



# Akwesasne Housing Authority

*Combining Affordable Housing  
with Energy Efficiency & Solar  
Power*

Presented by

**Retha Leno**

**Executive Director**

**Akwesasne Housing Authority**

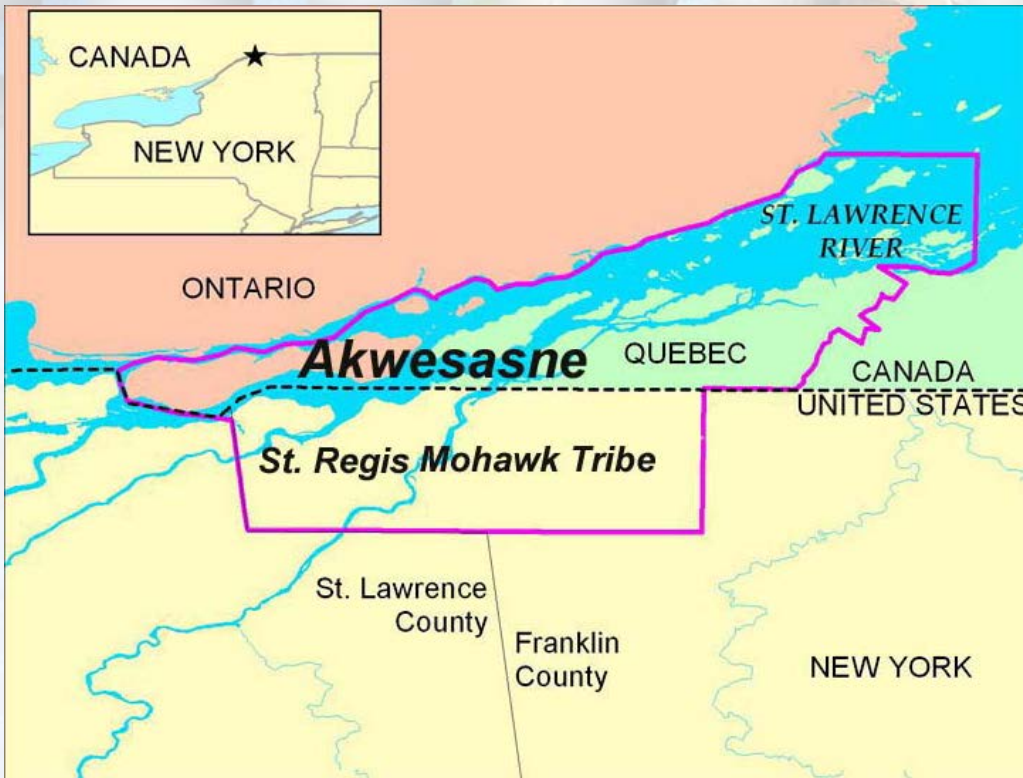


# Saint Regis Mohawk Tribe

## Akwesasne: “Land Where the Partridge Drums”

Population: 13,000 Mohawks living throughout Akwesasne, both on the Northern (Canadian) and Southern (American) portion of the reservation.

Iroquois confederacy, which includes the Onondaga, Oneida, Mohawk, Cayuga, Seneca and the Tuscarora.



International Border Divides Akwesasne

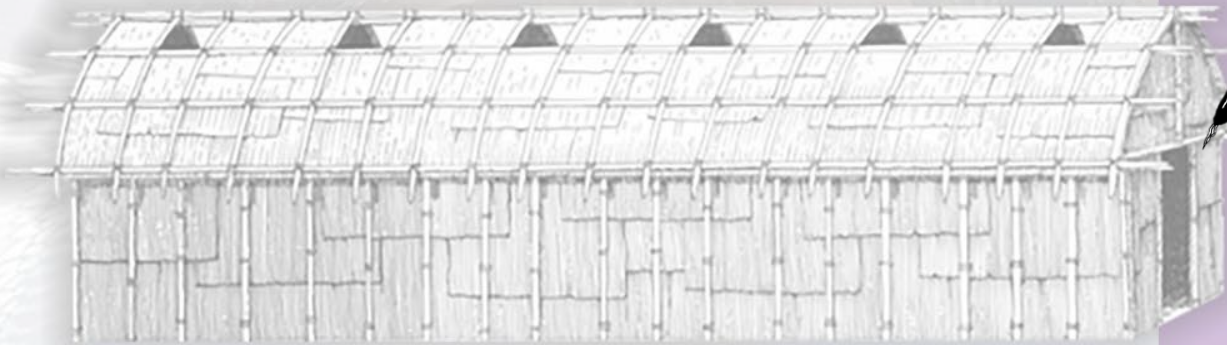
- 2 countries
  - US & Canada
- 2 provinces
  - Ontario & Quebec





# Akwesasne Housing Authority's Mission as TDHE for the Saint Regis Mohawk Tribe

To develop comprehensive housing programs that will address the needs of all Mohawks living on and around our designated Indian area. We will seek to generate and promote community strength and prosperity through safe housing, supportive ventures, economic development, and program efficiency. In the spirit of this mission, we will strive to protect and educate our future generations.



# *Emerging Philosophy Lead to Moving Away from Standard Construction Practices*

- *AHA will Always Consider Responsible Construction*
- *Energy Efficiency Measures (new and renos)*
- *Urgency for more cultural/environmental awareness on the long term effects of construction on Mother Earth!*
- *Access to Renewables*
- *Creating Worthy & Common Sense Energy Programs*
- *Focus on Finding the Resources to Support Families*
- *Education!!*

**NEW POLICY STANDARDS FOR AHA**





***Necessity & Opportunity:  
Economic Health of Akwesasne  
Increased Focus on Funding Green Projects that Benefit AHA Target  
Population***

Issues Affecting Low to Moderate Income Tribal Members

High Energy  
Costs  
**\$.14/kWh\***

**\$3.05/gallon**  
High Fuel Costs

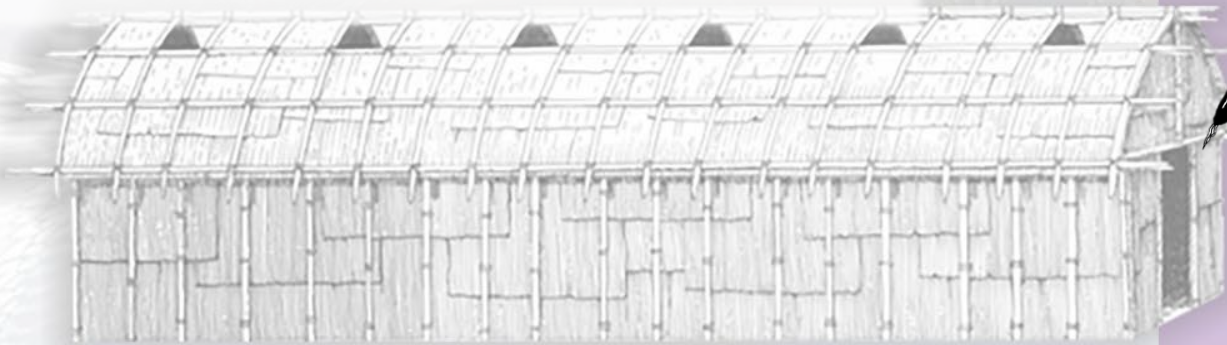
High  
Unemployment  
rate  
**15.1%\***



# Akwesasne Housing Authority's Past

## Accomplishments:

- Construction of over 400 low-income housing units
- Construction/maintenance of 41 low-income elderly rental housing units (Sunrise Acres)
- Provided funding and construction for the addition to the Partridge House, a tribal drug rehab facility
- Participation in the St. Regis Mohawk Tribe Water Enhancement Project.
- Community Cooperative Projects including a 12-bed Tribal Foster Care Facility, the Community Senior's Center
- Sponsored the 2001 creation of the Akwesasne Boys & Girls Club, renovated a warehouse, and provides ongoing assistance to over 300 member children and their families.
- **Use of 2009 & 2010 ARRA completed the expansion of Sunrise Acres Phase 2 – AHA's first attempt at green construction and renewable energy, including ground source heat pumps.**





The beginning...

**Sunrise Acres Complex – Phase II  
20 Units of Sustainable Construction**





# Sunrise Acres Complex – Phase II



Picture: Passive solar hot water heaters units on south facing roof slope

## High Energy Efficiency Measures

### *Energy efficiency*

- Passive solar hot water heaters
- Sun tunnel lighting
- 8” ICF foundation and walls
- Geothermal heating system
- Remote monitoring system – heating & cooling
- In-floor heating system
- LED street lighting
- Energy efficient lighting & appliances
- Solar panel arrays

### *Sustainability*

- Fiber cement board siding
- Materials - flooring from responsibly harvested forests
- Hardwood custom built-in-place cabinetry
- Hardwood doors & moldings
- Metal standing seam roofing





# Sunrise Acres Complex – Phase II

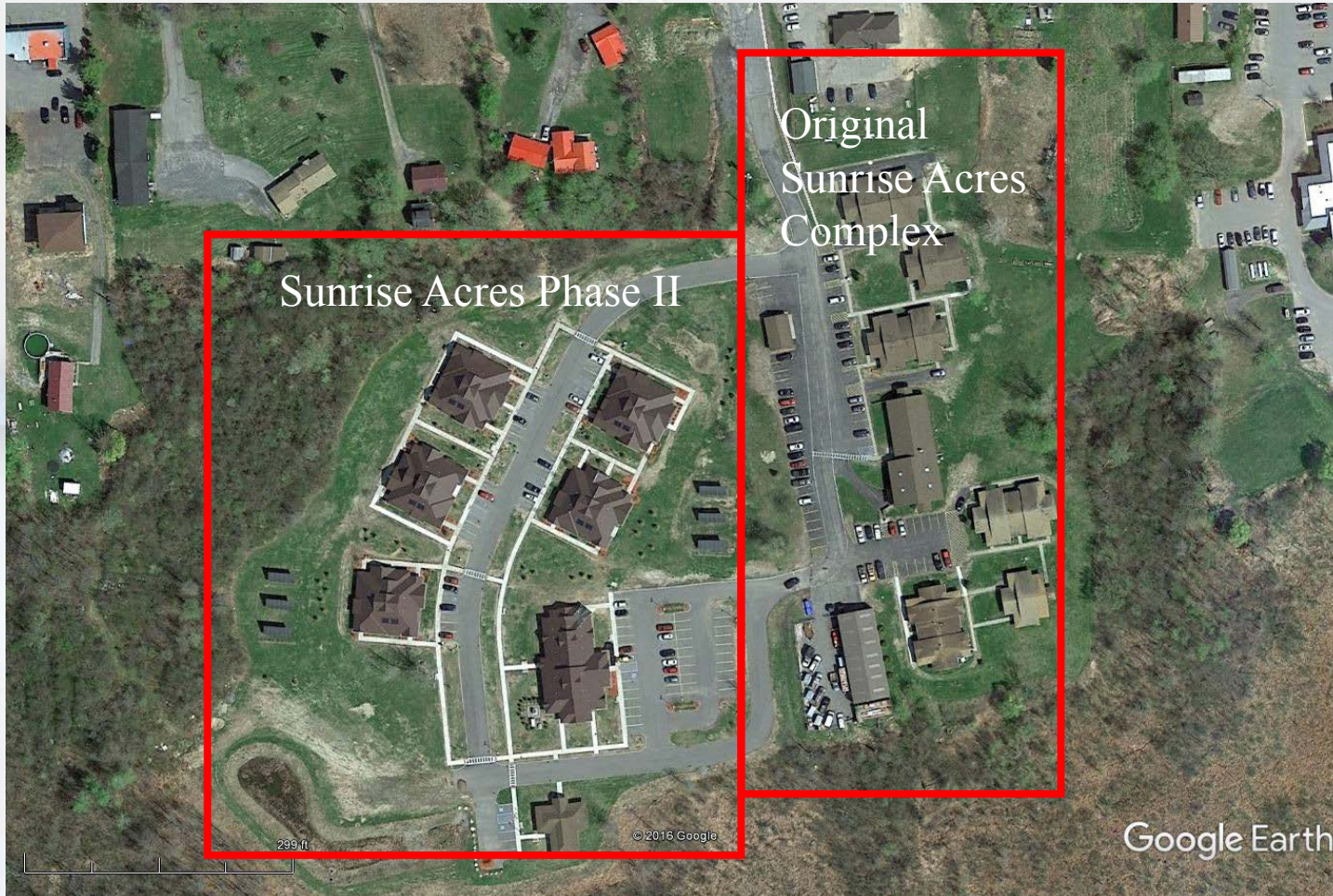


Image retrieved from Google Earth™





# Sunrise Acres Complex – Phase II

Solar panels flank the compound on the East and to the West.





# *We can do this!*

- **Utility bills were cut in half.**
- **No use of fossil fuels.**
- **Beautiful spacious walkable/livable neighborhood for seniors.**
- **Energy efficiency coupled with energy conservation methods saves money!**
- **HOW DO WE KEEP GOING?**

”Ultimately, we can gain all the information and technical assistance and even the funding needed with the greatest amount of effort, but if we don’t have enough momentum and tenacity to stay the course, the mission will be futile.”

*Retha Leno, Executive Director, AHA*



# *AHA Needed Help!*

- *U.S. Department of Energy's Office of Indian Energy was instrumental in helping with a plan of action.*
- *Through support from tribal leadership, technical assistance from DOE was sought and received.*
- *Sandia National Laboratories T/A*
- *National Renewable Energy Laboratory T/A*
- *AHA/SRMT established a tribal energy code (draft) that would set the standard for renewable energy, energy efficiency efforts, conservation, resource planning, and community input.*





# DOE T/A ~ Planning Towards 2025 Energy Vision

**Responsive structures that meet our community needs.**

- Accountability for traditionally held principles that conserve and consideration of families' economic resources

**Being the community we want to be**

- Healthy, affordable, and energy efficient community.

**Energy independence**

- Unified international systems managed efficiently and self-supporting.



Back Row: Noah Ransom Jr., Michel Simon, Shelley Jacobs, Ernie Thompson, John MacArthur, Barry Halperin.  
Front Row: Theresa Cole, Cecilia Cook, Barbara Lazore, Retha Herne, Melanie Connors, Elizabeth Jacobs, Colleen Thomas.

# *Formulating AHA's Housing Goals with Sustainability in Mind Lead to "Thinking Outside the Box"*

- AHA Go Solar! Initiative
- AHA Net Zero Initiative
- SRA III - Permanent Supportive Housing for Homeless/Native American Veterans
- SRA III - Permanent Supportive Housing for Frail Elderly
- AHA High Energy Efficiency Initiative





# *Never Before Tapped Resources for the Tribe:*

- New York State Energy Research & Development Authority (NYSERDA) (Capital \$/Energy Incentives)
- HUD's Indian Community Development Block Grant Program (2 awards \$600K each)
- New York State Homes & Community Renewable (HOME) (\$2.2 million)
- New York's Office of Temporary Disability Assistance - Homeless Housing Assistance Corporation (\$800K)
- Federal Home Loan Bank of New York (540K)



# *AHA Go Solar Initiative*

## *Community-Scale Solar*

- AHA will install 1,165 kW to service housing related buildings on the Reservation.
- Electrical power from the solar facilities will be utilized under National Grid's available net metering programs to offset the energy use of AHA's buildings and tribal members' residences.
- **Educational programs and special agreements will provide awareness and empowerment activities to participants and their families**

~ US DOE funded ~

~ HUD ICDBG funded ~





# *AHA Go Solar Initiative...*

## *cont'd*

- Ground mounted installation.
- Tribe set aside 25 acres for solar development.
- 8-10 acres will be used for the Project; remaining balance of acreage for future Tribal solar.
- Location on currently reclaimed Indian Lands from a former municipality 100 year lease.
- Tribe's land into trust application greys certain areas – tax investors needing comfort level to proceed



# AHA Solar Farm Site





# *Go Solar! And Community Distributed Generation*

- Tribal member residences can participate under New York's Community Distributed Generation (Community DG) program.
- Community DG projects:
  - are located behind a non-residential host utility meter;
  - generate “value stack” credits for electricity production in excess of the host's usage; and
  - allocate these credits to the project's members pursuant to the applicable utility tariff.



# *AHA Net Zero Initiative*

Expansion of Solar Farm and Subsequent Creation of three (3) net zero buildings:

1. 6 – Unit Homeless/Veterans Supportive Housing
2. 12-Unit Senior Supportive Housing
3. Renovation of older existing facility - Akwesasne Boys & Girls Club

~ DOE Funded ~

~ HUD ICDBG Funded ~

~ HUD IHBG Funded ~





# *Installation of EEMs & Solar Off Site*



**Projected  
Savings  
for the  
Club:  
\$28,000**

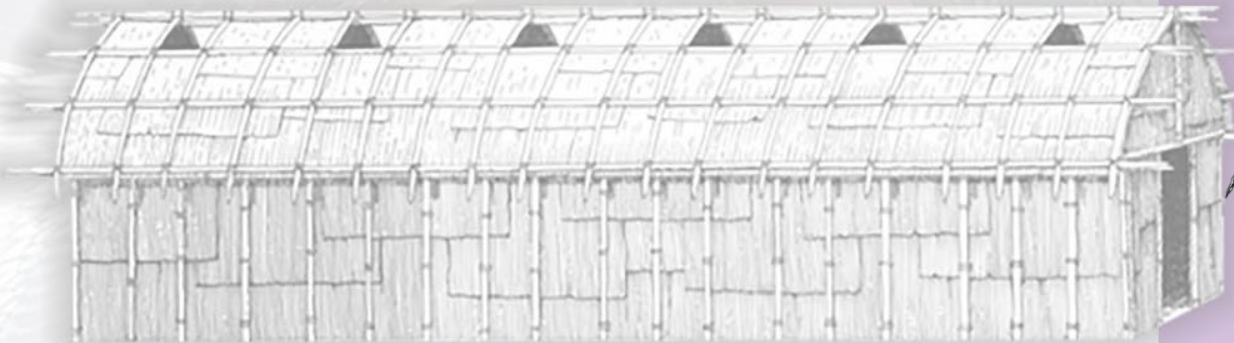




# Sunrise Acres Complex (SRA) – Phase III

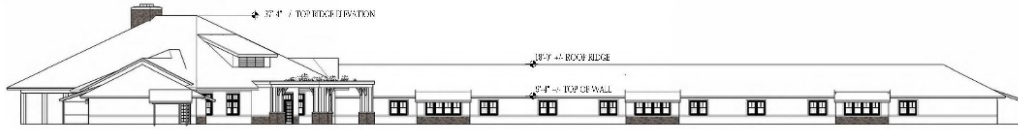
## Supportive Housing for Homeless/Veterans and Seniors with Special Needs ~ Benefits & Amenities

- Two Facilities: 6-units for homeless/veterans – 12 units for frail elderly/disabled
- Furthering AHA's energy goals
- Utilizing electric heat pumps – no fossil fuels
- Reduction in carbon (CO) emissions
- The Tribe's first "Net Zero" facility
- Walking paths/gathering spaces for families
- Areas for community gardens
- Creation of a pleasant "walkable community" – seniors will enjoy peaceful/safe living spaces where they can comfortably age-in-place
- Support Services with use of MOUs with tribal and regional service providers





# 12 Unit Supportive Housing - Seniors



North Facing Elevation - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"



West Facing Elevation - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"



East Facing Elevation - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"



South Facing Elevation - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"



Entry / Northwest Facing Elevation - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"

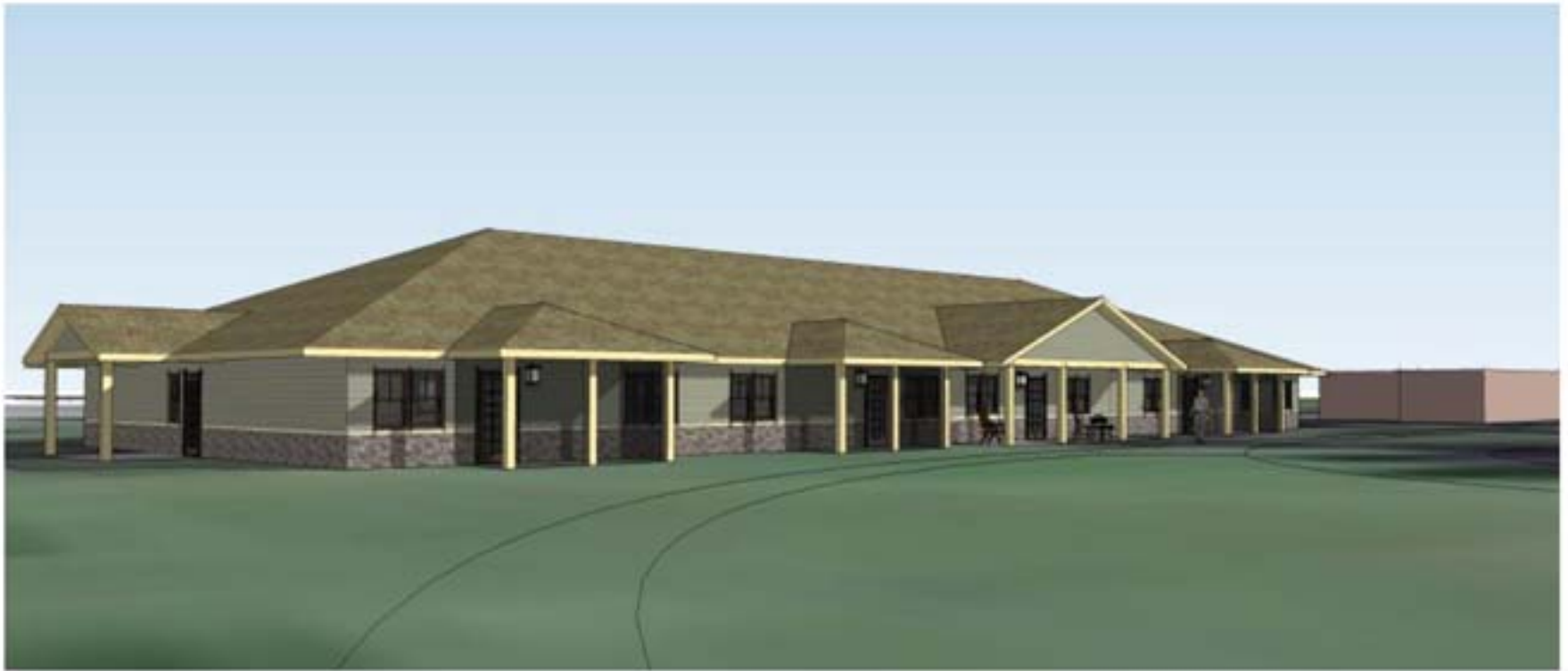


Community Room / Southeast Facing - Senior Living Building

APPROXIMATE SCALE: 1/8" = 1'-0"

# 6 Unit Homeless/Veterans Supportive Housing

*Sunrise Acres III – Supportive Housing for Homeless Veterans and Seniors with Special Needs*



**18 units of New Construction Serving Homeless Veterans and Seniors with Special Needs**



# Sunrise Acres Complex – Phase III

**Sunrise Acres III Site Plan**



- Green space for shading
- Concrete sidewalks provide safe links between adjacent medical facilities & social services



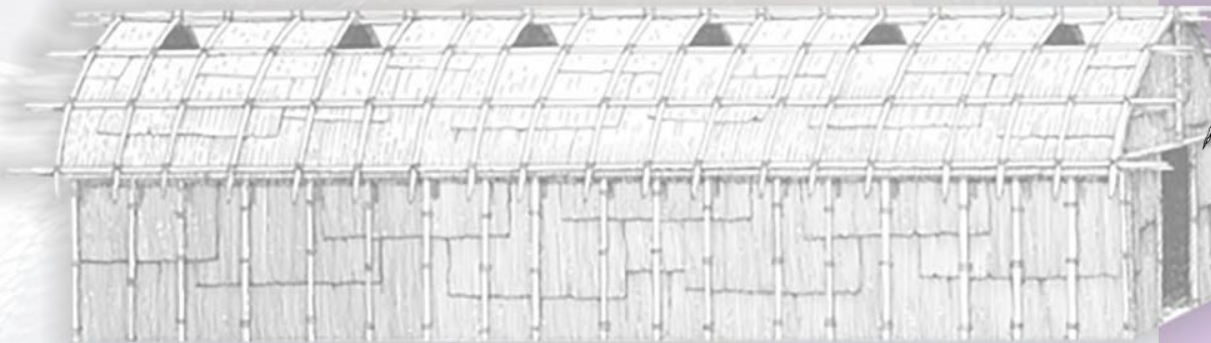
# *AHA High Energy Efficiency Initiative – Combination of State and Federal Resources*

- State:

- NYSERDA EmPower (very low income)
- NYSERDA's Assisted Home Performance (AHP) Program (low to moderate income)

- Federal:

- HUD's ICDBG Program
- HUD's Indian Housing Block Grant (AHA)





# AHA HEEIP...a collaboration

- Learning curve for AHA, Tribe and local Contractors
- AHA raised awareness not only to AHA participants, but to all other citizens who could benefit from the State's programs.
- Close coordination with contractors is critical
- Assistance to 100 LMI families
- Upgrades to older homes
- Lower utility costs to families
- Participation in energy programs and trainings



We do this for our generations!  
Thank you.

