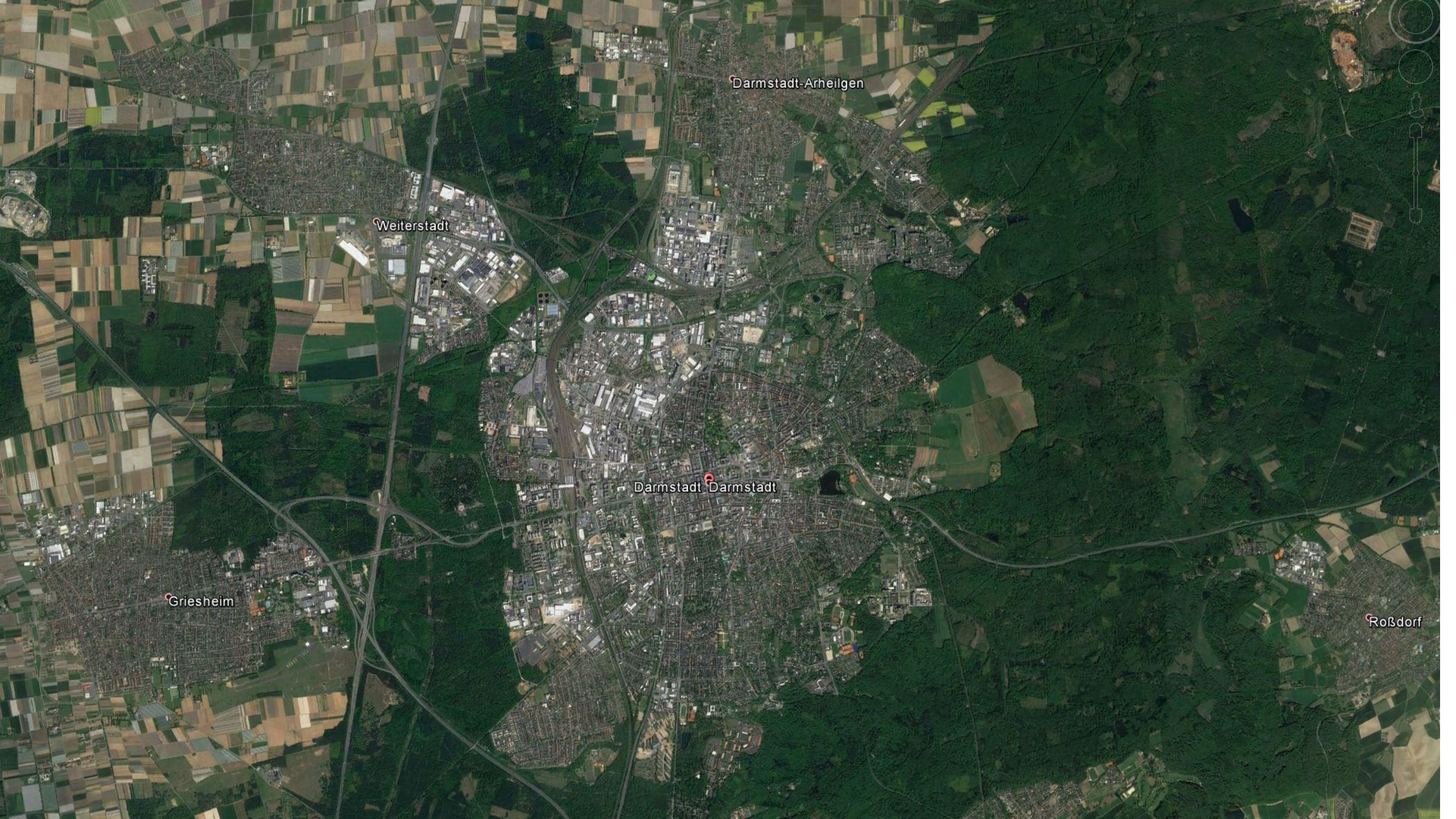


Energy Efficiency and Beyond: Petra Sattler-Smith The Value of Design in Affordable Housing

EE Now 2017

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Darmstadt-Arheilgen

Weiterstadt

Darmstadt Darmstadt

Griesheim

Roßdorf



Martinsviertel

Hochschulviertel

Mathildenviertel

Darmstadt Mitte

Rheintor/Grafenstraße

Kapellplatzviertel



Martinsviertel

Hochschulviertel

Mathildenviertel

Darmstadt Mitte

Rheintor/Grafenstraße

Kapellplatzviertel



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3 units / story x 5 stories
= 15 units
15 x 3 + 10 x 2 = 65 units

lumen**design**



- Density
- Privacy
- Not inspiring
- No connection to the environment

3 units / story x 5 stories
= 15 units

15 x 3 + 10 x 2 = 65 units

lumen**design**



Home

Feel protected, comfortable and safe

lumen**design**



Housing is more
than just
protection from
the elements.

It's about a
quality of life!

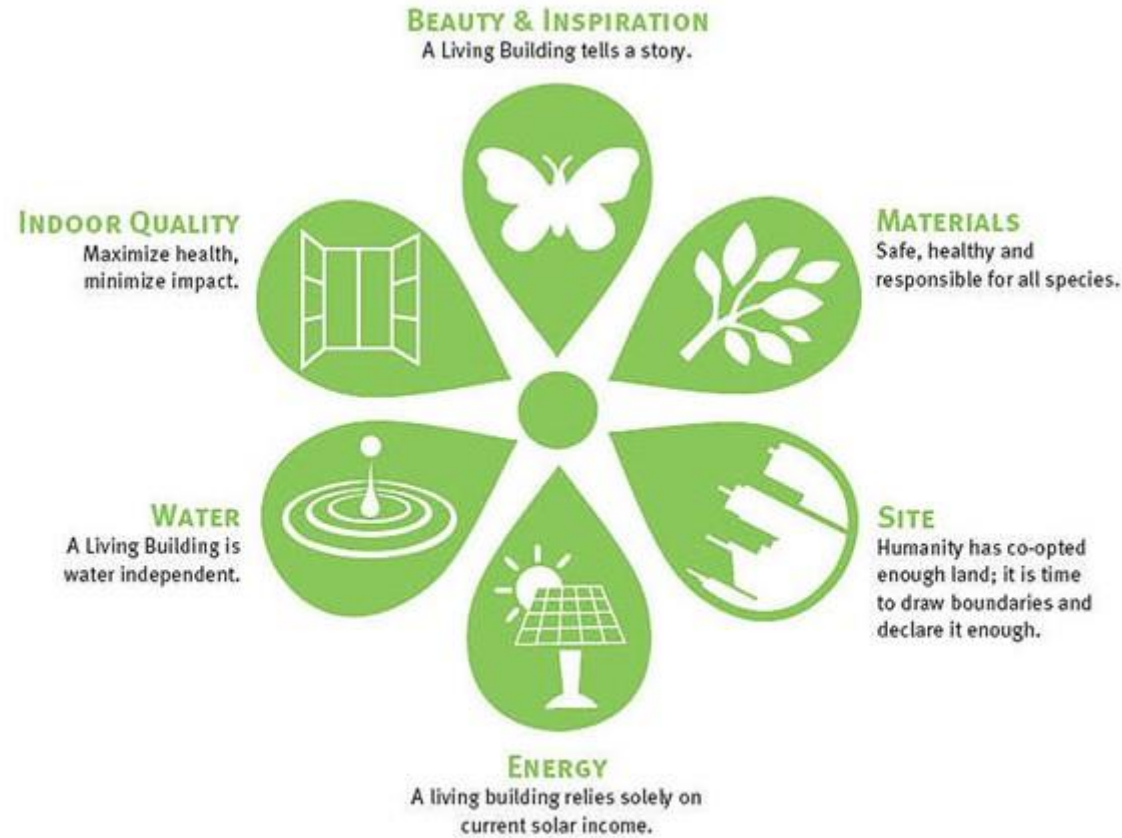
Home

lumen_{design}

Neighborhood

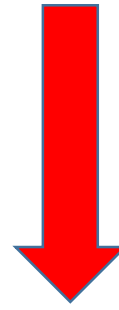


LIVING BUILDING CHALLENGE™





LIVING
BUILDING
CHALLENGE



BEAUTY & INSPIRATION
A Living Building tells a story.

INDOOR QUALITY
Maximize health,
minimize impact.



MATERIALS
Safe, healthy and
responsible for all species.

SITE
Humanity has co-opted
enough land; it is time
to draw boundaries and
declare it enough.



ENERGY
A living building relies solely on
current solar income.

WATER
A Living Building is
water independent.



lumen**design**

Creative Sustainability

Creative Sustainability

- Positive long-term effect on the environment and society

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- Positive long-term effect on the environment and society
- Attractive solutions for housing and urban spaces

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- Beauty and spirit

Creative Sustainability

- Positive long-term effect on the environment and society
- Attractive solutions for housing and urban spaces
- Beauty and spirit
- Quality versus quantity

Creative Sustainability

- Positive long-term effect on the environment and society
- Attractive solutions for housing and urban spaces
- Beauty and spirit
- Quality versus quantity
- Encourage resident's sense of ownership

Ridgeline Terrace

2015

70 unit housing project

Developer	Cook Inlet Housing Authority
	Trapline / V2
Contractor	Unit Company
Civil	Enterprise
Structural	Schneider Structural Engineers
Mechanical	Jernstrom Engineering
Electrical	EIC

C. EVALUATION CRITERIA

All applications will undergo a threshold review. Applications that pass the threshold review will be evaluated according to the objective rating criteria outlined in this NOFA and according to the standards outlined in the Qualified Allocation Plan. Both the threshold review and evaluation criteria are discussed in detail in the *Rating and Award Criteria Plan* (also referred to as the “Qualified Allocation Plan”, or QAP). A copy of this Plan is included as part of this NOFA package and is available on AHFC’s website.

Summary Rating and Award Criteria Table		
Rating Factor		Mountain View
Solar Thermal or Geothermal		8
Solar Photovoltaic		6
Equipped Units		8
Storage facilities		1
Service Enriched Housing		4
Extended Low Income Use	1	
Special Needs Population Served		12
Homeless Preference	1	
Hard Debt % of TDC		32
Line Items w/I Limits		1
All Lines Described		5
Discrepancy Penalty		-5
Developer Fee Split		4
DCR Must Pay Debt		9
DCR Soft Debt		12
Leveraging		12
Net Leverage		12
Cost		12
Commitments		6
Nonprofit Involvement	1	
Penalty Points		
Job Training Program		6
Total		151.50

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Summary Rating and Award Criteria Table		
Rating Factor		Mountain View
Solar Thermal or Geothermal	5.5%	8
Solar Photovoltaic	4%	6
Equipped Units		8
Storage facilities		1
Service Enriched Housing		4
Extended Low Income Use		1
Special Needs Population Served		12
Homeless Preference		1
Hard Debt % of TDC		32
Line Items w/I Limits		1
All Lines Described		5
Discrepancy Penalty		-5
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Summary Rating and Award Criteria Table		
Rating Factor		Mountain View
Solar Thermal or Geothermal		8
Solar Photovoltaic		6
Equipped Units	5.5%	8
Storage facilities	0.5%	1
Service Enriched Housing	2.5%	4
Extended Low Income Use	0.5%	1
Special Needs Population Served	8 %	12
Homeless Preference	0.5%	1
Hard Debt % of TDC		32
Line Items w/I Limits		1
All Lines Described	Total 22 %	5
Discrepancy Penalty		-5
Developer Fee Split		4
DCR Must Pay Debt		9
DCR Soft Debt		12
Leveraging		12
Net Leverage		12
Cost		12
Commitments		6
Nonprofit Involvement	0.5%	1
Penalty Points		
Job Training Program	4 %	6
Total		151.50

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Cost	8 %	12
Commitments		6
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Job Training Program		6
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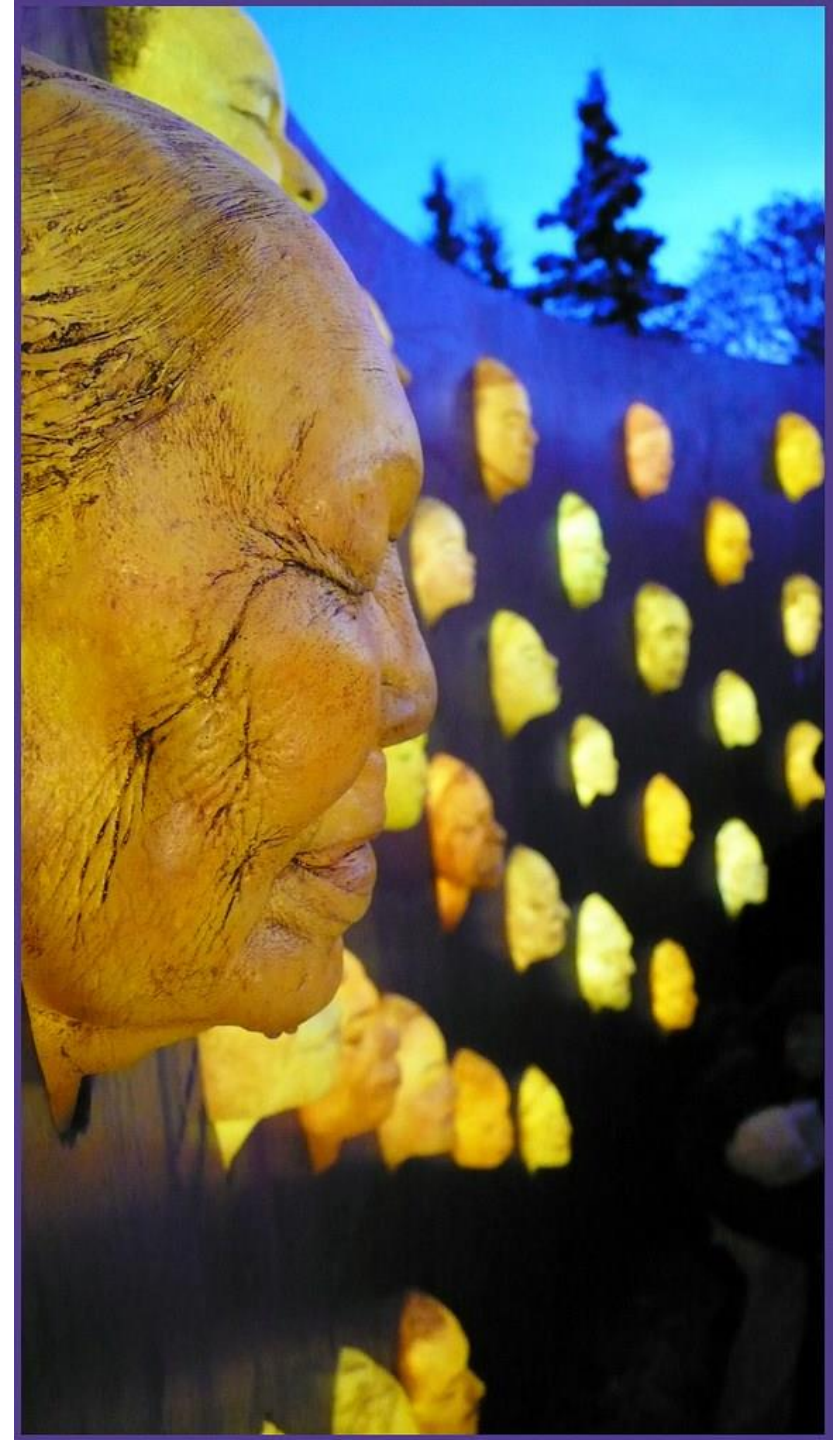
Summary Rating and Award Criteria Table		
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Homeless Preference		1
Hard Debt % of TDC	21%	32
Line Items w/I Limits	0.5%	1
All Lines Described		5
Discrepancy Penalty		-5
Developer Fee Split	2.5%	4
DCR Must Pay Debt	6%	9
DCR Soft Debt	8%	12
Leveraging	8%	12
Net Leverage	8%	12
Cost		12
Commitments	4%	6
Nonprofit Involvement		1
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"52 faces"

Art installation by Erin Pollock
and Steph Kesey
in Mountain View

lumen**design**

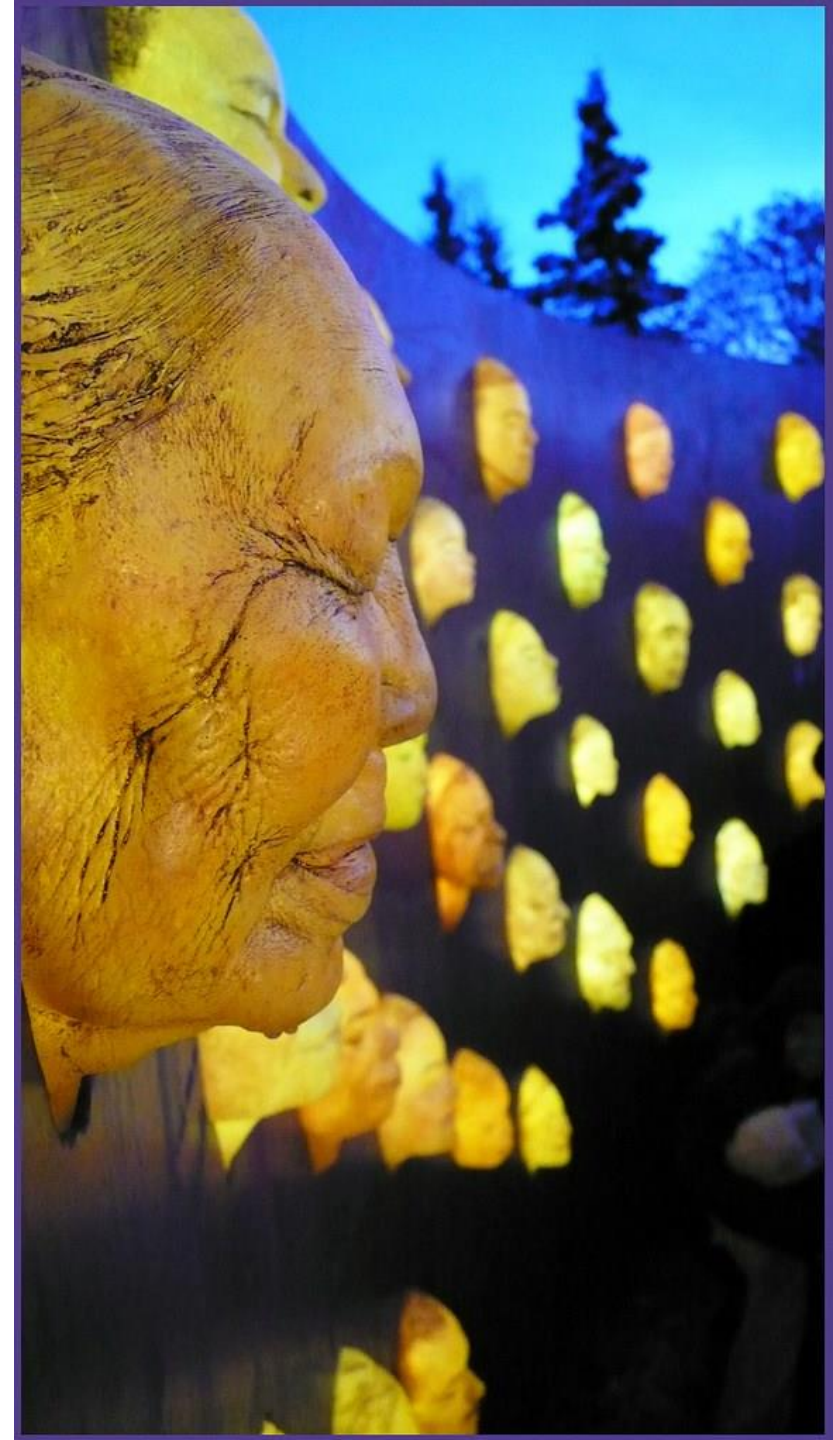




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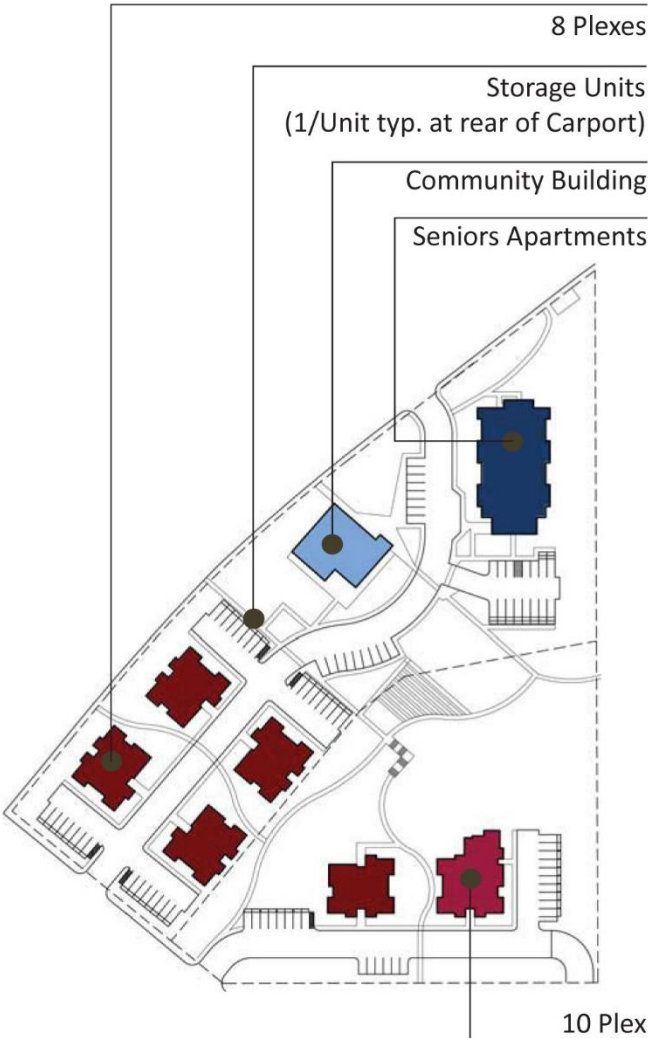
lumen**design**



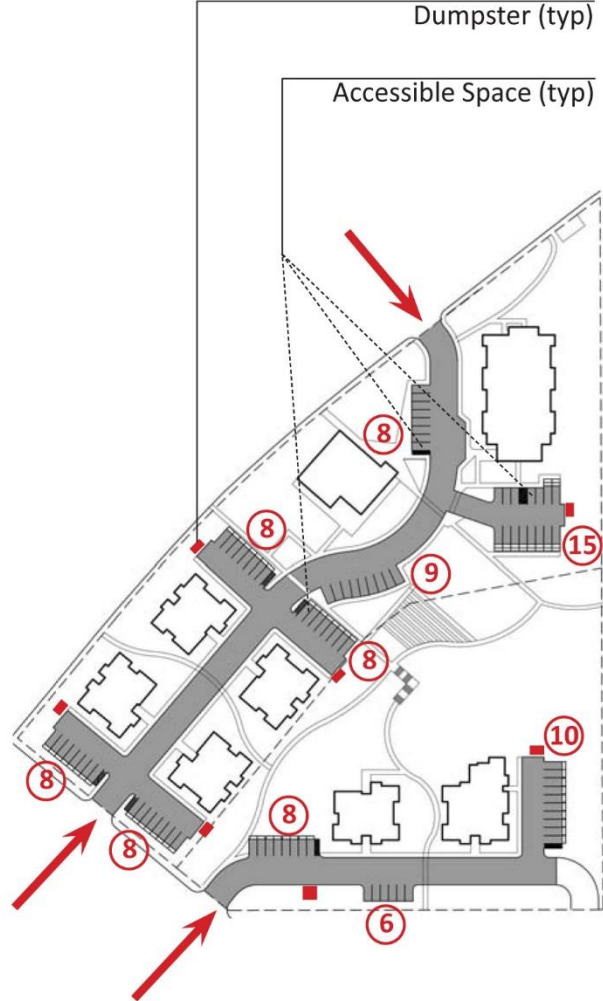




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Buildings



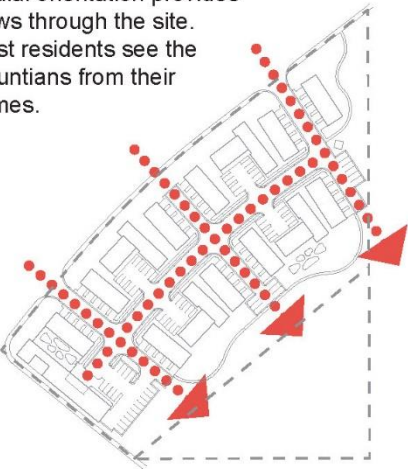
Traffic & Parking

- A community center
- B townhouses w/ (5) 2-bedroom units
- C senior building w/ (3) 1-bedroom units and (2) 2-bedroom units
- D senior building w/ (4) 1-bedroom units and (1) 2-bedroom units
- E playground
- F open play area
- G outdoor recreation space
- H light sculpture
- J lot for potential future development or sale

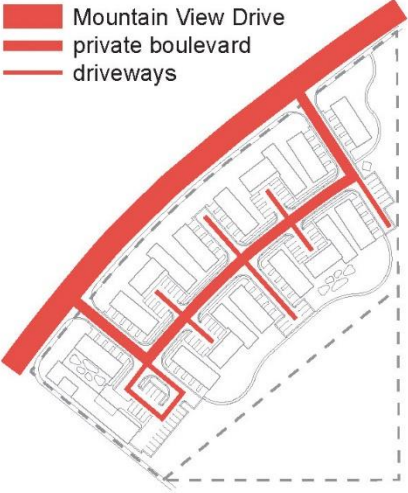


view corridors

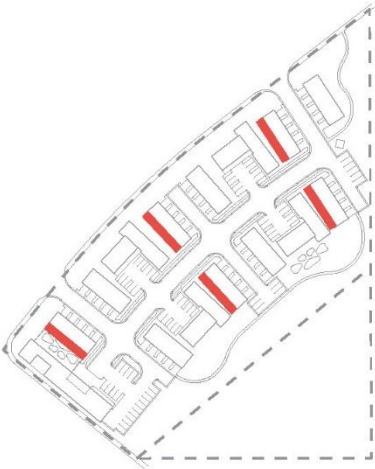
Radial orientation provides views through the site. Most residents see the mountains from their homes.



automotive circulation

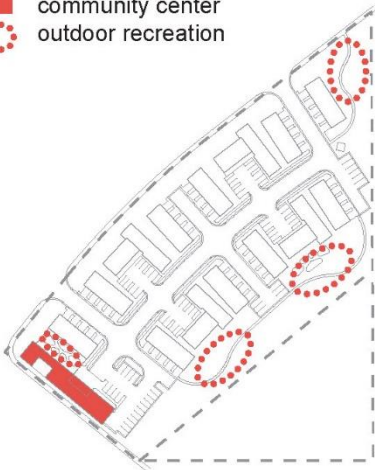


photovoltaic arrays



community amenities

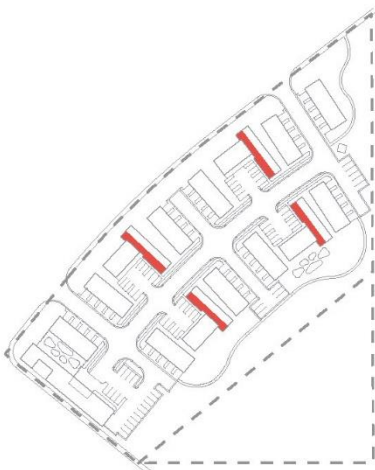
community center
outdoor recreation

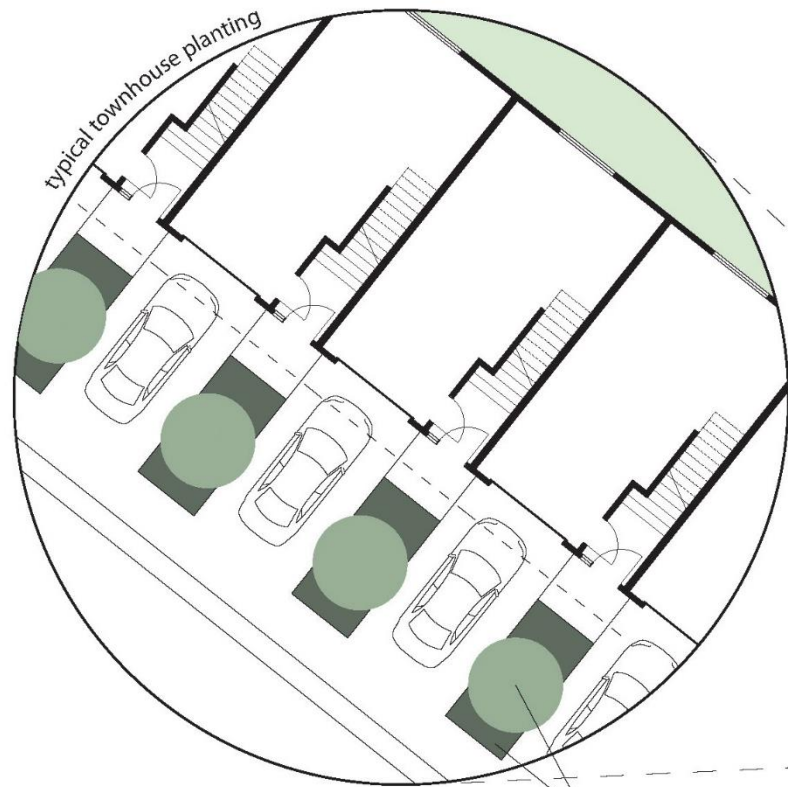


pedestrian circulation



solar-thermal arrays





typical townhouse planting

low shrubs and
small tree at each
doorstep

white spruce forest at North end

Paper birches frame entrances
and view corridors.

Red maples and low shrubs form a
soft, colorful streetfront and limit
pedestrian traffic into the property.

Paper birches and low shrubs
define the interior boulevard.

A light sculpture and the
Community Center entrance
define the endpoints of the arced
boulevard running through the site.



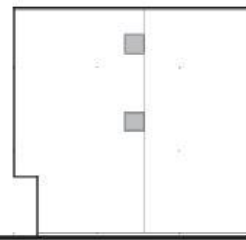


lumen**design**

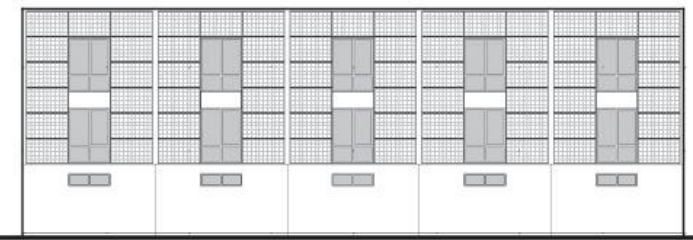




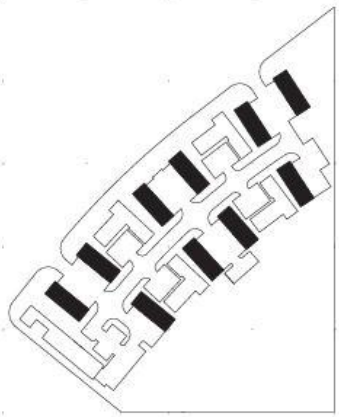
section



end



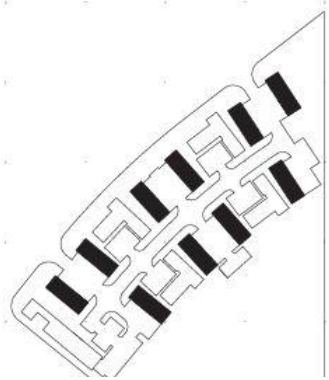
back side w/ solar array



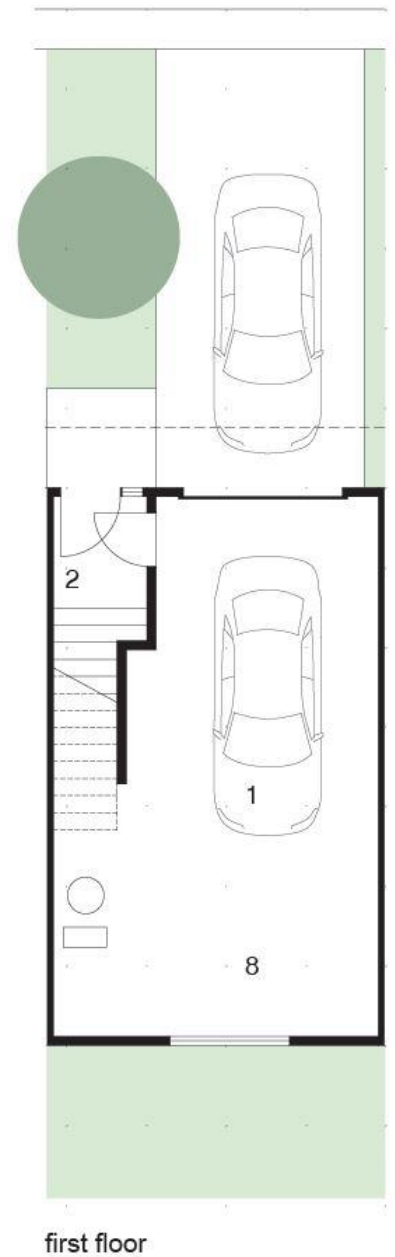
entry side

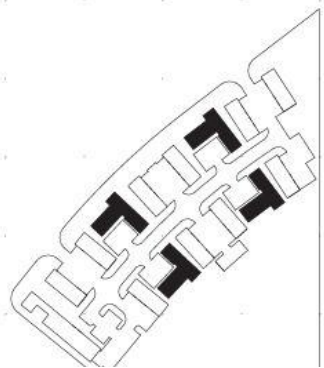
lumen
design

- 1 garage
- 2 entry
- 3 living / dining
- 4 kitchen
- 5 bathroom
- 6 bedroom
- 7 laundry
- 8 storage

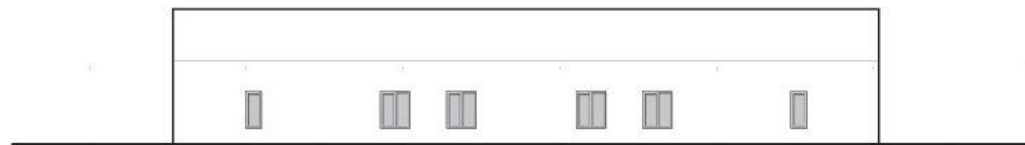


lumen**design**





lumen**design**



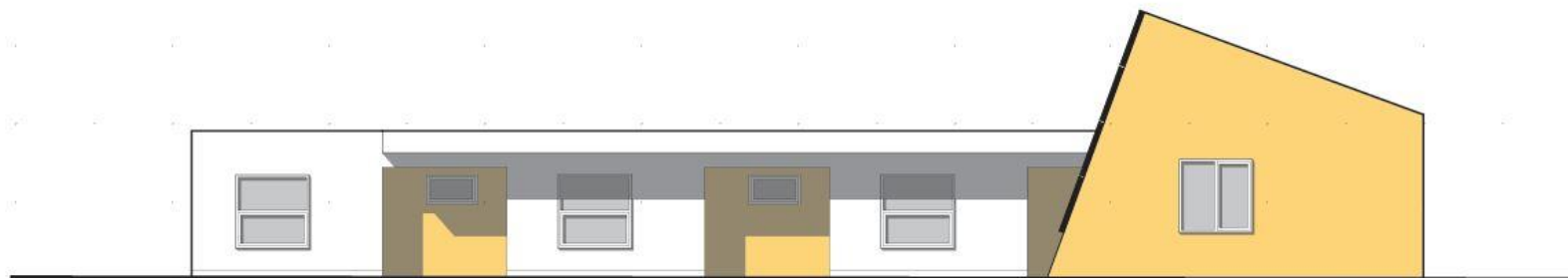
north



west / east

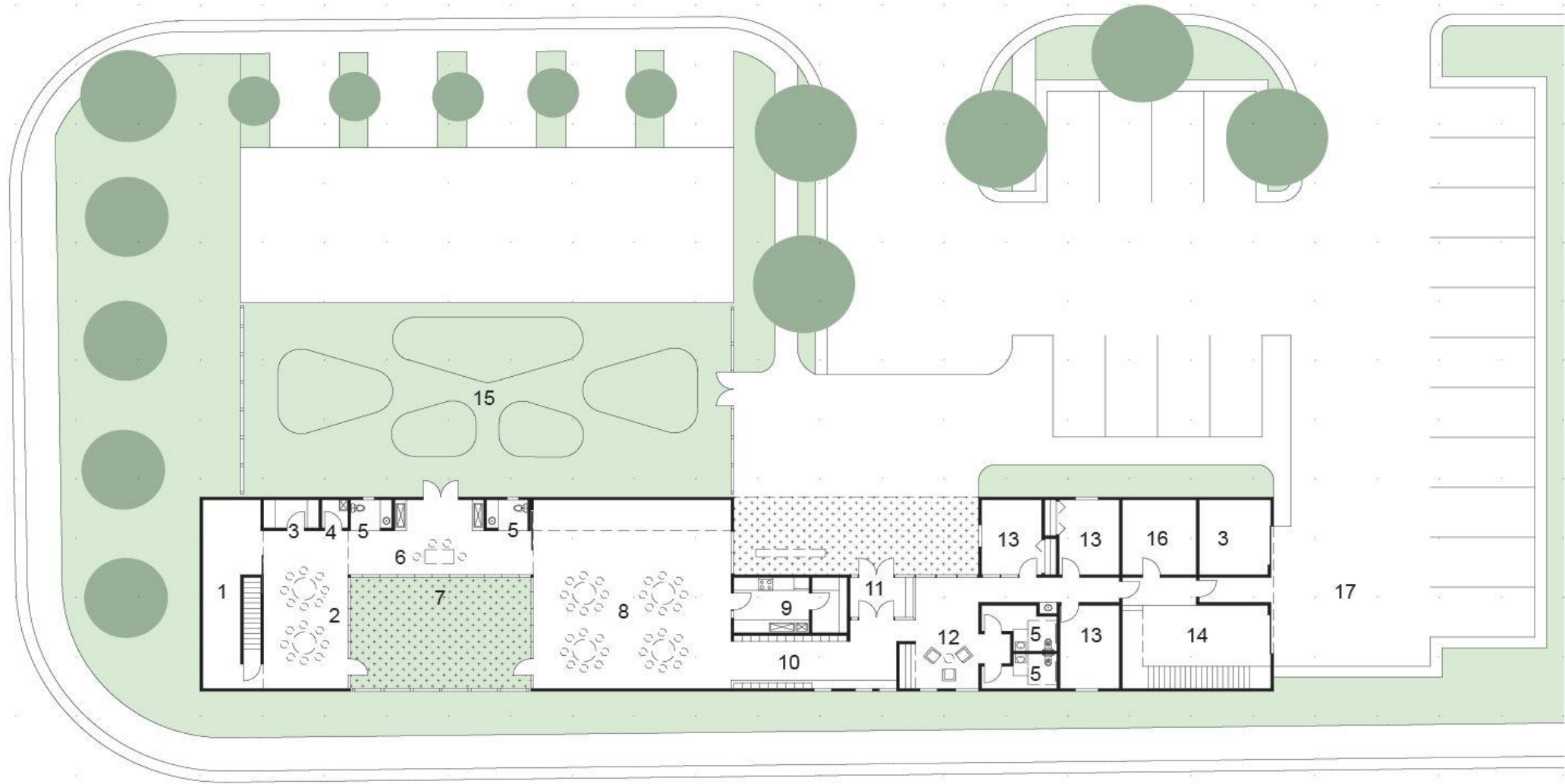
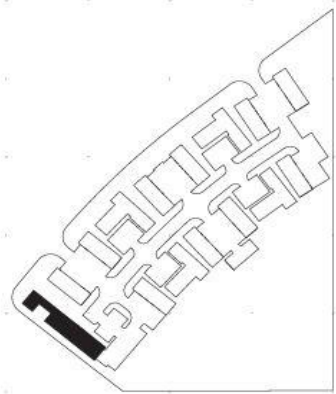


south



east / west

- 1 quiet area
- 2 classroom
- 3 storage
- 4 janitor
- 5 toilet
- 6 wet area
- 7 sandbox
- 8 multi-purpose room
- 9 kitchen
- 10 mudroom
- 11 entry
- 12 library / break
- 13 office
- 14 workshop
- 15 playground
- 16 laundry
- 17 loading area



lumen**design**



lumen**design**



lumen**design**

lumen**design**



lumen**design**





lumen**design**



lumen**design**

lumen**design**





lumen**design**



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- AIA Alaska
- 2016 Design Honor Awards
 - Citation Award

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Reuse of buildings

Susitna View
2016

20 single-occupancy affordable permanent
supportive Housing-

First apartments in downtown Anchorage for
chronically homeless individuals with severe
needs.

lumen**design**

Owner	RurAL CAP
Developer	Trapline / V2
Contractor	SR Bales
Civil	Enterprise
Structural	Schneider Structural Engineers

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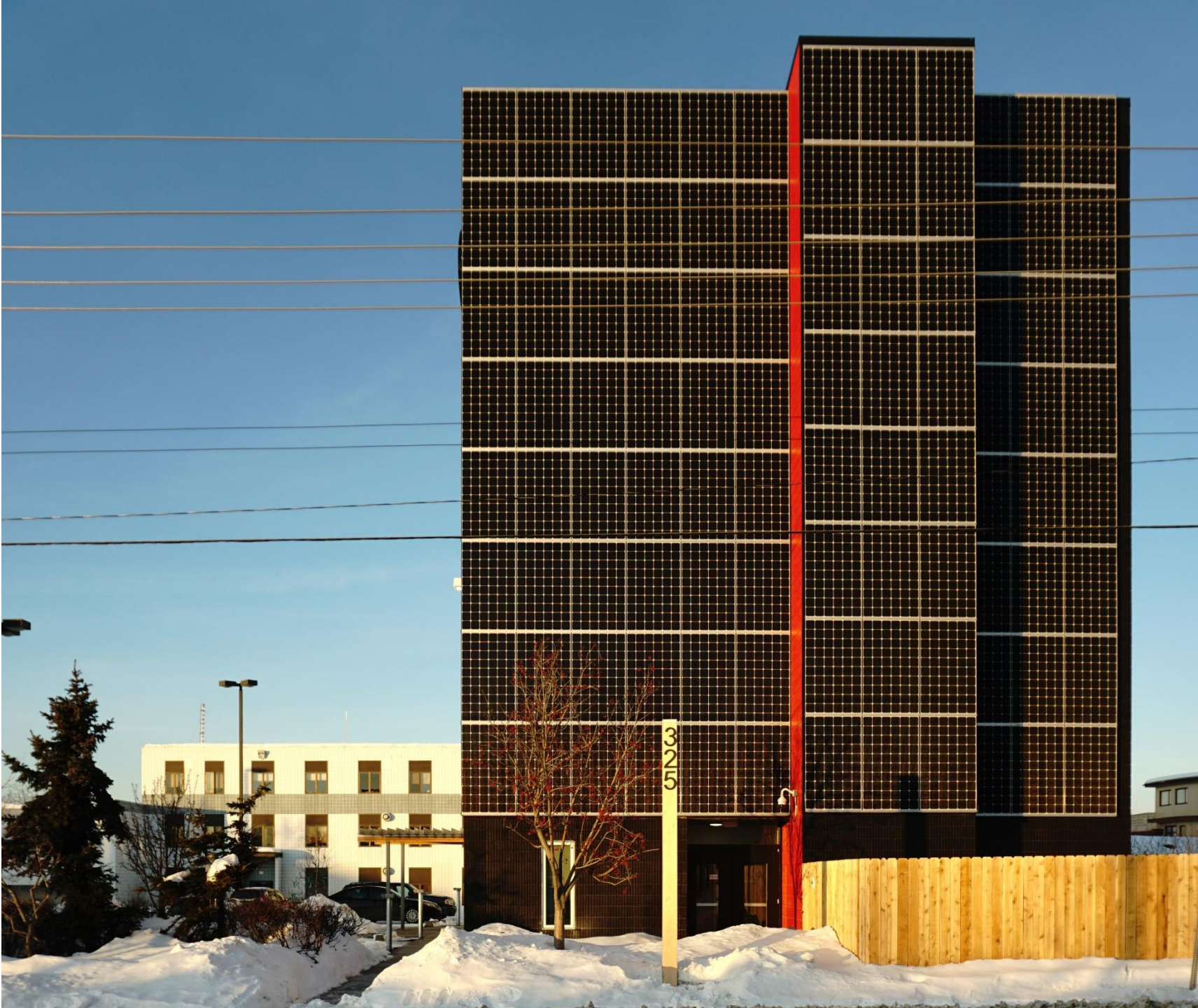
lumen**design**



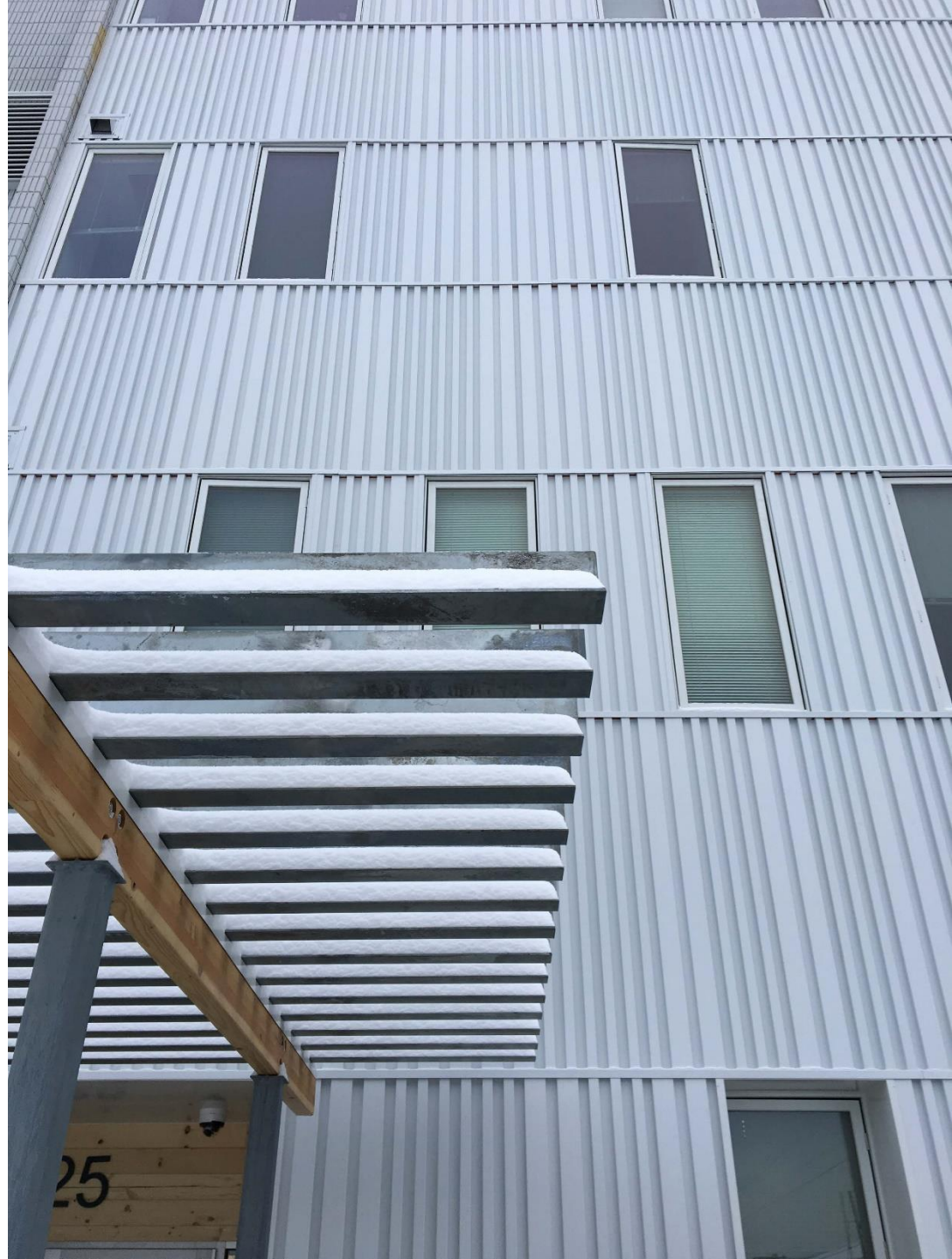
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Quality vs. Quantity

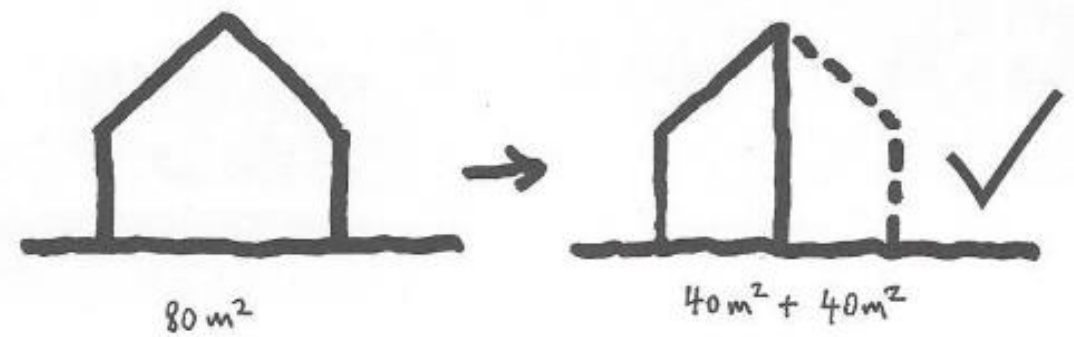
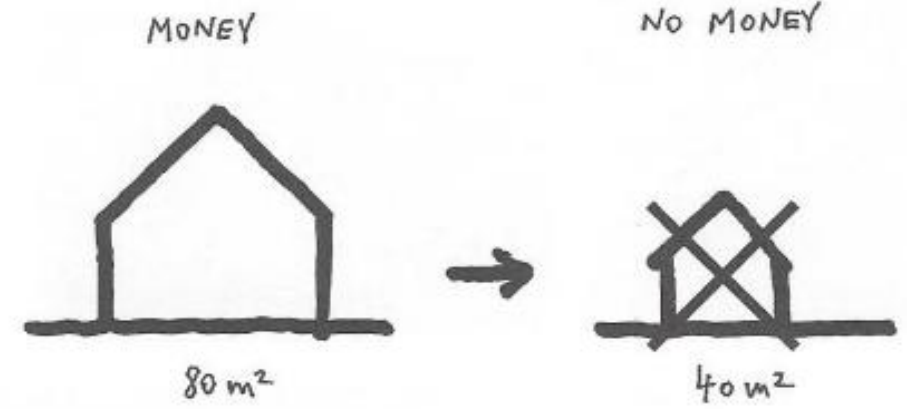
Villa Verde
2013

Affordable housing project for 484 families,
Constitution, Chile

Architect

Alejandro Aravena
Prizker Prize winner 2016

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Beauty

- Value of design
- Quality versus quantity
- Creative solutions to sustainability

Spirit

- Social infrastructure
- Cultural background
- The right to express yourself

Inspiration

- Communication
- Networking

Education

- Create dialogue
- Communicate Publish findings
- Exhibit solutions

Thank You



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