SUBMITTAL SUMMARY REPORT
MajorSite-000024-2025

PLAN NAME: Dollar General Flemington Pond Modification
LOCATION:
APPLICATION DATE: 11/14/2025
PARCEL: 01995-001-00
DESCRIPTION: This site received approval under Application #26013 and was built according to the approved plans. The weir in the stormwater pond has since been modified and we have been asked by the County to submit a major site plan for the modification to the outfall of the stormwater pond.

CONTACTS	NAME	COMPANY
Applicant	April Dotson	NV5
Engineer of Record	Daniel Young	NV5

SUBMITTAL	STARTED	DUE	COMPLETE	STATUS
OCE: Plan Review (DR) v.	12/08/2025	12/22/2025	01/29/2026	Approved

SUBMITTAL DETAILS

OCE: Plan Review (DR) v.1

ITEM REVIEW NAME (DEPARTMENT)	ASSIGNED TO	DUE	COMPLETE	STATUS
911 Management (DR) (911 Management)	Caroline Dennison	12/22/2025	12/19/2025	Approved
Environmental Health (Plans) (Environmental Health)	Evan Searcy	12/22/2025	01/05/2026	Approved
Fire Marshal (Plans) (Fire)	Jonathan Kenning	12/22/2025	12/09/2025	Approved
Growth Services Planning & Zoning (DR) (GS Planning and Zoning)	Xinyi Chen	12/22/2025	12/23/2025	Approved
Comments	Conditional approval to the major site plan revision. Defer to Stormwater.			
Corrections	Additional Growth Services Comments (Resolved) - Additional Growth Services Comments: According to the applicant, "The Dollar General in Flemington was previously approved under Permit Number 26013. The site has been constructed. A discharge weir was added to the stormwater pond after construction had been completed. This application is to permit the change to the stormwater pond." Growth Services has conditional approval to the proposed change on major site plan. Defer to Stormwater to approve the change for the stormwater pond.			
Landscape (Plans) (Parks and Recreation)	Susan Heyen	12/22/2025	12/08/2025	Not Required
Comments	No landscape impacted by revision			
OCE Design (Plans) (Office of the County Engineer)	Jack Dingman	12/22/2025	01/29/2026	Approved

SUBMITTAL SUMMARY REPORT (MajorSite-000024-2025)

ITEM REVIEW NAME (DEPARTMENT)	ASSIGNED TO	DUE	COMPLETE	STATUS
OCE Property Management (Plans) (Office of the County Engineer)	Elizabeth Woods	12/22/2025	01/05/2026	Informational

Comments

IF APPLICABLE:
Sec. 2.18.1.I - Show connections to other phases.
Sec.2.19.2.H – Legal Documents
Legal documents such as Declaration of Covenants and Restrictions, By-Laws, Articles of Incorporation, ordinances, resolutions, etc.
Sec. 6.3.1.B.1 – Required Right of Way Dedication (select as appropriate)
For Public Streets. "[All streets and rights-of-way shown on this plat or name specifically if less than all] are hereby dedicated for the use and benefit of the public."
Sec. 6.3.1.B.2 – Required Right of Way Dedication
For Non-Public Streets. "[All streets and rights-of-way shown on this plat or name specifically if less than all] are hereby dedicated privately to the [entity name]. All public authorities and their personnel providing services to the subdivision are granted an easement for access. The Board of County Commissioners of Marion County, Florida, shall have no responsibility, duty, or liability whatsoever regarding such streets. Marion County is granted an easement for emergency maintenance in the event of a local, state, or federal state of emergency wherein the declaration includes this subdivision or an emergency wherein the health, safety, or welfare of the public is deemed to be at risk."
Sec. 6.3.1.D.3 - Cross Access Easements
For Cross Access Easements. "All parallel access easements shown on this plat are hereby dedicated for the use and benefit of the public, and maintenance of said easements is the responsibility of [entity name]."
Sec. 6.3.1.C.1 - Utility Easements (select as appropriate)
"[All utility easements shown or noted or name specifically if less than all] are dedicated [private or to the public] for the construction, installation, maintenance, and operation of utilities by any utility provider."
Sec. 6.3.1.C.2 – Utility Easements
"[All utility tracts or identify each tract as appropriate] as shown are dedicated [private or to the public] for the construction and maintenance of such facilities."
Sec.6.3.1.D(c)(1)(2)(3) - Stormwater easements and facilities, select as appropriate:
1. "[All stormwater and drainage easements as shown or noted or name specifically if less than all] are dedicated [private or to the public] for the construction and maintenance of such facilities."

2. "[All stormwater management tracts or identify each tract as appropriate] as shown are dedicated [private or to the public] for the construction and maintenance of such facilities."

3. When any stormwater easement and/or management tract is not dedicated to the public or Marion County directly, the following statement shall be added to the dedication language: "Marion County is granted the right to perform emergency maintenance on the [stormwater easement and/or management tract, complete accordingly] in the event of a local, state, or federal state of emergency wherein the declaration includes this subdivision or an emergency wherein the health, safety, or welfare of the public is deemed to be at risk."
Sec.6.3.1.D(f) –
If a Conservation Easement is required the following shall be provided: "A conservation easement [as shown or on tract and identify the tract, complete accordingly] is dedicated to [the Board of County Commissioners of Marion County, Florida or entity name, if not Marion County] for the purpose of preservation of [listed species, habitat, Karst feature and/or native vegetation, complete accordingly]."

OCE Stormwater (Permits & Plans) (Office of the County Engineer)	Jason Cambre	12/22/2025	12/19/2025	Approved

Comments After the fact permit for site modifications with additional modifications to retention area outfall necessary.

OCE Survey (Plans) (Office of the County Engineer)	Theresa Smail	12/22/2025	12/17/2025	Approved
OCE Traffic (Permits & Plans) (Office of the County Engineer)	Chris Zeigler	12/22/2025	12/08/2025	Approved
Utilities (OCE Plans) (Utilities)	Heather Proctor	12/22/2025	12/24/2025	Approved

Comments

Parcel 01995-001-00 is within the Marion County Utilities service area but is currently outside of the connection distance.

The proposed modification does not impact utility flows or public utilities. Marion County Utilities has no additional comments on this major site plan.

Marion County
Board of County Commissioners
Office of the County Engineer
412 SE 25th Ave.
Ocala, FL 34471
Phone: 352-671-8686
Fax: 352-671-8687

DEVELOPMENT REVIEW PLAN APPLICATION

Date: 11/06/2025
mm/dd/yyyy

A. PROJECT INFORMATION:

Project Name: CRS Flemington N Hwy 329 & W Hwy 318
Parcel Number(s): 01995-001-00
Section 34 Township 12 S Range 20 E Land Use GCSF Zoning Classification RAC
Commercial☑ Residential☐ Industrial☐ Institutional☐ Mixed Use☐ Other
Type of Plan: MAJOR SITE PLAN
Property Acreage 1 Number of Lots 1 Miles of Roads 0
Location of Property with Crossroads SW Quadrant of N Hwy 329 & W Hwy 318
Additional comments regarding this submittal The Dollar General has been constructed. This application is to permit a discharge structure for the stormwater pond.

B. CONTACT INFORMATION *(fill in as applicable)*:

Engineer:
Firm Name: NV5 Contact Name: Cole Menhennett
Mailing Address: 11801 Research Drive City: Alachua State: FL Zip Code: 32615
Phone # 352-331-1976 Alternate Phone #
Email(s) for contact via ePlans: permiteng@chw-inc.com

Surveyor:
Firm Name: NV5 Contact Name: Aaron Hickman
Mailing Address: 11801 Research Drive City: Alachua State: FL Zip Code: 32615
Phone # 352-331-1976 Alternate Phone #
Email(s) for contact via ePlans: permiteng@chw-inc.com.com

Owner:
Owner: Lamar Mounds, Inc Contact Name: Thomas Halliburton
Mailing Address: 2029 Ector Overlook NW City: Kennesaw State: GA Zip Code: 30152
Phone # Contact Developer Alternate Phone #
Email address: Contact Developer

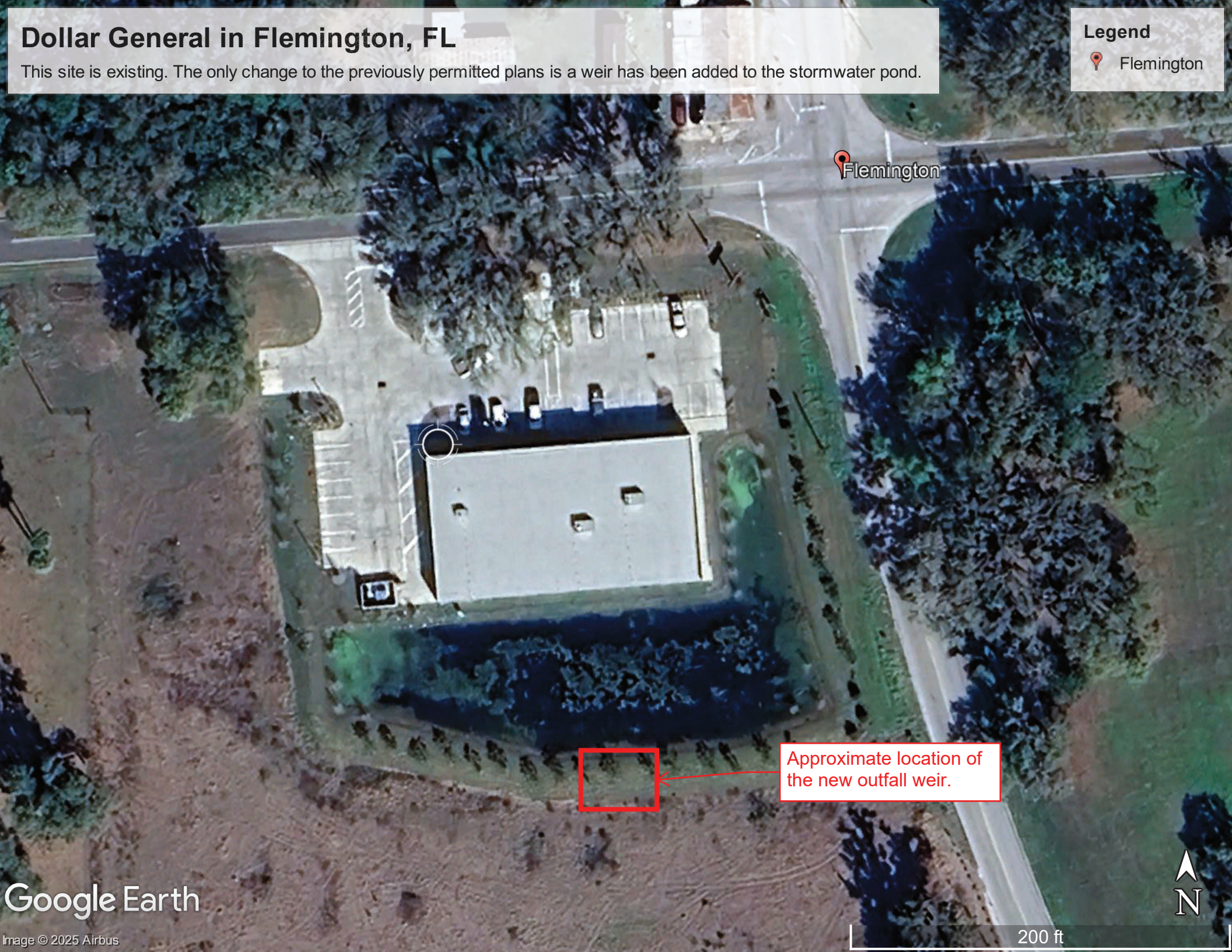
Developer:
Developer: Concept Development, Inc. Contact Name: Holly Irish
Mailing Address: 1449 SW 74th Drive, Suite 200 City: Gainesville State: FL Zip Code: 32607
Phone # (352) 333-3233 Alternate Phone #
Email address: holly@conceptcompanies.net

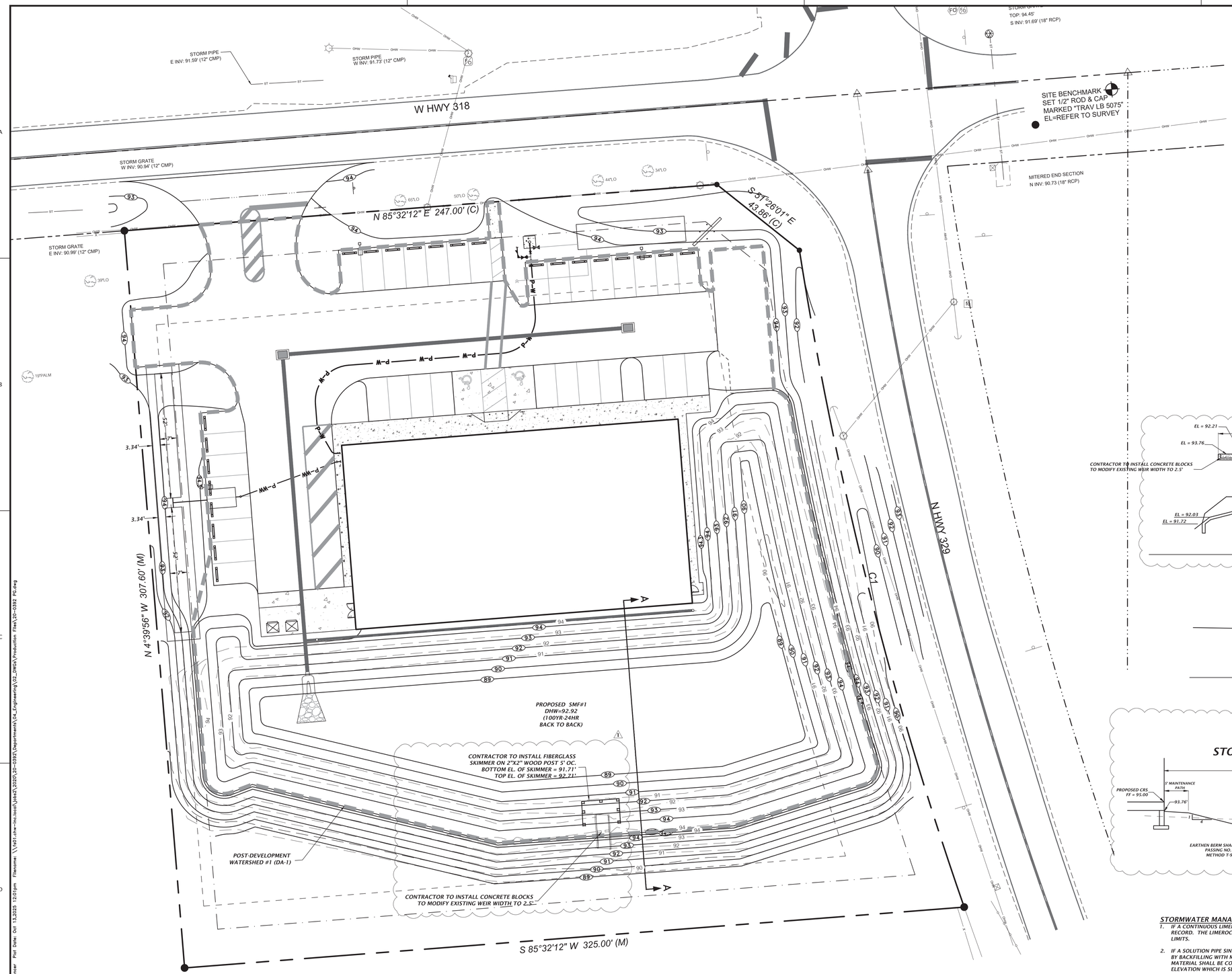
Revised 7/2017

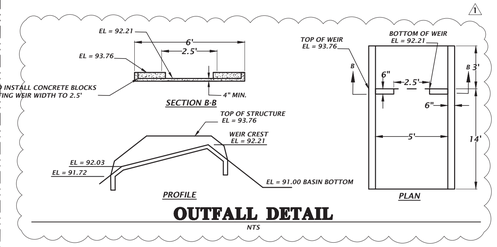
Submit via Email Print Form Clear Form

Dollar General in Flemington, FL

This site is existing. The only change to the previously permitted plans is a weir has been added to the stormwater pond.

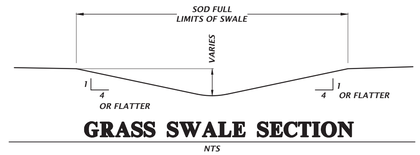






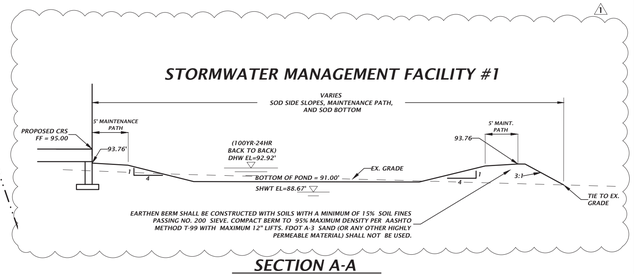
OUTFALL DETAIL

NTS



GRASS SWALE SECTION

NTS



SECTION A-A

NTS

STORMWATER MANAGEMENT FACILITY NOTES

1. *IF A CONTINUOUS LIMEROCK FORMATION IS ENCOUNTERED IN THE BASIN AREA CONTACT THE ENGINEER OF RECORD. THE LIMEROCK SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 3 FEET BEYOND THE BASIN UNDERCUT LIMITS.*
2. *IF A SOLUTION PIPE SINKHOLE DOES FORM IN THE STORMWATER BASIN, THEN THE SINKHOLE SHALL BE REPAIRED BY BACKFILLING WITH MATERIAL OF LOWER-PERMEABILITY MATERIAL, SUCH AS CLAYEY SAND OR CLAY. THE MATERIAL SHALL BE COMPACTED AND THE SINKHOLE REPAIR SHOULD BRING THE SURFACE BACK TO AN ELEVATION WHICH IS SLIGHTLY ABOVE THE ORIGINAL BOTTOM, CREATING A SMALL MOUND.*

NIV5
11801 Research Drive
Alachua, Florida 32615
(352)331-1976
www.niv5.com

SCALE: 1"=20'
VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING
IF NOT ONE INCH ON
THIS SHEET ADJUST
SCALES ACCORDINGLY.

REVISIONS:
1 10/7/25 FIELD ORDER #1

SUBMITTALS:
01/11/21 MARION COUNTY, SWFWMD
02/25/21 MARION COUNTY, SWFWMD

APPLICATION TYPE: MAJOR SITE PLAN IN MARION COUNTY, FLORIDA
PROJECT CONSISTS OF A NEW 12,000 SF RETAIL STORE

CLIENT: CONCEPT DEVELOPMENT, INC.

PROJECT: COMMERCIAL RETAIL STORE
FLEMINGTON

SHEET TITLE: DETAILED GRADING AND DRAINAGE PLAN

TECHNICIAN: T.F. COWART
DESIGNER
CHECKED BY: D.H. YOUNG, P.E.
PROJECT NUMBER: 20-0392

DANIEL H. YOUNG
Daniel H. Young,
State of Florida, Professional
Engineer, License No. 70780

This item has been
electronically signed and
sealed by Daniel H. Young,
P.E. on 10/14/2025 using a
Digital Signature.

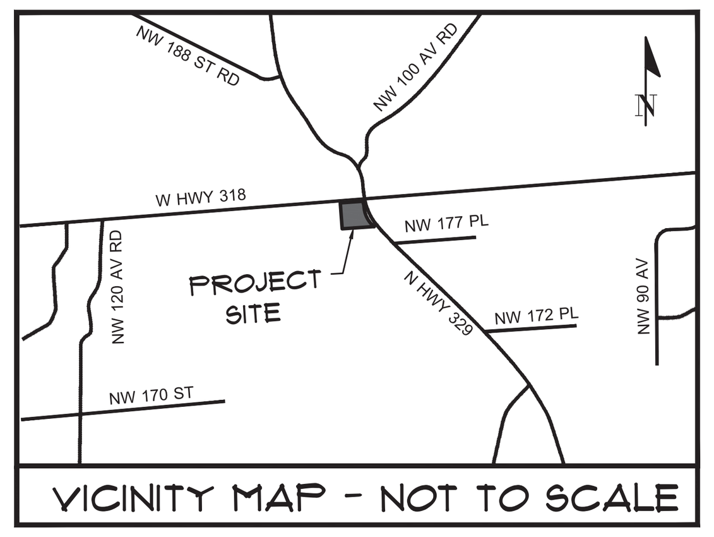
Printed copies of this
document are not considered
signed and sealed and the
signature must be verified on
any electronic copies.

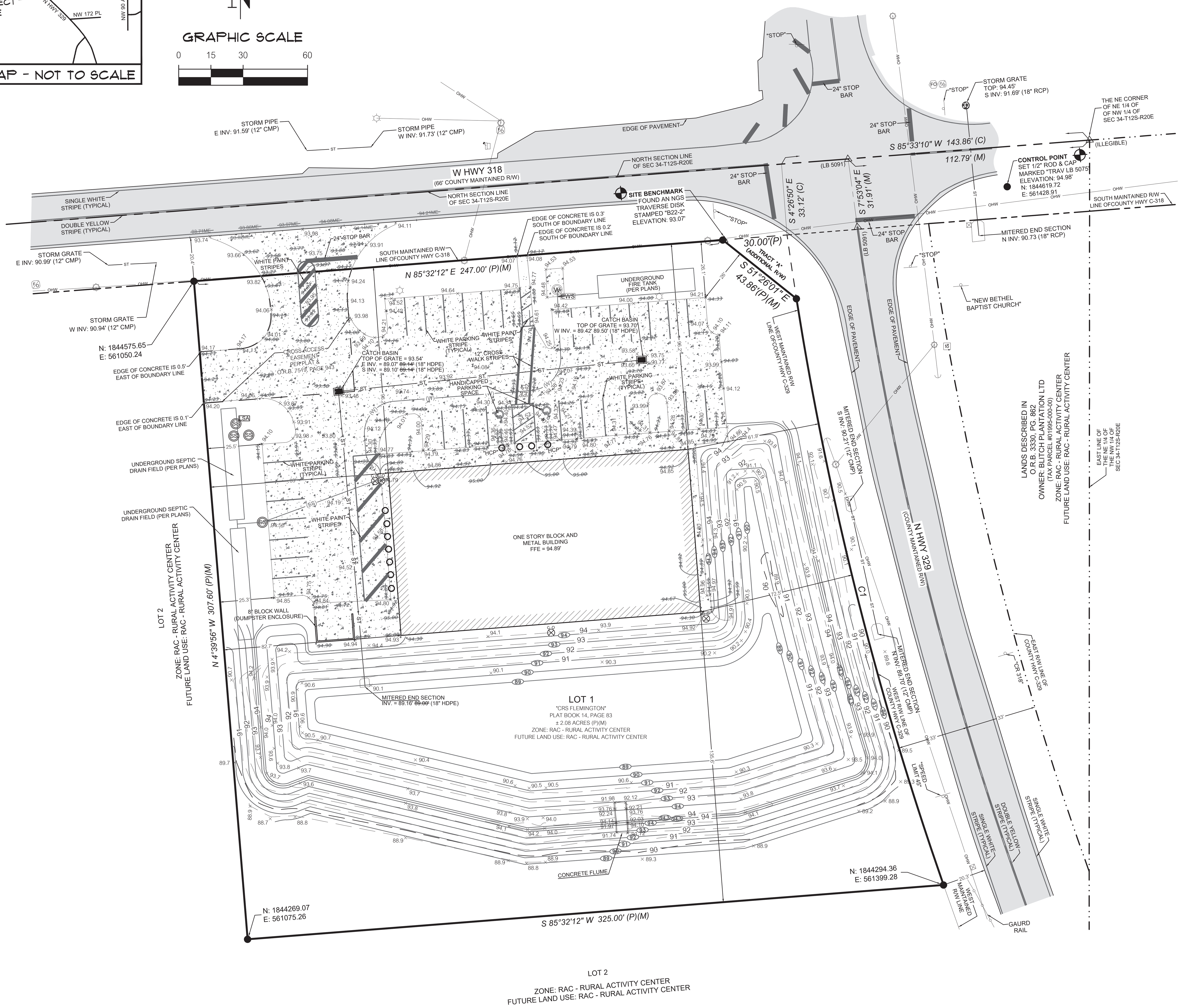
Digitally signed by Daniel H. Young
DN: CN=Daniel Harvey Young, O=Daniel Harvey Young, L=Alachua, S=FL, C=US
Reason: I am approving this document
Date: 2025.10.14 09:31:00-04'00'

FL PE No. 70780

SHEET NO.:
C009

AS-BUILT SURVEY
ALTA/NSPS LAND TITLE SURVEY
SITUATED IN THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 20 EAST, MARION COUNTY, FLORIDA





LEGAL DESCRIPTION:

LOT 1 OF "CRS FLEMINGTON", AS RECORDED IN PLAT BOOK 14, PAGE 83 OF THE PUBLIC RECORDS OF MARION COUNTY, FLORIDA.

SAID TRACT OF LAND CONTAINING 2.08 ACRES, MORE OR LESS.

SCHEDULE B ITEMS: (FIRST AMERICAN TITLE INSURANCE COMPANY, OWNER'S POLICY OF TITLE INSURANCE FILE NO.: 21-01272, DATED: FEBRUARY 13, 2022)

ITEM # 9: MATTERS APPEARING ON THE PLAT RECORDED IN PLAT BOOK 14, PAGE(S) 83, INCLUDING, BUT NOT LIMITED TO, ANY BUILDING SETBACK LINES AND/OR EASEMENTS LYING WITHIN THE LOT(S) DESCRIBED IN SCHEDULE "A".

ITEM # 10: RESTRICTIVE COVENANT AGREEMENT AS SET FORTH IN INSTRUMENT RECORDED IN BOOK 7509, PAGE 890.

ITEM # 11: ALL OF THE TERMS AND PROVISIONS SET FORTH AND CONTAINED IN THAT CERTAIN LEASE BETWEEN CONCEPT DEVELOPMENT INC., LESSOR, AND DOLGENCORP, CORP, LESSEE, A MEMORANDUM OF WHICH IS RECORDED IN BOOK 7511, PAGE 460.

ITEM # 12: CROSS ACCESS EASEMENT AGREEMENT WITH COVENANTS AND RESTRICTIONS AS SET FORTH IN INSTRUMENT RECORDED IN BOOK 7516, PAGE 1330. (GRAPHICALLY SHOWN)

SURVEYORS NOTES:

1. COORDINATES AND HORIZONTAL DATA SHOWN HEREON ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, NAD 83 / 1990 ADJUSTMENT, FLORIDA WEST ZONE AND WERE DERIVED FROM COORDINATES PROVIDED BY MARION COUNTY FROM PROJECT #042-99.
2. THE VERTICAL DATUM IS NAVD 88 AND DERIVED FROM INFORMATION FOR BENCHMARK "BM22-2" OBTAINED FROM THE MARION COUNTY GIS. THE PUBLISHED ELEVATION WAS CONVERTED TO NAVD 88 USING THE NGS PROGRAM "VERTCON."
3. NO UNDERGROUND INSTALLATION OF UTILITIES OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN.
4. THE SURVEYOR HAS NO KNOWLEDGE OF UNDERGROUND FOUNDATIONS WHICH MAY ENCROACH.
5. FENCING, SYMBOLS AND MONUMENTATION SHOWN HEREON MAY BE EXAGGERATED IN SIZE AND PLACEMENT FOR PICTORIAL PURPOSES ONLY AND ARE NOT SHOWN TO SCALE.
6. IN THE OPINION OF THIS SURVEYOR, THE PERIMETER LINES AS SHOWN HEREON REPRESENT THE LOCATION OF THE BOUNDARY LINES OF THE SUBJECT PARCEL IN RELATION TO THE DESCRIPTION OF RECORD AND THOSE EXISTING LAND CORNERS FOUND TO BE ACCEPTABLE BY THIS SURVEYOR.
7. THIS SURVEY WAS PRODUCED WITH THE BENEFITS OF FURNISHED TITLE WORK VIA FIRST AMERICAN TITLE INSURANCE COMPANY, OWNER'S POLICY OF TITLE INSURANCE FILE NO.: 21-01272, DATED: FEBRUARY 13, 2022. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN DONE BY THE SURVEYOR.
8. INFORMATION FROM FEDERAL EMERGENCY MANAGEMENT AGENCY, (F.E.M.A.) FLOOD INSURANCE RATE MAP(S), SHOWN ON THIS MAP WAS CURRENT AS OF THE REFERENCED DATE. MAP REVISIONS AND AMENDMENTS ARE PERIODICALLY MADE BY LETTER AND MAY NOT BE REFLECTED ON THE MOST CURRENT MAP.
9. THERE ARE A TOTAL OF 35 STRIPPED PARKING SPACES INCLUDING 33 REGULAR PARKING SPACES AND 2 HANDICAPPED PARING SPACES.
10. THERE WAS OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS BEING CONDUCTED AT THE TIME OF THIS SURVEY.
11. THERE WAS NO EVIDENCE OF CHANGES IN STREET RIGHT OF WAY LINES. THERE WAS NO OBSERVED EVIDENCE OF CURRENT STREET CONSTRUCTION OR REPAIRS. THERE WAS NO OBSERVED EVIDENCE OF CURRENT SIDEWALK CONSTRUCTION OR REPAIRS.
12. THERE IS NO OBSERVED EVIDENCE OF SITE USE AS A CEMETERY, SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
13. MAINTAINED RIGHT OF WAY INFORMATION SHOWN HEREON FOR COUNTY HIGHWAY C-329 WAS PROVIDED BY THE MARION COUNTY ENGINEERING DEPARTMENT.
14. PROJECT LIMITS PER CLIENTS REQUEST.
15. ADDITIONAL POINTS MAY BE FOUND BY TURNING ON THE SV-NODE* LAYERS IN THE SUPPLIED DIGITAL FILE.
16. TOPOGRAPHIC INFORMATION SHOWN HEREON BASED ON GROUND SURVEY. CONTOURS SHOWN HEREON REFLECT 1-FOOT INTERVALS.

LEGEND:

(M) = DATA BASED ON FIELD MEASUREMENTS
(P) = DATA BASED ON PLAT
(C) = DATA BASED ON CALCULATIONS
FEMA = FEDERAL EMERGENCY MANAGEMENT AGENCY
F.I.R.M. = FLOOD INSURANCE RATE MAP
ALTA = AMERICAN LAND TITLE ASSOCIATION
NSPS = NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
R/W = RIGHT OF WAY
ID. = IDENTIFICATION
O.R.B. = OFFICIAL RECORDS BOOK
PG. = PAGE
INV = INVERT
CMP = CORRUGATED METAL PIPE
RCP = REINFORCED CONCRETE PIPE
HDPE = HIGH DENSITY POLYETHYLENE
"HCP" = HANDICAPPED PARKING
● = SET 5/8" STEEL ROD & CAP (LB 5075)
△ = FOUND NAIL AND DISK (STAMPED AS NOTED)
= STORM GRATE / CATCH BASIN
= ELECTRIC METER
= METAL SIGN (MARKED AS NOTED)
EWS = EYE WASHING STATION
LSA = LIFT STATION ALARM
SS = PLASTIC SANITARY SEWER LID
(W) = UNDERGROUND WATER LINE (PER PLAN)
(SS) = UNDERGROUND SEWER LINE (PER PLAN)
FO = FIBER OPTIC MARKER
= FIBER OPTIC BOX
= WOODEN POWER POLE
= LIGHT POLE
te = TELEPHONE PEDESTAL
fo = FIBER OPTIC PEDESTAL
W = 4" WELL
= GUY ANCHOR
= REFLECTIVE POST
= MAILBOX
= BENCHMARK
185 = AS-BUILT CONTOUR LINE
X 185.5 = AS-BUILT SPOT ELEVATION (PERVIOUS SURFACE)
X 185.45 = AS-BUILT SPOT ELEVATION (IMPERVIOUS SURFACE)
OHW = OVERHEAD WIRE
O = METAL GUARDRAIL
X = FENCE (SIZE/TYPE NOTED)
= ASPHALT SURFACE
= ASPHALT SURFACE
90 = PER PLAN CONTOUR LINE
~~95.00~~ = PER PLAN SPOT ELEVATION (IMPERVIOUS SURFACE)
~~89.00'~~ = PER PLAN INVERT ELEVATION

CURVE DATA TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1 (P)(M)	282.00'	1576.00'	10°15'08"	141.38'	281.63'	S 14°04'31" E

FLOOD ZONE:

THIS PROPERTY IS LOCATED IN FEDERAL FLOOD ZONE "X", AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS INTERPOLATED FROM FEMA F.I.R.M. PANEL NO. 116 OF 960, COMMUNITY PANEL NO. "120160 0116 D, EFFECTIVE DATE: AUGUST 28, 2008.

SURVEYOR'S CERTIFICATION:

TO: LAMAR MOUNDS, INC.; CONCEPT REAL PROPERTY HOLDINGS, LLLP; CONCEPT DEVELOPMENT, INC.; CONCEPT CONSTRUCTION OF NORTH FLORIDA, INC.; PROVIDENCE TITLE COMPANY, LLC AND FIRST AMERICAN TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(b), 8, 9, 11, 13, 14, 16, 17, 18 AND 19, OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 21, 2020 WITH A REVISION ON SEPTEMBER 25, 2025.

AARON H. HICKMAN License Number 6791 STATE OF FLORIDA Professional Surveyor and Mapper

AARON H. HICKMAN, P.S.M.
FLORIDA SURVEYOR & MAPPER CERTIFICATE NUMBER 6791
AARON.HICKMAN@NV5.COM

November 14, 2025
DATE OF PLAT OR MAP:

NV5
11801 Research Drive
Alachua, Florida 32615
(352) 331-1976
www.NV5.com
LB-8246

SCALE: 1" = 30'

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CERTIFIED TO: (SEE SURVEYOR'S CERTIFICATION)

REV 1_09-25-2025: ADDED CONCRETE FLUME TO POND

TECHNICIAN: NAD / KWM	SURVEY DATE: 11-11-2021	
CREW CHIEF: RQ / JM / DS	REVISION DATE: 09-25-2025	
CHECKED BY: AHH	PROJECT NUMBER: 20-0392	
FIELD BOOK & PAGE: 605 / 16-17		

AARON H. HICKMAN
(SEE SURVEYOR'S CERTIFICATION)
Professional Surveyor & Mapper Fla. License No. 6791

This map prepared by:
CERTIFICATE OF AUTHORIZATION NO. L.B. 8246
NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OR ELECTRONIC DIGITAL SIGNATURE OF A FLORIDA LICENSED SURVEYOR AND MAPPER

SHEET NO.: 1 OF 1

Tech: Aaronh Plot Date: Nov 14,2025 9:03am Filename: N:\2020\20-0392\Departments\01_Survey\DWG\20-0392 ALTA POST CON.dwg

Stormwater Report

Commercial Retail Store - Flemington N Hwy 329 & W Hwy 318

Date: 10/13/2025
PN# 20-0392
PM: Daniel H. Young

Prepared For: Concept Development, Inc.

Submitted To: Marion County, SWFWMD

Address: 3324 W University Ave. PMB 151
Gainesville, FL 32607

NV5

Beyond Engineering | Florida Region

www.nv5.com

Engineer's Certification Statement

I hereby certify that the design of the stormwater management systems for the project known as Commercial Retail Store (CRS) – Flemington N Hwy 329 & W Hwy 318 has been designed substantially in accordance with the Southwest Florida Water Management District and Marion County applicable rules and regulations.

Daniel H. Young,
State of Florida, Professional Engineer, License No. 70780

This item has been electronically signed and sealed by Daniel H. Young, P.E. on 10/14/2025 using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Daniel Harvey Young

Digitally signed by Daniel Harvey Young
DN: CN=Daniel Harvey Young, O=Daniel Harvey Young, L=Mount Dora, S=Florida, C=US
Reason: I am approving this document
Date: 2025.10.14 09:19:48-04'00'

Daniel H. Young, FL PE No. 70780

10/14/25

Date

Contents **Page**

Figures

Appendices

Introduction

The Commercial Retail Store (CRS) – Flemington N Hwy 329 & W Hwy 318 project was for the construction of a ±10,640 square foot (sf) CRS with associated parking, driveway, stormwater management facilities, and utility infrastructure. The total site area is ± 2.09 acres, as indicated in the ALTA Survey. The site is located at the southwest quadrant of the intersection of N Hwy 329 and W Hwy 318 within Marion County, FL. The site has been constructed. The owners now want to modify the stormwater pond to have an overflow structure.

The project site is located on a portion of Marion County tax parcel 01995-000-00. Figure 1 shows a Location Map and Figure 2 depicts the site on the Marion County USGS Quadrangle Map. The project is in S 34, T 12 S, R 20 E.

Please refer to the accompanying engineering plans for details regarding proposed construction and demolition.

Design Criteria

The design criteria for the proposed Stormwater Management Facility (SMF) are based upon the criteria set forth by the Southwest Florida Water Management District (SWFWMD) and Marion County (MC) for a dry retention system design in a flood prone, closed basin. The proposed stormwater management system consists of a single dry retention pond (SMF-1) The criteria are as follows:

1. Provide Peak Runoff Rate and Cumulative Volume Attenuation: Attenuate post-development runoff and cumulative discharge volume for the 25 year/24 hour and 100 year/24 hour storm events. (MC & SWFWMD)

2. Provide Water Quality Treatment Volume (WQTV): An on-line retention treatment system shall treat the runoff from the first one-inch of rainfall; or as an option for projects or project sub-units with drainage areas less than 100 acres, the first one-half inch of run-off. Total treatment volume shall again be available within 72 hours. (SWFWMD)

3. Provide Volume Recovery: All retention/detention areas shall recover the total volume required to meet the discharge volume limitations within 14 days following the design rainfall event. For retention/detention areas not able to recover the total required volume within 14 days, the stormwater facility volume shall be increased to retain an additional volume of the post minus pre difference in runoff for the 100-year 24-hour design storm when in a closed basin. The control elevation for retaining this volume shall be no greater than the top of constructed stormwater facility or the easement limits of a natural facility. Credit for the recovered volume through the 14-day duration may be considered to meet this requirement. (MC)

4. Provide Minimum Freeboard Separation: A minimum freeboard of six inches shall be provided for all retention/detention areas. (MC).

5. Basin Side Slopes: Retention areas shall be designed with a minimum berm width of 5 feet stabilized at six percent grade maximum around the entire perimeter of the facility and side slopes no steeper than 4:1 (horizontal: vertical).

SWFWMD and Marion County also require that best management practices be employed to control erosion, sedimentation, and that an operation and maintenance entity be established.

Site Characteristics

Physical characteristics of the site are described in the following sections. Additional details are provided in the accompanying Engineering Plans.

Site Topography

Before the site had been constructed, the project site had comprised of open space with scattered trees and including a driveway connecting to N Hwy 329. The site is bounded by W Hwy 318 to the north and N Hwy 329 to the east. Site topography was gently sloping and drains to an existing depressional area located south of the site. The west edge of N Hwy 329 delineates a high point east of the site. The centerline of W Hwy 318 delineates a high point to the north of the site. Elevations (NAVD 88) ranged from approximately EL ±94.0 at the north end of the site, to EL ±87.9 at the southwest corner of the site. The southern portion of the site lies below the local flood prone area elevation (EL ±88.9'), as defined by Marion County. The portion of the project site below EL ±88.9' was undisturbed to preserve the preexisting drainage patterns and prevent any additional flooding in the area. A depressional area exists south of the site and lies within the FEMA Flood Zone AE (EL ±86.4'). Zone AE lies completely outside of the proposed project boundaries.

Based on the USGS Quadrangle map, the regional topography gently sloped from the north to the south towards the existing depressional area. As the proposed design shows, the post-development rates and volumes will not exceed the pre-development rates and volumes draining to the depressional area.

Pre-Development Drainage

Pre-Development Watershed #1 (Pre DA-1) was comprised of 1.34 acres of pastureland with scattered trees. The site was gently sloping towards an existing depressional area that is a part of a much larger flood plain area. Roadside swales collect runoff around the site and convey it into the depressional area to the south of the site.

Post-Development Drainage

Post-Development Watershed #1 (DA-1) is comprised of ±1.39 acres including the retail store, drive aisle, parking areas, landscape areas, and stormwater facility (SMF-1). Stormwater runoff from Post-Development Watershed #1 is routed via sheet flow and shallow concentrated flow into a stormwater pipe conveyance system to SMF-1, which is located on the south side of the site.

SMF-1 is proposed to be modified to include a 2.5' wide overflow weir set at 92.21' with 4:1 side slope and a 5-foot-wide maintenance path at the top of the bank. The bottom of SMF-1 is set at EL. 91.00' with the top of bank EL. at 93.00'. The maintenance path is sloped at 6% with the outer edge at EL. 93.7', resulting in a total pond volume of ± 1.13 acre-feet. Please refer to the accompanying engineering plans for details about the stormwater management facility and Figure 6 and 7 for the Pre and Post-Development Watershed Maps.

Soils Information

The NRCS Soil Survey for Marion County describes the near surface soil profile for the project area. The site is mapped as Blichton Sand and Flemington Loamy Sand. Blichton Sand is classified by the NRCS Soil Survey as a type C/D soil. Flemington Loamy Sand is classified as a type D soil. Refer to Figure 4 for the NRCS Soils Map.

A site-specific soils investigation was conducted by GSE Engineering & Consulting, Inc., dated November 19th, 2020. Based on the Summary Report of Geotechnical Site Exploration, the following design parameters were determined and applied for the SMF calculations. The Geotechnical report is included in Appendix C for further details.

- Average ground elevation at location of borings: 89.67' (NAVD 88)
- Average base elevation of effective or mobilized aquifer (confining layer): 1.50 feet below land surface (bls): 89.67' – 1.50' = 88.17'
- Average seasonal high groundwater table elevation: 1.00 foot below land surface (bls): 89.67' – 1.00' = 88.67'
- Horizontal hydraulic conductivity: 0.75 feet per day
- Unsaturated vertical infiltration: 0.5 feet per day
- Specific yield (fillable porosity): 20%

MC Land Development Code, Sec. 6.13.7 states the following: "The pond bottom elevation of a stormwater facility shall be designed a minimum of 1 foot above the estimated seasonal high-water elevation. When the pond bottom is within 1 foot of the estimated seasonal high-water elevation, a 50 percent reduction factor shall be used for percolation or ground water mounding analysis shall be included."

A safety factor of 2 was applied to the vertical infiltration and hydraulic conductivity values in the model (listed above). The horizontal hydraulic conductivity and unsaturated vertical infiltration values obtained from the geotechnical report were 1.5 ft/day and 1 ft/day, respectively. Please refer to Appendix C for the full geotechnical report.

Drainage Analysis

SMF-1 has been designed so that the post development rates and volumes for the 25-year, 24-hour and 100-year, 24-hour storm events are less than the predevelopment rates and volumes per SWFWMD and Marion County. SMF-1 has been designed to retain the required water quality treatment volume and recover this volume within 72 hours. Full recovery after the 100-year, 24-hour storm event must occur within 14 days following the

event, or the system must be able to retain the volume of the post minus pre difference in runoff for an additional 100-year 24-hour design storm.

Appendix A contains details and calculations as well as a section for routing results, recovery analysis, hydraulic calculations, and general drainage calculations.

Analysis Methodology

The drainage analysis was conducted using PONDS (v3.3) to generate runoff hydrographs and route the runoff hydrographs through the proposed stormwater system with a groundwater mounding analysis. The required storm events were analyzed using the SWFWMD Project Design Aid data for the pre and post-development watersheds. The post development peak stage elevations, discharge rates, discharge volumes, and volume recovery times were established for the stormwater pond.

Unit Hydrograph Parameters

Unit hydrograph parameters required for the drainage analysis include run-off curve number (CN), time of concentration (T_c), and watershed (drainage) area. Values used in the analysis are summarized as follows:

<u>Pre-Development Watershed #1:</u>
Watershed Area = ± 1.34 ac.
Open Area (Good, Type 'D' Soil) = ± 1.34 ac.

CN = 80
Tc = 19 min.[1]

<u>Post-Development Watershed #1:</u>
Watershed Area = ± 1.39 ac.
Impervious Area = ± 0.75 ac.
Stormwater Management Facility = ± 0.52 ac.
Open Area (Good, Type 'D' Soil) = ± 0.12 ac.

CN = 97
Tc = 10 min.[2]

1) The time of concentration was calculated using TR-55 methodology.

2) The time of concentration (T_c) was conservatively assumed to be 10 minutes for post-development.

Pond Storage

Stage-storage results are provided in Appendix A.

Water Quality Treatment Volume (WQTV)

Per SWFWMD, the water quality treatment volume (WQTV) required for a dry retention system is 0.5-inch of runoff over the drainage area for areas less than 100 acres and must recover within 72 hrs. The required WQTV for SMF-1 per SWFWMD is 2,521 cubic feet (cf).

Table 1: Post Development Water Quality Treatment

Post-Development Watershed	Required Treatment Volume (cf)	Peak Elevation at WQTV (ft)	Recovery Time (hrs)
SMF-1	2,521	91.16	<12

Run-off and Facility Routing Results

The peak stage elevations and recovery times for the proposed dry retention area SMF-1 is shown in Table 2 below. A complete PONDS routing analysis can be found in Appendix A.

Table 2: SMF-1 Peak Stage, Recovery, and Routing Results

Simulation	SMF-1 Peak Stage (ft.)	Discharge Rate (cfs)	Discharge Volumes (cu. ft.)	Recovery Time (days)
Pre 25YR 24HR	NA	3.35	-	NA
Pre 100YR 24HR	NA	5.15	-	NA
Pre 25YR 24HR (Back-to-Back)	NA	3.35	50,162[1]	NA
Pre 100YR 24HR (Back-to-Back)	NA	5.15	77,802[1]	NA
Post 25YR 24HR	92.39	0.61	-	>14*
Post 100YR 24HR	92.69	2.61	-	>14*
Post 25YR 24HR (Back-to-Back)	92.70	2.64	37,651[1]	>14
Post 100YR 24HR (Back-to-Back)	92.92	4.70	68,669[1]	>14

*Since recovery was greater than 14 days, back-to-back storms were analyzed.
[1]The discharge volume is for the cumulative discharge for the two storms.

Summary and Conclusions

The proposed drainage system meets SJRWMD and Marion County criteria for a dry retention system design in a closed watershed for SMF-1. The criteria are as follows:

1. Provide Peak Discharge Rate and Cumulative Volume Attenuation: SMF-1 attenuates the post-development peak discharge rates and cumulative discharge volumes to be less than the pre-development peak discharge rates and volumes for 25-year, 24-hour and 100-year, 24-hour design storms

2. Provide Water Quality Treatment Volume (WQTV): SMF-1 was designed to provide the required WQTV for dry retention and fully recover within the 72-hour rule set forth by the SWFWMD.

3. Provide Volume Recovery: SMF-1 was unable to recover the volume from the 25-year, 24-hour and 100-year, 24-hour design storms within 14 days. To compensate, SMF-1 was designed to attenuate the post-development peak discharge rates and cumulative discharge volumes volume when compared to the pre-development peak discharge rates and volumes of two 25-year, 24-hour and 100-year, 24-hour storms ran back-to-back spaced 14 days apart per MC requirements.

4. Provide Minimum Freeboard Separation: For the 100-year, 24-hour storm, SMF-1 maintains a freeboard of 0.5 feet.

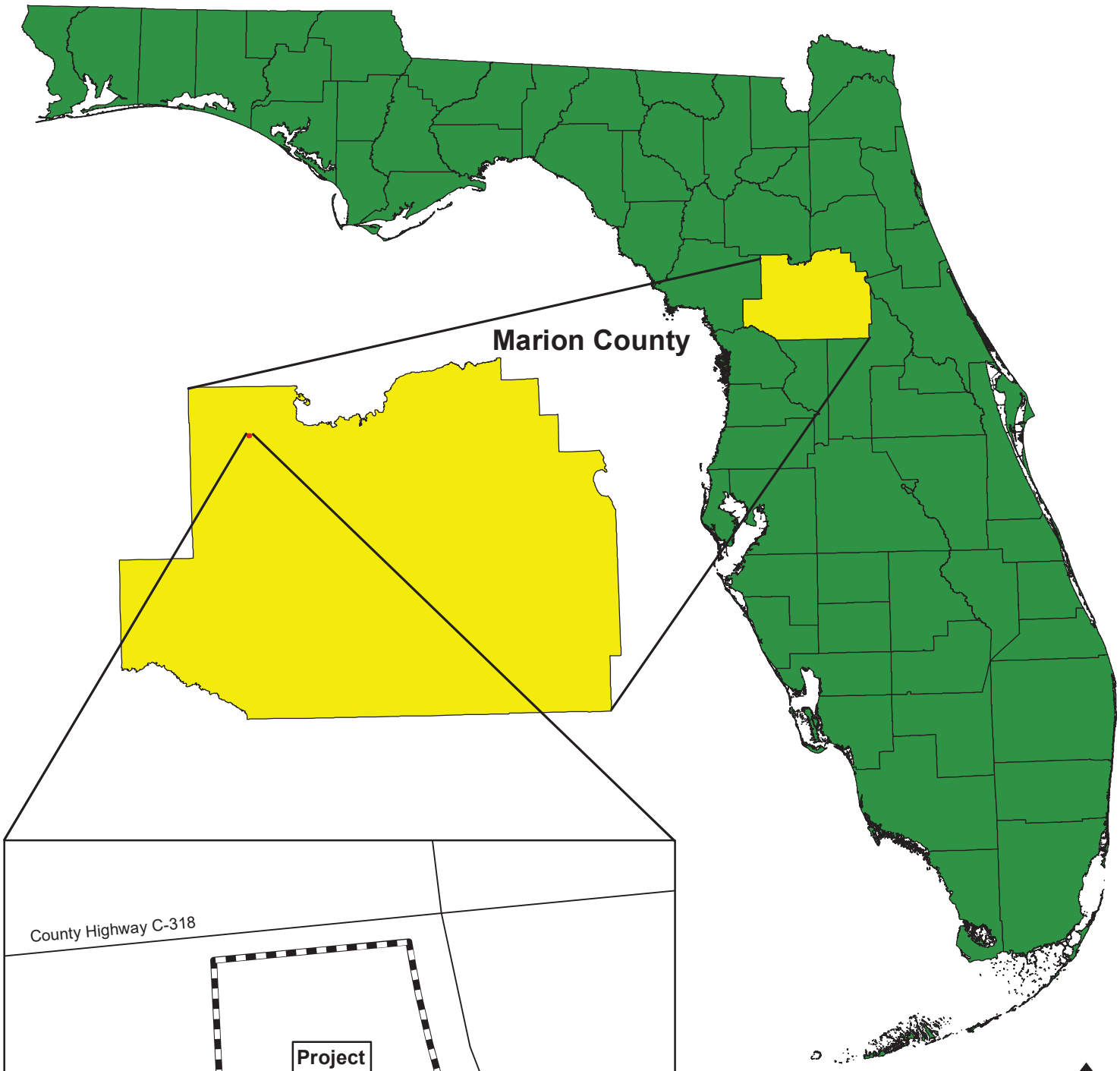
5. Basin Side Slopes: SMF-1 has been designed with a 4:1 side slope and 5' berm stabilized at six percent slope around the entire perimeter of the pond.

Based on the information provided, the project is eligible for approval by SWFWMD and Marion County.

Figure 1

Project Location Map

Project Location Map
CRS Flemington



CHW Professional Consultants
11801 Research Drive,
Alachua, Florida 32615
(352) 331-1976
www.chw-inc.com
est. 1988 FLORIDA
CA-5075

Figure 2

USGS Quadrangle Map

CHW
Professional Consultants
11801 Research Drive,
Alachua, Florida 32615
(352) 331-1976
www.chw-inc.com
est. 1988 FLORIDA
CA-5075

CRS Flemington Quad Map

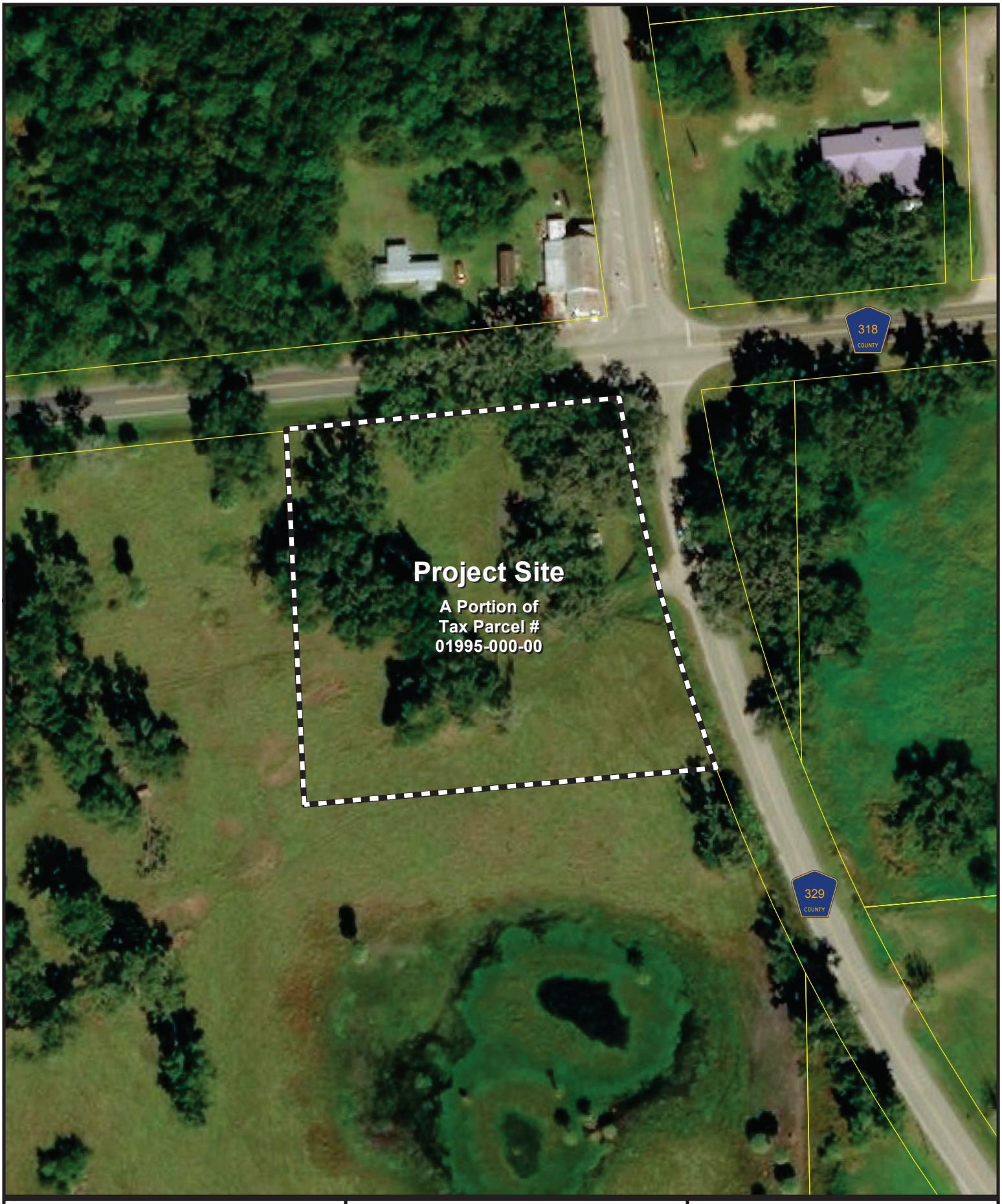
0 350 700
Feet

NORTH

Document Path: N:\2020\20-0392\Admin & Information\07_Maps\GIS\MXDs\Quad.mxd Prepared by Employee 534 Date: 1/4/2021 For informational purposes only

Figure 3

Aerial Map



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www.chw-inc.com
est. 1988 FLORIDA
CA-5075

CRS Flemington Aerial Map

0 50 100
Feet

NORTH

Document Path: N:\2020\20-0392\Admin & Information\07_Maps\GIS\MXDs\Aerial.mxd Prepared by Employee 534 Date: 1/4/2021 For informational purposes only

Figure 4

NRCS Soils Map

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CRS Flemington Soils Map

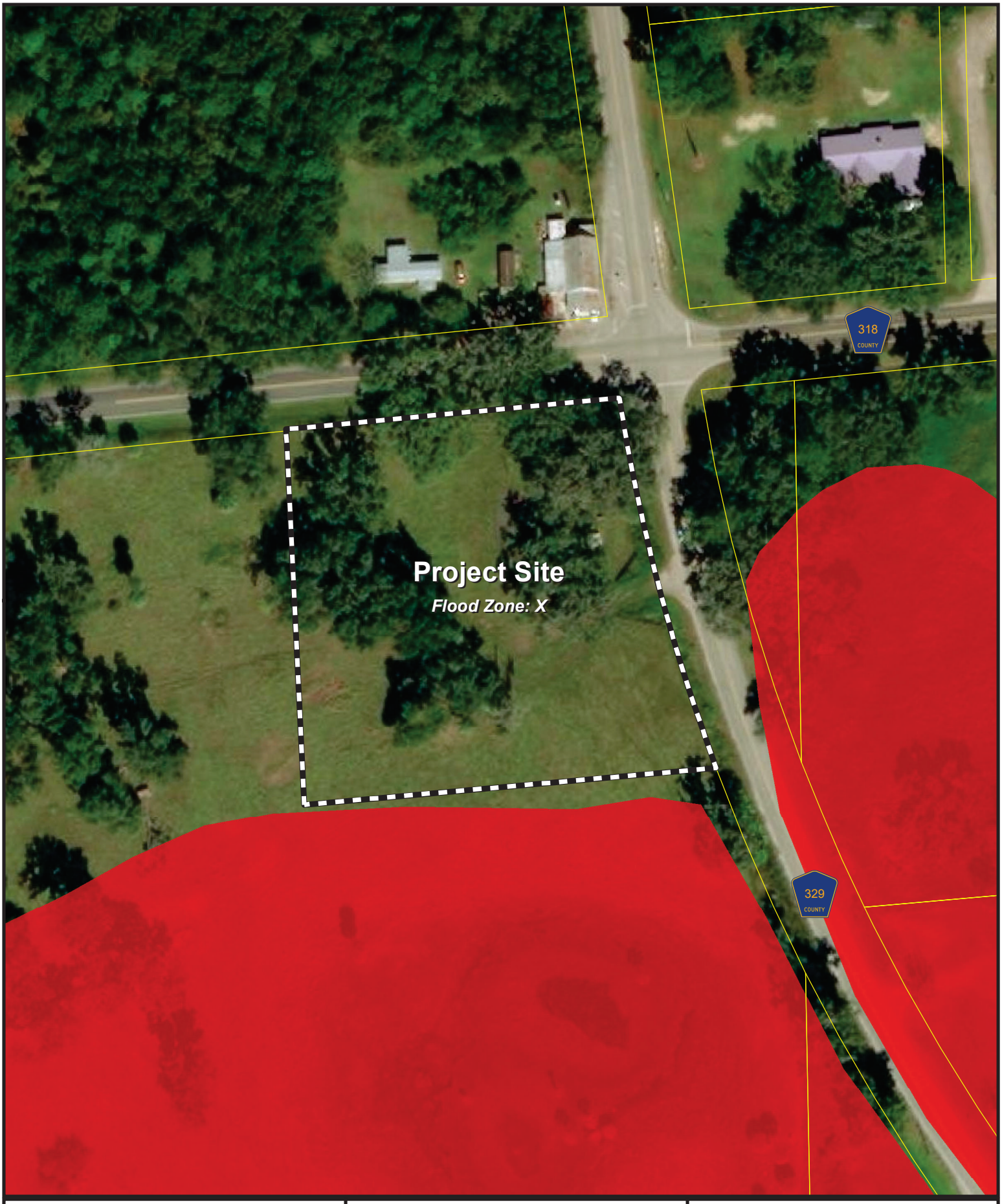
0 50 100
Feet

NORTH

Document Path: N:\2020\20-0392\Admin & Information\07_Maps\GIS\MXDs\Soils.mxd Prepared by Employee 534 Date: 1/4/2021 For informational purposes only

Figure 5

FEMA Flood Map



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www.chw-inc.com
est. 1988 FLORIDA
CA-5075

CRS Flemington FEMA Map

0 50 100
Feet

NORTH

Document Path: N:\2020\20-0392\Admin & Information\07_Maps\GIS\MXDs\FEMA.mxd Prepared by Employee 534 Date: 1/4/2021 For informational purposes only

Figure 7

Pre-Development Drainage Map

PRE-DEVELOPMENT DRAINAGE MAP

LEGEND

PRE-DEVELOPMENT ONSITE WATERSHED (PRE-DA-1): 1.34 AC.

PRE-DEVELOPMENT TIME OF CONCENTRATION

PRE-DEVELOPMENT DISCHARGE POINT:

11801 Research Drive
Alachua, Florida 32615
(352)331-1976
www.nv5.com

NV5

SCALE:
VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON
THIS SHEET, ADJUST
SCALES ACCORDINGLY

CONSTRUCTION/REVISIONS:

SUBMITTALS:

CLIENT: NV5

PROJECT: CR5 FLEMINGTON
N HWY 329 & W HWY 318

SHEET TITLE:

TECHNICIAN: GCS

DESIGNER:

QUALITY CONTROL:

PROJECT NUMBER: 20-0392

SHEET NO.: 6

Figure 7

Post-Development Drainage Map

POST-DEVELOPMENT DRAINAGE MAP

LEGEND

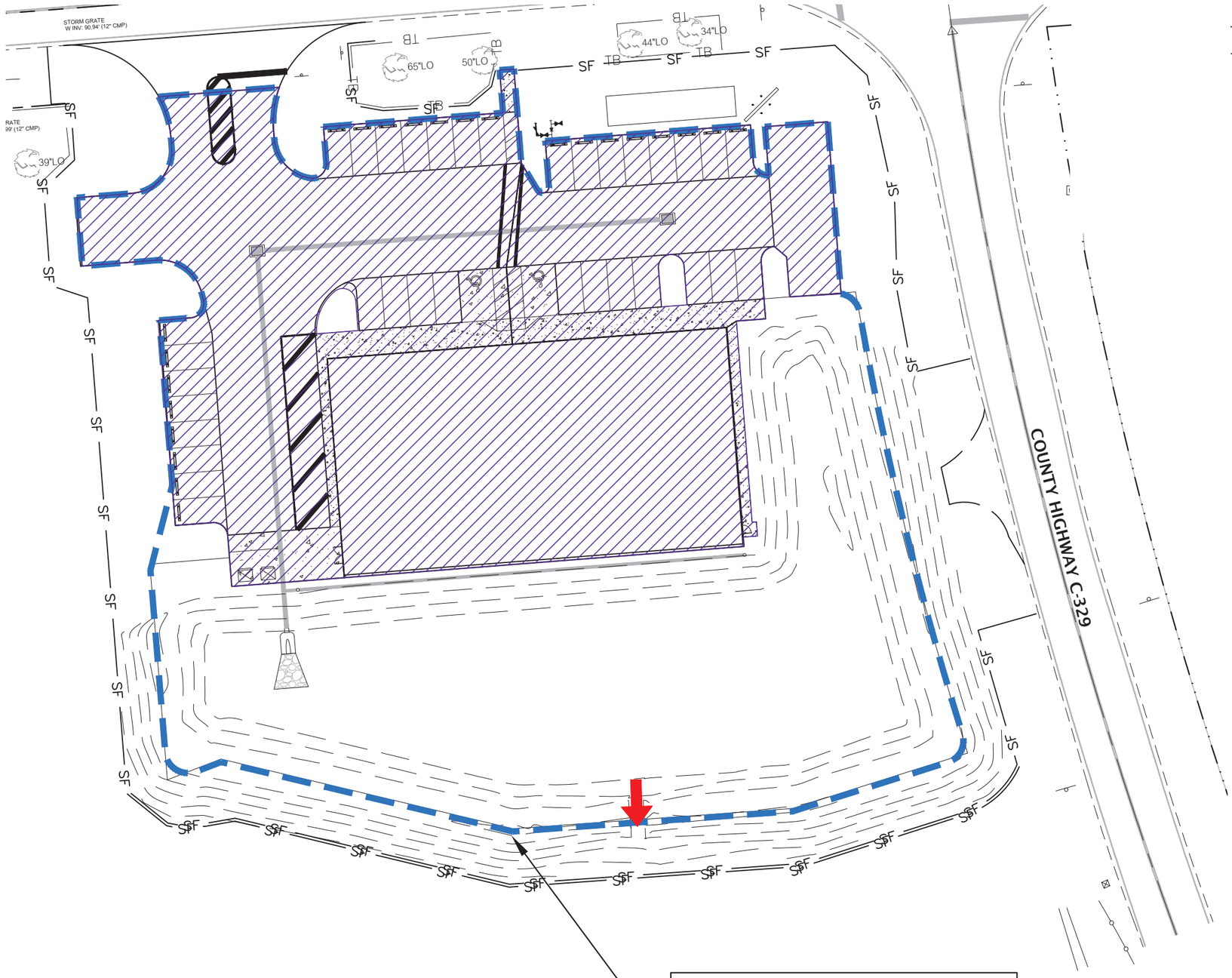
POST-DEVELOPMENT WATERSHED #1 (DA-1):

PROPOSED ONSITE IMPERVIOUS AREA:

DA-1 TOTAL AREA: 1.39 AC.

PROPOSED IMPERVIOUS AREA: 0.75 AC.

POST-DEVELOPMENT DISCHARGE POINT:



N

11801 Research Drive
Alachua, Florida 32615
(352)331-1976
www.nv5.com

NV5

SCALE: 1"=40'

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING
0 1" 2"
IF NOT ONE INCH ON
THIS SHEET ADJUST
SCALE ACCORDINGLY

CONSTRUCTION/BID REVISIONS

SUBMITTALS

CLIENT: NV5

PROJECT: CRS FLEMINGTON
N HWY 329 & W HWY 318

SHEET TITLE:

TECHNICIAN: GCS

DESIGNER:

QUALITY CONTROL:

PROJECT NUMBER: 20-0392

SHEET NO.: 7

Appendix A

Drainage Calculations and
Computer Model Output

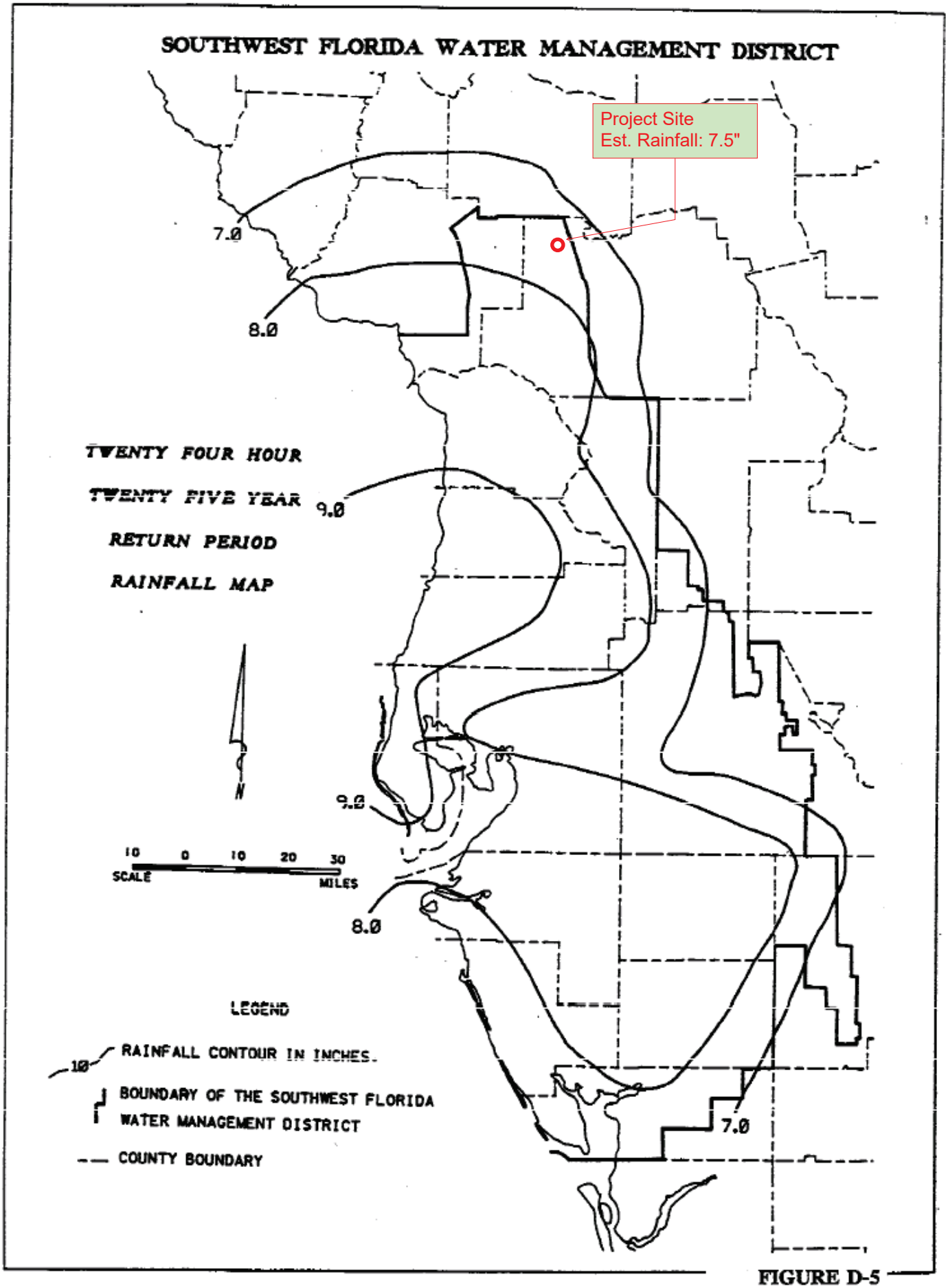

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
Project Site
Est. Rainfall: 7.5"
7.0
8.0
9.0
9.0
8.0
7.0
TWENTY FOUR HOUR
TWENTY FIVE YEAR
RETURN PERIOD
RAINFALL MAP
N
10 0 10 20 30
SCALE
MILES
LEGEND
10 RAINFALL CONTOUR IN INCHES.
BOUNDARY OF THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
COUNTY BOUNDARY

FIGURE D-5

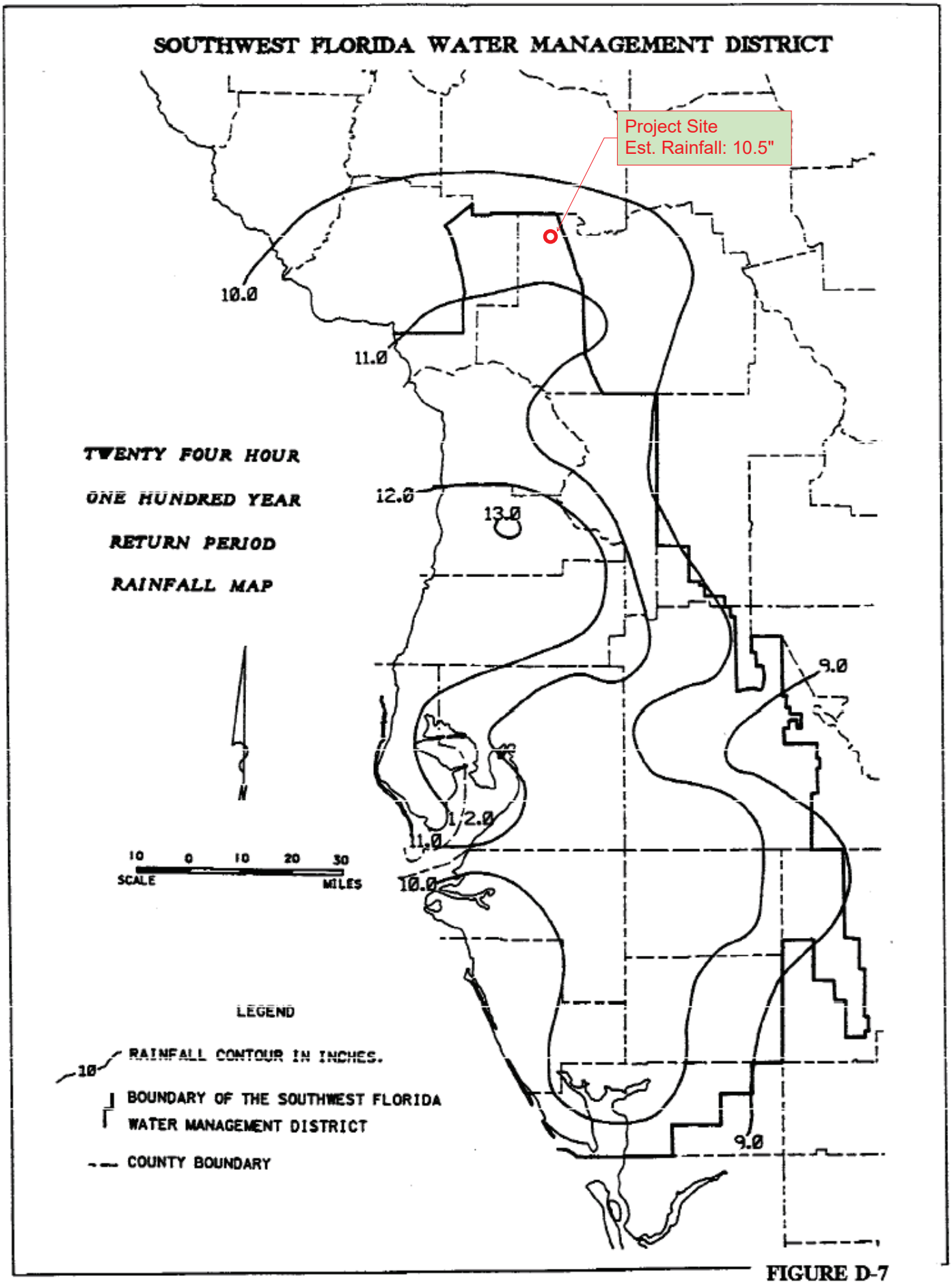

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
Project Site
Est. Rainfall: 10.5"
10.0
11.0
12.0
13.0
9.0
TWENTY FOUR HOUR
ONE HUNDRED YEAR
RETURN PERIOD
RAINFALL MAP
N
10 0 10 20 30
SCALE
MILES
LEGEND
10
RAINFALL CONTOUR IN INCHES.
BOUNDARY OF THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
COUNTY BOUNDARY

FIGURE D-7

Project Number: 20-0392
Project Name: CRS - Flemington
Calculated by: GCS
Checked by: CCM
Date: 10/1/2025

CURVE NUMBER CALCULATIONS

Pre-Development Watershed #1						
Total Area:	58,398	s.f.	1.34	ac.	CN	CN * Area
Open Area (Good, Type 'D' Soil):	58,398	s.f.	1.34	ac.	80	107.25
Composite CN:	**80**					
Time of Concentration:	19	minutes				

Post-Development Watershed #1						
Total Area:	60,514	s.f.	1.39	ac.	CN	CN * Area
Impervious Area :	32,618	s.f.	0.75	ac.	98	73.38
Stormwater Management Facility:	22,498	s.f.	0.52	ac.	100	51.65
Open Area (Good, Type 'D' Soil):	5,398	s.f.	0.12	ac.	80	9.91
Composite CN:	**97**					
Time of Concentration:	10	minutes				

(Time conservatively assumed to be 10 minutes)
Note: The stormwater management area was considered to have an CN value of 100

Open Space (lawns, parks, golf courses, cemeteries, etc.):

	A	B	C	D
Poor	68	79	86	89
Fair	49	69	79	84
Good	39	61	74	80

Impervious areas
Paved parking lots, roofs, driveways, etc. (excluding R/W):

A	B	C	D
98	98	98	98

WQTV CALCULATIONS

(Dry Retention):

SWFWMD WQTV Calculations	**SMF-1**	
0.5" x Drainage Area*:	2,521	cf
SWFWMD WQTV:	**2,521**	**cf**
	0.06	**ac-ft**

*Drainage area assumed as entire project site: ± 1.39 ac. (60,514 s.f.)

Project Number: 20-0392
Project Name: CRS - Flemington
Calculated by: GCS
Checked by: CCM
Date: 10/1/2025

STAGE-STORAGE CALCULATIONS:

Post-Development SMF: Stage-Storage Relationship

ELEV.	AREA (SF)	AREA (AC)	VOLUME (CF)	VOLUME (AC-FT)
91.00	14,192	0.33	0	0
92.00	17,172	0.39	15,682	0.360
93.00	20,198	0.46	34,367	0.789
93.70	22,498	0.52	49,311	1.132

Pond Borings	Elevation (ft NAVD 88)	SHGWT (ft NAVD 88)	Aquifer Depth
(P-1)	89.2	88.2	87.7
(P-2)	89.9	88.9	88.4
(P-3)	89.9	88.9	88.4
Average	**89.67**	**88.67**	**88.17**

Post-Development - SMF (Dry Retention stormwater management facility):

Volume =	49,311 c.f.	Length =	**336 ft.**
Area =	22,498 s.f.		
Perimeter =	781 ft.	Width =	**54 ft.**
Depth=	2.70 ft.		

Kh	0.75 ft/day
Kv	0.50 ft/day
Porosity	20 %
25 YR 24 HR	7.5 in.
100 YR 24 HR	10.5 in.

Project Number: 20-0392
Project Name: CRS - Flemington
Calculated by: GCS
Checked by: CCM
Date: 10/1/2025

Tc CALCULATIONS:

	SHEET FLOW					SHALLOW CONCENTRATED FLOW					CHANNEL / PIPE FLOW									
BASIN	Manning's n (--)	Flow Length L (ft)	2-Year 24-Hour Rain, P2 (in)	Land Slope s (ft/ft)	Tt1 (hr)	Paved or Unpvd. (P or U)	Flow Length L (ft)	Water-course Slope, s (ft/ft)	Avg. Velocity V (ft/s)	Tt2 (hr)	Cross-Section Area, a (ft^2)	Wetted Perim. Pw (ft)	Hydraulic Radius r (ft)	Pipe Slope s (ft/ft)	Manning n (--)	Avg. Velocity V (ft/s)	Flow Length L (ft)	Tt3 (hr)		
Pre DA-1	0.24	100	4.37	0.008	**0.29**	U	155	0.021	2.35	**0.02**	-	-	-	-	-	-	-	**-**		

ID #	Tc (hr)	Tc (min)
Pre DA-1	0.31	**19**

If Tc less than 10 minutes, 10 minutes was assumed per FDOT standards

TIME OF CONCENTRATION VALUES DETERMINED USING TR-55 METHODOLOGY.

SHEET FLOW:

$$Tt = \frac{0.007\,(nL)^{0.8}}{(P2)^{0.5}s^{0.4}}$$

SHALLOW CONCENTRATED FLOW:

1. For slopes < 0.005 ft/ft
   - Unpaved $V=16.1345\,s^{0.5}$
   - Paved $V=20.3282\,s^{0.5}$

2. For slopes > 0.005 ft/ft
   Velocity per Figure 3-1, TR-55

CHANNEL/PIPE FLOW:

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

$$Tt = \frac{L}{3600\,V}$$

PONDS Version 3.3.0241
Retention Pond Recovery - Refined Method
Copyright 2011
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	CRS Flemington
Simulation Description:	
Project Number:	20-0392
Engineer :	GCS
Supervising Engineer:	CCM
Date:	09-24-2025

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	88.17
Water Table Elevation, [WT] (ft datum):	88.67
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	0.75
Fillable Porosity, [n] (%):	20.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	0.5
Maximum Area For Unsaturated Infiltration, [Av] (ft²):	22498.0

Geometry Data

Equivalent Pond Length, [L] (ft):	336.0
Equivalent Pond Width, [W] (ft):	54.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft²)
91.00	14192.0
92.00	17172.0
93.00	20198.0
93.70	22498.0

Discharge Structures

Discharge Structure #1 is active as weir

Structure Parameters

Description: Outfall Weir

Weir elevation, (ft datum):	92.21
Weir coefficient:	3.13
Weir length, (ft):	2.5
Weir exponent:	1.5

Tailwater - disabled, free discharge

Discharge Structure #2 is inactive

Discharge Structure #3 is inactive

Scenario Input Data

Scenario 1 :: Pre 25 YR 24 HR

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres)	1.340
Time Of Concentration (minutes)	19.0
DCIA (%)	0.0
Curve Number	80
Design Rainfall Depth (inches)	7.5
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 256
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 88.67 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000
1.500	4.500	7.500	10.500	13.500
2.000	5.000	8.000	11.000	14.000
2.500	5.500	8.500	11.500	
3.000	6.000	9.000	12.000	

Scenario 2 :: Pre 100 YR 24 HR

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres)	1.340
Time Of Concentration (minutes)	19.0
DCIA (%)	0.0
Curve Number	80
Design Rainfall Depth (inches)	10.5
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 256
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 88.67 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000
1.500	4.500	7.500	10.500	13.500
2.000	5.000	8.000	11.000	14.000
2.500	5.500	8.500	11.500	
3.000	6.000	9.000	12.000	

Scenario Input Data (cont'd.)

Scenario 3 :: As-Built 25 YR 24 HR

Hydrograph Type:	Inline SCS
Modflow Routing:	Routed with infiltration
Repetitions:	2

Basin Area (acres)	1.390
Time Of Concentration (minutes)	10.0
DCIA (%)	0.0
Curve Number	99
Design Rainfall Depth (inches)	7.5
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 484
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 88.67 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000
1.500	4.500	7.500	10.500	13.500
2.000	5.000	8.000	11.000	14.000
2.500	5.500	8.500	11.500	
3.000	6.000	9.000	12.000	

Scenario 4 :: As Built 100 YR 24 HR

Hydrograph Type:	Inline SCS
Modflow Routing:	Routed with infiltration
Repetitions:	2

Basin Area (acres)	1.390
Time Of Concentration (minutes)	10.0
DCIA (%)	0.0
Curve Number	99
Design Rainfall Depth (inches)	10.5
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 484
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 88.67 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000
1.500	4.500	7.500	10.500	13.500
2.000	5.000	8.000	11.000	14.000
2.500	5.500	8.500	11.500	
3.000	6.000	9.000	12.000	

Scenario Input Data (cont'd.)

Scenario 5 :: WQTV

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 2521

Initial ground water level (ft datum) 88.67 (default)

Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

Sort-By-Category Report

Scenarios Considered: 1 to 5

Stage - Maximum

Rank	Scenario Number	Maximum Stage (ft datum)	Time (hours)	Description
1	4	92.92	372.73	As Built 100 YR 24 HR
2	3	92.70	372.82	As-Built 25 YR 24 HR
3	5	91.17	0.00	WQTV
4	1	Not Available	Not Available	Pre 25 YR 24 HR
5	2	Not Available	Not Available	Pre 100 YR 24 HR

Discharge - Rate - Maximum Positive

Rank	Scenario Number	Maximum Positive Discharge Rate (ft^3/s)	Time (hours)	Description
1	2	5.15	12.12	Pre 100 YR 24 HR
2	4	4.70	372.73	As Built 100 YR 24 HR
3	1	3.35	12.12	Pre 25 YR 24 HR
4	3	2.64	372.82	As-Built 25 YR 24 HR
5	5	None	N.A.	WQTV

Discharge - Cumulative Volume - Maximum Positive

Rank	Scenario Number	Maximum Positive Cumulative Discharge Volume (ft^3)	Time (hours)	Description
1	2	77801.47	387.76	Pre 100 YR 24 HR
2	4	68668.52	421.16	As Built 100 YR 24 HR
3	1	50161.48	387.81	Pre 25 YR 24 HR
4	3	37650.99	421.16	As-Built 25 YR 24 HR
5	5	None	N.A.	WQTV

Detailed Results :: *Scenario 1 :: Pre 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.042	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.084	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.127	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.169	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.211	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.253	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.296	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.338	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.380	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.422	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.464	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.507	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.549	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.591	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.633	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.676	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.718	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.760	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.802	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.844	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.887	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.929	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.971	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.013	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.056	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.098	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.140	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.182	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.224	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.267	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.309	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.351	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.393	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.436	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.478	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.520	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.562	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.604	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.647	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.689	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.731	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.773	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.816	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.858	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.900	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.942	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.984	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.027	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.069	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.111	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.153	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.196	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.238	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.280	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.322	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.364	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.407	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.449	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.491	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.533	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.576	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.618	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.660	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.702	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.744	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.787	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.829	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.871	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.913	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.956	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.998	0.0000	0.0000			0.00000	0.0		0.0	PreD
3.040	0.0000	0.0000			0.00000	0.0		0.0	PreD
3.082	0.0000	0.0000			0.00000	0.0		0.0	PreD

Detailed Results (cont,d.) :: *Scenario 1 :: Pre 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
9.373	0.1269	0.0000			0.12693	757.5		757.5	PreD
9.416	0.1288	0.0000			0.12883	776.9		776.9	PreD
9.458	0.1307	0.0000			0.13067	796.6		796.6	PreD
9.500	0.1325	0.0000			0.13246	816.6		816.6	PreD
9.542	0.1345	0.0000			0.13449	836.9		836.9	PreD
9.584	0.1369	0.0000			0.13685	857.5		857.5	PreD
9.627	0.1398	0.0000			0.13975	878.6		878.6	PreD
9.669	0.1433	0.0000			0.14334	900.1		900.1	PreD
9.711	0.1471	0.0000			0.14712	922.1		922.1	PreD
9.753	0.1508	0.0000			0.15084	944.8		944.8	PreD
9.796	0.1544	0.0000			0.15438	968.0		968.0	PreD
9.838	0.1577	0.0000			0.15771	991.7		991.7	PreD
9.880	0.1608	0.0000			0.16084	1015.9		1015.9	PreD
9.922	0.1638	0.0000			0.16375	1040.6		1040.6	PreD
9.964	0.1665	0.0000			0.16650	1065.7		1065.7	PreD
10.007	0.1691	0.0000			0.16915	1091.2		1091.2	PreD
10.049	0.1723	0.0000			0.17225	1117.1		1117.1	PreD
10.091	0.1759	0.0000			0.17594	1143.6		1143.6	PreD
10.133	0.1807	0.0000			0.18065	1170.7		1170.7	PreD
10.176	0.1866	0.0000			0.18662	1198.6		1198.6	PreD
10.218	0.1929	0.0000			0.19287	1227.5		1227.5	PreD
10.260	0.1990	0.0000			0.19897	1257.2		1257.2	PreD
10.302	0.2047	0.0000			0.20473	1287.9		1287.9	PreD
10.344	0.2101	0.0000			0.21008	1319.4		1319.4	PreD
10.387	0.2151	0.0000			0.21508	1351.8		1351.8	PreD
10.429	0.2197	0.0000			0.21969	1384.8		1384.8	PreD
10.471	0.2240	0.0000			0.22401	1418.5		1418.5	PreD
10.513	0.2282	0.0000			0.22819	1452.9		1452.9	PreD
10.556	0.2333	0.0000			0.23330	1488.0		1488.0	PreD
10.598	0.2396	0.0000			0.23956	1523.9		1523.9	PreD
10.640	0.2478	0.0000			0.24779	1560.9		1560.9	PreD
10.682	0.2584	0.0000			0.25837	1599.4		1599.4	PreD
10.724	0.2694	0.0000			0.26942	1639.5		1639.5	PreD
10.767	0.2801	0.0000			0.28013	1681.3		1681.3	PreD
10.809	0.2902	0.0000			0.29021	1724.6		1724.6	PreD
10.851	0.2995	0.0000			0.29952	1769.4		1769.4	PreD
10.893	0.3082	0.0000			0.30816	1815.6		1815.6	PreD
10.936	0.3161	0.0000			0.31606	1863.1		1863.1	PreD
10.978	0.3234	0.0000			0.32343	1911.7		1911.7	PreD
11.020	0.3320	0.0000			0.33203	1961.5		1961.5	PreD
11.062	0.3428	0.0000			0.34284	2012.8		2012.8	PreD
11.104	0.3572	0.0000			0.35721	2066.0		2066.0	PreD
11.147	0.3763	0.0000			0.37631	2121.7		2121.7	PreD
11.189	0.3979	0.0000			0.39786	2180.6		2180.6	PreD
11.231	0.4193	0.0000			0.41935	2242.7		2242.7	PreD
11.273	0.4398	0.0000			0.43976	2308.0		2308.0	PreD
11.316	0.4586	0.0000			0.45865	2376.2		2376.2	PreD
11.358	0.4760	0.0000			0.47605	2447.3		2447.3	PreD
11.400	0.4919	0.0000			0.49194	2520.8		2520.8	PreD
11.442	0.5066	0.0000			0.50657	2596.7		2596.7	PreD
11.484	0.5204	0.0000			0.52037	2674.8		2674.8	PreD
11.527	0.5626	0.0000			0.56264	2757.1		2757.1	PreD
11.569	0.6499	0.0000			0.64991	2849.2		2849.2	PreD
11.611	0.8070	0.0000			0.80699	2960.0		2960.0	PreD
11.653	1.0546	0.0000			1.05460	3101.4		3101.4	PreD
11.696	1.3490	0.0000			1.34899	3284.1		3284.1	PreD
11.738	1.6498	0.0000			1.64980	3512.0		3512.0	PreD
11.780	1.9397	0.0000			1.93974	3784.8		3784.8	PreD
11.822	2.2103	0.0000			2.21027	4100.2		4100.2	PreD
11.864	2.4602	0.0000			2.46018	4455.2		4455.2	PreD
11.907	2.6867	0.0000			2.68673	4846.4		4846.4	PreD
11.949	2.8936	0.0000			2.89361	5270.5		5270.5	PreD
11.991	3.0879	0.0000			3.08790	5725.1		5725.1	PreD
12.033	3.2390	0.0000			3.23899	6205.9		6205.9	PreD
12.076	3.3363	0.0000			3.33566	6706.5		6706.5	PreD
12.118	3.3526	0.0000			3.35260	7213.8		7213.8	PreD
12.160	3.2765	0.0000			3.27647	7717.6		7717.6	PreD
12.202	3.1562	0.0000			3.15618	8206.5		8206.5	PreD
12.244	3.0278	0.0000			3.02778	8676.5		8676.5	PreD
12.287	2.9054	0.0000			2.90543	9127.4		9127.4	PreD
12.329	2.7976	0.0000			2.79757	9560.8		9560.8	PreD
12.371	2.7064	0.0000			2.70637	9979.1		9979.1	PreD
12.413	2.6345	0.0000			2.63450	10385.0		10385.0	PreD
12.456	2.5770	0.0000			2.57697	10781.1		10781.1	PreD

Detailed Results (cont,d.) :: Scenario 1 :: Pre 25 YR 24 HR

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
24.996	0.0119	0.0000			0.01188	25069.2		25069.2	PreD
25.038	0.0106	0.0000			0.01059	25070.9		25070.9	PreD
25.080	0.0094	0.0000			0.00938	25072.4		25072.4	PreD
25.122	0.0083	0.0000			0.00826	25073.7		25073.7	PreD
25.164	0.0072	0.0000			0.00721	25074.9		25074.9	PreD
25.207	0.0062	0.0000			0.00625	25075.9		25075.9	PreD
25.249	0.0054	0.0000			0.00537	25076.8		25076.8	PreD
25.291	0.0046	0.0000			0.00457	25077.6		25077.6	PreD
25.333	0.0039	0.0000			0.00385	25078.2		25078.2	PreD
25.376	0.0032	0.0000			0.00322	25078.8		25078.8	PreD
25.418	0.0027	0.0000			0.00267	25079.2		25079.2	PreD
25.460	0.0022	0.0000			0.00219	25079.6		25079.6	PreD
25.502	0.0018	0.0000			0.00179	25079.9		25079.9	PreD
25.544	0.0014	0.0000			0.00144	25080.1		25080.1	PreD
25.587	0.0011	0.0000			0.00113	25080.3		25080.3	PreD
25.629	0.0009	0.0000			0.00085	25080.5		25080.5	PreD
25.671	0.0006	0.0000			0.00061	25080.6		25080.6	PreD
25.713	0.0004	0.0000			0.00041	25080.6		25080.6	PreD
25.756	0.0002	0.0000			0.00025	25080.7		25080.7	PreD
25.798	0.0001	0.0000			0.00012	25080.7		25080.7	PreD
25.840	0.0000	0.0000			0.00003	25080.7		25080.7	PreD
25.882	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
25.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
37.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
49.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
61.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
73.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
85.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
97.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
109.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
121.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
133.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
145.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
157.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
169.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
181.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
193.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
205.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
217.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
229.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
241.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
253.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
265.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
277.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
289.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
301.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
313.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
325.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
337.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
349.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
361.924	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
361.967	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.009	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.051	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.093	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.136	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.178	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.220	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.262	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.304	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.347	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.389	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.431	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.473	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.516	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.558	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.600	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.642	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.684	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.727	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.769	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.811	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.853	0.0000	0.0000			0.00000	25080.7		25080.7	PreD
362.896	0.0000	0.0000			0.00000	25080.7		25080.7	PreD

Beginning of Second Storm

Detailed Results (cont,d.) :: Scenario 1 :: Pre 25 YR 24 HR

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
372.311	0.2151	0.0000			0.21508	26432.5		26432.5	PreD
372.353	0.2197	0.0000			0.21969	26465.5		26465.5	PreD
372.396	0.2240	0.0000			0.22401	26499.3		26499.3	PreD
372.438	0.2282	0.0000			0.22819	26533.6		26533.6	PreD
372.480	0.2333	0.0000			0.23330	26568.7		26568.7	PreD
372.522	0.2396	0.0000			0.23956	26604.6		26604.6	PreD
372.565	0.2478	0.0000			0.24779	26641.7		26641.7	PreD
372.607	0.2584	0.0000			0.25837	26680.1		26680.1	PreD
372.649	0.2694	0.0000			0.26942	26720.3		26720.3	PreD
372.691	0.2801	0.0000			0.28013	26762.0		26762.0	PreD
372.733	0.2902	0.0000			0.29021	26805.4		26805.4	PreD
372.776	0.2995	0.0000			0.29952	26850.2		26850.2	PreD
372.818	0.3082	0.0000			0.30816	26896.4		26896.4	PreD
372.860	0.3161	0.0000			0.31606	26943.8		26943.8	PreD
372.902	0.3234	0.0000			0.32343	26992.4		26992.4	PreD
372.944	0.3320	0.0000			0.33203	27042.2		27042.2	PreD
372.987	0.3428	0.0000			0.34284	27093.5		27093.5	PreD
373.029	0.3572	0.0000			0.35721	27146.7		27146.7	PreD
373.071	0.3763	0.0000			0.37631	27202.5		27202.5	PreD
373.113	0.3979	0.0000			0.39786	27261.3		27261.3	PreD
373.156	0.4193	0.0000			0.41935	27323.4		27323.4	PreD
373.198	0.4398	0.0000			0.43976	27388.7		27388.7	PreD
373.240	0.4586	0.0000			0.45865	27457.0		27457.0	PreD
373.282	0.4760	0.0000			0.47605	27528.0		27528.0	PreD
373.324	0.4919	0.0000			0.49194	27601.6		27601.6	PreD
373.367	0.5066	0.0000			0.50657	27677.5		27677.5	PreD
373.409	0.5204	0.0000			0.52037	27755.5		27755.5	PreD
373.451	0.5626	0.0000			0.56264	27837.8		27837.8	PreD
373.493	0.6499	0.0000			0.64991	27930.0		27930.0	PreD
373.536	0.8070	0.0000			0.80699	28040.7		28040.7	PreD
373.578	1.0546	0.0000			1.05460	28182.2		28182.2	PreD
373.620	1.3490	0.0000			1.34899	28364.9		28364.9	PreD
373.662	1.6498	0.0000			1.64980	28592.8		28592.8	PreD
373.704	1.9397	0.0000			1.93974	28865.6		28865.6	PreD
373.747	2.2103	0.0000			2.21027	29181.0		29181.0	PreD
373.789	2.4602	0.0000			2.46018	29535.9		29535.9	PreD
373.831	2.6867	0.0000			2.68673	29927.1		29927.1	PreD
373.873	2.8936	0.0000			2.89361	30351.2		30351.2	PreD
373.916	3.0879	0.0000			3.08790	30805.8		30805.8	PreD
373.958	3.2390	0.0000			3.23899	31286.6		31286.6	PreD
374.000	3.3550	0.0000			3.35509	31780.3		31780.3	PreD
374.042	3.3526	0.0000			3.35260	32294.5		32294.5	PreD
374.084	3.2765	0.0000			3.27647	32798.3		32798.3	PreD
374.127	3.1562	0.0000			3.15618	33287.2		33287.2	PreD
374.169	3.0278	0.0000			3.02778	33757.2		33757.2	PreD
374.211	2.9054	0.0000			2.90543	34208.1		34208.1	PreD
374.253	2.7976	0.0000			2.79757	34641.6		34641.6	PreD
374.296	2.7064	0.0000			2.70637	35059.9		35059.9	PreD
374.338	2.6345	0.0000			2.63450	35465.8		35465.8	PreD
374.380	2.5770	0.0000			2.57697	35861.8		35861.8	PreD
374.422	2.5264	0.0000			2.52644	36249.7		36249.7	PreD
374.464	2.4702	0.0000			2.47019	36629.4		36629.4	PreD
374.507	2.4028	0.0000			2.40282	36999.8		36999.8	PreD
374.549	2.3138	0.0000			2.31378	37358.2		37358.2	PreD
374.591	2.1949	0.0000			2.19494	37700.9		37700.9	PreD
374.633	2.0682	0.0000			2.06820	38024.9		38024.9	PreD
374.676	1.9474	0.0000			1.94745	38330.1		38330.1	PreD
374.718	1.8381	0.0000			1.83806	38617.8		38617.8	PreD
374.760	1.7405	0.0000			1.74051	38889.8		38889.8	PreD
374.802	1.6517	0.0000			1.65169	39147.6		39147.6	PreD
374.845	1.5719	0.0000			1.57191	39392.6		39392.6	PreD
374.887	1.4987	0.0000			1.49874	39625.9		39625.9	PreD
374.929	1.4291	0.0000			1.42906	39848.4		39848.4	PreD
374.971	1.3623	0.0000			1.36233	40060.6		40060.6	PreD
375.013	1.2978	0.0000			1.29782	40262.8		40262.8	PreD
375.056	1.2340	0.0000			1.23398	40455.2		40455.2	PreD
375.098	1.1692	0.0000			1.16918	40637.8		40637.8	PreD
375.140	1.1067	0.0000			1.10665	40810.8		40810.8	PreD
375.182	1.0482	0.0000			1.04820	40974.6		40974.6	PreD
375.224	0.9945	0.0000			0.99452	41129.8		41129.8	PreD
375.267	0.9451	0.0000			0.94508	41277.2		41277.2	PreD
375.309	0.8978	0.0000			0.89778	41417.3		41417.3	PreD
375.351	0.8541	0.0000			0.85415	41550.4		41550.4	PreD
375.393	0.8146	0.0000			0.81461	41677.2		41677.2	PreD

Detailed Results (cont,d.) *:: Scenario 1 :: Pre 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
411.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
423.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
435.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
447.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
459.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
471.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
483.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
495.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
507.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
519.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
531.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
543.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
555.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
567.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
579.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
591.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
603.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
615.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
627.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
639.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
651.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
663.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
675.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
687.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
699.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
711.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD
723.849	0.0000	0.0000			0.00000	50161.5		50161.5	PreD

Detailed Results :: *Scenario 2 :: Pre 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.042	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.084	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.127	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.169	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.211	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.253	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.296	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.338	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.380	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.422	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.464	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.507	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.549	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.591	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.633	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.676	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.718	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.760	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.802	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.844	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.887	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.929	0.0000	0.0000			0.00000	0.0		0.0	PreD
0.971	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.013	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.056	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.098	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.140	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.182	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.224	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.267	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.309	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.351	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.393	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.436	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.478	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.520	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.562	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.604	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.647	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.689	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.731	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.773	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.816	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.858	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.900	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.942	0.0000	0.0000			0.00000	0.0		0.0	PreD
1.984	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.027	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.069	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.111	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.153	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.196	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.238	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.280	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.322	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.364	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.407	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.449	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.491	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.533	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.576	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.618	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.660	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.702	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.744	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.787	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.829	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.871	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.913	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.956	0.0000	0.0000			0.00000	0.0		0.0	PreD
2.998	0.0000	0.0000			0.00000	0.0		0.0	PreD
3.040	0.0000	0.0000			0.00000	0.0		0.0	PreD
3.082	0.0000	0.0000			0.00000	0.0		0.0	PreD

Detailed Results (cont,d.) :: Scenario 2 :: Pre 100 YR 24 HR

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
9.373	0.2450	0.0000			0.24501	1860.3		1860.3	PreD
9.416	0.2479	0.0000			0.24790	1897.7		1897.7	PreD
9.458	0.2507	0.0000			0.25065	1935.6		1935.6	PreD
9.500	0.2533	0.0000			0.25331	1973.9		1973.9	PreD
9.542	0.2564	0.0000			0.25642	2012.7		2012.7	PreD
9.584	0.2601	0.0000			0.26011	2051.9		2051.9	PreD
9.627	0.2648	0.0000			0.26479	2091.8		2091.8	PreD
9.669	0.2707	0.0000			0.27072	2132.5		2132.5	PreD
9.711	0.2770	0.0000			0.27699	2174.1		2174.1	PreD
9.753	0.2831	0.0000			0.28311	2216.7		2216.7	PreD
9.796	0.2889	0.0000			0.28889	2260.2		2260.2	PreD
9.838	0.2943	0.0000			0.29426	2304.5		2304.5	PreD
9.880	0.2992	0.0000			0.29923	2349.6		2349.6	PreD
9.922	0.3038	0.0000			0.30378	2395.4		2395.4	PreD
9.964	0.3080	0.0000			0.30803	2441.9		2441.9	PreD
10.007	0.3121	0.0000			0.31207	2489.1		2489.1	PreD
10.049	0.3169	0.0000			0.31692	2536.9		2536.9	PreD
10.091	0.3228	0.0000			0.32280	2585.5		2585.5	PreD
10.133	0.3305	0.0000			0.33047	2635.1		2635.1	PreD
10.176	0.3404	0.0000			0.34037	2686.1		2686.1	PreD
10.218	0.3507	0.0000			0.35073	2738.6		2738.6	PreD
10.260	0.3608	0.0000			0.36077	2792.7		2792.7	PreD
10.302	0.3702	0.0000			0.37017	2848.3		2848.3	PreD
10.344	0.3788	0.0000			0.37881	2905.2		2905.2	PreD
10.387	0.3868	0.0000			0.38678	2963.4		2963.4	PreD
10.429	0.3940	0.0000			0.39402	3022.7		3022.7	PreD
10.471	0.4007	0.0000			0.40073	3083.1		3083.1	PreD
10.513	0.4072	0.0000			0.40717	3144.5		3144.5	PreD
10.556	0.4152	0.0000			0.41519	3207.0		3207.0	PreD
10.598	0.4252	0.0000			0.42517	3270.9		3270.9	PreD
10.640	0.4385	0.0000			0.43853	3336.5		3336.5	PreD
10.682	0.4559	0.0000			0.45590	3404.5		3404.5	PreD
10.724	0.4740	0.0000			0.47401	3475.2		3475.2	PreD
10.767	0.4915	0.0000			0.49146	3548.5		3548.5	PreD
10.809	0.5077	0.0000			0.50772	3624.5		3624.5	PreD
10.851	0.5226	0.0000			0.52259	3702.8		3702.8	PreD
10.893	0.5362	0.0000			0.53625	3783.3		3783.3	PreD
10.936	0.5486	0.0000			0.54857	3865.7		3865.7	PreD
10.978	0.5599	0.0000			0.55994	3949.9		3949.9	PreD
11.020	0.5733	0.0000			0.57333	4036.1		4036.1	PreD
11.062	0.5904	0.0000			0.59036	4124.5		4124.5	PreD
11.104	0.6133	0.0000			0.61331	4216.0		4216.0	PreD
11.147	0.6441	0.0000			0.64410	4311.6		4311.6	PreD
11.189	0.6788	0.0000			0.67885	4412.1		4412.1	PreD
11.231	0.7133	0.0000			0.71332	4517.9		4517.9	PreD
11.273	0.7458	0.0000			0.74582	4628.8		4628.8	PreD
11.316	0.7756	0.0000			0.77562	4744.4		4744.4	PreD
11.358	0.8028	0.0000			0.80278	4864.4		4864.4	PreD
11.400	0.8273	0.0000			0.82731	4988.3		4988.3	PreD
11.442	0.8496	0.0000			0.84962	5115.7		5115.7	PreD
11.484	0.8705	0.0000			0.87049	5246.5		5246.5	PreD
11.527	0.9373	0.0000			0.93732	5383.8		5383.8	PreD
11.569	1.0761	0.0000			1.07606	5536.9		5536.9	PreD
11.611	1.3258	0.0000			1.32583	5719.4		5719.4	PreD
11.653	1.7186	0.0000			1.71864	5950.8		5950.8	PreD
11.696	2.1818	0.0000			2.18181	6247.2		6247.2	PreD
11.738	2.6498	0.0000			2.64979	6614.4		6614.4	PreD
11.780	3.0952	0.0000			3.09523	7051.0		7051.0	PreD
11.822	3.5052	0.0000			3.50525	7552.7		7552.7	PreD
11.864	3.8788	0.0000			3.87884	8113.9		8113.9	PreD
11.907	4.2125	0.0000			4.21246	8728.8		8728.8	PreD
11.949	4.5129	0.0000			4.51290	9391.9		9391.9	PreD
11.991	4.7922	0.0000			4.79218	10099.1		10099.1	PreD
12.033	5.0050	0.0000			5.00502	10843.7		10843.7	PreD
12.076	5.1043	0.0000			5.13443	11611.8		11611.8	PreD
12.118	5.1461	0.0000			5.14614	12395.6		12395.6	PreD
12.160	5.0183	0.0000			5.01827	13168.1		13168.1	PreD
12.202	4.8254	0.0000			4.82541	13916.3		13916.3	PreD
12.244	4.6214	0.0000			4.62137	14634.2		14634.2	PreD
12.287	4.4272	0.0000			4.42722	15321.9		15321.9	PreD
12.329	4.2556	0.0000			4.25564	15981.8		15981.8	PreD
12.371	4.1100	0.0000			4.11000	16617.6		16617.6	PreD
12.413	3.9941	0.0000			3.99413	17233.5		17233.5	PreD
12.456	3.9004	0.0000			3.90040	17833.5		17833.5	PreD

Detailed Results (cont,d.) :: *Scenario 2 :: Pre 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
24.996	0.0172	0.0000			0.01715	38884.0		38884.0	PreD
25.038	0.0153	0.0000			0.01529	38886.5		38886.5	PreD
25.080	0.0135	0.0000			0.01355	38888.7		38888.7	PreD
25.122	0.0119	0.0000			0.01192	38890.6		38890.6	PreD
25.164	0.0104	0.0000			0.01041	38892.3		38892.3	PreD
25.207	0.0090	0.0000			0.00902	38893.8		38893.8	PreD
25.249	0.0078	0.0000			0.00775	38895.1		38895.1	PreD
25.291	0.0066	0.0000			0.00660	38896.2		38896.2	PreD
25.333	0.0056	0.0000			0.00556	38897.1		38897.1	PreD
25.376	0.0046	0.0000			0.00465	38897.9		38897.9	PreD
25.418	0.0039	0.0000			0.00385	38898.5		38898.5	PreD
25.460	0.0032	0.0000			0.00316	38899.0		38899.0	PreD
25.502	0.0026	0.0000			0.00258	38899.5		38899.5	PreD
25.544	0.0021	0.0000			0.00208	38899.8		38899.8	PreD
25.587	0.0016	0.0000			0.00163	38900.1		38900.1	PreD
25.629	0.0012	0.0000			0.00123	38900.3		38900.3	PreD
25.671	0.0009	0.0000			0.00089	38900.5		38900.5	PreD
25.713	0.0006	0.0000			0.00060	38900.6		38900.6	PreD
25.756	0.0004	0.0000			0.00036	38900.7		38900.7	PreD
25.798	0.0002	0.0000			0.00017	38900.7		38900.7	PreD
25.840	0.0000	0.0000			0.00005	38900.7		38900.7	PreD
25.882	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
25.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
37.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
49.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
61.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
73.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
85.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
97.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
109.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
121.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
133.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
145.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
157.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
169.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
181.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
193.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
205.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
217.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
229.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
241.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
253.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
265.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
277.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
289.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
301.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
313.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
325.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
337.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
349.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
361.924	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
361.967	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.009	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.051	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.093	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.136	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.178	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.220	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.262	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.304	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.347	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.389	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.431	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.473	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.516	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.558	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.600	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.642	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.684	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.727	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.769	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.811	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.853	0.0000	0.0000			0.00000	38900.7		38900.7	PreD
362.896	0.0000	0.0000			0.00000	38900.7		38900.7	PreD

Beginning of Second Storm

Detailed Results (cont,d.) :: *Scenario 2 :: Pre 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
372.311	0.3868	0.0000			0.38678	41864.1		41864.1	PreD
372.353	0.3940	0.0000			0.39402	41923.4		41923.4	PreD
372.396	0.4007	0.0000			0.40073	41983.8		41983.8	PreD
372.438	0.4072	0.0000			0.40717	42045.2		42045.2	PreD
372.480	0.4152	0.0000			0.41519	42107.7		42107.7	PreD
372.522	0.4252	0.0000			0.42517	42171.6		42171.6	PreD
372.565	0.4385	0.0000			0.43853	42237.3		42237.3	PreD
372.607	0.4559	0.0000			0.45590	42305.2		42305.2	PreD
372.649	0.4740	0.0000			0.47401	42375.9		42375.9	PreD
372.691	0.4915	0.0000			0.49146	42449.3		42449.3	PreD
372.733	0.5077	0.0000			0.50772	42525.2		42525.2	PreD
372.776	0.5226	0.0000			0.52259	42603.5		42603.5	PreD
372.818	0.5362	0.0000			0.53625	42684.0		42684.0	PreD
372.860	0.5486	0.0000			0.54857	42766.4		42766.4	PreD
372.902	0.5599	0.0000			0.55994	42850.7		42850.7	PreD
372.944	0.5733	0.0000			0.57333	42936.8		42936.8	PreD
372.987	0.5904	0.0000			0.59036	43025.3		43025.3	PreD
373.029	0.6133	0.0000			0.61331	43116.7		43116.7	PreD
373.071	0.6441	0.0000			0.64410	43212.3		43212.3	PreD
373.113	0.6788	0.0000			0.67885	43312.8		43312.8	PreD
373.156	0.7133	0.0000			0.71332	43418.6		43418.6	PreD
373.198	0.7458	0.0000			0.74582	43529.5		43529.5	PreD
373.240	0.7756	0.0000			0.77562	43645.2		43645.2	PreD
373.282	0.8028	0.0000			0.80278	43765.1		43765.1	PreD
373.324	0.8273	0.0000			0.82731	43889.0		43889.0	PreD
373.367	0.8496	0.0000			0.84962	44016.5		44016.5	PreD
373.409	0.8705	0.0000			0.87049	44147.2		44147.2	PreD
373.451	0.9373	0.0000			0.93732	44284.6		44284.6	PreD
373.493	1.0761	0.0000			1.07606	44437.6		44437.6	PreD
373.536	1.3258	0.0000			1.32583	44620.1		44620.1	PreD
373.578	1.7186	0.0000			1.71864	44851.5		44851.5	PreD
373.620	2.1818	0.0000			2.18181	45148.0		45148.0	PreD
373.662	2.6498	0.0000			2.64979	45515.2		45515.2	PreD
373.704	3.0952	0.0000			3.09523	45951.8		45951.8	PreD
373.747	3.5052	0.0000			3.50525	46453.4		46453.4	PreD
373.789	3.8788	0.0000			3.87884	47014.6		47014.6	PreD
373.831	4.2125	0.0000			4.21246	47629.5		47629.5	PreD
373.873	4.5129	0.0000			4.51290	48292.7		48292.7	PreD
373.916	4.7922	0.0000			4.79218	48999.9		48999.9	PreD
373.958	5.0050	0.0000			5.00502	49744.4		49744.4	PreD
374.000	5.1345	0.0000			5.13446	50515.0		50515.0	PreD
374.042	5.1461	0.0000			5.14614	51296.4		51296.4	PreD
374.084	5.0183	0.0000			5.01827	52068.8		52068.8	PreD
374.127	4.8254	0.0000			4.82541	52817.0		52817.0	PreD
374.169	4.6214	0.0000			4.62137	53534.9		53534.9	PreD
374.211	4.4272	0.0000			4.42722	54222.6		54222.6	PreD
374.253	4.2556	0.0000			4.25564	54882.5		54882.5	PreD
374.296	4.1100	0.0000			4.11000	55518.3		55518.3	PreD
374.338	3.9941	0.0000			3.99413	56134.2		56134.2	PreD
374.380	3.9004	0.0000			3.90040	56734.2		56734.2	PreD
374.422	3.8177	0.0000			3.81770	57320.8		57320.8	PreD
374.464	3.7272	0.0000			3.72723	57894.2		57894.2	PreD
374.507	3.6210	0.0000			3.62096	58452.7		58452.7	PreD
374.549	3.4833	0.0000			3.48329	58992.6		58992.6	PreD
374.591	3.3022	0.0000			3.30220	59508.3		59508.3	PreD
374.633	3.1099	0.0000			3.10993	59995.6		59995.6	PreD
374.676	2.9269	0.0000			2.92689	60454.4		60454.4	PreD
374.718	2.7609	0.0000			2.76093	60886.7		60886.7	PreD
374.760	2.6127	0.0000			2.61266	61295.1		61295.1	PreD
374.802	2.4774	0.0000			2.47741	61681.9		61681.9	PreD
374.845	2.3556	0.0000			2.35562	62049.2		62049.2	PreD
374.887	2.2437	0.0000			2.24371	62398.8		62398.8	PreD
374.929	2.1371	0.0000			2.13707	62731.7		62731.7	PreD
374.971	2.0351	0.0000			2.03505	63048.8		63048.8	PreD
375.013	1.9366	0.0000			1.93660	63350.6		63350.6	PreD
375.056	1.8394	0.0000			1.83941	63637.6		63637.6	PreD
375.098	1.7411	0.0000			1.74108	63909.7		63909.7	PreD
375.140	1.6463	0.0000			1.64631	64167.2		64167.2	PreD
375.182	1.5577	0.0000			1.55774	64410.7		64410.7	PreD
375.224	1.4764	0.0000			1.47636	64641.3		64641.3	PreD
375.267	1.4014	0.0000			1.40136	64860.0		64860.0	PreD
375.309	1.3295	0.0000			1.32950	65067.5		65067.5	PreD
375.351	1.2633	0.0000			1.26325	65264.6		65264.6	PreD
375.393	1.2033	0.0000			1.20334	65452.0		65452.0	PreD

Detailed Results (cont,d.) *:: Scenario 2 :: Pre 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
411.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
423.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
435.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
447.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
459.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
471.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
483.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
495.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
507.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
519.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
531.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
543.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
555.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
567.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
579.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
591.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
603.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
615.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
627.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
639.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
651.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
663.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
675.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
687.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
699.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
711.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD
723.849	0.0000	0.0000			0.00000	77801.5		77801.5	PreD

Detailed Results :: *Scenario 3 :: As-Built 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
0.000	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.022	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.044	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.067	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.089	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.111	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.133	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.156	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.178	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.200	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.222	0.0000	0.0000	88.670	0.00001	0.00000	0.0	0.0	0.0	U
0.244	0.0000	0.0000	88.670	0.00005	0.00000	0.0	0.0	0.0	U
0.267	0.0002	0.0000	88.670	0.00024	0.00000	0.0	0.0	0.0	U
0.289	0.0006	0.0000	88.670	0.00074	0.00000	0.0	0.0	0.0	U
0.311	0.0016	0.0000	88.670	0.00172	0.00000	0.1	0.1	0.0	U
0.333	0.0031	0.0000	88.670	0.00329	0.00000	0.3	0.3	0.0	U
0.356	0.0053	0.0000	88.670	0.00545	0.00000	0.7	0.7	0.0	U
0.378	0.0080	0.0000	88.670	0.00812	0.00000	1.2	1.2	0.0	U
0.400	0.0111	0.0000	88.670	0.01114	0.00000	2.0	2.0	0.0	U
0.422	0.0143	0.0000	88.671	0.01436	0.00000	3.0	3.0	0.0	U
0.444	0.0177	0.0000	88.671	0.01768	0.00000	4.2	4.2	0.0	U
0.467	0.0210	0.0000	88.671	0.02102	0.00000	5.8	5.8	0.0	U
0.489	0.0243	0.0000	88.672	0.02432	0.00000	7.6	7.6	0.0	U
0.511	0.0276	0.0000	88.672	0.02754	0.00000	9.7	9.7	0.0	U
0.533	0.0307	0.0000	88.673	0.03068	0.00000	12.0	12.0	0.0	U
0.556	0.0337	0.0000	88.673	0.03371	0.00000	14.6	14.6	0.0	U
0.578	0.0367	0.0000	88.674	0.03663	0.00000	17.4	17.4	0.0	U
0.600	0.0395	0.0000	88.675	0.03944	0.00000	20.5	20.5	0.0	U
0.622	0.0422	0.0000	88.675	0.04213	0.00000	23.7	23.7	0.0	U
0.644	0.0447	0.0000	88.676	0.04470	0.00000	27.2	27.2	0.0	U
0.667	0.0472	0.0000	88.677	0.04717	0.00000	30.9	30.9	0.0	U
0.689	0.0496	0.0000	88.678	0.04954	0.00000	34.7	34.7	0.0	U
0.711	0.0518	0.0000	88.679	0.05180	0.00000	38.8	38.8	0.0	U
0.733	0.0540	0.0000	88.680	0.05396	0.00000	43.0	43.0	0.0	U
0.756	0.0561	0.0000	88.681	0.05604	0.00000	47.4	47.4	0.0	U
0.778	0.0580	0.0000	88.682	0.05802	0.00000	52.0	52.0	0.0	U
0.800	0.0599	0.0000	88.683	0.05992	0.00000	56.7	56.7	0.0	U
0.822	0.0618	0.0000	88.684	0.06174	0.00000	61.6	61.6	0.0	U
0.844	0.0635	0.0000	88.685	0.06349	0.00000	66.6	66.6	0.0	U
0.867	0.0652	0.0000	88.686	0.06516	0.00000	71.7	71.7	0.0	U
0.889	0.0668	0.0000	88.687	0.06677	0.00000	77.0	77.0	0.0	U
0.911	0.0683	0.0000	88.688	0.06831	0.00000	82.4	82.4	0.0	U
0.933	0.0698	0.0000	88.690	0.06979	0.00000	88.0	88.0	0.0	U
0.956	0.0712	0.0000	88.691	0.07122	0.00000	93.6	93.6	0.0	U
0.978	0.0726	0.0000	88.692	0.07259	0.00000	99.3	99.3	0.0	U
1.000	0.0739	0.0000	88.693	0.07394	0.00000	105.2	105.2	0.0	U
1.022	0.0753	0.0000	88.695	0.07540	0.00000	111.2	111.2	0.0	U
1.044	0.0770	0.0000	88.696	0.07717	0.00000	117.3	117.3	0.0	U
1.067	0.0793	0.0000	88.697	0.07947	0.00000	123.5	123.5	0.0	U
1.089	0.0822	0.0000	88.699	0.08145	0.00000	130.0	130.0	0.0	U
1.111	0.0854	0.0000	91.000	0.08214	0.00000	136.7	136.6	0.0	U/P
1.133	0.0886	0.0000	91.000	0.08214	0.00000	143.6	143.1	0.0	U/P
1.156	0.0915	0.0000	91.000	0.08214	0.00000	150.9	149.7	0.0	U/P
1.178	0.0940	0.0000	91.000	0.08214	0.00000	158.3	156.3	0.0	U/P
1.200	0.0961	0.0000	91.000	0.08214	0.00000	165.9	162.8	0.0	U/P
1.222	0.0979	0.0000	91.000	0.08214	0.00000	173.6	169.4	0.0	U/P
1.244	0.0995	0.0000	91.000	0.08215	0.00000	181.5	176.0	0.0	U/P
1.267	0.1010	0.0000	91.001	0.08215	0.00000	189.6	182.6	0.0	U/P
1.289	0.1023	0.0000	91.001	0.08215	0.00000	197.7	189.1	0.0	U/P
1.311	0.1035	0.0000	91.001	0.08215	0.00000	205.9	195.7	0.0	U/P
1.333	0.1047	0.0000	91.001	0.08215	0.00000	214.2	202.3	0.0	U/P
1.356	0.1057	0.0000	91.001	0.08216	0.00000	222.7	208.8	0.0	U/P
1.378	0.1067	0.0000	91.001	0.08216	0.00000	231.2	215.4	0.0	U/P
1.400	0.1077	0.0000	91.001	0.08216	0.00000	239.7	222.0	0.0	U/P
1.422	0.1086	0.0000	91.001	0.08216	0.00000	248.4	228.6	0.0	U/P
1.444	0.1095	0.0000	91.002	0.08217	0.00000	257.1	235.1	0.0	U/P
1.467	0.1103	0.0000	91.002	0.08217	0.00000	265.9	241.7	0.0	U/P
1.489	0.1112	0.0000	91.002	0.08217	0.00000	274.8	248.3	0.0	U/P
1.511	0.1119	0.0000	91.002	0.08217	0.00000	283.7	254.9	0.0	U/P
1.533	0.1125	0.0000	91.002	0.08218	0.00000	292.7	261.4	0.0	U/P
1.556	0.1127	0.0000	91.002	0.08218	0.00000	301.7	268.0	0.0	U/P
1.578	0.1123	0.0000	91.003	0.08218	0.00000	310.7	274.6	0.0	U/P
1.600	0.1113	0.0000	91.003	0.08219	0.00000	319.6	281.2	0.0	U/P
1.622	0.1102	0.0000	91.003	0.08219	0.00000	328.5	287.7	0.0	U/P

Detailed Results (cont,d.) :: *Scenario 3 :: As-Built 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
11.511	1.0941	0.0000	91.492	0.09067	0.00000	10633.3	3295.3	0.0	U/P
11.533	1.2831	0.0000	91.497	0.09078	0.00000	10728.4	3302.5	0.0	U/P
11.556	1.7093	0.0000	91.504	0.09092	0.00000	10848.1	3309.8	0.0	U/P
11.578	2.3655	0.0000	91.514	0.09112	0.00000	11011.1	3317.1	0.0	U/P
11.600	3.1259	0.0000	91.528	0.09139	0.00000	11230.7	3324.4	0.0	U/P
11.622	3.8669	0.0000	91.545	0.09172	0.00000	11510.5	3331.7	0.0	U/P
11.644	4.5112	0.0000	91.566	0.09210	0.00000	11845.6	3339.1	0.0	U/P
11.667	5.0019	0.0000	91.589	0.09252	0.00000	12226.1	3346.4	0.0	U/P
11.689	5.3480	0.0000	91.615	0.09297	0.00000	12640.1	3353.9	0.0	U/P
11.711	5.5936	0.0000	91.641	0.09344	0.00000	13077.8	3361.3	0.0	U/P
11.733	5.7732	0.0000	91.669	0.09392	0.00000	13532.4	3368.8	0.0	U/P
11.756	5.9029	0.0000	91.697	0.09441	0.00000	13999.5	3376.3	0.0	U/P
11.778	5.9965	0.0000	91.726	0.09491	0.00000	14475.5	3383.9	0.0	U/P
11.800	6.0643	0.0000	91.755	0.09541	0.00000	14957.9	3391.5	0.0	U/P
11.822	6.1129	0.0000	91.784	0.09591	0.00000	15445.0	3399.2	0.0	U/P
11.844	6.1481	0.0000	91.813	0.09642	0.00000	15935.4	3406.9	0.0	U/P
11.867	6.1737	0.0000	91.842	0.09692	0.00000	16428.3	3414.6	0.0	U/P
11.889	6.1923	0.0000	91.872	0.09742	0.00000	16922.9	3422.4	0.0	U/P
11.911	6.2058	0.0000	91.901	0.09792	0.00000	17418.9	3430.2	0.0	U/P
11.933	6.2156	0.0000	91.929	0.09841	0.00000	17915.7	3438.0	0.0	U/P
11.956	6.2231	0.0000	91.958	0.09891	0.00000	18413.3	3445.9	0.0	U/P
11.978	6.2287	0.0000	91.987	0.09941	0.00000	18911.3	3453.9	0.0	U/P
12.000	6.2326	0.0000	92.015	0.09990	0.00000	19409.8	3461.8	0.0	U/P
12.022	6.1764	0.0000	92.044	0.10039	0.00000	19906.1	3469.9	0.0	U/P
12.044	5.9958	0.0000	92.071	0.10086	0.00000	20393.0	3477.9	0.0	U/P
12.067	5.6100	0.0000	92.098	0.10130	0.00000	20857.3	3486.0	0.0	U/P
12.089	5.0663	0.0000	92.121	0.10170	0.00000	21284.3	3494.1	0.0	U/P
12.111	4.4816	0.0000	92.143	0.10205	0.00000	21666.2	3502.3	0.0	U/P
12.133	3.9379	0.0000	92.161	0.10235	0.00000	22003.0	3510.4	0.0	U/P
12.156	3.4819	0.0000	92.178	0.10262	0.00000	22299.8	3518.6	0.0	U/P
12.178	3.1545	0.0000	92.192	0.10286	0.00000	22565.2	3526.9	0.0	U/P
12.200	2.9264	0.0000	92.205	0.10309	0.00000	22808.5	3535.1	0.0	U/P
12.222	2.7627	0.0000	92.218	0.10330	0.00531	23036.0	3543.4	0.2	U/P
12.244	2.6417	0.0000	92.229	0.10350	0.02100	23252.2	3551.6	1.3	U/P
12.267	2.5558	0.0000	92.240	0.10369	0.04135	23460.1	3559.9	3.8	U/P
12.289	2.4932	0.0000	92.251	0.10387	0.06475	23662.1	3568.2	8.0	U/P
12.311	2.4482	0.0000	92.261	0.10405	0.09043	23859.7	3576.5	14.2	U/P
12.333	2.4161	0.0000	92.271	0.10422	0.11792	24054.3	3584.9	22.5	U/P
12.356	2.3927	0.0000	92.281	0.10439	0.14692	24246.7	3593.2	33.1	U/P
12.378	2.3758	0.0000	92.290	0.10456	0.17717	24437.4	3601.6	46.1	U/P
12.400	2.3635	0.0000	92.299	0.10472	0.20850	24627.0	3609.9	61.5	U/P
12.422	2.3548	0.0000	92.308	0.10488	0.24075	24815.7	3618.3	79.5	U/P
12.444	2.3483	0.0000	92.317	0.10503	0.27377	25003.8	3626.7	100.1	U/P
12.467	2.3433	0.0000	92.326	0.10518	0.30743	25191.5	3635.1	123.3	U/P
12.489	2.3397	0.0000	92.334	0.10533	0.34162	25378.8	3643.5	149.3	U/P
12.511	2.3300	0.0000	92.342	0.10547	0.37617	25565.6	3652.0	178.0	U/P
12.533	2.2901	0.0000	92.350	0.10561	0.41062	25750.4	3660.4	209.5	U/P
12.556	2.1925	0.0000	92.358	0.10574	0.44397	25929.7	3668.9	243.7	U/P
12.578	2.0197	0.0000	92.364	0.10585	0.47476	26098.2	3677.3	280.4	U/P
12.600	1.7993	0.0000	92.370	0.10594	0.50155	26251.0	3685.8	319.5	U/P
12.622	1.5731	0.0000	92.375	0.10602	0.52364	26385.9	3694.3	360.5	U/P
12.644	1.3690	0.0000	92.378	0.10608	0.54106	26503.5	3702.8	403.1	U/P
12.667	1.2047	0.0000	92.381	0.10612	0.55443	26606.5	3711.3	446.9	U/P
12.689	1.0877	0.0000	92.383	0.10615	0.56465	26698.2	3719.8	491.6	U/P
12.711	1.0056	0.0000	92.385	0.10618	0.57260	26781.9	3728.2	537.1	U/P
12.733	0.9462	0.0000	92.386	0.10620	0.57891	26860.0	3736.7	583.2	U/P
12.756	0.9028	0.0000	92.387	0.10622	0.58401	26934.0	3745.2	629.7	U/P
12.778	0.8717	0.0000	92.388	0.10623	0.58821	27004.9	3753.7	676.6	U/P
12.800	0.8492	0.0000	92.389	0.10624	0.59176	27073.8	3762.2	723.8	U/P
12.822	0.8330	0.0000	92.389	0.10625	0.59483	27141.1	3770.7	771.3	U/P
12.844	0.8214	0.0000	92.390	0.10626	0.59753	27207.2	3779.2	818.9	U/P
12.867	0.8129	0.0000	92.390	0.10627	0.59997	27272.6	3787.7	866.8	U/P
12.889	0.8068	0.0000	92.391	0.10628	0.60220	27337.4	3796.2	914.9	U/P
12.911	0.8024	0.0000	92.391	0.10629	0.60427	27401.8	3804.7	963.2	U/P
12.933	0.7992	0.0000	92.392	0.10629	0.60622	27465.8	3813.2	1011.6	U/P
12.956	0.7969	0.0000	92.392	0.10630	0.60806	27529.7	3821.8	1060.2	U/P
12.978	0.7950	0.0000	92.392	0.10631	0.60982	27593.4	3830.3	1108.9	U/P
13.000	0.7938	0.0000	92.393	0.10631	0.61152	27656.9	3838.8	1157.8	U/P
13.022	0.7910	0.0000	92.393	0.10632	0.61313	27720.3	3847.3	1206.7	U/P
13.044	0.7834	0.0000	92.393	0.10632	0.61460	27783.3	3855.8	1255.8	U/P
13.067	0.7667	0.0000	92.394	0.10632	0.61577	27845.3	3864.3	1305.1	U/P
13.089	0.7406	0.0000	92.394	0.10633	0.61645	27905.6	3872.8	1354.4	U/P
13.111	0.7101	0.0000	92.394	0.10632	0.61651	27963.6	3881.3	1403.7	U/P
13.133	0.6802	0.0000	92.394	0.10632	0.61591	28019.2	3889.8	1453.0	U/P

Detailed Results (cont,d.) :: *Scenario 3 :: As-Built 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
72.578	0.0000	0.0000	91.830	0.00870	0.00000	37255.4	14668.7	9779.0	S
84.578	0.0000	0.0000	91.810	0.00724	0.00000	37255.4	15005.1	9779.0	S
96.578	0.0000	0.0000	91.792	0.00632	0.00000	37255.4	15294.3	9779.0	S
108.578	0.0000	0.0000	91.777	0.00567	0.00000	37255.4	15551.1	9779.0	S
120.578	0.0000	0.0000	91.763	0.00518	0.00000	37255.4	15784.0	9779.0	S
132.578	0.0000	0.0000	91.750	0.00479	0.00000	37255.4	15998.3	9779.0	S
144.578	0.0000	0.0000	91.738	0.00447	0.00000	37255.4	16197.6	9779.0	S
156.578	0.0000	0.0000	91.726	0.00420	0.00000	37255.4	16384.4	9779.0	S
168.578	0.0000	0.0000	91.715	0.00397	0.00000	37255.4	16560.6	9779.0	S
180.578	0.0000	0.0000	91.705	0.00378	0.00000	37255.4	16727.7	9779.0	S
192.578	0.0000	0.0000	91.695	0.00360	0.00000	37255.4	16886.8	9779.0	S
204.578	0.0000	0.0000	91.686	0.00345	0.00000	37255.4	17038.9	9779.0	S
216.578	0.0000	0.0000	91.677	0.00331	0.00000	37255.4	17184.8	9779.0	S
228.578	0.0000	0.0000	91.668	0.00319	0.00000	37255.4	17325.1	9779.0	S
240.578	0.0000	0.0000	91.660	0.00308	0.00000	37255.4	17460.2	9779.0	S
252.578	0.0000	0.0000	91.652	0.00297	0.00000	37255.4	17590.8	9779.0	S
264.578	0.0000	0.0000	91.644	0.00288	0.00000	37255.4	17717.1	9779.0	S
276.578	0.0000	0.0000	91.637	0.00279	0.00000	37255.4	17839.5	9779.0	S
288.578	0.0000	0.0000	91.629	0.00271	0.00000	37255.4	17958.4	9779.0	S
300.578	0.0000	0.0000	91.622	0.00264	0.00000	37255.4	18073.8	9779.0	S
312.578	0.0000	0.0000	91.615	0.00257	0.00000	37255.4	18186.2	9779.0	S
324.578	0.0000	0.0000	91.608	0.00250	0.00000	37255.4	18295.7	9779.0	S
336.578	0.0000	0.0000	91.601	0.00244	0.00000	37255.4	18402.4	9779.0	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
360.578	0.0000	0.0000	91.589	0.00236	0.00000	37255.4	18608.4	9779.0	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
360.622	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18608.8	9779.0	S
360.645	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.0	9779.0	S
360.667	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.2	9779.0	S
360.689	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.4	9779.0	S
360.711	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.5	9779.0	S
360.733	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.7	9779.0	S
360.756	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18609.9	9779.0	S
360.778	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18610.1	9779.0	S
360.800	0.0000	0.0000	91.588	0.00236	0.00000	37255.4	18610.3	9779.0	S
360.822	0.0000	0.0000	91.588	0.00236	0.00000	37255.5	18610.5	9779.0	S
360.845	0.0002	0.0000	91.588	0.00236	0.00000	37255.5	18610.7	9779.0	S
360.867	0.0006	0.0000	91.588	0.00236	0.00000	37255.5	18610.9	9779.0	S
360.889	0.0016	0.0000	91.588	0.00236	0.00000	37255.6	18611.0	9779.0	S
360.911	0.0031	0.0000	91.588	0.00236	0.00000	37255.8	18611.2	9779.0	S
360.933	0.0053	0.0000	91.588	0.00236	0.00000	37256.1	18611.4	9779.0	S
360.956	0.0080	0.0000	91.588	0.00236	0.00000	37256.6	18611.6	9779.0	S
360.978	0.0111	0.0000	91.588	0.00236	0.00000	37257.4	18611.8	9779.0	S
361.000	0.0143	0.0000	91.588	0.00236	0.00000	37258.4	18612.0	9779.0	S
361.022	0.0177	0.0000	91.589	0.00236	0.00000	37259.7	18612.2	9779.0	S
361.045	0.0210	0.0000	91.589	0.00236	0.00000	37261.2	18612.4	9779.0	S
361.067	0.0243	0.0000	91.589	0.00237	0.00000	37263.1	18612.6	9779.0	S
361.089	0.0276	0.0000	91.589	0.00237	0.00000	37265.1	18612.7	9779.0	S
361.111	0.0307	0.0000	91.589	0.00237	0.00000	37267.5	18612.9	9779.0	S
361.133	0.0337	0.0000	91.589	0.00238	0.00000	37270.0	18613.1	9779.0	S
361.156	0.0367	0.0000	91.589	0.00238	0.00000	37272.9	18613.3	9779.0	S
361.178	0.0395	0.0000	91.589	0.00238	0.00000	37275.9	18613.5	9779.0	S
361.200	0.0422	0.0000	91.590	0.00239	0.00000	37279.2	18613.7	9779.0	S
361.222	0.0447	0.0000	91.590	0.00239	0.00000	37282.6	18613.9	9779.0	S
361.244	0.0472	0.0000	91.590	0.00240	0.00000	37286.3	18614.1	9779.0	S
361.267	0.0496	0.0000	91.590	0.00240	0.00000	37290.2	18614.3	9779.0	S
361.289	0.0518	0.0000	91.591	0.00241	0.00000	37294.3	18614.5	9779.0	S
361.311	0.0540	0.0000	91.591	0.00241	0.00000	37298.5	18614.7	9779.0	S
361.333	0.0561	0.0000	91.591	0.00242	0.00000	37302.9	18614.9	9779.0	S
361.356	0.0580	0.0000	91.591	0.00242	0.00000	37307.4	18615.0	9779.0	S
361.378	0.0599	0.0000	91.592	0.00243	0.00000	37312.2	18615.2	9779.0	S
361.400	0.0618	0.0000	91.592	0.00244	0.00000	37317.0	18615.4	9779.0	S
361.422	0.0635	0.0000	91.592	0.00244	0.00000	37322.0	18615.6	9779.0	S
361.445	0.0652	0.0000	91.593	0.00245	0.00000	37327.2	18615.8	9779.0	S
361.467	0.0668	0.0000	91.593	0.00246	0.00000	37332.5	18616.0	9779.0	S
361.489	0.0683	0.0000	91.593	0.00246	0.00000	37337.9	18616.2	9779.0	S
361.511	0.0698	0.0000	91.594	0.00247	0.00000	37343.4	18616.4	9779.0	S
361.533	0.0712	0.0000	91.594	0.00248	0.00000	37349.0	18616.6	9779.0	S
361.556	0.0726	0.0000	91.594	0.00249	0.00000	37354.8	18616.8	9779.0	S
361.578	0.0739	0.0000	91.595	0.00249	0.00000	37360.7	18617.0	9779.0	S
361.600	0.0753	0.0000	91.595	0.00250	0.00000	37366.6	18617.2	9779.0	S
361.622	0.0770	0.0000	91.595	0.00251	0.00000	37372.7	18617.4	9779.0	S
361.645	0.0793	0.0000	91.596	0.00252	0.00000	37379.0	18617.6	9779.0	S
361.667	0.0822	0.0000	91.596	0.00252	0.00000	37385.4	18617.8	9779.0	S

Beginning of Second Storm

Detailed Results (cont,d.) :: *Scenario 3 :: As-Built 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
371.556	0.6989	0.0000	92.104	0.00937	0.00000	46068.2	18798.6	9779.0	S
371.578	0.7009	0.0000	92.108	0.00942	0.00000	46124.2	18799.3	9779.0	S
371.600	0.7100	0.0000	92.111	0.00947	0.00000	46180.6	18800.1	9779.0	S
371.622	0.7324	0.0000	92.114	0.00952	0.00000	46238.3	18800.8	9779.0	S
371.645	0.7712	0.0000	92.117	0.00957	0.00000	46298.5	18801.6	9779.0	S
371.667	0.8201	0.0000	92.121	0.00963	0.00000	46362.1	18802.4	9779.0	S
371.689	0.8700	0.0000	92.125	0.00969	0.00000	46429.7	18803.2	9779.0	S
371.711	0.9149	0.0000	92.129	0.00976	0.00000	46501.1	18803.9	9779.0	S
371.733	0.9508	0.0000	92.133	0.00983	0.00000	46575.7	18804.7	9779.0	S
371.756	0.9764	0.0000	92.137	0.00990	0.00000	46652.8	18805.5	9779.0	S
371.778	0.9943	0.0000	92.142	0.00998	0.00000	46731.7	18806.3	9779.0	S
371.800	1.0074	0.0000	92.146	0.01006	0.00000	46811.7	18807.1	9779.0	S
371.822	1.0169	0.0000	92.151	0.01018	0.00000	46892.7	18807.9	9779.0	S
371.845	1.0237	0.0000	92.155	0.01026	0.00000	46974.3	18808.7	9779.0	S
371.867	1.0287	0.0000	92.160	0.01034	0.00000	47056.4	18809.5	9779.0	S
371.889	1.0322	0.0000	92.165	0.01039	0.00000	47138.9	18810.4	9779.0	S
371.911	1.0348	0.0000	92.169	0.01047	0.00000	47221.5	18811.2	9779.0	S
371.933	1.0367	0.0000	92.174	0.01057	0.00000	47304.4	18812.1	9779.0	S
371.956	1.0381	0.0000	92.179	0.01066	0.00000	47387.4	18812.9	9779.0	S
371.978	1.0391	0.0000	92.183	0.01073	0.00000	47470.5	18813.8	9779.0	S
372.000	1.0398	0.0000	92.188	0.01079	0.00000	47553.6	18814.6	9779.0	S
372.022	1.0403	0.0000	92.192	0.01086	0.00000	47636.8	18815.5	9779.0	S
372.045	1.0408	0.0000	92.197	0.01097	0.00000	47720.1	18816.4	9779.0	S
372.067	1.0411	0.0000	92.202	0.01105	0.00000	47803.3	18817.2	9779.0	S
372.089	1.0941	0.0000	92.206	0.01128	0.00000	47888.8	18818.1	9779.0	S
372.111	1.2831	0.0000	92.212	0.01275	0.00057	47983.8	18819.0	9779.0	S
372.133	1.7093	0.0000	92.218	0.01575	0.00599	48103.5	18820.2	9779.3	S
372.156	2.3655	0.0000	92.227	0.02001	0.01791	48266.5	18821.6	9780.2	S
372.178	3.1259	0.0000	92.239	0.02592	0.03949	48486.2	18823.4	9782.5	S
372.200	3.8669	0.0000	92.255	0.03315	0.07381	48765.9	18825.7	9787.1	S
372.222	4.5112	0.0000	92.273	0.04099	0.12280	49101.0	18828.7	9794.9	S
372.244	5.0019	0.0000	92.293	0.04863	0.18675	49481.5	18832.3	9807.3	S
372.267	5.3480	0.0000	92.315	0.05554	0.26447	49895.5	18836.5	9825.4	S
372.289	5.5936	0.0000	92.337	0.06158	0.35416	50333.2	18841.2	9850.1	S
372.311	5.7732	0.0000	92.360	0.06675	0.45401	50787.9	18846.3	9882.4	S
372.333	5.9029	0.0000	92.383	0.07111	0.56236	51254.9	18851.8	9923.1	S
372.356	5.9965	0.0000	92.406	0.07472	0.67762	51730.9	18857.7	9972.7	S
372.378	6.0643	0.0000	92.428	0.07765	0.79839	52213.3	18863.8	10031.7	S
372.400	6.1129	0.0000	92.451	0.08000	0.92342	52700.4	18870.1	10100.6	S
372.422	6.1481	0.0000	92.473	0.08182	1.05165	53190.9	18876.6	10179.6	S
372.445	6.1737	0.0000	92.494	0.08321	1.18214	53683.7	18883.2	10269.0	S
372.467	6.1923	0.0000	92.515	0.08420	1.31409	54178.4	18889.9	10368.8	S
372.489	6.2058	0.0000	92.535	0.08486	1.44681	54674.3	18896.7	10479.2	S
372.511	6.2156	0.0000	92.554	0.08523	1.57972	55171.1	18903.5	10600.3	S
372.533	6.2231	0.0000	92.573	0.08536	1.71231	55668.7	18910.3	10732.0	S
372.556	6.2287	0.0000	92.592	0.08527	1.84415	56166.8	18917.1	10874.2	S
372.578	6.2326	0.0000	92.610	0.08475	1.97487	56665.2	18924.0	11027.0	S
372.600	6.1764	0.0000	92.627	0.08313	2.10324	57161.6	18930.7	11190.1	S
372.622	5.9958	0.0000	92.643	0.07931	2.22612	57648.5	18937.3	11363.3	S
372.645	5.6100	0.0000	92.657	0.07255	2.33802	58112.7	18943.4	11545.9	S
372.667	5.0663	0.0000	92.669	0.06343	2.43293	58539.7	18948.9	11736.7	S
372.689	4.4816	0.0000	92.679	0.05346	2.50754	58921.7	18953.5	11934.3	S
372.711	3.9379	0.0000	92.685	0.04404	2.56199	59258.4	18957.4	12137.1	S
372.733	3.4819	0.0000	92.690	0.03613	2.59866	59555.2	18960.6	12343.5	S
372.756	3.1545	0.0000	92.693	0.03018	2.62146	59820.7	18963.2	12552.3	S
372.778	2.9264	0.0000	92.694	0.02597	2.63446	60063.9	18965.4	12762.6	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
372.822	2.6417	0.0000	92.695	0.02082	2.64197	60507.7	18969.1	13184.9	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
372.867	2.4932	0.0000	92.695	0.01820	2.63540	60917.5	18972.2	13607.2	S
372.889	2.4482	0.0000	92.694	0.01744	2.62933	61115.2	18973.6	13817.8	S
372.911	2.4161	0.0000	92.693	0.01691	2.62221	61309.8	18975.0	14027.8	S
372.933	2.3927	0.0000	92.692	0.01655	2.61441	61502.1	18976.3	14237.3	S
372.956	2.3758	0.0000	92.691	0.01630	2.60623	61692.9	18977.6	14446.1	S
372.978	2.3635	0.0000	92.690	0.01614	2.59784	61882.4	18978.9	14654.3	S
373.000	2.3548	0.0000	92.689	0.01604	2.58940	62071.2	18980.2	14861.8	S
373.022	2.3483	0.0000	92.688	0.01598	2.58099	62259.3	18981.5	15068.6	S
373.045	2.3433	0.0000	92.687	0.01594	2.57268	62446.9	18982.8	15274.7	S
373.067	2.3397	0.0000	92.686	0.01589	2.56452	62634.3	18984.0	15480.2	S
373.089	2.3300	0.0000	92.685	0.01568	2.55641	62821.1	18985.3	15685.0	S
373.111	2.2901	0.0000	92.684	0.01496	2.54777	63005.9	18986.5	15889.2	S
373.133	2.1925	0.0000	92.682	0.01336	2.53719	63185.2	18987.7	16092.6	S
373.156	2.0197	0.0000	92.681	0.01076	2.52260	63353.6	18988.7	16295.0	S
373.178	1.7993	0.0000	92.678	0.00753	2.50215	63506.4	18989.4	16496.0	S

Detailed Results (cont,d.) :: *Scenario 3 :: As-Built 25 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
384.711	0.0429	0.0000	92.274	0.00482	0.12596	74500.6	19209.9	34794.0	S
384.733	0.0307	0.0000	92.273	0.00474	0.12473	74503.5	19210.3	34804.0	S
384.756	0.0219	0.0000	92.273	0.00468	0.12339	74505.6	19210.6	34813.9	S
384.778	0.0158	0.0000	92.272	0.00464	0.12197	74507.1	19211.0	34823.8	S
384.800	0.0114	0.0000	92.272	0.00461	0.12051	74508.2	19211.4	34833.5	S
384.822	0.0082	0.0000	92.271	0.00459	0.11903	74509.0	19211.7	34843.0	S
384.845	0.0059	0.0000	92.271	0.00457	0.11754	74509.6	19212.1	34852.5	S
384.867	0.0042	0.0000	92.270	0.00456	0.11604	74510.0	19212.5	34861.8	S
384.889	0.0030	0.0000	92.270	0.00455	0.11456	74510.2	19212.8	34871.1	S
384.911	0.0021	0.0000	92.269	0.00455	0.11308	74510.5	19213.2	34880.2	S
384.933	0.0015	0.0000	92.269	0.00454	0.11162	74510.6	19213.6	34889.2	S
384.956	0.0011	0.0000	92.268	0.00454	0.11018	74510.7	19213.9	34898.0	S
384.978	0.0007	0.0000	92.268	0.00454	0.10876	74510.8	19214.3	34906.8	S
385.000	0.0005	0.0000	92.267	0.00453	0.10736	74510.8	19214.7	34915.4	S
385.022	0.0003	0.0000	92.267	0.00453	0.10597	74510.8	19215.0	34924.0	S
385.045	0.0002	0.0000	92.266	0.00453	0.10461	74510.9	19215.4	34932.4	S
385.067	0.0001	0.0000	92.266	0.00453	0.10327	74510.9	19215.7	34940.7	S
385.089	0.0000	0.0000	92.265	0.00453	0.10196	74510.9	19216.1	34948.9	S
385.111	0.0000	0.0000	92.265	0.00453	0.10066	74510.9	19216.5	34957.0	S
385.133	0.0000	0.0000	92.264	0.00453	0.09938	74510.9	19216.8	34965.0	S
385.156	0.0000	0.0000	92.264	0.00445	0.09813	74510.9	19217.2	34972.9	S
397.156	0.0000	0.0000	92.224	-0.02004	0.01230	74510.9	17556.7	37358.2	S
409.156	0.0000	0.0000	92.212	0.00099	0.00062	74510.9	17485.5	37637.5	S
421.156	0.0000	0.0000	92.202	0.00368	0.00000	74510.9	17642.3	37651.0	S
433.156	0.0000	0.0000	92.193	0.00364	0.00000	74510.9	17803.5	37651.0	S
445.156	0.0000	0.0000	92.185	0.00348	0.00000	74510.9	17957.1	37651.0	S
457.156	0.0000	0.0000	92.176	0.00335	0.00000	74510.9	18104.3	37651.0	S
469.156	0.0000	0.0000	92.168	0.00323	0.00000	74510.9	18246.2	37651.0	S
481.156	0.0000	0.0000	92.160	0.00313	0.00000	74510.9	18383.3	37651.0	S
493.156	0.0000	0.0000	92.153	0.00303	0.00000	74510.9	18516.3	37651.0	S
505.156	0.0000	0.0000	92.146	0.00295	0.00000	74510.9	18645.4	37651.0	S
517.156	0.0000	0.0000	92.138	0.00287	0.00000	74510.9	18771.1	37651.0	S
529.156	0.0000	0.0000	92.131	0.00280	0.00000	74510.9	18893.7	37651.0	S
541.156	0.0000	0.0000	92.125	0.00274	0.00000	74510.9	19013.4	37651.0	S
553.156	0.0000	0.0000	92.118	0.00268	0.00000	74510.9	19130.4	37651.0	S
565.156	0.0000	0.0000	92.111	0.00262	0.00000	74510.9	19245.0	37651.0	S
577.156	0.0000	0.0000	92.105	0.00257	0.00000	74510.9	19357.1	37651.0	S
589.156	0.0000	0.0000	92.099	0.00252	0.00000	74510.9	19467.1	37651.0	S
601.156	0.0000	0.0000	92.093	0.00248	0.00000	74510.9	19575.0	37651.0	S
613.156	0.0000	0.0000	92.087	0.00243	0.00000	74510.9	19681.0	37651.0	S
625.156	0.0000	0.0000	92.081	0.00239	0.00000	74510.9	19785.0	37651.0	S
637.156	0.0000	0.0000	92.075	0.00235	0.00000	74510.9	19887.4	37651.0	S
649.156	0.0000	0.0000	92.069	0.00231	0.00000	74510.9	19988.0	37651.0	S
661.156	0.0000	0.0000	92.063	0.00227	0.00000	74510.9	20087.0	37651.0	S
673.156	0.0000	0.0000	92.058	0.00224	0.00000	74510.9	20184.4	37651.0	S
685.156	0.0000	0.0000	92.052	0.00221	0.00000	74510.9	20280.4	37651.0	S
697.156	0.0000	0.0000	92.047	0.00217	0.00000	74510.9	20375.0	37651.0	S
709.156	0.0000	0.0000	92.041	0.00214	0.00000	74510.9	20468.2	37651.0	S
721.156	0.0000	0.0000	92.036	----	----	74510.9	20560.1	37651.0	N.A.

Detailed Results :: *Scenario 4 :: As Built 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
0.000	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.022	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.044	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.067	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.089	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.111	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.133	0.0000	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	U
0.156	0.0000	0.0000	88.670	0.00001	0.00000	0.0	0.0	0.0	U
0.178	0.0000	0.0000	88.670	0.00009	0.00000	0.0	0.0	0.0	U
0.200	0.0003	0.0000	88.670	0.00042	0.00000	0.0	0.0	0.0	U
0.222	0.0011	0.0000	88.670	0.00130	0.00000	0.1	0.1	0.0	U
0.244	0.0028	0.0000	88.670	0.00308	0.00000	0.2	0.2	0.0	U
0.267	0.0057	0.0000	88.670	0.00596	0.00000	0.6	0.6	0.0	U
0.289	0.0097	0.0000	88.670	0.00994	0.00000	1.2	1.2	0.0	U
0.311	0.0147	0.0000	88.670	0.01483	0.00000	2.2	2.2	0.0	U
0.333	0.0203	0.0000	88.671	0.02036	0.00000	3.5	3.5	0.0	U
0.356	0.0262	0.0000	88.671	0.02622	0.00000	5.4	5.4	0.0	U
0.378	0.0322	0.0000	88.672	0.03219	0.00000	7.7	7.7	0.0	U
0.400	0.0381	0.0000	88.672	0.03811	0.00000	10.6	10.6	0.0	U
0.422	0.0439	0.0000	88.673	0.04389	0.00000	13.8	13.8	0.0	U
0.444	0.0495	0.0000	88.674	0.04947	0.00000	17.6	17.6	0.0	U
0.467	0.0549	0.0000	88.675	0.05482	0.00000	21.8	21.8	0.0	U
0.489	0.0600	0.0000	88.676	0.05992	0.00000	26.4	26.4	0.0	U
0.511	0.0648	0.0000	88.677	0.06476	0.00000	31.3	31.3	0.0	U
0.533	0.0694	0.0000	88.678	0.06935	0.00000	36.7	36.7	0.0	U
0.556	0.0737	0.0000	88.679	0.07368	0.00000	42.4	42.4	0.0	U
0.578	0.0778	0.0000	88.681	0.07778	0.00000	48.5	48.5	0.0	U
0.600	0.0817	0.0000	88.682	0.08095	0.00000	54.9	54.9	0.0	U
0.622	0.0854	0.0000	91.000	0.08214	0.00000	61.6	61.5	0.0	U/P
0.644	0.0888	0.0000	91.000	0.08214	0.00000	68.5	68.0	0.0	U/P
0.667	0.0921	0.0000	91.000	0.08214	0.00000	75.8	74.6	0.0	U/P
0.689	0.0952	0.0000	91.000	0.08214	0.00000	83.3	81.2	0.0	U/P
0.711	0.0981	0.0000	91.000	0.08214	0.00000	91.0	87.7	0.0	U/P
0.733	0.1008	0.0000	91.000	0.08214	0.00000	98.9	94.3	0.0	U/P
0.756	0.1035	0.0000	91.000	0.08215	0.00000	107.1	100.9	0.0	U/P
0.778	0.1059	0.0000	91.001	0.08215	0.00000	115.5	107.5	0.0	U/P
0.800	0.1083	0.0000	91.001	0.08215	0.00000	124.1	114.0	0.0	U/P
0.822	0.1105	0.0000	91.001	0.08215	0.00000	132.8	120.6	0.0	U/P
0.844	0.1126	0.0000	91.001	0.08216	0.00000	141.7	127.2	0.0	U/P
0.867	0.1147	0.0000	91.001	0.08216	0.00000	150.8	133.7	0.0	U/P
0.889	0.1166	0.0000	91.001	0.08216	0.00000	160.1	140.3	0.0	U/P
0.911	0.1184	0.0000	91.002	0.08217	0.00000	169.5	146.9	0.0	U/P
0.933	0.1202	0.0000	91.002	0.08217	0.00000	179.0	153.5	0.0	U/P
0.956	0.1218	0.0000	91.002	0.08217	0.00000	188.7	160.0	0.0	U/P
0.978	0.1234	0.0000	91.002	0.08218	0.00000	198.5	166.6	0.0	U/P
1.000	0.1250	0.0000	91.002	0.08218	0.00000	208.5	173.2	0.0	U/P
1.022	0.1266	0.0000	91.003	0.08219	0.00000	218.5	179.8	0.0	U/P
1.044	0.1288	0.0000	91.003	0.08219	0.00000	228.7	186.3	0.0	U/P
1.067	0.1320	0.0000	91.003	0.08220	0.00000	239.2	192.9	0.0	U/P
1.089	0.1361	0.0000	91.004	0.08220	0.00000	249.9	199.5	0.0	U/P
1.111	0.1407	0.0000	91.004	0.08221	0.00000	261.0	206.1	0.0	U/P
1.133	0.1452	0.0000	91.004	0.08221	0.00000	272.4	212.6	0.0	U/P
1.156	0.1493	0.0000	91.005	0.08222	0.00000	284.2	219.2	0.0	U/P
1.178	0.1528	0.0000	91.005	0.08223	0.00000	296.3	225.8	0.0	U/P
1.200	0.1556	0.0000	91.005	0.08223	0.00000	308.6	232.4	0.0	U/P
1.222	0.1579	0.0000	91.006	0.08224	0.00000	321.1	239.0	0.0	U/P
1.244	0.1600	0.0000	91.006	0.08225	0.00000	333.9	245.5	0.0	U/P
1.267	0.1617	0.0000	91.007	0.08226	0.00000	346.7	252.1	0.0	U/P
1.289	0.1633	0.0000	91.007	0.08226	0.00000	359.7	258.7	0.0	U/P
1.311	0.1647	0.0000	91.008	0.08227	0.00000	372.8	265.3	0.0	U/P
1.333	0.1659	0.0000	91.008	0.08228	0.00000	386.1	271.9	0.0	U/P
1.356	0.1671	0.0000	91.009	0.08229	0.00000	399.4	278.4	0.0	U/P
1.378	0.1682	0.0000	91.009	0.08230	0.00000	412.8	285.0	0.0	U/P
1.400	0.1692	0.0000	91.009	0.08231	0.00000	426.3	291.6	0.0	U/P
1.422	0.1702	0.0000	91.010	0.08231	0.00000	439.9	298.2	0.0	U/P
1.444	0.1711	0.0000	91.010	0.08232	0.00000	453.5	304.8	0.0	U/P
1.467	0.1720	0.0000	91.011	0.08233	0.00000	467.3	311.4	0.0	U/P
1.489	0.1729	0.0000	91.011	0.08234	0.00000	481.1	318.0	0.0	U/P
1.511	0.1737	0.0000	91.012	0.08235	0.00000	494.9	324.5	0.0	U/P
1.533	0.1742	0.0000	91.013	0.08236	0.00000	508.8	331.1	0.0	U/P
1.556	0.1741	0.0000	91.013	0.08237	0.00000	522.8	337.7	0.0	U/P
1.578	0.1731	0.0000	91.014	0.08238	0.00000	536.6	344.3	0.0	U/P
1.600	0.1713	0.0000	91.014	0.08238	0.00000	550.4	350.9	0.0	U/P
1.622	0.1692	0.0000	91.015	0.08239	0.00000	564.0	357.5	0.0	U/P

Detailed Results (cont,d.) :: *Scenario 4 :: As Built 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
11.511	1.5332	0.0000	91.762	0.09535	0.00000	15116.2	3430.5	0.0	U/P
11.533	1.7979	0.0000	91.770	0.09550	0.00000	15249.5	3438.1	0.0	U/P
11.556	2.3951	0.0000	91.780	0.09570	0.00000	15417.2	3445.7	0.0	U/P
11.578	3.3144	0.0000	91.793	0.09597	0.00000	15645.5	3453.4	0.0	U/P
11.600	4.3798	0.0000	91.811	0.09633	0.00000	15953.3	3461.1	0.0	U/P
11.622	5.4178	0.0000	91.834	0.09676	0.00000	16345.2	3468.8	0.0	U/P
11.644	6.3203	0.0000	91.862	0.09727	0.00000	16814.7	3476.6	0.0	U/P
11.667	7.0075	0.0000	91.893	0.09783	0.00000	17347.8	3484.4	0.0	U/P
11.689	7.4921	0.0000	91.927	0.09843	0.00000	17927.8	3492.2	0.0	U/P
11.711	7.8359	0.0000	91.963	0.09905	0.00000	18541.0	3500.1	0.0	U/P
11.733	8.0873	0.0000	91.999	0.09970	0.00000	19177.9	3508.1	0.0	U/P
11.756	8.2687	0.0000	92.037	0.10036	0.00000	19832.1	3516.1	0.0	U/P
11.778	8.3995	0.0000	92.075	0.10103	0.00000	20498.8	3524.1	0.0	U/P
11.800	8.4942	0.0000	92.113	0.10170	0.00000	21174.6	3532.2	0.0	U/P
11.822	8.5621	0.0000	92.151	0.10237	0.00000	21856.8	3540.4	0.0	U/P
11.844	8.6112	0.0000	92.190	0.10304	0.00000	22543.8	3548.6	0.0	U/P
11.867	8.6468	0.0000	92.228	0.10371	0.01895	23234.1	3556.9	0.8	U/P
11.889	8.6727	0.0000	92.266	0.10438	0.10357	23926.9	3565.2	5.7	U/P
11.911	8.6914	0.0000	92.303	0.10503	0.22294	24621.4	3573.6	18.7	U/P
11.933	8.7049	0.0000	92.340	0.10568	0.36622	25317.3	3582.0	42.3	U/P
11.956	8.7153	0.0000	92.376	0.10631	0.52740	26014.1	3590.5	78.0	U/P
11.978	8.7231	0.0000	92.410	0.10692	0.70232	26711.6	3599.0	127.2	U/P
12.000	8.7283	0.0000	92.444	0.10752	0.88778	27409.7	3607.6	190.8	U/P
12.022	8.6495	0.0000	92.477	0.10809	1.08014	28104.8	3616.2	269.5	U/P
12.044	8.3965	0.0000	92.508	0.10862	1.27370	28786.6	3624.9	363.7	U/P
12.067	7.8561	0.0000	92.536	0.10910	1.45979	29436.7	3633.6	473.0	U/P
12.089	7.0947	0.0000	92.561	0.10951	1.62876	30034.8	3642.4	596.6	U/P
12.111	6.2759	0.0000	92.582	0.10985	1.77434	30569.6	3651.1	732.7	U/P
12.133	5.5145	0.0000	92.599	0.11012	1.89499	31041.2	3659.9	879.5	U/P
12.156	4.8758	0.0000	92.612	0.11033	1.99255	31456.8	3668.8	1035.0	U/P
12.178	4.4173	0.0000	92.622	0.11051	2.07135	31828.6	3677.6	1197.5	U/P
12.200	4.0980	0.0000	92.631	0.11065	2.13629	32169.2	3686.4	1365.8	U/P
12.222	3.8687	0.0000	92.638	0.11077	2.19104	32487.8	3695.3	1538.9	U/P
12.244	3.6992	0.0000	92.644	0.11087	2.23809	32790.6	3704.2	1716.1	U/P
12.267	3.5789	0.0000	92.649	0.11096	2.27928	33081.7	3713.0	1896.8	U/P
12.289	3.4913	0.0000	92.654	0.11104	2.31600	33364.5	3721.9	2080.6	U/P
12.311	3.4282	0.0000	92.658	0.11112	2.34926	33641.3	3730.8	2267.2	U/P
12.333	3.3832	0.0000	92.662	0.11119	2.37983	33913.7	3739.7	2456.4	U/P
12.356	3.3505	0.0000	92.666	0.11125	2.40825	34183.1	3748.6	2647.9	U/P
12.378	3.3267	0.0000	92.669	0.11131	2.43492	34450.2	3757.5	2841.6	U/P
12.400	3.3096	0.0000	92.672	0.11136	2.46012	34715.6	3766.4	3037.4	U/P
12.422	3.2973	0.0000	92.675	0.11142	2.48409	34979.9	3775.3	3235.2	U/P
12.444	3.2883	0.0000	92.678	0.11147	2.50698	35243.3	3784.2	3434.8	U/P
12.467	3.2812	0.0000	92.681	0.11151	2.52891	35506.1	3793.1	3636.3	U/P
12.489	3.2762	0.0000	92.684	0.11156	2.54997	35768.4	3802.1	3839.4	U/P
12.511	3.2625	0.0000	92.686	0.11160	2.57007	36029.9	3811.0	4044.2	U/P
12.533	3.2067	0.0000	92.688	0.11164	2.58839	36288.7	3819.9	4250.6	U/P
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	U/P
12.578	2.8281	0.0000	92.691	0.11167	2.61073	36775.7	3837.8	4666.8	U/P
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	U/P
12.622	2.2027	0.0000	92.689	0.11162	2.59717	37178.5	3855.7	5083.8	U/P
12.644	1.9169	0.0000	92.687	0.11156	2.57564	37343.3	3864.6	5290.7	U/P
12.667	1.6869	0.0000	92.683	0.11149	2.54637	37487.4	3873.5	5495.6	U/P
12.689	1.5231	0.0000	92.679	0.11141	2.51168	37615.8	3882.4	5697.9	U/P
12.711	1.4081	0.0000	92.674	0.11132	2.47369	37733.1	3891.3	5897.3	U/P
12.733	1.3249	0.0000	92.669	0.11123	2.43387	37842.4	3900.2	6093.6	U/P
12.756	1.2641	0.0000	92.664	0.11114	2.39320	37946.0	3909.1	6286.7	U/P
12.778	1.2206	0.0000	92.659	0.11105	2.35235	38045.3	3918.0	6476.5	U/P
12.800	1.1890	0.0000	92.654	0.11095	2.31181	38141.7	3926.9	6663.1	U/P
12.822	1.1664	0.0000	92.648	0.11086	2.27190	38235.9	3935.8	6846.5	U/P
12.844	1.1501	0.0000	92.643	0.11077	2.23284	38328.6	3944.6	7026.7	U/P
12.867	1.1383	0.0000	92.638	0.11068	2.19477	38420.1	3953.5	7203.8	U/P
12.889	1.1297	0.0000	92.634	0.11060	2.15777	38510.9	3962.3	7377.9	U/P
12.911	1.1235	0.0000	92.629	0.11051	2.12188	38601.0	3971.2	7549.0	U/P
12.933	1.1191	0.0000	92.624	0.11043	2.08711	38690.7	3980.0	7717.4	U/P
12.956	1.1158	0.0000	92.620	0.11035	2.05348	38780.1	3988.9	7883.0	U/P
12.978	1.1132	0.0000	92.616	0.11027	2.02095	38869.2	3997.7	8046.0	U/P
13.000	1.1115	0.0000	92.611	0.11020	1.98951	38958.2	4006.5	8206.4	U/P
13.022	1.1076	0.0000	92.607	0.11013	1.95909	39047.0	4015.3	8364.4	U/P
13.044	1.0969	0.0000	92.603	0.11005	1.92951	39135.2	4024.1	8519.9	U/P
13.067	1.0735	0.0000	92.599	0.10998	1.90044	39222.0	4032.9	8673.1	U/P
13.089	1.0370	0.0000	92.595	0.10991	1.87148	39306.4	4041.7	8824.0	U/P
13.111	0.9943	0.0000	92.591	0.10984	1.84233	39387.7	4050.5	8972.5	U/P
13.133	0.9525	0.0000	92.587	0.10976	1.81292	39465.5	4059.3	9118.7	U/P

Detailed Results (cont,d.) :: *Scenario 4 :: As Built 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
72.578	0.0000	0.0000	91.820	0.00866	0.00000	52397.7	14659.6	25104.4	S
84.578	0.0000	0.0000	91.800	0.00721	0.00000	52397.7	14994.5	25104.4	S
96.578	0.0000	0.0000	91.782	0.00629	0.00000	52397.7	15282.3	25104.4	S
108.578	0.0000	0.0000	91.767	0.00564	0.00000	52397.7	15538.0	25104.4	S
120.578	0.0000	0.0000	91.753	0.00515	0.00000	52397.7	15769.8	25104.4	S
132.578	0.0000	0.0000	91.740	0.00476	0.00000	52397.7	15983.1	25104.4	S
144.578	0.0000	0.0000	91.727	0.00445	0.00000	52397.7	16181.5	25104.4	S
156.578	0.0000	0.0000	91.716	0.00418	0.00000	52397.7	16367.4	25104.4	S
168.578	0.0000	0.0000	91.705	0.00395	0.00000	52397.7	16542.8	25104.4	S
180.578	0.0000	0.0000	91.695	0.00376	0.00000	52397.7	16709.1	25104.4	S
192.578	0.0000	0.0000	91.685	0.00359	0.00000	52397.7	16867.5	25104.4	S
204.578	0.0000	0.0000	91.676	0.00343	0.00000	52397.7	17018.9	25104.4	S
216.578	0.0000	0.0000	91.667	0.00330	0.00000	52397.7	17164.1	25104.4	S
228.578	0.0000	0.0000	91.658	0.00317	0.00000	52397.7	17303.7	25104.4	S
240.578	0.0000	0.0000	91.650	0.00306	0.00000	52397.7	17438.2	25104.4	S
252.578	0.0000	0.0000	91.642	0.00296	0.00000	52397.7	17568.2	25104.4	S
264.578	0.0000	0.0000	91.634	0.00287	0.00000	52397.7	17693.9	25104.4	S
276.578	0.0000	0.0000	91.627	0.00278	0.00000	52397.7	17815.7	25104.4	S
288.578	0.0000	0.0000	91.619	0.00270	0.00000	52397.7	17934.0	25104.4	S
300.578	0.0000	0.0000	91.612	0.00262	0.00000	52397.7	18048.9	25104.4	S
312.578	0.0000	0.0000	91.605	0.00256	0.00000	52397.7	18160.8	25104.4	S
324.578	0.0000	0.0000	91.598	0.00249	0.00000	52397.7	18269.7	25104.4	S
336.578	0.0000	0.0000	91.592	0.00243	0.00000	52397.7	18376.0	25104.4	S
348.578	0.0000	0.0000	91.585	0.00237	0.00000	52397.7	18479.7	25104.4	S
360.578	0.0000	0.0000	91.579	0.00235	0.00000	52397.7	18581.0	25104.4	S
360.600	0.0000	0.0000	91.579	0.00235	0.00000	52397.7	18581.2	25104.4	S
360.622	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18581.4	25104.4	S
360.645	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18581.6	25104.4	S
360.667	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18581.7	25104.4	S
360.689	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18581.9	25104.4	S
360.711	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18582.1	25104.4	S
360.733	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18582.3	25104.4	S
360.756	0.0000	0.0000	91.579	0.00234	0.00000	52397.7	18582.5	25104.4	S
360.778	0.0003	0.0000	91.579	0.00234	0.00000	52397.8	18582.7	25104.4	S
360.800	0.0011	0.0000	91.579	0.00234	0.00000	52397.8	18582.9	25104.4	S
360.822	0.0028	0.0000	91.579	0.00234	0.00000	52398.0	18583.1	25104.4	S
360.845	0.0057	0.0000	91.579	0.00235	0.00000	52398.3	18583.2	25104.4	S
360.867	0.0097	0.0000	91.579	0.00235	0.00000	52398.9	18583.4	25104.4	S
360.889	0.0147	0.0000	91.579	0.00235	0.00000	52399.9	18583.6	25104.4	S
360.911	0.0203	0.0000	91.579	0.00235	0.00000	52401.3	18583.8	25104.4	S
360.933	0.0262	0.0000	91.579	0.00235	0.00000	52403.1	18584.0	25104.4	S
360.956	0.0322	0.0000	91.579	0.00236	0.00000	52405.5	18584.2	25104.4	S
360.978	0.0381	0.0000	91.579	0.00236	0.00000	52408.3	18584.4	25104.4	S
361.000	0.0439	0.0000	91.579	0.00236	0.00000	52411.6	18584.6	25104.4	S
361.022	0.0495	0.0000	91.580	0.00237	0.00000	52415.3	18584.8	25104.4	S
361.045	0.0549	0.0000	91.580	0.00238	0.00000	52419.5	18584.9	25104.4	S
361.067	0.0600	0.0000	91.580	0.00238	0.00000	52424.1	18585.1	25104.4	S
361.089	0.0648	0.0000	91.580	0.00239	0.00000	52429.1	18585.3	25104.4	S
361.111	0.0694	0.0000	91.581	0.00240	0.00000	52434.5	18585.5	25104.4	S
361.133	0.0737	0.0000	91.581	0.00240	0.00000	52440.2	18585.7	25104.4	S
361.156	0.0778	0.0000	91.581	0.00241	0.00000	52446.2	18585.9	25104.4	S
361.178	0.0817	0.0000	91.582	0.00242	0.00000	52452.6	18586.1	25104.4	S
361.200	0.0854	0.0000	91.582	0.00243	0.00000	52459.3	18586.3	25104.4	S
361.222	0.0888	0.0000	91.583	0.00244	0.00000	52466.3	18586.5	25104.4	S
361.244	0.0921	0.0000	91.583	0.00245	0.00000	52473.5	18586.7	25104.4	S
361.267	0.0952	0.0000	91.584	0.00246	0.00000	52481.0	18586.9	25104.4	S
361.289	0.0981	0.0000	91.584	0.00247	0.00000	52488.7	18587.1	25104.4	S
361.311	0.1008	0.0000	91.585	0.00248	0.00000	52496.7	18587.3	25104.4	S
361.333	0.1035	0.0000	91.585	0.00249	0.00000	52504.9	18587.5	25104.4	S
361.356	0.1059	0.0000	91.586	0.00250	0.00000	52513.2	18587.7	25104.4	S
361.378	0.1083	0.0000	91.586	0.00251	0.00000	52521.8	18587.9	25104.4	S
361.400	0.1105	0.0000	91.587	0.00252	0.00000	52530.5	18588.1	25104.4	S
361.422	0.1126	0.0000	91.587	0.00253	0.00000	52539.5	18588.3	25104.4	S
361.445	0.1147	0.0000	91.588	0.00254	0.00000	52548.6	18588.5	25104.4	S
361.467	0.1166	0.0000	91.588	0.00255	0.00000	52557.8	18588.7	25104.4	S
361.489	0.1184	0.0000	91.589	0.00257	0.00000	52567.2	18588.9	25104.4	S
361.511	0.1202	0.0000	91.589	0.00258	0.00000	52576.8	18589.1	25104.4	S
361.533	0.1218	0.0000	91.590	0.00259	0.00000	52586.4	18589.3	25104.4	S
361.556	0.1234	0.0000	91.591	0.00260	0.00000	52596.3	18589.5	25104.4	S
361.578	0.1250	0.0000	91.591	0.00261	0.00000	52606.2	18589.7	25104.4	S
361.600	0.1266	0.0000	91.592	0.00263	0.00000	52616.3	18589.9	25104.4	S
361.622	0.1288	0.0000	91.593	0.00264	0.00000	52626.5	18590.1	25104.4	S
361.645	0.1320	0.0000	91.593	0.00265	0.00000	52636.9	18590.3	25104.4	S
361.667	0.1361	0.0000	91.594	0.00267	0.00000	52647.6	18590.6	25104.4	S

Beginning of Second Storm

Detailed Results (cont,d.) :: *Scenario 4 :: As Built 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
371.556	0.9797	0.0000	92.295	0.01791	0.19545	64962.4	18822.0	25252.1	S
371.578	0.9825	0.0000	92.299	0.01802	0.20713	65040.9	18823.5	25268.2	S
371.600	0.9953	0.0000	92.302	0.01819	0.21896	65120.0	18824.9	25285.3	S
371.622	1.0267	0.0000	92.306	0.01851	0.23116	65200.8	18826.4	25303.3	S
371.645	1.0810	0.0000	92.309	0.01899	0.24406	65285.2	18827.9	25322.3	S
371.667	1.1496	0.0000	92.313	0.01959	0.25796	65374.4	18829.4	25342.4	S
371.689	1.2195	0.0000	92.317	0.02023	0.27303	65469.1	18831.0	25363.6	S
371.711	1.2824	0.0000	92.321	0.02082	0.28924	65569.2	18832.7	25386.1	S
371.733	1.3327	0.0000	92.325	0.02133	0.30643	65673.8	18834.4	25409.9	S
371.756	1.3685	0.0000	92.330	0.02173	0.32438	65781.9	18836.1	25435.2	S
371.778	1.3937	0.0000	92.334	0.02203	0.34288	65892.4	18837.8	25461.8	S
371.800	1.4119	0.0000	92.339	0.02226	0.36174	66004.6	18839.6	25490.0	S
371.822	1.4252	0.0000	92.343	0.02244	0.38087	66118.1	18841.4	25519.7	S
371.845	1.4347	0.0000	92.348	0.02257	0.40015	66232.5	18843.2	25551.0	S
371.867	1.4417	0.0000	92.352	0.02266	0.41951	66347.5	18845.0	25583.8	S
371.889	1.4467	0.0000	92.357	0.02273	0.43890	66463.0	18846.8	25618.1	S
371.911	1.4502	0.0000	92.361	0.02277	0.45826	66578.9	18848.6	25654.0	S
371.933	1.4528	0.0000	92.365	0.02279	0.47756	66695.0	18850.5	25691.4	S
371.956	1.4547	0.0000	92.369	0.02279	0.49675	66811.3	18852.3	25730.4	S
371.978	1.4561	0.0000	92.373	0.02278	0.51582	66927.8	18854.1	25770.9	S
372.000	1.4571	0.0000	92.377	0.02276	0.53474	67044.3	18855.9	25812.9	S
372.022	1.4579	0.0000	92.381	0.02273	0.55350	67160.9	18857.7	25856.4	S
372.045	1.4584	0.0000	92.385	0.02268	0.57207	67277.6	18859.6	25901.5	S
372.067	1.4589	0.0000	92.389	0.02283	0.59045	67394.3	18861.4	25948.0	S
372.089	1.5332	0.0000	92.392	0.02390	0.60941	67513.9	18863.2	25996.0	S
372.111	1.7979	0.0000	92.397	0.02715	0.63180	67647.2	18865.2	26045.6	S
372.133	2.3951	0.0000	92.403	0.03377	0.66337	67814.9	18867.6	26097.4	S
372.156	3.3144	0.0000	92.412	0.04386	0.71161	68043.3	18870.6	26152.4	S
372.178	4.3798	0.0000	92.426	0.05618	0.78253	68351.0	18874.6	26212.2	S
372.200	5.4178	0.0000	92.443	0.06914	0.87876	68742.9	18879.6	26278.6	S
372.222	6.3203	0.0000	92.464	0.08134	0.99986	69212.5	18885.6	26353.8	S
372.244	7.0075	0.0000	92.488	0.09169	1.14284	69745.6	18892.6	26439.5	S
372.267	7.4921	0.0000	92.513	0.09985	1.30315	70325.6	18900.3	26537.3	S
372.289	7.8359	0.0000	92.539	0.10613	1.47650	70938.7	18908.6	26648.5	S
372.311	8.0873	0.0000	92.566	0.11089	1.65951	71575.6	18917.3	26773.9	S
372.333	8.2687	0.0000	92.593	0.11439	1.84947	72229.8	18926.3	26914.3	S
372.356	8.3995	0.0000	92.619	0.11684	2.04408	72896.6	18935.6	27070.0	S
372.378	8.4942	0.0000	92.645	0.11841	2.24147	73572.3	18945.0	27241.5	S
372.400	8.5621	0.0000	92.670	0.11926	2.44007	74254.6	18954.5	27428.7	S
372.422	8.6112	0.0000	92.695	0.11952	2.63863	74941.5	18964.1	27631.9	S
372.445	8.6468	0.0000	92.719	0.11929	2.83611	75631.8	18973.7	27850.9	S
372.467	8.6727	0.0000	92.742	0.11867	3.03170	76324.6	18983.2	28085.6	S
372.489	8.6914	0.0000	92.764	0.11773	3.22473	77019.2	18992.6	28335.8	S
372.511	8.7049	0.0000	92.786	0.11653	3.41466	77715.0	19002.0	28601.4	S
372.533	8.7153	0.0000	92.807	0.11512	3.60107	78411.8	19011.3	28882.0	S
372.556	8.7231	0.0000	92.827	0.11355	3.78362	79109.4	19020.4	29177.4	S
372.578	8.7283	0.0000	92.846	0.11144	3.96206	79807.4	19029.5	29487.3	S
372.600	8.6495	0.0000	92.864	0.10765	4.13464	80502.5	19038.3	29811.1	S
372.622	8.3965	0.0000	92.881	0.10043	4.29646	81184.4	19046.7	30148.4	S
372.645	7.8561	0.0000	92.896	0.08862	4.43883	81834.5	19054.3	30497.8	S
372.667	7.0947	0.0000	92.908	0.07314	4.55234	82432.5	19060.9	30857.4	S
372.689	6.2759	0.0000	92.916	0.05661	4.63221	82967.3	19066.0	31224.8	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
372.733	4.8758	0.0000	92.922	0.02874	4.69796	83854.6	19072.7	31972.4	S
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
372.778	4.0980	0.0000	92.920	0.01325	4.67743	84566.9	19075.8	32723.0	S
372.800	3.8687	0.0000	92.918	0.00902	4.65009	84885.6	19076.6	33096.1	S
372.822	3.6992	0.0000	92.914	0.00618	4.61627	85188.3	19077.2	33466.7	S
372.845	3.5789	0.0000	92.910	0.00435	4.57831	85479.4	19077.6	33834.5	S
372.867	3.4913	0.0000	92.906	0.00325	4.53795	85762.2	19077.9	34199.2	S
372.889	3.4282	0.0000	92.902	0.00266	4.49637	86039.0	19078.1	34560.5	S
372.911	3.3832	0.0000	92.898	0.00243	4.45442	86311.5	19078.3	34918.6	S
372.933	3.3505	0.0000	92.893	0.00245	4.41270	86580.8	19078.5	35273.3	S
372.956	3.3267	0.0000	92.889	0.00264	4.37159	86847.9	19078.7	35624.6	S
372.978	3.3096	0.0000	92.885	0.00293	4.33135	87113.3	19079.0	35972.7	S
373.000	3.2973	0.0000	92.881	0.00330	4.29217	87377.6	19079.2	36317.7	S
373.022	3.2883	0.0000	92.877	0.00372	4.25415	87641.0	19079.5	36659.5	S
373.045	3.2812	0.0000	92.873	0.00415	4.21733	87903.8	19079.8	36998.4	S
373.067	3.2762	0.0000	92.869	0.00455	4.18174	88166.1	19080.2	37334.4	S
373.089	3.2625	0.0000	92.866	0.00466	4.14720	88427.7	19080.5	37667.5	S
373.111	3.2067	0.0000	92.862	0.00396	4.11273	88686.4	19080.9	37997.9	S
373.133	3.0700	0.0000	92.858	0.00185	4.07607	88937.5	19081.2	38325.5	S
373.156	2.8281	0.0000	92.854	-0.00182	4.03391	89173.4	19081.2	38649.9	S
373.178	2.5195	0.0000	92.848	-0.00648	3.98334	89387.3	19080.9	38970.6	S

Detailed Results (cont,d.) :: *Scenario 4 :: As Built 100 YR 24 HR*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
384.711	0.0600	0.0000	92.289	0.00432	0.17493	104781.0	19223.7	64779.2	S
384.733	0.0429	0.0000	92.289	0.00421	0.17308	104785.1	19224.0	64793.1	S
384.756	0.0307	0.0000	92.288	0.00414	0.17104	104788.1	19224.4	64806.9	S
384.778	0.0221	0.0000	92.288	0.00410	0.16890	104790.2	19224.7	64820.5	S
384.800	0.0160	0.0000	92.287	0.00406	0.16669	104791.7	19225.0	64833.9	S
384.822	0.0114	0.0000	92.286	0.00404	0.16445	104792.8	19225.3	64847.1	S
384.845	0.0082	0.0000	92.285	0.00402	0.16219	104793.6	19225.7	64860.2	S
384.867	0.0059	0.0000	92.285	0.00400	0.15994	104794.2	19226.0	64873.1	S
384.889	0.0042	0.0000	92.284	0.00400	0.15770	104794.6	19226.3	64885.8	S
384.911	0.0030	0.0000	92.283	0.00399	0.15548	104794.8	19226.6	64898.3	S
384.933	0.0021	0.0000	92.283	0.00399	0.15329	104795.0	19226.9	64910.7	S
384.956	0.0015	0.0000	92.282	0.00399	0.15113	104795.2	19227.3	64922.8	S
384.978	0.0010	0.0000	92.281	0.00397	0.14900	104795.3	19227.6	64934.9	S
385.000	0.0007	0.0000	92.281	0.00397	0.14690	104795.4	19227.9	64946.7	S
385.022	0.0005	0.0000	92.280	0.00397	0.14484	104795.4	19228.2	64958.4	S
385.045	0.0003	0.0000	92.279	0.00397	0.14282	104795.4	19228.5	64969.9	S
385.067	0.0001	0.0000	92.279	0.00397	0.14082	104795.5	19228.9	64981.2	S
385.089	0.0000	0.0000	92.278	0.00395	0.13887	104795.5	19229.2	64992.4	S
385.111	0.0000	0.0000	92.277	0.00396	0.13694	104795.5	19229.5	65003.4	S
385.133	0.0000	0.0000	92.277	0.00396	0.13505	104795.5	19229.8	65014.3	S
385.156	0.0000	0.0000	92.276	0.00386	0.13320	104795.5	19230.1	65025.0	S
397.156	0.0000	0.0000	92.226	-0.02875	0.01638	104795.5	16892.8	68255.9	S
409.156	0.0000	0.0000	92.213	-0.00009	0.00136	104795.5	16746.0	68639.1	S
421.156	0.0000	0.0000	92.204	0.00346	0.00000	104795.5	16885.0	68668.5	S
433.156	0.0000	0.0000	92.195	0.00362	0.00000	104795.5	17045.1	68668.5	S
445.156	0.0000	0.0000	92.186	0.00347	0.00000	104795.5	17198.1	68668.5	S
457.156	0.0000	0.0000	92.178	0.00334	0.00000	104795.5	17345.0	68668.5	S
469.156	0.0000	0.0000	92.170	0.00322	0.00000	104795.5	17486.7	68668.5	S
481.156	0.0000	0.0000	92.162	0.00312	0.00000	104795.5	17623.7	68668.5	S
493.156	0.0000	0.0000	92.154	0.00303	0.00000	104795.5	17756.5	68668.5	S
505.156	0.0000	0.0000	92.147	0.00295	0.00000	104795.5	17885.7	68668.5	S
517.156	0.0000	0.0000	92.140	0.00287	0.00000	104795.5	18011.4	68668.5	S
529.156	0.0000	0.0000	92.133	0.00281	0.00000	104795.5	18134.0	68668.5	S
541.156	0.0000	0.0000	92.126	0.00274	0.00000	104795.5	18253.8	68668.5	S
553.156	0.0000	0.0000	92.120	0.00268	0.00000	104795.5	18370.9	68668.5	S
565.156	0.0000	0.0000	92.113	0.00263	0.00000	104795.5	18485.5	68668.5	S
577.156	0.0000	0.0000	92.107	0.00257	0.00000	104795.5	18597.8	68668.5	S
589.156	0.0000	0.0000	92.100	0.00252	0.00000	104795.5	18707.9	68668.5	S
601.156	0.0000	0.0000	92.094	0.00248	0.00000	104795.5	18815.9	68668.5	S
613.156	0.0000	0.0000	92.088	0.00243	0.00000	104795.5	18921.9	68668.5	S
625.156	0.0000	0.0000	92.082	0.00239	0.00000	104795.5	19026.1	68668.5	S
637.156	0.0000	0.0000	92.076	0.00235	0.00000	104795.5	19128.5	68668.5	S
649.156	0.0000	0.0000	92.070	0.00231	0.00000	104795.5	19229.2	68668.5	S
661.156	0.0000	0.0000	92.065	0.00228	0.00000	104795.5	19328.3	68668.5	S
673.156	0.0000	0.0000	92.059	0.00224	0.00000	104795.5	19425.9	68668.5	S
685.156	0.0000	0.0000	92.054	0.00221	0.00000	104795.5	19522.0	68668.5	S
697.156	0.0000	0.0000	92.048	0.00218	0.00000	104795.5	19616.7	68668.5	S
709.156	0.0000	0.0000	92.043	0.00214	0.00000	104795.5	19710.0	68668.5	S
721.156	0.0000	0.0000	92.037	----	----	104795.5	19801.9	68668.5	N.A.

Detailed Results :: *Scenario 5 :: WQTV*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	420.1667	0.0000	88.670	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	420.1667	0.0000	91.174	0.08514	0.00000	2521.0	0.5	0.0	U/P
2.400	0.0000	0.0000	91.124	0.08429	0.00000	2521.0	732.0	0.0	U/P
6.000	0.0000	0.0000	91.049	0.05228	0.00000	2521.0	1816.1	0.0	U/P
12.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
24.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
36.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
48.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
60.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
72.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
84.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry
96.000	0.0000	0.0000	----	----	----	2521.0	2521.0	0.0	dry

Appendix B

Operation and Maintenance Requirements and
Erosion and Sedimentation Control Requirements

Proposed operation and maintenance and soil erosion and sediment control practices are outlined in the following paragraphs.

Surface water Management Facilities

The man-made surface water facility shall be maintained free of sediments and debris. Areas shall be inspected on a routine basis and nuisance plants shall be removed a minimum of twice annually. Grassed areas shall be mowed a minimum of 6 times per year. The natural systems shall be least disturbed as possible. Minimal maintenance is required for the natural and undisturbed areas. All ponds shall be inspected monthly. Monthly documentation shall be noted based upon the inspection findings.

Erosion Control

All erosion damage at spillways, outfall structures, and along pond side slopes shall be repaired (grading and grassing) as conditions occur. All side slopes and other areas disturbed by construction shall be stabilized by sodding, hydro-mulching or other appropriate vegetative or non-vegetative erosion control measures.

Swale/Ditch

All swales, if any, shall be maintained free of debris and sediment. Sediments shall be removed when the depth has been reduced by 20 percent. Sediments removed from swales/ditches should be evenly spread over grassed areas away from the stormwater management facilities.

Culverts, Pipes and Structures

All pipes, if any, shall be inspected bi-annually. Culverts and pipes shall be maintained free of debris and sediment. Sediments removed from culverts and pipes should be evenly spread over grassed areas away from the stormwater management facilities.

The structures and paved flow lines, if any, shall be maintained clear of debris. Remove any debris and silt collected in inlets and pipes as routine inspections dictates.

Inspection Reporting

Annual inspection reports, prepared by a properly licensed professional engineer, should be submitted to the water management district as appropriate. The engineer shall inspect the site and report on the status and function of the system. Noted deficiencies and/or maintenance requirements shall be reported to the owner with recommendations for repairs. Repairs shall be executed.

Limerock/Sinkhole

If continuous limerock is encountered during excavation of the swales/pond or if a sinkhole forms in the area of a drainage swale/pond the engineer of record shall be notified by either the contractor or the established operation and maintenance entity. The engineer of record shall inspect the repaired area upon completion of the repair.

Where continuous limerock is encountered during excavation of the swales/ponds, the limerock shall be over excavated by 3 feet and replaced with clayey soils that extend 3 feet beyond the perimeter of the limerock outcropping. The clayey soil shall have at least 20% passing the no. 200 sieve, compacted to 95% of standard proctor, and compacted in a wet condition with moisture 2% - 4% above optimum.

All swales/ponds shall be inspected monthly for sinkhole occurrence. Should a sinkhole occur, the area shall be repaired as soon as possible. Repair shall include filling (limerock such as road base material, clay/sand mixture, or concrete if necessary). A 3-foot deep cap that extends 3 feet beyond the perimeter of the sinkhole shall be constructed with clayey soils. The clayey soil shall have at least 20% passing the no. 200 sieve, compacted to 95% of standard proctor, and compacted in a wet condition with moisture 2% - 4% above optimum. The clay soil cap shall be re-graded to prevent concentration of waters (ponding) and re-vegetated.

Outfall Structures

All outfall and drawdown orifices are to be inspected bi-annually for sediment or debris in the flow line of weirs or orifices. All sediment and debris should be removed and disposed of in an approved manner.

Discharge to Conservation Management Areas Maintenance and Repair

The stormwater management facilities shall be inspected after rainfall events greater than three inches for any indications of erosion. If any indications are noticed, then these should be repaired as soon as possible so as to prevent any blow outs from future rainfall events. The conditions of the facilities should be repaired to those conditions depicted on the approved Final Development Plans.

Operation & Maintenance Entity:

Brian Crawford
1449 SW 74th Dr Suite 200
Gainesville, FL 32607

Appendix C

Geotechnical Report

GSE Engineering & Consulting, Inc.

SUMMARY REPORT OF A GEOTECHNICAL SITE EXPLORATION

COMMERCIAL RETAIL - FLEMINGTON
MARION COUNTY, FLORIDA

GSE PROJECT NO. 14848

Prepared For:

CONCEPT DEVELOPMENT, INC.

NOVEMBER 2020

Certificate of Authorization No. 27430

GSE Engineering & Consulting, Inc.

November 19, 2020

Mr. Al Tilly
Concept Development, Inc.
3324 West University Avenue, PMB 151
Gainesville, FL 32607

Subject: Summary Report of a Geotechnical Site Exploration
Commercial Retail - Flemington
Marion County, Florida
GSE Project No. 14848

Dear Mr. Tilly:

GSE Engineering & Consulting, Inc. (GSE) is pleased to submit this geotechnical site exploration report for the above referenced project.

Presented herein are the findings and conclusions of our exploration, including the geotechnical parameters and recommendations to assist with building foundation, parking lot, and stormwater management designs.

GSE appreciates this opportunity to have assisted you on this project. If you have any questions or comments concerning this report, please contact us.

Sincerely,

GSE Engineering & Consulting, Inc.

Cassandra R. Lindeman, E.I.
Staff Engineer

JASON E. GOWLAND LICENSE No.66467 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by

on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Jason E. Gowland, P.E.
Senior Engineer
Florida Registration No. 66467

CRL /JEG:maj
Z:Projects\ 14848 Commercial Retail - Flemington / 14848.doc

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1.0 INTRODUCTION

1.1 General

GSE Engineering & Consulting, Inc. (GSE) has completed this geotechnical exploration for the proposed commercial retail store located in Marion County, Florida. This exploration was performed in accordance with GSE Proposal No. 2020-570 dated October 26, 2020. You authorized our services on October 27, 2020.

1.2 Project Description

This project will consist of a commercial retail store located in Marion County, Florida (Figure 1). The site is located on the southwest corner of the intersection of West Highway 318 and North Highway 329 in Marion County. The site is approximately ±5.53 acres.

You provided GSE with information about the project, including a site layout. We understand the project will consist of an approximate 10,640 square feet building, a parking lot, and a stormwater management facility.

The structure is expected to be single-story, high wall concrete masonry unit (CMU) and steel frame construction. Structural loads have not been provided, but are expected to be on the order of 1 to 2 kips per foot for non-load bearing CMU walls, and less than 50 kips for columns. The finished floor of the structure is anticipated to be constructed within 1 to 2 feet of the existing site grades.

The building will be located near the central portion of the site. The parking lot will be located north and west of the structure. The stormwater management facility will be located on the southern portion of the site.

A recent aerial photograph of the site was obtained and reviewed. The site plan and aerial photograph were used in preparation of this exploration and report.

1.3 Purpose

The purpose of this geotechnical exploration was to determine the general subsurface conditions, evaluate these conditions with respect to the proposed construction, and prepare geotechnical parameters and recommendations to assist with building foundation, stormwater management, and parking lot designs.

2.0 FIELD AND LABORATORY TESTS

2.1 General Description

The procedures used for field sampling and testing are in general accordance with industry standards of care and established geotechnical engineering practices for this geographic region. This exploration consisted of performing four (4) Standard Penetration Test (SPT) borings to a depth of 20 feet below land surface (bls) within the proposed building area, three (3) auger borings to a depth of 5 feet bls in the area of the parking lot and driveways, and three (3) auger borings to a depth of 15 feet bls in the area of the stormwater management facility.

The soil borings were performed at the approximate locations as shown on Figure 2. The borings were located at the site using the provided site plan, Global Positioning System (GPS) coordinates, and obvious site features as reference. The boring locations should be considered approximate. The soil borings were performed on November 10, 2020.

2.2 Auger Borings

The auger borings were performed in accordance with ASTM D1452. The borings were performed with flight auger equipment that was rotated into the ground in a manner that reduces soil disturbance. After penetrating to the required depth, the auger was retracted and the soils collected on the auger flights were field classified and placed in sealed containers. Representative samples of each stratum were retained from the auger boring. Results from the auger borings are provided in Section 5.1.

2.3 Standard Penetration Test Borings

The soil borings were performed with a drill rig employing flight auger drilling techniques and Standard Penetration Testing (SPT) in accordance with ASTM D1586. The SPTs were performed continuously to 10 feet and at 5-foot intervals thereafter. Soil samples were obtained at the depths where the SPTs were performed. The soil samples were classified in the field, placed in sealed containers, and returned to our laboratory for further evaluation.

After drilling to the sampling depth and flushing the borehole, the standard two-inch O.D. split-barrel sampler was seated by driving it 6 inches into the undisturbed soil. Then the sampler was driven an additional 12 inches by blows of a 140-pound hammer falling 30 inches. The number of blows required to produce the next 12 inches of penetration were recorded as the penetration resistance (N-value). These values and the complete SPT boring logs are provided in Section 5.2.

Upon completion of the sampling, the boreholes were abandoned in accordance with Water Management District guidelines.

2.4 Soil Laboratory Tests

The soil samples recovered from the soil borings were returned to our laboratory, and examined to confirm the field descriptions. Representative samples were then selected for laboratory testing. The laboratory tests consisted of six (6) percent soil fines passing the No. 200 sieve determinations, six (6) natural moisture content determinations, two (2) Atterberg Limits tests, and two (2) constant head hydraulic conductivity tests. These tests were performed in order to aid in classifying the soils and to further evaluate their engineering properties. The laboratory tests are provided in Section 5.3.

3.0 FINDINGS

3.1 Surface Conditions

Mr. Jason E. Gowland, P.E. visited the site to observe the site conditions and mark the boring locations.

The majority of the site is open pasture with some large oak trees. The site is bordered by West Highway 318 to the north and by Highway 329 to the east. The site is bordered by open pasture to the south and west.

The topography at the site is gently sloping down from the north to the south. The Flemington USGS Topographic Map indicates the ground surface elevations at the site are near 90 to 95 feet[1] NAVD88.

3.2 Subsurface Conditions

The locations of the auger and SPT borings are provided on Figure 2. Complete logs for the borings are provided in Sections 5.1 and 5.2. Descriptions for the soils encountered are accompanied by the Unified Soil Classification System symbol (SM, SP-SM, etc.) and are based on visual examination of the recovered soil samples and the laboratory tests performed. Stratification boundaries between the soil types should be considered approximate, as the actual transition between soil types may be gradual.

The auger borings located in the proposed parking areas encountered relatively consistent soil conditions. The borings initially encountered 0.7 to 1 foot of sand with silt (SP-SM) and silty sand (SM) overlying very clayey sand (SC/CL) and sandy clay (CL/CH) to the explored depth of 5 feet bls.

The auger borings located in the proposed stormwater management facility also encountered relatively consistent soil conditions. Boring P-1 initially encountered 1 foot of sand with silt (SP-SM). This was underlain by 5 feet of sandy clay (CL/CH), 6 feet of very clayey sand (SC/CL), and 3 feet of clay with sand and traces of limerock (CL/CH) to the explored depth of 15 feet bls. Boring P-2 initially encountered 2.5 feet of clayey sand (SC). This was underlain by 4 feet of sandy clay (CL/CH), 6.5 feet of clay with sand (CL/CH), and 2 feet of clay with traces of limerock (CL/CH) to the explored depth of 15 feet bls. Boring P-3 initially encountered 1.5 feet of silty sand (SM) underlain by 9.5 feet of sandy clay (CL/CH). The sandy clay was underlain by 4 feet of clay with sand and traces of limerock (CL/CH) to the explored depth of 15 feet bls.

The SPT borings located within the area of the proposed building encountered relatively consistent soil conditions. The borings initially encountered 0.5 to 2 feet of sand with silt (SP-SM) and poorly graded sand (SP). This was underlain by interbedded layers of very clayey sand (SC/CL), sandy clay (CL/CH), clay with sand (CL/CH), and clay (CL/CH) to the explored depth of 20 feet bls.

The surficial layer of sand with silt (SP-SM) is generally in a medium dense condition with an N-value of 12 blows per foot. The very clayey sand (SC/CL) is generally in a medium dense condition with N-values ranging from 16 to 24 blows per foot. The sandy clay, clay with sand, and clay (CL/CH) encountered is generally in a firm to very stiff condition with N-values ranging from 8 to 29 blows per foot.

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[1] United States Geological Survey, Flemington Quadrangle, 2018.

The groundwater table was not encountered in the auger and SPT borings at the time of our investigation.

3.3 Review of Published Data

The majority of the site is mapped as two soil series by the Soil Conservation Service (SCS) Soil Survey for Marion County[2]. The majority of the site is mapped as Flemington sand, while a small area on the northeastern portion of the site is mapped as Blichton sand. The following soil descriptions are from the Soil Survey.

Blichton sand, 2 to 5 percent slopes – This is a gently sloping, poorly drained soil occurring as both small and large areas in the upland. It has the profile described as representative of the series. The water table is within a depth of 10 inches for 1 month to 4 months during most years. During dry periods it recedes to a depth of more than 40 inches.

In a representative profile the surface layer is very dark gray sand about 5 inches thick. The subsurface layer is gray sand about 21 inches thick. The subsoil extends to a depth of 77 inches. The upper 4 inches is gray sandy loam, about 4 percent of which is ironstone and weathered phosphatic nodules. The next 35 inches is mottled dark gray sandy clay loam. The upper 15 inches of this layer is about 12 percent plinthite and has a few ironstone and weather phosphatic modules, and the lower 20 inches is about 10 percent plinthite and has common medium ironstone nodules. The lower 12 inches of the subsoil is mottled gray sandy clay loam and lenses of sandy loam. The underlying material between depth of 77 and 81 inches is gray stratified sandy loam, loamy sand, and sandy clay loam mottled with yellowish brown and yellowish red.

Included with this soil in mapping are a few small areas of a similar soil that is moderately eroded; some areas, of a similar soil, where the volume of plinthite within a depth of 60 inches is less than 5 percent of any one horizon; and a few small areas where 20 to 40 inches of pale brown and yellowish-brown sand overlies sandy clay loam. Also included are some spots of Kanapaha, Flemington, Lochloosa, and Sparr soils; a few small areas, of a similar soil, where the subsurface layer and the upper 20 inches of the subsoil are 5 to 35 percent gravel or rock fragments less than 3 inches in diameter; and spots of a similar soil that has a slope of 0 to 2 percent. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up about 15 percent of any one mapped area.

Flemington loamy sand, 0 to 2 percent slopes – This is a nearly level, poorly drained soil that occurs as small areas in the upland. It has the profile describe as representative of the series. The water table is in the subsurface layer and the upper part of the subsoil. It is within 10 inches of the surface for 1 month to 4 months during most years. During extremely wet periods, the surface may be covered with water for brief periods because surface runoff and the infiltration rate are slow.

Included with this soil in mapping are areas, of a similar soil, where the subsoil is more than 5 percent plinthite and small areas of poorly drained soil that has a fine sand surface layer and a sandy clay loam or sandy clay subsoil. Also included are small areas of Blichton, Fellowship, Kanapaha, and Micanopy soils and small areas where the slope is more than 2 percent. The rock outcrop and sinkholes that occur in some areas are identified by spot symbols on the soil map. Included soils make up about 15 percent of any one mapped area.

[2] Soil Survey of Marion County, Florida. Soil Conservation Service, U.S. Department of Agriculture.

3.4 Laboratory Soil Analysis

Selected soil samples recovered from the soil borings were analyzed for the percent soil fines passing the No. 200 sieve, natural moisture content, Atterberg Limits, and hydraulic conductivity. Samples selected for laboratory testing were collected at depths ranging from near-surface to 8.5 feet bls. These tests were performed to confirm visual soil classification and evaluate their engineering properties. The complete laboratory report is provided in Section 5.3.

The laboratory tests indicate the tested soils consist of clayey sand (SC), silty sand (SM), very clayey sand (SC/CL), and sandy clay (CL/CH). The tested clayey sand (SC) contains approximately 24 percent soil fines passing the No. 200 sieve with a natural moisture content of about 9.4 percent. The tested silty sand (SM) contains approximately 22 percent soil fines passing the No. 200 sieve with a natural moisture content of about 18 percent. The tested very clayey sand (SC/CL) contains approximately 44 to 49 percent soil fines passing the No. 200 sieve with natural moisture contents of about 22 to 28 percent. The tested sandy clay (CL/CH) contains approximately 51 to 67 percent soil fines passing the No. 200 sieve with natural moisture contents of about 21 to 38 percent.

Atterberg Limits tests indicate the tested very clayey sand (SC/CL) has a Liquid Limit (LL) value of 41, a Plastic Limit (PL) value of 19, and a Plasticity Index (PI) value of 22. This corresponds to a material with low potential (LL < 50 and PI < 25) for expansive behavior[3]. The tested sandy clay has a LL value of 48, a PL value of 19, and a PI value of 29. This corresponds to a material with low (LL < 50 and PI < 25) to marginal (50 < LL < 60 and 25 < PI < 35) potential for expansive behavior.

The constant head hydraulic conductivity test results indicate the near-surface clayey sand (SC) has a hydraulic conductivity value of 23 feet per day. The tested silty sand (SM) has a hydraulic conductivity value of 2.3 feet per day. The very clayey sands and clays are expected to be confining soils.

[3] U.S. Department of the Army USA, 1983, Foundations in Expansive Soils, TM 5-818-7, p. 4-1.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General

The following recommendations are made based upon our understanding of the proposed construction, a review of the attached soil borings and laboratory test data, and experience with similar projects and subsurface conditions. If plans or the location of proposed construction changes from those discussed previously, GSE requests the opportunity to review and possibly amend our recommendations with respect to those changes.

The final design of a foundation system is dependent upon adequate integration of geotechnical and structural engineering considerations. Consequently, GSE must review the final foundation design in order to evaluate the effectiveness and applicability of our initial analyses, and to determine if additional recommendations may be warranted. Without such a review, the recommendations presented herein could be misinterpreted or misapplied resulting in potentially unacceptable performance of the foundation system.

The performance of site improvements may be sensitive to their post-construction relationship to site groundwater levels, seepage zones, or soil/rock characteristics exposed at final site grades. GSE recommends that use of boring information for final design of all site improvements be predicated on proper horizontal and vertical control of borings.

In this section of the report, we present our geotechnical parameters and recommendations to assist with building foundation, stormwater management, and parking lot designs, as well as our general site preparation guidelines.

4.2 Groundwater

The groundwater table was not encountered in the borings at the time of our exploration. Based on the results of the soil borings and the Soil Survey, we anticipate the seasonal high water table to be a perched condition on top of the clay-rich materials. Estimates for the seasonal high groundwater tables are shown on the individual boring logs.

4.3 Building Foundations

The soil borings near the proposed building footprint indicate the soils are relatively consistent. The borings initially encountered poorly graded sand and sand with silt underlain by very clayey sand, sandy clay, clay with sand, and clay to the explored depth of 20 feet bls.

Laboratory tests conducted on the very clayey sand and sandy clay indicate it has low to marginal potential for expansive behavior. However, it is our experience that clay-rich soils in this portion of Marion County can have high potential for expansive behavior. These soils expand and contract with changes in moisture content which can result in differential foundation movement.

Considering the presence of the expansive soils, GSE recommends two options be considered to support the structure. Options 1 and 2 consist of supporting the structure with either a post-tensioned slab or a stiffened foundation system that is designed to resist differential movements that can occur as a result of the expansive soils. Depending on the final site grading and considering at least 0.5 to 3 feet of separation is expected to be present between the foundation bottoms and the expansive soils, GSE believes that undercutting the expansive soils will not be required if these foundation systems are selected. However, it is recommended that during construction the contractor consider a mud mat or No. 57 stone be installed beneath the foundation excavations to provide a stable surface and protect the underlying clay-rich soils from further disturbance during construction, especially if construction proceeds during the wet season. The recommended foundation options are further discussed below.

Due to the mostly sandy nature of the majority of the near-surface soils, we expect settlement to be mostly elastic in nature. The majority of the settlement will occur on application of the loads, during and immediately following construction. Using the recommended maximum bearing pressure, the assumed maximum structural loads, and the field and laboratory test data which we have correlated into the strength and compressibility characteristics of the subsurface soils, we estimate the total settlements of the structure to be 1 inch or less, with approximately half of it occurring upon load application (during construction).

Differential settlement results from differences in applied bearing pressures and the variations in the compressibility characteristics of the subsurface soils. For the building pad prepared as recommended, we anticipate differential settlement of less than 1/2 inch.

Post-construction settlement of the structures will be influenced by several interrelated factors, such as (1) subsurface stratification and strength/compressibility characteristics of the bearing soils; (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundation; (3) site preparation and earthwork construction techniques used by the contractor, and (4) external factors, including but not limited to vibration from off-site sources and groundwater fluctuations beyond those normally anticipated for the naturally-occurring site and soil conditions which are present.

Our settlement estimates for the structure are based upon our limited understanding of the structural loads and site grading and the use of successful adherence to the site preparation recommendations presented later in this report. Any deviation from our project understanding and/or our site preparation recommendations could result in an increase in the estimated post-construction settlement of the structure.

4.3.1 Post-Tensioned Slab/Foundation System

Considering the expansive soils present at the site, GSE recommends two options be considered to support the structure. Option 1 consists of using a post-tensioned slab/foundation system to support the structure that is designed to better resist differential movements that could occur as a result of the expansive soils. Although final site grading has not been established, considering at least 0.5 to 3 feet of separation will likely be present between the foundation bottoms and the expansive soils, GSE believes that undercutting the expansive soils will not be required if this foundation system is selected. As stated previously, it is recommended that during construction the contractor consider a mud mat or No. 57 stone be installed beneath the foundation excavations to provide a stable surface and protect the underlying clay-rich soils from further disturbance during construction, especially if construction proceeds during the wet season.

The post-tensioned slab/foundation should be designed to resist bending moments resulting from foundation movement. It is our experience that the post-tensioned slab/foundation will consist of thickened sections approximately 20 to 24 inches thick around the perimeter and in a grid throughout the interior of the structure spaced no more than about 15 feet apart each direction. A post-tensioned cable is typically placed near the top and bottom of the thickened sections, and post-tensioned cables are also typically placed in the center of the slab spaced 4 to 6 feet apart in each direction. However, the post-tensioned foundation should be designed by an engineer or architect familiar with post-tensioned foundation design specifically intended to resist differential movements resulting from expansive soils.

The post-tensioned foundation design should consider edge moisture variation distances of 4 and 5 feet for center and edge lift, respectively. Maximum anticipated center and edge lift is 1 and 1.5 inches, respectively. A slab/subgrade friction coefficient of 0.4 can be assumed.

We recommend the shallow foundations be designed for a maximum net soil bearing pressure of 3,000 psf. Net bearing pressure is defined as the soil bearing pressure at the base of the foundation in excess of the natural overburden pressure. The foundations should be designed based upon the maximum load that could be imposed by all loading conditions.

All appropriate requirements of the latest edition of the IBC and the Post-Tensioning Institute should be followed in the design and construction of the post-tensioned slab foundations.

We wish to point out that the post-tensioned slab/foundation system will not eliminate differential foundation movement resulting from volume changes of expansive soils. However, the stiffer post-tensioned slab/foundation should help to "bridge" over the subgrade soils and reduce the amount of bending and resulting angular distortion that causes cracking damage compared to conventionally reinforced foundations.

4.3.2 Stiffened Foundation System

Considering the expansive soils present at the site, GSE recommends two options be considered to support the structure. Option 2 consists of using a conventionally reinforced stiffened foundation to support the structure that is designed to better resist differential movements that could occur as a result of the expansive soils. Although final site grading has not been established, considering at least 0.5 to 3 feet of separation will likely be present between the foundation bottoms and the expansive soils, GSE believes that undercutting the expansive soils will not be required if this foundation system is selected. As stated previously, it is recommended that during construction the contractor consider a mud mat or No. 57 stone be installed beneath the foundation excavations to provide a stable surface and protect the underlying clay-rich soils from further disturbance during construction, especially if construction proceeds during the wet season.

Based upon the soil conditions encountered, it is our opinion the structure can be supported by continuous shallow foundations that are stiffened to behave as grade beams. The stiffened shallow foundations should be designed as grade beams with top and bottom reinforcement. Column foundations should be "tied into" the grade beams such that the entire foundation system behaves as one unit. These foundations typically have a minimum thickness of 18 inches, with both top and bottom steel tied with stirrups; however this foundation should be designed by your architect or structural engineer that is familiar with grade beam-type foundation design.

We recommend the shallow foundations be designed for a maximum net soil bearing pressure of 3,000 psf. Net bearing pressure is defined as the soil bearing pressure at the base of the foundation in excess of the natural overburden pressure. The foundations should be designed based upon the maximum load that could be imposed by all loading conditions.

The foundations should be embedded a minimum of 18 inches below the lowest adjacent grade. Interior foundations or thickened sections should be embedded a minimum of 12 inches. The foundations should have minimum widths of 18 inches for strip footings, and 24 inches for columns, even though the maximum soil bearing pressure may not be fully developed. The upper 12 inches of the bearing surface should be compacted to 95 percent of the Modified Proctor maximum dry density (ASTM D1557).

We wish to point out that the stiffened foundations will not eliminate differential foundation movement resulting from volume changes of expansive soils. However, the stiffer foundations should help to "bridge" over the subgrade soils and reduce the amount of bending and resulting angular distortion that causes cracking damage compared to conventionally reinforced foundations. A conventionally reinforced stiffened foundation is considered to be appreciably more effective in resisting differential movements compared to a conventional, shallow foundation system, but less effective compared to the Option 1 post-tensioned foundation. A conventional unreinforced concrete floor can be used with the stiffened grade-beam foundations.

4.4 Karst Area Evaluation Summary

A site visit and driving tour of the immediate area surrounding the site (approximately 200 foot radius) was performed in order to confirm the absence or presence of visible potential depressional sinkhole features. In addition, readily available published information related to known and documented sinkhole features in the immediate area of the site was reviewed.

Depressional features were not observed on the site. The investigation of the surrounding area did not identify significant depressional features on adjoining sites in the areas observed. Additionally, there were no compelling indications of sinkhole activity within the depths explored by the borings.

The FDEP Map Direct Gateway[4] website was utilized to determine if there were nearby subsidence incident reports were near the subject site. No subsidence incident reports were identified within a 1 ½ mile radius of the site. The report states sinkholes are few, generally shallow and broad and develop gradually. Solution sinkholes dominate.

Historical USGS topographic maps dated 2012, 1993, 1969, and 1895 were reviewed as part of this assessment. The historical use of the site and the findings in the topographic maps indicate that the ground surface elevations at the site have remained fairly consistent at about 90 to 95 feet. The topographic maps did not encounter compelling changes in the site elevation that would warrant concern.

[4] *Map Direct Gateway*. Florida Department of Environmental Protection, https://ca.dep.state.fl.us/mapdirect/

The karst area survey performed is considered adequate and in sufficient detail to define the hydrologic and geologic conditions at the site. No karst features were identified on the subject site. However, this site is located within a highly karstic area which is prone to erosion and fissures in the limestone formations. Site development commonly changes the risk for sinkhole development in highly karstic geology. The construction of impervious surfaces (buildings and pavement) decreases sinkhole risk, as stormwater that infiltrates and erodes subsurface materials is removed. Stormwater basins commonly have an increased risk for sinkhole development, due to the concentration of stormwater in these areas. The karst geologic conditions encountered at this site are typical for this area of Marion County, and it is our opinion the risk for sinkhole development at this site is no greater or lower than what is expected for this immediate area.

Site development should be performed in a manner that reduces the potential for sinkhole activity affecting structures. All roof runoff should be discharged into impervious surfaces or directly into the stormwater management infiltration beneath the perimeter of the structure. The stormwater management basin should be located well away from structures because the basin will have the highest risk for sinkhole development. We wish to point out that these measures will not eliminate the risk for sinkhole activity at the site.

4.5 Pavements

Overall soil conditions encountered by our borings at this site are suitable for supporting conventional limerock base and asphalt wearing surface pavements. We have not been provided the anticipated traffic loading conditions; therefore, the following pavement component recommendations should be used only as guidelines.

We recommend a minimum separation of 24 inches be present between the bottom of the base course and the top of the clay-rich soils containing greater than about 25 percent soil fines. Review of the boring logs suggests this separation **will not** be present along the majority of the alignment. A roadway grading plan is not available at this time.

The seasonal high groundwater table is estimated to be perched on top of the clay-rich soils. We recommend a minimum of either 12 to 24 inches of separation (depending upon the pavement section design) be present between the bottom of the base course and the estimated perched seasonal high groundwater table. If this separation cannot be achieved by site grading, GSE recommends underdrains be used beneath the base course.

4.5.1 Stabilized Subgrade

If a crushed limerock or recycled concrete base is used, we recommend a stabilized subgrade be located beneath the base. The stabilized subgrade should have a minimum Limerock Bearing Ratio (LBR) of 40, with minimum thicknesses of 6 inches for automobile parking areas and 12 inches for driveways.

The stabilized subgrade can be imported material or a mixture of imported and on-site material. If a mix is proposed, a mix design should be performed to determine the optimum mix proportions. The stabilized subgrade should be compacted to a minimum of 98 percent of the Modified Proctor maximum dry density (ASTM D1557) for soils with less than 15 percent fines content. Soils with 15 percent or greater fines content should be compacted to 100 percent of the Standard Proctor maximum dry density (ASTM D698).

4.5.2 Base Course

The base course can consist of either crushed limerock, soil cement, or recycled concrete. If you should use a soil cement base course, a stabilized subgrade is not required.

Limerock should have a LBR of at least 100, be obtained from a FDOT approved source and meet FDOT gradation requirements. The base course thickness should be a minimum of 6 inches in automobile parking areas, and 8 inches in driveway areas. The base course should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D1557). We recommend a minimum 24 inches separation between the bottom of the limerock base course and the estimated seasonal high water table/clay rich soils. If site grading does not allow for this separation we recommend both underdrains and undercutting be considered.

Soil cement can consist of an imported material or a blend of the on-site soils and cement. A mix design should be performed to determine the optimum cement content. We recommend the soil cement have a minimum 28-day compressive strength of 500 psi. Soil cement can be blended off-site (in a pug mill) or on site. Soil cement pills should be cast from each day's production to verify the recommended compressive strength has been achieved at 28 days. We recommend the soil cement base course be a minimum of 8 inches thick throughout the project. We recommend a minimum 18 inches separation between the bottom of the soil cement base course and the estimated seasonal high water table and 24 inches from the top of the clay-rich soil. If site grading does not allow for these separations we recommend underdrains and undercutting be considered.

Recycled concrete should have a LBR of at least 150, be obtained from a FDOT approved source and meet FDOT gradation requirements. The base course thickness should be a minimum of 8 inches. The base course should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D1557). We recommend a minimum 12 inches separation between the bottom of the recycled concrete base course and the estimated seasonal high water table and 24 inches from the top of the clay-rich soil. If site grading does not allow for this separation we recommend underdrains and undercutting be considered.

4.5.3 Wearing Surface

The asphalt-wearing surface should consist of an FDOT Type SP Hot Mix Asphalt mixture. For automobile parking areas, the thickness should be a minimum of 1.5 inches. For driveway areas, the thickness should be a minimum of 2 inches. The asphalt-wearing surface should consist of an SP-12.5 mix. The asphalt should be compacted to at least 95 percent of the mix design density.

The constructability of differing asphalt thicknesses may be difficult, and having a uniform 2-inch thick asphalt wearing surface may be more practical.

4.6 Site Preparation

The soils at this site should be suitable for supporting the proposed construction using normal, good practice site preparation procedures. The following recommendations are our general guidelines for site preparation.

4.6.1 Stripping

Strip the construction limits and 10 feet beyond the perimeter of all grass, roots, topsoil, and other deleterious materials. You should expect to strip to depths of 12 or more inches. Deeper stripping will likely be necessary due to major root systems present at the site.

4.6.2 Dewatering

Temporary dewatering may be necessary for this project. If needed, we anticipate dewatering can be accomplished with sumps placed near the construction area, or with underdrains connected to a vacuum pump.

In any case, the site should always be graded to promote runoff and limit the amount of ponding. **Localized ponding of stormwater is expected without proper grading during construction, and could render previously acceptable surfaces unacceptable.**

4.6.3 Proof-Rolling

Proof-roll the subgrade with heavy rubber-tired equipment, such as a loaded front-end loader or dump truck, to identify any loose or soft zones not found by the soil borings. The proof-rolling should be monitored by a geotechnical engineer or qualified technician. Undercut or otherwise treat these zones as recommended by the geotechnical engineer in this report.

4.6.4 Proof Compaction

Compact the subgrade to a density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557). The specified compaction should be obtained to a depth of 1 foot below the foundation bottoms and the existing grade prior to placing fill. Vibratory roller equipment should not be used within approximately 100 feet of existing structures. Lighter "walk-behind" compaction equipment may be used to achieve the degree of compaction.

Should clayey sand be encountered at the bearing surface, this material should be probed and visually confirmed to be unyielding in the upper 12 inches in lieu of density testing. If the foundation excavations penetrate the clayey sand, the excavation should be performed in a manner that reduces soil disturbance. Clayey sand soils (with fines content in excess of 15 percent) that are removed and replaced or appreciably disturbed need to be re-compacted to 98 percent of the Standard Proctor maximum dry density (ASTM D698).

4.6.5 Fill Placement

Imported fill placed to raise the site grades should consist of clean sand having less than 10 percent passing the No. 200 sieve. On-site soils meeting the requirements of Section 4.10 may also be used as structural fill. The fill should be placed in maximum 12-inch loose lifts that are compacted to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557). If lighter "walk-behind" compaction equipment is used, this may require lifts of 4 inches or less to achieve the required degree of compaction.

4.7 Quality Control and Construction Materials Testing

It should be noted that the geotechnical engineering design does not end with the advertisement of the construction documents. As the geotechnical engineer of record, GSE is the most qualified to perform the construction materials testing that will be required for this project. The benefits of having the geotechnical engineer of record also perform the construction materials testing are numerous. If GSE continues to be involved with the project through construction, we will be able to constantly re-evaluate and possibly alter our geotechnical recommendations in a timely and cost-effective manner once final design and construction techniques are developed. This often results in cost savings for the project.

We recommend performing compaction testing beneath the concrete floor slab and the building foundations. We recommend one test be performed every 50 linear feet of continuous footing and every other column footing, per foot depth of fill or native material. We recommend a compaction test be performed for each 2,500 square feet of floor area or 10,000 square feet of pavement area per foot of fill or native material, or a minimum of three tests each, whichever is greater. Test all footing excavations to a depth of 12 inches at the frequencies stated above.

4.8 Stormwater Management

The soil conditions at the stormwater management facility are relatively consistent; initially penetrating sand with silt, silty sand, and clayey sand overlying very clayey sand, sandy clay, clay with sand, and clay.

The water table was not encountered in the auger borings at the time of our exploration. Standing water was observed south of the site at lower elevations. We anticipate the seasonal high groundwater table to be perched on the clay-rich materials.

The laboratory permeability tests indicate the tested clayey sand and silty sand have hydraulic conductivity values of 2.3 to 23 feet per day. The underlying very clayey sand, sandy clay, clay with sand, and clay are expected to be confining soils.

Based upon our findings and test results, our recommended soil parameters for the stormwater management design in the explored areas are presented below. The recommended parameters consider the results of the permeability tests, wash 200 determinations, and our experience with these types of soils. The parameters below do not consider a factor of safety.

Proposed Stormwater Management Facility

1. Base elevation of effective or mobilized aquifer (average depth of confining layer) equal to 1.5 feet bls.
2. Unsaturated vertical infiltration rate of 1 foot per day.
3. Horizontal hydraulic conductivity equal to 1.5 feet per day.
4. Specific yield (fillable porosity) of 20 percent.
5. Average seasonal high groundwater table depth equal to 1 feet bls.
6. Average seasonal low groundwater table depth equal to 6 feet bls.

4.9 Karst Area Evaluation

A site visit and driving tour of the immediate area surrounding the site (approximately 200 feet radius) was performed in order to confirm the absence or presence of visible potential depressional sinkhole features. In addition, readily available published information related to known and documented sinkhole features in the immediate area of the site was reviewed.

Depressional features were not observed on the site. The investigation of the surrounding area did not identify significant depressional features on adjoining sites in the areas observed. Additionally, there were no compelling indications of sinkhole activity within the depths explored by the borings.

The FDEP Map Direct Gateway[5] website was utilized to determine if there were nearby subsidence incident reports near the subject site. There were no subsidence incidents reported within a 1 ½ mile radius of the site.

Historical USGS topographic maps dated 1895, 1969, 1993, and 2018 were reviewed as part of this assessment. The historical use of the site and the findings in the topographic maps indicate that the ground surface elevations at the site have remained fairly consistent at about 90 to 95 feet NGVD. The topographic maps did not encounter compelling changes in the site elevation that would warrant concern.

The karst area survey performed is considered adequate and in sufficient detail to define the hydrologic and geologic conditions at the site. No karst features were identified on the subject site. However, this site is located within a highly karstic area which is prone to erosion and fissures in the limestone formations. Site development commonly changes the risk for sinkhole development in highly karstic geology. The construction of impervious surfaces (buildings and pavement) decreases sinkhole risk, as stormwater that infiltrates and erodes subsurface materials is removed. Stormwater basins commonly have an increased risk for sinkhole development, due to the concentration of stormwater in these areas. The karst geologic conditions encountered at this site are typical for this area of Marion County, and it is our opinion the risk for sinkhole development at this site is no greater or lower than what is expected for this immediate area.

Site development should be performed in a manner that reduces the potential for sinkhole activity affecting structures. All roof runoff should be discharged into impervious surfaces or directly into the stormwater management infiltration beneath the perimeter of the structure. The stormwater management basin should be located well away from structures because the basin will have the highest risk for sinkhole development. We wish to point out that these measures will not eliminate the risk for sinkhole activity at the site.

4.10 Fill Suitability

The soils encountered at this site within the explored depths range from sands (SP) to clays (CL/CH). A discussion of the suitability for reuse as structural fill for each soil classification according to the Unified Soil Classification System (USCS) designation is provided below.

SP, SP/SM – Sands (SP) and sand with silt (SP/SM) have less than 5 percent and 12 percent soil fines passing the No. 200 sieve, respectively, and are typically well draining soils that are suitable for reuse as structural fill. The sands with silt may require moisture conditioning (drying) to make the material more workable. These soils will require stockpiling and drying before they are reused if they are excavated from below the water table.

[5] *Map Direct Gateway.* Florida Department of Environmental Protection, http://ca.dep.state.fl.us/mapdirect/

SM – Silty sands (SM) can have between 12 percent and 50 percent soil fines passing the No. 200 sieve. Silty sands are typically non-plastic or have low plasticity, and can be reused as structural fill with precautions. Silty sands can be moisture sensitive and difficult to work and compact and can rut if the moisture content is near or above the optimum moisture content. We recommend these soils be moisture conditioned (dried) so that the moisture content during use is at or below the optimum moisture content. Aerating and exposure to the sun is typically the most effective methods of drying these soils. It may not be practical to reuse these materials during the wet season, as frequent rain showers may not allow these soils to dry to a workable moisture content. Suitable silty sands are limited to soil having less than 30 percent soil fines passing the No. 200 sieve. Silty sands with more than 30 percent soil fines are especially moisture sensitive, and are not recommended for reuse as structural fill. These soils will behave more as sandy silt, and for this reason, very silty sands having more than 30 percent soil fines passing the No. 200 sieve have been assigned a dual classification of SM/ML. Silty sand soils that are excavated from below the water table are not recommended for reuse as structural fill due to the amount of time that will be required to dry these soils to a workable condition.

SC – Clayey sand (SC) soils can have between 12 percent and 50 percent soil fines passing the No. 200 sieve. Clayey sands can have a high range of plasticity, varying from a PI of 7 or greater and plotting above the A-line to highly plastic. Friable clayey sands are typically suitable for use as structural fill with precautions. Clayey sands will be moisture sensitive and difficult to work and compact and can rut during placement if the moisture content is near or above the natural moisture content. We recommend these soils be moisture conditioned (dried) so that the moisture content during use is at or below the optimum moisture content. Aerating and exposure to the sun is typically the most effective methods of drying these soils. It may not be practical to reuse these materials during the wet season, as frequent rain showers may not allow these soils to dry to a workable moisture content. Suitable clayey sands are limited to soil having less than 30 percent soil fines passing the No. 200 sieve. Clayey sands with more than 30 percent soil fines passing the No. 200 sieve are especially moisture sensitive and are typically highly plastic, and are not recommended for reuse as structural fill. These soils will behave more as sandy clay, and for this reason, very clayey sands having more than 30 percent soil fines passing the No. 200 sieve have been assigned a dual classification of SC/CH or SC/CL. Clayey sand soils that are excavated from below the water table are not recommended for reuse as structural fill due to the amount of time that will be required to dry these soils to a workable condition.

ML, MH, CL, CH – Silts and clays are not suitable materials for reuse as structural fill.

When using on-site soils as fill materials, we recommend the silty and clayey sand soils (SM, SC) be used in the lower depths of the fill. Sand and sand with silt (SP, SP-SM) should be used in the upper portions of the fill. We recommend a minimum of 2 feet of sand (SP, SP-SM) cover the silty and clayey sand fill materials to reduce the potential for soggy surface conditions due to the low permeability characteristics of the silty and clayey sand materials.

4.11 Surface Water Control and Landscaping

Roof gutters should be considered to divert runoff away from the building. The gutter downspouts should discharge a minimum of 10 feet from the structure to reduce the amount of water collecting around the foundations. Where possible, the gutter downspouts should discharge directly into the storm sewer system or onto the asphalt paved areas in order to reduce the amount of water collecting around the foundations. Grading of the site should be such that water is diverted away from the building on all sides to reduce the potential for erosion and water infiltration along the foundation.

With respect to landscaping, it is recommended that any trees and large "tree-like" shrubbery with potential for developing large root systems be planted a minimum distance of half their mature height, and preferably their expected final height, away from the structure. The purpose of this is to reduce the potential for foundation or slab movements from the growth of root systems as the landscaping matures. Consideration should also be given to using landscaping that has a low water demand, so that excessive irrigation is not conducted around the structures.

If excavations for underground utilities encounter the clay-rich soils, the excavations should be made such that they do not trap water (i.e. "swimming pool" or "bowl" effect). Sloping the excavations, installing underdrains, or extending the excavation to a more pervious area can achieve this. Allowing surface water to become trapped within utility trenches or other excavations (including footings) serves as a potential water source for the clay, which can result in shrink swell of these soils. Furthermore, during construction, surface water within the building areas must be controlled such that the water does not become trapped and represent a source of water for the underlying clay-rich soils. Mismanagement of the surface water during construction within the building footprint could result in subsequent post-construction slab movement.

5.0 FIELD DATA

5.1 Auger Boring Logs

GSE Engineering & Consulting, Inc.
5590 SW 64th St.
Gainesville, FL 32608
Telephone: (352) 377-3233
Fax: (352) 377-0335

CLIENT Concept Development, Inc. **PROJECT NAME** Commercial Retail - Flemington

PROJECT NUMBER 14848 **PROJECT LOCATION** Flemington, Marion County, Florida

DATE PERFORMED 11/10/2020 **BORING NUMBER P-1**

DRILLING CONTRACTOR Whitaker Drilling, Inc.

GROUND WATER LEVELS: LOGGED BY WDI

▼ AT TIME OF DRILLING NE CHECKED BY CRL

▽ ESTIMATED SEASONAL HIGH 0.5 ft, perched

NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0.0			(SP-SM) Gray and brown SAND with silt ▽
		AU 1	
1.0		AU 2	(CL/CH) Gray, brown and orange sandy CLAY *%PASS-200 = 51* *MC = 21*
2.5			
5.0			
6.0			(SC/CL) Gray and brown very clayey SAND
7.5		AU 3	
10.0			
12.0			
12.5		AU 4	(CL/CH) Green CLAY with sand and traces of limerock
15.0			Bottom of borehole at 15.0 feet.

DATE PERFORMED 11/10/2020 **BORING NUMBER P-2**

DRILLING CONTRACTOR Whitaker Drilling, Inc.

GROUND WATER LEVELS: LOGGED BY WDI

▼ AT TIME OF DRILLING NE CHECKED BY CRL

▽ ESTIMATED SEASONAL HIGH 2.0 ft, perched

NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0.0			(SC) Brown and orange clayey SAND
		AU 1	*%PASS-200 = 24* *MC = 9.5* *k_h = 23 ft/day*
			▽
2.5			
		AU 2	(CL/CH) Gray, brown and orange sandy CLAY
5.0			
6.5			(CL/CH) Gray, brown and orange CLAY with sand
7.5		AU 3	
10.0			
12.5		AU 4	
13.0			(CL/CH) Gray CLAY with traces of limerock
15.0			Bottom of borehole at 15.0 feet.

(Continued Next Page)

GSE Engineering & Consulting, Inc.
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Gainesville, FL 32608
Telephone: (352) 377-3233
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CLIENT Concept Development, Inc.
PROJECT NAME Commercial Retail - Flemington
PROJECT NUMBER 14848
PROJECT LOCATION Flemington, Marion County, Florida

DATE PERFORMED 11/10/2020 **BORING NUMBER P-3**
DRILLING CONTRACTOR Whitaker Drilling, Inc.
GROUND WATER LEVELS: LOGGED BY WDI
▼ AT TIME OF DRILLING NE CHECKED BY CRL
▽ ESTIMATED SEASONAL HIGH 1.0 ft, perched
NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0.0			(SM) Gray and brown silty SAND
		AU 1	*%PASS-200 = 22* *MC = 18* *k_h =2.3 ft/day*
			1.5
			(CL/CH) Gray, brown and orange sandy CLAY
2.5			
5.0			
			7.0
7.5		AU 2	(CL/CH) Gray and brown sandy CLAY
10.0			11.0
			(CL/CH) Green and gray CLAY with sand traces of limerock
12.5		AU 3	
15.0			15.0
			Bottom of borehole at 15.0 feet.

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CLIENT Concept Development, Inc.
PROJECT NAME Commercial Retail - Flemington
PROJECT NUMBER 14848
PROJECT LOCATION Flemington, Marion County, Florida

DATE PERFORMED 11/10/2020 **BORING NUMBER R-1**
DRILLING CONTRACTOR Whitaker Drilling, Inc.
GROUND WATER LEVELS: LOGGED BY WDI
▼ AT TIME OF DRILLING NE CHECKED BY CRL
▽ ESTIMATED SEASONAL HIGH 0.5 ft, perched
NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0			(SP-SM) Gray and brown SAND with silt and traces of limerock
		AU 1	▽
1			1.0
		AU 2	(SC/CL) Gray, brown and orange very clayey SAND
2			
3			
4			
5			5.0
			Bottom of borehole at 5.0 feet.

DATE PERFORMED 11/10/2020 **BORING NUMBER R-2**
DRILLING CONTRACTOR Whitaker Drilling, Inc.
GROUND WATER LEVELS: LOGGED BY WDI
▼ AT TIME OF DRILLING NE CHECKED BY CRL
▽ ESTIMATED SEASONAL HIGH 0.5 ft, perched
NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0			(SM) Gray silty SAND with traces of limerock
		AU 1	▽
1			1.0
		AU 2	(SC/CL) Gray, brown and orange very clayey SAND *%PASS-200 = 44* *MC = 28*
2			
3			
4			
5			5.0
			Bottom of borehole at 5.0 feet.

(Continued Next Page)

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CLIENT Concept Development, Inc.
PROJECT NAME Commercial Retail - Flemington
PROJECT NUMBER 14848
PROJECT LOCATION Flemington, Marion County, Florida

DATE PERFORMED 11/10/2020 **BORING NUMBER R-3**
DRILLING CONTRACTOR Whitaker Drilling, Inc.
GROUND WATER LEVELS: LOGGED BY WDI
AT TIME OF DRILLING NE CHECKED BY CRL
ESTIMATED SEASONAL HIGH 0.2 ft, perched
NOTES

DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE NUMBER	MATERIAL DESCRIPTION
0		AU 1	(SP-SM) Brown and gray SAND with silt
0.7			(SC/CL) Gray, brown and orange very clayey SAND
1		AU 2	
2			
3			
4			
5			
5.0			Bottom of borehole at 5.0 feet.

5.2 Standard Penetration Test Soil Boring Logs

GSE Engineering & Consulting, Inc.
5590 SW 64th St.
Gainesville, FL 32608
Telephone: (352) 377-3233
Fax: (352) 377-0335

BORING NUMBER B-1

CLIENT Concept Development, Inc. **PROJECT NAME** Commercial Retail - Flemington

PROJECT NUMBER 14848 **PROJECT LOCATION** Flemington, Marion County, Florida

DATE STARTED 11/10/20 **COMPLETED** 11/10/20 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR Whitaker Drilling, Inc. **GROUND WATER LEVELS:**

DRILLING METHOD Flight Auger **AT TIME OF DRILLING** NE

LOGGED BY WDI **CHECKED BY** CRL **ESTIMATED SEASONAL HIGH** 2.5 ft, perched

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲ (20 40 60 80)
0		(SP-SM) Medium dense gray and brown SAND with silt		SPT 1	5-6-6 (12)						
		(CL/CH) Firm to stiff gray, brown and orange CLAY with sand	3	SPT 2	4-4-4 (8)						
5				SPT 3	3-8-7 (15)						
		(CL/CH) Stiff to very stiff gray, brown and orange CLAY with sand and traces of flintrock	6.5	SPT 4	7-12-14 (26)						
				SPT 5	5-5-10 (15)						
10		(CL/CH) Stiff gray, green and orange CLAY with sand and traces of flintrock	9	SPT 6	6-7-8 (15)						
			13.5								
		(CL/CH) Very stiff green, brown and orange CLAY		SPT 7	5-8-8 (16)						
15											
			18.5								
		(CL/CH) Stiff green CLAY	20	SPT 8	4-7-8 (15)						
20		Bottom of borehole at 20.0 feet.									

GSE Engineering & Consulting, Inc.
5590 SW 64th St.
Gainesville, FL 32608
Telephone: (352) 377-3233
Fax: (352) 377-0335

BORING NUMBER B-2

CLIENT Concept Development, Inc. **PROJECT NAME** Commercial Retail - Flemington

PROJECT NUMBER 14848 **PROJECT LOCATION** Flemington, Marion County, Florida

DATE STARTED 11/10/20 **COMPLETED** 11/10/20 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR Whitaker Drilling, Inc. **GROUND WATER LEVELS:**

DRILLING METHOD Flight Auger ▼ **AT TIME OF DRILLING** NE

LOGGED BY WDI **CHECKED BY** CRL ▽ **ESTIMATED SEASONAL HIGH** NA

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP) Gray SAND 6"	0.5								20 40 60 80
		(SC/CL) Medium dense gray, brown and orange very clayey SAND		SPT 1	5-8-8 (16)						
				SPT 2	5-7-10 (17)	41	19	22	49	22	
5				SPT 3	7-10-10 (20)						
				SPT 4	9-12-13 (25)						
			7.5	SPT 5	6-9-11 (20)						
		(CL/CH) Very stiff gray and brown sandy CLAY									
10			9.5	SPT 6	8-12-15 (27)						
		(CL/CH) Very stiff gray amd green CLAY with sand									
			13.5								
		(CL/CH) Very stiff gray, green and orange CLAY with traces of limerock		SPT 7	6-8-11 (19)						
15											
			18.5								
		(CL/CH) Very stiff gray, brown and orange CLAY with traces of limerock	20	SPT 8	7-10-10 (20)						
20											
		Bottom of borehole at 20.0 feet.									

GSE Engineering & Consulting, Inc.
5590 SW 64th St.
Gainesville, FL 32608
Telephone: (352) 377-3233
Fax: (352) 377-0335

BORING NUMBER B-3

CLIENT Concept Development, Inc. **PROJECT NAME** Commercial Retail - Flemington

PROJECT NUMBER 14848 **PROJECT LOCATION** Flemington, Marion County, Florida

DATE STARTED 11/10/20 **COMPLETED** 11/10/20 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR Whitaker Drilling, Inc. **GROUND WATER LEVELS:**

DRILLING METHOD Flight Auger **AT TIME OF DRILLING** NE

LOGGED BY WDI **CHECKED BY** CRL **ESTIMATED SEASONAL HIGH** 1.5 ft, perched

NOTES _____

DEPTH (ft)	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %
0	(SP-SM) Gray SAND with silt								
		2	SPT 1	6-6-6 (12)					
	(CL/CH) Stiff to very stiff gray, brown and orange sandy CLAY		SPT 2	9-10-12 (22)					
5			SPT 3	6-9-12 (21)					
			SPT 4	12-14-15 (29)					
		7.5	SPT 5	5-5-7 (12)	48	19	29	67	38
	(CL/CH) Stiff gray and green CLAY with sand	9	SPT 6	7-9-13 (22)					
10	(CL/CH) Very stiff gray, brown and roange CLAY with sand								
		13.5	SPT 7	5-6-7 (13)					
15	(CL/CH) Stiff green and orange CLAY								
		18.5							
	(CL/CH) Very stiff gray, green and orange CLAY		SPT 8	5-8-9 (17)					
20		20							
	Bottom of borehole at 20.0 feet.								

▲ SPT N VALUE ▲ 20 40 60 80

SPT BORINGS - GINT STD US.GDT - 11/17/20 15:49 - Q:\PROJECTS\14848 COMMERCIAL RETAIL - FLEMINGTON\14848 BORINGS\14848 BORINGS.GPJ

GSE Engineering & Consulting, Inc.
5590 SW 64th St.
Gainesville, FL 32608
Telephone: (352) 377-3233
Fax: (352) 377-0335

BORING NUMBER B-4

CLIENT Concept Development, Inc. **PROJECT NAME** Commercial Retail - Flemington

PROJECT NUMBER 14848 **PROJECT LOCATION** Flemington, Marion County, Florida

DATE STARTED 11/10/20 **COMPLETED** 11/10/20 **GROUND ELEVATION** _____ **HOLE SIZE** _____

DRILLING CONTRACTOR Whitaker Drilling, Inc. **GROUND WATER LEVELS:**

DRILLING METHOD Flight Auger ▼ **AT TIME OF DRILLING** NE

LOGGED BY WDI **CHECKED BY** CRL ▽ **ESTIMATED SEASONAL HIGH** NA

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	CONTACT DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX	PERCENT PASS NO. 200 SIEVE	MOISTURE CONTENT, %	▲ SPT N VALUE ▲
0		(SP) Gray SAND with silt 6"	0.5								20 40 60 80
		(CL/CH) Stiff to very stiff gray, brown and orange sandy CLAY		SPT 1	4-7-7 (14)						
				SPT 2	9-10-11 (21)						
5				SPT 3	7-7-8 (15)						
			6	SPT 4	10-10-11 (21)						
		(CL/CH) Very stiff gray sandy CLAY with traces of limerock		SPT 5	5-6-10 (16)						
			8.5	SPT 6	10-12-12 (24)						
10		(SC/CL) Medium dense gray, very clayey SAND									
			13.5								
		(CL/CH) Stiff orange, gray and green CLAY with traces of phosphate and limerock		SPT 7	6-6-8 (14)						
15											
				SPT 8	4-5-9 (14)						
20			20								
		Bottom of borehole at 20.0 feet.									

5.3 Laboratory Results

GSE Engineering & Consulting, Inc.

SUMMARY REPORT OF LABORATORY TEST RESULTS

Project Number: 14848

Project Name: Commercial Retail - Flemington

Boring Number	Depth (ft)	Soil Description	Natural Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Percent Passing No. 200 Sieve	Organic Content (%)	Hydraulic Conductivity (ft/day)	Unified Soil Classification
P-2	1-2.5	Brown and orange clayey SAND	9.4				24		23	SC
P-3	0-2	Gray and brown silty SAND	18				22		2.3	SM
B-2	2.5-4	Gray, brown, and orange very clayey SAND	22	41	19	22	49			SC/CL
B-3	7-8.5	Gray and green sandy CLAY	38	48	19	29	67			CL
P-1	1-1.5	Gray, brown, and orange sandy CLAY	21				51			CL/CH
R-2	1-1.5	Gray, brown, and orange very clayey SAND	28				44			SC/CL

5.4 Key to Soil Classification

KEY TO SOIL CLASSIFICATION CHART

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests				SYMBOLS		GROUP NAME
				GRAPHIC	LETTER	
COARSE-GRAINED SOILS	Gravels	Clean Gravels	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW	Well graded GRAVEL
More than 50% retained on No. 200 sieve	More than 50% of coarse fraction retained on No. 4 sieve	Less than 5% fines	Cu < 4 and/or 1 > Cc > 3		GP	Poorly graded GRAVEL
		Gravels with fines	Fines classify as ML or MH		GM	Silty GRAVEL
		More than 12% fines	Fines classify as CL or CH		GC	Clayey GRAVEL
	Sands	Clean Sands	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW	Well graded SAND
	50% or more of coarse fraction passes No. 4 sieve	Less than 5% fines	Cu < 6 and/or 1 > Cc > 3		SP	Poorly graded SAND
		Sand with fines	Fines classify as ML or MH		SP-SM	SAND with silt
		5% ≤ fines < 12%	Fines classify as CL or CH		SP-SC	SAND with clay
		Sand with fines	Fines classify as ML or MH		SM	Silty SAND
		12% ≤ fines < 30%	Fines classify as CL or CH		SC	Clayey SAND
		Sand with fines	Fines classify as ML or MH		SM	Very silty SAND
		30% fines or more	Fines classify as CL or CH		SC	Very clayey SAND
FINE-GRAINED SOILS	Clays	inorganic	50% ≤ fines < 70%		CL/CH	Sandy CLAY
50% or more passes the No. 200 sieve			70% ≤ fines < 85%		CL/CH	CLAY with sand
			fines ≥ 85%		CL/CH	CLAY
	Silts and Clays	inorganic	PI > 7 and plots on/above "A" line		CL	Lean CLAY
	Liquid Limit less than 50		PI < 4 or plots below "A" line		ML	SILT
		organic	Liquid Limit - oven dried / Liquid Limit - not dried < 0.75		OL	Organic clay / Organic silt
	Silts and Clays	inorganic	PI plots on or above "A" line		CH	Fat CLAY
	Liquid Limit 50 or more		PI plots below "A" line		MH	Elastic SILT
		organic	Liquid Limit - oven dried / Liquid Limit - not dried < 0.75		OH	Organic clay / Organic silt
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor				PT	PEAT

CORRELATION OF PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY

	No. OF BLOWS, N	RELATIVE DENSITY
	0 - 4	Very Loose
	5 - 10	Loose
SANDS:	11 - 30	Medium dense
	31 - 50	Dense
	OVER 50	Very Dense

	No. OF BLOWS, N	CONSISTENCY
	0 - 2	Very Soft
SILTS	3 - 4	Soft
&	5 - 8	Firm
CLAYS:	9 - 15	Stiff
	16 - 30	Very Stiff
	31 - 50	Hard
	OVER 50	Very Hard

	No. OF BLOWS, N	RELATIVE DENSITY
	0 - 8	Very Soft
	9 - 18	Soft
LIMESTONE:	19 - 32	Moderately Hard
	33 - 50	Hard
	OVER 50	Very Hard

SAMPLE GRAPHIC TYPE LEGEND

Location of SPT Sample

Location of Auger Sample

PARTICLE SIZE IDENTIFICATION

BOULDERS:		Greater than 300 mm
COBBLES:		75 mm to 300 mm
GRAVEL:	Coarse -	19.0 mm to 75 mm
	Fine -	4.75 mm to 19.0 mm
SANDS:	Coarse -	2.00 mm to 4.75 mm
	Medium -	0.425 mm to 2.00 mm
	Fine -	0.075 mm to 0.425 mm
SILTS & CLAYS:		Less than 0.075 mm

LABORATORY TEST LEGEND

LL	=	Liquid Limit, %
PL	=	Plastic Limit, %
PI	=	Plasticity Index, %
% PASS - 200	=	Percent Passing the No. 200 Sieve
MC	=	Moisture Content, %
ORG	=	Organic Content, %
k_h	=	Horizontal Hydraulic Conductivity, ft/day

6.0 LIMITATIONS

6.1 Warranty

This report has been prepared for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

6.2 Auger and SPT Borings

The determination of soil type and conditions was performed from the ground surface to the maximum depth of the borings, only. Any changes in subsurface conditions that occur between or below the borings would not have been detected or reflected in this report.

Soil classifications that were made in the field are based upon identifiable textural changes, color changes, changes in composition or changes in resistance to penetration in the intervals from which the samples were collected. Abrupt changes in soil type, as reflected in boring logs and/or cross sections may not actually occur, but instead, be transitional.

Depth to the water table is based upon observations made during the performance of the auger and SPT borings. This depth is an estimate and does not reflect the annual variations that would be expected in this area due to fluctuations in rainfall and rates of evapotranspiration.

6.3 Site Figures

The measurements used for the preparation of the figures in this report were made using the provided site plan and by estimating distances from existing structures and site features. Figures in this report were not prepared by a licensed land surveyor and should not be interpreted as such.

6.4 Unanticipated Soil Conditions

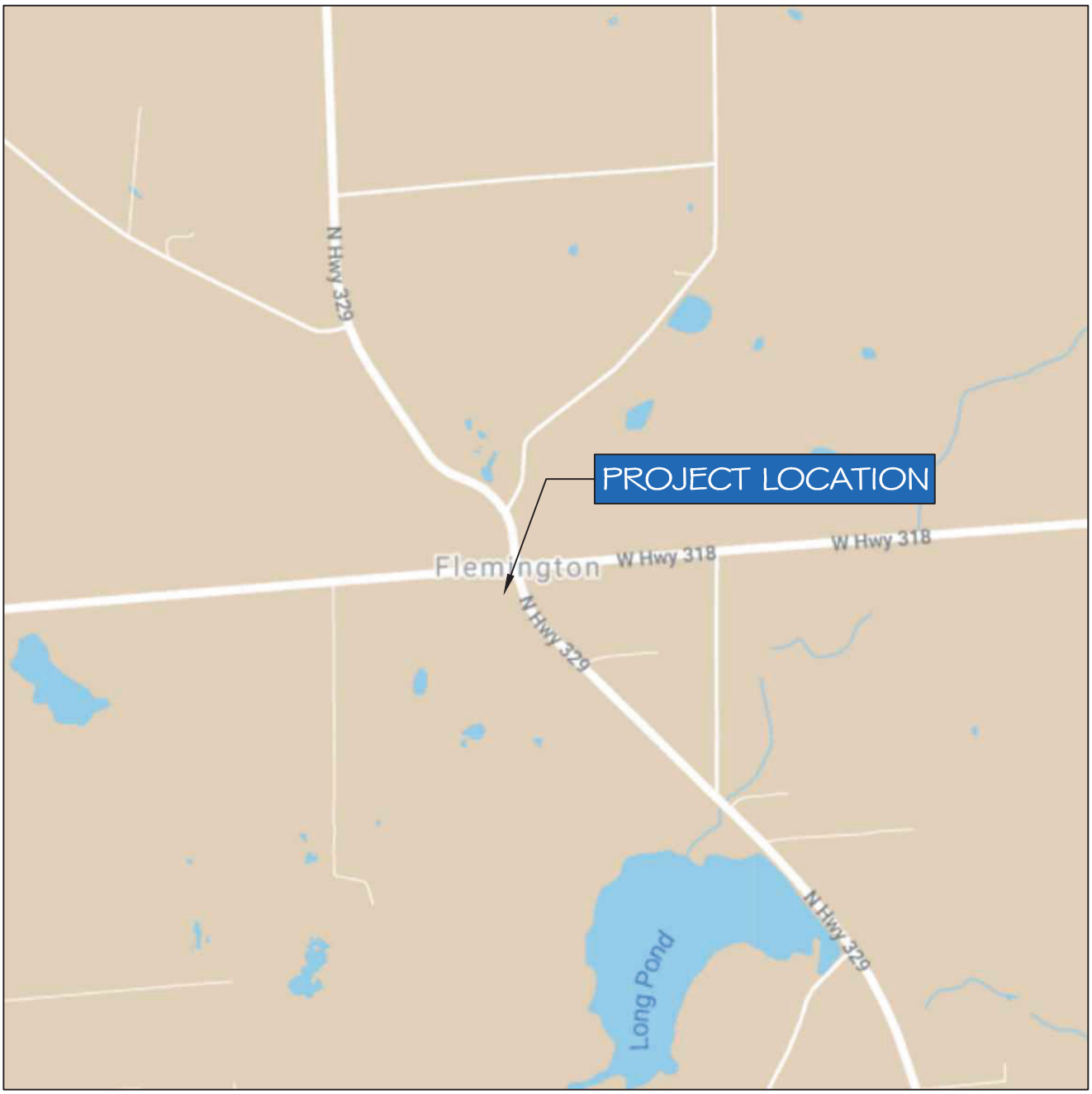
The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on Figure 2. This report does not reflect any variations that may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

6.5 Misinterpretation of Soil Engineering Report

GSE Engineering & Consulting, Inc. is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If others make the conclusions or recommendations based upon the data presented, those conclusions or recommendations are not the responsibility of GSE.

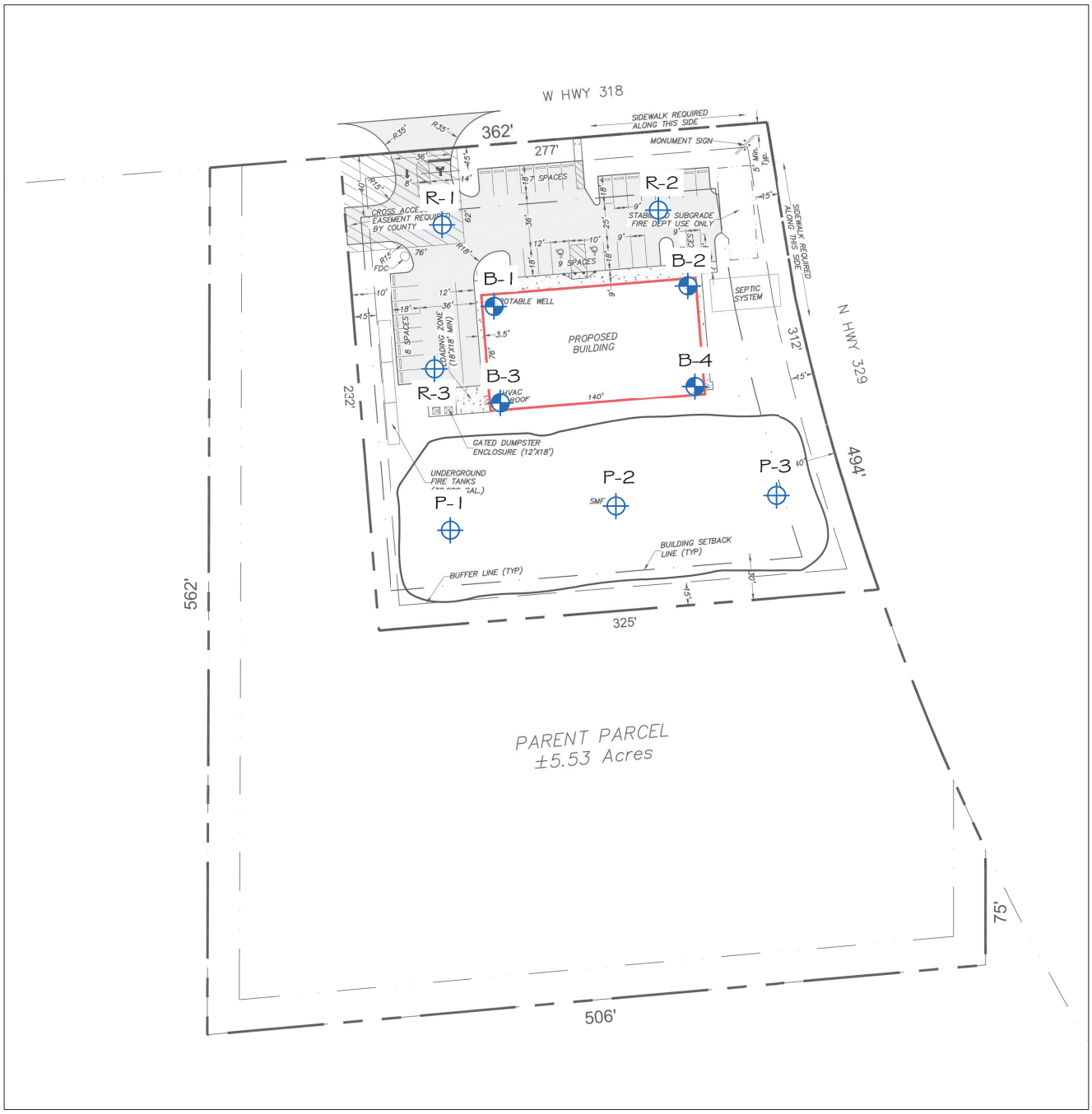
FIGURES



NORTH

NOT TO SCALE

COMMERCIAL RETAIL- FLEMINGTON FLEMINGTON, MARION COUNTY, FLORIDA GSE PROJECT NO. 14848	PROJECT SITE LOCATION MAP		
	DESIGNED BY: CRL CHECKED BY : KLH DRAWN BY : PJM	GSE Engineering & Consulting, Inc.	FIGURE 1



LEGEND:

- SPT BORING
- AUGER BORING

NORTH

NOT TO SCALE

SITE PLAN SHOWING APPROXIMATE LOCATIONS OF FIELD TESTS

COMMERCIAL RETAIL- FLEMINGTON
FLEMINGTON, MARION COUNTY, FLORIDA
GSE PROJECT NO. 14848

DESIGNED BY: CRL
CHECKED BY : KLH
DRAWN BY : PJM

GSE Engineering & Consulting, Inc.

FIGURE 2