

# Design/Build Studio Newark

## *Regenerating Value:* **Vacancy, Reuse and Green Infrastructure**

Rutgers Department of Landscape Architecture  
Praxis Studio: Spring 2015

Tobiah Horton, Assistant Professor and RCE Specialist  
Department of Landscape Architecture  
Rutgers Cooperative Extension

The studio is currently seeking potential sites and collaborators for consideration for a design and build project in the Spring of 2015. The project will focus on designing and building green infrastructure with reused materials that will be salvaged locally. Examples of green infrastructure elements include: rain gardens, water harvest systems, passive irrigation systems, and porous paving. Design and/or improvement of other physical elements of the sites will also be part of the project, such as: seating, paths, planting bed structures, walls, garden art, etc.

\*Community garden sites will be given first priority,  
though sites with other uses may be considered.\*

### Site/Project Criteria:

- An established and active group of community volunteers.
- Willingness to incorporate green infrastructure and salvaged materials on your site.
- Access and permission to build on the site.
- Physical access to sources of stormwater runoff (impervious areas) such as: rooftop downspouts or adjacency to paved areas.
- Willingness to collaborate with student design/builders.
- Acceptance of construction activities on the site that may impact use and planting during March, April and/or May of 2015.

Please send an expression of your interest describing how the site and potential project group address the above criteria. Potential projects will be considered based on these criteria and you may be contacted for further discussion.

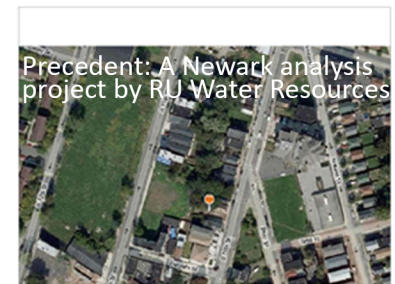
Contact Toby:  
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A Newark Community Garden



RULA Students learn by doing



Precedent: A Newark analysis project by RU Water Resources



## **Syllabus:**

# **Praxis Studio: Map to Material: Implementing Salvage and Reconstruction: Green Infrastructure and Justice in Newark, NJ**

**11:550:536 (5 credits) Spring 2015**

**Rutgers, The State University of New Jersey**

School of Environmental and Biological Sciences

Department of Landscape Architecture

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**Studio Hours: Tu/Th: 2:15-5:15/6:45**

## **Course Description:**

Proceeding from analysis and design to actual in-ground projects is an ongoing challenge for Landscape Architectural practice, education and service alike. A salvage and reuse green infrastructure project sited at a community garden will be designed and built in connection with Rutgers Water Resources Program's "Green Infrastructure for the City of Newark" an environmental justice 319 (h) grant from the US EPA/NJ DEP. Green Infrastructure projects in Newark are currently addressing legacy issues of environmental pollution, aging infrastructure, and vacancy – seeking to build from stormwater management towards healthy and inspiring green community spaces.

To establish the context for the building project, the studio will use an abridged process of mapping and inventory of sites and flows corresponding to the research areas: 1. Water 2. Soil 3. Food 4. Building Materials and 5. Social Spaces/structures. For example, sewer maps, existing and proposed community gardens, green infrastructure projects, vacant lot sites and potential material salvage locations will reveal the intersections between conditions and opportunities. Working from the analysis the studio will develop adapted green infrastructure, garden infrastructure and social space plans and details using locally responsive material and design strategies. The result will be an implemented green infrastructure and social space project that will have an immediate impact on health, appearance and self-reliance while also establishing a replicable method for transforming debris and vacancy into vital community reuse projects.

### **Studio Learning Objectives:**

- Develop design skills informed by a community engaged process
- Learn how to design from standards towards customization that respects the uniqueness of material, place and community
- Learn how green infrastructure practices can be the link between social and physical aspects of design
- Develop practices for transforming city scale analysis into achievable site specific projects

### **Studio products:**

- A set of maps demonstrating the links between site, neighborhood, ward, city and region through material flows.
- A set of site design documents for the community garden at Morris Ave and documents for an additional project (tbd). The Morris Ave garden set includes documents for the built green infrastructure and social space project and designs for future (implementable) projects.
- A built project demonstrating GI construction with reused materials

## **Studio Sequence:**

- 1. Analysis**
- 2. Design**
- 3. Build**

### **Part 1: Planning and Analysis**

*The garden is connected to its neighborhood through the materials that support its work, and through its use by neighbors. In order to understand how the garden is connected to its contexts, the students will investigate and map the pathways of physical materials across the ward, the city and the region where applicable. The goal of this analysis is to understand each significant material component in the garden relative to existing distribution, use and disposal systems. Through understanding these material contexts the garden will be able to address needs of the community (for example, food availability/food deserts), take advantage of material flows (like water or leaf litter), and connect/share resources with other similar gardens, urban farms, and community learning or social spaces*

\* Meeting with community members to learn about neighborhood materials flows – for example where people shop for food, how leaf pick-up is managed, and what are the opportunities for local salvage or harvesting of demolition materials.

Map Components:

Water:

Sewers, Passaic Valley Sewerage, CSO locations, Land cover: impervious, semi-pervious (empty lot/lawn), highly pervious (landscaped/vegetative cover), Parks, Gardens, Existing and Proposed Green Infrastructure Projects. Coordinate with Newark DIG on Green Infrastructure map.

Soil:

Leaf Litter (pick up, routes and processing facility), Household waste (non-organic, organic, recyclables – pick-up, routes and processing): transfer stations, recycling centers, co-generation facility

Food systems:

Groceries, markets, bodegas, convenience stores, sit-down restaurants, fast food restaurants, community gardens, urban farms, farmers markets

Building Materials:

Building supplies stores, hardware, demolition waste, salvage materials, materials processing facilities

Social Spaces:

Houses of Worship, Schools, Community Centers, Recreation Centers, Libraries, Senior Centers,

**Part 2: Identifying and designing features of the garden with Community of users and Ujima Garden Executive Committee**

Overall site plan design will inform the selection of 4-6 components to be built by the studio class with participation from a number of volunteer groups. The selection of the components will be based on design, suitability, achievability, and their contribution to the overall goals of the students' site design, community identified garden program and green infrastructural goals.

\* Meet with community members to hear about the features desired for the garden

*Some of the potential built components of the garden:*

Water:

Cistern and/or rain barrels to harvest rain water from adjacent rooftops.

Rain gardens to capture and infiltrate runoff from adjacent impervious areas.

Passive irrigation systems to connect water collection with garden plots.

Soil:

Leaf and garden detritus composting stations.

Food waste composting stations.

Soil remediation test areas.

Food:

Garden beds.

Processing stations.

Tool storage areas/structures.

Building Supplies:

Storage areas.

Materials cleaning and processing stations.

Materials pick-up and drop-off zone.

Social Space/Learning Space:

Outdoor furniture: Benches, chairs, tables

Paved area for gathering.

Outdoor library (like at the Hope Garden).

Play space:

Landscaping to support play.

Adventure/building play with cleaned, safe construction materials.

**Part 3: Building with Students, Re-entry Entrepreneurial Program Participants, volunteers, local contractors**

Objectives:

- Build 4-6 sub-projects that together reach towards achieving the overall site plan design.
- Work with garden volunteers and stakeholders in 3 identified community build days.
- Build parts of the design in the Department's Fabrication Laboratory to be assembled on site.
- Work with locally salvaged materials, adjusting design accordingly – as both substitute for new materials and also as generative of new design, redesign, and adaptive design.



## **Studio Schedule**

### **Tuesday, January 20**

1. Introduction to Studio
  - a. Analysis Cycle
  - b. Design Cycle
  - c. Build Cycle
2. Make “Site Books”
3. Form Research Teams for Research and Mapping
  - a. Water
  - b. Soil
  - c. Food
  - d. Building Materials
  - e. Social Space

Reading Assignment: “Rural Studio, Introduction”

Volunteers (3) to take Driving Safety Course

### **Thursday, January 22**

1. Base Mapping
  - a. Ward
  - b. City and Region

Reading Assignment: Cognitive Mapping topic, Analytical and Suitability Mapping: McHarg

### **Tuesday, January 27**

Ujima Garden Listening Workshop Preparation

See Methods Handout

Reading: Community Design topic

### **Thursday, January 29**

Site Visit

Tour: Community Gardens (Harriet Tubman School Garden, other), Urban Farms (Speak with Justin Allen at Hawthorne Urban Farm [Greater Newark Conservancy]) and Green Infrastructure Projects (Sussex Ave School Project (Trust for Public Land), Community Garden Cistern Installation Project (WR)

**Tuesday, February 3**

2pm: Finish Preparations for Listening Workshop

5pm (final time TBD): Listening Workshop with Ujimaa Garden Stakeholders at Newark Public Library, Springfield Branch

**Thursday, February 5**

Synthesize Mapping with Information from Listening Workshop

Reading: Green Infrastructure

**Tuesday, February 10**

Introduction to Green Infrastructure

Guest Speaker: Kyle Gourley, EI, Program Associate II, Rutgers Water Resources

Reading: “Urban Sustainability and environmental Justice”, Pearsall and Pierce.

**Thursday, February 12**

Design Process Exploration: Green Infrastructure and Social Space

Side Project: Sample Site Design Charrette: Ironbound Recreational Center Project

Reading Handout: Chapters 9 and Conclusion from Lawson, *City Bountiful*, pp 264-302.

**Tuesday, February 17**

Side Project Work

**Thursday, February 19**

Side Project Work

Schematic Design: Due February 26

## **Tuesday, February 24**

Site Survey:

Mechanical Topographic Survey

Digital (GPS Total Station) Survey [with Rutgers Water Resources]

Visual Survey: Drawing, Note-taking, Photography

## **Thursday, February 26**

Prepare Base Materials for Community Design Workshop

Generate Design Exercises and Activities for Collaboration with Participants

Guest Speaker: Dr. Lawson “Collaborative Design for Community Gardens”

Reading: Permaculture and Systems Design

## **Tuesday, March 3**

Prepare Strategies and Methods for Community Design Workshop

Gather and Prepare:

Analysis – Works in Progress: Format for Annotation by Participants

5 Topic Area Maps (on walls), Large synthesis map (on table for annotation)

Design Exercises for Participatory Work

## **Thursday, March 5**

1. Community Design Workshop at Newark Public Library, Springfield Branch

At Workshop:

Present Analysis – Works in Progress: receive and note feedback (20 minutes)

3 minutes each topic area (15 minutes total)

5 minutes for presenting synthesized map

Design Exercises with Participants (1 hour)



## Garden Components

Component Scale: Size, Dimensions

Locations/Arrangements/Layouts for Garden Components

2. Windshield Survey of Vacant Lot Properties for Salvageable Materials (Building Materials team to prepare route)

### **Tuesday, March 10**

Presentation: “Adaptation in Design”

Process Community Workshop Information

Begin Overall Site Design

Individual Process

### **Thursday, March 12**

Site Design

Present and Discuss Individual Site Designs

Redesign Activity: (Retry Methods developed during Side Project Design Exploration)

### **March 14-22: Spring Break**

### **Tuesday, March 24**

Sub-space/Component Detail Design

Team Design: Component Areas Correspond to Research/Mapping Topic Areas

e.g.: Rain Garden Team, Compost Area Team, Garden Bed Team, etc.

Presentation and Reading (topic): “Design for Disassembly”

### **Thursday, March 26**

Detail Design

Construction Plans and Details (Technical Drawings and Set of schematic drawings that could be used by groups not familiar with Construction Documents: (Research drawing styles like IKEA schematics)

Technical Specifications (see MasterSpec) and Corresponding Set of simplified installation instructions

## **Tuesday, March 31**

Forum On-Site/at Library: “The Design Build Business”: Dominick Mondì, and other guest speakers

Construction Mobilization

On Site: Site Preparations

## **Thursday, April 2**

Materials Sourcing and Salvage Operations:

Travel to Vacant Lots Identified in Analysis and

Survey with Reentry Program Participants for Salvage of Reusable Building Materials

Transport materials to site

Process, clean, organize materials

Make adjustments to Design Details based on Opportunity presented by Salvaged Materials

## **Tuesday, April 7**

Studio: Finalize Designs

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

Rutgers Gardens Reused Concrete Research Pile: Prebuild components of retaining wall and steps from beds to lawn area

Reading topic: Reuse and Unbuilding

## **Thursday, April 9**

Meet with ITV, Inc.

Site Visit: Conditions Analysis: Measure, verify and photographs build to conditions at:

Cistern, rain garden, bioswale sites

Verify and measure slope changes at south side of site and across lawn area to

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

Rutgers Gardens Reused Concrete Research Pile: Prebuild components of retaining wall and steps from beds to lawn area

Prepare for Community Build Workshop 1 (define and prepare for project)

Community Build Projects A-C:

- A. Middle School Students: Play Area
- B. ITV Reentry Entrepreneurial Program Participants: Rain Garden or Reused Materials Build
- C. Community Members/homeowners: Compost Systems, Raised Bed Building

## **Tuesday, April 14**

Community Build Workshop 1

On Site: Excavation

Build

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

## **Thursday, April 16**

On Site: Build

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

Prepare for Community Build Workshop 2

## **Tuesday, April 21**

Community Build Workshop 2

On Site: Build

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

Begin work on Individual Studio Portfolio of Work and further prepare Site Book for submission

**Thursday, April 23**

On Site: Build

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

Prepare for Community Build Workshop 3

**Tuesday, April 28**

Community Build Workshop 3 (A, B, or C: selection based on availability of participants)

On Site: Build

Fab Lab: Build Components: Pallet design: Compost Bins, Shed, Deck, Raised Planting Beds

**Thursday, April 30**

On Site: Build

Site Clean-up.

DUE: Individual Portfolio of Work and Site Book

**Saturday, May 2**

On Site:

Formerly Incarcerated Individuals Reentry Program Build Workshop and Community Training projects:

1. Rain garden and bioswale completion and planting
2. Tree pit excavation and tree installation
3. Raised Planting Bed filling and planting

On Site Celebration of Work

Site Clean-up.

**Thursday, May 7 (Final Date TBD)**

In Studio Presentation

## **Grading Practices**

**20%: Attendance and Participation**

**20%: Site Book Use/Completion and Submission of Final Portfolio of Work (components below)**

**20%: Analysis and Mapping Products: Individual Contributions Evident**

**20%: Design Documents: Individual Contributions Evident**

**20%: Build and Redesign Work: Individual Contributions Evident**

The final course grades are given as letters A, B+, B, C+, C, D, and F.

See explanation of letter grades below.

**A-** Outstanding- This not only means fulfilling requirements, but impressing and going beyond the initial expectations of the project. The student has demonstrated a superior grasp of the subject matter coupled with a high degree of creative or logical expression, and a strong ability to present these ideas in an organized and analytical manner.

**B-** Very good- The student has demonstrated a solid grasp of the material with an ability to organize and examine the material in an organized, critical, and constructive manner. The projects and in-class performance reveal a solid understanding of the issues and related theories or literature.

**C-** Acceptable- The student has shown a moderate ability to grasp concepts and theories for the class, producing work that, while basically adequate, is not in any way exceptional. The student displays a basic familiarity with the relevant literature and techniques.

**D-** Unacceptable- The work demonstrates a minimal understanding of the fundamental nature of the material or the assignment with a performance that does not adequately examine the course material critically or constructively. Students cannot graduate from the Landscape Architecture program with 2 D's in required 550 classes.

**F-** Failure- The student has demonstrated a lack of understanding or familiarity with course concepts and materials. The student's performance has been inadequate. Failure is often the result of limited effort and poor attendance which may indicate that the student is not in the proper field of study.

When an assignment or project is given a number out of 100 it corresponds to these letter grades.

A 90

B+ 85

B 80

C+ 75

C 70

D 60

F <60

### **Attendance**

The Department of Landscape Architecture requires attendance in all of its classes. The individual student's development as a landscape architect is largely dependent upon two aspects of education. First is the exposure to and assimilation of a body of information which relates to the field. Second is the application of this knowledge through studio projects and problem-solving skills developed through critiques, reviews and interactions during each project

The Rutgers Landscape Architecture curriculum is designed to develop both areas. Attendance and participation in all lectures and studios are essential if the student is to achieve his/her maximum potential. Unless a more strict policy is in place by the individual instructor, more than three absences will result in a step reduction in your semester grade. Each additional three absences will result in another step reduction. Since the common lecture is part of the studio, missing that would count as an additional absence.

A minimum level of participation is defined as being in attendance for the entire duration of a class session. It is the student's responsibility to be in attendance at all required classes and all personal plans should be made in accordance with the schedule.

Students on academic probation have **NO ALLOWABLE UNEXCUSED ABSENCES**.

Your attendance at juries or special seminars scheduled in your design course is mandatory for the entire duration of the session. Attendance at all Common Lectures is required for this studio course. Attendance will be taken – see departmental guidelines for grade reduction due to poor attendance at Common Lecture.

### **Absence and Lateness Policy (specific to this course)**

- Students are expected to be in class at the time the class is scheduled to begin. Three instances of lateness of more than five minutes at the beginning of class, will count as one unexcused absence.
- An absence is excused only if it has received prior permission from the instructor. If a note or call is received after the class has met it will still be an unexcused absence. Three unexcused absences will result in the student failing the course.
- In the event of an absence, the student is responsible for making up any missed work, getting assignments, and submitting assigned work on time.



### **Work Becomes Department Property**

Submitted drawings, models, photographs, or written papers for any project assigned in Landscape Architecture courses are considered the property of the Department and may be retained in its archives for exhibition and accreditation purposes.

All projects will be graded and returned to the student at a location designated by the instructor. Should your drawings be retained by the Department, you will be given the opportunity to obtain a print or photographic record of your work. Department files are **OFF LIMITS** to students.

### **Required Text**

As assigned; handouts and postings to Sakai Site.

### **Supplies**

Basic drafting supplies will be required.

Boots and sturdy work clothing is required.

### **Use of Facilities**

Landscape Architecture courses cannot be taught without reliable facilities. Your use of the facilities is dependent upon responsible use with particular regard to the clearly established rules about their use as specified in the student handbook:

[http://landarch.rutgers.edu/current\\_students/students%20handbook/StudentHandbook\\_web\\_SectI.pdf](http://landarch.rutgers.edu/current_students/students%20handbook/StudentHandbook_web_SectI.pdf)

These rules cover access to the computer lab and vandalism, personalization of work space, smoking and drinking, use of lockers, access to the reference collection, and basic rules governing the use of computer lab. Failure to observe rules may result in loss of access.

### **Equipment**

The student handbook also includes a section governing the use of equipment:

[http://landarch.rutgers.edu/current\\_students/students%20handbook/StudentHandbook\\_web\\_SectII.pdf](http://landarch.rutgers.edu/current_students/students%20handbook/StudentHandbook_web_SectII.pdf)

This section includes rules specifying use of department equipment including projection equipment, department cameras, computers, scanners, printers, and plotters.

### **Academic Integrity Policy**

The intentional copying of another student's file or portion of the file and presenting it as your own work is in direct violation of the University Integrity Policy:

- Plagiarism: Plagiarism is the representation of the words or ideas of another as one's own in any academic work.

- Facilitating Violations of Academic Integrity: It is a violation of academic integrity for a student to aid others in violating academic integrity. A student who knowingly or negligently facilitates a violation of academic integrity is as culpable as the student who receives the impermissible aid, even if the former student does not benefit from the violation.

As a result, any copying and/or "sharing" of exercise, assignments and projects will be treated as Level 2 violations and subject to the sanctions as outlined in the Integrity Policy:

1. A failing grade on the assignment.
2. A failing grade for the course.
3. Disciplinary warning or probation.

Repeat violations will be treated as separable Level Three violations and referred to the AIF of the school for adjudication. Please refer to the complete Integrity Policy at:

<http://academicintegrity.rutgers.edu/integrity.shtml>.