

Watershed Inventory Report

*Phase 1 of the Watershed Improvement Plan
Template for Tier A and Public Complex Permittees*

STOCKTON UNIVERSITY
ATLANTIC COUNTY

Date Report Finalized: _____

Permit Number: NJG_____

Stormwater Program Coordinator: _____

Table of Contents

ACRONYMS & DEFINITIONS.....	3
LIST OF FIGURES	5
LIST OF TABLES	5
ACKNOWLEDGEMENTS.....	6
INTRODUCTION.....	6
PUBLIC PARTICIPATION.....	11
STORMWATER OUTFALL(S)	13
<i>Stormwater Outfalls Owned/Operated by Permittee.....</i>	<i>13</i>
<i>Receiving Surface Waters.....</i>	<i>14</i>
<i>Water Quality Classifications.....</i>	<i>14</i>
STORMWATER INTERCONNECTION(S).....	16
<i>Interconnections from the permittee's MS4 into another entity's storm or sanitary sewer system.....</i>	<i>16</i>
DRAINAGE AREA(S) FOR STORMWATER OUTFALLS AND STORMWATER INTERCONNECTIONS.....	18
<i>Storm Drain Inlets.....</i>	<i>18</i>
<i>MS4 Outfall Drainage Areas.....</i>	<i>18</i>
<i>Drainage area of interconnection(s) from the permittee to another entity.....</i>	<i>18</i>
TMDLS AND WATER QUALITY IMPAIRMENTS.....	25
CONCLUSION	29
REFERENCES	30

Acronyms & Definitions

1. Acronyms

- i. *"BMP" – Best Management Practice*
- ii. *"DO" – Dissolved Oxygen*
- iii. *"EPA" – U.S. Environmental Protection Agency*
- iv. *"GIS" – Geographic Information System*
- v. *"HUC 14" – Hydrologic Unit Code 14*
- vi. *"MS4" – Municipal Separate Storm Sewer System*
- vii. *"MTD" – Manufactured Treatment Device*
- viii. *"NJPDES" – New Jersey Pollutant Discharge Elimination System*
- ix. *"NJ-WET" – New Jersey Watershed Evaluation Tool*
- x. *"TDS" – Total Dissolved Solids*
- xi. *"TMDL" – Total Maximum Daily Load*
- xii. *"TSS" – Total Suspended Solids*
- xiii. *"WIP" – Watershed Improvement Plan*

2. Definitions (regulatory citations are included at the end of each definition for those that are copied from that regulation)

- i. ***"HUC 14"** or "hydrologic unit code 14" means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey. (see N.J.A.C. 7:9B)*
- ii. ***"Municipal separate storm sewer"** (or MS4 conveyance) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) as defined in more detail at N.J.A.C. 7:14A-1.2.*
- iii. ***"Outfall"** means any point source which discharges directly to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.*
- iv. ***"Storm drain inlet"** means the point of entry into the storm sewer system.*
- v. ***"Stormwater"** means water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities or is conveyed by snow removal equipment.*
- vi. ***"Stormwater facility"** means stormwater infrastructure including, but not limited to, catch basins, infiltration basins, detention basins, green infrastructure (GI), filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, Manufactured Treatment Devices (MTDs), and stormwater conveyances.*
- vii. ***"Stormwater management basin"** means a stormwater management basin as defined in N.J.A.C. 7:8.*
- viii. ***"Stormwater management measure"** means a stormwater management measure as defined in N.J.A.C. 7:8.*
- ix. ***"Stormwater runoff"** means water flow on the surface of the ground or in storm sewers, resulting from precipitation.*
- x. ***"Total maximum daily load"** or **"TMDL"** means a total maximum daily load formally established pursuant to Section 7 of the Water Quality Planning Act (N.J.S.A. 58:11A-7) and Section 303(d) of the Clean Water Act, 33 U.S.C. §§12512 et seq. A TMDL is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries or adjacent segments, and allocations to a reserve or margin of safety for an individual pollutant.*

- xi. ***“Waters of the State”*** means the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction” (see N.J.A.C. 7:9B-1.4).

List of Figures

Title	Page #
Figure 1: 2020 US Census data for age and gender at Stockton University	Page 7
Figure 2: 2020 US Census data for race and ethnicity at Stockton University	Page 8
Figure 3: Adjacent 100-yr FEMA Floodplain	Page 10
Figure 4: Permittee Owned Stormwater Outfalls	Page 15
Figure 5: Interconnections from Permittee's MS4	Page 17
Figure 6: Overview Outfall Drainage Area Map	Page 19
Figure 7: Detailed Outfall Drainage Area Map - North	Page 20
Figure 8: Detailed Outfall Drainage Area Map- South	Page 21
Figure 9: Stormwater Basin Drainage Area Map	Page 22
Figure 10: Interconnection Drainage Area Map	Page 23
Figure 11: TMDL by Parameter	Page 26
Figure 12: Impervious Area	Page 28

List of Tables

Title	Page #
Table 1: MS4 permitholders with facilities discharging into the Morses Mill Stream (HUC02040301200100) subwatershed	Page 6
Table 2: Receiving Surface Water Bodies & Water Quality Classifications	Page 13
Table 3: Receiving Surface Water Bodies & Water Quality Classifications	Page 14
Table 4: Interconnection Information	Page 16
Table 5: Outfall, Basin, and Interconnection Drainage Areas	Page 24
Table 6: TMDLs and Impairments for HUC 14s within or bordering Stockton University	Page 25

Acknowledgements

The Stockton University's Watershed Inventory Report has been prepared by AKRF. The college has no external funding sources to develop this project.

Introduction

- **Goal for the Watershed Improvement Plan**
 - The goals of this phase of the Watershed Improvement Plan are as follows:
 - To identify existing stormwater infrastructure on campus and understand relationships of campus area to drainage outfalls.
 - Identify existing water quality impairments and TMDLs within the campus' subwatershed.
 - Identify existing control measures and infrastructure used to treat water quality issues.
 - Identify areas prone to flooding on campus.
 - Identify existing control measures and flood mitigation strategies on campus.
 - The overarching goals on the Watershed Improvement Plan are as follows:
 - Identify infrastructure strategies for improving subwatershed water quality that align with campus goals and infrastructure.
 - Identify opportunities to increase operational controls that target water quality impairments and TMDLs.
 - Identify opportunities to mitigate existing and future flood impacts on campus.
 - Raise awareness of water quality and flood impacts within the Public Complex and surrounding community.
 - Develop realistic implementation strategies for improvements.
- **Location**
 - Stockton University is located at 101 Vera King Farris Drive, Galloway, Atlantic County New Jersey. The permittee is a Public Complex and has a history of satisfying MS4 permit requirements.
 - The following list of MS4 permit holders have facilities discharging into the Morses Mill Stream (HUC02040301200100) subwatershed.

Table #1: MS4 permitholders with facilities discharging into the Morses Mill Stream (HUC02040301200100) subwatershed.

Facility Name	Facility Address	Municipality	County	Discharge Category Description
Matador Tours Inc.	Odessa Ave & Aloe St Galloway Twp, NJ 08240	Galloway Twp	Atlantic	Basic Industrial Stormwater (GP) (5G2)
Swan Lake Resort	106 E Mossmill RD Galloway Twp, NJ 082400000	Galloway Twp	Atlantic	Sanitary Subsurface Disposal (GP) (T1)
Ricci Transportation Co Inc.	400 W Aloe Galloway Twp, NJ 08240	Galloway Twp	Atlantic	Basic Industrial Stormwater (GP) (5G2)
Stockton University	Pomona Rd Galloway, NJ 08240	Galloway Twp	Atlantic	MS4 - Public Complex Stormwater (GP) (R11)
Richard Stockton College of NJ	Vera king Ferris Dr., Plant Management Storage Facility Pomona, NJ 08240	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
GSP Interchange 41 & 44 Improvements	Garden State Parkway Galloway Twp, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Garden State Parkway Widening-MP 42.3-48.0	Garden State Parkway Galloway Twp, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
6th Avenue Paza	254 Jim Leeds Road Galloway, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)

Stockton University Unified Science & Classroom	Vera King Farris Drive Galloway, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Barlow Parking Improvements	Pomona Road Galloway Twp, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Pomona Rd & Barlow Blvd Improvements	Pomona Rd & Barlow Blvd Galloway Twp, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Maintenance & Operations Building	103 South Reeds Road Galloway, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Perfect Storage – Phase 3	301 Aloe Street Galloway Twp, NJ 08215	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)
Reeds Rd. Elementary School Paving Project	103 S Reeds Road Galloway Twp, NJ 08205	Galloway Twp	Atlantic	Construction Activity Stormwater (GP) (5G3)

- **Population**
 - Approximately 10,220 students and employees are present on the campus for 6 hours or more per day.
- **Demographics:** Demographics for the campus were retrieved from the 2020 US Census Data on November 20, 2025
 - Per 2020 US Census data, approximately 2,428 people live on the campus.
 - The median age of those living on campus is 20 years

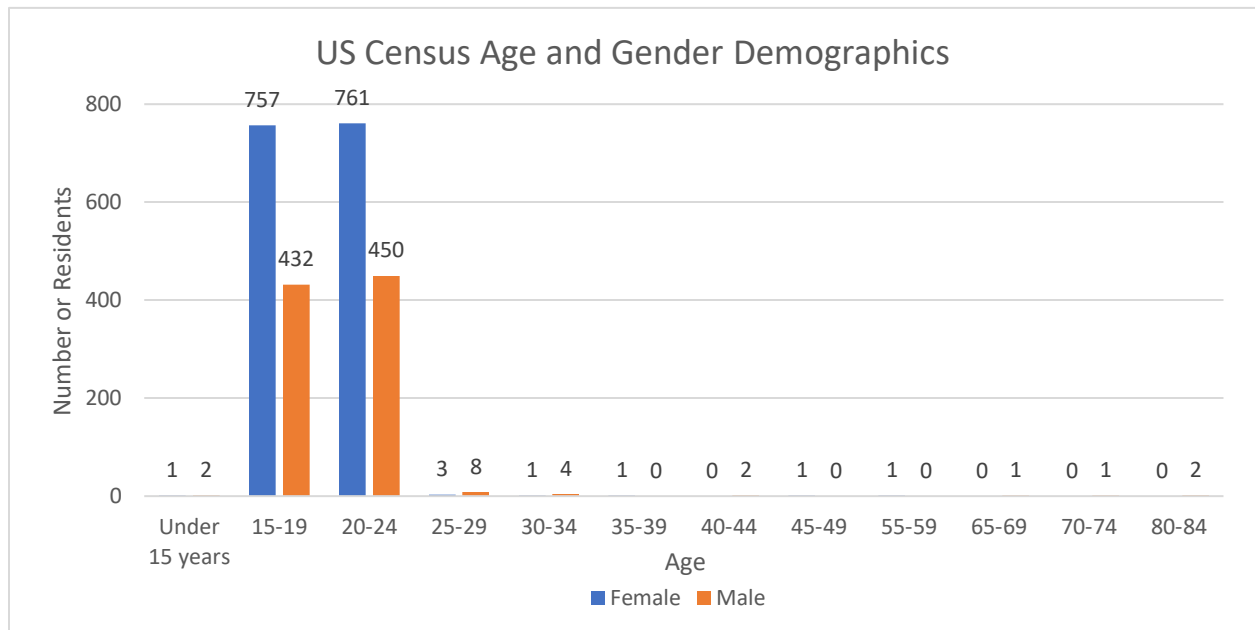


Figure 1: 2020 US Census data for age and gender at Stockton University

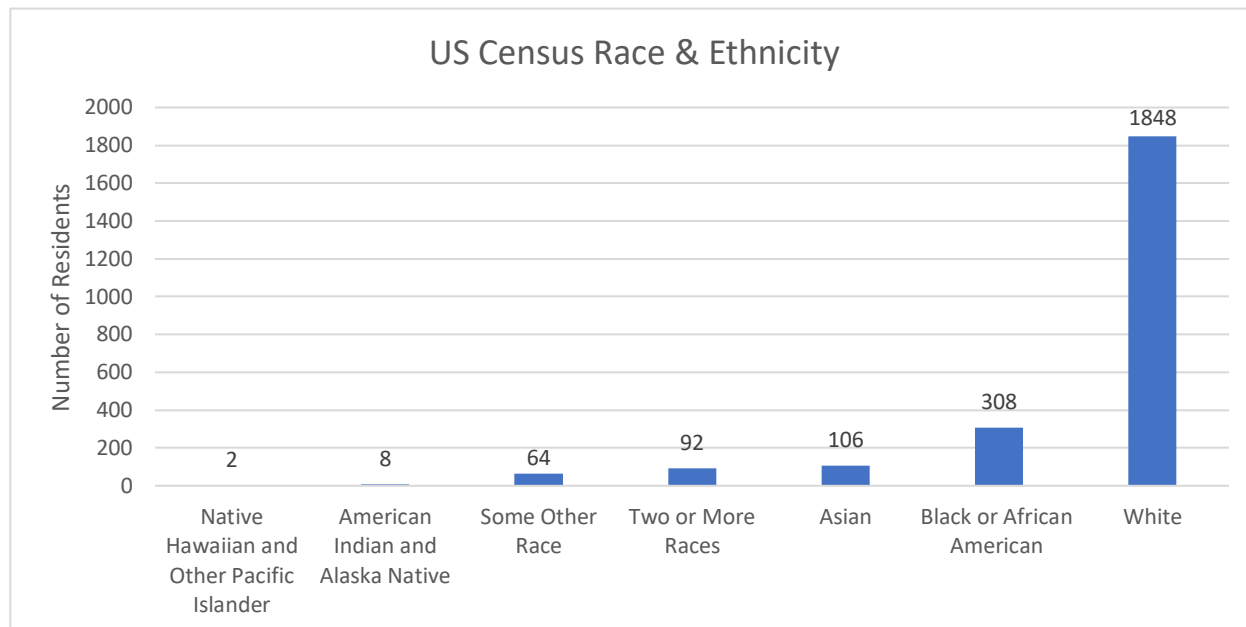


Figure 2: 2020 US Census data for race and ethnicity at Stockton University

- **Land use type(s)**

- The university campus is primarily composed of forest and wetlands, per 2020 Land Use data retrieved from New Jersey Open Data on October 29, 2025. The land uses within the Public Complex boundaries are as follows:

- Forest, Coniferous Forest >50% crown closure
- Forest, Deciduous Forest >50% crown closure
- Forest, Mixed Forest >50% coniferous with >50% crown closure
- Forest, Mixed Forest >50% deciduous with >50% crown closure
- Forest, Mixed Forest >50% coniferous with 10-50% crown closure
- Wetlands, Coniferous Wetlands
- Wetlands, Deciduous Wooded Wetlands
- Wetlands, Mixed Wooded Wetlands (coniferous dom.)
- Wetlands, Mixed Wooded Wetlands (deciduous dom.)
- Wetlands, Atlantic White Cedar Wetlands
- Urban, Industrial
- Urban, Commercial/Services
- Urban, Transportation/Communication/Utilities
- Urban, Recreational Land
- Urban, Stormwater Basin
- Urban, Upland Rights-of-Way Undeveloped
- Urban, other urban or built-up land
- Agriculture, Orchards/Vineyards/Nurseries/Horticultural Areas
- Agriculture, Cropland and Pastureland
- Barren land, Transitional Areas
- Water, Artificial Lakes

- **Subwatersheds within or bordering Stockton University**

- Stockton University falls within the Morses Mill Stream (HUC02040301200100) subwatershed.

- Bordering subwatersheds include Clarks Mill Stream (HUC02040301200090), Nacote Creek (below/incl Mill Pond) (HUC020403012001200), Mattix Run (Nacote Creek) (HUC02040301200110), Absecon Creek NB (HUC0204302020010), and Babcock Creek (GEHR) (HUC02040302050020).
- **Area(s) Prone to Flooding**
 - Stockton University is not located within a mapped FEMA flood zone. The closest 100-year flood zone is located to the southwest for the Lower Branch of the Absecon Creek as shown in Figure 3.
 - There are reports of localized flooding on campus at the parking lot and loading area in the West Quad, located at the intersection of Lakeside Lane and Louisville Avenue behind the Stockton Performing Arts Center. Lot 7 drains to several inlets and trench drains that connect to a subsurface detention system; however, this underground system is closed, lacks a positive outlet, and consists of 48-inch pipes with minimal slope. As a result, water frequently ponds at the low point of Lot 7 near the loading area. To address this issue, a retrofit was previously installed that included three trench drains designed to convey stormwater westward into the adjacent wooded area and into a surface infiltration basin. This basin now appears to be clogged, with standing water observed during site visits. We understand that, during significant rain events, the loading docks for the Performing Arts Center flood and must be pumped out.

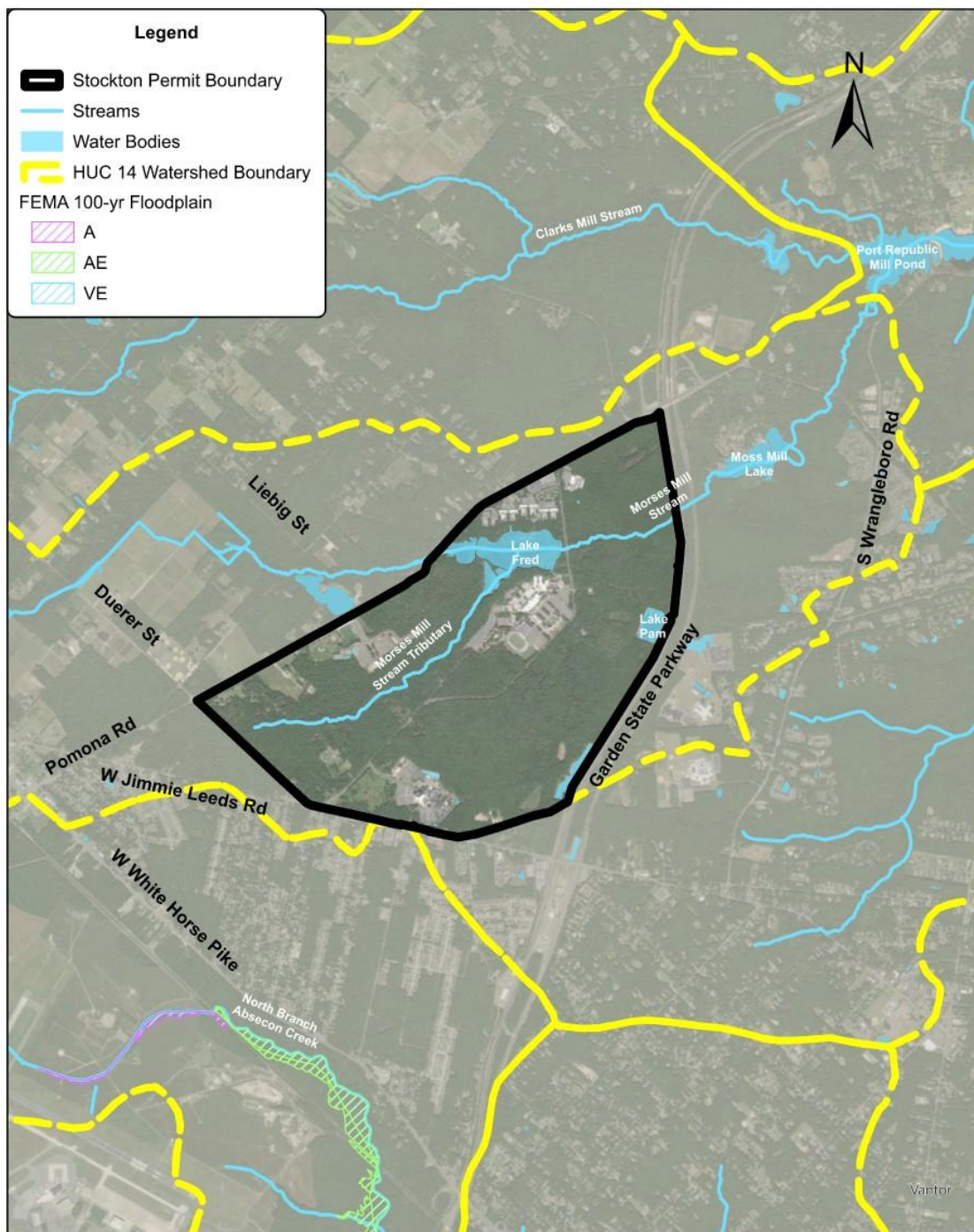


FIGURE 3: ADJACENT 100-YEAR FEMA FLOODPLAIN
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 1,500 3,000 6,000 Feet

Public Participation

As part of the development of this Watershed Inventory Report, the University hosted two public information sessions in coordination with Galloway Township and AKRF. The public information sessions were open to the campus community, including those who reside on campus, all students and employees. Additionally, a focus group meeting was also held with university employees and AKRF to gather information on current water quality and flooding mitigation and source control measures.

- **List of stakeholders**

The university coordinated and hosted the public information sessions with support from AKRF with the Stockton University and Galloway Township.

- **List of Previously Held Meetings**

- Stockton University Focus Group:
 - Date: October 20, 2025
 - Location: Conference Call
 - Topics:
 - Project understanding and scope
 - Introduction to key stormwater management terms and concepts
 - Introduction to surface water quality, impairments, and TMDLs
 - Potential contaminant sources
 - Pollution prevention measures
 - Flooding and ponding on campus
 - Current water quality and flood management
- Public Information Session 1
 - Date: October 28, 2025, 8:30 AM
 - Location: Stockton University, Main Complex C Wing Room 007
 - Topics:
 - Project understanding and scope
 - Introduction to key stormwater management terms and concepts
 - Watershed context
 - Introduction to surface water quality, impairments, and TMDLs
 - Introduction to flooding
 - Current water quality and flood management
 - Open discussion
- Public Information Session 2
 - Date: October 28, 2025, 5:00 PM
 - Location: Stockton University, Campus Center Meeting Room 4
 - Topics:
 - Project understanding and scope
 - Introduction to key stormwater management terms and concepts
 - Watershed context
 - Introduction to surface water quality, impairments, and TMDLs
 - Introduction to flooding
 - Current water quality and flood management
 - Open discussion

- **Summary of Feedback**

- A focus group was held to discuss campus-specific water quality, flooding, and stormwater maintenance issues. Participants included representatives from the Office of Facilities Management Plant Operations, Environmental Health and safety Specialists, and the office of Facilities Planning and Construction. This group provided information related to de-icing, organic waste, erosion, and flooding as they related to identified impairments and TMDLs. Current maintenance, pollution prevention measures, and stormwater management were discussed.
- Stockton is addressing potential pollution on campus through maintenance, adherence to a Stormwater Pollution Prevention Plan and administrative controls. Current challenges related to water quality and flooding include the recently observed failure of perforated piping system and connected infiltration sand pit during high intensity rain events. Minutes from this meeting can be found in Appendix A.
- Public information sessions included discussion related to current water quality and flooding issues, as well as efforts to mitigate issues. Minutes from this meeting can be found in Appendix A. Key takeaways include:
 - Wildlife is likely the primary source of fecal coliform
 - In 1994 or 1995, the campus experienced approximately 13 inches of rainfall in a single day, resulting in widespread road flooding

- **Future Scheduled Meetings**

- Phase 2 & 3 meetings to be scheduled at a later date.
- All stormwater documents and updates are posted on the Stockton University Facilities & Operations – Water Usage Webpage: <https://stockton.edu/facilities-construction/water-usage.html>

Stormwater Outfall(s)

Stormwater Outfalls Owned/Operated by Permittee

- Stockton University owns and operates 11 outfalls that flow into the Moses Mill stream subwatershed via overland flow or the storm sewer system. These outfalls are listed in Table #3.
- Stockton University owns and operates 21 stormwater basins or low points that are disconnected from the stormsewer and outfall structures that drain to Moses Mill Stream subwatershed. These surface and subsurface basins are located throughout campus and are assumed to infiltrate all receiving water. These basins are: 1013, 1036, 3006, 3078, 6002, 7012, 7013, 7020, 8009, 8030, 8036, 9003, 9005, 9006, 9007, 9008, 9009, 9011, 9012, and unidentified basins 1 & 2.
- Stockton University provided multiple documents that were reviewed as part of this study:
 - The “Overall Existing Utility Location Plans” for Stockton, last revised 9/29/2025, prepared by Marathon Engineering & Environmental Services, Inc. out of their Hammonton Office in NJ
 - Also provided by the College and used for this study, is the “Stormwater Pollution Prevention Plan” for Stockton University (NJPDES #NJG0150240), dated 3/4/2025.
 - Stormwater infrastructure information was provided by Stockton for this study. The plans are titled “Storm Sewer Location Plans”, completed by Marathon Engineering & Environmental Services, last revised 6/24/2019.
 - Roof Plans for multiple buildings, completed by various architects, summary below:

TABLE #2: SUMMARY OF ROOF PLANS

Building Name / Project Title	Architect	Most Current Date
Stockton University Classroom Building / Unified Science Center	N/A (Consultants listed)	09/20/2021 (For Construction)
Renovation under Building 15	SOSH	07-25-2017 (DCA Submission)
Stockton University Unified Science Center II	N/A (Consultants listed)	06/01/2016 (Issued for Construction)
The Richard Stockton College Housing V Project (Buildings 120, 121, 122, 123, 124, 125)	Hillier	10.15.2008 (Record Drawings)
Stockton State College Admissions and Student Center	N/A (Plumbing firm PM&E listed)	March 4, 2008 (Date Drawn)
West Quad Academic Building	KSS (Kohn, Scott & Sullivan Architects)	May 26, 2004 (Date Drawn)
Multipurpose Recreation Center - Phase III (Includes Gateway Building)	KSS (Kohn, Scott & Sullivan Architects)	December 2000 (Drawn Date)
Temporary Service/Support Building	Bernard De Annuntiis & Associates	January 1999 (Revision 1-99)
Student Housing IV (Buildings 80, and 81 through 88)	KSS (Kohn, Scott & Sullivan Architects)	May 21, 1998 (Date Drawn)
Arts & Sciences Building	Michael Graves	May 27, 1993 (Date Drawn)
New Student Center/ General Store	Bernard De Annuntiis & Associates	6/20/86 (Revision Date)
Multipurpose Recreation Center - Phase 1	KSS (Kohn, Scott & Sullivan Architects)	N/A (Date Unclear/Missing)
Richard Stockton State College Phase One	N/A (Consultants listed)	N/A (Date Unclear/Missing)
Stockton State College Student Center (N Wing)	N/A (Architect Unnamed)	N/A (Date Unclear/Missing)
Stockton State College Student Housing II	N/A (Architect Unnamed)	N/A (Date Unclear/Missing)
The Richard Stockton College of New Jersey Housing 1 Project (Buildings H-1B, G-13, G-114, E-110)	R. M. S. Architects and Planners P. A.	N/A (Date Unclear/Missing)

- Supplemental field investigation was performed by GPR One Call during October and November of 2025 to confirm connectivity between surveyed structures.

Receiving Surface Waters

- Outfalls owned by Stockton University discharge to five water bodies: Morses Mill Stream, Morses Mill Stream UNT, Lake Fred, Lake Pam, Lake Naomi, and an unnamed lake by the intersection of W Jimmie Leeds Rd and the Garden State Parkway. The following percentage of outfalls drain directly to each waterbody:
 - Morses Mill Stream: 32%
 - Lake Fred & Naomi: 12%
 - Morses Mill Stream UNT: 20%
 - Unnamed Lake: 9%
 - Lake Pam: 4%
 - On-Site Basins: 12%
 - On-Site Low Points: 4%
 - Offsite Flow: 39%
- This information was obtained through NJ-WET (Accessed November 17, 2025)

Water Quality Classifications

- Four of the six receiving water bodies are artificial lakes and two are creeks that are both classified as Pinelands Waters (PL). Lake Naomi and Lake Fred are both inline along Morses Mill Stream. Lake Pam and the unnamed lake are disconnected from Morses Mill Stream and both are localized low points with no apparent discharge points.
- This information was obtained through NJ-WET (Accessed November 17, 2025)

TABLE #3: RECEIVING SURFACE WATER BODIES & WATER QUALITY CLASSIFICATIONS

LOCAL OUTFALL ID	RECEIVING SURFACE WATER BODY	WATER QUALITY CLASSIFICATION
N/A	MORSES MILL STREAM	PL
N/A	MORSES MILL STREAM UNT	PL
OUTFALL 6001	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 6005	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 6006	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 6007	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 6008	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 6011	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 7009	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 7023	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 7025	LAKE FRED	ARTIFICIAL LAKE
OUTFALL 7026	LAKE NAOMI	ARTIFICIAL LAKE
N/A	LAKE PAM	ARTIFICIAL LAKE
N/A	UNNAMED LAKE	ARTIFICIAL LAKE

Stormwater Interconnection(s)

Interconnections from the permittee's MS4 into another entity's storm or sanitary sewer system

- There are no interconnections from the permittee's MS4 into another entity's stormwater, or combined sewer system.
- There are no sanitary connections into another entity's system. Connections shown are to public sewer.
- Overland flow occurs along Verra King Farris Drive which eventually meets at Pamona Rd.
- Overland flow from wooded areas enters Galloway Township along Pomono Rd.
- Overland flow from wooded areas flows towards the Garden State Parkway along the eastern edge of the permit boundary in two separate locations.
- Data used for this investigation included a number of sources:
 - NJ-WET, Accessed November 17, 2025
 - Field Verification of piped interconnections were field verified by GPR One Call during October and November 2025.
 - The following list of record documents:
 - Parking Lot 7 Reconstruction & Sidewalk, Marathon Engineering & Environmental Services, June 17, 2022
 - Facilities Master Plan, 2020
 - Stormwater Master Plan, Marathon Engineering & Environmental Services, 2010
 - Grading & Drainage Plan, Stockton State College Student Housing III, Fellows, Read & Associates, Inc, February 4, 1985
 - Utility location survey was completed on November 25, 2025, by GPR One Call.
 - The "Overall Existing Utility Location Plans" for Stockton, last revised 9/29/2025, prepared by Marathon Engineering & Environmental Services, Inc. out of their Hammonton Office in NJ.
 - The "Stormwater Pollution Prevention Plan" for Stockton University (NJPDES #NJG0150240), dated 3/4/2025.
 - Stormwater infrastructure information was provided by Stockton for this study. The plans are titled "Storm Sewer Location Plans", completed by Marath Engineering & Environmental Services, last revised 6/24/2019.

TABLE #4: INTERCONNECTION INFORMATION

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
01	SHEET FLOW	PUBLIC COMPLEX	GARDEN STATE PARKWAY
02	SHEET FLOW	PUBLIC COMPLEX	GARDEN STATE PARKWAY
03	SHEET FLOW	PUBLIC COMPLEX	GALLOWAY TOWNSHIP
04	SHEET FLOW	PUBLIC COMPLEX	VERA KING DRIVE

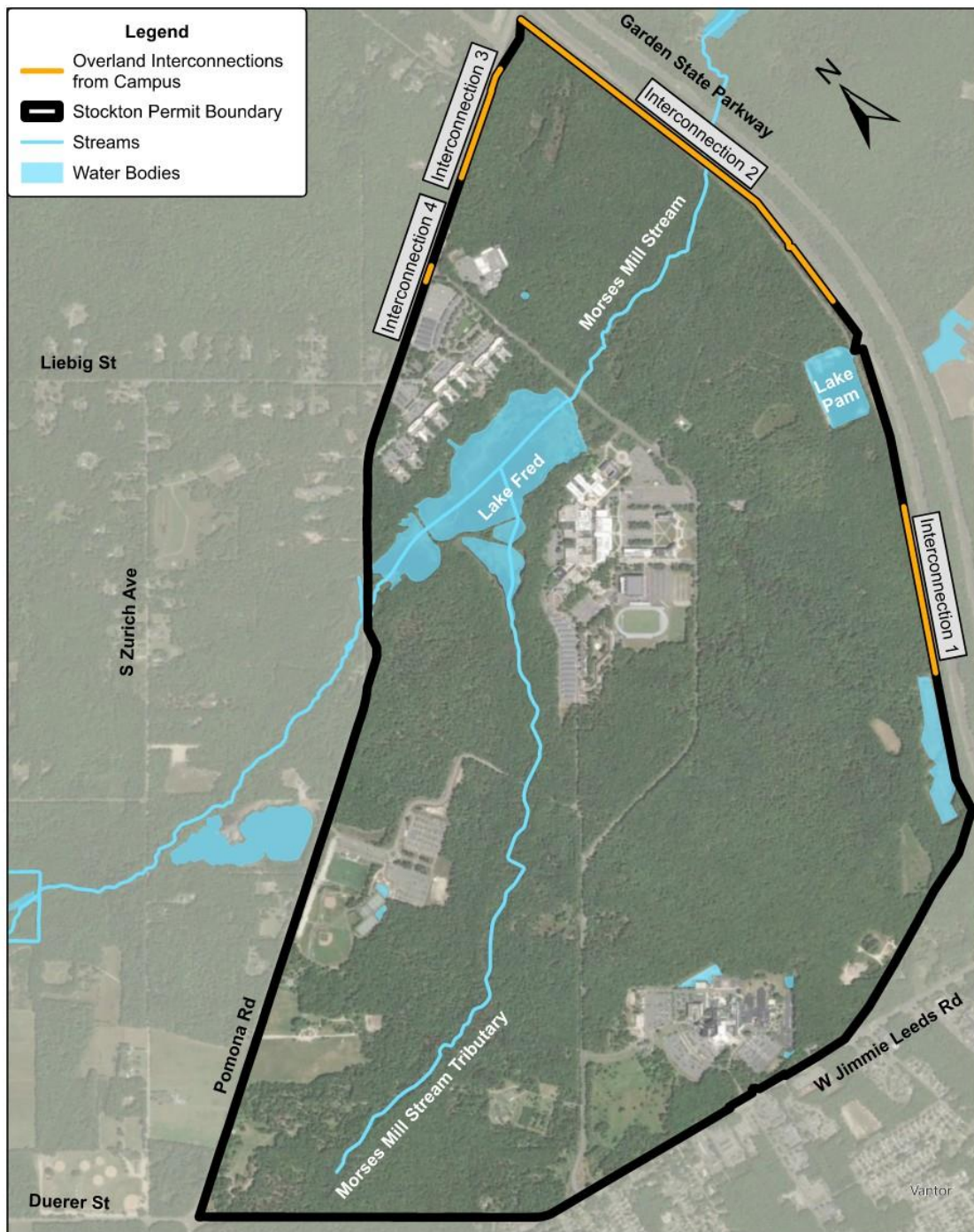


FIGURE 5: INTERCONNECTIONS FROM PERMITTEE'S MS4
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 650 1,300 2,600 Feet

Drainage Area(s) for Stormwater Outfalls and Stormwater Interconnections

Storm Drain Inlets

- Storm inlets were retrieved from the 2019 survey prepared by Marathon Engineering & Environmental Services
- Interconnections were field verified by GPR One Call during October and November 2025
- The Public Complex includes 204 storm inlets, which the University public works and University contractors maintain.

MS4 Outfall Drainage Areas

- Outfall drainage areas were determined through inlet area mapping of the campus using topography and known pipe locations based on field survey. It should be noted that, where verification of pipe location was not feasible through field investigation and available record review, engineering judgement was used to determine the likely connection.
- Data used for this investigation included several sources:
 - NJ-WET, Accessed November 17, 2025
 - Stormwater Pollution Prevention Plan (SPPP), March 4, 2025
 - Parking Lot 7 Reconstruction & Sidewalk, Marathon Engineering & Environmental Services, June 17, 2022
 - Facilities Master Plan, 2020
 - Stormwater Sewer Location Plans, Marathon Engineering & Environmental Services June 24, 2019
 - Stormwater Master Plan, Marathon Engineering & Environmental Services, 2010
 - Grading & Drainage Plan, Stockton State College Student Housing III, Fellows, Read & Associates, Inc, February 4, 1985
 - Utility location survey was completed on November 25, 2025 by GPR One Call.

Drainage area of interconnection(s) from the permittee to another entity

- Drainage area interconnections were identified in coordination with outfall drainage area mapping. Overland flow connections were determined based on topographic features delineating inlet capture areas. Where no inlets were identified and topography sloped towards the adjacent municipal roadways, the area is assumed to have overland flow to the adjacent municipal stormwater system.
- Data used for this investigation included several sources:
 - NJ-WET, Accessed November 17, 2025
 - Stormwater Pollution Prevention Plan (SPPP), March 4, 2025
 - Parking Lot 7 Reconstruction & Sidewalk, Marathon Engineering & Environmental Services, June 17, 2022
 - Facilities Master Plan, 2020
 - Stormwater Sewer Location Plans, Marathon Engineering & Environmental Services June 24, 2019
 - Stormwater Master Plan, Marathon Engineering & Environmental Services, 2010
 - Grading & Drainage Plan, Stockton State College Student Housing III, Fellows, Read & Associates, Inc, February 4, 1985
 - Utility location survey was completed on November 25, 2025 by GPR One Call.

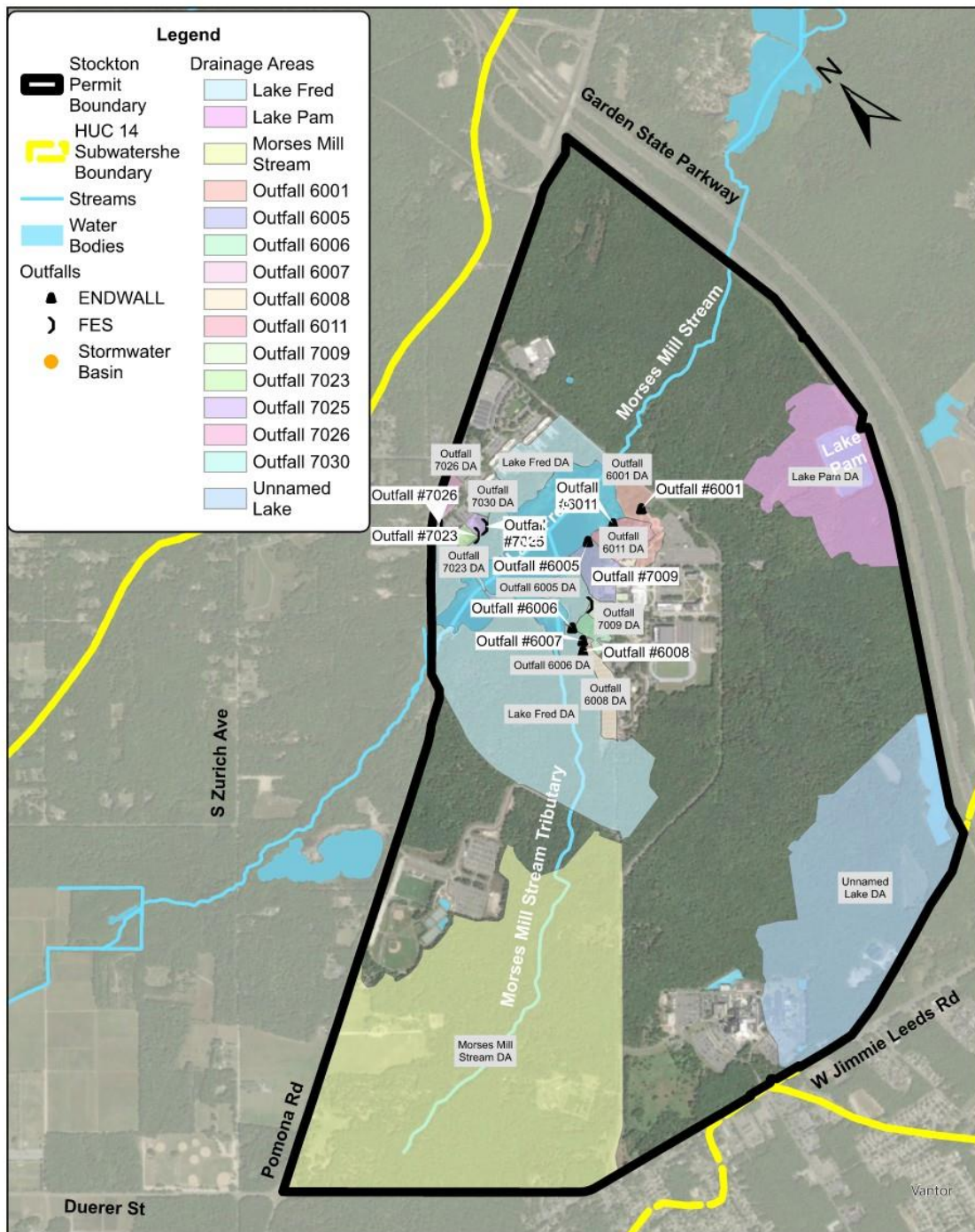


FIGURE 6: DRAINAGE AREAS

STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 750 1,500 3,000 Feet

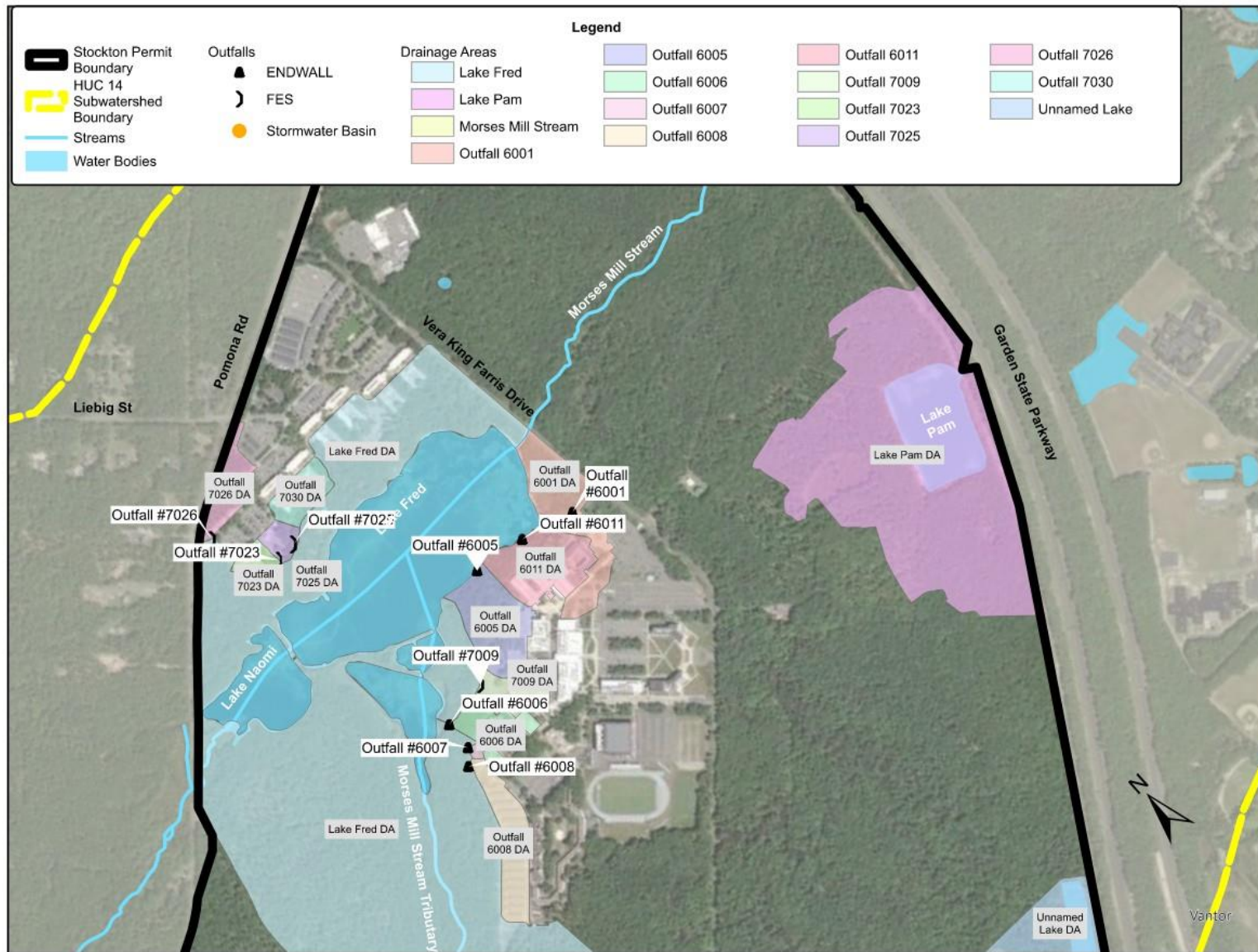


FIGURE 7: DETAILED DRAINAGE AREAS - NORTH
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 550 1,100 2,200 Feet

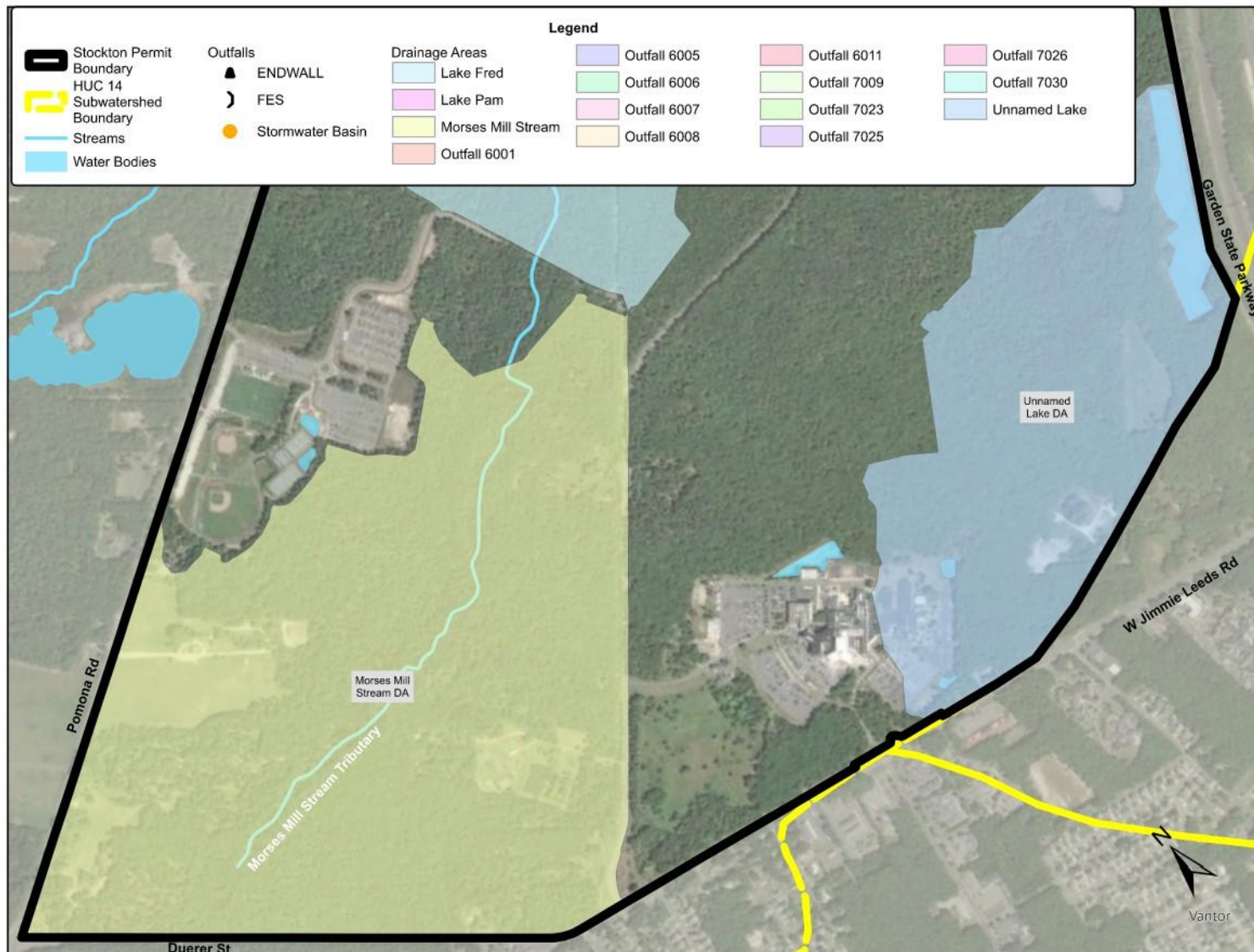


FIGURE 7: DETAILED DRAINAGE AREAS - SOUTH
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

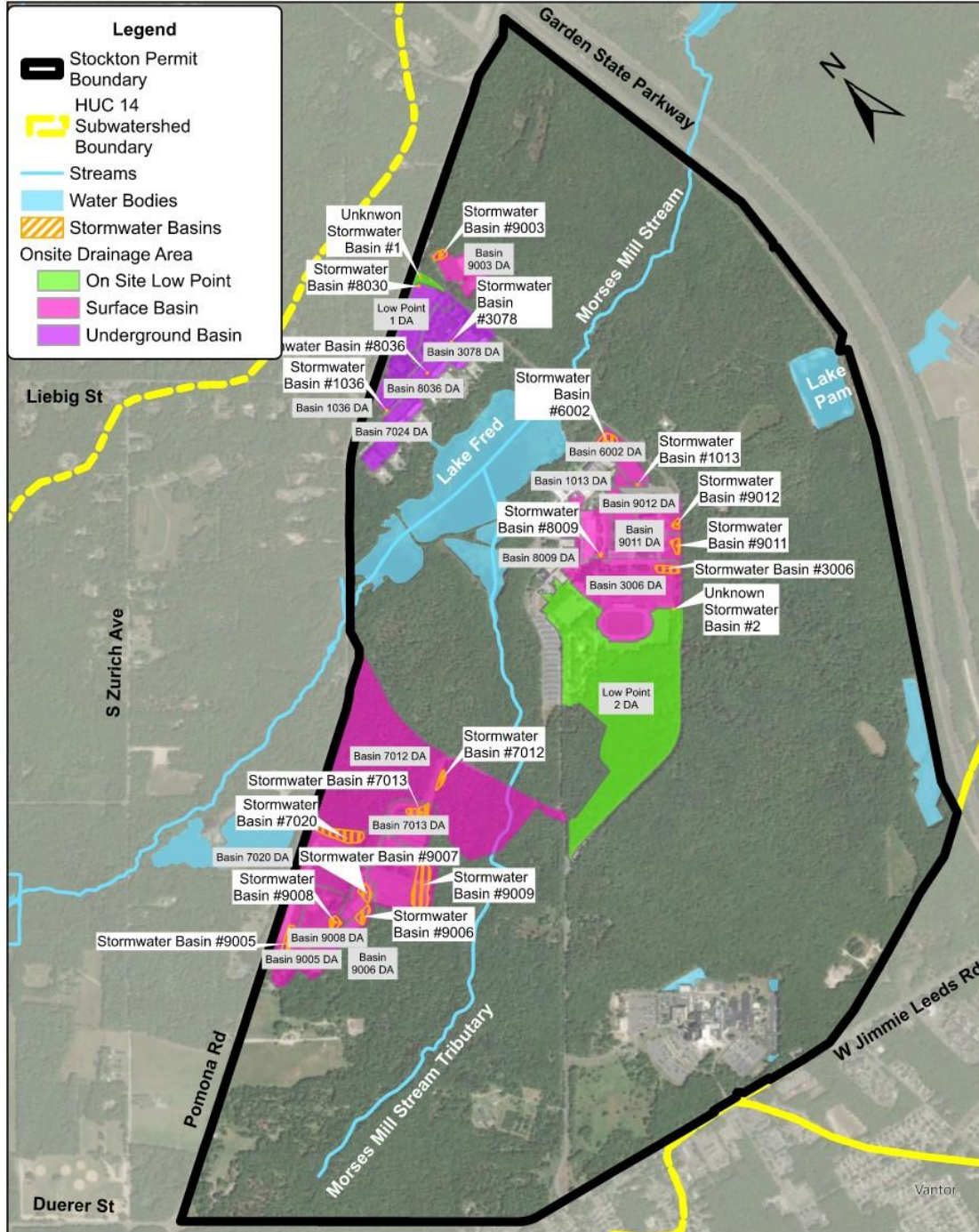


FIGURE 9: STORMWATER BASIN DRAINAGE AREAS
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 650 1,300 2,600 Feet

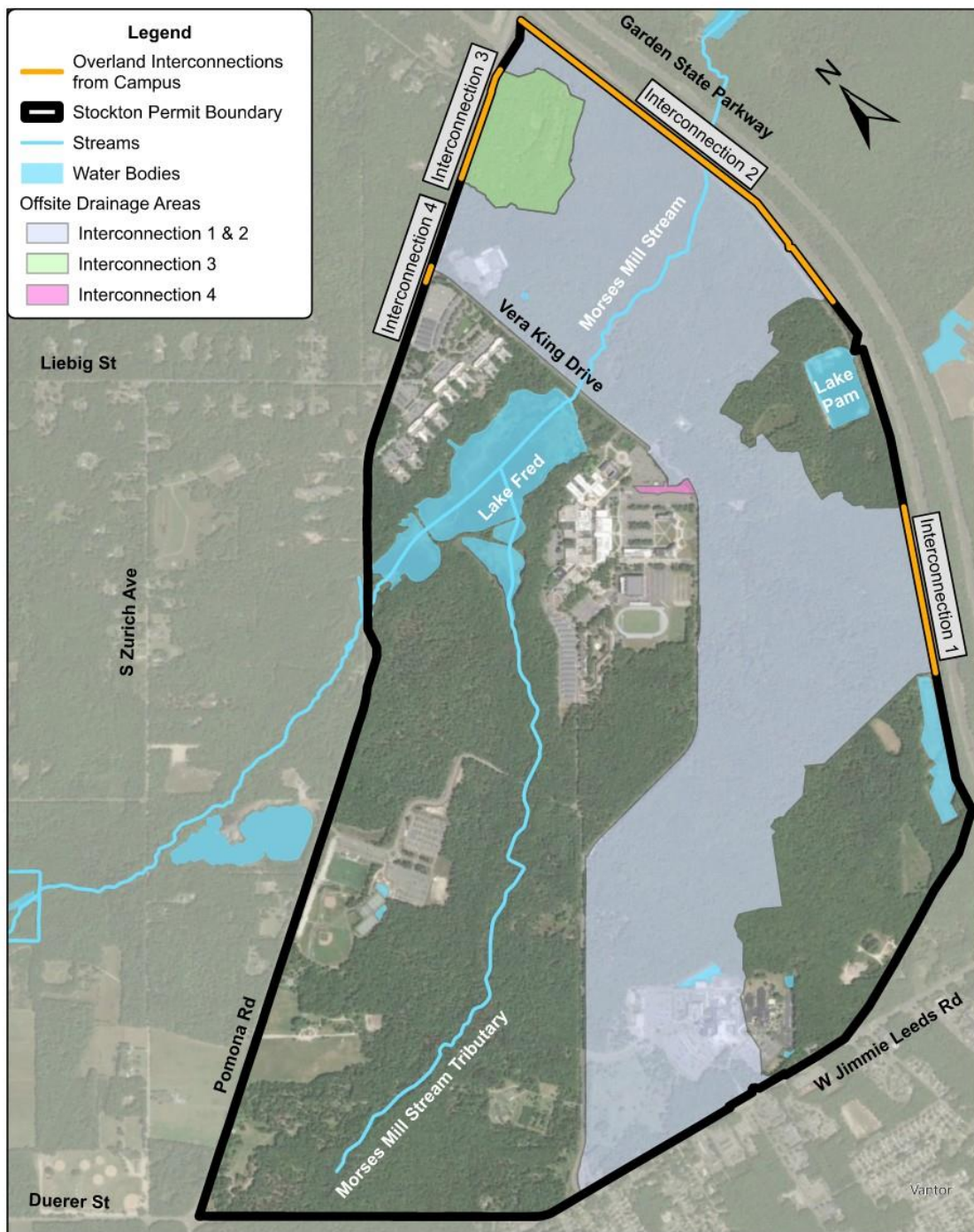


FIGURE 10: INTERCONNECTION DRAINAGE AREAS
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 650 1,300 2,600 Feet

TABLE #5: OUTFALL, BASIN, AND INTERCONNECTION DRAINAGE AREAS

Drainage Area ID	Drainage Area (acres)	Interconnection or Outfall	Primary Contributing Drainage Area Type
DA-1013	0.85	Basin 1013	Urban, Commercial/Services
DA-1036	2.19	Basin 1036	Urban, Commercial/Services
DA-3006	21.34	Basin 3006	Urban, Commercial/Services
DA-3078	9.02	Basin 3078	Urban, Commercial/Services
DA-6001	7.57	Outfall 6001	Urban, Commercial/Services
DA-6002	3.53	Basin 6002	Urban, Commercial/Services
DA-6005	6.41	Outfall 6005	Urban, Commercial/Services
DA-6006	3.19	Outfall 6006	Urban, Commercial/Services
DA-6007	0.24	Outfall 6007	Urban, Commercial/Services
DA-6008	4.84	Outfall 6008	Urban, Commercial/Services
DA-6011	6.24	Outfall 6011	Urban, Commercial/Services
DA-7009	2.65	Outfall 7009	Urban, Commercial/Services
DA-7012	52.63	Basin 7012	Woods
DA-7013	5.60	Basin 7013	Urban, Commercial/Services
DA-7020	11.39	Basin 7020	Urban, Commercial/Services
DA-7023	1.34	Outfall 7023	Urban, Commercial/Services
DA-7024	4.79	Basin 7024	Urban, Commercial/Services
DA-7025	1.23	Outfall 7025	Urban, Commercial/Services
DA-7026	3.11	Outfall 7026	Woods
DA-7030	2.60	Outfall 7030	Urban, Commercial/Services
DA-8009	4.18	Basin 8009	Urban, Commercial/Services
DA-8030	7.41	Basin 8030	Urban, Commercial/Services
DA-8036	2.56	Basin 8036	Urban, Commercial/Services
DA-9003	5.12	Basin 9003	Urban, Commercial/Services
DA-9005	8.07	Basin 9005	Urban, Other Urban or Built-Up Land
DA-9006	1.98	Basin 9006	Urban, Other Urban or Built-Up Land
DA-9007	2.76	Basin 9007	Urban, Other Urban or Built-Up Land
DA-9008	7.41	Basin 9008	Urban, Other Urban or Built-Up Land
DA-9009	10.76	Basin 9009	Urban, Commercial/Services
DA-9011	7.28	Basin 9011	Urban, Commercial/Services
DA-9012	5.29	Basin 9012	Urban, Commercial/Services
DA-LF1	107.15	Lake Fred	Woods
DA-LF2	31.47	Lake Fred	Woods
DA-LP	58.14	Lake Pam	Woods
DA-LU	140.88	Unnamed Lake	Woods
DA-LWP1	2.56	Low Point 1	Woods
DA-LWP2	50.62	Low Point 2	Woods
DA-MM	293.90	Morses Mill Stream	Woods
DA-OE	553.38	Interconnection 1 & 2	Woods
DA-ON	33.87	Interconnection 3	Woods
DA-VK	1.32	Interconnection 4	Woods

TMDLs and Water Quality Impairments

- Impairment and TMDL data were retrieved from NJ-WET, NJDEP lookup Tool, and the New Jersey 303d Impaired Waters list on November 2, 2025
- Environmental impacts from pollutants of concern retrieved from NJDEP's Pollutants of Concern Documents on November 4, 2025:
 - **Total Coliform**: Total coliform is a pathogen harmful to human and animal health. Adverse effects include intestinal disease, respiratory problems, fever, headaches, and skin rashes.
 - **pH**: pH is a measure of the concentration of hydrogen ions in a solution and indicates the acidity or alkalinity of water. When pH levels fall outside the typical range for a waterbody, the ability to sustain life of aquatic species is negatively impacted.

TABLE #6: TMDLS AND IMPAIRMENTS FOR HUC 14S WITHIN OR BORDERING STOCKTON UNIVERSITY

HUC 14	Subwatershed Name	TMDL(s)	Impairment(s)
02040301200100	Morses Mill Stream	Shellfish Total Coliform	pH

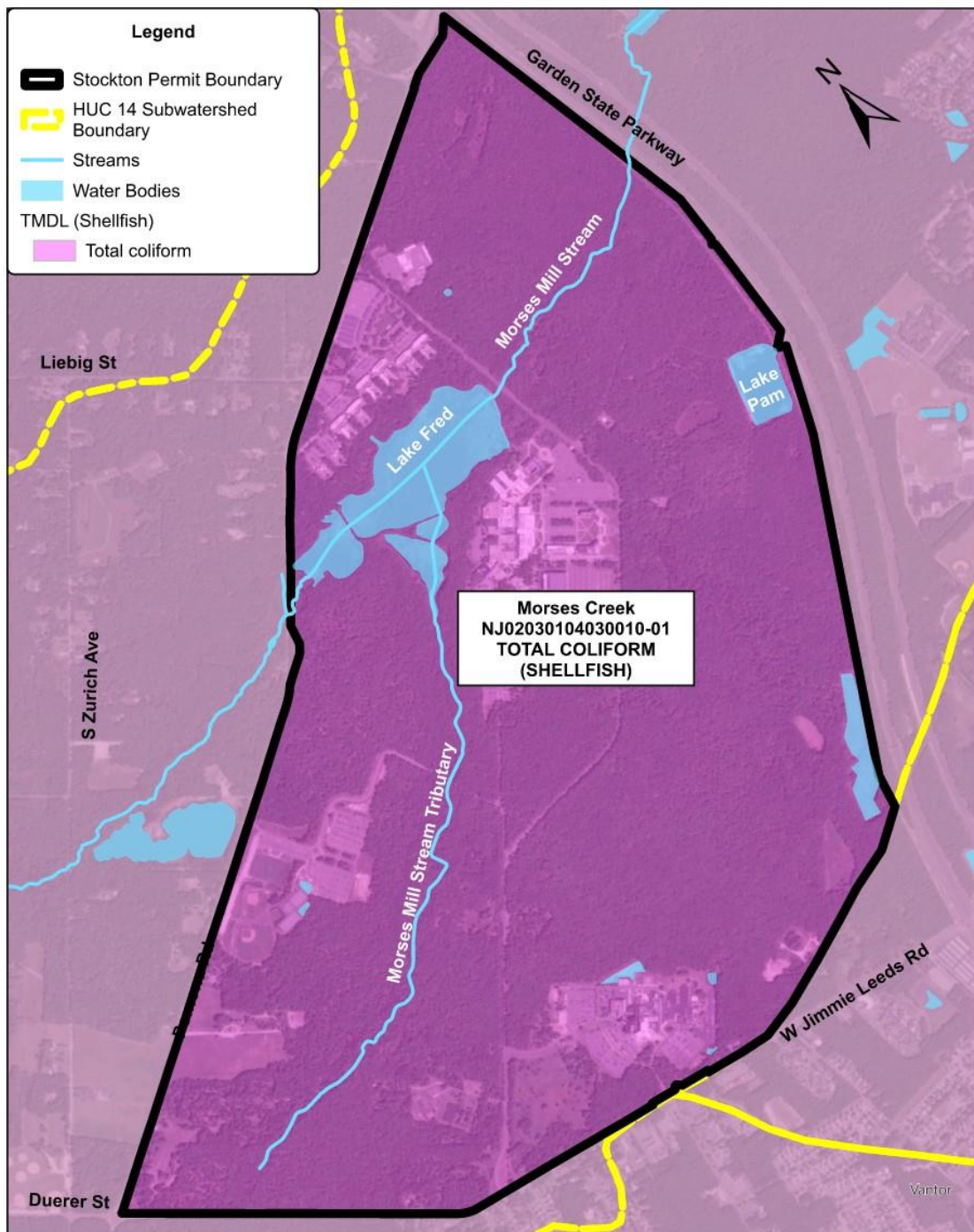


FIGURE 11: TMDL BY PARAMETER

STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

0 650 1,300 2,600 Feet

Impervious Area

The College contains 4,951,658 square feet (113.7 acres) of impervious areas, approximately 7.25% of landcover within the campus boundary. The College leases out a portion of its property to AtlanticCare Regional Hospital. That area is not included in the impervious area calculations.

Impervious area on campus was determined using the most recent aerial mapping and record drawings for the campus:

- **Fellows, Read & Associates, Inc.** Stockton State College Student Housing III – Grading & Drainage Plan. February 4, 1985.
- **GPR** One Call and Utility Location Investigation. November 25, 2025.
- **Google Earth Pro.** Accessed October 2025.
- **Marathon Engineering & Environmental Services, Inc.** Overall Existing Utility Location Plans for Stockton University. September 29, 2025.
- **Marathon Engineering & Environmental Services, Inc.** Parking Lot 7 Reconstruction and Sidewalk Plans, Stockton University. June 17, 2022.
- **Marathon Engineering & Environmental Services, Inc.** Storm Sewer Location Plans. June 24, 2019.
- **Marathon Engineering & Environmental Services, Inc.** Stormwater Master Plan. 2010.
- **Marathon Engineering & Environmental Services, Inc.** Stormwater Pollution Prevention Plan for Stockton University (NJPDES #NJG0150240). March 4, 2025.
- **Marathon Engineering & Environmental Services, Inc.** Topographic Survey, Stockton University. March 9, 2020.
- **NJDEP Bureau of GIS.** NJDEP Open Data. Retrieved October 29, 2025, from: <https://gisdata-njdep.opendata.arcgis.com/>.
- **NJDEP, Bureau of NJPDES Stormwater Permitting.** Total Maximum Daily Load (TMDL) Look-Up Tool. Retrieved November 2, 2025, from: <https://dep.nj.gov/njpdessstormwater/municipal-stormwater-regulation-program/tmdl/>.
- **NJDEP, Division of Watershed and Land Management, Bureau of NJPDES Stormwater Permitting.** New Jersey Watershed Evaluation Tool (NJ-WET). Retrieved November 17, 2025, from: <https://dep.nj.gov/njpdessstormwater/municipal-stormwater-regulation-program/watershed-improvement-plan-guidance/>.
- **New Jersey Department of Environmental Protection (NJDEP), Bureau of Environmental Analysis, Restoration and Standards.** New Jersey 2022 Integrated Water Quality Report, including the 303(d) Impaired Waters List. Retrieved November 17, 2025, from: <https://dep.nj.gov/wms/bears/integrated-wq-assessment-report-2022/>.
- **Stockton University.** Facilities Master Plan. 2020.
- **U.S. Census Bureau.** 2020 Census of Population and Housing. Retrieved November 20, 2025, from U.S. Department of Commerce website: <https://data.census.gov/>.

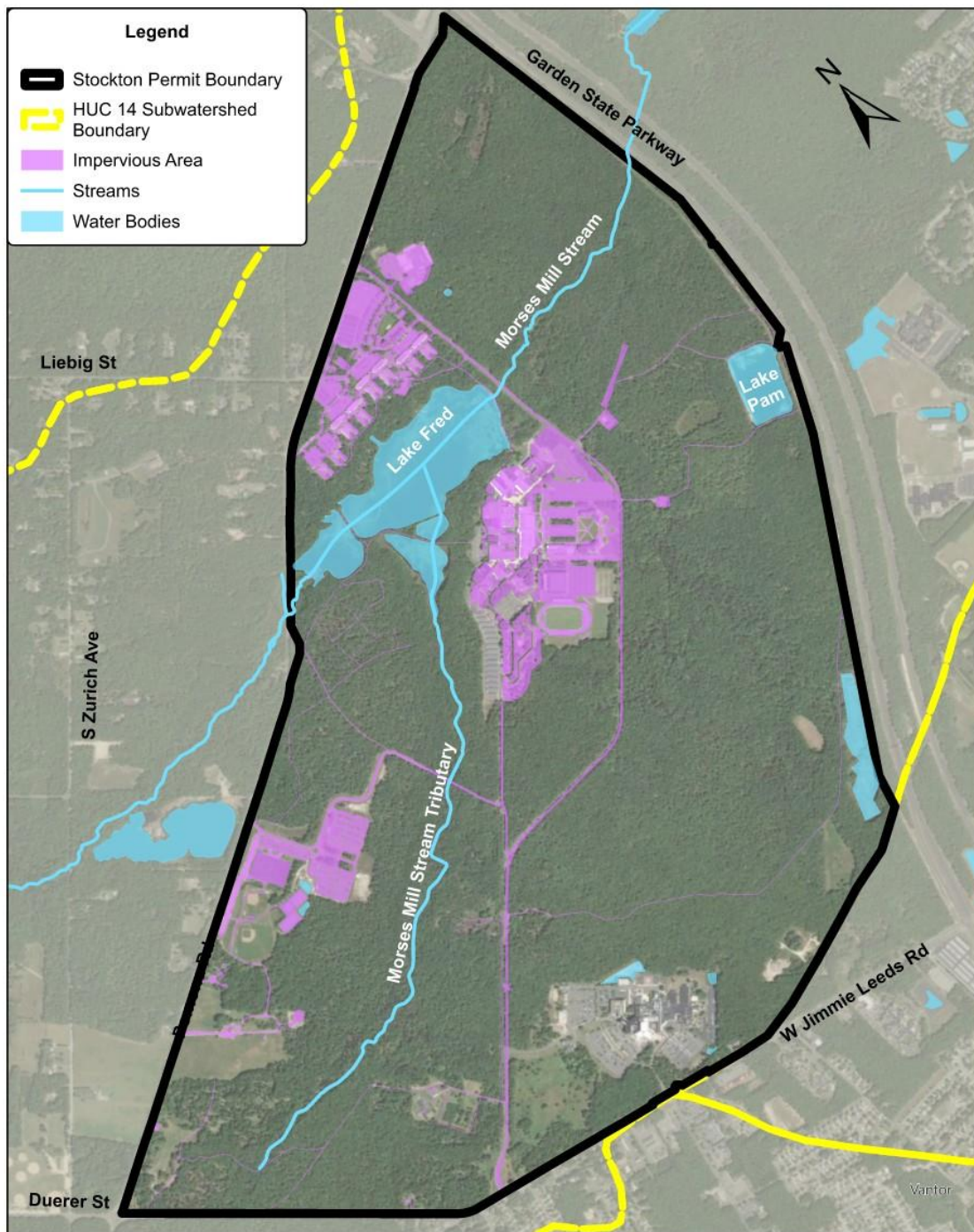


FIGURE 12: IMPERVIOUS AREA
STOCKTON UNIVERSITY - WATERSHED IMPROVEMENT PLAN

Conclusion

The Watershed Inventory Report, Phase 1 of the Watershed Improvement Plan for Stockton University, identifies stormwater infrastructure, as required in the MS4 permits. It also summarizes water quality data, including stream classifications, TMDLs, and water quality impairments. The data that accompanies this inventory report has been compiled as an electronic map and submitted to NJDEP through NJDEP Online via the Stormwater Document Submittal Service. The information from this inventory report will be used to make informed decisions during the creation of the Watershed Assessment Report, Phase 2 of the Watershed Improvement Plan. The work done in Phase 2 will identify areas of potential concern and where potential water quality improvement projects may be implemented to address the highlighted water quality and quantity issues identified in this inventory report.

References

- **Fellows, Read & Associates, Inc.** Stockton State College Student Housing III – Grading & Drainage Plan. February 4, 1985.
- **GPR One Call and Utility Location Investigation.** November 25, 2025.
- **Google Earth Pro.** Accessed October 2025.
- **Marathon Engineering & Environmental Services, Inc.** Overall Existing Utility Location Plans for Stockton University. September 29, 2025.
- **Marathon Engineering & Environmental Services, Inc.** Parking Lot 7 Reconstruction and Sidewalk Plans, Stockton University. June 17, 2022.
- **Marathon Engineering & Environmental Services, Inc.** Storm Sewer Location Plans. June 24, 2019.
- **Marathon Engineering & Environmental Services, Inc.** Stormwater Master Plan. 2010.
- **Marathon Engineering & Environmental Services, Inc.** Stormwater Pollution Prevention Plan for Stockton University (NJPDES #NJG0150240). March 4, 2025.
- **Marathon Engineering & Environmental Services, Inc.** Topographic Survey, Stockton University. March 9, 2020.
- **NJDEP Bureau of GIS.** NJDEP Open Data. Retrieved October 29, 2025, from: <https://gisdata-njdep.opendata.arcgis.com/>.
- **NJDEP, Bureau of NJPDES Stormwater Permitting.** Total Maximum Daily Load (TMDL) Look-Up Tool. Retrieved November 2, 2025, from: <https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/tmdl/>.
- **NJDEP, Division of Watershed and Land Management, Bureau of NJPDES Stormwater Permitting.** New Jersey Watershed Evaluation Tool (NJ-WET). Retrieved November 17, 2025, from: <https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/watershed-improvement-plan-guidance/>.
- **New Jersey Department of Environmental Protection (NJDEP), Bureau of Environmental Analysis, Restoration and Standards.** New Jersey 2022 Integrated Water Quality Report, including the 303(d) Impaired Waters List. Retrieved November 17, 2025, from: <https://dep.nj.gov/wms/bears/integrated-wq-assessment-report-2022/>.
- **Stockton University.** Facilities Master Plan. 2020.
- **U.S. Census Bureau.** 2020 Census of Population and Housing. Retrieved November 20, 2025, from U.S. Department of Commerce website: <https://data.census.gov/>.