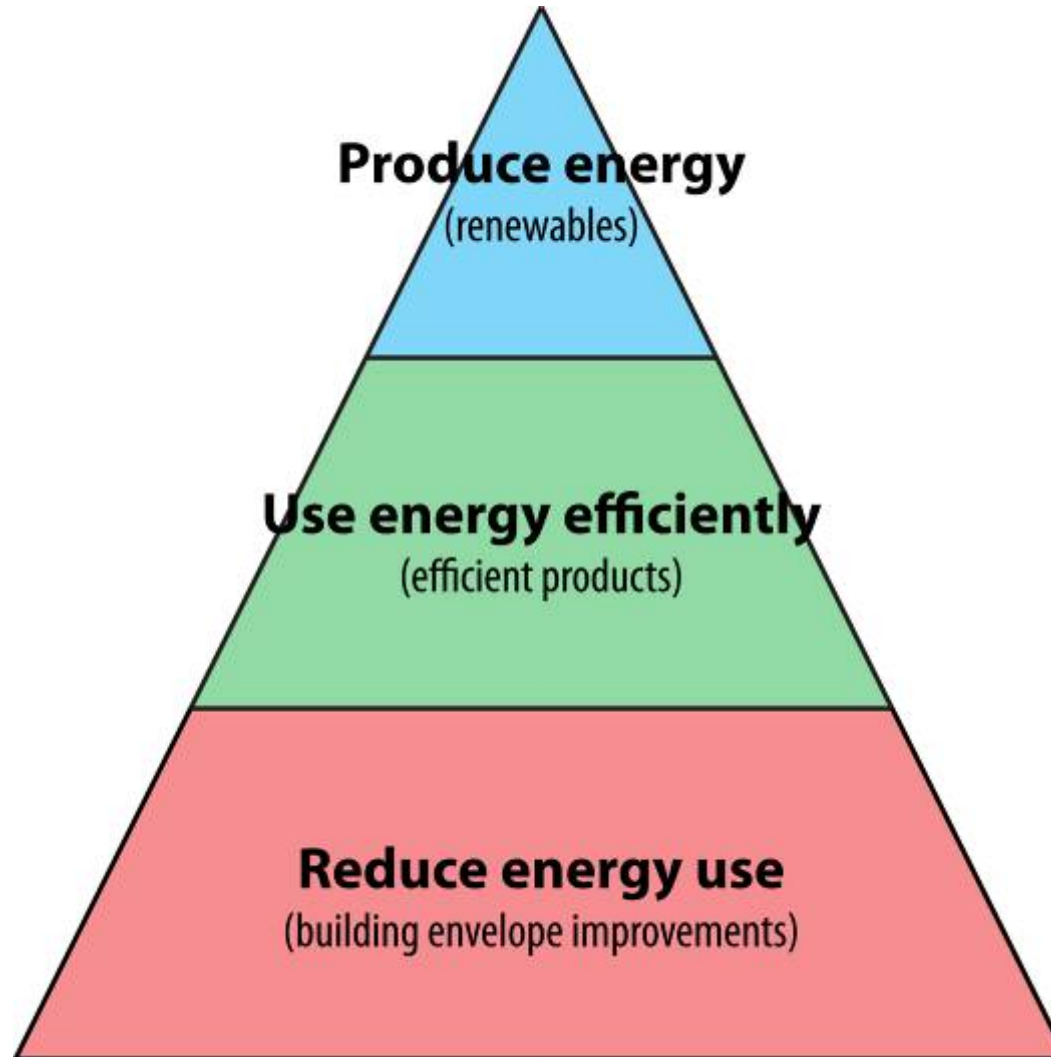
Source: American Water Works Association, Drinktap.org 2010 & Handbook of Water Use and Conservation



Energy Efficiency



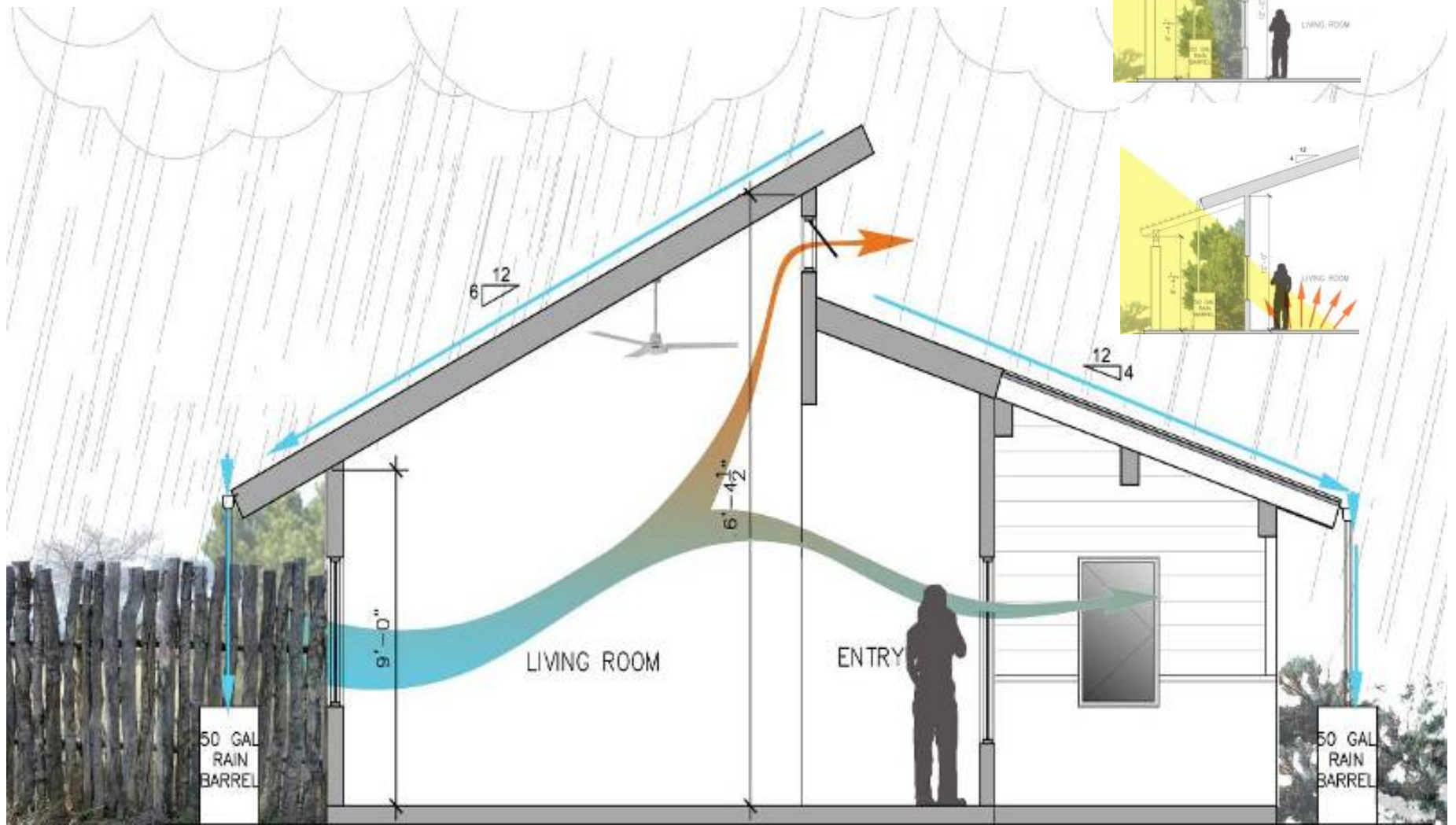
Energy Use Pyramid





Traditional Patterns that respond to climate and reduce energy demand

Passive Solar Heating / Cooling





Rosebud Sioux Indian Reservation Wind Turbine

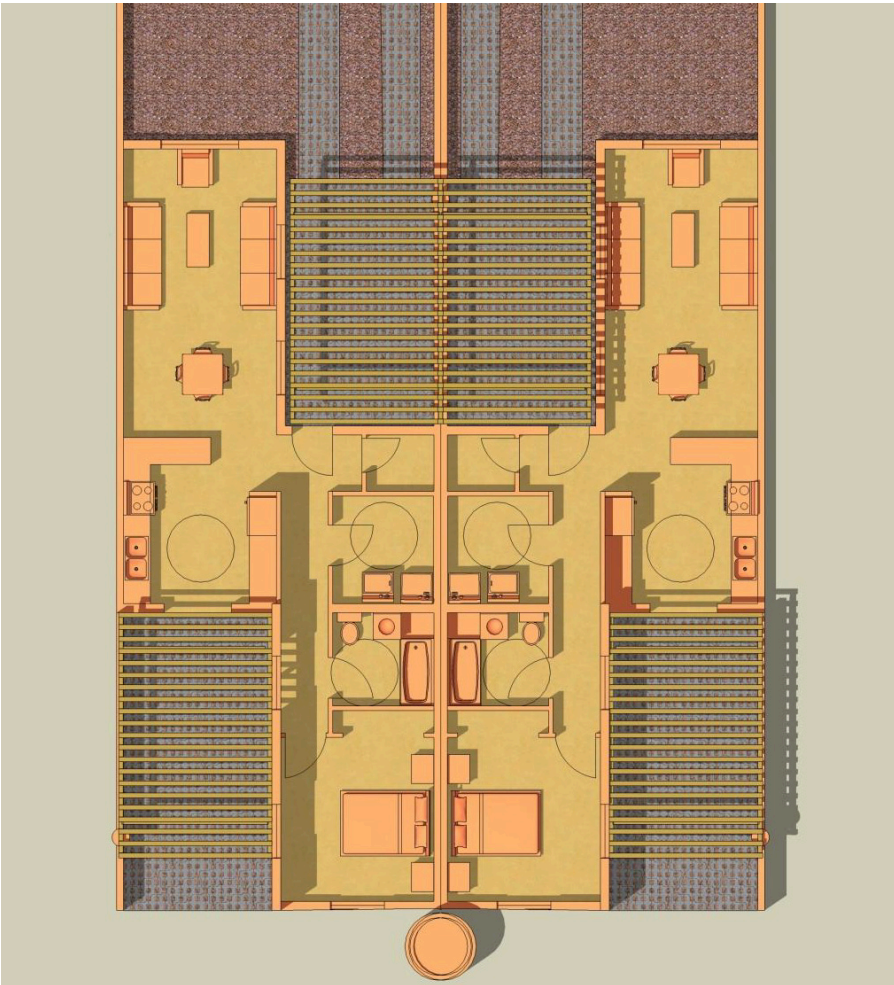
750 KW - 80% of power for
casino and motel



Healthy Living Environments + Building Materials



Integrating ventilation strategies, healthy building materials



Reusable Building Materials

Navajo
FlexCrete





- + Give preference to local manufacturers and building methods
- + Reduce energy required for shipping
- + Support local economy
- + Local methods will relate better to the local climate conditions
- + Support tribal enterprises
- + Support use of indigenous building methods



architecture for humanity



Enterprise Green Communities rural pathways in 2011 rating criteria for affordable housing.

National Green Tribal Building Codes Workgroup



Sustainable Tribal Projects

Click on your state to see sustainable tribal projects.

Home
Who We Are
Get Involved
SW Case Studies
Application
Projects Database
Organizations
Provider List
Field News
Community Forum
Contact Us

Projects by organizations and in progress.

Establishing the endblog as a forum for emerging native designers to discuss design, architecture and sustainability from their unique point of view.



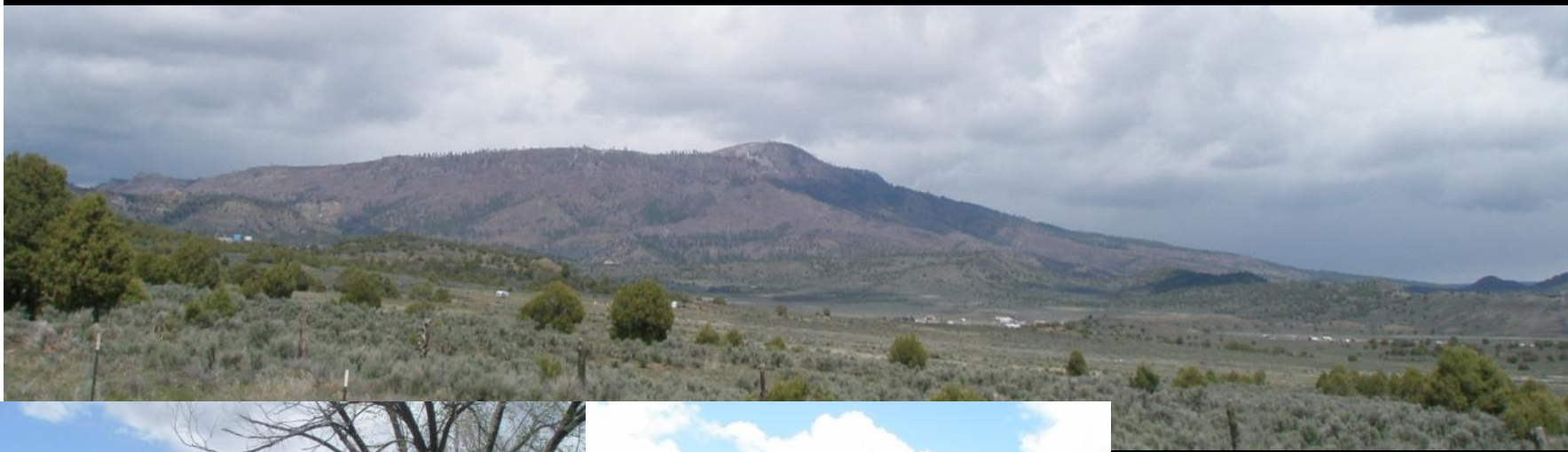
The image shows a screenshot of the Facebook page for 'Emerging Native Designers'. The page header includes the Facebook logo, a search bar, and the page name 'Emerging Native Designers'. Below the header are tabs for 'Wall', 'Info', 'Photos', 'Discussions', and 'Boxes'. A 'Share:' section offers options for 'Post', 'Photo', 'Link', and 'Video'. The main content area displays three posts:

- Post 1:** 'Celebrating 10 years of Native theater' from www.indiancountrytoday.com. The text reads: 'LOS ANGELES – Native Voices at the Autry kicked off its 10th Anniversary Season with the world premiere of "Carbon Black," a suspenseful psychological drama by Terry Gomez, Comanche. Native Voices, established in 1999, is a Native Theater Company housed at the Autry National Center of the American W'. The post is dated December 29, 2010 at 2:27pm.
- Post 2:** 'Urban Indian - By Marty Two Bulls Sr.' featuring a photograph of a group of people. The post is dated December 29, 2010 at 10:49am.
- Post 3:** 'Kimberly Guerrero jumps into romantic comedy with both feet' from www.indiancountrytoday.com. The text reads: 'NEW YORK – Actress Kimberly Norris Guerrero still gets recognized as Jerry's girlfriend in "The Cigar Store Indian" episode from the "Seinfeld" sitcom. This time, as a best friend, she turns an unwished wedding into an extravaganza in "Algonquin," a romantic comedy for the box office, being produced'. The post is dated December 29, 2010 at 9:44am.

At the bottom left of the page, there are links for 'Suggest to Friends' and 'Subscribe via SMS'. On the left side of the page, there is a vertical banner with the text 'EMERGING NATIVE DESIGNERS' and a graphic of a Native American silhouette against a background of green and yellow.



NW Band of Shoshone, Brigham City, UT



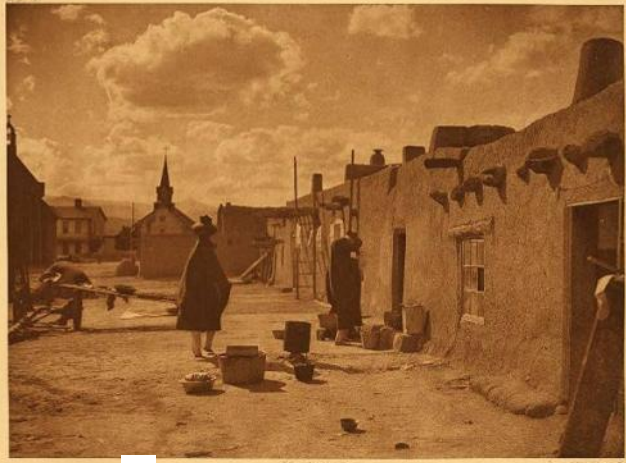
Jicarilla Apache, Dulce, NM



Santo Domingo, NM



Navajo Housing Authority and Flexcrete Enterprises



ATKIN OLSHIN SCHADE ARCHITECTS

Owe' nehbupingeh Rehabilitation Plan, Ohkay Owingeh, NM

Ohkay Owingeh Pueblo

Owe'neh Bupingeh Preservation Plan



Ohkay Owingeh Housing Authority

Atkin Olshin Schade Architects - Avanyu General Contracting

OHKAY OWINGEH EDUCATION AND PRESERVATION PROGRAM



Summers 2006-2010

Coordinated by:

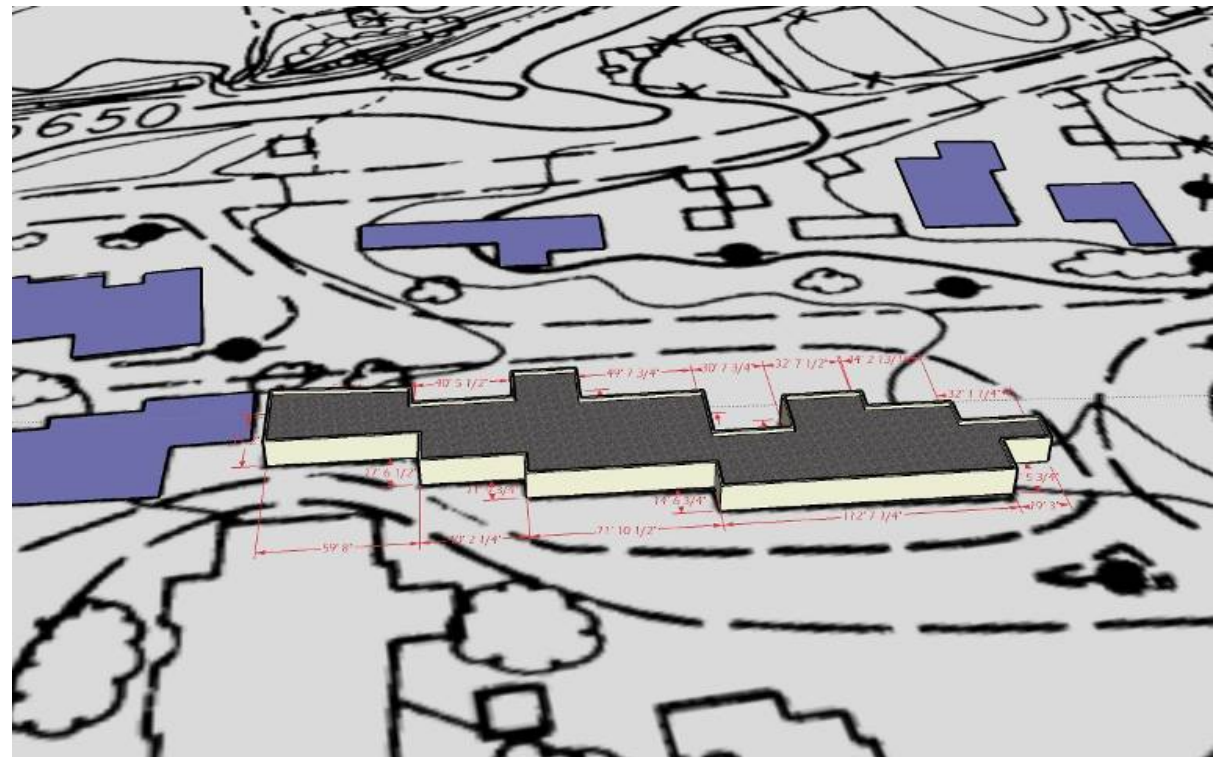
Ohkay Owingeh Housing Authority
Ohkay Owingeh Realty Department
Atkin Olshin Schade Architects

With Assistance From:

Ohkay Owingeh Library
Owingeh Owingeh Planning Department
Santa Fe Indian School

Participating Students:

Wanda Abeyta
Juanito Aquino
Victoria Aquino
Jonathan Cata
LeaRey Martinez
Lute Muntz
Lewis Romero



OHKAY OWINGEH ORAL HISTORY PROJECT



Oral History Trainers:

Sue-Ellen Jacobs
Tessie Naranjo

Interviewers:

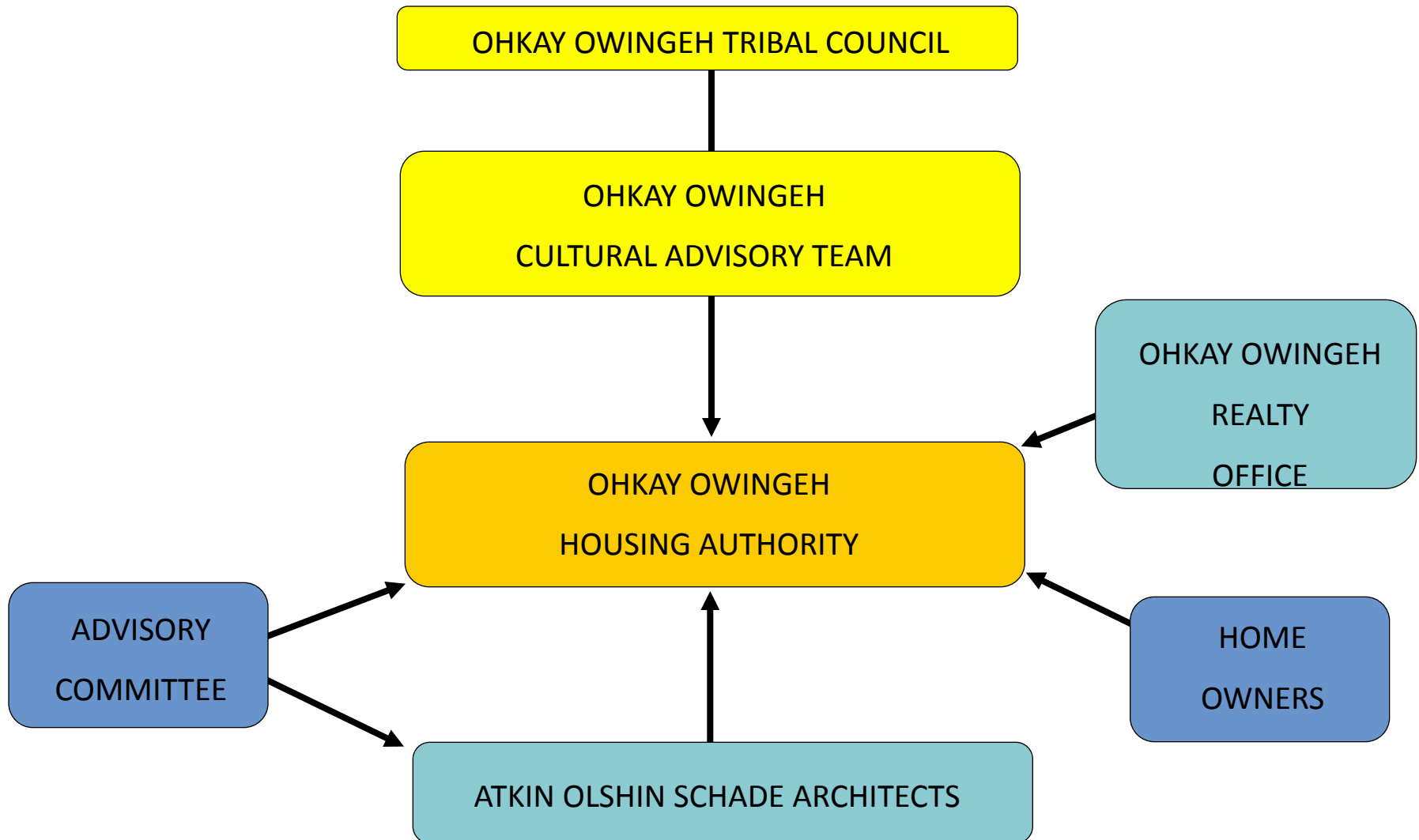
Pauline Aguino
Josephine Binford

Interviewees:

Reycita Garcia
Herman Agoyo
Teresita Atencio
Bertha Burck
Simon Cata
Ramona Cruz
Tonita Cruz
Florence Lujan
Tonita Lujan
Libby Marquez
Juanita Martinez
Gabrielita Nave



Internal Working Group and Approvals



Advisory Committee & Homeowner Meetings



Priorities Recommendations from Advisory

Ohkay Owingeh Pueblo
Owáanaa Búpingeh Preservation Program
Advisory Committee
15 September 2009

SELECTION CRITERIA FOR FUNDING PRIORITIZATION

The following should be answered regardless of grant requirements.

1. CURRENT INHABITATION

Is it important that current inhabitation be considered?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should any of the following be prioritized? Rank each as high, medium, or low priority.

Lived in Full-time HIGH	Lived In Part-time MEDIUM	Not-lived-in
--------------------------------	----------------------------------	--------------

Comment:

THOSE ABANDONED (LOW PRIORITY)

v.
THOSE MOVED OUT RECENTLY (HIGH PRIORITY)

2. FUTURE INHABITATION

Is it important to increase the population in the historic core of the Pueblo?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should any of the following be prioritized? Rank each as high, medium, or low priority.

Current families living in core	Additional families living in core
---------------------------------	------------------------------------

Comment: DIFFICULT TO RATE.

3. RECORD OF MAINTENANCE

Is it important that a family's attempt to maintain their home be considered?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

How should maintenance be prioritized? Rank each as high, medium, or low priority.

Consistent Upkeep =	Attempted Stabilization	No Effort LOW
---------------------	-------------------------	---------------------------------

Comment: BOTH ARE EQUAL IN PRIORITY

4. DWELLING CONDITION

Is it important to consider building condition in funding?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should any of the following conditions be prioritized? Rank each as high, medium, or low priority.

Good LOW	Fair MEDIUM	Poor HIGH	Severe HIGH	Ruin LOW
-----------------	--------------------	------------------	--------------------	-----------------

Comment:

(MAJOR STRUCTURAL ISSUES)

5. ENDANGERMENT

Is it important to consider endangerment in funding?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should any of the following be prioritized? Rank each as high, medium, or low priority.

Endangerment to Community HIGH	Endangerment to the Kivas HIGH	Endangerment to adjacent dwellings HIGH
---------------------------------------	---------------------------------------	------------------------------------------------

Comment:

ALL ARE EQUALLY IMPORTANT

6. LOCATION

Should dwelling locations be considered for cultural reasons?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should dwelling locations be considered for project visibility?

<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
-----------------------------------------	-----------------------------

Should any of the following be prioritized? Rank each as high, medium, or low priority.

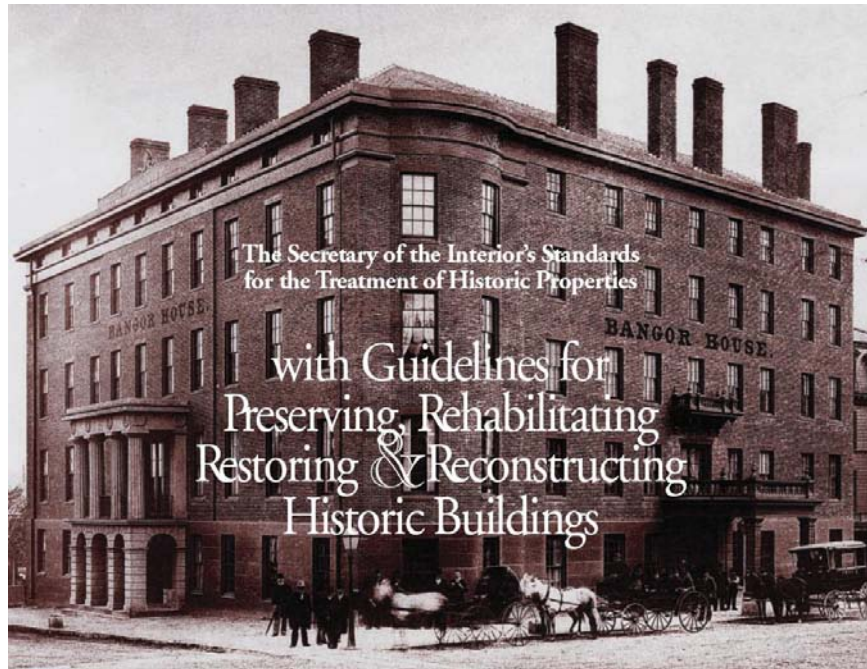
Búpinge "Town Court" Southern plaza behind chapel	Páa we búpinge "Fishtown Court" Northern plaza between kivas	a poge "Racetrack"	léa qwa "Kiva Row" East of kivas
ageye Búpinge "Lowtown Court" P'o-Pay Avenue	opah awaye "Sunny up there on top"	akon geinge "down at the plains"	outlying areas LOW PRIORITY

Comment:

ALL EXCEPT OUTLYING AREAS ARE EQUALLY IMPORTANT

COMMITTEE WAS NOT COMFORTABLE W/ THIS BEING A PRIMARY FACTOR

STANDARDS & APPROVAL PROCESS



PROGRAMMATIC AGREEMENT

HOUSING QUALITY STANDARDS (HQS) INSPECTION FORM

A. General Information

Date of Inspection: _____

Address of Inspected Unit: Street: _____

City: _____ County: _____ State: _____ Zip: _____

Name of Family: _____

Current Address of Family: Street: _____

City: _____ County: _____ State: _____ Zip: _____

Current Telephone of Family: _____

B. How to Fill Out This Checklist

Proceed through the inspection as follows:

Area	Checklist Category
Room by Room	1. Living Room 2. Kitchen 3. Bathroom 4. All Other Rooms Used for Living 5. All Secondary Rooms Not Used for Living
Outside	6. Building Exterior
Basement or Utility Room	7. Heating and Plumbing
Overall	8. General Health and Safety

Each part of the checklist will be accompanied by an explanation of the item to be inspected.

Important: For each item numbered on the checklist, check one box only (e.g., check one box only for item 1.4 "Security," in the Living Room).

In the space to the right of the description of the item, if the decision on the item is "Fail," write what repairs are necessary.

Also, if "Pass" but there are additional code items or items not consistent with rehab standards or area codes, write these in the space to the right.

AMONG

**THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICE, DEPARTMENT
OF HOUSING AND URBAN DEVELOPMENT,
NEW MEXICO MORTGAGE FINANCE AUTHORITY,
OHKAY OWINGEH TRIBAL COUNCIL
OHKAY OWINGEH HOUSING AUTHORITY**

REGARDING PRESERVATION AND REHABILITATION OF THE

OWE'NEH BUPINGEH HISTORIC VILLAGE OF OHKAY OWINGEH

The Owe'neh Bupingeh Preservation Plan aims to balance the preservation of the dwellings and plazas ...



View of San Juan Pueblo – Elsie Clews Parsons, c.1920s. OOHPI Fig. 3-96. Courtesy of the American Philosophical Society

**...with functional renovations of the homes,
permitting contemporary life and cultural
traditions to comfortably co-exist.**



Building Condition



HISTORIC RESOURCE INVENTORY



Building 201 East



131 132 Building 201 West



Building 201 North

126 128 124 131



132 131 124 (130) 127 127 Building 201 South

HISTORIC PLAZAS

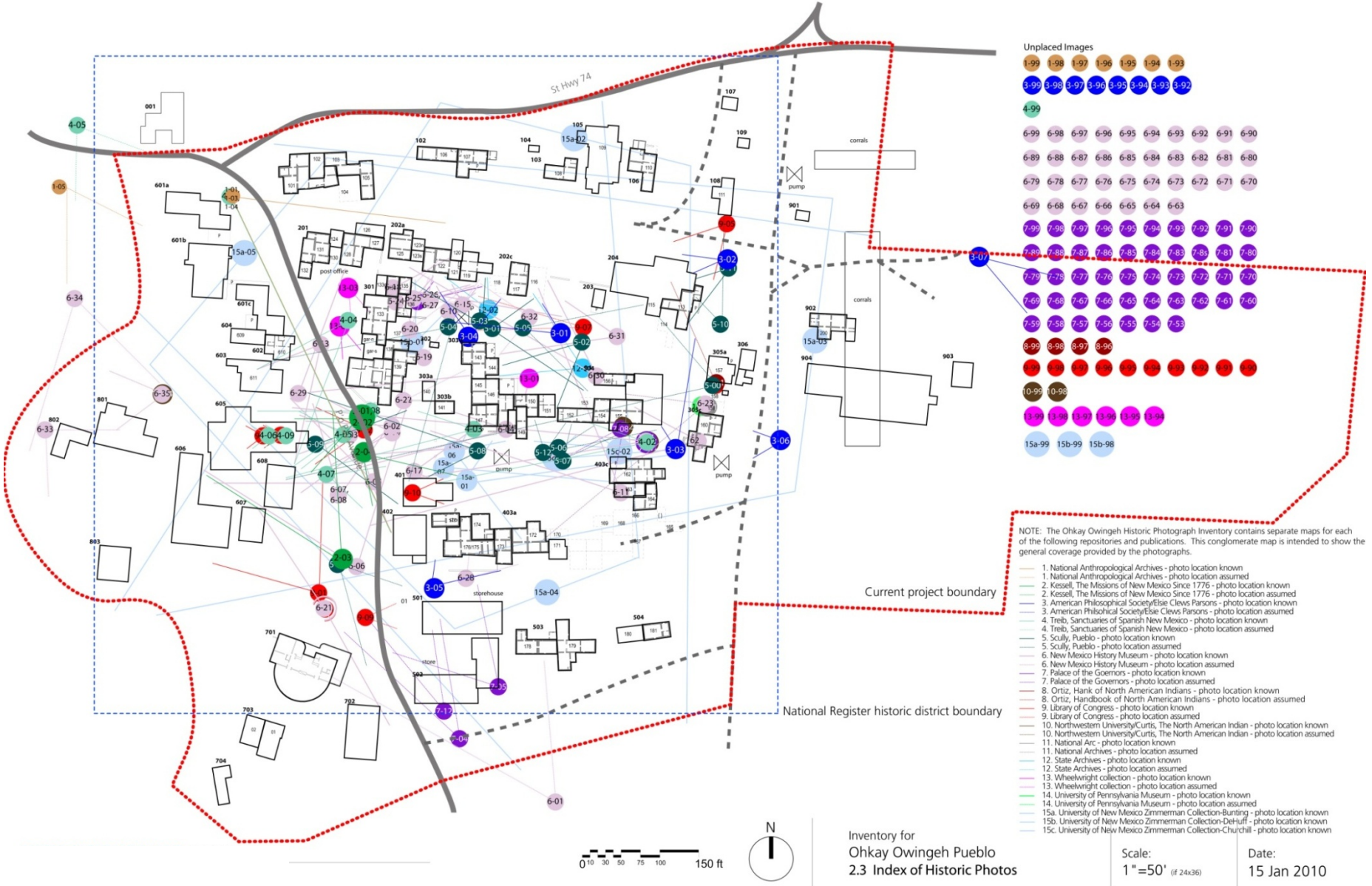


Inventory for
Ohkay Owingeh Pueblo
1.2 Base Map

Scale:
1" = 50' (if 24x36)

Date:
15 Jan 2010

HISTORIC PHOTO INVENTORY



SECOND STORY MASSING RESEARCH

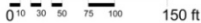


LEGEND

- Missing 1st Floors
- Missing 2nd Floors

Current project boundary

National Register historic district boundary

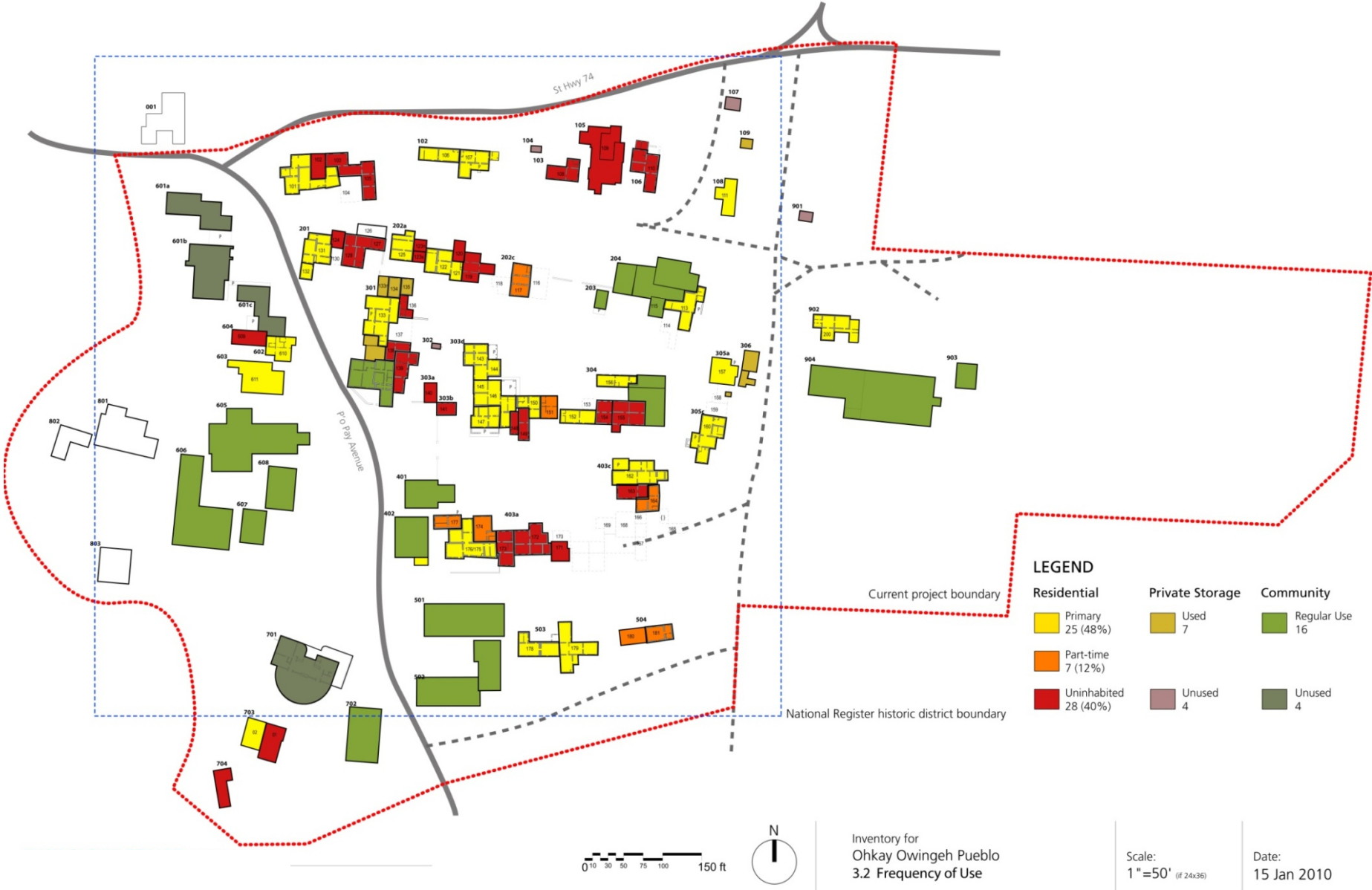


Inventory for
Ohkay Owingeh Pueblo
2.4 Missing Buildings

Scale:
1" = 50' (if 24x36)

Date:
15 Jan 2010

FREQUENCY OF USE



CONDITION OF BUILDINGS



LEGEND

Residential	Non-Residential
Good 8	Good 3
Fair 23	Fair 14
Poor 12	Poor 8
Severe 10	Severe 3
Ruin 7	Ruin 1
	Unknown 2

Inventory for
Ohkay Owingeh Pueblo
5.0 Dwelling/Building Condition

Scale:
1" = 50' (if 24x36)

Date:
15 Jan 2010

RESIDENTIAL INFRASTRUCTURE



SIZE OF HOMES



LEGEND

- 1-Rm Storage (6)
- 300 - 500 sf (6)
- 500 - 1000sf (25)
- 1000 - 1500 sf (14)
- > 1500 sf (12)

Current project boundary

National Register historic district boundary

0 10 30 50 75 100 150 ft



Inventory for
Ohkay Owingeh Pueblo
3.3 Residential Size

Scale:
1" = 50' (if 24x36)

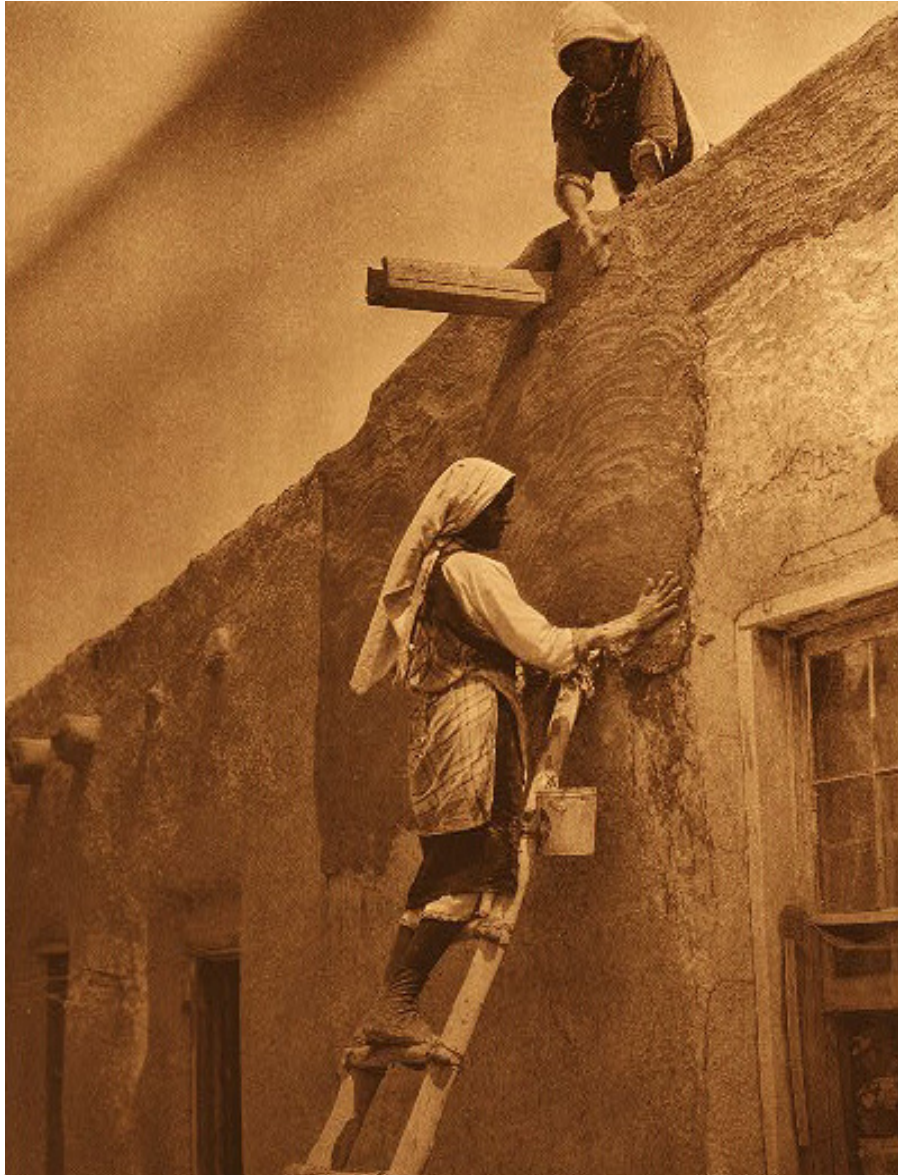
Date:
15 Jan 2010

DESIGN & PRESERVATION STANDARDS

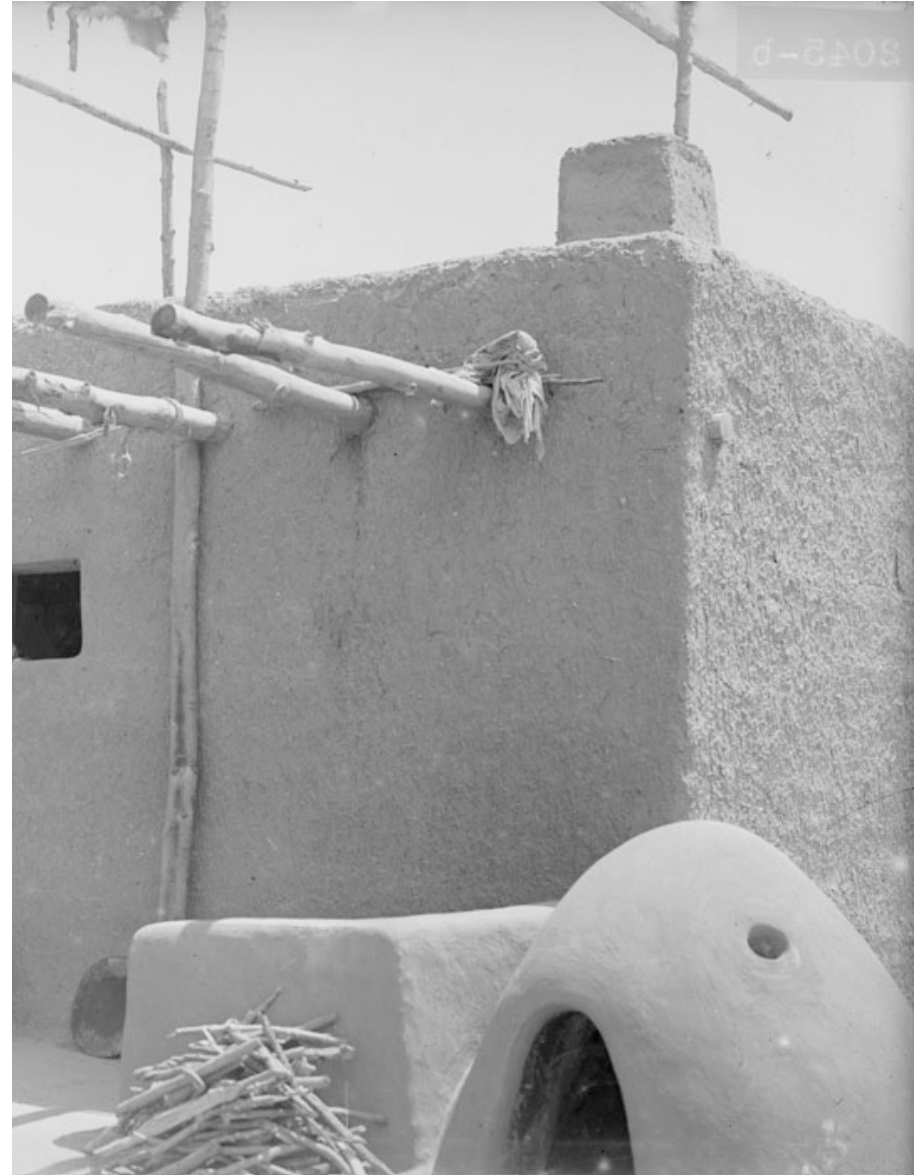


Gov. Trujillo House – Adam Clark Vroman, 1899 (not within project area). OOHPI Fig.1-95. Courtesy of National Anthropological Archives.

ADOBE / PLASTER



Replastering a Paguete House – Edward S. Curtis, 1925



Gov. Trujillo House – Adam Clark Vroman, 1899

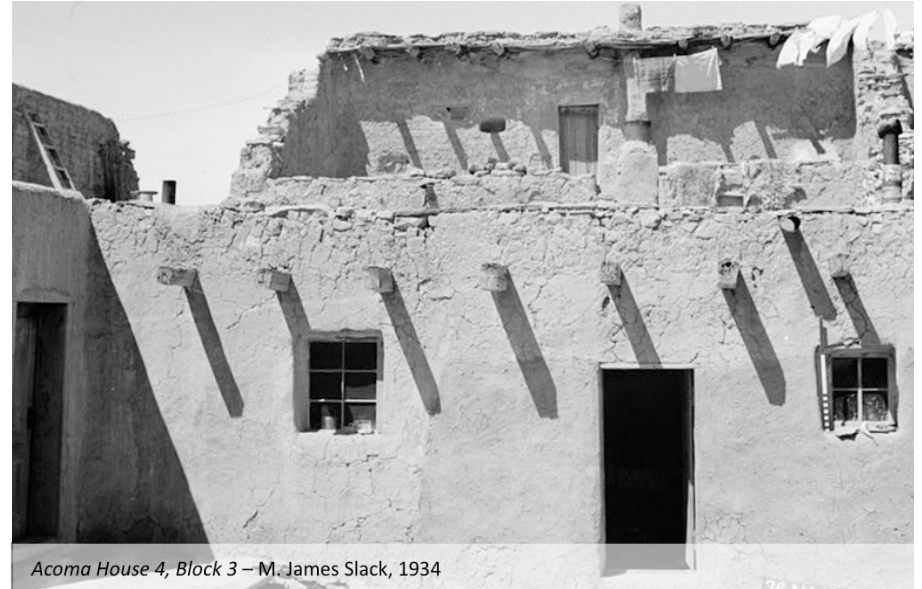
ADOBE / PLASTER



PARAPETS



View of Pueblo and Plaza, San Juan Pueblo – John K. Hillers, 1877



Acoma House 4, Block 3 – M. James Slack, 1934



Residence in Jacona, NM, 2009

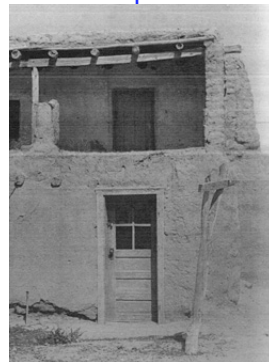
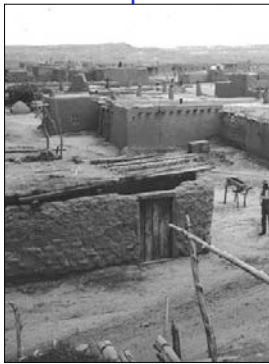
EXTERIOR WALL FINISHES MATRIX

1-Apr-10	Option A	Option B1	Option B2	Option C1	Option C2	Option D	Option F	Option G	Option H
Wall Plaster (SY)	\$ 15 mud	\$ 15 mud	\$ 15 mud	\$ 15 mud	\$ 15 mud	\$ 15 mud	\$ 70 lime	\$ 50 cement	\$ 50 cement
Additives (SY)	none	none	none	none	none	7.5 polymer	none	none	none
Exterior Insulation (SY)	none	none	\$ 36 3" spray polyurethane	none	\$ 36 3" spray polyurethane	none	none	none	\$ 36 3" spray polyurethane
Wall Cap (LF)	none	\$ 60 invisible metal	\$ 60 invisible metal	\$ 60 visible metal	\$ 60 visible metal	\$ 40 flagstone, concrete	\$ 40 flagstone, concrete	none	none
Initial Cost for 100 SY/10 LF	\$ 1,500	\$ 2,100	\$ 5,700	\$ 2,100	\$ 5,700	\$ 2,650	\$ 7,400	\$ 5,000	\$ 8,600
Maintenance Costs (per 100 SY)	every year through year 20	for year 5, 10, 15, 20	for year 5, 10, 15, 20	for year 5, 10, 15, 20	for year 5, 10, 15, 20	for year 5, 10, 15, 20	every 4th year for 20 years	for year 10, 25/SY year 15	for year 10, 25/SY year 15
	\$ 5	\$ 5	\$ 5	\$ 4	\$ 4	\$ 5	\$ 5	\$ 5	\$ 5
Year 1	\$ 500								
Year 2	\$ 500								
Year 3	\$ 500								
Year 4	\$ 500						\$ 500		
Year 5	\$ 500	\$ 500	\$ 500	\$ 400	\$ 400	\$ 500			
Year 6	\$ 500								
Year 7	\$ 500								
Year 8	\$ 500						\$ 500		
Year 9	\$ 500								
Year 10	\$ 500	\$ 500	\$ 500	\$ 400	\$ 400	\$ 500		\$ 500	\$ 500
Year 11	\$ 500								
Year 12	\$ 500						\$ 500		
Year 13	\$ 500								
Year 14	\$ 500								
Year 15	\$ 500	\$ 500	\$ 500	\$ 400	\$ 400	\$ 500		\$ 2,500	\$ 2,500
Year 16	\$ 500						\$ 500		
Year 17	\$ 500								
Year 18	\$ 500								
Year 19	\$ 500								
Year 20	\$ 500	\$ 500	\$ 500	\$ 400	\$ 400	\$ 500	\$ 500		
Total Maintenance Cost	\$ 10,000	\$ 2,000	\$ 2,000	\$ 1,600	\$ 1,600	\$ 2,000	\$ 2,500	\$ 3,000	\$ 3,000
Total Cost	\$ 11,500	\$ 4,100	\$ 7,700	\$ 3,700	\$ 7,300	\$ 4,650	\$ 9,900	\$ 8,000	\$ 11,600
	3.11	1.11	2.08	1	1.97	1.26	2.68	2.16	3.14
Aesthetic Integrity	4	4	4	3	3	4	1	2	2
Maintenance Req'ts	1	3	3	4	4	1	2	4	4
Technical Integrity (assumes proper maintenance)	4	4	4	4	3	1	4	1	2
Reversibility	4	4	2	4	2	2	2	3	2
Energy Efficiency	1	1	4	1	4	1	1	1	4
Average Score	2.80	3.20	3.40	3.20	3.20	1.80	2.00	2.20	2.80



OPENINGS

1820 1840 1860 1880 1900 1920 1940 1960 1980 2000



1848-65 1865-80 1880-1920

Early, Middle, Late Territorial Style

Santa Fe Trail, 1821-1880 Railroad, 1880-1936 Route 285, 1936-

1820 1840 1860 1880 1900 1920 1940 1960 1980 2000



View of Pueblo and Plaza, San Juan Pueblo – John K. Hillers, 1877. OOHPI Fig.1-02, Courtesy of National Anthropological Archives.

QUALIFIED HOMES



LEGEND

Qualified Homes

28

Un-Qualified Homes

29

ATKIN OLSHIN SCHADE ARCHITECTS

1807 South Second Street, Suite 34, Santa Fe, NM, 87505
tel 505.982.2133 www.aosarchitects.com

0 10 30 50 75 100 150 ft



Inventory for
Ohkay Owingeh Pueblo
8.1 Qualified Homes

Scale:
1" = 50' (if 24x36)

Date:
15 Jan 2010

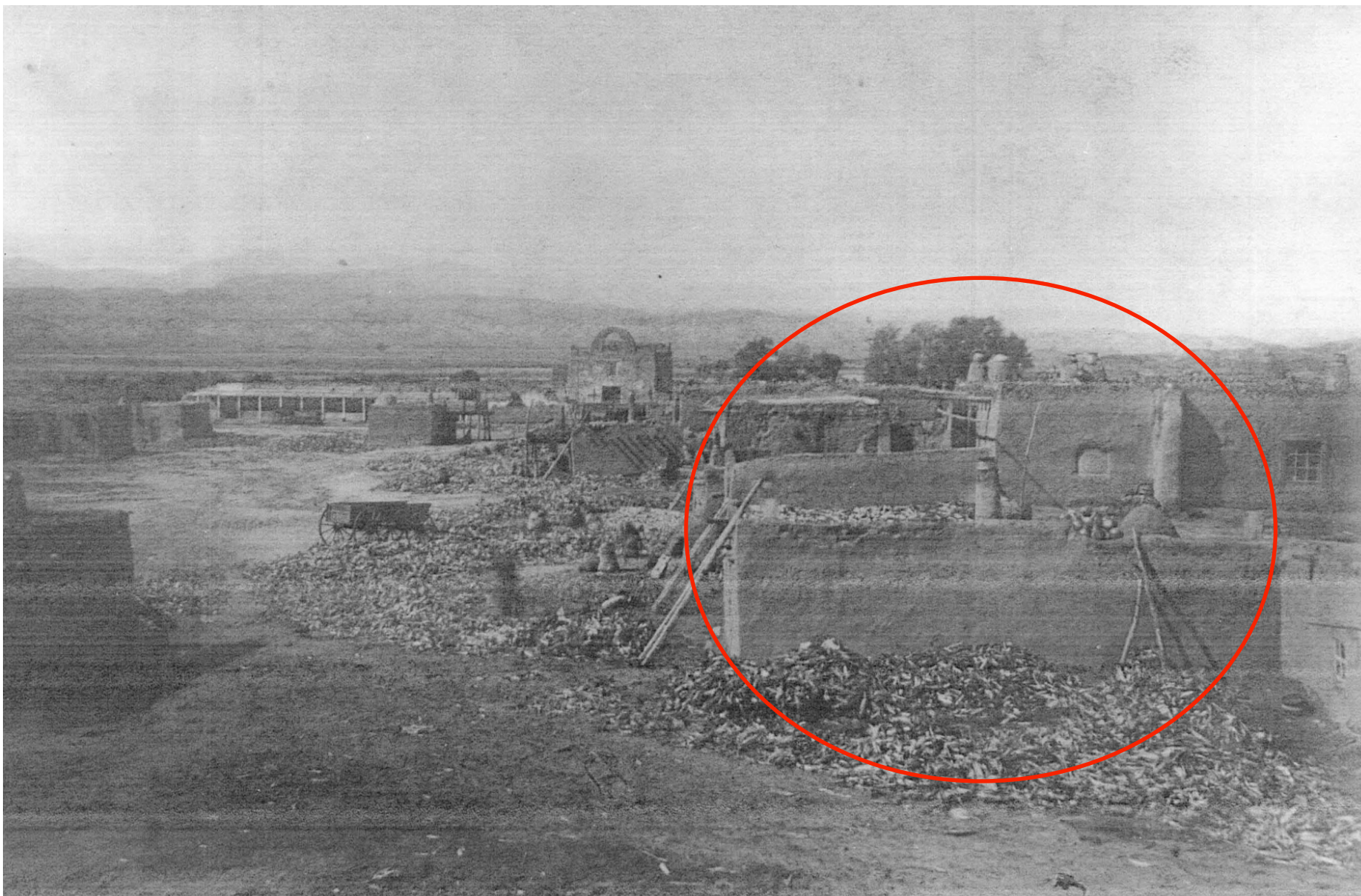
Barriers of Project during Planning

- Multiple ownership on units
- Cultural issues
- Multiple funding income limits
- Project schedule with cultural events
- Archeologists involved
- Lead Base Paint and Asbestos Testing
- State Historical Preservation Office requiring approval on design & scope of work
- Implementing Infrastructure Project simultaneously

Example Dwelling



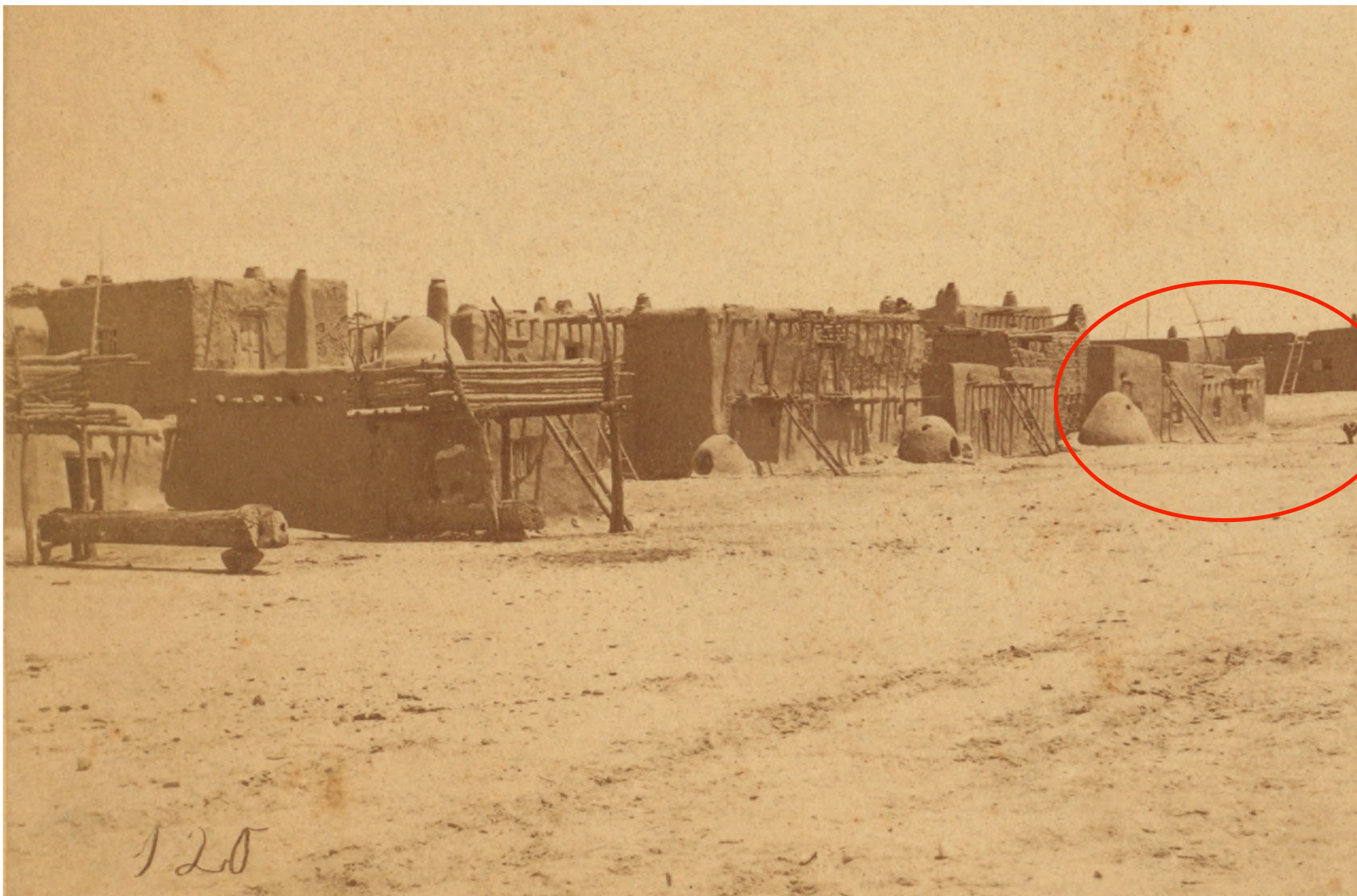
Dwelling 304.155



OOHPI Fig. 6-12. View looking west, 1881

Courtesy of New Mexico History Museum

Dwelling 304.155



OOHPI Fig. 16-02. View looking northeast Photograph by H.T. Heister, c.1870-1880

Courtesy of the New York Public Library, Robert Dennis Collection

Dwelling 304.155



OOHPI Fig. 15c-02. View looking northwest Photograph by Frank Churchill, 1904

Courtesy of the Center for Southwest Research

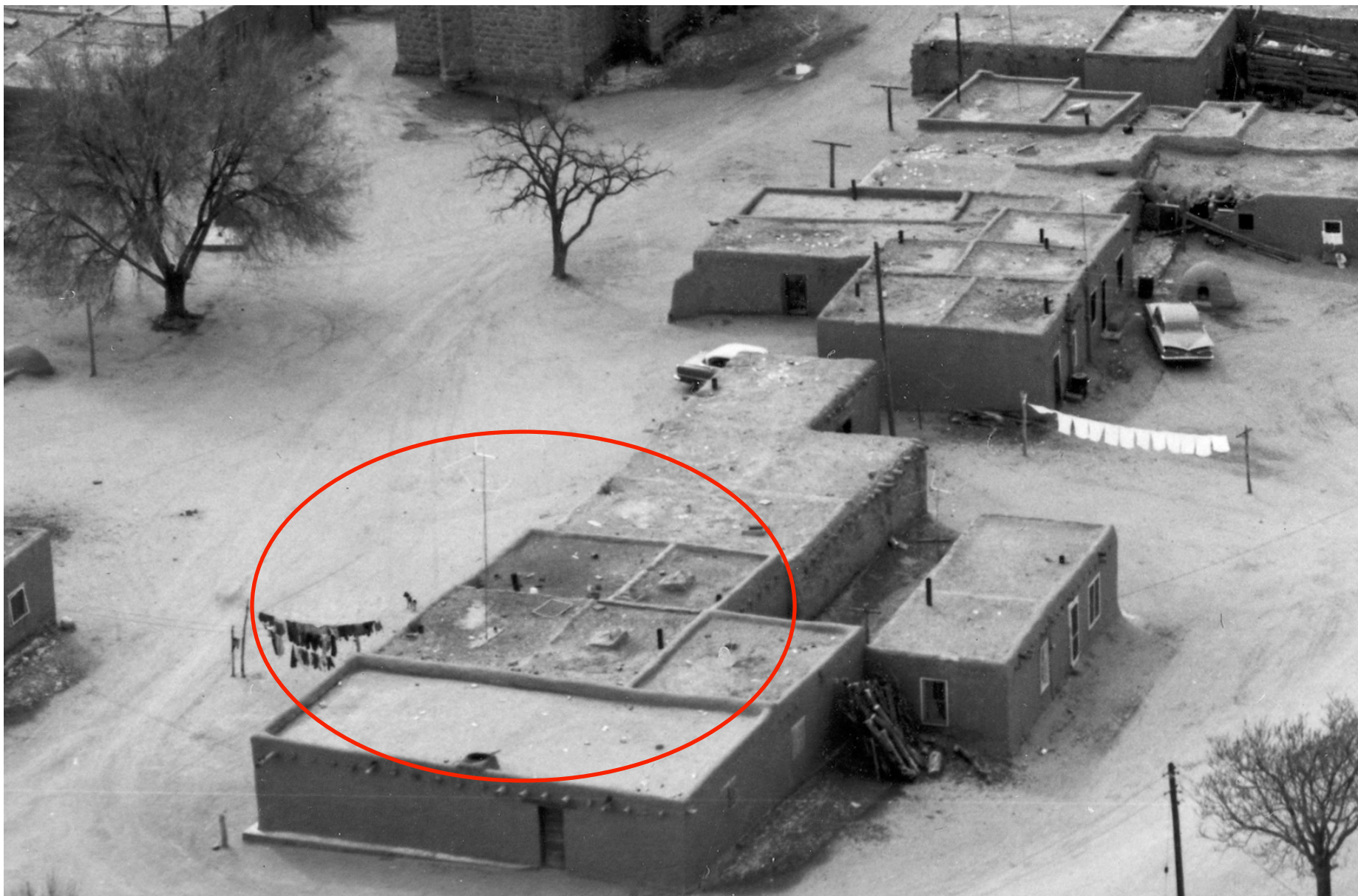
Dwelling 304.155



OOHPI Fig. 10-03. View looking west, Photograph by Edward Curtis, 1905

Courtesy of Northwestern University

Dwelling 304.155



OOHPI Fig. 15a-03. View looking west. Photograph by Bainbridge Bunting? c.1960s

Courtesy of the Center for Southwest Research

Dwelling Assessment and Recommendations - Dwelling 304.155



1. Building plan. Dwelling highlighted.



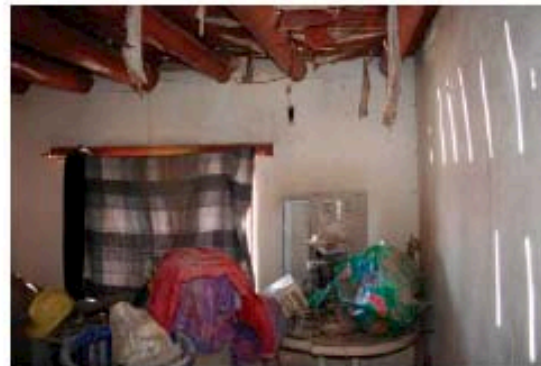
3. General interior view of living room



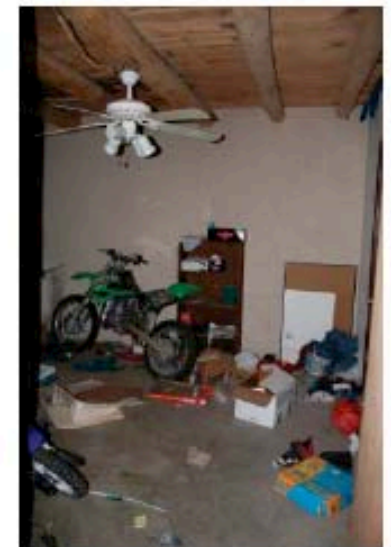
5. Interior view of kitchen



2. Exterior view of partial south elevation



4. Interior view of living room



6. Interior view of bedroom













Lessons Learned

- Keep homeowners in the loop of project
- Do not have families move out of homes until contractor is hired
- Anticipate project bids to come in over budget
- Keep Tribal Council updated
- Keep project meetings continuous
- Keep communicating with funders through progress reports
- Start Environmental Assessment ASAP
- Bring all funders and project team to the table





