

Architecture of Confluence

ARCHITECTURE OF CONFLUENCE

by

Elizabeth Louise Clarke

A thesis submitted in partial fulfillment
of the requirements for the degree

Master

of

Architecture

MONTANA STATE UNIVERSITY
Bozeman, Montana

May 2012

©COPYRIGHT

by

Elizabeth Louise Clarke

2012

All Rights Reserved

APPROVAL

of a thesis submitted by

Elizabeth Louise Clarke

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citation, bibliographic style, and consistency and is ready for submission to The Graduate School.

Maire O'Neill

Approved for the School of Architecture

Steven P. Juroszek

Approved for The Graduate School

Dr. Carl A. Fox

STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a master's degree at Montana State University, I agree that the Library shall make it available to borrowers under rules of the Library.

If I have indicated my intention to copyright this thesis by including a copyright notice page, copying is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for permission for extended quotation from or reproduction of this thesis in whole or in parts may be granted only by the copyright holder.

Elizabeth Louise Clarke

May 2012

TABLE OF CONTENTS

1. CONFLUENCE.....1

2. THESIS.....2
Technology.....4
Abstraction.....6
Perception.....10
Experience of Place.....10
Aesthetics.....13
Endnotes.....16

3. PRECEDENTS.....19
Sumiyoshi Row House-Tadao Ando.....19
Kimball Art Museum-Louis Kahn.....20
GucklHuph-Hans Peter Worndl.....21
Toilets-The Rural Studio.....23
The Blur Building-Diller&Scofidio.....23
Endnotes.....24

4. SITE.....25
Vicinity.....26
Sacajawea Park.....26
Beyond the Parks.....27
History.....28
Existing Conditions.....29
Trails and Greenspace Study Area.....34
Aerial View of Site.....35
Yellowstone River-Floodplain/Floodway Map.....36

TABLE OF CONTENTS - CONTINUED

Site Map....37
Topography....38
Proximity of schools to site....39
Site and surrounding area....40
Views from site....41
Vegetation....42
Sound....43
Circulation....44
Electric....45
Sun Paths....46
Existing Structures/Current Use....47
Wind Conditions....48
Site section....49
30 Year weather averages....51

5. PROGRAM....54

6. CODE ANALYSIS....59

7. ZONING....65

BIBLIOGRAPHY....67

APPENDIX A: Design Response....69

LIST OF TABLES

1. Peak Streamflow - Yellowstone River
Near Livingston, Montana.....53

2. Residential Density Requirements
Table 30.41.....65

ABSTRACT

We live in a culture where physical and mental boundaries have created a physical and spiritual detachment from nature and a fragmented society. Placing boundaries in the physical and psychological landscape has led to a progressive veiling of our ability to perceive our interconnectedness with each other and nature. It is my intention to explore the possibility for architecture to act as a catalyst which creates experiences that encourage connectedness rather than creating further boundaries in our landscapes and the human psyche.

The practice of architecture is inherently a social act which does possess the ability to bring forth positive or negative change in human behavior. Eric Freyvogel states, "Boundaries on the land and in the human mind need to be rethought...existing boundaries need to become more permeable…so that life and responsibilities can flow through them." The design process needs to focus on creating places which heighten our awareness of our interconnectedness; that we recognize that we are part of an organic whole.

This thesis will explore the creation of place through the manipulation of space, which may allow our culture to become conscious of physical and mental boundaries; to allow us to perceive the narrowing effects of this condition, in order to promote a more harmonious relationship within a community and its landscape; in essence to create a confluence. Modern technology has allowed American culture to become physically and spiritually detached from nature and, in a sense, from one another. We have become fragmented as a society by putting individual interests ahead of community interests. By examining how architecture/landscape and technology/science have separated us, the thesis will address the potential of perception and aesthetics to open the mind and spirit, to experience the poetic.

con-flu-ence \ n. 1 : the meeting or place of meeting of two or more streams
2 : a flocking together



thesis

The Enlightenment of seventeenth century Europe began the objectification or abstraction of the world, in order to understand it in quantitative terms. Freyvogle proposes, "Ever since the Enlightenment, western culture has exacted the individual human as the prime measure of value…the natural order, plainly, is far more than just a collection of independent parts."[2] The result of this method of understanding the world led to the creation of dichotomies, which dissects our experience of the world into opposing categories of single-value thinking. Arnold Berleant explains, "Divisions between individual and society, private and public, human and environment, the natural and the artificial, increase the difficulties of resolving value conflict instead of clarifying them. We are beginning to understand that our world is ordered not in oppositions but in continuities and that the constituents of each of these pairs are not separate at all but completely permeate each other."[3]

Architecture and landscape architecture are two examples of this autonomous understanding of the world. Linda Pollak suggests, "The disciplinary and professional boundaries of architecture and landscape architecture have conditioned the perception of what is possible within a project, upholding the Enlightenment idea is that each discipline represents a consolidated and exclusive territory of concerns."[4]* Architecture and landscape architecture both alter a landscape, yet the inside/outside division between these disciplines diminishes the possibilities of creating a sense of place. Architecture represents the object and landscape, the subject. Landscape becomes secondary to a building project, instead of being integral to it, or engaged in a reciprocal relationship with the built environment. James Corner contends, "This splitting of the objective from the subjective established, for the first time, a detached distance between the human and phenomenal worlds, enabling humankind to assume a position of supremacy and mastery over nature."[5]

By engaging the local landscape with architecture, relationships emerge which can heighten one's sense of place through the experience of natural phenomenon. An example of this is Carlo Scarpa's renovation of the ground floor of the Querini Stampalia in Venice, Italy. Scarpa redesigned the lower floor to accept Venice's high tides, creating an interior space which becomes a "receptacle" for the uncontrollable tidal cycles native to Venice and its history. Pollak states, "This conception of architecture as a vessel for the engagement of landscape phenomena recognizes the role that cyclical fluctuations of water in Venice have had in shaping the city and its architecture."[6] Building and landscape permeate each other, creating a non-hierarchical and unique 'in-between` place, which breakdown boundaries and create interconnectedness.

Technology and science since the Enlightenment have become,

...increasingly autonomous and self-referential in human knowledge, becoming less and less connected to experiential and culturally situated origins...The Enlightenment philosophers severed, or abstracted, the world from the subject in order to dissect it for empirical study...and the world came to consist of an array of quantifiable and manipulable objects arranged in homogenous and absolute space. No longer were things qualified by their relation to a specific subject, place, or situation; instead the various `parts` of reality were objectified and rendered neutral.[7]

The qualitative experience of place is marginalized by the abstract objectification of an environment, creating a detached understanding of it. Place becomes space when understood in quantitative terms. A parallel concept of this idea is the systems approach to studying ecosystems. For example, in a forest, a geologist studies rock formations, while a biologist studies the flora and fauna, in order to

understand it in quantifiable terms. The parts are categorized or objectified for their scientific or economic value. The feel of the cooling shade, the sound of the wind and subdued light are subjugated to quantitative terms.

Technology

Architecture has become commodified "by the emphatic value modern society places on increased efficiency and utility."[8] Modern technology and its capacity of mass production have led to the standardization of the built environment based on economics. Denis Cosgrove expresses,

...the modern production of environments by engineering and landscape-architectural professionals is becoming increasingly standardized through quantifiable factors and prototypical solutions for given problems...The result is a ubiquitous and standardized built environment, one that looks the same in New York as it does in Anchorage. The experience and challenge of spatial discovery are consequently impoverished, with differences blended into the lowest common denominator and finally eradicated. Every place, regardless of special characteristics, begins to look and feel alike - neutral, flat, and bland.[9]

Too often, economics and function become the exclusive criteria for the built environment, disregarding local phenomena and the people who will occupy it, denying the poetic experience of place.

Heating and cooling technology has also contributed to the excluding or separating capacity of valuing the quantitative over the qualitative. Natural ventilation "has the capacity to express the specific place and the seasonal variations of its climate."[10] The natural is replaced by the artificial, distancing one's ability to experience the reality of a place. Robert France contends,

With assured confidence, we have used every technological means at our disposal to do the very best to remove ourselves from the world. Our lives are lived in boxes designed to be hermetically sealed from

the vagaries of weather as much as possible: the dash from the air-conditioned house to the air-conditioned garage whose door we open and close electronically, then drive to the air-conditioned office where we park underground. It is almost possible to live completely outside the environment, never getting hot, cold, or wet. Cut off from the seasons, we have become cut off from the life spark of the world and, as a result, have become sensually numbed. [11]
Quantification of the built environment is veiling our ability to experience the world fully as our quality of life is relinquished to economics and technology.

The changing qualities of natural light can also contribute to creating a sense of place. Art galleries typically utilize artificial lighting to protect artworks from the damaging effects of UVB and UVA rays from the sun, creating a "placeless environment." Kenneth Frampton suggests, "The converse of this `placeless` practice would be to provide that art galleries be top-lit through carefully contrived monitors so that, while the injurious effects of direct sunlight are avoided, the ambient light of the exhibition volume changes under the impact of time, season, humidity…Such conditions guarantee the appearance of a place-conscious poetic – a form of filtration compounded out of an interaction between culture and nature, between art and light."[12] The artificial and natural engage in a reciprocal relationship, creating place out of space.

Media and politics also encourage the exclusive over the inclusive. Yasmine Abbas asserts,
…we have invented automobiles, internet, and entertainment robots. These inventions singularly promote the connectivity with the other (information), as well as defend the individual from any kind of physical connection. This can lead to the idea that people are like billboards, flat and with no soul. The aggressive world

(media) leads to a politics of `immunity.` Protectionist politics prevent people from breaking the barriers of identity, which are the basis for the construction of communities. People protect themselves and form `ersatz` communities of individuals with similar possessions, a situation that does not imply communication in any way.[13] Our society continues to move towards the exclusive or individual, instead of towards the inclusive or community. Michael Benedikt suggests, "In this age of information, the slow and the still… are at risk…swept into our satellite – and cable-fed digital dreams, tied together by wire and radio waves, we are increasingly deaf to the value of a cared-for and life-affirming physical environment, and we are becoming increasingly blind to the harm its decline is doing us."[14]

Abstraction

Abstract measure also assumes an autonomous role in society today, through the objectification of nature and landscape. Traditional measure was directly related to the human body in its physical relationship to a specific environment. Corner states, "The sources of traditional measure were the concrete experiences of everyday life…Owing to the capacity of traditional measure to imbue practical life with symbolic meaning, such measures made coherent the relationships between people, place, activity, morality, and beauty."[15] He continues, "The practical and place-specific nature of traditional measure, together with its idealized, cosmographic import, via geometry, meant that the traditional world was generally conceived of an organic whole, lending a representational and socially interactive unity to life."[16] Corner expresses, "… Human measure is to be sought in the quantity of our belonging – in the magnitude, direction, and degree of our being with the other as with our own. The kind of interconnectivity spoken of here is one of relationship, a spatiotemporal mode of being among others in circumstantial reciprocal ways."[17]

Time was also commodified and abstracted by the scientific revolution, as a means of "class domination over production control and social behavior."[18] Kevin Lynch contends, "Time begins to be thought of as a commodity and, like other goods, a commodity in short supply…as individuals assume multiple roles, there are difficulties of synchronization, and time boundaries become more rigid, divisions finer."[19] Time has become increasingly linear and moves at a much faster pace. Our consumer culture forces us to work longer hours in the pursuit of "getting ahead," and we expect instant gratification; speed and efficiency determine our embodied experience. As we develop new methods for "saving time," our experience of place and community can diminish. The internet allows us to pay bills, bank, shop and order groceries at any hour without having to leave our houses, which can lead to social and environmental isolation. Traditional senses of time were based on cosmological and biological time, where rituals marked the passing of the seasons and passages in the life-cycles of members of a culture. John Jackson states, "It is our sense of time, our sense of ritual, which in the long run creates our sense of place and community." [20]

Experience of place involves discovery, where chance encounters with people or places heighten our awareness of our environment. Lynch points out,

At some time in our lives we all have experienced that peculiar sensation of a suspended moment of time, a `great present` that focuses all our attention and seems to hang motionless before us. It is an intense and mystical personal experience. Things are presented to us directly, not through the veil of customary meanings. The inside and outside worlds connect, and we seem to be the landscape itself. It is not a stoppage of time but a sense of vital stillness, wherein change and time seem immediately apprehensible…Things appear fresh and anew. [21]

While conducting research for this thesis, I spent many hours reading at my kitchen table, which faces south to a window. At some time in March, I stopped to look out the window to a scene very familiar to me, and I was struck by the quality of the late afternoon light. It was an intense moment of beauty, which altered my perception. It was a pause in time, which enhanced my sense of place.

The American west is a land divided literally and figuratively as a result of the land division pattern laid out by the Land Ordinance Act in 1785 to grant equal parcels of land to settlers in the new democracy. The grid "reinforced the cartographic foundation of American social space, laying the surveyor's measure across nature's local contingencies."[22] The division of the landscape allowed for individual and democratic land ownership, but it placed people on large tracts of land, essentially isolating one landowner from the next. The grid's negation of physiographic features reflects the cultural beliefs at the time; specifically that nature was perceived as object, which man could control. Cosgrove proposes, "The rectangular survey system, whose square townships, die-straight property lines and field boundaries, and abrupt discontinuities dominate the agrarian landscape of the United States west of the Appalachians…is an expression of human insensitivity to nature."[23] Nature was perceived as an endless resource for human benefit; this mentality still permeates American culture today.

The grid served its function in facilitating rapid settlement in the American west, yet its flaws have continued to divide communities to the present day. The issue of water rights in the American west is an example of single-value thinking and acting. Water rights were distributed on a first-come, first-served basis. In periods of drought, this dictates the order in which the rights holders extract water from rivers and streams. Those with prior water rights in their land deed are allowed to extract their allotted amount, disregarding those in need of the same water downstream. This practice has been a source

of contention and division since its inception, and continues today, yet it remains the law. The individual is privileged over society; human interest over the environment; the quantitative over the qualitative. Meine states, "We inherit a grid that is simultaneously real and metaphorical. It has dictated our system of land use and our way of thinking about the land-the natural, the wild, the human, and the civilized. Our daily activity and our planning take place within it. At the same time it signifies our adherence to, and imposition of, an abstract construction of the human mind. We have looked to the lines first, not the land to which the lines have been laid." [24]

Rivers and streams provide another example of this mentality. Homesteaders in Montana claimed ownership of the portion of a stream or river if it flowed through their section of land, and constructed fences, not bridges across them. Public use of these waters was denied by private interest, fragmenting the sense of community and place. This law was fortunately repealed in the 1970's, and Montana's rivers and streams have become accessible to all; private and public are joined in a reciprocal relationship. Mineral rights in the ground also exemplify a boundary in our ability to establish a sense of connectedness. The surface of the land where one dwells is deeded to the property owner, yet the earth beneath is most likely owned by another. The right of an outside party to mine on private land undermines a true sense of place.

The dichotomy of individual and society, public and private, human and environment and artificial and natural exemplify the polarized thinking of American culture. Neil Evernden explains, "The more we come to dwell in an explained world, a world of uniformity and regularity, a world without the possibility of miracles, the less we are able to encounter anything but ourselves."[25] The understanding of our world and our experience of it becomes limited when perceived in parts and pieces; it is a fragmented state of being. Allan Bloom proposes, "That grey net of abstraction, used to cover the world in order to simplify and explain it in a way that is

is pleasing to us, has become the world in our eyes. The only way to see the phenomena, rather than sterile distillations of them, to experience them in their ambiguity again, would be to have available alternate visions." [26]

Perception

The experience of place involves all of the sensory capacities of the human body; it's not just visual, which is what is occurring in this information-saturated, media age. Architecture shapes the quality of human life. As our built environment becomes marginalized by economics and standardization, one's expectations or knowledge of architecture's possibilities for enriching the experience of place become diminished. Frampton expresses this well: "The tactile resilience of the place-form and the capacity of the body to read the environment in terms other than those of sight alone suggest a potential strategy for resisting the domination of universal technology. It is symptomatic of the priority given to sight that we find it necessary to remind ourselves that the tactile is an important dimension in the perception of built form."[27] Knowing one's place involves sight as well as sound, touch, smell, memory, the kinesthetic perception of body position moving through space, "the haptic perception of texture, contour, temperature, pressure, humidity, and the awareness we gain through the vestibular system of obstacles and openness, turning and twisting, climbing and descending – all of these contribute to a perceptual…body consciousness of the world."[28] Christian Norberg-Schulz describes that "the objects of identification are concrete environmental properties and that man's relationship to these is usually developed during childhood." [29]

Experience of Place

I was raised in a suburb of Chicago, yet I feel very much at home in Livingston, Montana. The context is quite different, but the two "places" have many similar qualities. The commercial districts are the same size with a traditional main street. The commercial buildings are both predominantly constructed of red brick with

many windows. Occasionally, I hear a train whistle in the background. There is one store in particular in Livingston, which immediately brings back childhood memories whenever I enter it. Sax & Fryer sells books, magazines, art supplies, school supplies and stationary. Its façade is brick with large glass display windows on either side of the centered door. The door is heavy to open and made out of wood and glass. Its handle is brass and feels cold and smooth to the touch; I know intuitively that it requires a tight grasp, based on my experience with a similar door in my childhood. One also has to push down on the latch above the handle with one's thumb, in order to open the door. Upon entering the store, the wood floors give and creak below my feet and the configuration of the display cases dictates my path of movement. The air smells of books and the sound of a voice greets me by my name. The art supplies are located in the back of the store, and this section requires one to be careful when negotiating the space; it is confining and easy to knock things off the shelves. Schweidler's, the store where school supplies were purchased in my childhood was almost identical to Sax & Fryer.

As a child, opening a similar heavy wood and glass door required both of my hands; my right to grasp the brass handle and my left palm to push down the latch. My mother would have to help me open the door fully, as I would try to squeeze through the narrow opening. The size of the handle and weight of the door were designed with an adult in mind. My size and strength limited my ability to enter the building. The wood floors creaked, but from an adult's footsteps; they did not give beneath my feet. It smelled like books and sold the same things; Fred knew my name and my mother's name. I wasn't allowed to touch anything, and I had a hard time reaching for things, if I wanted to touch something because of my height in relation to the height of the counters. Receipts were written by hand, as they still are in Sax & Fryer. Berleant points out, "The perceptual world is the human world. Our capacities and limitations affect the possibilities and the boundaries of that world...Human perception blends

memories, beliefs and associations, and this range of meaning deepens experience."[30]My perception of this ritual was different for my mother. The door was easier for her to open; the sound and give of the floor may or may not have been sensed consciously. Her interest was in finding the list of what I needed and finding someone to help her gather my supplies, while I was interested in looking around at everything in the store. If it was crowded, Fred would sense my mother's impatience by her body language and facial expressions. Claudia Wallis asserts, "Thousands of years of evolution created human physical communication – facial expressions, body language – that puts broadband to shame in its ability to convey meaning and create bonds."[31] What we perceive or experience differs from person to person depending on age and personality type; it is subjective. Berleant suggests that, "a phenomenology of architecture experience begins …with place, with the sympathetic interrelationships of people and built structures. What is basic here is the fact that places are the product of a dynamic juxtaposition of many factors: inhabitants, structures replete with meanings, perceptual involvement, and a common spatiality. We cannot presuppose the Cartesian heritage of a separated subjectivity. There is rather the interpenetration, indeed the continuity, of person and place."[32]

There are many other similarities between the two places I have called home. The towns are both laid out on a grid, with train tracks running through the middle of town. The city skyline can be seen in the distance from my childhood home, whereas mountains are seen in the distance from my current home, yet along with the train whistle, they provide a source for me to orient myself in these environments. Norberg-Schulz describes that,

…the child gets acquainted with the environment, and develops perceptual schemata which determine all future experiences…The schemata are locally-determined and culturally-conditioned structures. The identity of a person is defined in terms of the schemata developed, because they determine the `world` which is accessible...

We understand that human identity is to a high extent a function of places and things…It is important that our environment has a spacial structure which facilitates orientation… Identification and orientation are primary aspects of being-in-the-world.[33]
Our understanding of place and people involves physical contact; visual experience of an environment provides only a fragment of reality.

It is in childhood when one experiences the environment in ambiguity. Everndon proposes that, "Childhood is the one period in life when one is able to experience the world nonculturally…It is a `window of opportunity` that exists before the small human becomes forever a creature of culture and must dwell in the domain of abstractions and representations."[34] To experience nature through all the senses as a child is to provide perceptions or an understanding of interconnectedness. As our culture becomes increasingly attached to "screens," Wallis concludes, "The mental habit of dividing one's attention into many small slices has significant implications for the way young people learn, reason, socialize, do creative work and understand the world."[35] To deny the full range of perceptual experience is to impoverish the quality of life.

Aesthetics

An aesthetic experience is a perceptual experience. Berleant asserts, "…experience is perceptual and that, as such, it carries the trait of the aesthetic. Aesthetic experience involves an awareness of the sensory, the qualitative aspect of things."[36] Aesthetic experience of the arts can also be applied to an aesthetic experience of nature or environment, possessing the ability to increase our understanding of the qualitative aspects of place. Berleant continues, "To take the world fully, to employ the entire range of perception is to magnify our experience, our human world, our lives. The goal then is an expanded but discriminating awareness as part of a totally

engaged organic, social life … The aesthetic sense of environment is a central aspect of such a life."[37] Architecture is an expression of an idea; the idea should be based on improving the quality of life for the people involved-the inclusive, it should not be based on the quantitative-the exclusive. Berliant describes,
Environmental aesthetics, therefore, does not concern buildings and places alone. It deals with the conditions under which people join as participants in an integrated situation. Because of the central place of the human factor, an aesthetics of environment profoundly affects our moral understanding of human relationships and our social ethics. An environmental aesthetics of engagement suggests deep political changes away from hierarchy and its exercise of power and toward community, where people freely engage in mutually fulfilling activities.[38]

The arts provide a medium to stimulate thought, to question our beliefs, to expand our minds; to provide an opportunity to experience alternatives. Robert Irwin believes that, "all art is experience, yet all experience is not art. The artist chooses from the experience that which he defines as art, possibly because it has not yet been experienced enough or because it needs to be experienced more."[39] Architecture is an art form which has historically been a manifestation of the beliefs or values of a culture; its truths of a place in time. American culture values the well-being of the individual based on economics and function. It is sensually and spiritually depriving to place value in quantities; the quality of the experience of the built environment is sacrificed. Our cultural landscape has become sterile volumes of spaces, instilling a sense of placelessness. Benedikt contends, "One can see how buildings constructed rapidly by indifferent men with indifferent plans, using remotely made and general parts, are bound to create indifference - at best - in the population at large, let alone in those actually involved."[40]

Indifference implies disinterestedness; meaninglessness.

Michael Hough proposes that, "The deepest meaning of any place is its sense of connection to human life and indeed to the whole web of living things." [41] The physical and mental boundaries established since the Enlightenment have led to a fragmented, detached state of being. To deny a sense of interconnectedness is to negate reality. The design of an environment influenced by the qualities of the natural phenomena and landscape of a location can instill a sense of place, through the creative manipulation of light, surface and materials. By presenting alternatives to the status quo, one's mind and spirit will open to new possibilities; towards an ambiguous understanding of the world. Mockbee expresses, "…the role of any artist is to help people see things as they truly are and how they can be." [42] A socially responsible design approach can perform as a medium, which expresses a sense of interconnectedness. To become conscious that we are part of an organic whole is to create a more harmonious, interconnected relationship between human and environment, private and public, individual and society and the natural and artificial; a confluence.

* I am focusing on site; however, interior architecture is also subject to the exclusive understanding of professional boundaries.

Endnotes:

1. Eric Freyvogel, "Bounded People, Boundless Lands," (Washington, DC, Island Press, 1998), p.175.

2. Ibid, p. 36

3. Arnold Berleant, "The Aesthetics of Environment," (Philadelphia, PA, Temple University Press, 1992), p. 186.

4. Anita Berrizbeitia and Linda Pollak, "Inside Outside: Between Architecture and Landscape," (Gloucester, MA, Rockport Publishers, 1999), p. 10.

5. James Corner, "Taking Measures Across the American Landscape," (New Haven, CT, Yale University Press, 1996), p. 28.

6. Anita Berrizbeitia and Linda Pollak, "Inside Outside: Between Architecture and Landscape," (Gloucester, MA, Rockport Publishers, 1999), p. 16.

7. James Corner, "Taking Measure Across the American Landscape," (New Haven, CT, Yale University Press, 1996), p. 28

8. Ibid, p. xviii

9. Ibid, pp. 32 & 33.

10. Kenneth Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in Hal Foster, ed., *The Anti-Aesthetic: Essays on Postmodern Culture*, (Port Townsend, WA, Bay Press, 1983), p. 27.

11. Robert L. France, "Deep Immersion: The Experience of Water," (Sheffield, VT, Green Frigate Books, 2003), p. 36.

12. Kenneth Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in Hal Foster, ed., *The Anti-Aesthetic: Essays on Postmodern Culture*, (Port Townsend, WA, Bay Press, 1983), p. 27.

13. Yasmine Abbas, "Expression of the Edge," www.gsd.harvard.edu/users/yabbas/ACSA-odessey 2002, p. 3.

14. Michael Benedikt, "Center 10/Value," in *Center: Architecture and Design in America*, (Austin, TX, The University of Texas Press, 1997), p. i.

15. James Corner, "Taking Measures Across the American Landscape," (New Haven, CT, Yale University Press, 1996), p. 27.

16. Ibid, p. 27.

17. Ibid, p. 34.

18. Kevin Lynch, "What Time Is This Place?," (Cambridge, MA, The MIT Press, 1972), p. 127.

19. Ibid, pp. 128 & 129.

20. John B. Jackson, "A Sense of Place, A Sense of Time," (New Haven, CT, Yale University Press, 1994), p. 160.

21. Kevin Lynch, "What Time Is This Place?," (Cambridge, MA, The MIT Press, 1972), p. 124.

22. Denis Cosgrove, "The Measures of America," in *Taking Measures Across the American Landscape*, (New Haven, CT, Yale University Press, 1996), p. 8.

23. Ibid, p. 8

24. Curt Meine, "Inherit the Grid," in Joan Nassauer, ed., *Placing Nature: Culture and Landscape Ecology*, (Washington, DC, Island Press, 1997), p. 54.

25. Neil Evernden, "The Social Creation of Nature," (Baltimore, MD, The Johns Hopkins University Press, 1992), p. 116.

26. Allan Bloom, "The Closing of the American Mind," (New York, NY, Simon and Schuster, 1987), p. 238.

27. Kenneth Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in Hal Foster, ed., *The Anti-Aesthetic: Essays on Postmodern Culture*, (Port Townsend, WA, Bay Press, 1983), p. 28.

28. Arnold Berleant, "The Aesthetics of Environment," (Philadelphia, PA, Temple University Press, 1992), p. 187.

29. Christian Norberg-Schulz, "The Phenomenon of Place," in Kate Nesbitt, ed., *Theorizing A New Agenda For Architecture*," (New York, NY, Princeton Architectural Press, 1996), p. 424.

30. Arnold Berleant, "The Aesthetics of Environment," (Philadelphia, PA, Temple University Press, 1992), p. 23.

31. Claudia Wallis, "The Multi-tasking Generation," *Time,* (March 27, 2006, p. 52.

32. Arnold Berleant, "The Aesthetics of Environment," (Philadelphia, PA, Temple University Press, 1992), p. 149.

33. Christian Norberg-Schulz, "The Phenomenon of Place," in Kate Nesbitt, ed., *Theorizing A New Agenda For Architecture*, (New York, NY, Princeton Architectural Press, 1996), p. 424.

34. Neil Evernden, "The Social Creation of Nature," (Baltimore, MD, The Johns Hopkins University Press, 1992), pp. 113 & 114.

35. Claudia Wallis, "The Multi-tasking Generation," *Time,* (March 27, 2006, p. 51.

36. Arnold Berleant, "The Aesthetics of Environment," (Philadelphia, PA, Temple University Press, 1992), p. 156.

37. Ibid, p. 24.

38. Lawrence Weschler, "Seeing Is Forgetting The Name Of The Thing One Sees," (Berkeley, CA, University of California Press, 1982), p. 128.

39. Michael Benedikt, "For An Architecture of Reality," (New York, NY, Lumen Books, 1987), p. 42.

40. Michael Hough, "Out of Place," (New Haven, CT, Yale University Press, 1990), pp. 34 & 35.

41. Samuel Mockbee, "Building Dreams: An Interview With Samuel Mockbee," in Mindy Fox, ed., *Sustainable Architecture: White Papers,* (New York, NY, Earth Pledge Foundation, 2000), p. 213.

Image on thesis title page: www.wolfgangvolz.com/images/Drei_Lampions.jpg



precedent

Sumiyoshi Row House
Osaka, Japan
Tadao Ando
1976

Gustavo Giri, Tadao Ando: Architecture and Spirit, (Barcelona, Editorial Gustavo Gili, 1998) - photos





Ando created a "place" to evoke a spiritual relationship with the natural world. His use of strict geometric forms constructed of concrete, wood and stone provide tangibility, yet he also includes sunlight and wind as architectural materials, as they appeal to one's senses and mark the passage of time and seasons.



Ando forces a confrontation with nature to unite the life of the space with the lives of its occupants to create a sense of place. By imposing nature on the man-made or architecture, Ando creates an opposition of one amplifying the other to create a new place where boundaries disappear.

Kimbell Art Museum
Fort Worth, TX
Louis Kahn, Architect
Goerge Patton, Landscape Architect
1972
Linda Pollak, Inside Outside: Between Architecture and Landscape, 1999 - photos





The main entry to the museum serves as a transitional courtyard space, which is typically programmed to be accessible once one has entered a museum. The Kimbell's courtyard becomes an inclusive, public space, negating the exclusive nature of many museums which reserve the use of the courtyard for museum patrons.

As one approaches the building, groves of trees and a fountain create a poetic place to pause upon entering the museum. The landscape design and broken vault over the entry path merge the architecture with the landscape, creating a non-hierarchical relationship.



GucklHuph
Mondsee, Austria
Hans Peter Worndl
Paul Ott - photos

This meditation space was designed as an installation for the Upper Austrian "Festival of the Regions." Constructed from plywood, the structure features movable parts which open, slide and tilt to alter the form. The user can manipulate the space for a sense of privacy, as well as openness. The changing light entering the space throughout the day can also be controlled by moving the panels to create a personal place. The user can also choose the view by moving the panels from within the space. The boundary between human and environment is diminished by allowing one to modify the structure to meet personal needs.



The structure is "a simple wooden cube with lots of quirky openings; ...it is an exercise in ambiguity positioned somewhere between architecture and sculpture."[1] Ambiguity alters perception.





Toilets
Perry Lakes Park
Perry County, Alabama
The Rural Studio
Auburn University School of Architecture
2003
Timothy Hursley, Architectural Record,
March 2006, p.77 - photos



A sense of interconnectedness between human and environment is accomplished in the design of these outhouses, through enframing the wooded area of the site. The design alters one's perception of the typically unpleasant outhouse experience by creating an aesthetically pleasing interpretation of the typology.



The interior space changes with the shifting light throughout the day and the seasons, creating a strong connection to nature. The material palette of stainless steel, cedar and concrete blend natural and artificial in a poetic iteration of an outhouse. The use of stainless steel on the ceiling creates beautiful reflections of the setting, as well as illuminating the interior with refracted daylight. The small gaps between the slats of the walls allows for plenty of ventilation, while maintaining a sense of privacy in the public park setting.

The Blur Building
Lake Neuchatel - Yverdon-les-Bains, Switzerland
Diller & Scofidio
2002
www.expo.02.ch-photos



Fresh water and technology are celebrated in this temporary structure designed for the Swiss National Expo. The visitor experiences a constantly changing fog mass, controlled by a computerized weather station that responds to wind speed and direction, temperature and humidity. This is an artificially controlled environment - natural weather is more interesting to experience.





In addition, when visitors check-in, they are required to fill out a questionnaire regarding their personality traits, which is programmed into a raincoat. As one moves through the space, LED's embedded into the raincoat light up in different colors, signifying compatibility or incapatibility with other visitors.The experience of discovery in learning about others is veiled; the programmed raincoat denies ambiguity.

Endnotes:

1. Phyllis Richardson, “XS: Big Ideas, Small Buildings,” (New York, Universe Publishing, 2001), p.44.



site



The site I have chosen for this intervention is a quiet sanctuary located at the eastern edge of Livingston's park system. The public parks are an integral piece of Livingston, yet they experience limited use during the long winter months. In warmer weather, Sacajawea Park is full of activity where one may experience a sense of community. Miles Park, the location of my site, sees little use. The softball fields within and adjacent to the site stand vacant, while the little league fields are used only during spring and early summer.

The Yellowstone river defines the southern edge of the site, providing a place to pause. The sound of the river is very soothing and visually, it is captivating. The sunlight reflecting off of the river is mesmerizing, stimulating one's imagination. The river is in a constant state of change, providing clues of the upper Yellowstone ecosystem through its height and clarity. It is a messenger which provides a sense of interconnectedness with the natural environment.

The site can be accessed from a road which dead ends at the northwest corner, or one can approach from the levee walking path at the river's edge. Deciduous trees beyond the eastern boundary and along the riverbank reflect the changing of the seasons, providing signals of the transition between fall and winter, winter and spring. In the morning and afternoon, the trees affect the quality of light by filtering its intensity. They provide shade as well, creating places to escape the hot summer sun.

The site itself is a very open and exposed space. On windy days, few venture out to the park. The tremendous power of the winds in Livingston shape behavior, forming a perception of place. The views of the Absaroka and Crazy mountains are incredible, providing a visual sense of orientation in the landscape. Looking across the river, one sees open pasture; there are no structures or people present. It is beautiful and peaceful, instilling a sense of tranquility.

Motors are not allowed on this stretch of the river; one only hears ducks and geese and the occasional voices of fishermen, kayakers, rafters and intertubers as they float by the site during the warmer months of the year.

The qualities of the site provide a fitting location for fulfilling the aspirations of creating permeable boundaries between public and private, human and environment, individual and society and the natural and artificial. The site provides endless opportunities for the large artistic sector of Livingston's population to diminish our society's attachment to screens, and create a sense of interconnectedness.

Vicinity

Miles Park
east: private property - heavily wooded - cottonwood trees and willow shrubs
habitat for deer - riparian zone
barbed wire fence defines eastern boundary of site

south: levee walking path - 12 feet above river - extends beyond site boundary to to the east and 2/3 of a mile to the west, ending at the western boundary of the park system at Ninth Street.
Yellowstone River defines southern boundary of site and park system

west: softball field - 4 Little League baseball fields - concession stand
used May-mid July
softball field defines western boundary of site

north: Park High School football and track field - 25 feet from site boundary
High School parking lot - approximately 425 feet from NW corner of proposed site - 1 minute walking distance to site
Sleeping Giant Middle School - grades 6-8 - 5 minutes walking distance to site
St. Mary's School - grades k-8 - 6 minutes walking distance to site

Sacajawea Park
Civic Center - basketball court and bleachers - used for various community events.
senior citizens use the space for walking during winter months

Skatepark - used by children and teenagers when weather allows

Bandshell - used for summer concerts and other community events, including the Farmer's Market June-September

Livingston Community Pool - open June-mid-August - 3 minutes walking distance to site















Lagoon - used by the community for fishing year round - ice skating in winter
habitat for Canada geese and ducks - approximately 5 minutes walking
distance to site



Tennis Courts - 6 courts used by high school tennis team and community
approximately 7 minutes walking distance to site



Playground - built by community volunteers for young children - approximately
7 minutes walking distance to site

Soccer fields - 3 fields-2 adult-1 youth - used September-mid-November by children's
and adult soccer leagues. Approximately 8 minutes walking distance
to site



Wading Pool - closed due to lack of life guard - approximately 8 minutes walking
distance to site



Open pavilions - 3 - used for family and small community barbeques during warm
months - approximately 9 minutes walking distance to site

Public restrooms - 1 women's, 1 men's - open May-mid-November



Beyond the Parks

Housing - lower and middle income residential area to the north and west of park
system



Livingston proper - approximately 10 minutes walking distance to site - historic district
art galleries, shops and restaurants

Park Clinic & Livingston Memorial Hospital - approximately 12 minutes walking
distance to site



History

The history of Livingston was shaped by the early settlers and the famous, colorful characters that passed through this area since the town's founding in the late 1880's. For at least 5,700 years, though, American Indians had moved along the upper Yellowstone River corridor. In 1806, Capt. William Clark was one of the first white men to travel through what is now Livingston and Park County. On Lewis and Clark's trip home, Clark separated from Lewis to explore the Yellowstone River valley. Later, in 1844, famed trapper and mountain man Jim Bridger wintered near Livingston. He and a group of Crow Indians are said to have left a pile of buffalo, elk, deer and antelope skulls to mark the site. Decades later, the crews building the Northern Pacific Railroad pushed through the area, setting up camp in Livingston. The seed that became Livingston was planted in 1882. In July of that year, the first permanent settlers came in search of a location for a railroad store. By 1889, the year of Montana's statehood, Livingston had become a bustling railroad town laid out on a grid, adjacent to the railroad tracks. The year 1889 also saw a building boom to meet the demands for homes and businesses. Also, Yellowstone River water rights were claimed for manufacturing and processing ore.

The Yellowstone has a rich history, embedded with thousands of years of human habitation, providing a source of sustenance and transit. It is a dynamic geographic feature of the landscape; a confluence itself, connecting us to a larger story of place. The headwaters of the river are found on the slopes of Yount's Peak, southeast of Yellowstone National Park. Geologist Arnold Hague traveled to the spot in 1887 and reported that the source was a 25-mile long snow-bank on the north side of the [Yount's] peak. The Yellowstone River looks more like a stream before it flows through Yellowstone Lake. After leaving the lake, the river flows more rapidly through four canyons: the Grand Canyon (where Upper and Lower Falls are found), the Black Canyon, Yankee Jim Canyon (just north Gardiner, Montana), and Rock Canyon (just south of Livingston, Montana) on its journey to the Missouri River.

The earliest known appearance of the name 'Yellowstone' occurred in John Evans' manuscript map of 1797. Evans, who was a Welshman employed by the Spanish government to explore the Missouri River showed a tributary stream as River Yellow Rock. Historians considered the name a translation of the Minnetaree Indian expression Mi tsi a-da-zi, which was transformed in French to Roche Jaunes (Rock Yellow) or Pierre Jaunes (Stone Yellow). In 1798, the French changed it to Yellow Stone. Although Evans believed that the name Yellowstone originated from the colorful walls of the Grand Canyon of the Yellowstone River within the present national park, most historians do not agree. Their reasoning is that the earlier historic uses of the name referred to the yellowish sandstone bluffs that border the river for 100 miles or more near Billings, Montana. Today, the Yellowstone River has the distinction of being the longest un-dammed river in the contiguous 48 states, connecting the Continental Divide to the Gulf of Mexico.

The abuse of earlier years, including trapping, stripping and restocking in an effort to help nature have largely been stopped, yet measures have been taken to control natural flood cycles by placing "rip-rap" (large pieces of concrete) along the banks of potential flood zones, curbing the natural course of the river.

The Yellowstone River forms the southern boundary of Livingston and the city park system; a boundary that once divided the community from wilderness. The river banks along the site I have chosen within the city park were reinforced with a levee following a 500 year flood cycle in 1997. The levee is approximately twelve feet above the river bed, and three feet above the flood height of nine feet. Just five steps away from the levee, one can no longer hear or see the river at this site. The levee is a veil which disconnects the river from the park experience.

Today, the demographics of Livingston are no longer centered on the railroad and agricultural industries. The railroad pulled out of Livingston in 1996, while the agricultural community has profited greatly by selling land to out of state interests. In this place of natural beauty, the sense of community has diminished; it is exemplary of polarized thinking, where individual interests outweigh the common good.



west northwest north



northeast east



southeast south



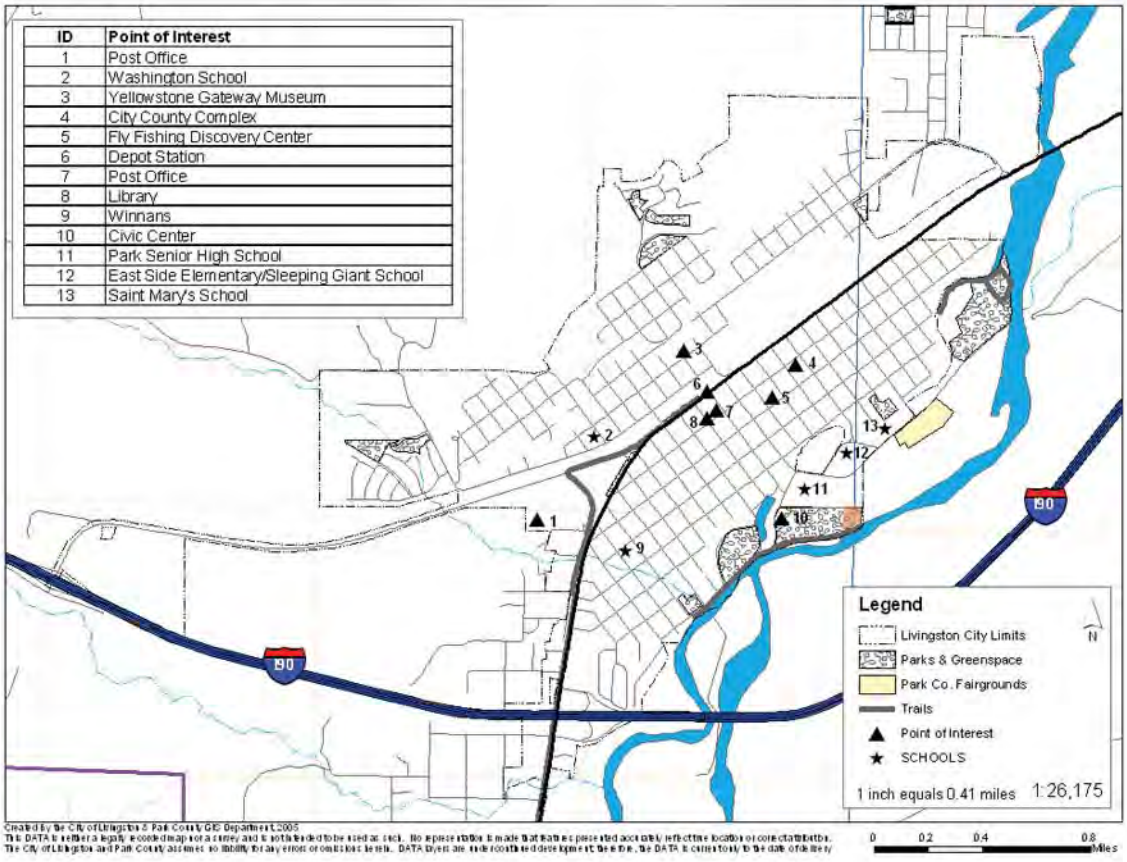
southwest west



east

southeast

Trails and Greenspace Study Area



Site

Aerial view of general site area



Sacagawea Park and Miles Park

Yellowstone River - Floodplain/Floodway Map



Proposed site

Site Map



127,500 approximate sf - 3 acres

Scale-ft. 0 50 100 200

N

Topography



ccntour lines every 2 ft.

Site

Scale-ft. 0 100 200 400

N

Proximity of schools to site



Site

Park High School

Sleeping Giant Middle School/East Side Elementary

St. Mary's School

Winans Elementary School

N

Site and surrounding area



Elevation: 4,653 ft
Latitude: 45.66 N
Longitude: -110.56 W

Views from site



Scale-ft. 0 100 200 400

N

Vegetation


Shrubs
Deciduous Trees
Deciduous Trees/ Shrubs
Mixed Willows/Cottonwoods
Shrubs 7' - 10'
Trees 10' - 30'
Trees 30' - 50'
Scale-ft. 0 100 200 400
N

Sound


Park High School - McLeod Field
Football/Soccer - mid-August - mid-November - 3:30-10:00 p.m.
Park High School bell
September- early June
Hourly basis - 7:45-3:45
Wooded Area
Little League Baseball/ Softball
May-mid-July a.m.-p.m.
Yellowstone River
High/Undesirable
Moderate/Periodically intrusive
Low/Desirable
Scale-ft. 0 100 200 400
N

Circulation





Gravel road



Levee/Fine gravel

Pedestrian

Vehicular

Boats - heavy traffic July-September, no use May-late June (run-off), light use during rest of year. Only non-motorized boats allowed

Scale-ft. 0 100 200 400

N

Electric



Utility poles

Softball field lights - utility lines underground

Light pools

Scale-ft. 0 100 200 400

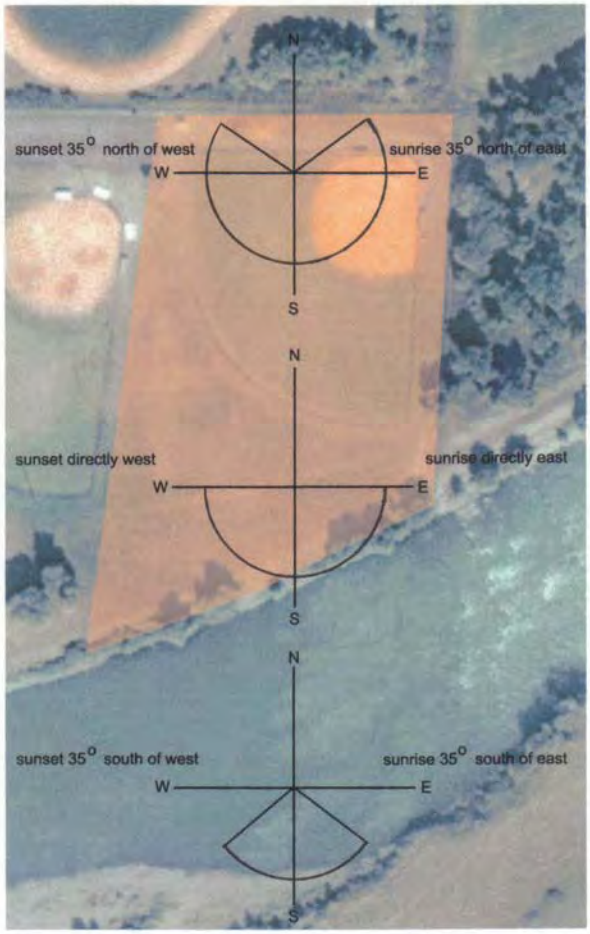
N

Sun Paths

summer solstice

equinox

winter solstice



summer solstice - altitude @ 12:00 p.m. - 67 degrees

equinox - altitude @ 12:00 p.m. - 44 degrees

winter solstice - altitude @ 12:00 p.m. - 21 degrees

Scale-ft. 0 100 200 400

N

Existing structures/Current Uses



To be removed for thesis project

Storage shed to be torn down by Parks Dept.

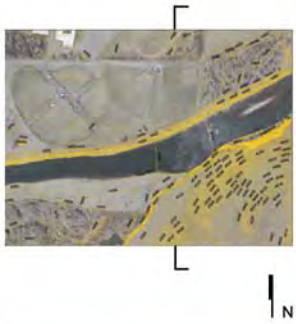
Scale-ft. 0 100 200 400

N

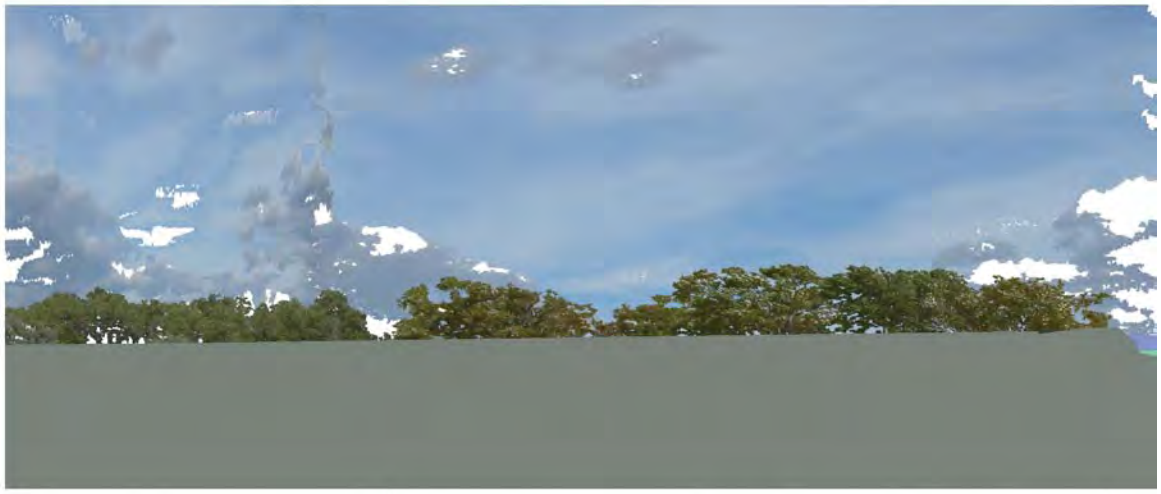
Wind


Prevailing winds
w
wsw
Storm winds
e
nw
w
sw
e
WTW
w
sw
e
Spring/Fall
Summer
Winter
Scale-ft. 0 100 200 400
N

Site section



N



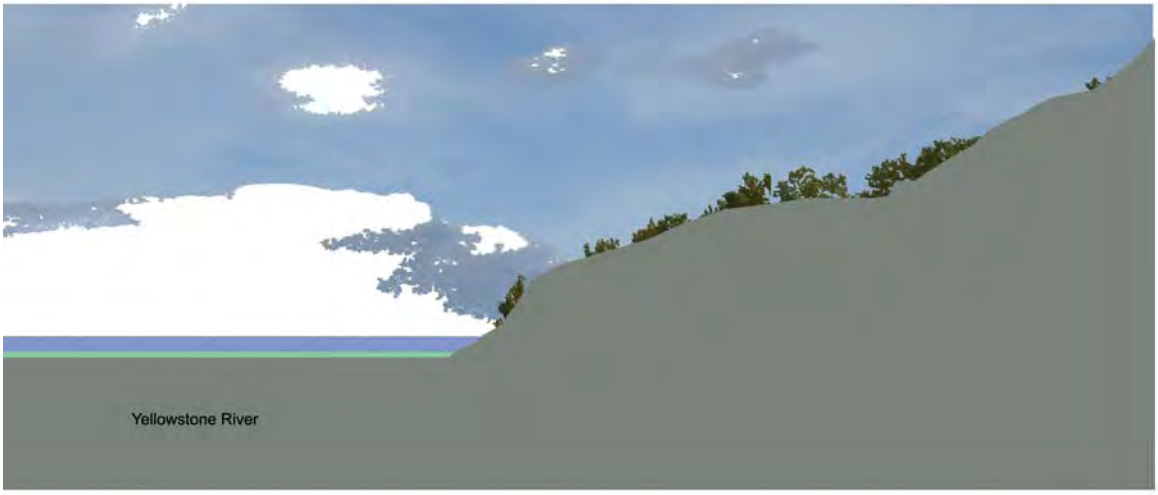
site boundary

High water - Flood stage 9 ft. - Levee 12 ft.

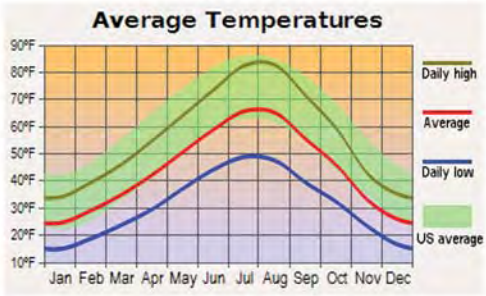
Low water - 3 ft.

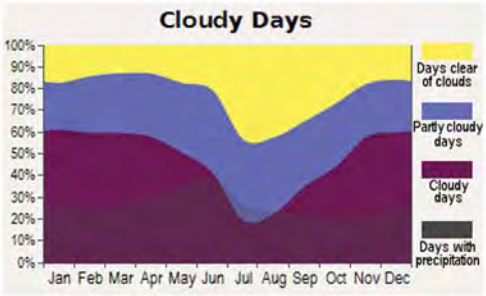
Scale-ft. 0 100 200 400

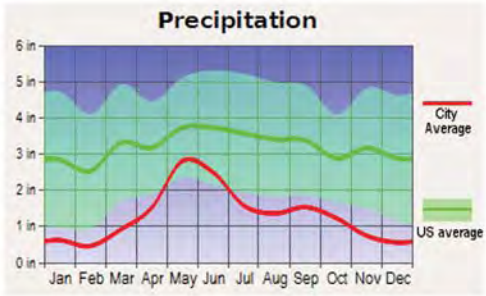


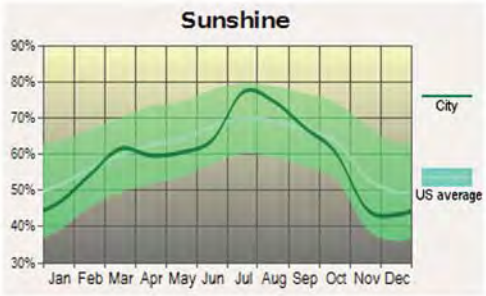

Yellowstone River

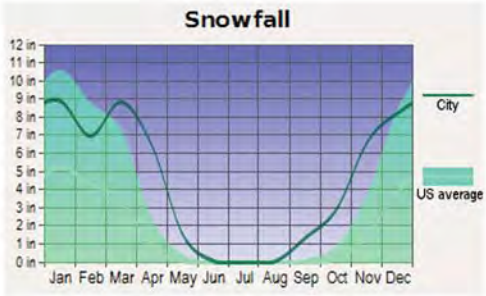
Livingston, Montana - 30 year weather averages

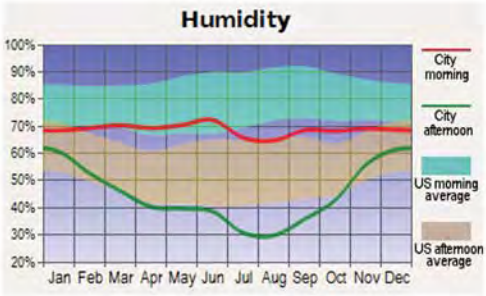












www. city-data.com/City/Liv.Montana.html

30 year weather averages

Annual Degree Days to Selected Bases, 1971-2000

CLIMATOGRAPHY OF THE UNITED STATES NO. 81, Supplement No. 2

			Heating Base (°F)							Cooling Base (°F)						
COOP ID	Station Name	Call StAbb	65	60	57	55	50	45	40	70	65	60	57	55	50	45
245080	LIVINGSTON 12 S	MT	7979	6404	5543	5008	3814	2834	2048	56	186	435	667	854	1447	2219



Livingston, Montana

Elevation: 4,653 ft.
Latitude: 45.66 N
Longitude: -110.56 W

High winds are prevalent from October through May, which will be taken into consideration for the proposed project. Winds from the southwest are most common during this time. East winds signal the potential for rain and snow storms. In the summer months, the wind direction is predominantly from the west and northwest.

All G.I.S. images and site maps courtesy of Park County Planner & Rural Addressing Depts.

News updated Nov, 2011

Peak Streamflow for Montana

USGS 06192500 Yellowstone River near Livingston MT

Surface-water: Peak streamflow GO

Park County, Montana
Hydrologic Unit Code 10070002
Latitude 45°35'50",
Longitude 110°33'55" NAD27
Drainage area 3,551 square miles
Gage datum 4,542.49 feet above NGVD29

Output formats

Table
Graph
Tab-separated file
peakfq (watstore) format
Reselect output format

Water Year	Date	Gage Height (feet)	Stream-flow (cfs)	Water Year	Date	Gage Height (feet)	Stream-flow (cfs)
1897	Jun. 01, 1897		28,100	1968	Jun. 20, 1968	7.91	24,600
1898	Jun. 19, 1898		23,940	1969	May 28, 1969	7.23	21,200
1899	Jun. 20, 1899		26,280	1970	Jun. 09, 1970	7.87	24,400
1900	Jun. 07, 1900		16,875	1971	Jun. 23, 1971	8.45	29,200
1901	May 20, 1901		26,525	1972	Jun. 08, 1972	8.10	26,700
1902	Jun. 11, 1902		30,100	1973	Jun. 10, 1973	7.18	21,100
1903	Jun. 18, 1903		21,300	1974	Jun. 17, 1974	9.21	36,300
1904	Jun. 23, 1904		20,120	1975	Jul. 06, 1975	8.17	25,700
1905	Jun. 05, 1905		13,820	1976	Jun. 10, 1976	7.51	21,400
1929	Jun. 17, 1929	7.42	19,000	1977	Jun. 06, 1977	5.78	14,200
1930	May 31, 1930	6.61	15,500	1978	Jun. 10, 1978	7.87	26,000
1931	Jun. 04, 1931	6.31	14,200	1979	Jun. 14, 1979	7.05[2]	20,100
1932	Jun. 25, 1932	7.76	20,800	1980	May 24, 1980	6.11	15,000
1938	Jun. 06, 1938	7.60	18,300	1981	Jun. 09, 1981	7.72	23,800
1939	May 31, 1939	6.89	15,400	1982	Jun. 29, 1982	8.62	27,900
1940	Jun. 14, 1940	6.30	13,100	1983	Jun. 12, 1983	6.93	18,600
1941	May 27, 1941	5.40	10,600	1984	Jun. 01, 1984	6.95	17,900
1942	Jun. 09, 1942	7.55	18,500	1985	May 26, 1985	6.14[2]	15,200
1943	Jun. 20, 1943	9.34	30,600	1986	Jun. 06, 1986	8.10	24,000
1944	Jun. 27, 1944	6.06	13,500	1987	Jun. 08, 1987	4.21[2]	7,450
1945	Jun. 27, 1945	7.60	20,400	1988	Jun. 06, 1988	6.48	16,200
1946	Jun. 06, 1946	6.75	15,800	1989	Jun. 17, 1989	6.60	16,200
1947	Jun. 20, 1947	7.85	20,600	1990	Jun. 11, 1990	6.81	17,200
1948	Jun. 04, 1948	9.10	26,800	1991	Jun. 06, 1991	7.89	23,000
1949	Jun. 12, 1949	6.88	17,500	1992	May 08, 1992	5.92	13,800
1950	Jun. 23, 1950	7.82	21,400	1993	May 21, 1993	8.07	24,000
1951	Jun. 17, 1951	7.58	20,000	1994	May 13, 1994	6.73	16,900
1952	Jun. 07, 1952	8.20	22,800	1995	Jun. 06, 1995	8.01	23,700
1953	Jun. 14, 1953	7.75	21,200	1996	Jun. 10, 1996	9.97	37,100
1954	Jun. 27, 1954	7.49	20,400	1997	Jun. 06, 1997	10.72	38,000
1955	Jun. 16, 1955	6.29	14,900	1998	Jun. 26, 1998	7.95	18,800
1956	Jun. 02, 1956	8.57	25,800	1999	Jun. 22, 1999	8.67	23,400
1957	Jun. 05, 1957	7.71	21,900	2000	May 29, 2000	8.12	19,300
1958	May 26, 1958	6.64	17,100	2001	May 15, 2001	7.10	14,800
1959	Jun. 15, 1959	8.43	24,200	2002	Jun. 02, 2002	8.85	25,900
1960	Jun. 04, 1960	6.21	15,700	2003	Jun. 01, 2003	9.46	27,200
1961	Jun. 09, 1961	6.47	15,600	2004	Jun. 10, 2004	7.16	13,300
1962	Jun. 16, 1962	7.33	20,400	2005	May 21, 2005	8.04	17,900
1963	Jun. 15, 1963	7.32	20,200	2006	May 21, 2006	8.80	22,600
1964	Jun. 28, 1964	7.32	20,200	2007	May 14, 2007	7.55	15,200
1965	Jun. 13, 1965	8.11	27,900	2008	Jun. 25, 2008	9.52	26,300
1966	May 31, 1966	6.37	16,000	2009	May 20, 2009	9.08	23,500
1967	Jun. 22, 1967	7.98	24,900	2010	Jun. 05, 2010	9.23	28,100

The river has risen above 8' a total of 26 times since 1929.



program

This intervention is for the community of Livingston, Montana. The nature of this project requires that the program be designed to benefit all age groups, to encourage social interaction amongst different members within the community who might not normally interact with one another. Adults, the elderly, teens and small children from all backgrounds will be able to experience poetic architecture and art which can help dissolve boundaries in our society. People will be able to experience a sense of place through architecture, art and nature which merges the natural and artificial, individual and society, private and public and human and environment

The design is intended to create a place of pause; to engage in a spiritual relationship with the natural beauty of the site and foster a sense of community through social interaction stimulated by architecture, art and nature. The changing of the seasons will be expressed in the architecture and the view of the river will be restored from within the park. The program will be multi-functional where people can engage in meditation, conversation, reading, reflection, or simply watch people and the river; to reconnect with nature and one another. The site can be used for weddings or other small community gatherings, but the entire area is to remain accessible to the public; it is a place of the inclusive.

The design aspires to instill a sense of ritual where individuals can discover the value of art and nature; to alter perceptions and stimulate the imagination. It is not an entertainment venue, but a place to learn about ourselves, each other and the metamorphic in nature; a refuge.

Parking Area/Emergency Access
31,268 sf

- Parking will be provided for 23 cars and 2 handicap spaces. Additional parking is available in the high school parking lot, which is allowable, as it is located within 500' of the site entry. An emergency access road will be located along the northern boundary of the site, and will continue along the eastern boundary of the site. In addition, a service driveway will be located along the west side of the gallery building. The parking area will be located along the north end of the site.

Entry

-A 104' x 8' ramp will lead to an opening through a wall which extends across the site. The opening in the wall will be 8' tall x 21' wide. The ramp ascends a total of 4'. The wall is intended to separate the city from the river side of the site. The main entry to the gallery building will be located to the right of the wall opening.

Restrooms
Men's 200 sf
Women's 140 sf

- One men's and one women's bathroom will be provided. Each will contain two sinks, a mirror and a handicap accessible water closet. The men's bathroom will also contain two urinals, and the women's bathroom will contain a total of two water closets. They will be accessed from a hallway and located at the north side of the building. These spaces will have a connection to the outdoors through daylighting.

Janitor/Mechanical space
450 sf

- This space will contain a utility sink and shelving for cleaning supplies. This space will be located south of the restrooms and will be accessed from a hallway. The HVAC system will also be located in this space.

Storage
Art/Display
1700 sf

- This space will provide ample room for archiving art, as well as display items. Painting racks and shelving will be included. Protection from sunlight, as well as humidity and temperature controls will be provided in this space. This space can be accessed from the lobby area and from an exterior insulated garage door from the service driveway. The garage door will be located on the west elevation of the building.

Office
180 sf

- This space will contain a desk, computer, shelving and filing cabinets. It will be located adjacent to the reception area.

Reception/Lobby
960 sf

-A reception desk and organizational area will be located in this space. It will be centrally located inside the main entry to the gallery building. This will also serve as a visitor orientation area.

Gallery
2356 sf

- This space will contain movable art display walls and podiums to allow different configurations for varying exhibits. These will dictate paths of movement through the gallery space. In addition, the west wall will provide an art display area. Four skylights will be located in this space.

Experiential Path

- This will be located on the eastern side of the site, above the border of the floodable area. It will contain spaces to pause, with views to the Crazy Mountain range and the wooded area adjacent to the eastern border of the site.

Bridge

- The existing levee along the river's edge is 12' above the river bottom. A 144' portion of the levee will be lowered to 8', which was the original height of the river bank prior to the floods of 1996 and 1997. The portion being lowered begins at the western edge of the site. An 8' wide bridge will be located above the lowered section of the levee. It will be accessed from the existing walking path, which runs along the river's edge throughout the park system. Four concrete piers will be placed 46' apart along the lowered levee. They will support the bridge, as well as provide semi-private spaces for viewing the river. The piers will extend down to the river bank.

Floodable area of the site
38,040 sf

-This exterior space will imply the Jeffersonian grid based on the layout of the City of Livingston. This area will be planted with native cottonwood trees on the grid. Native grass will cover the entire area. No pathways will be dilineated in this area. As time progresses, the trees will spread over the area through their natural process of "suckering." In addition, the natural process of river flooding will also transform this area over time. It will be in a continuous state of change, erasing the grid over time.

Total interior sf: 8000
Total exterior sf: 119,500



code

zone

Code Analysis
2000 International Building Code

Use and Occupancy Classification

Section 303 - Assembly Group A
303.1, A-3, A-4
Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering together of persons for purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation.

Types of Construction

Section 602 - Construction Classification
602.5 Type II
Type II construction is that type of construction in which tthe building elements are of non-combustible materials for the structural frame, bearing walls and partitions, non-bearing interior walls, floor supporting beams and joists and roof supporting beams and joists.

General Building Heights and Areas

Section 503 - General Height and Area Limitations
Table 503 - Allowable Height and Building Areas
Group A-3, A-4, Type II-A Construction: 3 stories, 15,500 sf, Max. height-65 ft.

Section 602 - Construction Classification

Table 601-Fire-Resistance Rating Requirements For Building Elements (hours)
Group A, Type II

1 hour rating applies to each building element: Structural frame, exterior/interior bearing walls, exterior/ interior nonbearing walls and partitions, floor construction and roof construction.

Means Of Egress

Section 1003 - General Means Of Egress

Table 1003.2.2.2-Maximum Floor Area Allowances Per Occupant

Exercise rooms: 50 sf
Locker rooms: 50 sf

1003.2.2.10-Outdoor areas

Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress. Where outdoor areas are to be used by persons in addition to occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas. Outdoor areas used exclusively for the service of the building need only have one means of egress.

1003.2.3.1-Door encroachment

Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. When fully open, the door shall not project more than 7 inches into the required width.

1003.2.4-Ceiling height

The means of egress shall have a ceiling height of not less than 7 ft.

1003.2.6-Floor surface

Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

1003.3.4.1 Slope

Ramps uesd as a part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal.

1003.3.3.4.4.1-Width

The clear width of a ramp and the clear width between handrails, shall be 36 inches minimum.

1003.3.4.5.4-Change in direction

Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches minimum by 60 inches minimum.

1003.3.4.6.2-Ramp surface

The surface of ramps shall be of slip-resistant materials that are securely attached.

1004.2.2-Exit or exit access doorway arrangement

Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times.

1004.2.4-Exit access travel distance

Exits shall be so located that the maximum length of exit access travel, measured from the most remote point to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1004.2.4. Where the path of exit access includes unenclosed stairways or ramps within the exit access, the distance of travel on such means of egress components shall also be included in the travel distance measurement.

Occupancy A: 250 feet with sprinkler systen

Table 1004.3.2.1-Corridor fire resistance rating for occupant load >30

Occupancy A: with sprinkler system - 0

Exits

Table 11105.2.1-Minimum number of exits for occupant load

Occupant load: 1-500 - 2 exits per floor

1005.3.3-Exit passageway

An exit passageway shall not be used for any purpose other than as a means of egress.

1005.3.3.1-Width

The width of exit passageways shall not be less than 44 inches, except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches. Exception: Doors when fully opened, shall not reduce the required width by more than 7 inches. Doors in any position shall not reduce the required width by more than one-half.

Section 1007-Miscellaneous Means of Egress Requirements

Section 1008 - Assembly

1008.1-Assembly main exit

Group A occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. The main exit shall front on at least one street or an unoccupied space of not less than 10 feet in width that adjoins a street or public way.

Accessibility

SECTION 1104.2 - Accessible route

1104.1-Site arrival points

Accessible routes within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.

1104.2-Within a site

At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

1104.4-Multilevel buildings and facilities

At least one accessible route shall connect each accessible level, including mezzanines, in multistory buildings and facilities.

Section 1105 - Parking and Passenger Loading Facilities

Table 1106.1-Accessible parking spaces

Total parking spaces provided: 76-100 - 4 required minimum number of accessible spaces

Section 1107 - Special Occupancies

1107.22-Wheelchair spaces

In theaters, bleachers, grandstands and other fixed seating assembly areas, accessible wheelchair spaces shall be provided, and at least one seat for a companion shall be provided beside each wheelchair space.

Table 1107.2.2-Accessible wheelchair spaces

Capacity of seating in assembly areas: 101-200 - 3 minimum required number of wheelchair spaces.

Section 1108 - Other Features and Facilities

1108.2-Toilet and bathing facilities

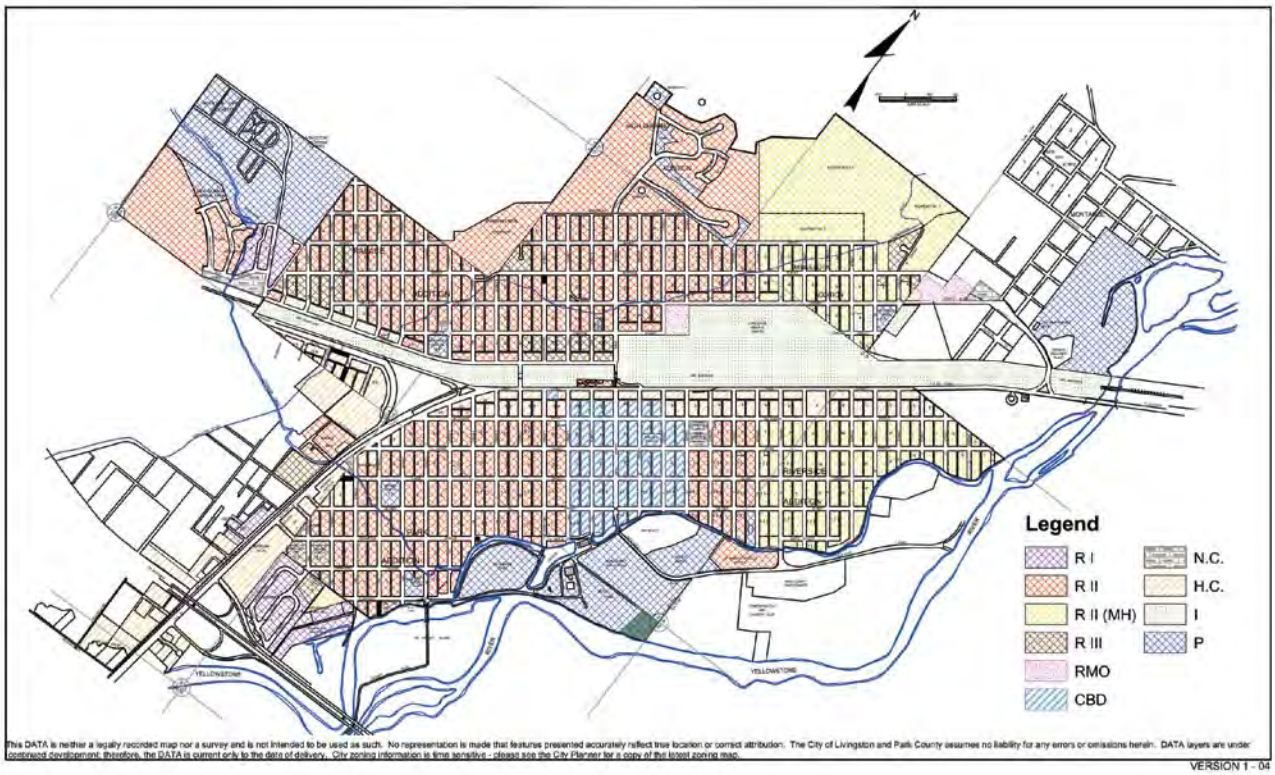
Toilet and bathing rooms shall be accessible. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible.

1108.2.2-Water closet compartment

Where water closet compartments are provided in a toilet room or bathing facility, at least one wheelchair-accessible compartment shall be provided.

*All codes will adhere to the National ADA Standards

Zoning Map - City of Livingston



Site

P Public: The public zone is intended to reserve land exclusively for public and semi-public uses in order to preserve and provide adequate land for a variety of community facilities which serve the public health, safety and general welfare.

Zoning

Livingston Municipal Code 2004 - Ch. 30, Sec. 30.43.1

Table 30.41

RESIDENTIAL DENSITY REQUIREMENTS

ZONING CLASSIFICATION DISTRICT

	Low Density R-I	Med. Density R-II	High Density R-III	Mobile Homes (A) RMO	Public (P)	Med. Density R-II(MH)
Min. Lot Area per Dwelling Unit in Square Feet:						
One Unit	9,600	3,500	3,500	6,000		3,500
Two Units	N/A	7,000	6,000	12,000		7,000
Three Units	N/A	N/A	7,500	18,000		N/A
Four Units	N/A	N/A	9,000	24,000	N/A	N/A
Five Units	N/A	N/A	10,500	6,000 ft²		N/A
Six Units	N/A	N/A	12,000 1,500 ft.² for each add. unit	for ea. add. unit		N/A
Min. Yard Requirements						
Front	25′	25′	20′	20′	20′	25′
Side	15′	5′ or C)	5′ or C)	10′	5′	5′ or C)
Rear	15′ or B)	15′ or B)	15′ or B)	15′ or B)	15′	15′
Side adj. to street	15′	10′	10′	10′	10′	10′
Max. Height for all Bldgs.	27′	27′	45′	15′	27′	27′
Off Street Parking Requirements	2 per dwelling unit	2 per dwelling unit	2 per dwelling unit for first 6 units & then 1.5 for each additional unit	2 per dwelling unit for first 6 units & then 1.5 for each additional unit	Refer to Art. V Sec. 30.51	2 per dwelling unit

A) Applicable to Mobile Home Subdivisions only.
B) Rear setback in all residential zoning districts on this table shall be five (5) feet.
C) No side setback required for approved townhouse development.

Site zone

In addition, there are no required setbacks from the river's edge and there are no parking requirements.



bibliography

Bibliography:

Abbas, Yasmine, "Expression of the Edge," www.gsd.harvard.edu/users/yabbas/ACSA-odyssey 2002.

Benedikt, Michael, For An Architecture of Reality, NY, Lumen Books, 1987.

Benedikt, Michael, Center 10/Value, Center: Architecture and Design in America, Austin, TX, University of Texas Press, 1997.

Berleant, Arnold, The Aesthetics of Environment, Philadelphia, PA, Temple University Press, 1992.

Berrizbeitha, A. and Pollak, L., Inside Outside: Between Architecture and Landscape, Gloucester, MA, Rockport Publishers, 1999.

Bloom, Allan, The Closing of the American Mind, New York, NY, Simon & Schuster, 1987.

Corner, James, Taking Measures Across the American Landscape, New Haven, CT, Yale University Press, 1996.

Dean, Andrea, "Keeping the Spirit Alive by Moving Ahead," Architectural Record, March, 2006, pp. 76-80.

Evernden, Neil, The Social Creation of Nature, Baltimore, MD, The Johns Hopkins University Press, 1992.

Fox, Mindy, Building Dreams: An Interview with Samuel Mockbee, in Sustainable Architecture: White Papers, ed. by Mindy Fox, New York, NY, Earth Pledge Foundation, 2000.

Frampton, Kenneth, Towards A Critical Regionalism: Six Points for an Architecture of Resistance, in The Anti-Aesthetic: Essays on Postmodern Culture, ed. by Hal Foster, Port Townsend WA, Bay Press, 1983.

France, Robert Lawrence, Deep Immersion: The Experience of Water, Sheffield, VT, Green Frigate Books, 2003.

Freyvogel, Eric, Bounded People, Boundless Lands, Washington, DC, Island Press, 1998.

Gili, Gustavo, Tadao Ando: Architecture and Spirit, Barcelona, Editorial Gustavo Gili, 1998.

Hiss, Tony, The Experience of Place, NY, Vintage Books, 1991.

Hough, Michael, Out of Place, New Haven, CT, Yale University Press, 1990.

International Code Council, Inc., International Building Code 2000, Country Club Hills, IL, 2000.

Jackson, John B., A Sense of Place, A Sense of Time, New Haven, Yale University Press, 1994.

Lippard, Lucy, The Lure of the Local, NY, The New Press, 1997.

Lynch, Kevin, What Time Is This Place?, Cambridge, MA, The MIT Press, 1972.

Meine, Curt, Inheriting the Grid, in Placing Nature: Culture and Landscape Ecology, ed. by Joan Nassauer, Washington, DC, Island Press, 1997.

Nesbitt, Kate, Theorizing A New Agenda For Architecture, NY, Princeton Architectural Press, 1996.

Norberg-Schulz, Christian, Genius Loci: Towards A Phenomenology of Architecture, NY, Rizzoli International Publications, Inc., 1980.

Richardson, Phyllis, XS: Big Ideas, Small Buildings, New York, NY, Universe Publishing, 2001.

Topping, E.S., The Chronicles of the Yellowstone, Minneapolis, Ross & Haines, Inc., 1968.

Vitek, William and Jackson, Wes, Rooted In the Land: Essays on Community and Place, New Haven, Yale University Press, 1996.

Wallis, Claudia, "The Multi-tasking Generation," Time, March 27, 2006, pp. 48-55.

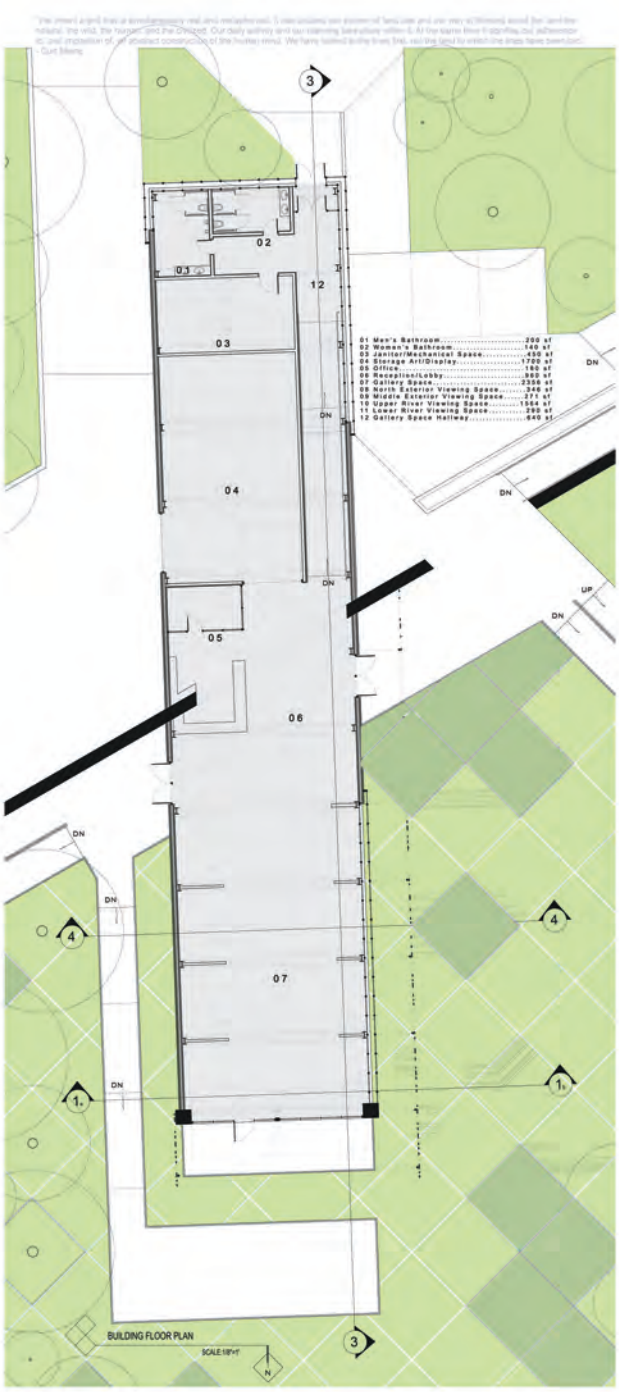
Weschler, Lawrence, Seeing Is Forgetting the Name of the Thing One Sees, Berkeley, CA, University of California Press, 1982.

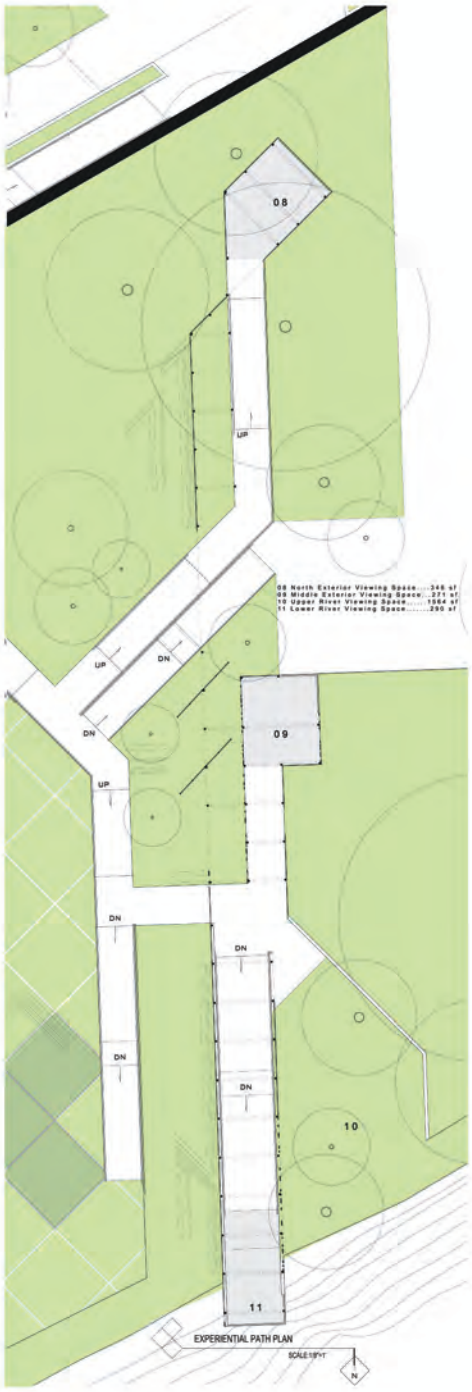


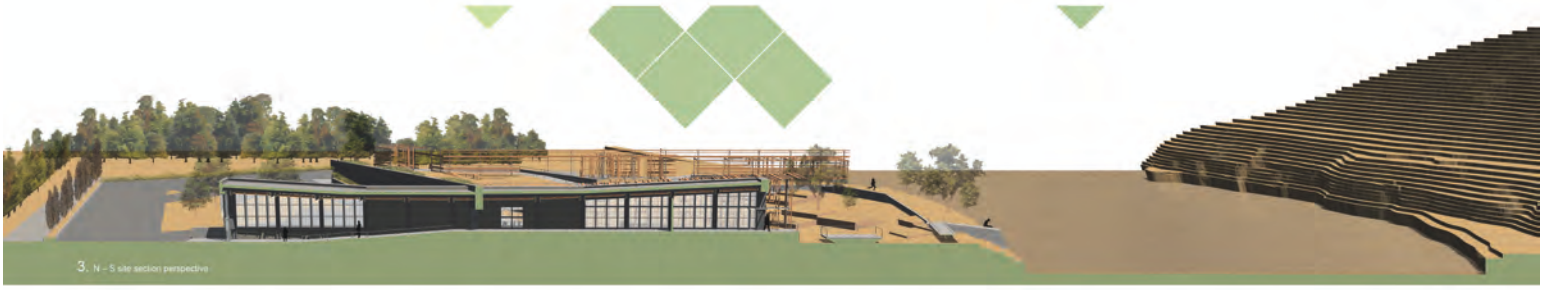
appendix a

design response

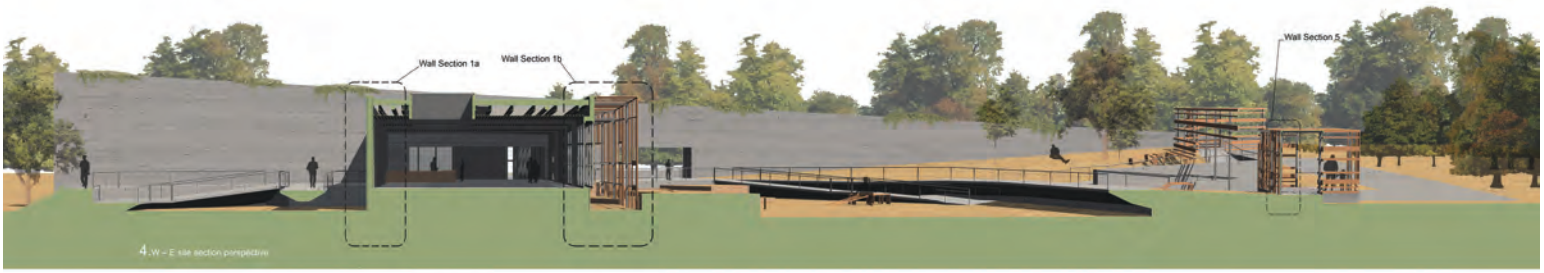



01 Men's Bathroom.....200 sf
02 Women's Bathroom.....140 sf
03 Janitor/Mechanical Space.....450 sf
04 Storage Art/Display.....1720 sf
05 Office.....180 sf
06 Reception/Lobby.....800 sf
07 Gallery Space.....2356 sf
08 North Exterior Viewing Space.....346 sf
09 Middle Exterior Viewing Space.....271 sf
10 Upper River Viewing Space.....1564 sf
11 Lower River Viewing Space.....290 sf
12 Gallery Space Hallway.....640 sf
BUILDING FLOOR PLAN
SCALE: 1/8"=1'
N

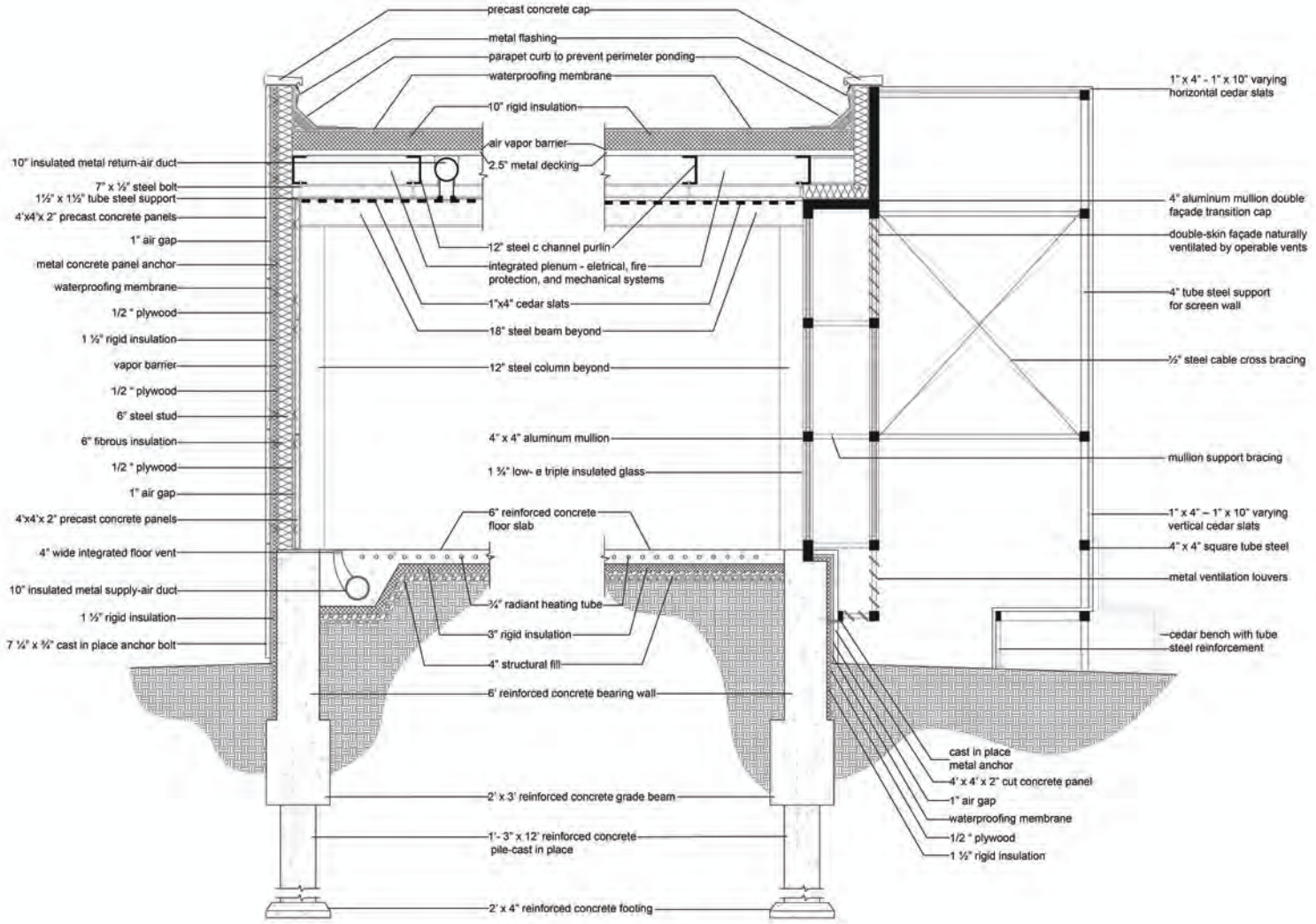

08 North Exterior Viewing Space.....346 sf
09 Middle Exterior Viewing Space.....271 sf
10 Upper River Viewing Space.....1564 sf
11 Lower River Viewing Space.....290 sf
EXPERIENTIAL PATH PLAN
SCALE: 1/8"=1'
N



3. N – S site section perspective



4. W – E site section perspective

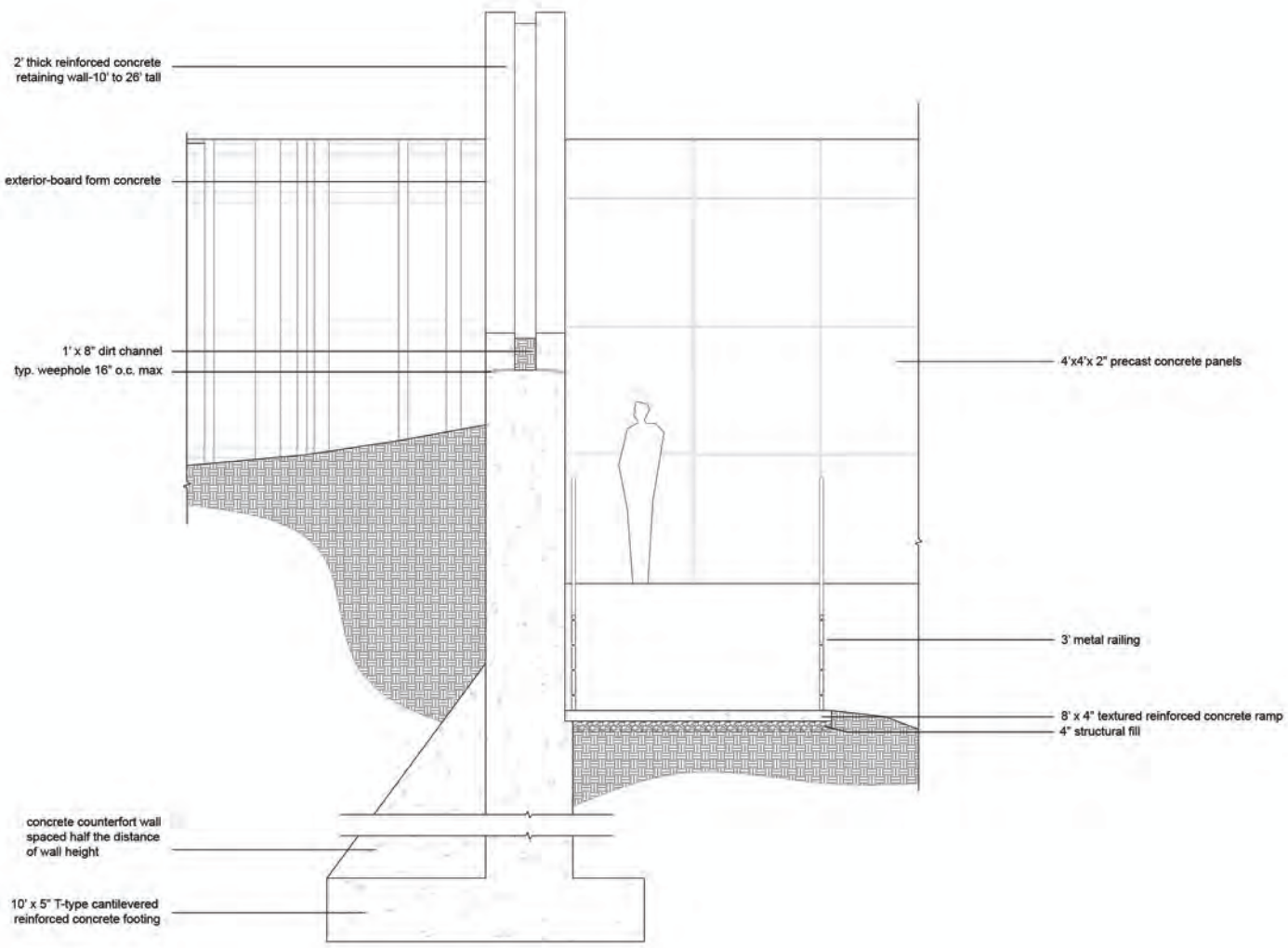


WALL SECTION 1a

SCALE: 1/2"=1'

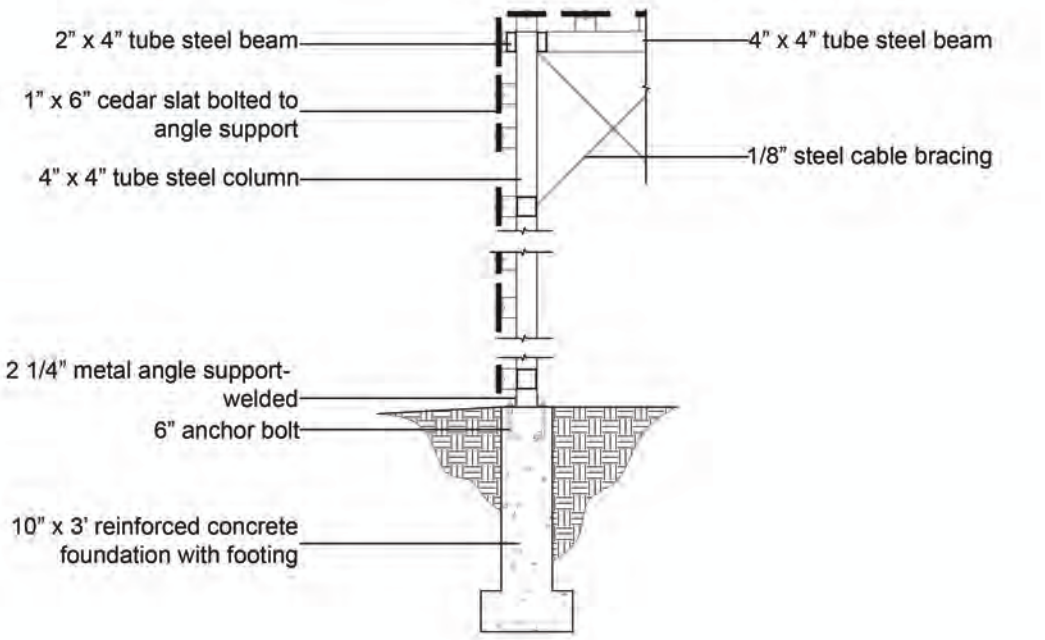
WALL SECTION 1b

SCALE: 1/2"=1'



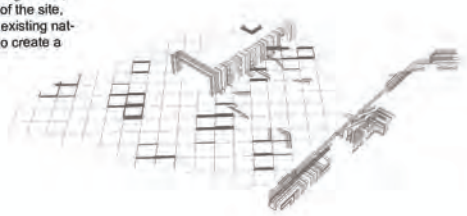
WALL SECTION 2

SCALE: 1/2"=1'



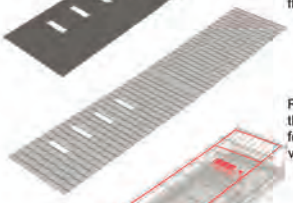
Wall Section 5

Wood Structure – The design is intended to represent fragmentation. Constructed of cedar, the material will age over time, but requires no maintenance. Its shadows will mark time and seasons. The vertical wood along the east side of the gallery mimic trees providing shade, which permeates the interior space. Within the wood structure on the east side of the site, four semi-private observation spaces open to form an unobstructed view to the existing natural site conditions. Public and private, and the natural and the artificial merge to create a sense of place.



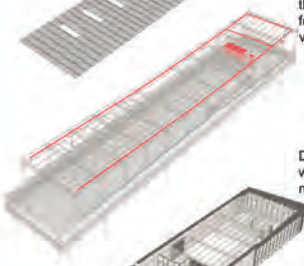


Wood Ceiling – The 1" x 4" non-structural cedar slats bring an exterior material to the interior of the gallery. Their linear form mimics the path of the river at the site, blending the natural flow of the river in an artificial manner.



Radiant Heating System – Radiant heating provides evenly distributed heat permeating through the surface of the concrete floor plate. The system prevents the drying effect of forced air heating, which can be damaging to paintings. In this dry climate, radiant heat prevents further drying of the air quality.



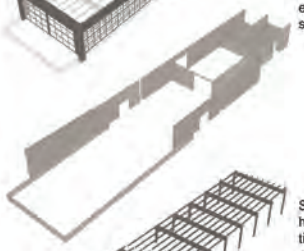


Double Skin Façade – Double skin glazing provides an extra layer of insulation during the winter and summer months, yet allows a strong visual connection to the site. It also allows natural light to permeate the interior spaces of the building.





Concrete Siding – The 4' x 4' pre-cast concrete panels mimic the cartographic grid. Its color expresses the predominantly grey color of the river rock. Its hard surface amplifies the sound of the river, creating an enhanced relationship between the river and the site.



Parking – The surface of the parking area is paved with permeable concrete, allowing water to drain into the ground below, preventing ponding.



Steel Structure – The steel structure allows for long spans, creating an open and flexible exhibit space. As exhibits change, one's path of movement through the space will alter. In addition, the movable display panels will change positions throughout the day, depending on the angle of day lighting permeating the space; protecting artwork from damaging UVA and UVB rays. The exterior and interior become inter-connected; creating place out of space.



Gallery Foundation – The foundation system is constructed with 12' deep piles with grade beams. The grade beams provide extra strength to the foundation system, as the water table rises to 4' during high water. Bedrock is reached at a depth of 12', connecting the gallery building into the site.





Concrete Pathways – The pathways are designed to create nodes of intersections where the individual and society can meet, providing places of social interaction.

Board Form Concrete Wall – The wall is intended to separate the artificial grid of the city from the evolving natural south side of the site. The angle of the wall is an artificial representation of the natural foothills to the south of the site. The natural texture of the wood permeates the concrete surface of the wall, creating an artificial surface from a natural material.


View of site from South side of river



NW elevation-parking area and service drive view to NE



NE elevation-handicap driveway & ramp leading to entry to gallery



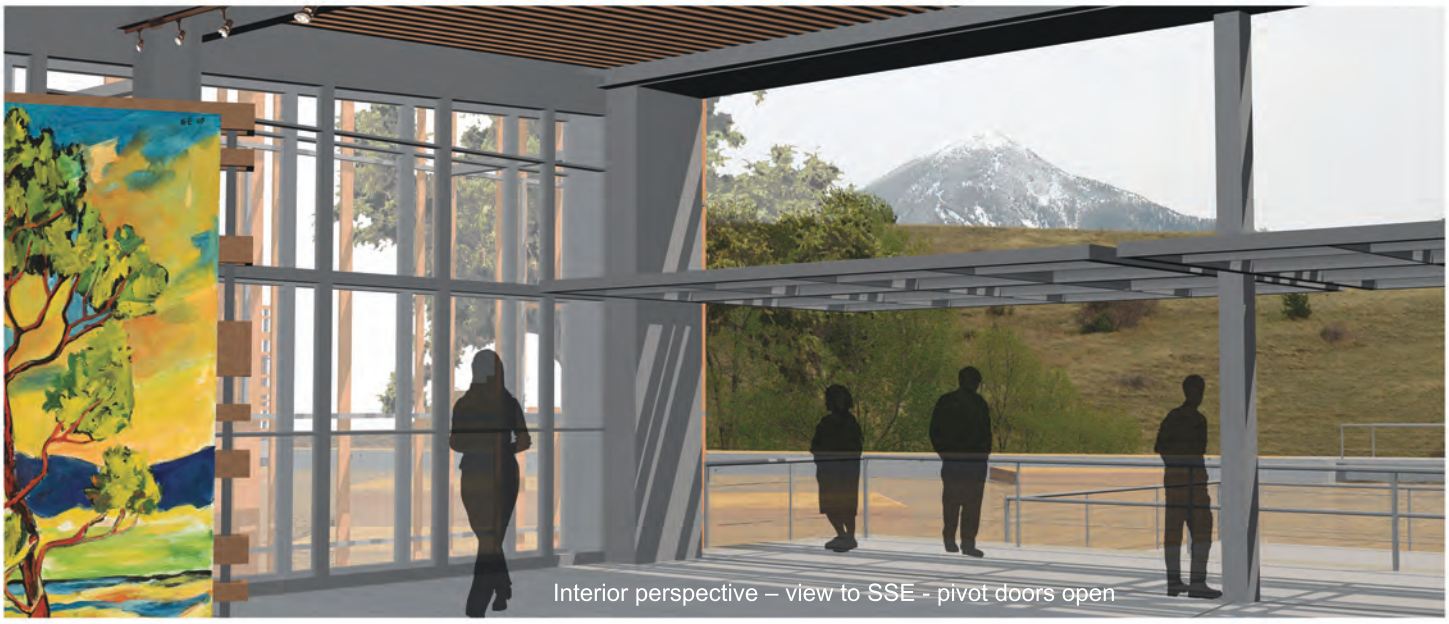
South view from entry to river side of site



South view from entry to river side of site - flooded



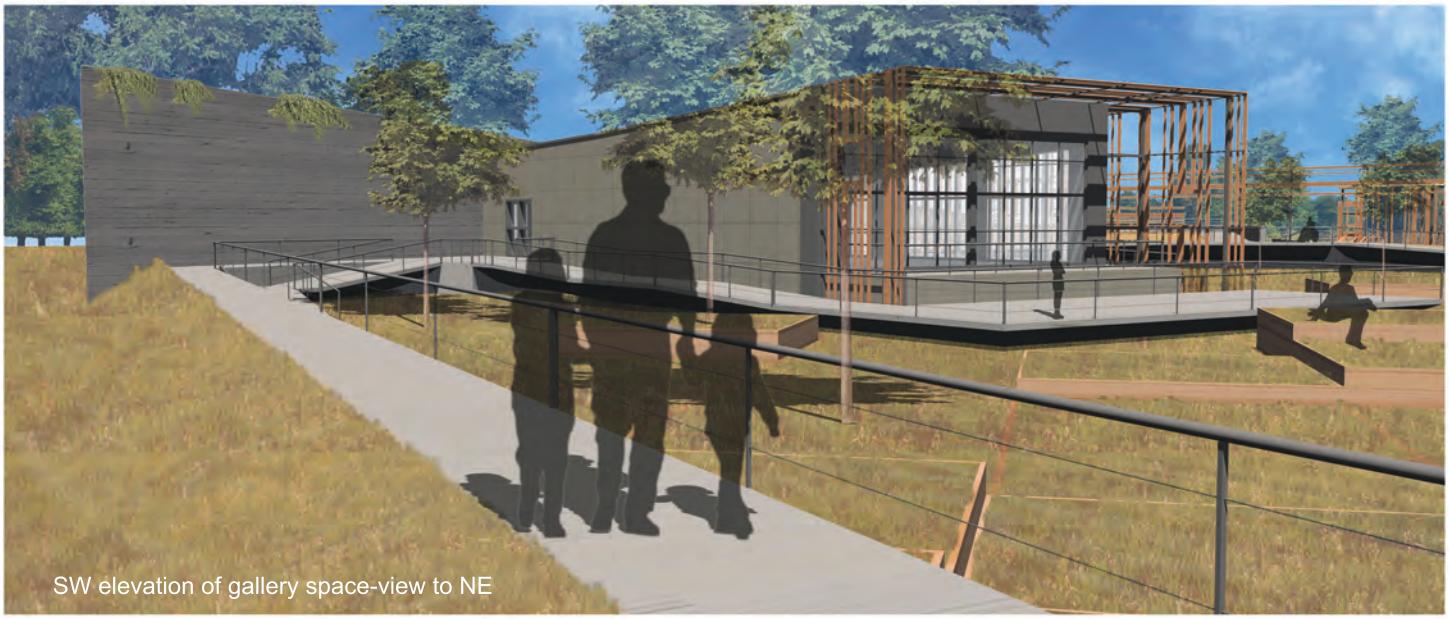
Interior perspective – view to South



Interior perspective – view to SSE - pivot doors open



Interior perspective – view to North



SW elevation of gallery space-view to NE



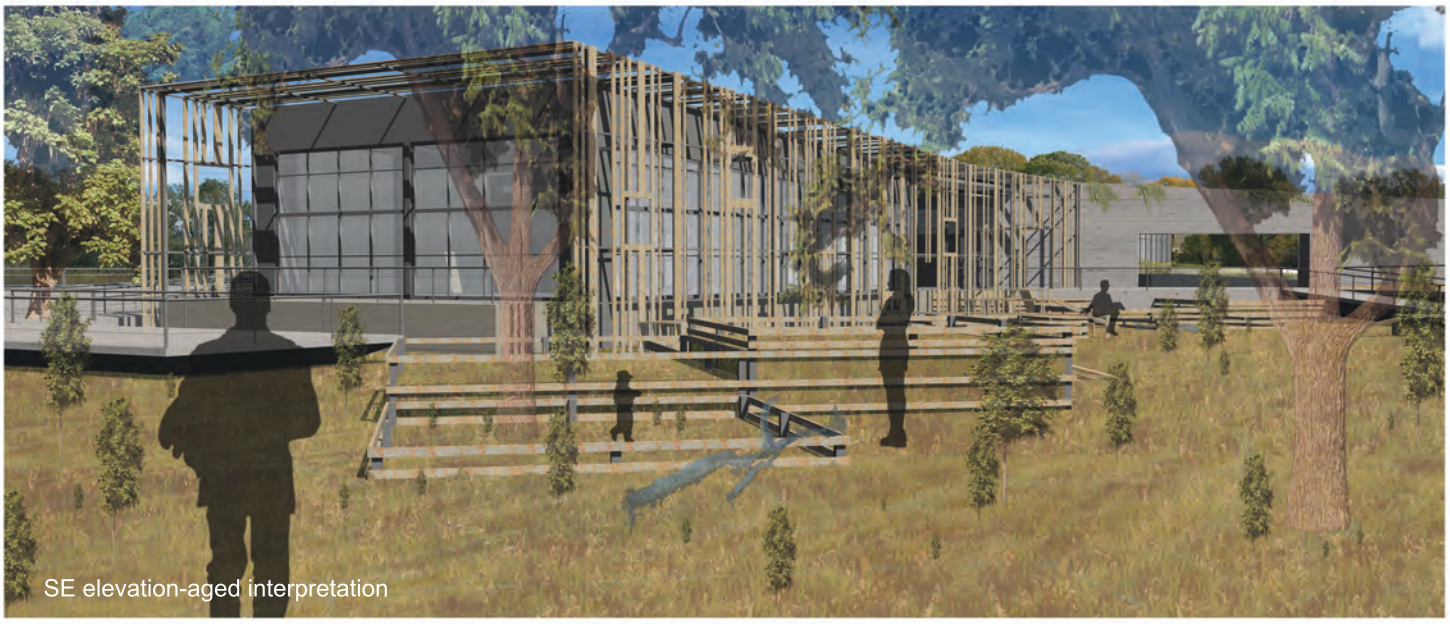
East view from levee walking path connecting to project site - flooded



SE elevation – view to North



SE elevation of site flooded-river level 10’



SE elevation-aged interpretation



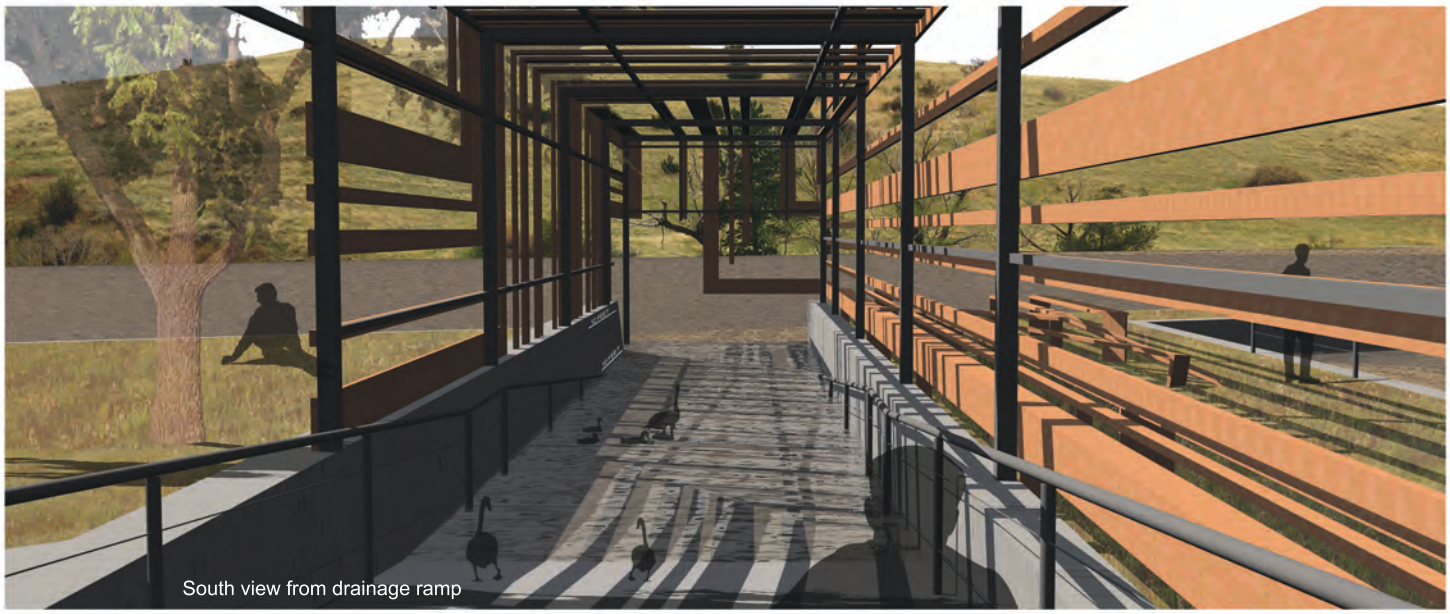
SE view from public viewing platform



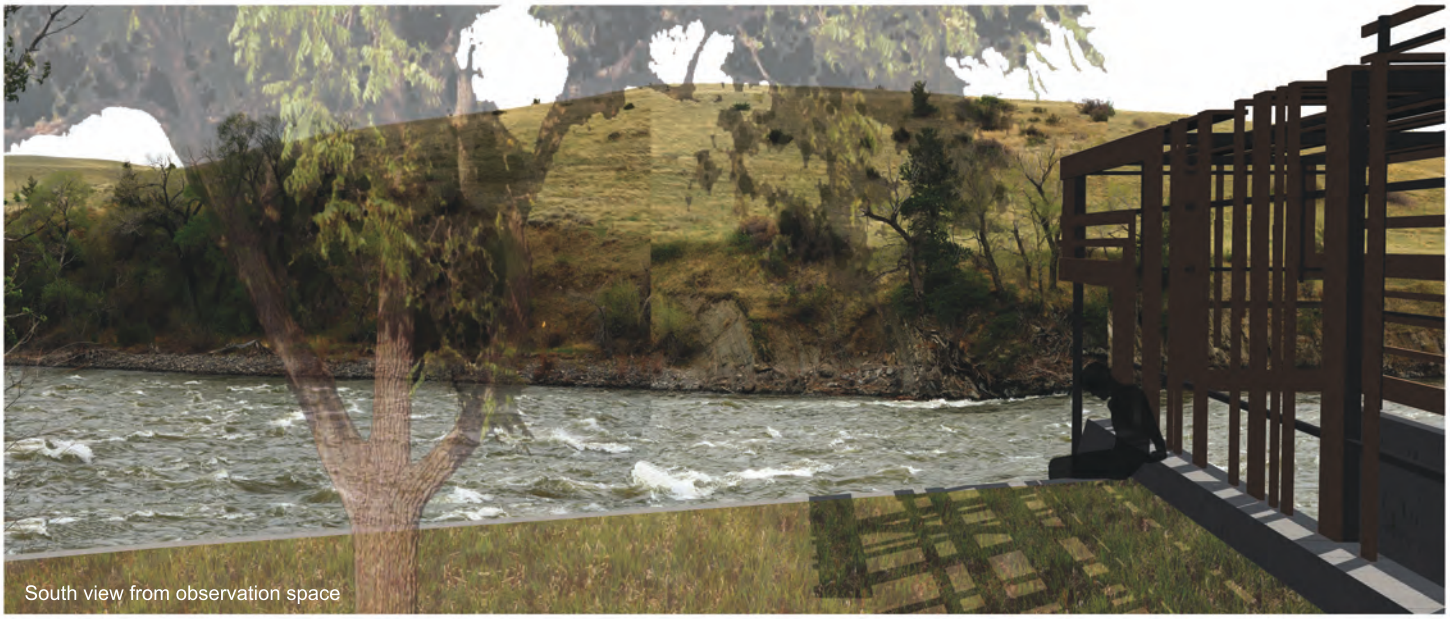
SE view from public viewing platform - flooded



SE view from public viewing platform - aged



South view from drainage ramp



South view from observation space



special thanks to:

Lucy
Maire O'Neill
Chere LeClair
Tom Wood
Kody Johnson