CITY OF ARCADIA
IFB 2025-06 TRIBUTARY F BOX CULVERTS REPLAEMENT

ADDENDUM TO IFB 2025-06

ADDENDUM NO. 3
City of Arcadia
Margaret Way Building
23 North Polk Avenue
Arcadia, Fl 342366

ISSUED: January 20, 2026

BID OPENING DATE:
Wednesday, January 28, 2026, at 11:00 A.M.

DEADLINE FOR INQUIRIES AND CLARIFICATIONS:
Tuesday, January 20, 2026, at 2:00 P.M.

NOTICE: Receipt of this addendum must be confirmed on Acknowledgement of Addendum Form (Page 39) of the Bidder's submittal where indicated and submitted as part of the Bidder's sealed proposal.

TO CONSULTANT: This Addendum is an integral part of the IFB package under consideration by you as a Bidder in connection with the referenced IFB project noted above. The City of Arcadia deems all sealed responses to have been proffered in recognition and consideration of the entire IFB package – including all issued addendum. The information, responses to questions, changes, and modifications included in this addendum is hereby incorporated into the RFP documents previously issued for this project and supersedes any conflicting requirements of previously issued documents. Bidders shall incorporate the information and items as noted below into their IFB proposal.

ITEMS INCLUDED IN THIS ADDENDUM:

1. **REVISION: The Bid form in the Bid document shall be replaced with Revised Bid Form as Attached to this Addendum. Please make sure that you use this Revised Bid Form when you submit your bid.**

2. **CLARIFICATION: Both Build America Buy American (BABA) and American Iron and Steel (AIS) are requirements of this project. Please see attached BABA statement.**

3. **REVISION: Revised Plan Sheets are attached hereto which supersedes all Previous versions.**

4. **GEOTECHNICAL report is included in this Addendum.**

5. **PERMIT LETTERS from SWFWMD and Army Corp. are included in this Addendum.**

6. **Questions and Responses from potential Bidders .**

CITY OF ARCADIA

IFB 2025-06 TRIBUTARY F BOX CULVERTS REPLACEMENT

REVISED BID PROPOSAL FORM

Bid prices stated in the proposal include all costs and expenses for labor, equipment, materials, contractor's overhead, and profit.

ITEM NO	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED PRICE
101-1	Mobilization	LS	1		
102-1	Maintenance of Traffic	LS	1		
104-1	Erosion Control	LF	3687		
104-11	Turbidity Barrier	LF	600		
110-1	Clearing and Grubbing	AC	0.18		
110-3	Removal of Concrete Structures	SF	6900		
120-1	Regular Excavation	CY	101		
120-6	Embankment	CY	110		
285-1	Optional Base, Base Group 6	SY	1998		
160-1	Type B Stabilization	SY	1998		
334-1	Superpave Asphaltic Concrete, Traffic C	TN	497		
410-1	10'x 5' Box Culvert Crossings	LF	355		
410-2	10'x 7' Box Culvert Crossings	LF	354		
425-1	Curb Inlet Type P6 (Round Bottom)	EA	10		
425-2	Ditch Bottom Inlet - Type C	EA	2		
410-3	Wingwalls, Headwalls, and Cut-off Walls CIP	CY	150	-	-
430-2	12"x18" ERCP	LF	290		
520-1	Curb and Gutter (Type F)	LF	378		

ITEM NO	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED PRICE
522-1	4" Concrete Sidwalks	SY	240		
530-1	Rip Rap	TN	324		
570-1	Sod	SY	475		
711-1	6" Double Yellow Thermoplastic w/ Y/Y RPMS	LF	50		
711-2	24" White Thermoplastic Stop Bar	LF	50		
711-3	12" White Thermoplastic Cross Walk	LF	162		
1050-1	15" PVC Sewer Gravity Main Relocation/Replacement	LF	100		
1050-2	8" PVC Sewer Gravity Main Relocation/Replacement	LF	200		
1050-3	10" PVC Force Main Relocation/Replacement	LF	100		
1050-4	8" DIP Water Main Relocation/Replacement	LF	300		
1050-5	6" DIP Water Main Relocation/Replacement	LF	200		
999-50	Project Sign	EA	1		
				SUBTOTAL	
999-25	CONTINGENCY	10%			
				TOTAL	

TOTAL FIRM BID = $_____

_____

(TOTAL FIRM BID WRITTEN IN WORDS)

_____ _____

BIDDER'S Signature Printed Name and Title

_____ _____

ATTEST Signature Printed Name and Title

NOTE: BIDS MAY BE REJECTED IF ALL DOCUMENTS ARE NOT COMPLETE AND EXECUTED, AND THE NUMBER OF COPIES SPECIFIED/ REQUESTED OF EACH ARE NOT SUBMITTED WITH THE BID.

BUILD AMERICA, BUY AMERICA (BABA) - If applicable, Recipients or Subrecipients of any award of Federal Financial Assistance from a program for infrastructure are required to comply with the Build America, Buy America Act (BABA), including the following provisions:

a) All iron and steel used in the project are produced in the United States—this means all manufacturing processes, from the initial melting state through the application of coatings, occurred in the United States;

b) All manufactured products used in the project are produced in the United States-this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for applicable laws or regulations; and

c) All construction materials are manufactured in the United States-this means that all manufacturing processes for the construction material occurred in the United States.

The Buy American reference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary Scaffolding, brought to the construction site and removed t or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project

S-(1)
STA 202+50.02 (9.45 Rt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 19.15 E
FL 19.00 S

S-(2)
STA 202+50.01 (-9.82 Lt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 19.54 W

EXIST. 12" WATER

STRAIGHT ENDWALL (TYP.) SEE DETAILS
CUTOFF WALL (TYP.) SEE DETAILS
PROP. 32' DOUBLE BARREL 10' X 5' CBC
HEADWALL (TYP.) SEE DETAILS
10'x5' CBC STA. 202+70.41 17.01 LT.
PROP. 150 SQ. FT. RIP RAP
PROP. WING WALL STA. 202+60.22 16.93 LT. (SEE INDEX 400-289-292)
BEGIN CURB AND GUTTER TYPE F STA. 202+35.00 10.69 LT.
19.3 LF 12"x18" ERCP
BEGIN ROADWAY RECONSTRUCTION STA. 202+35.00
EOP
PARKER AVE.
20 MPH
EXIST. 10" SAN. SEWER TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
EXISTING UNDERGROUND COMCAST FACILITIES TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
BEGIN CURB AND GUTTER TYPE F STA. 202+35.00 10.43 RT.
PROP. WING WALL STA. 202+53.69 14.53 RT. (SEE INDEX 400-289-292)
14.4 LF 12"x18" ERCP
PROP. 58 SQ. FT. RIP RAP
10'x5' CBC STA. 202+63.69 14.65 RT.
PARKER AVE.

10'x5' CBC STA. 202+94.85 17.03 LT.
PROP. 170 SQ. FT. RIP RAP
PROP. WING WALL STA. 203+04.85 16.99 LT. (SEE INDEX 400-289-292)
END CURB AND GUTTER TYPE F STA. 203+05.00 10.90 LT.
EXIST. 10" PVC FORCE MAIN TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
EXIST. 6" WATER MAIN TO BE REPLACED OR RELOCATED
EXIST. 6" WATER
END ROADWAY RECONSTRUCTION STA. 203+05.00
EXIST. WATER MAIN TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
END CURB AND GUTTER TYPE F STA. 203+05.00 10.20 RT.
EXIST. 15" PVC SAN. SEWER AND BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
PROP. WING WALL STA. 202+97.81 15.28 RT. (SEE INDEX 400-289-292)
PROP. 66 SQ. FT. RIP RAP
10'x5' CBC STA. 202+87.64 15.04 RT.

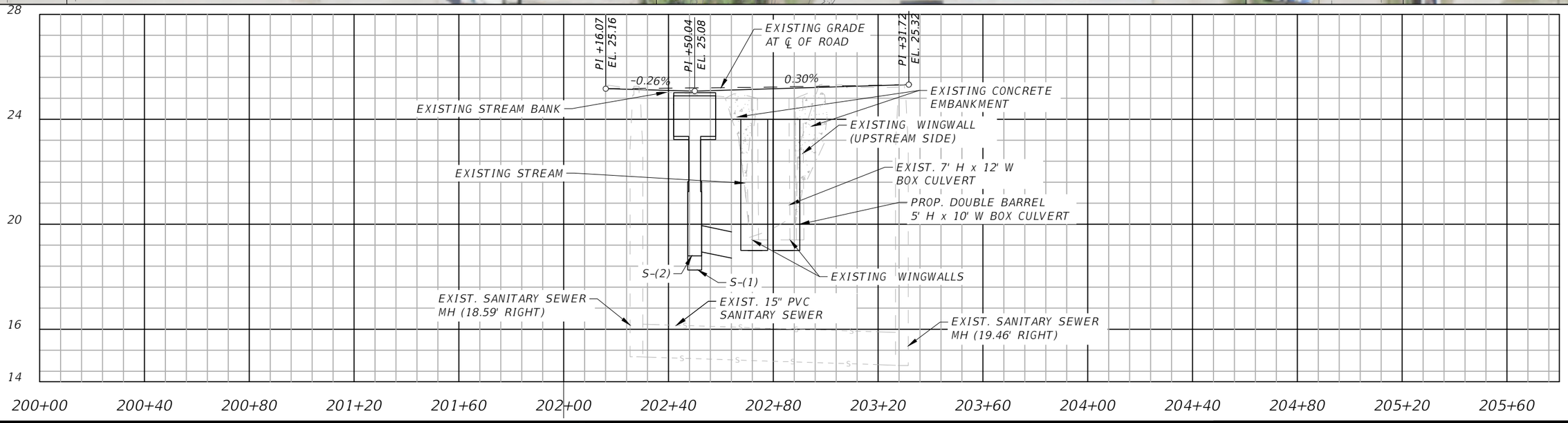
EXIST. 18" SS
EXIST. 15" PVC SS
EXIST. 10" FORCE MAIN
EXIST. 6"

200+00 201+00 202+00 203+00 204+00 205+00 205+40

W. MAGNOLIA ST
20 MPH

N E S W

20 0 20 40
SCALE: 1" = 40'



REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

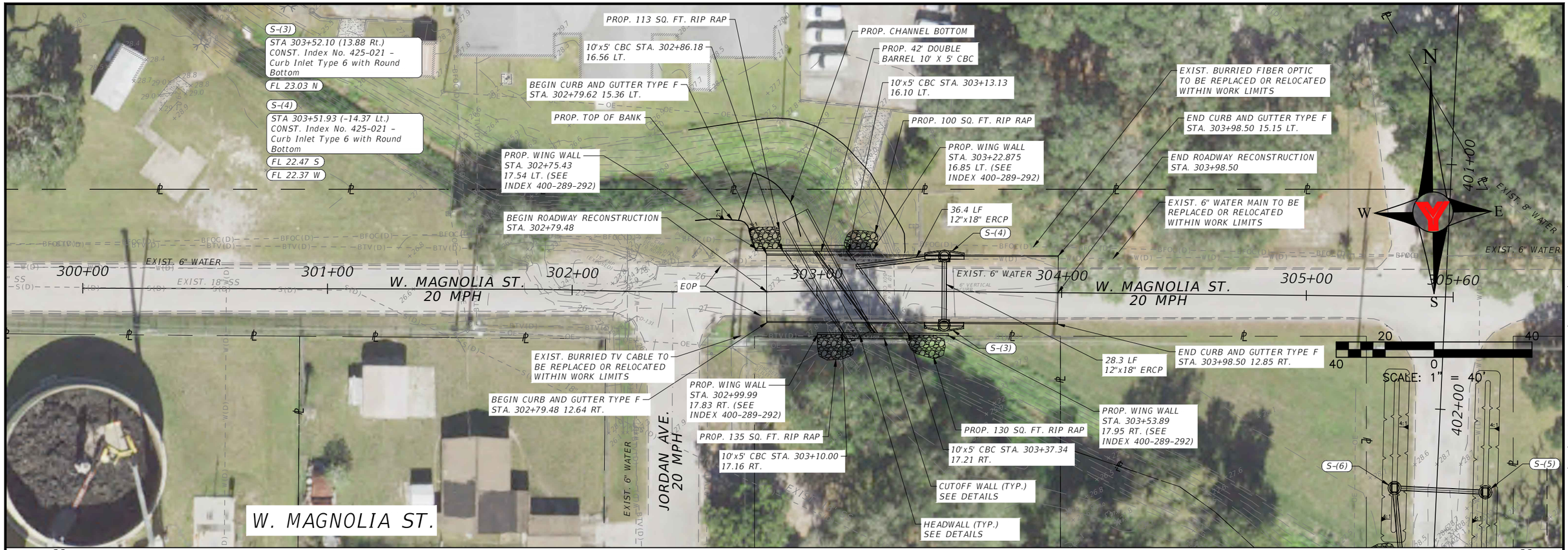
George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY ▮ GIS ▮ PLANNING ▮ SURVEYING
ST. PETERSBURG ▪ LAKEWOOD RANCH ▪ TAMPA ▪ GAINESVILLE ▪ LAKE WALES ▪ PUNTA GORDA
Since 1919

---- No.
DATE

Arcadia Stormwater and Flood Control
Roadway/Drainage Plan and Profile
INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC
SHEET NO. R1

PLOTTED: 1/14/2026 7:07 AM by Smith, Philip FILE: i:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg



REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

---- No.
DATE

Arcadia Stormwater and Flood Control

Roadway/Drainage Plan and Profile

INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC
SHEET NO. R2

PLOTTED: 1/14/2022 8:07 AM by Smith, Philip FILE: I:\project\eng\pga\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg

S-(5)
STA 402+33.00 (-19.89 Lt.)
CONST. Index No. 425-052 - Ditch Bottom Inlet - Type C with Round Bottom

S-(6)
STA 402+33.00 (17.24 Rt.)
CONST. Index No. 425-052 - Ditch Bottom Inlet - Type C with Round Bottom

FL 24.16 E

BEGIN ROADWAY RECONSTRUCTION STA. 402+22.43

EXIST. 8" WATER

EXIST. 6" WATER

400+00

401+00

402+00

403+00

404+00

405+00

405+20

305+60

305+00

S. BALDWIN AVE.
20 MPH

PROP. 107 SQ. FT. RIP RAP

10'x5' CBC STA. 402+70.47
23.54 LT.

PROP. WING WALL
STA. 402+60.63
25.54 LT. (SEE INDEX 400-289-292)

HEADWALL (TYP.)
SEE DETAILS

PROP. 40' DOUBLE BARREL 10' X 5' CBC

CUTOFF WALL (TYP.)
SEE DETAILS

10'x5' CBC STA. 402+93.98
20.77 LT.

PROP. 162 SQ. FT. RIP RAP

PROP. WING WALL
STA. 403+03.27
20.73 LT. (SEE INDEX 400-289-292)

EXIST. 6" WATER MAIN TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS

END ROADWAY RECONSTRUCTION
STA. 403+27.11

EXIST. 6" WATER

S-(5)

EOP

37.2 LF
12"x18" ERCP

S-(6)

34.7 LF
12"x18" ERCP

PROP. WING WALL
STA. 402+56.02
16.86 RT. (SEE INDEX 400-289-292)

PROP. 141 SQ. FT. RIP RAP

10'x5' CBC STA. 402+66.10
16.52 RT.

PROP. WING WALL
STA. 403+00.41
18.83 RT. (SEE INDEX 400-289-292)

PROP. 125 SQ. FT. RIP RAP

10'x5' CBC STA. 402+89.79
17.68 RT.

S. BALDWIN AVE.

N E S W

20 0 20 40
40
SCALE: 1" = 40'

EXIST. WINGWALLS

EXIST. CONCRETE HEADWALL

PROP. GRADE

MATCH EXISTING
STA. 402+22.43
ELEV. 28.67

0.91%

MATCH EXISTING
STA. 403+27.09
ELEV. 29.63

EXIST. GRADE

EXIST. STREAM BANK

EXIST. ROAD AND BANK WASHED OUT

EXIST. 48" RCP

EXIST. STREAM

PROP. 10'x5' DOUBLE BARREL CBC

32
28
24
20

400+00 400+40 400+80 401+20 401+60 402+00 402+40 402+80 403+20 403+60 404+00 404+40 404+80 405+20 405+60 405+80

REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

---- No.
DATE

Arcadia Stormwater and Flood Control

Roadway/Drainage Plan and Profile

INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC

SHEET NO. R3

PLOTTED: 1/14/2022 07:27 AM by Smith, Philip FILE: i:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg

S-(7)
STA 502+63.68 (-11.63 Lt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 35.40 E

S-(8)
STA 502+63.67 (11.69 Rt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 35.05 W
FL 35.00 NE

PROP. 100 SQ. FT. RIP RAP
PROP. 49' DOUBLE BARREL 10' X 5' CBC
10'x5' CBC STA. 503+05.08 21.39 LT.
PROP. 50 SQ. FT. RIP RAP
10'x5' CBC STA. 502+81.32 21.53 LT.
PROP. WING WALL STA. 503+15.16 22.16 LT. (SEE INDEX 400-289-292)
PROP. WING WALL STA. 502+71.32 22.43 RT. (SEE INDEX 400-289-292)
EXIST. BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
END CURB AND GUTTER TYPE F STA. 503+42.03 12.18 LT.
BEGIN CURB AND GUTTER TYPE F STA. 502+38.23 12.84 LT.
EXIST. 8" SAN. SEWER TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
BEGIN ROADWAY RECONSTRUCTION STA. 502+38.32
END ROADWAY RECONSTRUCTION STA. 503+42.04

W. MAGNOLIA ST.

500+00 501+00 502+00 503+00 504+00 505+00 505+60

S. LEE AVE.
20 MPH

EXIST. 8" SS

23.3 LF 12"x18" ECRP
EXIST. 6" WATER
EXIST. 6" WATER
15.3 LF 12"x18" ECRP
END CURB AND GUTTER TYPE F STA. 503+42.17 12.74 RT.
BEGIN CURB AND GUTTER TYPE F STA. 502+38.23 12.33 RT.
PROP. WING WALL STA. 502+65.61 28.31 RT. (SEE INDEX 400-289-292)
EXIST. 6" WATER MAIN TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
PROP. WING WALL STA. 503+10.52 28.47 RT. (SEE INDEX 400-289-292)
PROP. 102 SQ. FT. RIP RAP
10'x5' CBC STA. 503+00.52 27.61 RT.
10'x5' CBC STA. 502+76.78 27.52 RT.
PROP. 75 SQ. FT. RIP RAP
CUTOFF WALL (TYP.) SEE DETAILS
HEADWALL (TYP.) SEE DETAILS

S. LEE AVE.

W. MAGNOLIA ST. 00+009

SCALE: 1" = 40'

MATCH EXIST. STA = 502+38.23
ELEV = 41.356
PROP. GRADE
GRADE BREAK STA = 502+63.68
ELEV = 41.323
MATCH EXIST. STA = 503+42.03
ELEV = 42.008
-0.13%
0.87%
EXIST. GRADE
EXIST. CONCRETE HEADWALL
EXIST. CURB
EXIST. WINGWALLS
EXIST. CONCRETE EMBANKMENT
EXIST. 5' H x 12' W BOX CULVERTS
PROP. DOUBLE BARREL 10'x5' CBC
S-(5)
S-(6)
EXIST. STREAM

44 40 36 32 30

500+00 500+40 500+80 501+20 501+60 502+00 502+40 502+80 503+20 503+60 504+00 504+40 504+80 505+20 505+60

REVISED NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

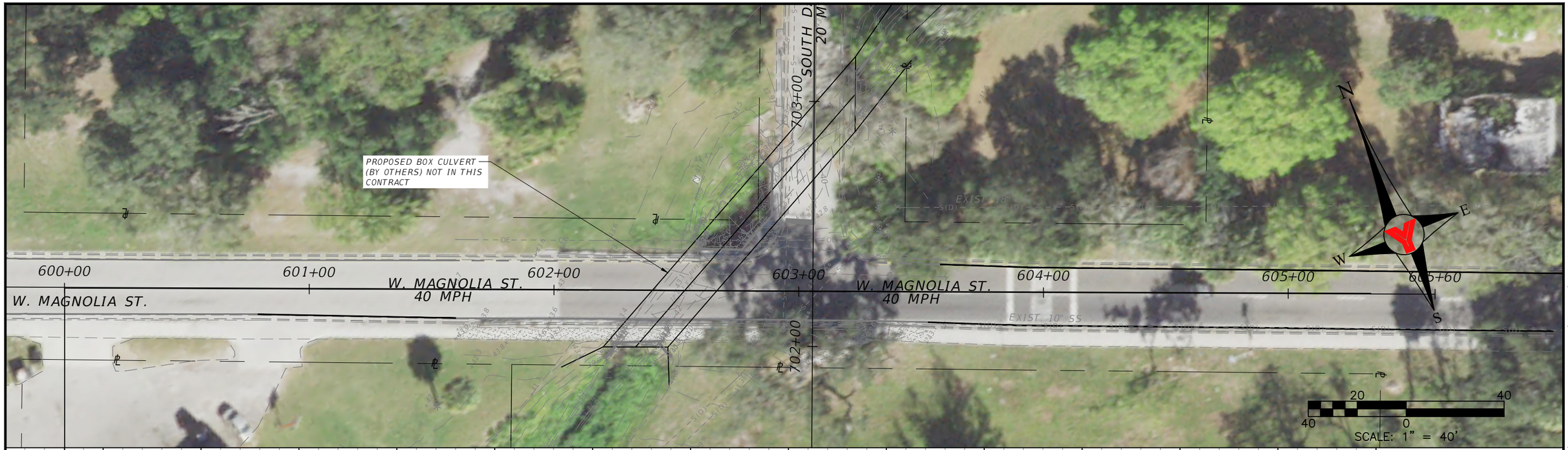
George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

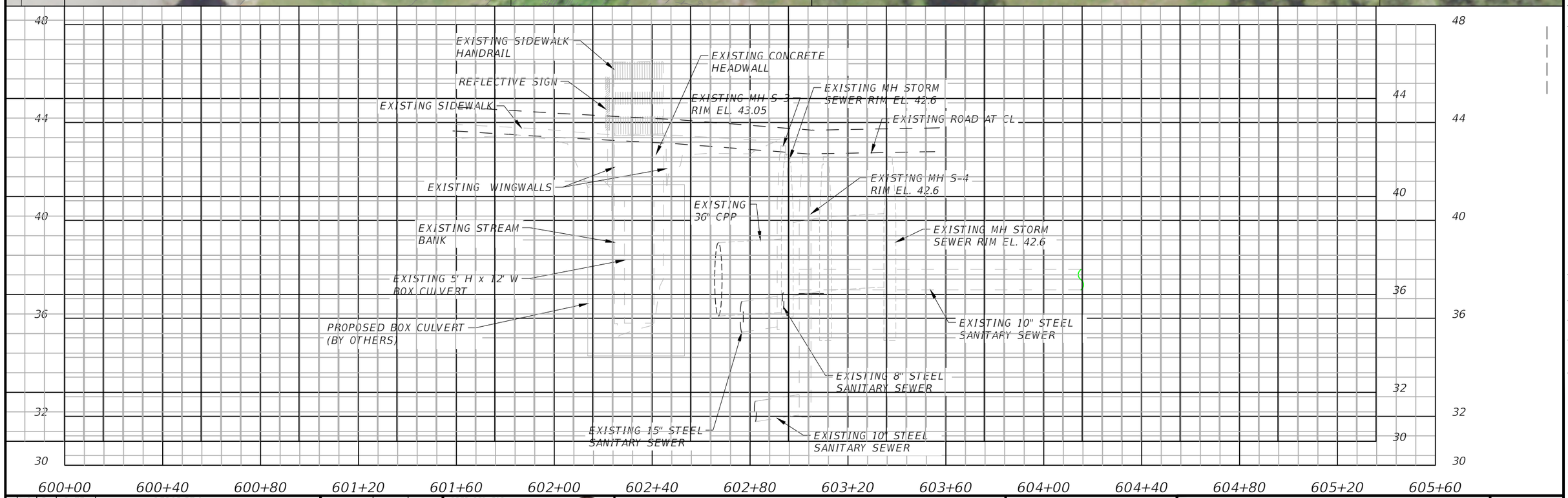
---- No.
DATE

Arcadia Stormwater and Flood Control
Roadway/Drainage Plan and Profile
INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC
SHEET NO. R4

PLOTTED: 1/14/2022 07:02 AM by Smith, Philip FILE: i:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg





REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

---- No.
DATE

Arcadia Stormwater and Flood Control

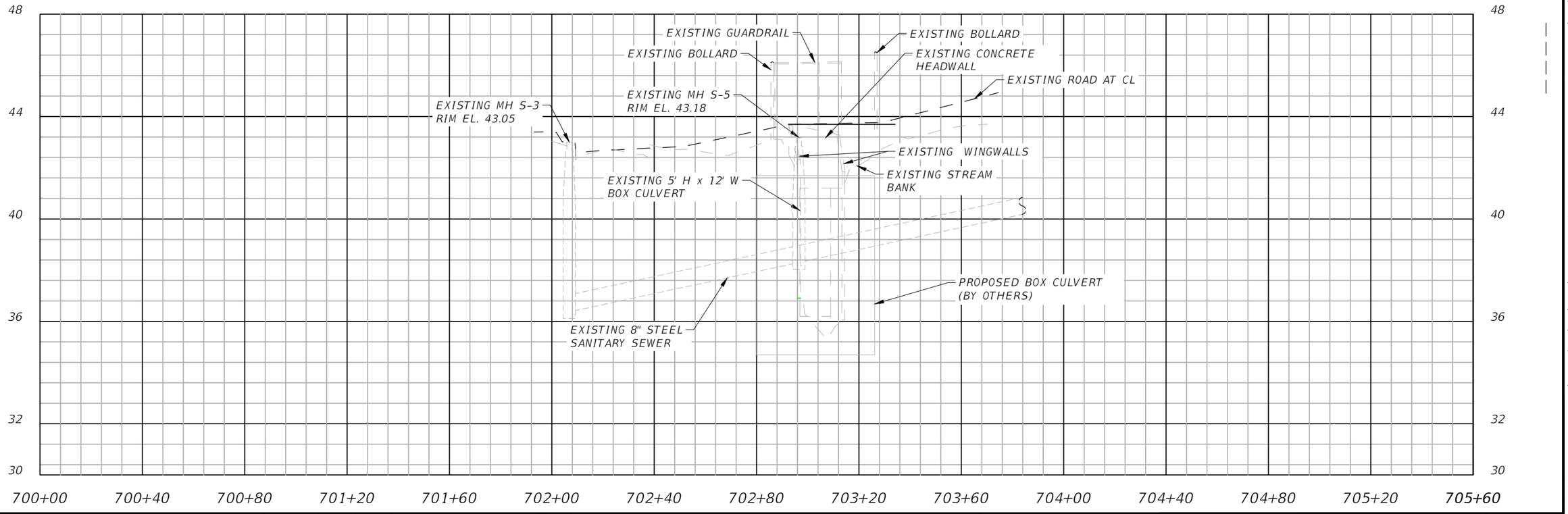
Roadway/Drainage Plan and Profile

INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC

SHEET NO. R5

PLOTTED: 1/14/2026 10:08 AM by Smith, Philip FILE: I:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg



REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

---- No.
DATE

Arcadia Stormwater and Flood Control

Roadway/Drainage Plan and Profile

INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC

SHEET NO. R6

PLOTTED: 1/14/2026 10:28 AM by Smith, Philip FILE: I:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg

S-(9)
STA 802+19.60 (-11.75 Lt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 42.66 S

S-(10)
STA 802+19.60 (11.75 Rt.)
CONST. Index No. 425-021 - Curb Inlet Type 6 with Round Bottom
FL 42.46 SE
FL 42.21 N

PROP. 165' DOUBLE BARREL 10' X 7' CBC

EXIST. 8" WATER MAIN TO BE REPLACED OR RELOCATED

EXIST. BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS

S-(12)

BEGIN PROP. 6' CONCRETE SIDEWALK STA. 802+36.71 29.33 LT.

S-(11)

N. MANATEE AVE. 9
20 MPH

EXIST. 8" WATER

END PROP. 6' CONCRETE SIDEWALK STA. 802+88.97 28.39 LT.

BEGIN PROP. CURB AND GUTTER TYPE F STA. 801+87.94 12.50 LT.

EXIST. BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS

END PROP. CURB AND GUTTER TYPE F STA. 802+80.76 12.50 LT.

BEGIN PROP. ROADWAY RECONSTRUCTION STA. 801+87.94

23.5 LF 12"x18" ECRP

END PROP. ROADWAY RECONSTRUCTION STA. 802+84.22 10.50 LT.

EXIST. CURB AND GUTTER

EXIST. 8" WATER MAIN TO BE REPLACED OR RELOCATED

END PROP. ROADWAY RECONSTRUCTION STA. 802+74.70

EXIST. 8" WATER

EXIST. 8" WATER

S-(9)

800+00 801+00 802+00 803+00 804+00 805+00 805+80

W. OAK ST.
40 MPH

W. OAK ST.
40 MPH

EOP

S-(10)

+94.76
32.59 RT.

BEGIN PROP. CURB AND GUTTER TYPE F STA. 801+87.94 12.50 RT.

EXIST. 8" WATER MAIN TO BE REPLACED OR RELOCATED

END PROP. ROADWAY RECONSTRUCTION STA. 802+65.19 10.50 RT.

EXIST. BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS

BEGIN PROP. 5' CONCRETE SIDEWALK STA. 801+98.34 21.70 RT.

5.8 LF 12"x18" ECRP

END PROP. CURB AND GUTTER TYPE F STA. 802+65.19 12.50 RT.

END PROP. 5' CONCRETE SIDEWALK STA. 802+59.13 23.20 RT.

PROP. WING WALL STA. 801+94.76 32.59 RT. (SEE INDEX 400-289-292)

BEGIN PROP. HANDRAIL STA. 802+10.10 27.44 RT.

PROP. 206 SQ. FT. RIP RAP

PROP. 124 SQ. FT. RIP RAP

PROP. 10'x7' CBC STA. 802+09.50 31.82 RT.

PROP. 10'x7' CBC STA. 802+40.79 32.10 RT.

END PROP. HANDRAIL STA. 802+44.18 28.10 RT.

PROP. WING WALL STA. 802+54.78 33.11 RT. (SEE INDEX 400-289-292)

8" WATER

903+00

902+00

N
E
S
W

20 0 20 40
40
SCALE: 1" = 40'

52
48
44
40
38

EXIST. CONCRETE HEADWALL

PI +75.61
EL. 47.85

PI +19.60
EL. 47.50

PI +74.70
EL. 47.59

EXIST. ROAD AT CL

-0.81%

0.17%

EXIST. MH STORM SEWER RIM
EL. 47.4 (TO BE REMOVED)

EXIST. STREAM BANK

PROP. DOUBLE BARREL
10'x7' CBC

S-(7)

S-(8)

EXIST. 12" CLAY
STORM DRAIN

EXIST. WINGWALLS

EXIST. 16' W BOX
CULVERT - SOFT BOTTOM

800+00 800+40 800+80 801+20 801+60 802+00 802+40 802+80 803+20 803+60 804+00 804+40 804+80 805+20 805+60 805+80

REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

---- No.
DATE

Arcadia Stormwater and Flood Control

Roadway/Drainage Plan and Profile

INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC

SHEET NO. R7

PLOTTED: 1/14/2022 8:08 AM by Smith, Philip FILE: I:\project\eng\pga\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg

S-(11)
STA 903+47.27 (-18.04 Lt.)
CONST. Index No. 425-052 -
Ditch Bottom Inlet - Type C
FL 43.24 E
S-(12)
STA 903+47.22 (17.91 Rt.)
CONST. Index No. 425-052 -
Ditch Bottom Inlet - Type C
FL 42.53 W
FL 42.43 S

32.59 RT.
802+00
803+00
804+00
S-(9)
S-(10)
RECONSTRUCT EXIST. SIDEWALK AS NEEDED
STA. 903+18.51 29.82 LT.
END PROP. 6' CONCRETE SIDEWALK STA. 903+40.30 29.89 LT.
PROP. 182' DOUBLE BARREL 10' X 7' CBC
36 LF 12"x18" ECRP
END PROP. ROADWAY RECONSTRUCTION STA. 903+76.15
BEGIN PROP. 6' CONCRETE SIDEWALK STA. 902+77.92 26.58 LT.
BEGIN PROP. CURB AND GUTTER TYPE F STA. 902+77.76 12.53 LT.
BEGIN PROP. ROADWAY RECONSTRUCTION STA. 902+64.31 10.57 LT.
BEGIN PROP. ROADWAY RECONSTRUCTION STA. 902+73.37 0.00 LT.
BEGIN PROP. ROADWAY RECONSTRUCTION STA. 902+82.37 10.49 RT.
EXIST. 8" WATER MAIN TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
EXIST. 8" SAN. SEWER TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
EXIST. 4" WATER
EXIST. 8" SS
EXIST. 18" SS
900+00
901+00
902+00
903+00
904+00
905+00
905+60
N. MANATEE AVE.
20 MPH
EXIST. BURRIED TV CABLE TO BE REPLACED OR RELOCATED WITHIN WORK LIMITS
END PROP. HANDRAIL STA. 803+60.59 29.84 RT.
END PROP. 6' CONCRETE SIDEWALK STA. 903+88.14 29.37 RT.
BEGIN PROP. HANDRAIL STA. 903+06.90 29.93 RT.
PROP. WING WALL STA. 903+73.12 36.09 RT. (SEE INDEX 400-289-292)
PROP. WING WALL STA. 903+08.66 36.19 RT. (SEE INDEX 400-289-292)
PROP. 140 SQ. FT. RIP RAP
PROP. 10'x7' CBC STA. 803+17.29 30.56 RT.
PROP. 10'x7' CBC STA. 903+52.82 30.50 RT.
BEGIN PROP. 6' CONCRETE SIDEWALK STA. 902+80.14 29.77 RT.
W. OAK ST.
40 MPH
9.7 LF 12"x18" ECRP
HEADWALL (TYP.) SEE DETAILS
CUTOFF WALL (TYP.) SEE DETAILS
PROP. 311 SQ. FT. RIP RAP
8" WATER
N
E
S
W
20
40
0
SCALE: 1" = 40'

PROP. GRADE AT ℄
EXIST. ROAD AT ℄
EXIST. CONCRETE HEADWALL
EXIST. MH S-7
RIM EL. 47.0
PI +23.37
EL. 47.38
PI +88.00
EL. 47.34
PI +33.90
EL. 47.66
PI +57.12
EL. 47.90
PI +76.15
EL. 48.19
0.27%
0.71%
1.01%
1.54%
EXIST. 12" STEEL STORM DRAIN
EXIST. STREAM BANK
EXIST. 8" PVC STORM DRAIN
EXIST. 16' W BOX CULVERT - SOFT BOTTOM
S-(9)
S-(10)
EXIST. WINGWALLS
EXIST. 10" PVC STORM DRAIN
EXIST. 8" STEEL SANITARY SEWER (ELEVATION UNCLEAR)
PROP. DOUBLE BARREL 10'x7' CBC
EXIST. STREAM BOTTOM
48
44
40
37
900+00
900+40
900+80
901+20
901+60
902+00
902+40
902+80
903+20
903+60
904+00
904+40
904+80
905+20
905+60

REVISED	NO.	BY	DATE	DESCRIPTION

	INITIALS	DATE
DESIGN	JV	
DRAWN	PCS	
CHECKED	MP	
QUALITY CHK		
SCALE		

PREPARED FOR:
City Of Arcadia
P.O. Drawer 1000
Arcadia, Florida, 34265
(863) 494-4114

Since 1919

George F. Young, Inc.
525 OLYMPIA AVENUE, SUITE 5 PUNTA GORDA, FLORIDA 33950
PHONE (352) 378-1444 WWW.GEORGEFYOUNG.COM
ENGINEERING CERTIFICATE OF AUTHORIZATION NUMBER 21
CIVIL, TRANSPORTATION, SUBSURFACE & STRUCTURAL ENGINEERING
ECOLOGY | GIS | PLANNING | SURVEYING
ST. PETERSBURG • LAKEWOOD RANCH • TAMPA • GAINESVILLE • LAKE WALES • PUNTA GORDA

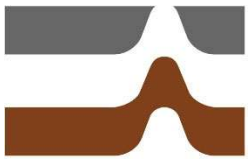
---- No.
DATE

Arcadia Stormwater and Flood Control
Roadway/Drainage Plan and Profile
INCLUDES PORTIONS OF:
SECTIONS 25, 26, 31, 36, TOWNSHIP 37S., RANGE 24, 25E.

JOB NO. 21Y01018LC
SHEET NO. R8

PLOTTED: 1/14/2026 8:25 AM by Smith, Philip FILE: I:\project\eng\pgd\2021\21Y01018LC SA 29 Arcadia Stormwater and Flood Control\Dwg\21Y01018LC Data Shortcuts\Roadway\DSGNRD21Y01018LC01.dwg

Subsurface Soil Exploration and
Geotechnical Engineering Evaluation
Stormwater and Flood Control
City of Arcadia, DeSoto County, Florida



Ardaman & Associates, Inc.

CORPORATE HEADQUARTERS

8008 S. Orange Avenue, Orlando, Florida 32809 - Phone: (407) 855-3860 Fax: (407) 859-8121

Branch Office Locations

Florida: Bartow, Cocoa, Fort Myers, Miami, Orlando, Port St. Lucie, Sarasota, Tallahassee, Tampa, West Palm Beach
Louisiana: Baton Rouge, New Orleans, Shreveport
Texas: Houston

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

August 16, 2024
Ardaman File No. 23-7007

George F. Young
525 E Olympia Avenue, Suite 5
Punta Gorda, FL 33950

Attention: Mr. Manny Perez, PE, MSEM

Subject: Subsurface Soil Exploration and
Geotechnical Engineering Evaluation
Stormwater and Flood Control
City of Arcadia, DeSoto County, Florida

Dear Mr. Perez:

As requested and authorized, we have completed a shallow subsurface soil exploration for the subject project. The purposes of performing this exploration were to:

- Evaluate the general subsurface conditions within the proposed box culvert areas and to provide recommendations for site preparation and foundation support relative to box culverts
- Explore the soil stratigraphy at the location of the proposed jack and bore, 42-inch steel pipes at the western end of the project
- Analyze the global stability of the proposed canal slopes at selected locations
- Estimate the normal seasonal high groundwater level at the boring locations

The analyses and recommendations submitted herein are based on the data obtained from the soil borings presented on Figures 3 through 10 and the assumed loading conditions. This report does not reflect any variations which may occur adjacent to or between the borings. The nature and extent of the variations between the borings may not become evident until during construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations presented in this report after performing on-site observations during the construction period and noting the characteristics of the variations.

In the event any changes occur in the design, nature, or location of the proposed facility, we should review the applicability of conclusions and recommendations in this report. We recommend a general review of final design and specifications by our office to verify that earthwork and foundation recommendations are properly interpreted and implemented in the design specifications. Ardaman & Associates should attend the pre-bid and preconstruction meetings to verify that the bidders/contractor understand the recommendations contained in this report.

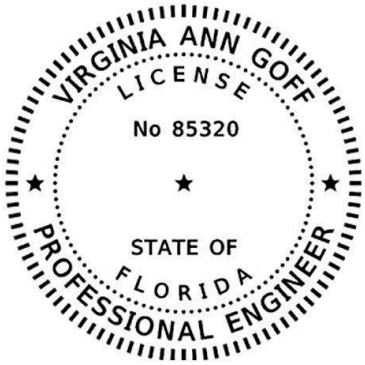
Because of Ardaman & Associates' familiarity with this site and the proposed development gained through performing the subsurface soil exploration and geotechnical engineering evaluation as presented in this report, Ardaman & Associates is best suited to provide monitoring and testing services during earthwork, and to provide continued evaluation and guidance during construction should variations in the soil conditions be encountered.

This study is based on a relatively shallow exploration and is not intended to be an evaluation for sinkhole potential. This study does not include an evaluation of the environmental (ecological or hazardous/toxic material related) condition of the site and subsurface.

This report has been prepared for the exclusive use of George F. Young in accordance with generally accepted geotechnical engineering practices for the purpose of the subject project. No other warranty, expressed or implied, is made.

We are pleased to be of assistance to you on this phase of the project. When we may be of further service to you or should you have any questions, please contact us.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.
Florida Registry 5950



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Virginia Goff

Digitally signed by Virginia Goff
Date: 2024.08.16 15:55:14 -04'00'

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.

Virginia A. Goff, P.E.
Senior Project Engineer
Florida License No.

Jerry H. Kuehn, P.E.
Senior Project Engineer

VG/JHK
23-7007 GFY - City of Arcadia Stormwater Flood Control-JHKrev.docx (Geo 2022)

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

List of Figures

Appendices

1.0 INTRODUCTION

1.1 Site Location and Site Description

The proposed culverts are located along the path of Arcadia Creek (also referred to as Jordan Branch) in the City of Arcadia. The area of study begins near the intersection of SR 70 and Parker Avenue where a new channel connection to the Peace River is proposed and traveling west along Arcadia Creek to the intersection of Hwy 17S and Maple Street in Arcadia, DeSoto County, Florida (Township 37 South, Ranges 24 and 25 East). The general area of study alignment is shown superimposed on the Nocatee and Arcadia, Florida U.S.G.S. quadrangle maps presented on Figure 1.

The proposed culvert locations are currently developed with either box or RCP culverts underneath pavement and/or grassy right-of-way areas of roadways. As an exception, we note that the site for the western-most proposed culvert (where the new channel connection to the Peace River) is located beneath rail road tracks in an area where a current culvert or crossing does not currently exist.

Based on review of the provided cross sections, the subject portion of Arcadia Creek currently has variable slopes ranging from 1H:1V to 4H:1V and flatter with depths to the creek bottom generally on the order of 5 to 10 feet below adjacent grade. We note that the creek alignment was observed to be in variable condition with some erosional features on the banks, overgrowth of vegetation, and debris observed.

1.2 Proposed Construction and Grading

It is our understanding that the proposed construction includes the installation of box culverts, together with alterations to the channel cross section, along the subject alignment of Arcadia Creek. These alterations are discussed in more detail in Section 6.13. Construction details for each culvert are presented in the following table.

Approximate Box Culvert Center (Creek Station)	Interior Cell Dimensions (ft)	Approximate Total Box Culvert Length (ft)
2007+00	20 (Wide) x 9 (High)	30
2009+50	20 (Wide) x 9 (High)	42
2014+00	20 (Wide) x 9 (High)	150
2017+00	20 (Wide) x 8 (High)	40
2035+50	20 (Wide) x 8 (High)	38
2045+50	20 (Wide) x 7 (High)	140

Approximate Box Culvert Center (Creek Station)	Interior Cell Dimensions (ft)	Approximate Total Box Culvert Length (ft)
2056+00	20 (Wide) x 6 (High)	90
2057+50	20 (Wide) x 7 (High)	80
2062+50	20 (Wide) x 6 (High)	50
2066+50	20 (Wide) x 6 (High)	50

We have assumed that the existing roadways overtop the box culverts will be reconstructed at the same approximate elevation and that no more than 2 feet of fill will be required to raise structure areas to final elevations. If actual construction details or fill heights exceed our assumptions, then the recommendations in this report may not be valid. We have assumed the box culverts will be constructed in accordance with FDOT Standard Plans Indices 400-289, 400-291 and 400-292, as applicable.

In addition to the above, 42-inch steel pipes are proposed to be jack and bored under the rail road tracks at the western end of the project to connect the Peace River to Arcadia Creek at approximate Station 2001+00.

1.3 Review of Soil Survey Maps

Based on the Web Soil Survey, as prepared by the U.S. Department of Agriculture Soil Conservation Service, the boring locations are located in areas mapped as several different soil units. The individual soil types and their characteristics according to the Soil Survey are summarized and presented in Table 1.

2.0 FIELD EXPLORATION PROGRAM

2.1 SPT Borings

The field exploration program included performing 22 Standard Penetration Test (SPT) borings. The SPT borings were advanced to depths of 25 feet below the existing ground surface generally using the methodology outlined in ASTM D-1586. A summary of this field procedure is included in the Appendix.

Soil samples recovered during performance of the borings were visually classified in the field and representative portions of the samples were transported to our laboratory in sealed sample jars.

The groundwater level at each of the boring locations was measured during drilling. The borings were backfilled with soil cuttings. The borings were backfilled with cement grout upon completion.

2.2 Test Locations

The approximate locations of the borings are schematically illustrated on aerial photographs shown on Figures 2A and 2B. These locations were determined in the field by Global Positioning System (GPS) utilizing hand-held GPS equipment and coordinates obtained from Google Earth Pro. Boring locations should be considered accurate only to the degree implied by the method of locating used.

We note that 31 SPT borings were originally planned for the project. Of those 31 proposed boring locations, 6 locations were deemed not necessary due to overlap with an ongoing FDOT project that included culvert replacements (FPID 441562-1-52-01). These proposed boring locations are shown in orange on Figure 2B. A further 3 proposed boring locations were not accessible due to steep slopes and limited access. These proposed (but not performed) boring locations are shown in red on Figures 2A and 2B.

The below table lists the SPT boring locations and associated culvert and site details.

AAI Boring Nos.	Approximate Culvert Center (Creek Station)	Notes
TH-1, TH-2	2001+00	42-inch Steel Pipes to be installed via jack and bore. No existing culvert/crossing. TH-2 not accessible.
TH-3, TH-4	2007+00	TH-3 not accessible.
TH-5, TH-6	2009+50	
TH-7, TH-8	2014+00	Significant channel realignment.
TH-9, TH-10	2017+00	
TH-11, TH-12	2035+50	
TH-13, TH-14, TH-15	2040+00	FDOT FPID 441562-1-52-01
TH-16, TH-17, TH-18	2045+50	
TH-19, TH-20, TH-21	2051+00	FDOT FPID 441562-1-52-01
TH-22, TH-23	2056+00	
TH-24, TH-25	2057+50	
TH-26, TH-27	2062+50	
TH-28, TH-29	2066+50	
TH-30, TH-31	2069+50	Existing culvert to be left in place. TH-31 not accessible.

3.0 LABORATORY PROGRAM

Representative soil samples obtained during our field sampling operation were packaged and transferred to our laboratory for further visual examination and classification. The soil samples were classified using visual-manual procedures in general accordance with the Unified Soil Classification System (ASTM D-2488). The resulting soil descriptions are shown on the soil boring profiles presented on Figures 3 through 10.

In addition, we conducted organic content tests (ASTM D-2974-87), natural moisture content tests (ASTM D-2216), and percent fines analyses (ASTM D-1140) on selected soil samples obtained from the borings. The results of these tests are presented adjacent to the sample depth on the boring profiles on Figures 3 through 10.

4.0 GENERAL SUBSURFACE CONDITIONS

4.1 General Soil Profile

The results of the field exploration and laboratory programs are graphically summarized on the soil boring profiles presented on Figures 3 through 10. The stratification of the boring profiles represents our interpretation of the field boring logs and the results of laboratory examinations of the recovered samples. The stratification lines represent the approximate boundary between soil types. The actual transitions may be more gradual than implied.

The results of the borings indicate general soil profiles as shown in Table 2.

As an exception to the general soil boring profiles shown in Table 2, we note that deleterious amounts of debris were encountered from the existing ground surface to a depth of 3 feet in Boring TH-4 and organic muck (OH, Pt) was encountered between depths ranging from 2½ to 5 feet deep in Borings TH-5, TH-6, TH-18, TH-28 and TH-29.

The soil profiles shown in Table 2 are outlined in general terms only. Please refer to Figures 3 through 10 for soil profile details.

4.2 Groundwater Level

The groundwater level was measured in the boreholes during drilling. As shown on Figures 3 through 10, groundwater was encountered at depths that ranged from 4.25 to 10.3 feet below the existing ground surface on the dates indicated. Fluctuation in groundwater levels should be anticipated throughout the year, primarily due to seasonal variations in rainfall and other factors that may vary from the time the borings were conducted.

5.0 NORMAL SEASONAL HIGH GROUNDWATER LEVEL

The groundwater level is affected by a number of factors. The amount of rainfall and the drainage characteristics of the soils, the land surface elevation, relief points such as drainage ditches, lakes, rivers, swamp areas, etc., and distance to relief points are some of the more important factors influencing the groundwater level.

The normal seasonal high groundwater level is the level in the August-September period at the end of the rainy season during a year of normal (average) rainfall. The water table elevations associated with a higher than normal rainfall and in the extreme case, flood, would be higher to much higher than the normal seasonal high groundwater level, and could occur at times outside of the August-September period. The normal high water levels would more approximate the normal seasonal high groundwater levels.

Based on our interpretation of the site conditions using our boring logs, we estimate the normal seasonal high groundwater level at the boring locations to be approximately 2 to 3 feet above the groundwater levels measured at the time of our field exploration.

6.0 ENGINEERING EVALUATION AND RECOMMENDATIONS

6.1 General

The results of our exploration indicate that, with proper site preparation as recommended in this report, the existing soils, with the exception of the debris and organic muck, are suitable for supporting the proposed box culverts and associated wingwalls on conventional shallow foundations (i.e. spread footings and/or the bottom of the culvert).

Deleterious debris and organic muck (OH, Pt) as shown on the boring profiles for Borings TH-4, TH-5, TH-6, TH-18, TH-28 and TH-29 were encountered between depths ranging from 2½ to 5 feet deep. Deleterious debris and organic muck may be present at greater depths and at unexplored locations. Because of the potential for large total and differential settlements, deleterious debris and organic muck should not be used as a foundation soil and should be completely removed (i.e. “demucked”) in accordance with the recommendations presented in this report. Based on review of the project plans and proposed culvert geometry with heights of at least 6 feet, these deleterious materials may not extend below the culvert bottoms. However, these materials will be encountered during the initial excavation for the culvert installation and associated removal (and disposal of) the deleterious materials should be conducted in accordance with the recommendations presented in this report.

The following are our recommendations for overall site preparation and foundation support for the proposed culverts based on the existing soil conditions encountered during the exploration. The recommendations are made as a guide for the design engineer and/or architect, parts of which should be incorporated into the project's specifications.

6.2 Dewatering

Due to the anticipated deep excavation below the roadway surface, and both the relatively shallow encountered groundwater levels and estimated normal seasonal high groundwater tables, we anticipate significant dewatering will be required for this project regardless of the time of year.

The flow of water in the creek will need to be stopped temporarily, diverted and/or maintained by a large pump to allow the water to bypass the box culvert during construction. Water within the culvert excavation will also likely need to be removed and pumped downstream. For projects of this type, typically water is temporarily dammed upstream and downstream of the culvert.

Dewatering of the soils beneath new structure foundations may also be necessary in order to properly compact the subgrade soils. The method of dewatering should be determined by the contractor, but in general should be capable of lowering the groundwater level to at least 2 feet below the compacted soil surface.

In some cases, dewatering can cause settlements in adjacent structures. The water table should be monitored at the edges of the site near existing structures, and settlement reference points should be set on existing structures and monitored for possible settlements. If any settlements are observed, the dewatering should be terminated and systems should be developed to prevent settlement of adjacent existing structures.

The contractor should be aware that cuts may expose confined aquifers where relatively permeable sandy soils underlie less permeable zones of clayey soils. These relatively permeable zones may require dewatering efforts to include relatively deep, full-aquifer penetrating wells, airlift of water from wells, trench drains, seepage barriers, etc.

6.3 Stripping

The "footprint" of the proposed culverts and headwalls, plus a minimum margin of five feet, should be stripped of all soft sediment, organic topsoil, vegetation, debris or other deleterious materials, as encountered.

Underground structures, if any, should be removed from the proposed construction area. If pipes or any collapsible or leak prone utilities are not removed or completely filled (with grout or concrete), they might serve as conduits for subsurface erosion resulting in excessive settlements. Over-excavated areas resulting from the removal of underground structures and unsuitable materials should be backfilled in accordance with the fill soils section of this report. This excavation must not undermine the existing foundations. Provide shoring, bracing, and/or underpinning of existing structures as necessary to protect from failure.

6.4 Excavation

Based on the conditions encountered during the field exploration, we anticipate that the majority of the sandy soils as encountered in the borings can be excavated with standard earth moving equipment (i.e., front-end loaders and backhoes).

The soils below the bottom of the excavations should not be disturbed by the excavation process. If soils become disturbed and difficult to compact, they should be over-excavated to a depth necessary to remove all disturbed soils.

Excavation should be safely braced to prevent injury to personnel or damage to equipment. Temporary safe slopes should be cut at a minimum 1.5 Horizontal (H) to 1 Vertical (V) in accordance with OSHA, 29 CFR Part 1926 Final Rule, Excavation Requirements or successor regulations. Flatter slopes should be used if deemed necessary. Surcharge loads should be kept at least 5 feet from excavations. Spoil banks adjacent to excavations should be sloped no steeper than 2.0H to 1.0V. Provisions for maintaining workers' safety within excavations is the sole responsibility of the Contractor.

6.5 Demucking

The deleterious debris and organic muck/peat (Stratum 7 as shown on the boring profiles) should be removed (demucked) to its entire vertical limits and to a minimum horizontal margin equivalent to the depth of muck outside the development area. A minimum horizontal margin of 5 feet should be used if the depth to the bottom of the muck is less than 5 feet.

The excavated organic muck/peat must not be used as fill material and should be disposed of as directed by the owner. Demucking and backfilling operations should be monitored continuously by a representative of Ardaman & Associates to verify that all unsuitable material is removed and that backfill soils are suitable and well compacted.

Excavation slopes and/or bracing are the responsibility of the contractor. However, at a minimum, all excavations should be sloped and/or braced to meet the requirements of the Occupational Health and Safety Administration (OSHA) latest standards.

If the excavation extends below the groundwater table, the control of the groundwater will be required. De-mucking should be conducted "in-the-dry". The use of well points, rim ditches, sheet piles, etc. may be required to help control groundwater during excavation and backfilling. Regardless of the dewatering method used, we recommend that the groundwater table be lowered in advance of the excavation and be maintained at least 24 inches below earthwork and compaction surfaces at all times.

Actual limits of muck removal will be determined based on visual observation during construction. The final quantity of muck removal should be determined after demucking has been completed using methods such as truck volume and/or survey conducted during removal of the muck.

6.6 Proof-compacting

We recommend proof-compacting the cleared surface to locate any unforeseen soft areas or unsuitable surface or near-surface soils, to increase the density of the upper soils, and to prepare the existing surface for the addition of the fill soils (as required). Proof-compacting of the culvert and wingwall areas should achieve the density requirements described in the next paragraph. If deemed necessary, in areas that continue to "yield", remove all deleterious material and replace with clean, compacted sand backfill.

A density equivalent to or greater than 95 percent of the modified Proctor (ASTM D-1557) maximum dry density value for a depth of 1 foot in the culvert and wingwall areas must be achieved beneath the cleared ground surface. Over-excavation and recompaction may be required if these minimum density requirements are not achieved. The soil moisture should be adjusted as necessary during compaction. We note that the design engineer may specify greater compaction, such as 98 percent of the modified Proctor, to a certain depth below pavements.

Due to the relatively high groundwater level at this site, proof-compacting may cause upward movement or "pumping" of the groundwater. However, we recommend that the existing surface be level and firm prior to the addition of fill soils. The site should be dewatered as necessary. Depending on the time of year, a 12- to 18-inch layer of clean fine sand (SP) fill may be required prior to proof-rolling.

Typically the most effective method to achieve uniform support for a culvert is to place a one foot thick layer of gravel (No. 57 stone) and compact to a firm and unyielding condition. A separation geotextile should be placed around this material to prevent infiltration of sand into the gravel, in accordance with Section 985 of the FDOT Standard Specification for Road and Bridge Construction.

Care should be exercised to avoid damaging any neighboring structures while the compaction operation is underway. Prior to commencing compaction, occupants of adjacent structures should be notified and the existing condition (i.e., cracks) of the structures documented with photographs and survey (if deemed necessary). Compaction should cease if deemed detrimental to adjacent structures, and Ardaman & Associates should be notified immediately. Heavy vibratory compaction should not be used within 200 feet of existing structures.

6.7 Suitable Fill Material and Compaction of Fill Soils

All fill materials should be free of organic materials, such as roots and vegetation. We recommend using fill with less than 12 percent by dry weight of material passing the U.S. Standard No. 200 sieve size. The fine sand and fine sand with silt (Strata No. 1 and 2 without roots, as shown on Figures 3 through 10) are suitable for use as fill materials and, with proper moisture control, should densify using conventional compaction methods. Soils with more than 12 percent passing the No. 200 sieve can be used in some applications, but will be more difficult to compact due to their inherent nature to retain soil moisture.

All structural fill should be placed in level lifts not to exceed 12 inches in uncompacted thickness. Each lift should be compacted to at least 95 percent of the modified Proctor (ASTM D-1557) maximum dry density value. The filling and compaction operations should continue in lifts until the desired elevation(s) is achieved. If hand-held compaction equipment is used, the lift thickness should be reduced to no more than 6 inches.

The fill soil in the culvert area should be of a homogenous nature such that a layer(s) of relatively permeable soil is not placed beneath relatively low permeable soils. This could create undesirable preferential seepage paths through the culvert area that could cause stability problems.

6.8 Box Culvert and Wingwall Foundation Support

Excavate the foundations to the proposed bottom of culvert and/or wingwall footing elevations and, thereafter, verify the in-place compaction for a depth of 1 foot below the footing bottoms. If necessary, compact the soils at the bottom of the excavations to at least 95 percent of the modified Proctor maximum dry density (ASTM D-1557) for a depth of 1 foot below the footing bottoms. Based on the existing soil conditions and, assuming the above outlined criteria is implemented, a maximum Nominal Bearing Resistance of 5,000 pounds per square foot (psf) may be used in the foundation design for box culvert and wingwall foundations.

Bearing foundations should be a minimum of 36 inches wide. A minimum soil cover of 24 inches should be maintained from the bottom of the foundations to the adjacent finished grades.

A settlement analysis for the box culverts was performed using a computer program ("Settle3D" by Rocscience) which models the subsurface conditions as a layered soil profile. Published correlations relying on the SPT N-values were used to estimate the soil elastic moduli. Westergard stress distribution method was used for calculating the stress changes caused by the estimated weight of the proposed culverts in the underlying foundation soils. The results of the settlement calculations indicated maximum total settlement on the order of 2 inches with up to 1 inch of differential settlement. We note that the magnitude of expected settlement may be less than 2 inches in areas where existing culverts are being replaced. In these areas, the underlying foundation soils have been subjected to culvert loads resulting in lesser stress changes caused by the application of the new culvert loads, compared to areas where culverts do not currently exist. We estimate that around 70% of the settlement will be elastic in nature, occurring as the loads are applied and significant long-term settlement is not anticipated. Therefore, the “effective length” for each box culvert will be its total length.

We note that a modulus of subgrade reaction of 150 pounds per cubic inch (pci) may be used for design purposes provided that this area is prepared in accordance with the recommendations contained in this report. This modulus of subgrade reaction is based on empirical correlation to the results expected from a 12-inch plate load test.

6.9 At-Rest Earth Pressures Acting on the Culvert

At-rest earth pressures acting on the culverts includes lateral loading due to soil and water. The lateral earth pressure will be a function of both the soil unit weight (submerged) and the depth below the ground surface and the soil unit weight (submerged or moist) plus hydrostatic pressure (if applicable). The following equations can be used to determine the lateral at-rest earth pressure:

$\sigma_h = K_o \gamma_m h$ (above groundwater table)
$\sigma_h = K_o [\gamma_m h_w + \gamma_b (h - h_w)]$ (below groundwater table)

Where:

σ_h = lateral earth pressure (psf)
K_o = coefficient of at rest earth pressure (0.5) (this value assumes that the backfill is lightly compacted yet not overcompacted)
γ_m = effective moist unit weight of soil = 110 pcf for compacted moist soil above the water table.
γ_b = buoyant unit weight of soil = 58 pcf for compacted saturated soil below the water table.
h = vertical depth (feet) below grade at which lateral earth pressure is determined
h_w = vertical depth (feet) below grade to groundwater table

For design, an appropriate factor of safety should be applied to the lateral earth pressure calculated using the above equation. Lateral pressure distributions determined in accordance with *the above do not include hydrostatic pressures or surcharge loads.* Where applicable, they should be incorporated in the design.

6.10 Earth Pressure on Shoring and Bracing

If temporary shoring and bracing is required for any excavations, the system should be designed to resist lateral earth pressure. The design earth pressure will be a function of the flexibility of the shoring and bracing system. For a flexible system restrained laterally by braces placed as the excavation proceeds, the design earth pressure for shoring and bracing can be computed using a uniform earth pressure distribution with depth. It is recommended that well points be used to dewater around the excavations. For such dewatered excavations, we recommend the following uniform pressure distribution over the full braced height as follows:

Uniform Soil Pressure Distributions, $p = 0.65 K_a \gamma_m H$

Where:

p = uniform pressure distribution for design of braced excavation
K_a = coefficient of active earth pressure = 0.33
γ_m = effective moist unit weight of soils = 110 pcf

H = depth of excavation

An appropriate factor of safety should be applied for the design of the braced excavations.

Lateral pressure distributions determined in accordance with the above do not consider construction loads or surcharge loads. To the extent that such pressures and forces may act on the walls, they should be included in the design.

Construction equipment and excavated soil should be kept a minimum distance of 5 feet from the edge of the braced or shored excavation. Soil placed adjacent to (maintaining a minimum 5-foot horizontal clearance) the braced or shored excavation should have a minimum slope of 2.0H:1.0V.

Means and methods of excavation and bracing should be responsibility of the contractor however, excavation and/or bracing should, at a minimum, adhere to the requirements of the Occupational Safety Health Administration (OSHA).

6.11 Uplift Resistance

Permanent structures submerged below the water table will be subjected to uplift forces caused by buoyancy. The components resisting this buoyancy include: 1) the total weight of the structure divided by an appropriate factor of safety; 2) the buoyant weight of soil overlying the structure; and 3) the shearing forces that act on shear planes that radiate vertically upward from the perimeter of the edges of the structure to the ground surface. The allowable unit shearing resistance may be determined by the following formula:

Allowable Unit Shearing Resistance
Above the Groundwater Table, $F=K_o\tan(2/3\varphi)\gamma_m h$

Allowable Unit Shearing Resistance
at a Point Below the Groundwater Table, $F=[K_o\tan(2/3\varphi)\{(h-h_w)\gamma_m+h_w\gamma_b\}]/S.F.$

Where:

F	=	unit shearing resistance (psf)
K_o	=	coefficient of earth pressure at rest = 0.5
γ_m	=	unit weight of moist soil = 110 pcf
γ_b	=	buoyant unit weight of soil = 57.5 pcf
h	=	vertical depth below grade at which shearing resistance is determined
h_w	=	height of groundwater level above depth at which shearing resistance is determined
φ	=	angle of internal friction of the soil = 32 degrees
S.F.	=	Safety Factor = 2

The values given for the above parameters assume that the permanent structures are surrounded by clean, well compacted granular backfill that extends horizontally at least 2 feet beyond the structures.

6.12 **Design Soil Parameters**

We understand that sheet pile walls may be used to facilitate the dewatering and subsequent construction relative to culvert construction. Based on the general soil profiles encountered in the borings, we recommend that the soil parameters as presented in the Soil Parameters Table in Table 2 be used for the purposes of design.

Wall friction angles and adhesion values presented in Table 2 assume the use of steel sheet piles. It is noted that the soil parameters presented in Table 2 do not include safety factors. Appropriate safety factors should be applied to the sheet pile design.

6.13 **Slope Stability Analysis**

We understand that the Arcadia Creek channel will be altered throughout the subject project study area. Alterations include regrading of channel side slopes, deepening or shallowing of the channel bottom, and realignment of the centerline of the channel. Based on review of the provided cross sections, three general side slopes are proposed:

- Sections 2001+50 to 2018+00 → 1H:1V
- Sections 2018+00 to 2037+00 → 1.5H:1V
- Sections 2037+00 to 2067+00 → 2.5 to 3H:1V

Subsurface data obtained from the soil borings, design parameters selected for the different soil types based on our experience with similar types of materials, and the geometry and topography information in the project plans were used to perform global stability analyses. We note that the analyses assume that the water level encountered in our soil borings and water level in the creek are equivalent.

Typical cross sections were analyzed using the GeoStudio Slope/W software and the resulting factors of safety apply to relatively deep rotational type slope failures. Slightly lower factors of safety would apply to shallow “sloughing” type failures that may occur particularly if vegetation or other forms of erosion protection are not established on the slope faces. Varying water levels, high flow velocities, rapid drawdown, soft silts and organics (or otherwise weak layers), loadings/surcharge, etc. can all adversely impact slope stability. If a 100-year storm, normal water level or controlled water level will need to be considered or if future loading conditions adjacent to the top of slope are anticipated (i.e.; an urban trail), then the slope stability analyses contained herein should be reevaluated. Further, we have not provided evaluation of the stability of structures (including buildings and retaining walls) that have been constructed in close proximity to the creek alignment.

The slope stability output graphs from our analysis have been included as attachments to this report. The results of the slope stability analysis are presented below.

Creek Station	Slope	Factor of Safety
2016+00	1H:1V	1.0
2035+00	1.5H:1V	1.5
2059+00	2.5H to 3H:1V	2.0

As shown above and on the attached slope stability output graphs, the resulting factors of safety related to the sandy slopes analyzed for this project increased as the slope becomes less steep.

The US Army Corps of Engineers (USACE) EM 1110-2-1902 manual (Chapter 3, Section 4), suggests minimum acceptable factor of safety values are 1.5 for normal long-term loading conditions, 1.3 for infrequent loadings, and 1.1 for infrequent rapid drawdown from the maximum surcharge level.

The proposed 1H:1V slope from Section 2001+50 to Section 2018+00 is marginally safe and below the minimum factor of safety of 1.5 recommended by the USACE for long-term loading conditions. However, as noted by USACE, these recommended factors of safety "provide guidance but are not prescribed for slopes other than the slopes of new embankment dams." Lower factors of safety can be used based on varying factors including consequences of failure and historical evidence of past performance. Foremost, consideration should be given to flattening the slopes along this section of the Creek if the factor of safety is not deemed acceptable by the project team based on evaluation of consequences of failure of these slopes. Alternatively, since the existing slopes have been present for an extended period of time without reports of failures or stability issues, consideration could be given to leaving the existing slopes in place along this portion of the channel. Slope stability measures such as Tensar's Sierra System (which utilizes Uniaxial Geogrids) or moving towards a walled slope (such as RediRock or sheet piles) can also be considered if flattening of slopes or leaving existing slopes in place is not feasible. We would be pleased to discuss these options with you in more detail, if requested.

If the existing slopes from Section 2011+50 to Section 2018+00 are left in place or the proposed 1H:1V is deemed acceptable by the project team, the slopes should be routinely inspected. Failures, if they occur, are expected to manifest in unstable areas/sections with notable depressions, tension cracks, hummocky (uneven) slope surfaces, deep surface depressions, etc. Without corrective action or repair, larger deformations or more serious failures will occur and could occur suddenly under storm/high groundwater/wet conditions.

It is important to realize that localized areas of sloughing or surface erosion may still periodically occur along the entirety of the subject section of Arcadia Creek, especially following any significant drawdowns and/or major storm events. In addition, we note that the USACE's ETL

1110-2-561 and EM 1110-2-1902 documents consider shallow failures as a maintenance issue and usually do not greatly affect the global stability of the slope if periodically repaired and maintained. However, the USACE documents further state that it is important to realize that if shallow failures are not repaired, they can become progressively larger and may then represent a threat to the overall slope stability. Examples of shallow failures include minor sloughing of the canal bank or the development of erosion “gullies” from stormwater runoff.

7.0 QUALITY ASSURANCE

We recommend establishing a comprehensive quality assurance program to verify that all site preparation, excavation, and backfilling is conducted in accordance with the appropriate plans and specifications. Materials testing and inspection services should be provided by Ardaman & Associates.

TABLE 1

Review of Soil Survey Maps
Stormwater and Flood Control
City of Arcadia, DeSoto County, Florida

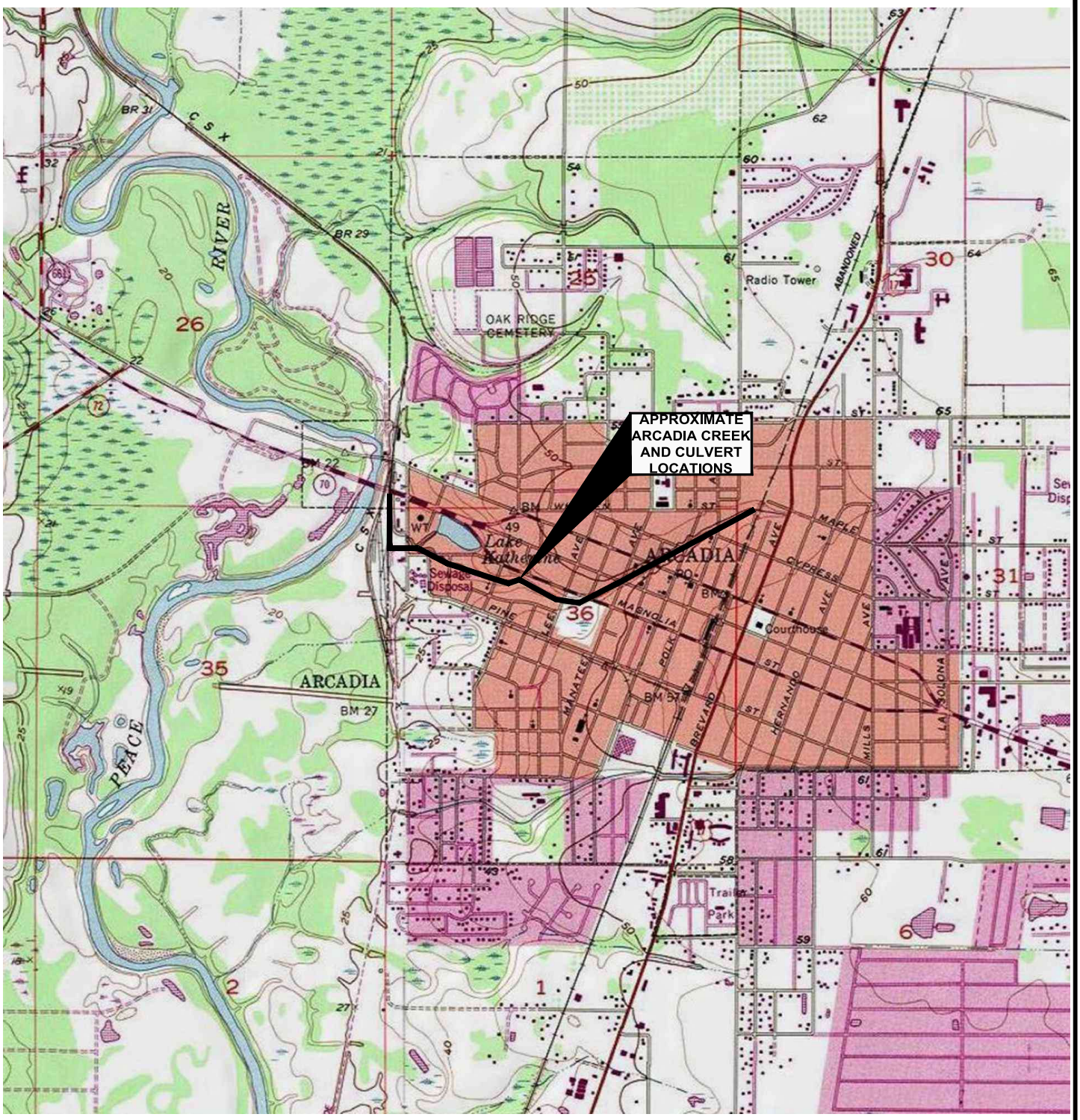
Boring No.	Soil Map Unit	Description	Approximate Depth to Normal Seasonal High Groundwater Level (inches)
TH-1, TH-2, TH-7 – TH-10	20; Immokalee fine sand, 0 to 2 percent slopes	Deep, nearly level poorly drained sandy soil on flatwoods.	< 12
TH-3 – TH-6	13; EauGallie fine sand, 0 to 2 percent slopes	Deep, nearly level poorly drained sandy soil on flatwoods.	< 12
TH-11, TH-12	2; Anclote mucky fine sand, frequently ponded, 0 to 1 percent slopes	Deep, nearly level poorly drained soil in depressions. The upper portion of the profile consists of mucky fine sand which is underlain by sand.	Above the ground surface
TH-16 – TH-18, TH-22 – TH-29	36; Smyrna fine sand, 0 to 2 percent slopes	Deep, nearly level and poorly drained sandy soil on flatwoods.	< 12
TH-30, TH-31	42; Zolfo fine sand, 0 to 2 percent slopes	Deep, nearly level sandy soils on low ridges on flatwoods.	18 – 36
*Proposed boring locations TH-13, TH-14, TH-15, TH-19, TH-20, TH-21 are part of FDOT FPID 441562-1-52-01 and are not considered in the above table.			

TABLE 2

Design Soil Parameters
Stormwater and Flood Control
City of Arcadia, DeSoto County, Florida

Borings	Depth (feet)	Description[1]	Moist Unit Weight (pcf)	Saturated Unit Weight (pcf)	Angle of Internal Friction (degrees)	Cohesion (psf)	Wall Adhesion (psf)[2]	Wall Friction (deg)[2]
TH-1	0-9	Very loose to loose sand (SP, SP-SM)	104	112	28	--	--	17
	9-17½	Medium dense sand (SP, SP-SC)	--	116	31	--	--	17
	17½-25	Very loose to loose sand (SP-SM, SC)	--	112	28	--	--	17
TH-4, TH-5, TH-9, TH-16, TH-18, TH-22 – TH-26, TH-29	0-25	Vey loose to loose sand (SP, SP-SC, SC)	104	112	28	--	--	17
TH-6	0-12½	Loose sand (SP, SP-SM)	107	115	30	--	--	17
	12½-17½	Dense sand (SP-SC)	--	125	35	--	--	17
	17½-27½	Very loose to loose sand (SP-SC)	104	112	28	--	--	17
TH-7, TH-8, TH-10, TH-11, TH-12, TH-17, TH-27, TH-28, TH-30	0-8	Very loose to loose sand (SP, SP-SM)	104	112	28	--	--	17
	8-12½	Medium dense sand (SP-SM, SP-SC, SC)	--	116	31	--	--	17
	12½-25	Loose to medium dense sand or limestone (SP, SP-SC, SC, Limestone)	--	115	30	--	--	17

(1) Unified Soil Classification System (refer to Figures 3 through 10)
(2) Assumes the use of steel sheet piles



TOWNSHIP 37 SOUTH
RANGE 24, 25 EAST

OBTAINED FROM U.S.G.S. QUAD MAP: NOCATEE, ARCADIA FLORIDA 1953
(PHOTOREVISED 1972)

N

0 1000 2000
SCALE: (FEET)

QUADRANGLE LOCATION

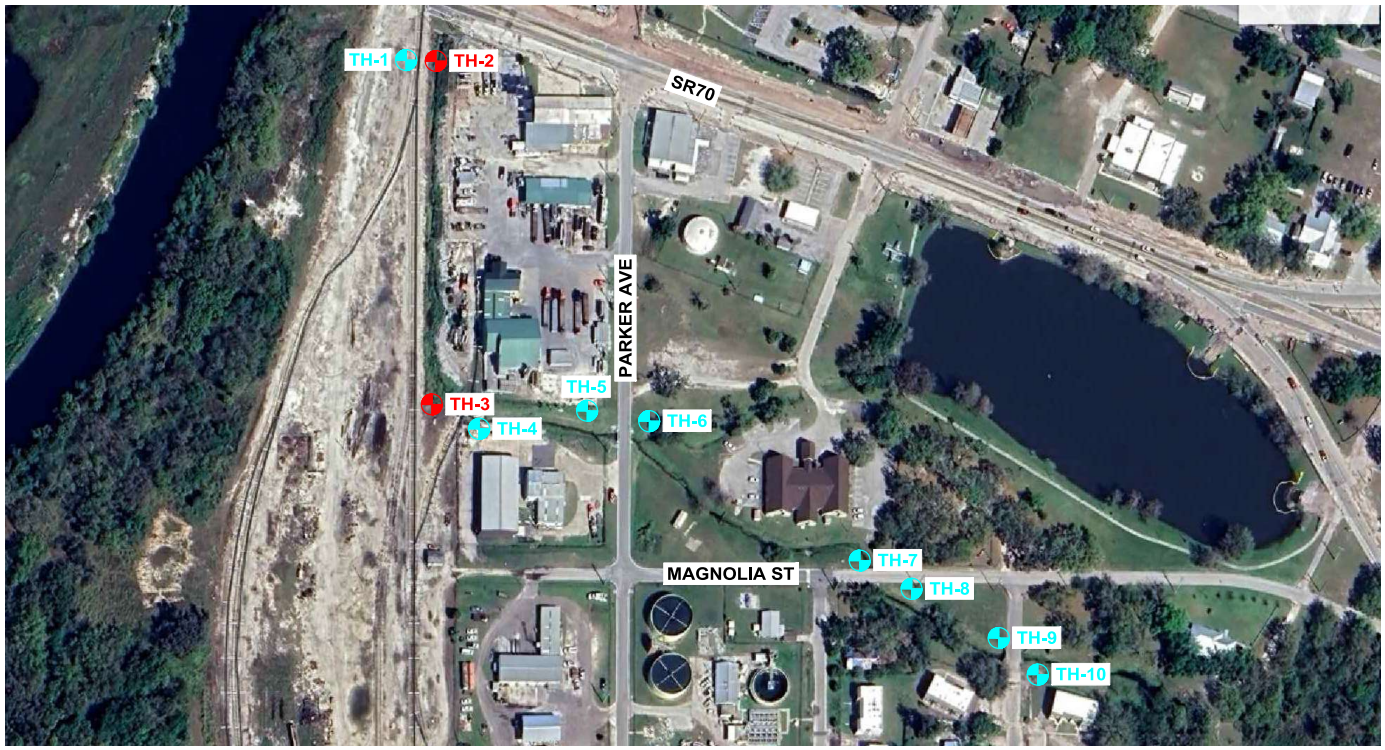
SITE LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV		DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.	FIGURE: 1

C:\Users\JOSHUA~1.VAS\AppData\Local\Temp\AcPublish_58068\23-7007.dwg 8/16/2024 2:54:32 PM, JOSHUA.VASQUEZ



N

0 100 200

SCALE: (FEET)

TH STANDARD PENETRATION TEST (SPT) BORING LOCATION

TH STANDARD PENETRATION TEST (SPT) BORING LOCATION (NOT ACCESSIBLE)

TH STANDARD PENETRATION TEST (SPT) BORING LOCATION (NOT PERFORMED - PART OF FDOT 441562-1-52-01 STUDY)

NOTE: THE BASE MAP FOR THE BORING LOCATION PLAN IS AN AERIAL FROM GOOGLE EARTH PRO

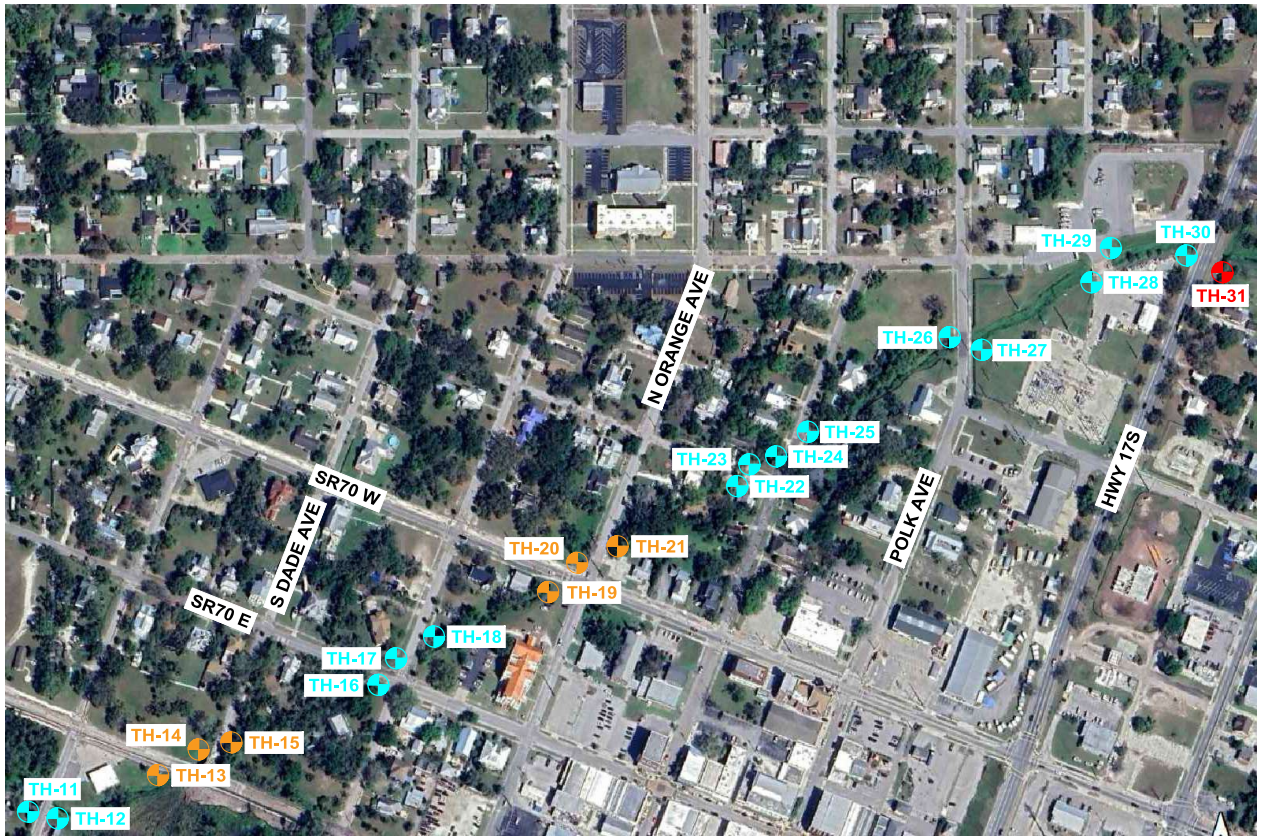
BORING LOCATION PLAN

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV		DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.	FIGURE: 2A

C:\Users\JOSHUA~1.VAS\AppData\Local\Temp\AcPublish_58068\23-7007.dwg 8/16/2024 2:54:33 PM, JOSHUA.VASQUEZ



TH STANDARD PENETRATION TEST (SPT) BORING LOCATION

TH STANDARD PENETRATION TEST (SPT) BORING LOCATION (NOT ACCESSIBLE)

TH STANDARD PENETRATION TEST (SPT) BORING LOCATION (NOT PERFORMED - PART OF FDOT 441562-1-52-01 STUDY)

NOTE: THE BASE MAP FOR THE BORING LOCATION PLAN IS AN AERIAL FROM GOOGLE EARTH PRO

N

0 100 200

SCALE: (FEET)

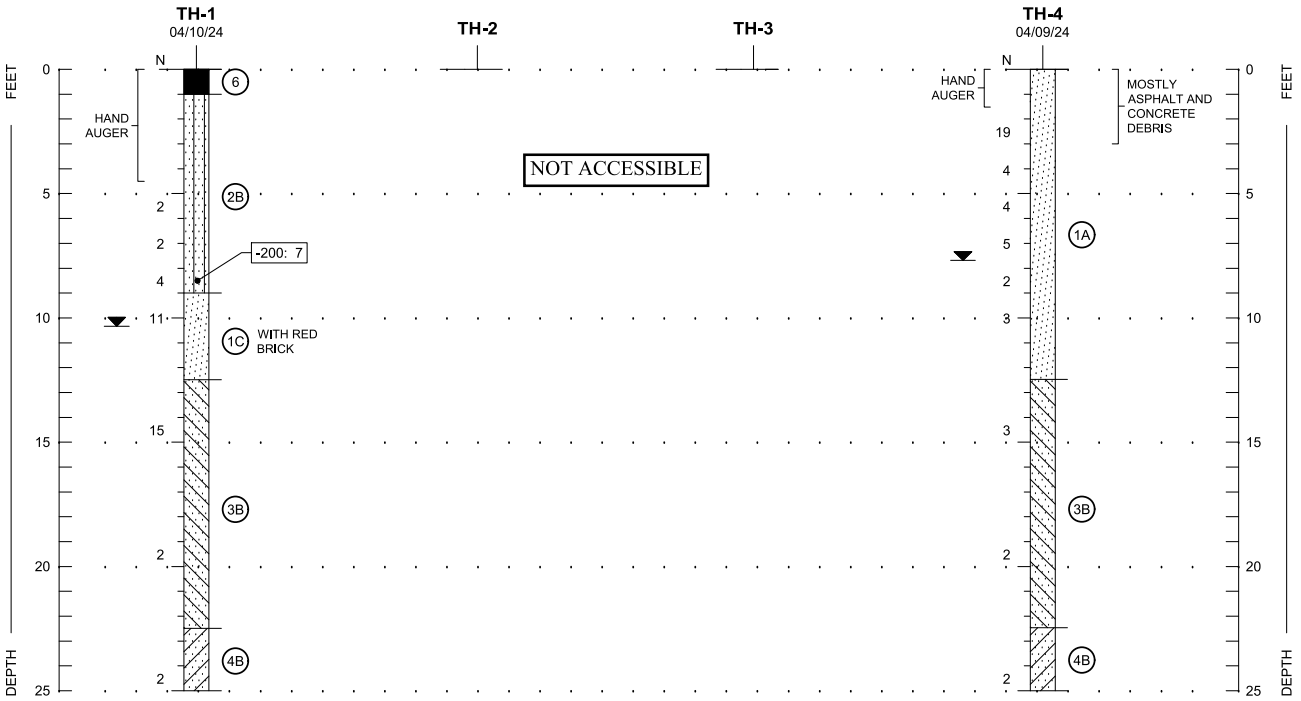
BORING LOCATION PLAN

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV		DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.	FIGURE: 2B

C:\Users\JOSHUA~1.VAS\AppData\Local\Temp\AcPublish_58068\23-7007.dwg 8/16/2024 2:54:33 PM, JOSHUA.VASQUEZ



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

- A LIGHT GRAYISH BROWN TO GRAYISH BROWN
- B LIGHT BROWN TO BROWN
- C LIGHT GRAY TO GRAY
- D VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

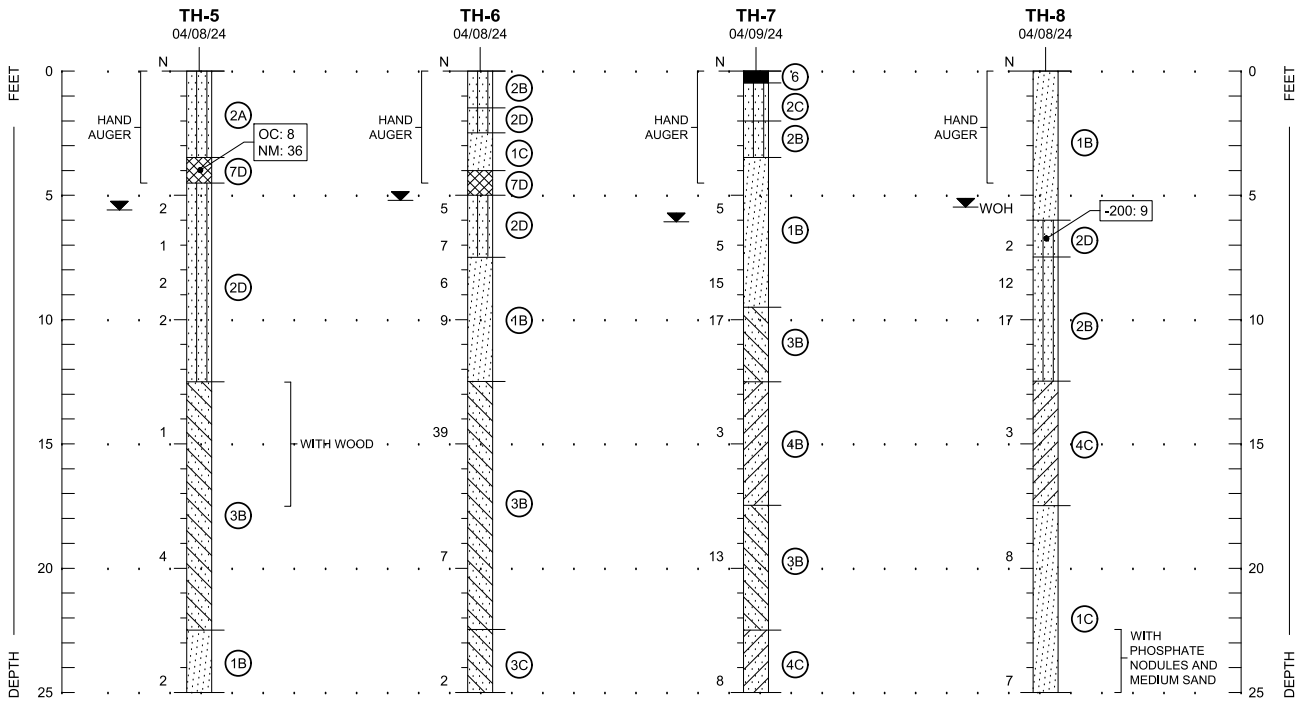
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV		DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.	FIGURE: 3



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

A. LIGHT GRAYISH BROWN TO GRAYISH BROWN
B. LIGHT BROWN TO BROWN
C. LIGHT GRAY TO GRAY
D. VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

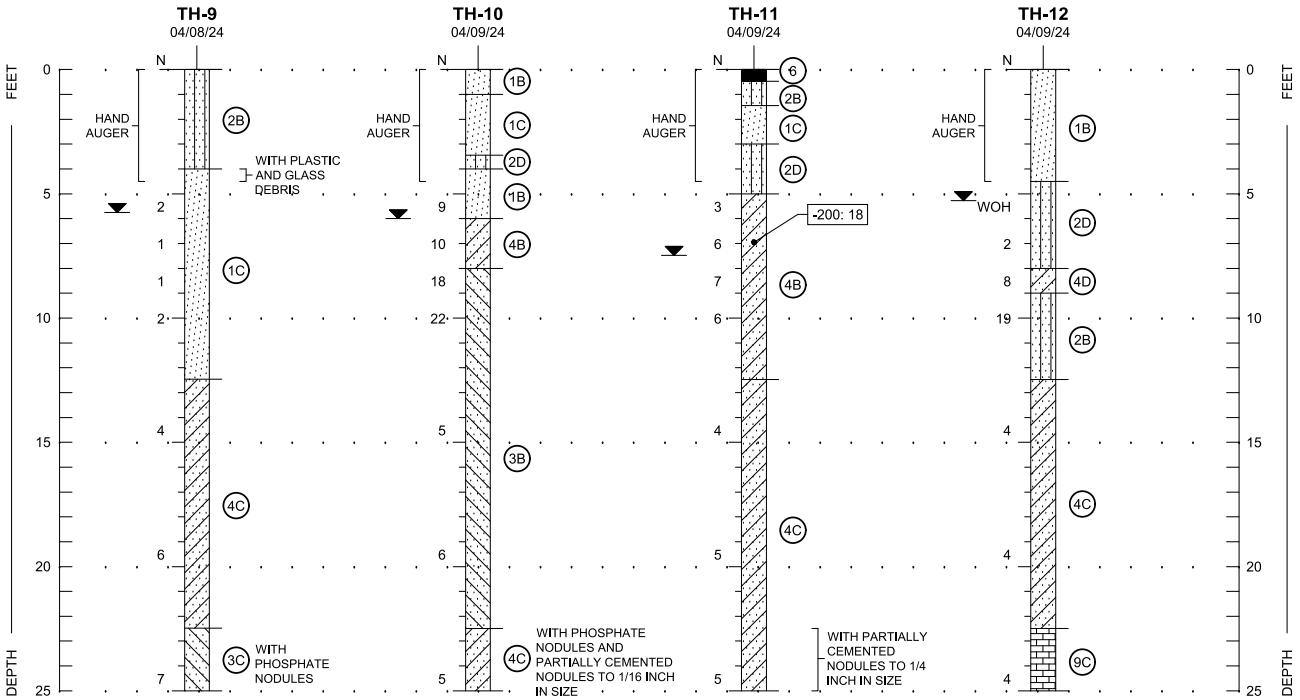
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 4



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

A. LIGHT GRAYISH BROWN TO GRAYISH BROWN
B. LIGHT BROWN TO BROWN
C. LIGHT GRAY TO GRAY
D. VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

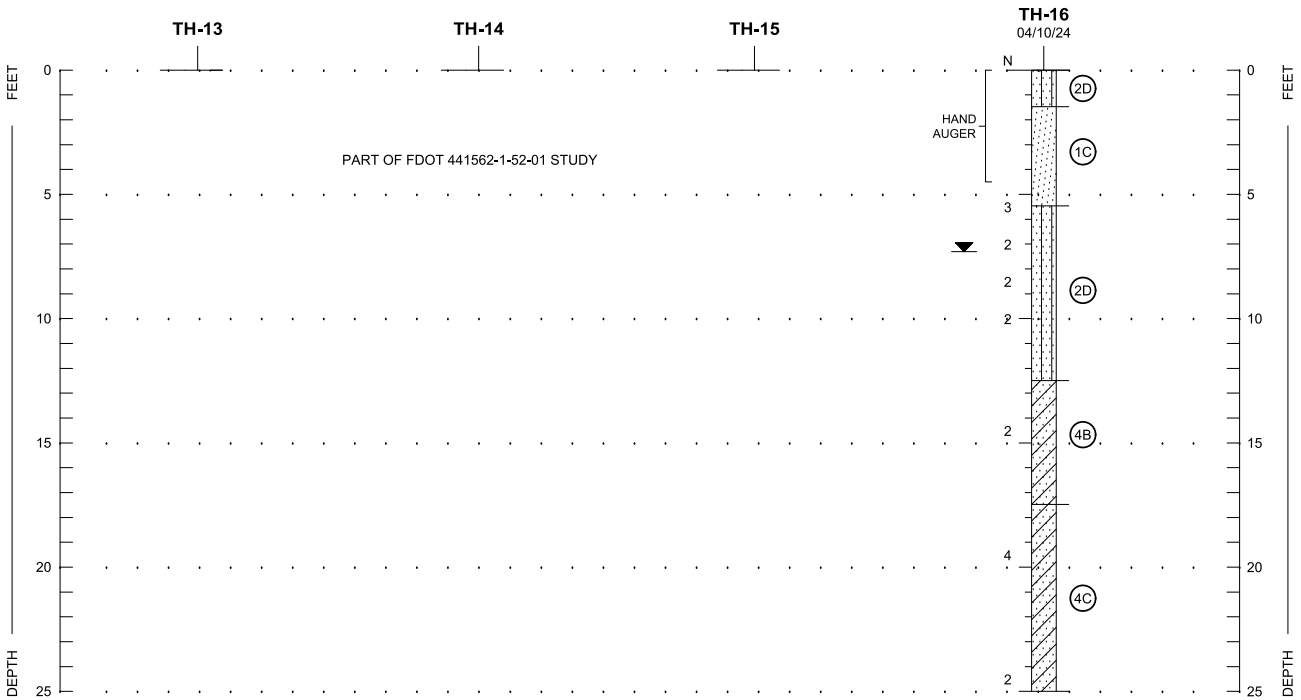
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 5



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

- A LIGHT GRAYISH BROWN TO GRAYISH BROWN
- B LIGHT BROWN TO BROWN
- C LIGHT GRAY TO GRAY
- D VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

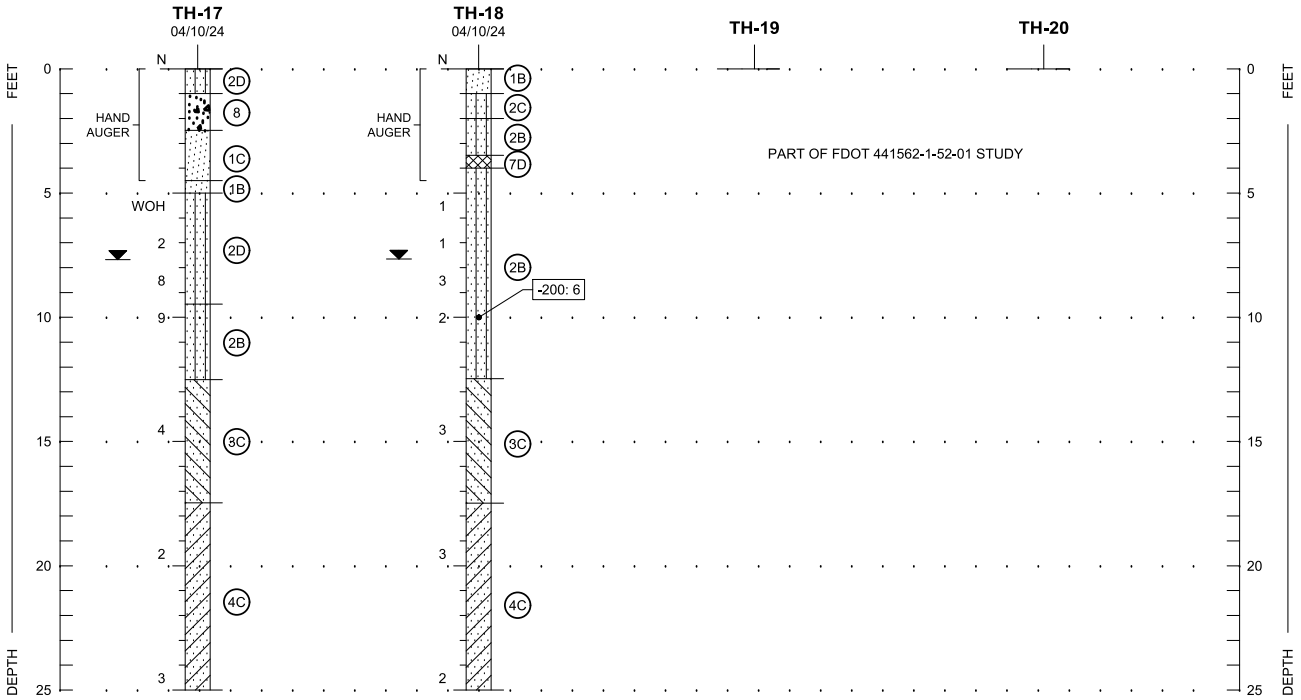
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 6



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

A. LIGHT GRAYISH BROWN TO GRAYISH BROWN
B. LIGHT BROWN TO BROWN
C. LIGHT GRAY TO GRAY
D. VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

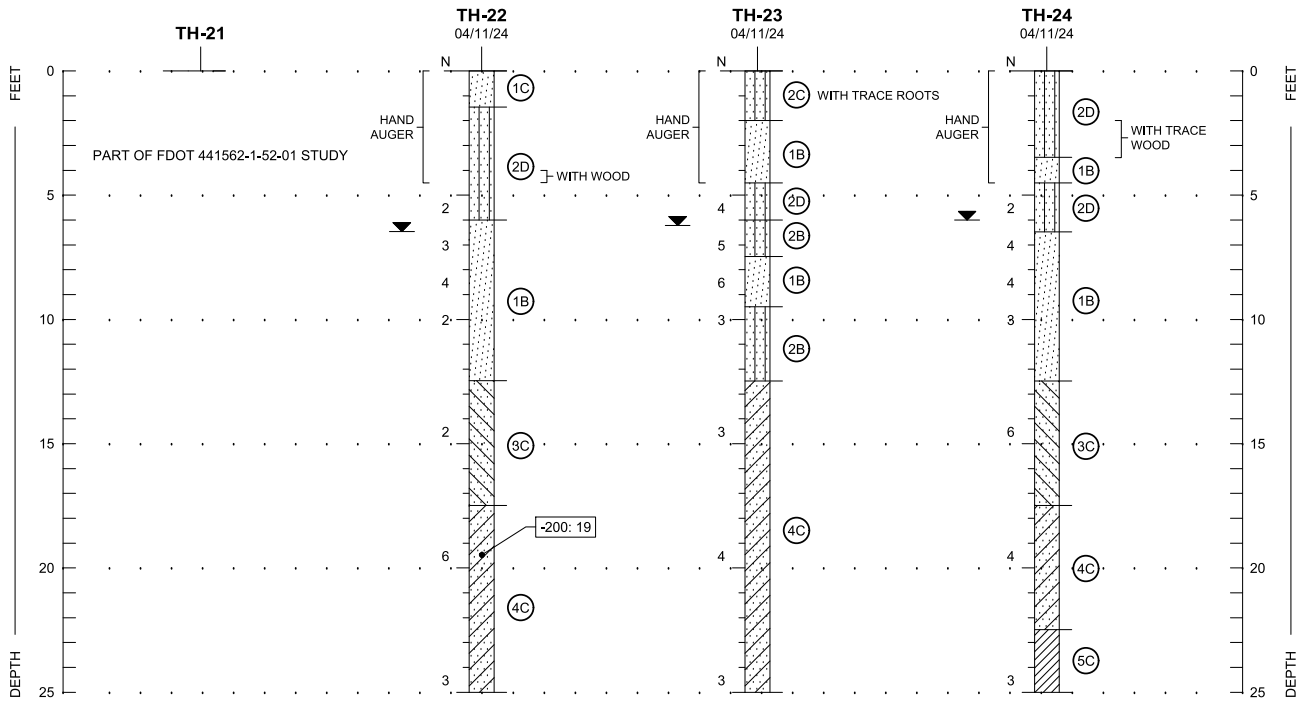
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV | DATE: 05/20/24
FILE NO. 23-7007 | APPROVED BY: Virginia A. Goff, P.E. | FIGURE: 7



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

- A LIGHT GRAYISH BROWN TO GRAYISH BROWN
- B LIGHT BROWN TO BROWN
- C LIGHT GRAY TO GRAY
- D VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

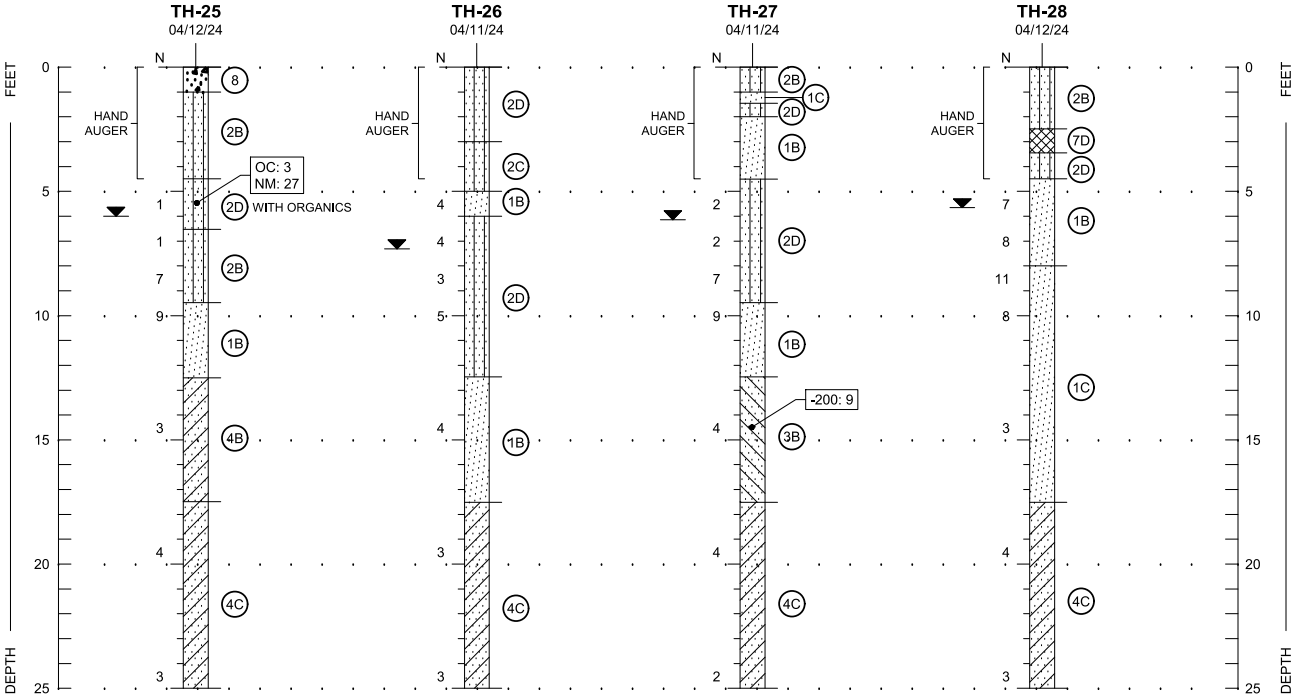
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 8



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

- A LIGHT GRAYISH BROWN TO GRAYISH BROWN
- B LIGHT BROWN TO BROWN
- C LIGHT GRAY TO GRAY
- D VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

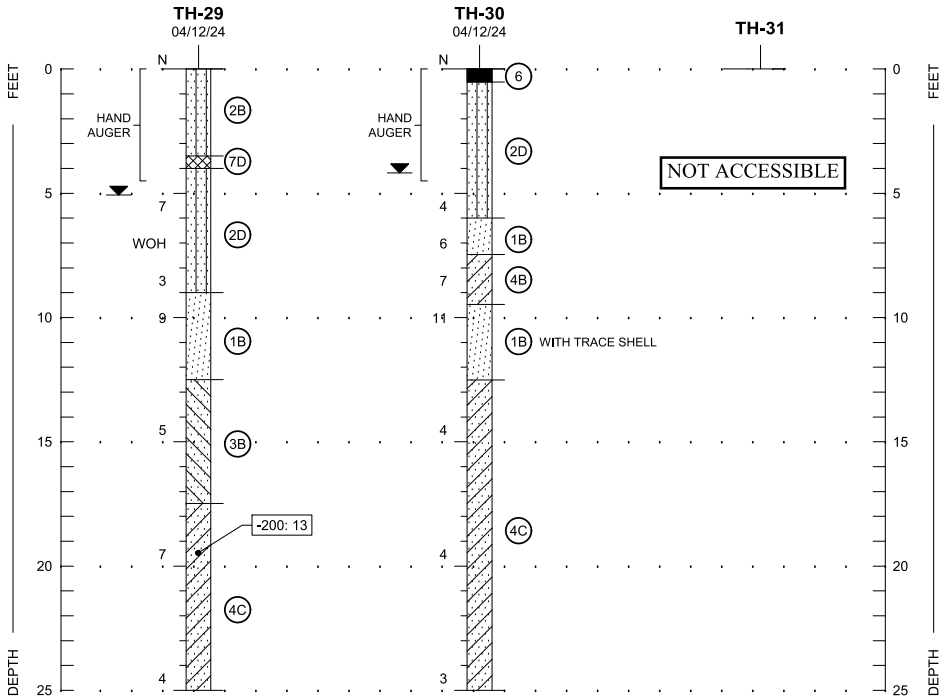
GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 9



LEGEND

SOIL DESCRIPTIONS

1. FINE SAND (SP)
2. FINE SAND WITH SILT (SP-SM)
3. FINE SAND WITH CLAY (SP-SC)
4. CLAYEY FINE SAND (SC)
5. SANDY CLAY TO CLAY (CL/CH)
6. ORGANIC TOPSOIL
7. ORGANIC MUCK/PEAT (OH, Pt)
8. LIMEROCK OR SHELL BASE
9. LIMESTONE

COLORS

A. LIGHT GRAYISH BROWN TO GRAYISH BROWN
B. LIGHT BROWN TO BROWN
C. LIGHT GRAY TO GRAY
D. VERY DARK GRAY OR VERY DARK BROWN

TH	STANDARD PENETRATION TEST (SPT) BORING
N	!STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT!
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
OC	ORGANIC CONTENT IN PERCENT (ASTM D-2974)
WOH	SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
▼	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

NOTES:
1. UPON COMPLETION OF EACH SPT BORING, THE BOREHOLE WAS BACKFILLED WITH SOIL CUTTINGS.
2. ALL SPT BORINGS WERE PERFORMED USING AN AUTOMATIC HAMMER TO THE BORING TERMINATION DEPTH. AUTOMATIC HAMMER N-VALUES MAY BE CONVERTED TO EQUIVALENT SAFETY HAMMER N-VALUES BY MULTIPLYING BY 1.24.

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

GRANULAR MATERIALS-RELATIVE DENSITY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 TO 10	3 TO 8
MEDIUM DENSE	10 TO 30	8 TO 24
DENSE	30 TO 50	24 TO 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SAFETY HAMMER SPT N-VALUE (BLOWS/FOOT)	AUTOMATIC HAMMER SPT N-VALUE (BLOWS/FOOT)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 TO 4	1 TO 3
FIRM	4 TO 8	3 TO 6
STIFF	8 TO 15	6 TO 12
VERY STIFF	15 TO 30	12 TO 24
HARD	GREATER THAN 30	GREATER THAN 24

SOIL BORING PROFILES

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

SUBSURFACE SOIL EXPLORATION
BOX CULVERTS
STORMWATER AND FLOOD CONTROL
CITY OF ARCADIA, DESOTO COUNTY, FLORIDA

DRAWN BY: JV	DATE: 05/20/24
FILE NO. 23-7007	APPROVED BY: Virginia A. Goff, P.E.
	FIGURE: 10

APPENDIX I

Standard Penetration Test Boring Procedure

STANDARD PENETRATION TEST

The standard penetration test is a widely accepted test method of *in situ* testing of soils (ASTM D-1586), and Ardaman & Associates generally follows this test method. A 2-foot long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 or 24 inches into the ground by successive blows of a 140-pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6-inch increments of penetration constitutes the test result or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. The N-value has been empirically correlated with various soil properties.

The tests are usually performed at 5-foot intervals. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is a bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid.

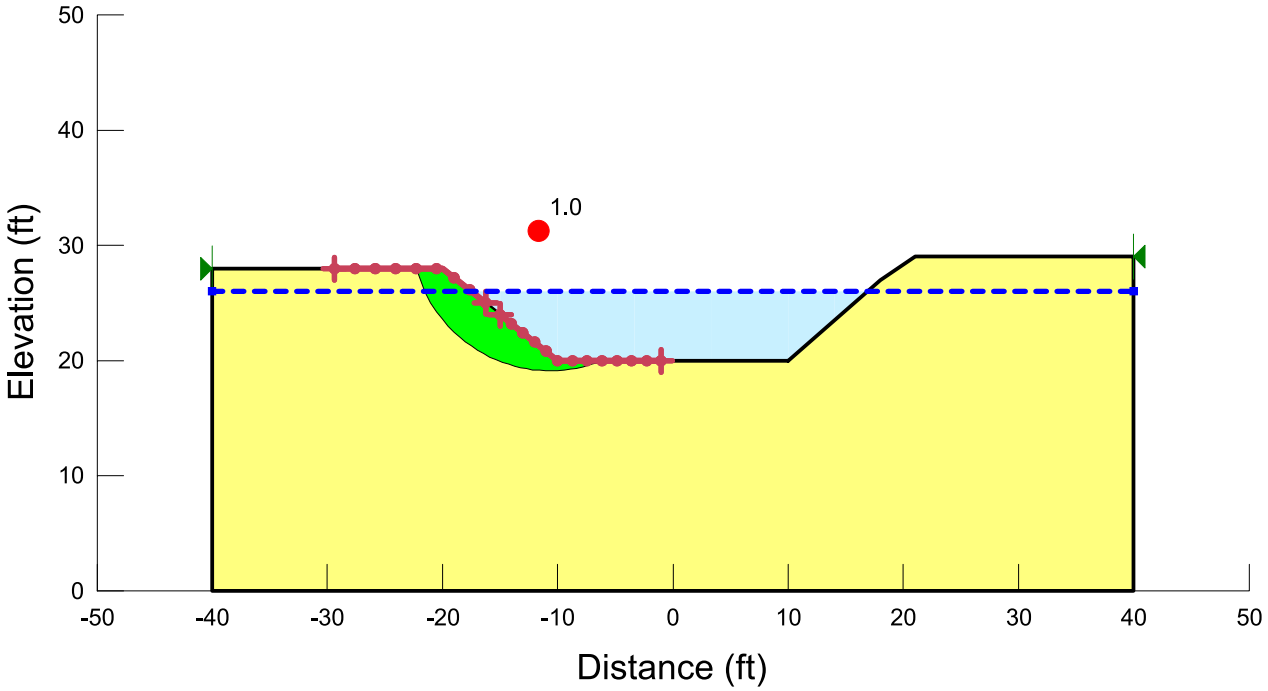
Representative split-spoon samples from the soils are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary.

APPENDIX II

Slope Stability Analyses Cross Sections

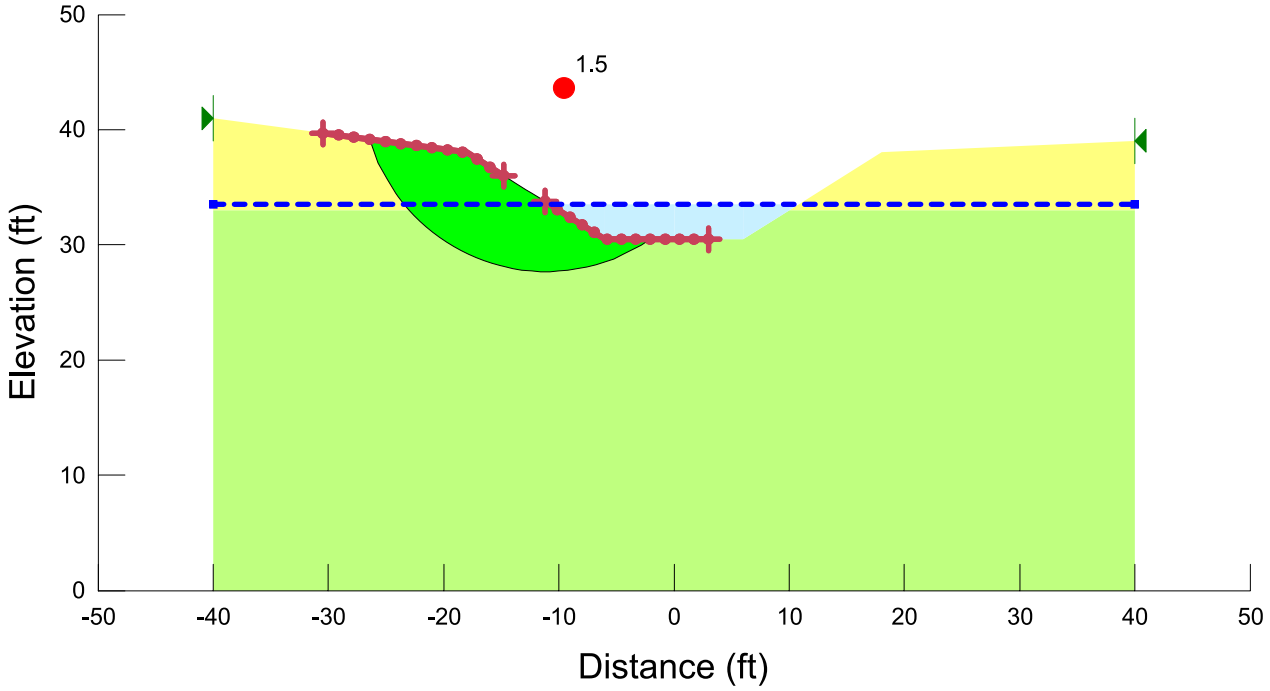
Typical Slope1H:1V
Section 2016+00
No Surcharge Loading
Stormwater and Flood Control
City of Arcadia, Desoto County, Florida

Color	Name	Slope Stability Material Model	Unit Weight (pcf)
	Very Loose to Loose Sand	Mohr-Coulomb	108



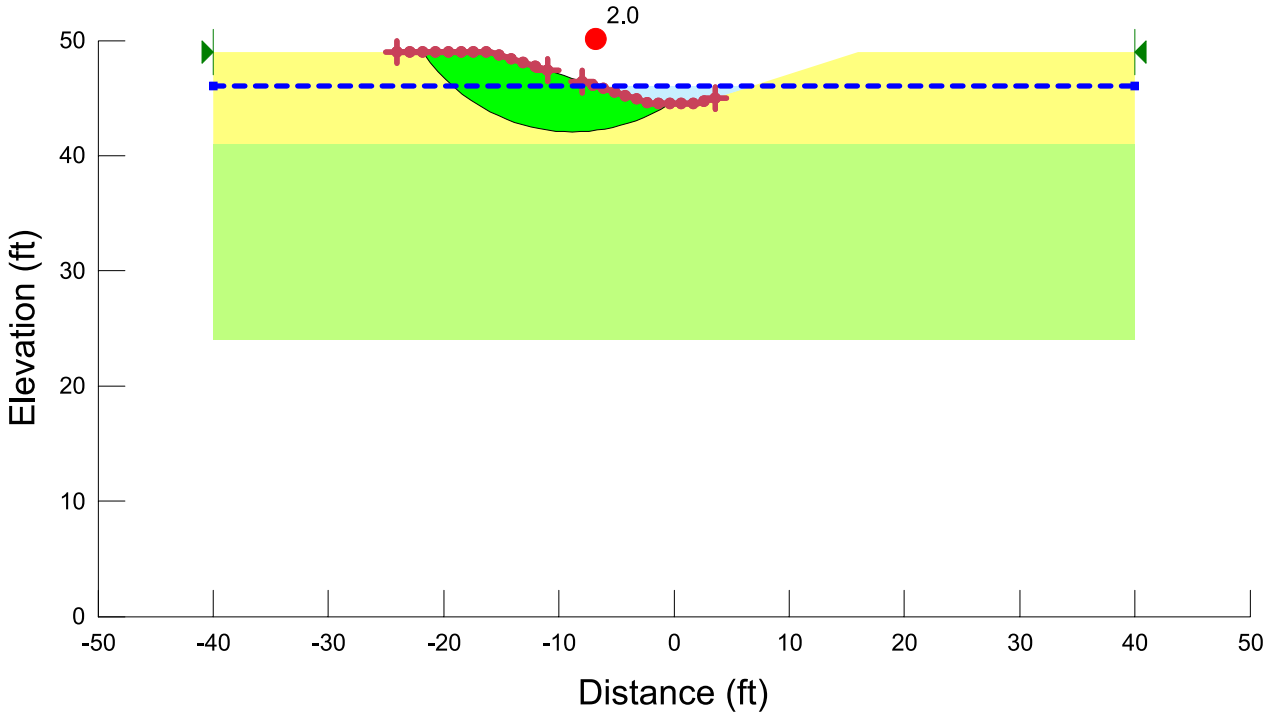
Typical Slope 1.5H:1V
Section 2035+00
No Surcharge Loading
Stormwater and Flood Control
City of Arcadia, Desoto County, Florida

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	Loose Clayey Fine Sand (Low Fines)	Mohr-Coulomb	114	0	29
	Very Loose to Loose Sand	Mohr-Coulomb	108	0	28



Typical Slope 2.5H to 1:3H:1V
Section 2059+00
No Surcharge Loading
Stormwater and Flood Control
City of Arcadia, Desoto County, Florida

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)
	Loose Sand or Clayey Sand (Low Fines)	Mohr-Coulomb	114	0	29
	Very Loose to Loose Sand	Mohr-Coulomb	108	0	28



Southwest Florida Water Management District
2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
78 Sarasota Center Boulevard
Sarasota, Florida 34240-9770
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

November 14, 2025

City of Arcadia
Attn: Steve Underwood
PO Box 1000
Arcadia, FL 34265

Subject: **Notice of Intended Agency Action - Approval**
Environmental Resource General Permit

Project Name:	Arcadia Culvert Replacement Project Eng Resubmittal
App ID/Permit No:	928371 / 47048670.002
County:	DeSoto
Expiration Date:	October 16, 2030
Sec/Twp/Rge:	S36/T37S/R24E

Dear Permittee(s):

The Southwest Florida Water Management District (District) has completed its review of the application for Environmental Resource Permit. Based upon a review of the information you have submitted, the District hereby gives notice of its intended approval of the application.

The File of Record associated with this application can be viewed at http://www18.swfwmd.state.fl.us/erp/erp/search/ERPSearch.aspx and is also available for inspection Monday through Friday, except for District holidays, from 8:00 a.m. through 5:00 p.m. at the District's Tampa Service Office, 7601 U.S. Highway 301 North, Tampa, Florida 33637.

If you have any questions or concerns regarding the application or any other information, please contact the Environmental Resource Permit Bureau in the Tampa Service Office.

Sincerely,

David Kramer, P.E.
Bureau Chief
Environmental Resource Permit Bureau
Regulation Division

cc: George F Young
Manny Perez, George F. Young, Inc.

Southwest Florida Water Management District
2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
On the Internet at: WaterMatters.org

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
78 Sarasota Center Boulevard
Sarasota, Florida 34240-9770
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

November 14, 2025

City of Arcadia
Attn: Steve Underwood
PO Box 1000
Arcadia, FL 34265

Subject: **Notice of Agency Action - Approval**
Environmental Resource General Permit

Project Name:	Arcadia Culvert Replacement Project Eng Resubmittal
App ID/Permit No:	928371 / 47048670.002
County:	DeSoto
Expiration Date:	October 16, 2030
Sec/Twp/Rge:	S36/T37S/R24E

Dear Permittee(s):

The Southwest Florida Water Management District (District) is in receipt of your application for the Environmental Resource Permit. Based upon a review of the information you submitted, the application is approved.

Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action on the permit application described in this letter.

If approved construction plans are part of the permit, construction must be in accordance with these plans. These drawings are available for viewing or downloading through the District's Application and Permit Search Tools located at www.WaterMatters.org/permits.

The District's action in this matter only becomes closed to future legal challenges from members of the public if such persons have been properly notified of the District's action and no person objects to the District's action within the prescribed period of time following the notification. The District does not publish notices of agency action. If you wish to limit the time within which a person who does not receive actual written notice from the District may request an administrative hearing regarding this action, you are strongly encouraged to publish, at your own expense, a notice of agency action in the legal advertisement section of a newspaper of general circulation in the county or counties where the activity will occur. Publishing notice of agency action will close the window for filing a petition for hearing. Legal requirements and instructions for publishing notices of agency action, as well as a noticing form that can be used, are available from the District's website at www.WaterMatters.org/permits/noticing. If you publish notice of agency action, a copy of the affidavit of publication provided by the newspaper should be sent to the District's Tampa Service Office for retention in this permit's File of Record.

If you have any questions or concerns regarding your permit or any other information, please contact the Environmental Resource Permit Bureau in the Tampa Service Office.

Sincerely,

David Kramer, P.E.
Bureau Chief
Environmental Resource Permit Bureau
Regulation Division

Enclosures: Rule 62-330.447 F.A.C., F.A.C.
Exhibit A
Notice of Authorization to Commence Construction
Notice of Rights

cc: George F Young
Manny Perez, George F. Young, Inc.

Specific Condition(s): Rule 62-330.447 F.A.C., F.A.C.

1. A general permit is granted to the Florida Department of Transportation, counties, and municipalities to conduct the activities described below.
(a) The extension of existing culverts and crossing approaches that are authorized under a separate permit or exemption under part IV of chapter 373, F.S., as applicable, to accommodate widening of the roadway where excavation or deposition of material shall not exceed 1,000 cubic yards in wetlands and other surface waters and the area from which material is excavated or to which material is deposited shall not exceed a total of 0.25 acre at any one culverted crossing. The 1,000 cubic yardage limitation shall be separately applied to excavation and deposition of material.
(b) Relocation, recontouring, widening, or reconstruction of existing highway drainage ditches through uplands provided the floor elevation of the ditch is not deepened below the original design elevation and provided that the work does not cause a change in the hydrology of any wetlands which are connected to or which are adjacent to the ditch.
(c) Culvert placement, replacement, and maintenance associated with existing roadways, provided that construction does not cause scour in the downstream waters or increase the velocity of the water downstream, does not reduce existing flood conveyance of the stream for the 100-year flood flow and does not reduce existing flood storage within the 10-year flood plain. The material excavated or deposited as fill shall not exceed 1,000 cubic yards in wetlands and other surface waters. The cross sectional area of the culvert shall not be reduced, unless the reduced cross section provides an equal or greater discharge capability. In the case of a culvert replacement as a wildlife crossing, the cross sectional area shall not be reduced.
(d) Construction of temporary bypass lanes and stream channel diversions necessary to complete projects detailed in paragraph
(c) above, provided the area used for the temporary bypass lanes and temporary diversion is restored to its previous contours and elevations.
(e) Channel clearing and shaping, not to exceed a combined total of 0.5 acre of dredging and filling in wetlands and other surface waters, to facilitate maximum hydraulic efficiency of structures authorized by paragraph (c), above, where the spoil material is used on an upland portion of the project or is deposited on a self-contained, upland spoil site. Escape of spoil material and return water from the spoil deposition area into wetlands or other surface waters is prohibited.
(f) Ditch or canal bank and bottom stabilization necessary to repair erosion damage to restore previously existing ditch configurations. Authorized repair methods are placement of riprap, sand cement toe walls, clean fill material, poured concrete, geotechnical textiles and other similar stabilization materials. The placement of riprap or other lining materials shall be limited to a length of 500 feet along the axis of the ditch or canal. This general permit shall not be applicable within one-quarter mile along the length of an area, within the same ditch, which has been stabilized under this general permit within a three-year period.
(g) Roadway safety activities, such as installation of shoulders, sidewalks, guard rails, signs, poles, and mast arms within an existing right-of-way that incur no more dredging or filling than 500 square feet per activity, provided the total impact to wetlands or other surface waters does not involve more than 0.5 acre.

2. This general permit shall be subject to the following specific conditions:
(a) The permittee shall limit stream channel relocation to streams which have an average discharge of 10 cubic feet per second or less. The length of relocated channels or those significantly altered shall be limited to 200 feet per stream. A stream channel shall be altered only when such a measure will reduce the long term adverse water quality impacts and will maintain or restore the stream's natural hydraulic capability; and
(b) This general permit shall not apply to ditch construction in Class I or Class II surface waters, Outstanding National Resource Waters or waters designated as Outstanding Florida Waters.
(c) Activities under this general permit must not diminish existing stormwater treatment, attenuation, or conveyance capacity.
(d) This general permit does not authorize the construction of additional traffic lanes. Activities that require additional traffic lanes must first obtain an individual environmental resource permit under this chapter, as applicable, before the start of construction.

Rulemaking Authority 373.026(7), 373.043, 373.118(1), 373.406(5), 373.4131, 373.414(9), 373.418, 403.805(1) FS. Law Implemented 373.118(1), 373.406(5), 373.413, 373.4131, 373.414(9), 373.416, 373.418, 373.419,

403.814(1) FS. History–New 10-3-95, Amended 10-1-07, Formerly 62-341.447, Amended 10-1-13, 6-1-18.

EXHIBIT A

GENERAL CONDITIONS:

The following general permit conditions are binding upon the permittee and are enforceable under Part IV of Chapter 373, F.S. These conditions do not apply to the general permit for stormwater management systems under Section 403.814(12), F.S.

1. The general permit is valid only for the specific activity indicated. Any deviation from the specified activity and the conditions for undertaking that activity shall constitute a violation of the permit and may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. The general permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any construction, alteration, operation, maintenance, removal or abandonment authorized by this permit; and it does not authorize any violation of any other applicable federal, state, local, or special district laws (including, but not limited to those governing the "take" of listed species).

3. The general permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the general permit.

4. The general permit does not relieve the permittee from liability and penalties when the permitted activity causes harm or injury to: human health or welfare; animal, plant or aquatic life; or property. It does not allow the permittee to cause pollution that violates state water quality standards.

5. This permit also constitutes a granted with conditions water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. Section 1341. Pursuant to Rule 62-330.062, F.A.C. State Water Quality Certification is granted when an activity meets all the terms and conditions of a general permit under Rule 62-330.052, F.A.C., and the applicable Rules 62-330.401 through 62-330.635, F.A.C.

6. Section 253.77, F.S., provides that a person may not commence any excavation, construction, or other activity involving the use of state-owned or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required consent, lease, easement, or other form of authorization authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on state-owned lands.

7. The authorization to conduct activities under a general permit may be modified, suspended or revoked in accordance with Chapter 120, F.S., and Section 373.429, F.S.

8. The general permit is not transferable to a new third party. To be used by a different permittee, a new notice to use a general permit must be submitted in accordance with rule 62-330.402, F.A.C. Activities constructed in accordance with the terms and conditions of a general permit are automatically authorized to be operated and maintained by the permittee and subsequent owners in accordance with subsection 62-330.340(1), F.A.C. Any person holding the general permit, persons working under this general permit, and owners of land while work is conducted under the general permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to sale, conveyance, or other transfer of ownership or control of the permitted project, activity, or the real property at which the permitted project or activity is located.

9. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the permitted system to ensure conformity with the plans and specifications approved by the general permit.

10. The permittee shall maintain any permitted project or activity in accordance with the plans submitted to the Agency and authorized in the general permit.

11. A permittee’s right to conduct a specific activity under the general permit is authorized for a duration of five years.

12. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be implemented and maintained immediately prior to, during, and after construction as needed to stabilize all disturbed areas, including other measures specified in the permit to prevent adverse impacts to the water resources and adjacent lands. Erosion and sediment control measures shall be installed and maintained in accordance with the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007)*, available at https://www.flrules.org/Gateway/reference.asp?No=Ref-04227, and the *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008)*, available at http://publicfiles.dep.state.fl.us/DEAR/Stormwater_Training_Docs/erosion-inspectors-manual.pdf.

13. Unless otherwise specified in the general permit, temporary vehicular access within wetlands during construction shall be performed using vehicles generating minimum ground pressure to minimize rutting and other environmental impacts. Within forested wetlands, the permittee shall choose alignments that minimize the destruction of mature wetland trees to the greatest extent practicable. When needed to prevent rutting or soil compaction, access vehicles shall be operated on wooden, composite, metal, or other non-earthen construction mats. In all cases, access in wetlands shall comply with the following:

    a. Access within forested wetlands shall not include the cutting or clearing of any native wetland tree having a diameter four inches or greater at breast height;

    b. The maximum width of the construction access area shall be limited to 15 feet;

    c. All mats shall be removed as soon as practicable after equipment has completed passage through, or work has been completed, at any location along the alignment of the project, but in no case longer than seven days after equipment has completed work or passage through that location; and

    d. Areas disturbed for access shall be restored to natural grades immediately after the maintenance or repair is completed.

14. Barges or other work vessels used to conduct in-water activities shall be operated in a manner that prevents unauthorized dredging, water quality violations, and damage to submerged aquatic communities.

15. The construction, alteration, or use of the authorized project shall not adversely impede navigation or create a navigational hazard in the water body.

16. Except where specifically authorized in the general permit, activities must not:

    a. Impound or obstruct existing water flow, cause adverse impacts to existing surface water storage and conveyance capabilities, or otherwise cause adverse water quantity or flooding impacts to receiving water and adjacent lands; or

    b. Cause an adverse impact to the maintenance of surface or ground water levels or surface water flows established pursuant to Section 373.042, F.S., or a Works of the District established pursuant to Section 373.086, F.S.

17. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall immediately contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S.

18. The activity must be capable, based on generally accepted engineering and scientific principles, of being performed and of functioning as proposed, and must comply with any applicable District special basin and geographic area criteria.

19. The permittee shall comply with the following when performing work within waters accessible to federally- or state-listed aquatic species, such as manatees, marine turtles, smalltooth sawfish, and Gulf sturgeon:

    a. All vessels associated with the project shall operate at "Idle Speed/No Wake" at all times while in the work area and where the draft of the vessels provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

    b. All deployed siltation or turbidity barriers shall be properly secured, monitored, and maintained to prevent entanglement or entrapment of listed species.

    c. All in-water activities, including vessel operation, must be shut down if a listed species comes within 50 feet of the work area. Activities shall not resume until the animal(s) has moved beyond a 50-foot radius of the in-water work, or until 30 minutes elapses since the last sighting within 50 feet. Animals must not be herded away or harassed into leaving. All on-site project personnel are responsible for observing water-related activities for the presence of listed species.

    d. Any listed species that is killed or injured by work associated with activities performed shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1(888)404-3922 and ImperiledSpecies@myFWC.com.

    e. Whenever there is a spill or frac-out of drilling fluid into waters accessible to the above species during a directional drilling operation, the FWC shall be notified at ImperiledSpecies@myfwc.com with details of the event within 24 hours following detection of the spill or frac-out.

20. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any activity authorized by the general permit.

21. The permittee shall immediately notify the Agency in writing of any submitted information that is discovered to be inaccurate.

SOUTHWEST FLORIDA
WATER MANAGEMENT DISTRICT

NOTICE OF
AUTHORIZATION
TO COMMENCE CONSTRUCTION

Arcadia Culvert Replacement Project Eng Resubmittal
PROJECT NAME

Government
PROJECT TYPE

DeSoto
COUNTY

S36/T37S/R24E
SEC(S)/TWP(S)/RGE(S)

City of Arcadia
PERMITTEE

APPLICATION ID/PERMIT NO: 928371 / 47048670.002

DATE ISSUED: November 14, 2025

David Kramer, P.E.
Issuing Authority

THIS NOTICE SHOULD BE CONSPICUOUSLY DISPLAYED AT THE SITE OF THE WORK

Notice of Rights

ADMINISTRATIVE HEARING

1. You or any person whose substantial interests are or may be affected by the District's intended or proposed action may request an administrative hearing on that action by filing a written petition in accordance with Sections 120.569 and 120.57, Florida Statutes (F.S.), Uniform Rules of Procedure Chapter 28-106, Florida Administrative Code (F.A.C.) and District Rule 40D-1.1010, F.A.C. Unless otherwise provided by law, a petition for administrative hearing must be filed with (received by) the District within 21 days of receipt of written notice of agency action. "Written notice" means either actual written notice, or newspaper publication of notice, that the District has taken or intends to take agency action. "Receipt of written notice" is deemed to be the fifth day after the date on which actual notice is deposited in the United States mail, if notice is mailed to you, or the date that actual notice is issued, if sent to you by electronic mail or delivered to you, or the date that notice is published in a newspaper, for those persons to whom the District does not provide actual notice.

2. Pursuant to Subsection 373.427(2)(c), F.S., for notices of intended or proposed agency action on a consolidated application for an environmental resource permit and use of state-owned submerged lands concurrently reviewed by the District, a petition for administrative hearing must be filed with (received by) the District within 14 days of receipt of written notice.

3. Pursuant to Rule 62-532.430, F.A.C., for notices of intent to deny a well construction permit, a petition for administrative hearing must be filed with (received by) the District within 30 days of receipt of written notice of intent to deny.

4. Any person who receives written notice of an agency decision and who fails to file a written request for a hearing within 21 days of receipt or other period as required by law waives the right to request a hearing on such matters.

5. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding District intended or proposed action is not available prior to the filing of a petition for hearing.

6. A request or petition for administrative hearing must comply with the requirements set forth in Chapter 28-106, F.A.C. A request or petition for a hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's intended action or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no material facts in dispute, and (3) otherwise comply with Rules 28-106.201 and 28-106.301, F.A.C. Chapter 28-106, F.A.C. can be viewed at www.flrules.org or at the District's website at www.WaterMatters.org/permits/rules.

7. A petition for administrative hearing is deemed filed upon receipt of the complete petition by the District Agency Clerk at the District's Tampa Service Office during normal business hours, which are 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding District holidays. Filings with the District Agency Clerk may be made by mail, hand-delivery or facsimile transfer (fax). The District does not accept petitions for administrative hearing by electronic mail. Mailed filings must be addressed to, and hand-delivered filings must be delivered to, the Agency Clerk, Southwest Florida Water Management District, 7601 Highway 301 North,Tampa,FL 33637-6759. Faxed filings must be transmitted to the District Agency Clerk at (813) 367-9788. Any petition not received during normal business hours shall be filed as of 8:00 a.m. on the next business day. The District's acceptance of faxed petitions for filing is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation, available for viewing at www.WaterMatters.org/about.

JUDICIAL REVIEW

1. Pursuant to Sections 120.60(3) and 120.68, F.S., a party who is adversely affected by District action may seek judicial review of the District's action. Judicial review shall be sought in the Fifth District Court of Appeal or in the appellate district where a party resides or as otherwise provided by law.

2. All proceedings shall be instituted by filing an original notice of appeal with the District Agency Clerk within 30 days after the rendition of the order being appealed, and a copy of the notice of appeal, accompanied by any filing fees prescribed by law, with the clerk of the court, in accordance with Rules 9. 110 and 9.190 of the Florida Rules of Appellate Procedure (Fla. R. App. P.). Pursuant to Fla. R. App. P. 9.020(h), an order is rendered when a signed written order is filed with the clerk of the lower tribunal.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
JACKSONVILLE PERMITS SECTION
701 SAN MARCO BOULEVARD
JACKSONVILLE FLORIDA 32207-8137

September 22, 2025

South Atlantic Division
Regulatory Technical Regional
Execution Center

Steve Underwood
City of Arcadia
23 N Polk Ave
Arcadia, FL 34266
Via Email: sunderwood@arcadia-fl.gov

Dear Mr. Underwood:

This letter is in response to the Pre-Construction Notification (PCN) you submitted to the Jacksonville District, on July 10, 2025 for a Department of the Army Nationwide permit (NWP) verification. This project has been assigned the file number SAJ-2017-03378 and is known as Arcadia Stormwater and Flood Control Project. This file number should be referenced in all correspondence concerning this project.

A review of the information provided indicates that the proposed work would include the replacement of five (5) culverts to improve drainage.. The project area for this determination includes a 0.1 acre(s) area which is illustrated on the enclosed site plans. The project/review area is located on Jordan Branch at crossroads Parker Ave, W Magnolia St, S Baldwin, S Lee Ave, and W Oak St/S Manatee Ave, within Section 36, Township 037S, Range 024E; at Latitude 27.218980 and Longitude -81.866430; in Arcadia, DeSoto County, Florida.

We have determined that the proposed work is authorized by Nationwide 14 (Linear Transportation Projects) pursuant to authorities under Section 404 of the Clean Water Act (33 U.S.C. § 1344) The proposed work must be accomplished in strict accordance with the general permit conditions, any regional conditions, the special conditions listed in this letter, the application materials, and the enclosed plans. If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised PCN must be submitted to this office for written approval before work is initiated. Any violation of permit conditions or deviation from your submitted plans may subject the permittee to enforcement action.

This verification is valid until March 14, 2026, unless prior to this date the subject NWP(s) is suspended, revoked, or is modified such that the activity no longer complies with the terms and conditions of this NWP. If you commence or are under contract to

commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP. You can access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Source Book webpage for links to view NWP information at: https://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/.
Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there, you will need to select "Nationwide Permits." Among other things, this part of the Source Book contains links to the federal register containing the text of the pertinent NWP authorization and the associated NWP general conditions, as well as separate links to the regional conditions applicable to the pertinent NWP verification.

Project Specific Special Conditions:

1. Reporting Address: The Permittee shall submit all reports, notifications, documentation, and correspondence required by the general and special conditions of this permit to either (not both) of the following addresses:

a. For electronic mail (preferred): SAJ-RD-Enforcement@usace.army.mil (not to exceed 15 MB).

b. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019. The Permittee shall reference this permit number, SAJ-2017-03378, on all submittals.

2. Posting of Permit: The Permittee shall have available and maintain for review a copy of this permit and approved plans at the construction site.

3. Notice of Permit: The Permittee shall complete and record the "Notice of Department of the Army Authorization" form (attached) with the Clerk of the County Court, Registrar of Deeds or other appropriate official charged with the responsibility of maintaining records of title to or interest in real property within the county of the authorized activity. No later than 90 days from the effective date of this permit, the Permittee shall provide a copy of the recorded Notice of Permit to the Corps clearly showing a stamp from the appropriate official indicating the book and page at which the Notice of Permit is recorded in the official records and the date of recording.

4. Self-Certification: Within 60 days of completion of the work authorized by this permit, the Permittee shall complete the ENG Form 6285, "Certification of Compliance with Department of Army Permit" (located at https://www.publications.usace.army.mil/Portals/76/Eng_Form_6285_2024%20D c%20 FINAL.pdf) and submit it to the Corps.

5. Cultural Resources/Historic Properties:

a. No structure or work shall adversely affect, impact, or disturb properties listed in the *National Register of Historic Places* (NRHP), or those eligible for inclusion in the NRHP.

b. If, during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with native cultures or early colonial settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps at the addresses listed in the Reporting Address Special Condition within the same business day (8 hours). The Corps shall coordinate with the Florida State Historic Preservation Officer (SHPO) to assess the significance of the discovery and devise appropriate actions.

c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition and, if deemed necessary by the SHPO or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend, or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands; they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archaeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO. Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend, or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the SHPO and from the Corps.

6. Fill Material: The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete block with exposed reinforcement bars, and soils

contaminated with any toxic substance in toxic amounts, in accordance with Section 307 of the Clean Water Act.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (http://www.myfwc.com/license/wildlife/) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (http://www.fnai.org/) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

This NWP verification does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Tina Martin-Nims, Project Manager, SAD Technical Regional Execution Center at 912-346-0192, by mail at the above address, or by email at tina.r.martin-nims@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

Tina Martin-Nims
SAD Technical Regional Execution Center

Enclosures

Cc (w/enclosures)
Richard Campanale, George F. Young, Inc. (via rcampanale@eapermit.com)

General Conditions (33 CFR PART 320-330):

1. The time limit for completing the work authorized ends of March 14, 2026.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort of if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit you must obtain the signature of the new owner on the transfer form attached to this letter and forward a copy to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, Jacksonville District, Regulatory Office.

The certification can be submitted by email at SJ-RD@usace.army.mil or by mail at the below address:

U.S. Army Corps of Engineers
Jacksonville District Office
Street Address: 701 San Marco Boulevard
City: Jacksonville State: Florida Zip Code: 32207-8137

COMPLETED BY THE CORPS

Corps Action Number: SAJ-2017-03378

Permit Type: General Permit

General Permit Number and Name (*if applicable*): NAP 14

Name of Permittee: Steve Underwood

Project Name: Arcadia Stormwater and Flood Control Project

Project Location (*physical address*): crossroads Parker Ave, W Magnolia St, S Baldwin, S Lee Ave, and W Oak St/S Manatee Ave.
Arcadia, Florida

PERMITTEE'S CERTIFICATION

Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

DA PERMIT NUMBER: SAJ-2017-03378

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019 or submit via electronic mail to: SAJ-RD-Enforcement@usace.army.mil (not to exceed 15 MB).

_____
(TRANSFEREE-SIGNATURE)

_____
(DATE)

_____
(NAME-PRINTED)

_____

_____
(MAILING ADDRESS)

_____
(CITY, STATE, ZIP CODE)

_____
(SUBDIVISION)

_____ _____
(LOT) **(BLOCK)**

_____
(STREET ADDRESS)

CITY OF ARCADIA
IFB 2025-06 TRIBUTARY F BOX CULVERT REPLACEMENTS

ADDENDUM 3
BIDDER'S QUESTIONS AND RESPONSES

Question 1: What is the anticipated start date for this project?

Response: **The tentative start date is April 20, 2026**

Question 2: What is the engineers estimate for this project?

Response: **The budget for construction is $4.8 million.**

Question 3: Are there any build America buy America (BABA) or American iron and steel (AIS) requirements associated with this bid?

Response: **Yes, the requirements are included in the Addendum.**

Question 4: Please extend the bid date by 2 weeks to account for holiday shutdowns. It would allow the city to receive more comprehensive and competitive bids.

Response: **Bid opening was extended to 1/28/2026 at 11:00 A.M.**

Question 5: A question was asked about sidewalks stating there was no bid item for sidewalks.

Response: **Sidewalk bid item was included in the amended bid form included in this Addendum.**

Question 6: A question was asked if CADS will be provided.

Response: **CAD files will be provided to the successful bidder once the contract is awarded.**

Question 7: A question was stated that a potential bidder did not see anything for demos as far as a bid item.

Response: **A bid item was added to the amended Bid Proposal form for the removal of concrete structures. Any other demolition efforts shall be considered part of the clearing and item to be replaced or constructed.**

Question 8. A statement was made that a potential bidder noticed additional MOT and erosion control for Polk, Walnut and Monroe and asked if such was no longer a part of the project.

Response: **Polk, Walnut and Monroe are not included in this contract.**

Question 9: A question was asked if there are any BABA or American Iron and Steel requirements for this project.

RESPONSE: **Yes, the requirements are included in the Addendum.**

Question 10: What is the anticipated start date?

Response: **The tentative start date is April 20, 2026.**

Question 11: A question was raised that a potential bidder did not see any structural details regarding the culverts. He commented that there was FDOT standard indexes which may only cover the precast box culverts, but there were no end treatments. He wondered about the end of culverts and asked if wing walls would be placed there.

Response: **Plans were updated to show the location and extend of the wingwalls. FDOT indices 400-289, 400-291 and 400-292 referenced in this project include both pre-cast and cast-in-place options.**

Question 12: A question was raised that there were no details to bid on the culverts currently, or wing walls or head walls and felt such details were needed in order for a valid bid to be provided

Response: **Plans were updated to show the location and extend of the wingwalls. FDOT indices 400-289, 400-291 and 400-292 referenced in this project include both pre-cast and cast-in-place options.**

Question 13: A question was asked if this was a certified payroll project.

Response: **Yes**

Question 14: A question was asked if there was a Geotech report or any soil borings.

Response: **The geotechnical report is included in this Addendum.**

Question 15: A question was asked about permitting.

Response: **The project was permitted by SWFWMD and Army Corp. It is anticipated that the contractor will need to apply to the City of Arcadia Right-of-Way permit. The contractor is responsible for pulling any other permits not listed here. Permit letters from SWFWMD and Army Corp are included in this Addendum.**

Question 16: A question was asked for clarification that there were 10 box culverts and not 8 (the scope read 8).

Response: **Please review the plans for the locations.**

Question 17: Is time running out of grant money?

Response: **This project is funded by HUD CDBG. This grant expires in June, 2026, however, the City of Arcadia is coordinating a time extension to be consistent with the duration in the bid Document.**

Question 18: Will the City be supplying more details for the location of the underground utilities requiring relocation:

Response: **Existing water and sewer utilities will need to be relocated or replaced. The locations of these utilities are being shown in the plans and bid items included in the Bid Proposal Form, however, additional field coordination with the Utilities Director will be required during construction.**

Question 19: Will there be an updated schedule of values in the next addendum to include the quantity of concrete for the sidewalk?

Response: **A bid item was added for sidewalks in the amended Bid Proposal Form.**

Question 20: Will bypass pumping be required?

Response: **It should be considered, but the contractor is responsible to determine best method.**

Question 21: If precast sections are used, will a "Link" slab be required?

Response: **No**

Question 22: Will precast headwalls be acceptable?

Response: **Precast headwall and wingwall are not allowed.**

Question 23: Within the Bid Form, Items 1050-1, 1050-2, 1050-3, 1050-5, I have not recognized any reference for this work within the plan sheets.
It is difficult to provide a comprehensive price estimate, without as to the location, materials and magnitude this work requires.

Response: **This is for the existing water and sewer utilities that will need to be relocated or replaced. The locations of these utilities are being shown in the plans and bid items included in the Bid Proposal Form, however, additional field coordination with the Utilities Director will be required during construction.**

Question 24: The storm drainage @ S. Baldwin Ave. (Sheet R3) does not designate length or size of pipe runs.

Response: **Pipe sizes and length were labeled in the amended plans attached to this Addendum.**

Question 25: The storm drainage between Structures S-7 & S-8 at S. Lee Ave. (Sheet R4) is missing length & size of pipe

Response: **Pipe sizes and length were labeled in the amended plans attached to this Addendum.**

Question 26: The plans to not show utility items. Could these be added so that we can determine fittings and other material needs?

Response: **This is for the existing water and sewer utilities that will need to be relocated or replaced. The locations of these utilities are being shown in the plans and bid items included in the Bid Proposal Form, however, additional field coordination with the Utilities Director will be required during construction.**

Question 27: Is it possible to get a list of interested contractors for this job. We'd like to possibly participate as a subcontractor.

Response: **List of Planholders can be obtained at the DemandStar website.**

Question 28 Can structural drawings be provided for the CIP wingwalls, footings, toe slabs, headwalls?

Response: **Structural details can be found in the FDOT index 400-289 to 400-492, also included in the plans.**

Question29: The quantity of Type F curb and gutter appears to be less on the bid schedule than what is shown in the plans.

Response: **Please provide bid unit price for the quantity in the revised bid Proposal Form included in Addendum 3.**

Question 30: I wanted to follow-up on a previous request that was submitted. I believe we sent a previous RFI, for the location of the utilities being relocated. Will there be a fourth addendum released soon?

Response: **Please refer to response to question 18 above. At present, no plans to issue an additional addendum.**