

11-02-2022

THE REVITALIZATION OF HISTORIC  
**COBBS CREEK**  
**GOLF COURSE**

**Preserving Philadelphia's Past; Building Philadelphia's Future**  
**Concept Review – Driving Range & Youth Center Presentation**



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# Community Engagement

# Cobbs Creek Foundation Community Engagement Summary

**Total Number of Meetings Held or Community Events Attended: 140**

[\(link\)](#)

**Total Number of Community Stakeholder Groups Met with: 63** [\(link\)](#)

## **Overbrook Park Canvassing**

### **Dates of canvassing:**

- 6/26/22
- 7/23/22
- 7/31/22
- 8/14/22

**Focus Area:** Homes immediately surrounding the golf course

### **Locations:**

- Ashurst Rd. Brockton Road, 76th St, Farrington Road
- Rita's Water Ice (7718 City Ave, Philadelphia, PA 19151)
- Ross Dress for Less (7720 City Line Ave, Philadelphia, PA 19151)
- *Upcoming: Haverford Avenue Businesses, 69<sup>th</sup> Street Corridor Businesses*

**Approximate Number of Homes Reached: 400**

# Cobbs Creek Foundation Community Engagement Summary

## **Public Meetings:**

- January 26th, 2022 (Zoom) - Promoted through OPCA/Cobbs ListServ
- May 18th, 2022 (Zoom) - Promoted through OPCA, Overbrook Educational Center, West Philadelphia Achievement Charter, Lewis C. Cassidy School, and Cobbs ListServ
- *Upcoming Town Hall: November 16th (in-person, at Overbrook Educational Center)*

## **Registered Community Organizations Outreach (18 RCO's within 2-mile radius):**

- Contacted all RCOs with two rounds of email outreach
- Called and left voicemails for all those with numbers publicly listed
- Met with the OPCA and Wynnfield Community Residents' Association via Zoom
- Held an open Local RCO Community Zoom on 9/28 (attended by 34<sup>th</sup> Democratic Ward)

## **School Sponsorships and Programming:**

- Thanksgiving Food Drive–November 2021 (60 families)
- Holiday Gift Drive–December 2021 (50 families)
- Academic Bridge Camps–July 2022(30 students)
- Professional Development for Staff of Lewis C. Cassidy and Overbrook Educational Center (September 2022)

## **Petition of Support: 223 signatures in total**

- One [virtual \(158\)](#)
- One written petition (65)

# Master Plan/ Project Phasing



**Phase II : Driving Range, Youth Golf Center & Associated Site Work**

**Master Site Plan**

prepared by:  
Blackney Hayes Architects  
April 6th, 2022

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# Project Permit Status



# Project Permit Status

- Philadelphia Parks and Recreation Concept: Approved 2021
- Art Commission Master Plan Concept: Approved 2021
- Art Commission Building Concept: Driving Range Approved 4/2022
- Philadelphia Water Department:
  - Existing Resource and Site Analysis (ERSA): Approved 5/17/2022
  - Post Construction Stormwater Management: Anticipated Approval: 12/2022
  - Utility Plan: Anticipated Approval: 12/2022
  - Private Cost Sewer Relocation: Submitted 3/2022 | Anticipated Approval: 12/2022
- Pennsylvania Department of Environmental Protection:
  - NPDES Permit: Submitted 5/2022 | Anticipated Approval: 12/2022
- Philadelphia Department of Licenses and Inspections:
  - Commercial Building Permit: Anticipated Approval: 12/2022

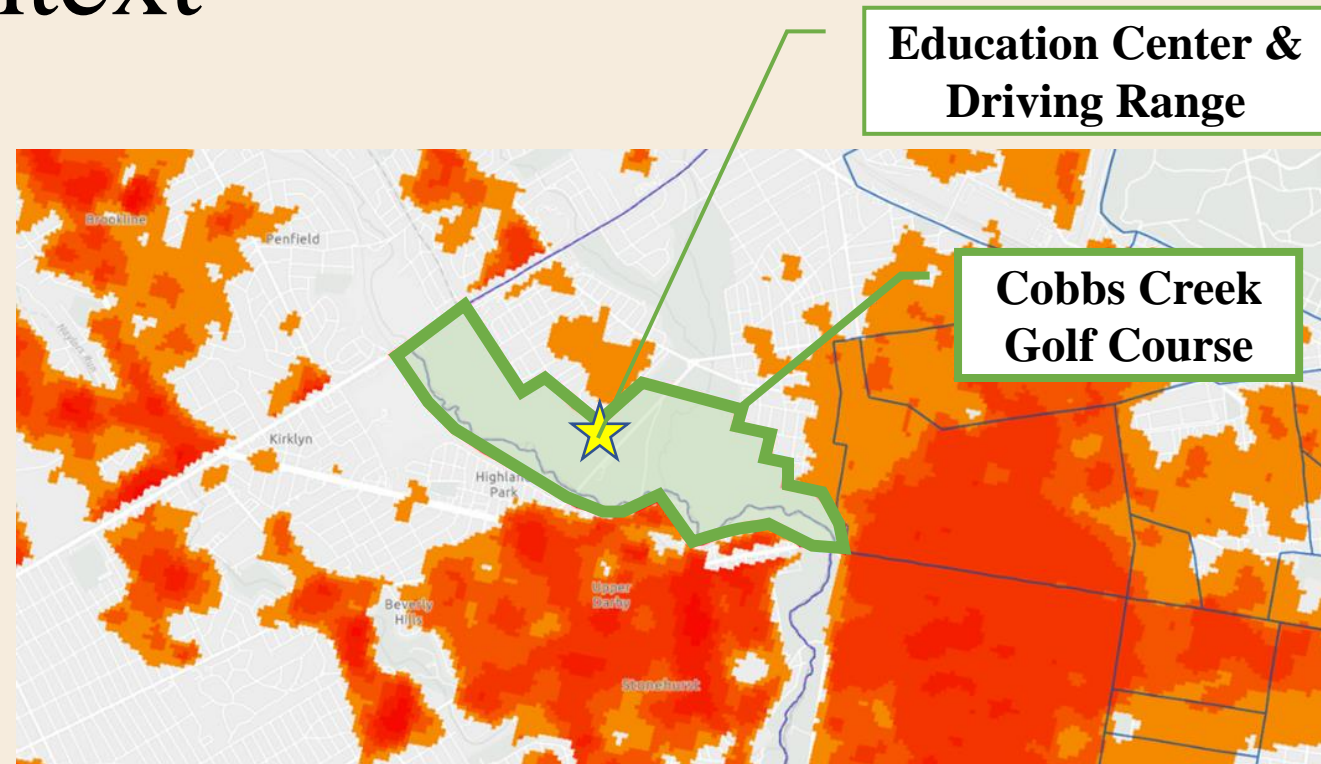




# **Environmental Site Impact**

# Urban Heat Island Context

- Urban surfaces (pavements, roofs, etc.) generally have low albedo, high thermal mass and radiate stored heat
- Tree canopy shades urban surfaces and people to keep them cooler
- Large green spaces (parks, lawns, etc.) fragment urban heat islands
- Well managed golf courses provide similar functions to urban or suburban parks<sup>1</sup>
  - Large green spaces
  - Natural land covers
  - Generally cooler than surrounding urban and suburban areas
  - Co-benefits of habitat for wildlife, songbirds and pollinators



Philadelphia heat islands<sup>2</sup>. Intensity increases from orange to red.

1. Lonsdorf, E.V., Nootenboom, C., Janke, B. and Horgan, B.P., 2021. Assessing urban ecosystem services provided by green infrastructure: Golf courses in the Minneapolis-St. Paul metro area. *Landscape and Urban Planning*, 208, p.104022.
2. Stefanovich, 2021 (<https://storymaps.arcgis.com/stories/8c767938f573494e8ec44a1ec4cf5c70>)

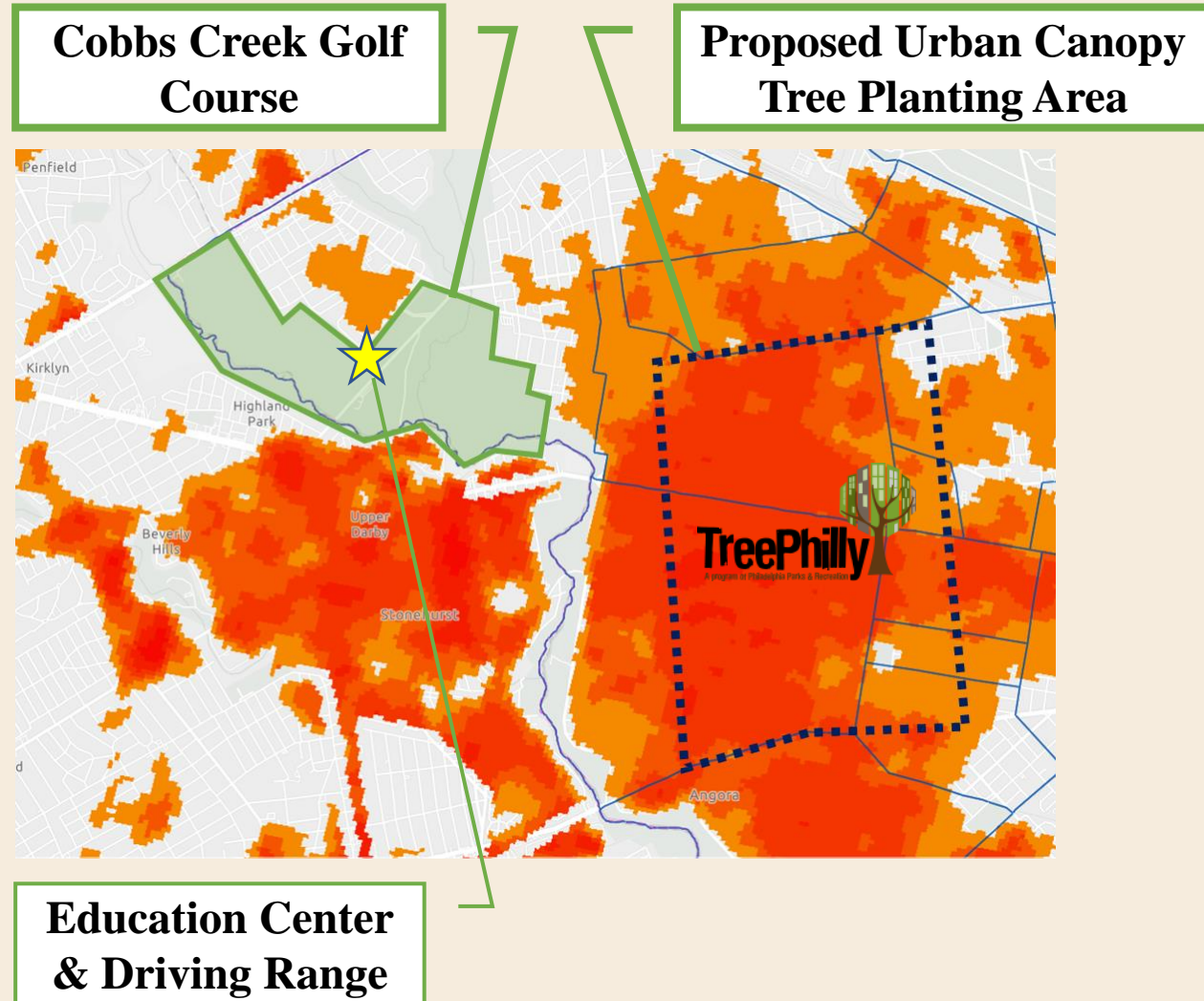
# Urban Heat Island Context – Grass vs. Trees

- Both trees and vegetation lower surface and air temperatures through evapotranspiration and shade. (EPA 2022)
- Trees canopies provide the added benefit of shade, which further reduces local surface and air temperatures.
- The cooling effects of green spaces in general (trees, grass, meadows, etc.) are effective in fragmenting urban heat islands.
- Tree canopies have the added benefit of shading high albedo surfaces to reduce their contribution to heat islands.
- Planting trees adjacent to high albedo surfaces will have the most profound impact on urban heat islands.

# Urban Heat Island Mitigation for Phase II

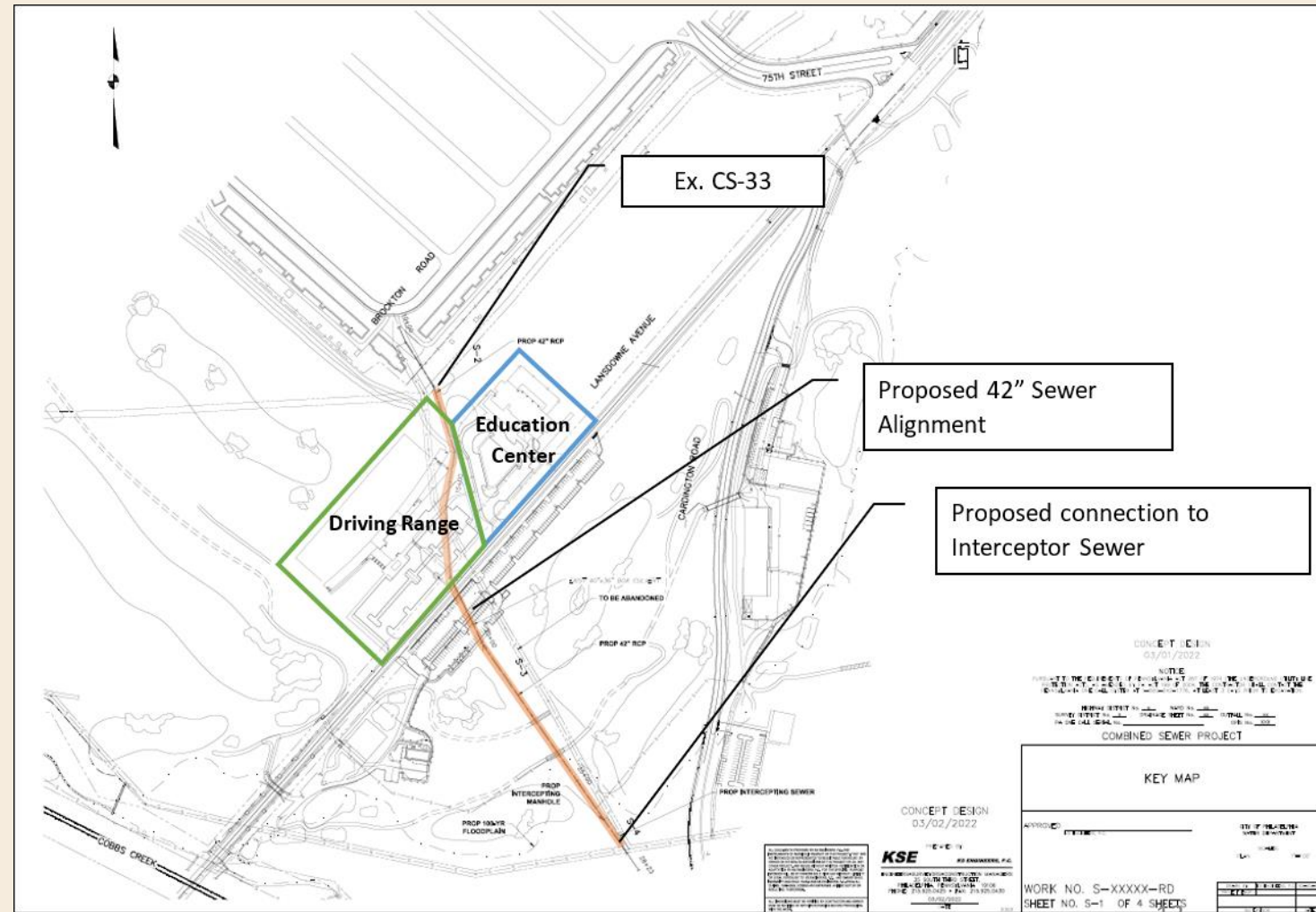
- Land cover changes<sup>1</sup>
  - Increased impervious covers from 1.11 to 3.45 acres
  - Converted 12.5 acres of tree canopy to green space (non-forest)
- Mitigation
  - 87% of the site will remain green space
  - 62 canopy trees will be planted adjacent parking and buildings<sup>2</sup>
  - 12,500 SF of green roof on driving range canopy<sup>2</sup>
  - 200 urban canopy trees will be planted offsite through TreePhilly<sup>3</sup>

1. Refer to Site Improvements sections for full summary
2. Refer to Landscape Plans enlargement for details
3. [Link](#) to urban canopy tree planting commitment letter



# Combined Sewer Overflow (CSO) Collection

- CSO discharge untreated wastewater during storms
- CSO pose risks to public and environmental health
- Commitments to cleaner water
  - Collection of CS-33
  - Partnering with PWD on broader CSO collection efforts



# Green Infrastructure Commitments for Overall Project



- Converting turf to pollinator gardens where possible<sup>1</sup>
- Native landscaping<sup>1</sup>
- Strategic use of canopy trees for shading<sup>1</sup>
  - Parking lots
  - Roadways
  - Site perimeter
  - Partnership with TreePhilly to plant 750 urban canopy trees<sup>2</sup>
- Green roof over driving range
- Educational programs
  - Urban bee keeping
  - Signage
  - Programming
- Bird-friendly glass
- Non-native invasive plant management

1. *Refer to landscape plan enlargement for Phase II project details*

2. [Link](#) to urban canopy tree planting commitment letter



# Site Improvements



# Site Improvements

- Tree Clearing: Approximately 13.1 Acres
- Driving Range Netting: 100' max height
- Proposed 42" Sewer Extension for Combined Sewer Overflow
- Six Stormwater Management Basins – Two at each of the Driving Range and Education Center and Two for the Back of the Driving Range meeting Philadelphia Water Department Regulations
- Parking Lot Lighting – Typical Parking Lot Lighting
- Driving Range Lighting – Lighting from Driving Range Building for Top Tracer System



# Tree Clearing

- 13.1 Acres of Tree Clearing
- 150 Heritage Trees removed
- 250 dead, diseased, or damaged Heritage Tree removed



# Site Improvements



- Parking Lot Lighting:**
- Gardco PureForm P20
  - Dark Sky Approved
  - Source Shielded from Residential Properties

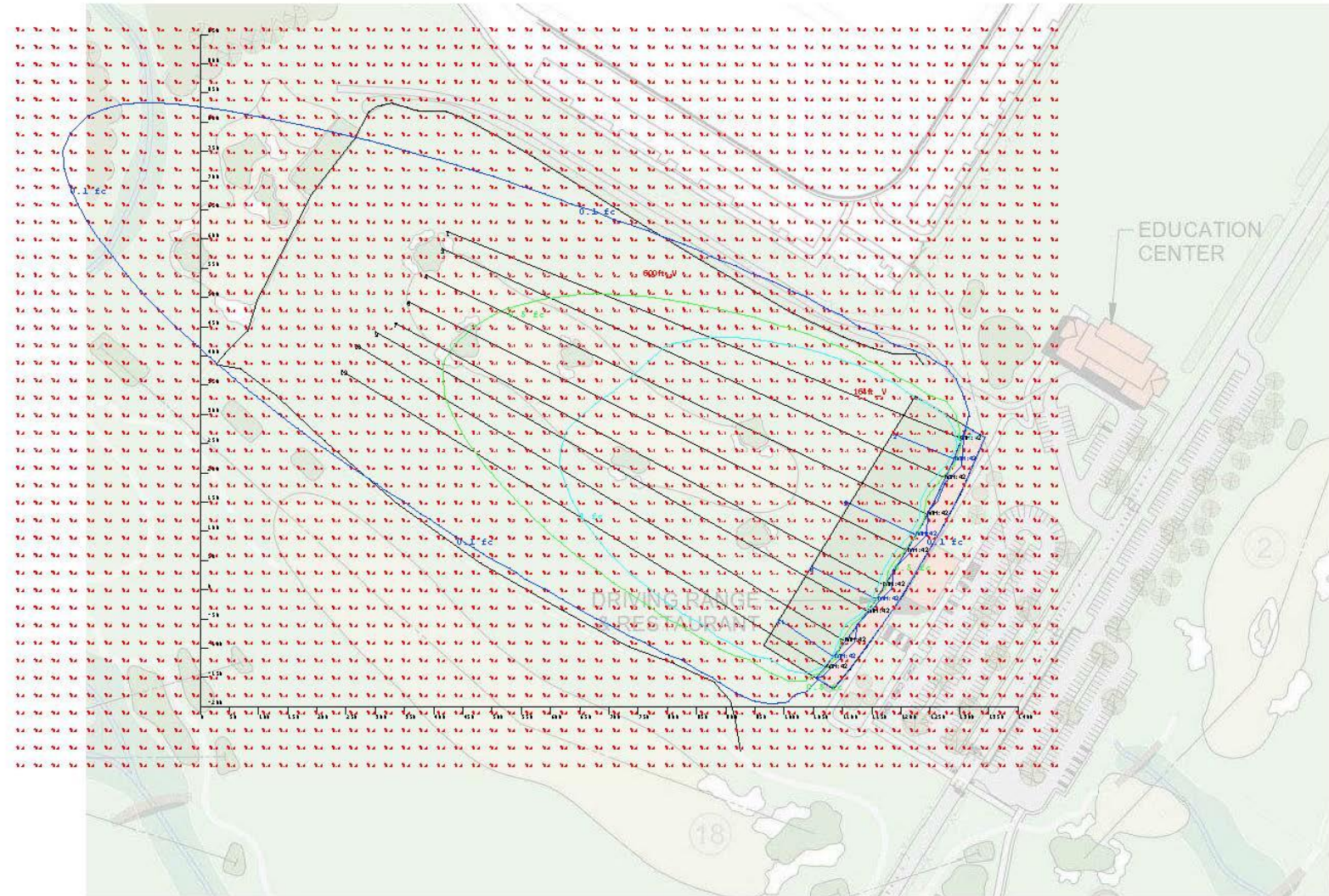
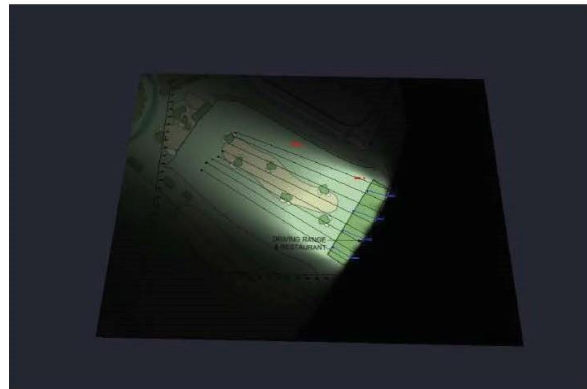
# Driving Range Lighting



## ENVIRONMENTAL IMPACT SUMMARY

**tgs** **SPORTS**  
a TGS company

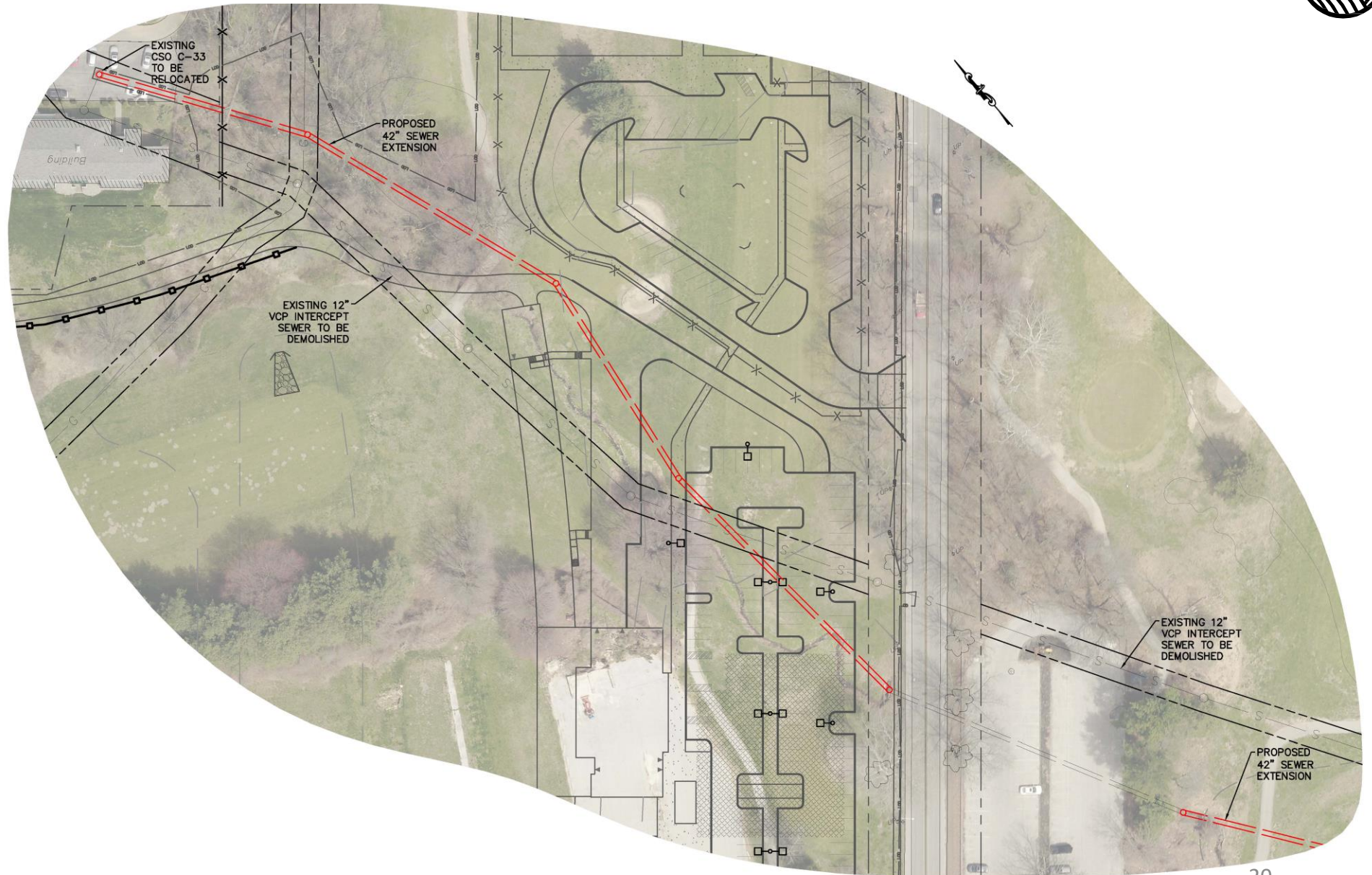
- 12 Luminaires mounted atop Driving Range Building
- 0.0 fc illuminance at the Property Line



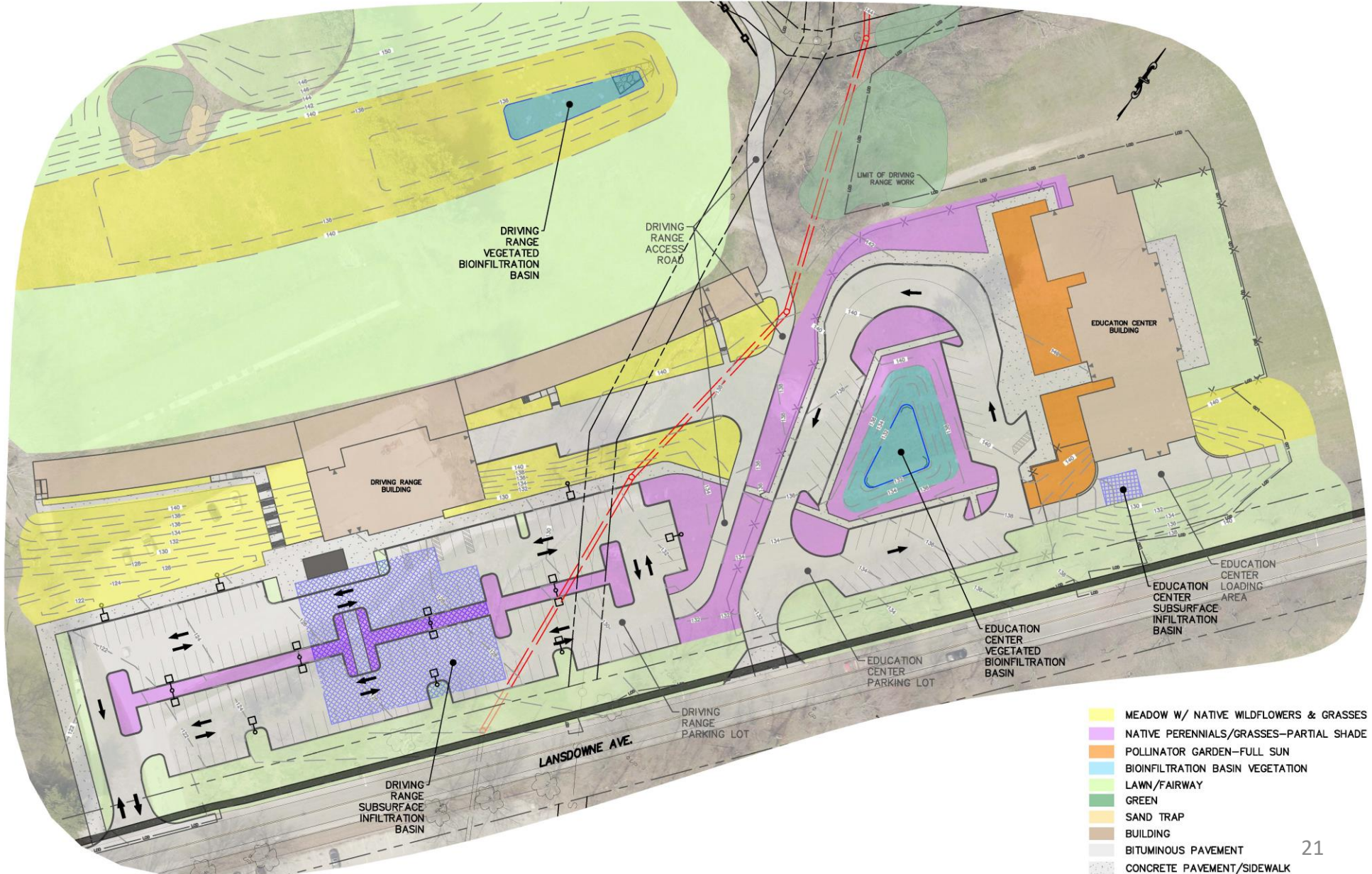
# Combined Sewer Overflow (CSO)



- CSO C-33 located near the proposed Driving Range and Education Center will be relocated downstream
- 12" VCP Intercept Sewer to be demolished
- Location of relocated CSO will be determined in coordination with Philadelphia Water Department



# Stormwater Management





# Stormwater Management

- Driving Range Subsurface Infiltration Basin:
  - Manages: Impervious Building, Parking Lot, Sidewalks, and Access Road Pavement; and Pervious Landscaping Areas for Driving Range
  - Designed for Water Quality, Channel Protection, and Flood Control Regulations
- Driving Range Vegetated Bioinfiltration Basin:
  - Manages: Impervious Access Road Pavement and Pervious Driving Range Landing Area
  - Designed for Water Quality, Channel Protection, and Flood Control Regulations
- Education Center Subsurface Infiltration Basin:
  - Manages: Impervious Loading Area for Education Center
  - Designed for Water Quality, Channel Protection, and Flood Control Regulations
- Education Center Vegetated Bioinfiltration Basin:
  - Manages: Impervious Building, Parking Lot, and Sidewalks for Education Center
  - Designed for Water Quality, Channel Protection, and Flood Control Regulations
- Vegetated Detention Basin
  - Manages rear portion of the Pervious Driving Range Landing Area
  - Designed for Channel Protection and Flood Control



# Landscaping Plans

Download Landscape Plans and Schedules:

<https://clients.langan.com/Sharing/filesharing/ViewPosted?transactionHash=-2051161638>

# Landscape Plan

Meadow w/ Native Pollinator Wildflowers & Grasses



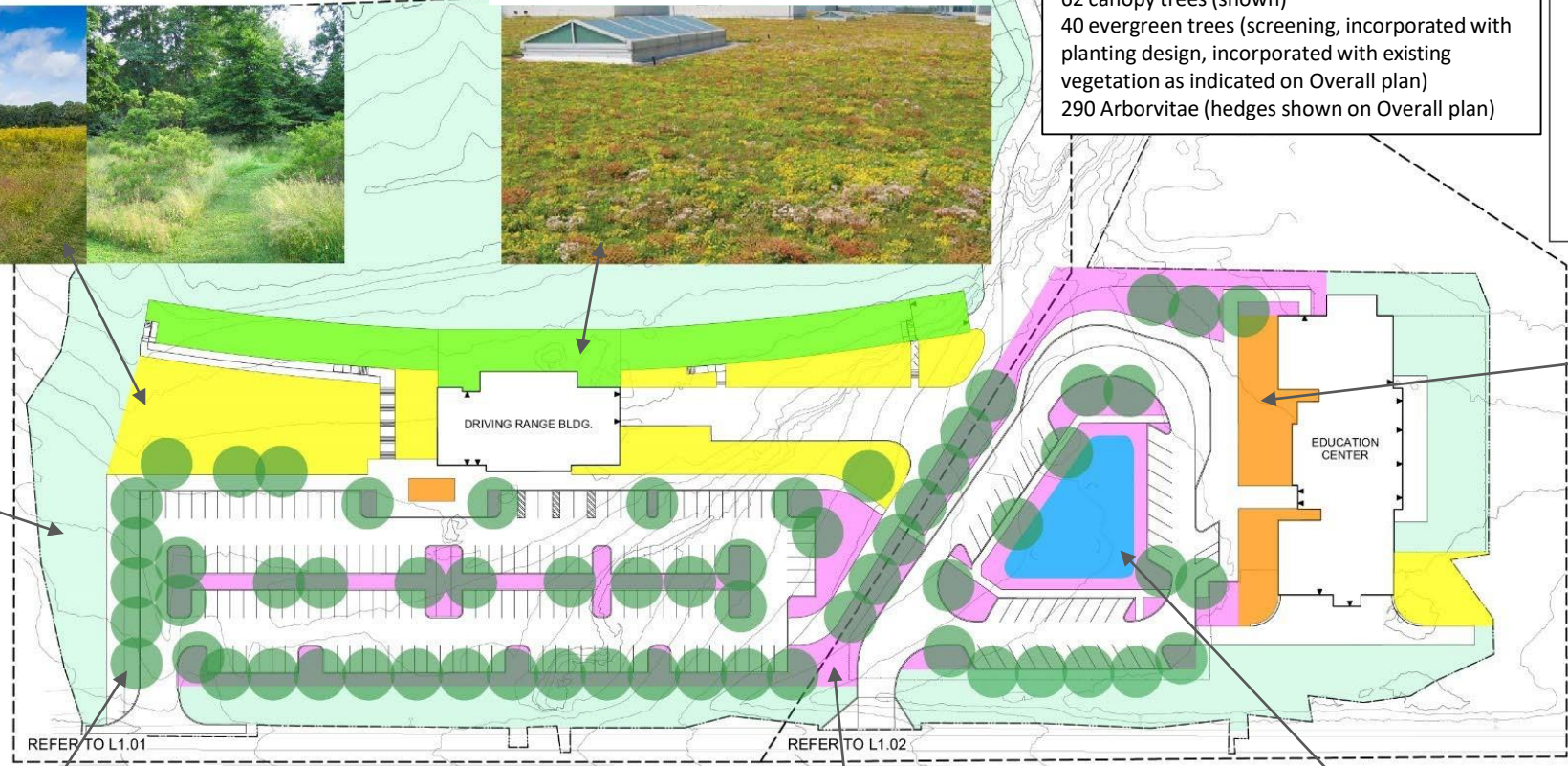
Green Roof- Sedum w/ Overseeding



**PROPOSED TREE COUNT:**  
 62 canopy trees (shown)  
 40 evergreen trees (screening, incorporated with planting design, incorporated with existing vegetation as indicated on Overall plan)  
 290 Arborvitae (hedges shown on Overall plan)

**Legend**

- Meadow w/ Native Pollinator Wildflowers & Grasses
- Stormwater Planting
- Native Perennials/Grasses- Partial Shade
- Pollinator Garden- Full Sun
- Green Roof- Sedum w/ Overseeding
- Large Shade Trees at Maturity (15-20 Years)



Pollinator Garden- Full Sun



Large Shade Trees at Maturity (15-20Years)



Native Perennials/Grasses- Partial Shade

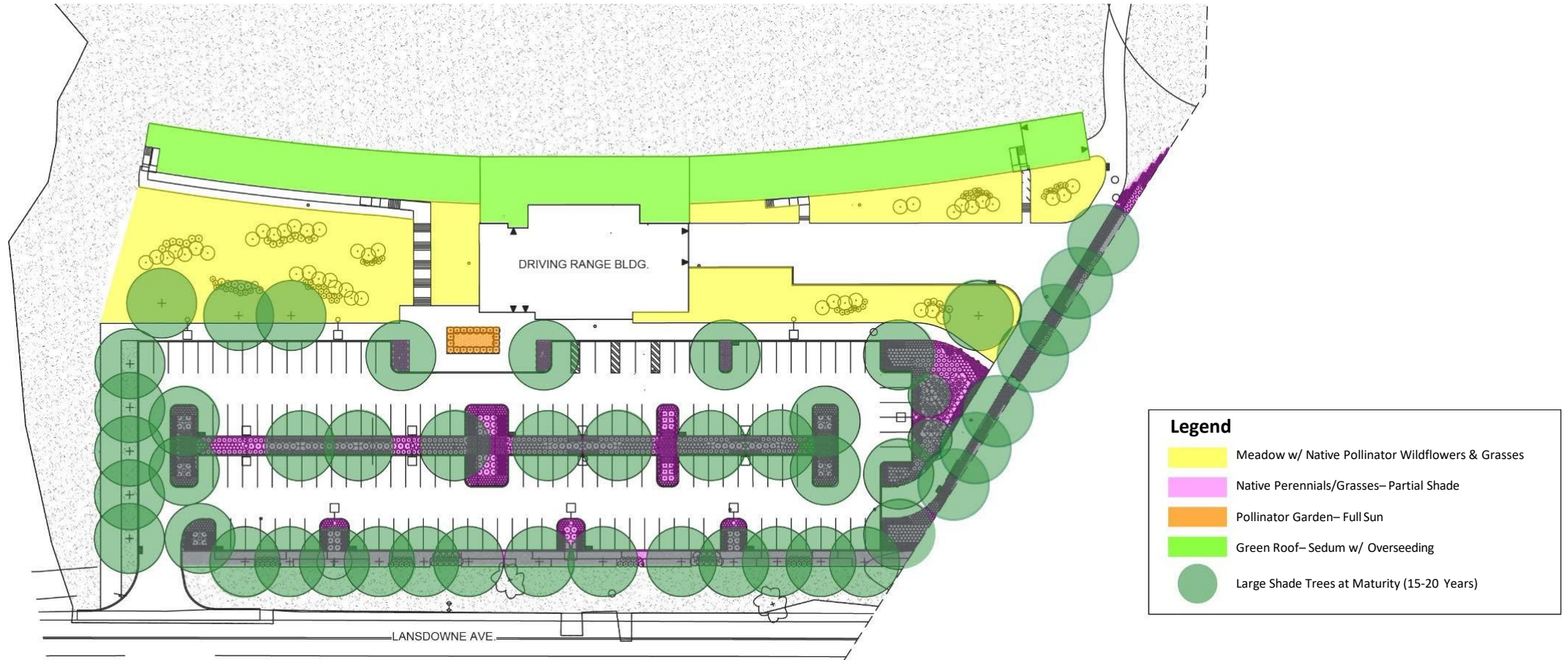


Stormwater Planting

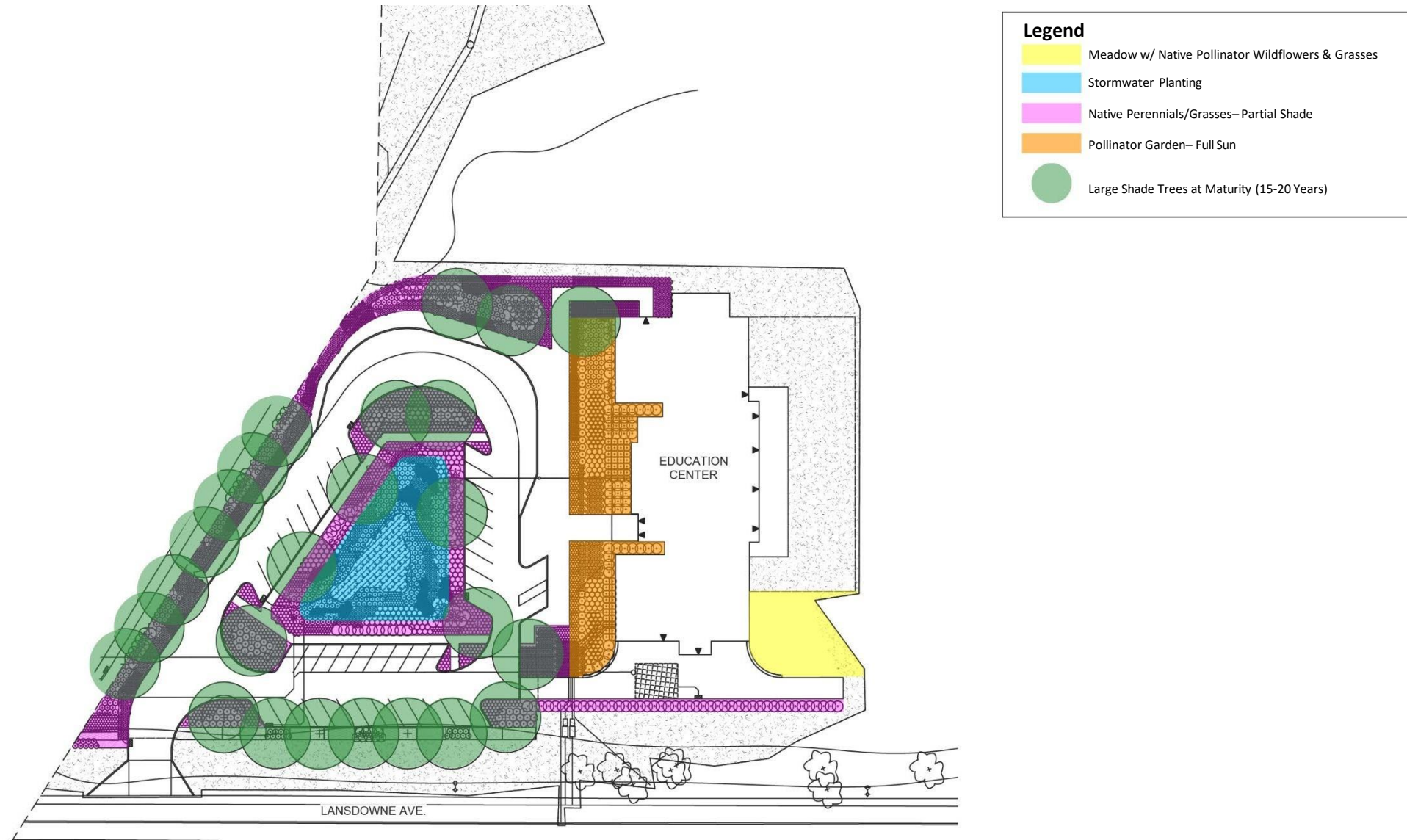









# Landscape Plan Enlargement – Driving Range



# Landscape Plan Enlargement – Education Center



# Plant Schedule

Legend	
	Meadow w/ Native Pollinator Wildflowers & Grasses
	Stormwater Planting
	Native Perennials/Grasses– Partial Shade
	Pollinator Garden– Full Sun
	Green Roof– Sedum w/ Overseeding

## Canopy Trees

- Acer rubrum / Red Maple
- Gleditsia triacanthos var. inermis / Honey Locust (thornless)
- Nyssa sylvatica / Blackgum
- Quercus bicolor / Swamp White Oak
- Quercus coccinea / Scarlet Oak

## Ornamental Trees



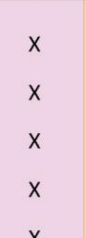


- Amelanchier canadensis / Serviceberry
- Cercis canadensis / Eastern Redbud
- Cornus florida / Flowering Dogwood

## Evergreen and Semi-Evergreen Trees

- Ilex opaca / American Holly
- Juniperus virginiana / Eastern Red Cedar
- Magnolia virginiana / Sweetbay Magnolia

## Evergreen and Semi-Evergreen Shrubs

- Arborvitae “Green Giant” / Arborvitae\*
- Ilex glabra / Inkberry
- Morella pensylvanica / Northern Bayberry

Native	Plan Location				
					
X		X	X		
X			X		
X		X	X		
X		X	X		
X			X		
X		X	X	X	
X			X		
X		X	X		
X	X		X		
X		X	X		
X	X		X		



*Acer rubrum / Red Maple*



*Amelanchier Canadensis / Serviceberry*



*Ilex opaca / American Holly*








*Arborvitae “Green Giant” / Arborvitae\**

\*Utilized for fast-growing evergreen screen along edge of driving range

# Plant Schedule

**Legend**

	Meadow w/ Native Pollinator Wildflowers & Grasses
	Stormwater Planting
	Native Perennials/Grasses– Partial Shade
	Pollinator Garden– Full Sun
	Green Roof– Sedum w/ Overseeding

## Deciduous Shrubs

- Aronia melanocarpa / Black Chokeberry
- Ceanothus americanus / New Jersey Tea
- Cephalanthus occidentalis / Buttonbush
- Diervilla lonicera / Northern Bush Honeysuckle
- Hamamelis virginiana / American Witch Hazel
- Hydrangea quercifolia / Oakleaf Hydrangea
- Hypericum kalmianum / St. John’s Wort
- Ilex verticillata / Winterberry
- Physocarpus opulifolius / Ninebark
- Viburnum prunifolium / Blackhaw

## Ornamental Grasses

- Carex vulpinoidea / Fox Sedge
- Deschampsia cespitosa / Tufted Hair Grass
- Juncus effusus / Soft Rush
- Muhlenbergia capillaris / Pink Muhly Grass
- Panicum virgatum / Switch grass

Native	Plan Location				
	Meadow	Stormwater	Partial Shade	Full Sun	Green Roof
X		X	X	X	
X		X			
X		X			
X	X			X	
X			X		
X			X		
X	X			X	
X		X	X	X	
X		X			
X		X	X		
X	X		X	X	
X	X	X			








*New Jersey Tea*      *American Witch Hazel*      *Oakleaf Hydrangea*



*Fox Sedge*      *Soft Rush*      *Switch grass*

# Plant Schedule

Legend	
	Meadow w/ Native Pollinator Wildflowers & Grasses
	Stormwater Planting
	Native Perennials/Grasses– Partial Shade
	Pollinator Garden– Full Sun
	Green Roof– Sedum w/ Overseeding

## Perennials

- Aster laevis / Smooth Aster
- Aster novae-angliae / New England Aster
- Coreopsis tripteris / Tall coreopsis
- Eryngium yuccifolium / Rattlesnake Master
- Iris versicolor / Blueflag
- Liatris spicata / Gayfeather
- Monarda didyma / Bee Balm
- Rudbeckia fulgida / Orange Coneflower
- Sedum spp.
- Solidago rugosa / Wrinkleleaf Goldenrod

Native	Plan Location				
					
X	X				
X	X	X		X	
X				X	
X	X			X	
X		X			
X	X			X	
X		X		X	
X				X	
X	X			X	X



*Sedum spp.*



*Aster laevis / Smooth Aster*



*Monarda didyma / Bee Balm*



*Solidago rugosa / Wrinkleleaf Goldenrod*

# Phase 2 – Overall Plan

PHASE 2 PROJECT AREA

BUFFER OF EXISTING VEGETATION TO REMAIN;  
INVASIVE PLANTS TO BE REMOVED IN THIS AREA

ARBORVITAE SELECTED FOR FAST  
RATE OF GROWTH, 12-14' AT  
PLANTING; 50-60' AT MATURITY

NEW 6' CHAIN  
LINK FENCE

SERVICE ROAD

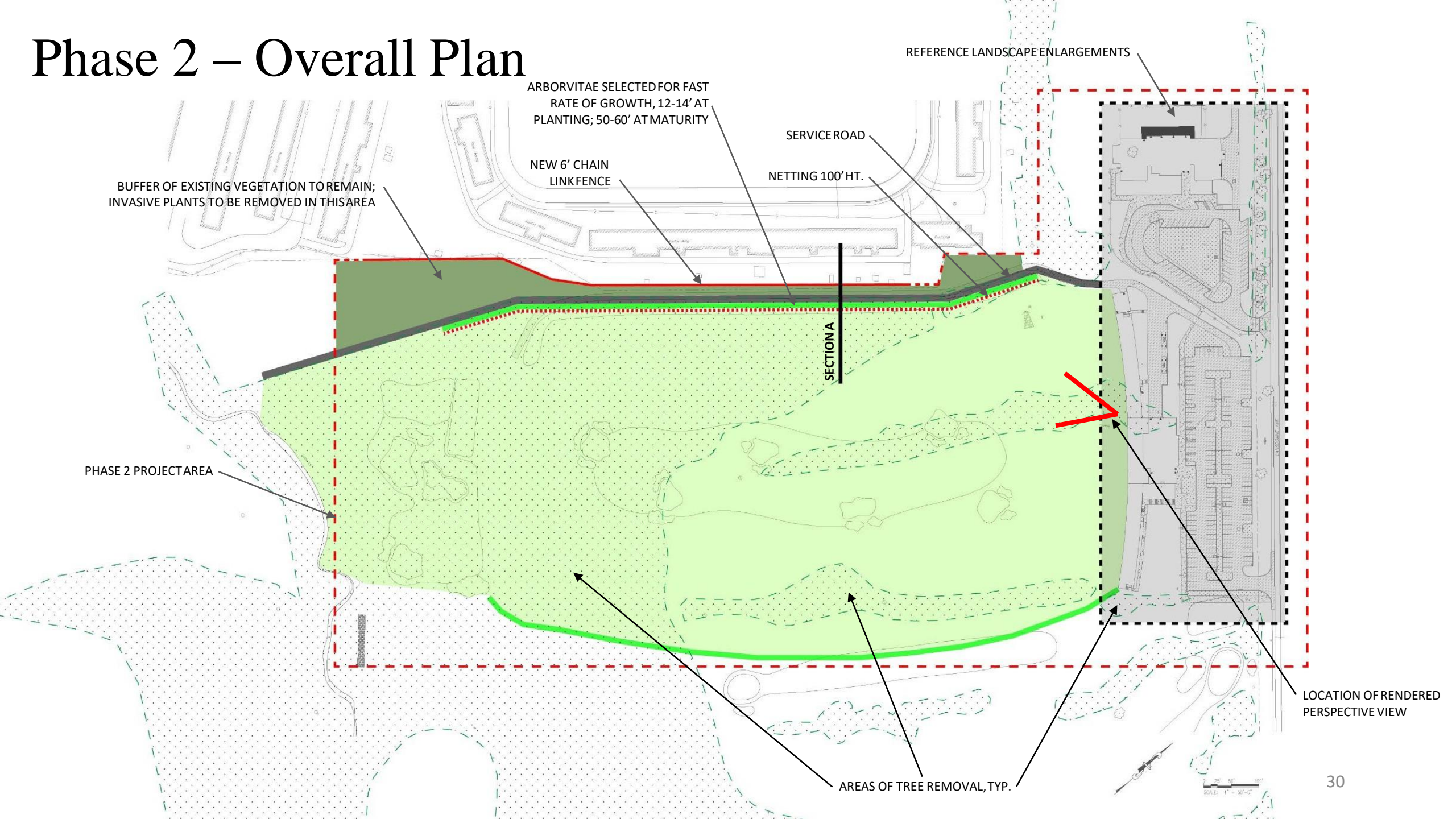
NETTING 100' HT.

REFERENCE LANDSCAPE ENLARGEMENTS

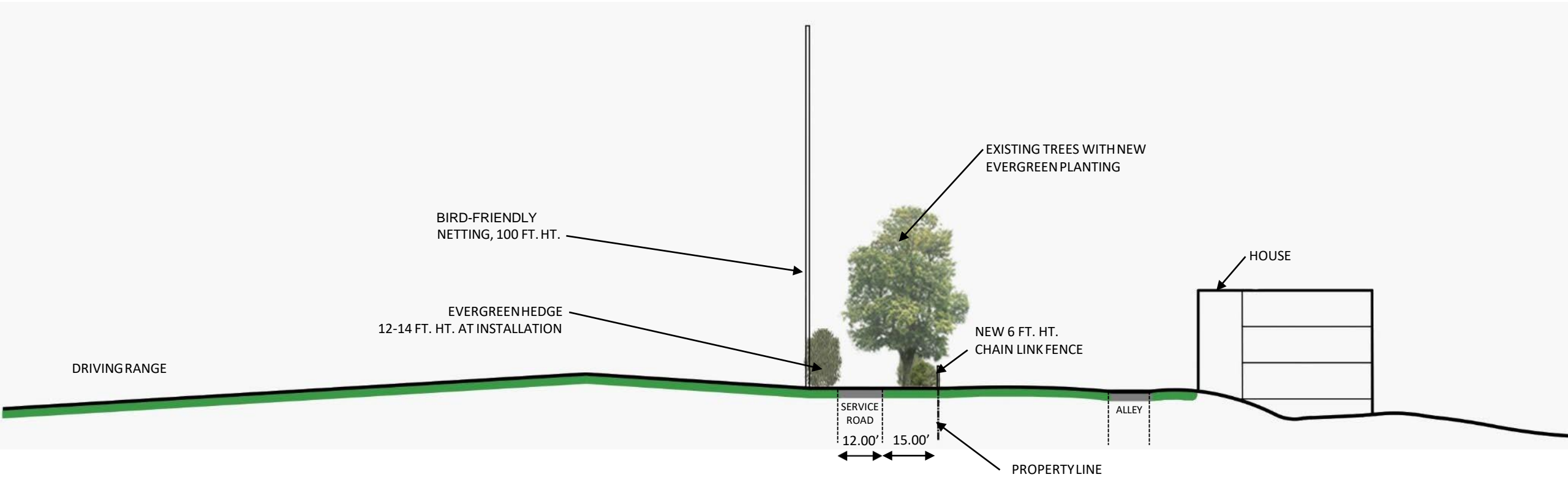
SECTION A

AREAS OF TREE REMOVAL, TYP.

LOCATION OF RENDERED  
PERSPECTIVE VIEW



# Driving Range – Section A



SCALE: 1"=30'-0"

# Driving Range – Rendered Perspective View



NOTE: GOLFERS AND VEHICLES SHOWN IN LANDSCAPE FORSCALE

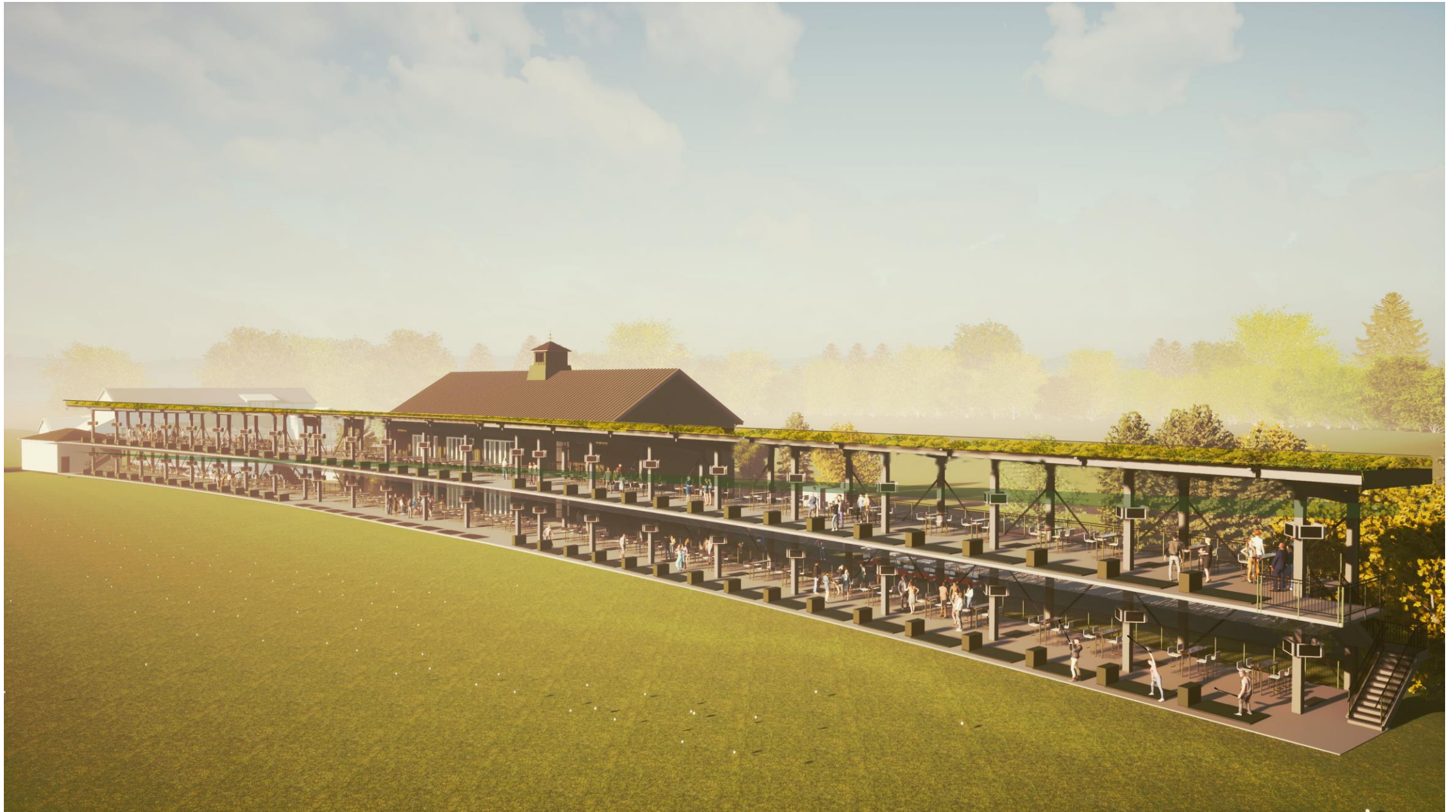




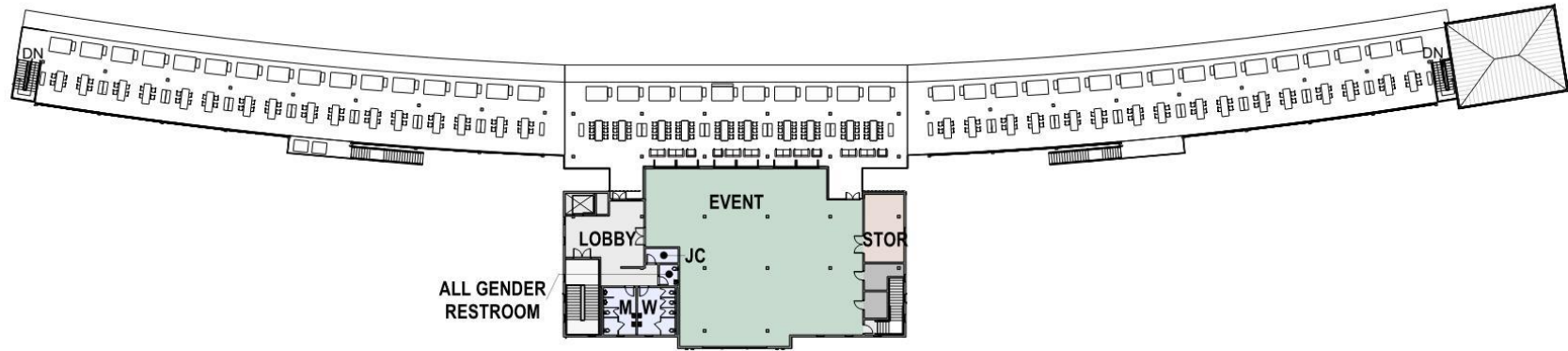
# Driving Range



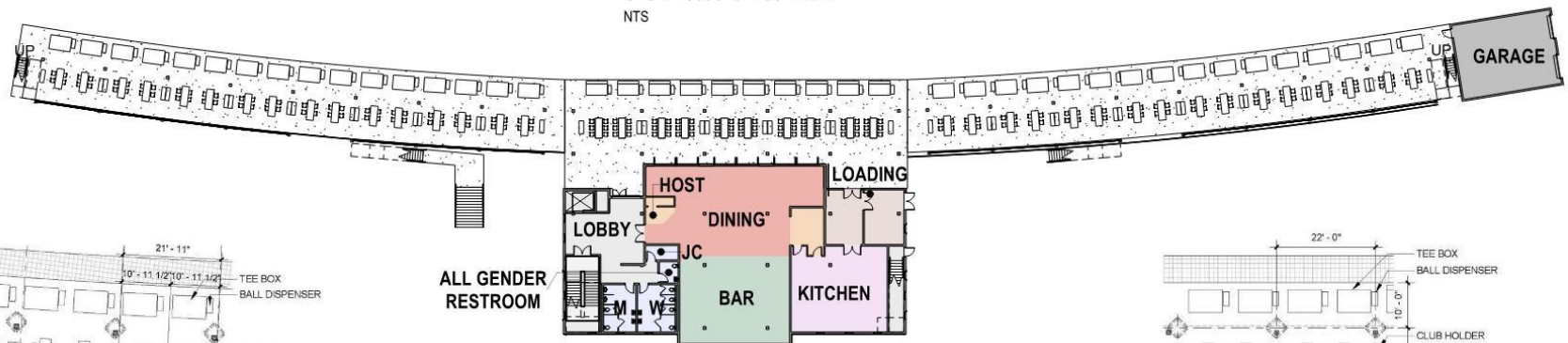
Note: Rendered images are for building only, landscaping has been modified to allow views of building, refer to landscape plans for planting plan.



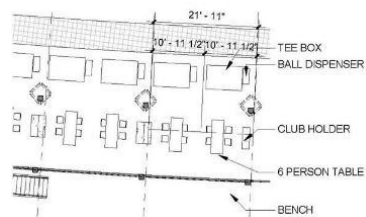
Note: Rendered images are for building only, landscaping has been modified to allow views of building, refer to landscape plans for planting plan.



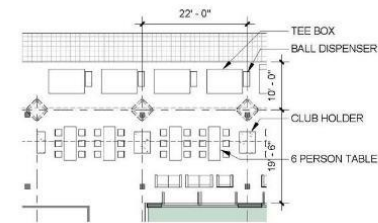
Overall Second Floor Plan  
NTS



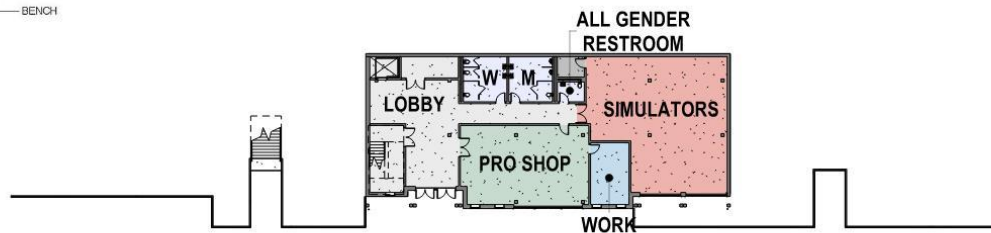
Overall First Floor Plan  
NTS



Typical Hitting Bay 1  
NTS



Typical Hitting Bay 2  
NTS



Overall Ground Floor Plan  
NTS



# Driving Range Overall Plans

prepared by:  
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08/30/2022

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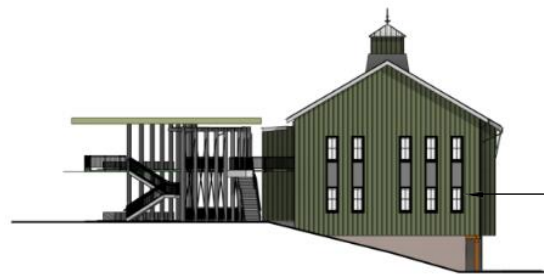
**BUILDING FRONT**



**DRIVING RANGE ELEVATION**



**NORTHEAST SIDE**



**SOUTHWEST SIDE**

VERTICAL SIDING

## **BUILDING ELEVATIONS**

Clubhouse & Cart Barn

Prepared by:

Blackney Hayes Architects

03/22/22



# Driving Range Sustainable Features:

- Photovoltaic panels approx.: 745sf on Driving Range “barn” roof
- High Efficiency HVAC Systems that meet the 2018 International Energy Conservation Code, which is ASHRAE 90.1 compliant
- Heat Recovery Systems
- Occupancy & Daylight Sensor Controls
- LED Lighting
- Electric Car Charging Stations
- Low Flow Toilets and Faucets
- Vegetated Roof System/Approx. 12,000 sf of Semi Intensive Green roof at driving range pavilion roof
- Bird Friendly patterned glass
- Low E glazing at windows
- Tankless Hot water Systems
- Locally sourced materials where possible
- Roof reflectivity index of standing seam metal roof SRI of 29 to reduce heat island effect; 60% recycled post-consumer/25% recycled pre-consumer (Pac-Clad Snap Clad Panels). White EPDM roofs are specified to be ENERGY STAR Listed. Snow guards are included on metal roofs
- All interior paintings, coatings, adhesives, cleaners specified to be low or no VOC to meet indoor air quality standards.
- Cleaning agents as part of project closeout specified to meet Green Seal's GS-37 complying with the California Code of Regulations maximum allowable VOC levels.

# Driving Range Center - Finishes



Hardie Vertical Board Siding

Pre-Manufactured Stone Veneer



Aluminum Clad  
Wood Windows  
with SDL  
Mullion



Bird  
Friendly  
Patterned  
Glass



Standing Seam Metal Roof

Green Roof



# Youth Golf Center

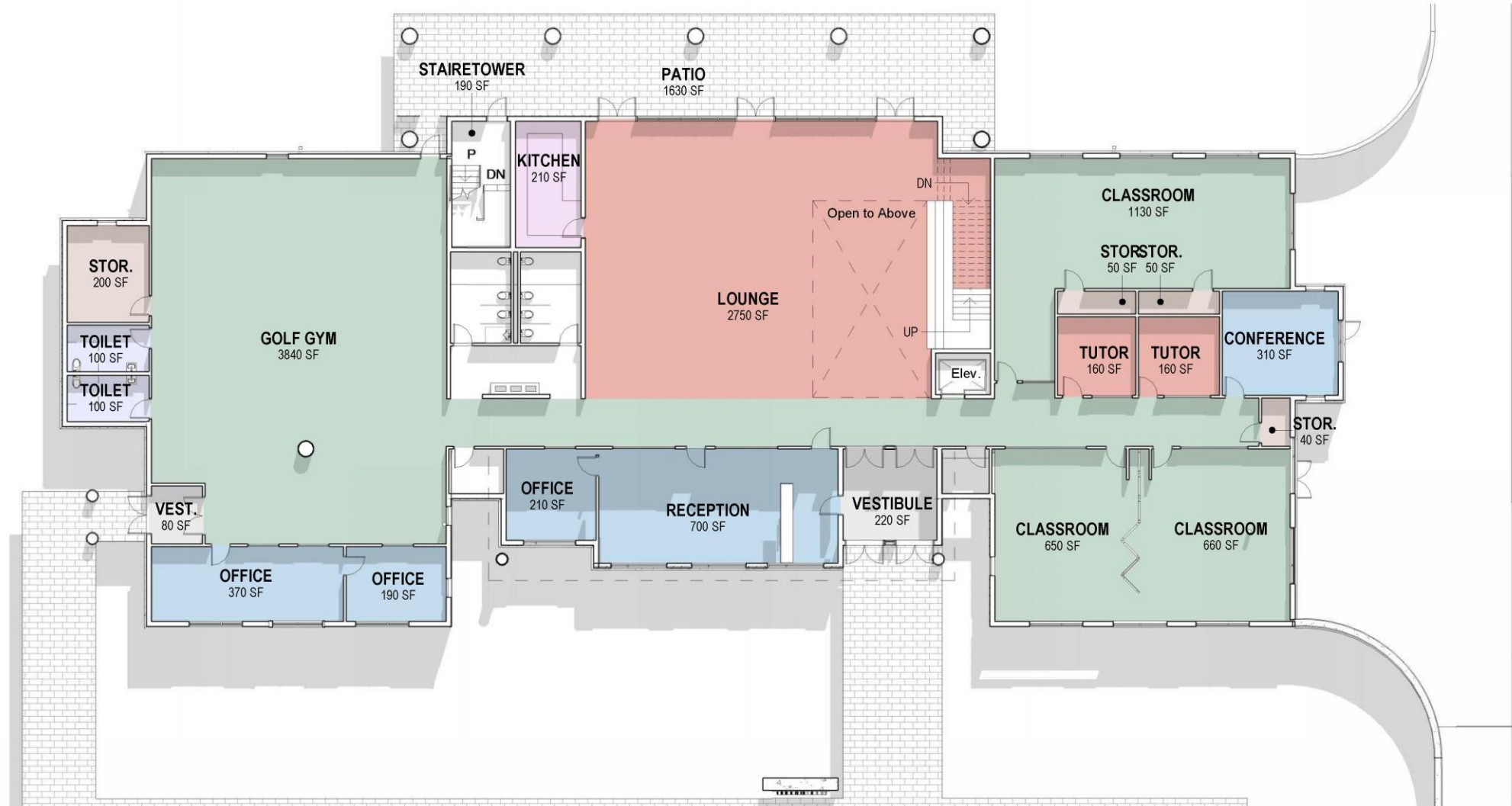


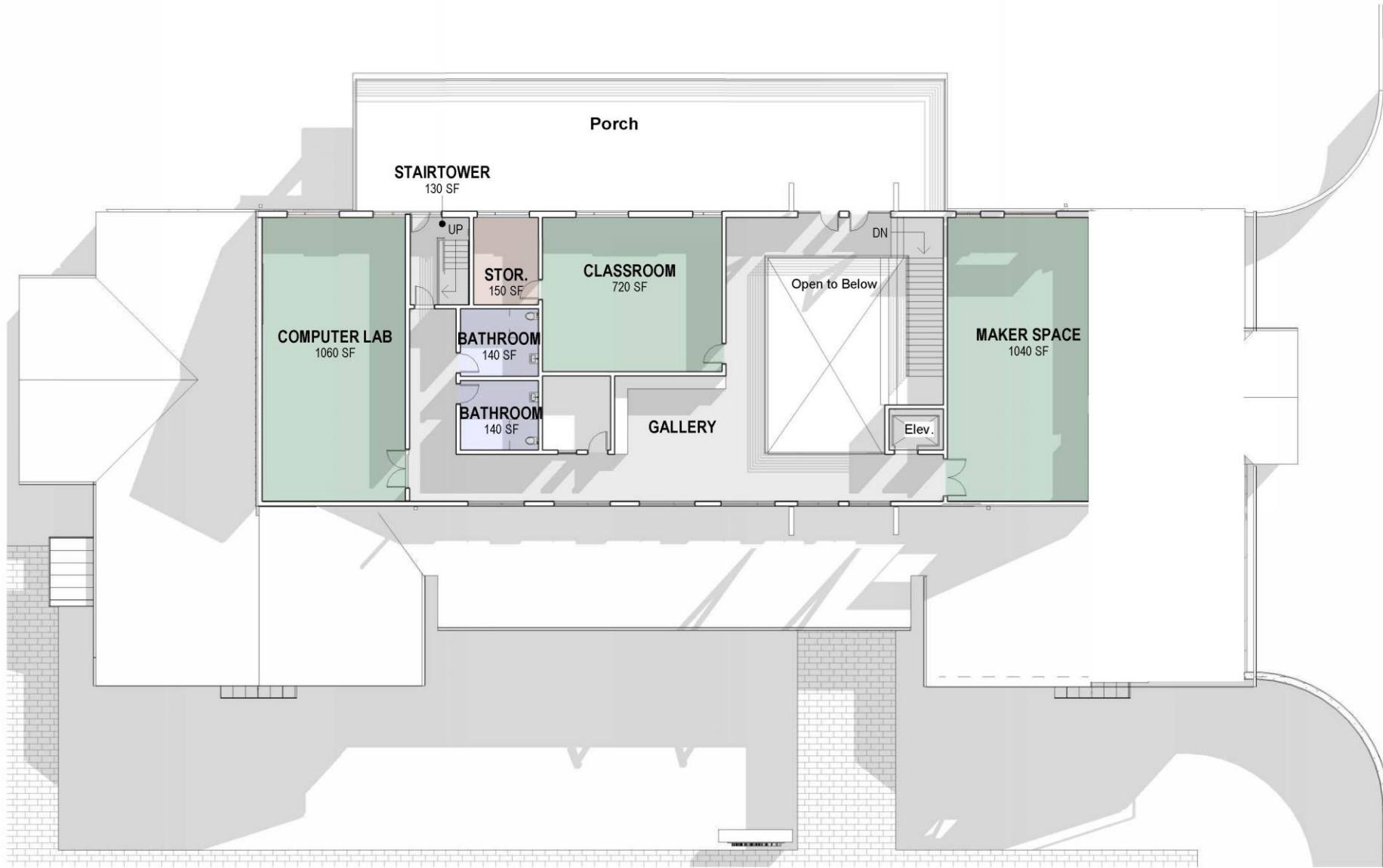


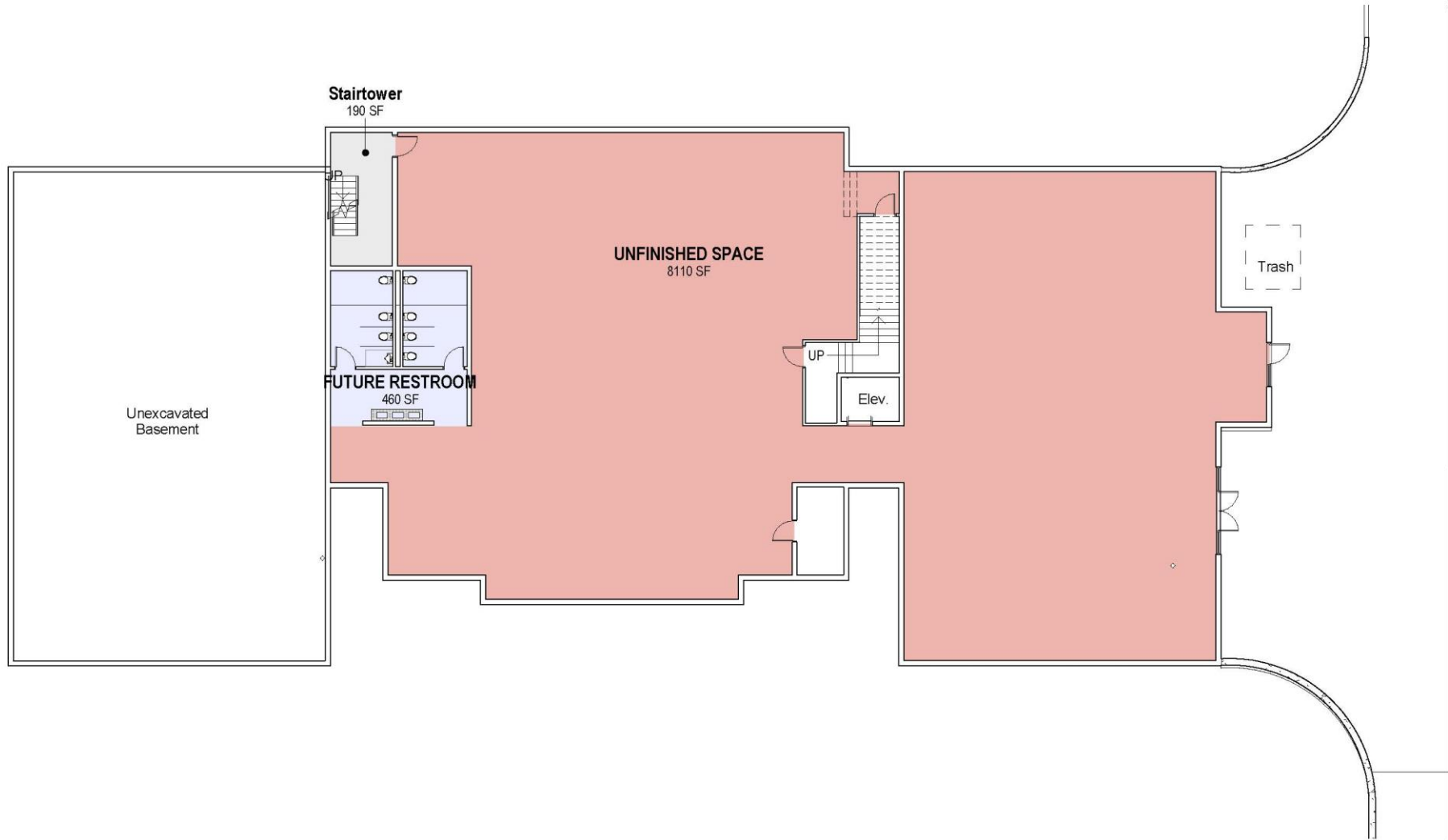
**Note: Rendered images are for building only, landscaping has been modified to allow views of building, refer to landscape plans for planting plan.**

Youth Golf Center  
prepared by:  
Blackney Hayes Architects  
April 6th, 2022

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STANDING SEAM METAL ROOF  
FIBER CEMENT VERTICAL SIDING  
GAF SLATELINE ASPHALT SHINGLE ROOF

METAL RAILINGS AT 42" HIGH

ALUMINUM STOREFRONT

PAINTED FIBER CEMENT TRIM BOARD  
STONE VENEER

**REAR ELEVATION**  
1 : 200



GAF SLATELINE ASPHALT SHINGLE ROOF  
FIBER CEMENT VERTICAL SIDING

STANDING SEAM METAL ROOF

PAINTED FIBER CEMENT TRIM BOARD

ALUMINUM STOREFRONT

STONE VENEER

**FRONT ELEVATION**  
1 : 200



# Exterior Elevations

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April 6th, 2022

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STANDING SEAM METAL ROOF

FIBER CEMENT VERTICAL SIDING

GAF SLATELINE ASPHALT SHINGLE ROOF



EXTERIOR GRFC TAPERED COLUMN SURROUNDS

FIBER CEMENT VERTICAL SIDING

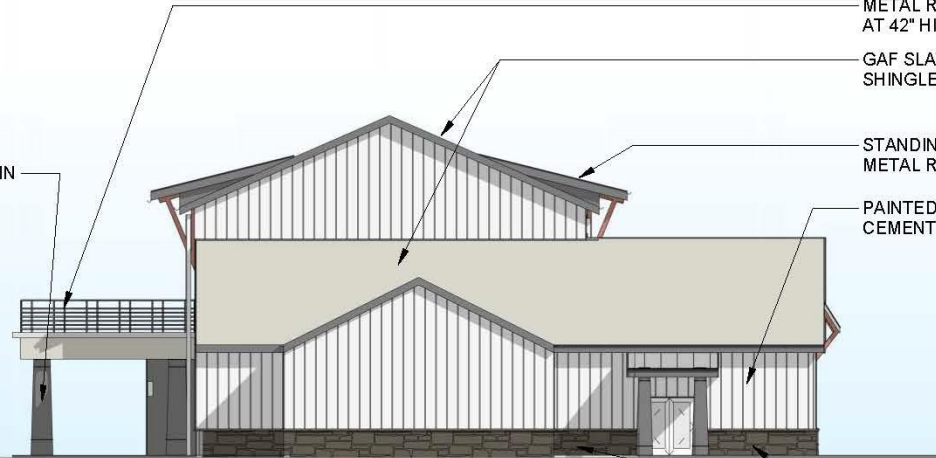
STONE VENEER

METAL RAILINGS AT 42" HIGH

GAF SLATELINE ASPHALT SHINGLE ROOF

STANDING SEAM METAL ROOF

PAINTED FIBER CEMENT TRIM BOARD



STONE VENEER

① West Elevation  
1/16" = 1'-0"

② East Elevation  
1/16" = 1'-0"

# Youth Golf Center Sustainable Features:



- High Efficiency HVAC Systems that meet the 2018 International Energy Conservation Code, which is ASHRAE 90.1 compliant
- Heat Recovery Systems
- Occupancy & Daylight Sensor Controls
- LED Lighting
- Electric Car Charging Stations
- Low Flow Toilets and Faucets
- Bird Friendly patterned glass
- Low E glazing at windows
- Tankless Hot water Systems
- Locally sourced materials where possible
- Roof reflectivity index of standing seam metal roof SRI of 29 to reduce heat island effect; 60% recycled post-consumer/25% recycled pre-consumer (Pac-Clad Snap Clad Panels), snow guards are included at metal roofs.
- Shingle Roof : GAF Slateline Designer Series shingles. ENERGYSTAR rated, compliant with the Cool Roof Rating Council (CRRC)
- All interior paintings, coatings, adhesives specified to be low or no VOC to meet indoor air quality standards.
- Cleaning agents as part of project closeout specified to meet Green Seal's GS-37 complying with the California Code of Regulations maximum allowable VOC levels.

# Youth Golf Center - Finishes



Roof Shingles



Hardie Vertical Board Siding Pre-Manufactured Stone Veneer



Bird Friendly Patterned Glass

Aluminum Clad Wood Windows with SDL Mullion

Standing Seam Metal Roof



# Landscape Plan

Meadow w/ Native Pollinator Wildflowers & Grasses



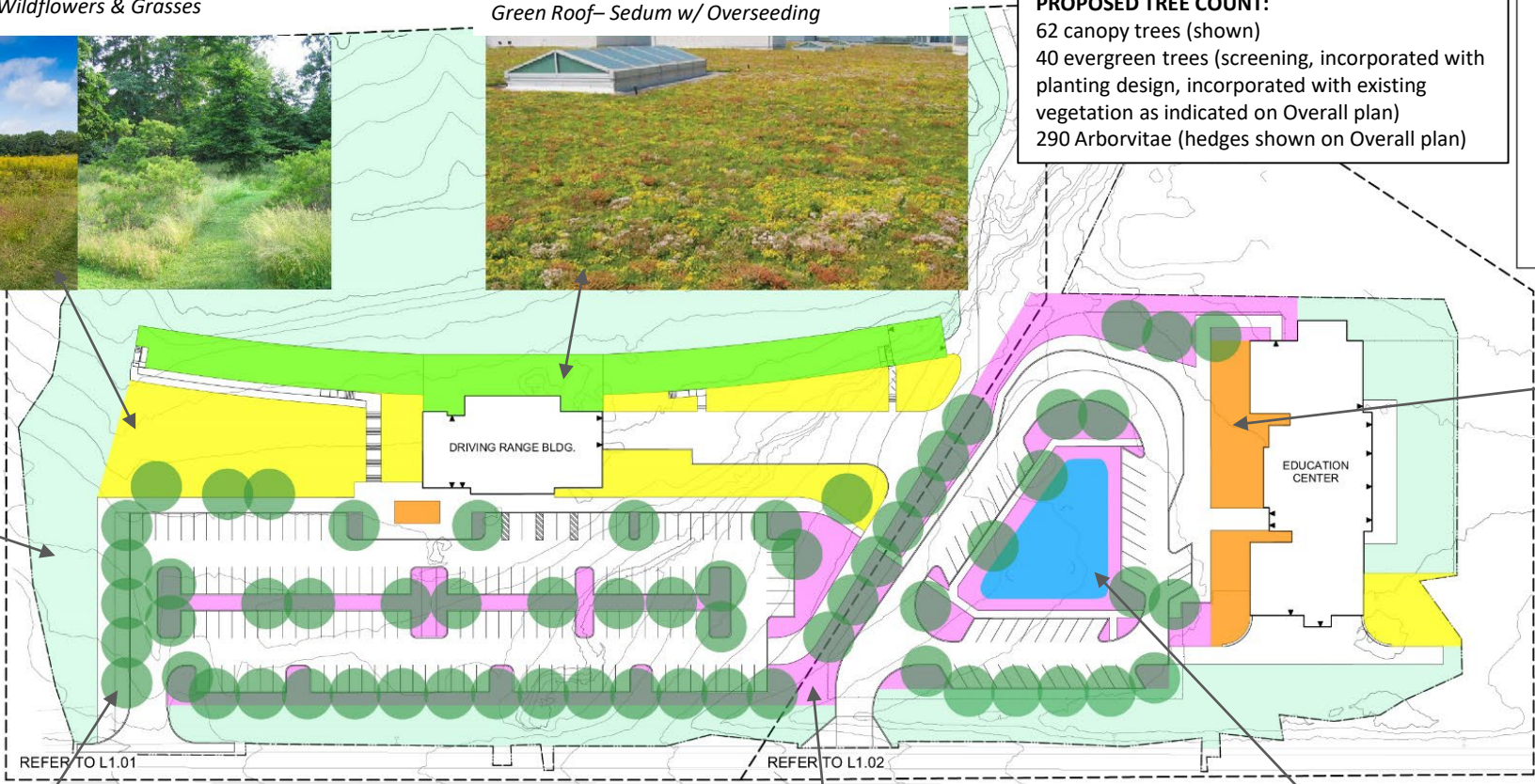
Green Roof- Sedum w/ Overseeding



**PROPOSED TREE COUNT:**  
 62 canopy trees (shown)  
 40 evergreen trees (screening, incorporated with planting design, incorporated with existing vegetation as indicated on Overall plan)  
 290 Arborvitae (hedges shown on Overall plan)

**Legend**

- Meadow w/ Native Pollinator Wildflowers & Grasses
- Stormwater Planting
- Native Perennials/Grasses- Partial Shade
- Pollinator Garden- Full Sun
- Green Roof- Sedum w/ Overseeding
- Large Shade Trees at Maturity (15-20 Years)



Pollinator Garden- Full Sun



Large Shade Trees at Maturity (15-20 Years)



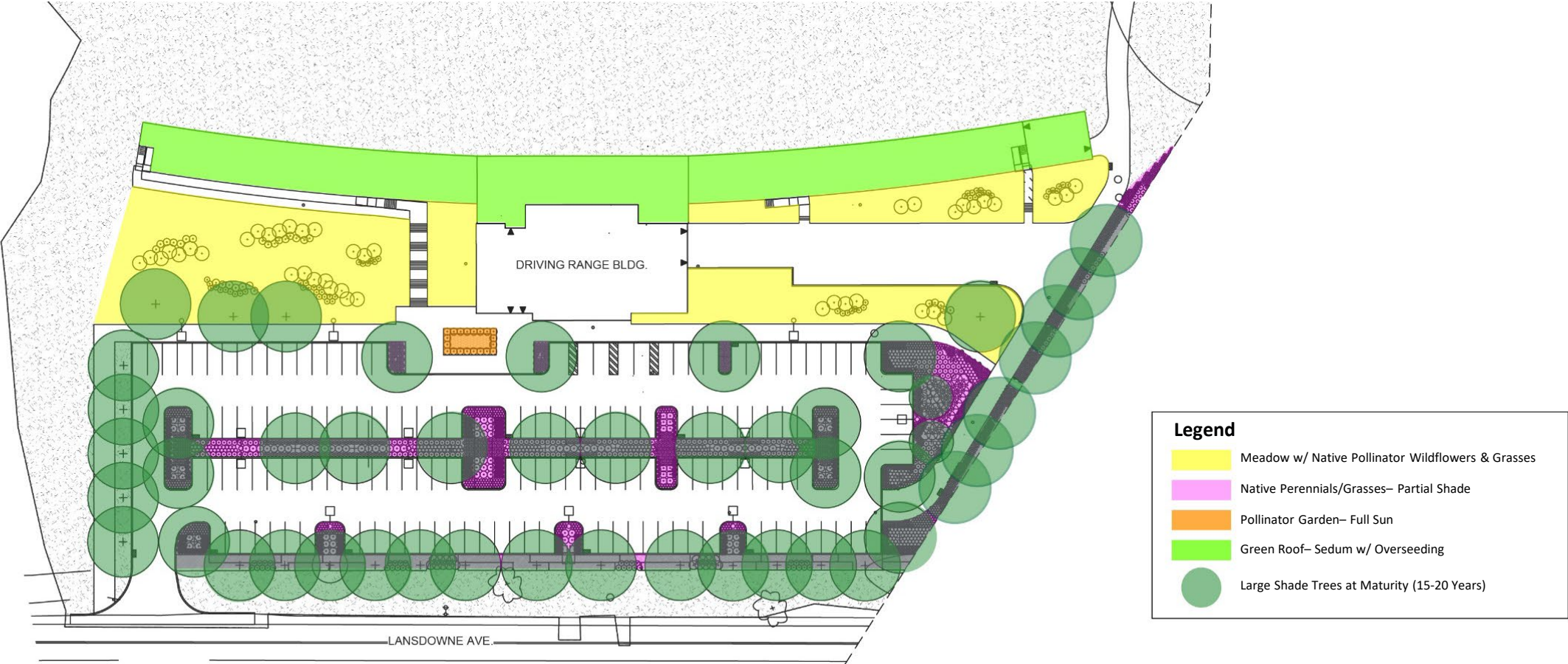
Native Perennials/Grasses- Partial Shade



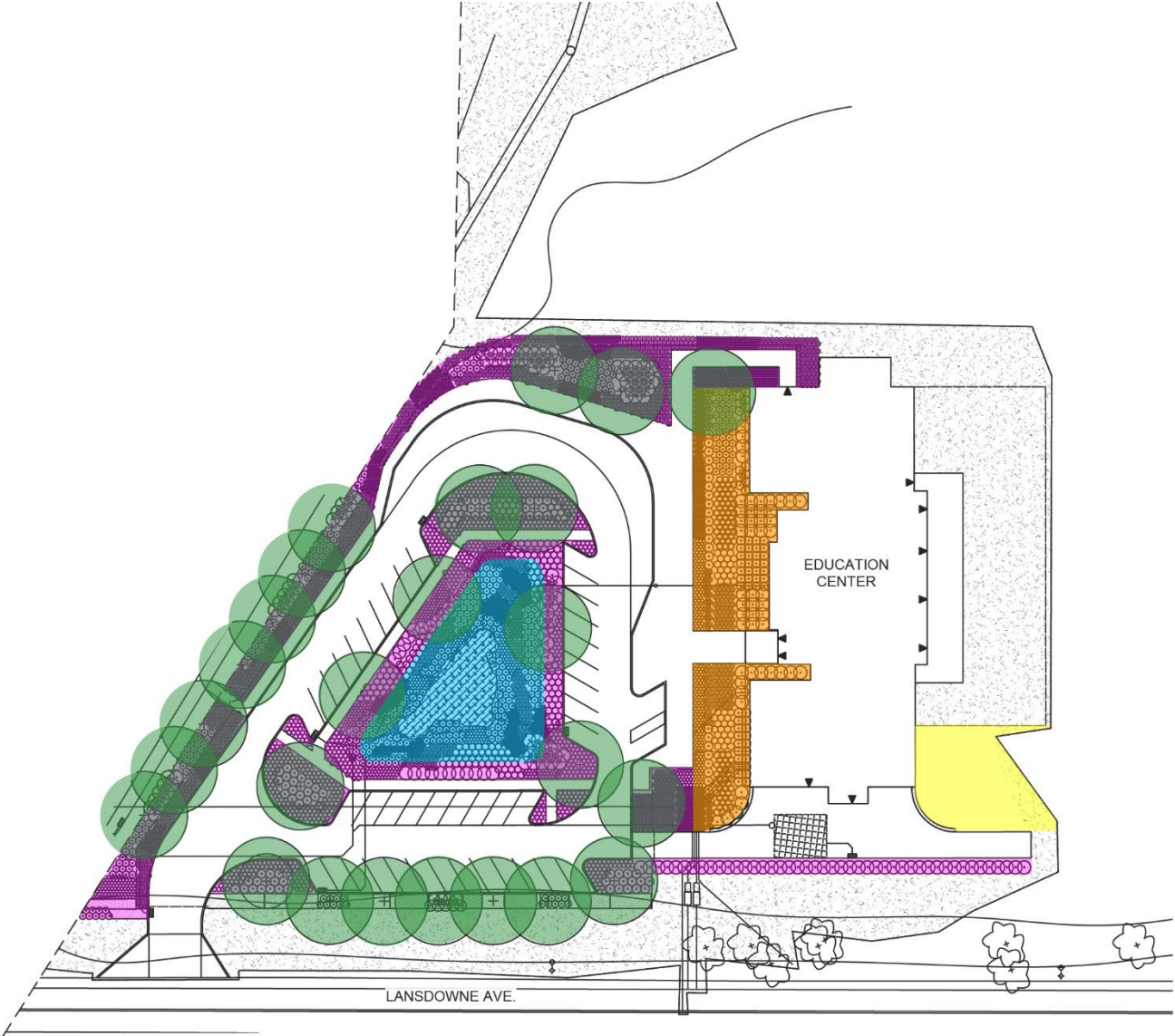
Stormwater Planting



# Landscape Plan Enlargement – Driving Range



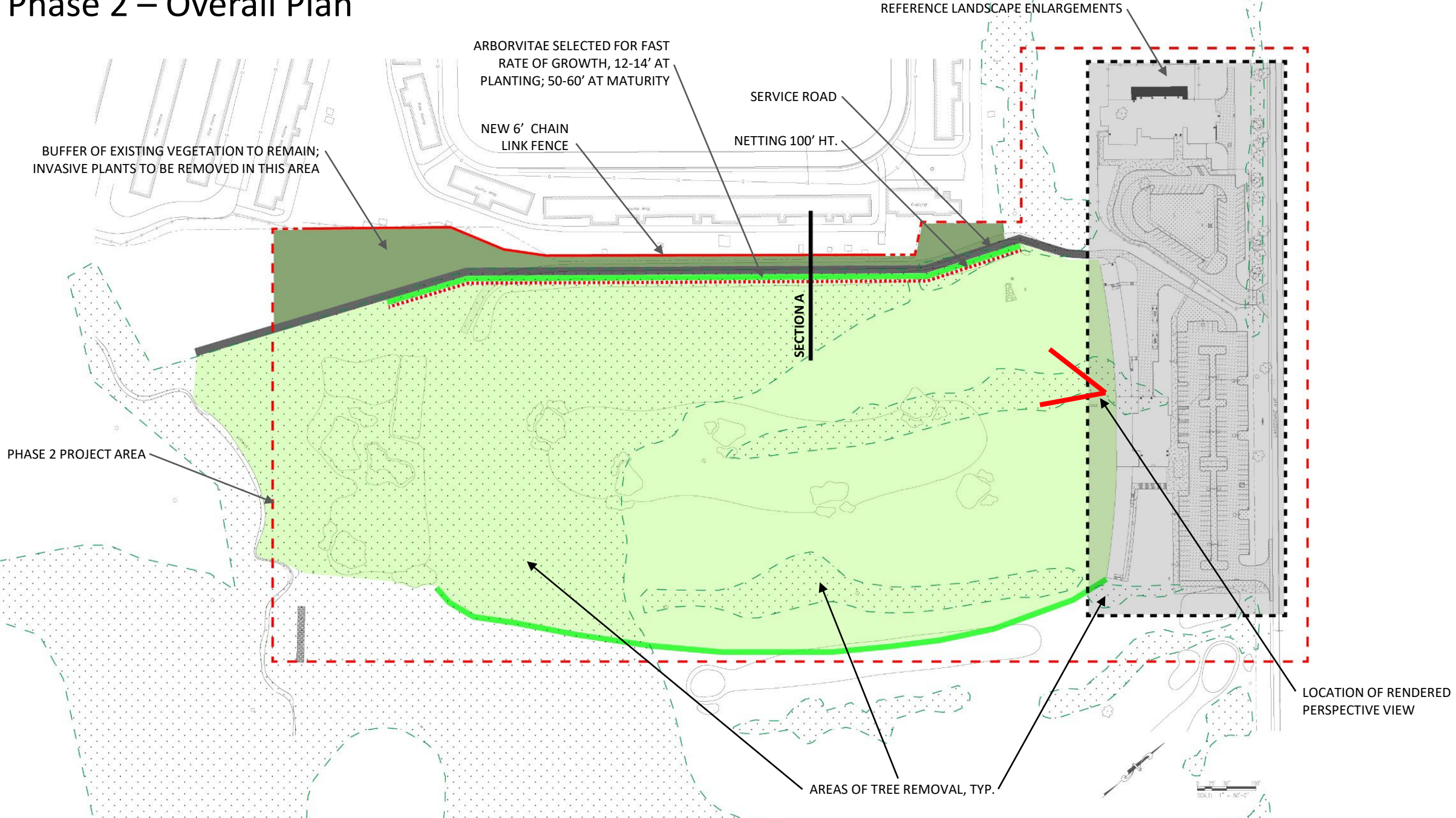
# Landscape Plan Enlargement – Education Center







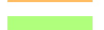
**Legend**

- Meadow w/ Native Pollinator Wildflowers & Grasses
- Stormwater Planting
- Native Perennials/Grasses– Partial Shade
- Pollinator Garden– Full Sun
- Large Shade Trees at Maturity (15-20 Years)

# Phase 2 – Overall Plan



# Plant Schedule

Legend	
	Meadow w/ Native Pollinator Wildflowers & Grasses
	Stormwater Planting
	Native Perennials/Grasses– Partial Shade
	Pollinator Garden– Full Sun
	Green Roof– Sedum w/ Overseeding

## Canopy Trees

- Acer rubrum / Red Maple
- Gleditsia triacanthos var. inermis / Honey Locust (thornless)
- Nyssa sylvatica / Blackgum
- Quercus bicolor / Swamp White Oak
- Quercus coccinea / Scarlet Oak

## Ornamental Trees


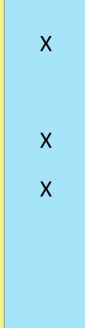
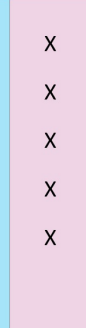


- Amelanchier canadensis / Serviceberry
- Cercis canadensis / Eastern Redbud
- Cornus florida / Flowering Dogwood

## Evergreen and Semi-Evergreen Trees

- Ilex opaca / American Holly
- Juniperus virginiana / Eastern Red Cedar
- Magnolia virginiana / Sweetbay Magnolia

## Evergreen and Semi-Evergreen Shrubs

- Arborvitae “Green Giant” / Arborvitae\*
- Ilex glabra / Inkberry
- Morella pensylvanica / Northern Bayberry

Native	Plan Location				
					
X		X	X		
X			X		
X		X	X		
X		X	X		
X			X		
X		X	X	X	
X			X		
X		X	X		
X	X		X		
X		X	X		
X	X		X		



*Acer rubrum / Red Maple*



*Amelanchier Canadensis / Serviceberry*



*Ilex opaca / American Holly*



*Arborvitae “Green Giant” / Arborvitae\**

\*Utilized for fast-growing evergreen screen along edge of driving range

# Plant Schedule

## Legend

- Meadow w/ Native Pollinator Wildflowers & Grasses
- Stormwater Planting
- Native Perennials/Grasses– Partial Shade
- Pollinator Garden– Full Sun
- Green Roof– Sedum w/ Overseeding

### Deciduous Shrubs

- Aronia melanocarpa / Black Chokeberry
- Ceanothus americanus / New Jersey Tea
- Cephalanthus occidentalis / Buttonbush
- Diervilla lonicera / Northern Bush Honeysuckle
- Hamamelis virginiana / American Witch Hazel
- Hydrangea quercifolia / Oakleaf Hydrangea
- Hypericum kalmianum / St. John’s Wort
- Ilex verticillata / Winterberry
- Physocarpus opulifolius / Ninebark
- Viburnum prunifolium / Blackhaw

### Ornamental Grasses

- Carex vulpinoidea / Fox Sedge
- Deschampsia cespitosa / Tufted Hair Grass
- Juncus effusus / Soft Rush
- Muhlenbergia capillaris / Pink Muhly Grass
- Panicum virgatum / Switch grass

Native	Plan Location				
X		X	X	X	
X		X			
X		X			
X	X			X	
X			X		
X	X			X	
X		X	X	X	
X		X			
X		X	X		
X	X		X	X	
X	X	X			



*New Jersey Tea*

*American Witch Hazel*

*Oakleaf Hydrangea*



*Fox Sedge*

*Soft Rush*

*Switch grass*

# Plant Schedule

## Legend

- Meadow w/ Native Pollinator Wildflowers & Grasses
- Stormwater Planting
- Native Perennials/Grasses– Partial Shade
- Pollinator Garden– Full Sun
- Green Roof– Sedum w/ Overseeding

## Perennials

- Aster laevis / Smooth Aster
- Aster novae-angliae / New England Aster
- Coreopsis tripteris / Tall coreopsis
- Eryngium yuccifolium / Rattlesnake Master
- Iris versicolor / Blueflag
- Liatris spicata / Gayfeather
- Monarda didyma / Bee Balm
- Rudbeckia fulgida / Orange Coneflower
- Sedum spp.
- Solidago rugosa / Wrinkleleaf Goldenrod

Native	Plan Location				
X	X				
X	X	X		X	
X				X	
X	X			X	
X		X			
X	X			X	
X		X		X	
X				X	
X	X			X	X



**Sedum spp.**



**Aster laevis / Smooth Aster**



**Monarda didyma / Bee Balm**



**Solidago rugosa / Wrinkleleaf Goldenrod**

# Cobbs Creek Foundation

Documentation to support responses to Philadelphia Art Commission comments

## Cobbs Creek Golf Course Floodplain Restoration Information

### Project Context and Overview

The Cobbs Creek Watershed (“Watershed”), which includes Indian Creek, is an urban drainage area in southwestern Philadelphia that conveys water to Darby Creek and ultimately the Delaware River. As an urban watershed, many of the natural watershed processes have been disrupted by changes in land cover and drainage patterns, specifically impervious surfaces (e.g., roof tops, paved areas) and storm drains. Because water and pollutants flow from combined sewers to Cobbs Creek, the resulting flashy stream flows contribute to stream bank erosion and impair the overall health of the stream, making it less suitable for aquatic life.

These impairments are not the result of recent activities. Over several centuries, the watershed has seen periods of extensive land clearing, agriculture, damming, and intense urbanization. Historic mapping documents modifications to Cobbs Creek including damming, ditching, and straightening within the project reach. Furthermore, present day infrastructure including road crossings, multiple sanitary sewer lines, and a gas pipeline constrains the floodplain and channel. While modern land development regulations and best management practices made significant progress in protecting these resources from future damage, Cobbs Creek is still actively adjusting and degrading in response to this legacy of watershed disturbance.

One example of the cumulative impacts of past land use change on Cobbs Creek is the accumulation of floodplain sediments over time. A study of floodplain soils by LandStudies, Inc. determined that the watershed’s history of land disturbance led to the deposition of 4-8 feet of fine alluvium (soil) across the floodplain (legacy sediment). The present stream channel has incised through these legacy sediments leaving tall eroding banks susceptible to future erosion. These conditions contribute excessive sediment and nutrient loads to the Cobbs Creek and Darby Creek watersheds. This sediment smothers in stream habitats for fish and invertebrates and releases adhered nutrients into the water column, which impair stream health (physical, chemical and biological condition of the stream).

In 2010 Philadelphia Water Department commissioned a Cobbs Creek Stream Restoration Feasibility Study, which evaluated reach specific impairments and recommendations for the restoration of 7.1 miles of the mainstem channel downstream from City Line Avenue. The proposed Cobbs Creek Golf Course Floodplain Restoration addresses reaches 1, 2, 3a, 3 and the upper end of Reach 4 described in the feasibility study. By integrating the stream restoration project with the golf course renovation many of the constraints posed in the feasibility study were eliminated allowing for a more comprehensive restoration strategy to be pursued.

The intent of the Cobbs Creek Golf Course Floodplain Restoration is to “create a shallower and more sustainable, lower stress system by re-connecting the groundwater and stream base flow with the rooting depth of the floodplain vegetation”. Essentially, the flashy flows from the urban watershed are going to be diffused over a densely vegetated stream and floodplain complex. The benefit of this is that it decreases energy within the stream channel to slow erosion and stormflows that frequently spill onto the restored floodplain where the vegetation and soil help to trap fine sediment and process nutrients in



the water thereby converting the project reach from a pollution source to a sink. The frequent exchange of surface and ground water will also lead to the development of an extensive network of riparian wetlands within the project footprint. Lastly, the approach of excavating the 4-8 feet of legacy sediment to expose the pre-settlement floodplain will deliver the projected benefits while lowering the flood elevation and reducing the risk of nuisance flooding adjacent to the project reach.

To implement the proposed project approach, 350,000 cubic yards of these legacy sediments are to be excavated from the Cobbs Creek floodplain in an approximate 38-acre area. The excavated soil is to be placed on the adjacent golf course.

The Cobbs Creek Golf Course Floodplain Restoration is being developed as mitigation bank, which offers the following assurances regarding the site’s long-term performance:

1. The project will be subject to rigorous monitoring to ensure that the project is successful before the bank developer can sell credits.
2. The stream, floodplain, and designated buffers will be protected in perpetuity through restrictive covenants.
3. A Long-term Stewardship Fund will be established and managed by a designated non-profit who will take over the long-term maintenance of the site once the bank developer’s obligations are complete.

### Quantifying project benefits

#### Increased Stream Length

The project will also result in a significant increase in stream length (nearly two miles) as the smaller and more sinuous channel will wind through the restored floodplain.

#### Erosion Reduction

Based on the amount of erosional surface on the existing stream banks and the published mid-Atlantic erosional rate estimate (0.664 inches/year), the estimated amount of sediment eroding from the streams to be restored is on average approximately 4,243 cubic feet per year, which equates to approximately 13 dump truck loads of sediment. This sediment load will be reduced to close to zero with the stream and floodplain restoration activities.

#### Nutrient and Sediment Load Reduction

Planning level estimates of total nitrogen, total phosphorus and total suspended solids reduction were calculated based on factors published in *Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects* (Berg 2014) and the *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE 2020). The estimated reductions of these pollutants to surface water from stream restoration are listed below.

<b>Total Nitrogen Reduction (lbs/year)</b>	<b>Total Phosphorus Reduction (lbs/year)</b>	<b>Total Suspended Solids Reduction (lbs/year)</b>
1,175	1,065	3,887,152

### Wetland Re-establishment

It is anticipated that 36.8 acres of wetlands will be re-established within the restored floodplain and 1.2 acres will be enhanced. Approximately 2.3 ac. of wetland will be regraded for the purpose of relocating and reestablishing high quality wetlands within the proposed floodplain, tying in the proposed floodplain elevations to the existing grade, and using excavated floodplain material to elevate golf course features above the 100-year water surface elevation.

### Ecological Uplift

As a final comparison of existing conditions and future restored stream conditions, a commonly applied technique developed by the Environmental Protection Agency (EPA) called *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers* is used. A portion of the Protocol assesses physical characteristics of the stream channel, banks and riparian zone based on visual observations in the field. The table below lists “habitat parameters” on the left, a brief parameter description, and how the stream restoration is projected to affect the parameter in a general, qualitative way.

Habitat Parameter	Habitat Parameter Description	Change After Restoration (+ = positive, - = negative)
Epifaunal substrate	Relative quantity and variety of natural structures in the stream	+
Embeddedness	Refers to the extent to which rocks (gravel, cobble, and boulders) and snags are covered or sunken into the silt, sand, or mud of the stream bottom.	+
Velocity depth regime	The best streams in most high-gradient regions will have all 4 patterns present: (1), slow-deep, (2) slow-shallow, (3) fast-deep, and (4) fast-shallow.	+
Sediment deposition	The amount of sediment that has accumulated in pools and the changes that have occurred to the stream bottom as a result of deposition	+
Channel flow status	The degree to which the channel is filled with water	+
Channel alteration	Many streams in urban and agricultural areas have been straightened, deepened, or diverted into concrete channels, often for flood control or irrigation purposes.	++
Frequency of riffles	Measure the sequence of riffles and thus the heterogeneity occurring in a stream.	+
Bank stability	Measures whether the stream banks are eroded (or have the potential for erosion).	+++
Bank vegetative protection	Measures the amount of vegetative protection afforded to the stream bank and the near-stream portion of the riparian zone.	+
Riparian width	Measures the width of natural vegetation from the edge of the stream bank out through the riparian zone.	+

The remaining habitat parameters all are positively affected by the stream restoration. Channel alteration, or the straightening, channelization or excavation of the existing channel that occurred historically will be improved dramatically by restoring a properly sinuous, stable natural channel. Bank stability will experience the most uplift, with stable, non-eroding banks being created throughout the project reaches.

### Floodplain Restoration References

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.

Berg, et al., 2013. Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects. Prepared by: Tom Schueler, Chesapeake Stormwater Network and Bill Stack, Center for Watershed Protection.

[https://www.chesapeakebay.net/documents/Final\\_CBP\\_Approved\\_Stream\\_Restoration\\_Panel\\_report\\_LONG\\_with\\_appendices\\_A-G\\_02062014.pdf](https://www.chesapeakebay.net/documents/Final_CBP_Approved_Stream_Restoration_Panel_report_LONG_with_appendices_A-G_02062014.pdf) (accessed September 2, 2022)

Maryland Department of the Environment (MDE), 2020. Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits

(<https://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Documents/2020%20MS4%20Accounting%20Guidance.pdf>) (accessed September 2, 2022)

Noe, G., K. Hopkins, P. Claggett, E. Schenk, M. Metes, L. Ahmed, T. Doody, and C. Hupp. 2022. Streambank and floodplain geomorphic change and contribution to watershed material budgets *Environ. Res. Lett.* **17** 064015

Philadelphia Water Department (PWD), 2010. Cobbs Creek Stream Restoration Feasibility Study.

### Non-Native and Invasive Species Management

Non-native and invasive plants (NNI) species often outcompete native vegetation for limited resources, altering the ecology of a native plant community to the detriment of the targeted ecosystem. Regardless of location, the ideal management of NNI vegetation is a multiyear process that decreases in effort over time. While complete eradication is rarely achievable in urban areas surrounded by seed sources and numerous vectors of re-invasion, regular monitoring and spot treatment of individual NNI as they appear can help limit the extent to which NNI will impact a restored site and lead to the development of a thriving native ecosystem.

Extensive infestations of NNI have been documented within the project limits. Initial NNI control of these infestations will be established through the clearing and removal of vegetation associated with the proposed improvements making the long-term management of NNI practical and feasible. While it is often not required beyond standard permit closeout, long-term management of NNI is recommended to

sustain the target native plant communities and their associated benefits to the local ecology, including pollinators, songbirds, and other wildlife.

The Operations and Maintenance plan for the Floodplain Restoration, included in the LandStudies, Inc. design documents, specifies how invasive species will be monitored for and controlled in the future. Management of the NNI within the limits of the floodplain restoration will be addressed through the Long-Term Stewardship Fund established for the mitigation site. Beyond the limits of the restoration, NNI control will be integrated into the overall grounds program for the property to support the establishment and maintenance of native plant communities on the property. As a result NNI will be actively managed across the property to maintain the native plant communities and their associated ecological functions.

## CSO Collection

Several Combined Sewers outlet to Cobbs Creek watershed and within the project limits. Combined sewers collect rainwater, sewage, and other wastewater in a single pipe network. Under normal flows everything in the pipe flows to a treatment plant before discharging to a water body. When a combined sewer is overwhelmed by stormwater it overflows and untreated sewage and stormwater flow directly into waterways. The Combined Sewer Overflows (CSO) pose a public health risk when people and pets come into contact with stream water after rain events and stream health is compromised when excess nutrients and other contaminants degrade water quality. The project proposes to collect CS-33, which is adjacent to the proposed education center, and route it to a separate sewer to prevent CSO. Preventing CSO directly benefits public and stream health.

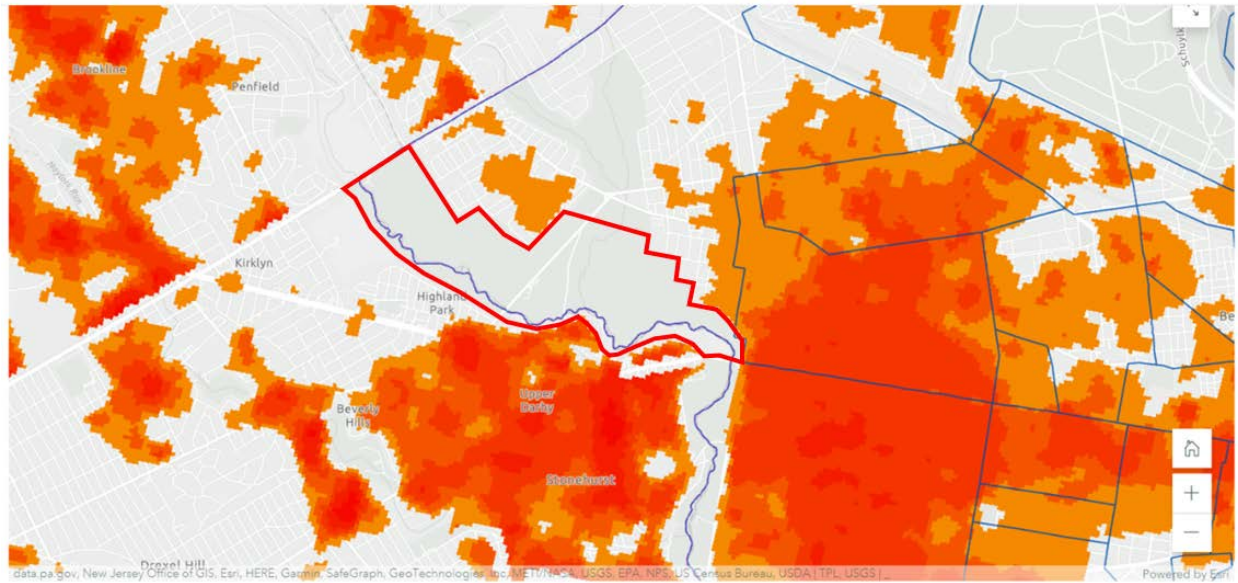
Cobbs Creek Foundation is committed to working with the PWD to expand CSO collection where feasible because it directly benefits our program goals and we recognize how these projects benefit public and environmental health.

## Urban Heat Islands

As part of its review of the Golf Course Restoration Plan, the Art Commission has asked how the project can mitigate or reduce heat impacts in the area.

Urban areas experience warmer temperatures as a result of the high concentration of buildings, high emissions, and heat absorbing surfaces such as black roofs and parking lots ([Rinkesh](#)). On average, these heat islands will range between 2 and 22 degrees Fahrenheit warmer than adjacent rural areas (UHI). Generally, plants create cooler ambient temperatures than manmade surfaces because of their reflective properties, evapotranspiration, and shading. Although trees provide all three benefits, the difference between trees and other forms of dense natural vegetation at the landscape scale is generally low. Near buildings, where trees can be placed to lower energy use and greenhouse gas emissions, their value in reducing urban heat islands is particularly high (EPA 2008).

The following image shows the western part of Philadelphia and the impacts of urban heat. The colored areas are warmer than normal temperatures.



Philadelphia Urban Heat Islands

The Cobbs Creek golf course area on the map does not include any colored areas because it maintains expected temperatures. This cool center is because the golf course is a large, contiguous green space, one of the most important reducers for heat islands. The factors that then further influence the heat change, in order of importance, will be the size of the green space, the tree canopy cover, and then soil cover (Eupen 2017).

Studies have been conducted to understand the pressures that urban development has on green spaces ecosystem services, and how alternative land uses in cities can minimize the ecological impact and lower temperatures. Although golf courses are rarely the explicit focus of such research, one study in the Minneapolis-St Paul area of Minnesota synthesized data from 135 golf courses to consider the ecosystem services they provide. One central metric was the effect on urban temperatures. Golf courses were provided statistically similar temperature regulation services as other natural areas and parks, and are more effective cooling sinks than residential and industrial areas (Lonsdorf et al 2021). This is partly because the difference in evapotranspiration capacity between trees and grass does not have a very powerful numerical effect on the final temperature values and partly because golf courses, although large areas compared to other urban land uses, are smaller in scale than the spatial range of urban heat island effects (Hamel et al 2021).

<https://www.sciencedirect.com/science/article/pii/S0169204620315061>

To maintain the cooling functions of the golf course, several strategies can offset the proposed changes. Planting more replacement trees on the course itself would boost local evapotranspiration and lower local temperatures. Changing the roof design of the proposed buildings on the course can decrease heat retention. Light-colored materials increase solar reflectance and absorb less heat, and green roofs will also reduce heat intake while increasing green space. Strategic planting will also improve the cooling abilities by connecting green corridors and increasing density in some areas. Finally, minimizing pavement in future design and increasing the presence of gravel pathways will improve infiltration and reduce heat retention.

October 5, 2022

While all the above recommendations will reduce the thermal footprint of the Golf Course Restoration Project, their influence on the established heat island is likely to be nominal. To effectively mitigate established heat islands, off-site strategies such as an urban canopy program would be more impactful to the surrounding communities.

Cobbs Creek Foundation recognizes how the co-benefits of an urban tree canopy align with the Foundations mission; therefore, the Foundation is willing to partner with surrounding communities in efforts to expand their urban tree canopy.

## UHI References

Hamel, P., Guerry, A.D., Polasky, S., Han, B., Douglass, J.A., Hamann, M., Janke, B., Kuiper, J.J., Levrel, H., Liu, H. and Lonsdorf, E., 2021. Mapping the benefits of nature in cities with the InVEST software. *Npj Urban Sustainability*, 1(1), pp.1-9.

Lonsdorf, E.V., Nootenboom, C., Janke, B. and Horgan, B.P., 2021. Assessing urban ecosystem services provided by green infrastructure: Golf courses in the Minneapolis-St. Paul metro area. *Landscape and Urban Planning*, 208, p.104022.

Rikesh. 2022. Causes, Effects and Solutions To Urban Heat Island. Conserve Energy Future. <https://www.conserve-energy-future.com/effects-solutions-urban-heat-island.php> (accessed September 2, 2022)

U.S. Environmental Protection Agency (EPA). 2008. Reducing urban heat islands: Compendium of strategies. Draft. <https://www.epa.gov/heat-islands/heat-island-compendium>. (accessed September 2, 2022)

## Landscape Plan Recommendations

### Pollinator Gardens

Pollinators are in decline across the US. This decline can be attributed to habitat loss and the use of pesticides, but strategically embellishing landscape planting with versatile plants can provide habitat in developed areas. A pollinator garden consists of native wildflower or grasses planted to support all stages of pollinator life cycles, including food, cover, nesting and basking habitats. Pollinator gardens in public spaces offer opportunities for conservation education on topics such as the ecological and economic importance of pollinators and how the excessive use of pesticides threatens these critical species. Cobbs Creek Foundation is committed to converting areas originally designated as turf to pollinator habitat, with a specific focus on the public-facing spaces in and around the driving range and education center. Furthermore, conservation education will be integrated into programming at the education center. The educational and outreach components will also include an urban bee keeping program.

**Note:** To strengthen this commitment, Cobbs Creek Foundation could commit to certifying the pollinator habitat through the Wildlife Habitat Council (<https://www.wildlifehc.org/>), which would independently audit and approve the created habitats, management plans, and education programs as well as providing access to other resources.

### Green roofs

Green roofs are simply roofs that can support the growth of plants. As such, they have the ability to soak up rainfall which reduces run off and removes nutrients and pollutants from the water that does run off. The green roof's vegetated surfaces absorb less heat than traditional roofs, and evapotranspiration from the vegetation helps to lower surface temperatures. The plant pallet for the green roof can include species that are beneficial to pollinators and other wildlife. By integrating a green roof into the driving range canopy, a large radiant, impervious surface in the proposed plan will be converted to a more naturally functioning element of the site's green infrastructure.

For more information on measurable benefits of green roofs refer to Penn State's Green Roof Research Center (<https://plantscience.psu.edu/research/centers/green-roof>)

### Native Landscaping

Landscaping is a critical component of any development plan and presents opportunities to connect people and nature in meaningful ways. In urban areas, space is often the limiting factor, so native landscaping is an important conservation tool. Including a diverse native plant palette can provide an aesthetically pleasing landscape while providing ecosystem services to support songbirds, pollinators, and other wildlife populations in an area where natural habitats are less available. Furthermore, native plants are well adapted to the local climate and when installed in the correct places they require less irrigation, care and maintenance than many ornamental plants. Cobbs Creek Foundation is committed to installing native landscapes throughout the property that mirror the natural ecology of the site. Furthermore, these native landscapes will be integrated into the property's grounds program so they are sustainably managed and maintained.

For more information on native plant species refer to Pennsylvania Department of Conservation and Natural Resources Landscaping with Native Plants.

<https://www.dcnr.pa.gov/Conservation/WildPlants/LandscapingwithNativePlants/Pages/default.aspx>

*Note:* To strengthen this commitment, Cobbs Creek Foundation could commit to certifying the pollinator habitat through the Wildlife Habitat Council (<https://www.wildlifehc.org/>), which would independently audit and approve the created habitats, management plans, and education programs as well as providing access to other resources.

### Native Canopy Trees

Native canopy trees are an important component to the urban landscape. In addition to providing habitat, enriching soil, and fixing carbon, they cast large shadows that maintain cooler temperatures at the ground surface. Planting canopy trees to cast shade on buildings and impervious surfaces will reduce the amount of solar radiation that those surfaces absorb and then radiate as heat, reducing their contribution to urban heat islands. Cobbs Creek Foundation is committed to planting canopy trees adjacent to parking areas, buildings, and roadways to help fragment the solar radiation cast onto these surfaces and minimize their contribution to urban heat islands.



August 25, 2022

Robert Baldwin  
Project Manager  
Resource Environmental Solutions  
317 East Carson Street  
Suite 242  
Pittsburgh, PA 15219

Re: DEP File No. EA1515-001 (previously D03SG51-001)  
Environmental Assessment for Cobbs Creek Stream Restoration Project  
City of Philadelphia and Upper Darby Township  
Philadelphia and Delaware Counties

Dear Mr. Baldwin:

I am pleased to inform you that the Department of Environmental Protection (Department) has completed its review of your December 18, 2020, request for utilization of §105.12(a)(16) (restoration waiver) for Cobbs Creek Stream Restoration Project. Based upon the information and plans submitted, meetings conducted, and subsequent information and plan updates provided, the project represents a restoration plan that will provide overall net benefits to the project area and the Environmental Assessment (EA) requirements for this project are deemed satisfied pursuant to §105.15(a).

As part of the EA review, the Department approves the submitted restoration and erosion and sediment control plans for this project. No further review by the Department or county Conservation District is necessary for implementation of these restoration and erosion and sediment control plans. Please note that this plan approval is only for the Cobbs creek restoration project and does not include work associated with the broader golf course(s) project(s) or any City of Philadelphia stormwater or sewer infrastructure changes other than the lowering of manhole elevations which is depicted on the approved plans.

This approval does not give any property rights, either in real estate or material, nor any exclusive privileges, nor shall it be construed to grant or confer any right, title, easement, or interest in, to, or over any land belonging to the Commonwealth of Pennsylvania; neither does it authorize any injury to private property or invasion of private rights, nor any infringement of Federal, State, or Local laws or regulations; nor does it obviate the necessity of obtaining Federal assent when necessary.

**Please be advised that you do not have Federal authorization for this project and such authorization is required prior to starting your project. In accordance with procedures established with the U.S. Army Corps of Engineers, you will be contacted directly by the Corps regarding Federal Authorization.**



In addition, the following applies to the approval of the EA and project specific restoration and erosion and sediment control plans:

1. The corresponding 401 Water Quality Certification for the restoration project is provided through the use of the Nation Wide Permit (NWP) 27. This 401 WQC does not provide coverage for additional activities that approval may be sought for in the future that are associated with the broader golf course reconstruction and any related infrastructure.
2. Any changes to the restoration or erosion and sediment control plans must be approved in writing by the Department prior to implementation.
3. RES must submit a separate Chapter 105 Joint Permit Application to seek authorization to utilize this project to meet third party compensatory mitigation requirements. This EA and restoration plan approval does not in itself convey authorization or acknowledgement of aquatic resources credits for the purpose of providing third party compensatory mitigation for use under RES' Water Obstruction and Encroachment Compensation Operation Permit MB9915-001.

**This authorization does not relieve the applicant from applying for and obtaining any additional permits or approvals from local, state or federal agencies required for this project. Please be advised that if any other permits are required for this project, they must be issued prior to undertaking the activities described in the permit application. Issuance of the enclosed permit(s) does not indicate an affirmative action on any other pending or future permit applications. If you are uncertain as to whether or not other permits are needed for this project, please use the Department's "Pre-Application Consultation Tool" (PACT) which can be found at <http://www.ahs.dep.pa.gov/PACT/>. The online tool is designed to quickly and easily assist potential applicants in determining which types of environmental permits, authorizations or notifications would be needed for specific projects. Based on the user's responses to a series of simple questions, PACT automatically provides an email response with information on permits and other information an applicant should consider.**

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S., Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

**IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.**

Robert Baldwin  
Project Manager

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IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have questions about your permit, please contact Sidney Freyermuth by e-mail at [sfreyermut@pa.gov](mailto:sfreyermut@pa.gov) or by telephone at 717.772.5977.

Sincerely,

Andy Klinger  
Environmental Program Manager  
Division of Wetlands, Encroachments and Training

cc: Sidney Freyermuth, EGM  
David Goerman, WPS  
Clayton Good, PA Fish and Boat Commission, Bellefonte  
U.S. Army Corps of Engineers, Philadelphia District  
Southeast Regional Office Waterways and Wetlands Section  
Delaware County Conservation District  
City of Philadelphia Water Department