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7	TIDEWATER DRIVE Beatrice Avenue to Longmeadow Avenue
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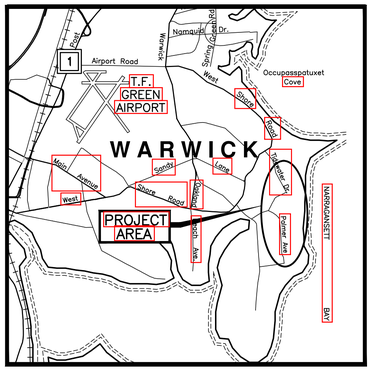
CITY OF WARWICK, RHODE ISLAND

SYSTEM OF SEWERS

CONTRACT NO. 86B

BAYSIDE SEWER SYSTEM

PRESSURE SEWERS



LOCATION PLAN

HONORABLE FRANK J. PICOZZI, MAYOR

WARWICK SEWER AUTHORITY

GARY C. JARVIS, CHAIRMAN

THOMAS H. CHADRONET
CARLO E. PISATURO, JR
SCOTT GOODINSON

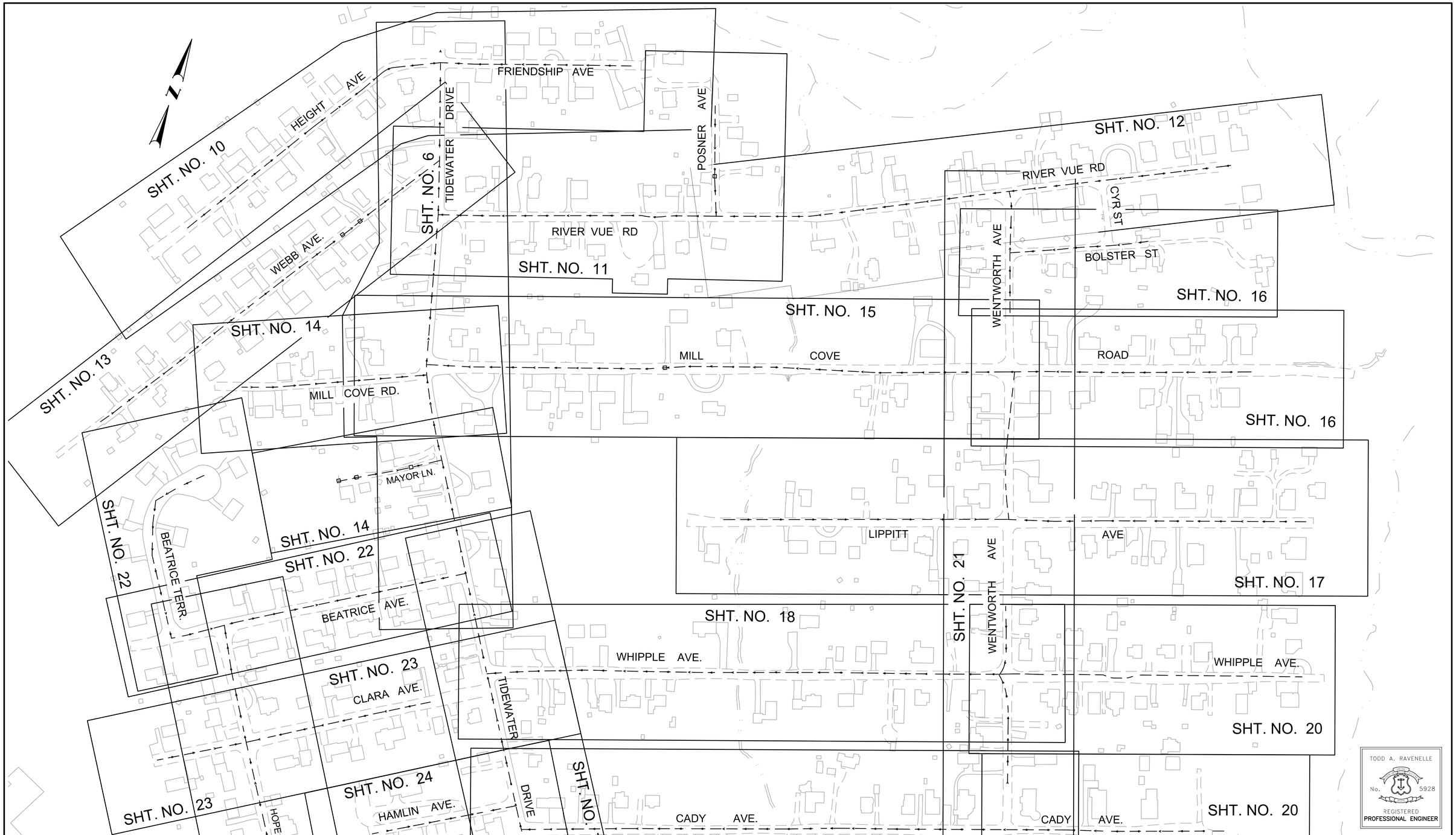
SCOTT PHILLIPS
GARY P. MARINO
PETER GINIATT

AUGUST 2021

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

F:\FILES\ACD\998_2016 BAYSIDE\2016 SEWER PLAN\998_000_COVER.dwg, 8/6/2021 7:44:47 AM, USER07



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE

SCALE: 1"=100'

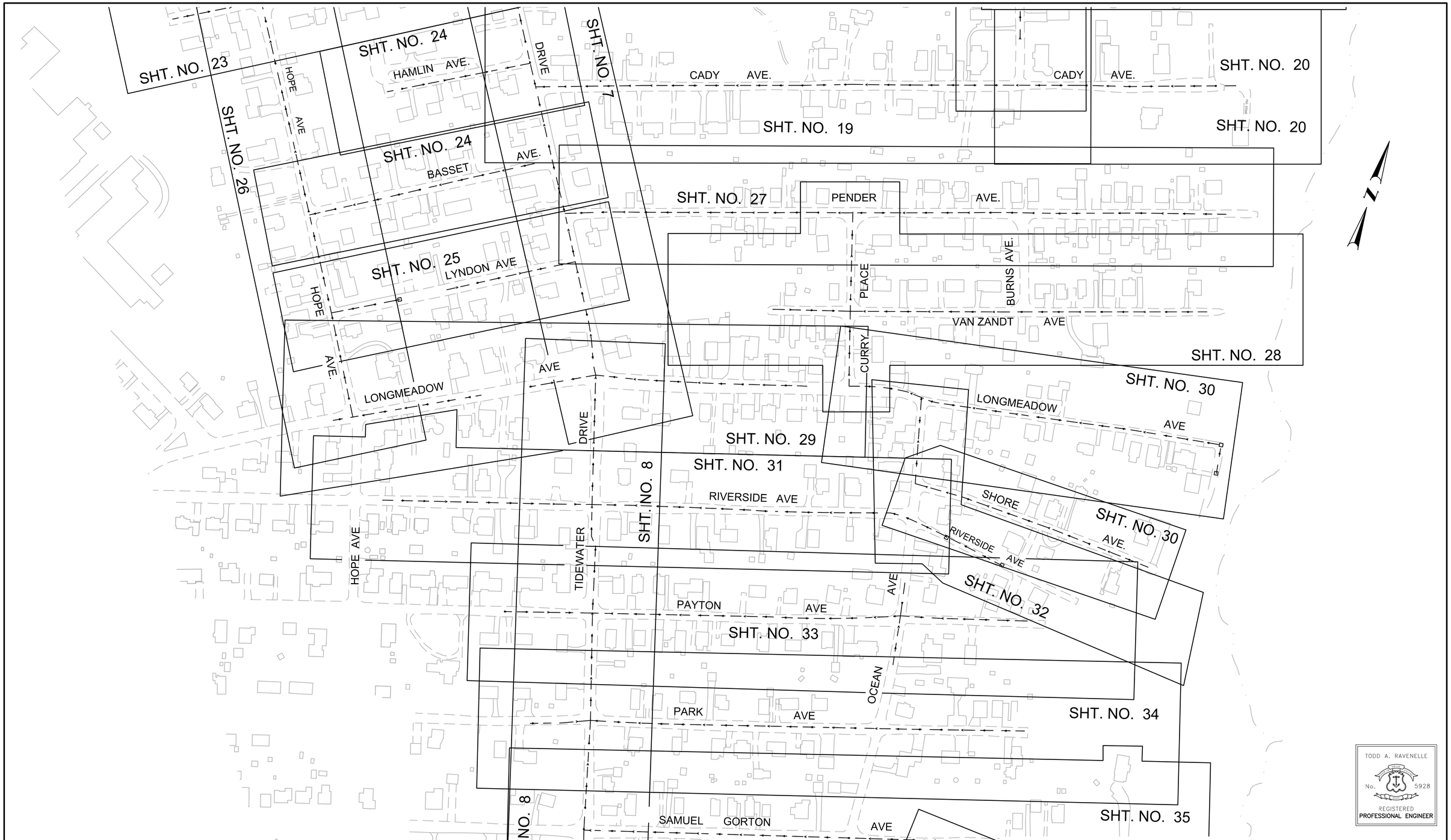
SHT. NO. 2 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

KEY PLAN 1

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE

SCALE: 1'=100'

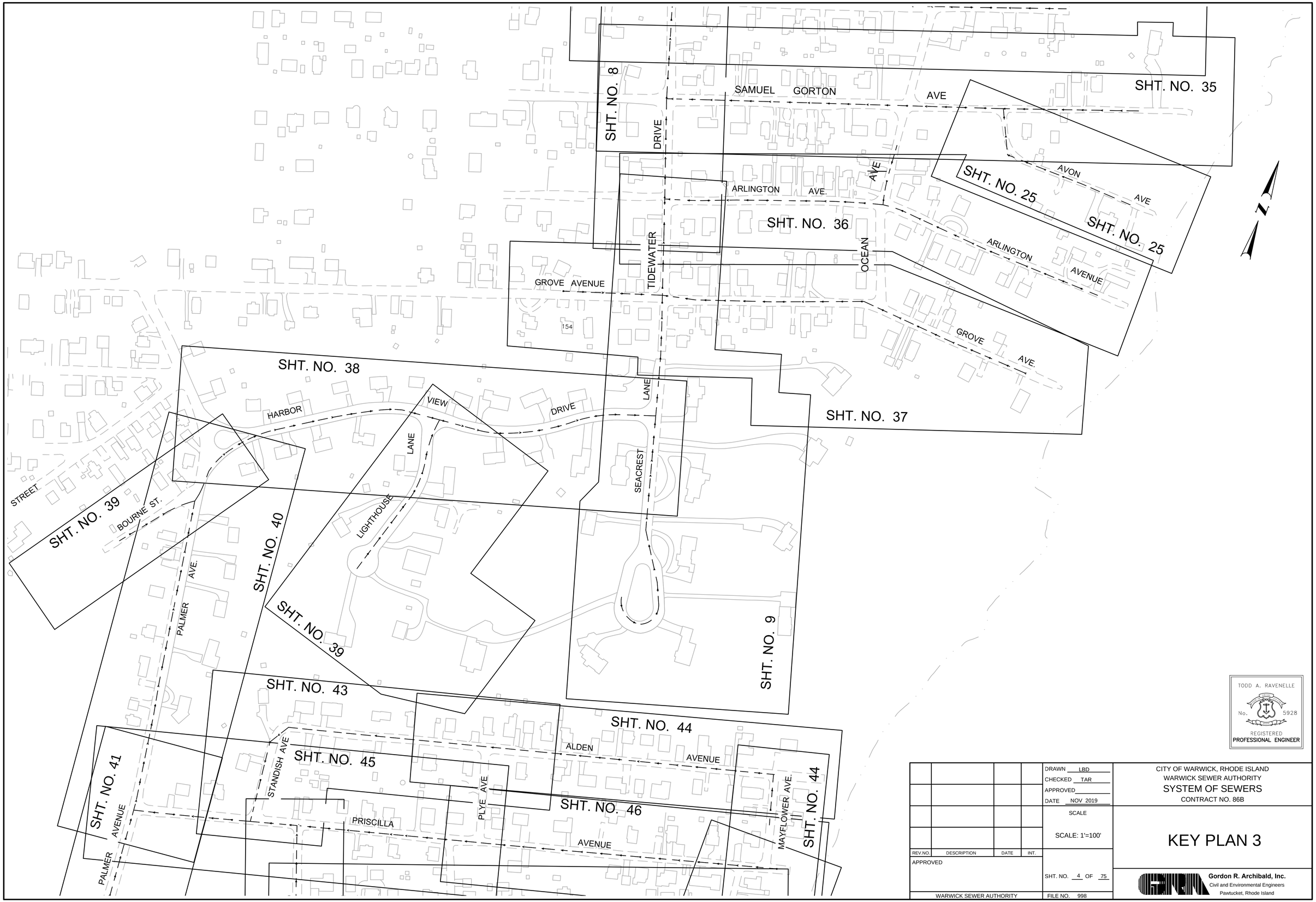
SHT. NO. 3 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

KEY PLAN 2

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE

SCALE: 1'=100'

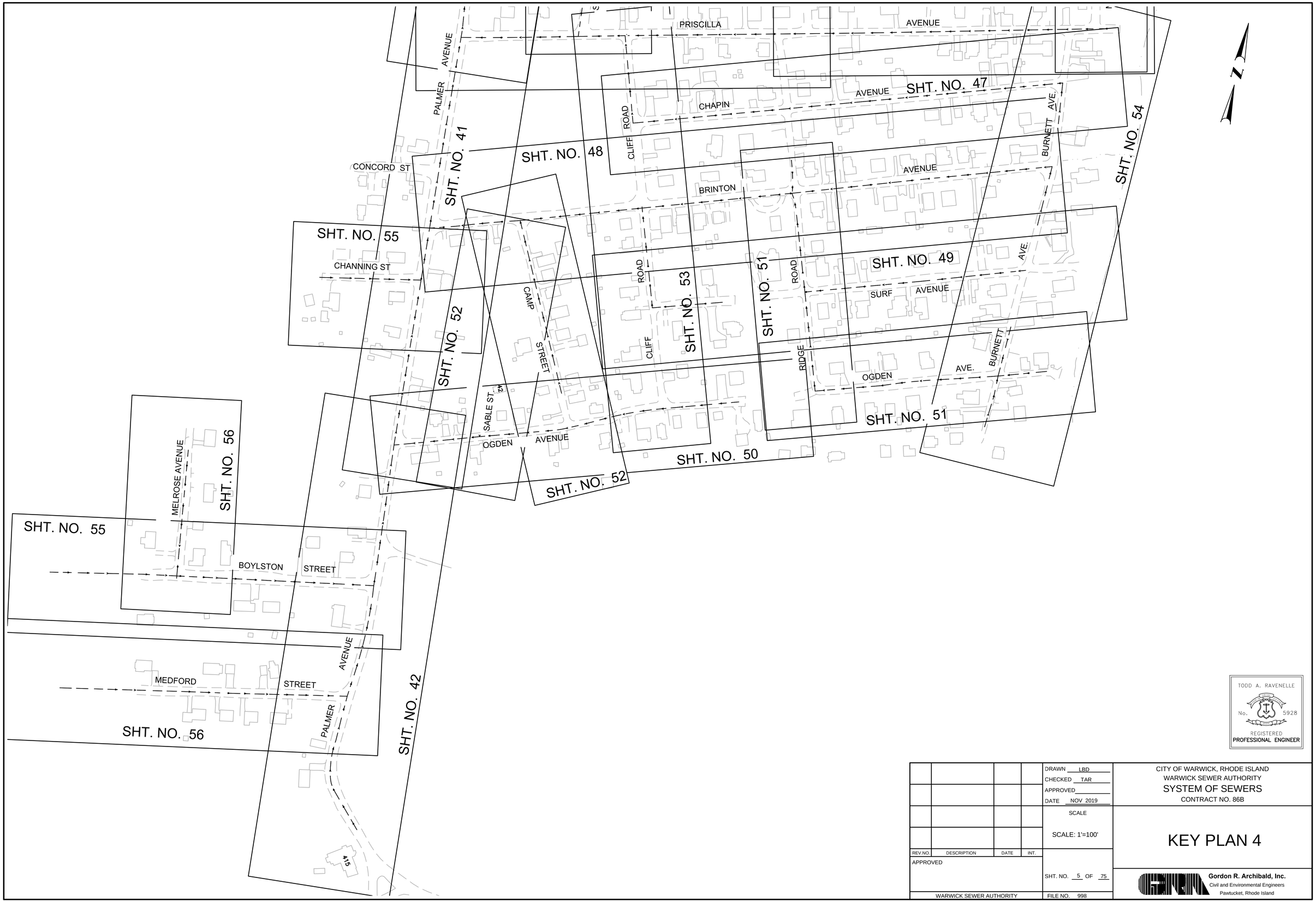
SHT. NO. 4 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

KEY PLAN 3

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE

SCALE: 1'=100'

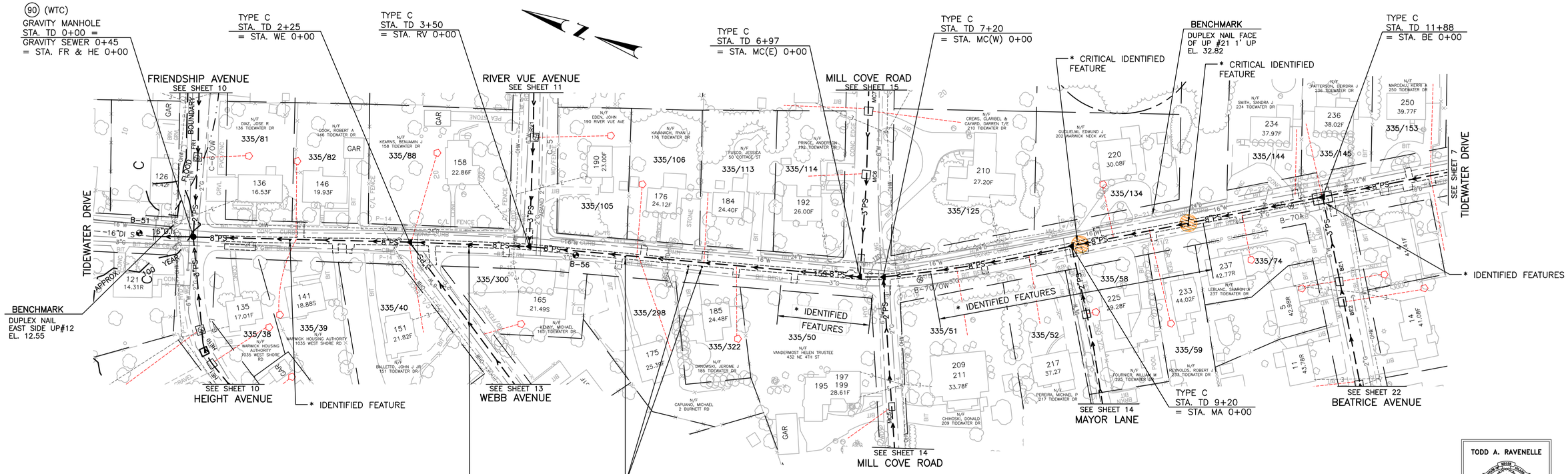
SHT. NO. 5 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

KEY PLAN 4

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



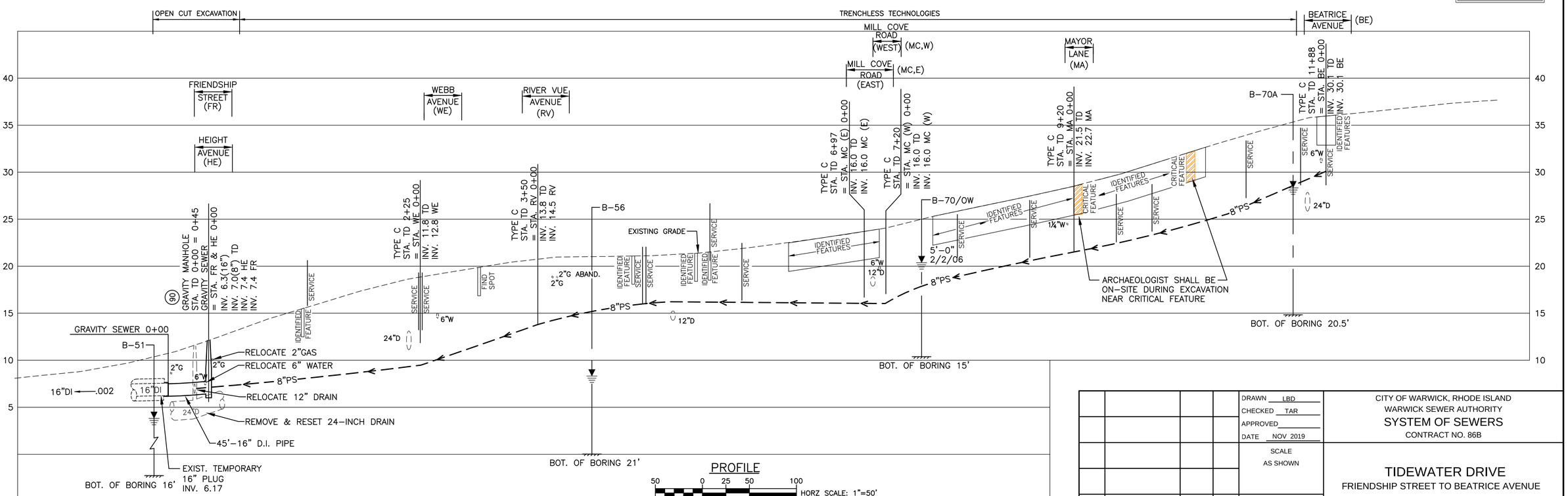
* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHAEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

SHT. NO. 6 OF 75

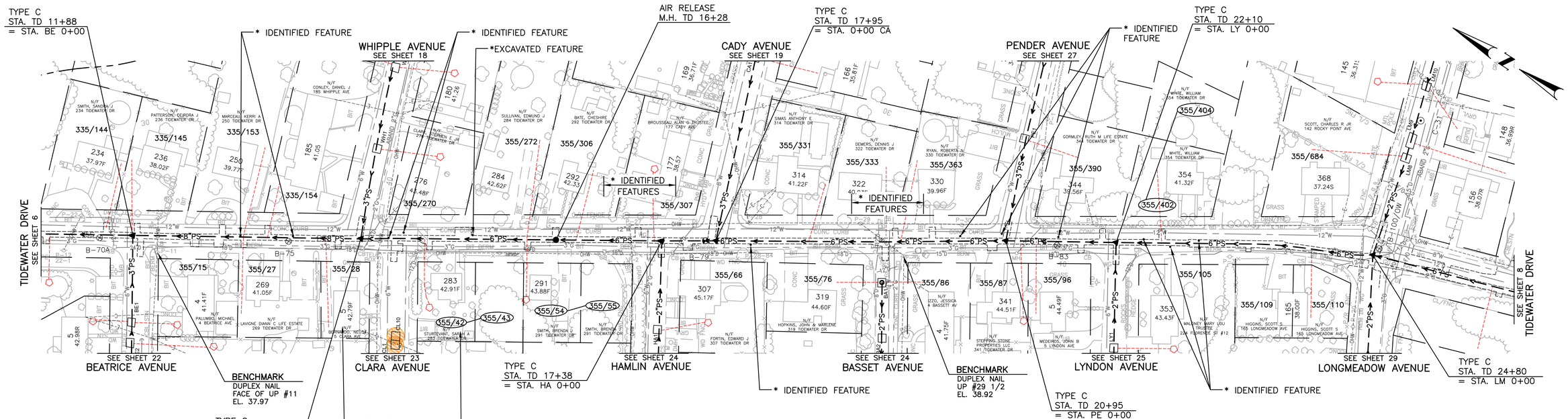
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

TIDEWATER DRIVE

FRIENDSHIP STREET TO BEATRICE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

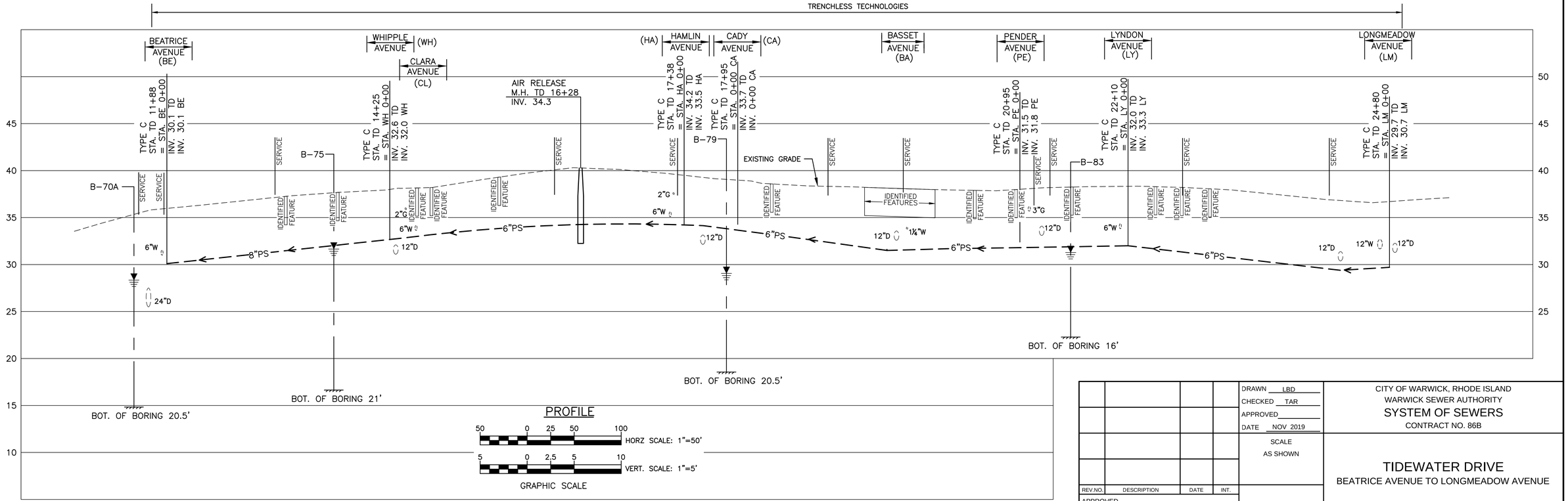


PLAN

SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

SHT. NO. 7 OF 75

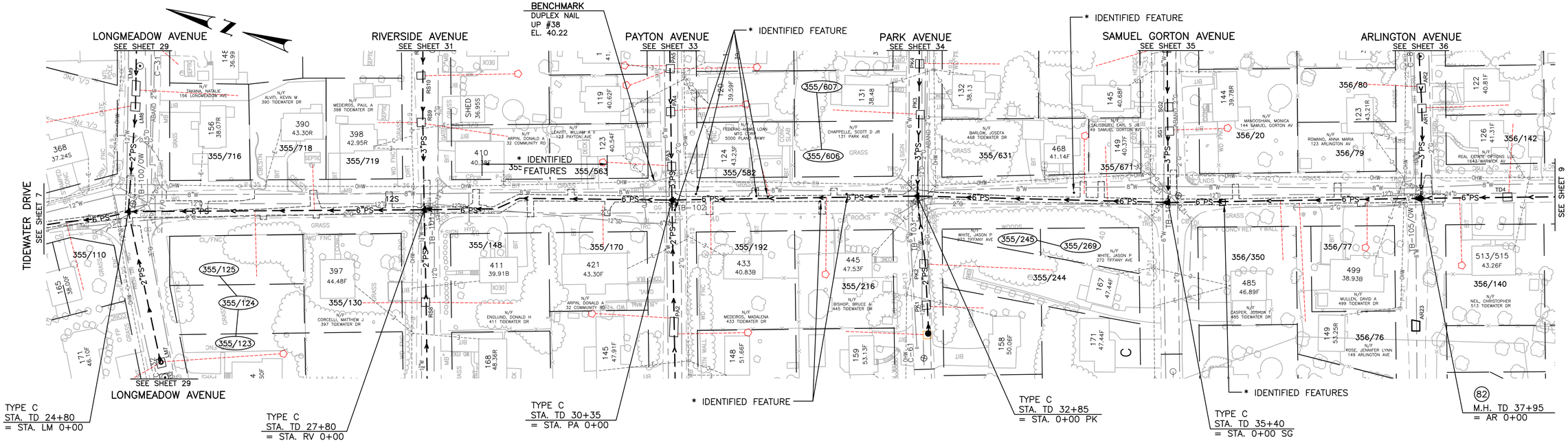
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

TIDEWATER DRIVE

BEATRICE AVENUE TO LONGMEADOW AVENUE

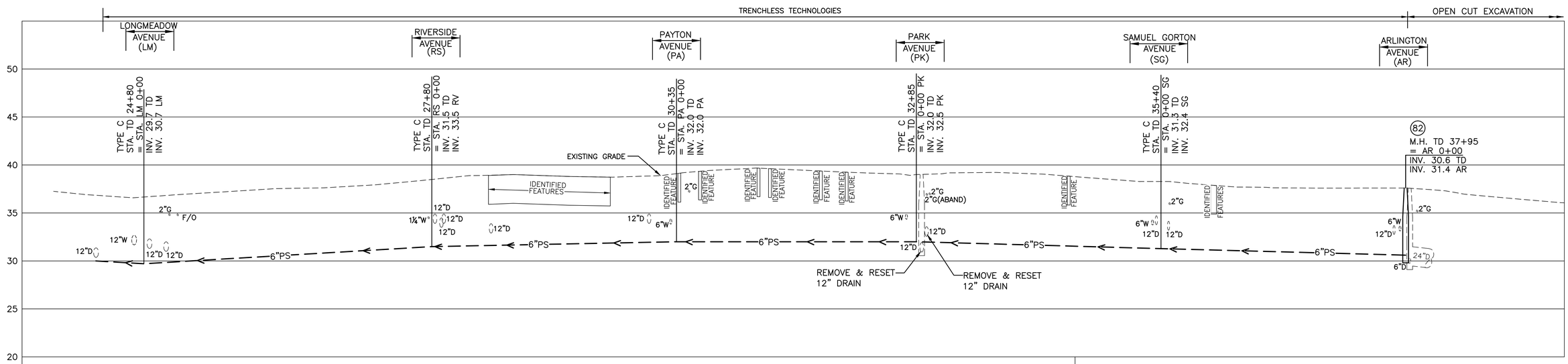
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

*IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'
VERT. SCALE: 1"=5'
GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

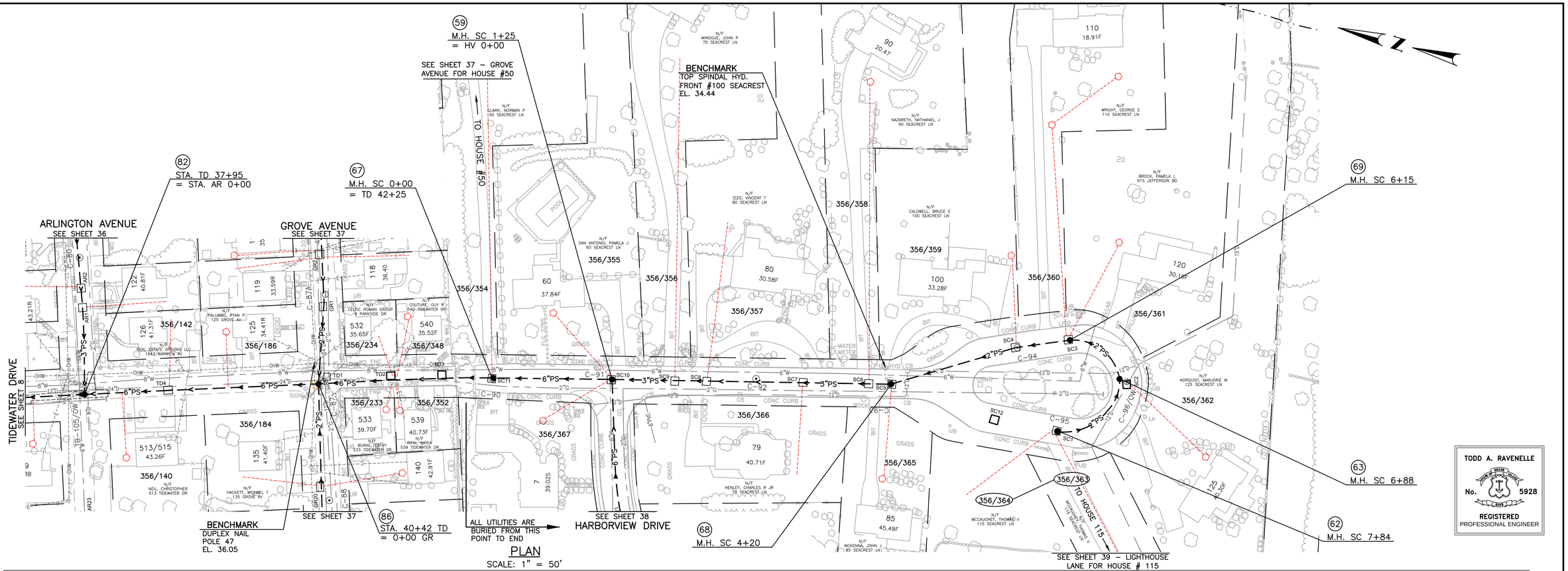
WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 8 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

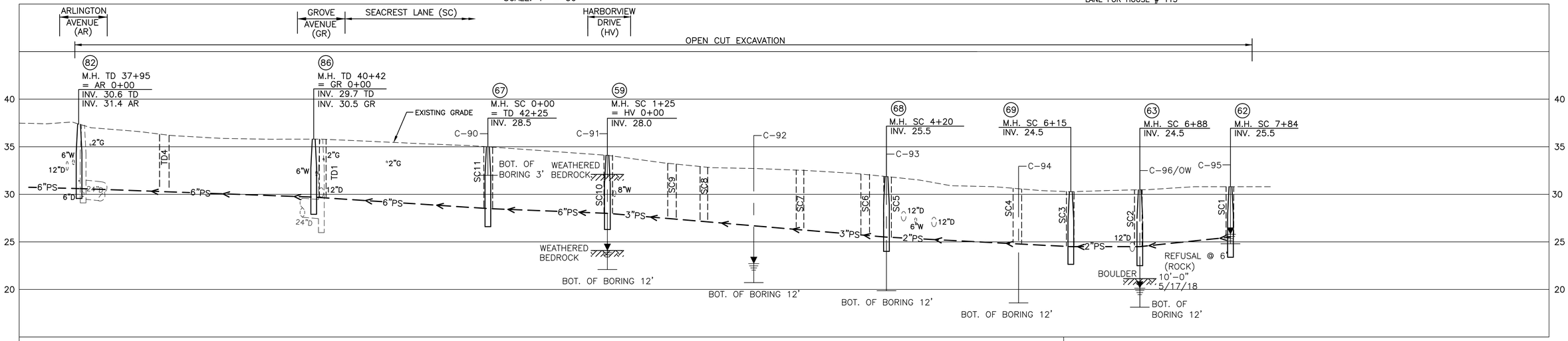
TIDEWATER DRIVE
LONGMEADOW AVENUE TO ARLINGTON AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

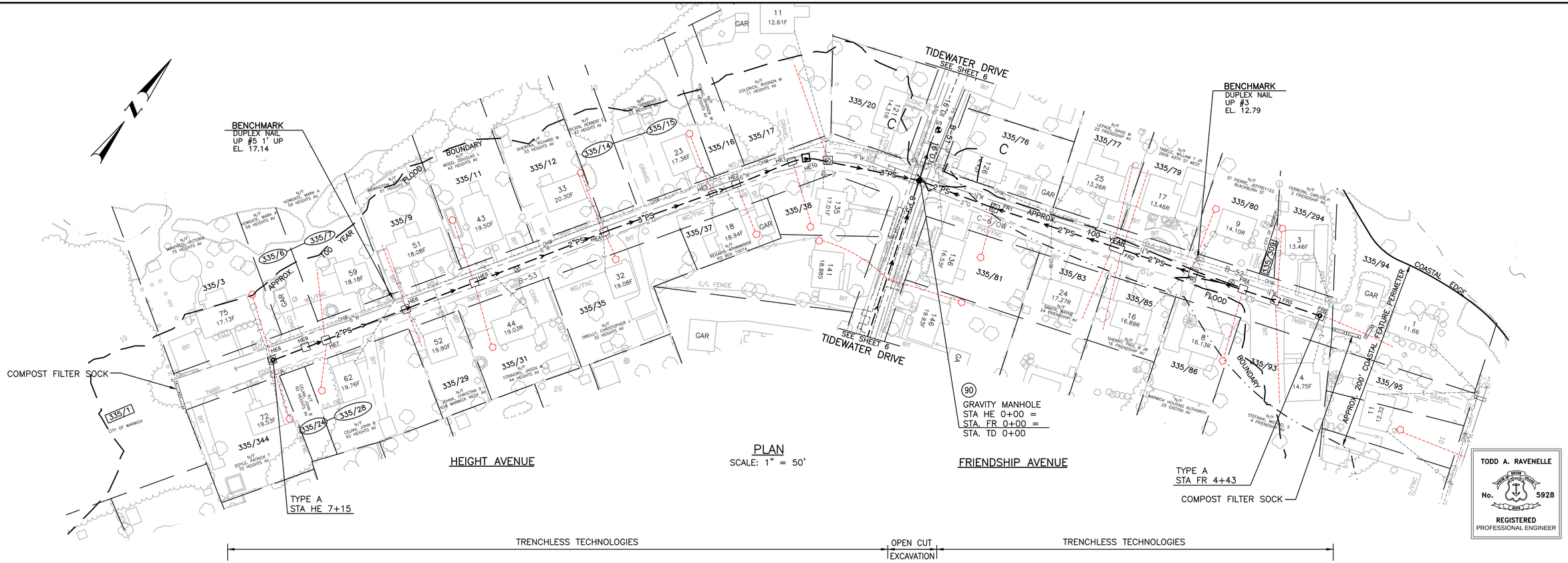
SHT. NO. 9 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

TIDEWATER DRIVE
ARLINGTON AVENUE TO GROVE AVENUE
SEACREST LANE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
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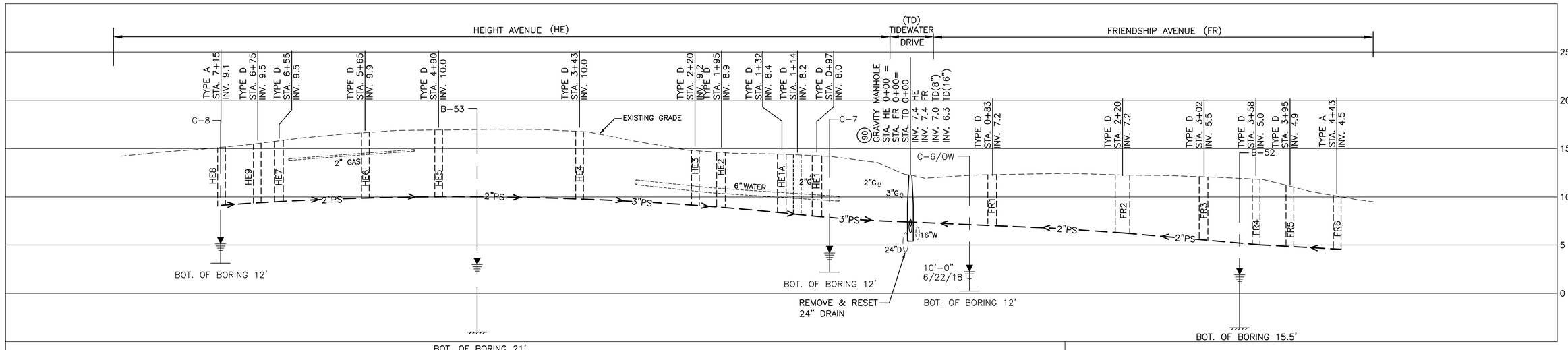


PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

SHT. NO. 10 OF 75

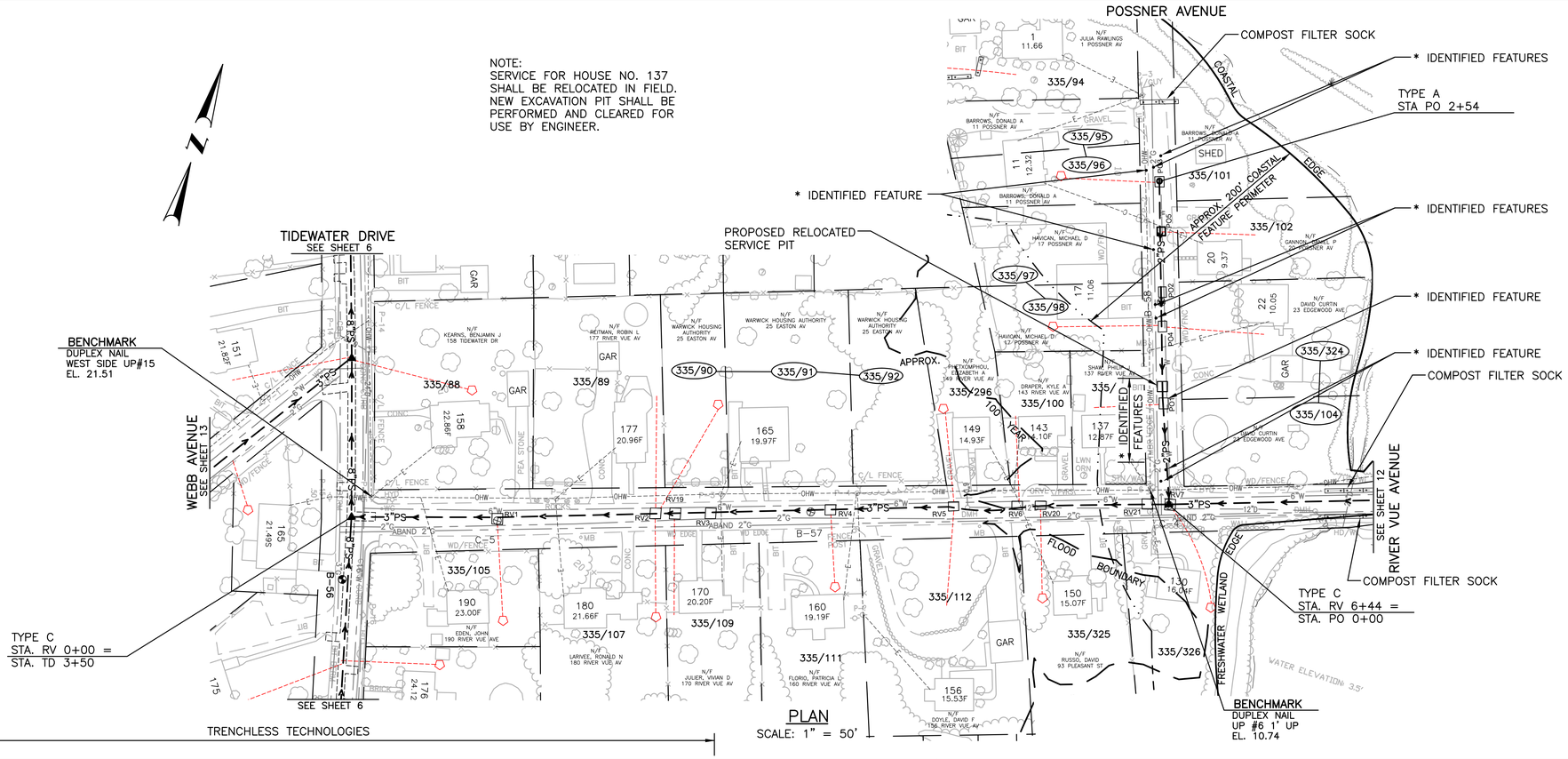
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

HEIGHT AVENUE AND FRIENDSHIP AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

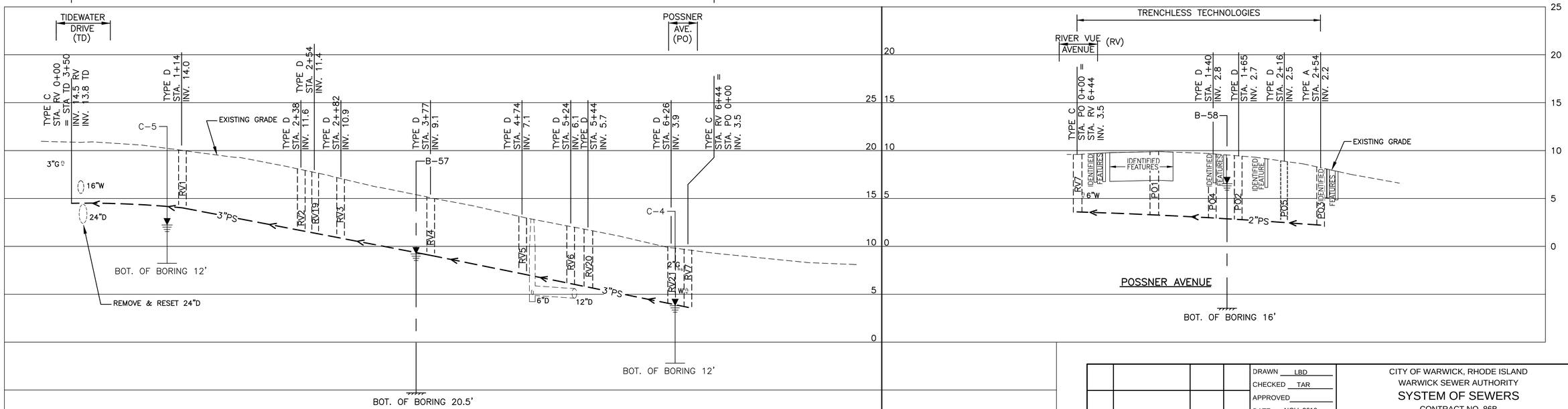
NOTE:
SERVICE FOR HOUSE NO. 137 SHALL BE RELOCATED IN FIELD. NEW EXCAVATION PIT SHALL BE PERFORMED AND CLEARED FOR USE BY ENGINEER.



* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'
VERT. SCALE: 1"=5'
GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN

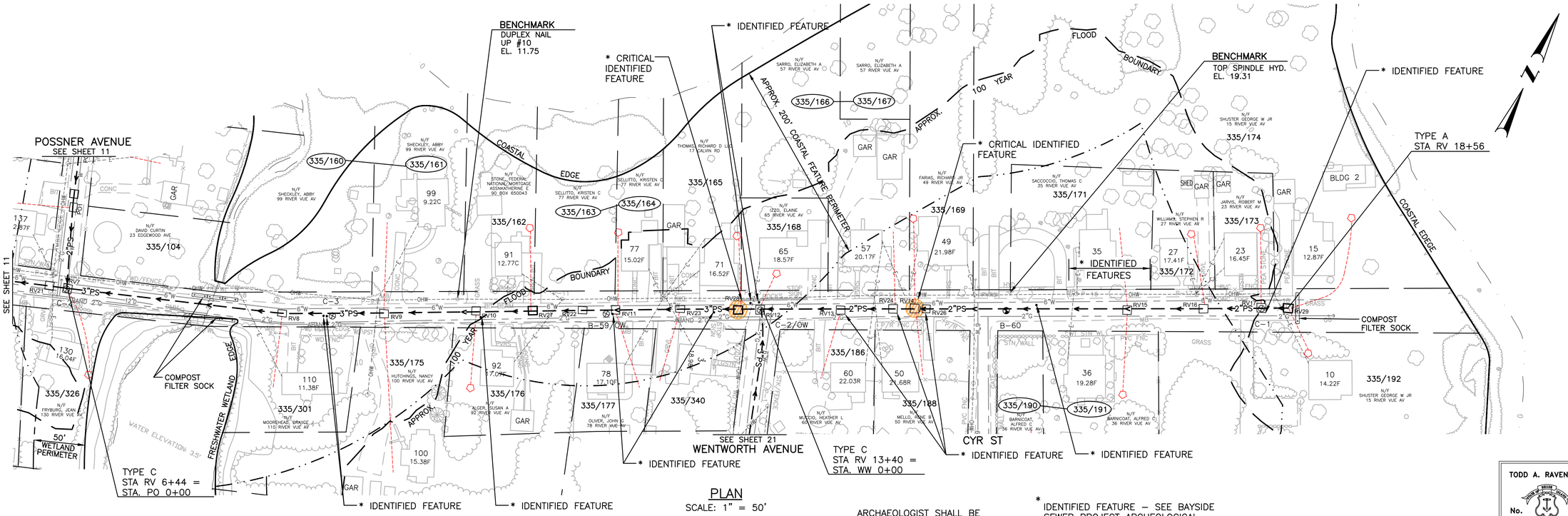
SHT. NO. 11 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

RIVER VUE AVENUE
TIDEWATER DRIVE TO POSNER AVENUE

POSNER AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



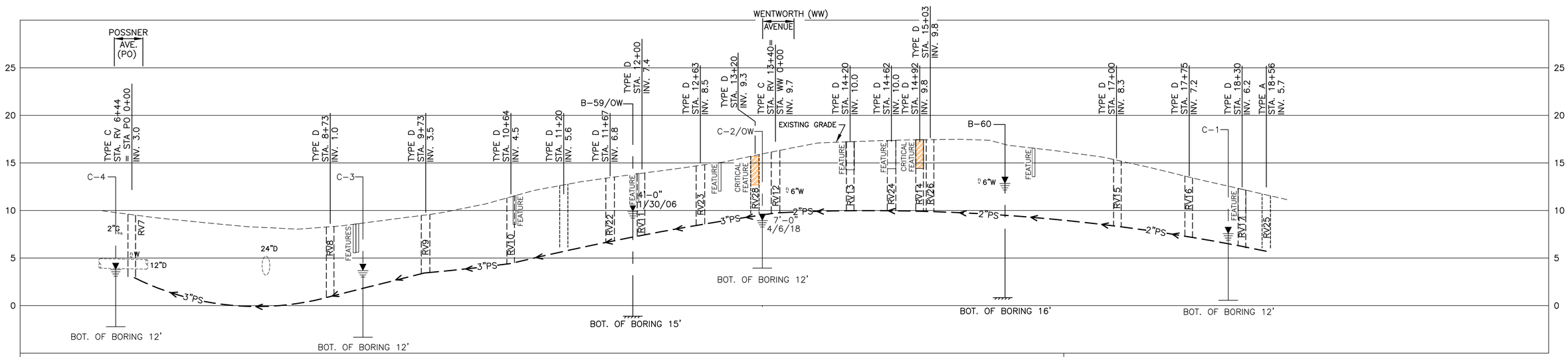
PLAN

SCALE: 1" = 50'

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TRENCHLESS TECHNOLOGIES



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

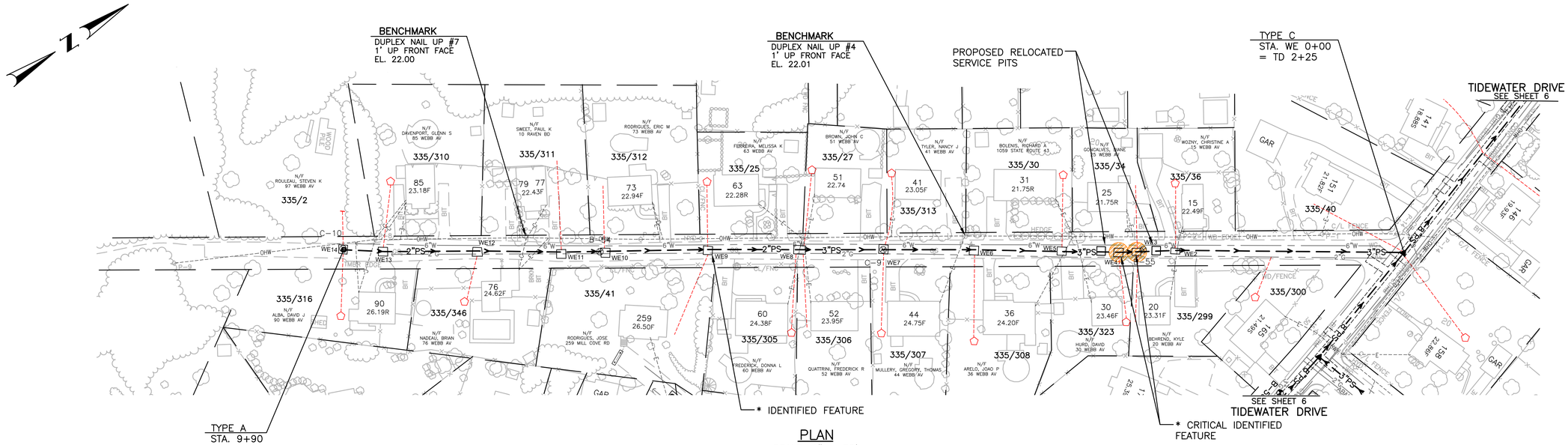
WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 12 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

RIVER VUE AVENUE
POSNER AVENUE TO END

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

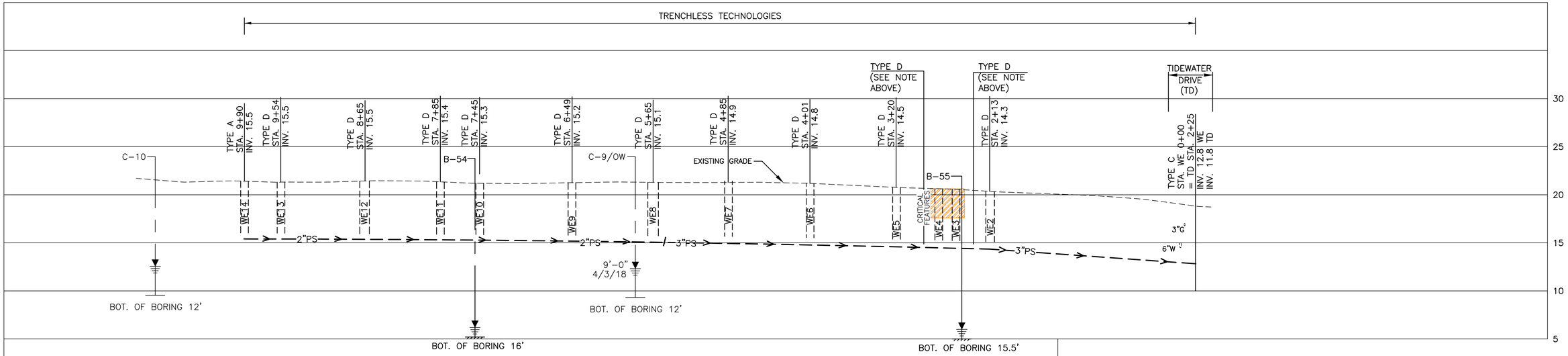
SCALE: 1" = 50'

NOTE:
SERVICE FOR HOUSE NOS. 20, 25 AND 30 SHALL BE RELOCATED IN FIELD. NEW EXCAVATION PIT SHALL BE PERFORMED AND CLEARED FOR USE BY ENGINEER.

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

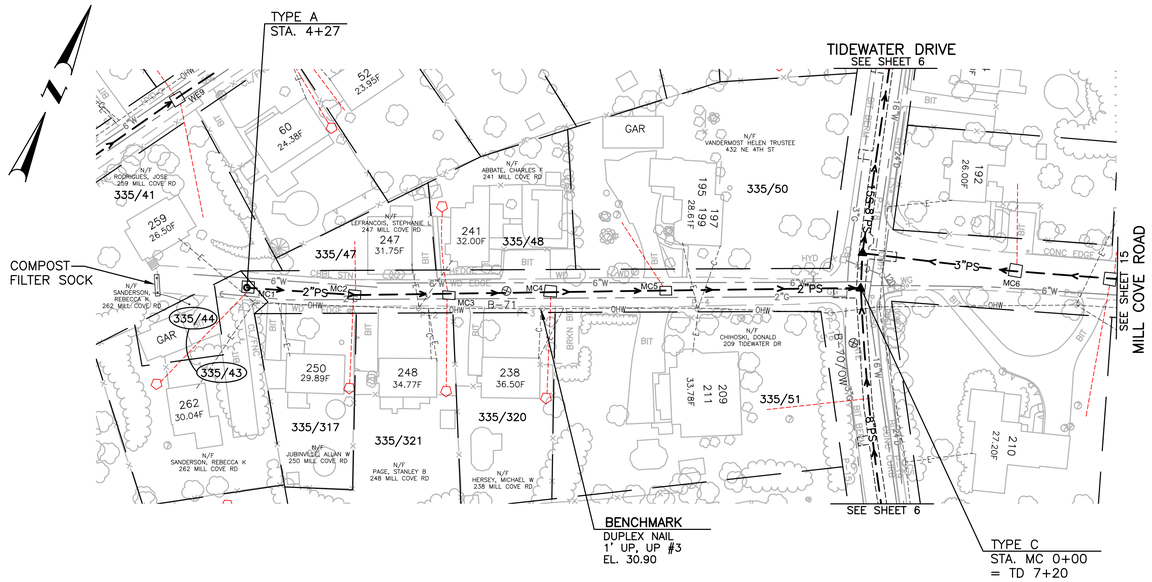
SHT. NO. 13 OF 75

FILE NO. 998

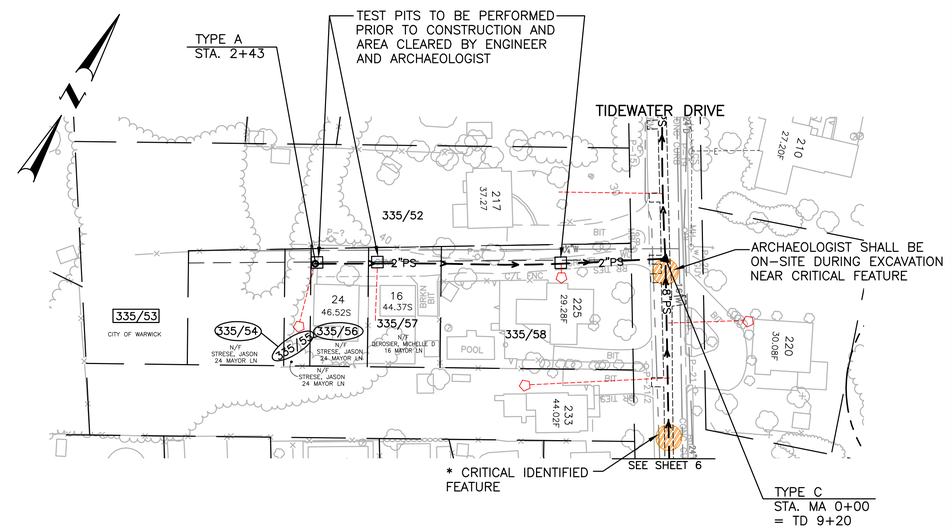
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

WEBB AVENUE
TIDEWATER DRIVE TO END

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



MILL COVE ROAD



MAYOR LANE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

PLAN
SCALE: 1" = 50'

PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

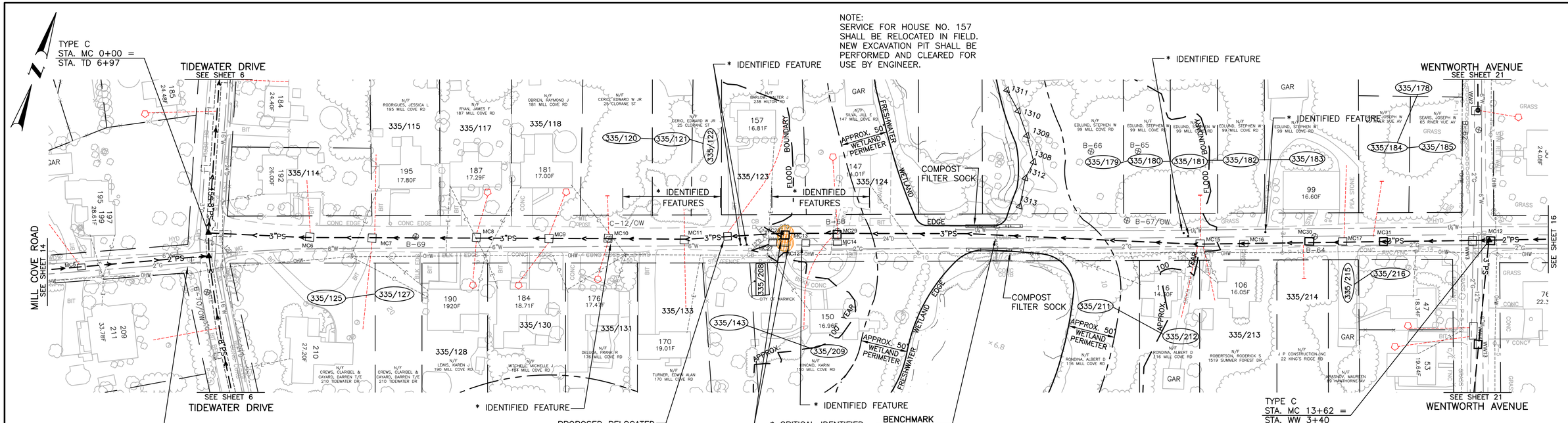
SHT. NO. 14 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MILL COVE ROAD
TIDEWATER DRIVE TO WEST END
MAYOR LANE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

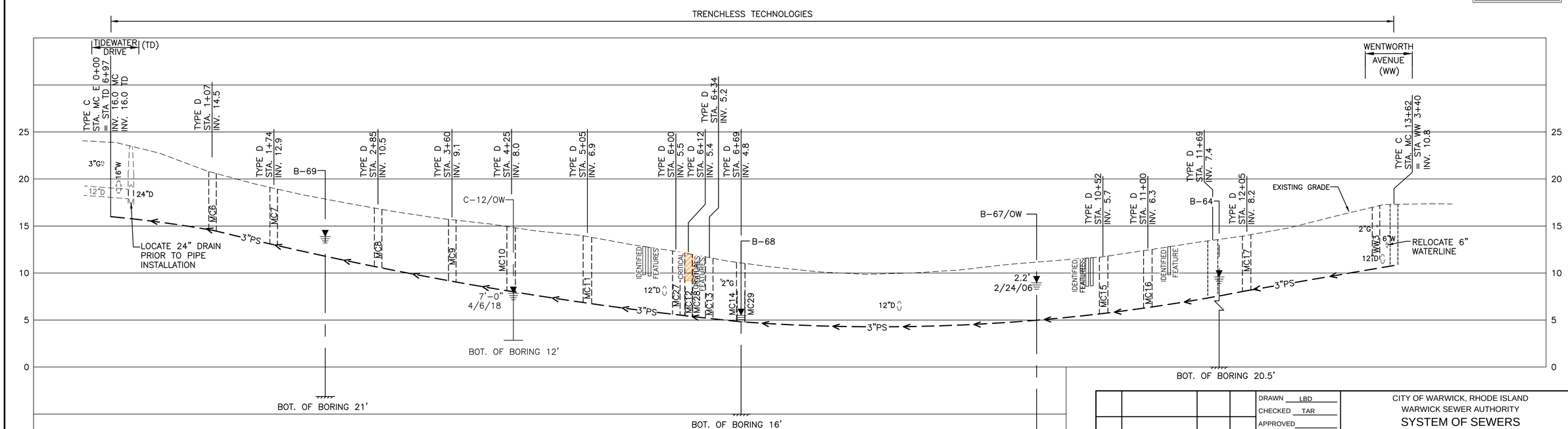


PLAN
SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

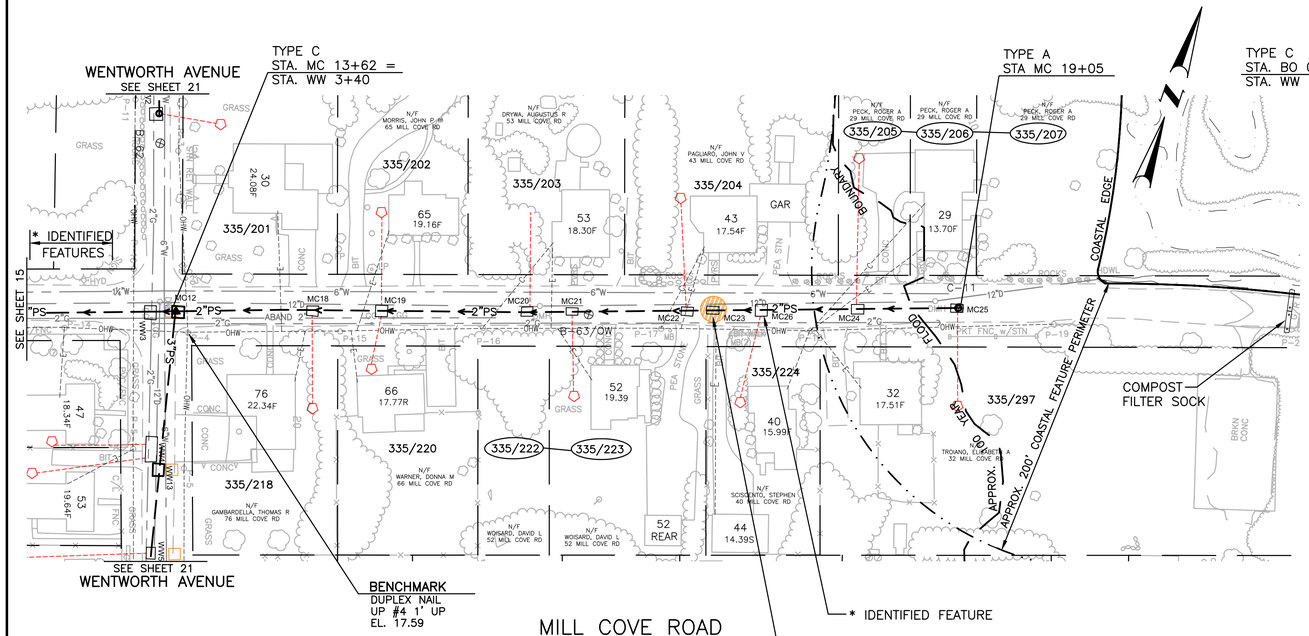
WARWICK SEWER AUTHORITY

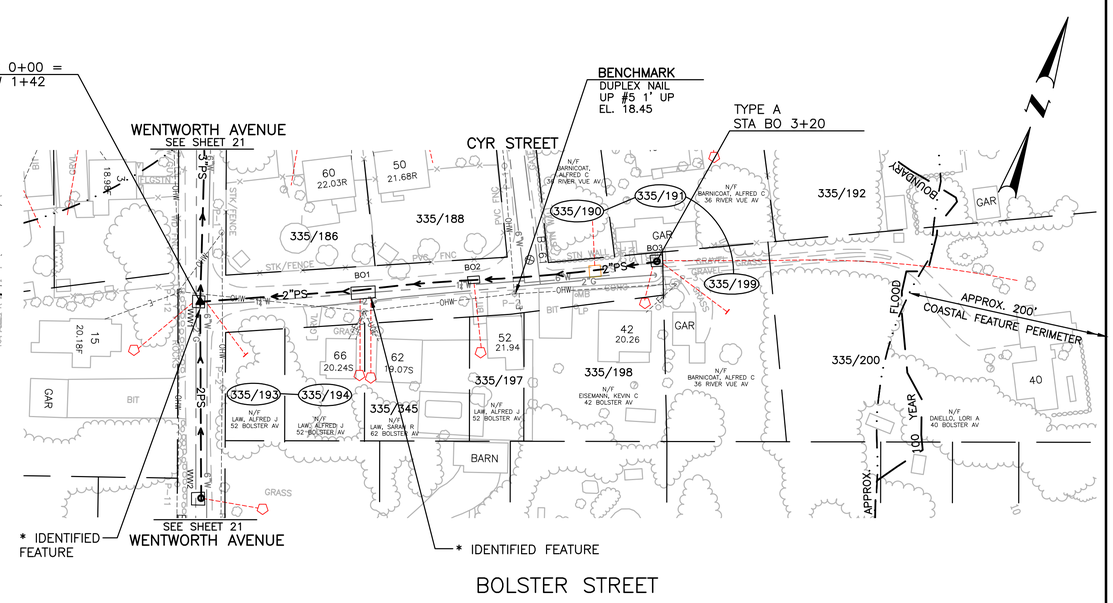
DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 15 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MILL COVE ROAD
TIDEWATER DRIVE TO WENTWORTH AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





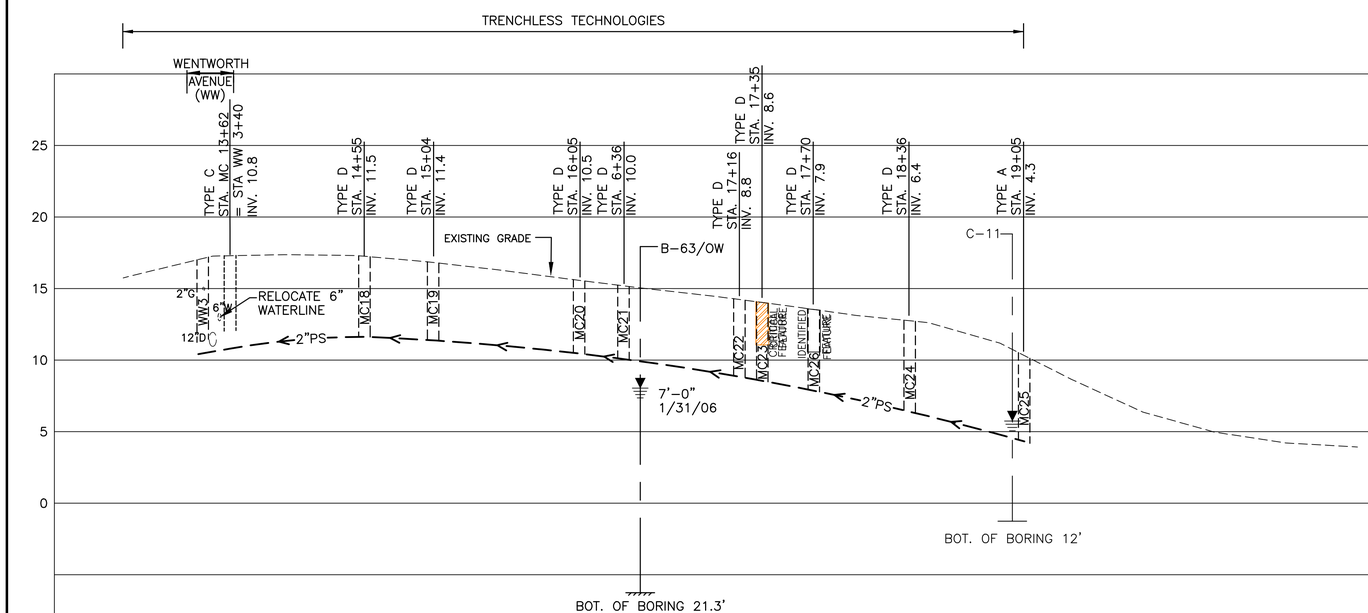
PLAN

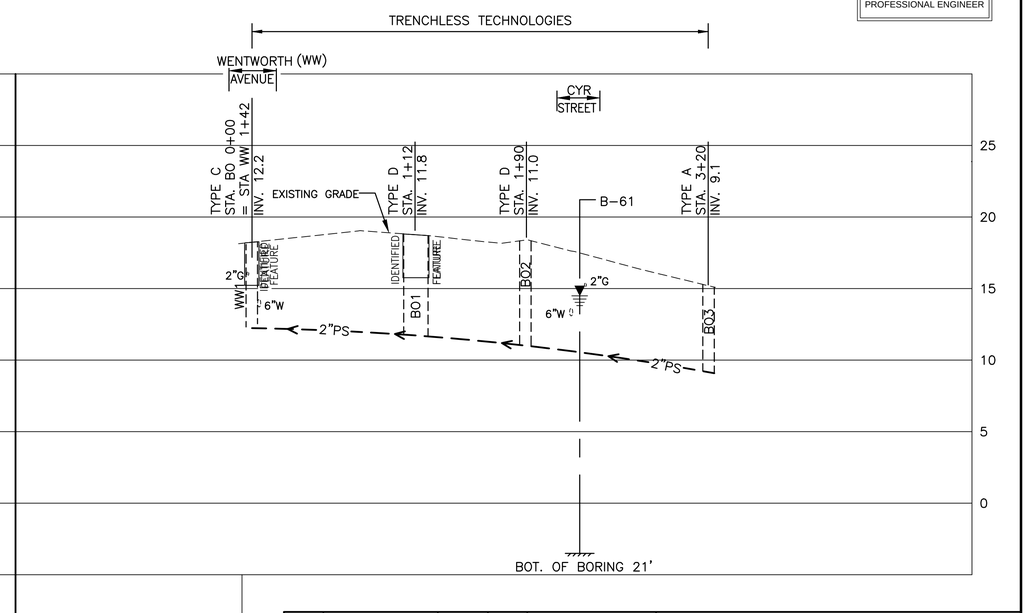
SCALE: 1" = 50'

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER





PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

SHT. NO. 16 OF 75

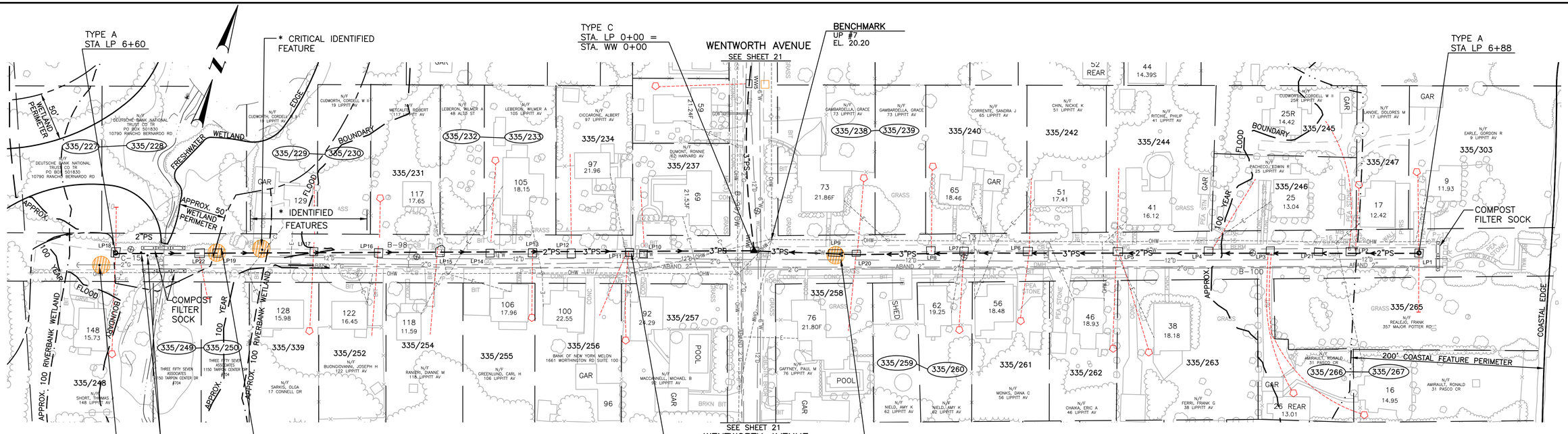
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MILL COVE ROAD
WENTWORTH AVENUE TO END

BOLSTER STREET

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



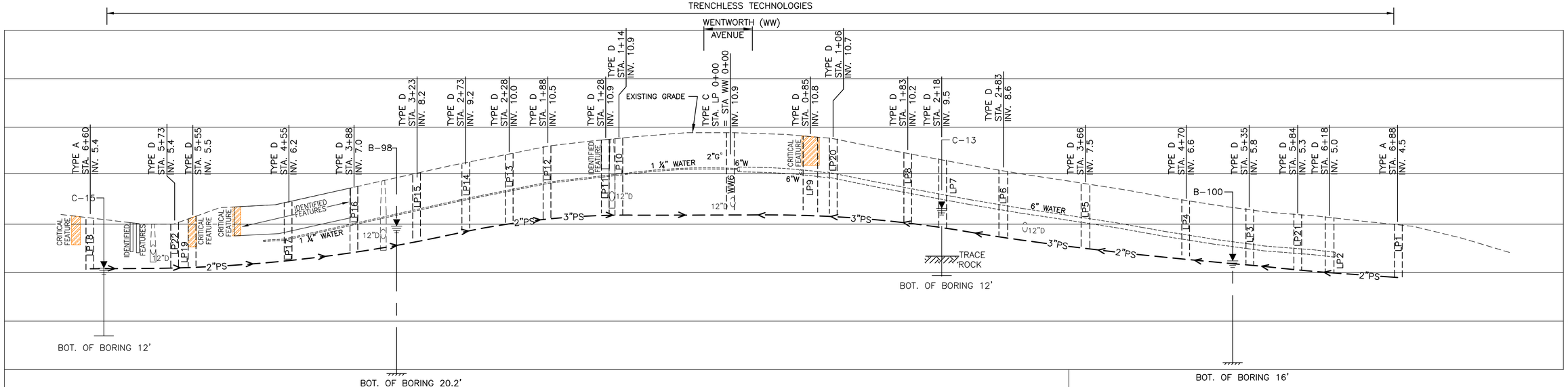
PLAN

SCALE: 1" = 50'

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

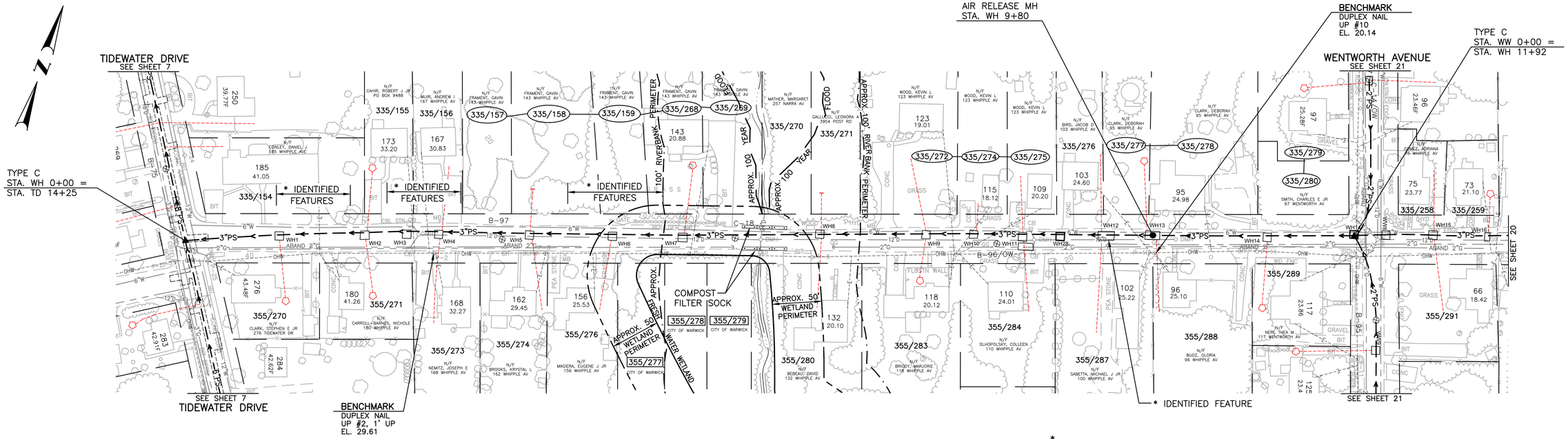
SHT. NO. 17 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

LIPPITT AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

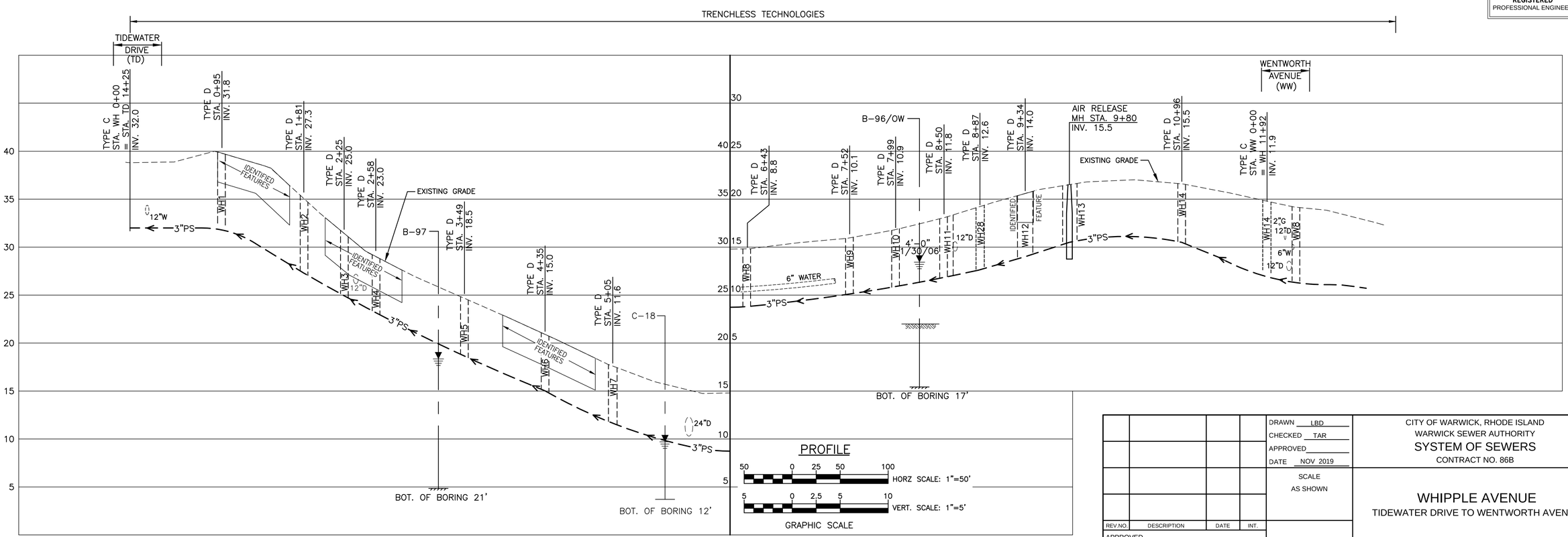


PLAN

SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



REV.NO.	DESCRIPTION	DATE	INT.	
				DRAWN LBD
				CHECKED TAR
				APPROVED
				DATE NOV 2019
				SCALE AS SHOWN
				SHT. NO. 18 OF 75
				FILE NO. 998

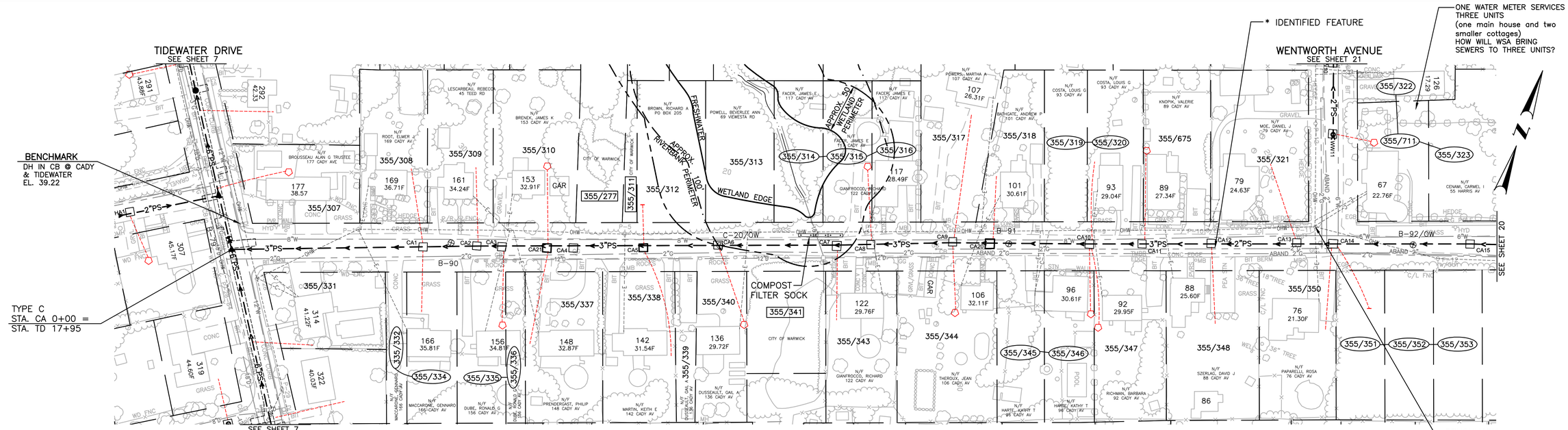
APPROVED

WARWICK SEWER AUTHORITY

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

WHIPPLE AVENUE
TIDEWATER DRIVE TO WENTWORTH AVENUE

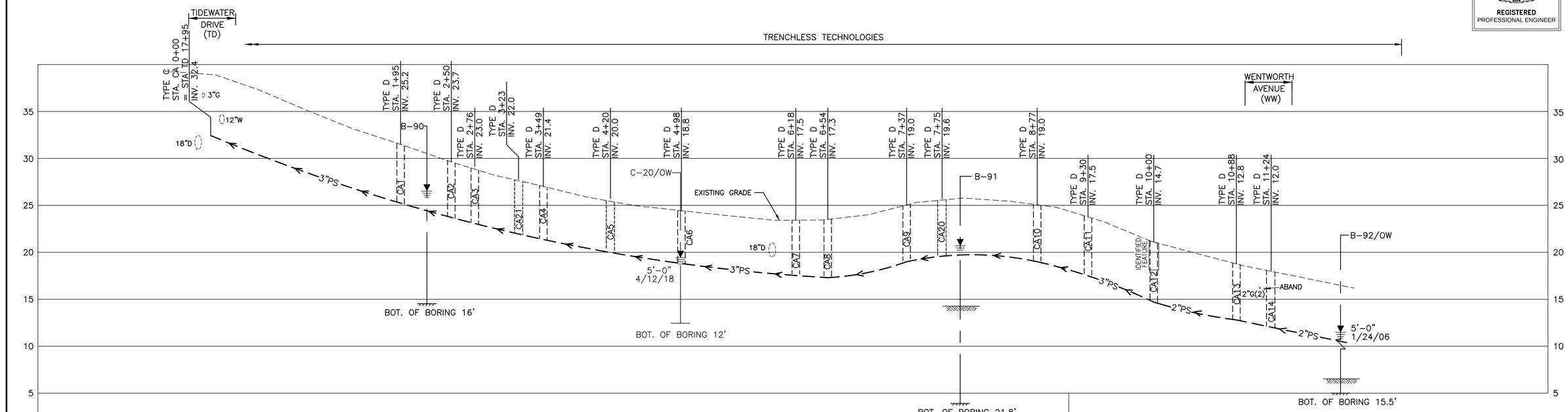
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

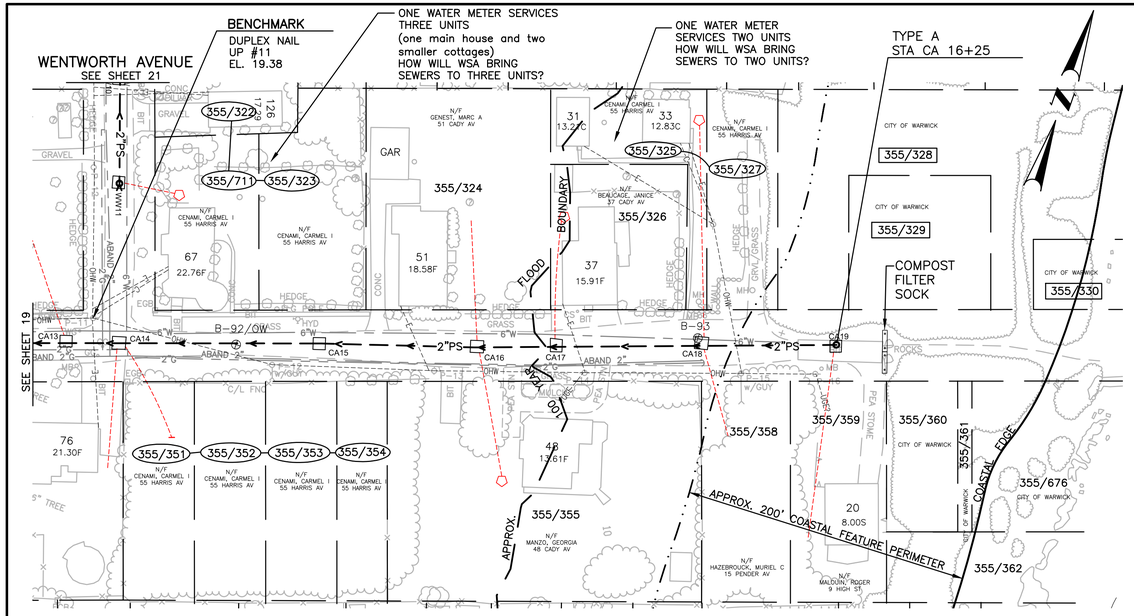
SHT. NO. 19 OF 75

FILE NO. 998

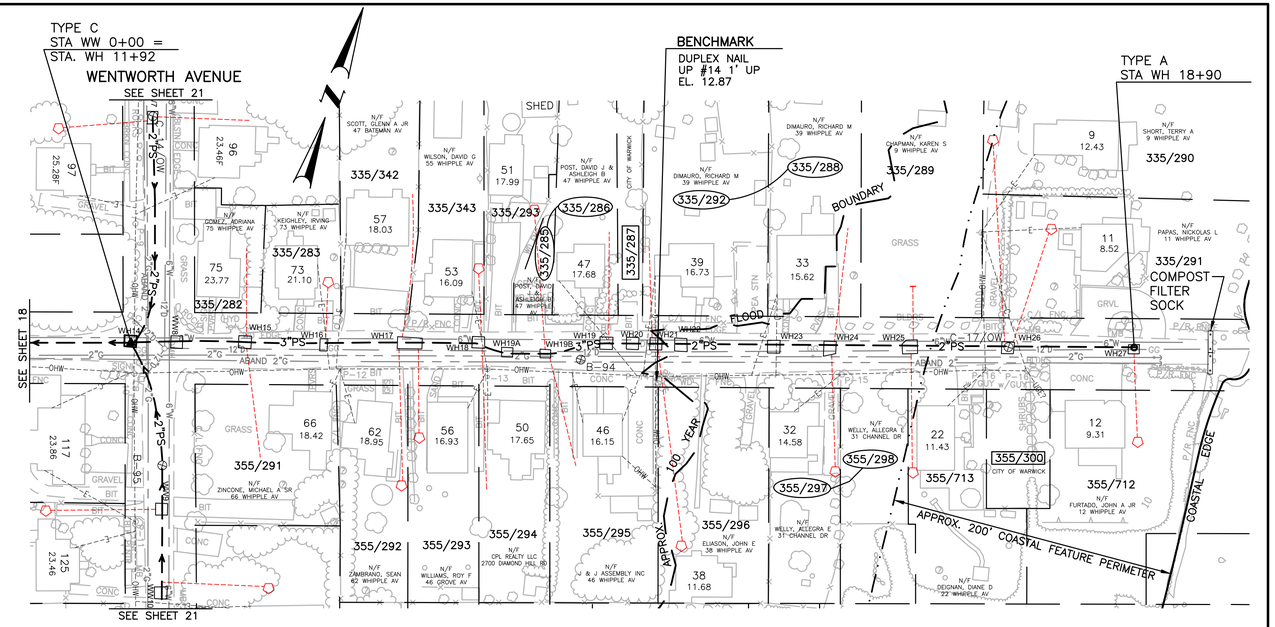
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

CADY AVENUE
TIDEWATER DRIVE TO WENTWORTH AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



CADY AVENUE

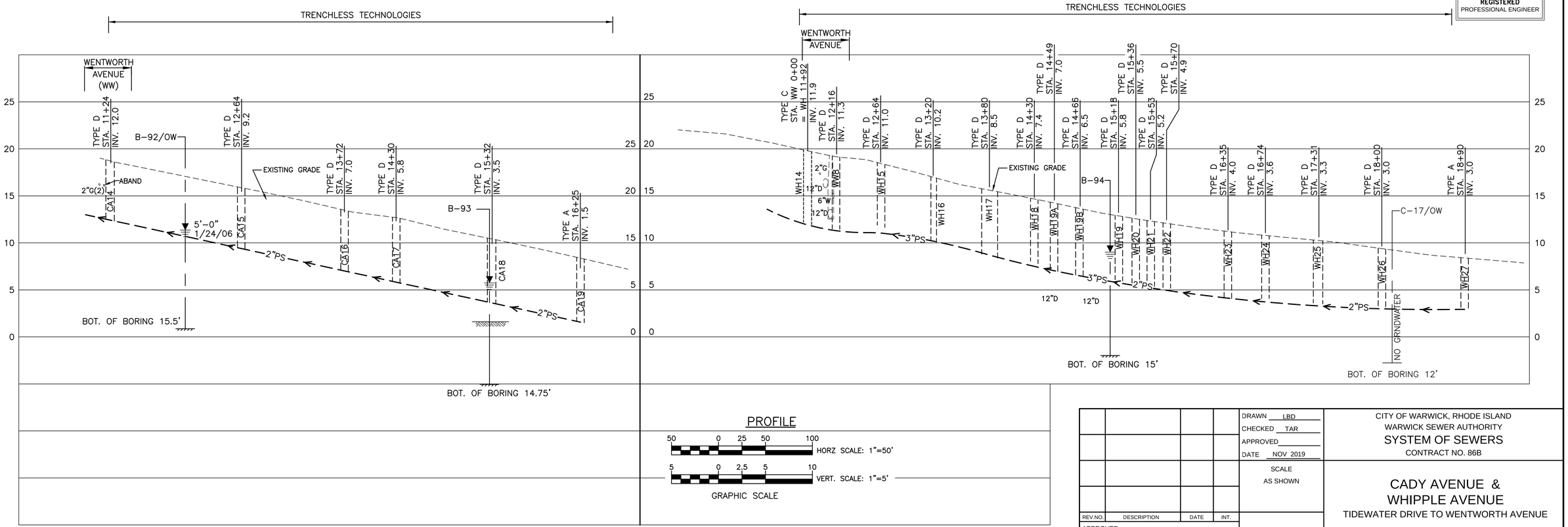


WHIPPLE AVENUE

PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

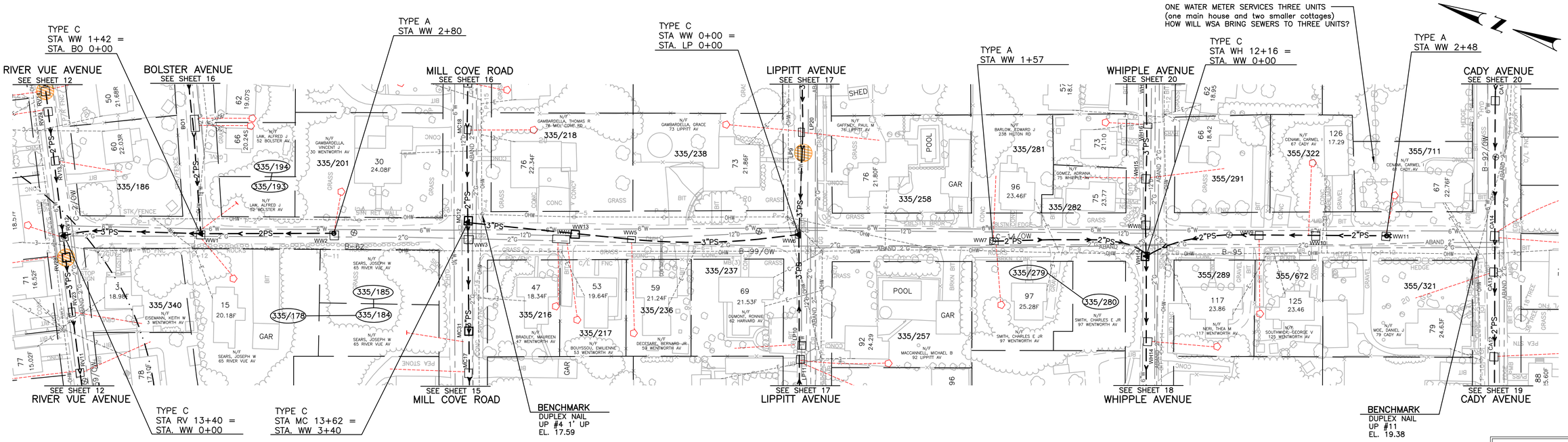
DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 20 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

CADY AVENUE & WHIPPLE AVENUE

TIDEWATER DRIVE TO WENTWORTH AVENUE

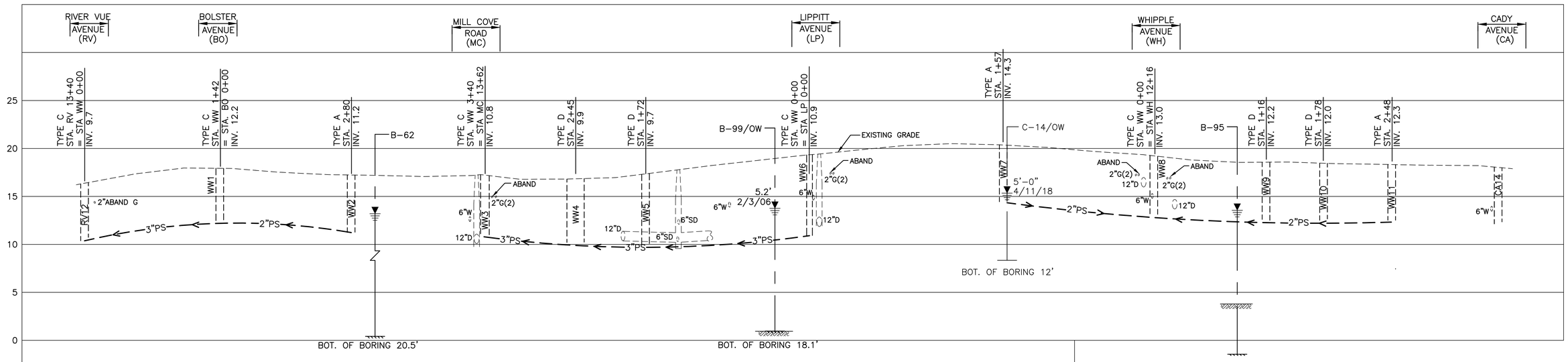
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

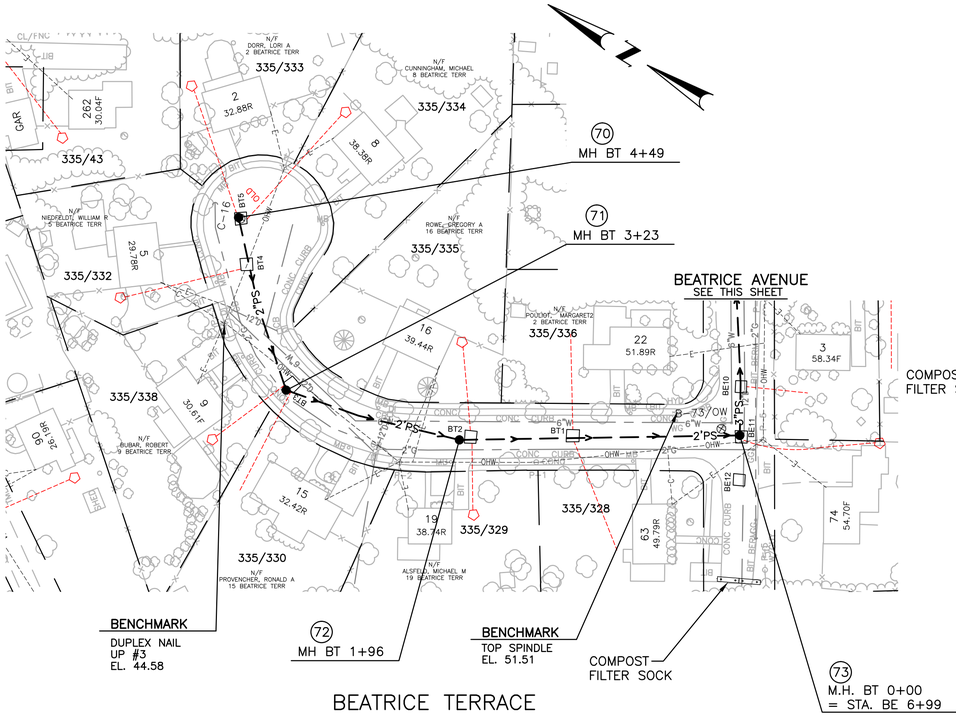
SHT. NO. 21 OF 75

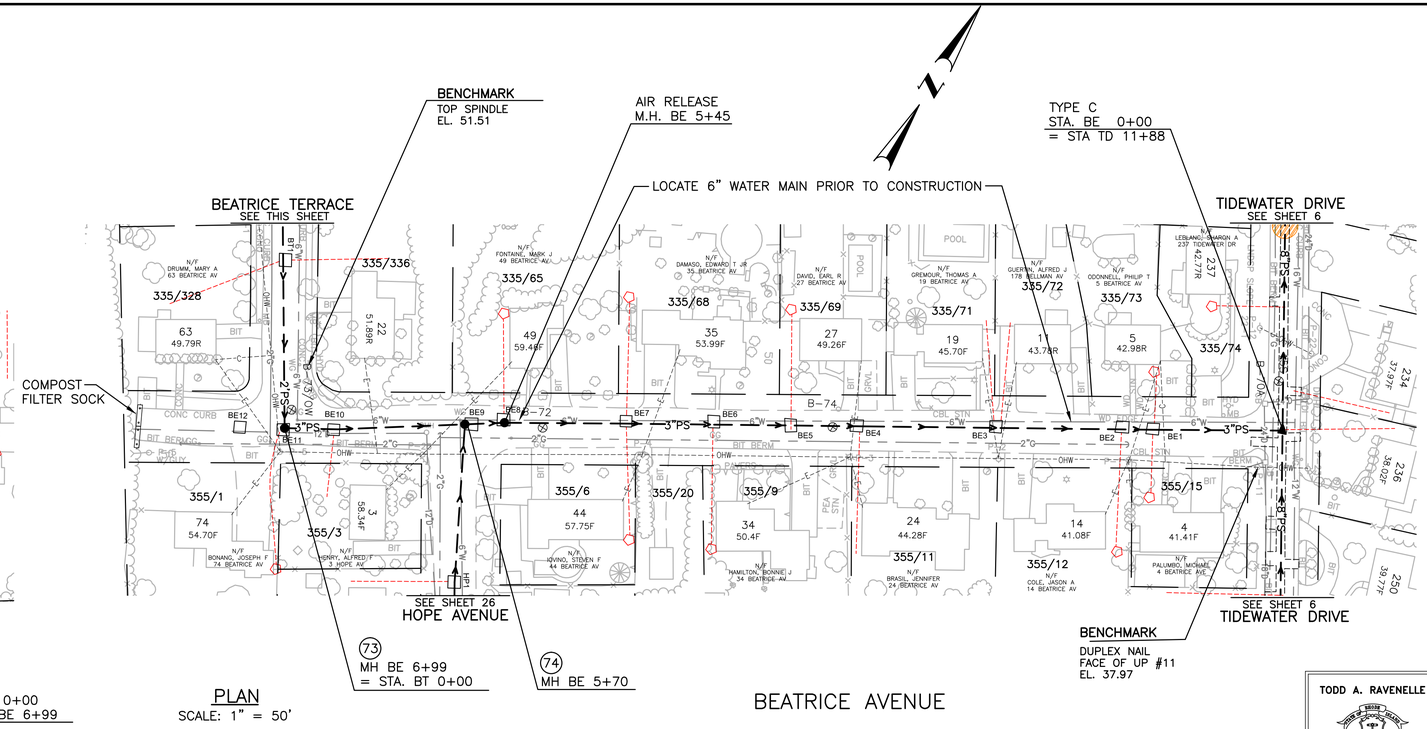
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

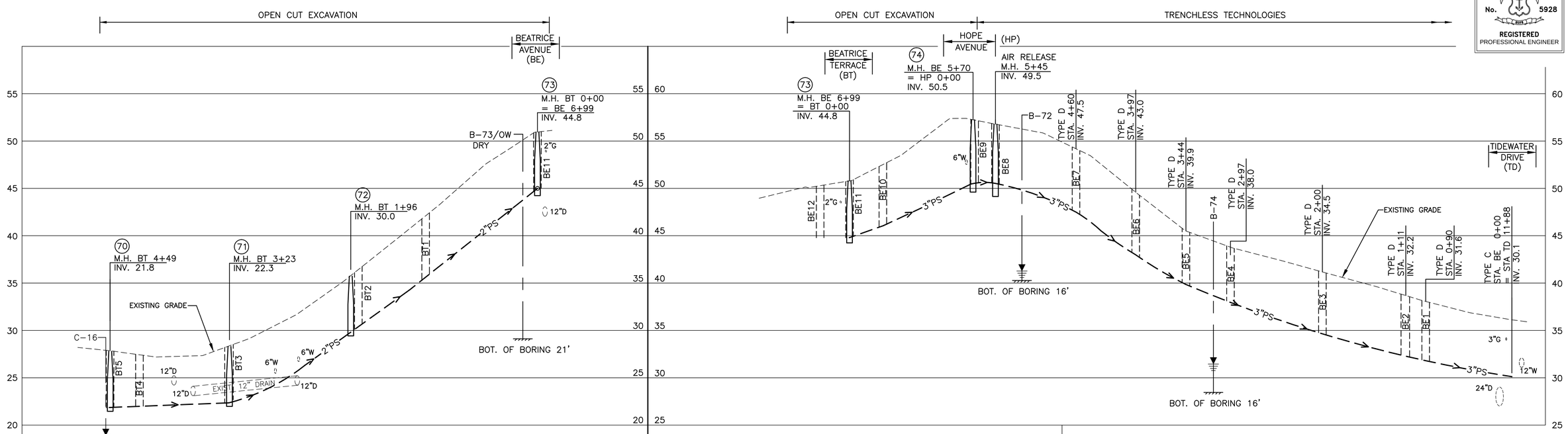
WENTWORTH AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





PLAN
SCALE: 1" = 50'



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN

SHT. NO. 22 OF 75

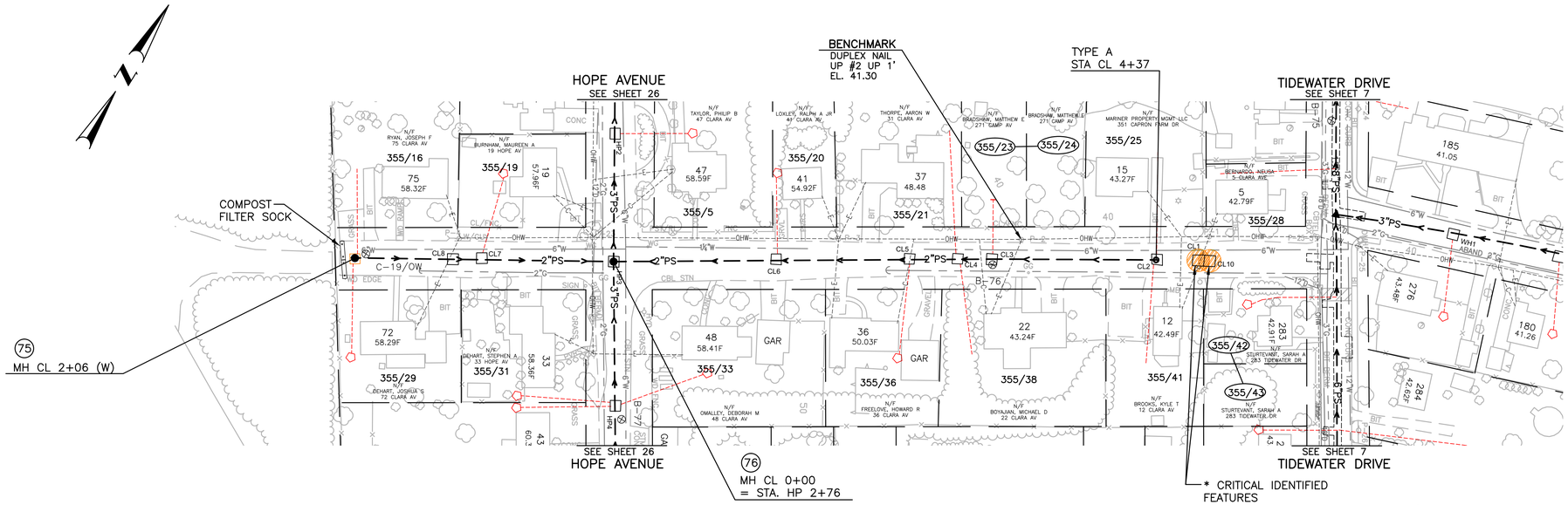
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BEATRICE TERRACE & BEATRICE AVENUE

TIDEWATER DRIVE TO END OF CUL-DE-SAC

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



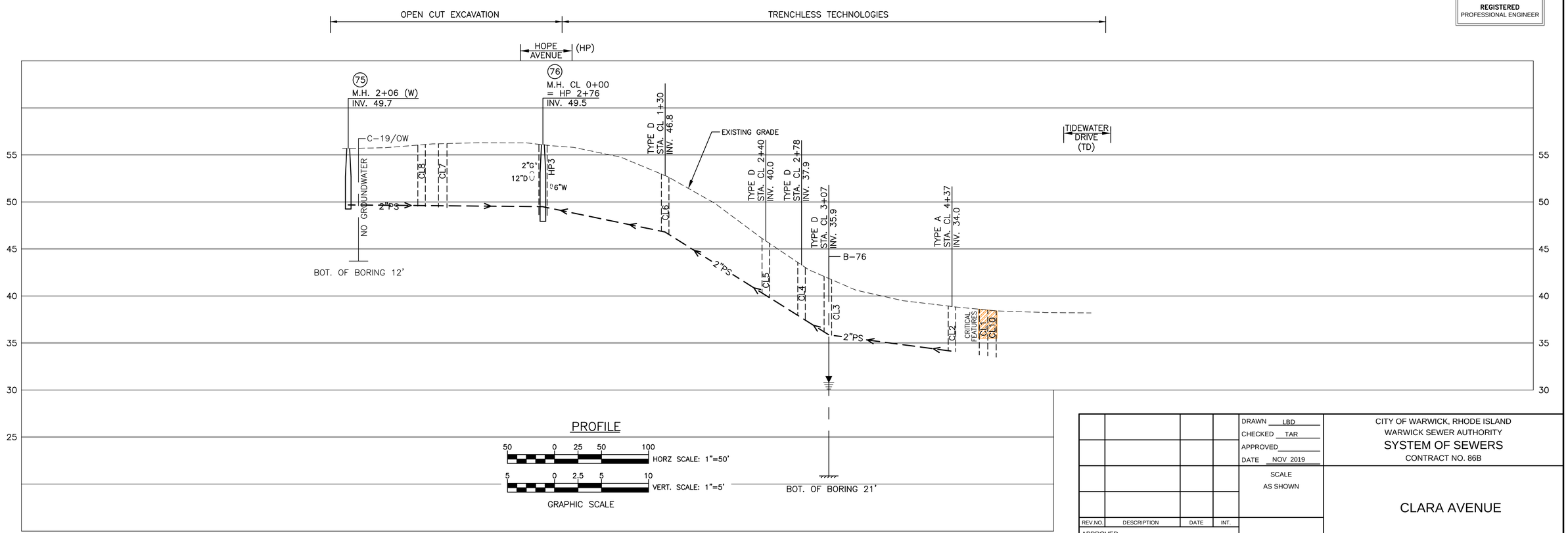
PLAN

SCALE: 1" = 50'

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

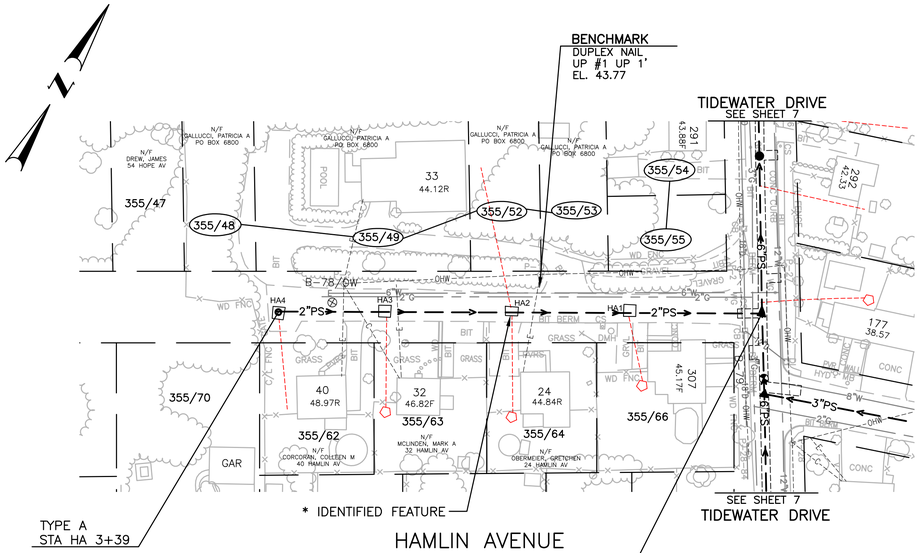
SHT. NO. 23 OF 75

FILE NO. 998

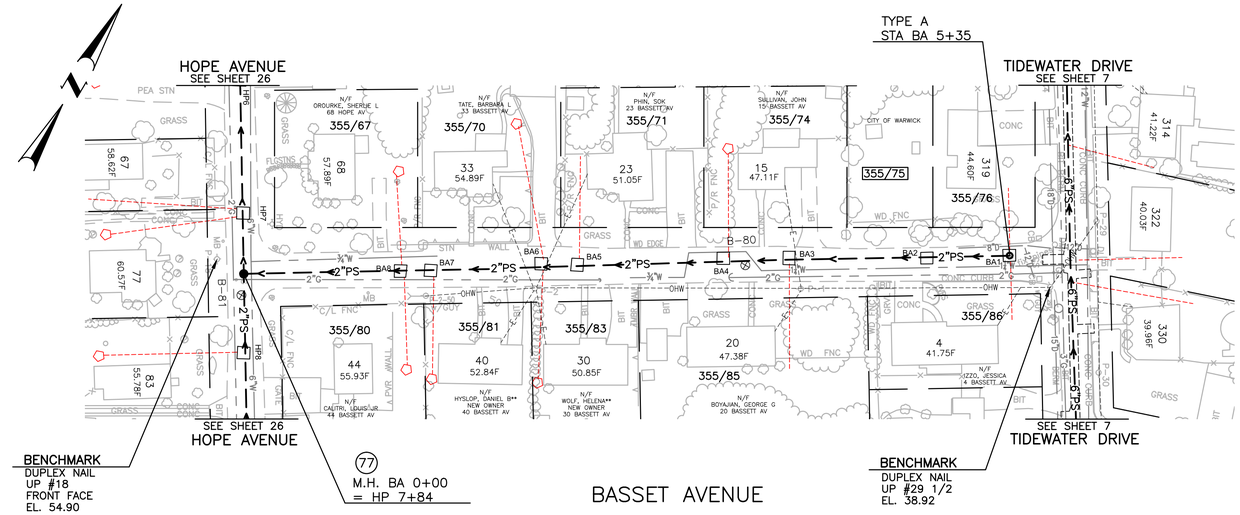
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

CLARA AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



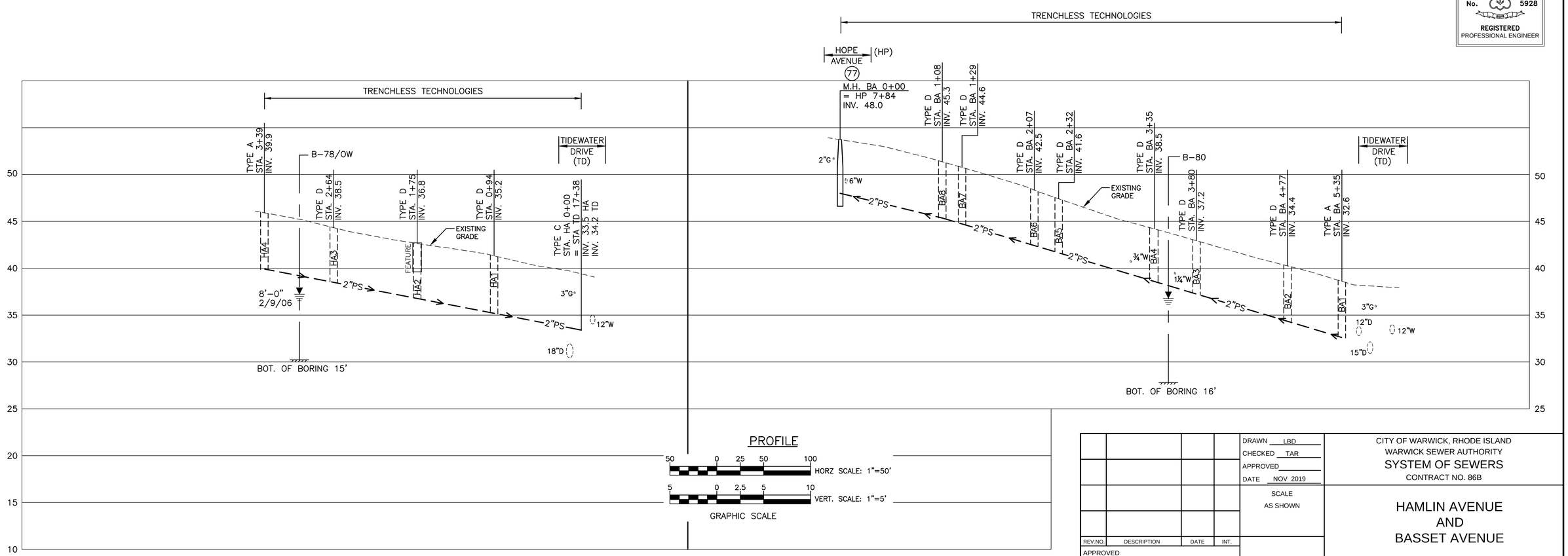
NOTE:
SERVICES FOR HOUSE NOS. 24 AND 33 SHALL BE RELOCATED IN FIELD. NEW EXCAVATION PIT SHALL BE PERFORMED AND CLEARED FOR USE BY ENGINEER AND ARCHAEOLOGIST.



PLAN
SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

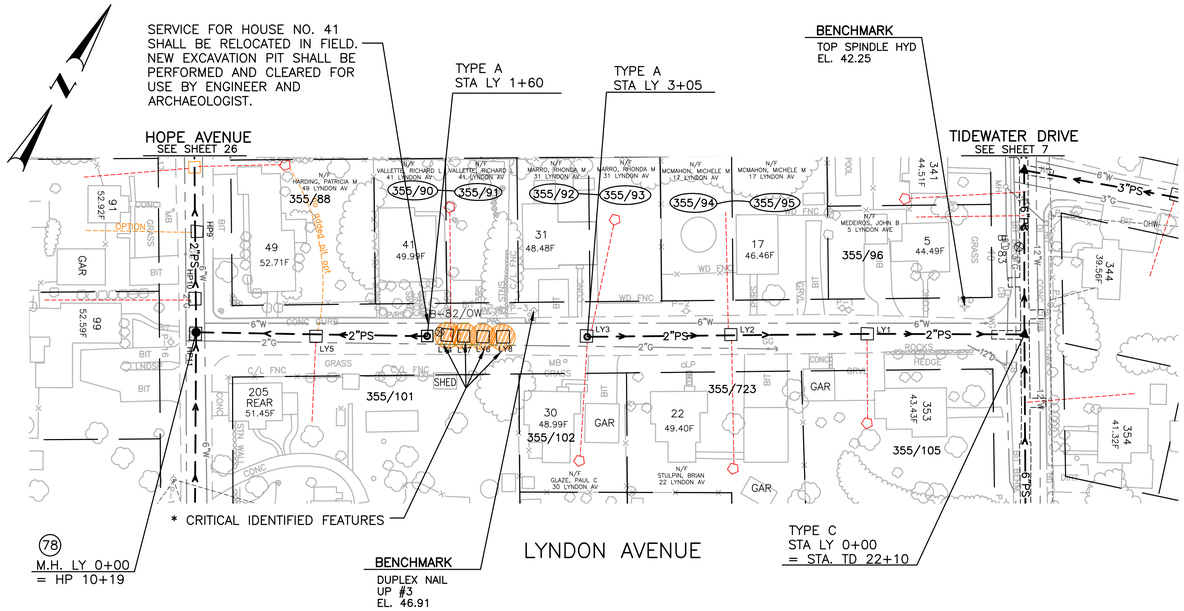
DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE
AS SHOWN

SHT. NO. 24 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

HAMLIN AVENUE AND BASSET AVENUE

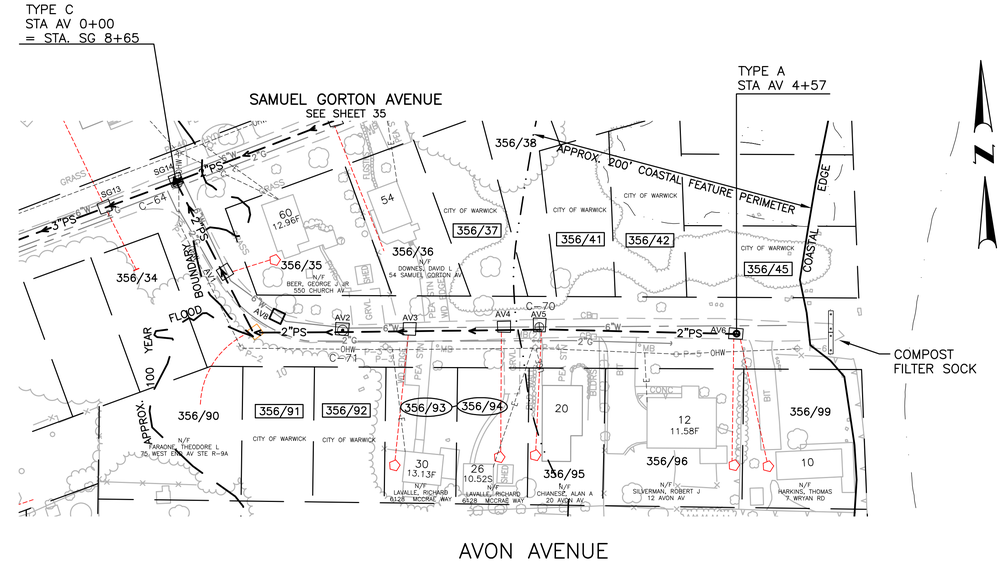
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

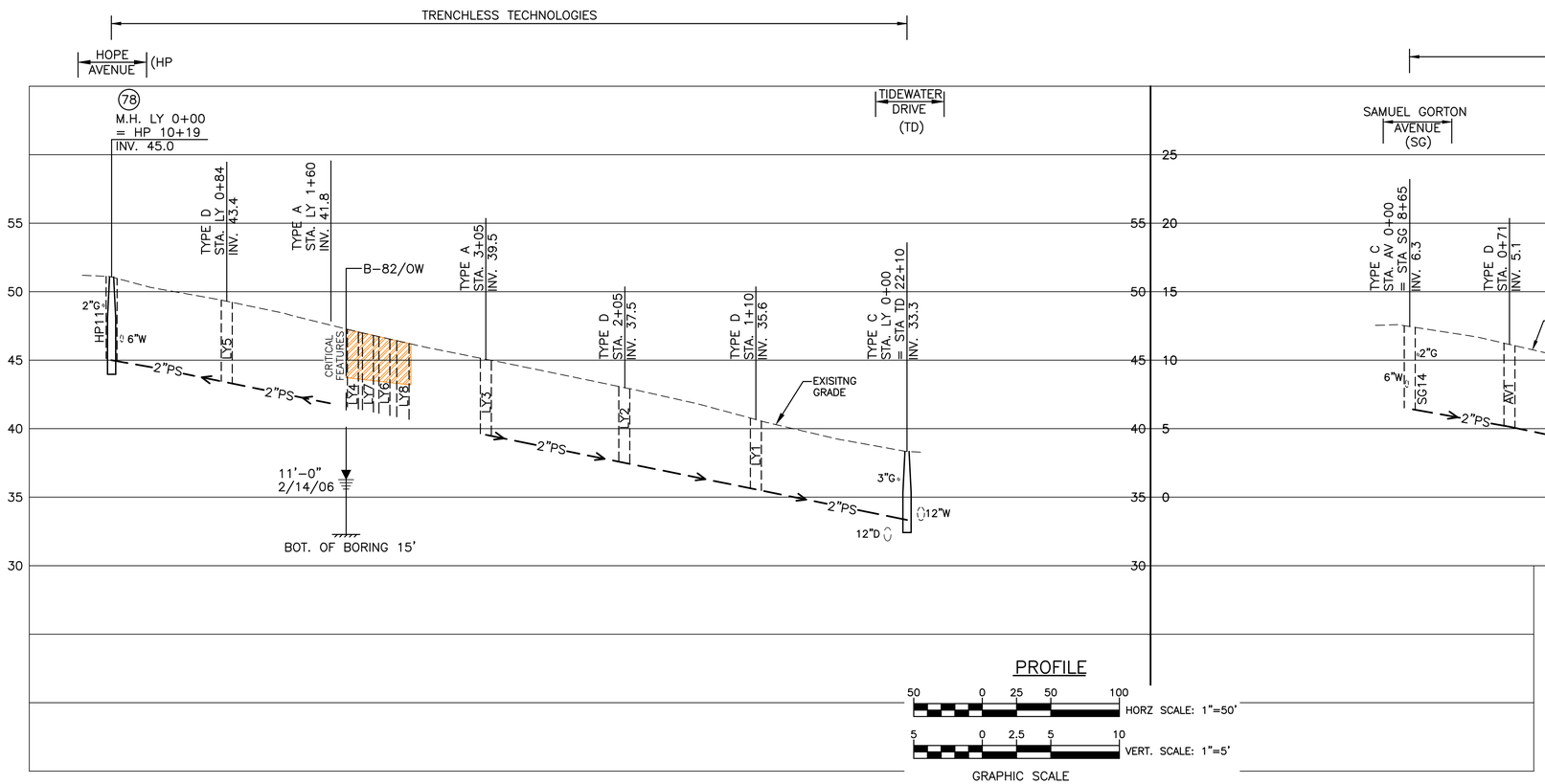
PLAN

SCALE: 1" = 50'



* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

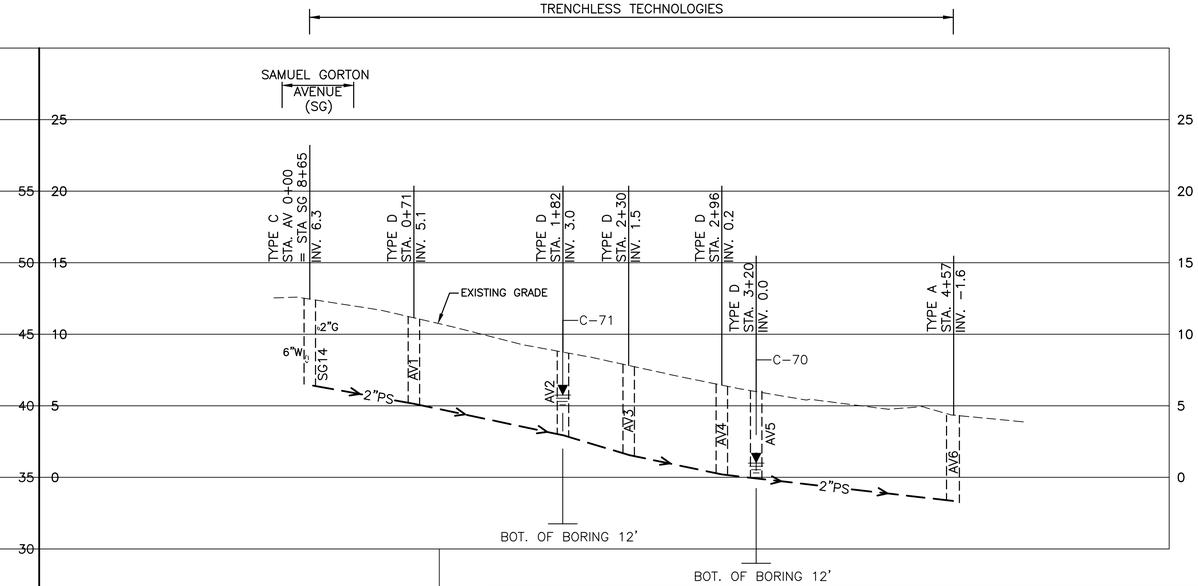


PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE



REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

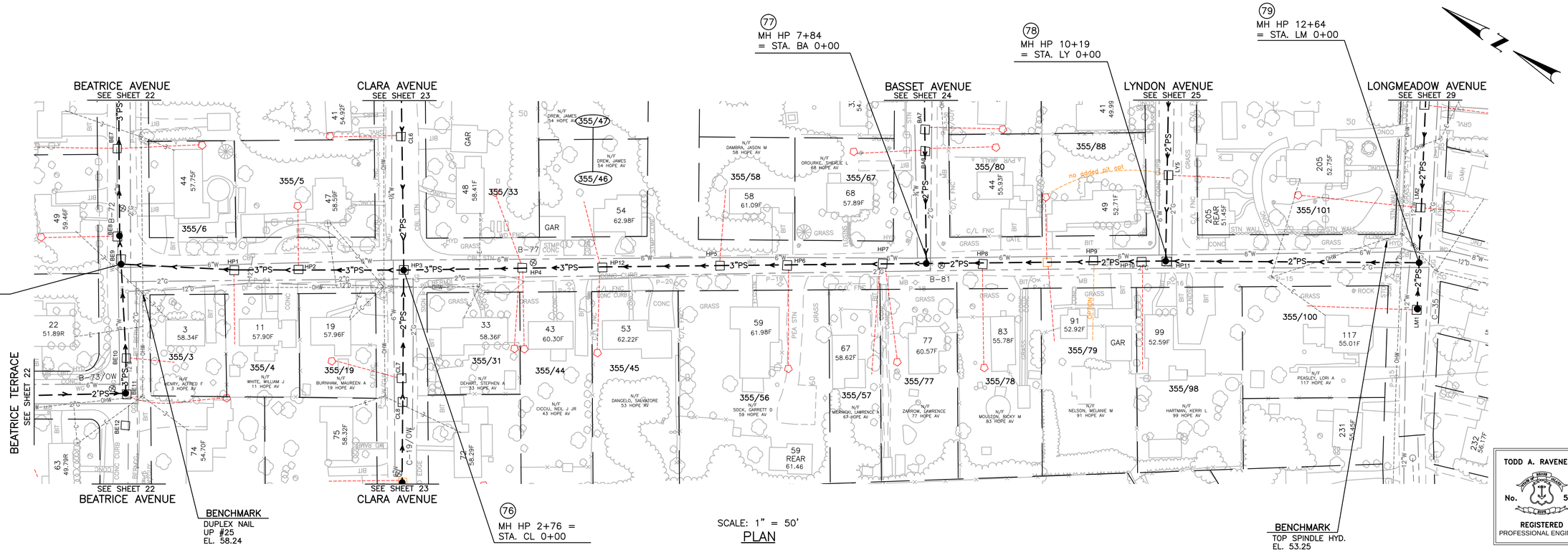
SHT. NO. 25 OF 75

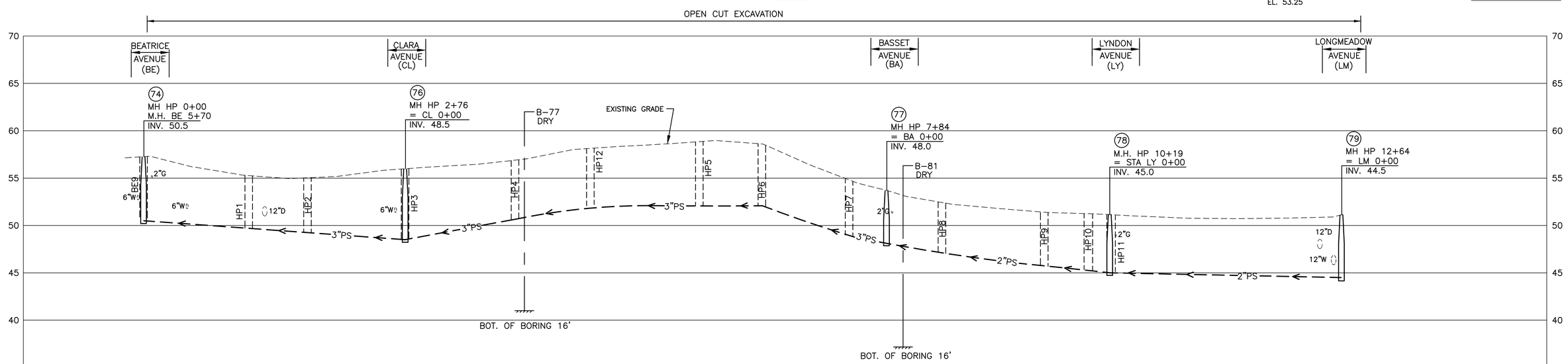
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

LYNDON AVENUE AND AVON AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

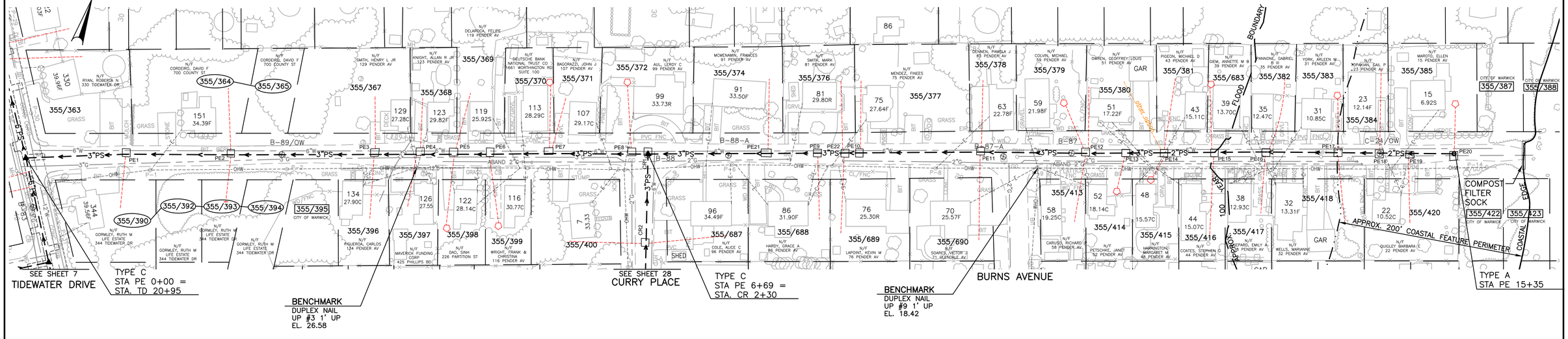
SHT. NO. 26 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

HOPE AVENUE
BEATRICE AVENUE TO LYNDON AVENUE

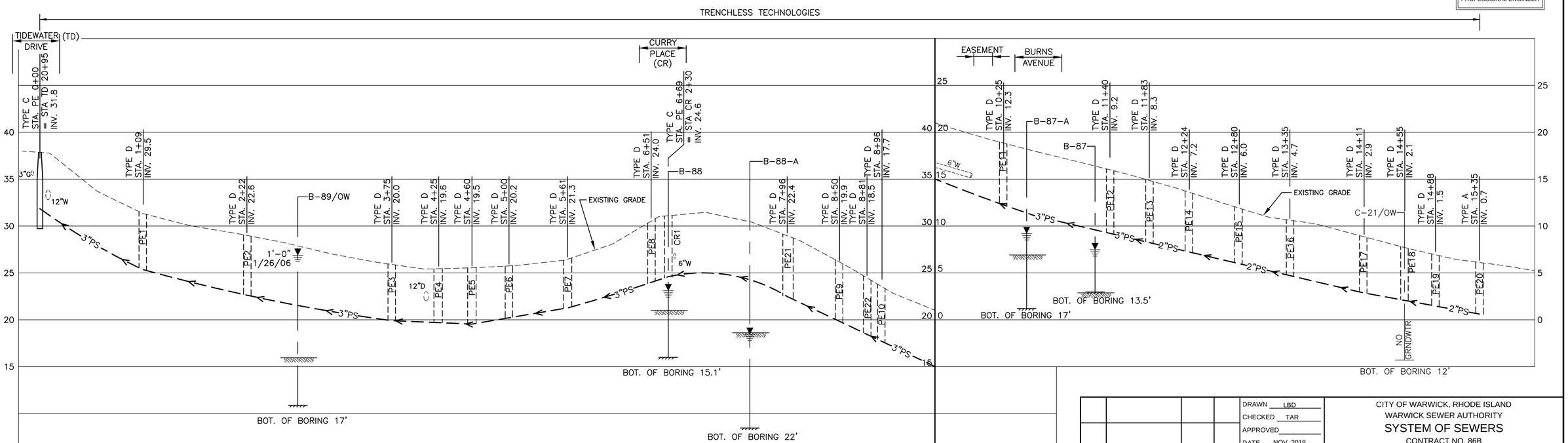
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

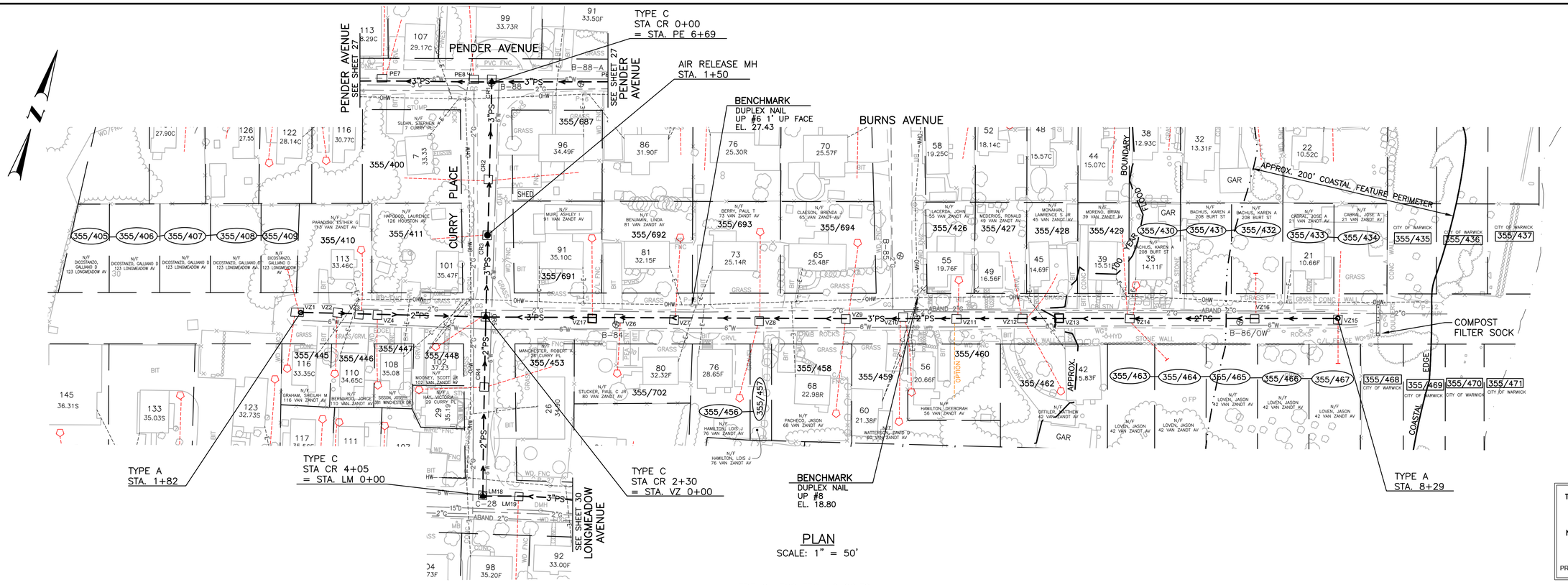
SHT. NO. 27 OF 75

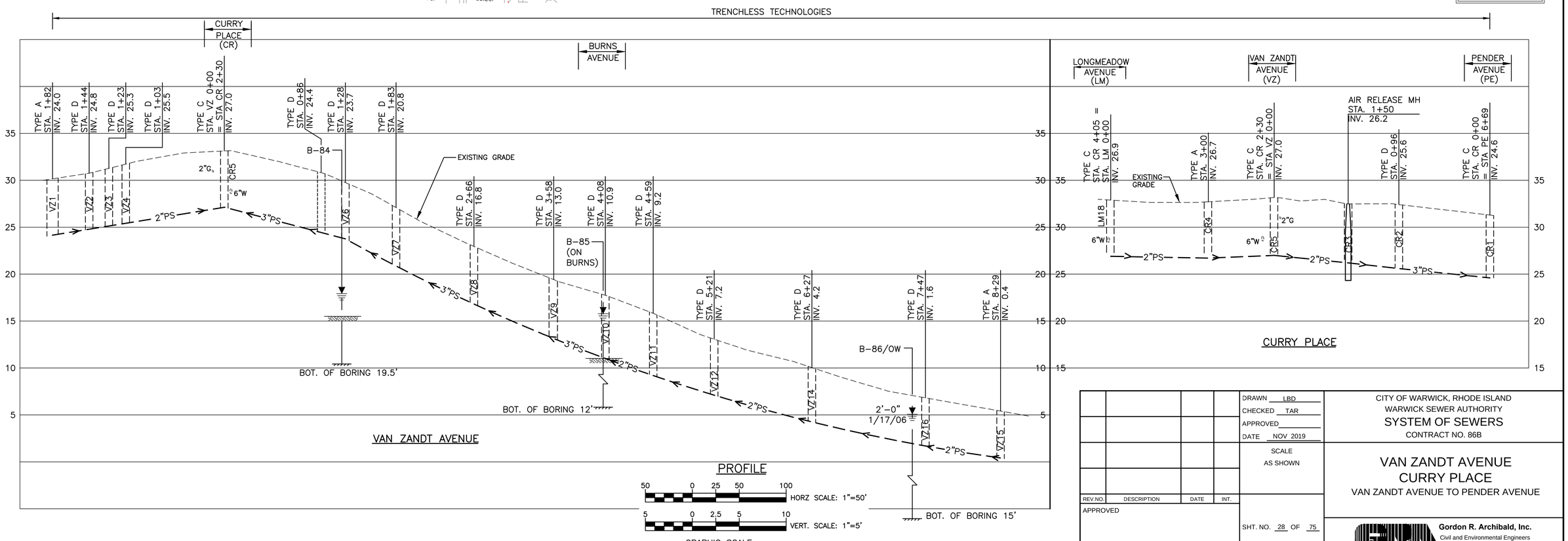
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

PENDER AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





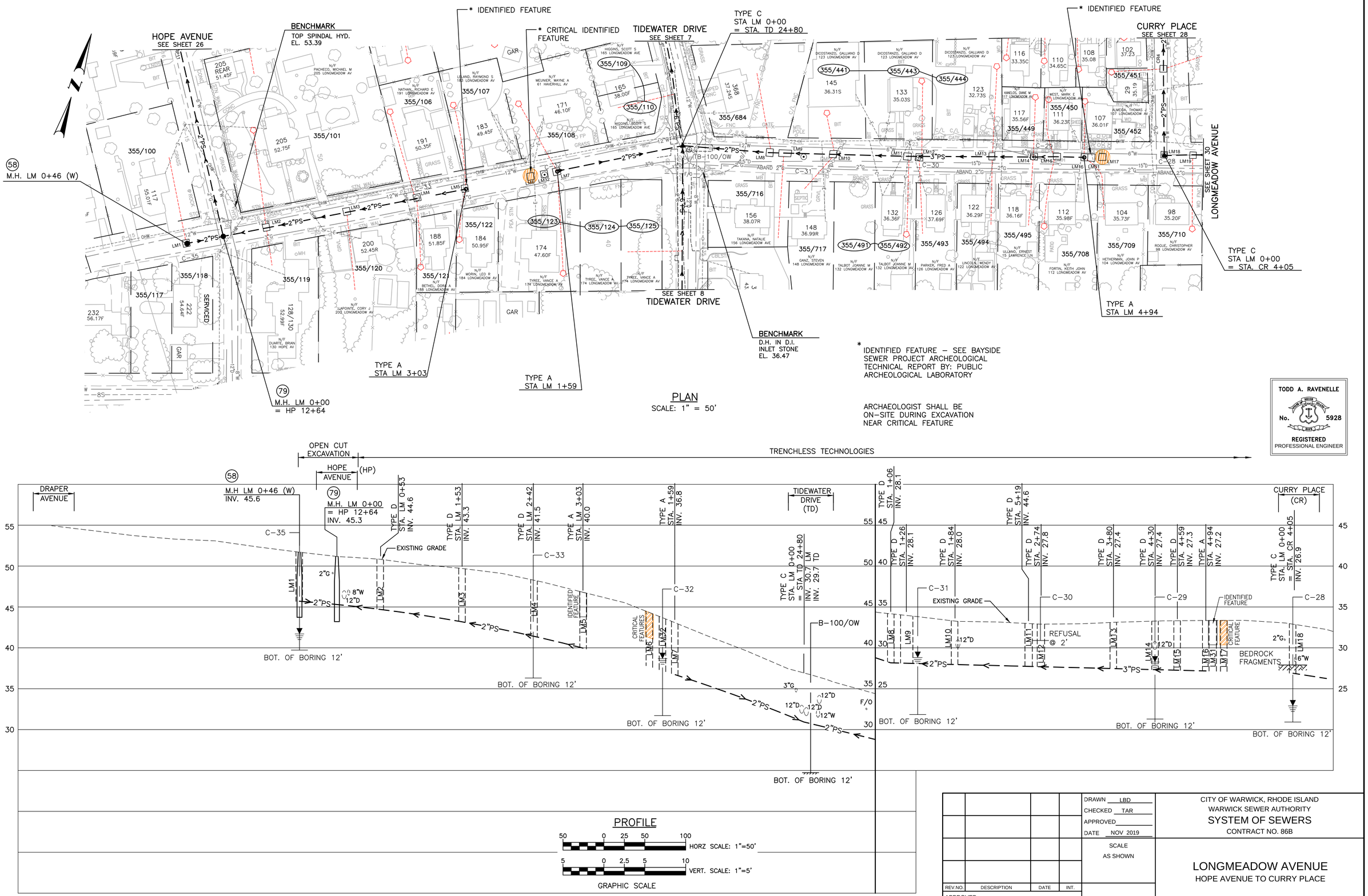
TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

				DRAWN LBD
				CHECKED TAR
				APPROVED
				DATE NOV 2019
				SCALE AS SHOWN
REV.NO.	DESCRIPTION	DATE	INT.	
APPROVED				SHT. NO. 28 OF 75
WARWICK SEWER AUTHORITY				FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

VAN ZANDT AVENUE
CURRY PLACE
VAN ZANDT AVENUE TO PENDER AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

ARCHAEOLOGIST SHALL BE ON-SITE DURING EXCAVATION NEAR CRITICAL FEATURE

PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

SHT. NO. 29 OF 75

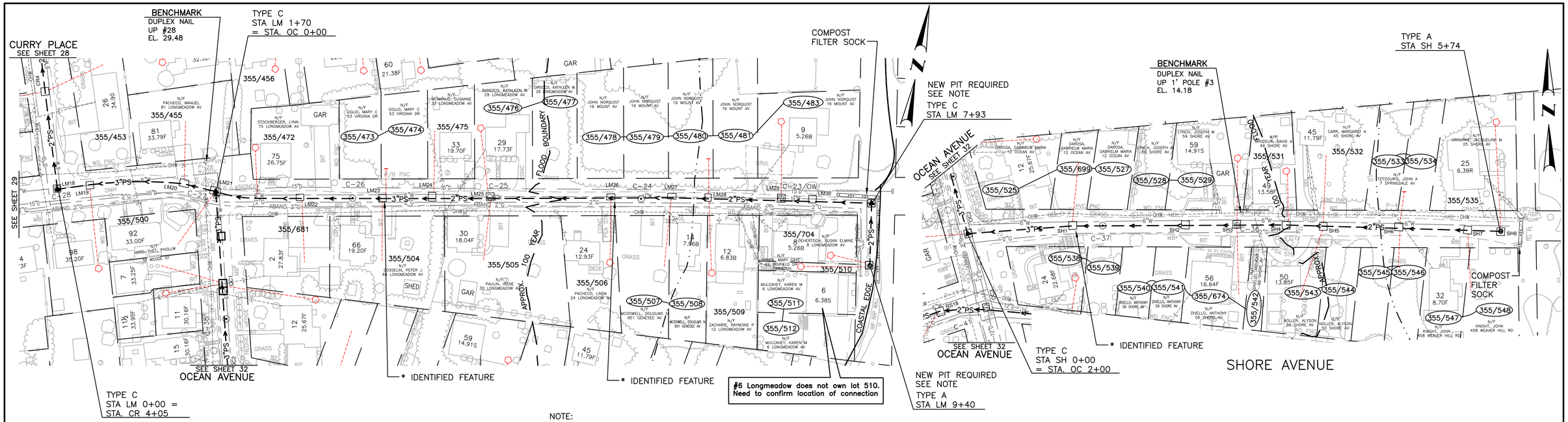
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

LONGMEADOW AVENUE

HOPE AVENUE TO CURRY PLACE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

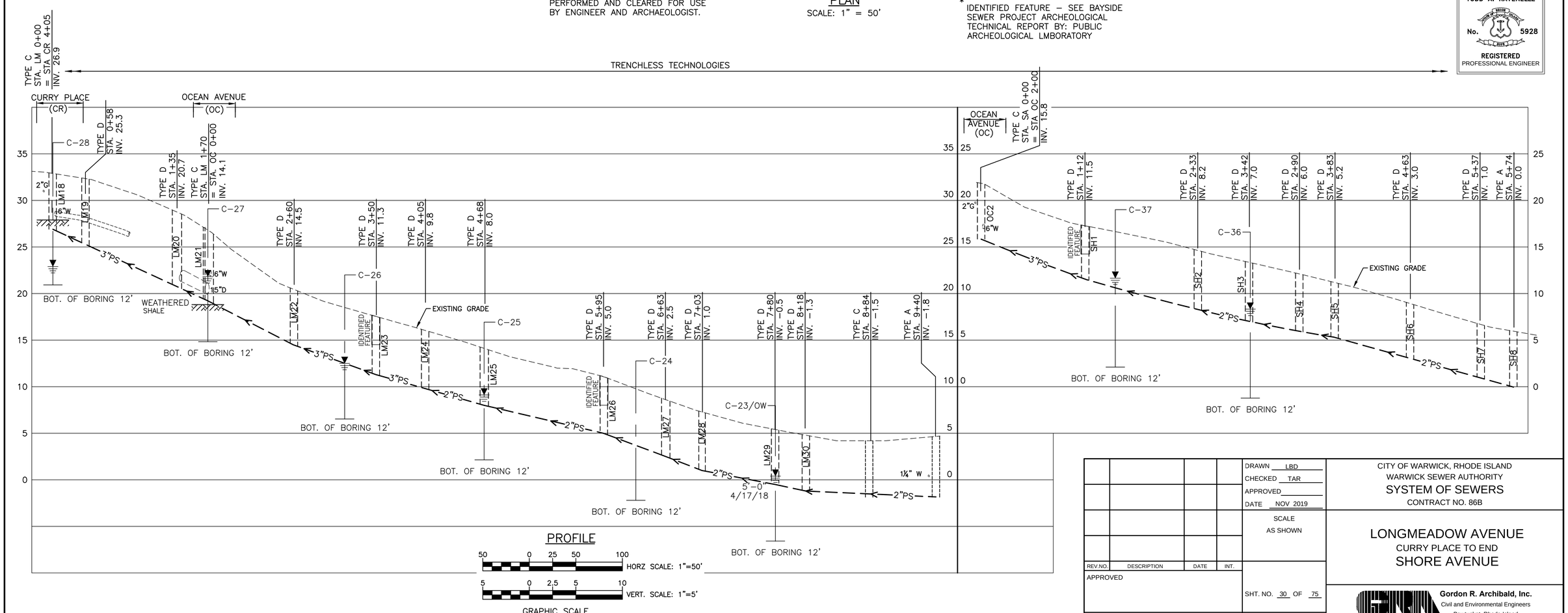


NOTE:
SERVICES FOR HOUSE NOS. 6 AND 8 SHALL BE LOCATED IN FIELD. NEW EXCAVATION PITS SHALL BE PERFORMED AND CLEARED FOR USE BY ENGINEER AND ARCHAEOLOGIST.

PLAN
SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LMBORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

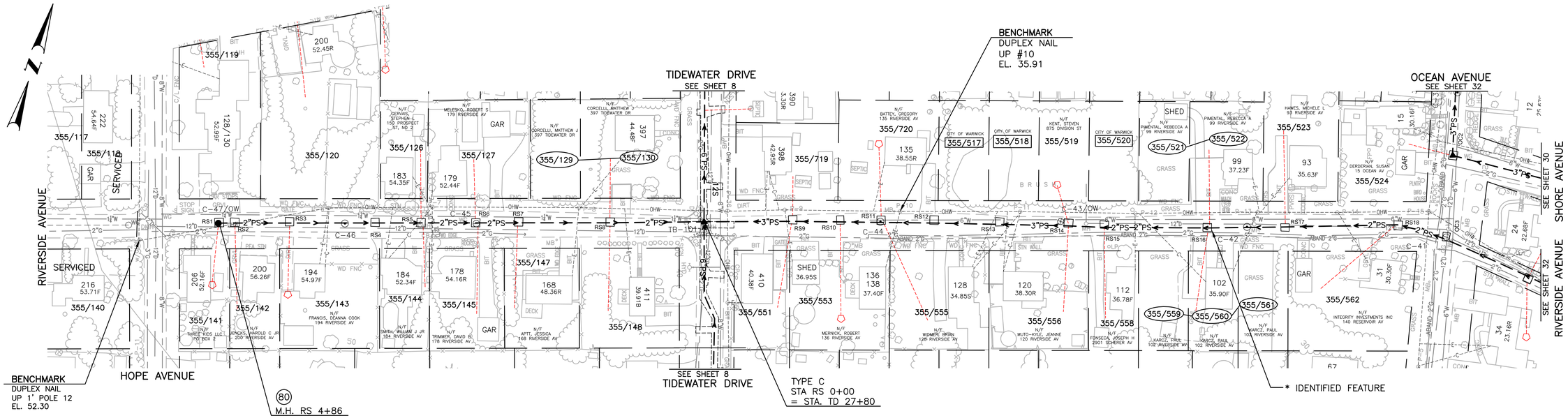


				DRAWN LBD
				CHECKED TAR
				APPROVED
				DATE NOV 2019
				SCALE AS SHOWN
REV.NO.	DESCRIPTION	DATE	INT.	
APPROVED				SHT. NO. 30 OF 75
WARWICK SEWER AUTHORITY				FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

LONGMEADOW AVENUE
CURRY PLACE TO END
SHORE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

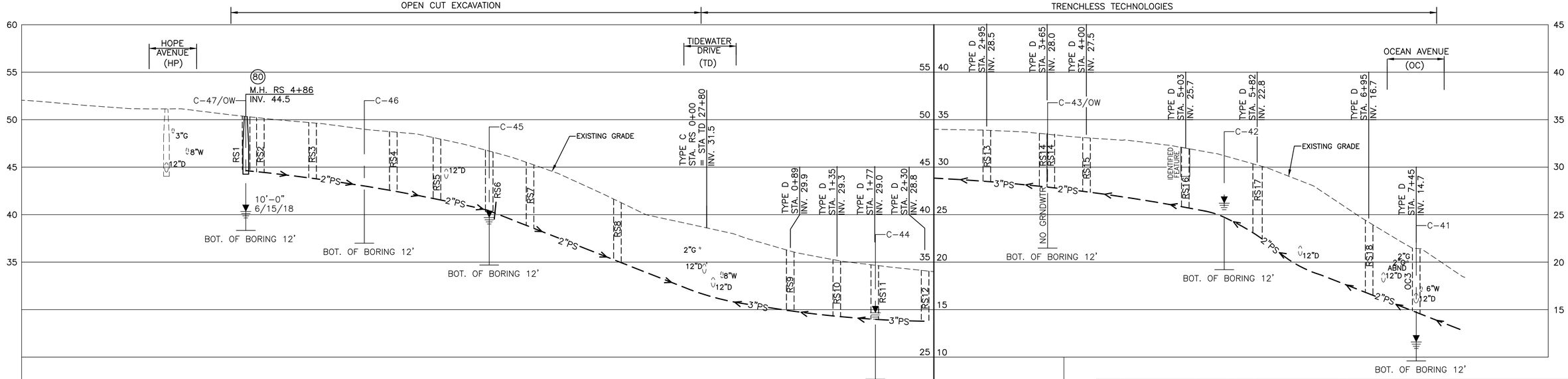


PLAN

SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

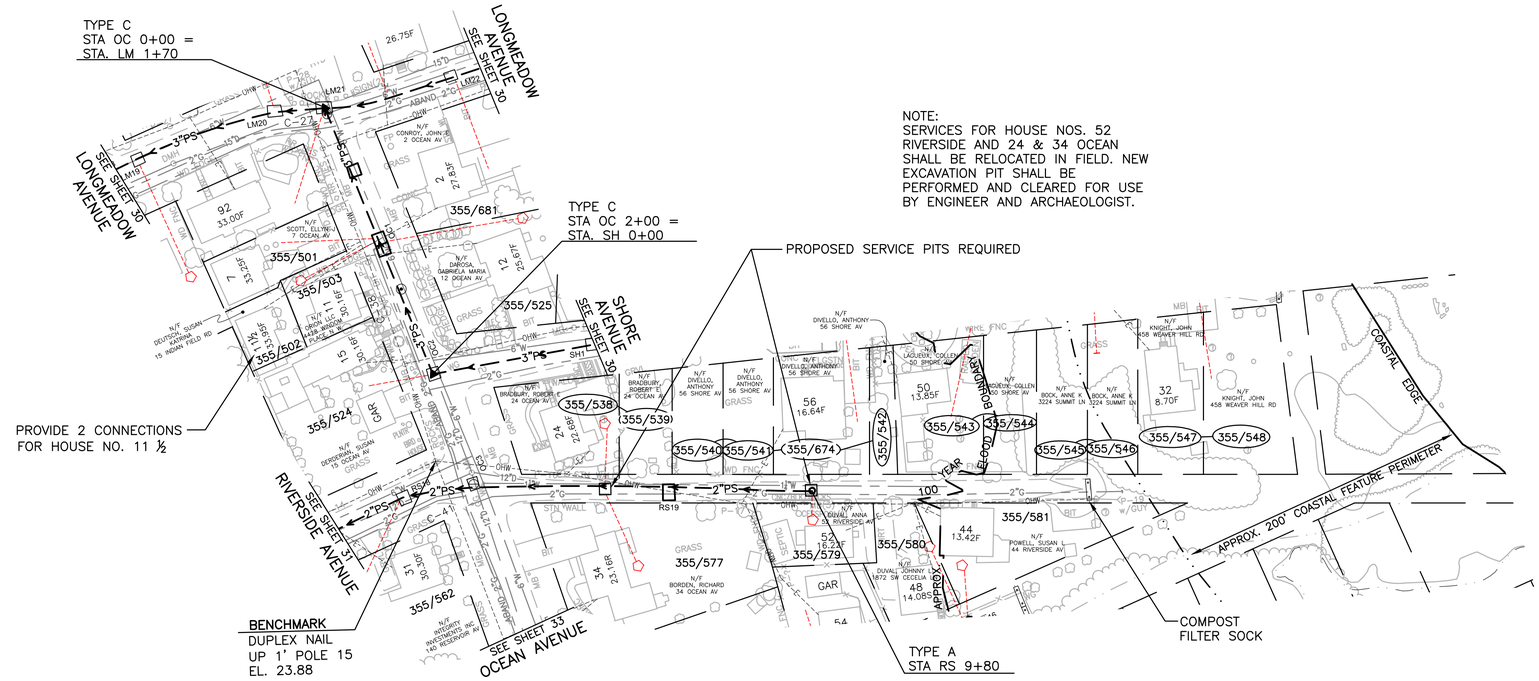
SHT. NO. 31 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

RIVERSIDE AVENUE
HOPE AVENUE TO OCEAN AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

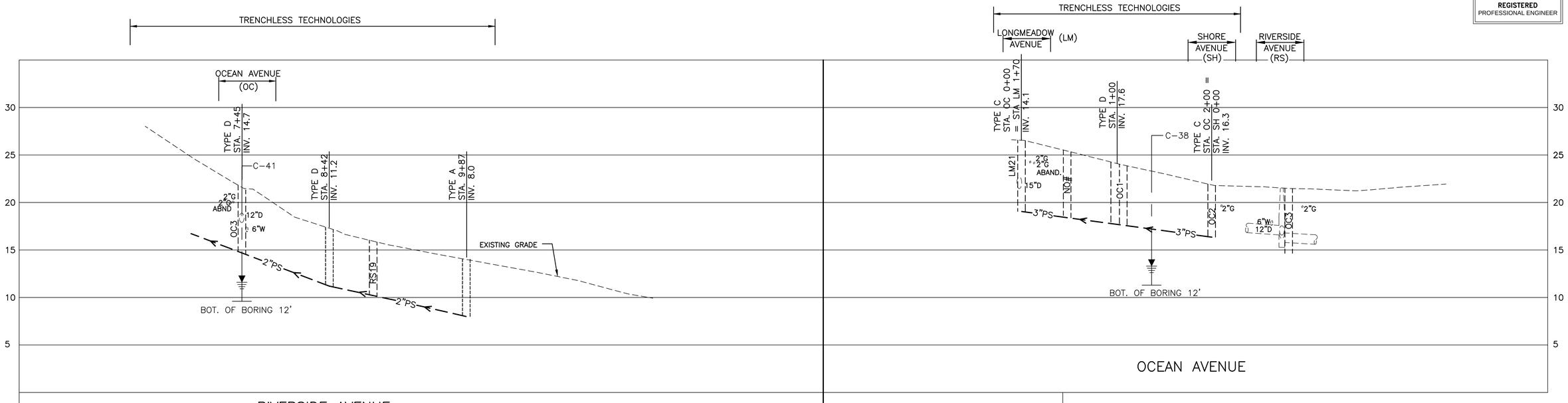


NOTE:
SERVICES FOR HOUSE NOS. 52 RIVERSIDE AND 24 & 34 OCEAN SHALL BE RELOCATED IN FIELD. NEW EXCAVATION PIT SHALL BE PERFORMED AND CLEARED FOR USE BY ENGINEER AND ARCHAEOLOGIST.

PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE
AS SHOWN

SHT. NO. 32 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

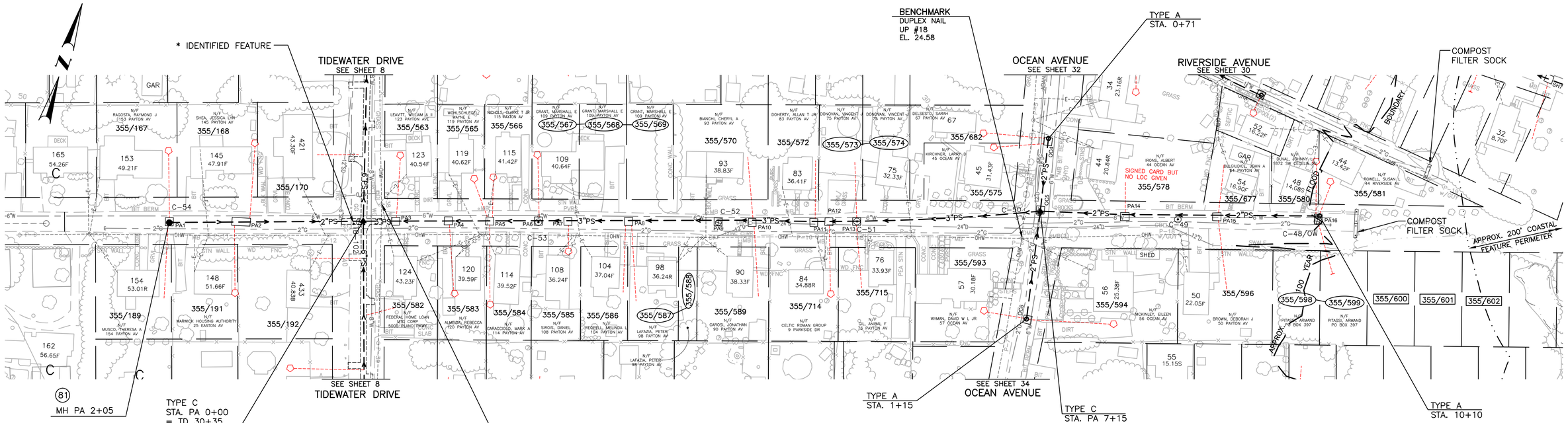
RIVERSIDE AVENUE

OCEAN AVENUE TO END

OCEAN AVENUE

LONGMEADOW AVENUE TO RIVERSIDE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

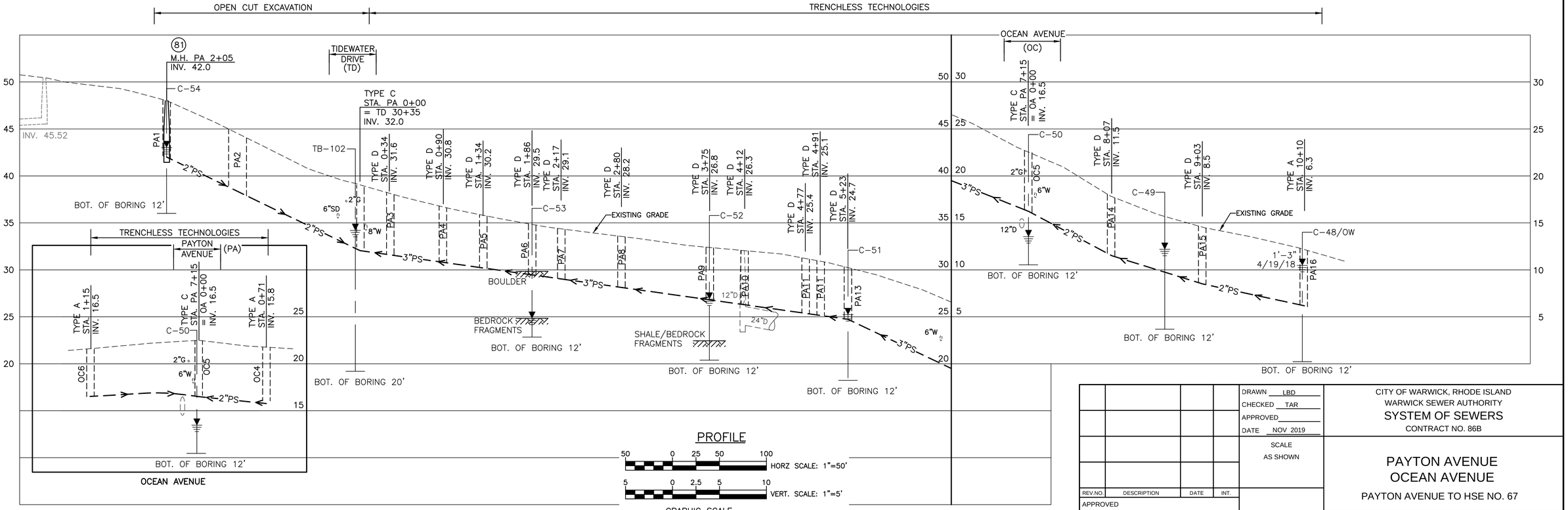


PLAN

SCALE: 1" = 50'

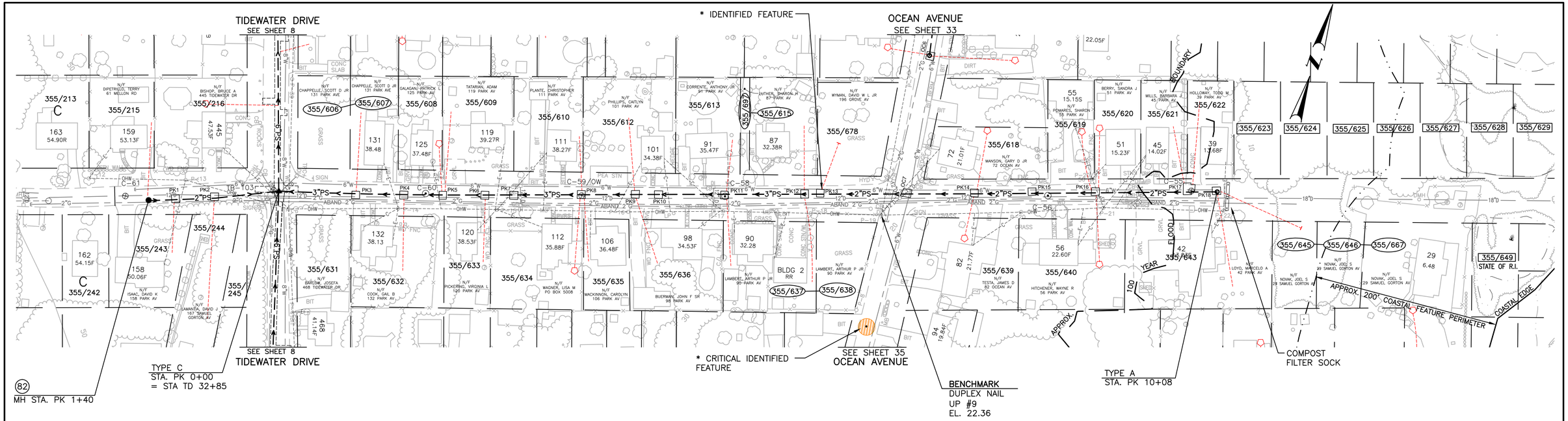
* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

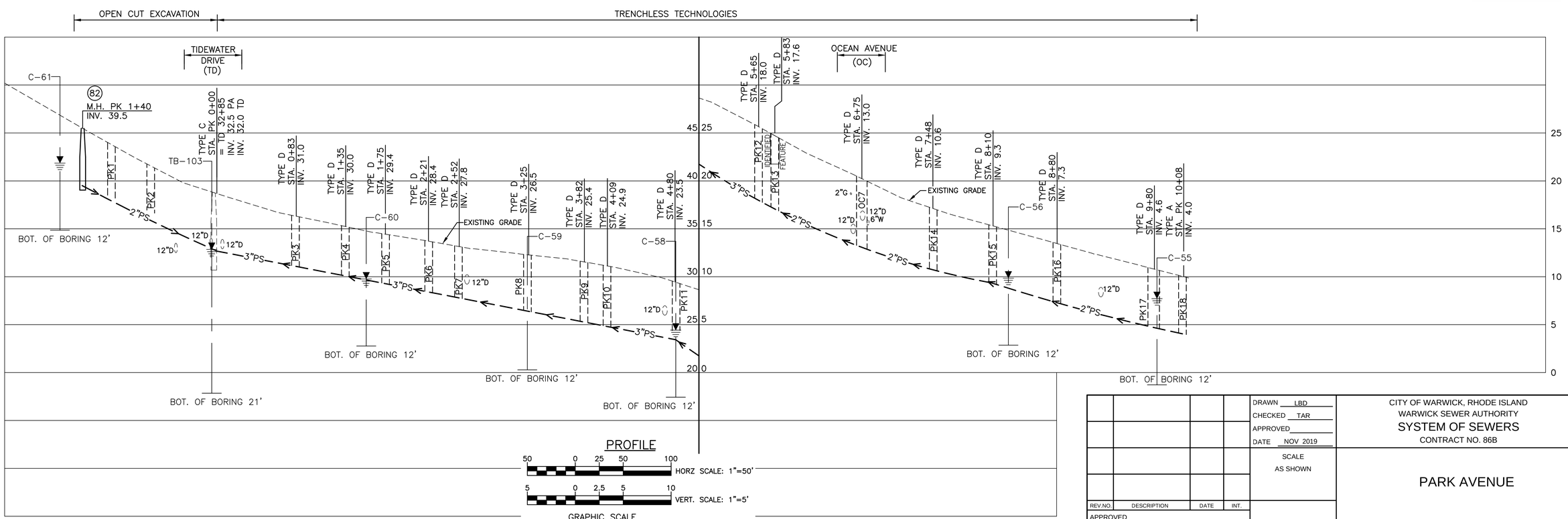
				DRAWN LBD	CITY OF WARWICK, RHODE ISLAND WARWICK SEWER AUTHORITY SYSTEM OF SEWERS CONTRACT NO. 86B
				CHECKED TAR	
				APPROVED	
				DATE NOV 2019	
				SCALE AS SHOWN	PAYTON AVENUE OCEAN AVENUE PAYTON AVENUE TO HSE NO. 67
REV.NO.	DESCRIPTION	DATE	INT.		
APPROVED				SHT. NO. 33 OF 75	Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island
				WARWICK SEWER AUTHORITY	FILE NO. 998



PLAN
SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

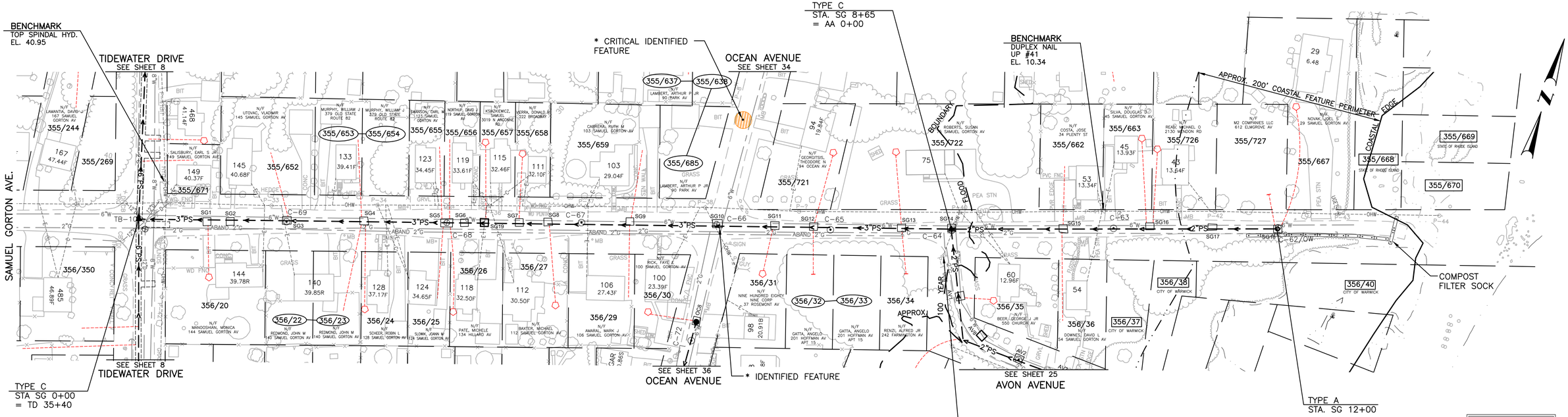
SHT. NO. 34 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

PARK AVENUE

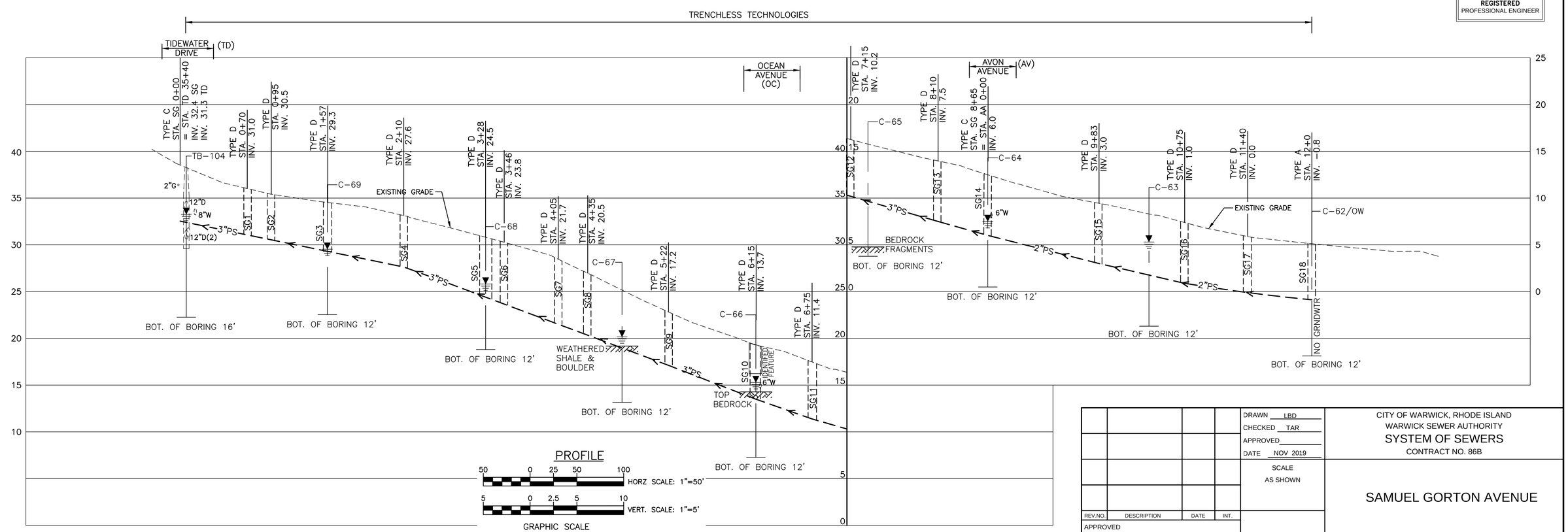
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

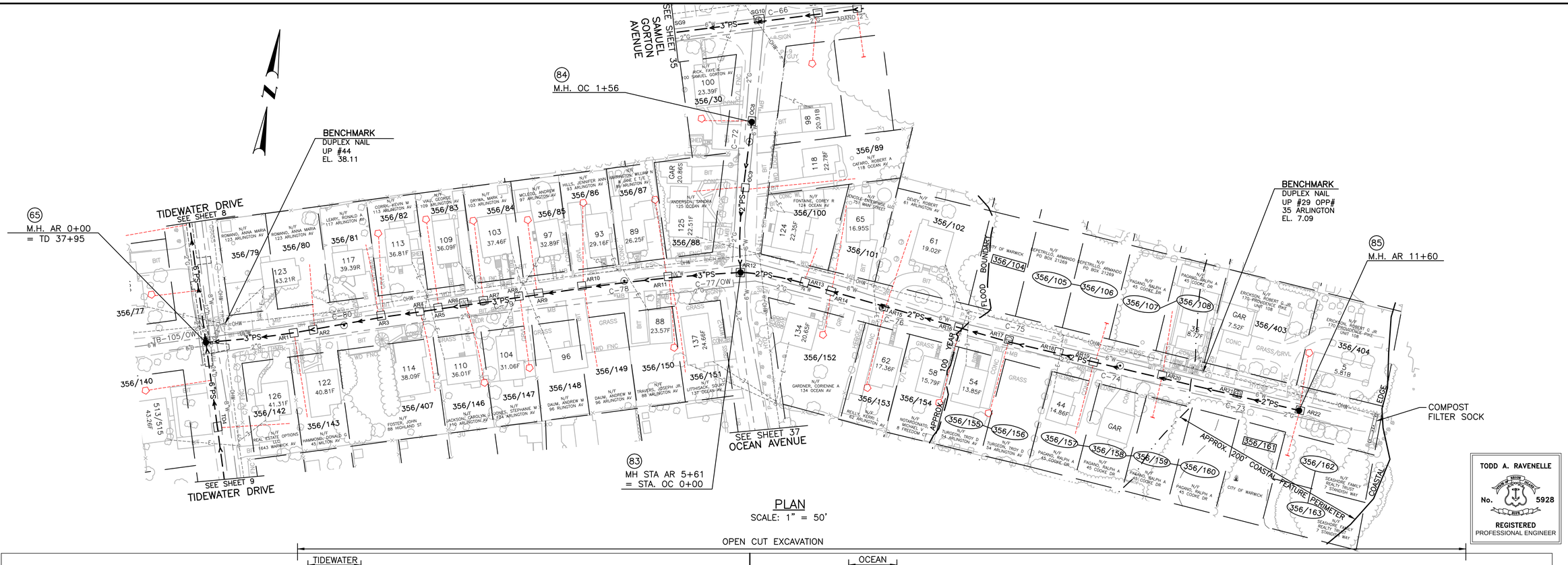
* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



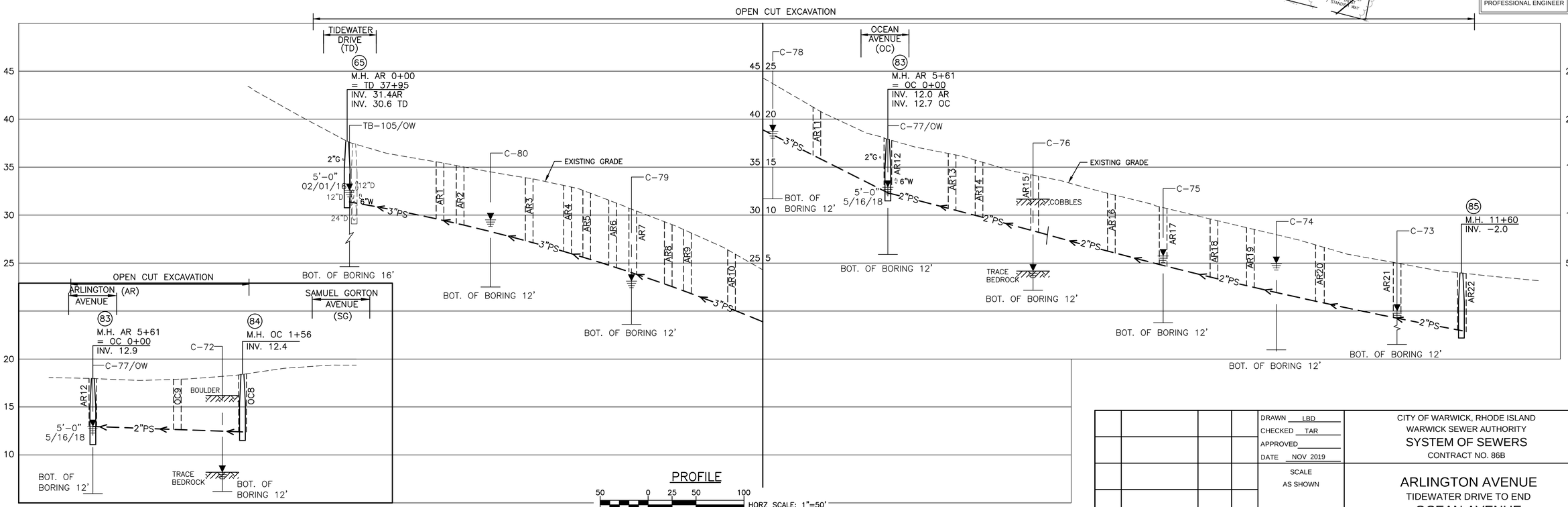
PROFILE

				DRAWN LBD	CITY OF WARWICK, RHODE ISLAND WARWICK SEWER AUTHORITY SYSTEM OF SEWERS CONTRACT NO. 86B
				CHECKED TAR	
				APPROVED	
				DATE NOV 2019	
				SCALE AS SHOWN	SAMUEL GORTON AVENUE
REV.NO.	DESCRIPTION	DATE	INT.		
APPROVED				SHT. NO. 35 OF 75	Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island
WARWICK SEWER AUTHORITY				FILE NO. 998	



PLAN

SCALE: 1" = 50'



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

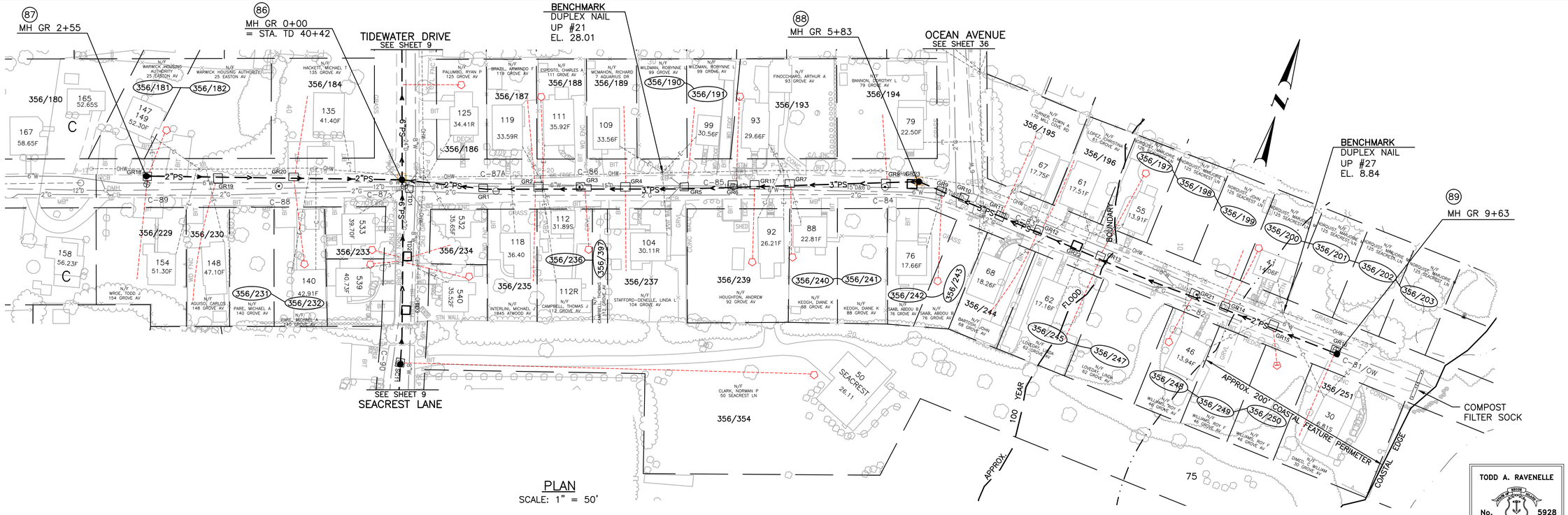
SHT. NO. 36 OF 75

FILE NO. 998

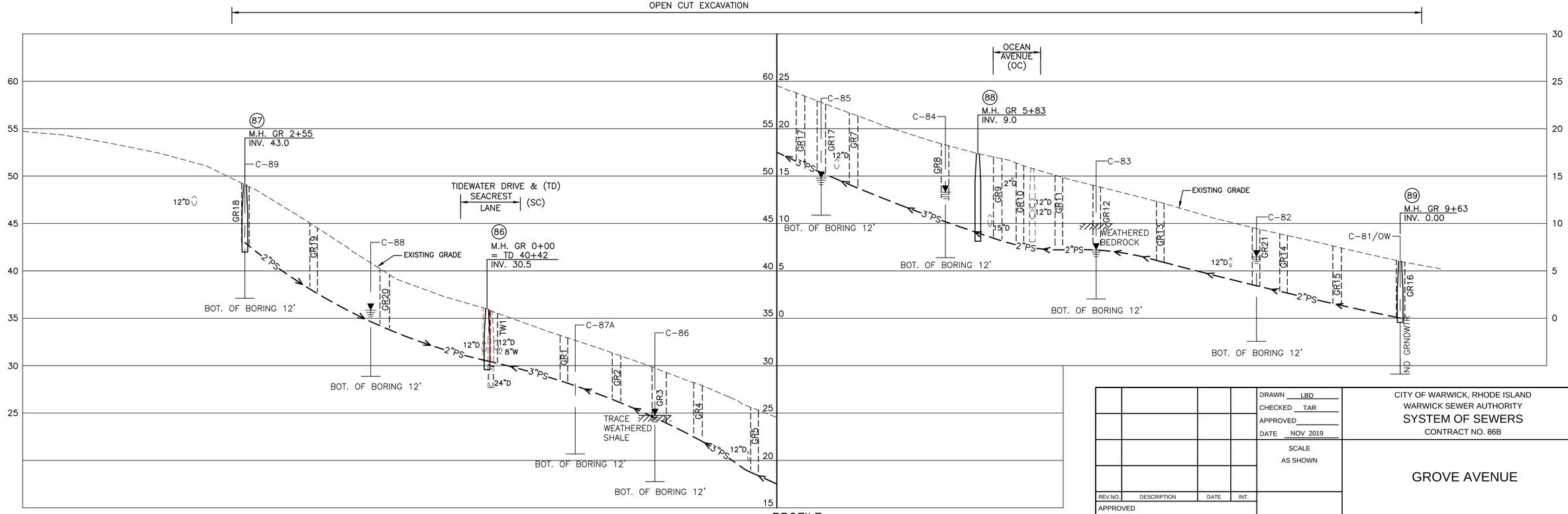
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

ARLINGTON AVENUE
TIDEWATER DRIVE TO END
OCEAN AVENUE
ARLINGTON AVE. TO SAMUEL GORTON AVE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

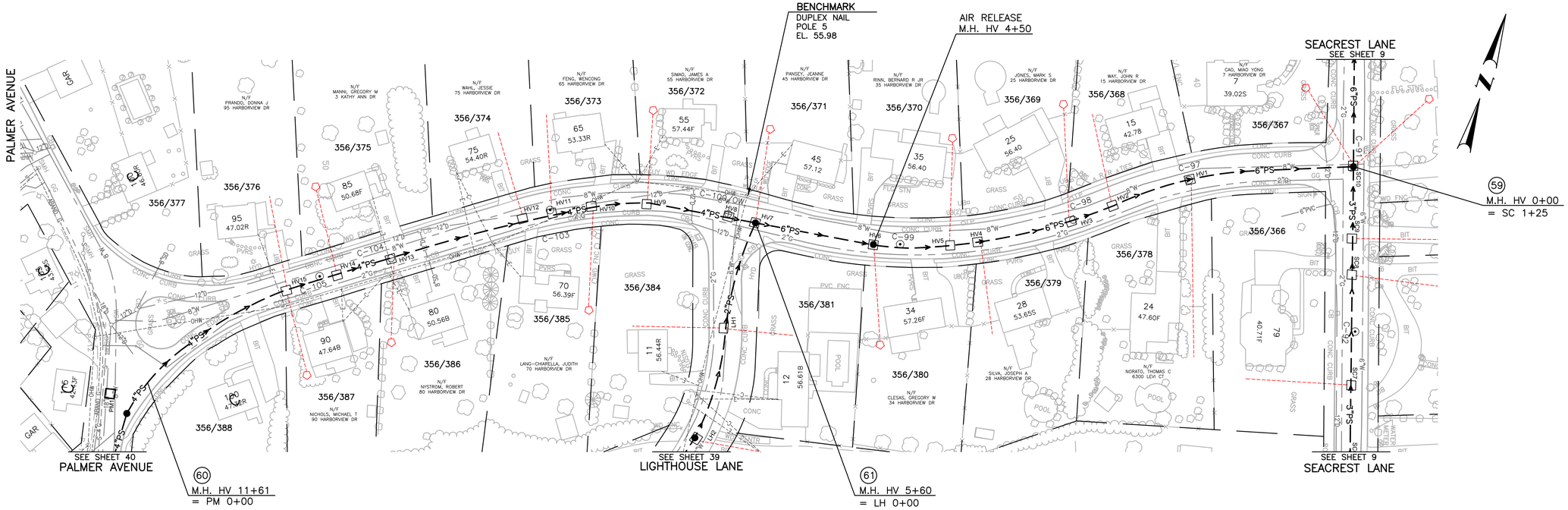
SHT. NO. 37 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

GROVE AVENUE

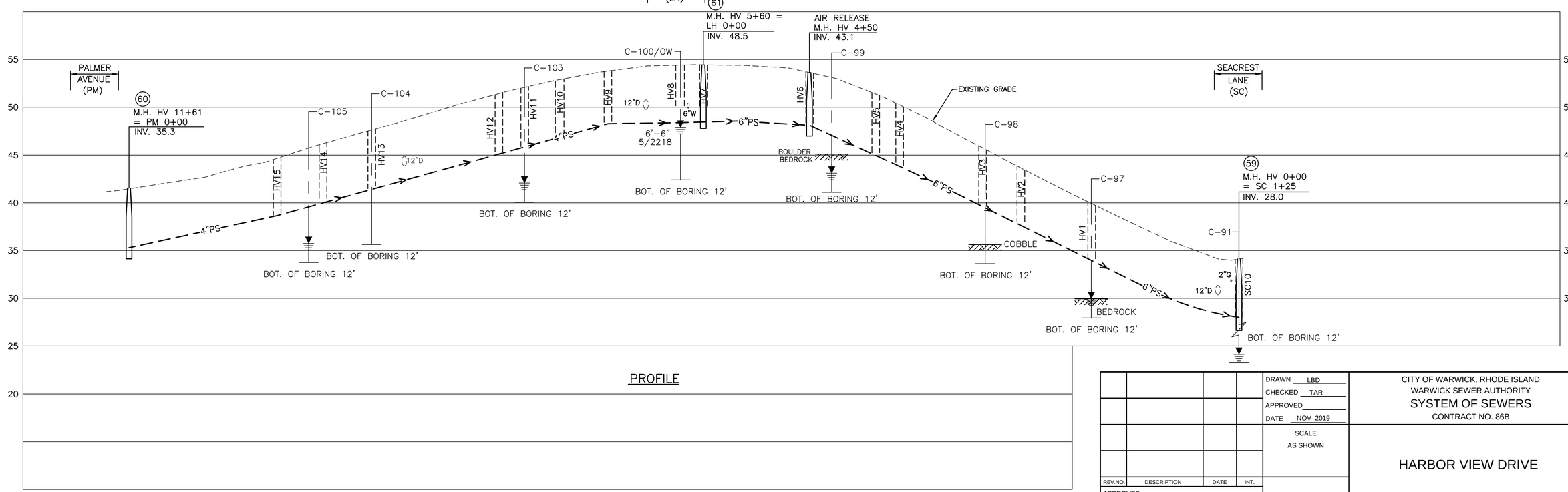
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'

OPEN CUT EXCAVATION



PROFILE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

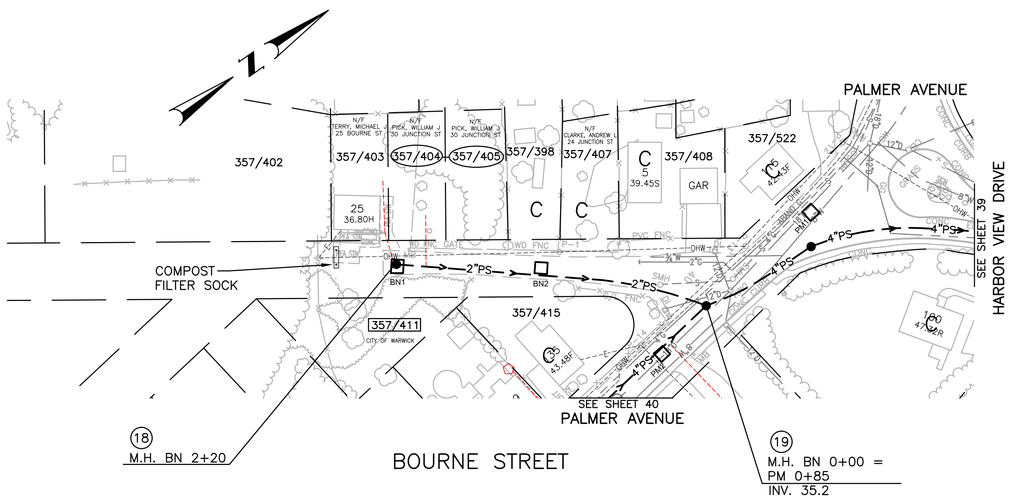
SHT. NO. 38 OF 75

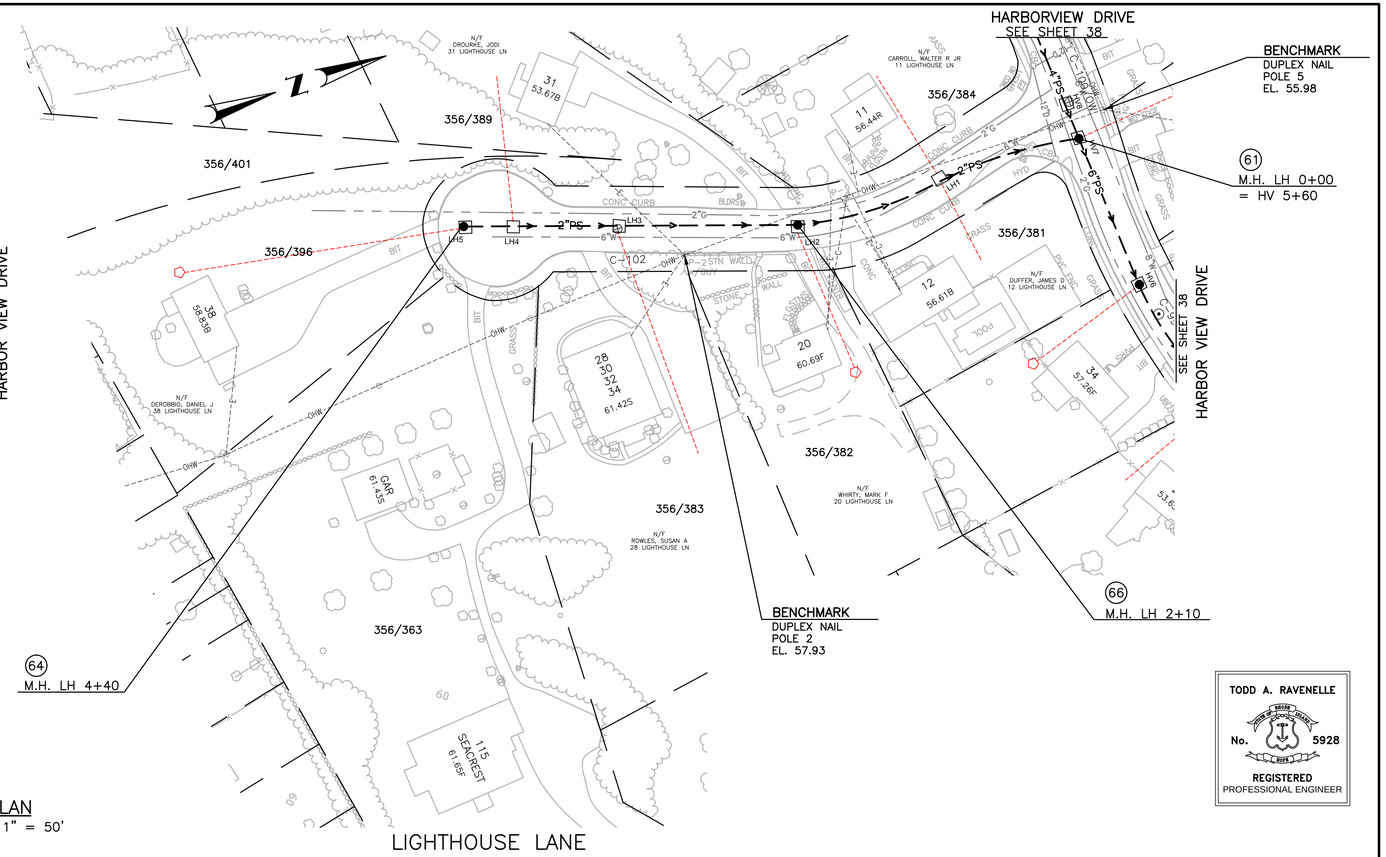
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

HARBOR VIEW DRIVE

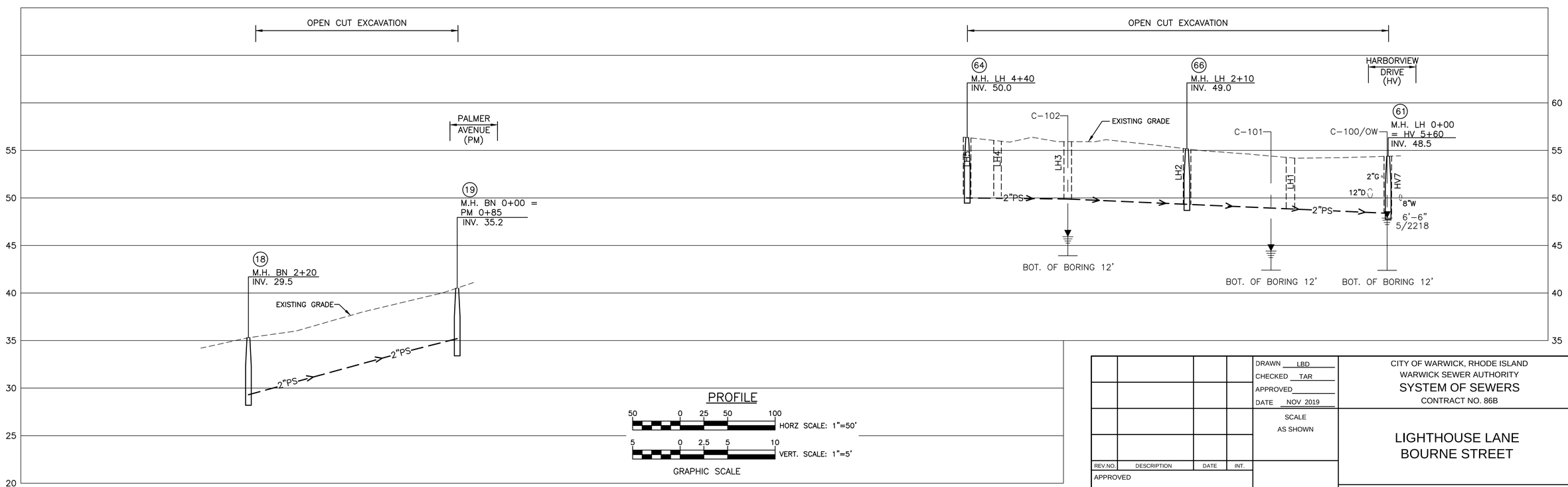
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

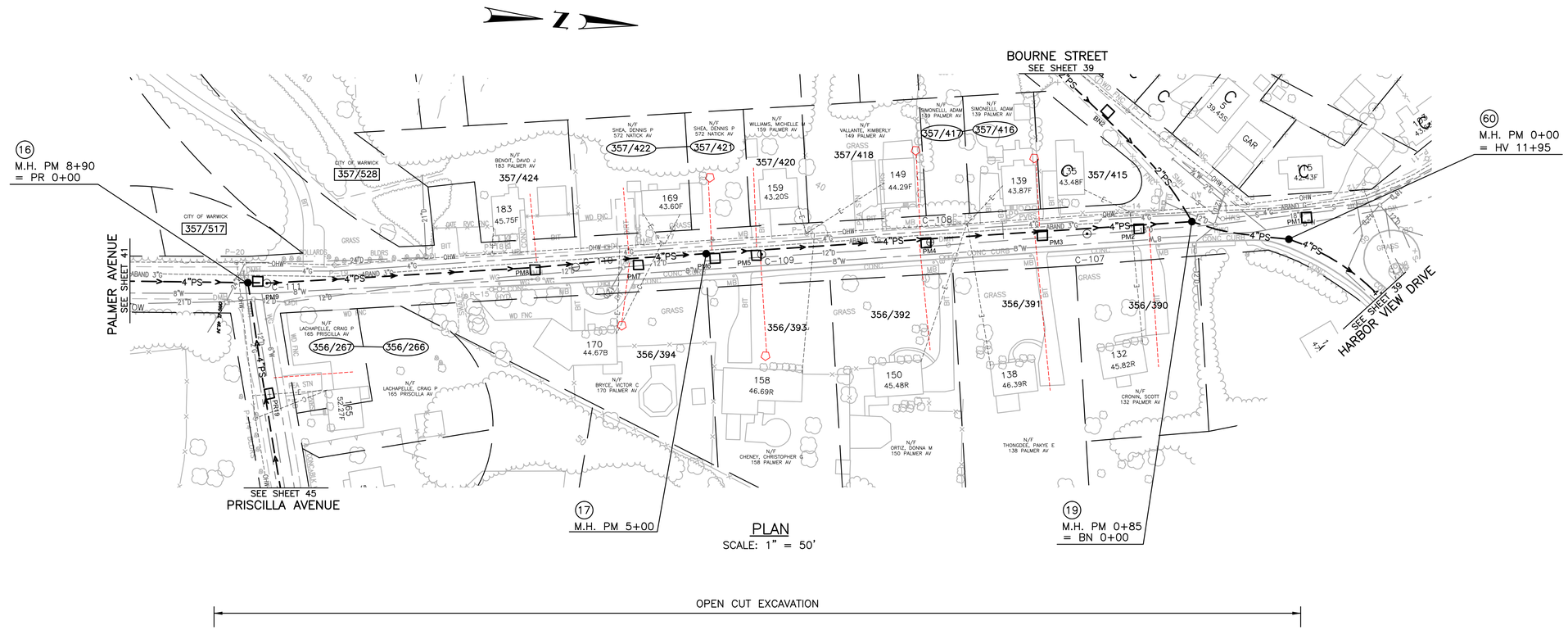
SHT. NO. 39 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

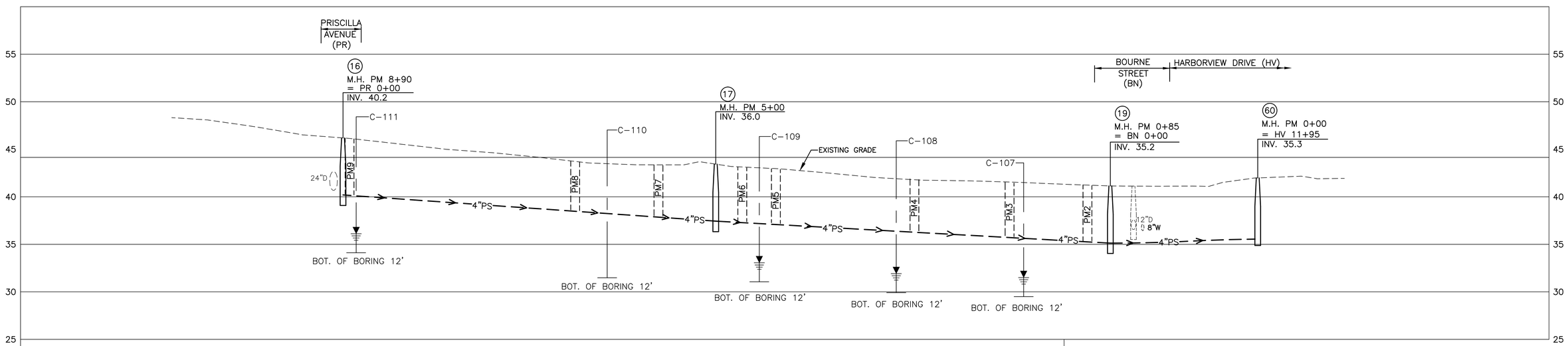
LIGHTHOUSE LANE
BOURNE STREET

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

OPEN CUT EXCAVATION



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

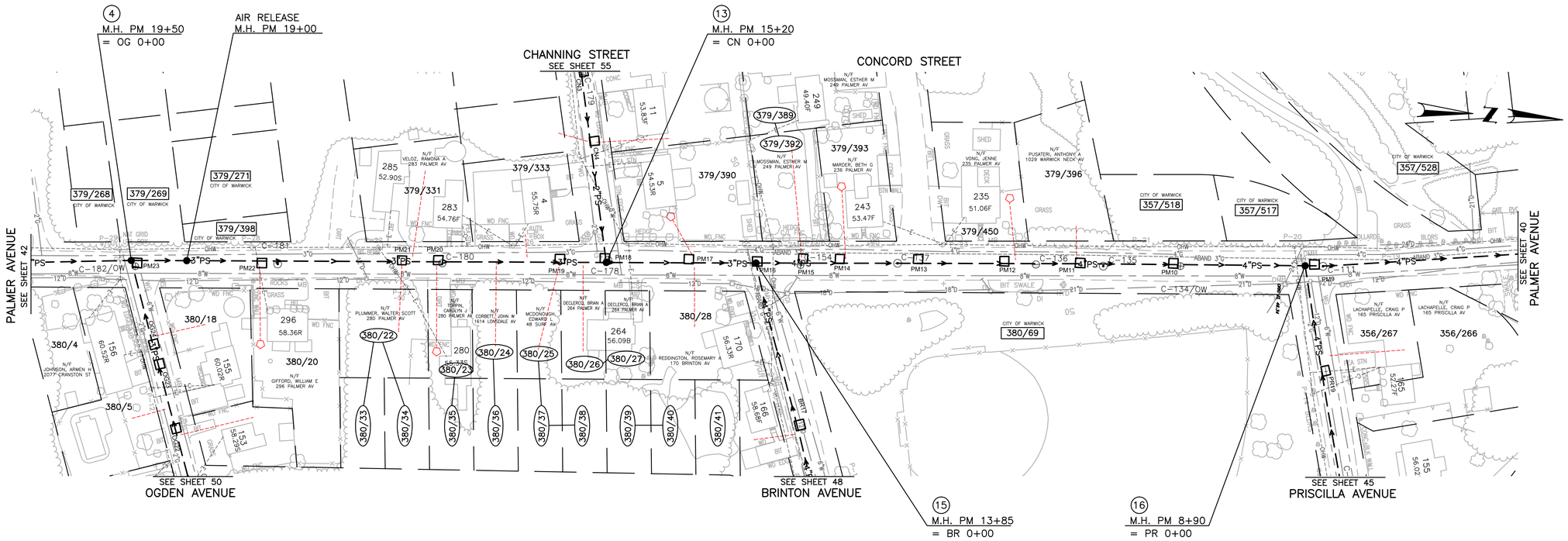
SHT. NO. 40 OF 75

FILE NO. 998

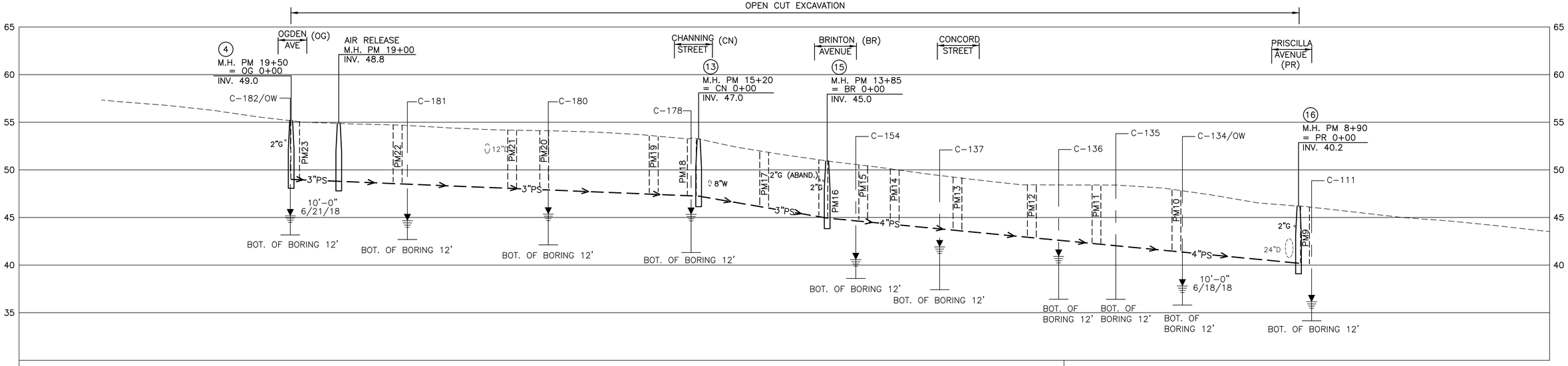
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

PALMER AVENUE
HARBOR VIEW DRIVE TO PRISCILLA AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

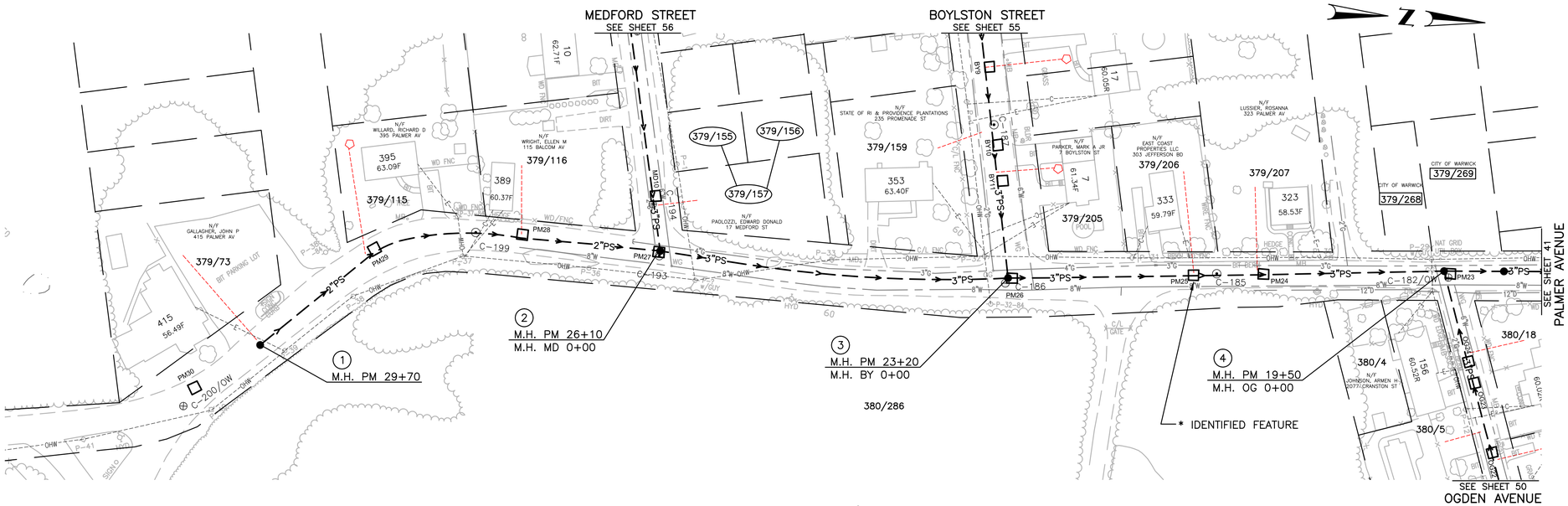
SHT. NO. 41 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

PALMER AVENUE
PRISCILLA AVENUE TO OGDEN AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



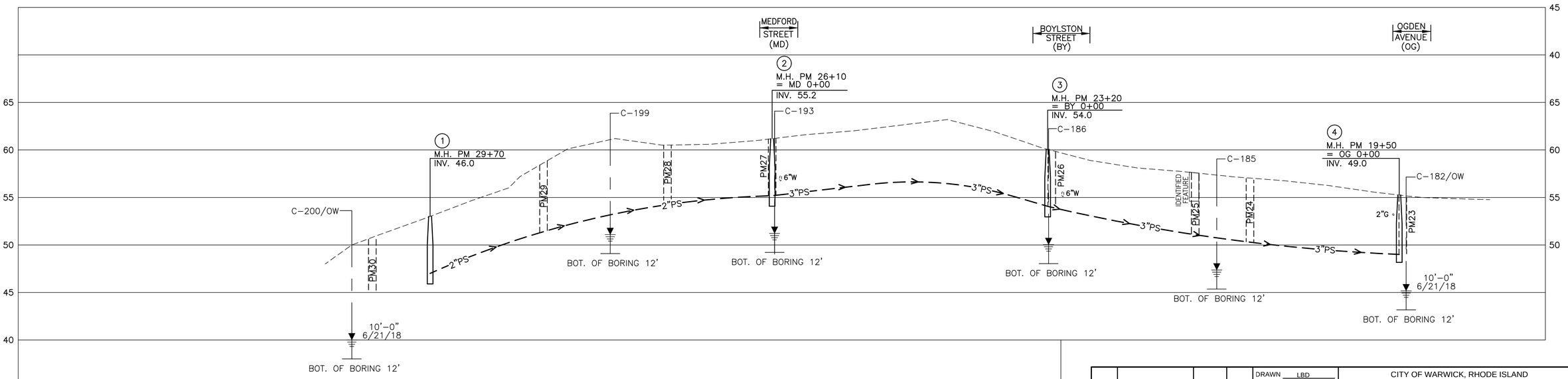
PLAN

SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

OPEN CUT EXCAVATION



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

SHT. NO. 42 OF 75

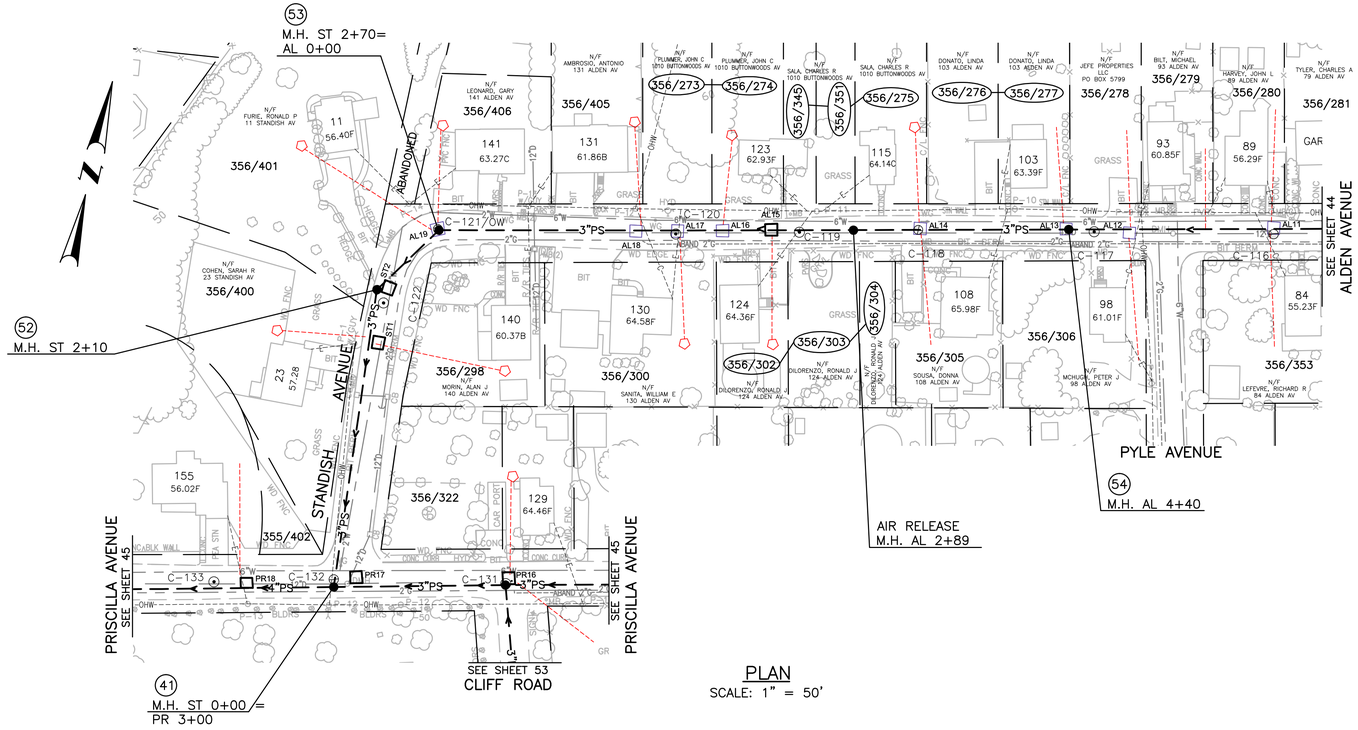
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

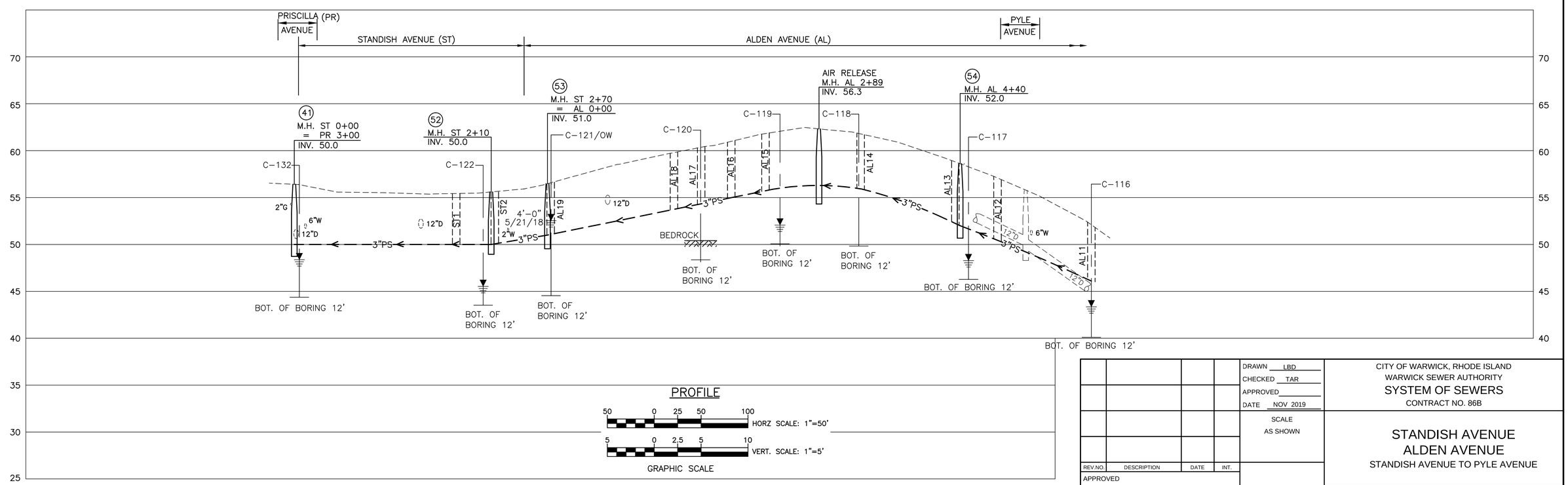
PALMER AVENUE

OGDEN AVENUE TO 415 PALMER AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'



PROFILE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE
AS SHOWN

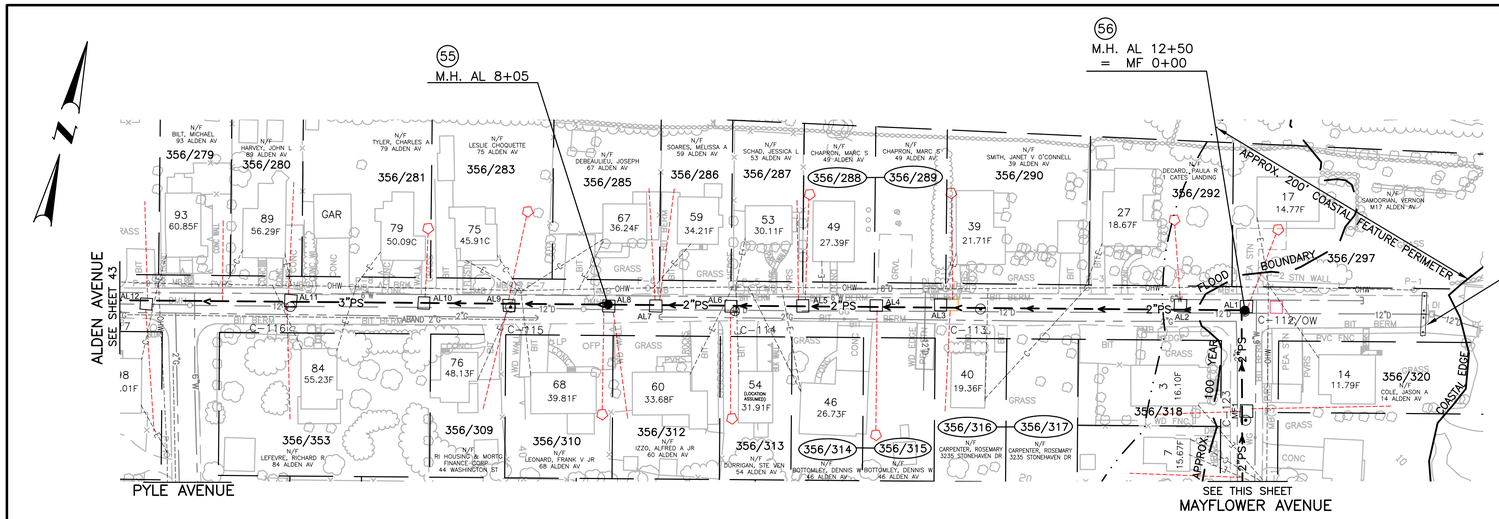
SHT. NO. 43 OF 75

FILE NO. 998

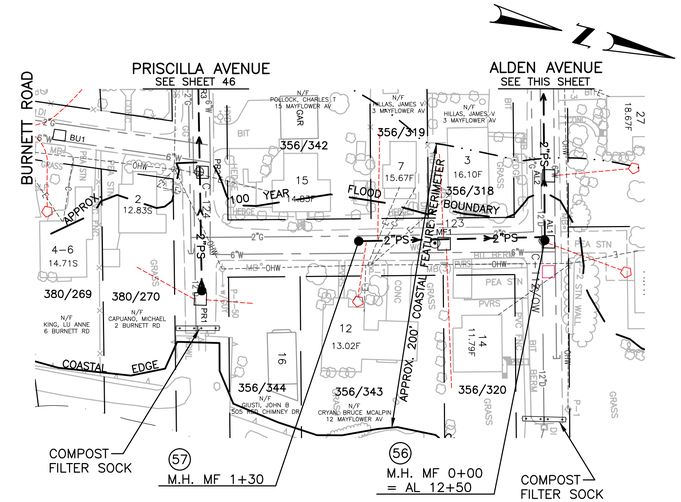
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

STANDISH AVENUE
ALDEN AVENUE
STANDISH AVENUE TO PYLE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



ALDEN AVENUE

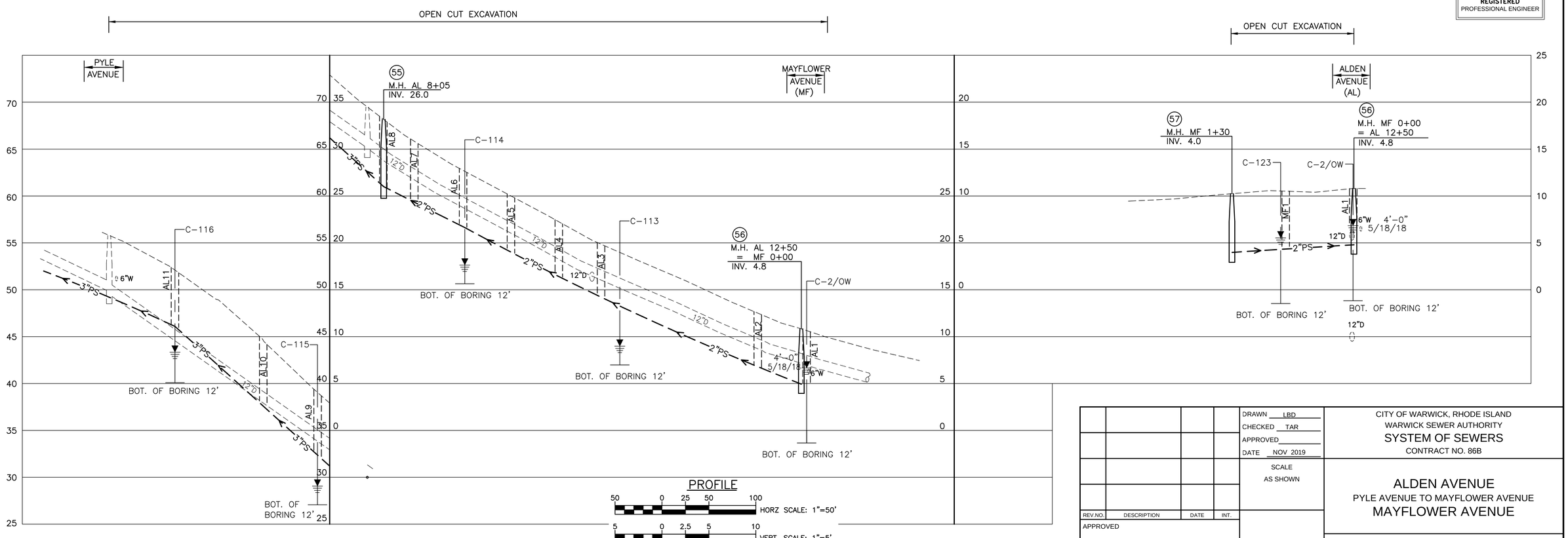


MAYFLOWER AVENUE

PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

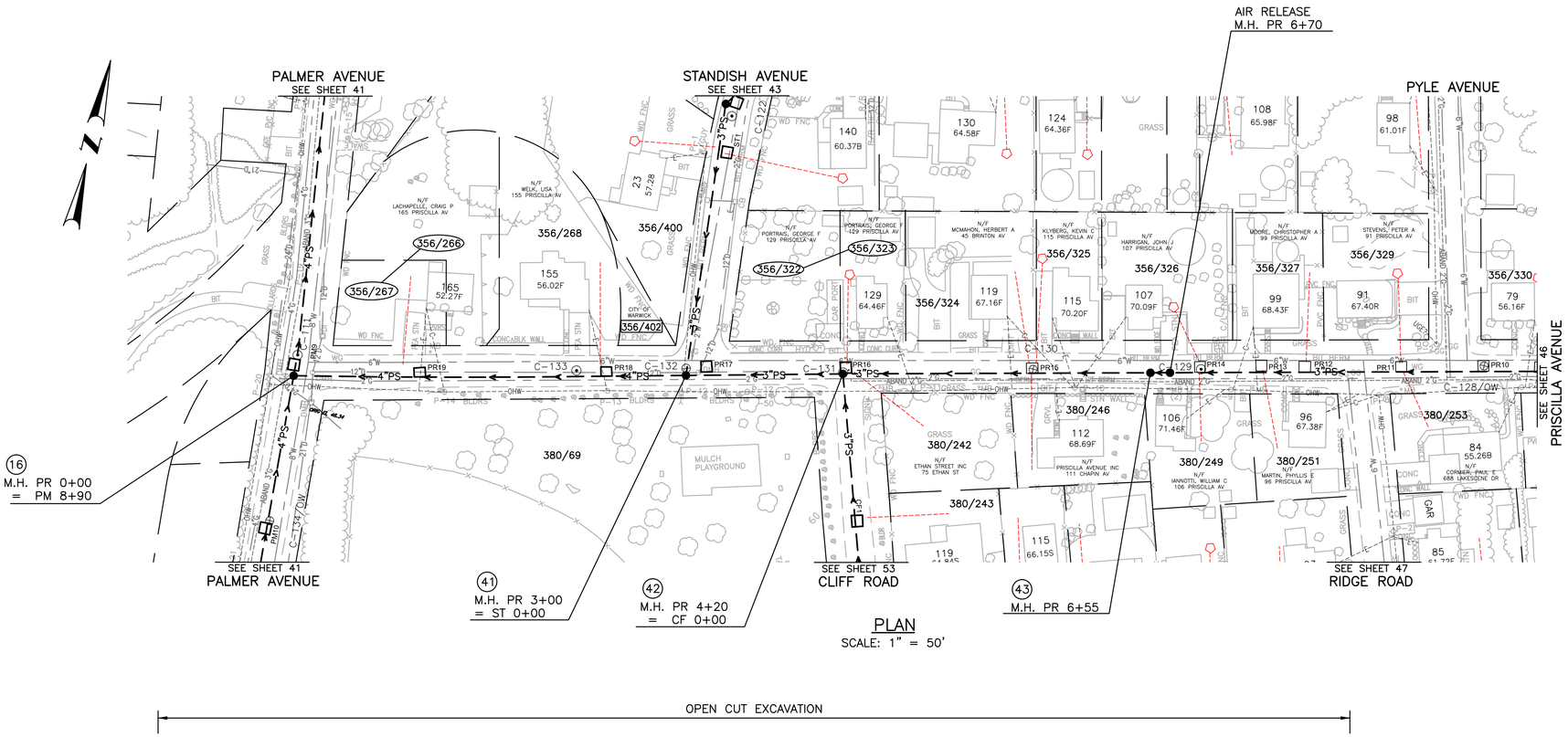
SHT. NO. 44 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

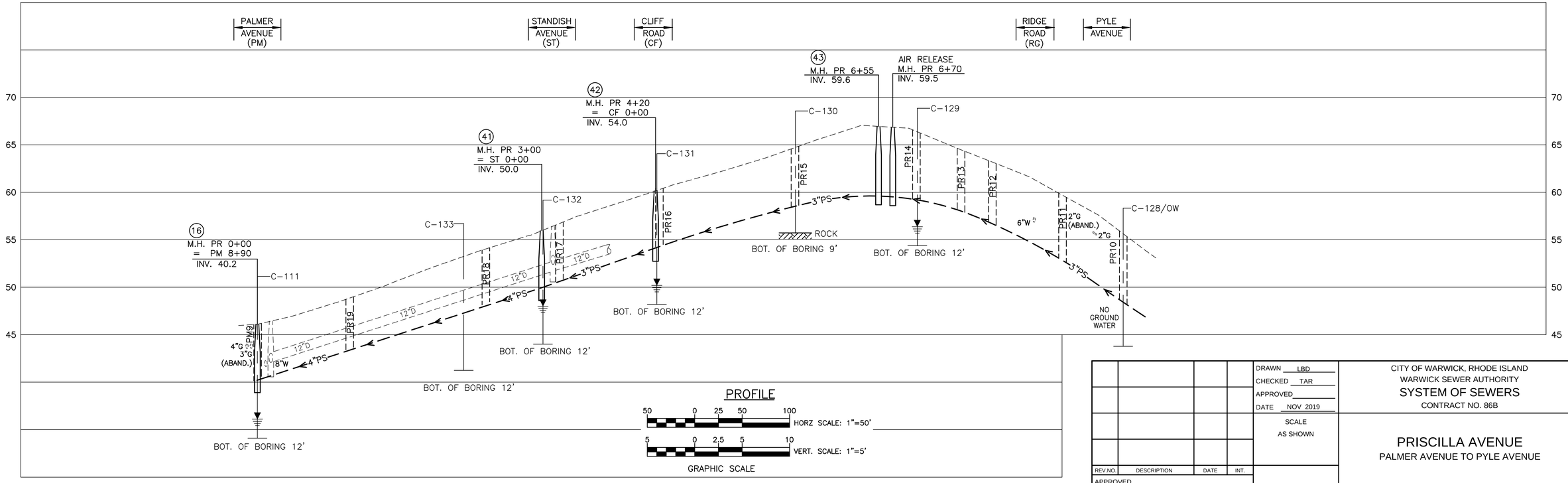
ALDEN AVENUE
PYLE AVENUE TO MAYFLOWER AVENUE
MAYFLOWER AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

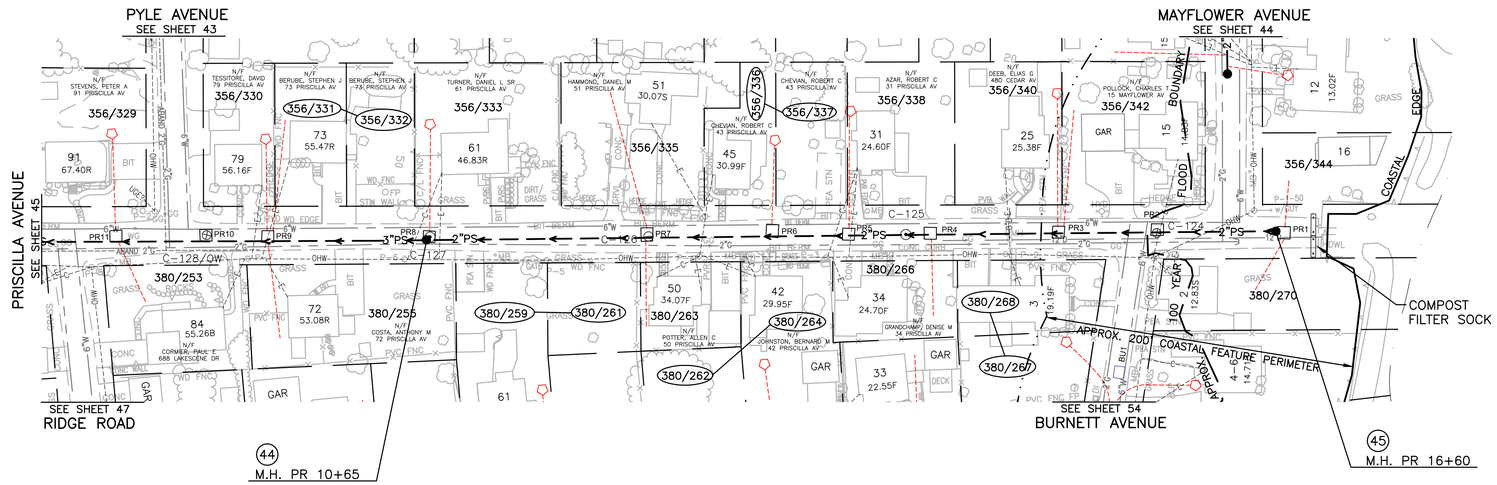
SHT. NO. 45 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

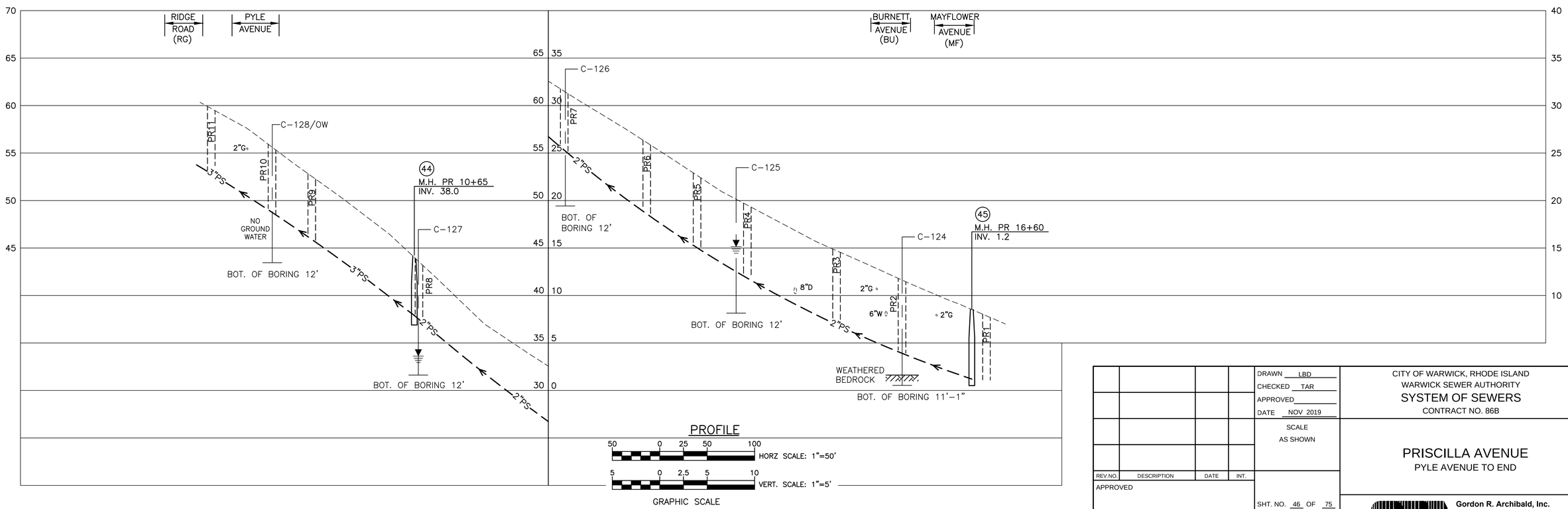
PRISCILLA AVENUE
PALMER AVENUE TO PYLE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'

OPEN CUT EXCAVATION



PROFILE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

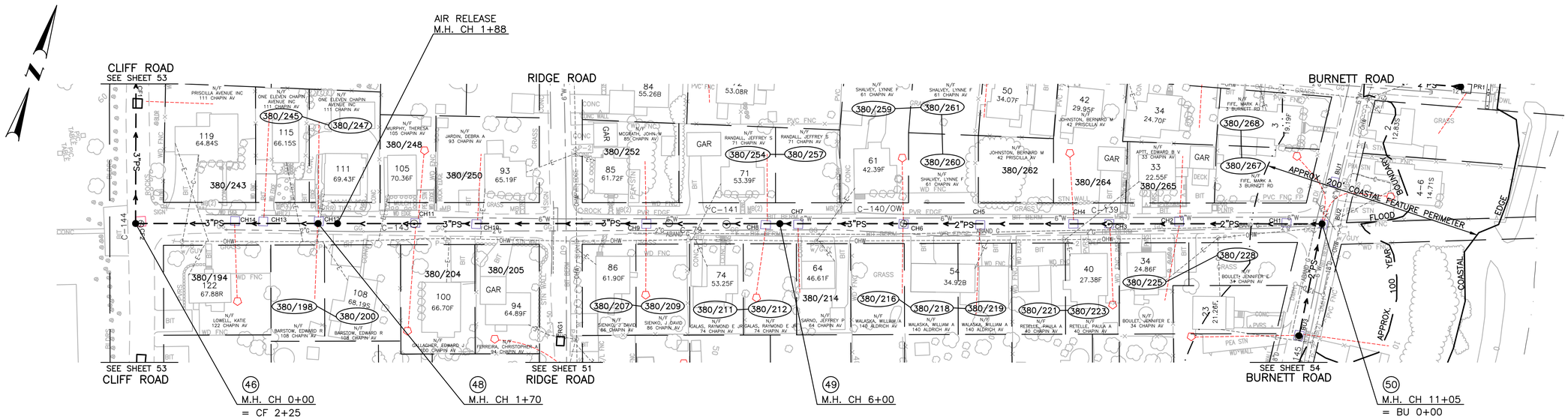
SHT. NO. 46 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

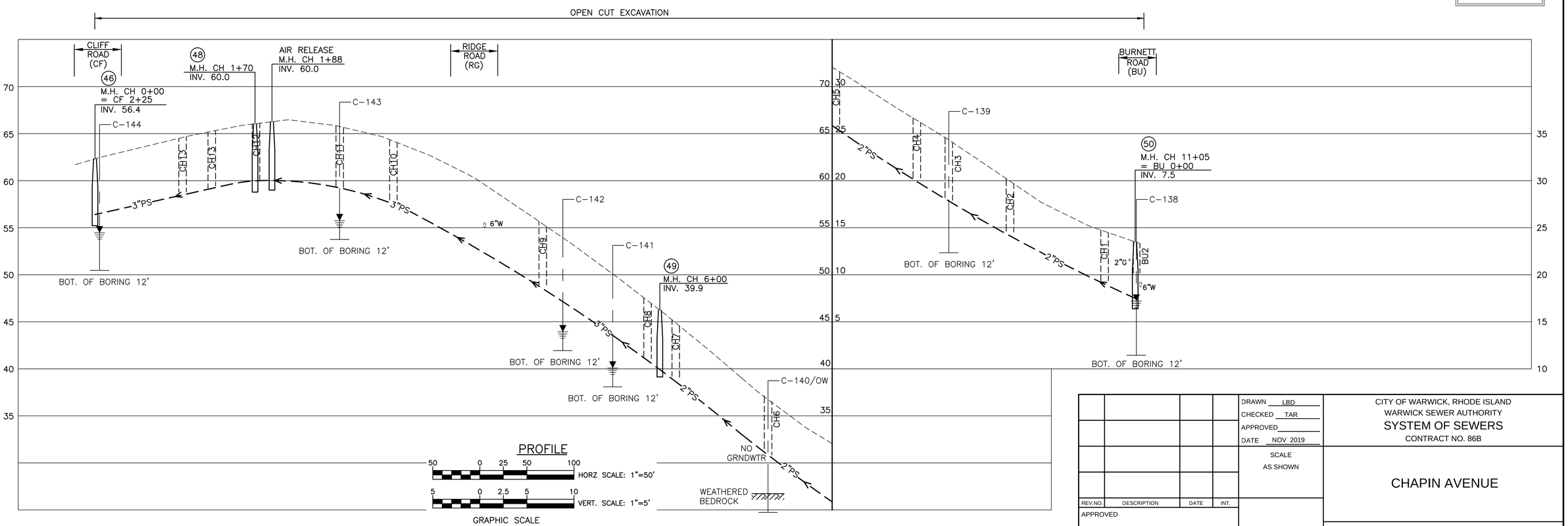
PRISCILLA AVENUE
PYLE AVENUE TO END

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

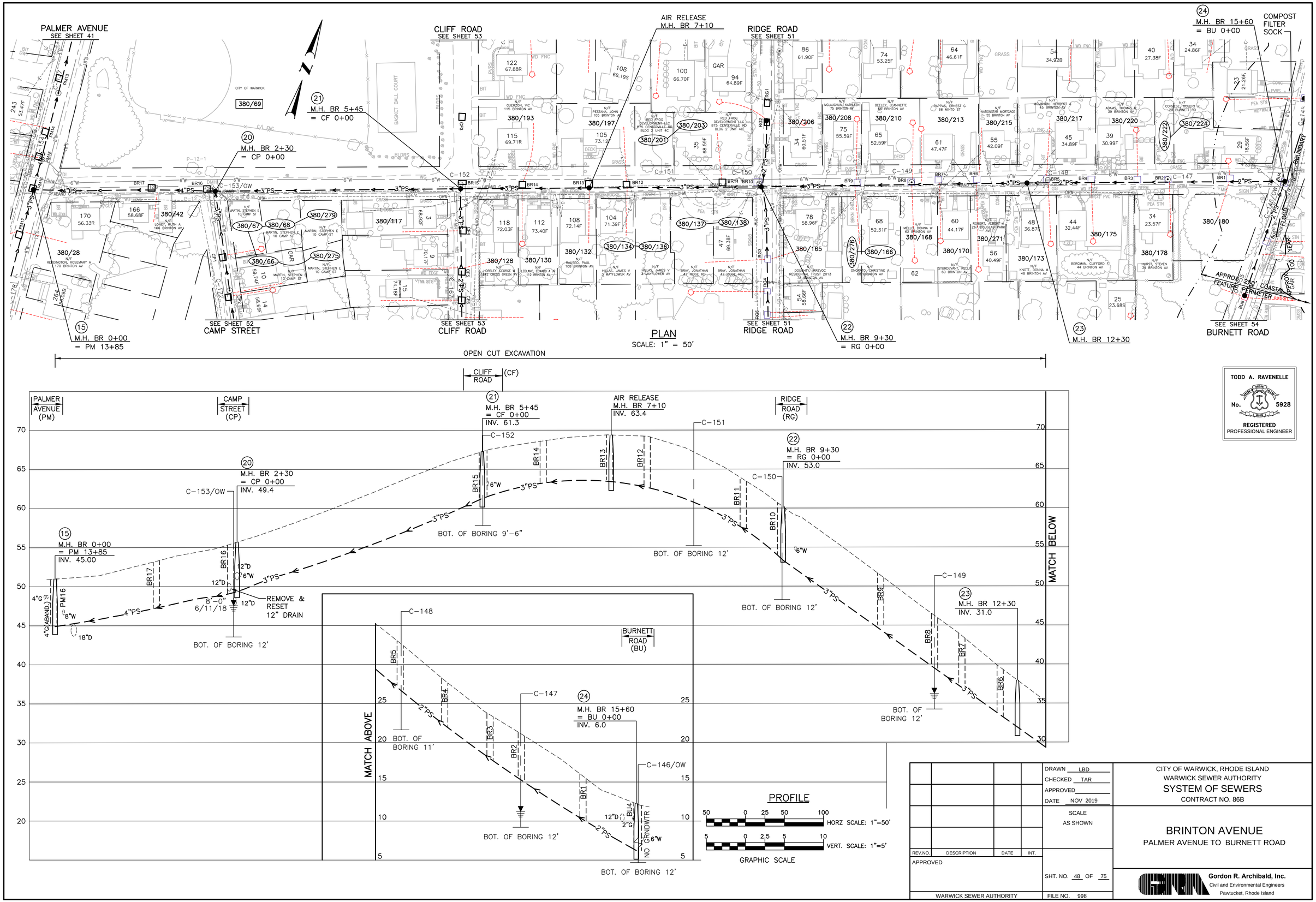


PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



				DRAWN LBD	CITY OF WARWICK, RHODE ISLAND
				CHECKED TAR	WARWICK SEWER AUTHORITY
				APPROVED	SYSTEM OF SEWERS
				DATE NOV 2019	CONTRACT NO. 86B
				SCALE AS SHOWN	CHAPIN AVENUE
REV.NO.	DESCRIPTION	DATE	INT.		
APPROVED				SHT. NO. 47 OF 75	Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island
WARWICK SEWER AUTHORITY				FILE NO. 998	



TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

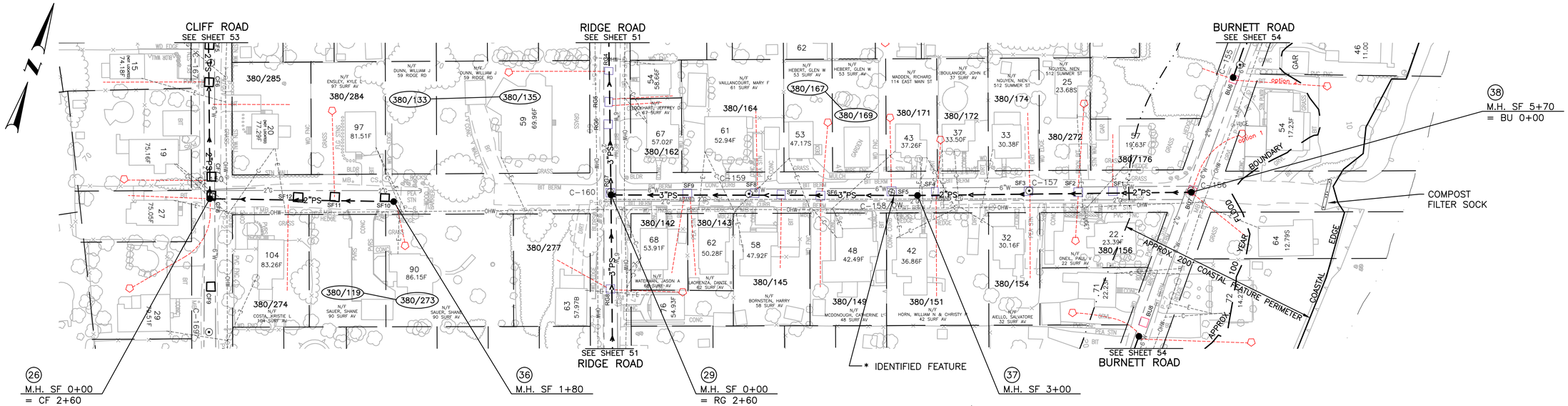
SHT. NO. 48 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BRINTON AVENUE
PALMER AVENUE TO BURNETT ROAD

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

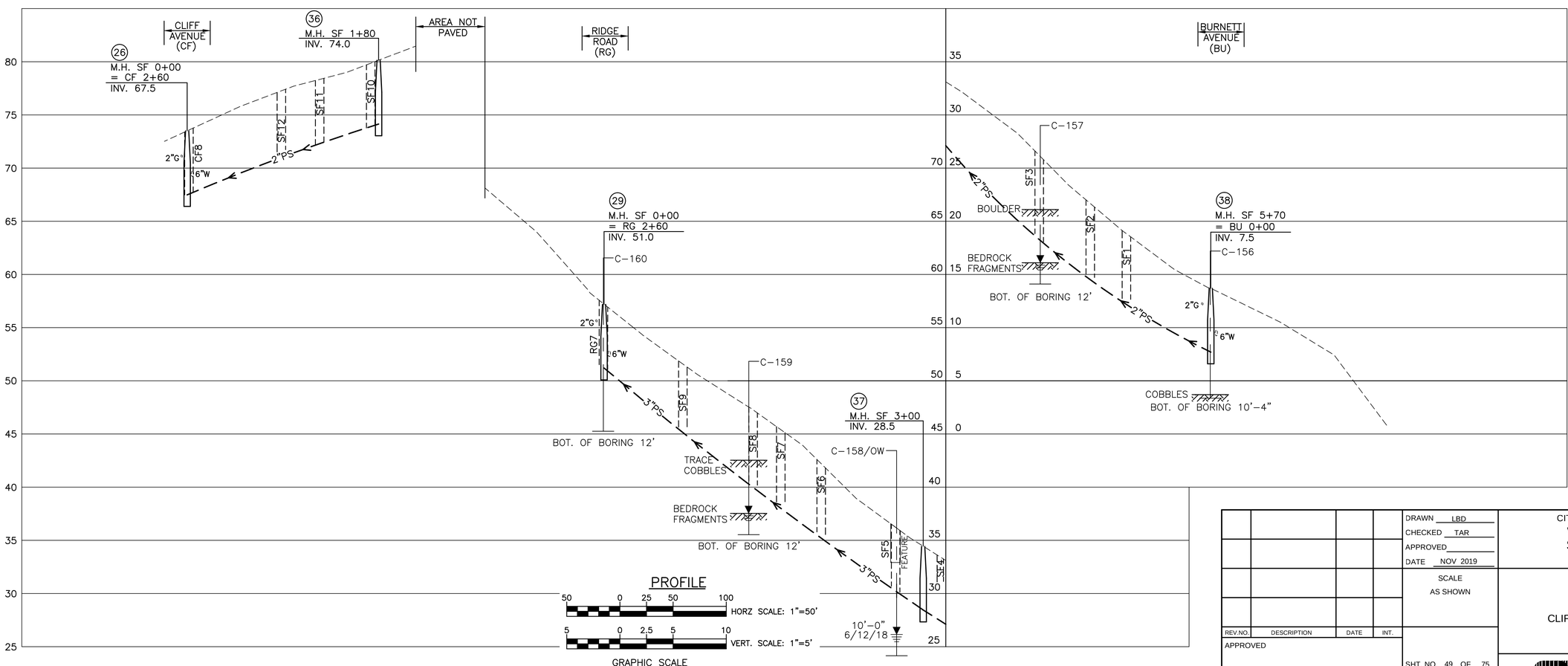


PLAN

SCALE: 1" = 50'

* IDENTIFIED FEATURE – SEE BAYSIDE SEWER PROJECT ARCHEOLOGICAL TECHNICAL REPORT BY: PUBLIC ARCHEOLOGICAL LABORATORY

OPEN CUT EXCAVATION



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

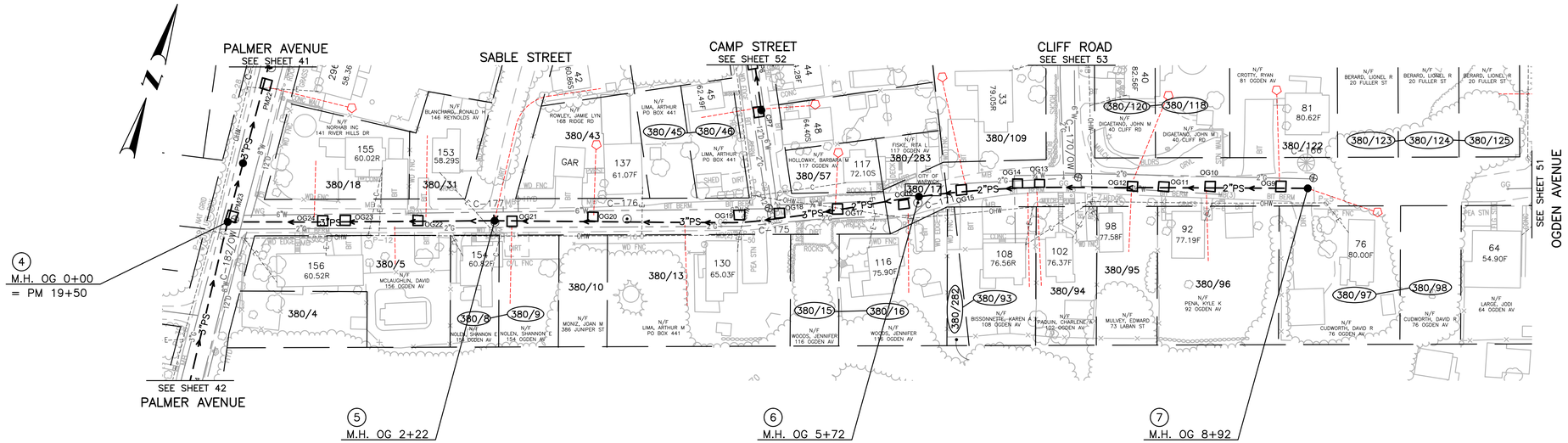
SHT. NO. 49 OF 75

FILE NO. 998

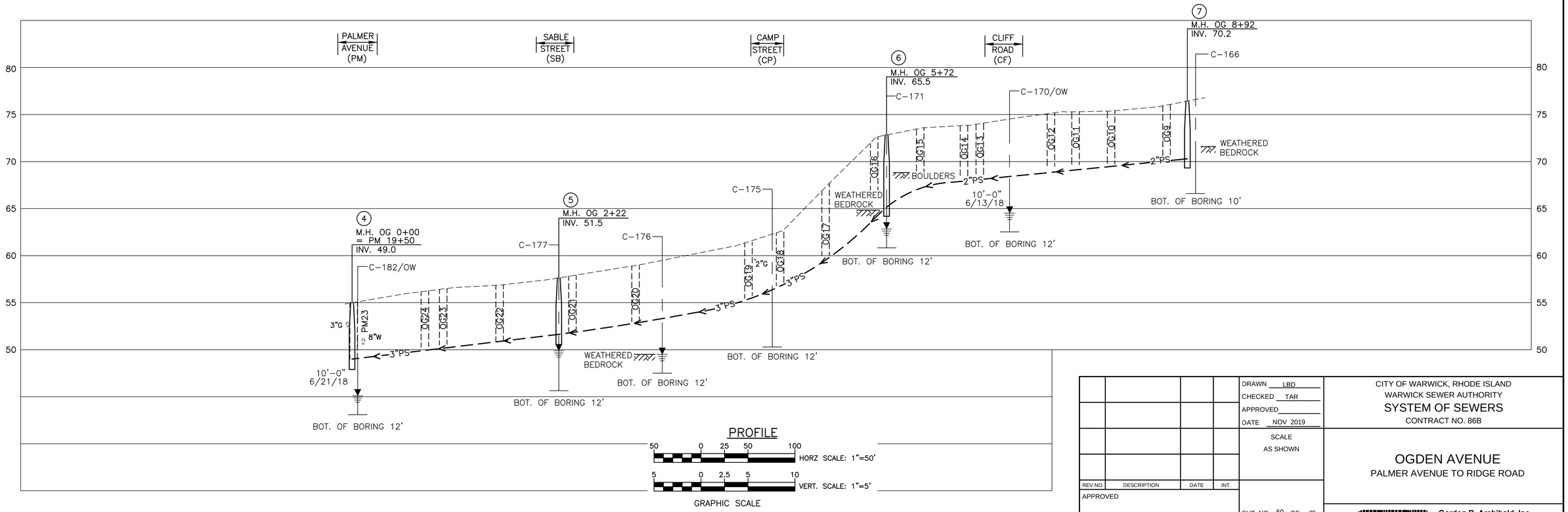
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

SURF AVENUE
CLIFF STREET TO BURNETT ROAD

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

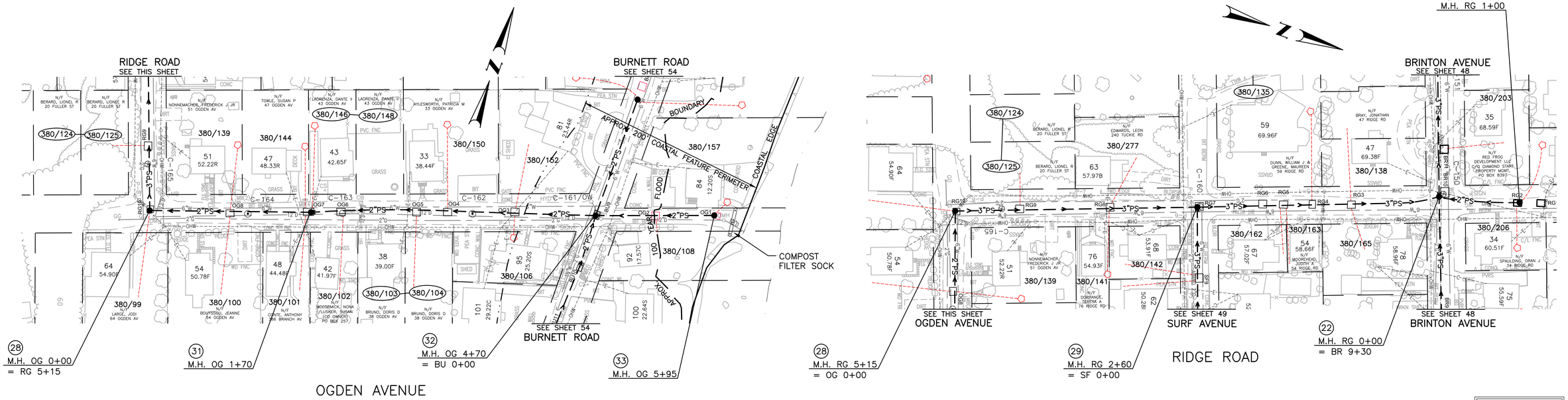
SHT. NO. 50 OF 75

FILE NO. 998

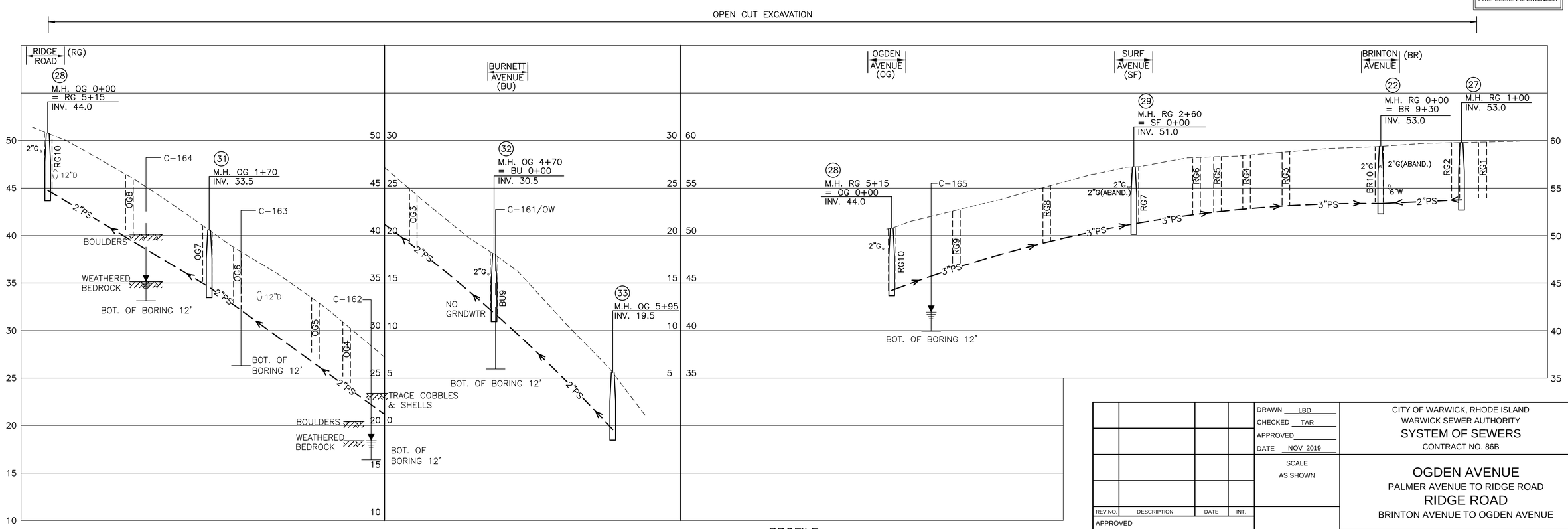
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

OGDEN AVENUE
PALMER AVENUE TO RIDGE ROAD

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

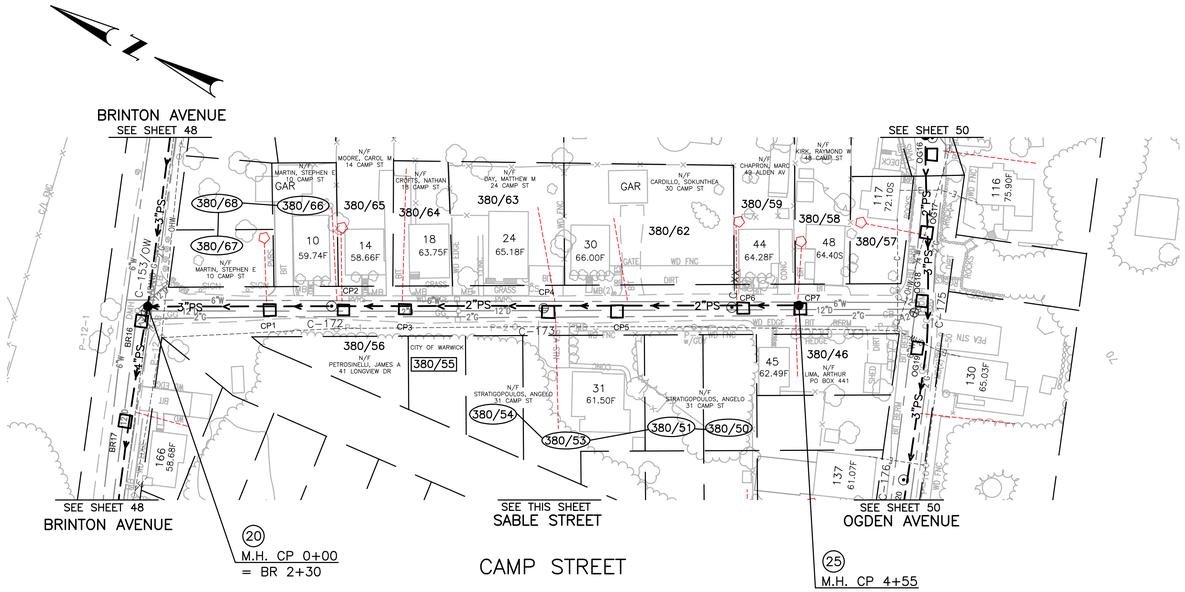
WARWICK SEWER AUTHORITY

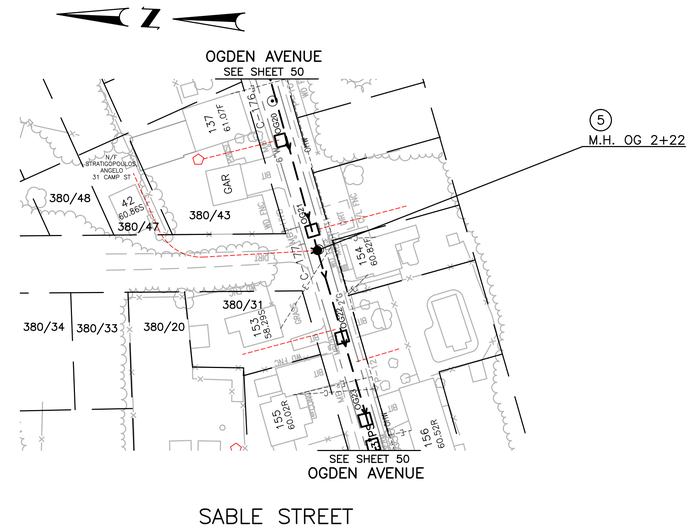
DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 51 OF 75
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

OGDEN AVENUE
PALMER AVENUE TO RIDGE ROAD
RIDGE ROAD
BRINTON AVENUE TO OGDEN AVENUE

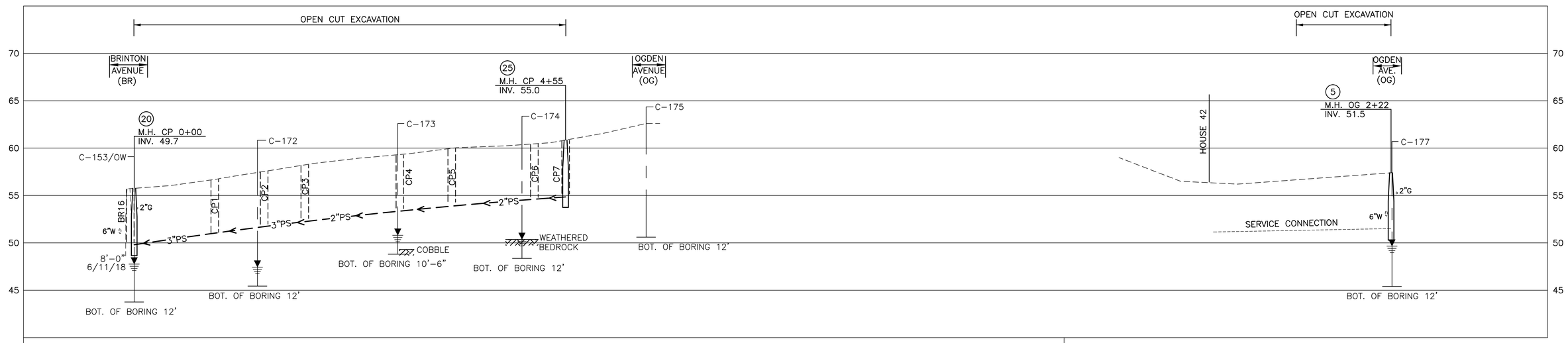
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

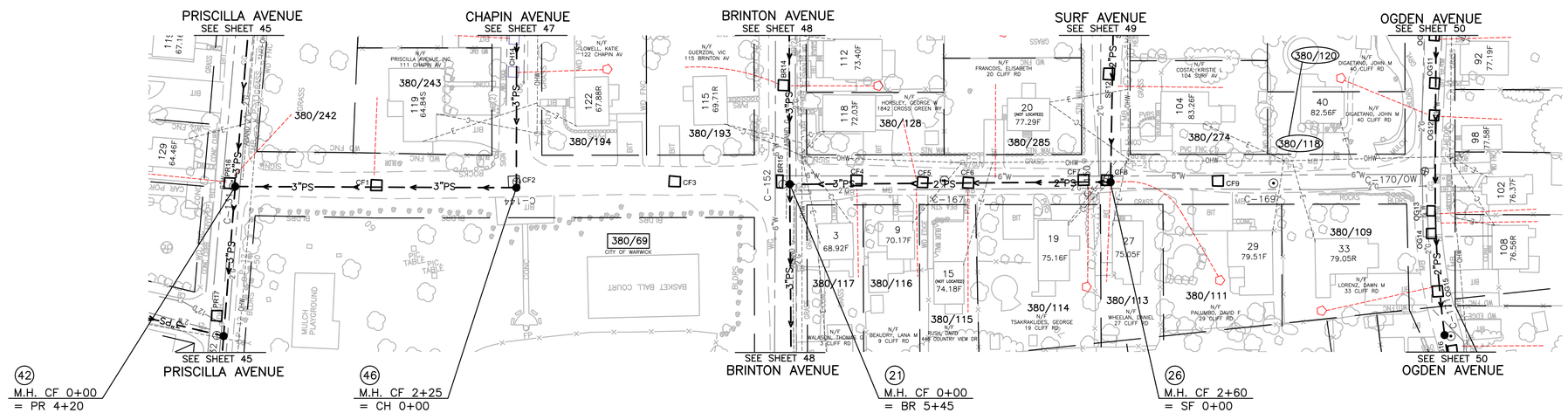
SHT. NO. 52 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

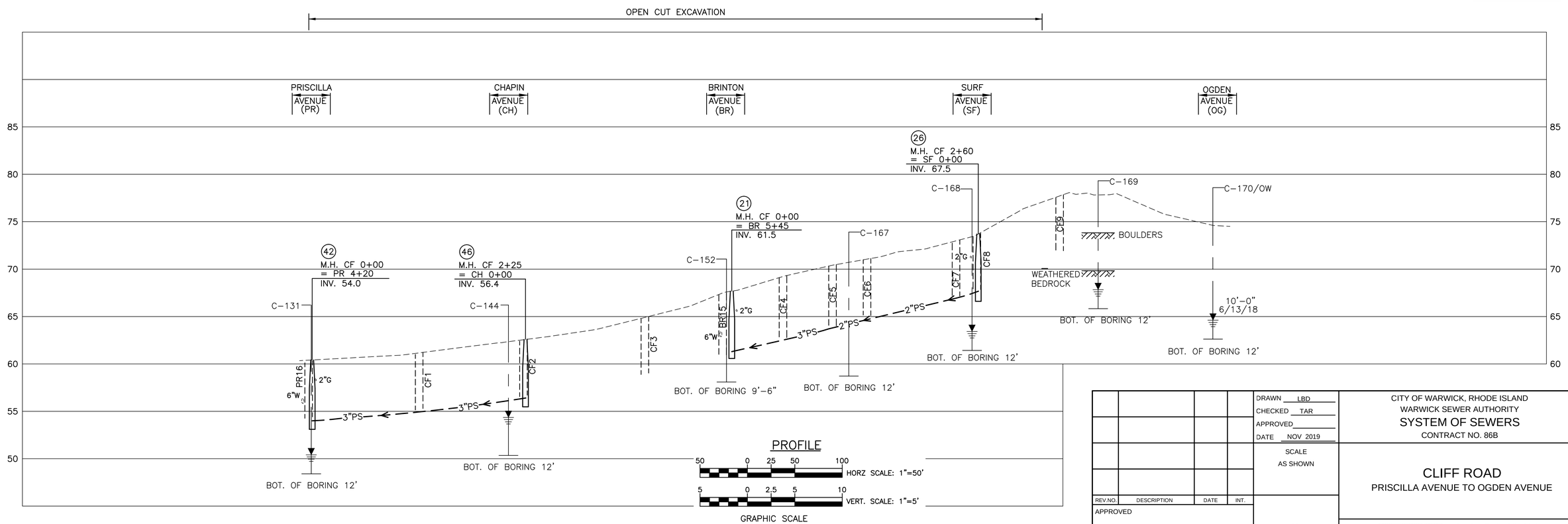
CAMP STREET
AND
SABLE STREET

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'



PROFILE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

SHT. NO. 53 OF 75

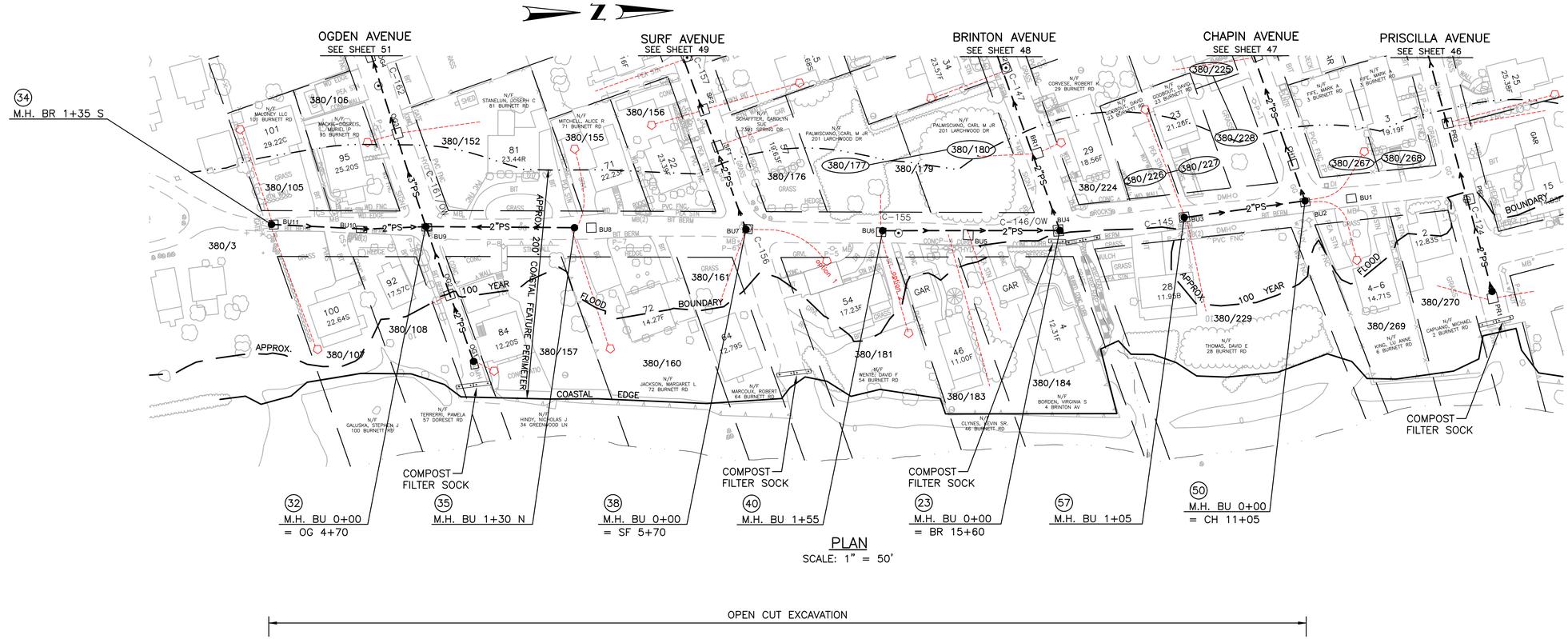
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

CLIFF ROAD

PRISCILLA AVENUE TO OGDEN AVENUE

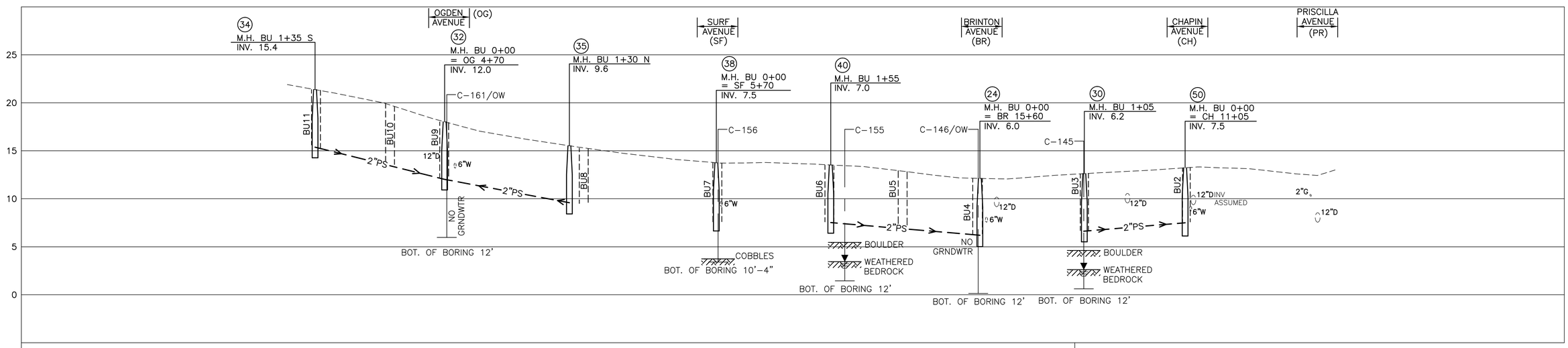
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

SCALE: 1" = 50'

OPEN CUT EXCAVATION



PROFILE

HORZ SCALE: 1"=50'

VERT. SCALE: 1"=5'

GRAPHIC SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

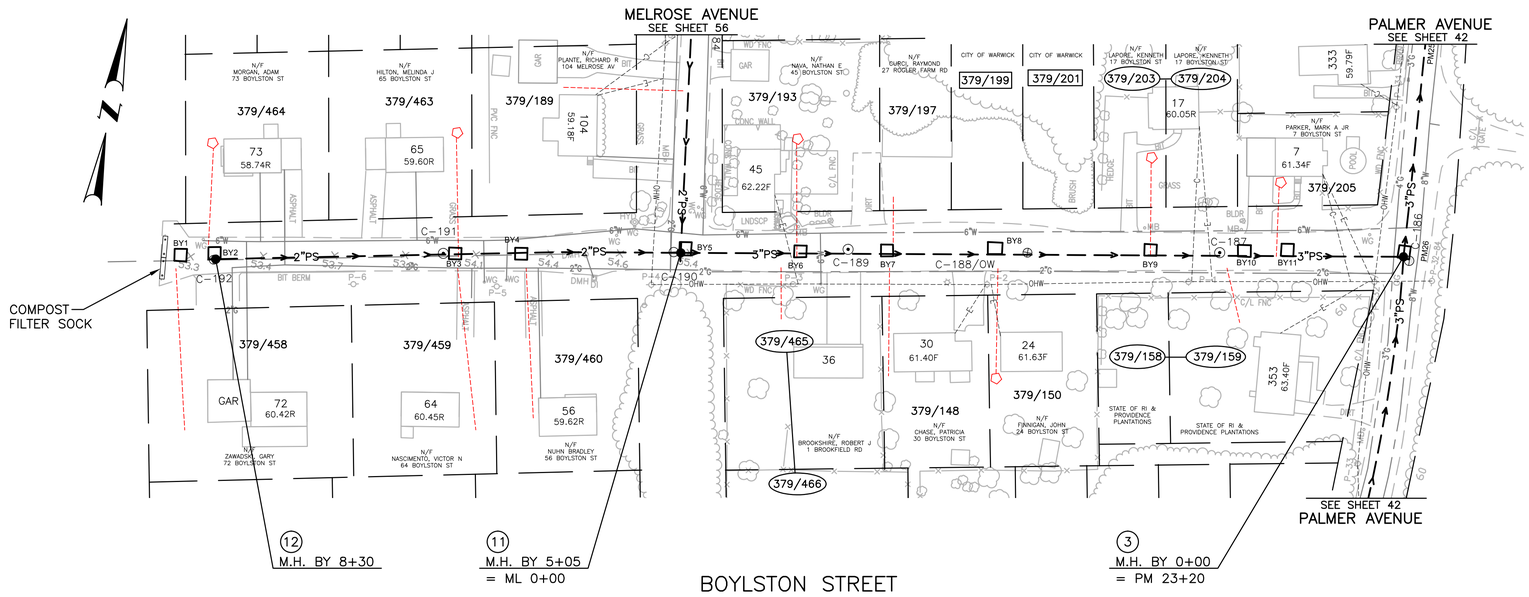
SHT. NO. 54 OF 75

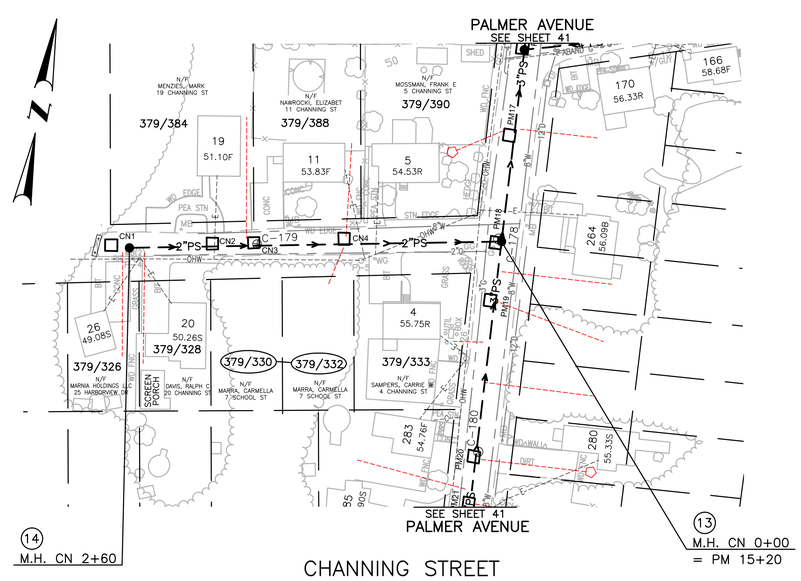
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BURNETT ROAD

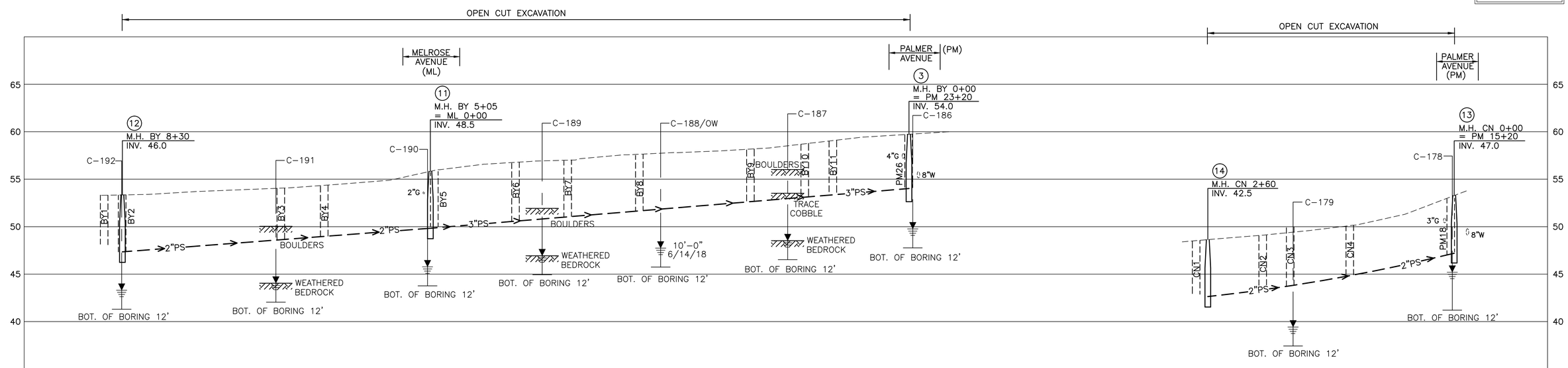
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island





PLAN
SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

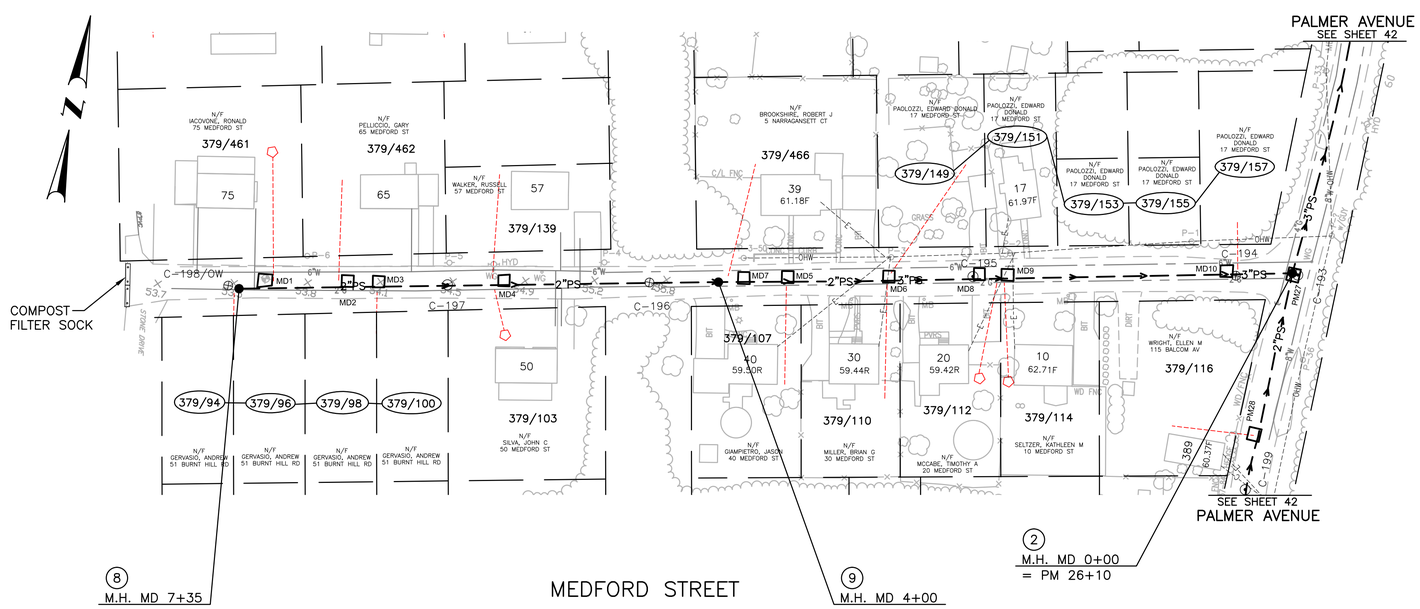
SHT. NO. 55 OF 75

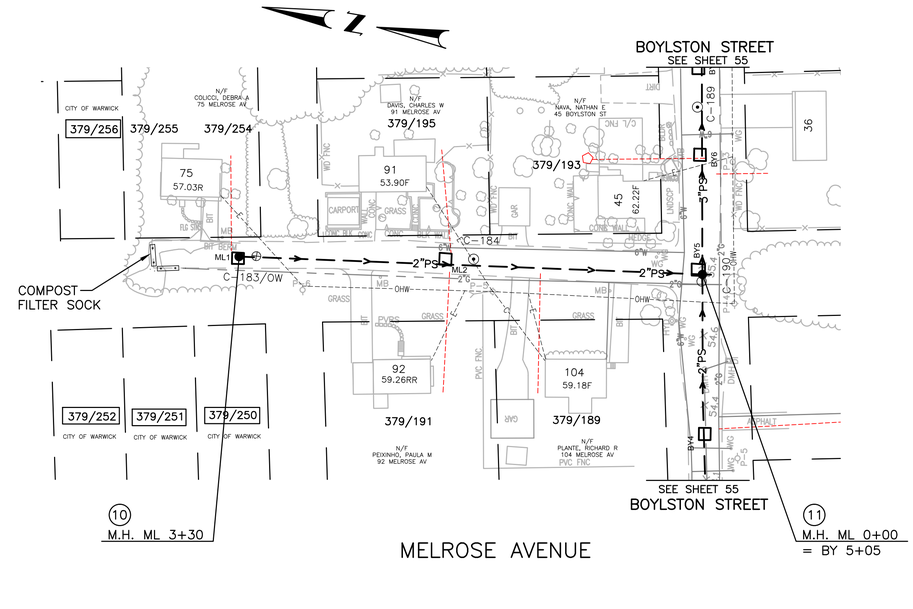
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BOYLSTON STREET
CHANNING STREET

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

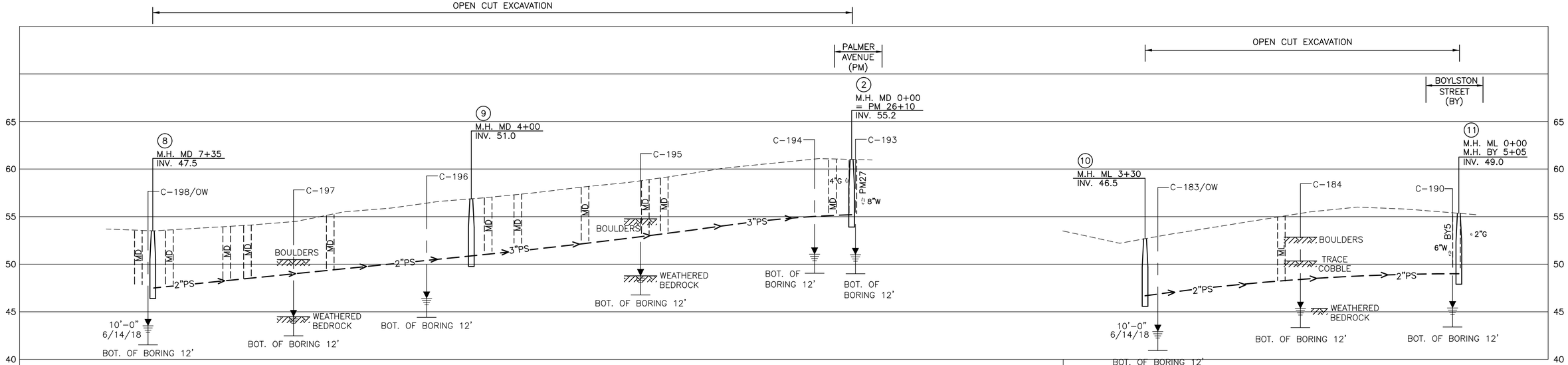




PLAN

SCALE: 1" = 50'

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER



PROFILE

50 0 25 50 100 HORZ SCALE: 1"=50'

5 0 2.5 5 10 VERT. SCALE: 1"=5'

GRAPHIC SCALE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

SHT. NO. 56 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MEDFORD STREET
MELROSE AVENUE

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

GENERAL NOTES

1. EXISTING UTILITIES HAVE BEEN PLOTTED FROM BEST AVAILABLE DATA AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES AND NOTIFY APPROPRIATE UTILITY AUTHORITY OR COMPANY PRIOR TO CONSTRUCTION .
2. THE CONTRACTOR SHALL CONFINE OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE STREET LINES.
3. ALL EXISTING GRASS AREAS DISTURBED BY CONSTRUCTION SHALL BE LOAMED AND SEEDED AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. ALL CURBING DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED AND RESTORED AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. CONTINUOUS DUST CONTROL USING CALCIUM CHLORIDE SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, AND SURFACES OF REFILLED TRENCHES.
6. TRENCHES SHALL BE SHEETED WHERE INDICATED ON DRAWINGS, OR AS DIRECTED. PORTIONS OF SHEETING MAY BE ORDERED TO BE LEFT IN PLACE BY THE ENGINEER.
7. A SERVICE CONNECTION SHALL BE PROVIDED FOR EVERY HOUSE OR VACANT BUILDABLE LOT ALONG THE SEWER LINE, AND ALSO WHERE DIRECTED BY THE OWNER. EXACT LOCATION OF SERVICE CONNECTIONS SHALL BE DETERMINED IN THE FIELD.
8. A SERVICE CONNECTION MARKER SHALL BE PROVIDED FOR EACH SERVICE CONNECTION. SEE DETAIL.
9. NUMBERS (369#199) INDICATED ON DRAWINGS REFER TO PLAT AND LOT NUMBERS AS SHOWN ON CITY OF WARWICK ASSESSORS PLAT MAPS.
10. FOR BORING LOGS, SEE APPENDIX OF SPECIFICATIONS. SOIL SAMPLES ARE AVAILABLE FOR INSPECTION AT THE WARWICK SEWAGE TREATMENT PLANT.
11. DATUM-MEAN SEA LEVEL, ELEVATION 0.00, FOR BENCHMARKS SEE PLANS.
12. TEMPORARY SUPPORTS FOR UTILITY POLES OR OTHER SIGN STRUCTURES SHALL BE PROVIDED AS MAY BE REQUIRED. PAYMENT FOR PROVIDING SUCH SUPPORTS SHALL BE INCLUDED IN THE UNIT PRICES STATED FOR THE VARIOUS PIPELINE ITEMS.
13. THE LOCATION OF THE NEW SEWER SYSTEM IS GRAPHIC. THE ACTUAL LOCATION OF SEWER LINES AND MANHOLES MAY BE REASONABLY ADJUSTED IN THE FIELD TO AVOID UTILITY CONFLICTS. THE ENGINEER SHALL APPROVE ALL ADJUSTMENTS PRIOR TO EXCAVATION.
14. IN AN EFFORT TO DEVELOP ACCURATE UNDERGROUND UTILITY PLANS, IT WAS LEARNED THAT SOME HOMES IN THE AREA HAVE SMALL UNDERDRAINS (6-INCH OR LESS) TIED INTO STREET DRAINS. THERE ARE NO RECORDS OF THESE DRAINS. ACCORDINGLY, THE CONTRACTOR SHALL BE PREPARED TO REPAIR EXISTING PIPES THAT MAY BE DAMAGED WHEN CROSSED DURING INSTALLATION OF SEWER MAIN AND SERVICE CONNECTIONS. PAYMENT FOR THESE MINOR REPAIRS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR LINEAR FOOT OF SEWER MAIN AND SERVICE MAIN. EXTENSIVE SUBDRAIN SYSTEMS, UNKNOWN AND NOT SHOWN ON THE PLANS, CONFLICTING WITH THE PROPOSED SEWER MAIN, AND REQUIRING RELOCATION, SHALL BE CONSIDERED AS CHANGE/EXTRA WORK, AND SHALL BE PAID FOR BY CHANGE ORDER.
15. THE SYMBOL ———— REPRESENTS THE LOCATION TO CUT AND MATCH EXISTING PAVEMENT.
16. THE CONTRACTOR SHALL COORDINATE ALL WORK INVOLVING THE RELOCATION OF UTILITIES AND SHALL SCHEDULE HIS CONSTRUCTION SO AS TO ALLOW FOR A COORDINATED SEWER AND UTILITY EFFORT. THE RELOCATION OF GAS UTILITIES SHALL BE PERFORMED BY THE LOCATIONS SHOWN ON THE PLANS. THE RELOCATION OF ELECTRICAL UTILITIES SHALL BE PERFORMED BY NARRAGANSETT ELECTRIC AT THE LOCATIONS SHOWN ON THE PLANS. UPON AWARD, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES RELATIVE TO HIS ANTICIPATED SEWER CONSTRUCTION START DATE.
17. MAINTENANCE OF DRAINAGE FACILITIES SHALL MEET THE REQUIREMENTS OF THE GENERAL REQUIREMENTS, PARA. 10, PAGE GR-4 ON THE PROJECT SPECIFICATIONS.
18. DEWATERING OPERATIONS AND DEWATERING DISCHARGE SHALL MEET THE REQUIREMENTS OF THE GENERAL REQUIREMENTS, PARA. 16, PAGE GR-5 AND THE SPECIAL REQUIREMENTS, SECTION 2 EXCAVATION AND BACKFILL, PARA. 2.9, PAGE SR-2-8 OF THE PROJECT SPECIFICATIONS. ALL SUMPS / WELLS USED FOR DEWATERING SHALL BE FILLED WITH SAND AND CAPPED WITH CONCRETE WHEN CONSTRUCTION IS COMPLETE.
19. THE CONTRACTOR SHALL INSTALL AND IMPLEMENT ALL EROSION CONTROL DEVICES PRIOR TO BEGINNING CONSTRUCTION, AND SHALL MAINTAIN THESE DEVICES THROUGHOUT THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL NOT REMOVE EROSION CONTROL DEVICES UNTIL ALL SURROUNDING SURFACE COVER HAS BEEN STABILIZED TO MEET THE APPROVAL OF THE ENGINEER. ALL CONTROL DEVICES SHALL BE REMOVED FROM THE SITE UPON COMPLETION OF THE PROJECT.
20. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY TEN DAYS IN ADVANCE OF HIS INTENT TO BEGIN WORK ON ANY STREET. IN ADDITION, THE CONTRACTOR SHALL EXCAVATE TEST PITS TO LOCATE UTILITIES ON ALL STREETS PRIOR TO STARTING WORK. THE LOCATION AND THE NUMBER OF TEST PITS SHALL BE DETERMINED BY THE AUTHORITY ENGINEER.
21. DRAINAGE STRUCTURES SHALL BE: CATCH BASIN RI. STD. 4.4.0 WITH RI. STD. 6.3.4 FRAME AND GRATE

EROSION AND SEDIMENT CONTROL NOTES

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15 SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOILS, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STD. SPECIFICATION M.20.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

   PERMANENT SEEDING MIXTURES:

   A - UPLAND AREA:

MIXTURE	% BUY WT.	SEEDING DATES
RED FESCUE	70	APRIL 1 - JUNE 13
KENTUCKY BLUEGRASS	15	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	10	
TOTAL 100# / AC.		

   B - WETLAND AREA:

MIXTURE	POUNDS PER ACRE	SEEDING DATES
REED CANARY GRASS	20	MAY 1 - JUNE 15
LADING WHITE CLOVER	1	AUG. 15 - SEPT. 30
TOTAL 21# / AC.		

6. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS) AND SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 - 4,000 LBS./ACRE.
8. ALL COMPOST FILTER SOCKS, SILT FENCES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AND AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

SPECIES	LBS/AC.	LBS/1000 SQ FT.	SEEDING DATE
ANNUAL RYEGRASS	40-60	1.0-1.5	3/1-6/1
PERENNIAL RYEGRASS	40-60	1.0-1.5	3/1-6/1
SUDAN GRASS	30-40	0.7-1.0	5/15-8/15
MILLET	30-40	0.7-1.0	5/15-8/15
WINTER RYE	120	3.0	4/15-6/15
OATS	86-120	0.5-5.0	3/1-6/15
WEEPING	5-20	0.5-5.0	5/1-7/1

9. THE CONTRACTOR MUST REPAIR AND OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST - OCTOBER 15TH
11. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
12. STOCKPILES OF TOPSOILS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND STABILIZED.
13. SLOPE SURFACES 3:1 OR STEEPER WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE COVERED WITH JUTE MESH OR EXCELCIOR MATTING TO AID IN STABILIZING THE SLOPES AND PREVENTING EROSION.
14. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
15. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
16. IMMEDIATELY UPON COMPLETION OF THE CLEARING AND GRUBBING OPERATION AND PRIOR TO ANY ROUGH GRADING. COMPOST FILTER SOCKS OR SILT FENCES SHALL BE PLACED AS INDICATED ON THE PLANS.
17. ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE PERIODICALLY MAINTAINED AS PER THE RESPECTIVE PROGRAMS DURING THE CONSTRUCTION.
18. COMPOST FILTER SOCKS AND SILT FENCES MUST BE MAINTAINED AND REMAIN IN PLACE UNTIL SUCH A TIME THAT DESIRABLE STAND OF GRASS OR GROUND COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

PLACEMENT OF SEWERS

LATERAL PLACEMENT OF SEWERS, WATER LINES AND STRUCTURES

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER LINE. THE DISTANCE SHALL BE MEASURED EDGE-TO-EDGE. THERE IS NO MINIMUM VERTICAL SEPARATION REQUIRED PROVIDED THE 10 FOOT HORIZONTAL SEPARATION IS MAINTAINED. STRUCTURES, OTHER THAN PIPELINES OR CONDUITS, THROUGH WHICH SANITARY WASTEWATER FLOWS SUCH AS, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, METER PITS AND PUMP STATION WET WELLS SHALL ALSO BE CONSTRUCTED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING WATER LINE, MEASURED EDGE-TO-EDGE.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE OWR MAY ALLOW DEVIATION ON A CASE-BY-CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER PIPELINES AND/OR STRUCTURES CLOSER TO A WATER LINE PROVIDED THAT:

1. THE SEWER PIPELINE AND/OR STRUCTURES AND WATER LINE ARE LAID IN SEPARATE TRENCHES, OR
2. THE SEWER PIPE LINE AND/OR STRUCTURES AND WATER LINE MAYBE INSTALLED IN THE SAME TRENCH WITH THE WATER LINE PLACED ON A BENCH OF UNDISTURBED EARTH, AND
3. IN EITHER CASE, THE CROWN OF THE SEWER PIPELINE SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE.

IN SITUATIONS WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, THE FOLLOWING PROTECTION SHALL BE PROVIDED:

1. ENCASEMENT OF THE SEWER PIPELINE IN CONCRETE (MIN. 6 INCH THICKNESS) OR A CARRIER PIPE FOR AT LEAST 10 FEET EITHER SIDE OF THE AREA NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, OR
2. THE DESIGN AND CONSTRUCTION OF THE SEWER PIPELINE MUST MEET THE REQUIREMENTS APPLICABLE TO WATER LINES (ANY AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE), AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS, OR
3. IN INSTANCES OF CONFLICT WITH SANITARY WASTEWATER STRUCTURES MENTIONED ABOVE, RELOCATE THE WATER LINE TO ACHIEVE EITHER A 10 FOOT HORIZONTAL OR 18 INCH VERTICAL SEPARATION.

SEWER CROSSING WATER LINES

SEWERS CROSSING OVER WATER LINES SHOULD BE AVOIDED, BUT IF CONDITIONS WARRANT THIS SITUATION, THEN ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE. SEWERS CROSSING UNDER WATER LINES SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18 INCHES BETWEEN THE INVERT OF THE WATER LINE AND THE CROWN OF THE SEWER. RELOCATION OF AN EXISTING WATER LINE MAY BE NECESSARY TO ACHIEVE THIS VERTICAL SEPARATION. RELOCATED WATER LINES SHALL BE CONSTRUCTED OF AN AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE AND DESIGNED FOR THE REQUIRED WATER SERVICE PRESSURE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER LINE JOINTS.

WHERE CONDITIONS PREVENT AND 18 INCH VERTICAL SEPARATION FROM BEING MAINTAINED, THE FOLLOWING METHODS SHALL BE SPECIFIED:

1. THE DESIGN AND CONSTRUCTION OF THE SEWER MUST MEET THE REQUIREMENTS APPLICABLE TO WATER LINES (ANY AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE) FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER LINE AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS, OR
2. EITHER THE WATER LINE OF THE SEWER MAY BE ENCASED IN CONCRETE (MIN. 6 INCH THICKNESS) OR A CARRIER PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER LINE. THE CARRIER PIPE SHALL BE DESIGNED AND CONSTRUCTED OF MATERIALS WHICH ARE SATISFACTORY TO THE OWR, OR
3. ANY OTHER METHODS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER, WHICH ENSURE ADEQUATE WATERTIGHTNESS AND ARE SATISFACTORY TO THE OWR.

LEGEND

	SERVICE LOCATION BY OWNER
SP53	8'X8' (TYP.) ARCHAEOLOGICAL EXCAVATION PIT
	PROPOSED SERVICE LINES
335/27	SAME PROPERTY OWNER
335/27	CITY/STATE OWNED PROPERTY
	MAIN LINE PRESSURE SEWER
	TYPE C INTERSECTING MAIN VALVE
	TYPE A AND TYPE B CLEANOUT VALVE
	SEWER MANHOLE/AIR RELEASE MANHOLE
90	SEWER MANHOLE NUMBER
	ARCHAEOLOGICAL CONTINUOUS TRENCH
CRITICAL FEATURE	ARCHAEOLOGICAL CRITICAL IDENTIFIED FEATURE TO AVIOD (PLAN)
CRITICAL FEATURE	ARCHAEOLOGICAL CRITICAL IDENTIFIED FEATURE TO AVIOD (PROFILE)
	ARCHAEOLOGICAL IDENTIFIED FEATURE (PLAN)
IDENTIFIED FEATURE / IDENTIFIED FEATURE	ARCHAEOLOGICAL IDENTIFIED FEATURE (PROFILE)
BOT. OF BORING 12'	BOTTOM OF BORING FROM SURFACE
	BORING GROUND WATER ELEVATION
C-120	CASING BORING
C-127	PROBE BORING
C-126	AUGER BORING
C-128/OW	WELL BORING
B-84	BORINGS DONE UNDER PREVIOUS CONTRACT
C	PROPERTY CONNECTED UNDER PREVIOUS CONTRACTS
	COASTAL EDGE / FRESHWATER WETLAND EDGE
	APPROXIMATE 100 YEAR FLOOD BOUNDARY
	200 FOOT COASTAL FEATURE PERIMETER
	APPROXIMATE 50' WETLAND PERIMETER
	APPROXIMATE 100' RIVERBANK PERIMETER

STREET NAME ABBREVIATIONS

AL	ALDEN AVENUE
AR	ARLINGTON AVENUE
AV	AVON AVENUE
BA	BASSETT AVENUE
BE	BEATRICE AVENUE
BN	BOURNE STREET
BO	BOLSTER AVENUE
BR	BRINTON AVENUE
BT	BEATRICE TERRACE
BU	BURNETT ROAD
BY	BOYLSTON STREET
CA	CADY AVENUE
CP	CAMP STREET
CF	CLIFF ROAD
CH	CHAPIN AVENUE
CL	CLARA AVENUE
CN	CHANNING STREET
CR	CURRY PLACE
FR	FRIENDSHIP AVENUE
GR	GROVE AVENUE
HA	HAMLIN AVENUE
HE	HEIGHT AVENUE
HP	HOPE AVENUE
HV	HARBOR VIEW DRIVE
LH	LIGHTHOUSE LANE
LM	LONGMEADOW AVENUE
LP	LIPPITT AVENUE
LY	LYNDON AVENUE
MA	MAYOR LANE
MC	MILL COVE ROAD
MD	MEDFORD STREET
MF	MAYFLOWER AVENUE
ML	MELROSE AVENUE
OC	OCEAN AVENUE
OG	OGDEN AVENUE
PA	PAYTON AVENUE
PE	PENDER AVENUE
PK	PARK AVENUE
PM	PALMER AVENUE
PO	POSNER AVENUE
PR	PRISCILLA AVENUE
RG	RIDGE ROAD
RS	RIVERSIDE AVENUE
RV	RIVER VUE AVENUE
SB	SABLE ROAD
SC	SEACREST LANE
SF	SURF AVENUE
SG	SAMUEL GORTON AVENUE
SH	SHORE AVENUE
ST	STANDISH AVENUE
TD	TIDEWATER DRIVE
VZ	VAN ZANDT AVENUE
WE	WEBB AVENUE
WH	WHIPPLE AVENUE
WW	WENTWORTH AVENUE

TODD A. RAVENELLE
STATE OF RHODE ISLAND
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

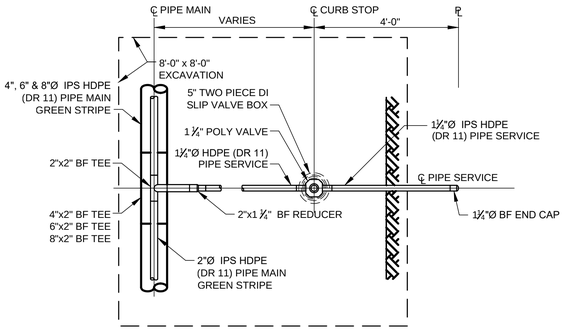
SHT. NO. 57 OF 75

FILE NO. 998

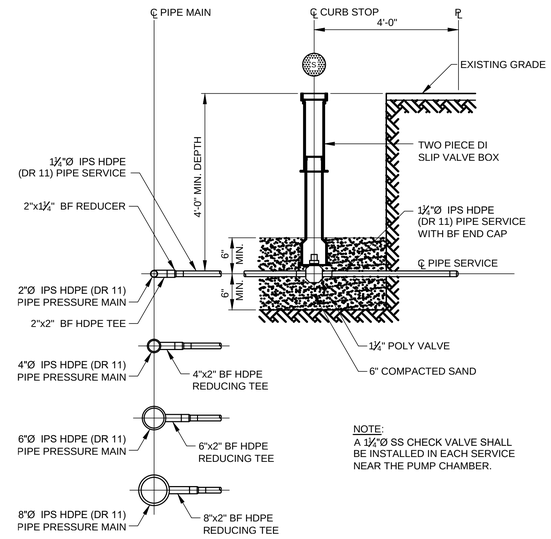
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

PROJECT NOTES AND LEGENDS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN

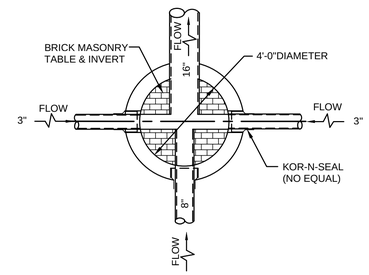


NOTE:
A 1½"Ø SS CHECK VALVE SHALL BE INSTALLED IN EACH SERVICE NEAR THE PUMP CHAMBER.

SECTION

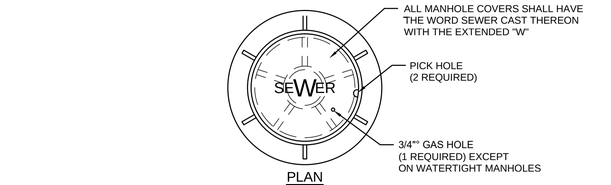
PRESSURE SEWER MAIN SERVICE CONNECTION DETAILS

N.T.S.

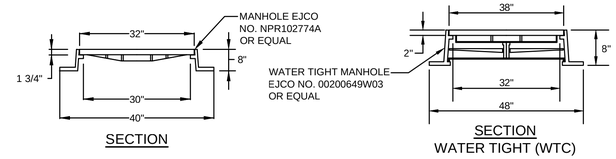


SANITARY SEWER MANHOLE PLAN-INVERT TABLE

NOT TO SCALE



PLAN

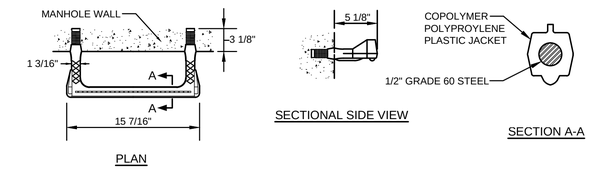


SECTION

SECTION
WATER TIGHT (WTC)

STANDARD MANHOLE COVER DETAILS

N.T.S.



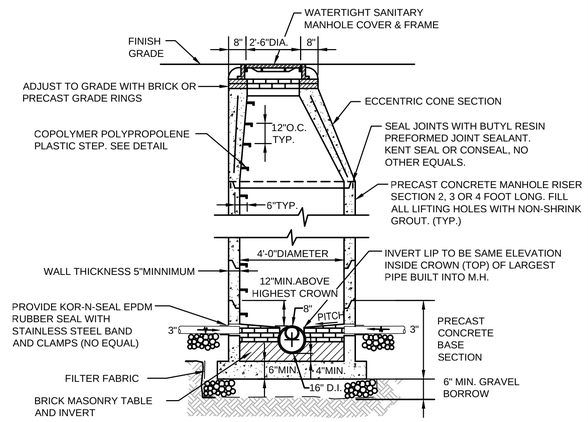
PLAN

SECTIONAL SIDE VIEW

SECTION A-A

SANITARY SEWER MANHOLE STEP DETAIL

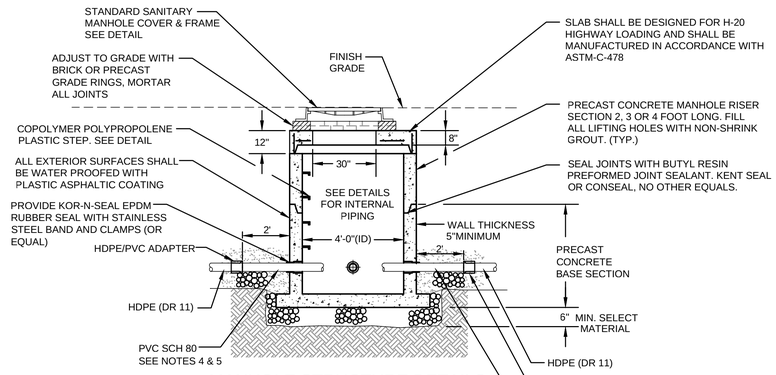
N.T.S.



SANITARY SEWER MANHOLE DETAIL

(1 LOCATION ONLY - TIDEWATER DRIVE & FRIENDSHIP / HEIGHT AVENUES)

NOT TO SCALE



MANHOLE STRUCTURE DETAILS FOR OPEN CUT EXCAVATION

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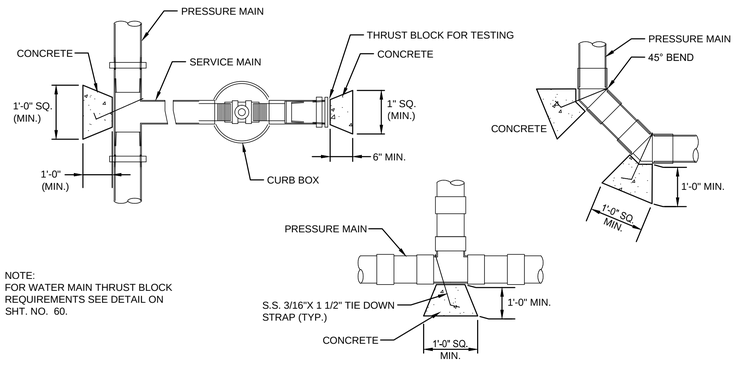
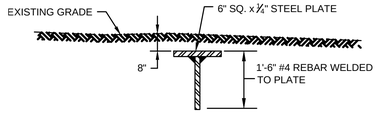


NOTE:
FOR WATER MAIN THRUST BLOCK REQUIREMENTS SEE DETAIL ON SHT. NO. 60.

TYPICAL THRUST BLOCK DETAILS

NOT TO SCALE



HOUSE CONNECTION MARKER DETAIL

NOT TO SCALE

ABBREVIATIONS

MIPT - MALE IRON PIPE THREADED
FIPT - FEMALE IRON PIPE THREADED
S - SOLVENT WELD JOINT
G - GASKET JOINT
ARV - AIR RELEASE VALVE M.H.

NOTES

1. ALL CONCRETE SHALL BE 4000 PSI @ 28 DAYS.
2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST M.H. WALL OR UNDISTURBED EARTH AS APPLICABLE.
3. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.
4. ALL PIPING AND FITTING INSIDE MANHOLE SHALL BE PVC SCH 80 AS SHOWN. PIPING BEYOND 2' OF MANHOLE WALL SHALL BE BUTT FUSED HDPE PIPE (DR 11).
5. WHERE PRESSURE SEWER MAIN CHANGES SIZE, PROVIDE REDUCER 2' OFF MANHOLE WALL AT JUNCTION OF SCH 80 AND DR 11 PIPE. SEE PLAN & PROFILE SHEETS FOR LOCATIONS.
6. BALL VALVES ON PRESSURE MAIN SHALL BE SAME SIZE AS PRESSURE SEWER MAIN.
7. A 1½"Ø SS CHECK VALVE SHALL BE INSTALLED IN EACH SERVICE PIPE NEAR THE PUMP CHAMBER.

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
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DATE NOV 2019

SCALE AS SHOWN

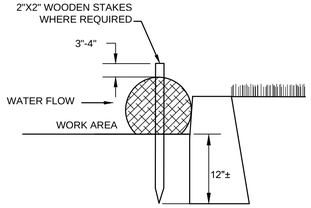
SHT. NO. 58 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

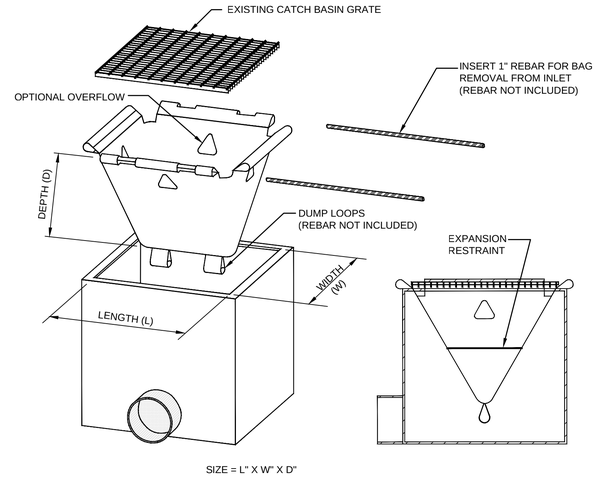
DETAILS - 1
OPEN TRENCH EXCAVATIONS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



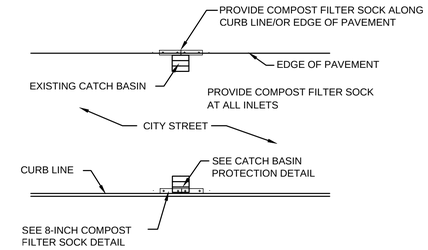
8-INCH COMPOST FILTER SOCK DETAIL

NOT TO SCALE



CATCH BASIN PROTECTION DETAIL

NOT TO SCALE



GENERAL EROSION CHECK

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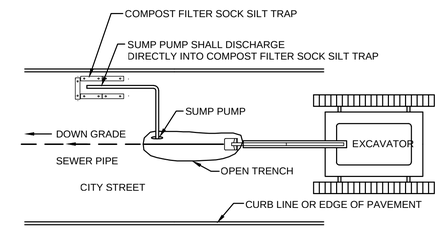


NOTES:

1. COMPOST FILTER SOCK SILT TRAPS SHALL BE INSTALLED AND MAINTAINED AT THE DISCHARGE OF ALL SUMP PUMPS USED FOR DEWATERATERING OF TRENCHES.
2. SILT TRAPS SHALL BE MAINTAINED AND CLEANED AS OFTEN AS NECESSARY TO EFFECTIVELY CONTAIN SILT.
3. SILT REMOVED FROM SILT TRAP MAY BE MIXED WITH MATERIAL EXCAVATED FROM TRENCH AND USED AS BACKFILL.

DETAIL OF COMPOST FILTER SOCK SILT TRAP

NOT TO SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

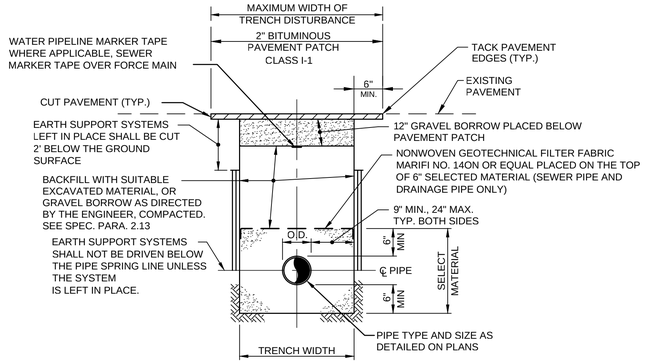
SHT. NO. 59 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 2
EROSION & SEDIMENT CONTROLS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

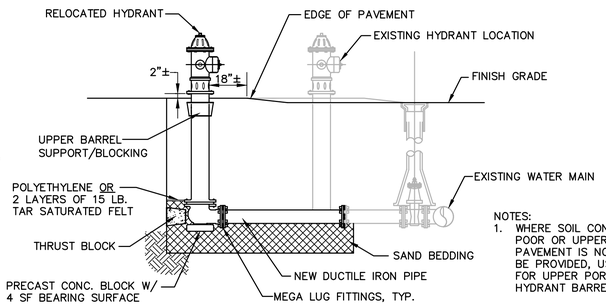


OPEN CUT TYPICAL TRENCH DETAIL FOR SEWER LATERALS, FORCE MAIN, WATER MAIN & SERVICES, AND STORM WATER DRAINAGE PIPE

NOT TO SCALE

NOTES:

1. THE HORIZONTAL LIMIT FOR ROCK EXCAVATION IN TRENCHES SHALL BE 27" BEYOND THE O.D. OF THE PIPE. THE VERTICAL LIMIT SHALL BE 6" BELOW THE O.D. OF THE PIPE. SEE PARAGRAPH 2.3 OF PROJECT SPECIFICATIONS. CONTRACTOR TO TAKE ALL ROCK QUANTITIES INDEPENDENT OF THE ENGINEER AND CONFIRM THESE QUANTITIES ON A WEEKLY BASIS WITH THE ENGINEER FOR APPROVAL. ALL APPROVED CALCULATIONS AND QUANTITIES SHALL BE SUBMITTED TO THE WSA CONSTRUCTION DIVISION WITH MONTHLY PROGRESS PAYMENT FOR REVIEW.
2. CONTRACTOR SHALL ADJUST THE WIDTH OF SAW CUT OF EXISTING PAVEMENT BASED ON ACTUAL EQUIPMENT AND EARTH SUPPORT SYSTEM USED. MAXIMUM WIDTH OF DISTURBANCE SHALL BE WIDTH OF EARTH SUPPORT SYSTEM PLUS 1'-0".
3. THE MINIMUM BURY DEPTH FOR WATER PIPE SHALL BE 5'-0" TO THE PIPE INVERT.
4. BEDDING MATERIAL FOR SEWER PIPE SHALL BE SELECT MATERIAL.
5. BEDDING MATERIAL FOR WATER PIPE SHALL BE SAND.
6. CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE AND IS RESPONSIBLE FOR REPAIR OF ALL UTILITIES DAMAGED OUTSIDE THE LIMIT OF DISTURBANCE.

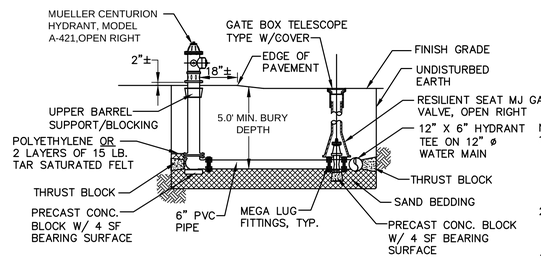


NOTES:

1. WHERE SOIL CONDITIONS ARE POOR OR UPPER RESTRAINT BY PAVEMENT IS NOT LIKELY TO BE PROVIDED, USE BLOCKING FOR UPPER PORTION OF HYDRANT BARREL.
2. THRUST BLOCKS SHALL HAVE A MINIMUM BEARING SURFACE

TYPICAL HYDRANT RELOCATION DETAIL

NOT TO SCALE



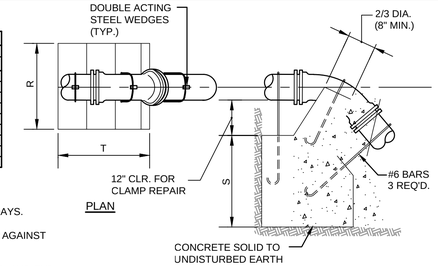
NOTES:

1. WHERE SOIL CONDITIONS ARE POOR OR UPPER RESTRAINT BY PAVEMENT IS NOT LIKELY TO BE PROVIDED, USE BLOCKING FOR UPPER PORTION OF HYDRANT BARREL.
2. THRUST BLOCKS SHALL HAVE A MINIMUM BEARING SURFACE OF 4 SQ. FT.
3. GATE VALVE REACTION BACKING SHALL HAVE A MINIMUM BEARING SURFACE OF 1 SQ. FT.

TYPICAL HYDRANT INSTALLATION DETAIL

NOT TO SCALE

ANCHORAGES						
BEND		PIPE SIZE-D (DIA.)				
		6"	8"	12"	16"	20"
1/8	R	2'-6"	3'-0"	4'-6"	5'-4"	6'-0"
	S	2'-6"	2'-9"	3'-6"	2'-6"	5'-6"
	T	3'-0"	4'-0"	4'-9"	7'-0"	9'-6"
1/16	R	2'-0"	2'-8"	4'-0"	4'-6"	5'-0"
	S	1'-9"	2'-3"	2'-6"	3'-2"	3'-8"
	T	2'-6"	3'-4"	4'-0"	6'-0"	8'-6"
1/32	R	1'-6"	2'-0"	3'-0"	3'-8"	4'-3"
	S	1'-3"	1'-9"	2'-0"	2'-4"	2'-6"
	T	2'-0"	2'-6"	3'-0"	4'-6"	5'-9"



PLAN

ELEVATION

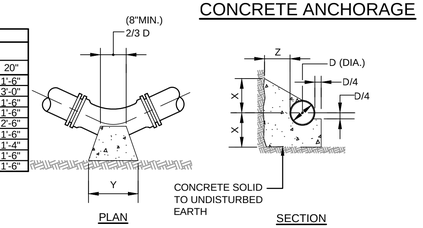
NOTES:

1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS.
2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
3. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.

CONCRETE ANCHORAGE

VERTICAL BENDS						
BEND		PIPE SIZE-D (DIA.)				
		6"	8"	12"	16"	20"
1/8	L	1'-3"	1'-8"	2'-6"	3'-6"	4'-8"
	M	7"	8"	11"	1'-4"	1'-6"
	N	7"	8"	11"	1'-4"	1'-6"
1/16	L	9"	1'-0"	1'-9"	2'-6"	3'-0"
	M	7"	7"	10"	1'-0"	1'-2"
	N	7"	7"	8"	10"	1'-0"
1/32	L	6"	8"	1'-0"	1'-4"	1'-9"
	M	7"	7"	10"	1'-0"	1'-2"
	N	7"	7"	8"	10"	1'-0"

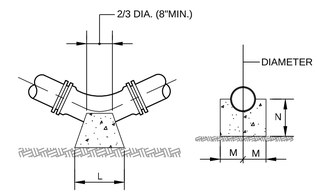
HORIZONTAL BENDS						
BEND		PIPE SIZE-D (DIA.)				
		6"	8"	12"	16"	20"
1/8	X	1'-0"	1'-0"	1'-0"	1'-3"	1'-6"
	Y	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"
	Z	8"	10"	1'-2"	1'-4"	1'-6"
1/16	X	1'-0"	1'-0"	1'-0"	1'-3"	1'-6"
	Y	1'-0"	1'-4"	1'-6"	1'-9"	2'-6"
	Z	8"	10"	1'-2"	1'-4"	1'-6"
1/32	X	1'-0"	1'-0"	1'-0"	1'-2"	1'-4"
	Y	1'-0"	1'-0"	1'-2"	1'-4"	1'-6"
	Z	8"	10"	1'-2"	1'-4"	1'-6"



PLAN

SECTION

HORIZONTAL BENDS

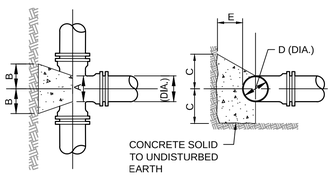


ELEVATION

SECTION

VERTICAL BENDS

TEES					
		PIPE SIZE-D (DIA.)			
		6"	8"	12"	16"	20"
	A	8"	10"	1'-0"	1'-3"	1'-6"
	B	8"	10"	1'-2"	1'-4"	1'-6"
	C	10"	1'-0"	1'-3"	1'-6"	1'-8"
	E	8"	10"	1'-2"	1'-6"	1'-10"
END CAPS						
	A	6"	8"	1'-0"	1'-4"	1'-8"
	B	8"	10"	1'-2"	1'-6"	1'-10"
	C	8"	10"	1'-2"	1'-6"	1'-10"
	E	8"	10"	1'-2"	1'-6"	1'-10"



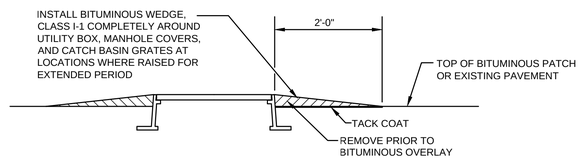
PLAN

SECTION

TEES and END CAPS

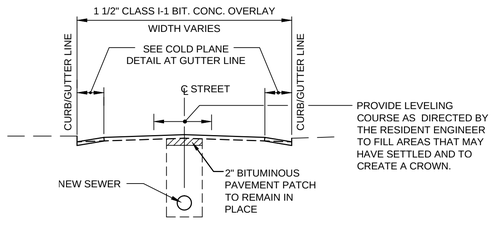
WATER MAIN THRUST BLOCK DETAILS

NOT TO SCALE



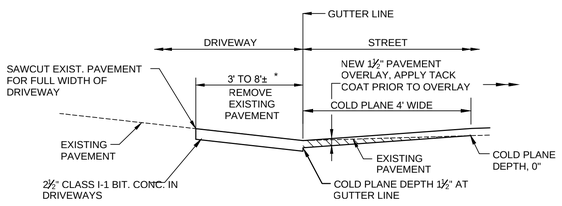
BITUMINOUS WEDGE DETAIL

NOT TO SCALE



NEW 1 1/2" BITUMINOUS CONCRETE OVERLAY DETAIL

NOT TO SCALE

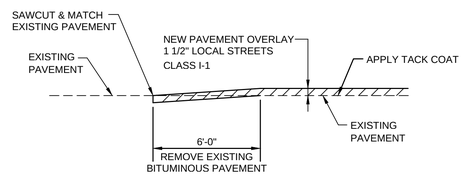


* THE CONTRACTOR MAY INCREASE OR DECREASE THIS DIMENSION AS FIELD CONDITIONS WARRANT.

NOTE: STREET OVERLAY AND DRIVEWAY SURFACE COURSE SHALL BE PLACED AT THE SAME TIME.

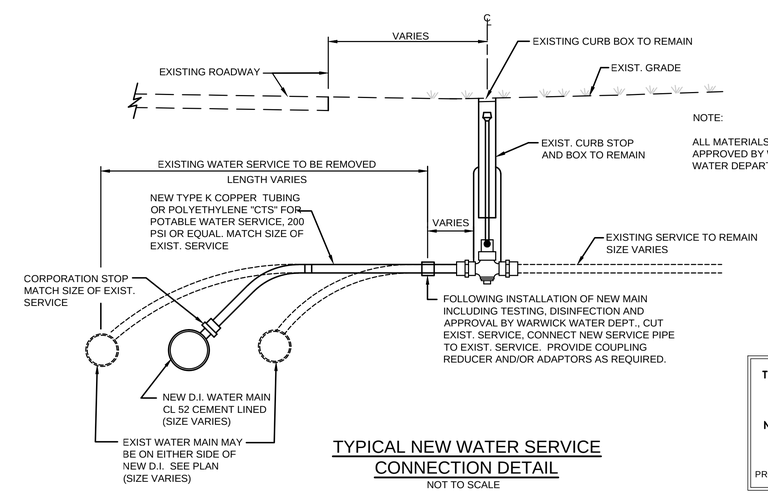
COLD PLANE DETAIL AT GUTTER LINE

NOT TO SCALE



CUT & MATCH DETAIL, LOCAL STREETS

NOT TO SCALE



NOTE:

ALL MATERIALS TO BE APPROVED BY WARWICK WATER DEPARTMENT.

TYPICAL NEW WATER SERVICE CONNECTION DETAIL

NOT TO SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

SHT. NO. 60 OF 75

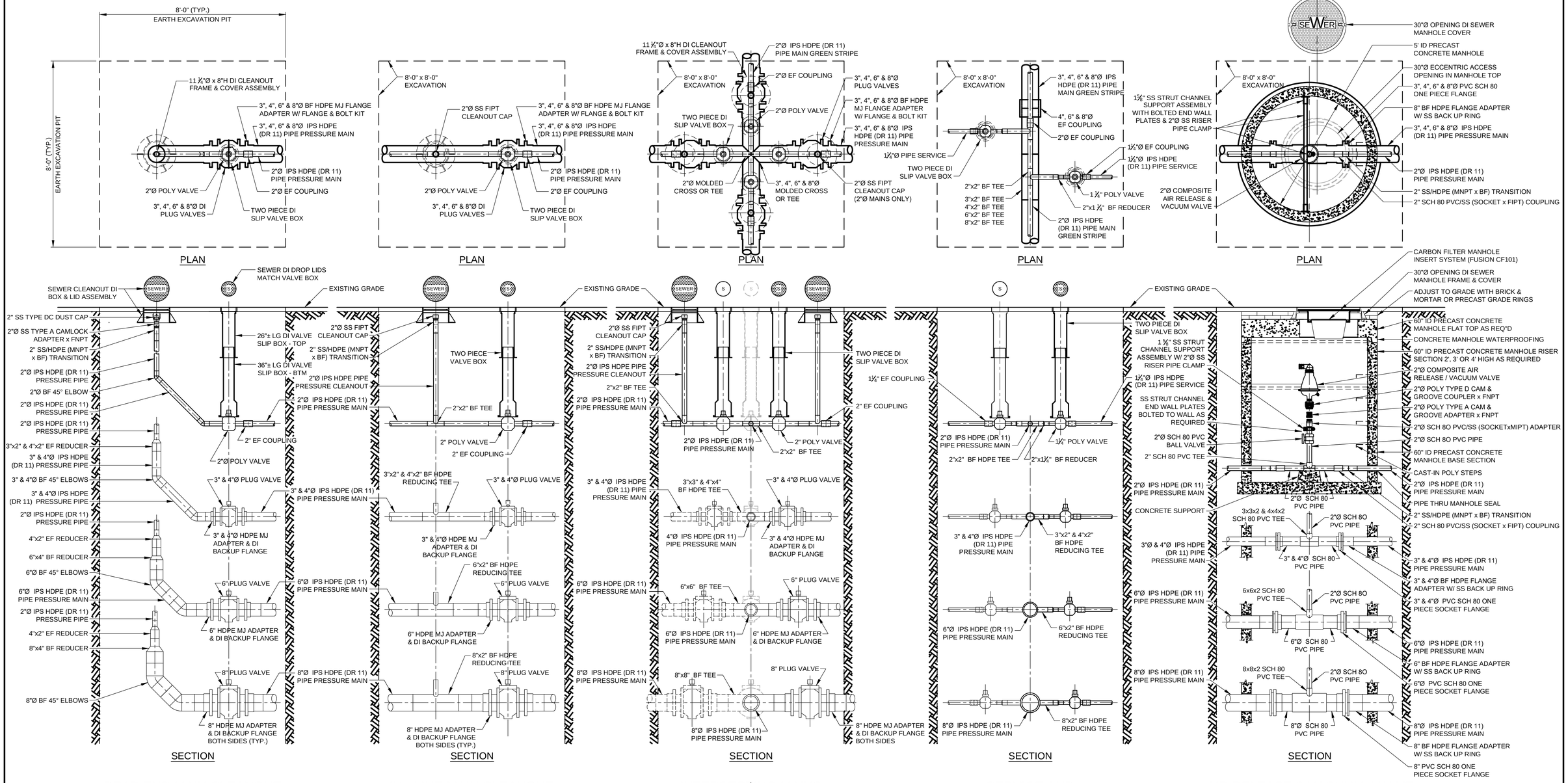
FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 3

PAVEMENT & WATER

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



DEAD END MAIN CLEANOUT AND VALVE DETAILS TYPE A

IN - LINE MAIN CLEANOUT AND VALVE DETAILS TYPE B

INTERSECTING MAINS AND VALVE DETAILS TYPE C

SERVICE AND VALVE DETAILS TYPE D

AIR RELEASE & VACUUM VALVE SEWER MANHOLE DETAILS

TRENCHLESS TECHNOLOGIES

NOT TO SCALE

NOTES

1. A 1½"Ø STAINLESS STEEL CHECK VALVE SHALL BE INSTALLED AT END OF EACH SERVICE PIPE NEAR THE PUMP CHAMBER.

LEGEND

BF - BUTT FUSION
EF - ELECTRO FUSION
MJ - MECHANICAL JOINT

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

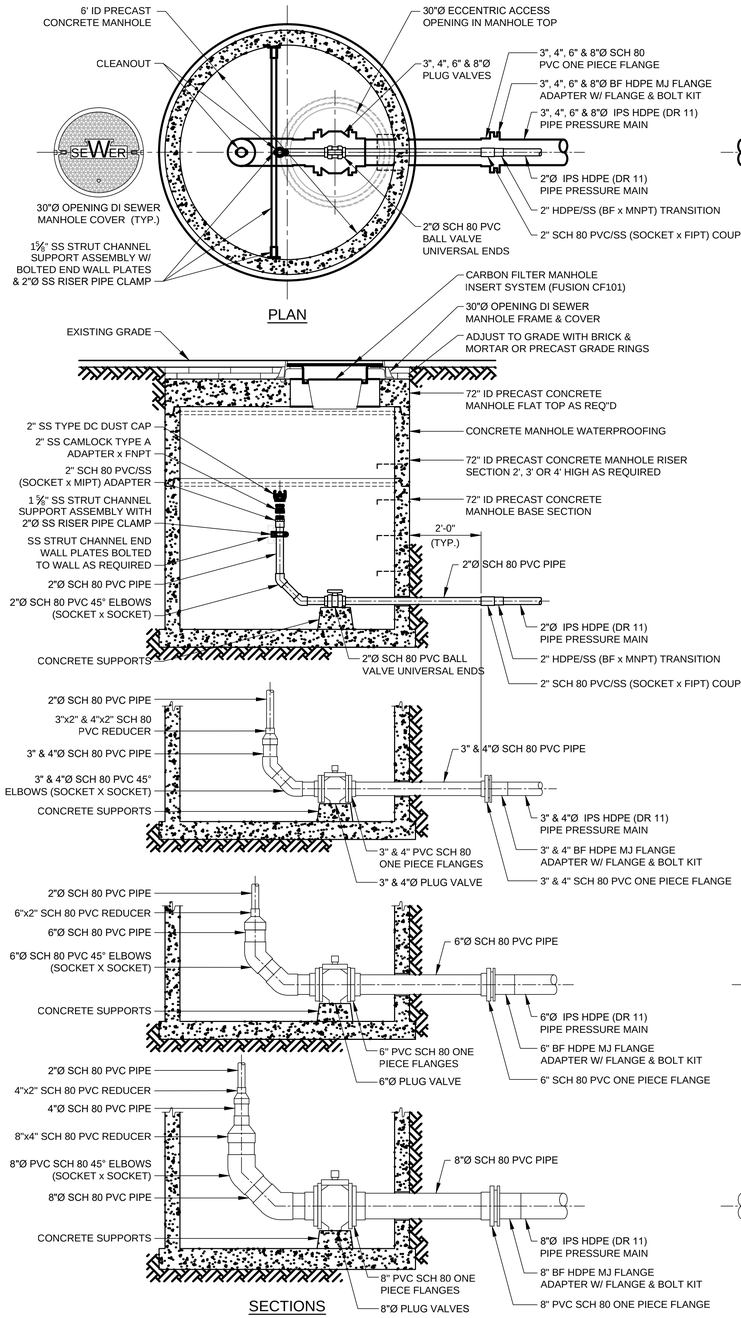
WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019
SCALE AS SHOWN
SHT. NO. 61 OF 75
FILE NO. 998

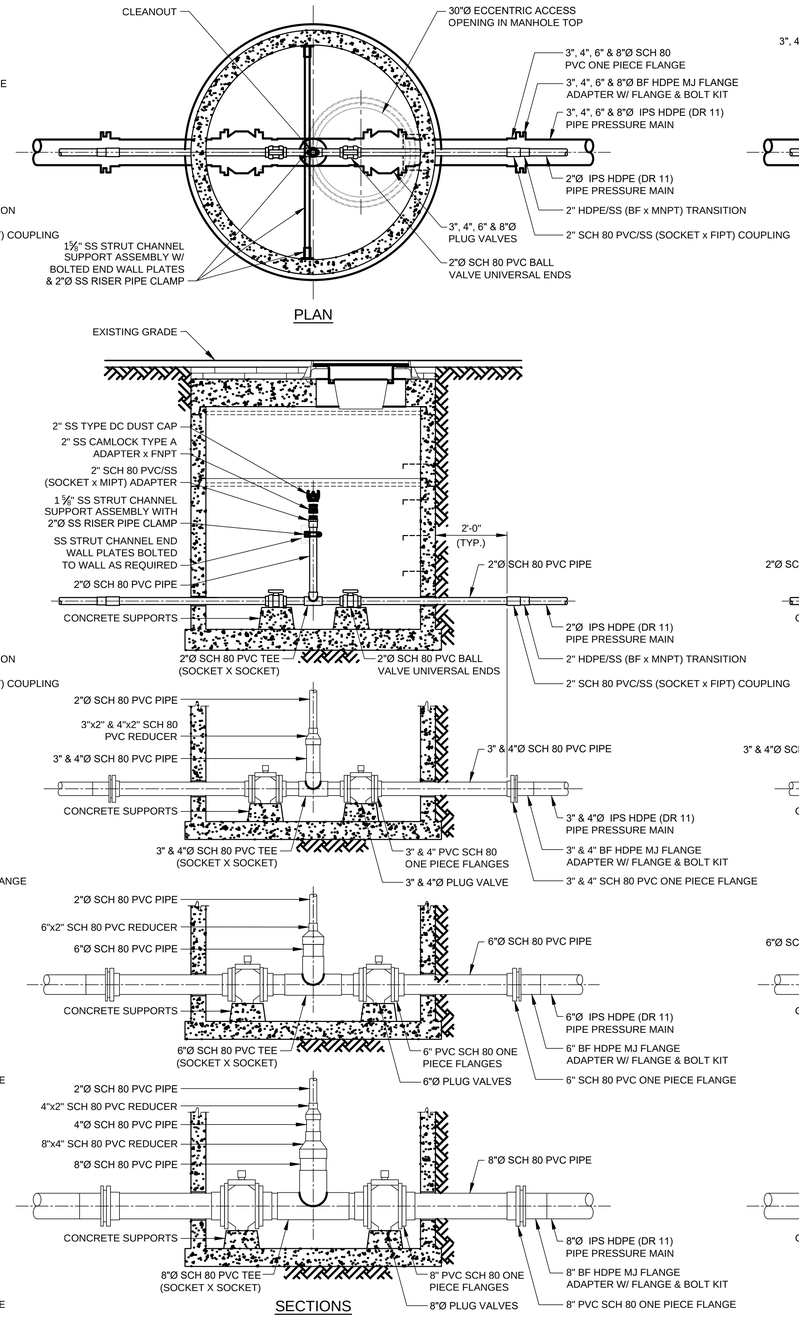
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 4
TRENCHLESS TECHNOLOGIES

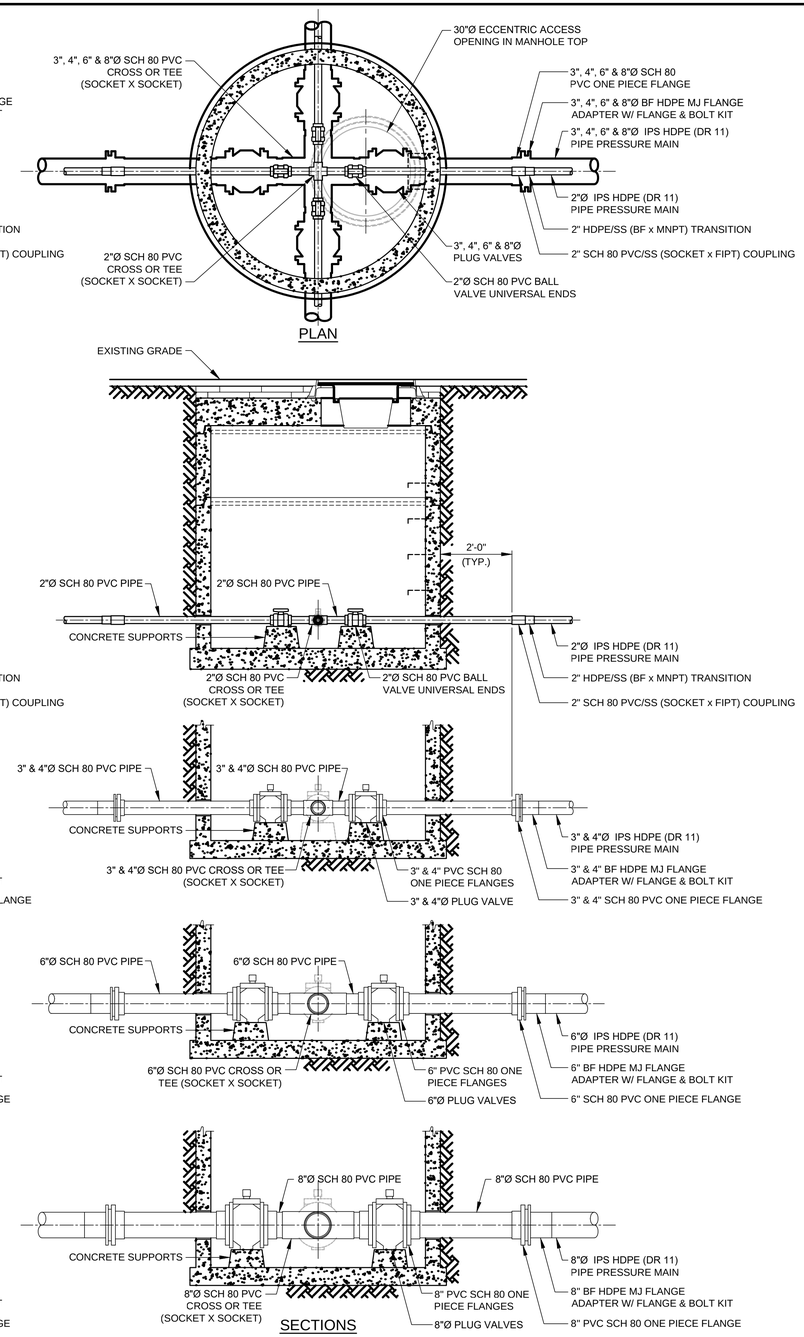
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



DEAD END MAIN CLEANOUT AND VALVE DETAILS



IN-LINE MAIN CLEANOUT AND VALVE DETAILS



INTERSECTING MAINS AND VALVE DETAILS

OPEN TRENCH EXCAVATIONS MANHOLE DETAILS

NOT TO SCALE

LEGEND

BF - BUTT FUSION
EF - ELECTRO FUSION
MJ - MECHANICAL JOINT

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE AS SHOWN

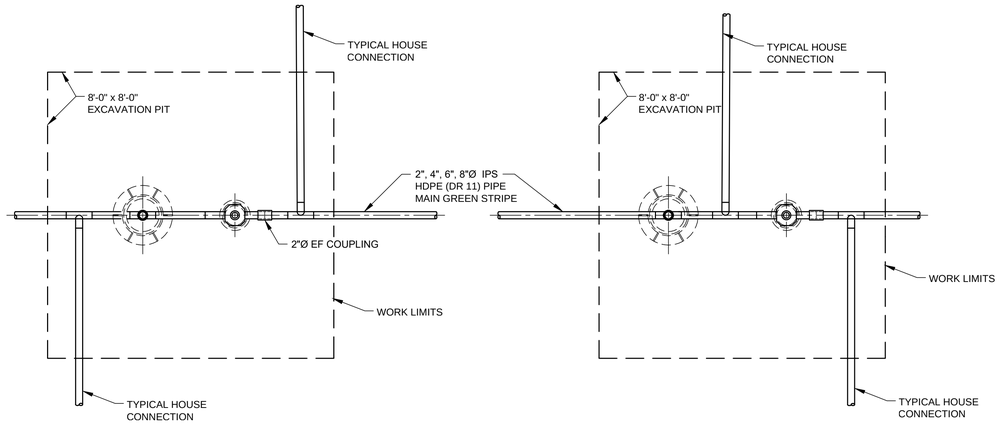
SHT. NO. 62 OF 75

FILE NO. 998

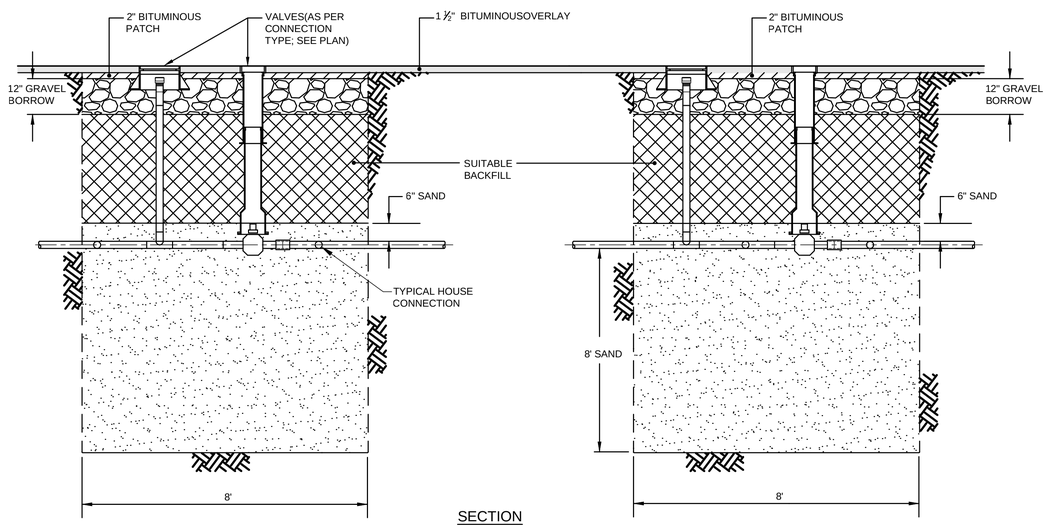
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 5
OPEN TRENCH EXCAVATIONS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



PLAN



SECTION

TYPICAL EXCAVATION PITS

NOT TO SCALE

TODD A. RAVENELLE
No. 5928
REGISTERED PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

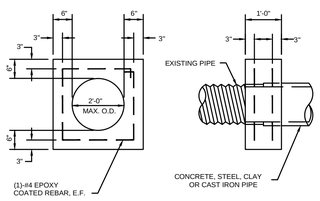
SHT. NO. 63 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 6
EXCAVATION PITS

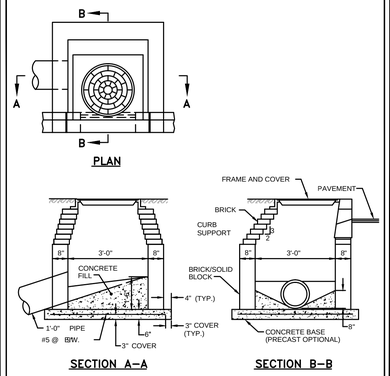
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE R.I. STANDARD SPECIFICATIONS.
2. MAXIMUM PIPE DIAMETER FOR USE OF CONNECTING COLLAR IS 2'-0".
3. PIPE WITH LARGEST OUTSIDE DIAMETER USED TO DETERMINE SIZE OF COLLAR.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

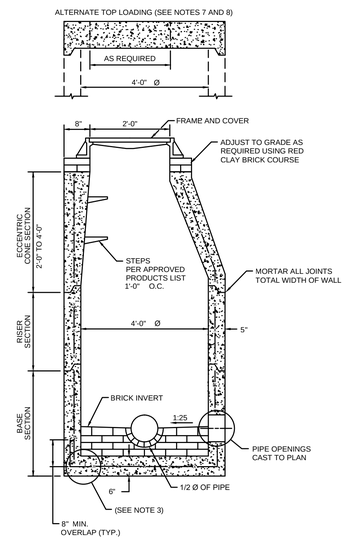
REVISIONS NO.	BY	DATE	CONCRETE CONNECTING COLLAR	R.I. STANDARD 1.3.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. 1/2" CEMENT MORTAR PLASTER COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE	BRICK/SOLID BLOCK DROP INLET	R.I. STANDARD 3.6.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN. / LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF (BOTH DIRECTIONS) 0.15 SQ. IN./LIN. FT.
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE	PRECAST 4'–0" ROUND MANHOLE	R.I. STANDARD 4.2.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	

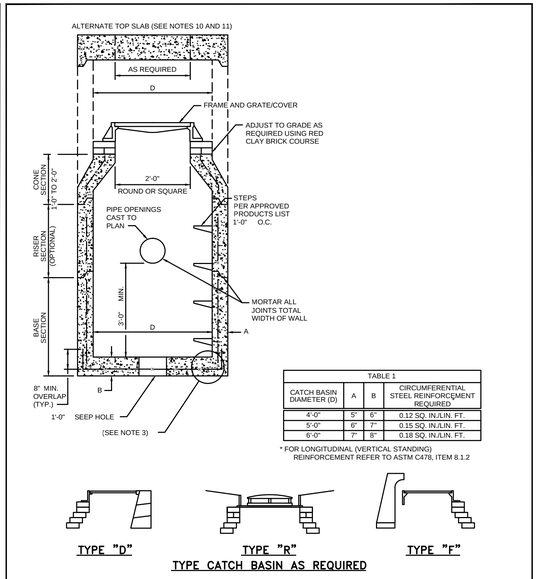


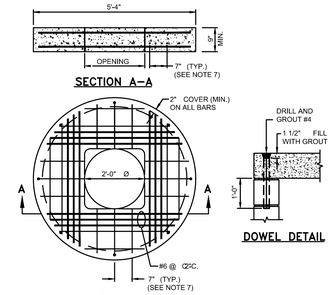
TABLE 1			
CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF (BOTH DIRECTIONS) 0.15 SQ. IN./LIN. FT.
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 12" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

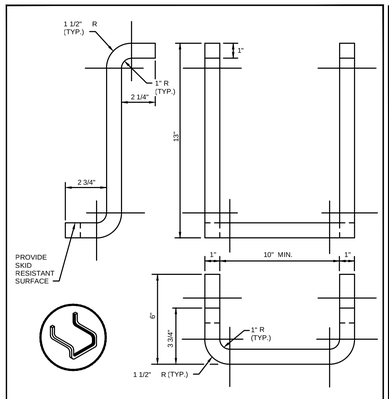
REVISIONS NO.	BY	DATE	PRECAST 4'–0", 5'–0", OR 6'–0" ROUND CATCH BASIN	R.I. STANDARD 4.4.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE CENTERLINE OF THE OPENING MUST BE WITHIN 12" FROM THE STEPS.
3. TOP SLAB HAS BEEN REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB IS DESIGNED FOR AXLE LOADS OF NO MORE THAN 20 TONS.
4. ALL REBARS ARE TO HAVE A MINIMUM 1" CLEARANCE FROM OPENING.
5. PRECAST SECTION SHALL BE LIFTED USING APPROVED LIFTING LUGS LOCATED SUCH THAT NO DAMAGE TO THE SLAB OCCURS.
6. DOWEL HOLES IN COVER TO BE FORMED OR CORED BY THE FABRICATOR.
7. ALL REBARS IN THE BOTTOM MAT ARE #5 @ 6", BOTH WAYS, WITH MINIMUM 2" COVER, EXCEPT FOR REBARS ADJACENT TO THE OPENING. THESE REBARS SHALL BE #6 (SHOWN WITH HEAVIER LINE FOR CLARITY). REBARS IN THE TOP MAT ARE #6 BARS PLACED ADJACENT TO THE OPENING, BOTH WAYS, WITH MINIMUM 2" COVER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

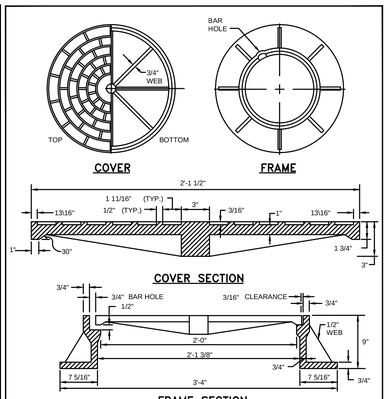
REVISIONS NO.	BY	DATE	CONCRETE COVER FOR SHALLOW 4'–0" ROUND MANHOLES	R.I. STANDARD 4.6.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. STEPS SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. CROSS SECTION AREA MAY BE REDUCED UPON SUBMISSION OF CERTIFIED LOAD TESTS. STEPS MUST SUPPORT 300 LBS.
3. STOCK SHOWN IS 12" SQUARE WHICH MAY BE REPLACED BY 12" DIAMETER.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

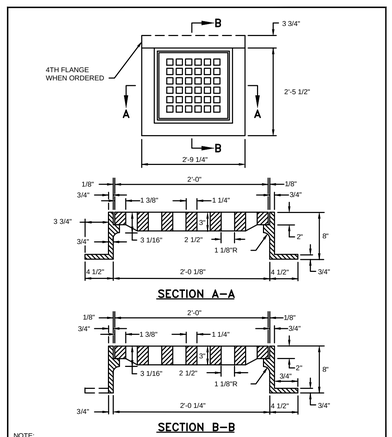
REVISIONS NO.	BY	DATE	CATCH BASIN AND MANHOLE STEP	R.I. STANDARD 5.3.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

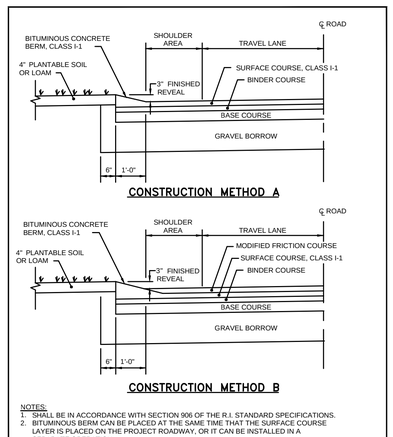
REVISIONS NO.	BY	DATE	HEAVY–DUTY ROUND FRAME AND COVER	R.I. STANDARD 6.2.1
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTE:
FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE	SQUARE FRAME AND GRATE	R.I. STANDARD 6.3.0
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE	BITUMINOUS BERM	R.I. STANDARD 7.5.1
1	MLP	Mar 05	CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION / JUNE 15, 1998 ISSUE DATE	

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

			DRAWN LBD
			CHECKED TAR
			APPROVED
			DATE NOV 2019
			SCALE AS SHOWN
REV.NO.	DESCRIPTION	DATE	INT.
APPROVED			SHT. NO. 64 OF 75
WARWICK SEWER AUTHORITY			FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

DETAILS - 7
RI STANDARDS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1"=100'

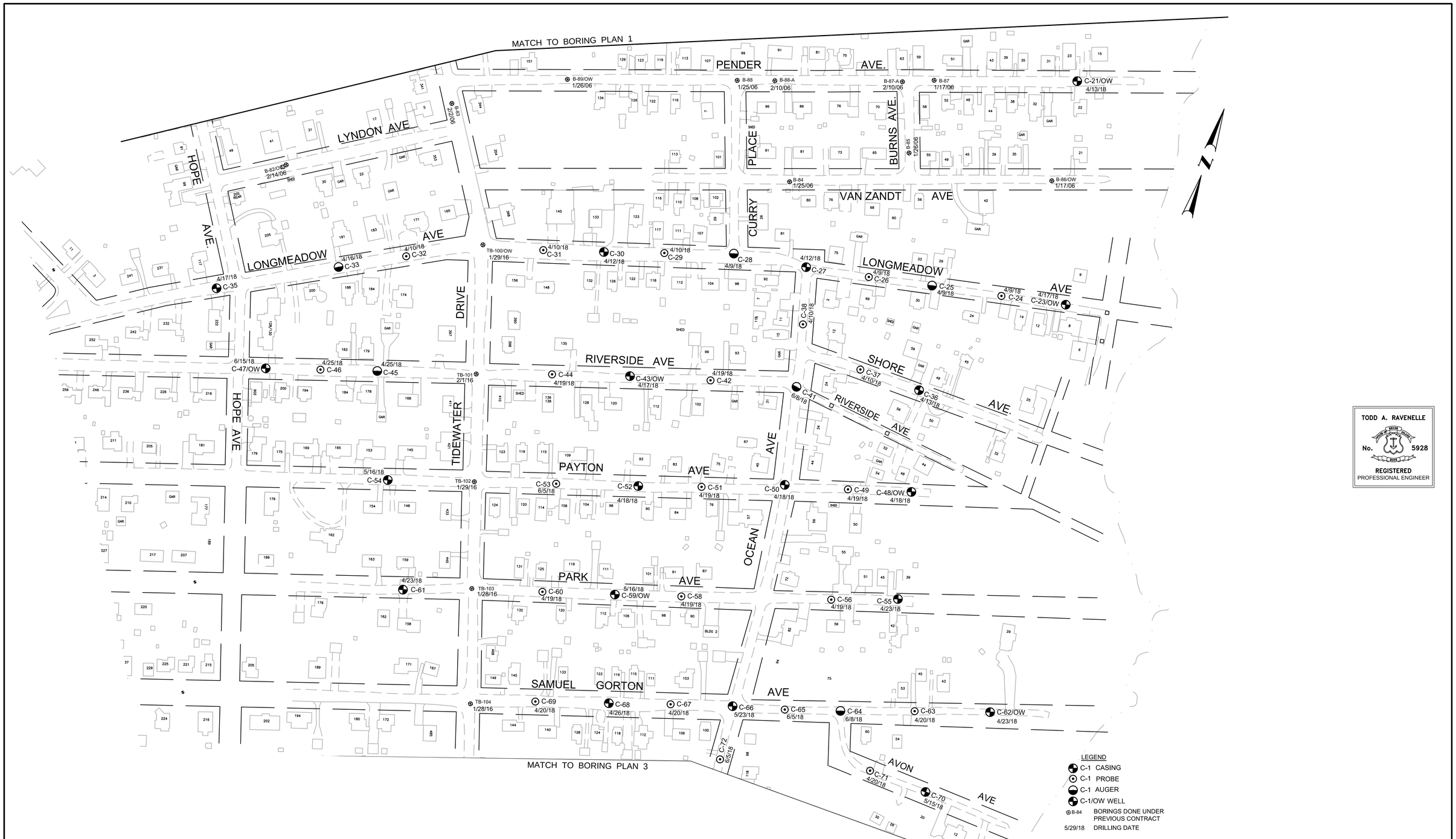
SHT. NO. 65 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BORING LOCATION PLAN 1

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1'=100'

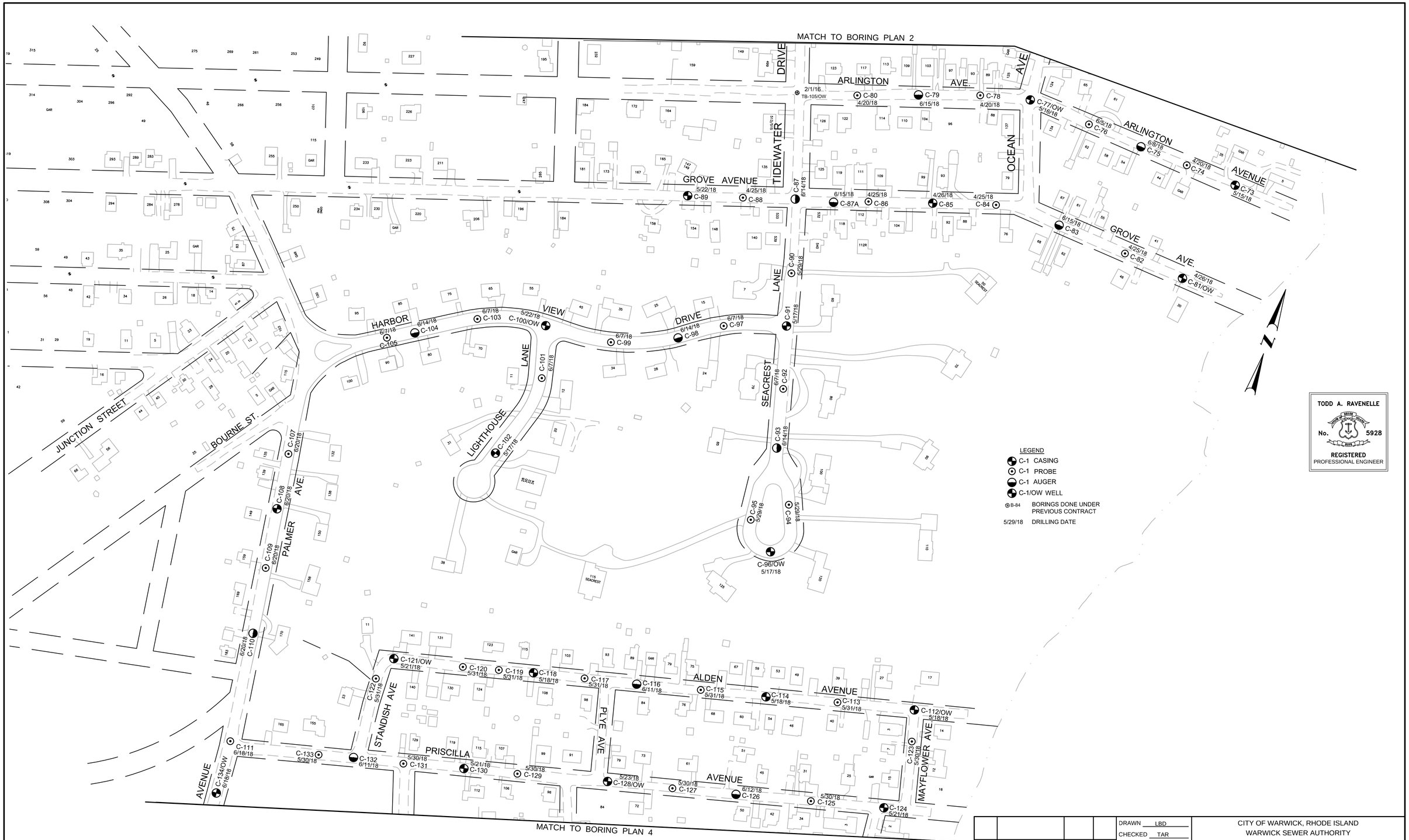
SHT. NO. 66 OF 75

FILE NO. 998

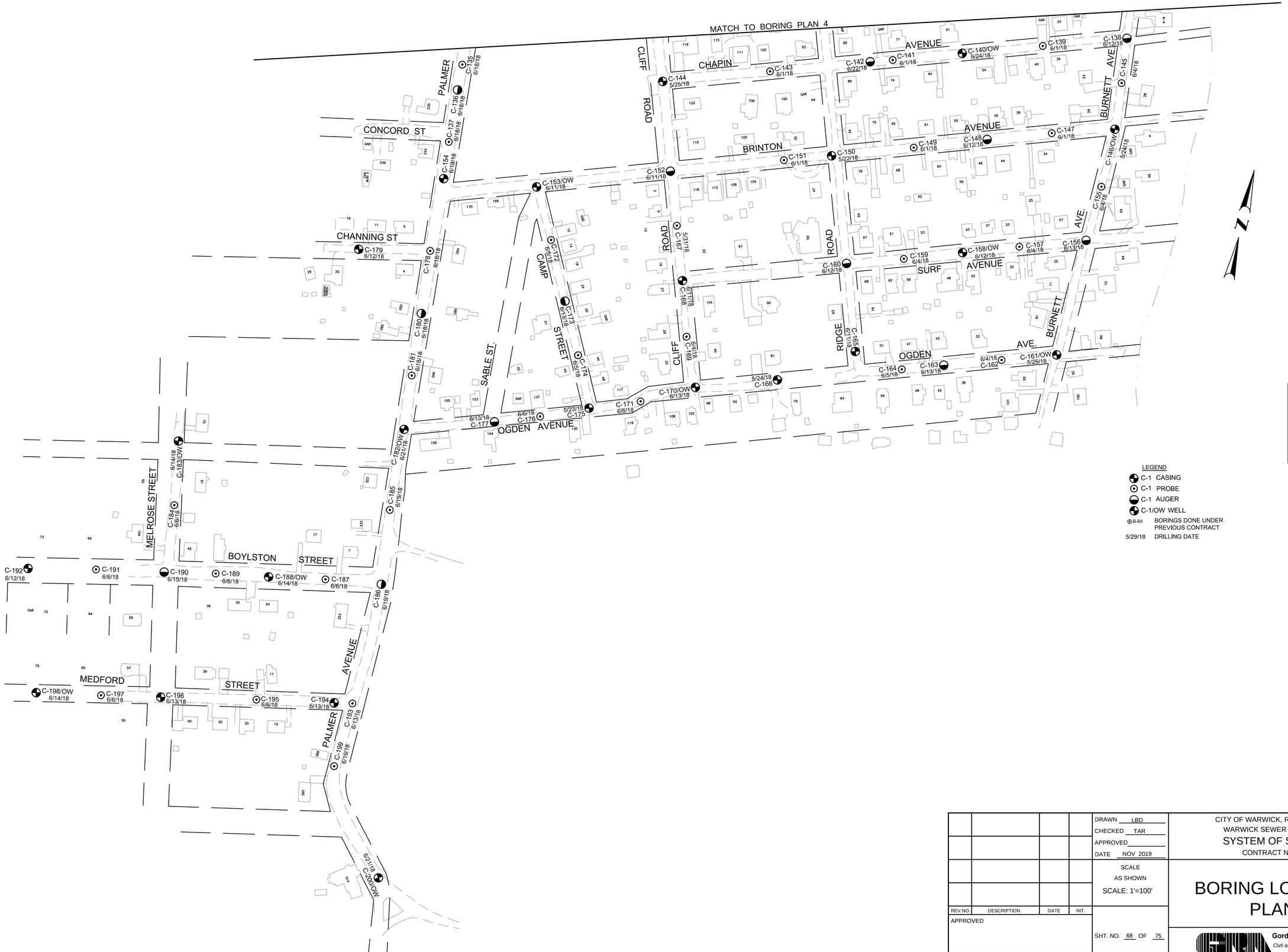
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BORING LOCATION PLAN 2

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



				DRAWN LBD	CITY OF WARWICK, RHODE ISLAND WARWICK SEWER AUTHORITY SYSTEM OF SEWERS CONTRACT NO. 86B
				CHECKED TAR	
				APPROVED	
				DATE NOV 2019	
				SCALE AS SHOWN SCALE: 1'=100'	BORING LOCATION PLAN 3
REV.NO.	DESCRIPTION	DATE	INT.		
APPROVED				SHT. NO. 67 OF 75	Gordon R. Archibald, Inc. Civil and Environmental Engineers Pawtucket, Rhode Island
WARWICK SEWER AUTHORITY				FILE NO. 998	



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

LEGEND

- C-1 CASING
- C-1 PROBE
- C-1 AUGER
- C-1/OW WELL
- B-84 BORINGS DONE UNDER PREVIOUS CONTRACT
- 5/29/18 DRILLING DATE

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1'=100'

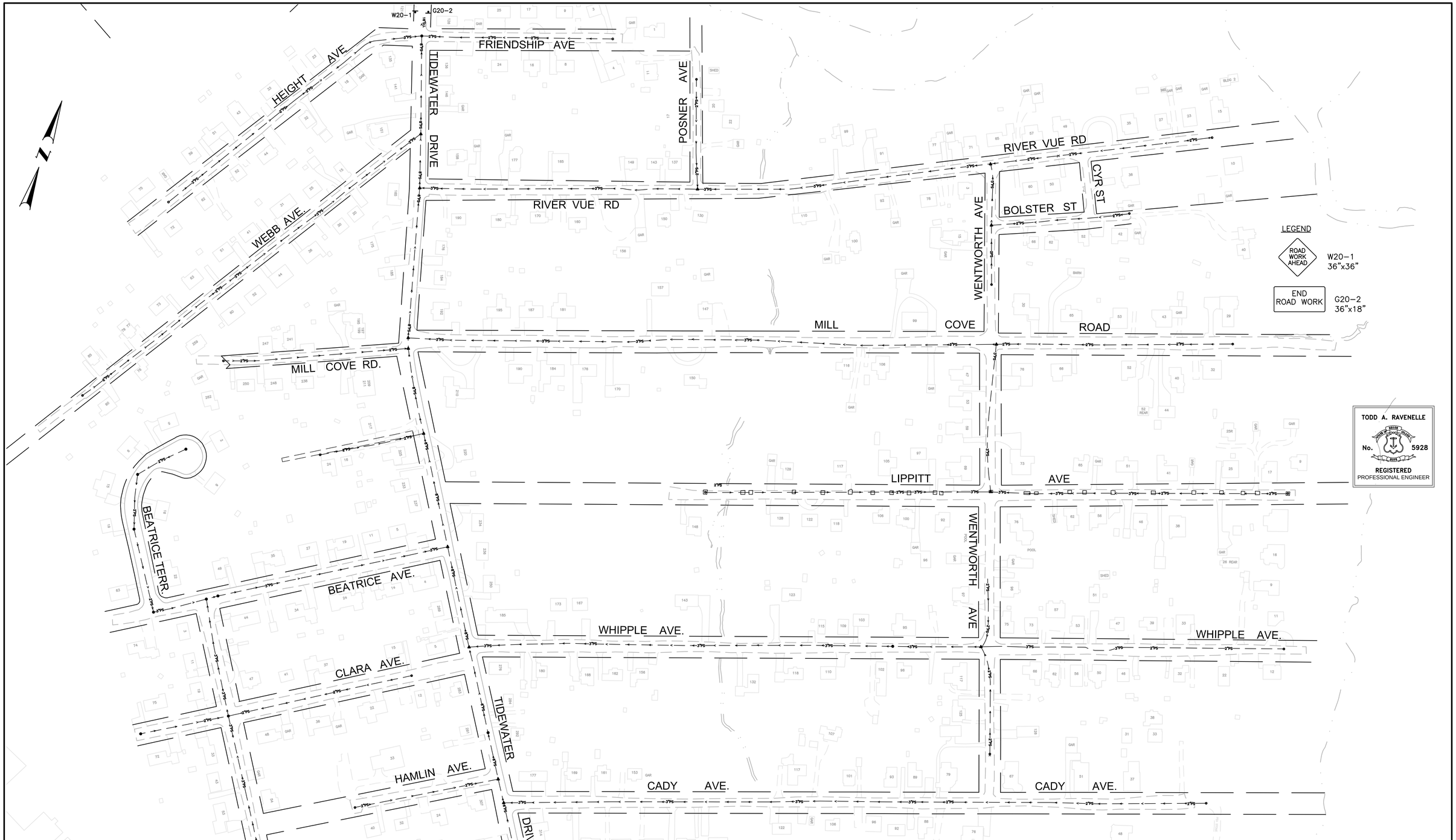
SHT. NO. 68 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

BORING LOCATION PLAN 4

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1"=100'

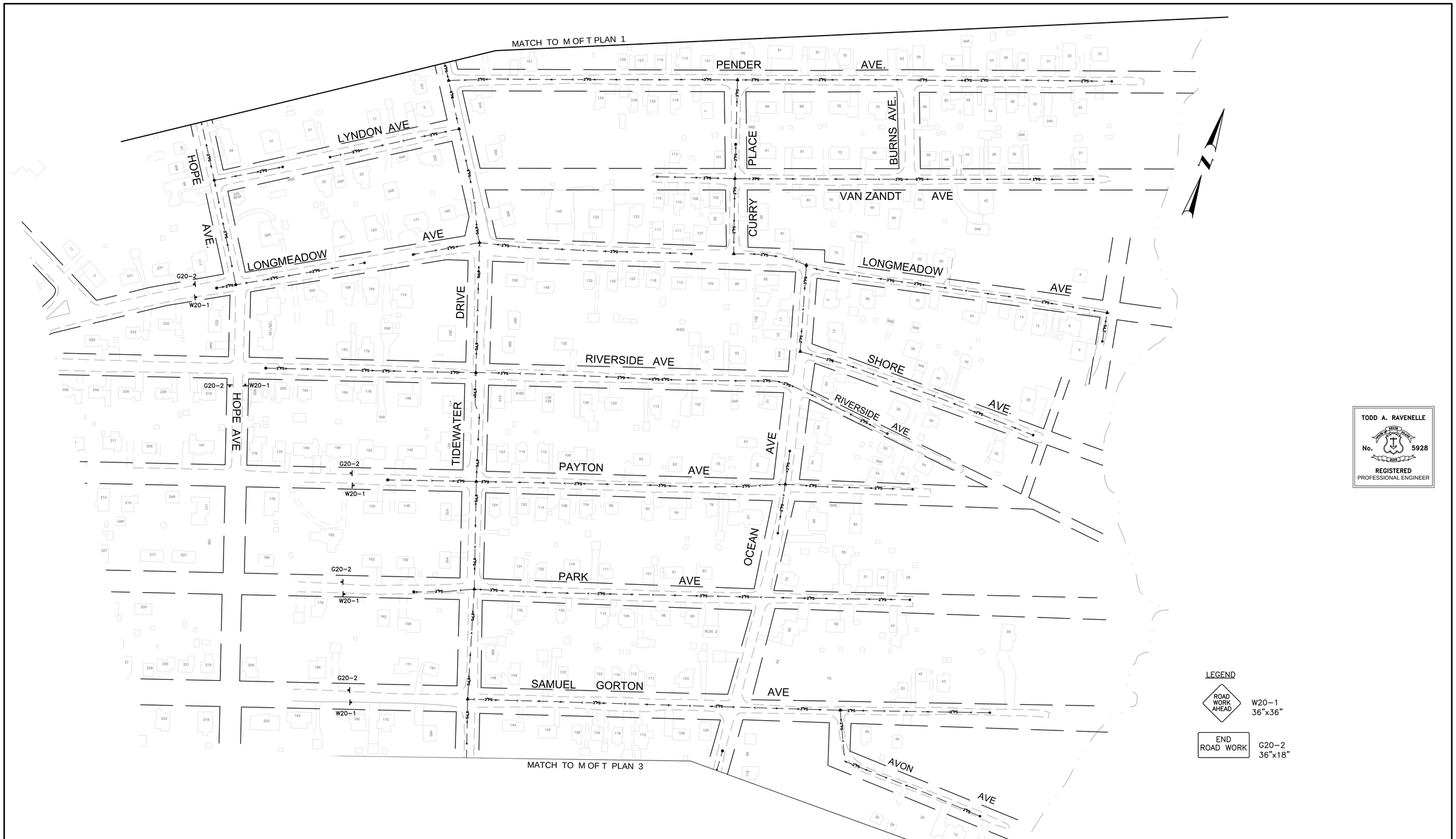
SHT. NO. 69 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MAINTENANCE & PROTECTION OF TRAFFIC PLAN 1 ADVANCE WARNING SIGNS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



LEGEND

ROAD WORK AHEAD — W20-1 36"x36"

END ROAD WORK — G20-2 36"x18"

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1'=100'

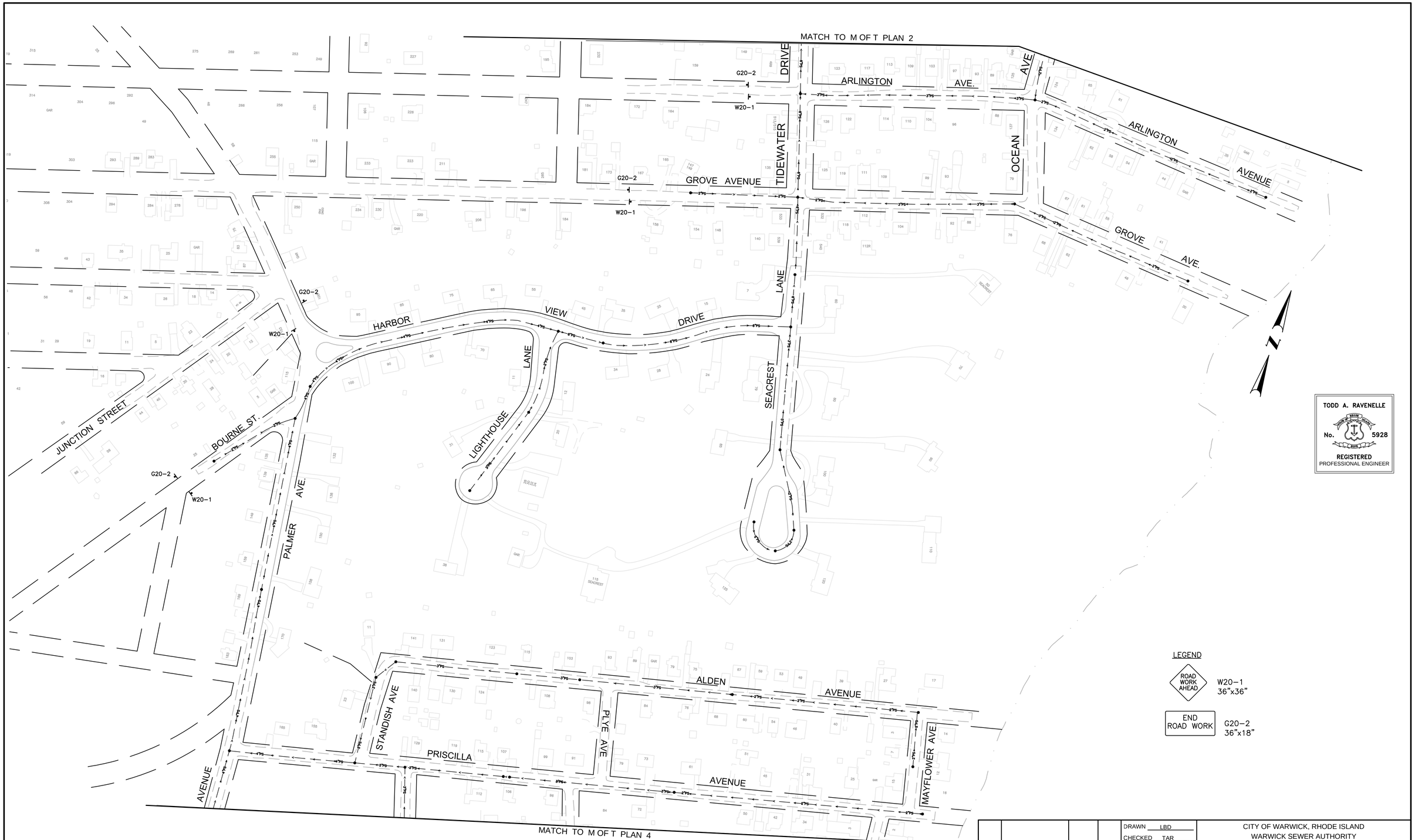
SHT. NO. 70 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MAINTENANCE & PROTECTION OF TRAFFIC PLAN 2 ADVANCE WARNING SIGNS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

LEGEND

ROAD WORK AHEAD — W20-1 36"x36"

END ROAD WORK — G20-2 36"x18"

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1'=100'

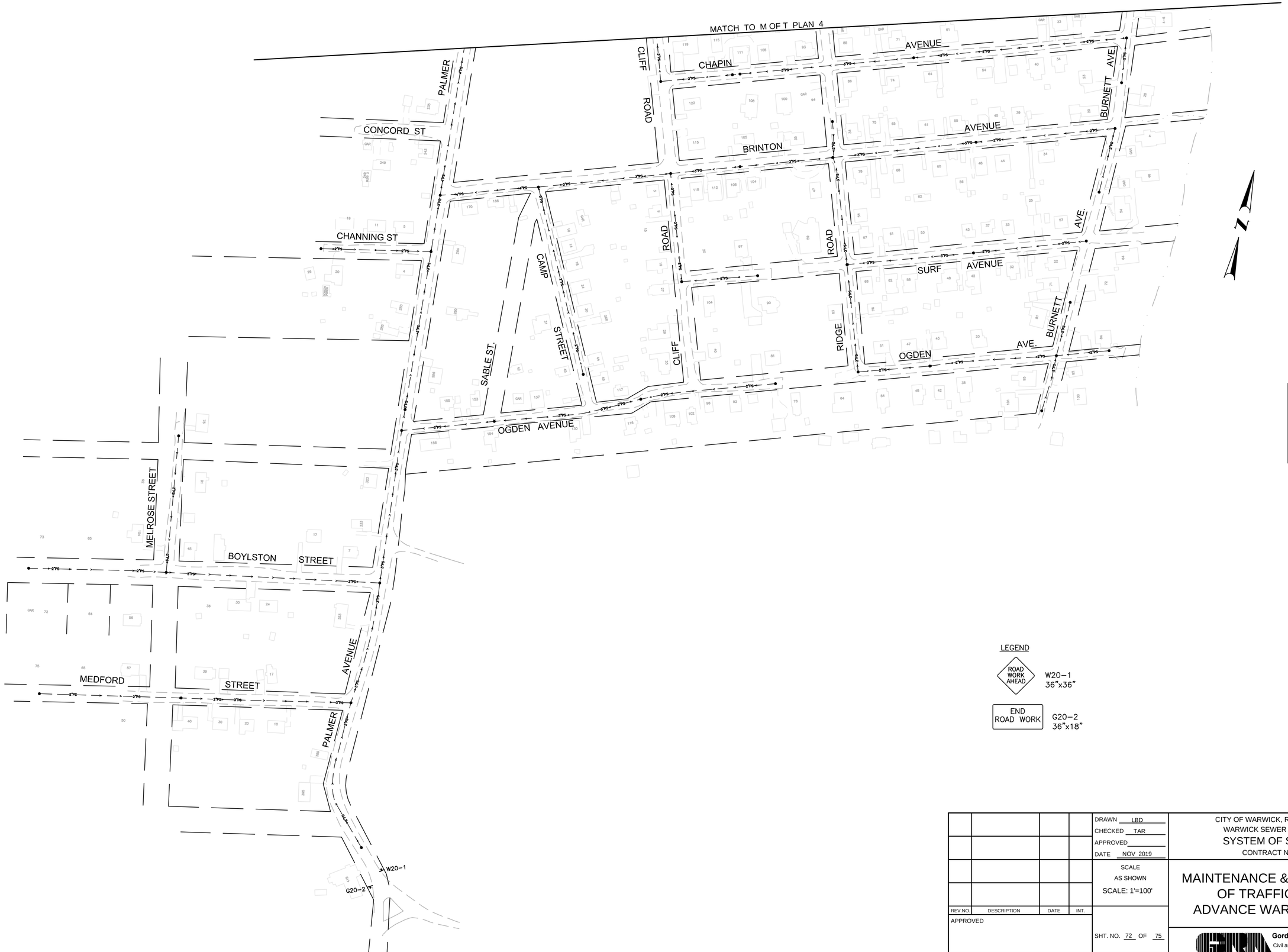
SHT. NO. 71 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MAINTENANCE & PROTECTION OF TRAFFIC PLAN 3 ADVANCE WARNING SIGNS

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



LEGEND

ROAD WORK AHEAD — W20-1 36"x36"

END ROAD WORK — G20-2 36"x18"

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN
SCALE: 1'=100'

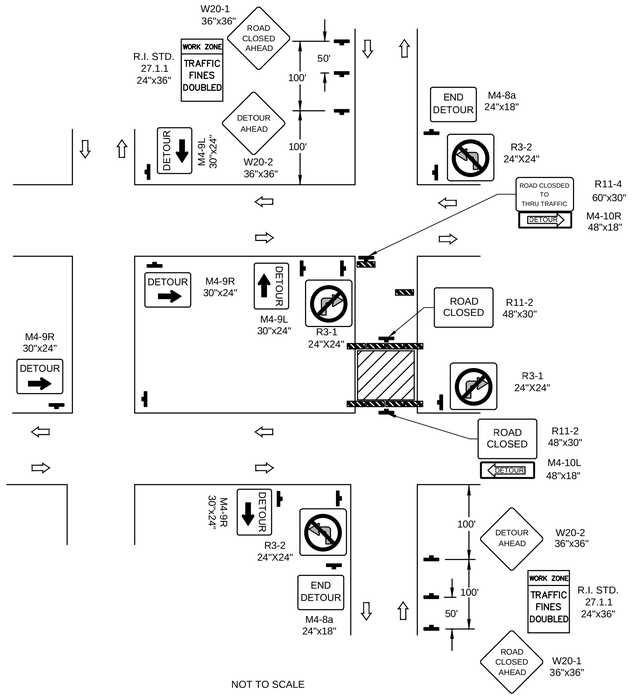
SHT. NO. 72 OF 75

FILE NO. 998

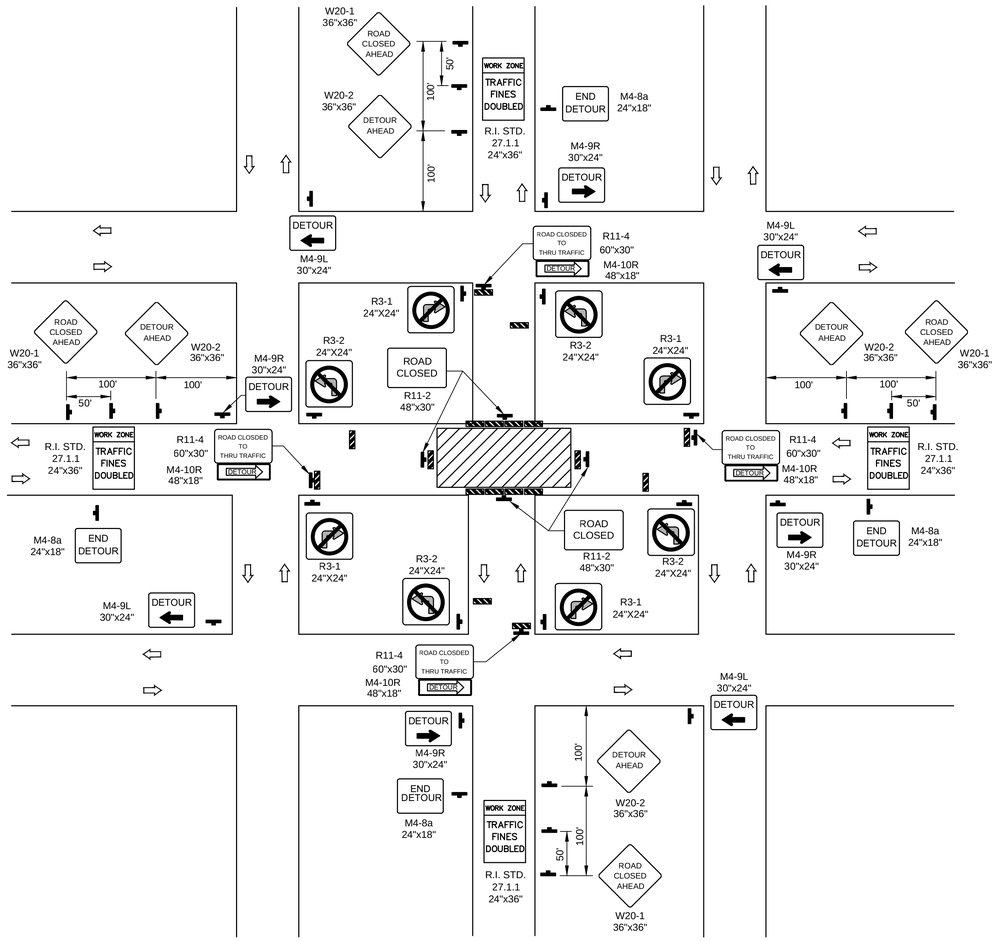
CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MAINTENANCE & PROTECTION OF TRAFFIC PLAN 4 ADVANCE WARNING SIGNS

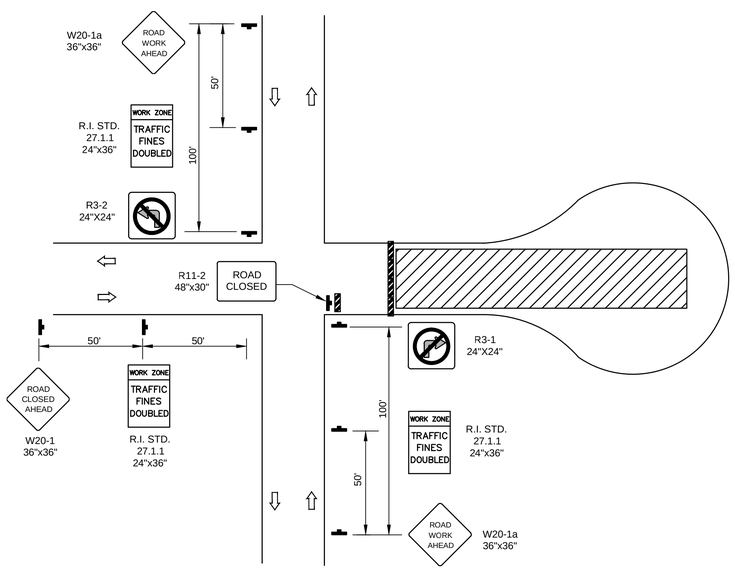
Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



NOT TO SCALE



NOT TO SCALE



NOT TO SCALE

LEGEND

- CHANNELIZING DEVICE
  - TRAFFIC CONE (R.I. STD. 26.1.0)
  - STD. DRUM (R.I. STD. 26.2.0)
- SIGN ON PORTABLE SIGN SUPPORT
- TYPE III PLASTIC PIPE BARRICADE (R.I. STD. 26.3.0)
- TRAFFIC PERSON
- WORK SPACE
- DIRECTION OF TRAVEL

NOTES:

1. THIS PLAN SHOULD BE USED FOR STREETS WITHOUT POSTED ROUTE NUMBERS.
2. ON MULTI-LANE STREETS, DETOUR SIGNS WITH AN ADVANCE TURN ARROW SHOULD BE USED IN ADVANCE OF A TURN.
3. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.
4. FLASHING WARNING LIGHTS MAY BE USED ON TYPE 3 BARRICADES.
5. DETOUR SIGNS MAY BE LOCATED ON THE FAR SIDE OF INTERSECTIONS. A DETOUR SIGN WITH AN ADVANCE TURN ARROW MAY BE USED IN ADVANCE OF A TURN.

TAPER LENGTHS

$L = \frac{WS^2}{60}$ FOR S ≥ 40 MPH

L = W X S FOR S ≥ 45 MPH

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET

S = POSTED SPEED, OFF-PEAK 85'th PERCENTILE SPEED PRIOR TO STARTING WORK, OR THE ANTICIPATED OPERATING SPEED IN MPH

ADVANCED WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS			
	A	B	C	D
URBAN (LOW SPEED)	100	100	100	50
URBAN (HIGH SPEED)	350	350	350	50-200
RURAL	500	500	500	200-400
EXPRESSWAY/FREEWAY	1,000	1,500	2,680	400-800

TODD A. RAVENELLE
No. 5928
REGISTERED
PROFESSIONAL ENGINEER

REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

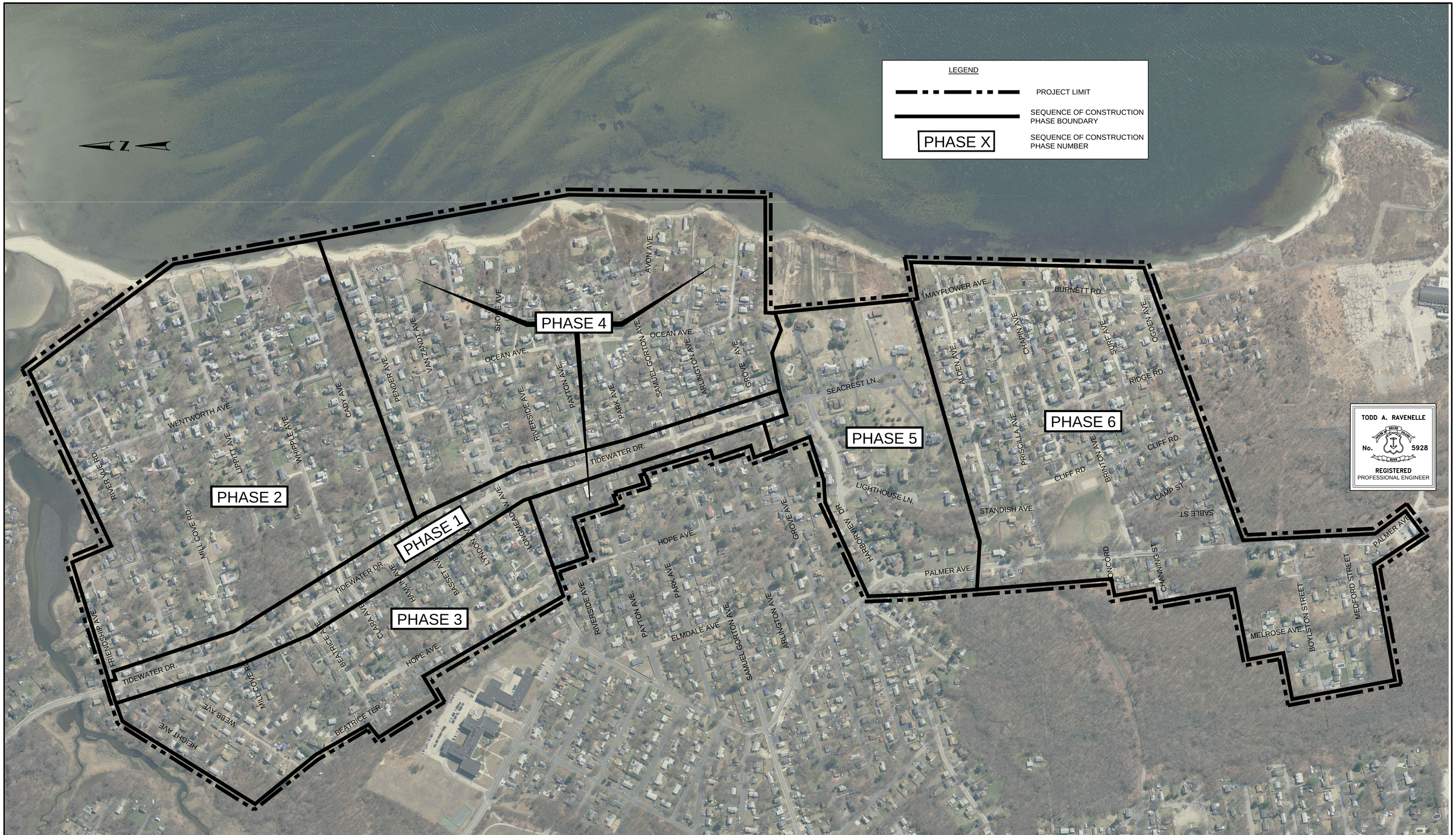
SHT. NO. 73 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

MAINTENANCE & PROTECTION OF TRAFFIC DETAILS -5

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
AS SHOWN

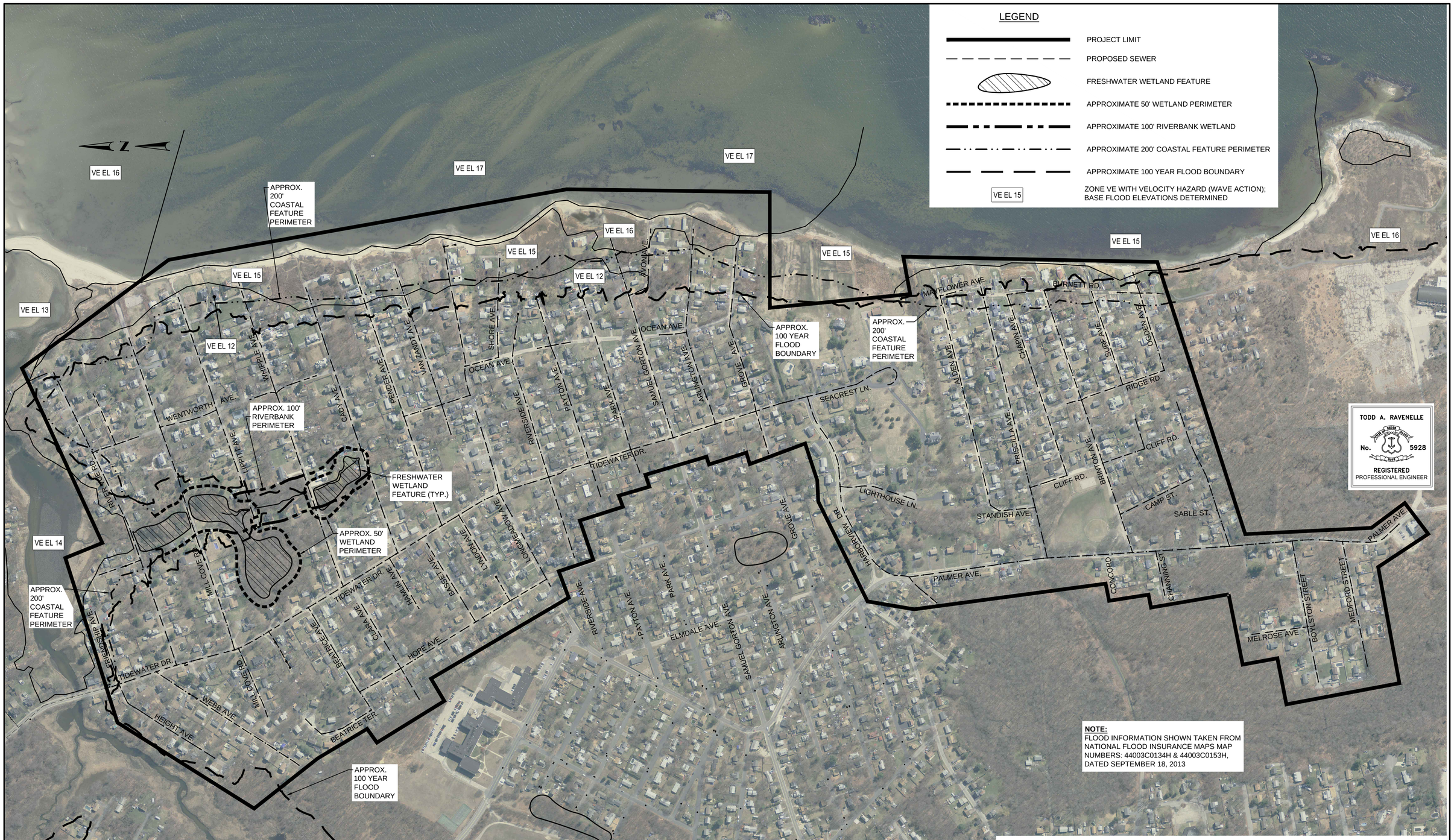
SHT. NO. 74 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

SEQUENCE OF CONSTRUCTION

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island



REV.NO.	DESCRIPTION	DATE	INT.

APPROVED

WARWICK SEWER AUTHORITY

DRAWN LBD
CHECKED TAR
APPROVED
DATE NOV 2019

SCALE
1" = 250'

SHT. NO. 75 OF 75

FILE NO. 998

CITY OF WARWICK, RHODE ISLAND
WARWICK SEWER AUTHORITY
SYSTEM OF SEWERS
CONTRACT NO. 86B

WETLAND FEATURES

Gordon R. Archibald, Inc.
Civil and Environmental Engineers
Pawtucket, Rhode Island