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
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

- Integrative Design
- Water Conservation
- Energy Efficiency
- Healthy Living Environments
- Materials Beneficial to the Environment
- Site Improvements
- Location + Neighborhood Fabric
- Operations + Maintenance
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 Meeting (Charrette)

Lego Towhouses (200)
Retail Buildings
Parking Lots (400)
Community Buildings
Open Space:
Thoka Field
Farming
Gardens
Basketball
Trees
Roads
Location + Neighborhood Fabric

Tsigobugeh Village
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

- Toilet, 19 gallons
- Clothes Washer, 15 gallons
- Shower, 12 gallons
- Faucets, 11 gallons
- Leaks, 10 gallons
- Baths, 1 gallon
- Other, 2 gallons

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

- Produce energy (renewables)
- Use energy efficiently (efficient products)
- Reduce energy use (building envelope improvements)
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

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.
Santo Domingo, NM
Navajo Housing Authority and Flexcrete Enterprises
Owe’ nehbupingeh Rehabilitation Plan, Ohkay Owingeh, NM
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:
Herman Agoyo
Teresita Atencio
Bertha Burck
Simon Cata
Ramona Cruz
Tonita Cruz
Reycita Garcia
Florence Lujan
Tonita Lujan
Libby Marquez
Juanita Martinez
Gabriellita Nave
Internal Working Group and Approvals

- OHKAY OWINGEH TRIBAL COUNCIL
- OHKAY OWINGEH CULTURAL ADVISORY TEAM
- OHKAY OWINGEH HOUSING AUTHORITY
  - OHKAY OWINGEH REALTY OFFICE
  - HOME OWNERS
  - ADVISORY COMMITTEE
  - ATKIN OLSHIN SCHADE ARCHITECTS
Priorities Recommendations from Advisory

Ohkay Owingeh Pueblo
Owówaa Bipingeh 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 inhabitants be considered?
   (YES) 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
   - Newer Home
   - Comment:

2. FUTURE INHABITATION
   Is it important to increase the population in the historic core of the Pueblo?
   (YES) 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:

3. RECORD OF MAINTENANCE
   Is it important that a family's attempt to maintain their home be considered?
   (YES) NO

   How should maintenance be prioritized? Rank each as high, medium, or low priority:
   - Consistent upkeep
   - Attempted Stabilization
   - Comment:

4. DWELLING CONDITION
   Is it important to consider building condition in funding?
   (YES) NO

   Should any of the following conditions be prioritized? Rank each as high, medium, or low priority:
   - Good
   - Fair
   - Medium
   - Poor
   - Severe
   - Ruin
   - Comment:

5. ENDANGERMENT
   Is it important to consider endangerment in funding?
   (YES) NO

   Should any of the following be prioritized? Rank each as high, medium, or low priority:
   - Endangerment to Community
   - Endangerment to the Kivas
   - Endangerment to adjacent dwellings
   - Comment:

6. LOCATION
   Should dwelling locations be considered for cultural reasons?
   (YES) NO

   Should dwelling locations be considered for project visibility?
   (YES) NO

   Should any of the following be prioritized? Rank each as high, medium, or low priority:
   - Ripainga “Town Court” Southern plaza behind chapel
   - Naka navah “Kiva Row” East of kivas
   - Akul gisly “Down at the plains” outlying area
   - A pae “Fish Track” a pae na “Fence”
   - Comment:

**Committee was not comfortable with this being a primary factor.**

**All except outing areas are equally important.**
PROGRAMMATIC AGREEMENT

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 ...
...with functional renovations of the homes, permitting contemporary life and cultural traditions to comfortably co-exist.
Building Condition
HISTORIC RESOURCE INVENTORY

Building 201 East

Building 201 West

Building 201 North

Building 201 South

Inventory for
Ohkay Owingeh Pueblo
Building Elevations
Building 201
dwelling

3400 sf

Scale: NTS

Date: March 2008

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

<table>
<thead>
<tr>
<th>1-Apr-10</th>
<th>Option A</th>
<th>Option B1</th>
<th>Option B2</th>
<th>Option C1</th>
<th>Option C2</th>
<th>Option D</th>
<th>Option F</th>
<th>Option G</th>
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<td>Maintenance Costs (per 100 SY)</td>
<td>every year through year 20</td>
<td>for year 5, 10, 15, 20</td>
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OPENINGS

[Image of a timeline showing opening dates and styles from 1820 to 2000, with labels for Santa Fe Trail (1821-1880), Railroad (1880-1936), and Route 285 (1936-), and style categories for Early, Middle, Late Territorial Style (1848-65, 1865-80, 1880-1920).]
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. 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

OOHP 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


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