RESTORING THE HUMAN ELEMENT:

LOST IN THE PURSUIT OF PERFORMANCE-BASED DESIGN

by

HEATHER RENEE RYAN

(Under the Direction of Brian LaHaie)

ABSTRACT

At the present nexus of technological reverence, ecological concern, and occupational distress, quantification methods and rating systems like LEED and SITES understandably offer landscape architecture a certain validation. However, there is a deeply rooted sense that cultural expression and aesthetic and experiential qualities are integral to the success of the designed landscape, and can hardly be reduced to a 250-point scale. Is the importance of the designed landscape being undervalued in this new direction toward a numerical rationale? What now, is the value of the cultural, aesthetic and experiential in landscape architecture, and how can discussions of this nature be reinserted into contemporary sustainability centered design discourse? This thesis will consider the ideas of a number of contemporary practitioners and scholars in the field in an effort to explore possible avenues for future design process and practice.

INDEX WORDS: landscape architecture, aesthetics, experience, culture, balance, hybrid, rationalism, performance metrics, LEED, SITES, rating systems

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DEDICATION

To anyone who has ever lived in the magic of the moment.

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A special thanks to Brian LaHaie, without whom the end may have never come to fruition, to family and friends, whose patience and support has never been more appreciated, to the “greatest MLA class of all time,” and to all those left standing in the wake.

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CHAPTER 1

INTRODUCTION

> The objectifying logic of technology has emerged as a dominant force in our world during the past two hundred years. It has enabled societies to control the external world in the interests of efficiency and production, while at the same time it has displaced the movement of tradition (because of its progressivist position) and suppressed the poetries of art (because of its ideology of objectivity and optimization), thereby devaluing an already impoverished life-world (at least spiritually).[1]
>
> -James Corner

Relevance and Intent

Twenty years ago, James Corner wrote of this division between "craft" and "motivation", identifying craft as the act of constructing, employing teachable skills, perhaps somewhat mechanically, and motivation as that which imbues the product of craft with certain purpose.[2] In antiquity, these two conceptions were fused together, their existence inscrutable in isolation of one another.[3] Motivation and craft, in Corner's work, are synonymous with the early Greek terms, techne and poiesis.[4] "Here, techne was the dimension of revelatory knowledge about the world and poiesis was the

[1] James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics," *Landscape Journal,* 10 (1991): 115.
[2] James Corner, "A Discourse on Theory I: 'Sounding the Depths' - Origins, Theory, and Representation," *Landscape Journal,* 9 (1990): 61-62.
[3] Ibid., 62.
[4] Ibid., 62.

dimension of creative, symbolic representation. Making was understood as the embodiment of knowledge and ideas; … craft was motivated."[5]

Prior to the Enlightenment, landscape design was a representational art, practically and purposefully holistic.[6] Built landscapes were meaningful, hierarchical expressions of cosmic order and existential purpose.[7] They were communicative constructs of cultural values; symbolically saturated settings in both form and sequence.[8] "Art provided the mediation between the human and the divine through a symbolic transfiguration of the real."[9] The seventeenth and eighteenth centuries, however, brought about new modes of scientific thinking in reason and deduction. The ideas of philosophers like Galileo and Descartes disrupted divine order, deeming knowledge and truth a revelation of rational thought rather than experiential perception.[10] "The increased use of mathematics as an instrument for objective reasoning eventually superseded its use as an idealized representation."[11] Once inseparable, craft and motivation, techne and poiesis, art and science, had become divided into separate, autonomous categories.[12] Art, however, "ambiguous and subjective… presented modern people of reason with something untidy and illogical… [and today,] symbolic and poetic intentions are often rendered

[5] Ibid., 62.
[6] Ibid., 62.
[7] Ibid., 63-64.
[8] Ibid., 64.
[9] Ibid., 64.
[10] Ibid., 64-65.
[11] Ibid., 65.
[12] Ibid., 66.

naïve in a scientific world, where pragmatic values of efficiency and optimization are often considered more 'real'."[13]

This reverence for the quantifiable has perhaps never been more pervasive than it is today. Western society has become inundated with five star ratings, two thumbs up, reward points, and the like. Even these somewhat arbitrary numerical values that function to make like things relative, in doing so, seem to make them relevant. Landscape architecture has not been exempt, especially under the weight of the modern environmental movement. Since its beginnings, often associated with Rachel Carson's 1962 publication *Silent Spring*, public concern for the environment has grown exponentially. Decades of research and refinement of scientifically-based best management practices and eco-technologies have enabled the development of performance-based rating systems such as Leadership in Energy and Environmental Design (LEED) and the Sustainable Sites Initiative (SITES), where landscapes that are ecologically bona fide are then quantified and certified. Certainly these systems, and the coveted appellation of precious metals they offer, function to promote construction of the most environmentally sustainable landscapes, the significance of which is not to be undervalued under the duress of contemporary ecological concerns. However, as subjective and thus quantifiably resistant aesthetic and experiential values are often

[13] Ibid., 68.

omitted, do these systems also, as Corner suggests, promote "a landscape architecture of primarily prosaic and technical construction?"[14]

Another consideration weighing heavily on the collective conscience of landscape architects and academics alike is the criticism the profession has taken in recent years. A 1997 article published in *Landscape Architecture Magazine*, "A Profession in Peril?" expresses the unease amongst professionals concerning the future of the field.[15] Chief among them is an apparent identity crisis. The general public does not understand the duties of a landscape architect, nor do professionals themselves agree upon a unifying definition of the practice.[16] Speaking to this end, Lawrence Halprin suggests, "inconsistency in our education, interests, training, approaches, and specialized knowledge, together with our lack of expertise in vast areas, leaves us unable to adequately communicate with each other, much less with the outside world."[17] A more recent, albeit anecdotal, manifesto written in 2005 by faculty members at Iowa State University echoes and augments these sentiments. The contributors here note that "landscape architecture has lost its roots in intellectual thought, culture and literature [and] no longer has connections to power and politics that historically defined its periods of greatest production, innovation and prestige."[18] All of these points culminate in one final, fearsome concept. Landscape architecture's piecemeal definition and

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[14] James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics," *Landscape Journal,* 10 (1991): 116.
[15] Patrick A. Miller, "A Profession in Peril?," *Landscape Architecture,* 87 (1997): 66-71, 85-88.
[16] Ibid., 68-69.
[17]As quoted in, Ibid., 68.
[18] Heidi Hohmann and Joern Langhorst, "An Apocalyptic Manifesto," *Landscape Architecture*, 95 (2005): 28.

ambiguous direction leave the profession vulnerable to absorption by any or all of the associated fields.[19] Anything LA can do, "they" can do better.

The discord between the so-called marriage of art and science that is landscape architecture has become all the more apparent in the face of these pressures. At this nexus of technological reverence, ecological concern, and occupational distress, quantification methods and rating systems like LEED and SITES understandably offer the profession a certain validation. However, there is a deeply rooted sense that cultural expression and aesthetic and experiential qualities are integral to the success of the designed landscape and can hardly be reduced to a 250-point scale. Elizabeth Meyer suggests, "works of landscape architecture… are cultural products with distinct forms and experiences that evoke attitudes and feelings through space, sequence and form,"[20] a sentiment that many in the profession would agree upon. What now, is the value of the aesthetic and experiential in landscape architecture and how can discussions of this nature be reinserted into contemporary sustainability centered design discourse?[21]

This thesis will contemplate the ideas of a number of contemporary practitioners and scholars in the field in an effort to explore possible avenues for future design process and practice. The resulting synthesis will consider the ways in which a repositioning of aesthetic and experiential values within conventional sustainability discourse might enrich landscape experiences against the backdrop of current ecological

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[19] Ibid., 30.
[20] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 10.
[21] Ibid., 6-7.

pressures. Three exemplary landscape case studies will be examined and analyzed on these terms so as to reinforce this notion and stimulate possible new design ideals for landscape architecture.

Overview of Chapters

The following chapter introduces and summarizes the concepts and structures that form the backbone of the LEED and SITES rating systems. Reviewing these systems sets the groundwork for questioning recent directions in landscape architecture and developing alternate, perhaps more holistic, approaches to theory and design. Chapter 3 will discuss and synthesize the concepts of the authors and practitioners that greatly influenced this thesis. The theories introduced here will highlight some current sentiments about the value of aesthetic and cultural expression in the designed landscape, encouraging environmentally *and* experientially integrated methods. Chapter 4 explores and analyzes three case studies that exemplify this "hybrid"[22] design, illustrating the potential for its use in practice. Lastly, Chapter 5 suggests prospective areas for further related research and application.

[22] Ibid., 7, 8, 14, 15-16, 20.

CHAPTER 2

OVERVIEW OF RATING SYSTEMS

While qualitative terms such as unity, harmony, hierarchy, form, sequence, and sense of place have long been established in the common design language of landscape architects, it seems that the old adage, "what cannot be measured, cannot be managed" has recently asserted its position on the tip of the profession's tongue. What cannot be measured certainly cannot be included on the checklist criteria of the latest applications of performance based metrics - the rating systems in which they have become manifest and which permeate practice today. The following pages offer a brief summary of the most prominent and relevant of such systems in order to provide a foundation for inquiry of their place within the field.

Leadership in Energy and Environmental Design

Though there are many, perhaps the most well-known of these rating systems is the Leadership in Energy and Environmental Design (LEED) Rating System, a voluntary, third-party certification program and, as described by the USGBC website, the "nationally accepted benchmark for the design, construction, and operation of high performance green buildings."[23] With almost 50,000 registered projects in over 130

[23] United States Green Building Council, *Green Building and LEED Core Concepts Guide* (2009), 16.

countries, LEED has become the premier name in the green building industry globally as well.[24]

The LEED Rating System was created by the United States Building Council (USGBC), a non-profit organization whose mission is to "transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life."[25] Shortly after formation in 1993, The USGBC appointed a committee to develop a standardized system that would "define and measure green buildings."[26] Nearly seven years of research, testing through the LEED Version 1.0 Pilot Project Program and extensive revisions, finally culminated in LEED Version 2.0, the first version released for public use in March 2000.[27] Continually revised as green building technologies advance, the LEED Rating System has reached its third iteration with a fourth version scheduled for release in 2012.[28]

The USGBC subscribes to the Brundtland Commission's well known definition of sustainable development declared in the report, *Our Common Future,* as that which, "meets the needs of the present without compromising the ability of future generations to meet their own needs."[29] The organization also advocates a triple bottom line approach in an attempt to achieve balanced performance between the three widely

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[24] United States Green Building Council, "About USGBC," USGBC, https://new.usgbc.org/about (accessed October, 2012).
[25] Ibid.
[26] United States Green Building Council, "Foundations of LEED," https://new.usgbc.org/sites/default/files/Foundations-of-LEED.pdf (accessed October, 2012).
[27] Ibid.
[28] Ibid.
[29] United States Green Building Council, *Green Building and LEED Core Concepts Guide* (2009), 75.

recognized facets of sustainable development, environment, society, and economy.[30] This philosophy forms the ideological foundation for the LEED Rating System, which "measures and recognizes building projects based on their performance in [these] three corresponding dimensions of sustainability."[31]

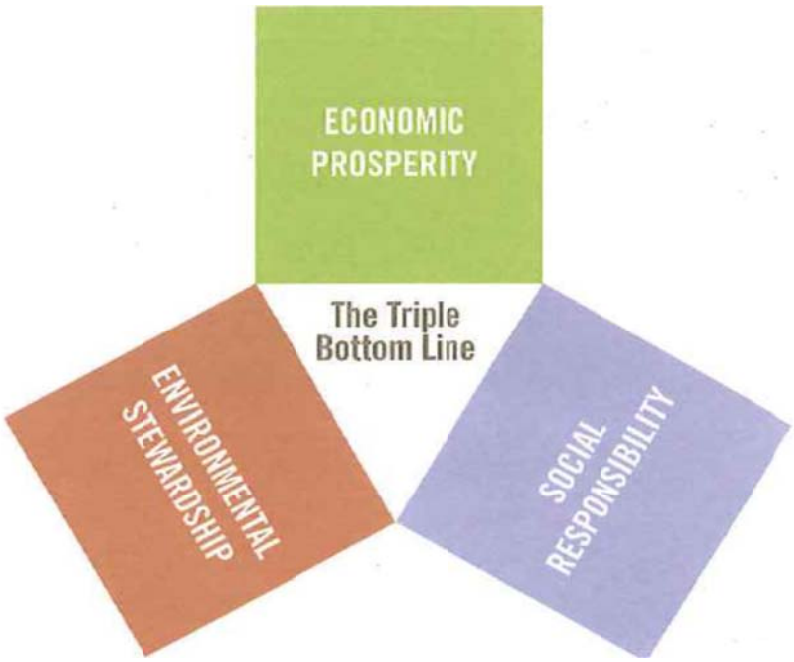

Figure 2.1. Diagram of triple bottom line approach to sustainable development. *Source*: United States Green Building Council, *Green Building and LEED Core Concepts Guide* (2009), 16.

[30] Ibid., 16-17.
[31] Ibid., 16.

The LEED certification process begins by choosing and registering for the appropriately tailored rating system for a particular building project. There are nine variations of the system that address the specifics of differing project types:

LEED for New Construction and Major Renovation
LEED for Core and Shell
LEED for Commercial Interiors
LEED for Schools
LEED for Healthcare
LEED for Retail
LEED for Existing Buildings: Operations and Maintenance
LEED for Homes
LEED for Neighborhood Development[32]

With the exception of LEED for Homes, which includes two additional categories (Locations and Linkages and Awareness and Education), and LEED for Neighborhood Development (which will be addressed later in this chapter), each of the rating systems are divided into the following sections:

[32] United States Green Building Council, "LEED Green Building Rating Systems," USGBC, https://new.usgbc.org/leed/rating-systems (accessed October, 2012).

Sustainable Sites
The Sustainable Sites category discourages development on previously undeveloped land; seeks to minimize a building's impact on ecosystems and waterways; encourages regionally appropriate landscaping; rewards smart transportation choices; controls storm water runoff; and promotes reduction of erosion, light pollution, heat island effect and construction-related pollution.

Water Efficiency
The goal of the Water Efficiency category is to encourage smarter use of water, inside and out. Water reduction is typically achieved through more efficient appliances, fixtures and fittings inside and water-conscious landscaping outside.

Energy & Atmosphere
The Energy & Atmosphere category encourages a wide variety of energy-wise strategies: commissioning; energy use monitoring; efficient design and construction; efficient appliances, systems and lighting; the use of renewable and clean sources of energy, generated on-site or off-site; and other innovative measures.

Materials & Resources
The Materials & Resources category encourages the selection of sustainably grown, harvested, produced and transported products and materials. It promotes waste reduction as well as reuse and recycling, and it rewards the reduction of waste at a product's source.

Indoor Environmental Quality
The Indoor Environmental Quality category promotes strategies that improve indoor air as well as those that provide access to natural daylight and views and improve acoustics.

Innovation in Design
The Innovation in Design category provides bonus points for projects that use innovative technologies and strategies to improve a building's performance well beyond what is required by other LEED credits, or to account for green building considerations that are not specifically addressed elsewhere in LEED. This category also rewards projects for including a LEED Accredited Professional on the team to ensure a holistic, integrated approach to the design and construction process.

Regional Priority
USGBC's regional councils, chapters and affiliates have identified the most important local environmental concerns, and six LEED credits addressing these local priorities have been selected for each region of the country. A project that earns a regional priority credit will earn one bonus point in addition to any points awarded for that credit. Up to four extra points can be earned in this way.

Figure 2.2. LEED credit categories.
Source: http://www.usgbc.org/leed/intro/what_leed_measures

To obtain certification, a project must first fulfill a number of prerequisite green building strategies within each of these categories.[33] In addition, a project must also employ green building strategies that meet the requirements for a number of optional credits.[34]

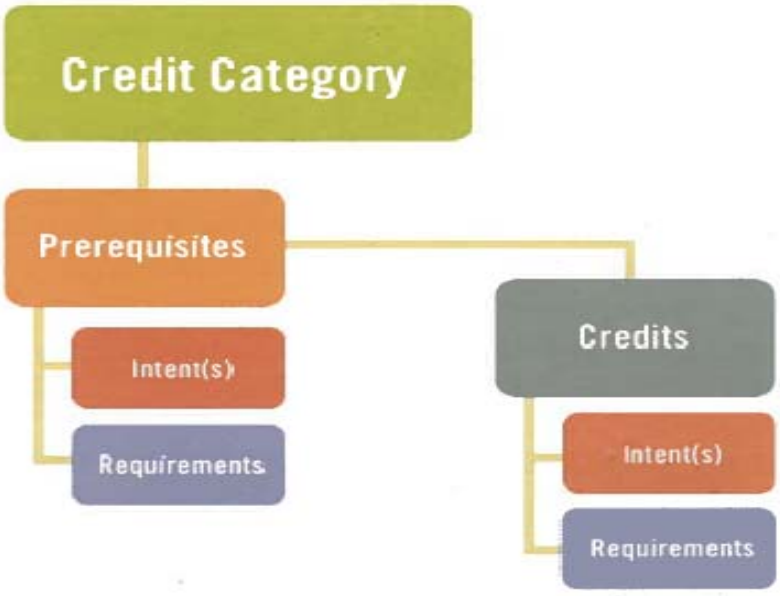

Figure 2.3. Flowchart illustrating LEED credit structure.
Source: United States Green Building Council, *USGBC LEED Green Associate Study Guide* (2009), 25.

[33] United States Green Building Council, *USGBC LEED Green Associate Study Guide* (2009), 24.
[34] Ibid.

MATERIALS & RESOURCES

MR Prerequisite 1: Storage and Collection of Recyclables

Required

Intent
To facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

Requirements
Provide an easily-accessible dedicated area or for the collection and storage materials for recycling for the entire building. Materials must include at a minimum paper, corrugated cardboard, glass, plastics and metals.

Potential Technologies & Strategies
Designate an area for recyclable collection and storage that is appropriately sized and located in a convenient area. Identify local waste handlers and buyers for glass, plastic, metals, office paper, newspaper, cardboard and organic wastes. Instruct occupants on recycling procedures. Consider employing cardboard balers, aluminum can crushers, recycling chutes and other waste management strategies to further enhance the recycling program.

MR Credit 1.1: Building Reuse—Maintain Existing Walls, Floors and Roof

1–2 Points

Intent
To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

Requirements
Maintain the existing building structure (including structural floor and roof decking) and envelope (the exterior skin and framing, excluding window assemblies and nonstructural roofing material). The minimum percentage building reuse for each point threshold is as follows:

Building Reuse	Points
75%	1
95%	2

Hazardous materials that are remediated as a part of the project scope must be excluded from the calculation of the percentage maintained. If the project includes an addition that is more than 2 times the square footage of the existing building, this credit is not applicable.

Potential Technologies & Strategies
Consider reusing existing, previously occupied building structures, envelopes and elements. Remove elements that pose a contamination risk to building occupants and upgrade components that would improve energy and water efficiency, such as windows, mechanical systems and plumbing fixtures.

Figure 2.4. Example of LEED prerequisite and credit requirements.
Source: United States Green Building Council, *LEED 2009 for New Construction and Major Renovations Rating System* (2009), 47-48.

Each credit requirement fulfilled garners a number of points. Achievable points in each of the seven categories total a possible 110 and a minimum of 40 points must be achieved to earn recognition as a LEED certified project.[35] Increasingly more prestigious levels of certification are awarded with more points gained.[36] These levels of certification are as follows:

Figure 2.5. Levels of LEED certification.
Source: United States Green Building Council, *USGBC LEED Green Associate Study Guide* (2009), 26.

The number of points associated with each credit varies and project teams may choose which credits to pursue.[37] Using a complex weighting system, points are apportioned to "incentivize building project teams to comply with requirements best addressing the social, environmental and economic outcomes identified by the USGBC."[38] The more directly a credit addresses one of several "impact categories" the

[35] Ibid., 25-26.
[36] Ibid., 26.
[37] Ibid., 24-25.
[38] United States Green Building Council, "Weightings Process Introduction," USGBC, http://www.usgbc.org/leed (accessed January, 2012).

more points it is assigned.[39] The USGBC maintains that the credit weights "emphasize energy efficiency, renewable energy, reduced transportation demand, and water conservation, based on their direct contribution to reducing high-priority impacts, particularly greenhouse gas emissions."[40]

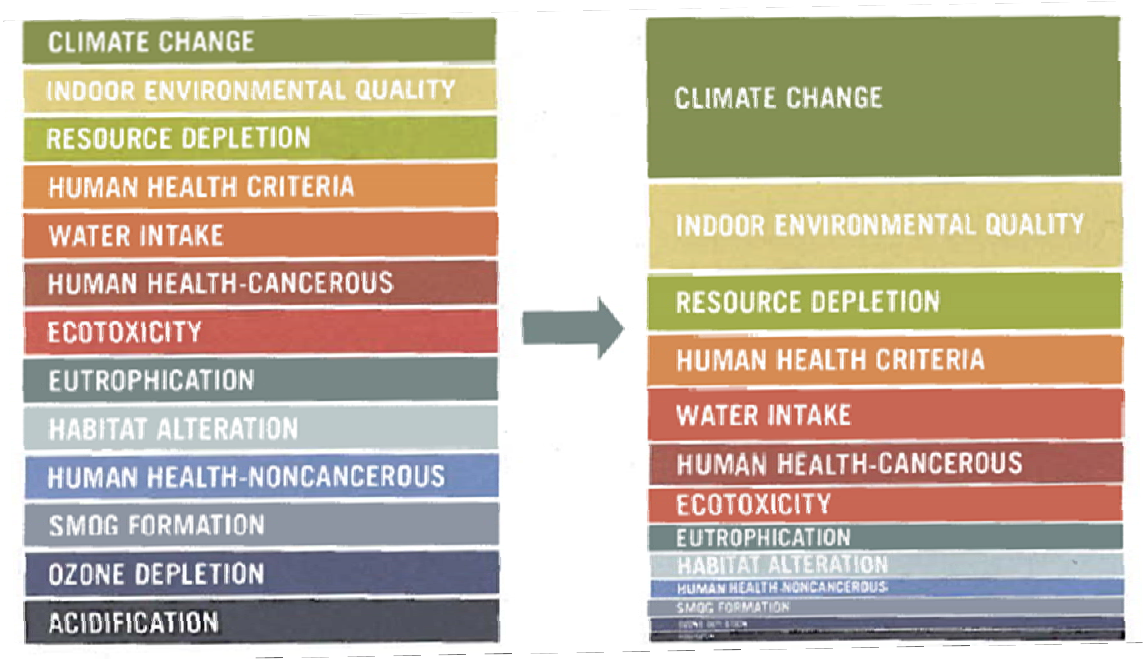

Figure 2.6. Chart illustrating the complexity of weighted impact categories.
Source: United States Green Building Council, *Green Building and LEED Core Concepts Guide* (2009), 20.

Project teams are required to submit documentation regarding project development to the LEED Online system, "the primary resource for managing the LEED documentation process."[41] Upon completion of the submittal process, project owners can

[39] United States Green Building Council, *Green Building and LEED Core Concepts Guide* (2009), 19.
[40] Ibid., 20.
[41] Green Building Certification Institute, "LEED Online," GBCI, http://www.gbci.org/main-nav/building-certification/leed-online/about-leed-online.aspx (accessed October, 2012).

then apply for LEED certification, which is conducted by the Green Building Certification Institute (GBCI), established with the support of the USGBC in 2008 to oversee LEED project certification as well as professional credentialing programs.[42] To confirm LEED compliance, the GBCI reviews and verifies documentation and implementation of green building strategies on the ground before issuing certification.[43]

It is beneficial for project teams to include one or more LEED accredited professionals to ensure LEED requirements are properly understood and implemented before the GBCI verification process begins. There are multiple levels of professional accreditation offered by the GBCI and are listed below:

> **LEED Green Associate** - Designates fundamental knowledge of LEED and green building
> **LEED Accredited Professional** - Designates expert knowledge of LEED and green building
> **LEED Fellow** - Designates the most exceptional professionals in the green building industry[44]

With the increase of interest in green building and the growing popularity of the family of LEED Rating systems, professionals sporting these acronyms on business cards and resumes have become highly marketable in the workforce.

Leadership in Energy and Environmental Design for Neighborhood Development

Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) is the latest addition to the family of LEED rating systems. While the

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[42] Green Building Certification Institute, "About GBCI," GBCI, http://www.gbci.org/org-nav/about-gbci/about-gbci.aspx (accessed October, 2012).
[43] Ibid.
[44] Green Building Certification Institute, "LEED Professional Credentials," GBCI, http://www.gbci.org/main-nav/professional-credentials/credentials.aspx# (accessed October, 2012).

ideological framework remains the same as that of the other systems, LEED-ND does depart from a focus solely on building construction to address the relationships between multiple buildings as well as the space between them.[45] In this way LEED-ND is perhaps slightly more relevant to professionals in the landscape architecture and planning professions.

Sustainable Sites Initiative

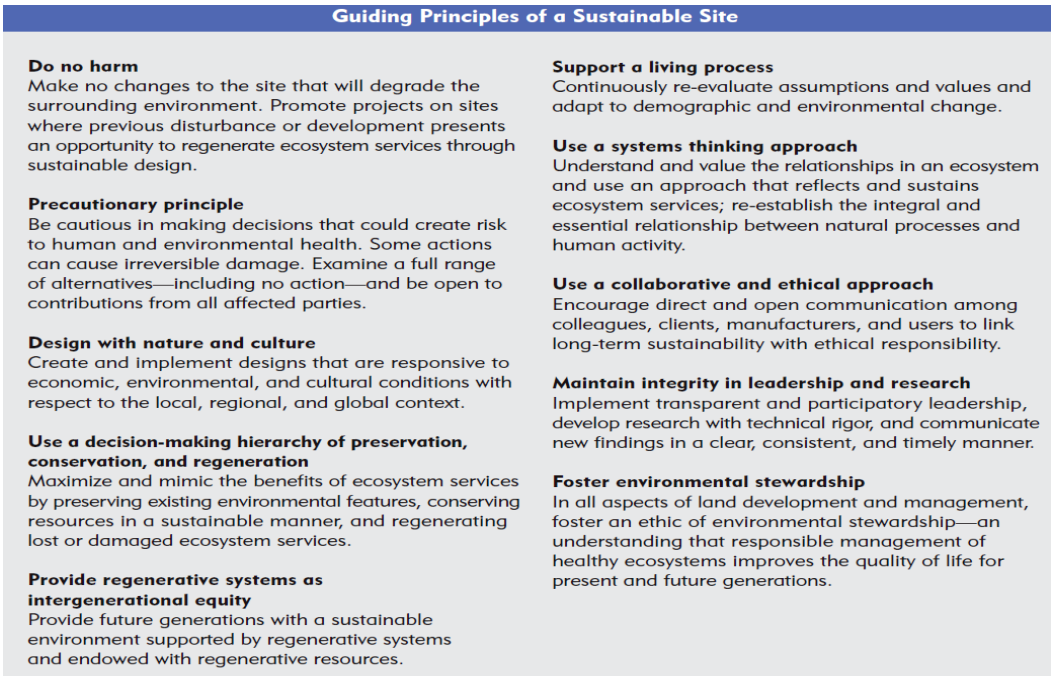
The Sustainable Sites Initiative (SITES), the last rating system that will be introduced, focuses on "sustainable land development and management practices that can apply to sites with or without buildings."[46] This attention exclusively to the designed landscape offers landscape architects a rating system that is seemingly tailor-made for the profession.

The American Society of Landscape Architects (ASLA) and the Ladybird Johnson Wildflower Center combined individual efforts in 2005 to form SITES, with the United States Botanical Garden (USBG) joining the partnership in 2006.[47] In November 2009, *The Sustainable Sites Initiative: Guidelines and Performance Benchmarks* was released to function as a framework for "measuring and rewarding a project that protects, restores and regenerates ecosystem services – benefits provided by natural ecosystems such as cleaning air and water, climate regulation and human health and benefits."[48] Beginning in 2010, a pilot program was initiated to test the guidelines put forth in the 2009 version

[45] United States Green Building Council, *LEED 2009 for Neighborhood Development* (2009), xii.
[46] Sustainable Sites Initiative, "About Us," SITES, http://www.sustainablesites.org/about/ (accessed October, 2012).
[47] Ibid.
[48] Sustainable Sites Initiative, "Reports," SITES, http://www.sustainablesites.org/report/ (accessed October, 2012).

of the system and a number of revisions are anticipated before the formal release of the system in 2013.[49] The USGBC, a key stakeholder in the Sustainable Sites Initiative, is expected to include SITES guidelines and benchmarks in future versions of LEED.[50]

Additionally in the same vein as LEED, are the ideological foundations of the Sustainable Sites Initiative. SITES also subscribes to the Brundtland Commission's definition of sustainability as well as the triple bottom line approach to achieving it.[51] With this in mind, the partners have established a set of guiding principles that drive the SITES rating system:



Guiding Principles of a Sustainable Site

Do no harm
Make no changes to the site that will degrade the surrounding environment. Promote projects on sites where previous disturbance or development presents an opportunity to regenerate ecosystem services through sustainable design.

Precautionary principle
Be cautious in making decisions that could create risk to human and environmental health. Some actions can cause irreversible damage. Examine a full range of alternatives—including no action—and be open to contributions from all affected parties.

Design with nature and culture
Create and implement designs that are responsive to economic, environmental, and cultural conditions with respect to the local, regional, and global context.

Use a decision-making hierarchy of preservation, conservation, and regeneration
Maximize and mimic the benefits of ecosystem services by preserving existing environmental features, conserving resources in a sustainable manner, and regenerating lost or damaged ecosystem services.

Provide regenerative systems as intergenerational equity
Provide future generations with a sustainable environment supported by regenerative systems and endowed with regenerative resources.

Support a living process
Continuously re-evaluate assumptions and values and adapt to demographic and environmental change.

Use a systems thinking approach
Understand and value the relationships in an ecosystem and use an approach that reflects and sustains ecosystem services; re-establish the integral and essential relationship between natural processes and human activity.

Use a collaborative and ethical approach
Encourage direct and open communication among colleagues, clients, manufacturers, and users to link long-term sustainability with ethical responsibility.

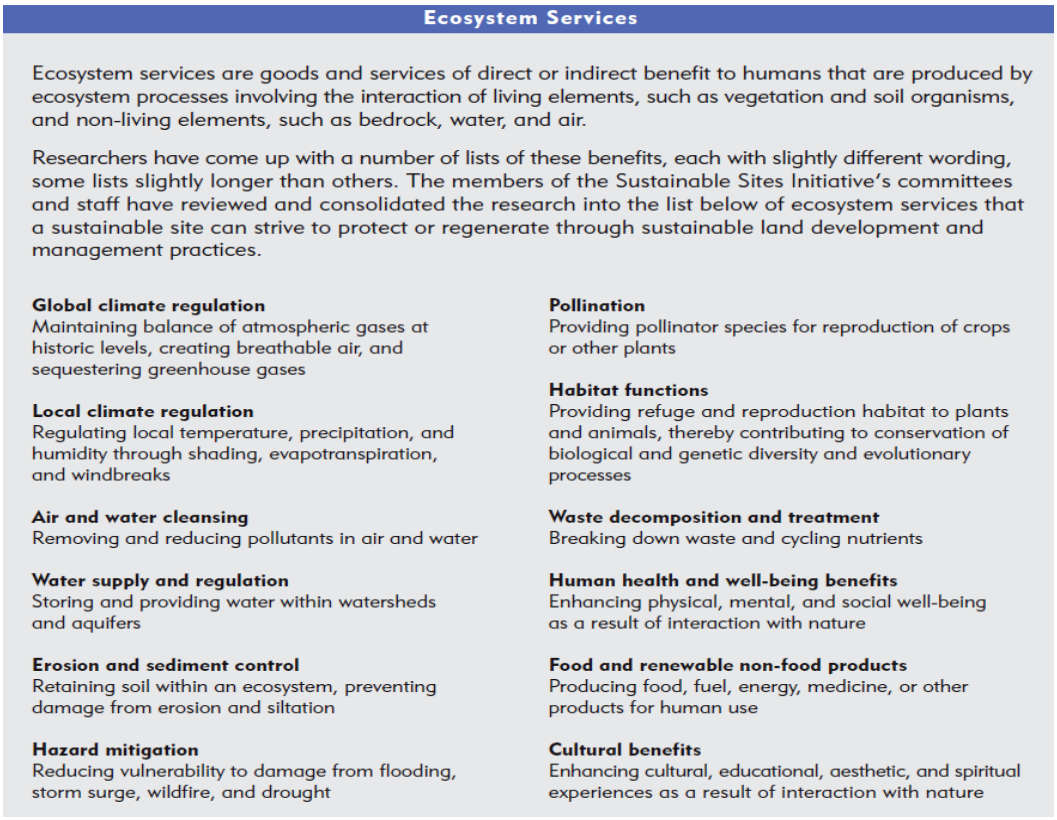
Maintain integrity in leadership and research
Implement transparent and participatory leadership, develop research with technical rigor, and communicate new findings in a clear, consistent, and timely manner.

Foster environmental stewardship
In all aspects of land development and management, foster an ethic of environmental stewardship—an understanding that responsible management of healthy ecosystems improves the quality of life for present and future generations.

Figure 2.7. SITES' Guiding Principles.
Source: Sustainable Sites Initiative, *The Case for Sustainable Landscapes* (2009), 9.

[49] Sustainable Sites Initiative, "Overview," SITES, http://www.sustainablesites.org/products/ (accessed October, 2012).
[50] Sustainable Sites Initiative, "About Us," SITES, http://www.sustainablesites.org/about/ (accessed October, 2012).
[51] Sustainable Sites Initiative, *The Case for Sustainable Landscapes* (2009), 8-10.

Furthermore, a list of ecosystem services "that a sustainable site can strive to protect or regenerate through sustainable land development and management practices"[52] was determined:



Ecosystem Services

Ecosystem services are goods and services of direct or indirect benefit to humans that are produced by ecosystem processes involving the interaction of living elements, such as vegetation and soil organisms, and non-living elements, such as bedrock, water, and air.

Researchers have come up with a number of lists of these benefits, each with slightly different wording, some lists slightly longer than others. The members of the Sustainable Sites Initiative's committees and staff have reviewed and consolidated the research into the list below of ecosystem services that a sustainable site can strive to protect or regenerate through sustainable land development and management practices.

Global climate regulation
Maintaining balance of atmospheric gases at historic levels, creating breathable air, and sequestering greenhouse gases

Local climate regulation
Regulating local temperature, precipitation, and humidity through shading, evapotranspiration, and windbreaks

Air and water cleansing
Removing and reducing pollutants in air and water

Water supply and regulation
Storing and providing water within watersheds and aquifers

Erosion and sediment control
Retaining soil within an ecosystem, preventing damage from erosion and siltation

Hazard mitigation
Reducing vulnerability to damage from flooding, storm surge, wildfire, and drought

Pollination
Providing pollinator species for reproduction of crops or other plants

Habitat functions
Providing refuge and reproduction habitat to plants and animals, thereby contributing to conservation of biological and genetic diversity and evolutionary processes

Waste decomposition and treatment
Breaking down waste and cycling nutrients

Human health and well-being benefits
Enhancing physical, mental, and social well-being as a result of interaction with nature

Food and renewable non-food products
Producing food, fuel, energy, medicine, or other products for human use

Cultural benefits
Enhancing cultural, educational, aesthetic, and spiritual experiences as a result of interaction with nature

Figure 2.8. SITES' Ecosystem Services.
Source: Sustainable Sites Initiative, *The Case for Sustainable Landscapes* (2009), 27.

[52] Sustainable Sites Initiative, *The Case for Sustainable Landscapes* (2009), 27.

To target these ecosystem services, SITES guidelines and benchmarks were divided into the following nine section headings:

1. **Site Selection**
   Promotes selecting locations to preserve existing resources and repair damaged systems
2. **Pre-Design Assessment and Planning**
   Promotes planning for sustainability from the onset of the project
3. **Site Design – Water**
   Promotes protecting and restoring processes and systems associated with a site's hydrology
4. **Site Design – Soil and Vegetation**
   Promotes protecting and restoring processes and systems associated with a site's soil and vegetation
5. **Site Design – Materials Selection**
   Promotes reuse/recycling existing materials and supporting sustainable production practices
6. **Site Design – Human Health and Well-Being**
   Promotes building strong communities and a sense of stewardship
7. **Construction**
   Promotes minimizing effects of construction-related activities
8. **Operations and Maintenance**
   Promotes maintaining the site for long-term sustainability
9. **Monitoring and Innovation**
   Rewards exceptional performance and improving the body of knowledge on long-term sustainability[53]

As with LEED, each section contains a number of mandatory prerequisites that must be completed as well as optional credits, each carrying a point value or range of point values, a percentage of which must be realized to attain SITES certification.[54] There are a total of 250 achievable points in the SITES rating system, at least 100 (40%) of

[53] Sustainable Sites Initiative, *Guidelines and Performance Benchmarks 2009* (2009), 12-14.
[54] Ibid., 9.

which must be gained to earn certification.[55] The multiple levels of certification are as follows:

One Star	100	(40% of total points)
Two Stars	125	(50% of total points)
Three Stars	150	(60% of total points)
Four Stars	200	(80% of total points)[56]

The point value of each credit was determined through a series of weighting exercises based on the guiding principles outlined above and "reflects committee members' consensus regarding the potential level of impact that given benchmarks may have on improving site sustainability."[57] At the time of this thesis, only pilot projects are eligible for certification and as of October, 2012, only eleven have achieved this recognition.[58]

Conclusion

Clearly the intention of these systems, and others like them, are respectable. LEED, in particular, has been exceedingly successful in advancing the sustainable development agenda, particularly and understandably the environmental sphere. It is thorough, objective, bureaucratic and systematic. Its established standards and strategies for green building impart education and direction while its marketability has resulted in a widespread notoriety that generates motivation to comply. Within its scientifically backed sphere of measureable performance and accountability, its achievements are laudable - a leading example to regard. As such, this thesis does not aim to tear down an

[55] Ibid.
[56] Ibid.
[57] Ibid.
[58] Sustainable Sites Initiative, "Certified Projects," SITES, http://www.sustainablesites.org/cert_projects/ (accessed October, 2012).

empire in a barrage of supposed shortcomings but rather to readjust the profession's perspective.

Under the weight of present environmental pressures and systematic approaches, the landscape design scale has tipped in favor of the measureable results these rating systems aim to achieve. "Americans think first about quantity, not quality,"[59] and these systems deliver the numbers. They have become the catalyst by which humanity reconciles mounting environmental issues and the progression of LEED to LEED-ND to SITES signifies a demand for more, and in concentrated formulas. This is a pattern quite exemplary of the modern tendency to insert everything into neatly packaged, self-referential categories and specialties - a continued rationalizing of the world - in an attempt to exert control and optimize efforts in multiple spheres.[60] Within landscape architecture, however, this trending fixation on standardization, rationality, and reductionism casts a large shadow over those decisions that lead to less calculable outcomes. Design discourse today finds itself filled with content narrowly pertaining to a measure of sustainability calculated in little more than cubic feet of rainwater capture. The visceral facet of landscape design seems to have gotten lost in a flurry of "conspicuous conservation."[61] After all, "what is the value of the visual and formal when

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[59] Walter Hood as quoted in Gail G. Hannah, "Sense of Place: Creating Successful Public Spaces," Creating the Built Environment: Issues and Trends in Design, Landscapeforms, 22.
[60] James Corner, "A Discourse on Theory I: 'Sounding the Depths' - Origins, Theory, and Representation," *Landscape Journal,* 9 (1990): 65-66.
[61] Steven E. Sexton and Alison L. Sexton, "Conspicuous Conservation: The Prius Effect and WTP for Environmental Bona Fides.," (PhD diss., University of California, Berkeley, 2010), 1.

human, regional and global health are at stake?"[62] The following chapters will offer an exploration of possible answers in an attempt to recalibrate the scale.

[62] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 6.

CHAPTER 3

EXPLORING A BALANCED APPROACH

As discussed, modernity is heavily steeped in the metrics and matrices exemplified by systems like LEED and SITES amongst others. As productivity, efficiency, and bottom line results have made their way to the forefront of Western societal values, so too have products and services, backed by measureable accountability in the form of proven percentages, statistics, and score sheets. As such, these reductionist point-scale systems have come to embody the "essence of our age," condensing complex data into glorified checklists of sorts; results driven, user friendly, and universally applicable.[63] For landscape architecture, however, it is paramount that these systems remain merely one tool amongst many. A design-by-numbers approach to anthropocentric landscapes that may well conserve rainwater but fails to create cultural connections is certainly missing the point by gaining them. "Are Metrics Blinding Our Perception?" a 2009 article published in *The New York Times*, discusses this trend and the possible consequences of its growing popularity in a range of fields:

> What we know instinctively, data can make us forget… the strange thing is that nothing in [metrics] prevents us from using other lenses too. But something in the culture now makes us bow before data and suspend disbelief. Sometimes metrics blind us to what we might with fewer metrics have seen.[64]

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[63] Anand Giridharadas, "Are Metrics Blinding Our Perception?," New York Times, November 20, 2009.
[64] Ibid.

Surely, LEED and SITES have been successful in compiling and compacting current ecological research and technology to encourage environmentally sustainable design on par with the latest information. This is noble work indeed, but the landscape architect should be able to see the forest not only for its potential carbon sequestration but also for the trees.

Scholarly research proclaiming, "human settlements, like works of art, embody the fruits of human reason and feeling applied to the physical world,"[65] is hardly necessary to buttress what is held in common sense, but for those who design these settlements in these times, perhaps a refresher is in order. In the above, a distinction is made between reason and feeling, different but, like techne and poiesis, equally yoked, and this thesis argues for their equal treatment in practice. The urgency to affect environmental impact backed by the messianic metric has facilitated the tendency to shelve feeling in favor of reason or, perhaps more accurately, prescribe which feelings are appropriate. Design decisions are more commonly justified by the three-legged stool of sustainability and end users educated about their significance by signs and plaques. The intention seems to be that knowing and doing what is "right" in multiple spheres, regardless of aesthetic or experiential qualities, will cultivate an appreciation for design that is "good for us."[66] Discussions of aesthetics et al. in much of the contemporary sustainability literature is reflective of this as it is typically trivialized or avoided altogether in light of burning

[65] Curtis Carter, "Aesthetic Values and Human Habitation: A Philosophical and Interdisciplinary Approach to Environmental Aesthetics," in *American Values and Habitat: A Research Agenda,* edited by Mayra Buvinic and Sylvia Fries, 82. Marquette University, 1976.
[66] Paul Gobster et al., "The Shared Landscape: What Does Aesthetics Have to Do with Ecology?," *Landscape Ecology* (2007): 962.

ecological concerns[67] and the instant gratification of solutions conducive to measurable results. However, there seems to be a mounting tension in regards to that which may be left behind in this paradigm shift. "The Fuller Measure," published in the April 2011 issue of *Landscape Architecture Magazine*, addresses the great white elephant. "Not all human endeavors can be reduced to numbers… the hard part is measuring happiness, identity, and a sense of belonging,"[68] anthropocentric landscape qualities that, according to some contemporaries, may be integral to the formation of ties to the land that can, in turn, foster a sense of appreciation and even stewardship for the environment.[69] A realignment of aesthetics within sustainability discourse that reflects these ideas can have strong implications for broadening and thereby strengthening current notions of sustainable landscapes to include those that are culturally meaningful and thus valued and enduring. In the words of Marc Treib, "transforming and transcending the requirements of the mundane and pragmatic solution is the key."[70]

The following sections will explore the influential theories of three contemporary landscape architects in accordance with this line of thinking in an attempt to produce a body of literature aimed at ensuring a more balanced inclusion of aesthetic and experiential considerations in future process and practice with the intention of encouraging more holistic and enduring products of landscape design.

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[67] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 6-7.
[68] Kurt D. Culbertson, "The Fuller Measure," *Landscape Architecture* 101 (2011): 123.
[69] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 7.
[70] Marc Treib quoted in Catherine M. Howett, "Landscape Architecture: Making a Place for Art," *Places,* 2 (1985): 58.

Joan Iverson Nassauer

In her article, "Messy Ecosystems, Orderly Frames," Joan Nassauer discusses an incompatibility between the cultural expectations of landscape aesthetics and ecologically healthy landscape design and proposes a method of realigning values that fosters a more holistic approach to design, benefitting both agendas.[71] Beginning with the premise that much of Western societal ideas of nature have been profoundly influenced by artistic representations of the picturesque, she builds an argument for process and practice that uses the resultant landscape conventions to gradually affect a change in the public perception of often divergent ecologically beneficial design.[72] Despite the public's increasing enthusiasm for doing "what is right" for the environment, deeply rooted cultural notions of landscape beauty remain strong, often preventing implementation of "what is right" on the ground.[73] This necessitates mediation between that which is scientifically appropriate and the symbolic form that speaks to cultural expectations and desires.[74] Thus, "applied landscape ecology is essentially a design problem," one that must address concerns for ecosystem health in a culturally acceptable manner.[75]

Nassauer suggests that while considerations of ecological implications are certainly a substantial portion of the design process to the landscape architect, the general public is largely concerned with what the appearance of the landscape might say

[71] Joan Nassauer, "Messy Ecosystems, Orderly Frames," *Landscape Journal,* 14 (1995): 161-70.
[72] Ibid.
[73] Ibid., 161.
[74] Ibid.
[75] Ibid.

about them.[76] Consequential to the culturally embedded picturesque ideals, the look of a manicured landscape conveys "neighborliness, hard work and pride."[77] So, "while human inhabited landscapes operate as ecological systems… they also operate as communication systems."[78] Accordingly, design that seeks to improve ecological quality within the context of human inhabited landscapes should be executed within "a recognizable system of form… [so that these landscapes] cannot be mistaken for unintended nature or neglected land… [and] people will recognize their beauty and maintain it appropriately."[79]

Studies conducted in support of these ideas revealed that people found "bare, severe or unnatural" landscapes unappealing, yet also identified an aversion for landscapes that were "too wild or too country-like."[80] So even where a preference for nature has been established, a balance between human and natural elements is preferred.[81] A "natural" setting that too closely mimics natural form does not address cultural expectations of landscape beauty and risks disregard and degradation by neglect.[82] This forms the basis for the use of what Nassauer refers to as "cues to human care," defined as "expressions of neatness and tended nature," suggesting that oft messy looking ecosystem design may be more well-received and maintained by the general

[76] Ibid., 162.
[77] Ibid.
[78] Ibid.
[79] Ibid.
[80] Ibid., 167.
[81] Ibid., 163.
[82] Ibid.

public if it is framed by these cues.[83] According to studies focused on identifying these cues, human intention and care is most manifest in the following forms: mown grass, flowering plants (with large, not small flowers that might be mistaken for weeds), bold planting patterns, pruned shrubs, linear planting designs, architectural details and fences, and foundation planting.[84] Over time, a repeated integration of "messy ecosystems" with these upheld conventions will aid in the assimilation of ecologically rich landscape forms into the overall "recognizable system of form."[85]

"People take pride and pleasure in familiar landscape patterns." As such, Nassauer's closing statements argue that a revolutionary change in landscape design, a force feeding of messy looking ecologically rich landscape design, will not work as it requires relinquishing the comfort of what is known and loved for the unfamiliar and unappealing.[86] Rather, an evolutionary approach is needed, one that, "acknowledge[s] that cultural expectations and human pleasure will continue to be measures of ecological function."[87]

Elizabeth Meyer

In "Sustaining Beauty: Performance of Appearance," Elizabeth Meyer contends that since sustainability's relatively new entry into popular usage, slightly over 20 years ago, there has been little written on the subject that is not primarily technical in nature.[88]

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[83] Ibid., 163.
[84] Ibid., 167-168.
[85] Ibid., 163, 167.
[86] Ibid., 169.
[87] Ibid.
[88] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 11.

She notes that much of the contemporary sustainability literature within landscape architecture "describes and analyses eco-technologies… according to quantifiable ecological and hydrological processes."[89] This is a reasonable focus in consideration of the increasing urgency to mitigate further environmental degradation and such that landscape, with all of its ecological components, is of course, the vehicle for landscape design.[90] She argues, however, that this emphasis on ecological performance is limiting of a greater role for sustainable landscapes.[91] This is a potential to address contemporary concerns in a way that exceeds current modes to also express and inform cultural values - potential to nurture both Mother and human nature.[92] Landscape architecture can and should bring more to the table than static and sterile solutions to ecological concerns. "We are different from restoration ecologists and civil engineers… works of landscape architecture are cultural products with distinct forms and experiences that evoke attitudes and feelings through space, sequence and form."[93]

In an effort to push current research in new directions, Meyer develops her own approach to landscape design theory, "Sustaining Beauty."[94] This rests on the idea that "beauty is at the intersection of sensuousness and truth" and when experienced, facilitates an "emotional or ethical revelation."[95] When this type of affective beauty is encountered in the landscape, it can "lead to recognition, empathy, love, respect, and

[89] Ibid., 7.
[90] Ibid., 6.
[91] Ibid., 6-7.
[92] Ibid., 8-9.
[93]Ibid., 13.
[94] Ibid., 15-21.
[95] Ibid., 15.

care for the environment" through an arresting of the senses and a compulsory contemplation of the object or experience at hand.[96] Revelation that occurs in response to environmental processes can foster a new understanding and appreciation of natural cycles and interrelationships, and reciprocity is gained by incorporating these processes into new, expanded definitions of beauty.[97] This *hybrid* approach to addressing both cultural and environmental needs through landscape design is illustrated in the following 11 tenets of Sustaining Beauty:

1. **Sustaining Culture through Landscapes**
   Design is a cultural act, a product of culture made with the materials of nature, and embedded within and inflected by a particular social formation… It translates cultural values into memorable landscape forms and spaces that often challenge, expand, and alter our conceptions of beauty.

2. **Cultivating Hybrids: Language of Landscape**
   Sustainable landscape design flourishes when fixed categories are transgressed and their limits and overlaps explored. Our profession is still hampered by the limited language of formal and informal, cultural and natural, man-made and natural.

3. **Beyond Ecological Performance**
   Sustainable landscape design must do more than function or perform ecologically; it must perform socially and culturally. Sustainable landscape design can reveal natural cycles… while intersecting with social routines and spatial practices. Hydrology, ecology and human life are intertwined.

4. **Natural Process over Natural Form**
   The mimicry of natural processes is more important than the mimicry of natural forms. Natural-looking landscapes… are [often] assumed to be found, wild conditions not needing care [that] quickly become invisible landscapes and neglected landscapes.

[96] Ibid., 7.
[97] Ibid., 15.

5. **Hypernature: The Recognition of Art**
   Sustainable landscape design should be form-full, evident and palpable, so that it draws the attention of an urban audience distracted by daily concerns… This requires a keen understanding of the medium of landscape, and the deployment of design tactics such as exaggeration, amplification, distillation, condensation, juxtaposition, or transposition/displacement.

6. **The Performance of Beauty**
   Beauty…requires us 'to give up our imaginary position as the center… we cease to stand even at the center of our own world. We willingly cede ground to the thing that stands before us.' [When beauty is experienced in the landscape] we are decentered, restored, renewed and reconnected to the biophysical world, a process between the senses and reason, an unfolding of awareness [that can foster appreciation for the environment].

7. **Sustainable Design = Constructing Experiences**
   Beautiful sustainable landscape design involves the design of experiences as much as the design of form and the design of ecosystems. These experiences are vehicles for connecting with, and caring for, the world around us. Through the experience of different types of beauty we come to notice, to care, to deliberate about our place in the world.

8. **Sustainable Beauty is Particular, Not Generic**
   Sustainable beauty… will be of its place… and yet it will not simulate its place. It will be recognized as site-specific design, emerging out of its context but differentiated from it.

9. **Sustainable Beauty is Dynamic, Not Static**
   The intrinsic beauty of landscape resides in its change over time. Sustainable beauty arrests time, delays time, intensifies time; it opens up daily experience to… the wonder of urban social and natural ecologies made palpable through the landscape medium.

10. **Enduring Beauty is Resilient and Regenerative**
    Projects that are dynamic rather than static can be designed for disturbance and resilience… The beauty of this type of landscape lies in the knowledge of its tenacity, its toughness, its resilience… [it] evolves over time in response to different needs or contexts.

11. Landscape Agency: From Experiences to Sustainable Praxis

> The experience of landscape can be a mode of learning and inculcating values… the designed landscape can be built through various tactics, using sustainable eco-technologies, but it can also be an aesthetic experience that changes people's environmental ethics.[98]

Through these principles, Meyer makes the case for the importance of an equivalent focus on aesthetic experience in the landscape, suggesting that checklist criteria do not a successful landscape make.[99] Rather, a synthesis of ecological and cultural performance is needed to address contemporary concerns, yet allow landscapes to transcend methods en vogue to produce meaningful products of landscape architecture.[100] "We are sustained by reducing, editing, doing less bad. But we are also sustained, and regenerated, through abundance, wonder, and beauty."[101]

James Corner

In a two-part treatise, "A Discourse on Theory," James Corner argues for a necessary return to the creation of landscapes rich with symbolic meaning in order to reestablish the profound cultural-environmental relationship that once existed.[102] Corner recounts the 18th century enlightenment shift toward rational thinking, and contends that continued reverence for objective scientific methodologies and technological advancement has "displaced the movement of tradition and suppressed the poetries of

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[98] Ibid., 15-21.
[99] Ibid., 21.
[100] Ibid.
[101] Ibid.
[102] James Corner, "A Discourse on Theory I: 'Sounding the Depths' - Origins, Theory, and Representation," *Landscape Journal,* 9 (1990): 77.

art" that were at one time effortlessly embodied by the built environment of antiquity.[103] By and large, contemporary approaches to landscape architecture consider little more than "proven" practical and technical methods of design removed from lived experience.[104] "This displacement of knowledge from the world as… sensibly perceived [has] created a distance between human life and nature… a loss of intimacy between humans and their environment."[105]

Corner further speculates, "if humans… did not look at [nature] as phenomena to be measured and manipulated, then the current ecological and existential crises, focusing on an aggressive technology and supported by an excessively rational thinking, would not arise."[106] The world is more than logical axioms and progressions. Understanding, and subsequent action, facilitated through modernity's reductionist, rational, and objective logic is hardly a substitute for that made possible through living, sensing, experiencing, and perceiving.[107] Landscapes born of the latter are landscapes that acknowledge and encourage the latter, that "breathe with emotion," and create enriched, engaging experiences that forge deeper enviro-cultural bonds.[108] In Corner's view, landscape architecture, "the great mediator between nature and culture,"[109] has the

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[103] James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics," *Landscape Journal,* 10 (1991): 115.
[104] James Corner, "A Discourse on Theory I: 'Sounding the Depths' - Origins, Theory, and Representation," *Landscape Journal,* 9 (1990): 74-77.
[105] Ibid., 65.
[106] Ibid., 77.
[107] Ibid., 75-77
[108] Ibid., 76.
[109] Ibid., 77.

potential to restore this once symbiotic relationship through an approach to design that considers the following 3 suppositions:

1. **The world is not all knowable as modern technology would have us believe.**
   Truths are only relative concepts subject to shift and change.
   The world known in one way is always interpretable in another.
   Interpretation is always in response to a particular situation, replete with specific sets of circumstances.
   Unable to presume certainty, a situational and interpretive approach to theory and practice defers singular understanding and remains ever open to the world.

2. **Primary knowledge is that which comes from direct experience.**
   The medium of ideation - and subsequent embodiment - in landscape architecture is the landscape itself. This not only encompasses the physical materials and natural processes that constitute landscape, but also includes the codes and languages through which landscape is culturally understood.
   The landscape is therefore the *setting* of our lives, the sensual-intellectual perception of which constitutes meaning and value.
   By extension, things and place can be properly understood only through nearness and intimacy, through bodily participation.
   A theory and practice that simultaneously emerges from and engages in this realm of perception is therefore qualitatively different from the application of a priori conceptual orders, which are analogous to mathematical logic or rational planning and always *precede* action.

3. **Tradition does not refer to some vague recollection of the past, frozen and inaccessible, but refers instead to the creative and processual power of which we are an integral part.**
   Tradition [is] a "happening," a continual unfolding of human endeavor… resistant to objectification and rational dissection and too fluid for the confines of formalization or repetition.
   A responsible and critical theory might be one that would seek to reconcile previous cosmologies with those of our own time, attempting to find new joints of meaning between our ancestry and our future.[110]

[110] James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics," *Landscape Journal,* 10 (1991): 125-127.

These principles are at the heart of Hermeneutics as an approach to theory in landscape architecture.[111] This is a method of "understanding and interpretation" which, much like the application of law, attempts to reconcile "the historical with the contemporary, the eternal with the moment, the universal with the specific."[112] Unlike much of contemporary theory which increasingly builds upon rational and reductionist thinking to forge systematic and universally applicable procedures, Hermeneutics is reflective of past knowledge and lived experience, and concerned with applicability to specific circumstances of particular time and place.[113] This is a process that draws upon the "previous accomplishments of culture – landscapes, buildings, paintings, literature, and so on," and reinterprets their contributions in new ways that become meaningful to the current condition.[114] In this way, Hermeneutics "gives strength and validity to those bodies of knowledge - the experiences of art, landscape, poetry, and philosophy, for example - that cannot be verified by the methodological standards of science."[115]

The transformation from land to landscape takes place at the hands of man.[116] As such, landscape necessarily takes on meaning, becomes a cultural representation, "a conceptual filter through which our relationships to nature and wilderness can be understood."[117] As Corner suggests, such landscape is a "text that is open to interpretation and transformation," highly susceptible to the influences of time and

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[111] Ibid., 127.
[112] Ibid.
[113] Ibid.
[114] Ibid., 129.
[115] Ibid., 127.
[116] Ibid., 129.
[117] Ibid.

circumstance as well as a medium for imparting both past ideas and future projections.[118] "Works [of landscape architecture] are the encodings that set and enframe human situations," and as these situations change so too should the landscape be reflective of the new time and circumstance while still grounded in its heritage.[119] "Residua in this topographic palimpsest provide loci for the remembrance, renewal, and transfiguration of a culture's relationship to the land."[120] To exemplify this in practice, Corner points to the works of Luis Barragan whose abstract modernist landscapes are able to speak to both the spirit of their time as well as humanity at large by engaging common essential human experiences.[121] "The cultural archetypes are inexhaustibly reformulated… walls, steps, gates, paths, seats… are the elements of both memory and prophecy, providing 'places' for the collective orientation and perpetuation of culture."[122] It is these connections landscape architecture should strive to achieve through a focus on creating landscapes that "continue to be revisited and transformed through time… bringing modern dwelling toward a greater significance with its present and restoring a sense of wholeness, continuity, and meaning to our lived relations with the landscape."[123]

Conclusion

Despite the prevailing variance in the profession's definition, many would agree that at its core, landscape architecture exhibits an "historical commitment to context, the

[118] Ibid.
[119] Ibid.
[120] Ibid.
[121] Ibid., 129-130.
[122] Ibid., 130.
[123] Ibid., 131.

responsible use of natural resources, and the forging of a connection between people and the land."[124] The works of the three scholars presented above, however, each open with an acknowledgement of the loss, or at least lack, of attention to the latter in much of today's theory and practice. Stewardship of the of the land is hardly a new concept for the field but, as of late, increased ecological concern and the excessive rationalizing of the time, has cast the environmental component in a starring role and the less easily measured cast aside. While there may be no accounting for taste, ecological factors are easily calculated and controlled and, in the interest of popular demand, the focus on them has been amplified. However, the research presented here indicates a growing unease about this piecemeal direction of landscape design. The shared message suggests that landscape should be not only ecologically rich but also afford a visceral experience, striking chords within the human core. Landscape architecture is the business of moment and memory, incidence and experience, the crafting of encounters with time and place that can hardly be reduced to technical formulae. This thesis calls for a reconciliation of its traditional anthropocentric and contemporary biocentric roles.

The authors of the work above were chosen for their unconventional views of the expectations of and possibilities for landscape performance, and their work's potential to expand the often narrow take on sustainable development offered within design discourse. Each believes in the role of the landscape architect as enviro-cultural mediator and insists on the need to reinstate a more holistic and balanced approach to landscape

[124] Gail G. Hannah, "Sense of Place: Creating Successful Public Spaces," Creating the Built Environment: Issues and Trends in Design, Landscapeforms, 22.

design. However, the ways in which each believes these ideas should become manifest in the landscape differs and, comparatively, their ideas represent a continuum of expression of cultural values. The case studies in the following chapter will provide examples of these principles in practice.

CHAPTER 4

CASE STUDIES

The ideas considered in the previous chapter can be applied to a variety of landscape types. However, in Olmsted's estimation, "a park is a work of art, designed to produce certain effects upon the minds of men,"[125] and thus this chapter explores three parks to illustrate these theories. Parks are cultural landscapes where people encounter a modified and often stylized version of nature through a variety of activities both active and passive, often yielding restorative effects. They are the venues for both interaction and reflection where people engage with others and environment. The particular parks introduced in the following pages were chosen for their potential to exemplify a balanced approach to design that takes steps to mitigate environmental impact but is also rich in aesthetic, experiential, and cultural values. Each of these landscapes has been recognized by the American Society of Landscape Architects (ASLA) for outstanding design and welcomes a substantial number of visitors annually.

The Dell at the University of Virginia, Charlottesville, VA

The Dell is an award-winning landscape located near the center of campus at the University of Virginia in Charlottesville. The design for the 11-acre site, constructed in 2004, was developed by Nelson Byrd Woltz Landscape Architects (NBWLA) and has

[125] As cited in Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 7.

received numerous awards including a 2009 National ASLA Honor Award for Design, a 2007 Virginia ALSA Honor Award, a 2006 Virginia AIA INFORM Award of Honor, a 2004 Maryland ASLA Merit Award, and a 2008 Society for College and University Planning Merit Award for Excellence for Landscape Architecture for the Meadow Creek Storm Water Master Plan.[126] The once neglected and overgrown area is now a well-recognized and highly esteemed landscape featuring a restored stream, retention pond, and botanical garden, as well as spaces for recreation, contemplation, and leisure. The Dell provides both ecological benefits as well as a memorable landscape experience for its visitors, estimated to be over 10,000 annually.[127]

[126] American Society of Landscape Architects, "Green Infrastructure and Stormwater Management Case Study: The Dell at the University of Virginia," ASLA, http://www.asla.org/uploadedFiles/CMS/Advocacy/Federal_Government_Affairs/Stormwater_Case_Studies/Stormwater%20Case%20159%20The%20Dell%20at%20the%20University%20of%20Virginia,%20Charlottesville,%20VA.pdf (accessed October 2012).

[127]Landscape Architecture Foundation, "Landscape Performance Series: The Dell at the University of Virginia - Methodology for Landscape Performance Benefits," LAF, http://lafoundation.org/myos/my-uploads/2011/08/29/uvathedellmethodology.pdf (accessed October 2012).

Figure 4.1. The Dell, University of Virginia.
Source: J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 53.

Background

In the early 1800s, Thomas Jefferson acquired the Dell Valley as a part of UVA's original land holdings.[128] Once the university was established, Meadow Creek, which runs through the site, became an important source of water for the campus

[128] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).

community.[129] Over time, however, the site experienced many changes brought about by evolving desires and demands on the land. The creek and its surroundings became a popular place for recreational activity and, during the mid-1800s, ice-skating ponds were constructed around the stream which remained until the 1960s.[130] In 1916, a superintendent of buildings and grounds for UVA, William Lambeth, erected a home complete with a small Italianate garden where the pond is located today.[131] The home still exists, but the garden fell into decay after the construction of nearby Emmet Street in 1929, where it remained unaltered until construction of the new design in 2004.[132] Perhaps the most dramatic change to the landscape however, took place in the 1950s when much of Meadow Creek was piped and a portion of the upper Dell Valley was terraced to make room for new dormitories.[133] Soon after, basketball courts, tennis courts, and picnic areas were constructed.[134] Drainage became an issue on the site, however, and some portions of it became marshy and unusable.[135]

UVA's "1999 Strategic Plan for Water Resources Management" gave rise to the concept for the Dell as it calls for the daylighting and restoration of natural streams wherever possible.[136] Funding for the project was secured upon the realization that the construction of the Dell Pond could help meet the storm water requirements of the

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[129] Ibid.
[130] Ibid.
[131] Ibid.
[132] Ibid.
[133] J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 53.
[134] Ibid.
[135] Ibid.
[136] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).

nearby John Paul Jones Arena development project by mitigating storm water upstream from the site.[137] Locating a retention basin in this area allowed for the construction of a considerably smaller pond than that which would have been required to manage storm water at the arena.[138]

Context

The site functions as a transitional zone between campus and neighborhood, welcoming both students and residents.[139] To the north of the site lies the residential neighborhood while campus property borders the southern edge. Well-trafficked roads flank both the east and west sides.

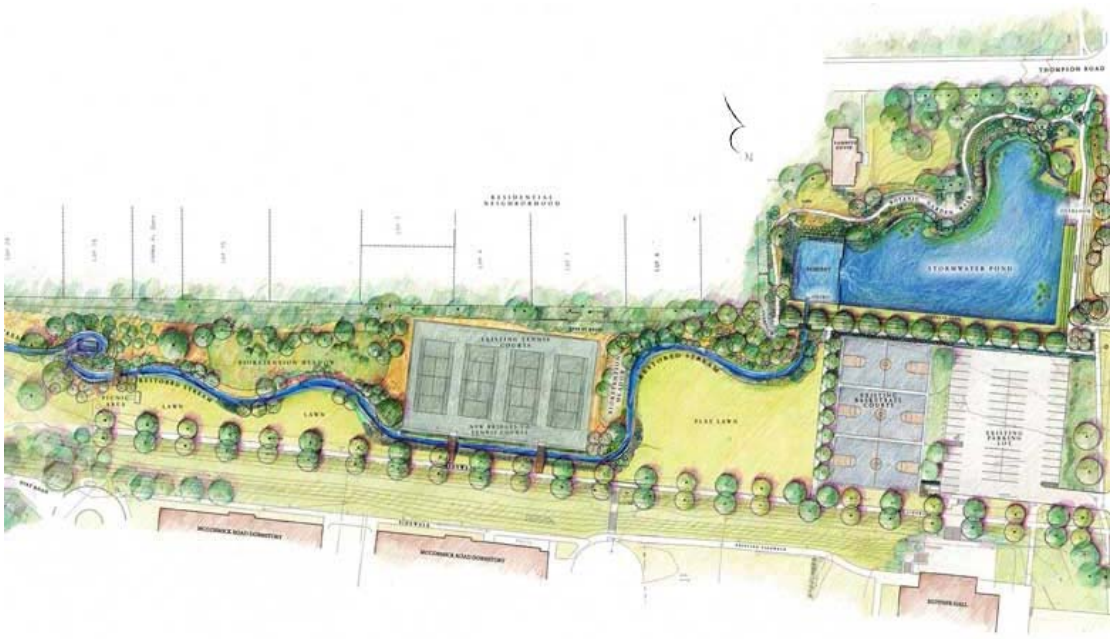

Figure 4.2. The Dell illustrative master plan.
Source: http://www.nbwla.com/featured/images/3_The%20Dell/8.jpg

[137] Ibid.
[138] Ibid.
[139] Linda McIntyre, "Making Hydrology Visible: The Dell, on the University of Virginia Campus, Proves That Restoration and Sustainable Stormwater Management Can Be Beautiful as Well as Smart," *Landscape Architecture* 98 (2008): 99.

Design

The NBWLA design reintroduces 1,200 linear feet of the formerly piped Meadow Creek to the surface[140], recreating all of the "physical properties of natural streams, including meanders and floodplains, vegetative swales, and riparian buffers."[141] These features function to retain and slow the rate of storm water flow, prevent erosion, and filter sediment and pollutants.[142] The creek flows through a stone channel for 20 feet before making a 4 foot drop into a forebay system.[143] Heavy rainfall has the potential to transform a slow trickle to a rushing fountain at this entry point,[144] highlighting the temporality of natural process. More pollutants are captured in the forebay as the rate of flow is further slowed providing ample opportunity for sediments and solids to drop out.[145] This filtered water then passes through a weir into the larger, lower pond before exiting the site through a pipe located under a sidewalk observation deck.[146] In total, this ¾ acre retention pond and forebay system is capable of managing 194,000 cubic feet of runoff (1,451,220 gallons). In addition to its functionality as a stormwater retention

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[140] Landscape Architecture Foundation, "Landscape Performance Series: The Dell at the University of Virginia - Methodology for Landscape Performance Benefits," LAF, http://lafoundation.org/myos/my-uploads/2011/08/29/uvathedellmethodology.pdf (accessed October 2012).
[141] University of Virginia Environmental Health and Safety, "Stormwater Management: The Pond at the Dell," UVA-EHS, http://ehs.virginia.edu/ehs/ehs.stormwater/stormwater.projects.html#7 (accessed October 2012).
[142] Ibid.
[143] J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 55.
[144] Ibid.
[145] American Society of Landscape Architects, "Green Infrastructure and Stormwater Management Case Study: The Dell at the University of Virginia," ASLA, http://www.asla.org/uploadedFiles/CMS/Advocacy/Federal_Government_Affairs/Stormwater_Case_Studies/Stormwater%20Case%20159%20The%20Dell%20at%20the%20University%20of%20Virginia,%20Charlottesville,%20VA.pdf (accessed October 2012).
[146] J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 54.

basin, the design also showcases the native plant communities of three ecological regions of Virginia. These include the Upland Blue Ridge on the western-most portion of the site, the Piedmont surrounding the central stream zone, and the Coastal Plain surrounding the storm water basin.[147] Some aesthetic concessions were made, however, such as the inclusion of a non-native weeping willow "honoring the cultural association between weeping willows and ponds."[148]

Figure 4.3. Stone channel during spring after rainfall.
Source: http://www.nbwla.com/featured/images/3_The%20Dell/6.jpg

[147] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).
[148] Linda McIntyre, "Making Hydrology Visible: The Dell, on the University of Virginia Campus, Proves That Restoration and Sustainable Stormwater Management Can Be Beautiful as Well as Smart," *Landscape Architecture* 98 (2008): 97.

Figure 4.4. Stone channel during winter after snowmelt.
Source: J. Michael Welton, 'A Dialog at the Dell', *Virginia Sportsman*, (2009-2010), 54.

The design philosophy at NBWLA advocates for "design that honors and reveals the local history and natural context of a site and strives to ensure that the "local ethos is never lost or homogenized."[149] This sense of place is amply evident in the Dell landscape. The design capitalizes on the history of the site not only by resurrecting naturally existing Meadow Creek, but also through materials, use and form.

The materials used to construct the hardscape on the site "were selected for their vernacular character."[150] The walls and spillway feature Shenandoah fieldstone as well as Pennsylvania Bluestone caps, reflective of materials used in a nearby Civil War era

[149] Nelson, Byrd, Woltz, Landscape Architects, "Firm Philosophy," NBWLA, http://www.nbwla.com/info/info.htm (accessed October 2012).
[150] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).

cemetery.[151] The brick and stone archway erected by William Lambeth was retained for its historic character and iconic value.[152] The basketball and tennis courts, popular and successful recreational facilities were also retained in the new design and the chain-link fence surrounding them is echoed in the railing detail of the bridge.[153]

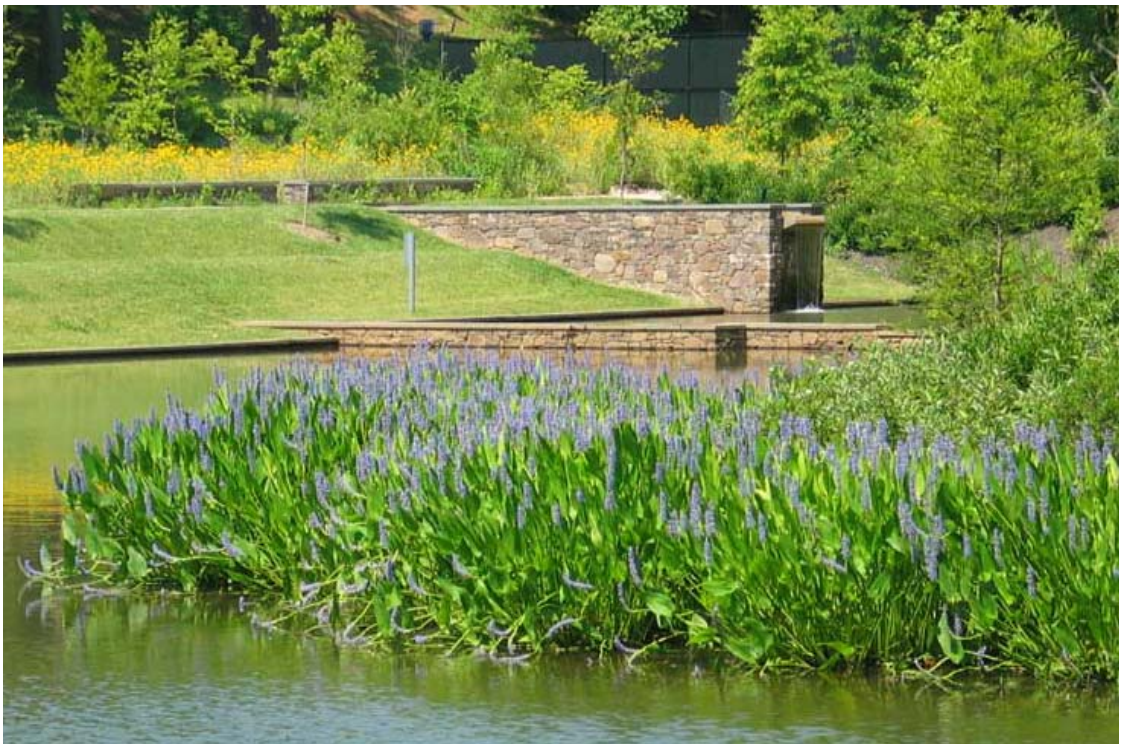

Figure 4.5. View of stone channel and weir.
Source: http://www.nbwla.com/featured/images/3_The%20Dell/5.jpg

[151] Ibid.
[152] Ibid.
[153] Ibid.

Figure 4.6. View of Lambeth's Arch.
Source: J. Michael Welton, 'A Dialog at the Dell', *Virginia Sportsman*, (2009-2010), 52.

The reintroduction of native plant species coupled with the exposed hydrological process has been beneficial in providing educational opportunities as a demonstration landscape. It has been described as "a living system that changes with the rainfall and the seasons."[154] Among others, students from the School of Architecture, Department of Environmental Sciences, and the School of Engineering and Applied Sciences have gained insight from class time spent at the Dell studying the natural processes on display there.[155] The site has been "the subject of thesis work, individual and group grant-funded research, academic design work, and is used as an outdoor classroom year-round."[156]

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[154] J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 55.
[155] American Society of Landscape Architects, "Green Infrastructure and Stormwater Management Case Study: The Dell at the University of Virginia," ASLA, http://www.asla.org/uploadedFiles/CMS/Advocacy/Federal_Government_Affairs/Stormwater_Case_Studies/Stormwater%20Case%20159%20The%20Dell%20at%20the%20University%20of%20Virginia,%20Charlottesville,%20VA.pdf (accessed October 2012).
[156] Ibid.

Figure 4.7. Winter at The Dell.
Source: http://www.nbwla.com/featured/images/3_The%20Dell/3.jpg

The design has also proven successful in attracting a variety of wildlife including but not limited to blue heron, red fox, turtles and geese.[157] While such diversity is often a sign of an ecologically healthy landscape, it can also be a resource for generating memorable experiences that are inimitable, temporal, and inspirational. These types of experiences can be invaluable in fostering a sense of stewardship among visitors that can lead to culturally sustainable landscapes that are maintained over time. This sentiment is iterated in an interview with an environmental science student and visitor to the site. "I feel a greater sense of ownership… the pond and the ducks are a community resource."[158]

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[157] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).
[158] As quoted in Matt Kelly, "Water Quality Improves in Meadow Creek, Dell Pond," *UVA Today*, December 17, 2009.

Perhaps it is in the form of the design that the history of the site is most evident. Linear angularity is juxtaposed with curvilinear sensuality throughout the site. The southern and western sides of the pond come together to form a right angle that is emulative of the campus' grid pattern established by Thomas Jefferson.[159] The northwestern and southeastern corners are connected by a sinuous walk, echoing the Piedmont stream hydrology.[160] "It's a dialog between cultural and natural forms, a place where nature and society meet."[161]

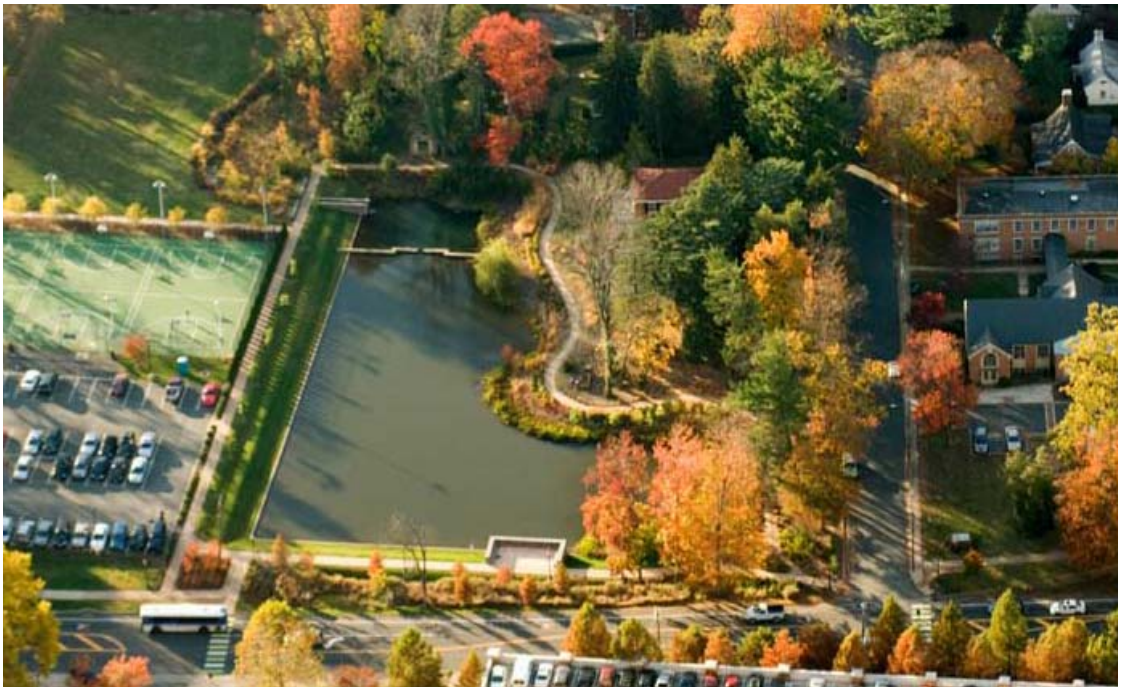

Figure 4.8. Aerial view of the Dell pond and surroundings, Charlottesville, VA.
Source: http://www.nbwla.com/featured/images/3_The%20Dell/1.jpg

[159] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/567.html, (accessed October 2012).
[160] Ibid.
[161] As quoted in J. Michael Welton, "A Dialog at the Dell," *Virginia Sportsman*, (2009-2010), 55.

Analysis

There is certainly no shortage of ecological performance at the Dell but so too does this landscape exhibit an abundance of aesthetic, experiential, and cultural qualities; a "melding of beauty and function."[162] The open lawn, quiet pond, and meandering stream against a bounty of lush native flora result in quite the picturesque landscape, much preferred by western culture in Nassauer's estimation. Her "cues to care" are evident in the park's overall manicured appearance, mown lawn and architectural details such as Lambeth's arch. Though mostly native, the vegetation also indicates human agency as it has been grouped in large bold swathes and paralleled with linear plantings across the pond.

The juxtaposition of clean, straight lines against verdant curves is perhaps the boldest of elements in the design and when analyzed in terms of the three theories presented, warrants the most attention. Corner might agree that this reconciles the history of the site with its contemporary use and context. It considers the classic campus grid established by Thomas Jefferson as well as the sinuosity of Meadow Creek as it once naturally existed, and creates an effective transition between the campus aesthetic and that of the adjacent neighborhood. Meyer would likely agree that the contrast in geometry surrounding the pond is a form-full, deliberate expression of the site's cultural history and context as well as its ecological processes. "While the waterway does not look natural, the hydrological processes of this disturbed urban stream are regenerated

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[162] Linda McIntyre, "Making Hydrology Visible: The Dell, on the University of Virginia Campus, Proves That Restoration and Sustainable Stormwater Management Can Be Beautiful as Well as Smart," *Landscape Architecture* 98 (2008): 96.

through human agency – the design and construction of natural processes over natural forms."[163]

The planting design also considers the local natural history. The display of three regional plant communities functions as a botanic garden, reestablishing native species and attracting new wildlife to the site. This offers opportunities to witness wildlife behavior and migratory ritual, as well as seasonal change and plant succession over time. These opportunities become unique modes of learning as the site is often used as an outdoor classroom for the study of flora, fauna, and hydrology. This illustrates two of Meyer's eleven tenets, Constructing Experiences and Landscape Agency.

Finally, while the park is designed to mimic ecological function by retaining storm water and cleansing pollutants, it is also designed to provide active and passive recreation to visitors. Meyer might conclude that the purposeful and palpable form geometry and careful attention to architectural detail present these ecological processes in a beautiful and arresting way, perhaps forcing one to take note of these occurrences in the midst of common "social routines and spatial practices,"[164] such as studying or eating lunch. Much of her theory rests on these types of experiences to strengthen emotional ties to the environment resulting in ecologically as well as culturally sustainable landscapes.

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[163] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 9.
[164] Ibid., 15.

Teardrop Park, Battery Park City, NY

Teardrop Park is a 1.8-acre public park located in Battery Park City (BPC), New York.[165] Developed within the environmental guidelines set forth by the Battery Park City Authority (BPCA),[166] the park was constructed with concern for its environmental impact and resource use, but also provides visitors with a unique, enhanced experience of nature in the city through "site topography, water features, natural stone, and lush plantings [that] contribute to an exciting world of natural textures, dramatic changes in scale, and intricately choreographed views."[167] The design for this Hudson River Valley inspired landscape was developed by Michael Van Valkenburgh Associates (MVVA) in collaboration with environmental artist, Ann Hamilton, and is the recipient of a 2010 National Park Service Landscape Architect's Site Design Award[168] as well as a 2009 ASLA Design Honor Award.[169] Open to the public in 2004, the site now welcomes an estimated 398,000 visitors per year.[170]

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[165]Landscape Architecture Foundation, "Landscape Performance Briefs: Teardrop Park," LAF, http://lafoundation.org/research/landscape-performance-series/case-studies/case-study/391/ (accessed October 2012).

[166] Susan Kaplan and T Fleisher, "Sustainable Open Space: Design, Construction and Maintenance of Teardrop Park, New York City," USGBC, http://www.usgbc.org/docs/archive/mediaarchive/403_fleisher_pa527.pdf (accessed October 2012).

[167] Michael Van Valkenburgh Associates, Inc., "Projects: Teardrop Park," MVVA, http://www.mvvainc.com/project.php?id=2&c=parks (accessed October 2012).

[168] American Society of Landscape Architects, "National Park Service Picks Best Designed Parks," ASLA -The Dirt, July 21, 2010, http://dirt.asla.org/2010/07/21/national-park-service-picks-best-designed-parks/ (accessed October 2012).

[169] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/001.html, (accessed October 2012).

[170] Landscape Architecture Foundation, "Landscape Performance Series: Teardrop Park," LAF, http://lafoundation.org/myos/my-uploads/2011/09/13/mvvateardropparkmethodology.pdf (accessed October 2012).

Figure 4.9. Aerial view of Teardrop Park and surroundings, Battery Park City, NY. *Source*: http://lafoundation.org/myos/my-uploads/2011/08/30/mvva-teardroppark-after.jpg

Background

BPC is a mixed-use community built on abandoned piers backfilled with excavation materials and debris amassed during the construction of the World Trade Center, as well as sand from the Hudson River.[171] In the 1960s, the client, BPCA, which

[171] Susan Kaplan and T Fleisher, "Sustainable Open Space: Design, Construction and Maintenance of Teardrop Park, New York City," USGBC, http://www.usgbc.org/docs/archive/mediaarchive/403_fleisher_pa527.pdf (accessed October 2012).

oversees the development of BPC, began working toward a plan to implement a 92-acre network of parks throughout the city.[172] This created the opportunity to replace the original construction concept, which called for a road that would bisect a courtyard adjoining four residential buildings, with the experientially rich Teardrop Park.[173] The former president and CEO of the BPCA, Tim Carey, was raised in the Hudson River Valley and, inspired by fond memories of childhood, wanted to construct a park that would bring the experience of the Catskill Mountains to the highly urban environment that is New York City.[174] Requests for the design program included, "[a park that would meet] sustainability guidelines… appeal to multiple age groups… [and] provide alternative and more passive forms of play in response to the huge traditional play equipment at nearby Rockefeller Park."[175] A number of designers were asked to submit concepts for the future park but ultimately MVVA was chosen.[176]

Context

Before construction, the parcel of land on which Teardrop Park is located was flat, sandy, and nearly square.[177] It is bordered on all sides by busy New York streets and is

[172] Ibid.
[173] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture,* 97 (2007): 97.
[174] Ibid., 96-97.
[175] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/001.html, (accessed October 2012).
[176] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture,* 97 (2007): 97.
[177] Ibid., 99.

now framed by four residential high-rise buildings, one on each corner, erected simultaneously with the park's construction.[178]

Figure 4.10. Teardrop Park illustrative master plan.
Source: http://lafoundation.org/myos/my-uploads/2011/07/20/case-study-teardrop-park-additional-1.jpg

Design

MVVA prides itself on the ability to create "environmentally sustainable and experientially rich places across a wide range of scales."[179] Teardrop Park is certainly

[178] Ibid., 96.
[179] Michael Van Valkenburgh Associates, Inc., "Profile," MVVA, http://www.mvvainc.com/profile.php (accessed October 2012).

both of these. The design effectively divides the site into active and passive recreation zones through the placement of the Ice-Water Wall,[180] what is perhaps the centerpiece of the site both literally and figuratively. Located along the east-west axis, the wall reinforces the central corridor connecting North End Avenue and River Terrace and also serves as the central focal point of the park.[181] It is a concrete structure enveloped in a dark, natural-cleft, bluestone veneer that stands roughly 25 feet high and runs 135 feet in length.[182] The bluestone was chosen to represent the geologic history of the region as it is found in abundance throughout New York State.[183] Six tubes installed at various locations along the length of the facade supply a slow drip of water that freezes and thaws as the seasons change.[184] The glistening moisture in warmer months and sculptural icicles in cold showcase a natural process in a beautiful and artistic way. The wall, "stands as a monument to the intersection between art and craft, nature and engineering that is the design theme here."[185] A tunnel carved out of the wall near the west end exposes rough-sawn boards and the raw concrete structure within.[186] It was "inspired by infrastructure tunnels found in Upstate New York which, in concert with reservoir dams, played an important role in the development of the New York City

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[180] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture,* 97 (2007): 96.
[181] Peter Stegner, "Teardrop Park [Battery Park City, New York]," *Topos: The International Review of Landscape Architecture & Urban Design* (2009): 33.
[182] Ibid.
[183] Ibid.
[184] Ibid.
[185] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture,* 97 (2007): 96.
[186] Peter Stegner, "Teardrop Park [Battery Park City, New York]," *Topos: The International Review of Landscape Architecture & Urban Design* (2009): 33-34.

Water System," and also pays tribute to the tunnels of Central Park, designed by Frederick Law Olmsted.[187]

Figure 4.11. Ice-Water Wall rendering.
Source: http://lafoundation.org/myos/my-uploads/2011/07/17/case-study-teardrop-park-additional-3.jpg

Figure 4.12. Ice-Water Wall, Teardrop Park.
Source: http://www.mvvainc.com/media/files/d2c7604eb7b97f501adedd61952f697a.jpg

[187] Ibid.

Figure 4.13. Ice-Water Wall moisture drip.
Source: http://lafoundation.org/myos/my-uploads/2011/07/17/case-study-teardrop-park-additional-6.jpg

Figure 4.14. Ice-Water Wall during winter.
Source: http://www.mvvainc.com/media/files/95545e277bd3f283681f2a5ddd04f738.jpg

To the south of the Ice-Water Wall is the active recreation zone.[188] Designed as a playground for urban children, this side of the park includes a Toddler Play area, Slide Hill, Sand Cove, and Water Play area where children can control the water flow themselves.[189] The play environments were designed in conjunction with the Natural Learning Initiative (NLI) whose mission is "to help communities create stimulating

[188] Ibid., 30.
[189] Ibid., 30, 34.

places for play, learning and environmental education – environments that recognize human dependence on the natural world."[190] In contrast to many other parks that offer traditional play equipment, the prescribed play elements at Teardrop Park are constructed mainly of natural materials.[191] The park's design, "…celebrate[s] the expressive potential of the natural materials of landscape construction while reinventing the idea of nature play in the city."[192] It provides children with the opportunity to develop relationships with nature through play that traditional equipment does not provide by creating, "…an intimate landscape of textures, surfaces (stone, timber, metal), plants, colors, smells, sand, and water."[193]

Figure 4.15. Slide Hill, Teardrop Park.
Source: http://www.mvvainc.com/media/files/0a03bcf07bfc72aa6b9f38838347b5c4.jpg

[190] As quoted in Ibid., 34.
[191] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/001.html, (accessed October 2012).
[192] Ibid.
[193] Robin C. Moore, "Reasons to Smile at Teardrop," *Landscape Architecture*, 97 (2007): 134.

Figure 4.16. Water Play area, Teardrop Park.
Source: http://www.mvvainc.com/media/files/58d785dd26ae7675e94499aa42f3a7bb.jpg

The northern half of the design is less programmatic and features more passive recreational site elements, including The Marsh, a small, constructed wetland, the Reading Circle, a cluster of large, sittable stones that provide views to the Hudson River, and the Lawn Bowl, a traditional lawn area that invites leisure, recreation, and event gathering.[194] This side of the site "offers a pastoral quality,"[195] but the surrounding context offers a sharp contrast. The curvilinear walkways surrounding the gently sloping topography of the Lawn Bowl set against the angular high-rise architecture and sublime Ice-Water Wall is a constant reminder of the designer's hand, of human intervention in the landscape.

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[194] Peter Stegner, "Teardrop Park [Battery Park City, New York]," *Topos: The International Review of Landscape Architecture & Urban Design* (2009): 30.
[195] Robin C. Moore, "Reasons to Smile at Teardrop," *Landscape Architecture*, 97 (2007): 135.

Figure 4.17. Fall at Teardrop Park.
Source: http://www.mvvainc.com/media/files/5da6811aef277de0dc3a6e2cd5399e78.jpg

Throughout the park are the geological sculptures of Ann Hamilton that tie the northern and southern sides of the site together and bring to life the client's vision of a "…reinterpretation of the natural history of New York State."[196] These large, jagged, stacked bluestone sculptures provide an element of repetition that creates visual unity and compliments the overall concept by "extending the look and feel of the Hudson River Valley without mimicking it."[197] The sculptures are evocative of nature but amplify it in this context. "At the juncture between materiality and image, the artwork

[196] Ibid., 30.
[197] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture*, 97 (2007): 102.

animates the surface membrane of the landscape to reveal rhythmic forces, processes, and events."[198]

Figure 4.18. Geologic Sculptures by Ann Hamilton.
Source: http://www.mvvainc.com/media/files/ba6c2dbd3743426ab5ad498481d7971e.jpg

A number of measures were taken to minimize environmental impacts throughout the design and construction processes as well. The shady environment generated by the buildings, prompted a solar analysis to determine the placement of plant varieties and certain site elements, such as the Lawn Bowl, located on the northern portion of the site, which receives the most sun exposure.[199] Because the park and buildings were constructed together, park developers were able to persuade the owners and architects of the LEED Gold certified Solaire condominium, adjacent to the park, to reduce the

[198] Susan Kaplan and T Fleisher, "Sustainable Open Space: Design, Construction and Maintenance of Teardrop Park, New York City," USGBC, http://www.usgbc.org/docs/archive/mediaarchive/403_fleisher_pa527.pdf (accessed October 2012).
[199] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture,* 97 (2007): 99.

height of the building by six inches to allow more sunlight to penetrate the area.[200] In addition, the grade of the Lawn Bowl is angled slightly up to the south.[201]

Figure 4.19. Lawn Bowl, Teardrop Park.
Source: http://www.mvvainc.com/media/files/1a679cd389ce136f1933617f30a0247d.jpg

The more active play area of the park is located on the shadier, but more wind-sheltered side.[202] This is helpful for protection against erosion as much of the dramatic elevation change is found in this portion of the park.[203] Geofibers, woven polypropylene fibers mixed in with the topsoil layers, are also used to keep soil in place on the hilly site.[204] Erosion prevention is especially important in Teardrop Park because much of the

[200] Ibid.
[201] Ibid.
[202] Peter Stegner, "Teardrop Park [Battery Park City, New York]," *Topos: The International Review of Landscape Architecture & Urban Design* (2009): 30.
[203] Susan Hines, "Abstract Realism: At Teardrop Park in Battery Park City, All the Park's a Playground," *Landscape Architecture*, 97 (2007): 101.
[204] Ibid.

soil has been "meticulously calibrated to create optimum growing conditions" and functions to sustain the predominantly native plant palette in challengingly shady conditions.[205] The lush foliage is irrigated using treated grey water from the Solaire Building,[206] as well as runoff that is collected and treated in The Marsh, which is fully accessible to visitors, showcasing a natural process as a site feature.[207]

All of the stone used on site was acquired within 160 miles of the park and many of the non-natural site elements, such as the rubberized play surface, were constructed from recycled materials.[208]

Analysis

Teardrop Park may bring a little piece of the Hudson River Valley to New York City, but there is no mistaking its appearance for natural, especially within its urban context. Nassauer and Meyer would likely agree that its bold plantings, striking stone sculptures, and highly metropolitan surroundings can hardly be mistaken for an incidence of "wild" nature. This park exhibits perhaps the clearest example of what Meyer might refer to as "hypernature,"[209] exaggerated and amplified.

The site's focal point, the Ice-Water Wall, single-handedly employs a number of Meyer's principles. A distilled version of a Catskills cliff face, the form of the wall is

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[205] American Society of Landscape Architects, "ASLA 2009 Professional Awards," ASLA, http://www.asla.org/2009awards/001.html, (accessed October 2012).
[206] Ibid.
[207] Peter Stegner, "Teardrop Park [Battery Park City, New York]," *Topos: The International Review of Landscape Architecture & Urban Design* (2009): 34.
[208] Landscape Architecture Foundation, "Landscape Performance Briefs: Teardrop Park," LAF, http://lafoundation.org/research/landscape-performance-series/case-studies/case-study/391/ (accessed October 2012).
[209] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 17.

certainly dramatic and stunning, bringing the sublimity of the upstate region to southern Manhattan Island. The freeze and thaw of the moisture that seeps through the wall's façade is an artistic display of seasonal change, offering new and different experiences throughout the year. This simple yet arresting reveal of natural processes has the potential to capture the attention of visitors about their daily activities, attuning them to environmental rhythms and cycles. Furthermore, consideration of both the natural and cultural histories of the site is evident in the use of the regionally native bluestone, as well as in the materials used to construct the corridor that pays homage to the tunnels of Central Park.

The passive recreation zone to the north offers picturesque views of the traditional lawn space set against lush vegetation and jagged rock formations, as well as the Hudson River in the distance. The overall appearance easily satisfies Nassauer's call for legibility of the designer's hand. Benches as well as large boulders provide seating here, and the view of the Ice-Water Wall marks the gateway to the active recreation zone. Moreover, the large open lawn and private recesses offer places of prospect and refuge. Perhaps these elements might be interpreted as some of the universal archetypes referred to by Corner, reinvented to fit both the context and overall aesthetic.

The active recreation zone to the south, which features the playground developed in cooperation with NLI, offers, as Meyer might suggest, a unique mode of learning that helps foster environmental education and supports the development of enviro-cultural relationships. The interactive water features and living plant material present new and changing experiences over time and engage interaction with natural materials in a way

that is inhibited by traditional playground equipment. Corner might concur that this type of play environment could be interpreted as a "conceptual filter to which our relationship to nature can be understood,"[210] and perhaps even defined in these formative years.

Finally, tying the site together are the geologic, bluestone sculptures of Ann Hamilton. In keeping with Meyer's notion of hypernature, natural history and context are once again expressed in these sculptures that dot the landscape, presenting an artistic representation of regional geologic history.

Crissy Field, San Francisco, CA

Crissy Field is a 100-acre public park located on the coast of the San Francisco Bay in California.[211] Completed in 2001, the park gives new purpose to the site of a former US military airfield, and now features an amphitheater, coastal promenade, recreational fields, historic structures, restored tidal marsh and dune habitat, as well as spectacular views of the Golden Gate Bridge and Alcatraz Island.[212] This prime example of a hybrid landscape, "integrates a diversity of recreational uses, festival areas, and green spaces into a dynamic ecological environment within the context of an enduring historical landmark and vibrant urban surroundings."[213] Designed by Hargreaves Associates, the park has won several awards, including a 2003 Honorable Mention Rudy Brunner Award for Urban Excellence, a 2002 ASLA Merit Award, a 2001 Waterfront Center

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[210] James Corner, "A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics," *Landscape Journal,* 10 (1991): 129.
[211] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 71.
[212] Ibid., 69-75.
[213] Hargreaves Associates, "Crissy Field: Celebrating 10 Years of Excellence," Hargreaves Associates, http://www.hargreaves.com/firm/index.php (accessed May 2012).

Honor Award, and a 1998 ASLA Honor award, and welcomes over 1 million visitors annually.[214]

Figure 4.20. Golden Gate Promenade, Crissy Field.
Source: http://www.hargreaves.com/projects/Waterfronts/CrissyField/GGN_7.jpg

Background

A "multilayered natural and cultural history,"[215] best describes the story of Crissy Field. Until the late 1700's, the area was comprised of mainly sand dunes and tidal marshes.[216] Evidenced by an uncovered midden of bones and shells, the Native American Ohlone people camped along the shore and fished the salty waters.[217] In 1776, the site was claimed by the Spanish who built the Presidio army post and maintained occupation until 1821.[218] Mexico then took possession until 1846 when the U.S. army

[214] Hargreaves Associates, "Hargreaves Associates-News-Awards," Hargreaves Associates, http://www.hargreaves.com/news/AwardsSecondary (accessed May 2012).
[215] National Parks Service, "Crissy Field," NPS, http://www.nps.gov/goga/naturescience/crissy-field.htm (accessed May 2012).
[216] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 70-71.
[217] Ibid., 100.
[218] Ibid., 71.

gained control.[219] For more than 60 years, the marshland was used as a waste dump and drainage site until it was ultimately filled in completely for use as a racetrack at the Panama-Pacific International Exposition in 1915.[220] Four years later, the track was converted into the first military airfield on the west coast and became known for a number of historic achievements in aviation, including the first transcontinental flight and the first nonstop flight to Hawaii.[221] Eventually, the construction of the Golden Gate Bridge inhibited the use of Crissy Field as an airfield[222] and, in 1936, it was closed.[223] For many years thereafter, the site was used for dumping and industrial storage.[224]

Figure 4.21. Crissy Field as it appeared during its use as an airfield (1921).
Source: http://www.nps.gov/prsf/history/crissy/cfaerial.htm

[219] Ibid.
[220] Ibid.
[221] Ibid.
[222] Presidio of San Francisco, "First in Flight: Crissy Airfield," Presidio of San Francisco, http://www.presidio.gov/explore/Pages/crissy-field-history-aviation.aspx (accessed May 2012).
[223] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 71-72.
[224] Ibid.

The National Park Service assumed control over the site when the Presidio was finally decommissioned and set in motion its transformation to a waterfront park.[225] Before any plans could be implemented, however, the site had to undergo a large-scale remediation process in an attempt to reverse the previous 200 years of environmental degradation and abuse.[226] Steps taken in the cleanup included the detonation of unexploded munitions, the excavation of 87,000 tons of contaminated soil, and the removal of 70 acres of asphalt and concrete.[227]

Context

The site encompasses a long, narrow, 100-acre tract of land, nestled between the San Francisco Bay to the north and the former Presidio army base to the south. To the west is Fort Point, also a former military base-turned-public park, and the San Francisco Marina to the east.[228] Before the park's construction, the site was exceedingly flat, consisting mostly of asphalt, compacted dirt, and debris.[229]

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[225] Ibid., 72.
[226] B. Porter, 'Transforming Crissy Field', *Civil Engineering*, 73 (2003): 42.
[227] Ibid., 42.
[228] Ibid., 40.
[229] Michael Boland, "Crissy Field: A New Model for Managing Urban Parklands," *Places,* 15 (2003): 40.

Figure 4.22. Crissy Field illustrative master plan.
Source: B. Porter, 'Transforming Crissy Field', *Civil Engineering*, 73 (2003), 42.

Design

In 1994, Hargreaves Associates (HA) was chosen to generate a master plan for the future park based on their view of nature as a "source of artistic expression."[230] The HA philosophy maintains that designed landscapes are cultural constructs that cannot be natural and the firm strives to express this enviro-cultural relationship on the ground.[231] "Through manipulation and amplification of environmental phenomena… we strive to foster an awareness of the structural components of natural systems by direct interaction… in contrast to the insular experience of a replication or restoration of 'nature.'"[232] Direct interaction was also achieved through community input and engagement. Public meetings were held to determine the desired park usage of nearby residents and potential visitors and suggestions were weighed carefully in the creation

[230] J. William Thompson, "Field of Vision," *Landscape Architecture,* 87 (1997): 40.
[231] Hargreaves Associates, "Hargreaves Associates-Firm-Philosophy," Hargreaves Associates, http://www.hargreaves.com/firm/Philosophy/ (accessed May 2012).
[232] Ibid.

of the final design.[233] Support for the project also came in the form of both monetary donations and more than 30,000 volunteer hours dedicated to the restoration of the marshland and dunes.[234]

Crissy Field is described as "a site that focuses on the juxtaposition of natural and cultural systems, [and] highlights all the contradictions and challenges of the nature-culture interface."[235] Perhaps, the most fitting example of this idea is the tidal marsh and dune restoration. Central to the site and central to this theme, its existence was made possible by the joining of natural and human forces; a "deliberately open and evolutionary" design.[236] After an initial dredging, sand was allowed to backfill into grooves and channels created naturally by the currents of the San Francisco Bay.[237] The dunes also take their shape at the whim of frequently shifting winds.[238] While these fragile areas are protected by posts and fencing, plants and sand are allowed to spill over into pathways to provide a seamless integration of natural and cultural elements.[239] On any day, one can spot some of the 120 species of birds, hosted by the marsh, hunting for bay shrimp or Dungeness crab.[240] This abundance of wildlife offers educational

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[233] Michael Boland, "Crissy Field: A New Model for Managing Urban Parklands," *Places,* 15 (2003): 42-43.
[234] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 75-76.
[235] David Mandel in Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 74.
[236] Michael Boland, "Crissy Field: A New Model for Managing Urban Parklands," *Places,* 15 (2003): 42.
[237] Michael Boland, "Crissy Field: A New Model for Managing Urban Parklands," *Places,* 15 (2003): 42.
[238] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 100.
[239] Ibid., 74.
[240] National Park Conservation Association, "Revitalized Crissy Field Draws People, Wildlife," *National Parks* (November-December 2000): 21.

opportunities and nature walks around the area are available to visitors.[241] Furthermore, the marsh speaks to the ecological history of the site and harkens back, perhaps, to the Ohlone people hunting and camping amid the dunes. This restoration, "serves all at once as a wildlife habitat, an educational facility, a scenic attraction, a recreational resource, a 'sacred place,' and an ongoing scientific experiment."[242]

Figure 4.23. Marsh restoration, Crissy Field.
Source: http://www.hargreaves.com/projects/Waterfronts/CrissyField/GGN_11.jpg

To the west of the tidal marsh is the 28-acre historic airfield restored to the form it took during its prime in the 1920s.[243] Its position next to the marsh, "…contrast[s] the intentionally smooth, consistent curve of the airfield with the irregular, naturally

[241] Katherine Melcher, "Field of Vision," *Landscape Architecture*, 93 (2003): 75.
[242] Michael Boland, "Crissy Field: A New Model for Managing Urban Parklands," *Places*, 15 (2003): 41.
[243] B. Porter, 'Transforming Crissy Field', *Civil Engineering*, 73 (2003): 44.

evolving patterns of marsh vegetation."[244] Elevated to provide views over the dunes and planted with a lush, durable carpet of native grasses, it is both a nod to a celebrated past and an enticing location for games of tag, company picnics, or concerts.[245]

Figure 4.24. Airfield restoration, Crissy Field.
Source: http://ww1.hdnux.com/photos/07/16/75/1896300/12/628x471.jpg

Further still are the West Bluffs. On this western most portion of the site is the Warming Hut which offers food, shopping, and visitor information.[246] Large, boxy earth forms create an amphitheater, protect picnic areas from coastal winds and obscure a

[244] J. William Thompson, "Field of Vision," *Landscape Architecture,* 87 (1997): 39.
[245] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 74.
[246]Ibid., 74-75.

parking lot from view.[247] On the opposite end of the site is East Beach, a legendary destination for windsurfing.[248] A row of parking spaces caters to the typical stream of boardsailors, while a grid of reinforced grass doubles as additional parking during large events and competitions.[249] The linearity of the grid contrasted with the softness of the billowing sea grass allows this dual use space to blend in seamlessly with the surrounding aesthetic.

Figure 4.25. Juxtaposition of form geometry.
Source: http://www.hargreaves.com/projects/Waterfronts/CrissyField/GGN_8.jpg

Linking all of these elements together are, "changes in elevation, the framing of views and the interaction of planes and surfaces."[250] From the West Bluffs to East

[247] Ibid., 75.
[248] J. William Thompson, "Field of Vision," *Landscape Architecture,* 87 (1997): 38.
[249] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 73.
[250] As quoted in, Ibid., 101.

Beach, constructed landforms obscure and reveal views, provide wind protection and places of prospect, and serve as an artistic expression of natural processes.[251] Hargreaves Associates has "reintroduced and amplified the convoluted landforms generated by bracing wind and wave attacks on an otherwise relentlessly flat site."[252] In addition, the park's hardscape features, like the Golden Gate Promenade stretching the length of the site, exhibit a somewhat crude construction.[253] Linear pathways, seatwalls and fences are built of basic wood, gravel, concrete and metal.[254] The linearity of form and unrefined look of the materials harkens back, "to the former rawness of the site," and "make[s] it obvious the site is a cultural construct."[255]

Figure 4.26. Sculptural land art.
Source: http://www.hargreaves.com/projects/Waterfronts/CrissyField/GGN_9.jpg

[251] Ibid., 75, 101-102.
[252] Hargreaves Associates, "Hargreaves Associates-Projects-Crissy Field," Hargreaves Associates, http://www.hargreaves.com/projects/PublicParks/CrissyField (accessed May 2012).
[253] Katherine Melcher, "Field of Vision," *Landscape Architecture*, 93 (2003): 102.
[254] Ibid.
[255] Ibid.

Throughout the design and construction of Crissy Field, a consistent theme of reuse has prevailed, beginning with the siting of the park itself. Locating it on the former army base rehabilitates an abandoned and neglected site by transforming it into a widely recognized and revered landscape. The asphalt and concrete excavated during the remediation phase was retained and reused in the construction of the dunes, realigned roads, and parking lots.[256] The sand and soil dredged up to create the marsh was used to elevate the historic airfield above the promenade to provide views to the San Francisco Bay.[257] Barracks left standing from World War II were carefully disassembled to preserve the old growth redwood from which they were built.[258] In addition, many of the historic structures retained on site now serve new purposes as recreational and educational facilities such as a swim school, rock climbing gym, University of San Francisco satellite campus, and the Crissy Field Center where informational tours, lectures, and workshops are offered.[259]

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[256] B. Porter, 'Transforming Crissy Field', *Civil Engineering*, 73 (2003): 43.
[257] Katherine Melcher, "Field of Vision," *Landscape Architecture,* 93 (2003): 74.
[258] B. Porter, 'Transforming Crissy Field', *Civil Engineering,* 73 (2003): 42-43.
[259] Presidio of San Francisco, "Making a Great Public Space," The Presidio Trust, http://www.presidio.gov/explore/Pages/crissy-field-restoration-making-a-great-public-space.aspx (accessed October 2012).

Figure 4.27. Restored architecture and view of the Golden Gate Bridge.
Source: Porter, 'Transforming Crissy Field', *Civil Engineering*, 73 (2003), 39.

Of course, the restoration of the tidal marsh and dunes has had tremendous positive environmental implications. Nearly 100 native plant species, including those of the scarce black dune swale community, were used in the restoration which has been effective in attracting animal species that have not been seen in the area for many years.[260] The marsh also serves as a stopping point along the Pacific Flyaway luring birds and birdwatchers from far and wide.[261] The use of native flora has also, "produced a self-

[260] Galen Cranz and Michael Boland, "Defining the Sustainable Park: A Fifth Model for Urban Parks," *Landscape Journal,* 23 (2004): 110, 114.
[261] Ibid., 110.

regenerating landscape," which has sustained itself after only 2 years, requiring no pesticides, fertilizers, or further irrigation.[262]

Analysis

Functioning as a wildlife habitat and featuring an historic airfield restoration, Crissy Field is an exemplar of a hybrid landscape that balances the enviro-cultural scale. The general appearance of the park clearly demonstrates Nassauer's recommendations for framing ecological function with indications of human agency. The juxtaposition of linear walkways and the contrived geometry of sculptural land art to the naturalistic vegetation and shifting sand dunes is a quintessential example of a merging of environmental and cultural factors. The fence surrounding the marsh and adjacent boardwalk indicate the intentionality of its informal appearance as well as its dual purpose as functioning habitat and cultural resource.

The tidal marsh and dune restoration speak to the heart of Meyer's framework for hybrid design. The constant transformative effects of wind and water are evident in the shifting nature of the dunes, putting visitors in tune with these elements. Natural process is further illustrated by the wildlife attracted to the area as the migratory ritual of various bird species stopping along the Pacific Flyaway can be witnessed throughout the seasons, providing unique recreational and educational opportunities. A new experience of this area can be anticipated upon each visit making visitors aware of the constant evolution of ecological

[262] Ibid., 108.

patterns and rhythms. "The seasonal closing of gates to the marsh during mating a breeding periods [shows] that it was designed for all forms of wildlife… These lessons [are] revealed through the experience of moving through the park and through the seasons."[263]

The sculptural land art throughout the site exemplifies elements of both Meyer's Sustaining Beauty as well as Corner's philosophy of Hermeneutics. Inspired by organically created landforms, these amplified versions present artistic representations of the natural evolutionary effects of wind and water on land. These are examples of cultural products that are inspired by and celebrate environmental function. This interpretation of these ecological processes not only reveals natural cycles in an arresting way, but they are also purposeful as they shelter visitors from wind, frame views and provide an amphitheater; a reconciliation of the natural history of the site with present day use.
Further illustrative of Hermeneutics in the landscape is the restored historic airfield. Its reinterpretation not only honors the history of the site, but also merges old forms with new uses, evident in the former barracks that currently house new facilities, the old airstrips that have been translated into pathways and the fields that now host active and passive recreational activities. This is also apparent in the salvaging of old materials that have been reused in new areas of

[263] Elizabeth K. Meyer, "Sustaining Beauty. The Performance of Appearance: A Manifesto in Three Parts," *Journal of Landscape Architecture* (2008): 14.

the site, a design decision that is not only environmentally responsible but also addresses the cultural context of the site.

Conclusion

These three case studies offer practical examples of just some of the elements discussed in the theories set forth by the three authors presented. Together, they represent a range of possible outcomes for a balanced approach to design that includes considerations for environmental impact mitigation, but intends to generate a cultural product for cultural use. None of these parks are SITES certified, nor did their creators adhere to any performance-based metric systems, yet they still address many of the concerns these systems target. Perhaps more importantly, they are also artistic and inspiring. Recognized for their exceptional designs and revered for the experiences they afford their visitors, these parks have been successful in strengthening enviro-cultural relationships through visceral connections. They have been created with the human experience in mind, in some cases even making concessions for cultural or iconic value as with the weeping willow at the Dell pond. It is this responsiveness to site and situation that creates the authentic sense of place so essential for great design. The following chart presents a visual analysis of both the environmental concerns as well as the *human elements* that each park overtly addresses.

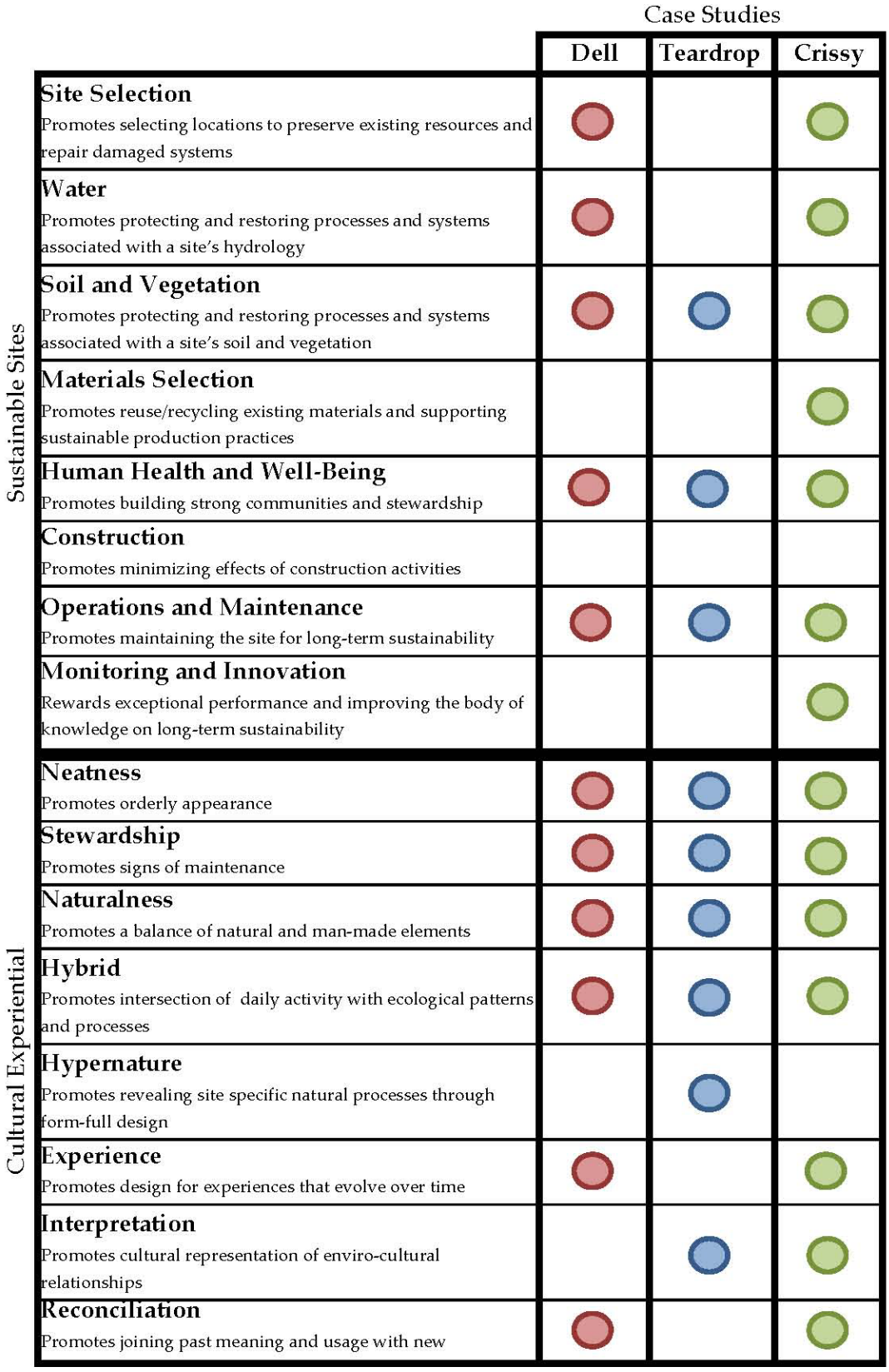

Figure 4.28. Chart summarizing enviro-cultural balance of each case study.

CHAPTER 5

CONCLUSION

As society becomes more informed about human impacts on the environment the urgency to affect change understandably becomes ever greater. This awareness has come in the midst of an exceedingly rational and technical age where efficiency and immediacy are expected and revered. Of course, this awareness is partly born of this age and certainly fueled by it. It has become clear that a change in the enviro-cultural relationship must take place and years of scientific analysis, research and technology has been dedicated to pinpointing exactly how to go about it. Achievements have been more than admirable. An increased knowledge base and best management practices have certainly led to improved resource management. However, a byproduct of this time and circumstance has been a restricted focus on systematic approaches to problem solving and sanction that may be limiting of the pursuit of more appropriate means.

For landscape architecture, environmental stewardship is nothing new, but rather it is the methods of measuring a job well done that present a novel approach to process and practice. Rating systems indeed present a number of benefits. They have proven remarkably successful in promoting the environmental sustainability agenda, increasing public awareness and concern, as well as encouraging action. These are significant and commendable accomplishments, but they can also produce unintended consequences.

There is nothing in these systems that necessarily prevents good design so long as that remains the goal. However, they are costly and rigorous, and fulfilling their strict requirements can be time-consuming, compromising creativity and originality. Promoting the use of recommended strategies compounds the issue as responsiveness to place and sensitivity to users are often not considered. Moreover, categorical ratings present an over simplification of good-better-best solutions which may not always accurately reflect the complexity of input or the value of great design. To what degree any of these consequences may be the case present topics for further investigation. What is paramount here is that, partly through these mechanisms, popular notions of sustainable development and the ways to achieve it have been narrowed. Though based on the triple bottom line approach, these systems enforce a strong association between sustainability and ecology, which impedes the broader concept of a restored balance between humanity and environment.

As a profession, landscape architecture should hold itself to the highest standards to reinforce, perhaps even reinstate, a leadership role, especially in the face of criticism. An emphasis on the technical threatens the essence of the profession – the complimentary blend of art and science, culture and ecology. It causes an estrangement between humanity and the environment, treating each individually and disregarding the delicate symbiotic relationship. These systematic approaches seem almost counterintuitive to the spirit of design and yet they seem to be driving contemporary process and practice, redefining notions of "good." Designers must stand strong in their identity as enviro-cultural mediator, recalling their responsibility to think outside of the

box, in an effort to create more responsive and robust spaces. There is no system to incentivize the quality of experience, but while it may not garner points, platinum seals or gold stars, it is equally as important. For the designer, the strength of linearity and the sensuality of the curve need no measure of proof. As complex as these systems are, great design is more so as it is infinite and always evolving. It is the designer's role to expand narrow methods in the quest to achieve it.

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