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***Whole Village, Non-Residential  
Energy Efficiency Retrofit Project***

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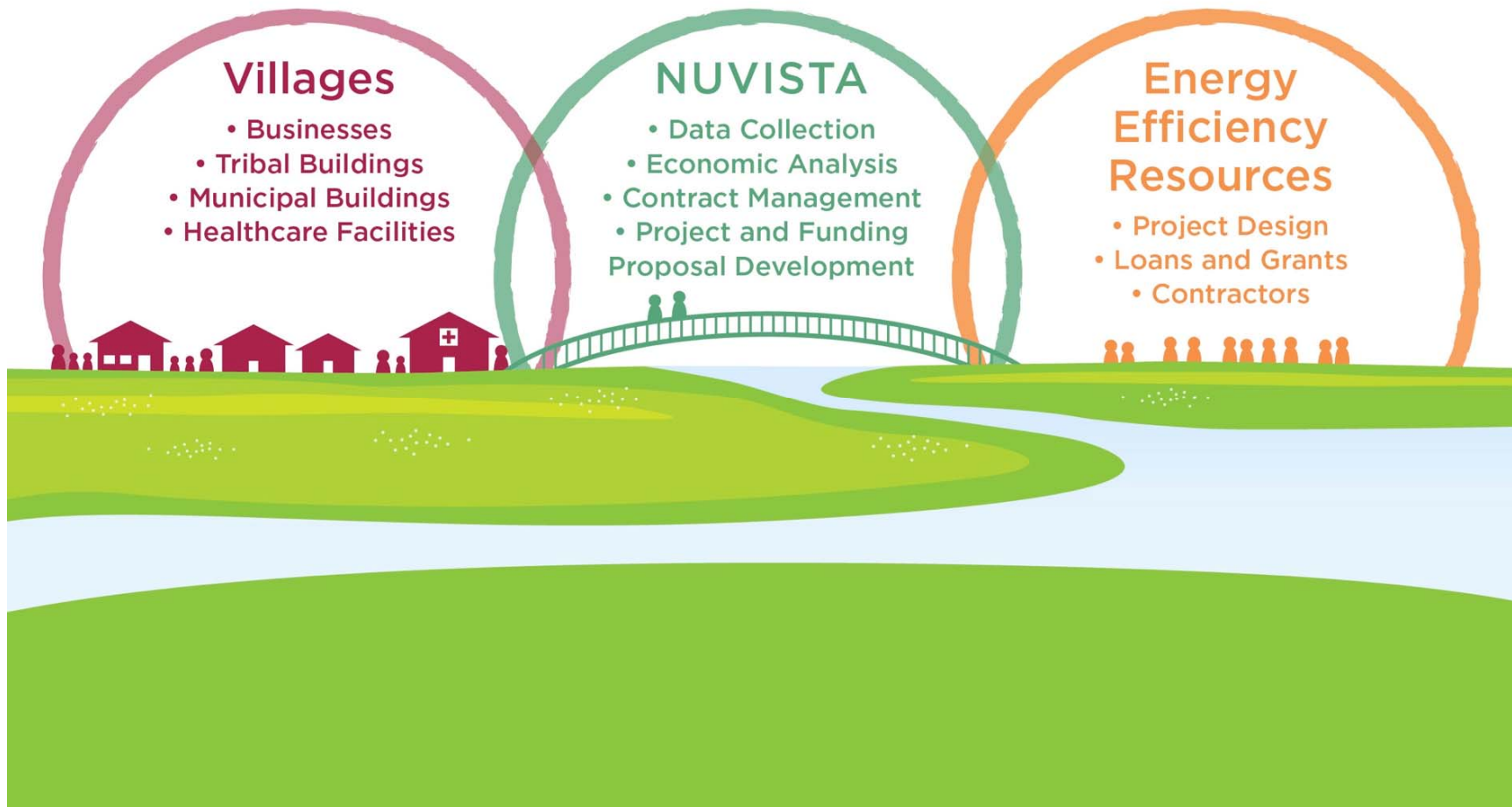
## Early Stages of Development

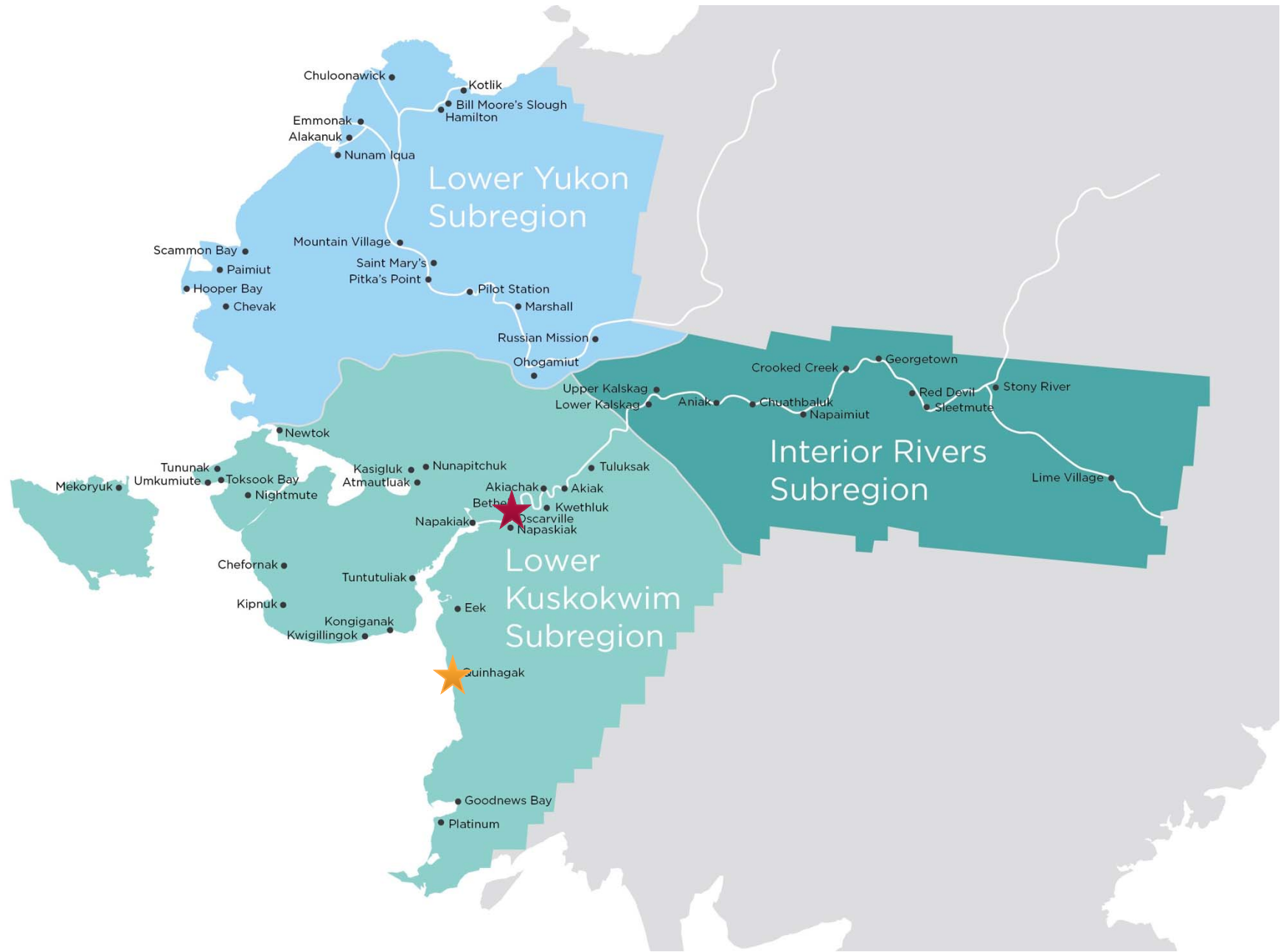
- Could Nuvista develop a Public Purpose Energy Services Company (PPESCO)?
  - At the time, we did not have enough capacity for a PPESCO
  - Native Village of Kwinhagak (federally-recognized tribe) approached Nuvista with non-residential energy audits during a public meeting for regional energy planning
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# Whole Village, Non-Residential Energy Efficiency Retrofit Project



Pilot Community: Quinagak







# Quinhagak Project

- **11 buildings community-wide**
  - Focused on buildings with greatest public purpose
  - Owned by the village corporation, tribe, and municipality
  - One project in aggregate
- **Total installed costs: Estimated at \$744,000\***
  - Used the *Alaska Housing Finance Corporation's Cash Flow Calculator*
  - Annual cost savings estimated at \$150,000
  - Cumulative project savings: approximately \$1.8M
  - Simple payback: 5 years

\*Includes contingency (about \$64,000)

## Qanirtuuq (village corporation)



Building	Size (in square ft.)	Date constructed	Previous Audits
Store	8,880	2011	Level 2, 2015
Qanirtuuq HQ	7,291	Early 1980s	Level 1, 2015
Hardware Store	2,688	1990s	Level 1, 2015
Old Pre-school Bldg.	1,066	Within 10 years	Level 1, 2015
Small Shop	1,688	Late 1980s	Level 1, 2015

## Native Village of Kwinhagak (tribe)

Building	Size (in square ft.)	Date constructed	Previous Audits
Washeteria*	7,264	1994	Level 2, 2015
NVK Admin & Post Office	2,140	Late 1970s	Level 1, 2015
Head Start	2,560	1990s	Level 1, 2015
Bingo Hall	2,880	1980s	Level 1, 2015



## City of Quinhagak (municipality)

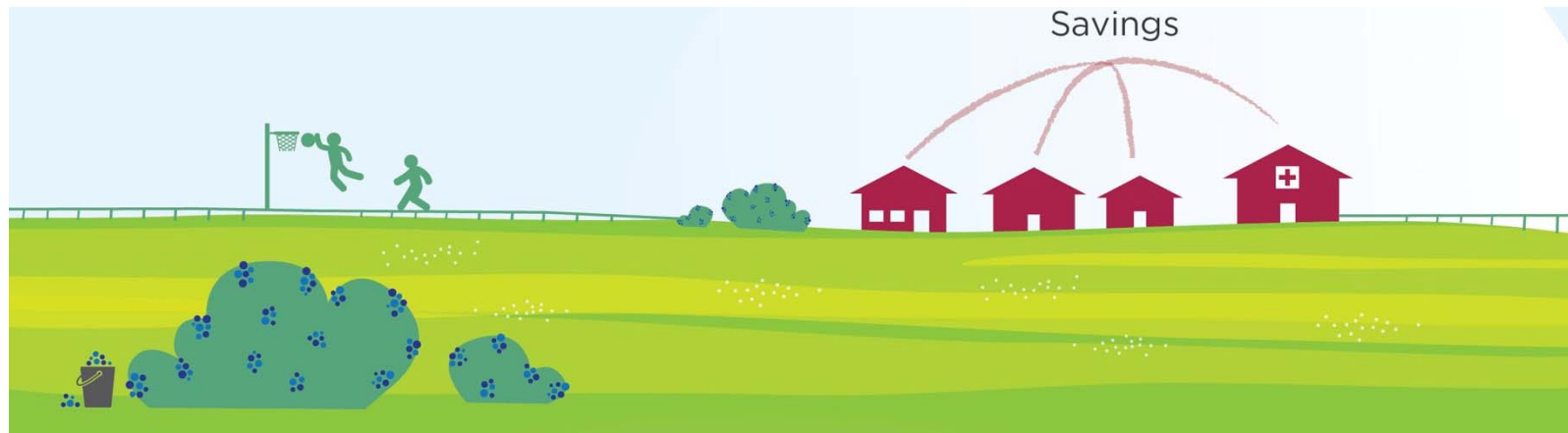
Building	Size (in square ft.)	Date constructed	Previous Audits
Water Treatment Plant	2,898	1980s	Level 2, 2015
Public Safety Building	1,058	1980s	Level 2, 2015





# Energy Efficiency Measures

- Upgrade lighting, replace windows and doors, add insulation, upgrade to energy efficient appliances, and improve ventilation.



**Annual energy savings – Just over \$150,000**





# Financing Options

- Private lending institutions that would be willing to partner
- Direct loan and loan guarantees through Alaska Industrial Development and Export Authority (AIDEA) and U.S. Department of Agriculture - Rural Development





# Project Status

- **Data collection – Complete**
  - Building inventory
  - Estimated project costs
  - Estimated annual savings
- **Financial exploration – In progress**
  - Gathering information about private/public financial products
  - Review of building owner financials & capacity
- **Project and financial proposals – In progress**
  - Drafting visual proposals for building owners to consider
  - Site visit and presentation to building owners

# Project Barriers



- March 2016 site visit revealed a discrepancy between the mission-drive tribe and for-profit corporation
- Forced Nuvista, now a 1-person organization, to go back to the drawing board
- Condition of the Quinhagak Washeteria
- Limited resources for project development





## Next Steps

- Re-evaluate project cost for 3 separate efforts
  - 3 separate financing mechanisms
  - Coordinate project timing to maximize on shipping and labor costs
- Return to Quinhagak to present all options
- Proceed as directed by community leaders

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# Quyana/Thank you



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