COMPONENTS OF CONTRACT PLAN SET

ROADWAY PLANS
BRIDGE PLANS
LANDSCAPE PLANS
IRRIGATION PLANS

INDIAN RIVER COUNTY

BOARD OF COUNTY COMMISSIONERS

INDEX OF SHEETS

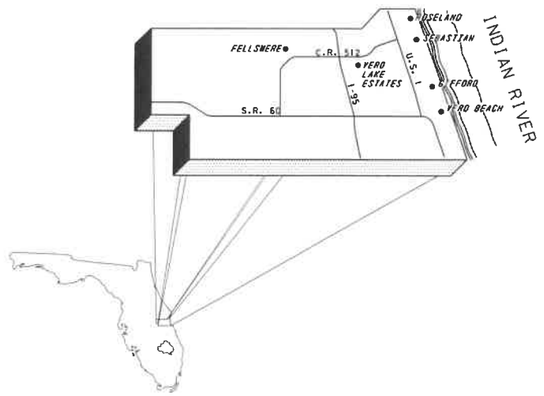
SHEET No.	DESCRIPTION
1	COVER SHEET
2-7	DRAINAGE MAPS
8-12	TYPICAL SECTIONS
13	SUMMARY OF QUANTITIES
14-16	SUMMARY OF DRAINAGE STRUCTURES
17	REFERNENCE TIES
18	GENERAL NOTES
19-22	DETAILS
23-34	PLAN AND PROFILE SHEETS
35-44	SIDE STREETS PLAN AND PROFILE SHEETS
45-48	PLATEAU PLAN & PROFILE SHEETS
49-58	DRAINAGE STRUCTURES SHEETS
59-64	DETENTION AREAS & DETAILS
65-71	DRIVEWAY CROSS SECTIONS
72-92	CROSS SECTIONS
93-108	SIDE STREET CROSS SECTIONS
109-112	STORM WATER POLLUTION PREVENTION PLANS
UT-1 - UT-2	UTILITY PLANS
S-1 - S-15	SIGNING & PAVEMENT MARKINGS PLANS

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS. (BOOKLET DATED JANUARY, 2015)

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, DATED 2015, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

66 th AVENUE - PHASE 1A

NORTH OF 49TH STREET TO NORTH OF 57TH STREET
STA. 294+93 TO STA. 354+00



LENGTH OF PROJECT		
	MILES	FEET
ROADWAY	1.948	10,283.82
BRIDGES	0	0
NET LENGTH OF PROJ.	0	0
EXCEPTIONS	0	0
GROSS LENGTH OF PROJ.	1.948	10,283.82

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE: _____ PROFESSIONAL ENGINEER • 50449

HENRY W. DEIBEL, JR., P.E.

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FLORIDA 33426
(561) 697-7000, FAX (561) 369-4731
GB 310/LC 26000269
EB 7917 / LB 7062

A1053keysrd49.dgn 12/6/2017 11:58:42 AM

Department of Public Works
Engineering Division

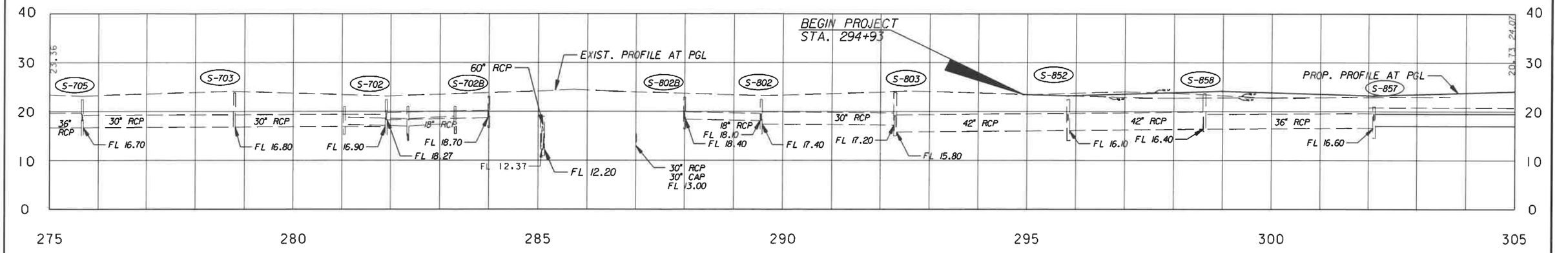
REVISION: | BY: | DATE:
NO:

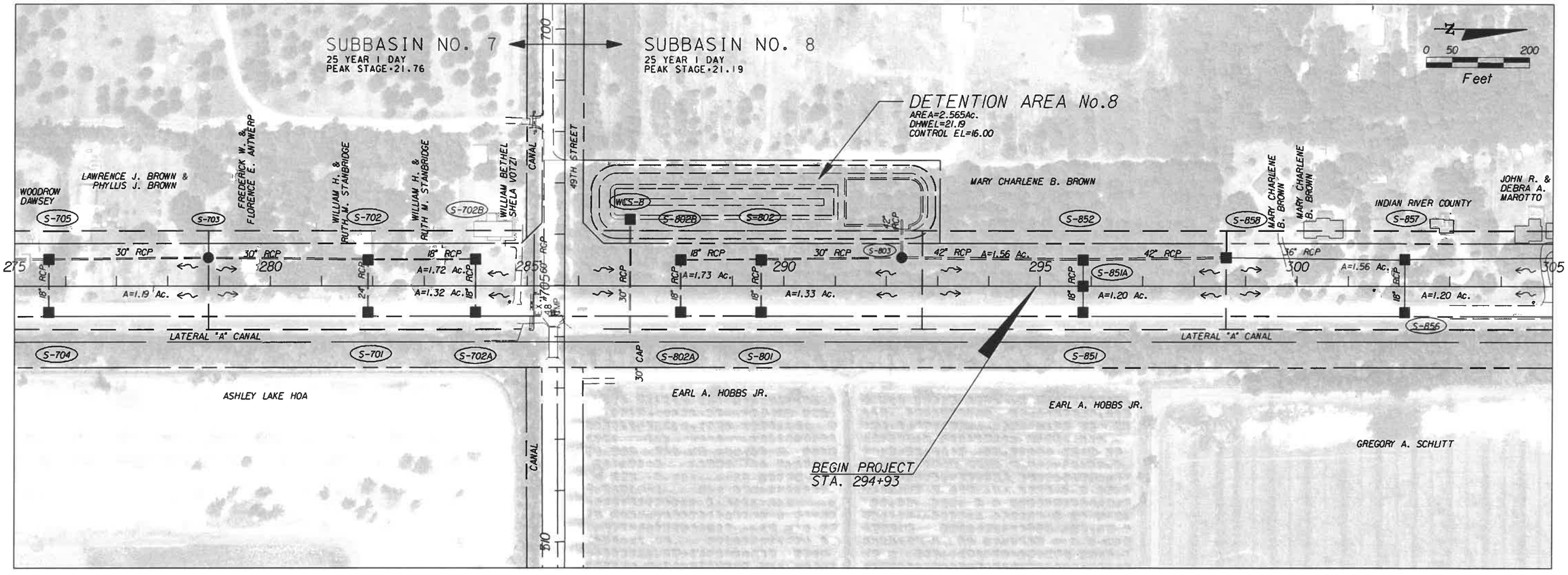
SCALE: N.T.S.
APPROVED:
DRAWN: BF
CHECKED: HD
DATE: 6-16
FIELD BOOK NO:

PROJECT:
PLANS OF PROPOSED ROADWAY
66th AVENUE - PHASE 1A
NORTH OF 49th STREET TO NORTH OF 57th STREET

SHEET: 1
OF: 112

PROJECT NO. A1053
IRC JOB NO. 1505





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EB 7917 / LB 7062
68310/ LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 2
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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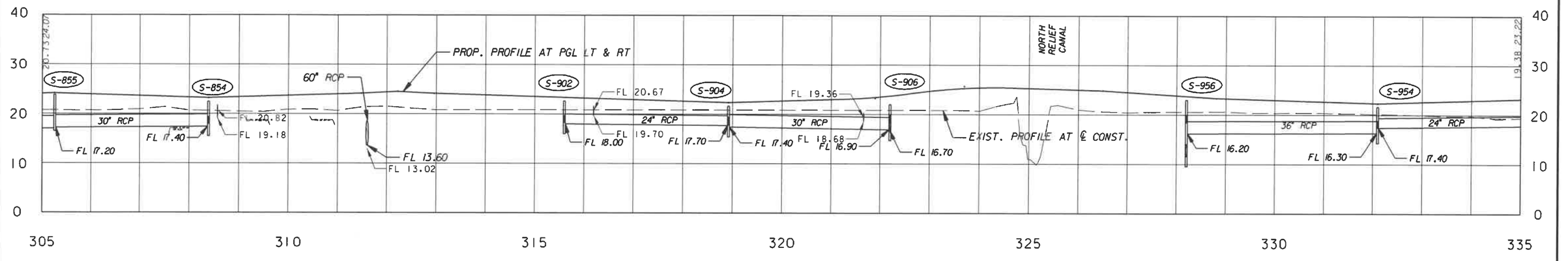

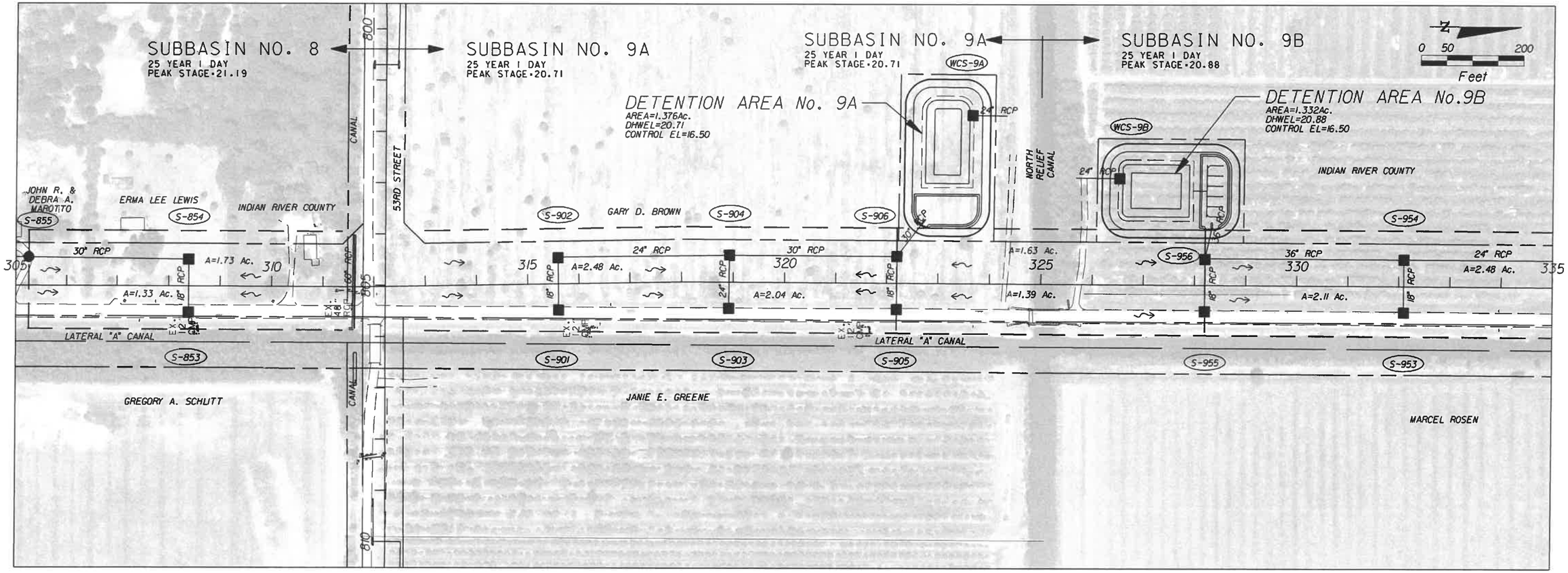

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Engineering Division

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 3
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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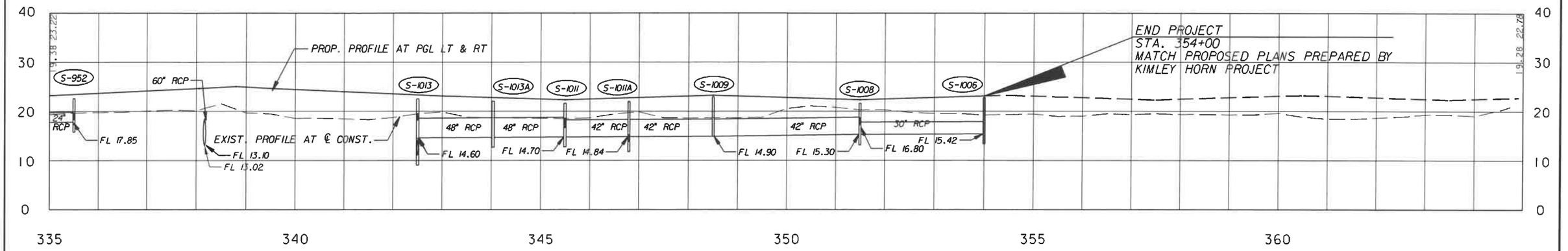

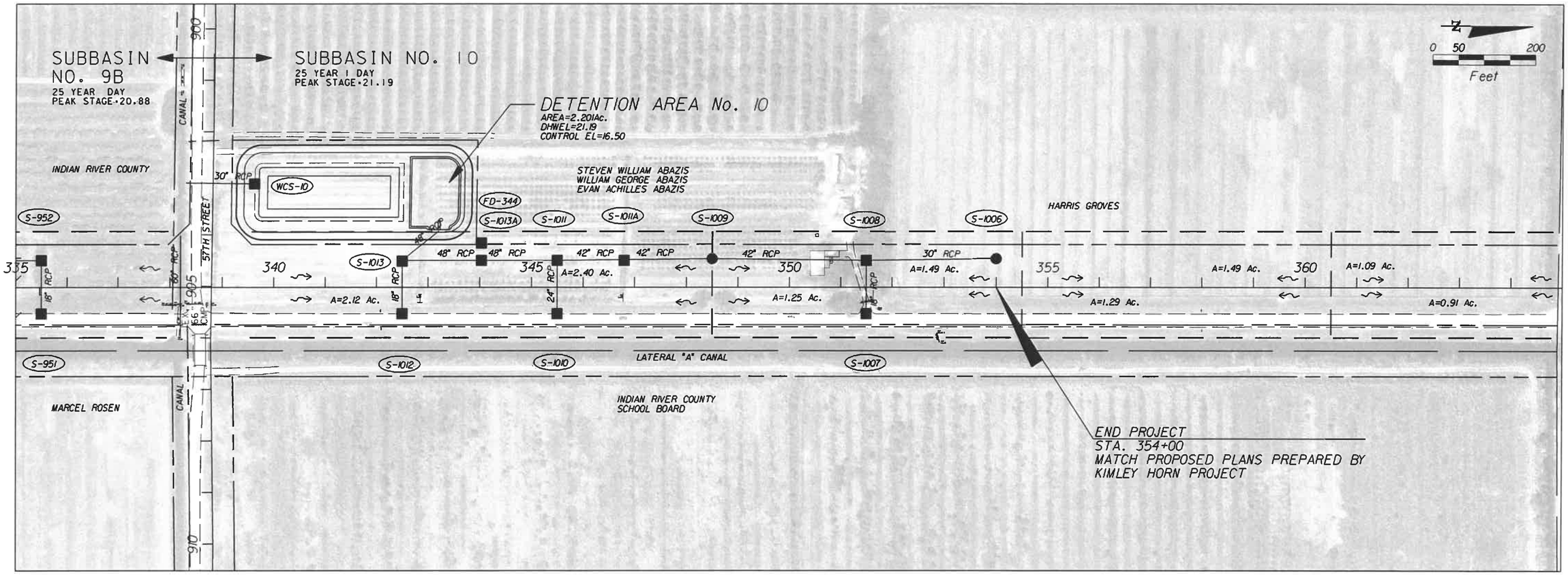

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68310/ LC26000269

NO.	REVISION:	BY:	DATE:

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Engineering Division

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 4
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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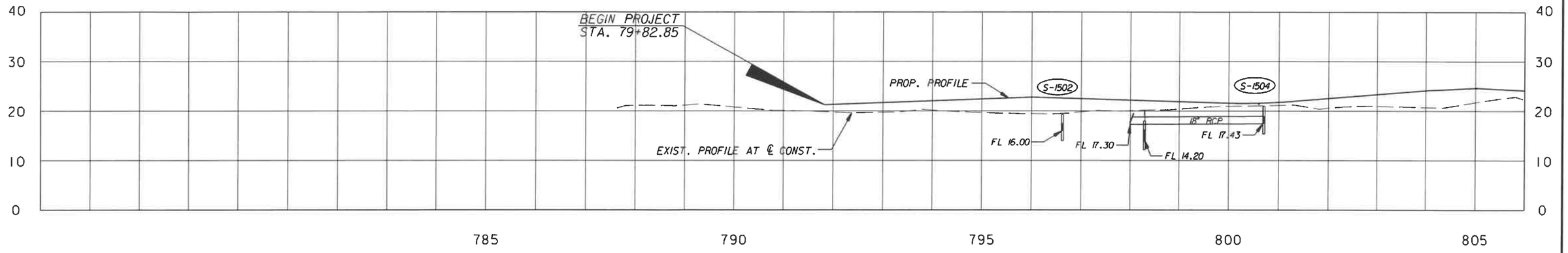

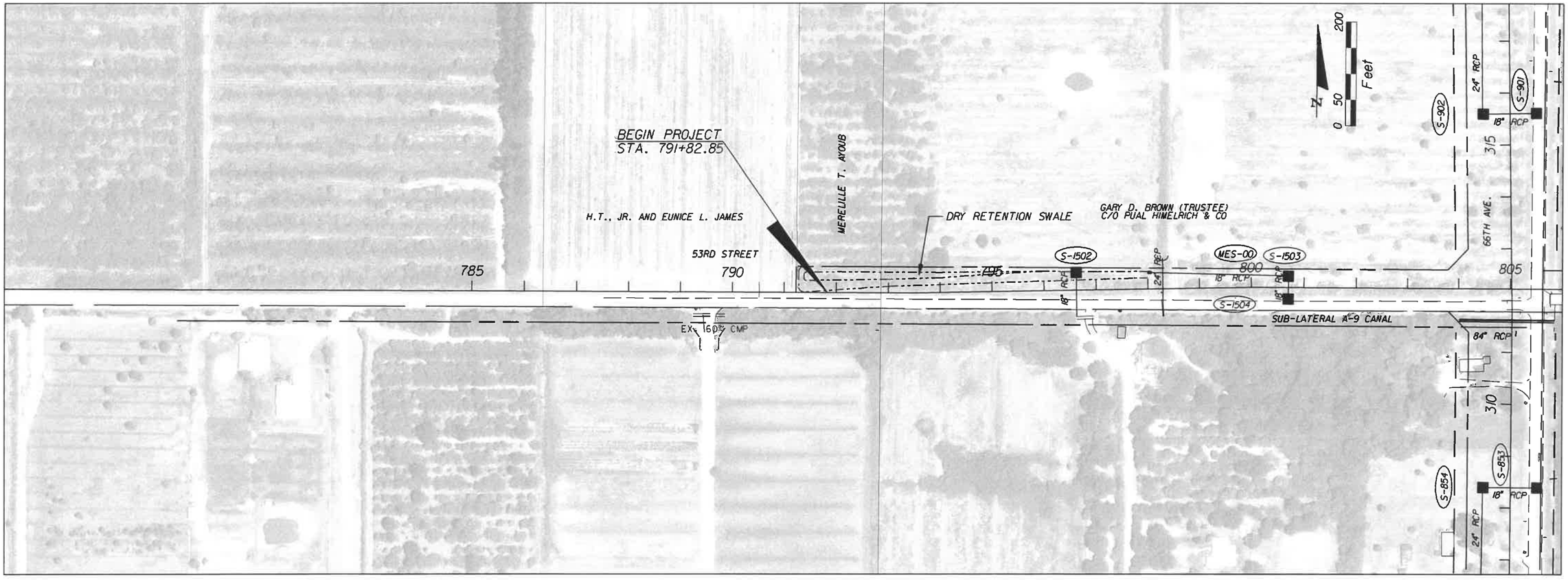

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Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: 1"=200'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 5
OF: 112

PROJECT NO. A1053
IRC_JOB_NO.

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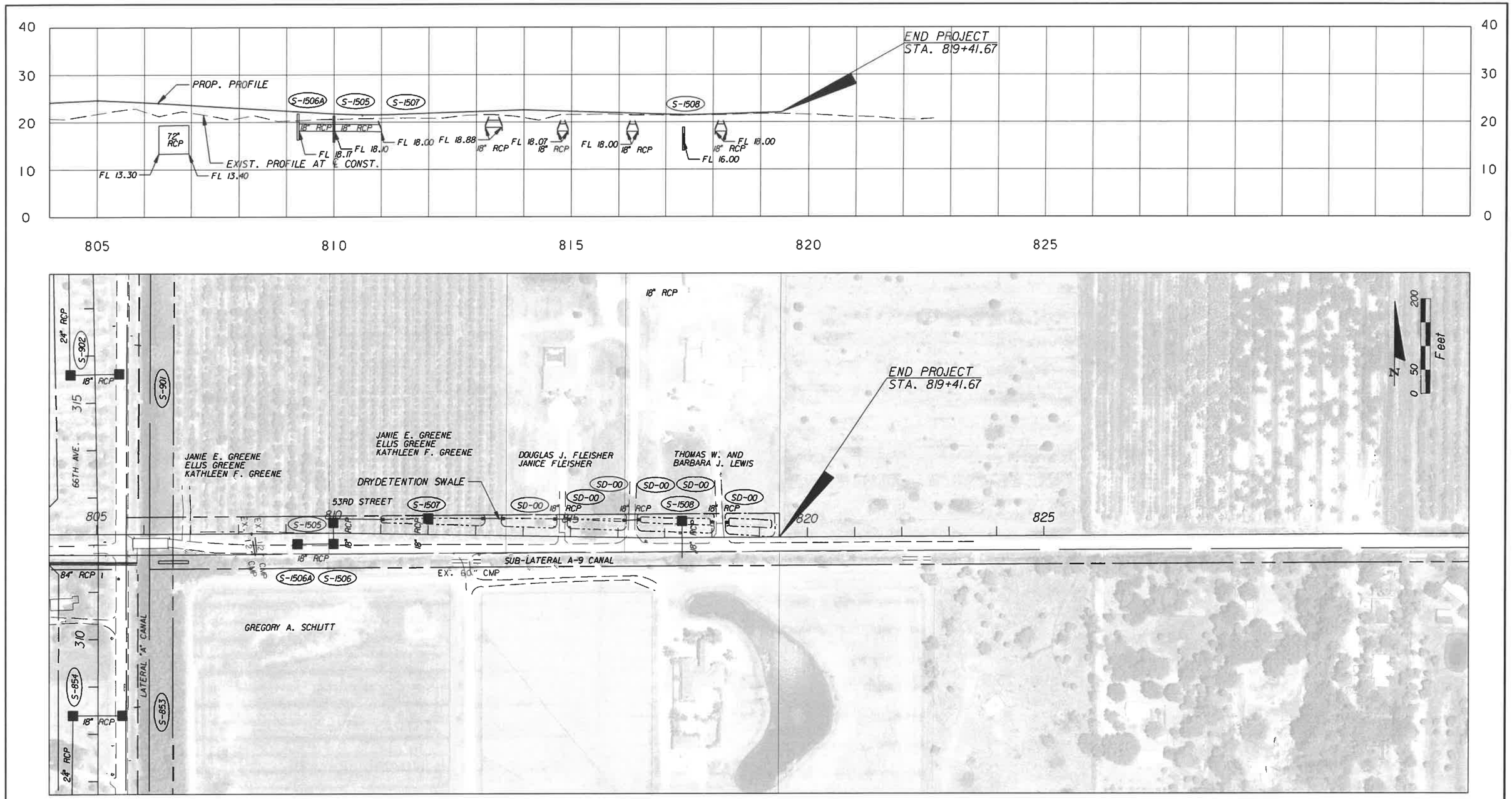

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EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 6
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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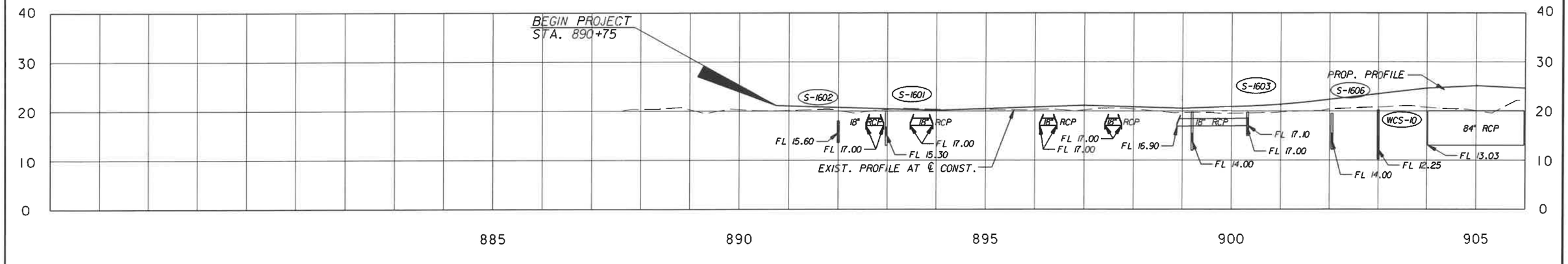

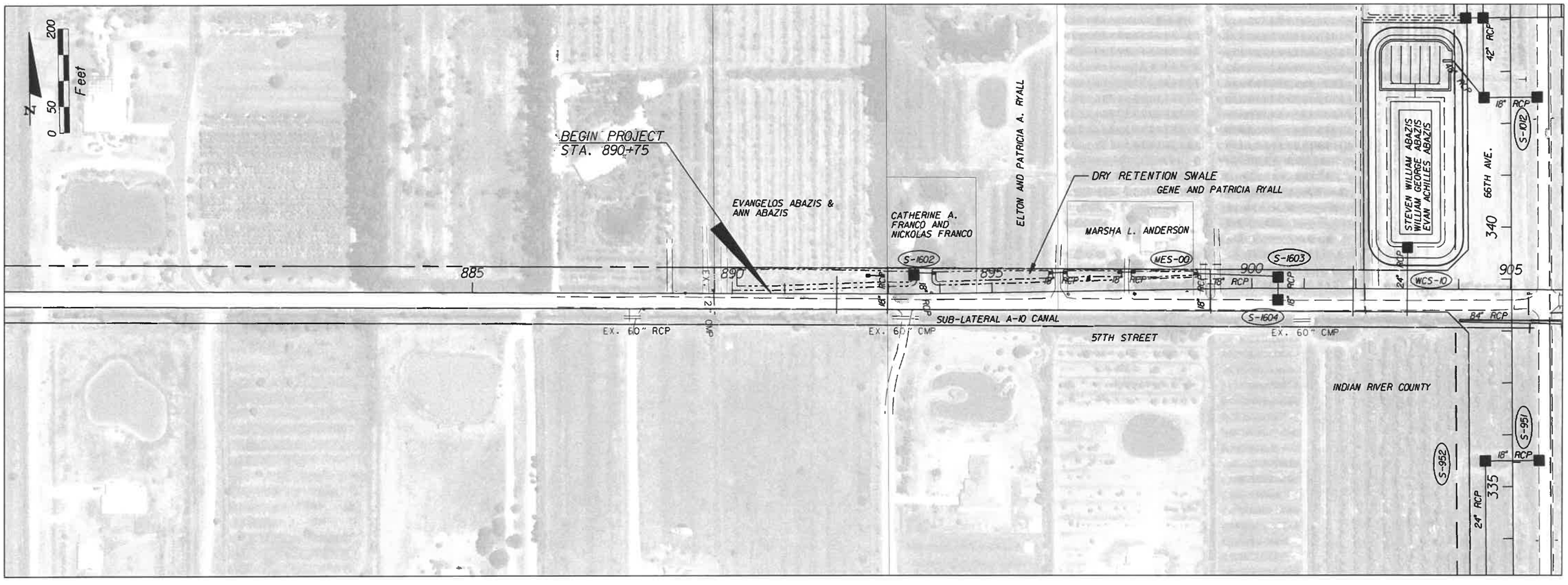

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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE MAP

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 7
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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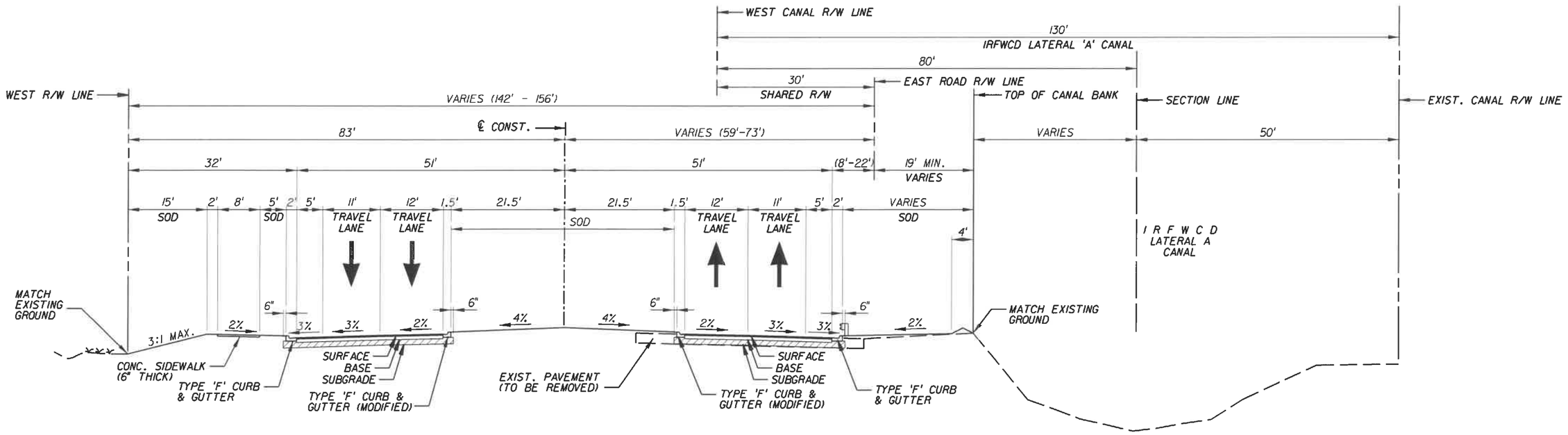

TYPICAL SECTION
66th AVENUE

STA. 302+93.50 TO STA. 307+66.00
STA. 323+03.50 TO STA. 327+92.00
STA. 343+42.50 TO STA. 348+03.50

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY, AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

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(561) 697-7000, FAX (561) 369-4731
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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 8
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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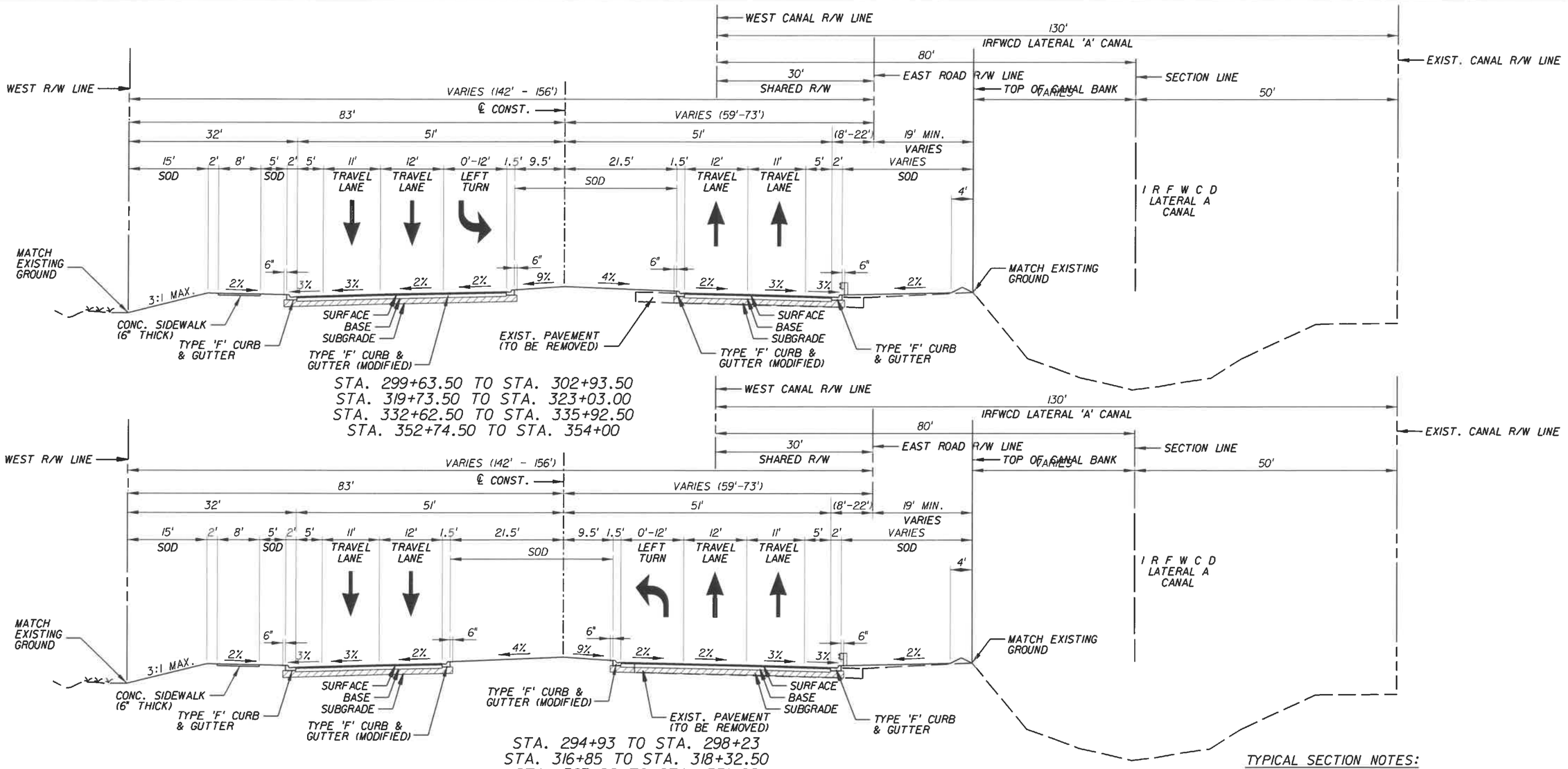

STA. 299+63.50 TO STA. 302+93.50
STA. 319+73.50 TO STA. 323+03.00
STA. 332+62.50 TO STA. 335+92.50
STA. 352+74.50 TO STA. 354+00

STA. 294+93 TO STA. 298+23
STA. 316+85 TO STA. 318+32.50
STA. 327+92 TO STA. 331+22
STA. 348+03.50 TO STA. 351+33.50

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

TYPICAL LEFT TURN SECTION
66th AVENUE

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY, AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 8 A
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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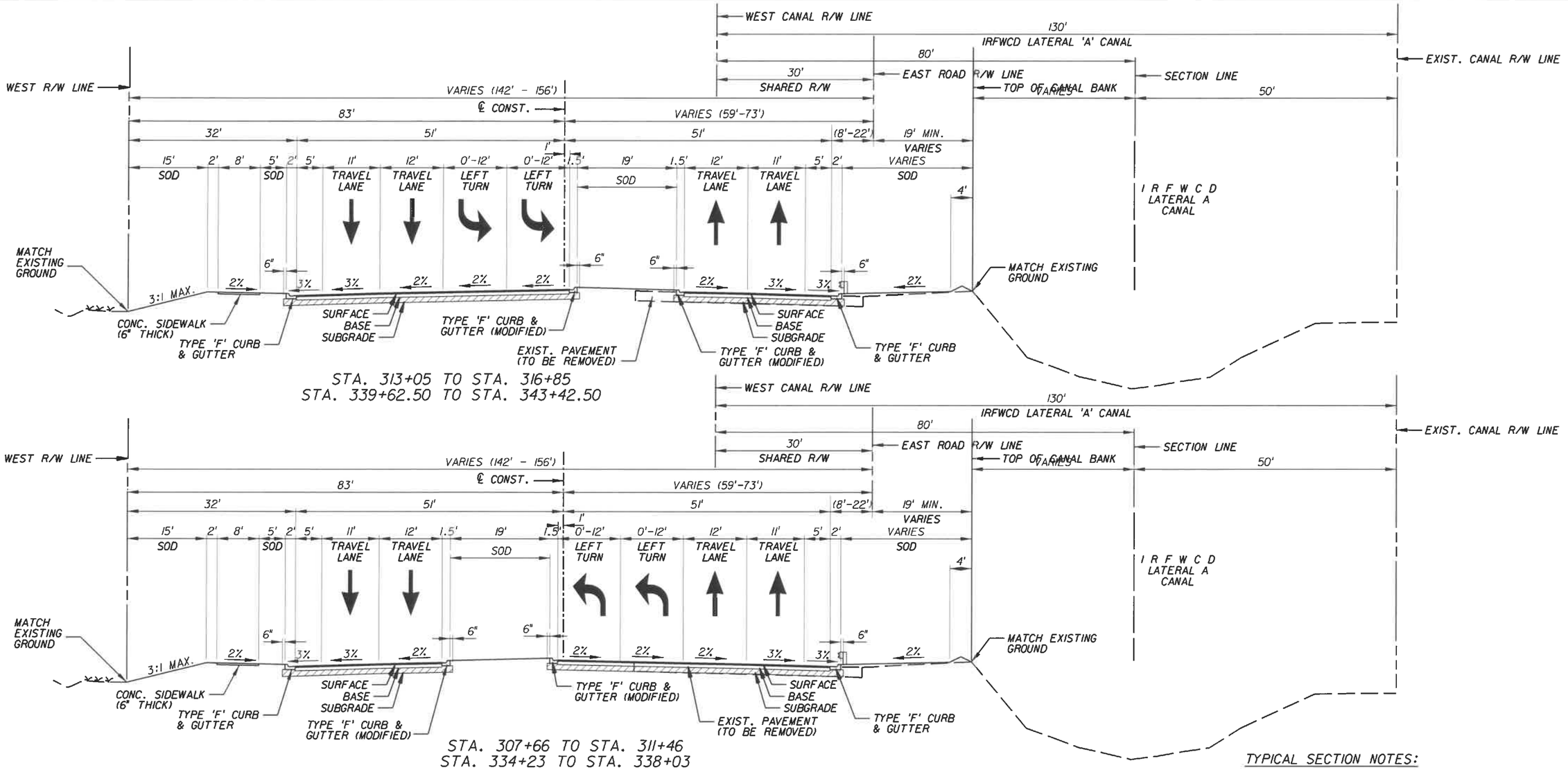

STA. 313+05 TO STA. 316+85
STA. 339+62.50 TO STA. 343+42.50

STA. 307+66 TO STA. 311+46
STA. 334+23 TO STA. 338+03

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

TYPICAL DUAL LEFT TURN SECTION
66th AVENUE

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY, AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

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NO.	REVISION.	BY.	DATE.

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Engineering Division

SCALE:	N.T.S.
APPROVED:	H.D.
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO.	

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET:	8 B
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	1505

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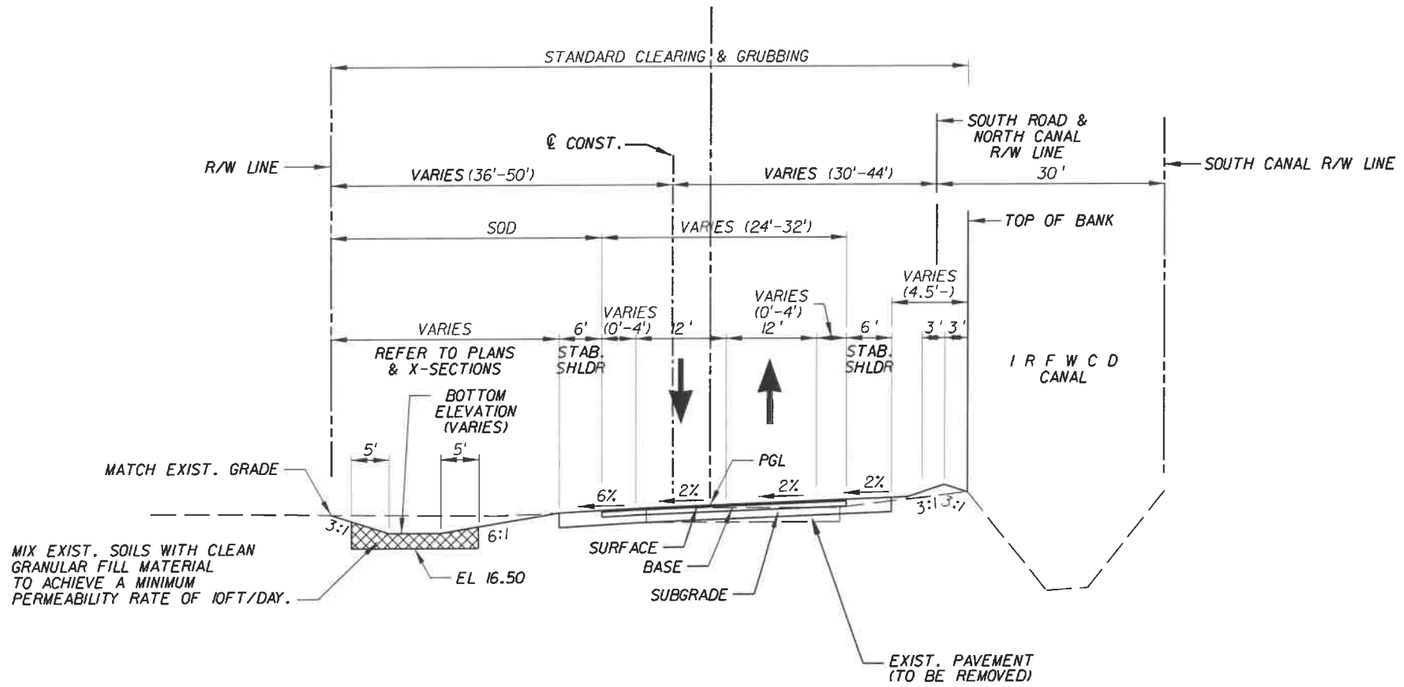

TYPICAL SECTION

53RD. ST. STA. 791+82.85 TO 797+69.58, 812+50.68 TO 819+41.67
57TH. ST. STA. 890+75.00 TO 897+69.58

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY. AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

GB310 / LC26000269
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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 9
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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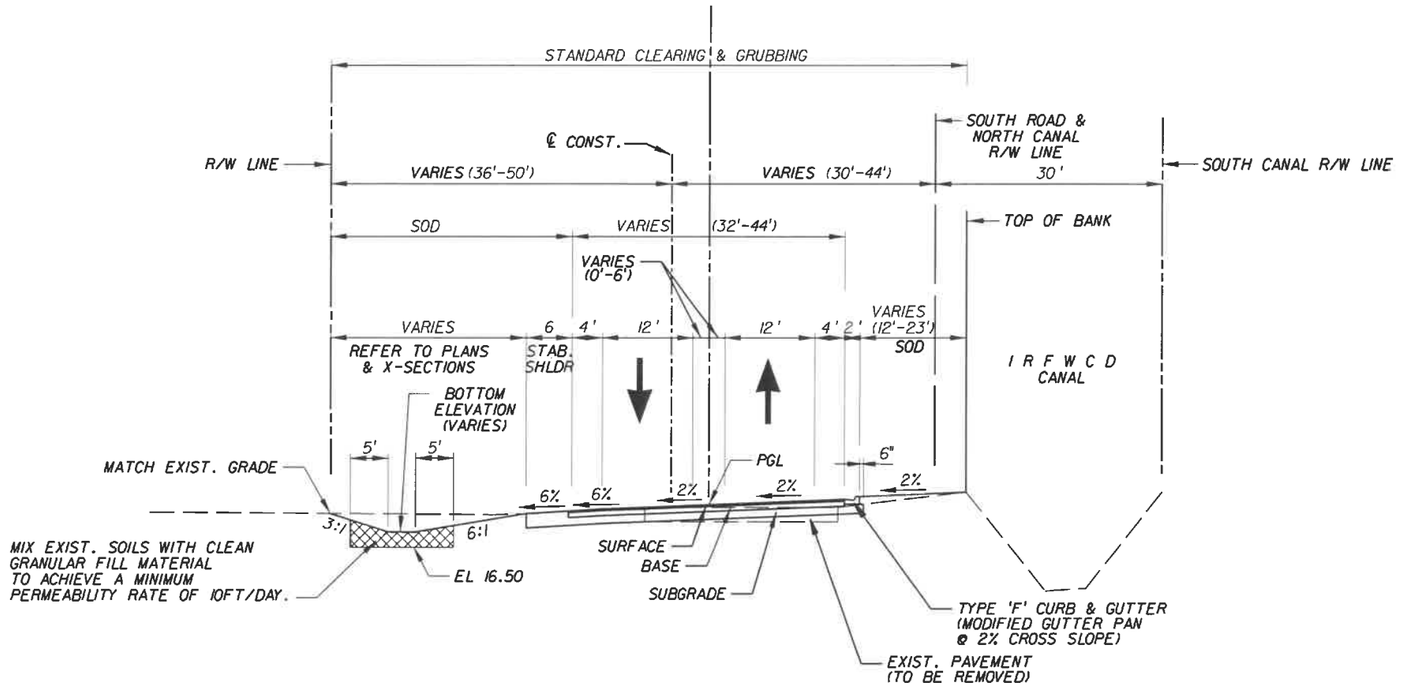

TYPICAL SECTION

53RD. ST. STA. 797+69.58 TO 800+00, 810+12.08 TO 812+50.68
57TH. ST. STA. 897+69.58 TO 900+50

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY, AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

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(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

TYPICAL SECTION

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 10
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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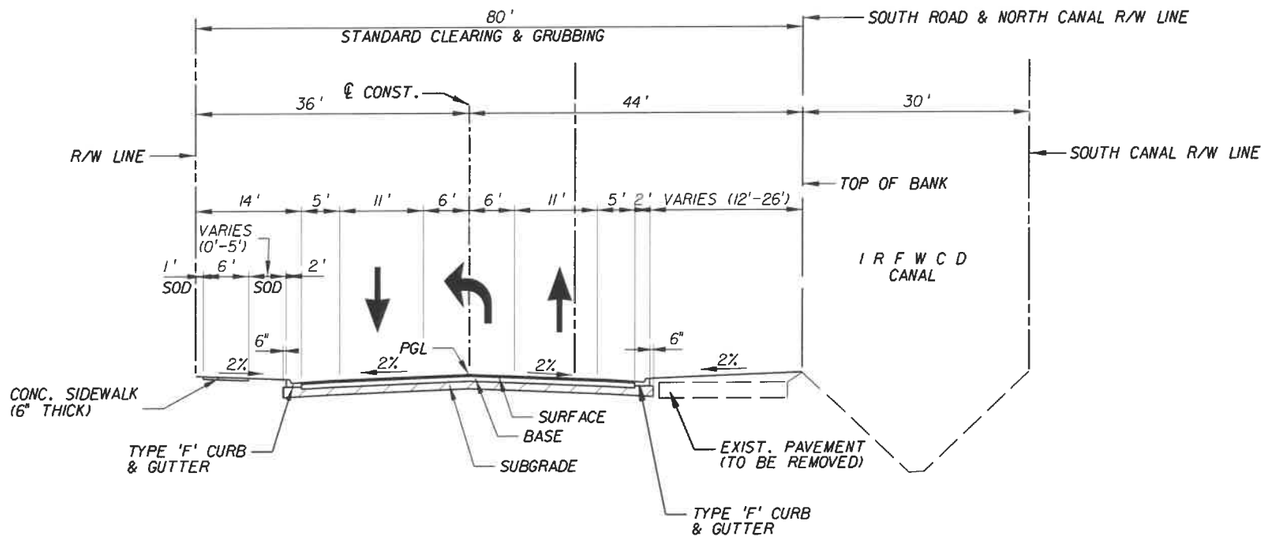


TYPICAL SECTION

53RD. ST. STA. 800+00 TO 804+00
57TH. ST. STA. 900+50 TO 904+00

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON, UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY. AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

GB310/ LC26000269
ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

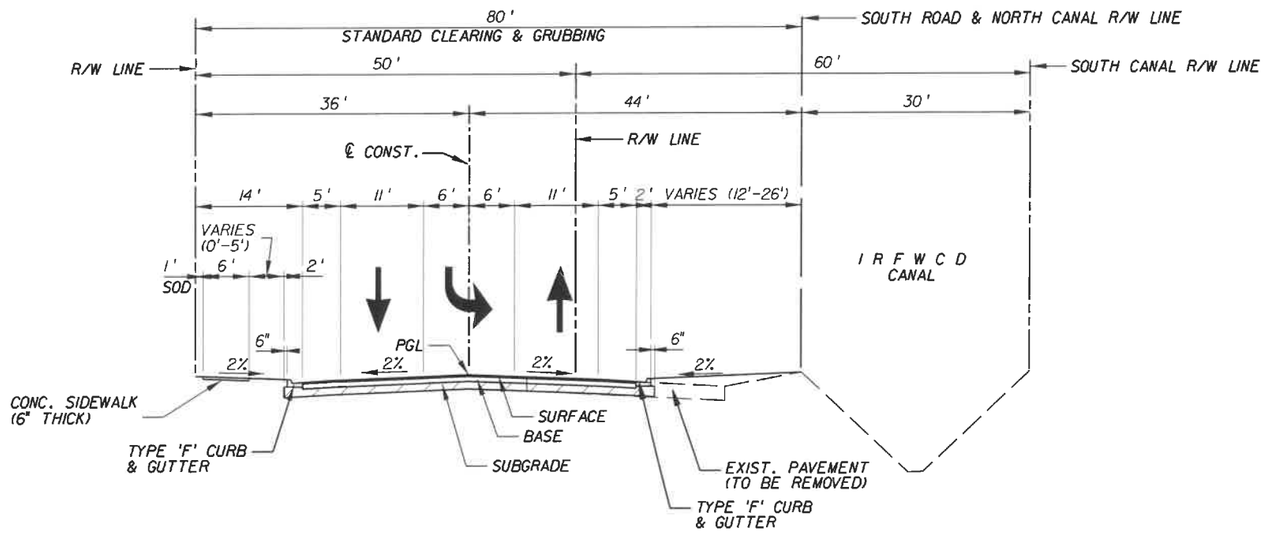
Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 11
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053TYPSRD03.dgn 10/11/2017 4:36:23 PM



TYPICAL SECTION

53RD. ST. STA. 805+93.92 TO 810+12.08
57TH. ST. STA. 906+07.69 TO 908+00

NEW CONSTRUCTION	
SURFACE:	TYPE FC-9.5 ASPHALT CONCRETE (1-1/4") (TRC) OVER TYPE SP 12.5 STRUCTURAL COURSE ASPHALT CONCRETE (TRC) (1-3/4")
BASE:	OPTIONAL BASE GROUP 9
SUBGRADE:	TYPE "B" STABILIZATION (12")

TYPICAL SECTION NOTES:

1. ALL PAVED AREAS WITHIN THE PROJECT LIMITS WHICH ARE NOT SPECIFICALLY COVERED BY A "TYPICAL SECTION" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PAVEMENT SPECIFICATIONS INDICATED HEREON. UNLESS OTHERWISE NOTED.
2. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GAL/SY PRIME COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL/SY. AS DIRECTED BY THE ENGINEER.
3. PAVEMENT REMOVAL SHALL CONSIST OF THE COMPLETE REMOVAL OF ASPHALT PAVEMENTS AND BASE, AND THE BACKFILL WITH CLEAN A-2/A3 MATERIAL.

DESIGN SPEED = 45 MPH
POSTED SPEED = 45 MPH

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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

TYPICAL SECTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 12
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053TYPSRD04.dgn 10/11/2017 4:35:56 PM

SUMMARIES OF QUANTITIES

	PAY ITEMS	QTY.	UNIT	PRICE
0101 1	Mobilization	1	LS	
0102 1	Maintenance Of Traffic	1	LS	
IRC 1	Field Office	1	LS	
0104 10 3	Sediment Barrier	23,211	LF	
0104 11	Floating Turbidity Barrier	860	LF	
1014 15	Soil Tracking Prevention Device	8	EA	
0104 18	Inlet Protection System	42	EA	
IRC 2	NPDES Compliance	1	LS	
0110 1 1	Clearing & Grubbing	1	LS	
0110 3	Removal Of Existing Structure (Dwelling)	2	EA	
0120 1	Regular Excavation	5,801	CY	
0120 5	Channel Excavation (Lake Excavation)	35,755	CY	
0120 6	Embankment, Compacted In Place	89,721	CY	
0121 70	Flowable Fill	100	CY	
0160 4	Type B Stabilization	82,243	SY	
285709	Optional Base, Base Group 09	64,018	SY	
0286 1	Turnout Construction	619	SY	
0286 2	Turnout Construction-Asphalt	135	TN	
0334 1 13	Asphaltic Concrete, Friction Course Type FC-9.5, 1 - 1/4" Thick	64,018	SY	
0334 1 13	Superpave Asphaltic Concrete, Traffic C, SP-12.5, 1 - 3/4" THICK	64,018	SY	
0339 1	Miscellaneous Asphalt Pavement	56	TN	
0350 3 5	Plain Cement Concrete Pavement, 6"	743	SY	
0400 1 2	Concrete Class I, Endwalls	8	CY	
0425 1351	Inlets, Curb, Type P-5, <10'	8	EA	
0425 1361	Inlets, Curb, Type P-6, <10'	13	EA	
0425 1451	Inlets, Curb, Type J-5, <10'	5	EA	
0425 1461	Inlets, Curb, Type J-6, <10'	4	EA	
0425 1521	Inlets, Ditch Bottom, Type C, <10'	7	EA	
0425 2 41	Manholes, P-7, <10'	3	EA	
0425 2 71	Manholes, J-7, <10'	1	5	
0425 2 73	Manholes, J-7, Partial	1	EA	
IRC 3	Control Structure	3	EA	
IRC 4	Conflict Structure	2	EA	
IRC 5	Pipe Culvert, HDPE, Round, 8"	219	LF	
430175118	Pipe Culvert, RCP, Round, 18" S/CD	2326	LF	
430175118	Pipe Culvert, CAP, Round, 18" S/CD	140	LF	
430175124	Pipe Culvert, RCP, Round, 24" S/CD	1191	LF	
430175124	Pipe Culvert, CAP, Round, 24" S/CD	60	LF	
430175130	Pipe Culvert, RCP, Round, 30" S/CD	1398	LF	
430175130	Pipe Culvert, CAP, Round, 30" S/CD	20	LF	
430175136	Pipe Culvert, RCP, Round, 36" S/CD	799	LF	
430175142	Pipe Culvert, RCP, Round, 42" S/CD	600	LF	
430175148	Pipe Culvert, RCP, Round, 48" S/CD	392	LF	
430175160	Pipe Culvert, RCP, Round, 60" S/CD	379	LF	
430982125	Mitred End Section, RCP, 18"	18	EA	
0440 1 10	Underdrain with Sock Filter (4" Diameter)	697	LF	
0440 1 10	Underdrain with Sock Filter (8" Diameter)	257	LF	
0440 7 34	Underdrain with Sock Filter (10" Diameter)	27	LF	
0440 7 35	Underdrain with Sock Filter (12" Diameter)	48	LF	
0514 71 2	Plastic Filter Fabric, Stabilization	351	SY	
0520 1 7	Concrete Curb & Gutter, Type E (Modified)	368	LF	
0520 1 10	Concrete Curb & Gutter, Type F	24,341	LF	
0522 1	Sidewalk Concrete, 4" Thick	5,189	SY	
0522 2	Sidewalk Concrete, 6" Thick	383	SY	
0523 2	Patterned Pavement, Concrete, Non Vehicular Areas	3,160	SY	
0530 3 3	Riprap, Rubble, Bank and Shore	820	TN	
0536 1 1	Guardrail - Roadway (Includes Pipe Rail Full Length)	1,867	LF	
0536 8	Guardrail - Bridge Anchorage Assembly, Furnish & Install	1	EA	

	PAY ITEMS	QTY.	UNIT	PRICE
0536 73	Guardrail Removal	280	LF	
0536 82	Guardrail Anchorage - Concrete Barrier Wall	3	EA	
0536 85 24	Guardrail End Anchorage Assembly - Parallel	3	EA	
0536 85 25	Guardrail End Anchorage Assembly - Type II	2	EA	
0550 10222	Fencing., Type B, 5.1-6.0, w/Vinyl Coating	3,325	LF	
0550 60214	Fence Gate, Type B, Single, 18.1-20.0' Opening	6	EA	
IRC 6	Record Drawings	1	LS	
IRC 7	RELOCATE EXIST. FENCE	502	LF	
0570 1 1	Performance Turf	17,429	SY	
0570 1 2	Performance Turf, Sod	82,650	SY	
0700 20 11	Single Post Sign, F&I, Less Than 12 SF	26	AS	
0700 20 13	Single Post Sign, F&I, 21-30 SF	4	AS	
0700 1 50	Single Post Sign, Relocate	2	AS	
0700 1 60	Single Post Sign, Remove	20	AS	
0706 3	Retro Reflective Pavement Markers (Amber/Amber)	880	EA	
0706 3	Retro Reflective Pavement Markers (White/Red)	445	EA	
0711 11102	Thermoplastic, Standard, White, Solid, 6"	4.09	NM	
0711 11102	Thermoplastic, Standard, White, Solid, 8"	0.513	NM	
0711 11123	Thermoplastic, Standard, White, Solid, 12"	683	LF	
0711 11124	Thermoplastic, Standard, White, Solid, 18"	715	LF	
0711 11125	Thermoplastic, Standard, White, Solid, 24"	136	LF	
0711 11131	Thermoplastic, Standard, White, Skip, 6", 10-30 Skip	2.132	GM	
0711 11131	Thermoplastic, Standard, White, Skip, 6", 6-10 Skip	2.559	LF	
0711 14170	Thermoplastic, Standard, White, Arrow	28	EA	
0711 14170	Thermoplastic, Standard, White, Arrow, U-Turn	23	EA	
0711 15202	Thermoplastic, Standard, Yellow, Solid, 6"	3.949	NM	
0711 11224	Thermoplastic, Standard, Yellow, Solid, 18"	202	LF	
0711 11241	Thermoplastic, Standard, Yellow, Dotted/Guideline/6-10 Gap Extension, 6"	1764	LF	

IRC 2 INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR NPDES COMPLIANCE INCLUDING THE PREPARATION OF A STORM WATER POLLUTION PREVENTION PLAN AND AN NPDES NOTICE OF INTENT.

0110 3 INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE COMPLETE DEMOLITION AND REMOVAL OF EXISTING STRUCTURES INCLUDING ALL PERMITS.

0102 1 INCLUDES OVER-EXCAVATION, SOIL AMENDMENT, AND MIXING OF SOILS WITHIN ROADSIDE SWALES AND STORMWATER DETENTION AREAS TO ACHIEVE THE REQUIRED MINIMUM PERMEABILITY RATES. INCLUDES SOIL SAMPLING AND TESTING TO DETERMINE THE APPROPRIATE MATERIALS REQUIRED TO ACHIEVE THE REQUIRED PERMEABILITY RATES AND TESTING TO DEMONSTRATE THAT THE REQUIRED PERMEABILITY RATES HAVE BEEN ACHIEVED UPON COMPLETION OF CONSTRUCTION.

IRC 3 INCLUES ALL WORK.....

044110 INCLUDES ALL FITTINGS, CLEANOUTS, CONNECTORS, PIPE AND FILTER SOCK.

044734 INCLUDES ALL FITTINGS, CLEANOUTS AND CONNECTORS.

IRC 7 INCLUDES RELOCATION OF IRON FENCE AND CONC. COLUMNS

102-1 INCLUDES ALL ITEMS FOR MAINTENANCE OF TRAFFIC WHICH ARE NOT INCLUDED FOR PAYMENT UNDER SEPARATE ITEMS. INCLUDES PEDESTRIAN MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH SECTION GP-18 OF THE SPECIFICATIONS. INCLUDES TEMPORARY PAVEMENT MARKINGS & SIGNAGE, AND RAISED PAVEMENT MARKERS.

110-1-1 INCLUDES REMOVAL & DISPOSAL OF EXISTING DRAINAGE STRUCTURES & PIPES; CULVERTS; SIGNS; FENCE; CURBS; CURB & GUTTER; DRIVEWAYS; SLABS; FOOTINGS; GATES; POLES; ASPHALT; DEBRIS; TRAFFIC SEPARATOR; SIDEWALKS; ASPHALT; BASE; CONCRETE; GUARDRAIL; F.D.P.'S; TEMPORARY CONSTRUCTION DETOURS; AND ANY OTHER ITEMS TO BE REMOVED THAT ARE NOT SPECIFICALLY COVERED UNDER ANOTHER SEPARATE PAY ITEM. INCLUDES ALL SAW CUTTING. INCLUDES TREE TRIMMING FOR UTILITY INSTALLATION AND OR RELOCATION AND FOR STREET LIGHTING INSTALLATION. EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN, UNLESS OTHERWISE NOTED.

108-2 IS ESTIMATED FOR PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION AND ARE TO BE USED AT LOCATIONS DESIGNATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. INCLUDES TURBIDITY BARRIER, SILT FENCE TYPE III & BAILED HAY OR STRAW. INCLUDES REPLACEMENT HAY OR STRAW BALES AS DIRECTED BY THE ENGINEER.

120-1
120-6 INCLUDES ALL EARTHWORK ITEMS, EXCAVATION AND EMBANKMENT FOR ROADWAY, DRIVEWAY, CANAL DITCH, AND DETENTION AREA CONSTRUCTION. INCLUDES FINAL GRADING & SHAPING AS NECESSARY FOR FINAL RESTORATION.

160-4-12
285-709
334-1-1
334-1-1A
334-1-13 INCLUDE BITUMINOUS MATERIAL, PRIME COAT AND TACK COAT, AS REQUIRED.

425-1361
425-1631A
425-2-41
425-2-71 ALL STRUCTURES ARE LESS THAN 10' IN DEPTH, UNLESS OTHERWISE NOTED. ITEM INCLUDES SAW-CUTTING AND REMOVAL OF EXISTING PIPE; CONCRETE COLLARS TO JOIN NEW PIPE TO EXISTING PIPE; SAW-CUTTING OR CORE DRILLING TO TIE-IN TO EXISTING STRUCTURES; AND ALL REPAIR/RESTORATION OF EXISTING FACILITIES AND SURFACES AS REQUIRED, OR AS DIRECTED BY THE ENGINEER. INCLUDES ALL SAWING, CUTTING, AND PATCHING AND ALL ALUMINUM PLATE, GASKETS, AND FASTENERS. INCLUDES CORRUGATED ALUMINUM DEBRIS BAFFLES.

536-1-1 INCLUDES CONTROLLED RELEASE RETURN AND NESTED GUARDRAIL. INCLUDES PIPE RAIL, MOUNTING COMPONENTS, INSTALLATION, AND BOLT END TREATMENT FOR TIMBER POST. INCLUDES SPECIAL GUARDRAIL POSTS.

575-1-1 SHALL BE IN ACCORDANCE WITH THE GENERAL PROVISIONS OF THE SPECIFICATIONS. INCLUDES STAKING OR PEGGING OF SOD.

1000-6 INCLUDES HYDRANT ASSEMBLY, PIPE, FITTINGS AND VALVES.

0440735 INCLUDES ALL FITTINGS, CLEANOUTS AND CONNECTORS

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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SUMMARY OF QUANTITIES

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 13
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053SUMQRD01.dgn 10/16/2017 1:20:12 PM

SUMMARY OF DRAINAGE STRUCTURES

STR. NO.	INDEX NO.	STA.	SIDE	TYPE	SIZE	PIPE										CURB INLETS				DBI		MANHOLES				CLASS I CONC.	REINF STEEL	REMARKS
						18"	24"	30"	36"	42"	48"	60"	18" CAP	24" CAP	30" CAP	P-5 <10	J-5 <10	P-6 <10	J-6 <10	C <10	D <10	P-7 <10	P-7 >10	J-7 <10	J-7 PART.	C.Y.	LB	
S-853	200.201.211	308+39	51.00 RT	INLET, PIPE	18"	105												1										
S-854	200.201.211	308+39	51.00 LT	INLET, PIPE	30"			313										1										
S-855	200.201	305+26	55.50 LT	MANHOLE, PIPE	30"			314														1						
S-856	200.201.211	302+12	51.00RT	INLET, PIPE	18"	105												1										
S-857	200.201.211	302+12	51.00 LT	INLET, PIPE	36"				350										1									
S-858	200.201	298+62	55.50 LT	MANHOLE, PIPE	42"																				1			REMOVE INLET TOP
S-901	200.201.211	315+60	51.00 RT	INLET, PIPE	18"	105										1												
S-902	200.201.211	315+60	51.00 LT	INLET, PIPE	24"		332									1												
S-903	200.201.211	318+92	51.00 RT	INLET, PIPE	24"		105											1										
S-904	200.201.211	318+92	51.00 LT	INLET, PIPE	30"			328										1										
S-905	200.201.211	322+20	51.00 RT	INLET, PIPE	18"	105										1												
S-906	200.201.211	322+20	51.00 LT	INLET, PIPE	30"			80									1											
S-951	200.201.211	335+50	51.00 RT	INLET, PIPE	18"	105										1												
S-952	200.201.211	335+50	51.00 LT	INLET, PIPE	24"		340									1												
S-953	200.201.211	332+10	51.00 RT	INLET, PIPE	18"	105												1										
S-954	200.201.211	332+10	51.00 LT	INLET, PIPE	36"				390										1									
S-955	200.201.211	328+20	51.00 RT	INLET, PIPE	18"	105										1												
S-956	200.201.211	328+20	51.00 LT	INLET, PIPE	36"				59								1											
S-1006	200.201	354+00	55.50 LT	MANHOLE, PIPE	30"			250														1						
S-1007	200.201.211	351+50	51.00 RT	INLET, PIPE	24"		105											1										
S-1008	200.201.211	351+50	51.00 LT	INLET, PIPE	36"					300									1									
S-1009	200.201	348+50	55.50 LT	MANHOLE, PIPE	42"					170														1				
S-1010	200.201.211	345+50	51.00 RT	INLET, PIPE	24"		105											1										
SHEET TOTAL						735	987	1285	799	470	0	0	0	0	0	6	2	8	3	0	0	2	0	1	1	0	0	
GRAND TOTAL																												

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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SUMMARY OF DRAINAGE QUANTITIES

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 14
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053SUMDRD01.dgn 3/15/2017 9:55:30 AM

SUMMARY OF DRAINAGE STRUCTURES

STR. NO.	INDEX NO.	STA.	SIDE	TYPE	SIZE	PIPE										CURB INLETS				DBI		MANHOLES				CLASS I CONC.	REINF STEEL	REMARKS
						18"	24"	30"	36"	42"	48"	60"	18" CAP	24" CAP	30" CAP	P-5 <10	J-5 <10	P-6 <10	J-6 <10	C <10	D <10	P-7 <10	P-7 >10	J-7 <10	J-7 PART.	C.Y.	LB	
S-1011	200.201.211	345+50	51.00 LT	INLET, PIPE	48"						147								1									
S-1012	200.201.211	342+50	51.00 RT	INLET, PIPE	18"	105										1												
S-1013	200.201.211	342+50	51.00 LT	INLET, PIPE	48"						92						1											
S-1502	200.201.211	796+62	34.11 LT	DBI, PIPE	18"	65							20							1								CONC. COLLAR
S-1503	200.201.211	800+70	22 LT	INLET, PIPE	18"	273												1										
S-1504	200.201.211	800+70	22 RT	INLET, PIPE	18"	46												1										
S-1505	200.201.211	810+00	30 LT	MANHOLE, PIPE	18"	102																1						
S-1506	200.201.211	810+00	22 RT	INLET, PIPE	18"	44												1										
S-1506A	200.201.211	809+24	22 RT	INLET, PIPE	18"	76												1										
S-1508	200.201.211	817+37	35.27 LT	DBI, PIPE	18"	59							20							1								CONC. COLLAR
S-1601	200.201.211	893+00	50 LT	DBI, PIPE	18"	70							20							1								CONC. COLLAR
S-1602	200.201.211	892+00	37.17 LT	DBI, PIPE	18"	53							20							1								
S-1603	200.201.211	900+50	22 LT	INLET, PIPE	18"	154										1												
S-1604	200.201.211	900+50	22 RT	INLET, PIPE	18"	44												1										
S-1605	200.201.211	899+20	37 LT	DBI, PIPE	18"	65							20							1								CONC. COLLAR
S-1606	200.201.211	901+95	43.50 LT	DBI,PIPE	18"	78							20							1								CONC. COLLAR
EW-322	250	322+66.93	14.44 LT	END WALL	30"																					3.26	3.34	
EW-328	250	328+32.58	10.00 LT	END WALL	36"																					4.53	4.64	
EW-343	250	343+21.23	111.17 LT	END WALL	48"																					8.15	8.38	
SHEET TOTAL						1234	0	0	0	0	239	0	120	0	0	2	1	5	1	6	0	1	0	0	0	15.94	16.36	
GRAND TOTAL																												

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SUMMARY OF DRAINAGE QUANTITIES

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 15
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053SUMDRD02.dgn 3/15/2017 9:56:11 AM

SUMMARY OF DRAINAGE STRUCTURES

STR. NO.	INDEX NO.	STA.	SIDE	TYPE	SIZE	PIPE										CURB INLETS				DBI		MANHOLES					CLASS I CONC.	REINF STEEL	REMARKS
						18"	24"	30"	36"	42"	48"	60"	18" CAP	24" CAP	30" CAP	P-5 <10	J-5 <10	P-6 <10	J-6 <10	C <10	D <10	P-7 <10	P-7 >10	J-7 <10	J-7 PART.	C.Y.	LB	
WCS-9A		323+66.99	328.29 LT	CONTROL	24"		47							20							1							
WCS-9B		326+50.33	207.33 LT	CONTROL	24"		64							20							1							CONTROL STURCTURE. CONC. COLLAR
WCS-10		903+00	80.00 LT	CONTROL	30"			113							20						1							CONTROL STURCTURE. CONC. COLLAR
CD	200.201	311+61		PIPE	60"							183																CANAL
CD	200201	338+20		PIPE	60"							196																CANAL
S-1011A	200.201.211	346+80	51.00 LT	INLET,PIPE	42"	188				130							1											CONFLICT STRUCTURE,CONC. COLLAR
S-1013A	200.201.211	344+03.42	51.00 LT	INLET,PIPE	18"	169					153		20				1											CONFLICT STRUCTURE,CONC. COLLAR
FD-748		798+29	59.69 LT	INLET,PIPE	24"		93							20						1								CONC. COLLAR
SHEET TOTAL						357	204	113	0	130	153	379	20	60	20	0	2	0	0	1	3	0	0	0	0	0	0	
GRAND TOTAL						2326	1191	1398	799	600	392	379	140	60	20	8	5	13	4	7	3	3	0	1	1	15.94	16.36	

GB310/ LC26000269

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Department of Public Works
Engineering Division

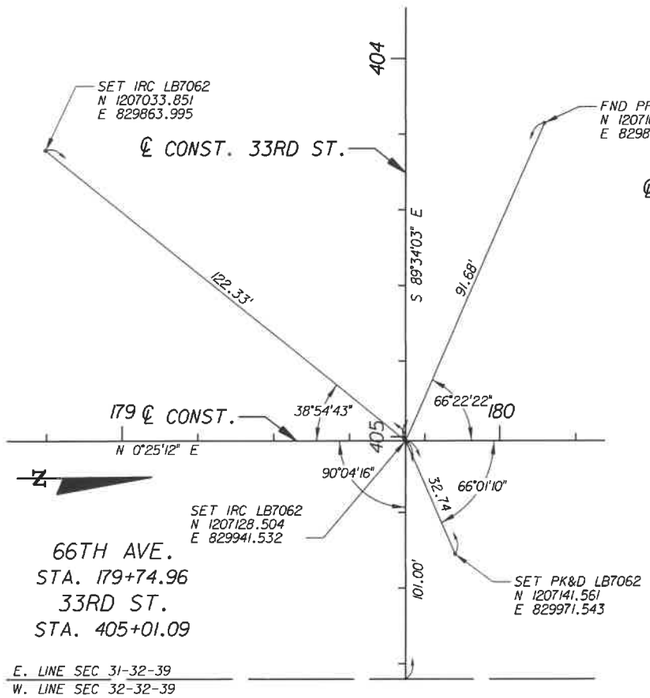
SCALE: 1"=40'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

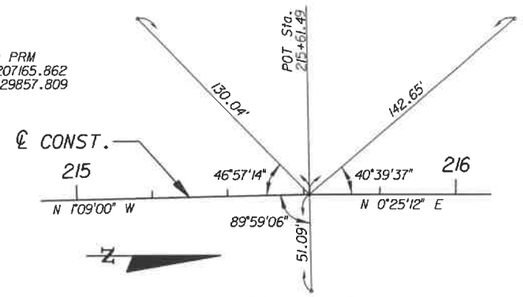
SUMMARY OF DRAINAGE QUANTITIES

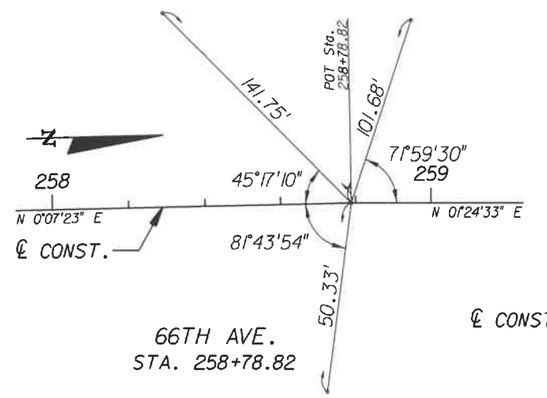
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

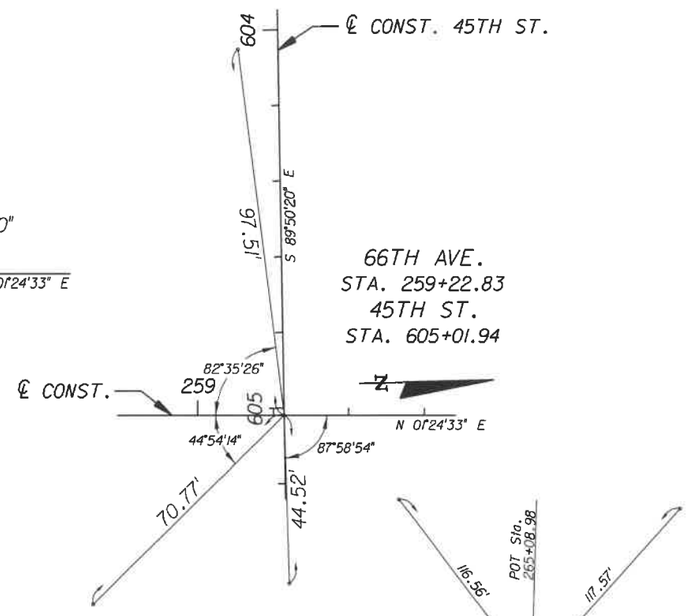
SHEET: 16
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

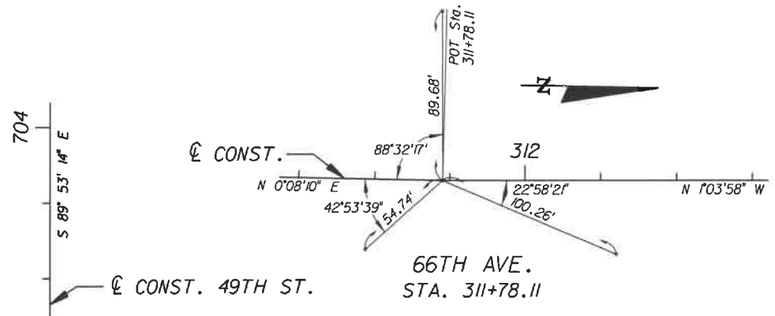
A1053SUMDRD03.dgn 3/15/2017 9:56:40 AM

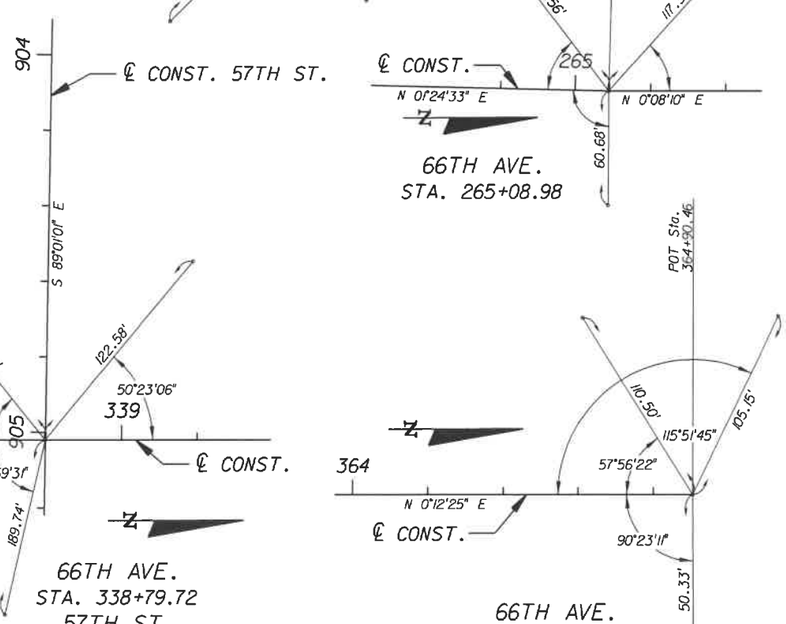


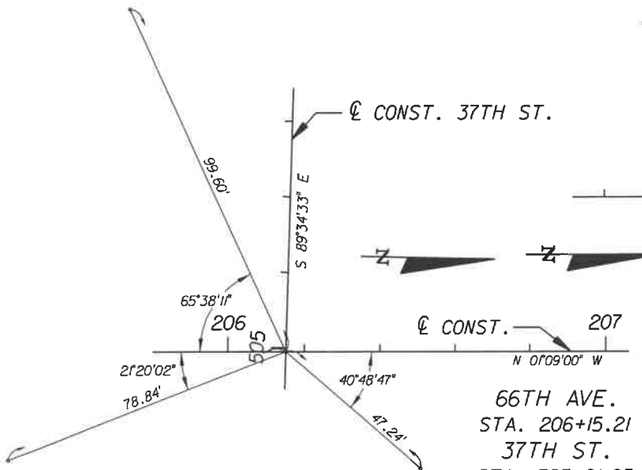


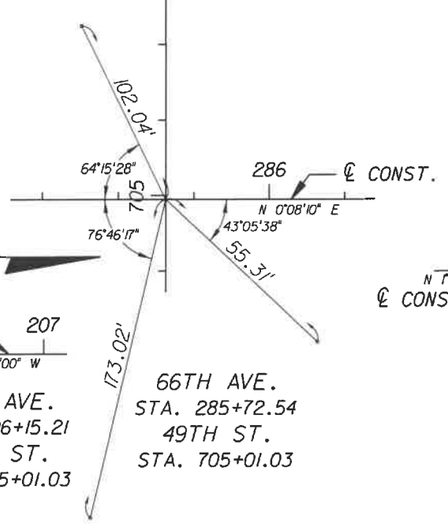


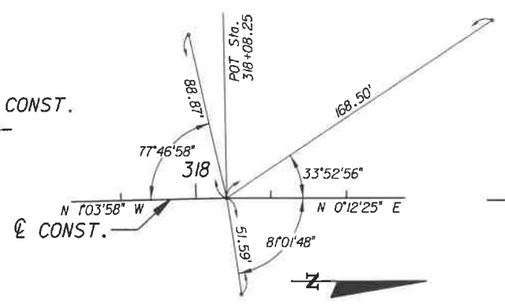












GB3107/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

REFERENCE TIES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 17
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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GENERAL NOTES

1. PRIOR TO COMMENCEMENT OF ANY EXCAVATION. THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
2. ALL GRADES SHOWN ARE FINISHED GRADES. UNLESS OTHERWISE NOTED.
3. STATIONING AND OFFSETS REFER TO THE CENTERLINE OF CONSTRUCTION. UNLESS OTHERWISE NOTED.
4. ALL RETURN RADII DIMENSIONS, STATIONS, OFFSETS, AND ELEVATIONS REFER TO THE EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
5. BENCHMARK (B.M.) LOCATIONS ARE INDICATED BY THE SYMBOL:
6. B.M. DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD-29).
7. ANY EXISTING SECTION CORNER, QUARTER SECTION CORNER AND INDIAN RIVER COUNTY SURVEY CONTROL MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED. THE CONTRACTOR SHALL HAVE A PROFESSIONAL LAND SURVEYOR REFERENCE IT PRIOR TO CONSTRUCTION, AND RESET IT AFTER CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE INDIAN RIVER COUNTY SURVEYOR PRIOR TO DISTURBING ANY EXISTING MONUMENT.
8. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DISTURBED, AND HAS NOT BEEN PROPERLY REFERENCE, THE CONTRACTOR SHALL NOTIFY THE DISTRICT LOCATION SURVEYOR. WITHOUT DELAY. BY TELEPHONE.
9. ANY NGVD-29 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHOULD NOTIFY:
   MARK MAINTENANCE SECTION
   GEODETIC INFORMATION CENTER ATTN: N/CG-162
   ROCKVILLE, MARYLAND 20852
   TELEPHONE: 301-443-8319
10. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED AND THE CONTRACTOR IS ISSUED A "NOTICE TO PROCEED".
11. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES AS INDICATED IN FDOT STANDARD INDEXES 100, 102, 103, 104 AND 105 WHERE NECESSARY IN ORDER TO COMPLY WITH ALL STATE, LOCAL AND NPDES WATER QUALITY STANDARDS.
12. CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH FDOT INDEX NOS. 600 THRU 660 AND SHALL PROVIDE ALL BARRICADES, LIGHTING, CHANNELIZING DEVICES, TEMPORARY PAVEMENTS, TEMPORARY SIGNALS, ATTENUATORS, VARIABLE MESSAGE SIGNS,SIGNAGE AND FLAG MEN AS NECESSARY OR ANYTHING ELSE THAT MAY BE REQUIRED TO MEET FDOT INDEX 600 TO PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE AREA OF THE WORK. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FDOT ROADWAY & TRAFFIC DESIGN STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL PREPARE & SUBMIT SIGNED & SEALED TRAFFIC CONTROL PLANS TO INDIAN RIVER COUNTY FOR APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION.
13. EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN, UNLESS OTHERWISE NOTED. ANY DRAINAGE STRUCTURES SHOWN TO NOT REMAIN IN SERVICE SHALL BE REMOVED FROM THE RIGHT OF WAY IN THIER ENTIRETY
14. DURING CONSTRUCTION, SHOULD ANY DRAINAGE STRUCTURES (INCLUDING PIPES) BE FOUND THAT ARE NOT SHOWN ON THE PLANS, NOTIFY THE ENGINEER IMMEDIATELY.
15. EXISTING UTILITIES ARE TO BE ADJUSTED OR RELOCATED BY OTHERS AS DIRECTED BY THE ENGINEER, UNLESS OTHERWISE NOTED.
16. IN REFERENCE TO EXISTING UTILITIES AND UTILITY ADJUSTMENTS:
   A. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION THE CONTRACTOR SHALL INFORM THE ENGINEER AND NOTIFY THE RESPECTIVE UTILITY OWNER(S) TO RESOLVE UTILITY CONFLICTS AND UTILITY ADJUSTMENTS AS REQUIRED.
   B. FOR EXISTING UTILITY SYMBOLS, SEE FDOT STANDARD INDEX 002.
   C. WATER AND SANITARY SEWER UTILITY WORK SHALL BE IN CONFORMANCE WITH ALL CODES, STANDARDS, AND ORDINANCES CURRENTLY H.R.S., AND THE LOCAL UTILITY DEPT. OWNING THE FACILITIES.
17. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD OR UNDERGROUND UTILITIES.
18. CONTRACTOR SHALL NOTIFY IRC COUNTY SURVEYOR AND SUNSHINE STATE "ONE CALL" (1-800-432-4770) AND ALL AFFECTED UTILITIES 48 HOURS IN ADVANCE OF ANY CONSTRUCTION SO THAT A COMPANY REPRESENTATIVE MAY BE PRESENT.
19. EXISTING UTILITY OWNERS:

IRC UTILITIES DEPARTMENT	ARJUNA WERAGODA	772-770-5300
IRC TELECOMMUNICATION DIVISION	MANNY CABO	772-567-8000x1318
FP&L PROJECTS & RELOCATIONS	ROB MORRIS	772-223-4215
FP&L	DENNIS PAGANO	772-489-6204
FLORIDA GAS TRANSMISSION Co.	JOSEPH E. SANCHEZ	407-838-7000
AT&T	MARK GUTIERREZ	772-460-4443
CITY GAS COMPANY OF FLORIDA	GLEN "BOCK" KREINHAGEN	772-781-2551x23
BELLSOUTH TELECOMMUNICATIONS, INC.	ROBERT MOYANO	772-460-4500
COMCAST CABLE COMMUNICATIONS	DONALD STEPHENS	561-718-4614
VERO ELECTRIC	TED FLETCHER	772-978-5460
IRC TRAFFIC ENGINEERING	JOHN ANKENY	772-226-1563

20. WHEN UTILITY POLES ARE IN AREAS OF EXCAVATIONS, CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION OF FIVE (5') FEET BETWEEN THE POLE AND ANY EXCAVATION.
21. WHEN WORKING WITHIN TEN (10') FEET OF A TRAFFIC SIGNAL POLE, INDIAN RIVER COUNTY TRAFFIC ENGINEERING SHALL BE NOTIFIED: 772-226-1547.
22. INTERSECTING ROADS AND DRIVEWAYS SHALL BE GRADED AS DIRECTED BY THE ENGINEER, UNLESS OTHERWISE NOTED ON THE PLANS.
23. WHERE OPEN-CUTS OF THE EXISTING ROADWAY ARE MADE IN ORDER TO INSTALL PIPELINES, CONDUITS OR SLEEVES, REPAIR THE PAVEMENT IN ACCORDANCE WITH THE "OPEN-CUT PAVEMENT REPAIR DETAIL" IN THESE PLANS. MAINTAIN REPAIRED PAVEMENT FOR THE DURATION OF THE PROJECT. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL
24. STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.

    IN REFERENCE TO THE PROPOSED DRAINAGE STRUCTURES & PIPE:
   A. SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES MAY EXTEND INTO THE COMPACTED SUBGRADE PORTION OF THE ROAD BED. EXTREME CAUTION WILL BE NECESSARY DURING COMPACTION OPERATIONS IN THESE LOCATIONS. ANY DRAINAGE CULVERT THAT EXTENDS INTO THE COMPACTED SUBGRADE PORTION OF MATERIAL SHALL BE CLASS IV RCP
   B. CONCRETE PIPE CULVERT (R.C.P.) SHALL BE CLASS III, WALL B UNLESS OTHERWISE NOTED.
   C. ALL STORM STRUCTURE TOPS SHALL BE ADJUSTED AT TIME OF FINAL PAVEMENT OR CURB CONSTRUCTION. FINAL ADJUSTMENT OF ALL TOPS SHALL BE THE RESPONSIBILITY OF THE UNDERGROUND CONTRACTOR.
   D. THE LENGTHS OF PIPE SHOWN HEREON HAVE BEEN DETERMINED BY CALCULATING THE DISTANCE BETWEEN THE "CENTERLINE" OF THE INLETS AND/OR MANHOLES.
   E. ALL DITCH BOTTOM INLETS SHALL HAVE AN EYEBOLT AND CHAIN IN ACCORDANCE WITH FDOT INDEX 201.
   F. THE CONTRACTOR SHALL VERIFY THE EXISTING INVERT ELEVATIONS AND DIMENSIONS OF ALL EXISTING DRAINAGE STRUCTURES PRIOR TO FABRICATION OF PROPOSED DRAINAGE STRUCTURES.
   G. OFFSETS TO CURB INLETS AS SHOWN ARE OFFSETS TO PROPOSED EDGE OF PAVEMENT.
   H. ALL DRAINAGE STRUCTURE GRATES SHALL BE GALVANIZED, RETICULINE, H-20 STEEL GRATE.
25. ALL MAILBOXES CURRENTLY SERVED FROM THE ROADWAY BEFORE CONSTRUCTION MUST BE SERVED IN THE SAME MANNER AFTER CONSTRUCTION. CONFORM WITH FDOT STANDARD INDEX 532. COST OF THIS ITEM SHALL BE INCLUDED UNDER THE CONTRACT PRICE FOR CLEARING AND GRUBBING.
26. ALL EXISTING FDOT/ INDIAN RIVER COUNTY SIGNS WITHIN THE LIMITS OF CONSTRUCTION WHICH ARE TO BE RELOCATED OR REMOVED SHALL BE REMOVED BY THE CONTRACTOR AND STOCKPILED WITHIN THE RIGHT-OF-WAY FOR REMOVAL OR RELOCATION BY INDIAN RIVER COUNTY FORCES. NOTIFY INDIAN RIVER COUNTY TRAFFIC OPERATIONS AT 772-226-3461.
27. CONTRACTOR SHALL EXERCISE CAUTION WHILE REMOVING AND/OR RELOCATING EXISTING SIGNS IN ORDER TO PREVENT ANY UNNECESSARY DAMAGE TO THE SIGNS. SIGNS WHICH ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING THE EXISTING PAVEMENT MARKINGS BEFORE WORK IS STARTED AND THIS INFORMATION SHALL BE USED IN CONJUNCTION WITH TEMPORARY STRIPING AND FINISHED STRIPING.
29. EXCAVATED SOILS AND EXISTING ROCK BASE MAY BE USED FOR EMBANKMENT CONSTRUCTION PROVIDED THAT THE MATERIAL IS CLEAN FILL, FREE OF ORGANIC MATERIALS, ROOTS OR OTHER DELETERIOUS MATERIALS, AND CONFORMS WITH FDOT SPECIFICATIONS AND FDOT STANDARD INDEX 505.
30. ANY BORROW MATERIAL REQUIRED FOR THE PROJECT SHALL BE FURNISHED BY THE CONTRACTOR FROM AREAS PROVIDED BY HIM, AND THE COST OF FURNISHING SUCH MATERIAL SHALL BE INCLUDED IN THE CONTRACT PRICE FOR EMBANKMENT (COMPACTED IN PLACE).
31. ALL MUCK AND PLASTIC MATERIAL WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH FDOT STANDARD INDEX 500.
32. NONE OF THE EXISTING BASE THAT IS REMOVED DURING CONSTRUCTION SHALL BE USED IN THE CONSTRUCTION OF THE PROPOSED BASE, UNLESS AUTHORIZED, IN WRITING, BY THE ENGINEER.
33. ALL VEGETATION, DEBRIS, PAVEMENT, CONCRETE OR OTHER UNSUITABLE MATERIALS SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA PROVIDED BY THE CONTRACTOR.
34. ALL EXISTING IRRIGATION SYSTEM COMPONENTS CONFLICTING WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. EXISTING PIPES SHALL BE CAPPED PRESSURE TIGHT AT THE R/W LINE OR LIMITS OF CONSTRUCTION. EXISTING CONTROL WIRING SHALL BE CUT, SEALED AND LEFT BURIED BELOW GRADE AT THE R/W LINE OR LIMITS OF CONSTRUCTION. IN ALL CASES, THE CONTRACTOR SHALL CLEARLY MARK IN THE FIELD ALL IRRIGATION SYSTEM BREAKS IN A MANNER ACCEPTABLE TO THE ENGINEER FOR FUTURE RECONNECTION OR EXTENSION BY OTHERS. THE COST FOR IRRIGATION SYSTEM REMOVAL, CAPPING PIPE AND SEALING WIRING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR CLEARING AND GRUBBING.
35. DRIVEWAY SLOPES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER TO MATCH EXISTING CONDITIONS.
36. ALL EXISTING INLET GRATES & MANHOLE CASTINGS WHICH ARE REMOVED WITHIN THE LIMITS OF COUNTY R/WS SHALL BE STOCKPILED WITHIN THE R/W FOR REMOVAL BY COUNTY FORCES CONTACT IRC ROAD & BRIDGE DIVISION AT (772) 770-5085.
37. THE CONTRACTOR SHALL COMPLETELY REMOVE EXISTING ASPHALT & BASE MATERIAL FROM AREAS TO BE SODDED. BACKFILL SHALL CONSIST OF CLEAN GRANULAR FILL MATERIAL.
38. CONTRACTOR SHALL EXERCISE PROPER CARE & CAUTION WHEN DRIVING GUARDRAIL POSTS IN THE VICINITY OF EXISTING & PROPOSED UTILITY LINES, INCLUDING THE 12" RAW WATER MAIN. CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO POST INSTALLATION. THE ENGINEER MAY DIRECT THE USE OF ENCASED GUARDRAIL POST IN LIEU OF STANDARD POSTS IF NECESSARY TO AVOID EXISTING UTILITIES AT NO ADDITIONAL COST TO THE COUNTY.
39. ALL LANE CLOSURES SHALL BE APPROVED IN ADVANCE BY INDIAN RIVER COUNTY. ALL TEMPORARY/SHORT-TERM LANE CLOSURES SHALL BE OPEN IN CASE OF EMERGENCY.
40. THE CONTRACTOR SHALL COORDINATE SELECTION AND REVIEW OF ANY PROPOSED STAGING AREAS ASSOCIATED WITH THIS PROJECT WITH THE INDIAN RIVER COUNTY CONSTRUCTION COORDINATION DIVISION AT (772) 226-1567 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO USE. UPON COMPLETION OF THIS PROJECT THE STAGING AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST TO THE COUNTY.
41. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY INDIAN RIVER COUNTY & FDEP, A PROJECT SPECIFIC STORMWATER POLLUTION PREVENTION PLAN. THIS PLAN SHALL BE APPROVED PRIOR TO THE START OF CONSTRUCTION.
42. THE CONTRACTOR SHALL NOT BRING HAZARDOUS MATERIALS ONTO THE PROJECT. SHOULD THE CONTRACTOR REQUIRE SUCH MATERIALS FOR PERFORMING THE CONTRACTED WORK, THE CONTRACTOR SHALL REQUEST, IN WRITING, WRITTEN PERMISSION FROM THE PROJECT ENGINEER. THE CONTRACTOR SHALL PROVIDE A COPY OF THE REQUEST TO THE INDIAN RIVER COUNTY CONSTRUCTION COORDINATION DIVISION. THE CONTRACTOR SHALL PROVIDE THE INDIAN RIVER COUNTY CONSTRUCTION COORDINATION DIVISION WITH A COPY OF THE MATERIAL SAFETY DATA SHEET (SDS) FOR EACH HAZARDOUS MATERIAL PROPOSED FOR USE, AND PROVIDE A DESCRIPTION OF THE SPECIFIC MANNER IN WHICH THE MATERIAL WILL BE USED. THE PROJECT ENGINEER SHALL COORDINATE WITH THE INDIAN RIVER COUNTY CONSTRUCTION COORDINATION DIVISION PRIOR TO ISSUING WRITTEN APPROVAL TO THE CONTRACTOR. BECAUSE STATE LAW DOES NOT TREAT PETROLEUM PRODUCTS THAT ARE PROPERLY CONTAINERIZED AS HAZARDOUS MATERIALS, SUCH PRODUCTS DO NOT REQUIRE AN SDS SUBMITTAL. ALL BULK PETROLEUM PRODUCTS STORED ON SITE SHALL REQUIRE PROPER STORAGE WHICH INCLUDES SECONDARY CONTAINMENT.
43. ANY KNOWN OR SUSPECT HAZARDOUS MATERIAL FOUND ON THE PROJECT BY THE CONTRACTOR SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER, WHO SHALL DIRECT THE CONTRACTOR TO PROTECT THE AREA OF KNOWN OR SUSPECT HAZARDOUS MATERIAL FROM FURTHER ACCESS. THE PROJECT ENGINEER IS TO NOTIFY THE PROPER REGULATORY AUTHORITY OF THE DISCOVERY. THE PROPER REGULATORY AUTHORITY WILL ADVISE/DIRECT THE PROJECT ENGINEER IN THE INVESTIGATION, IDENTIFICATION AND/OR REMOVAL/REMEDIATION OF THE MATERIAL IN QUESTION AS NEEDED. THE CONTRACTOR SHALL NOT RETURN TO THE AREA OF SUSPECTED CONTAMINATION UNTIL APPROVAL IS PROVIDED BY THE PROJECT ENGINEER. THE REGULATORY AUTHORITY WILL ADVISE THE PROJECT ENGINEER IN THESE MATTERS.
44. CONTRACTOR SHALL MAINTAIN EXISTING FIBER OPTIC CABLE SERVING THE INDIAN RIVER COUNTY SHERIFF'S OFFICE IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
45. CONTRACTOR SHALL SUBMIT A PROJECT SPECIFIC HURRICANE PREPAREDNESS PLAN FOR REVIEW AND ACCEPTANCE. THIS PLANS SHALL DETAIL THE CONTRACTOR'S PROCEDURES AND TIMELINES FOR DEMOBILIZATION AND REMOBILIZATION IN THE EVENT OF A TROPICAL EVENT.

GB310/ LC26000269

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 11-11-03
FIELD BOOK NO.

GENERAL NOTES
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 18
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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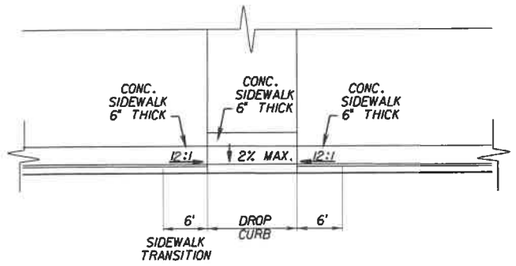
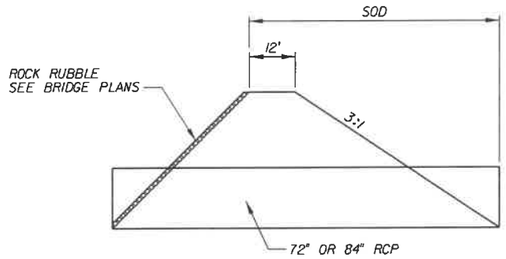
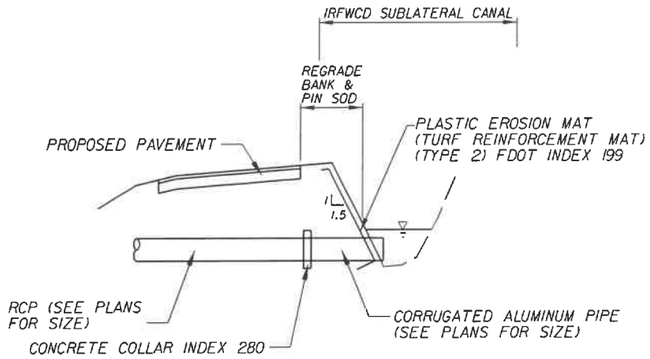


PLAN VIEW
N.T.S.



SLOPE DETAIL AT LATERAL CANALS
N.T.S.



DETAIL AT SUBLATERAL CANALS
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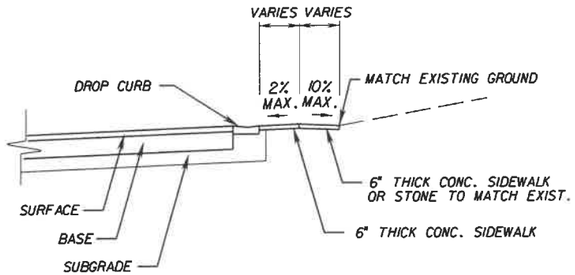
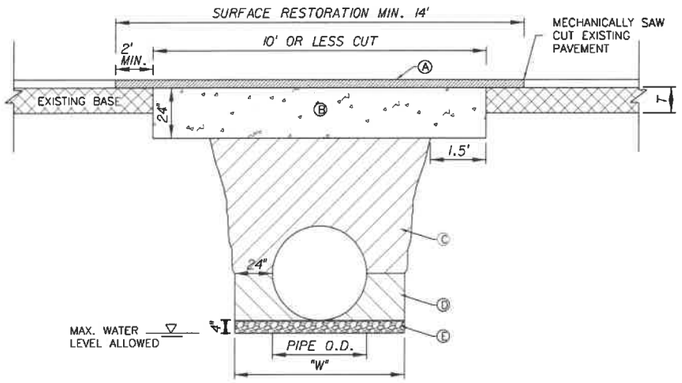


PROFILE
N.T.S.

DRIVEWAY DETAIL
N.T.S.



STORMWATER/UTILITY PIPE INSTALLATION

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
1.1. ALL INSTALLATIONS LESS THAN 12" DIAMETER AND NON GRAVITY UTILITIES SHALL BE BY DIRECTIONAL BORE.
1.2. PARTIAL LANE CUTS REQUIRE A MINIMUM OF SINGLE LANE RESTORATION.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION FOR APPROVAL BY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. NEW SURFACING MATERIALS SHALL BE CONSISTENT OR BETTER THAN EXISTING CONDITIONS AND SHALL HAVE BUTT JOINTS (2.5 INCH MINIMUM THICKNESS).
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS AND FDOT STANDARDS (LATEST EDITION).
6. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.

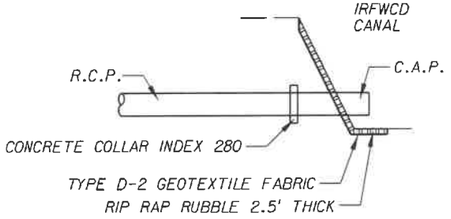
Ⓐ MINIMUM EXISTING PAVEMENT DEPTH OR PER COUNTY ROADWAY DESIGN CRITERIA DETAIL, WHICHEVER IS GREATER.

Ⓑ FLOWABLE FILL AS DEFINED AS NON-EXCAVATABLE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTH OF 125-300 PSI.

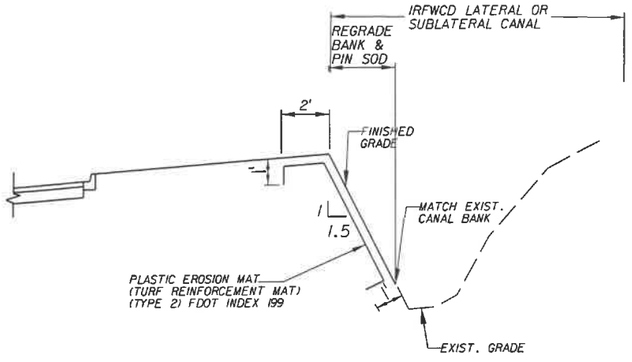
Ⓒ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 6" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180.

Ⓓ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.

Ⓔ ¾" DIAMETER, WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.



RIP RAP RUBBLE DETAIL
N.T.S.



DETAIL OF FILL AT LATERAL OR SUBLATERAL CANALS
N.T.S.

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(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062
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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

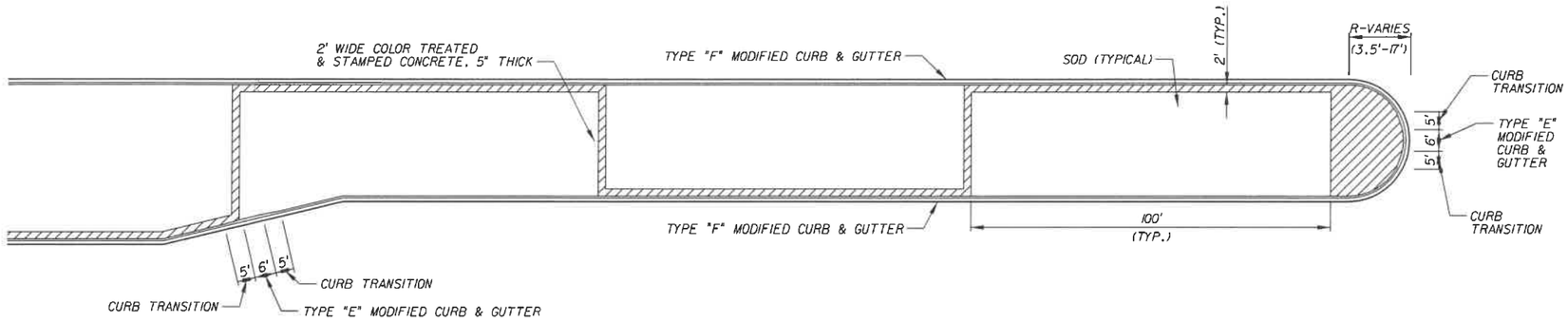
SCALE: N.T.S.
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 03-28-08
FIELD BOOK NO.

DETAIL

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 19
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

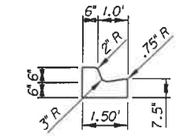
A1053DRDTRD02.dgn 10/11/2017 4:49:49 PM



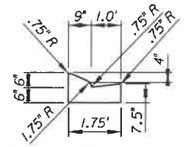
COLOR TREATED & STAMPED CONCRETE TREATEMENT AT LEFT TURN LANES

1"=40'

NOTE: 1) TO BE CONSTRUCTED AT ALL LEFT TURN LANES BETWEEN STATION 294+93 AND 354+00
2) COLOR TREATED & STAMPED CONCRETE SHALL BE 3,000 PSI CONCRETE STAMPED IN A NEW BRICK RUNNING BOND PATTERN (SCOFIELD LITHOTEX PAVECRAFTERS OR EQUAL) COLORED WITH CROMIX ADMIXTURE (COLOR SELECTED BY THE ENGINEER) & SEALED WITH LITHOCROME SEALER.



TYPE "F" MODIFIED
NTS



TYPE "E" MODIFIED
NTS

GB310 / LC26000269
ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

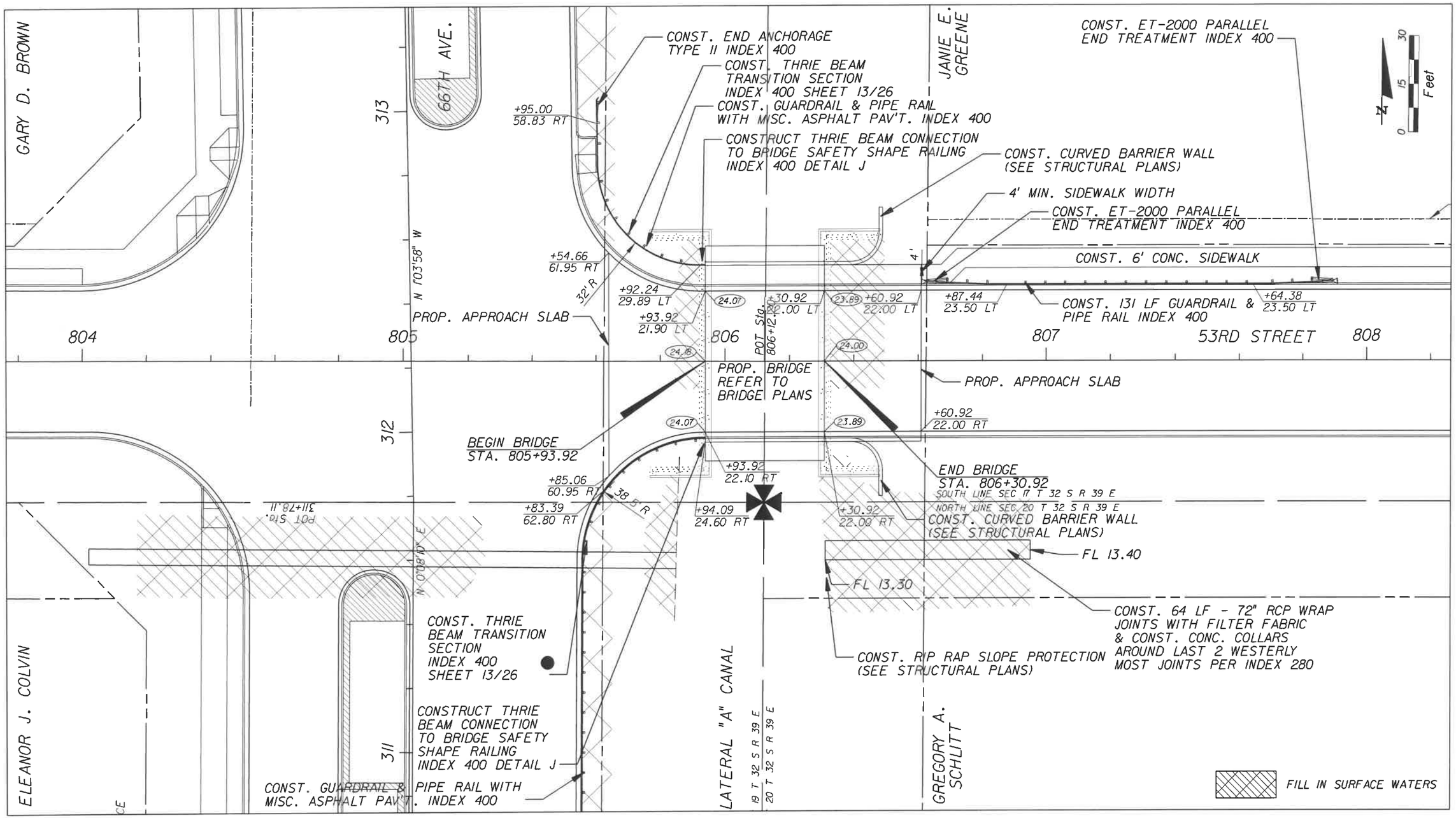
SCALE: N.T.S.
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DETAIL

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 20
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053DRDTRD03.dgn 3/15/2017 10:03:51 AM



GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION	BY.	DATE.

Department of Public Works
Engineering Division

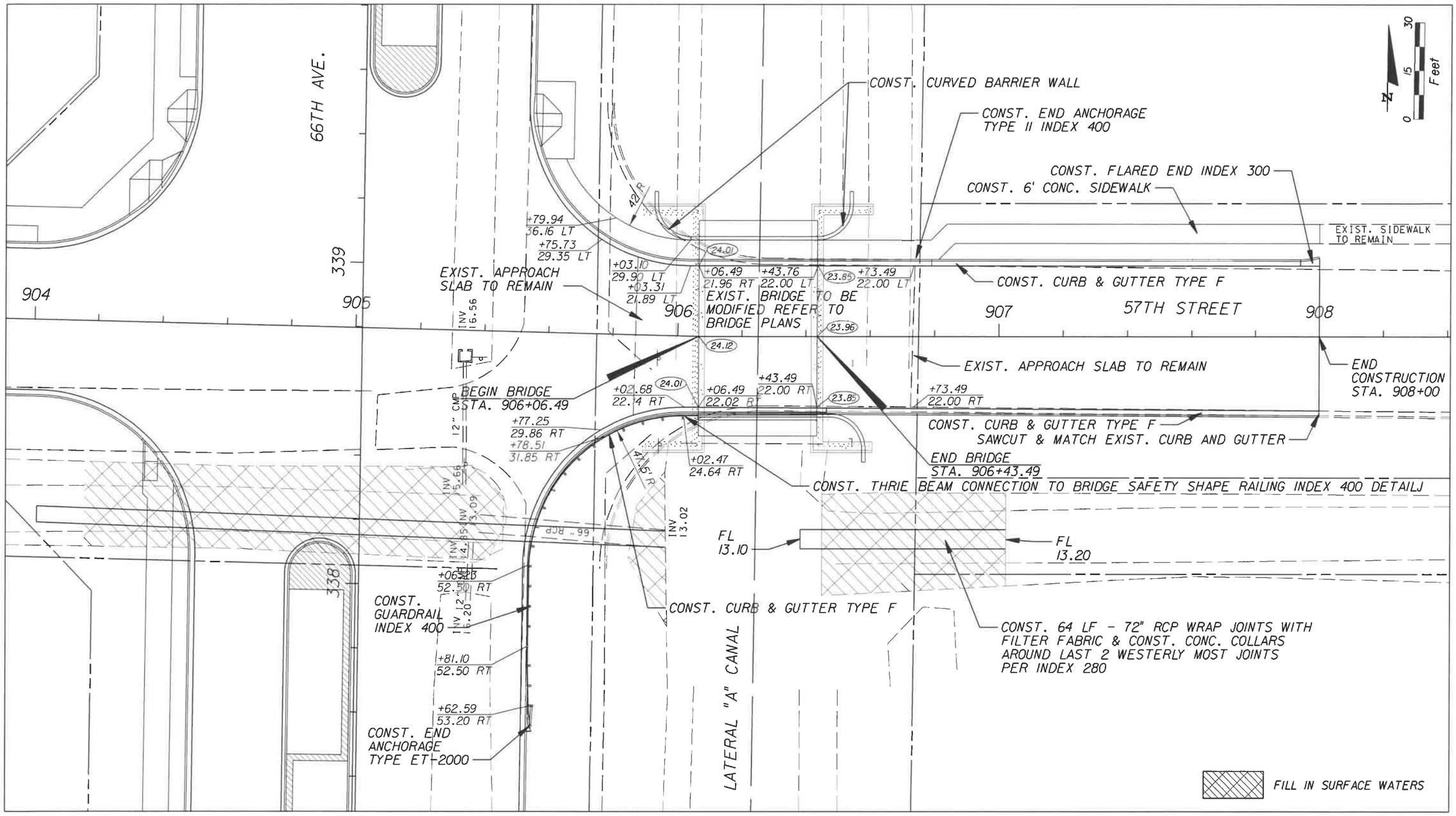
SCALE: 1"=30'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

DETAIL

66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 21
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRDTRD53.dgn 10/16/2017 1:27:38 PM



GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=30'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

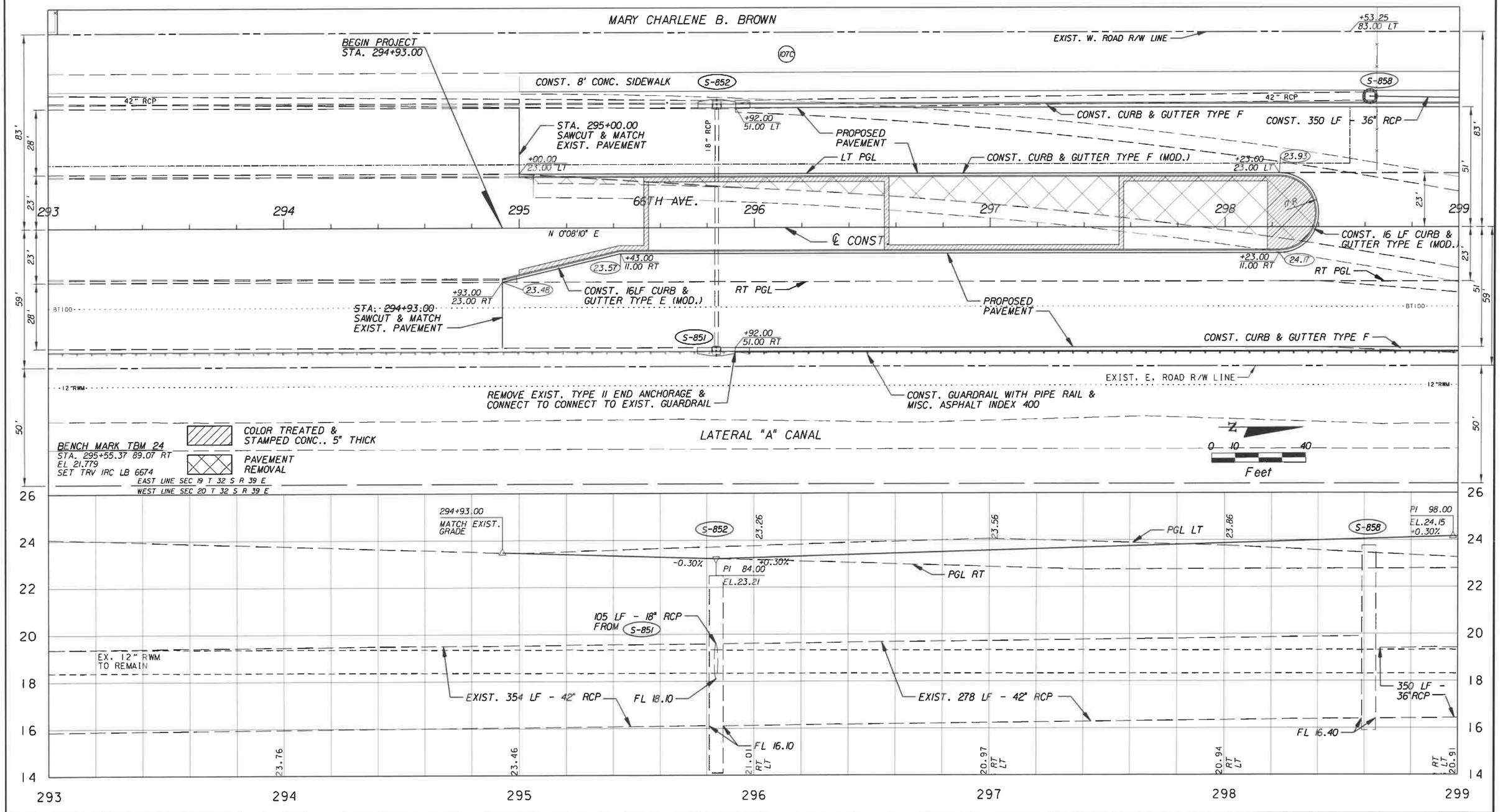
DETAIL

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 22
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053DRDTRD57.dgn 3/15/2017 10:05:07 AM



GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE. 1"=40'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 23
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLPRRD28.dgn 3/14/2017 9:43:42 AM

PROP. TCE
PROP. TCE
MARY CHARLENE B. BROWN
PROP. TCE
PROP. TCE
INDIAN RIVER COUNTY
1 STORY CBS
CONC. DRIVE
EXIST. W. ROAD R/W LINE
107B
G 4
13.75'
END ASPHALT CONC. DRIVEWAY 106.64 LT
107A
G 4
25.59'
END ASPHALT CONC. DRIVEWAY 96.81 LT
106
END ASPHALT CONC. DRIVEWAY 83.00 LT
G 4
20'
CONST. 350 LF - 36" RCP
S-857
CONST. 8' CONC. SIDEWALK
CONST. 314 LF - 30" RCP
CONST. CURB & GUTTER TYPE F
EXIST. FENCE TO BE REMOVED
PROPOSED PAVEMENT
CONC. DRIVE
EXIST. FENCE TO BE REMOVED
LT PGL
CONST. 16 LF - CURB & GUTTER TYPE E (MOD.)
23.45
+93.50
23.00 LT
CONC. DRIVE
24.19
+63.50
11.00 LT
EXIST. MAILBOX TO BE RELOCATED
CONST. CURB & GUTTER TYPE F (MOD.)
+43.50
11.00 LT
23.54
EXIST. LIGHT POLE TO BE REMOVED
299
300
301
302
303
304
305
N 0°08'10" E
℄ CONST. 66TH AVE.
CONST. 105 LF - 18" RCP
CONST. 16 LF CURB & GUTTER TYPE E (MOD.)
EXIST. MAILBOX TO BE RELOCATED
T2
+63.50
23.00 RT
23.95
RT PGL
CONST. CURB & GUTTER TYPE F (MOD.)
OE
OF OCATV
WM
BT100
EXIST. MAILBOXES TO BE RELOCATED (TYP.)
PROPOSED PAVEMENT
S-856
CONST. CURB & GUTTER TYPE F
EXIST. E. ROAD R/W LINE
12"RWM
CONST. GUARDRAIL WITH PIPE RAIL & MISC. ASPHALT INDEX 400
COLOR TREATED & STAMPED CONC., 5" THICK
PAVEMENT REMOVAL
LATERAL "A" CANAL
BENCH MARK TBM 25
STA. 302+05.34 53.45 RT
EL 22.010
SET TRV IRC LB 6674
EAST LINE SEC 19 T 32 S R 39 E
WEST LINE SEC 20 T 32 S R 39 E
0 10 40
Feet

24.14
-0.30%
23.84
23.55
23.25
23.47
23.77
PGL LT
PGL RT
-0.30%
PI 12.00
+0.30%
EL 23.21
S-857
105 LF - 18" RCP FROM S-856
BT
EX. 12" RWM TO REMAIN
350 LF - 36" RCP
314 LF - 30" RCP
FL 18.10
FL 17.00
FL 16.60
RT LT
20.88
RT LT
20.85
20.82
20.79
20.76
20.73
26
24
22
20
18
16
14
299
300
301
302
303
304
305

GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY:	DATE:

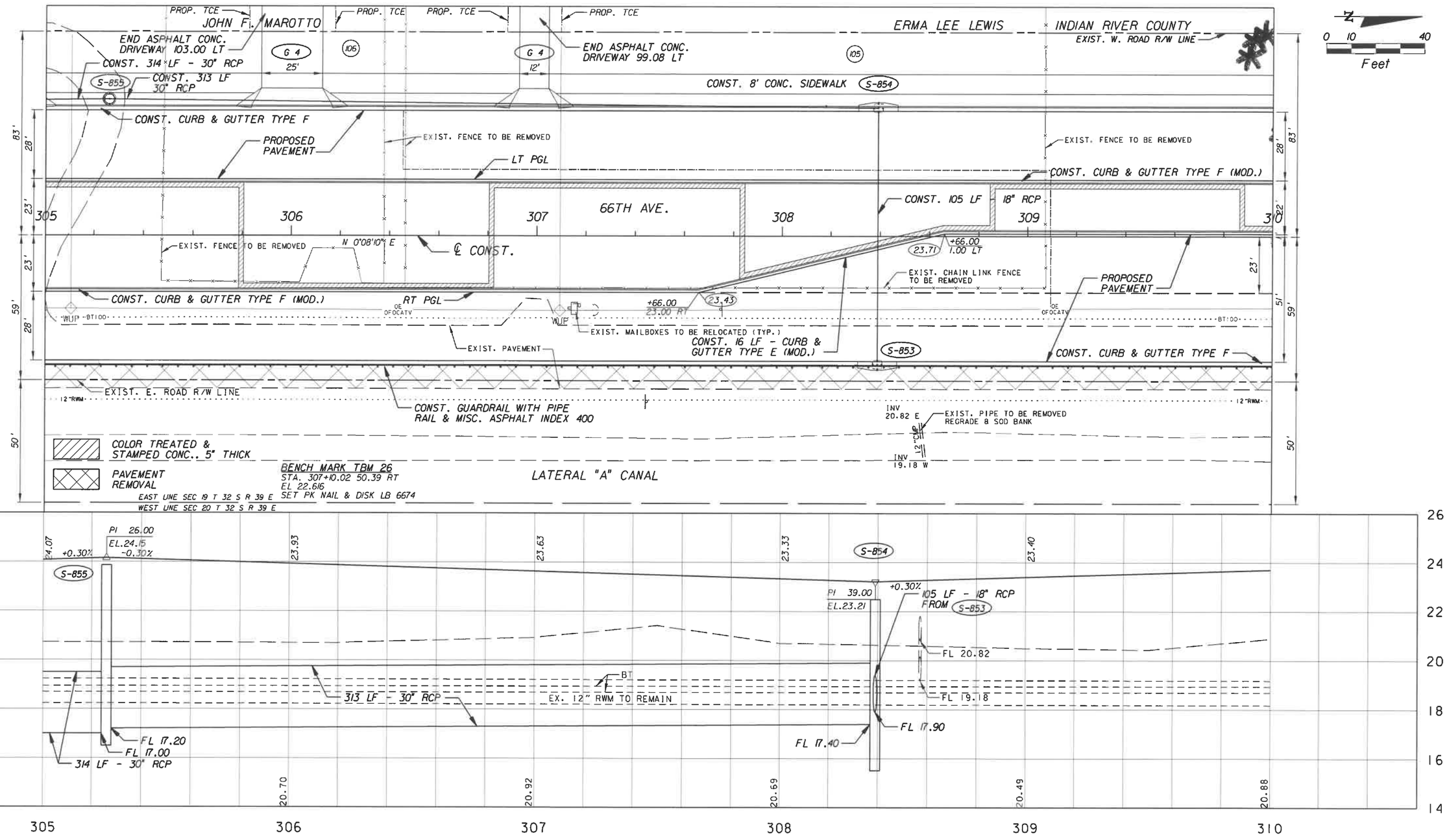
INDIAN RIVER COUNTY FLORIDA
Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 24
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD29.dgn 4/11/2017 3:19:30 PM



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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

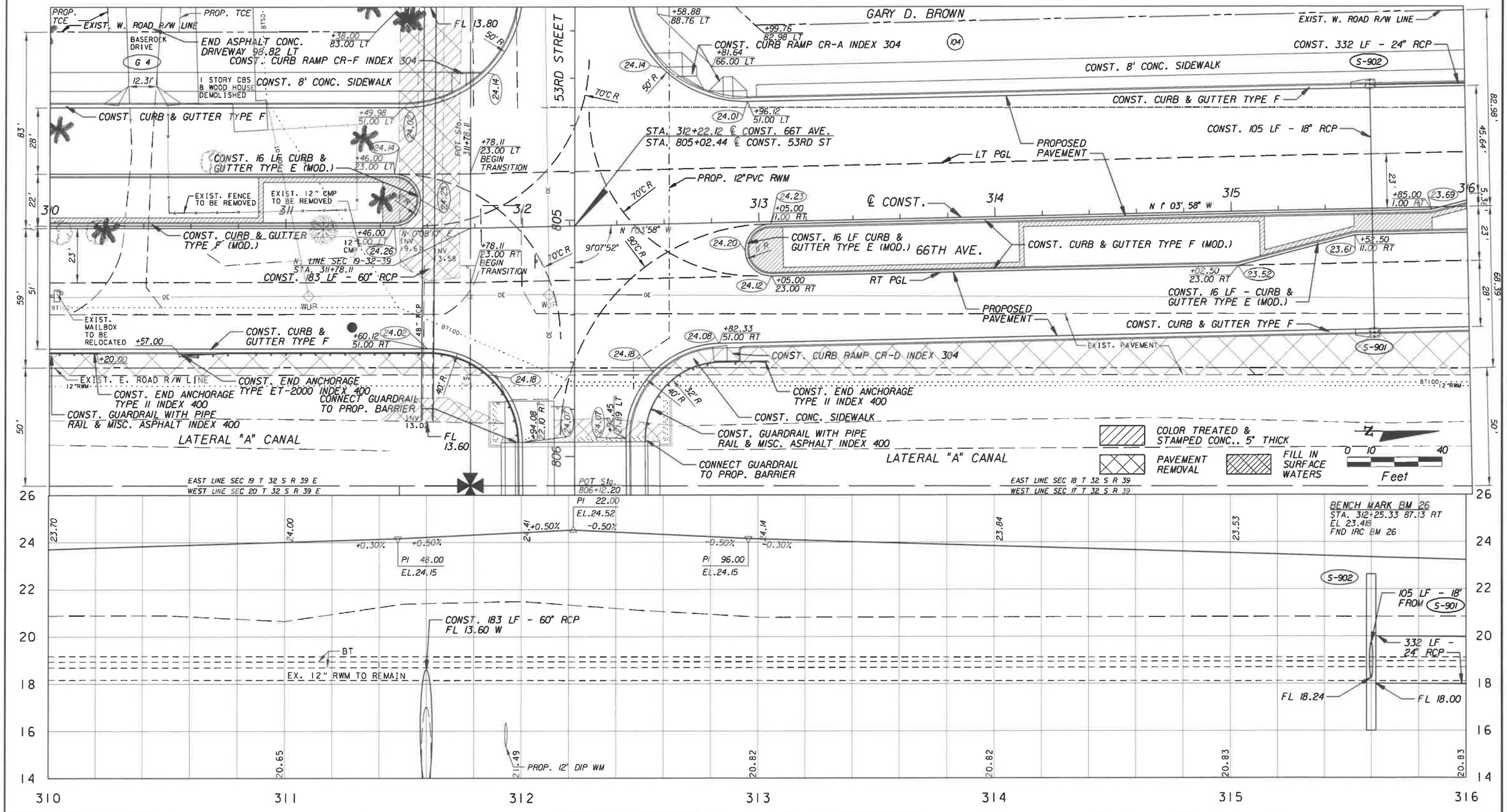
PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 25
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD30.dgn 4/11/2017 3:22:02 PM



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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

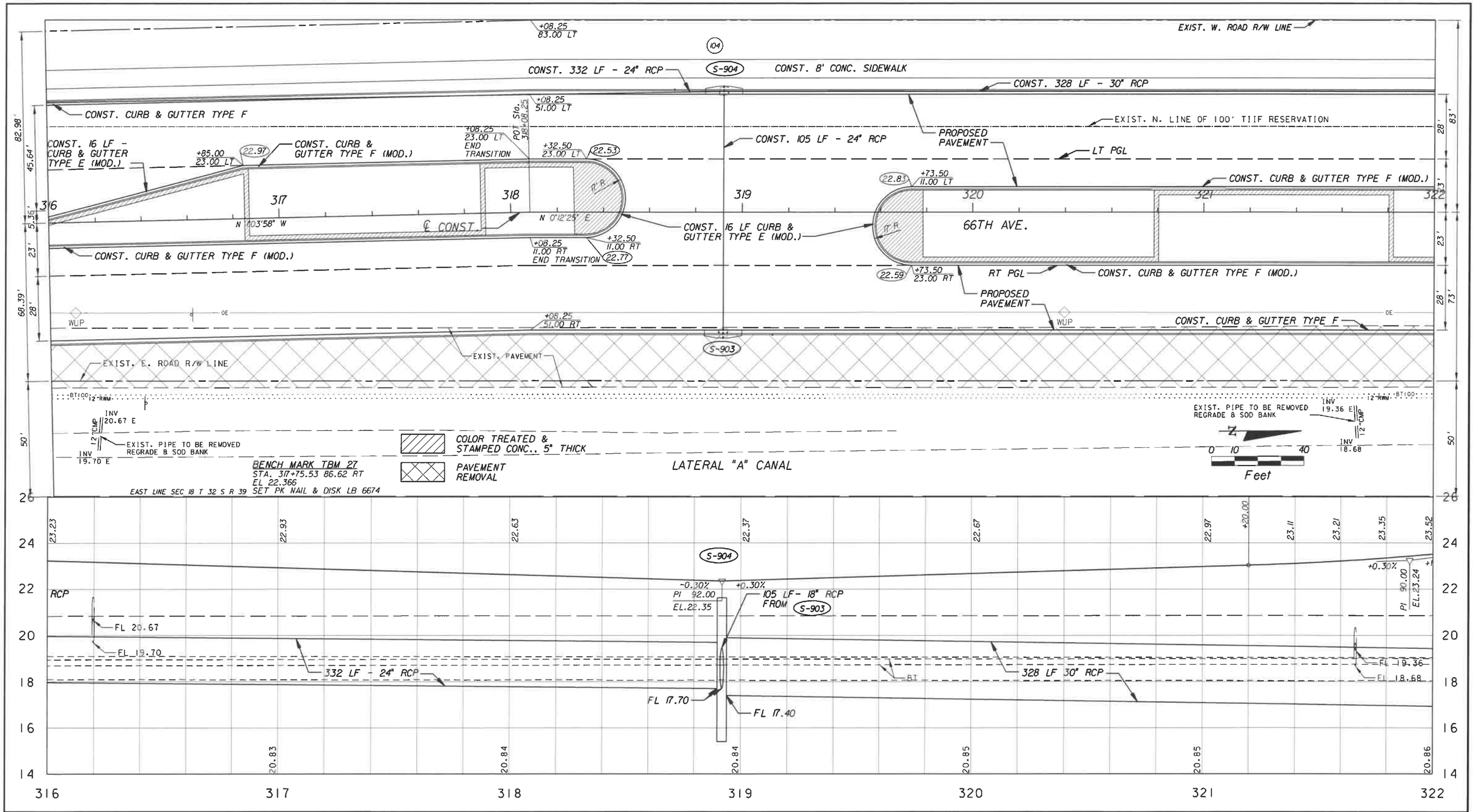
PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 26
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD31.dgn 11/17/2017 9:30:20 AM



GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

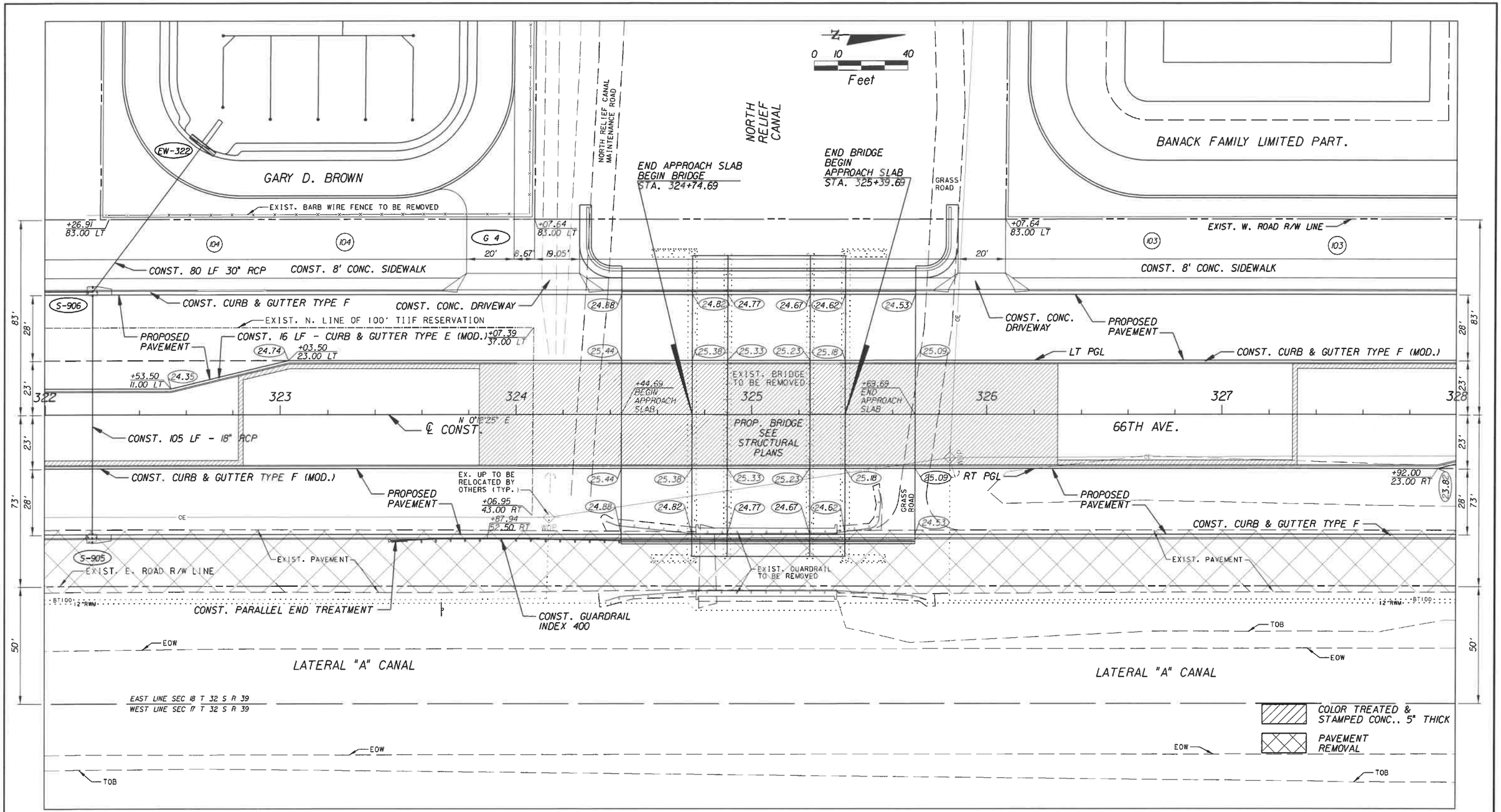
PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 27
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLPRRD32.dgn 3/15/2017 10:08:01 AM



GB310/LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

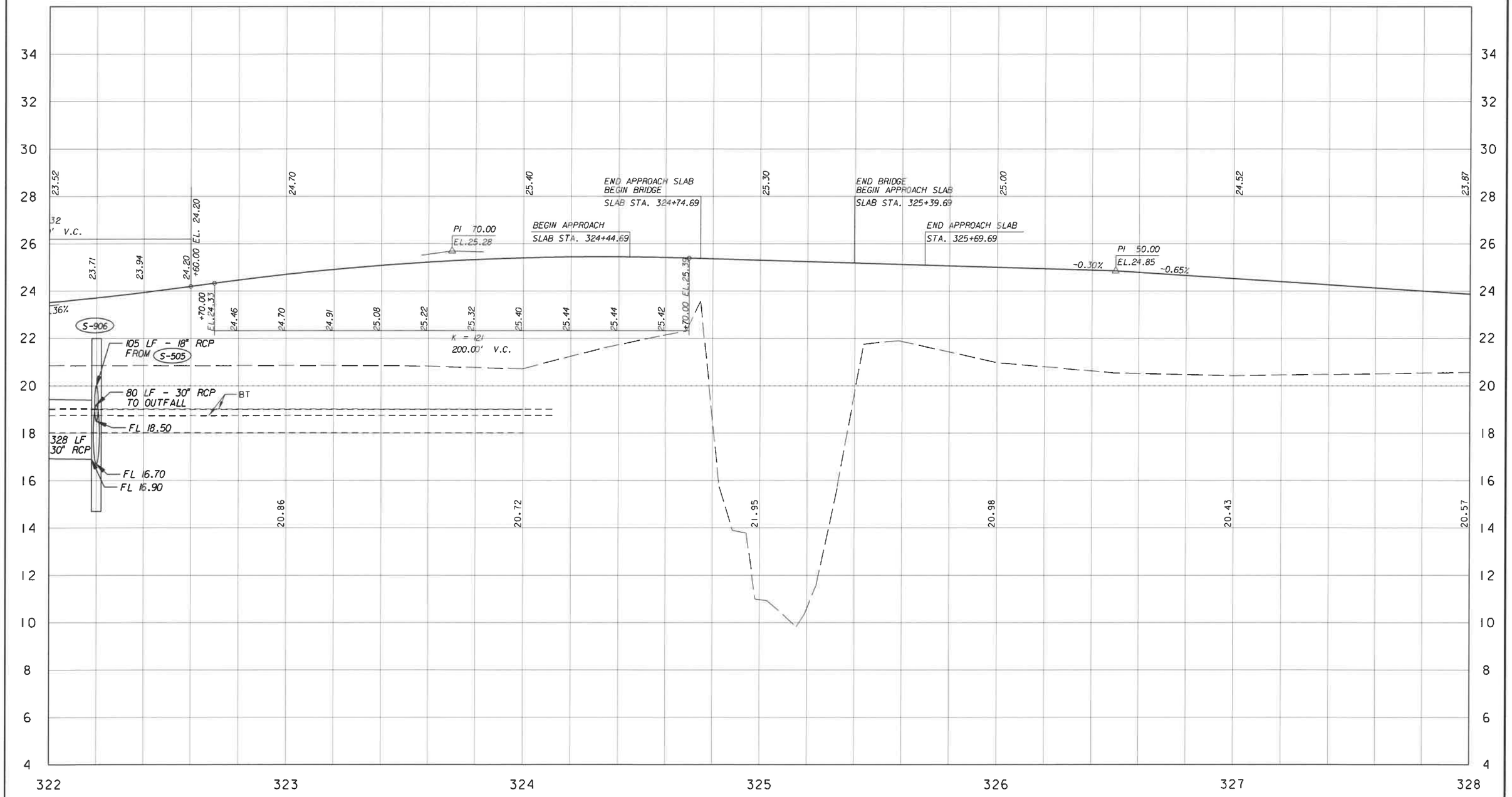
PLAN

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 28
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLANRD33.dgn 3/15/2017 10:08:29 AM



GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

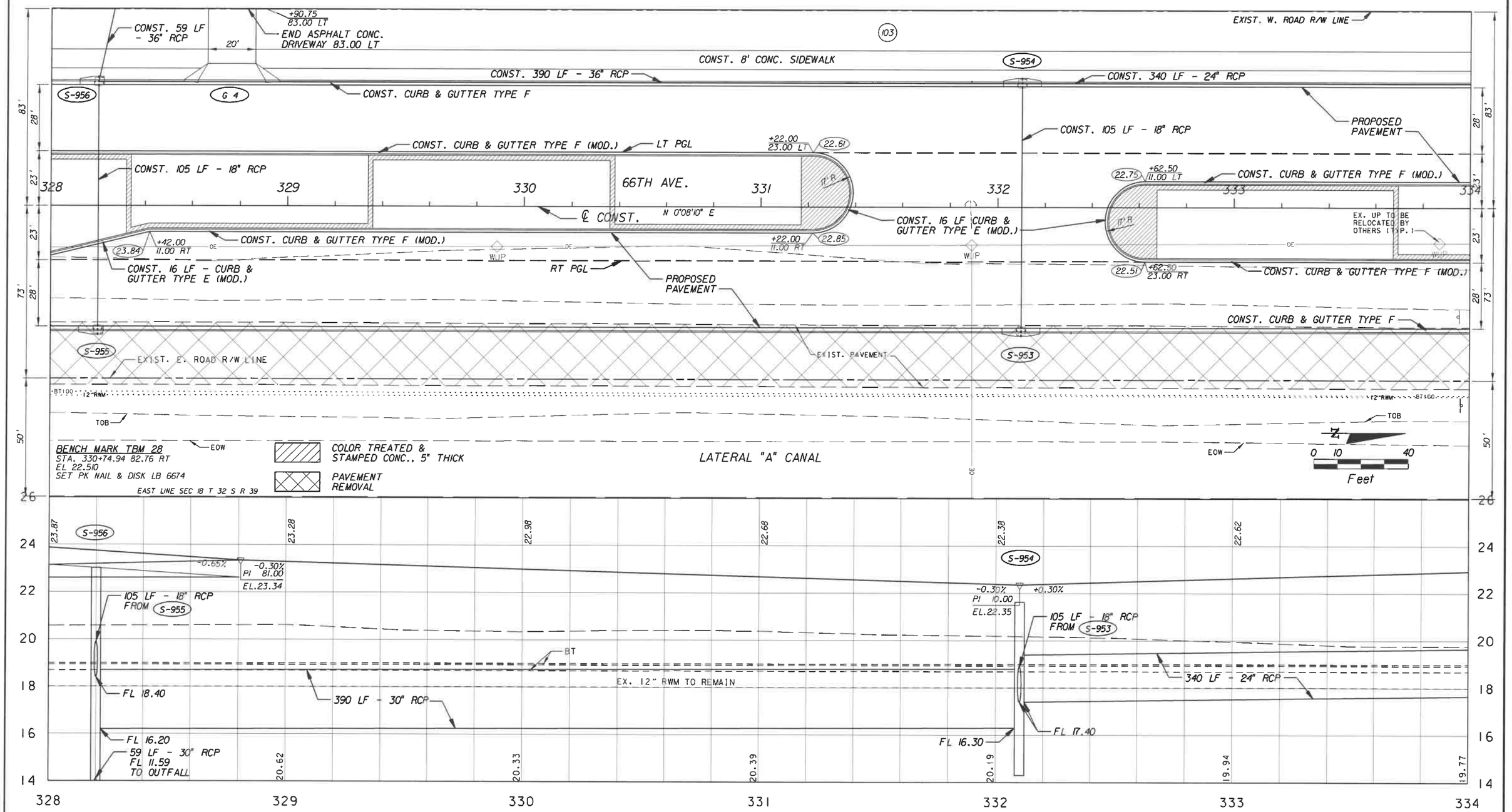
PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 29
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PROFRD033.dgn 3/15/2017 10:08:58 AM



GB310 / LC26000269
ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 30
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD34.dgn 4/11/2017 3:23:20 PM

EXIST. W. ROAD R/W LINE
TOB
TOB
103
S-952
CONST. 8' CONC. SIDEWALK
CONST. 340 LF - 24" RCP
CONST. CURB & GUTTER TYPE F
PROPOSED PAVEMENT
CONST. 16 LF - CURB & GUTTER TYPE E (MOD.)
+92.50 23.00 LT
23.50
+42.50 11.00 LT
23.59
CONST. CURB & GUTTER TYPE F (MOD.)
LT PGL
CONST. 196 LF - 60" RCP
+09.08 51.00 LT
24.54
24.64
+03.00 23.00 LT
CONST. 16 LF CURB & GUTTER TYPE E (MOD.)
+03.00 1.00 LT
24.64
334
335
336 66TH AVE.
337
338
339
340
N 0°12'25" E
℄ CONST.
23.71
+23.00 1.00 LT
EXIST. PIPE TO BE REMOVED
CONST. 105 LF - 18" RCP
+23.00 23.00 RT
22.99
CONST. 16 LF - CURB & GUTTER TYPE E (MOD.)
EXIST. W. ROAD AND CANAL R/W LINE
CONST. CURB & GUTTER TYPE F
PROPOSED PAVEMENT
EX. UP TO BE RELOCATED BY OTHERS (TYP.)
RT PGL
EXIST. CMP TO BE REMOVED
INV 12" CMP 16.20
24.52
+06.23 51.00 RT
CONST. END ANCHORAGE TYPE ET-2000
CONST. GUARDRAIL WITH PIPE RAIL & MISC. ASPHALT INDEX 400
EXIST. E. ROAD R/W LINE
S-951
EXIST. PAVEMENT
12" RWM
BT 100
TOB
EOW
BENCH MARK TBM 29
STA. 336+06.99 90.05 RT
EL 22.354
SET PK NAIL & DISK LB 6674
EAST LINE SEC 18 T 32 S R 39
COLOR TREATED & STAMPED CONC., 5" THICK
FILL IN SURFACE WATERS
PAVEMENT REMOVAL
LATERAL "A" CANAL
0 10 40
Feet
+96.84 83.00 LT
CONST. CURB RAMP CR-H INDEX 304
50' R
24.16
+56.85 83.00 LT
EXIST. W. ROAD R/W LINE
+38.61 66.00 LT
CONST. CURB RAMP CR-A INDEX 304
24.54
+53.10 51.00 LT
CONST. CURB & GUTTER TYPE F
STA. 338+79.72 ℄ CONST. 66T AVE.
STA. 905+01.98 ℄ CONST. 57TH ST
905
57TH STREET
66TH AVENUE
90°46'33"
24.74
+62.50 1.00 RT
CONST. CURB & GUTTER TYPE F (MOD.)
24.62
+62.50 23.00 RT
CONST. 16 LF CURB & GUTTER TYPE E (MOD.)
INV 16.56
CONST. CURB & GUTTER TYPE F
24.54
+50.24 51.00 RT
EXIST. CMP TO BE REMOVED
EXIST. APPROACH SLAB TO REMAIN
CONST. CURB RAMP CR-A INDEX 304
CONST. 6' CONC. SIDEWALK
EXIST. E. ROAD R/W LINE
CURVED BARRIER WALL
POT Sta.906+07.69
INV 13.02
FL 13.10
EX. BRIDGE TO REMAIN
LATERAL "A" CANAL
+02.68 22.14 RT
+03.31 LT 18.96
LATERAL "A" CANAL
PI 00.00
EL.23.22
+0.30%
+0.47%
PI 06.00
EL.24.66
+0.47%
+0.50%
PI 80.00
EL.25.03
+0.50%
-0.50%
-0.50%
-0.45%
PI 54.00
EL.24.66
105 LF - 18" RCP FROM S-951
340 LF - 24" RCP
FL 17.85
FL 18.26
BT
EX. 12" RWM TO REMAIN
CONST. 198 LF - 60" RCP
FL 13.10 W
22.92
23.22
23.69
24.16
24.63
24.93
19.38
19.77
20.07
20.10
19.69
18.59
26
24
22
20
18
16
14
334
335
336
337
338
339
340

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

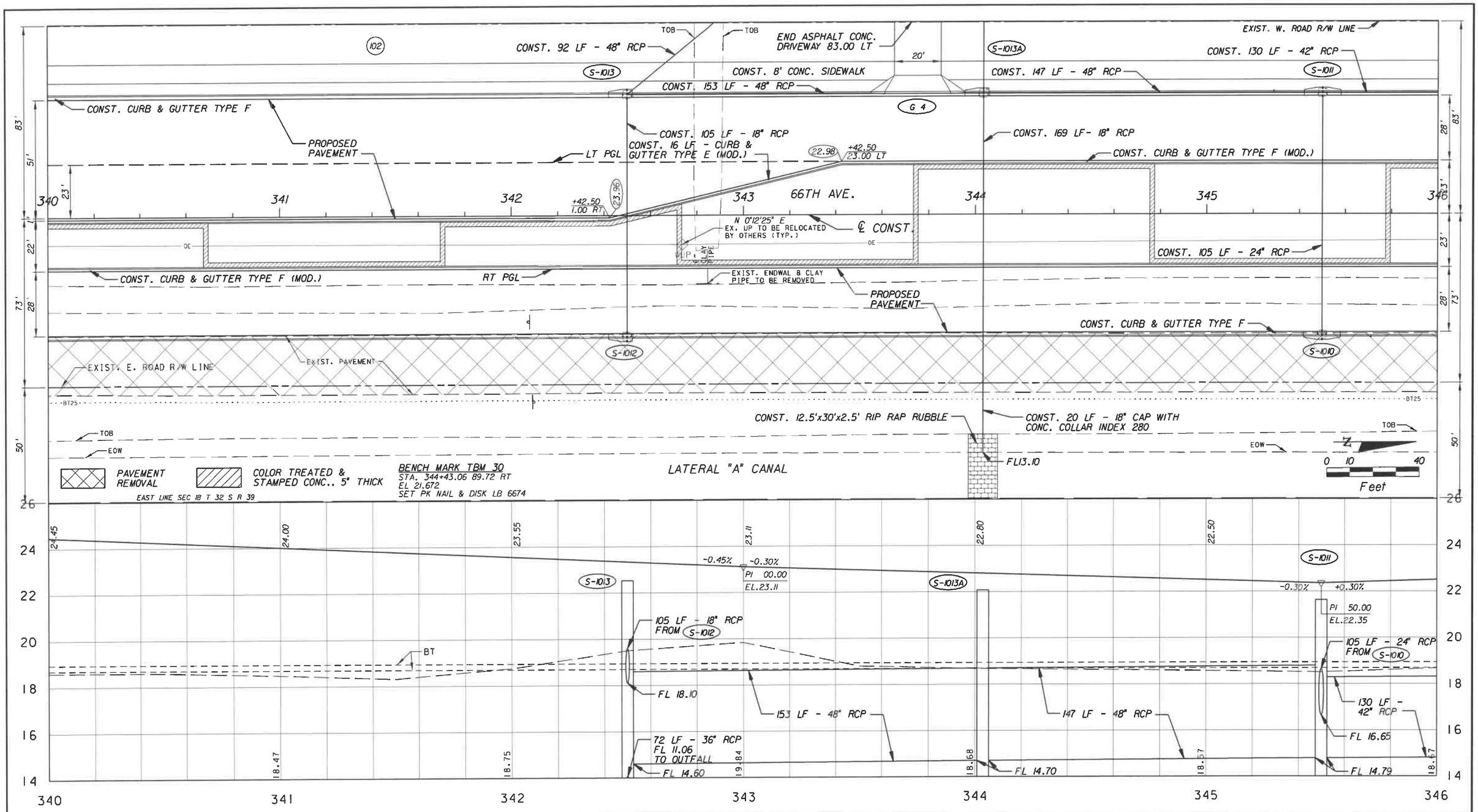
Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 31
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD35.dgn 11/17/2017 3:46:42 PM



GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE:	1"=40'
APPROVED:	
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO:	

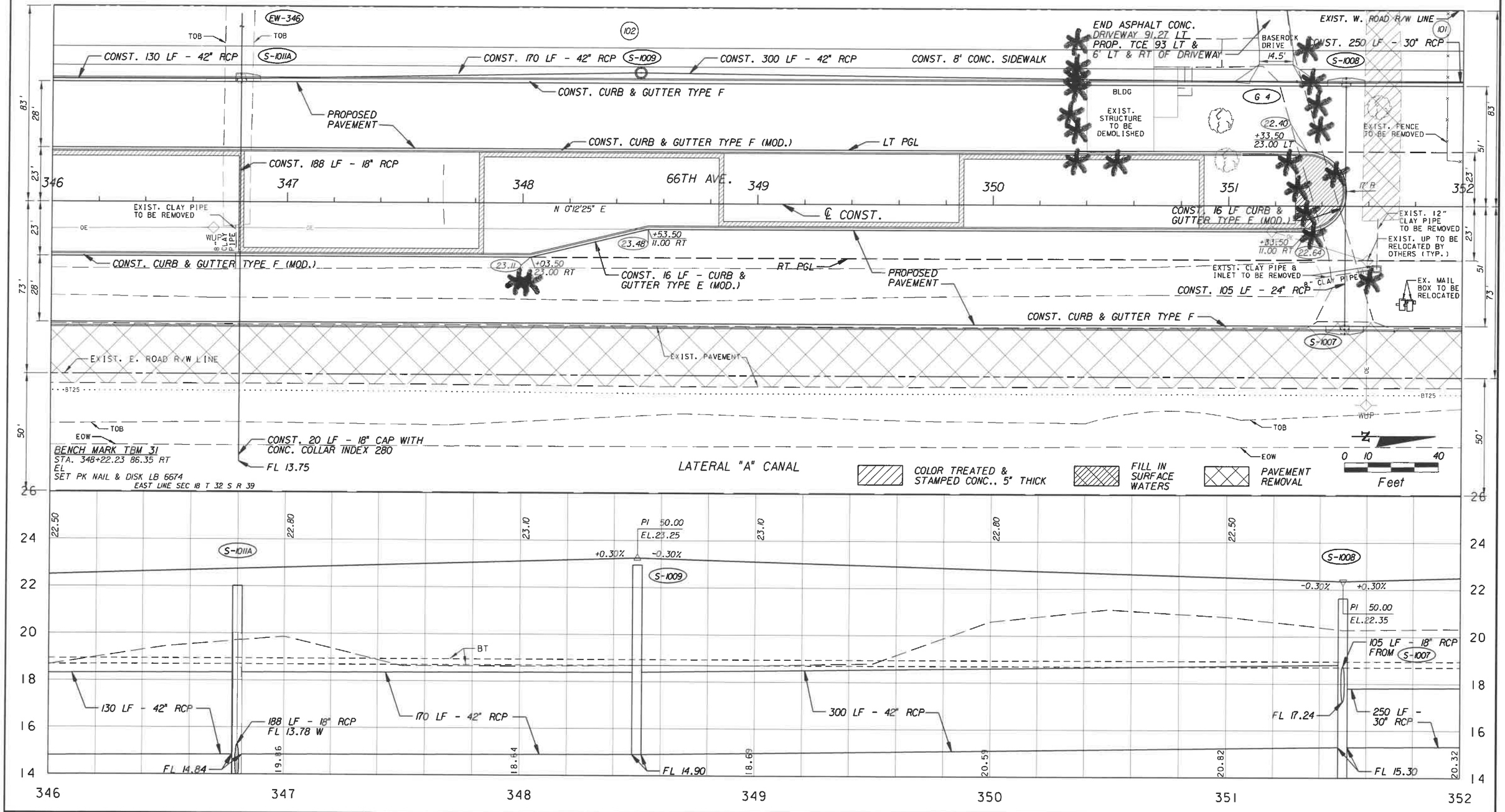
PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET:	32
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	1505

A1053PLPRRD36.dgn 10/11/2017 4:51:34 PM



GB310 / LC26000269

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 33
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRD37.dgn 4/11/2017 3:25:29 PM

CONST. 8' CONC. SIDEWALK

CONST. 250 LF - 30" RCP

S-1006

CONST. CURB & GUTTER TYPE F

PROPOSED PAVEMENT

LT PGL

+74.00 11.00 LT

22.96

CONST. CURB & GUTTER TYPE F (MOD.)

END PROJECT STA. 354+00 MATCH PROPOSED PLANS BY KIMLEY HORN

352 353 354 355 356

N 0°12'25" E

℄ CONST.

66TH AVE.

CONST. 16 LF CURB & GUTTER TYPE E (MOD.)

17' R

EXIST. WIRE FENCE TO BE REMOVED

+74.00 23.00 RT

22.72

RT PGL

CONST. CURB & GUTTER TYPE F (MOD.)

PROPOSED PAVEMENT

CONST. CURB & GUTTER TYPE F

EXIST. E. ROAD R/W LINE

BT25

INV 18.60 E

EXIST. PIPE TO BE REMOVED REGRADE & SOD BANK

INV 16.22

TOB

EOW

BENCH MARK BM 29
STA. 351+01.28 43.27 RT
EL 22.607
FND "20 DISCK & NAIL
E FACE OF PINE

EAST LINE SEC 18 T 32 S R 39

LATERAL "A" CANAL

PAVEMENT REMOVAL

COLOR TREATED & STAMPED CONC., 5" THICK

0 10 40

Feet

22.50 22.80 23.10

S-1006

END PROJECT STA. 354+00 MATCH PROPOSED PLANS BY KIMLEY HORN PROJECT

250 LF - 30" RCP

19.54

FL 15.42

19.26

24 22 20 18 16 14

352 353 354 355 356 357 358

26

GB310 / LC26000269

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EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

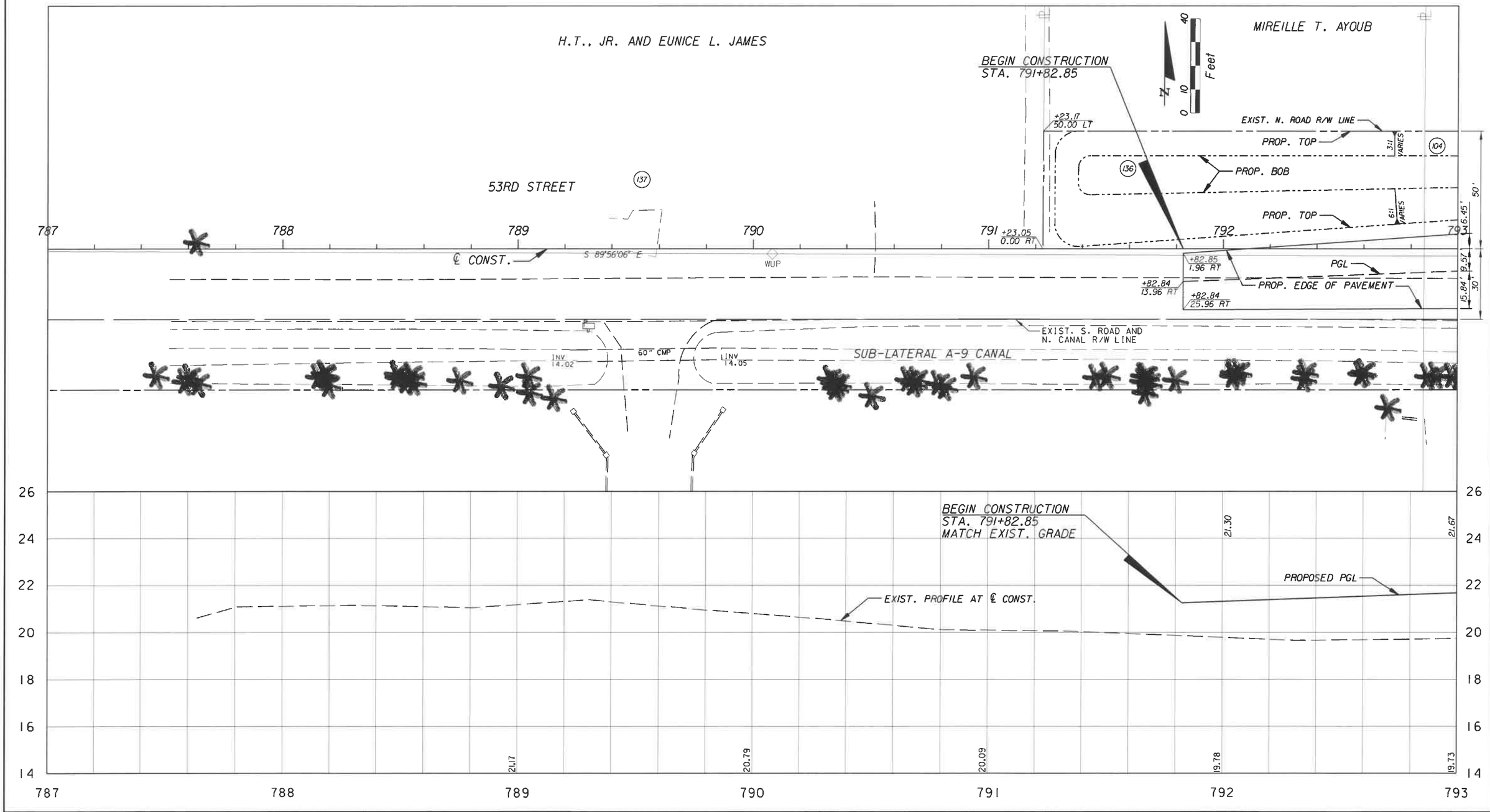
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 34
OF: 112

PROJECT NO. A1053

IRC_JOB_NO.

A1053PLPRRD38.dgn 3/15/2017 10:11:36 AM



GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
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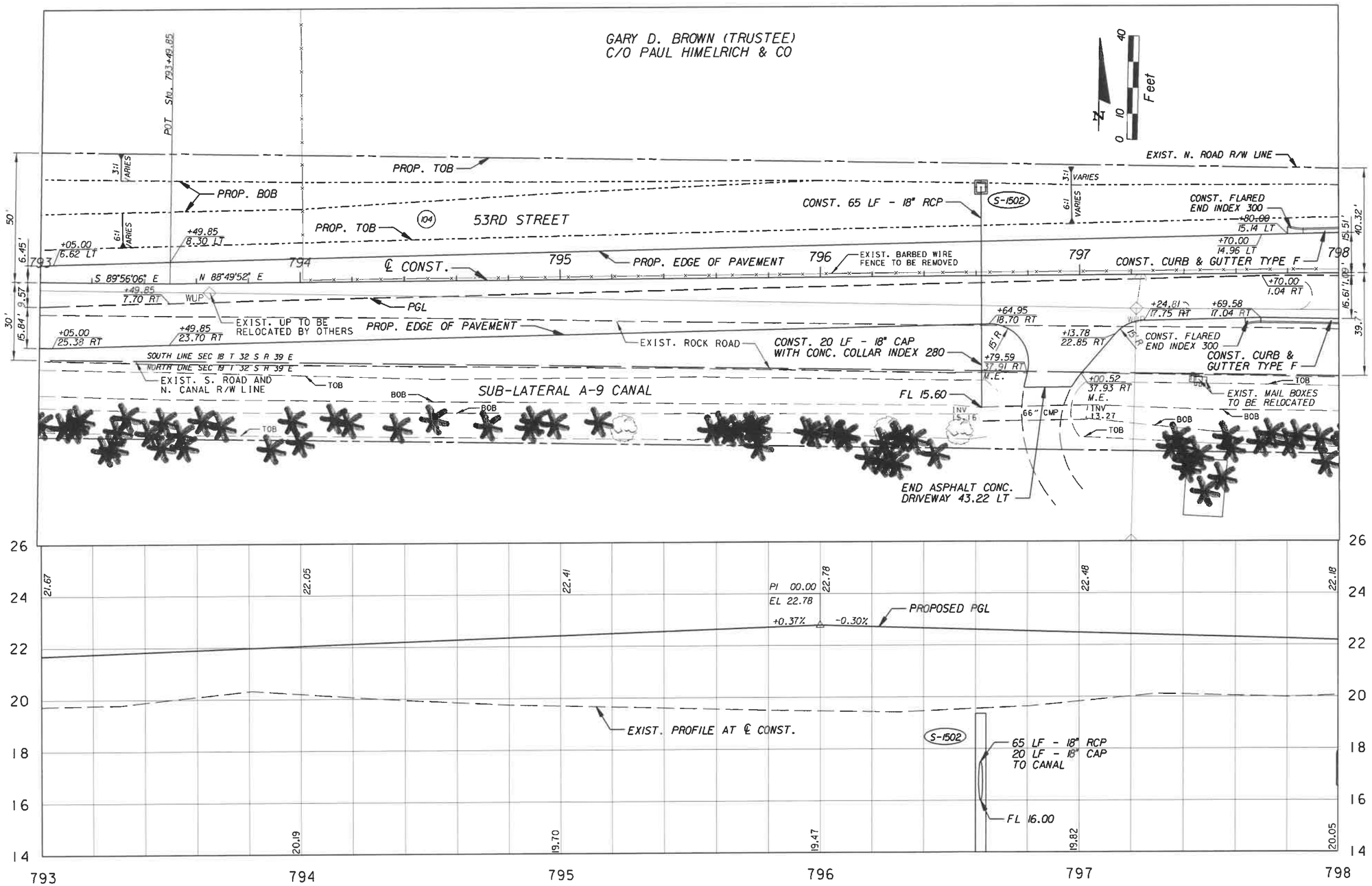
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 35
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLPRRDST5302.dgn 3/15/2017 10:17:06 AM



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NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: 1"=40'
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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 36
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRDST5303.dgn 10/16/2017 1:30:45 PM

GARY D. BROWN (TRUSTEE)
C/O PAUL HIMELRICH & CO

CONST. 18" MES STA. 798+00 32 LT FL 17.30

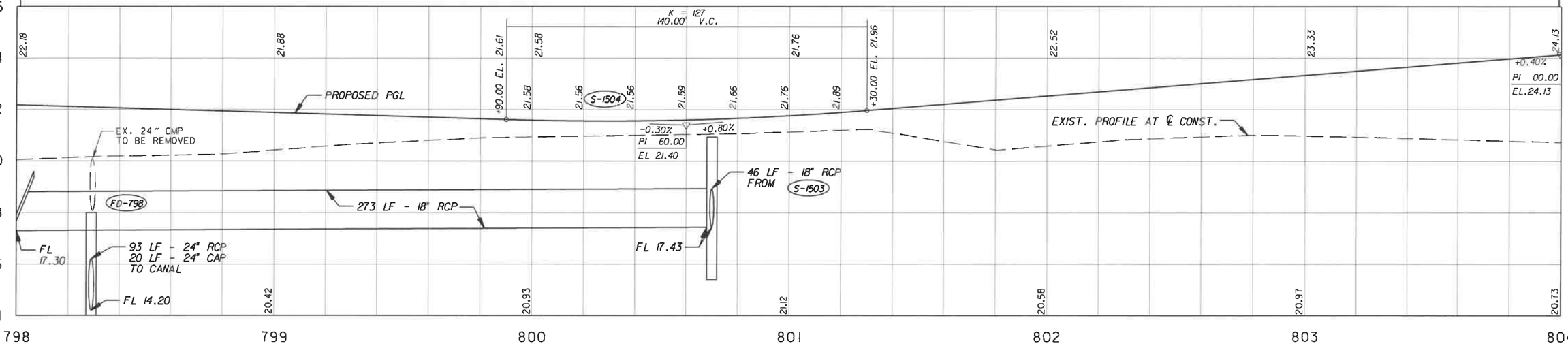
TOP
TOE
TOP
FD-798
CONST. 93 LF - 24" RCP
CONST. 273 LF - 18" RCP
104
CONST. CURB & GUTTER TYPE F
INV 18.00
PGL
EXIST. 24" CMP TO BE REMOVED
24" CMP TO BE REMOVED
CONST. 20 LF - 24" CAP WITH CONC. COLLAR INDEX 280
INV 18.08
TOB
BOB
TOB
FILL IN SURFACE WATERS

POT Sta. 800+00.00
+00.00 BEGIN TCE
+70.00 35.00 LT BEGIN SIDEWALK
PROP. 7' TCE
EXIST. N. ROAD R/W LINE
CONST. 6' CONC. SIDEWALK
S-1503
CONST. CURB & GUTTER TYPE F
+70.00 22.00 LT
CONST. 46 LF - 18" RCP
+00.00 22.00 LT
N 88°49'52" E
S 89°56'06" E
53RD STREET
EXIST. BARBED WIRE FENCE TO BE REMOVED
+70.00 0.00 RT
+70.00 22.00 RT
℄ CONST.
EXIST. UP TO BE RELOCATED BY OTHERS
WUP
PGL
CONST. CURB & GUTTER TYPE F
S-1504
EXIST. ROCK ROAD
SOUTH LINE SEC 18 T 32 S R 39 E
NORTH LINE SEC 19 T 32 S R 39 E
EXIST. S. ROAD AND N. CANAL R/W LINE
BOB
SUB-LATERAL A-9 CANAL

40.32'
15.51'
16.61'
1.08'
39.7'
57.69'
22'
22'
63.71'

798 799 800 801 802 803 804

21.60 21.36 21.49 21.29 21.24 21.41 21.11 20.99 20.94 21.32
21.88 21.79 21.73 21.58 21.57 21.62 21.76
22.25 22.15 22.00 21.58 21.26 21.18 21.32



ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731
GB310/ LC26000269
EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 37
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLPRRDST5304.dgn 3/15/2017 10:19:06 AM

JANIE E. GREENE
ELLIS GREENE
KATHLEEN F. GREENE

JANIE E. GREENE
ELLIS GREENE
KATHLEEN F. GREENE

CONNECT GUARDRAIL TO PROP. BARRIER

JANIE E. GREENE

CONST. CURVERED BARRIER WALL (SEE STRUCTURAL PLANS)

GRASS DRIVE

+67.09 30.00 LT
+72.09 35.00 LT

PROP. 8' TCE

+24.28 35.00 LT END SIDEWALK

END ASPHALT CONC. DRIVEWAY 36.00 LT & MATCH EXIST. GRADE

24'

POT Sta. 810+12.08

S-1505

CONST. 102 LF - 18" RCP

CONST. 18" MES STA. 811+00 30.33 LT FL 18.00

PROP. TOB

EXIST. N. ROAD R/W LINE

3:1 VARIES

6:1 VARIES

CONST. FLARED PROP. BOB END INDEX 300

PROP. TOB

CONST. 6' CONC. SIDEWALK

CONST. DROP CURB

+52.76 20.94 LT

165

25' R

25' R

166

CONST. CURB & GUTTER TYPE F

EXIST. WELL TO BE CAPPED & ABANDONED

EXIST. 6" PVC PIPE TO BE REMOVED

22' | 806 | POT Sta. 806+12.20 | 807 | 808 | 53RD STREET | 809 | 810 | 811 | 812 | PROP. EDGE OF PAVEMENT | 22'

22.06 22.02 | +24.28 22.00 LT | 21.64 21.88 | 21.74 | 21.52 | 21.40 21.48 | +26.34 18.49 LT +12.08 18.73 LT S 89°00'28" E | 21.15 21.23 | 21.12 21.28 | 21.05 21.29 | 20.99

EXIST. 6" PVC PIPE TO BE REMOVED

S 89° 45' 30" E

PGL

EXIST. UP TO BE RELOCATED BY OTHERS

INV 16.93 ℄ CONST.

22.38 | +24.28 0.00 RT | 22.24 | 22.08 | CONST. 44 LF - 18" RCP | 21.78 | +12.11 1.64 RT | 21.60 | 21.56 | 21.56 | PGL

WJP

EXIST. 12" CMP TO BE REMOVED

22.06 | S-1506A | 21.80 | 21.98 | 21.83 | +12.55 21.99 RT | 21.94 | 21.94 | 21.93 | CONST. CURB & GUTTER TYPE F

16.86' | 15.76' | 10.06'

39.96'

12" CMP | 12" CMP

12" DIP WW

EXIST. ROCK ROAD

CONST. 76 LF - 18" RCP

S-1506

CONST. CURVED BARRIER WALL (SEE STRUCTURAL PLANS)

SOUTH LINE SEC 17 T 32 S R 39 E
NORTH LINE SEC 20 T 32 S R 39 E

INV 17.12 | INV 17.25

TOB

EXIST. S. ROAD AND N. CANAL R/W LINE

EOW

CONST. 64 LF - 72" RCP

FL 13.40

SUB-LATERAL A-9 CANAL

EOW

TOB

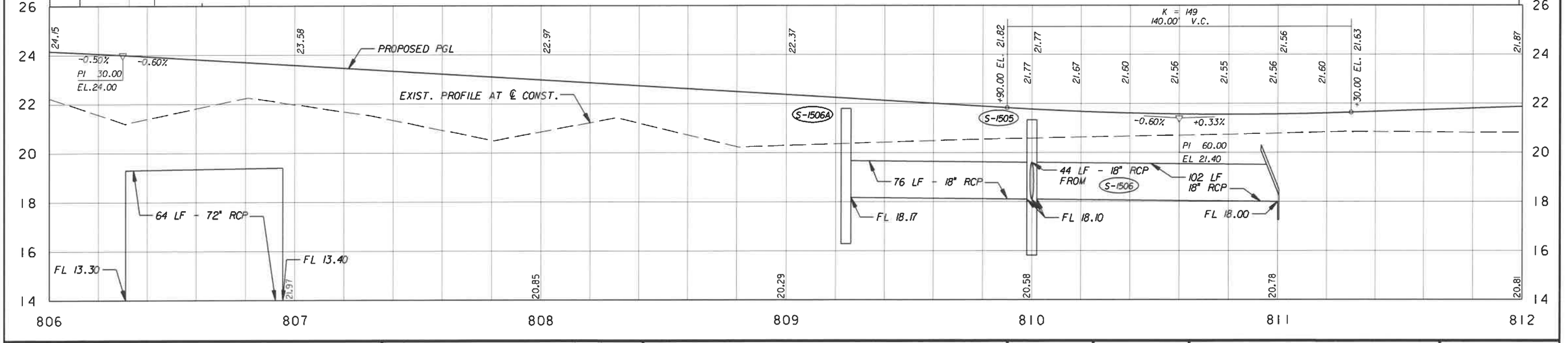
FL 13.30

EX. FENCE TO REMAIN

FILL IN SURFACE WATERS

N

0 10 40 Feet



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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 38
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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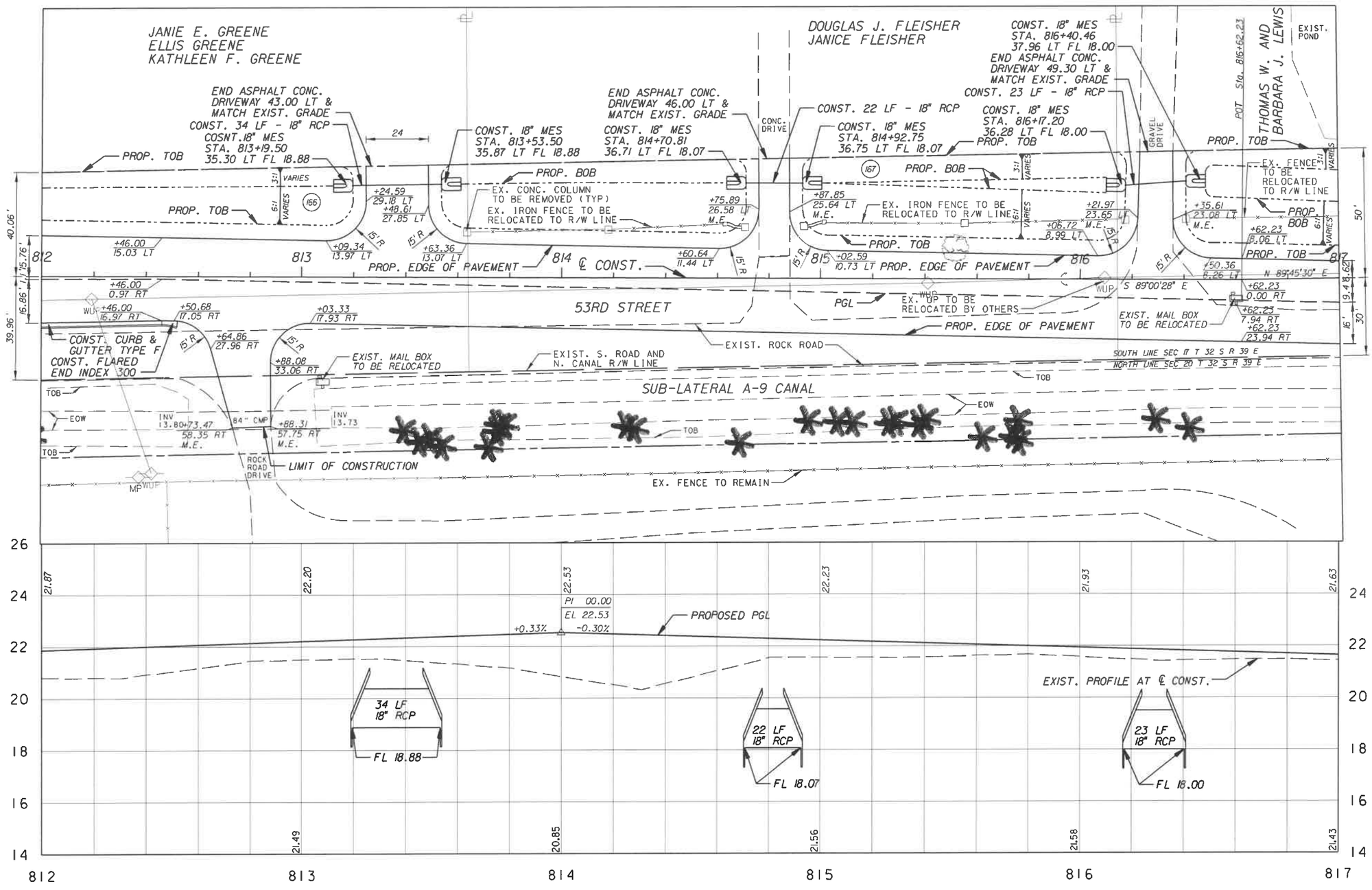

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PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 39
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRDST5306.dgn 10/16/2017 1:46:21 PM

THOMAS W. AND
BARBARA J. LEWIS

EXIST. POND
CONST. 24 LF - 18" RCP
CONST. 18" MES
STA. 817+04.32
32.81 LT FL 18.00

PROP. TOB
EXIST. R/W LINE
POND TOB
3:1 VARIES
PROP. BOB
S-1508
EX. IRON FENCE TO BE RELOCATED TO R/W LINE
4" WELL TO BE CAPPED AND ABANDONED
CONST. 59 LF 18" RCP
+93.59 3.02 LT
+09.16 17.50 LT M.E.
PROP. TOB
817
818
15' R
6.62'
9.4'
30'
16'
+20.00 2.01 LT
PROP. EDGE OF PAVEMENT
PGL
EXIST. MAIL BOX TO BE RELOCATED
CONST. 20 LF - 18" CAP WITH CONC. COLLAR INDEX 280
TOB
EOW

CONC. DRIVE

END ASPHALT CONC. DRIVEWAY & MATCH EXIST. GRADE
CONST. 18" MES
STA. 818+28.23
31.76 LT FL 18.00
PROP. TOB
168
3:1 VARIES
PROP. BOB
EX. IRON FENCE TO BE RELOCATED TO R/W LINE
+24.73 14.22 LT M.E.
+38.59 0.69 LT
PROP. TOB
819
6:1 VARIES
15' R

+42.04 50.00 LT WUP

END CONSTRUCTION
STA. 819+41.67

EXIST. FENCE TO REMAIN
53RD STREET
+41.67 0.00 RT
820 ℄ CONST. 821 822
EXIST. N. ROAD R/W LINE
N 89°45'30" E
+41.67 6.66 RT M.E.
+41.67 18.66 RT
EXIST. ROCK ROAD
SOUTH LINE SEC 17 T 32 S R 39 E
NORTH LINE SEC 20 T 32 S R 39 E
+41.67 30.66 RT M.E.
TOB
CANAL
EX. CMP TO REMAIN

N
0 10 40 Feet

26
24
22
20
18
16
14

21.63 21.63 21.93 22.06 21.52 21.72 21.55 21.07 20.53

END PROJECT STA. 819+41.67
SAWCUT & BUTT JOINT
MATCH EXIST. GRADE
PROPOSED PGL
℄ EXIST. ROAD
EXIST. PROFILE AT ℄ CONST.
-0.30%
+0.30%
PI 50.00
EL.21.48
S-1508
59 LF - 18" RCP
20 LF - 18" CAP
TO CANAL
FL 16.00
24 LF
18" RCP
FL 18.00

817 818 819 820 821 822 823

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EB 7917 / LB 7062

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Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: 1"=40'
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DATE: 10-16
FIELD BOOK NO:

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: 40
OF:
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRDST5307.dgn 10/16/2017 1:51:51 PM

EVANGELOS ABAZIS &
ANN ABAZIS

END ASPHALT CONC
DRIVEWAY 50.00 LT

BEGIN CONSTRUCTION
STA. 890+75

+65.45
50.00 LT

EXIST. N. ROAD R/W LINE

CONST. 70 LF - 18" RCP
CONST. 18" MES
STA. 892+92 35 LT
FL 17.00 INDEX 273

END ASPHALT CONC.
DRIVEWAY 50.00 LT

CONST. 24 LF - 18" RCP

CONST. 18" MES STA. 892+56
35 LT FL 17.00 INDEX 273

CONST. 53 LF - 18" RCP

EXIST. GATE TO BE
RELOCATED TO R/W LINE

EXIST. GATE TO BE
RELOCATED TO R/W LINE

+80.00
23.26 LT

EXIST. FENCE TO BE
RELOCATED TO R/W LINE

GRASS ACCESS

+68.44
21.69 LT

EX. MAILBOX
TO REMAIN

EX. FENCE TO BE
RELOCATED TO R/W LINE

+78.57
7.70 LT

+90.17
6.99 LT

GRASS DRIVE

GRASS DRIVE

+66.14
0.00 LT

+63.39
7.57 RT

+04.99
8.01 RT

S 89°01'01" E

+75.00
4.00 RT
M.E.

+75.00
28.00 RT
M.E.

+75.00
16.00 RT

+95.00
4.50 LT

+53.56
6.70 LT

+95.56
8.27 LT

+95.00
27.50 RT

℄ CONST.

EXIST. ROCK ROAD
TO REMAIN

EX. 12" CMP TO REMAIN

57TH STREET

PGL

EX. ROCK ROAD
TO BE REMOVED

EX. 12" CMP TO BE REMOVED

PROP. EDGE OF PAVEMENT

EX. MAILBOX
TO REMAIN

INV
15.85

60" RCP

INV
15.11

EXIST. S. ROAD AND
N. CANAL R/W LINE

CONST. 20 LF - 18" CAP
WITH CONC. COLLAR INDEX 280

CONST. 20 LF - 18" CAP
WITH CONC. COLLAR INDEX 280

SUB-LATERAL A-10 CANAL

FL 14.79

FL 15.00

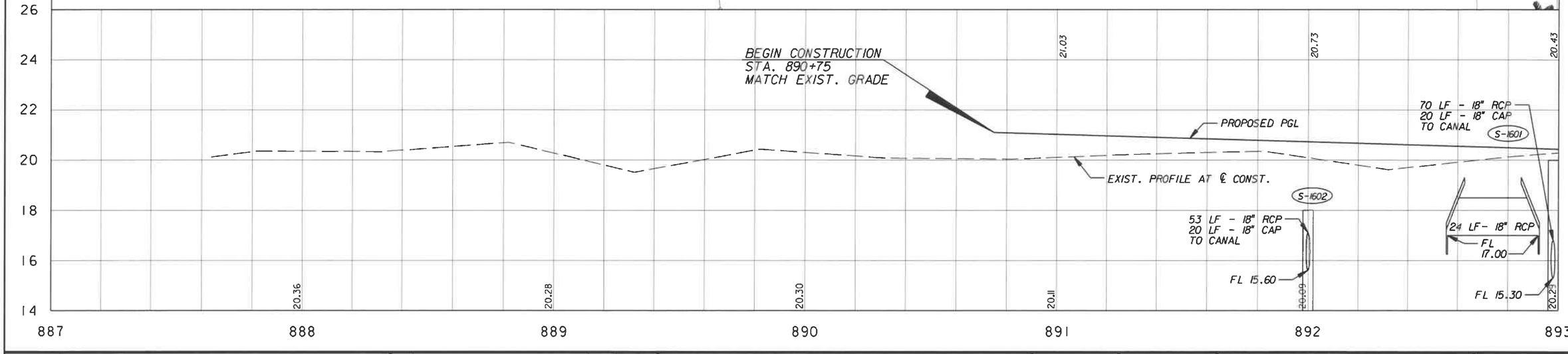
INV
15.15

BOB

TOB

EOW

887 888 889 890 891 892



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GB310 / LC26000269
EB 7917 / LB 7062

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Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

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APPROVED:
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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: 41
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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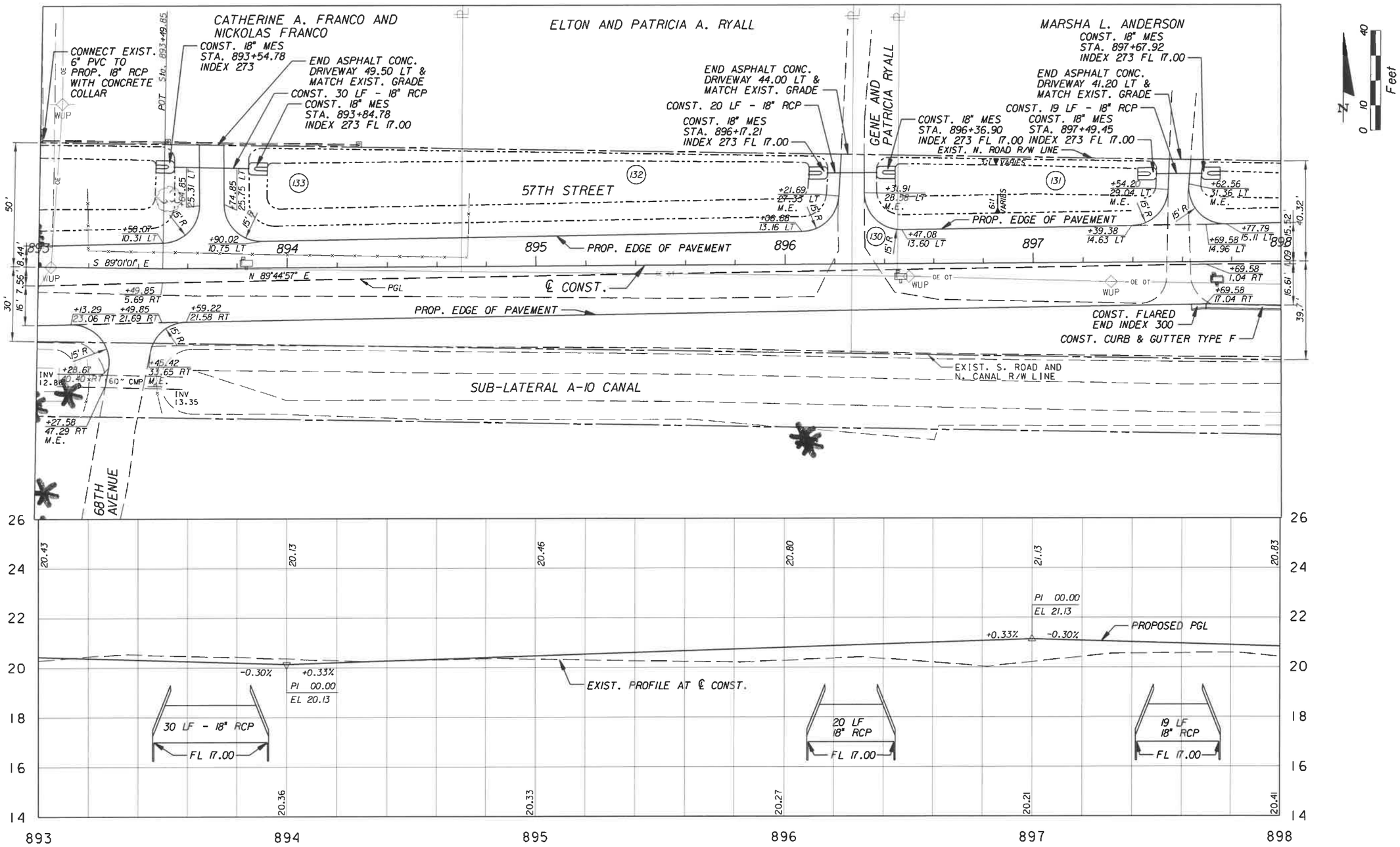

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EB 7917 / LB 7062

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Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: 42
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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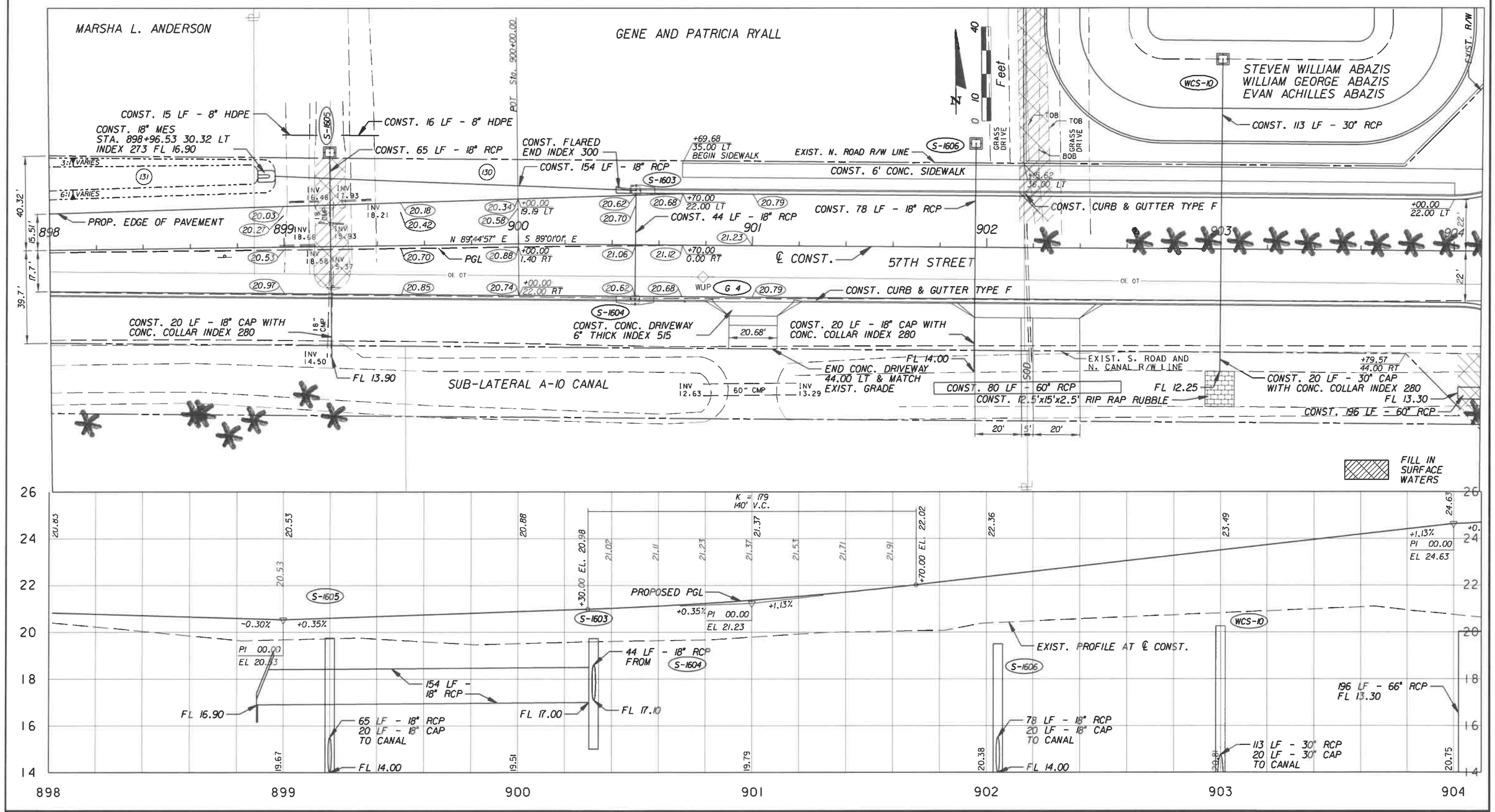

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DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE
66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: 43
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLPRRDST5704.dgn 11/17/2017 10:23:16 AM

LATERAL "A" CANAL

POT Sta. 906+07.69

EXIST. BRIDGE TO REMAIN

PROP. CURVED BARRIER WALL

+78.76
30.00 LT
+83.76
35.00 LT

CONST. FLARED END INDEX 300

EXIST. N. ROAD R/W LINE

CONST. 6' CONC. SIDEWALK

EXIST. SIDEWALK TO REMAIN

END CONSTRUCTION
STA. 908+00
MATCH INDIAN RIVER COUNTY
PROJECT NO. 0907
PLANS BY CARTER ASSOCIATES INC

POT Sta. 910+03.41

N
0 10 40 Feet

WUP

+03.31
21.89 LT
24.04

EXIST. APPROACH SLAB TO REMAIN

CONST. CURB & GUTTER TYPE F

+00.00
22.00 LT

57TH STREET

21.92'

906 907 908 909 910 911 912

EXIST. PAVEMENT TO REMAIN

N 89°30'24" E

S 89°15'34" E

℄ CONST.

INV
14.90

45.76'

22.28'

24.04
+02.68
22.14 RT

CONST. CURB & GUTTER TYPE F

+00.00
23.08 RT

SAWCUT & MATCH EXIST. ELEVATION

EXIST. CURB & GUTTER TO REMAIN

SAWCUT & MATCH EXIST.
CURB & GUTTER

39.78'

12" CMP

EXIST. S. ROAD AND
N. CANAL R/W LINE

PROP. CURVED BARRIER WALL

SUB-LATERAL A-10 CANAL

INV
15.23

FL
13.10

13.02

FL 13.20

FL 13.10

CONST. 64 LF - 72" RCP

24.66 24.16 23.66

-0.50% -0.50%
PI 47.00
EL 24.42

PROPOSED PGL

-0.50%

END CONSTRUCTION STA. 908+00
MATCH INDIAN RIVER COUNTY
PROJECT 0907
PLANS BY CARTER ASSOIATES, INC.

EXIST. PROFILE AT ℄ CONST.

21.03 19.49 19.19 19.07 20.05 20.29

26 24 22 20 18 16 14

906 907 908 909 910 911 912

GB310/LC26000269

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Department of Public Works
Engineering Division

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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLAN AND PROFILE

66 TH AVENUE-PHASE 1A

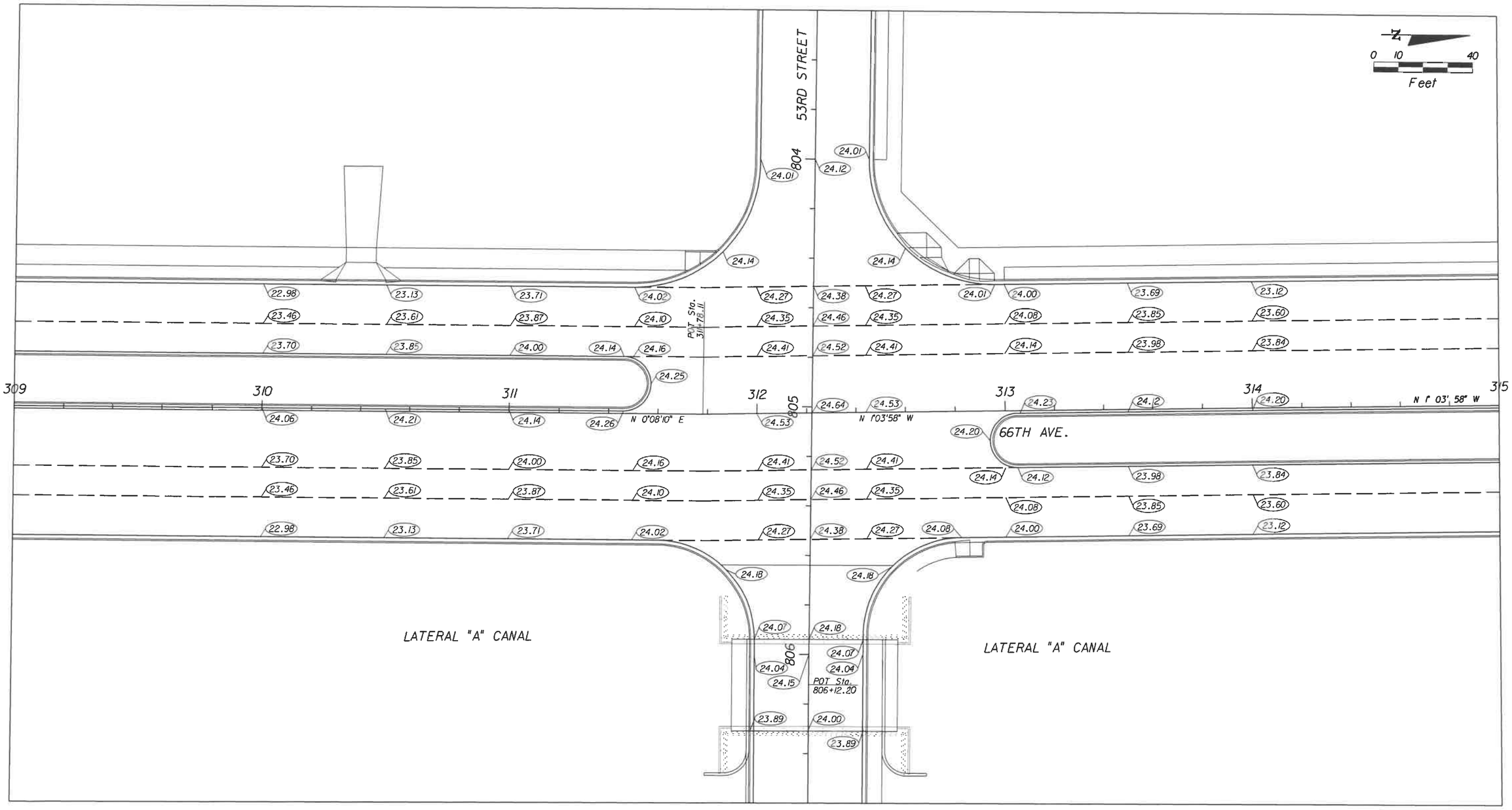
57TH STREET

SHEET: 44
OF: 112

PROJECT NO. A1053

IRC_JOB_NO.

A1053PLPRRDST5705.dgn 3/15/2017 10:23:04 AM



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Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: 1"=40'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

PLATEAU PLAN

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 45
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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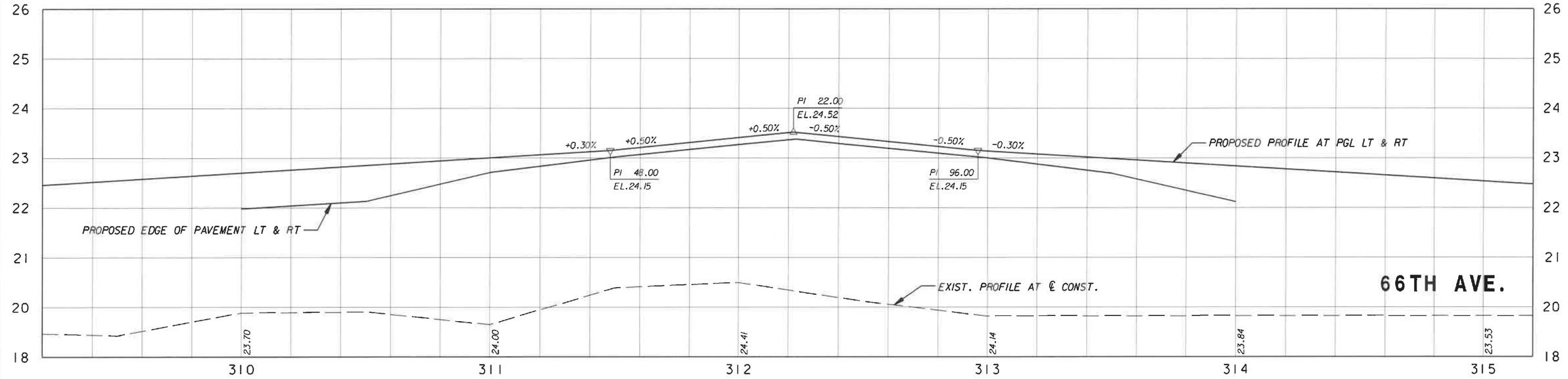

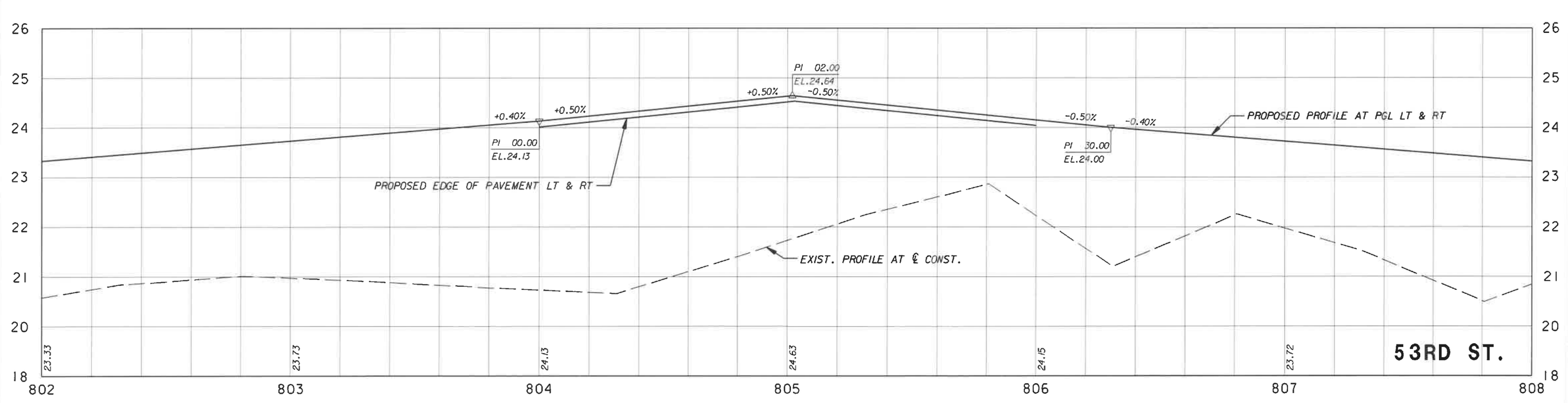

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NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: H. 1":40'
V. 1":2'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

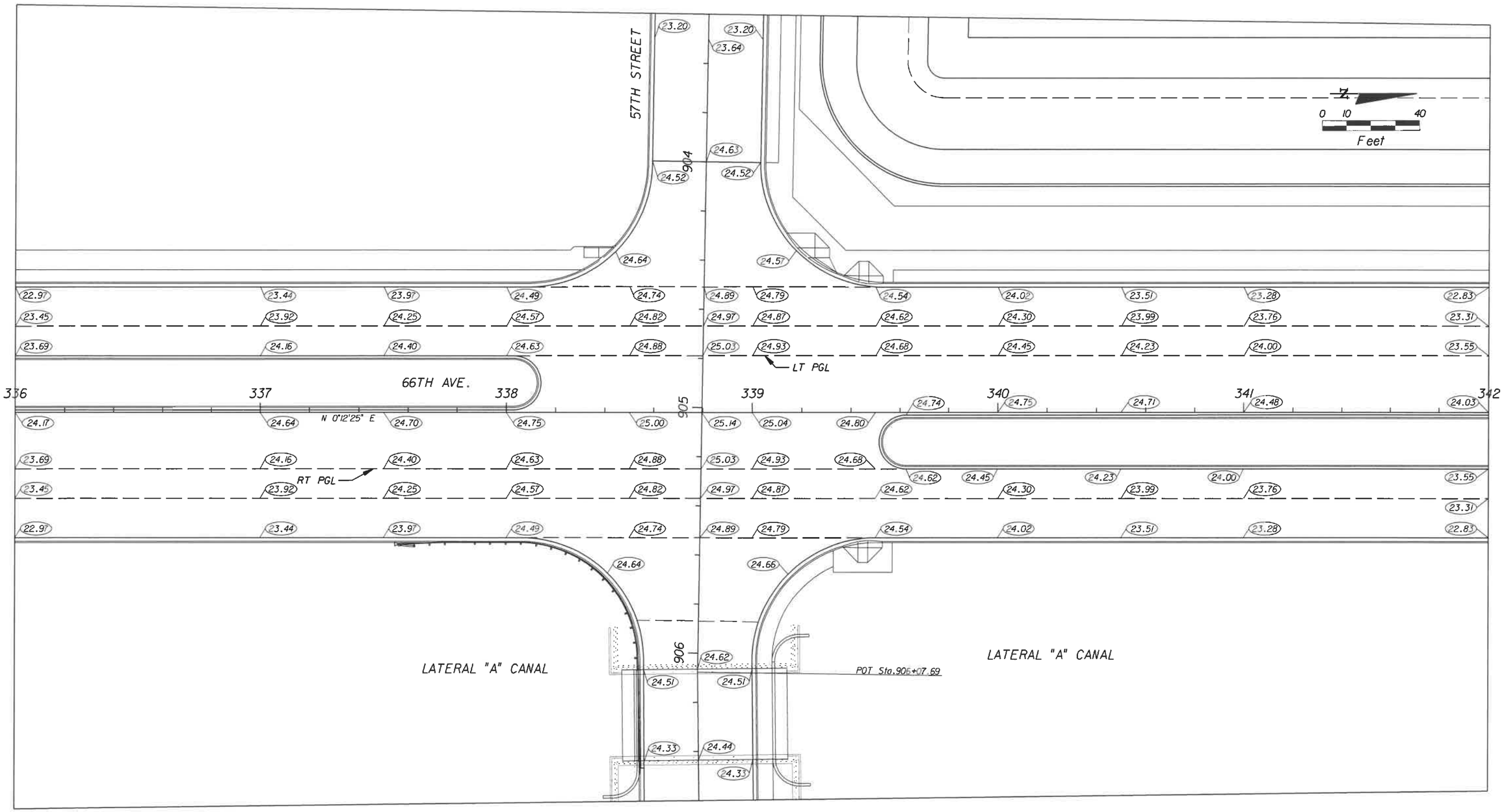
PLATEAU PROFILE

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 46
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053INTPRD53.dgn 3/15/2017 10:24:11 AM



GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE:	1"=40'
APPROVED:	H.D.
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO.	

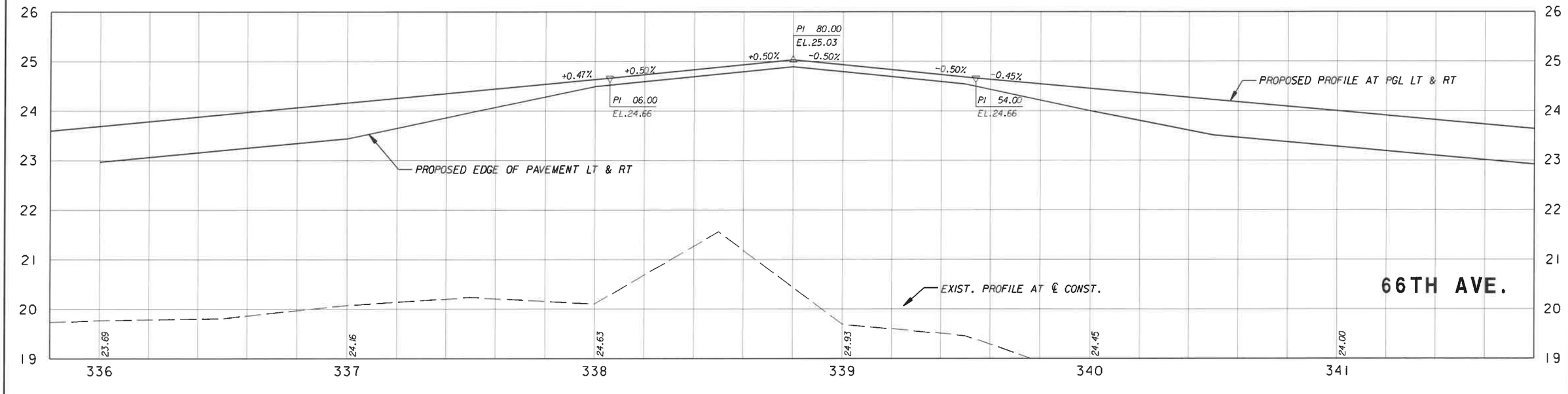
PLATEAU PLAN

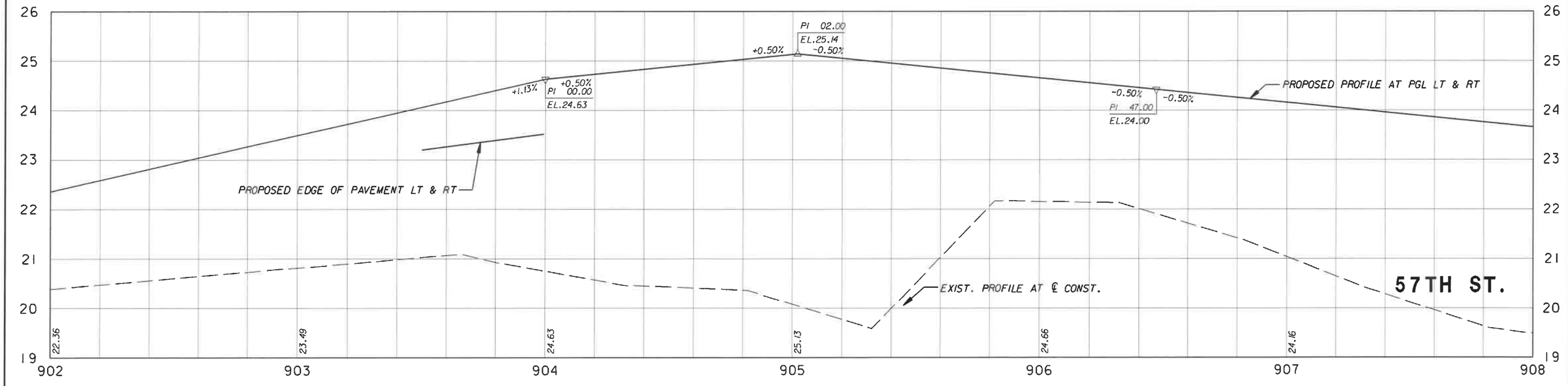
66 TH AVENUE-PHASE 1A

57TH STREET

SHEET:	47
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	

A1053INTDRD57.dgn 3/15/2017 10:24:33 AM





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NO.	REVISION.	BY.	DATE.

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SCALE: 1"=40'
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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

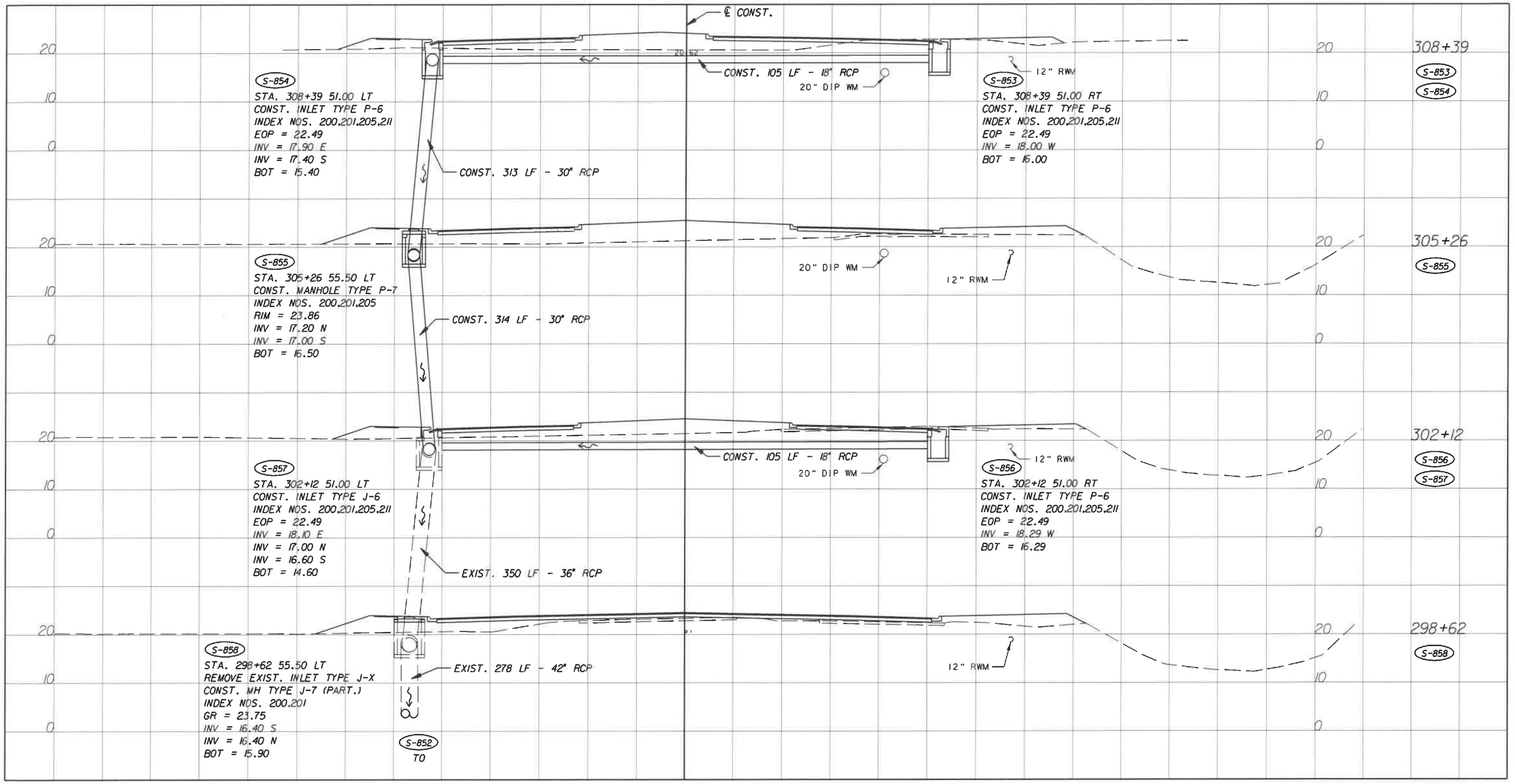
PLATEAU PLAN

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 48
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053INTPRD57.dgn 3/15/2017 10:24:55 AM



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NO.	REVISION:	BY:	DATE:

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Engineering Division

SCALE: 1"=20'
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DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 49
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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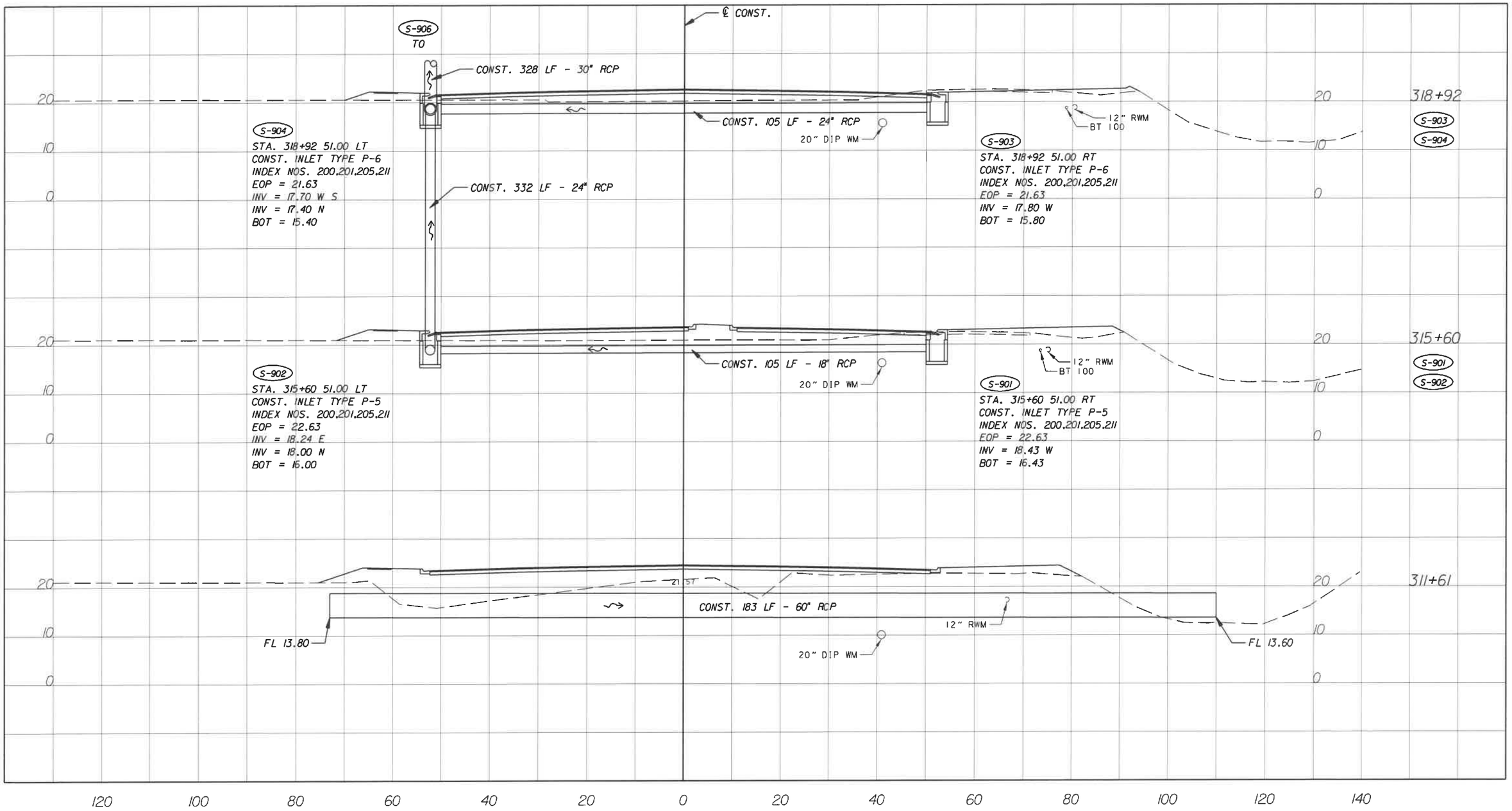

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Engineering Division

SCALE: 1"=20'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

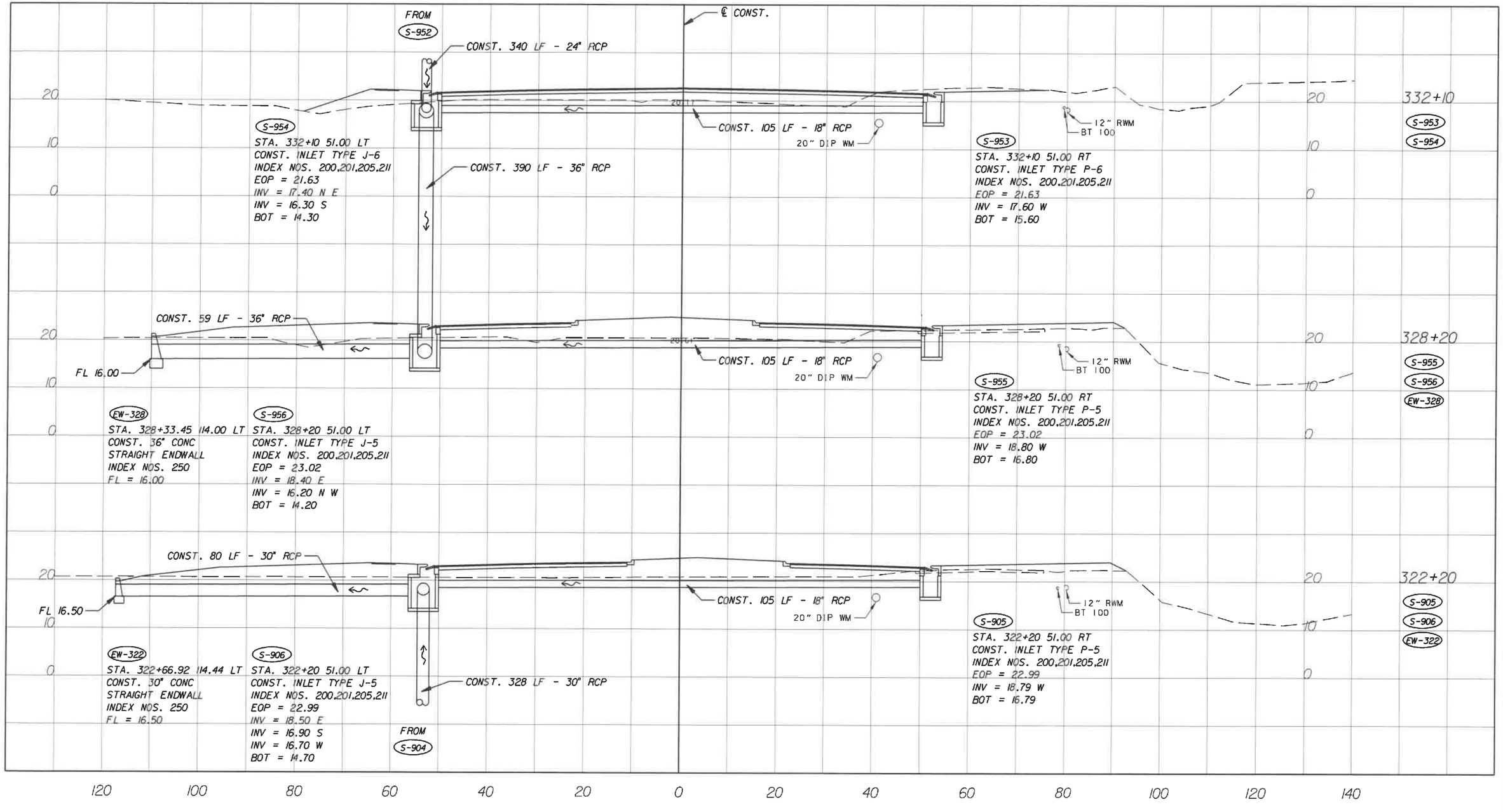
DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 50
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRSTRD01.dgn 10/16/2017 2:40:56 PM



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NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=20'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 51
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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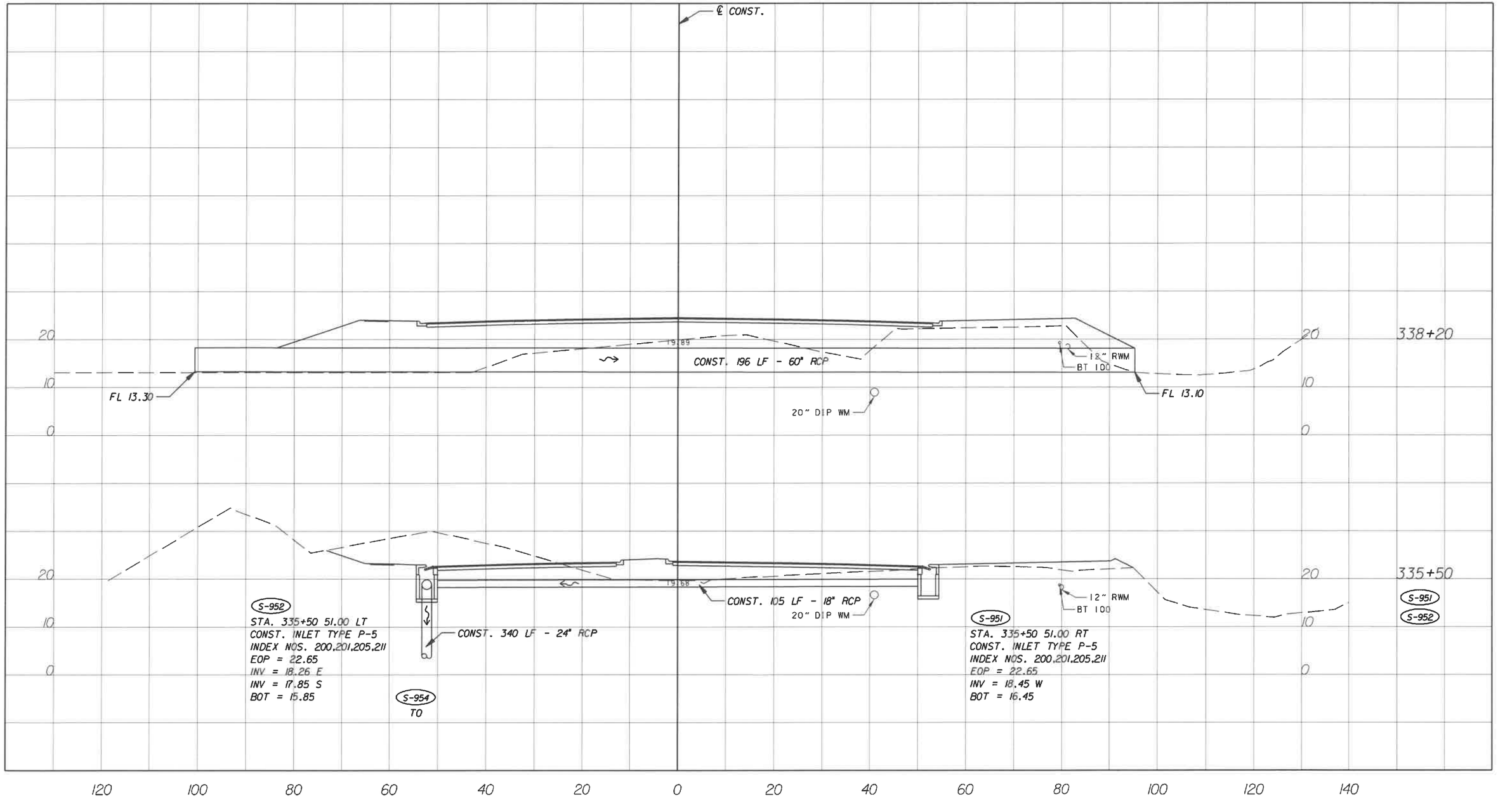

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Engineering Division

SCALE: 1"=20'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 52
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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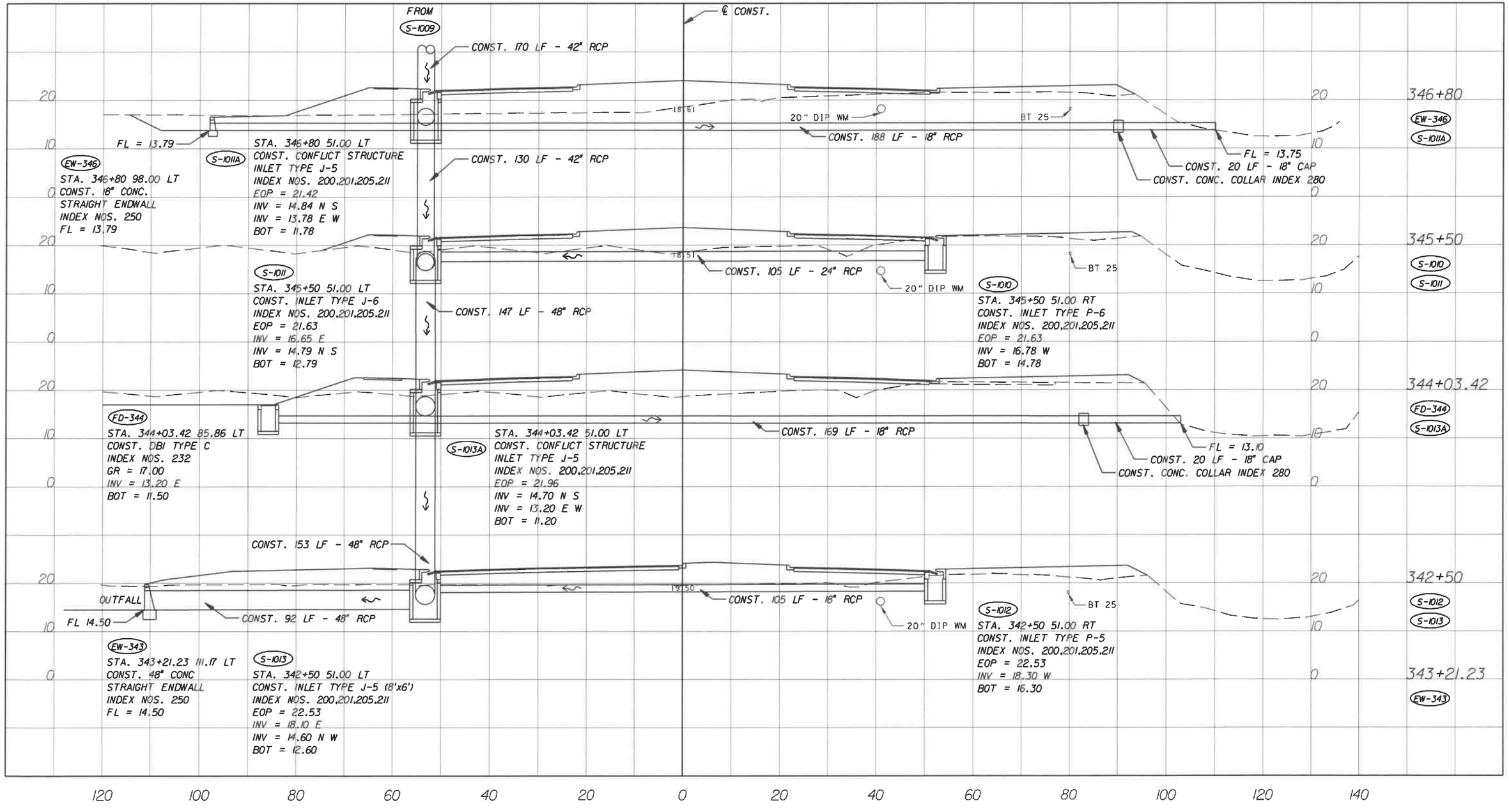

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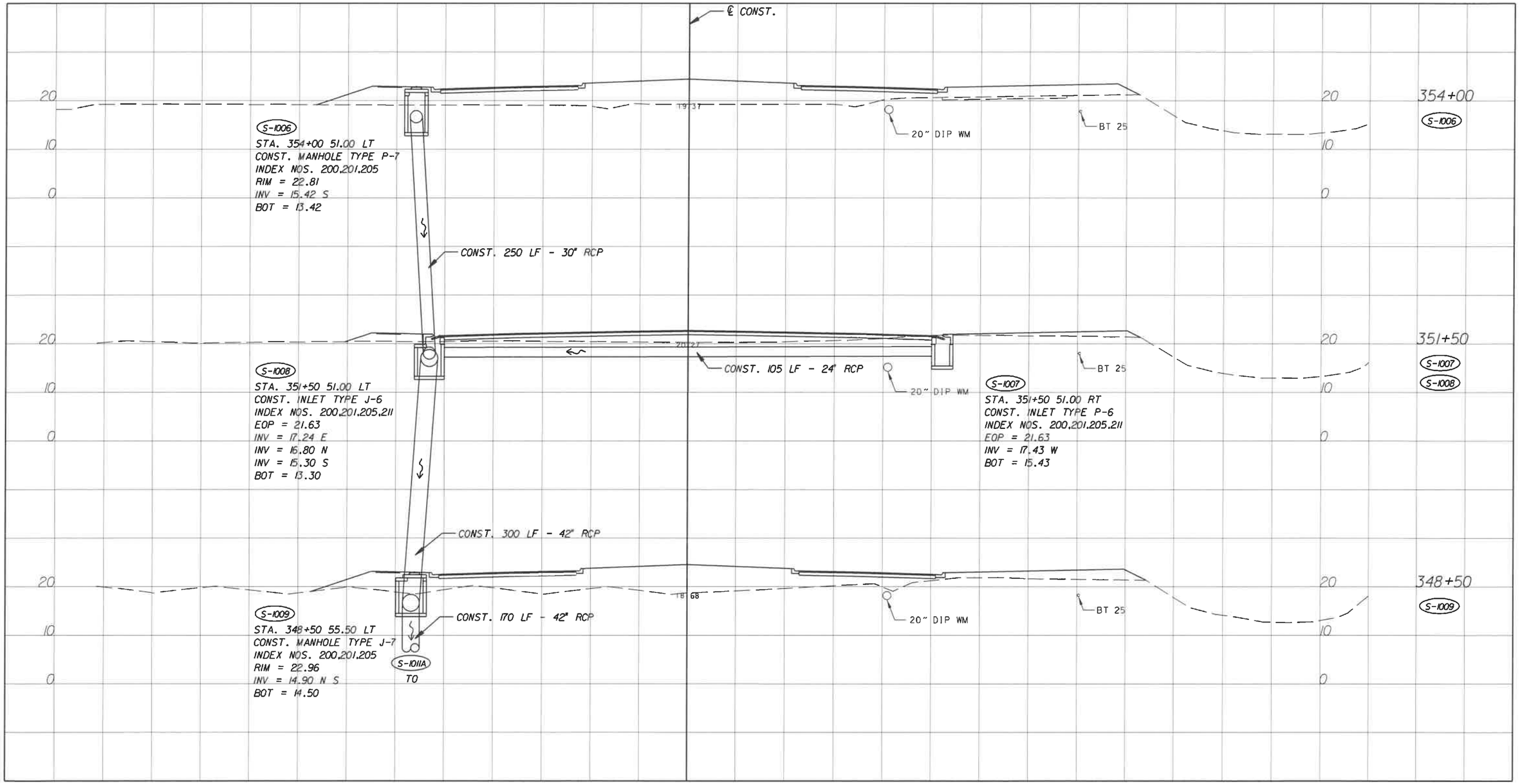
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 53
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505



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DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 54
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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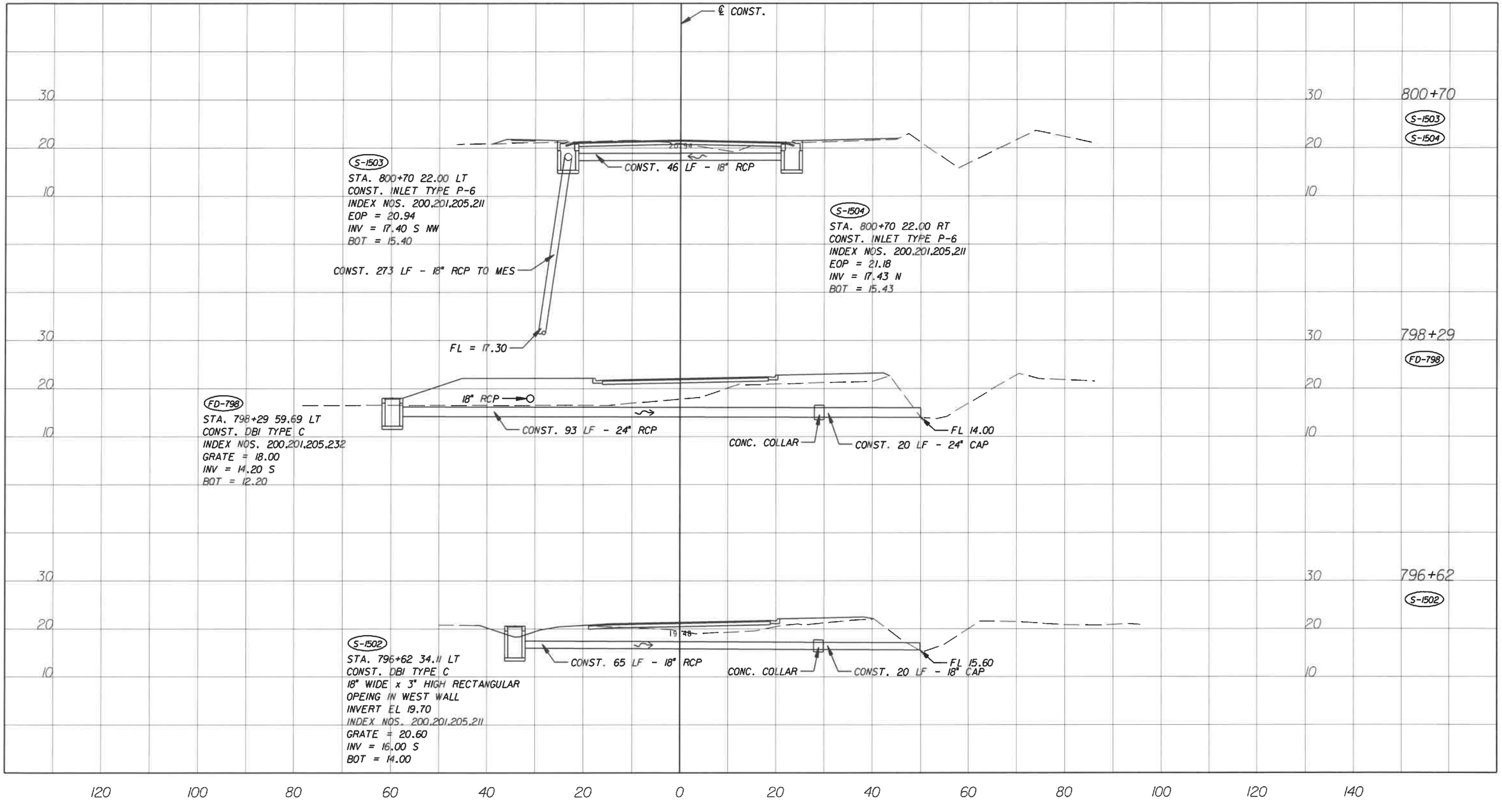

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CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE STRUCTURES

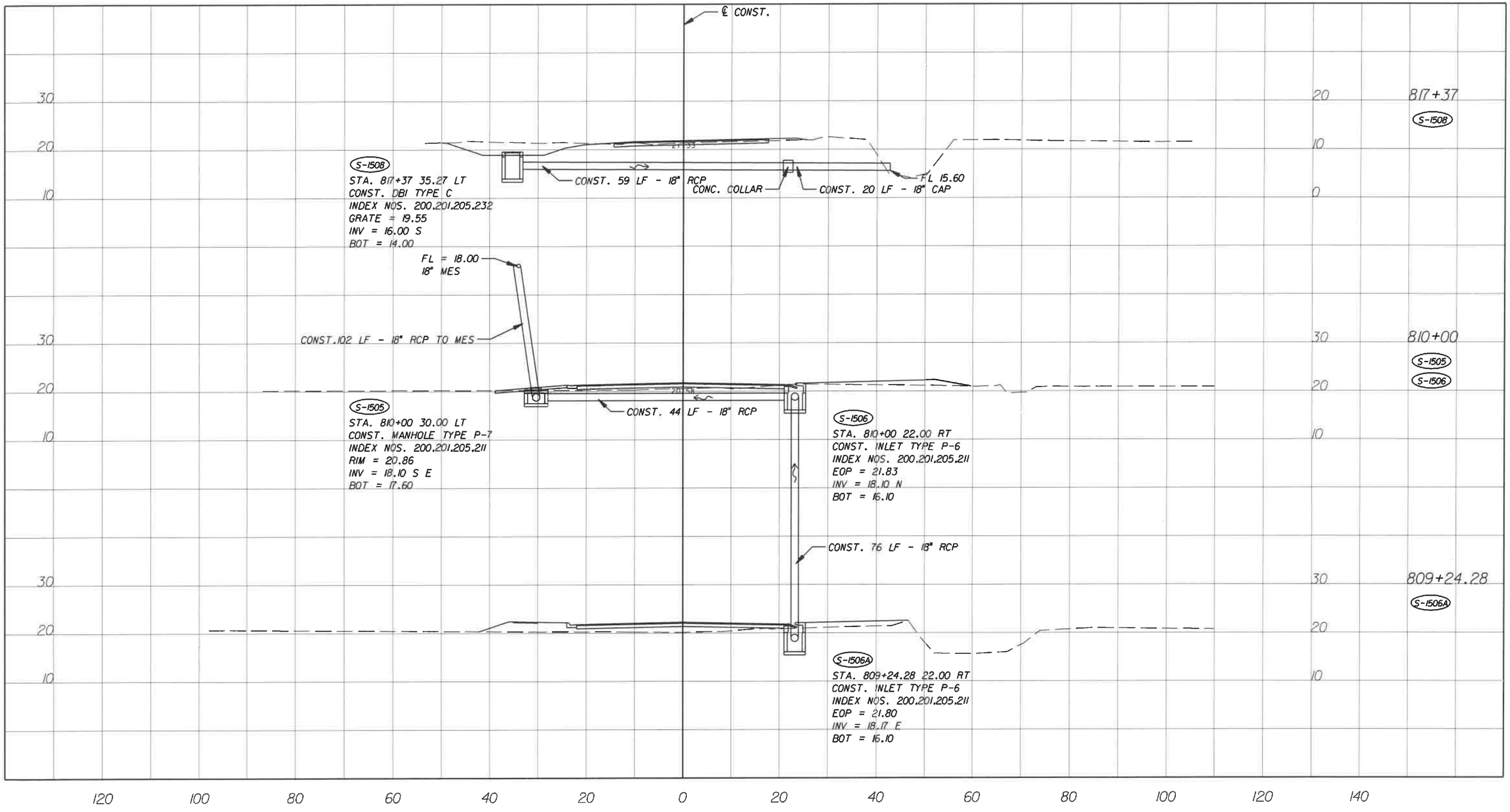
66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 55
OF: 112

PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRSTRD5301.dgn 12/6/2017 11:13:05 AM



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DATE: 10-16
FIELD BOOK NO.

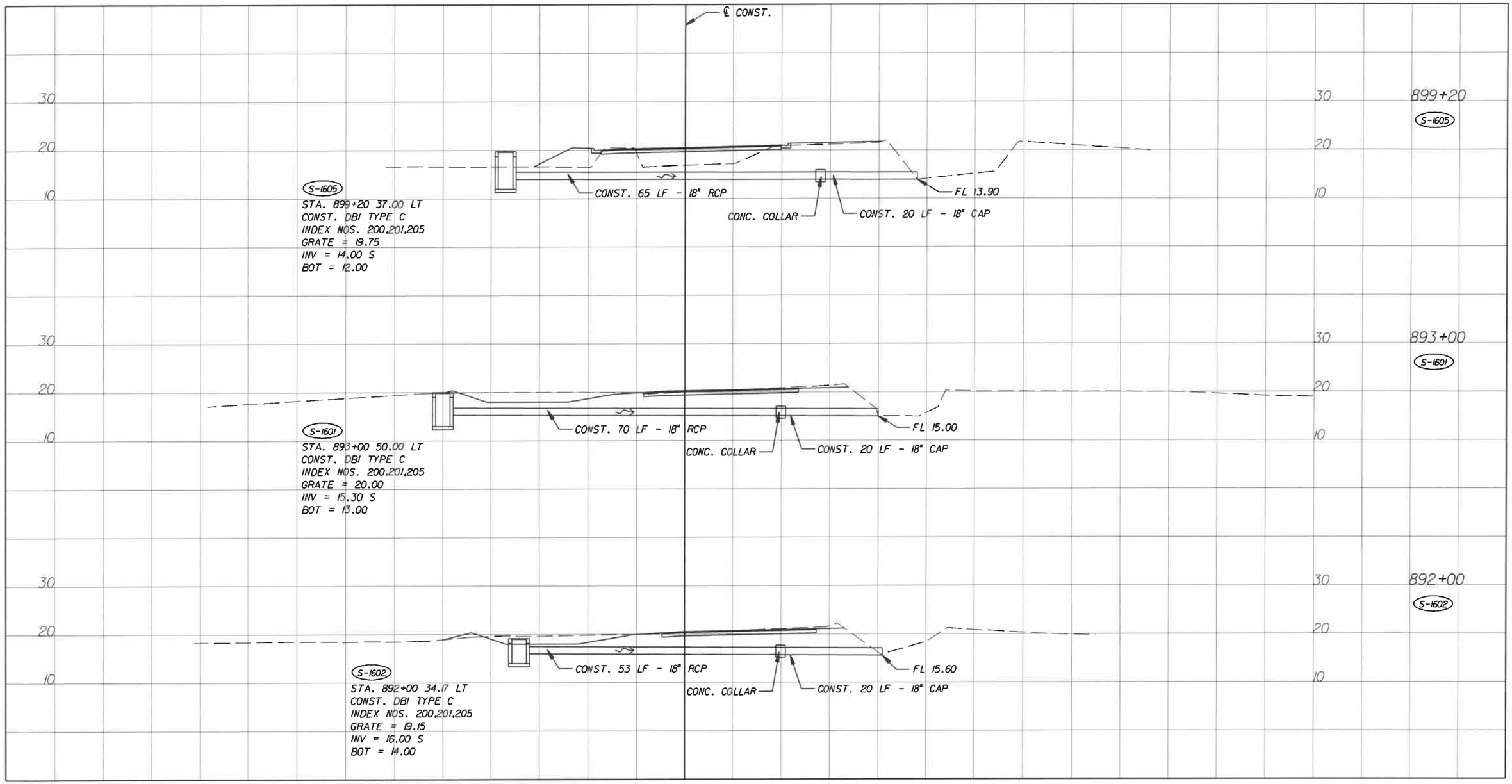
DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 56
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRSTRD5301.dgn 10/16/2017 2:45:09 PM



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NO.	REVISION:	BY:	DATE:

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Engineering Division

SCALE: 1"=20'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

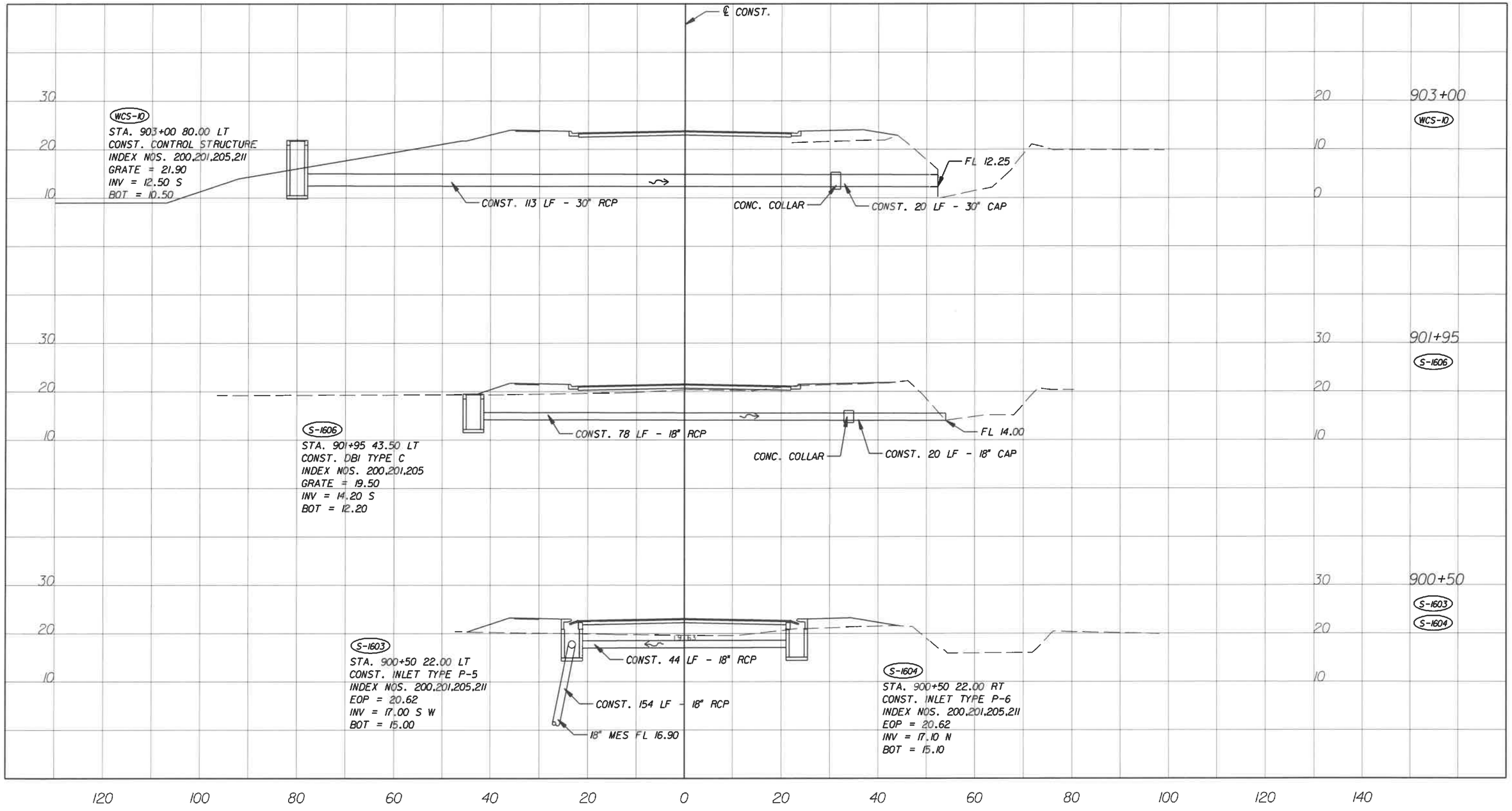
DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 57
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRSTRD5701.dgn 10/16/2017 2:45:58 PM



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SCALE: 1"=20'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRAINAGE STRUCTURES

66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: 58
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053DRSTRD5701.dgn 12/6/2017 11:14:43 AM

WCS-9A

STA. 323+66.99 328.29 LT
CONST. DBI TYPE D
INDEX NOS. 232
GR = 20.80
INV = 12.50 N
BOT = 10.50

CONCRETE PAVEMENT

CONST. 12.5'x30'x2.5' RIP RAP RUBBLE

FL 12.25

CONST. 20 LF - 24" CAP WITH CONC. COLLAR INDEX 280

CONST. 20' GATE INDEX 802

20' DRIVEWAY TYPE B STABLIZATION 12" THICK MIN. LBR 40 (SEED & MULCH)

+06.65 84.00 LT FENCE

+07.65 83.00 LT

+09.43 407.73 LT

PROP. R/W LINE

324.73'

+08.42 406.73 LT FENCE

4" PERFORATED PVC (ASTM F-758) WITH SOCK FILTER FABRIC (TYP.) FL 16.50

MIX EXIST. SOIL TO ELEV. 16.50 WITH GRANULAR MATERIAL TO ACHIEVE A MIN. PERMEABILITY RATE OF 10'/DAY

CONST. 47 LF - 24" RCP

50'R (TYP.)

35'R (TYP.)

29.5'R (TYP.)

21.5'R (TYP.)

WCS-9A

22.63
20.75
16.50
14.50

ME 3:1 9' 8:1 15' 4:1 25' 3:1 16.5'

184.52'

1'

+79.15 174.40 LT

8" PERFORATED PVC (ASTM F-758) WITH SOCK FILTER FABRIC FL 16.50

10" PVC FL 16.5

+75.73 171.00 LT

+58.25 195.40 LT

+49.10 347.73 LT

+37.53 336.23 LT

+41.85 211.90 LT

+25.91 143.00 LT

4"x8" TEE (TYP.)

8"x10" TEE

55.6'

20' (TYP.)

25 YR 1 DAY EL 20.71

PROPOSED DETENTION AREA NO. 9A
WATER CONTROL EL 16.50'
BOTTOM EL 9.00'

129.33'

51.52'

+96.01 336.23 LT

5'R (TYP.)

+90.32 211.90 LT

CLEANOUT (TYP.) INDEX 286

119.72'

4"-45° BEND (TYP.)

+83.45 143.00 LT

+84.58 348.41 LT

+73.73 195.40 LT

FL 16.50 EW-322

CONST. 6" THICK CONC. PAVEMENT

8" PERFORATED PVC (ASTM F-758) WITH SOCK FILTER FABRIC FL 16.50

PROP. R/W LINE

5'R (TYP.)

MAINTENANCE AREA

CONST. 30" STRAIGHT ENDWALL INDEX 250

+25.90 406.73 LT FENCE

+24.90 407.73 LT

CONST. TYPE B FENCE VINYL CLAD 6' HIGH GREEN VINYL CLAD INDEX 802

CONST. 80 LF - 30" RCP

+24.13 84.00 LT FENCE

+23.12 83.00 LT

PROP. R/W LINE

324.73'

EW-322 30" RCP FL 16.50

18.9 16.5 18.9 20.75 22' 9.6' 2.5' 4:1 4:1

INLET SUMP DETAIL

STRAIGHT CONC. ENDWALL INDEX 250
EL = 16.50
EL = 18.90
3:1
30" RCP
10'
SAND-CEMENT RIP RAP BAGS

EXIST. N. LINE OF 100' TIIF RESERVATION

66TH AVE.

323

322

324

S-905

S-906

104

PROP. 20' DIP WM

PROP. 20' DIP WM

INV 19.36 E 12"-CMP

INV 18.68

LATERAL "A" CANAL

0 10 20 40 Feet

ARCADIS U.S., INC.
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Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

DETENTION AREA NO. 9A

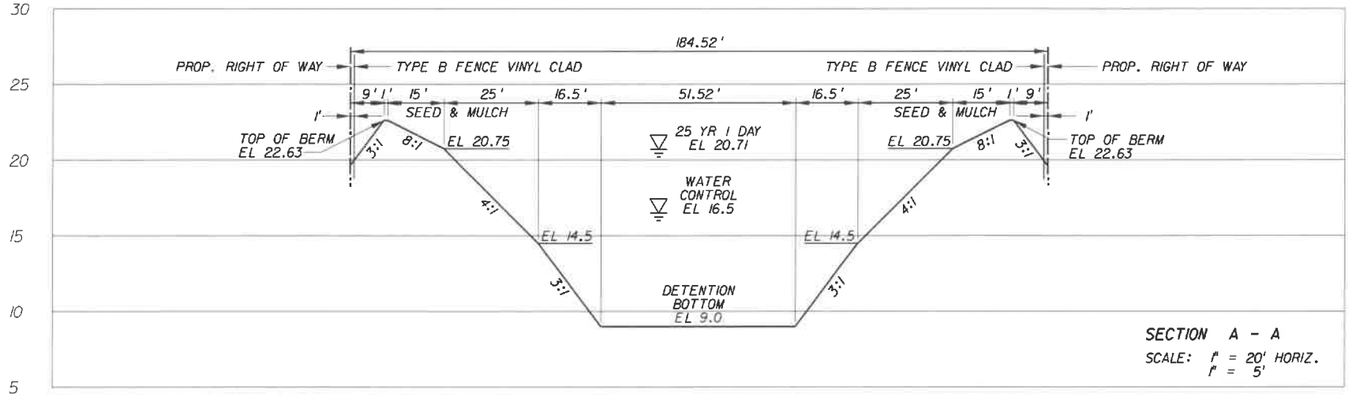
66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 59
OF: 112

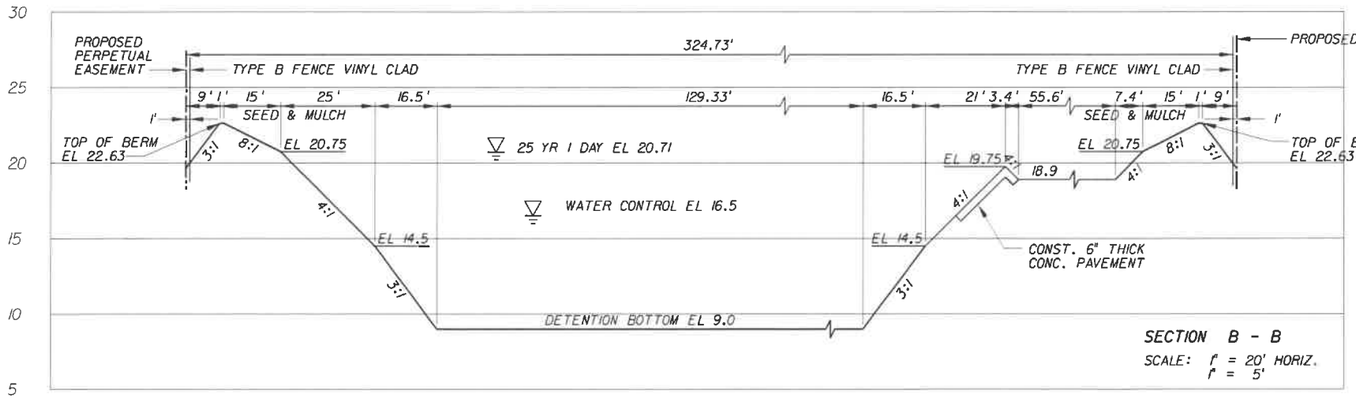
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053RETARD08A.dgn 12/6/2017 11:16:33 AM



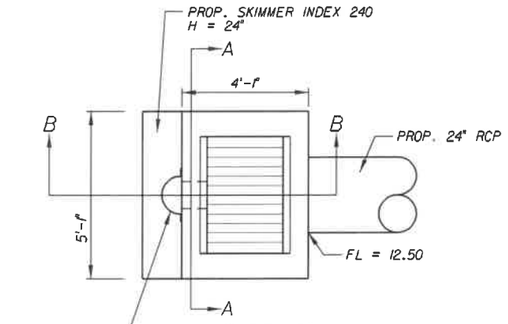
SECTION A - A

SCALE: 1" = 20' HORIZ.
1" = 5'



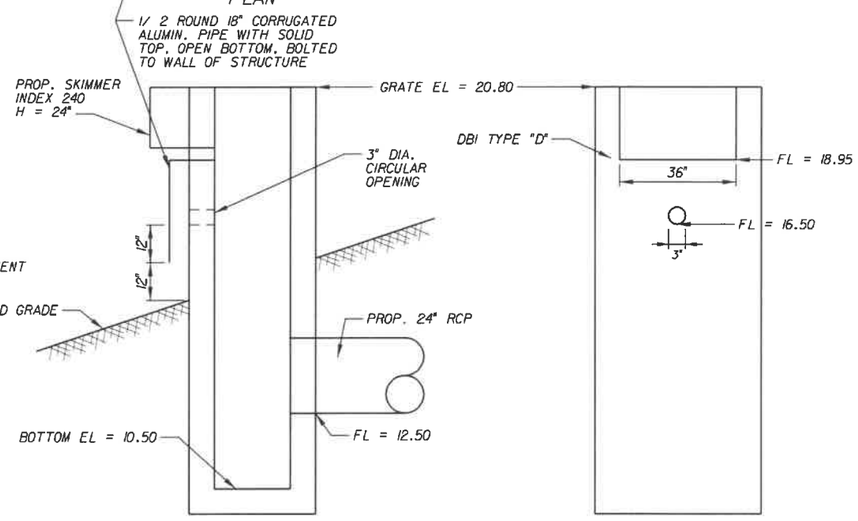
SECTION B - B

SCALE: 1" = 20' HORIZ.
1" = 5'



DBI TYPE "D"

PLAN



SECTION B-B

SECTION A-A

CONTROL STRUCTURE WCS-9A

* PEGGED OR STAKED SOD TO EXTEND TO ELEVATION 16.0 (NORMAL POND WATER SURFACE ELEVATION).

GB310 / LC26000269

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO:	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE:	NTS
APPROVED:	H.D.
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO:	

DETENTION AREA NO. 9A

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET:	60
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	1505

A1053RETTYP08A.dgn 12/6/2017 11:20:54 AM

WCS-9B

STA. 326+50.33 207.33 LT
CONST. DBI TYPE D
INDEX NOS. 232
GR = 21.00
INV = 12.50 S
BOT = 10.50

CONCRETE PAVEMENT

MIX EXIST. SOIL TO ELEV. 16.50 WITH GRANULAR MATERIAL TO ACHIEVE A MIN. PERMEABILITY RATE OF 10'/DAY.

4" PERFORATED PVC (ASTM F-758) WITH FILTER SOCK FL 16.50 (TYP.)

PROP. R/W LINE

CONST. 20' GATE INDEX 802

20' DRIVEWAY TYPE B STABLIZATION 12" THICK MIN. LBR 40 (SEED & MULCH)

PROP. R/W LINE

+96.03 285.00 LT
+95.03 284.00 LT FENCE
202.00'
+93.93 84.00 LT FENCE
+94.92 83.00 LT

CONST. 36" STRAIGHT ENDWALL INDEX 250

CLEANOUT (TYP.) INDEX 286

4"-45° BEND (TYP.)
4"x8" TEE (TYP.)
8"x12" TEE
+35.70 225.00 LT
+35.25 143.00 LT
20' (TYP.)
50.58'
31'R (TYP.)
27.6'R (TYP.)
10'R
FL 16.0
CONST. 59 LF - 36" RCP
EW-328
S-956
S-955

+12.87 252.60 LT
137.24'
12" PVC FL 16.50
+12.12 115.40 LT
+09.49 256.00 LT
+08.70 112.00 LT
CONST. 6" THICK CONC. PAVEMENT

22.63
20.75
19.75
18.9
16.50
14.50

+88.37 235.00 LT
+87.81 133.00 LT
+71.78 218.50 LT
+71.40 149.50 LT
69.00'
96.89'
25 YR I DAY EL 20.88

PROPOSED DETENTION AREA NO. 9B
WATER CONTROL EL 16.50'
BOTTOM EL 9.00'

8" PERFROATED PVC (ASTM F-758) WITH SOCK FILTER FABRIC (TYP.) FL =16.5

MAINTENANCE ACCESS

287.27'
ME 3:1
8:1
4:1
3:1
16.5'
25'
15'
9'
1'
20.75
22.63
14.50
16.50

+67.98 143.00 LT
10'R (TYP.)
+68.43 225.00 LT
103

EXIST. 4" WELL TO BE CAPPED
EXIST. UNDERGROUND ELECTRIC SERVICE METER TO BE REMOVED

WCS-9B
CONST. 64 LF - 24" RCP
35'R (TYP.)
50'R (TYP.)
51'R (TYP.)

+09.75 284.00 LT FENCE
+08.65 84.00 LT FENCE
+08.76 285.00 LT
+07.65 83.00 LT
202.00'
PROP. R/W LINE

CONST. 20 LF - 24" CAP WITH CONC. COLLAR INDEX 280
CONST. 12.5'x30'x2.5' RIP RAP RUBBLE
FL 12.25

CONST. TYPE B FENCE VINYL CLAD 6' HIGH GREEN VINYL CLAD INDEX 802

NORTH RELIEF CANAL

CONC. DRIVEWAY

66TH AVE.
329
328
327
326
30

LATERAL "A" CANAL
TOB
EOW

N
0 10 40 Feet

STRAIGHT CONC. ENDWALL INDEX 250
EL = 16.00
EL = 18.90
3:1
36" RCP
10'
SAND-CEMENT RIP RAP BAGS

INLET SUMP DETAIL
18.9
EW-328
4:1
16.0
36" RCP
FL 16.00
26'
11.6'
3'
11.6'

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EB 7917 / LB 7062

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Engineering Division

SCALE: 1"=40'
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FIELD BOOK NO.

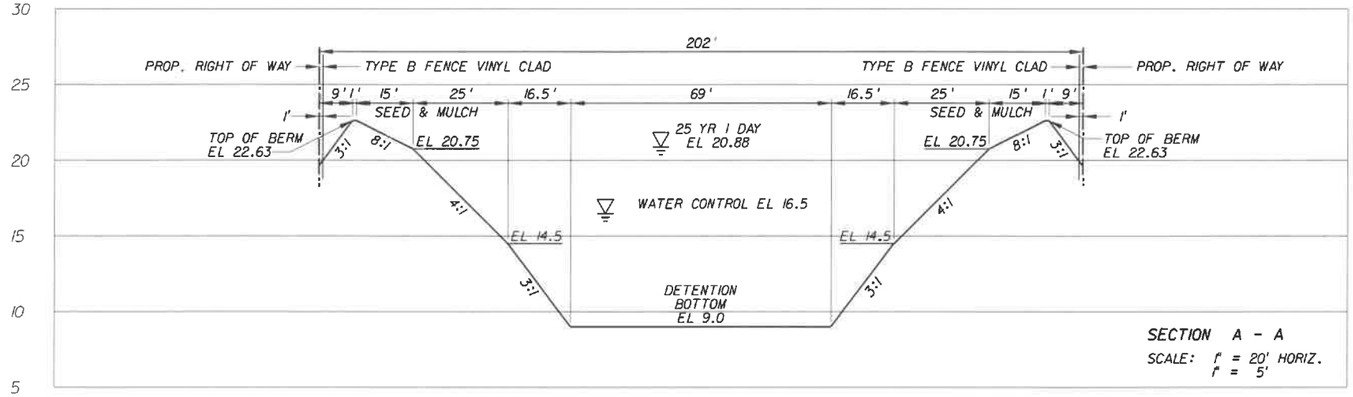
DETENTION AREA NO. 9B

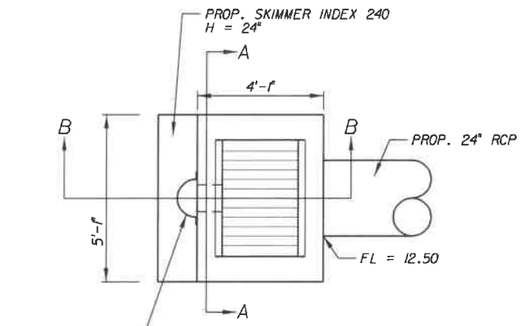
66 TH AVENUE-PHASE 1A

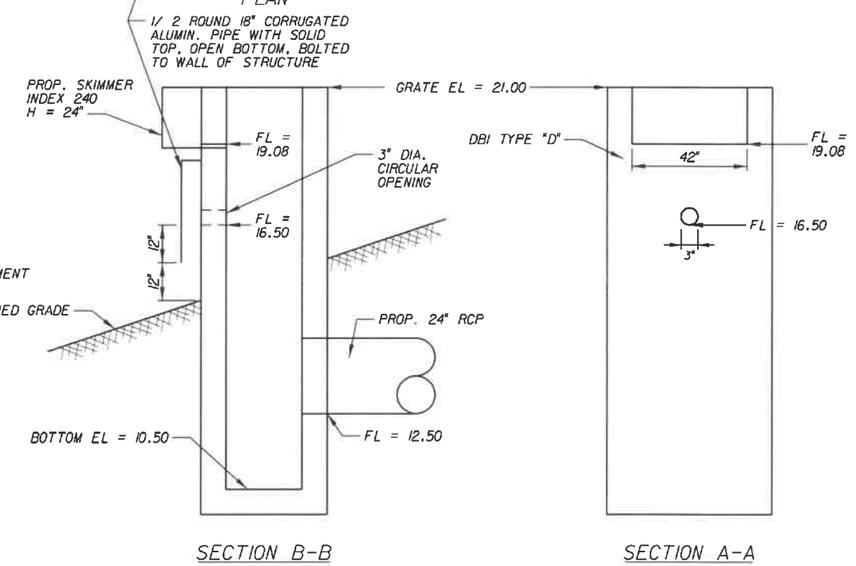
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

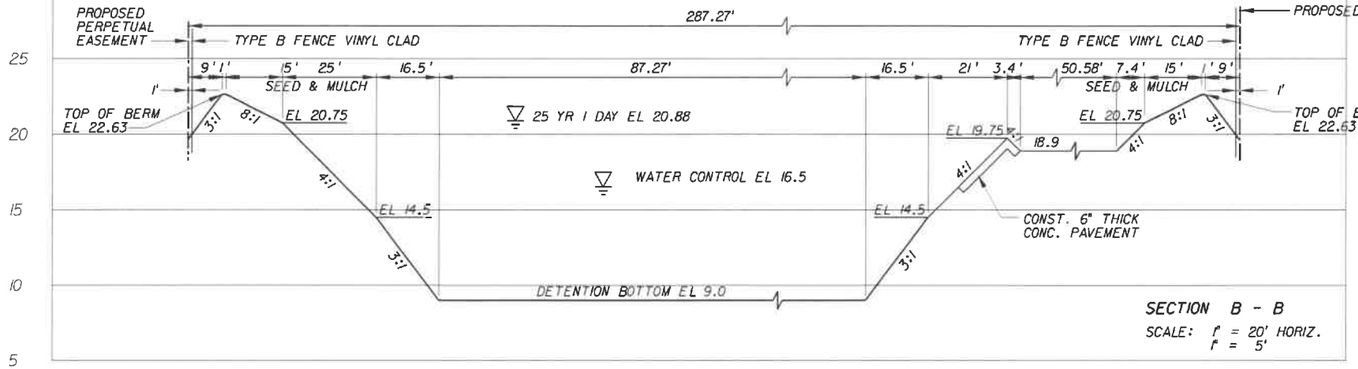
SHEET: 61
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053RETARD08B.dgn 12/6/2017 11:21:20 AM









CONTROL STRUCTURE WCS-9B

* PEGGED OR STAKED SOD TO EXTEND TO ELEVATION 16.0 (NORMAL POND WATER SURFACE ELEVATION).

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

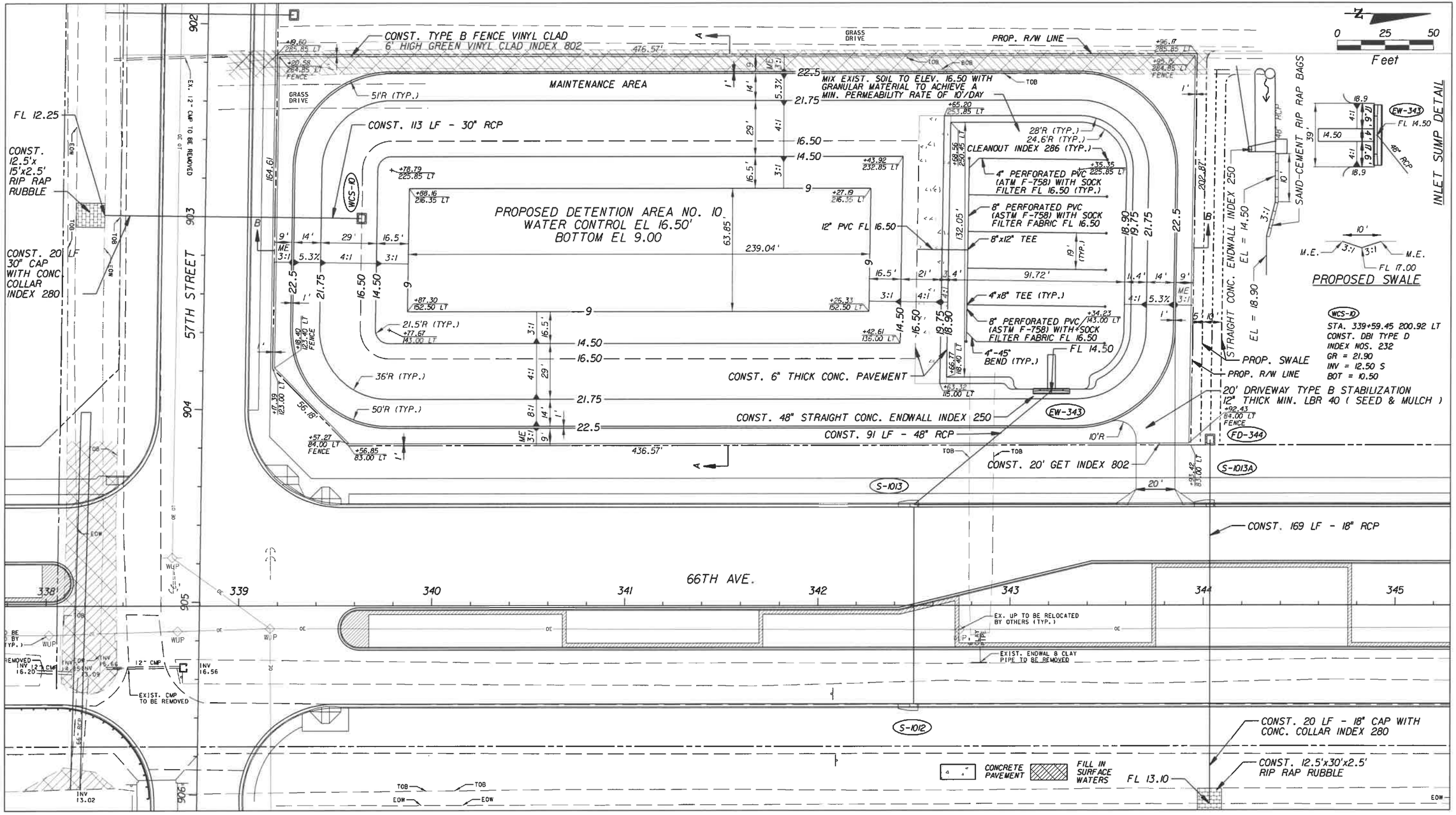
Department of Public Works
Engineering Division

SCALE:	NTS
APPROVED:	H.D.
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO.	

DETENTION AREA NO. 9B
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET:	62
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	1505

A1053RETTYP08B.dgn 12/6/2017 11:21:52 AM



ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062
GB310 / LC26000269

NO.	REVISION.	BY.	DATE.

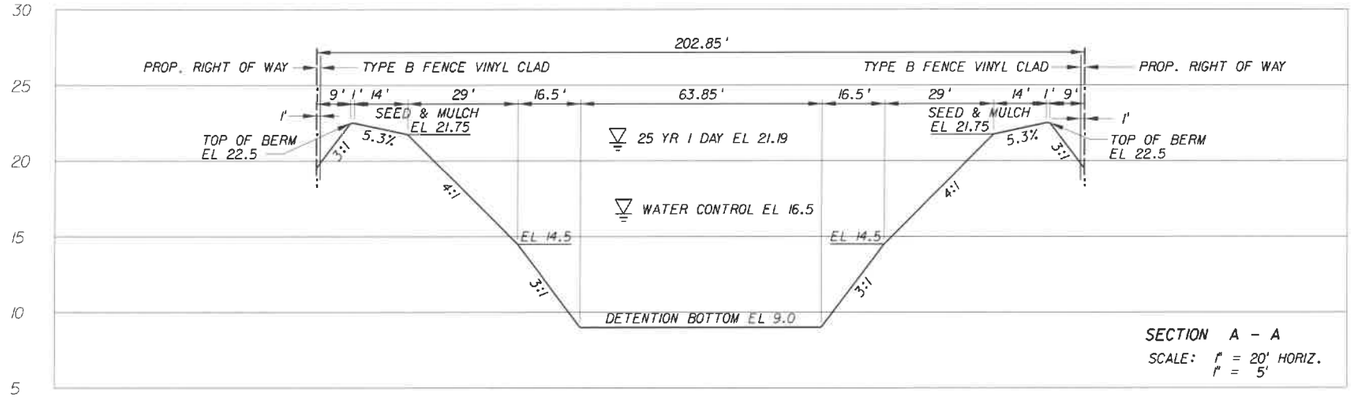
Department of Public Works
Engineering Division

SCALE: 1"=50'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DETENTION AREA NO. 10
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

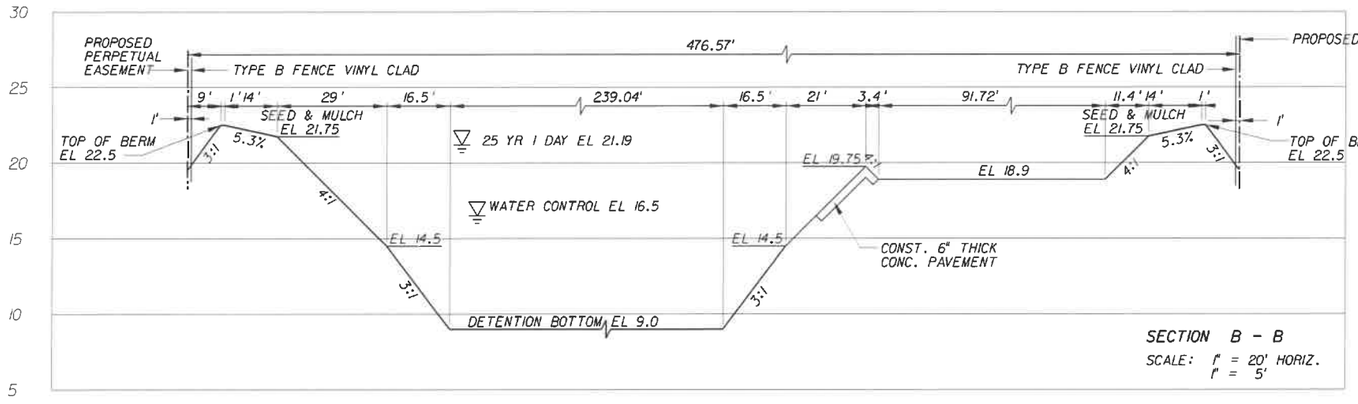
SHEET: 63
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053RETARD09.dgn 3/15/2017 10:34:27 AM



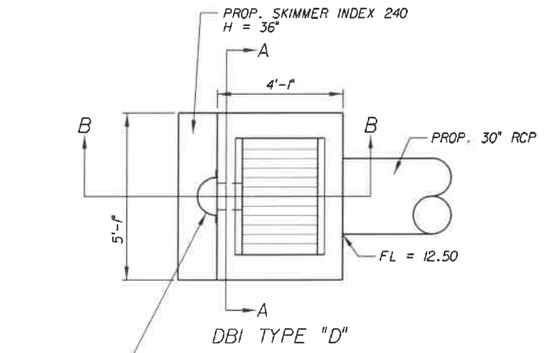
SECTION A - A

SCALE: 1" = 20' HORIZ.
1" = 5'



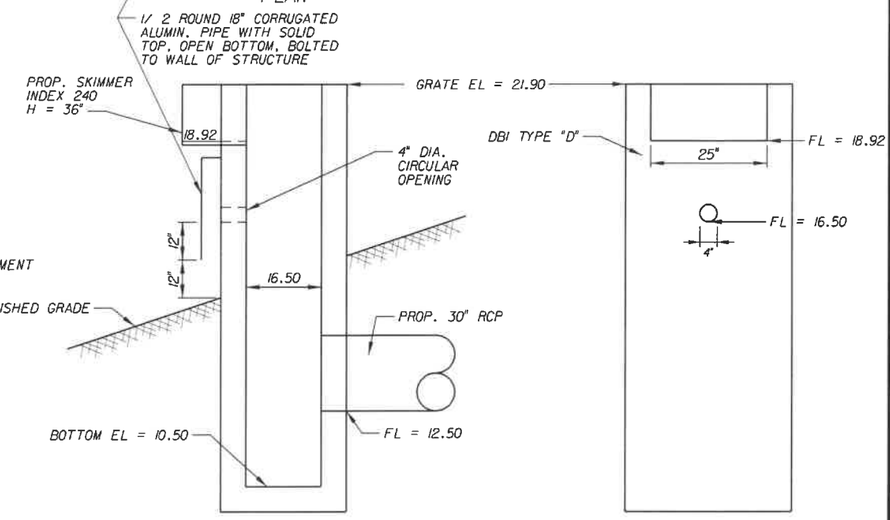
SECTION B - B

SCALE: 1" = 20' HORIZ.
1" = 5'



DBI TYPE "D"

PLAN



SECTION B-B

SECTION A-A

CONTROL STRUCTURE WCS-10

* PEGGED OR STAKED SOD TO EXTEND TO ELEVATION 16.0 (NORMAL POND WATER SURFACE ELEVATION).

GB3107 LC26000269

ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE:	NTS
APPROVED:	H.D.
DRAWN:	B.F.
CHECKED:	H.D.
DATE:	10-16
FIELD BOOK NO.	

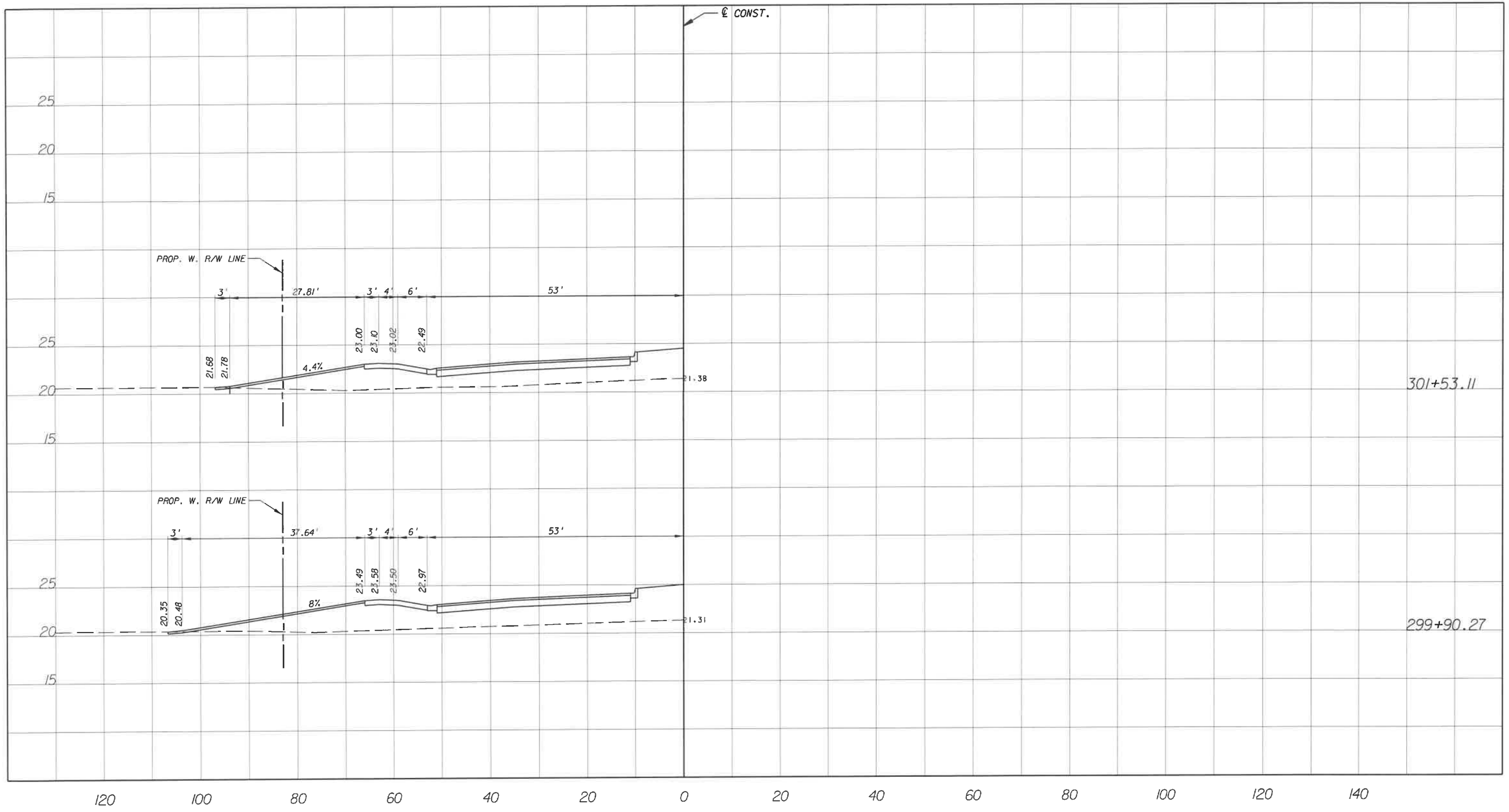
DETENTION AREA NO. 10

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET:	64
OF:	112
PROJECT NO.	A1053
IRC_JOB_NO.	

A1053RETTYP09.dgn 3/15/2017 10:34:50 AM



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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

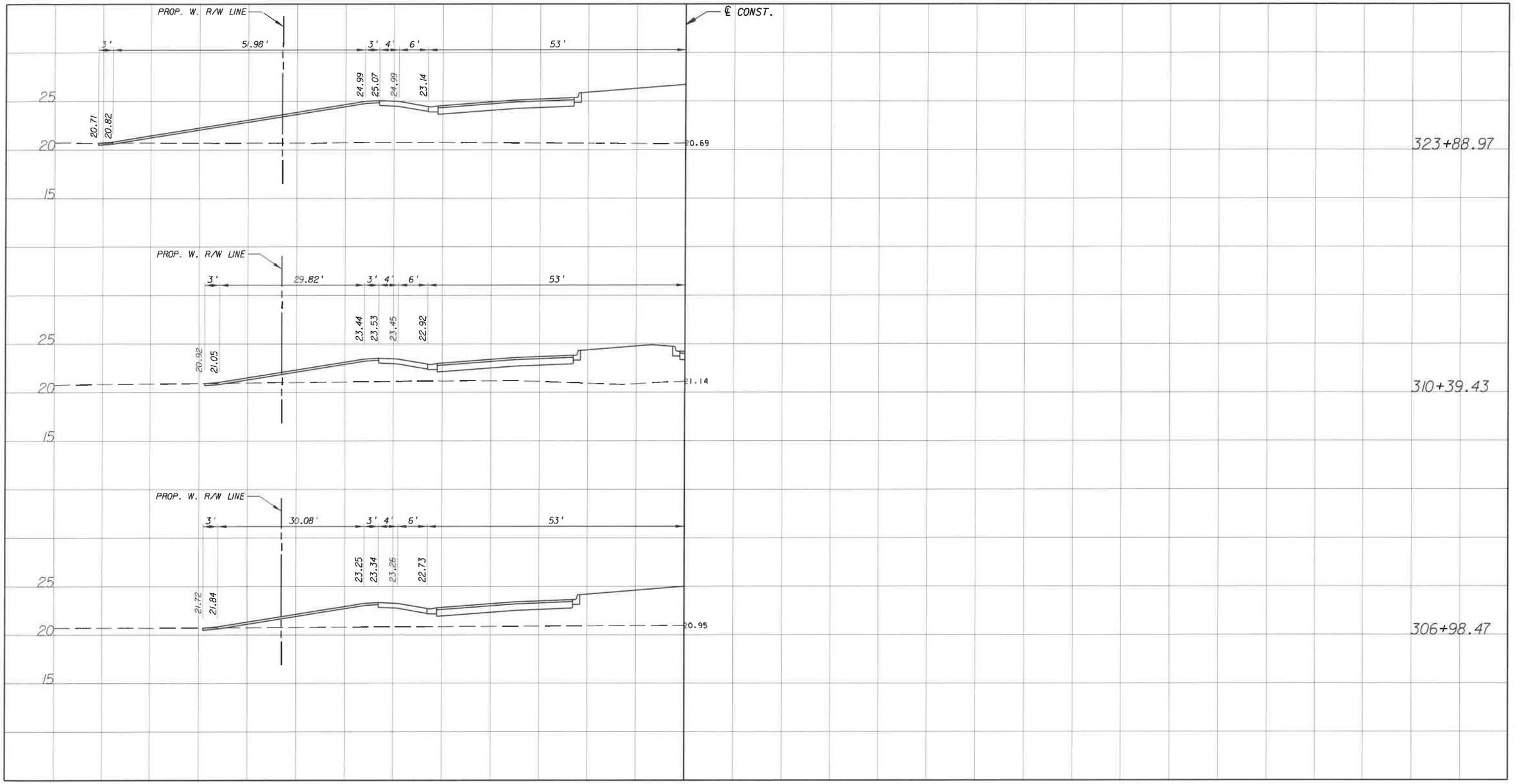
DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 65
OF: 112

PROJECT NO. A1053
IRC_JOB_NO. 1505



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ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

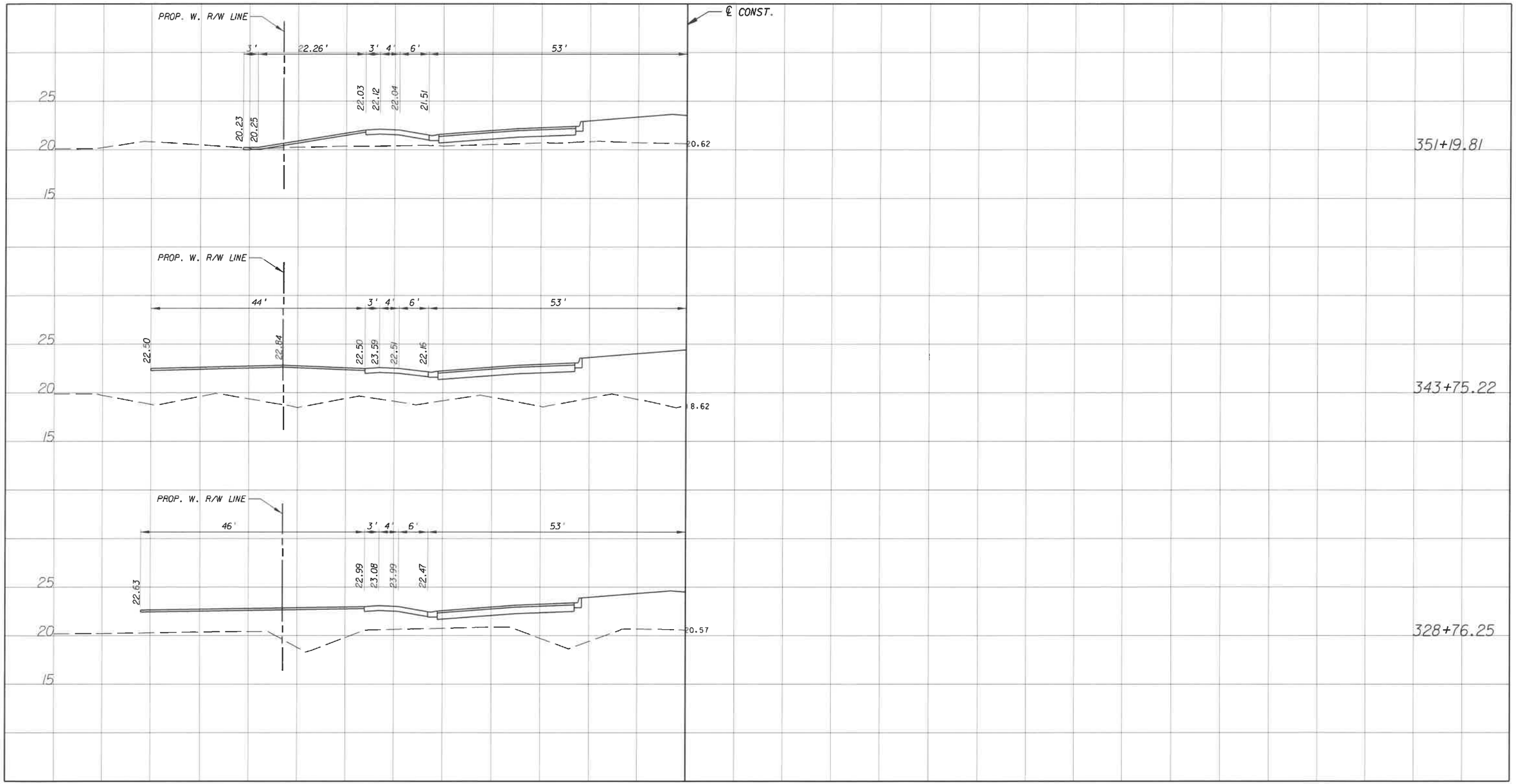
DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 66
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsstrd01.dgn 3/15/2017 10:36:05 AM



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EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE, H. 1"=20'
V. 1"=10'
APPROVED, H.D.
DRAWN, B.F.
CHECKED, H.D.
DATE, 10-16
FIELD BOOK NO.

DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET, 67
OF, 112

PROJECT NO. A1053
IRC_JOB_NO.

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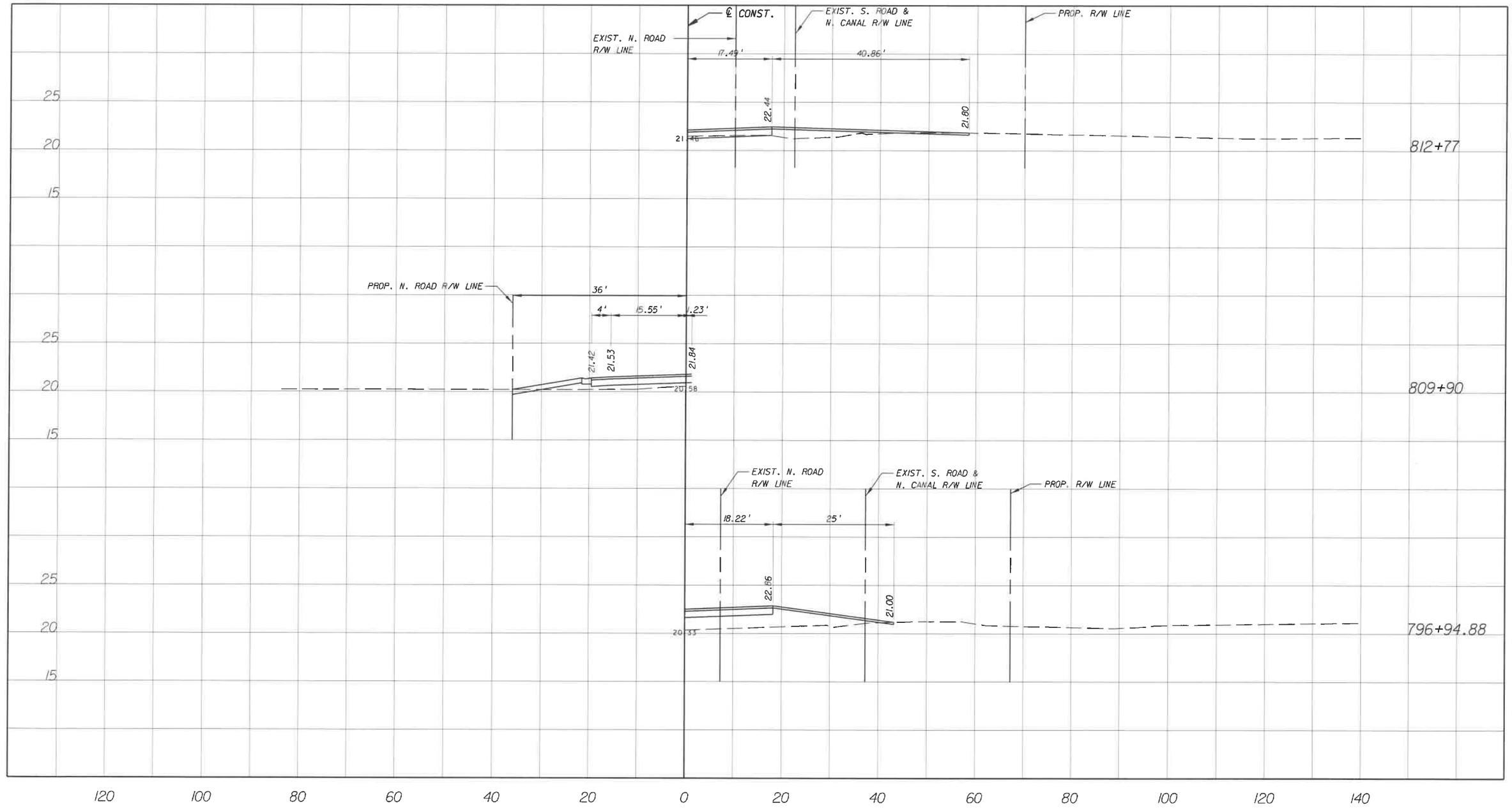

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED. H.D.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

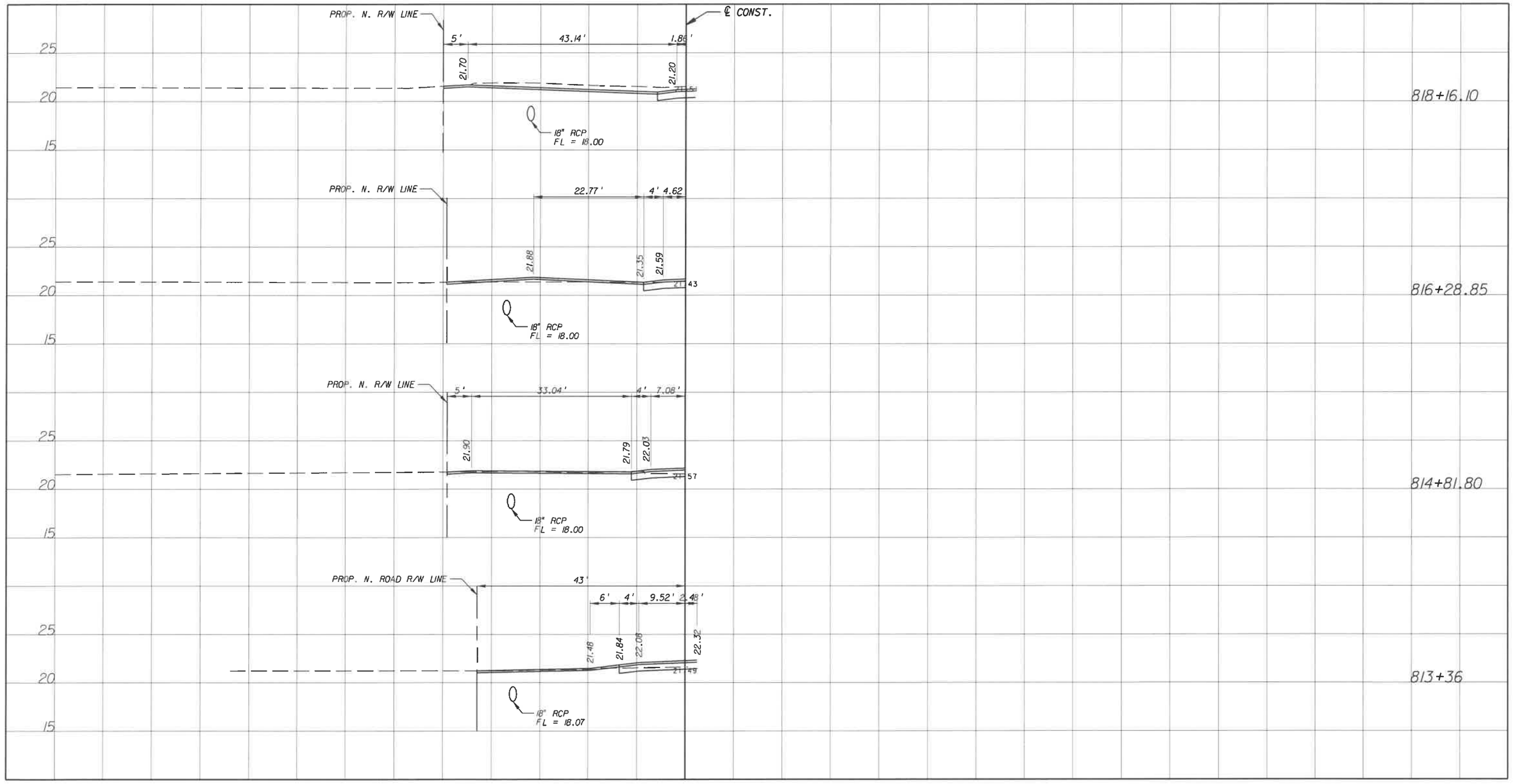
DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 68
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsstrd5301.dgn 3/15/2017 10:36:56 AM



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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED. H.D.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

DRIVEWAY CROSS SECTION

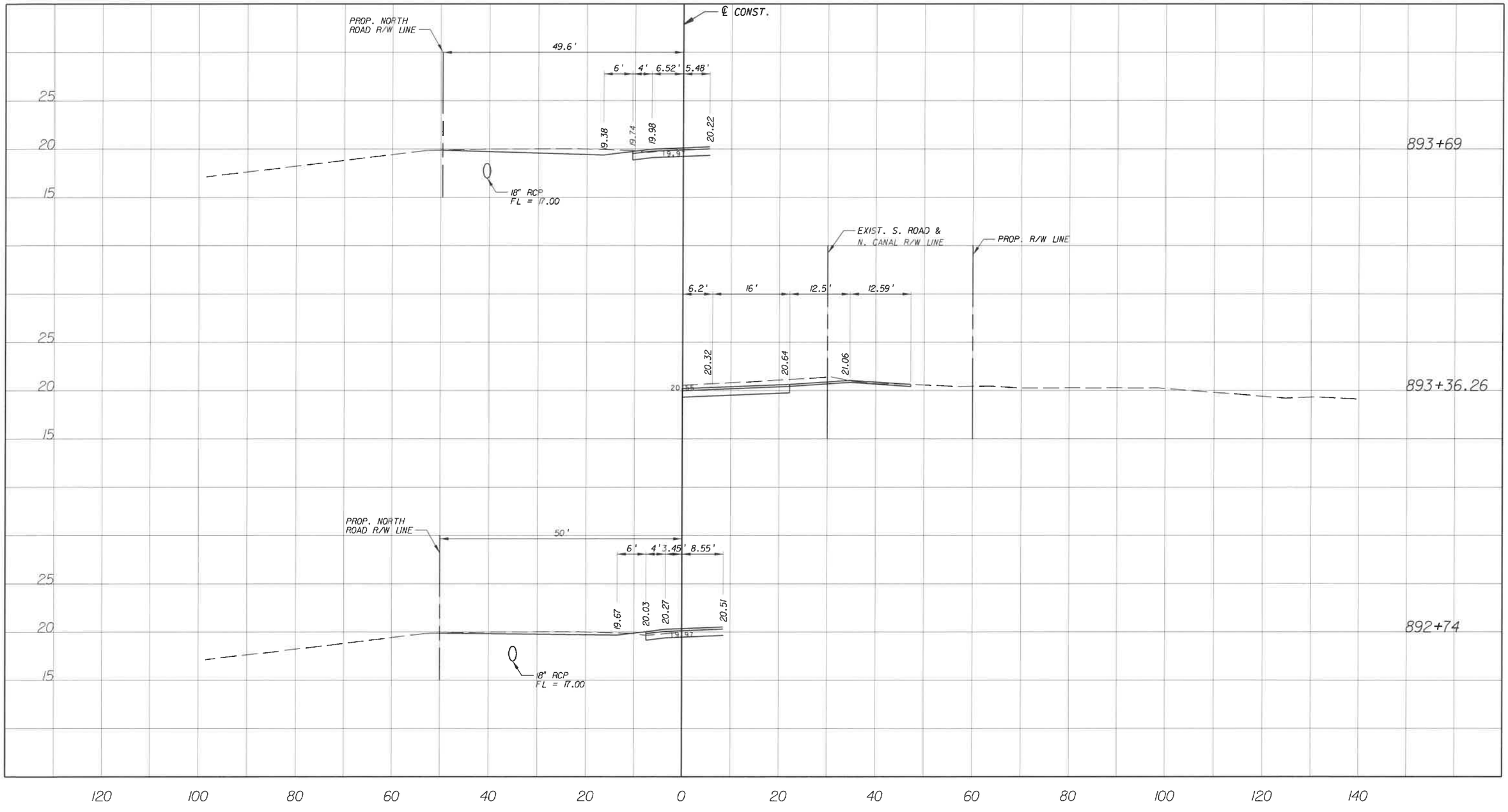
66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 69
OF. 112

PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsstrd5301.dgn 12/6/2017 11:24:14 AM



GB310/ LC26000269
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(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

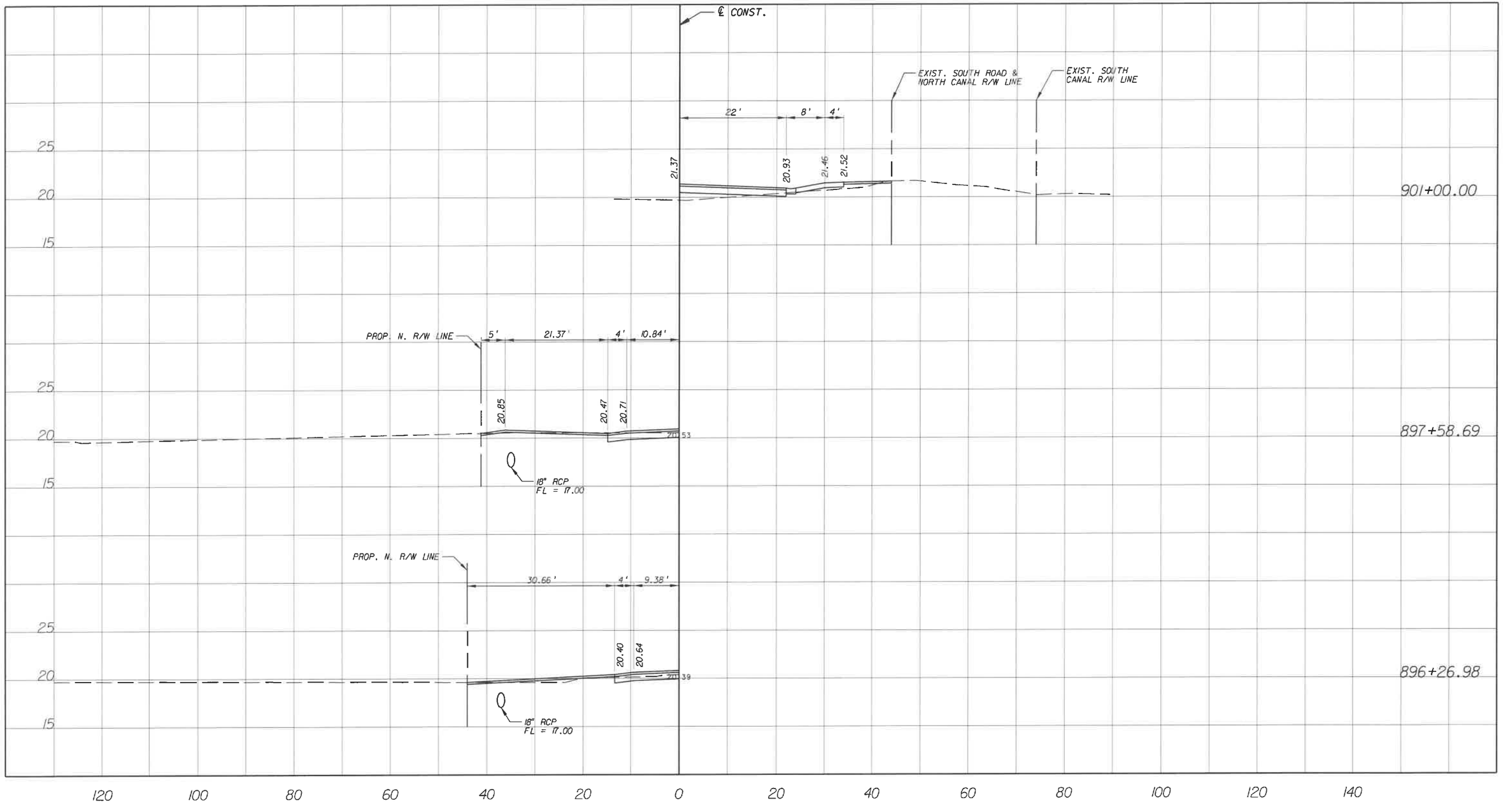
DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 70
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsstrd5701.dgn 3/15/2017 10:37:31 AM



GB310/ LC26000269

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1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

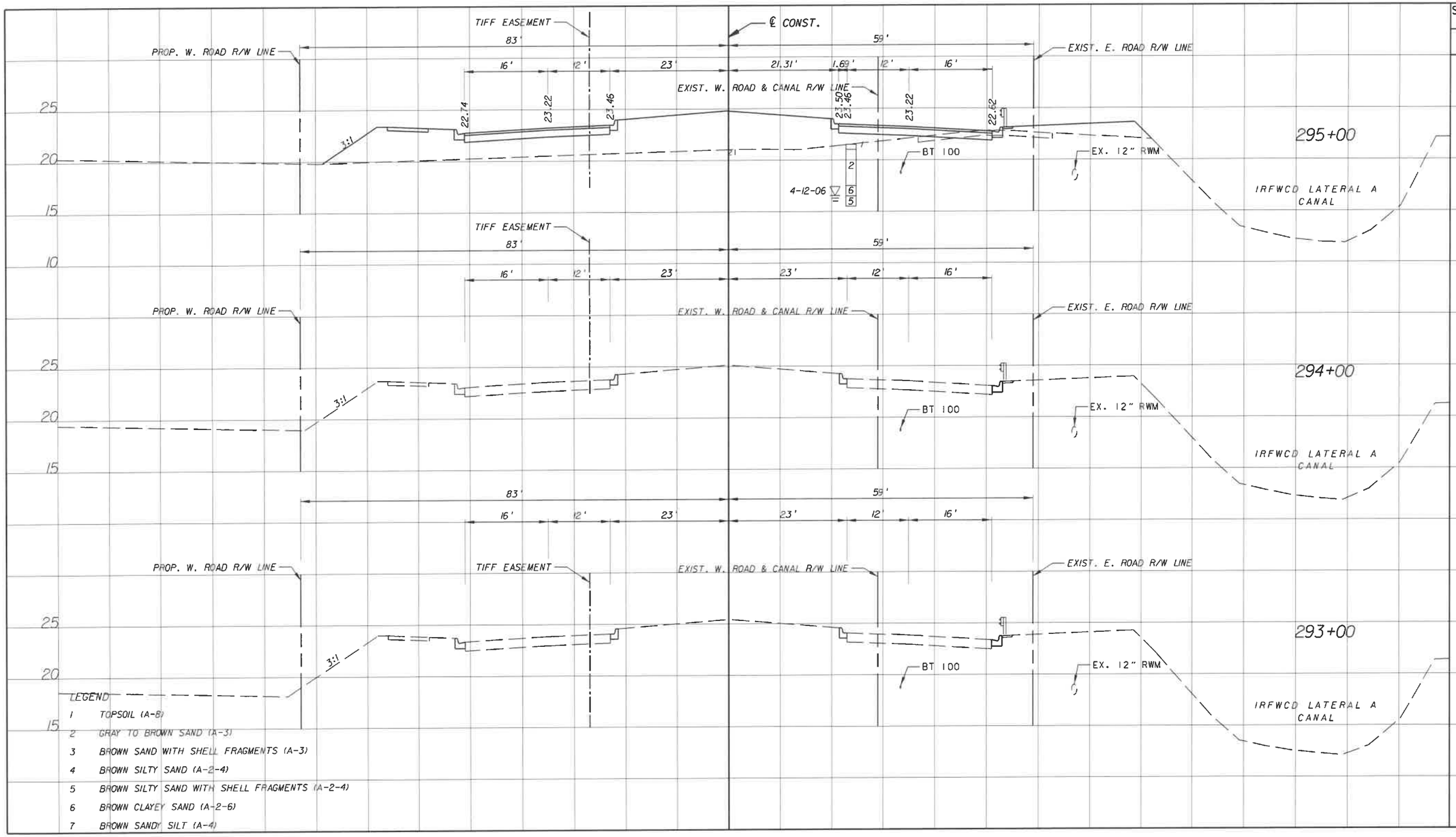
SCALE: H. 1"=20'
V. 1"=10'
APPROVED: H.D.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

DRIVEWAY CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 71
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		41		959
0		8		310	
	0		24		1380
0		5		435	
	0		13		1622
0		2		441	

ARCADIS U.S., INC.
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GB310 / LC26000269
EB 7917 / LB 7062

NO.	REVISION.	BY:	DATE.
13	MOVED GUARDRAIL	BF	5-3-13

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

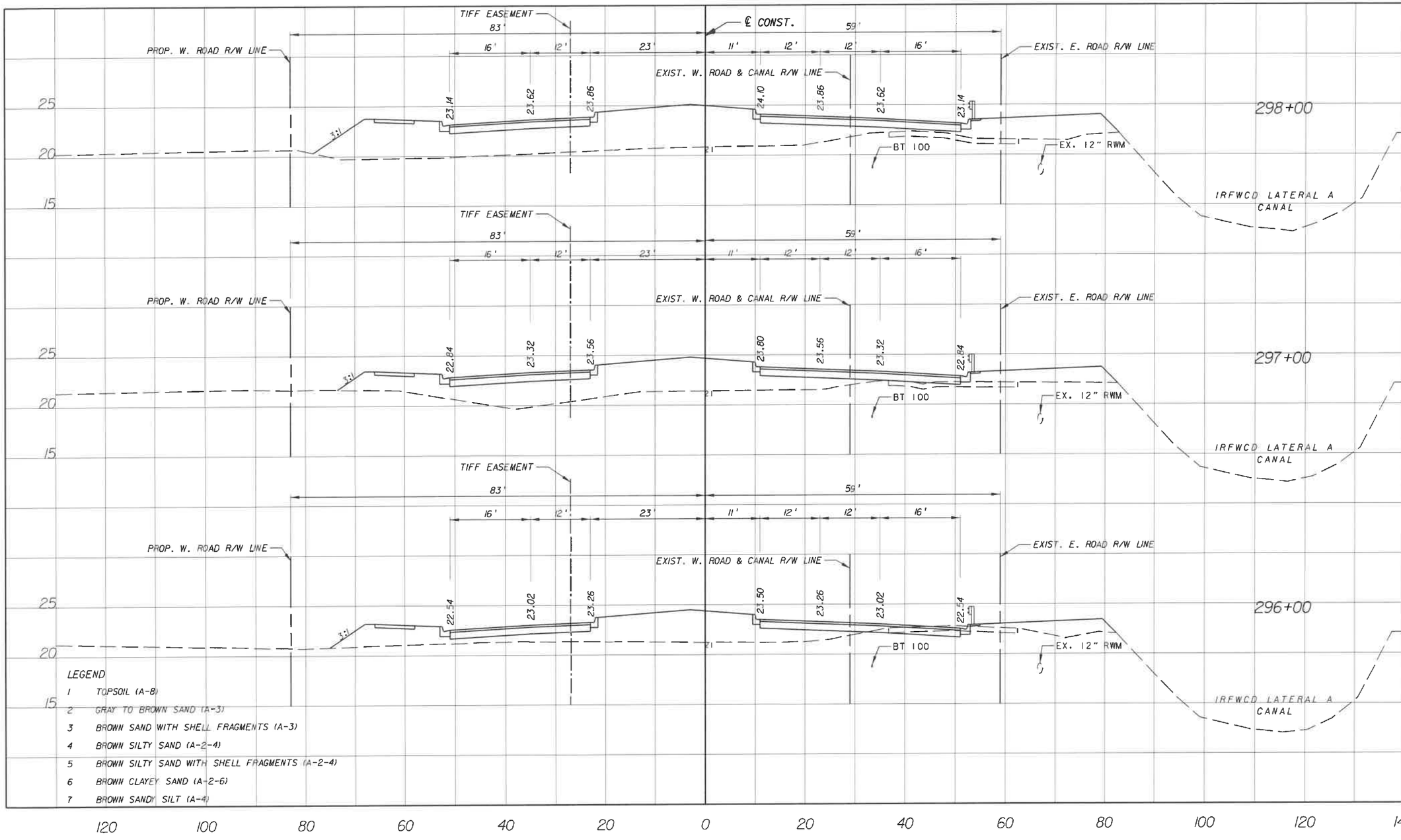
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 72
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:54:35 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		2		1396
0		0		404	
	0		4		1254
0		2		273	
	0		30		891
0		14		208	

CB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

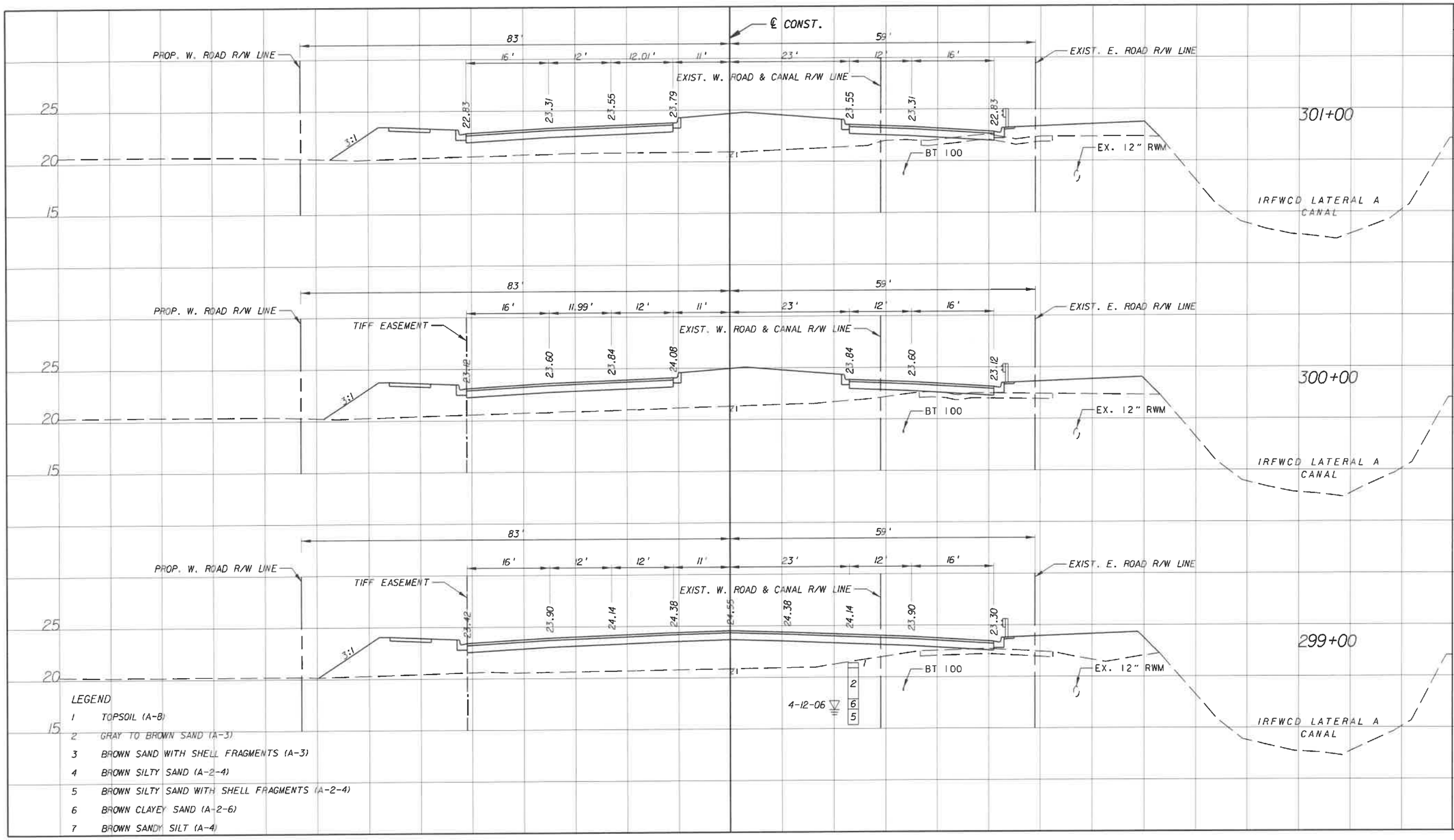
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 73
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:54:48 PM



LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
0		4		291	
	0		9		1129
0		1		316	
0		4		1233	
0		1		350	

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ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

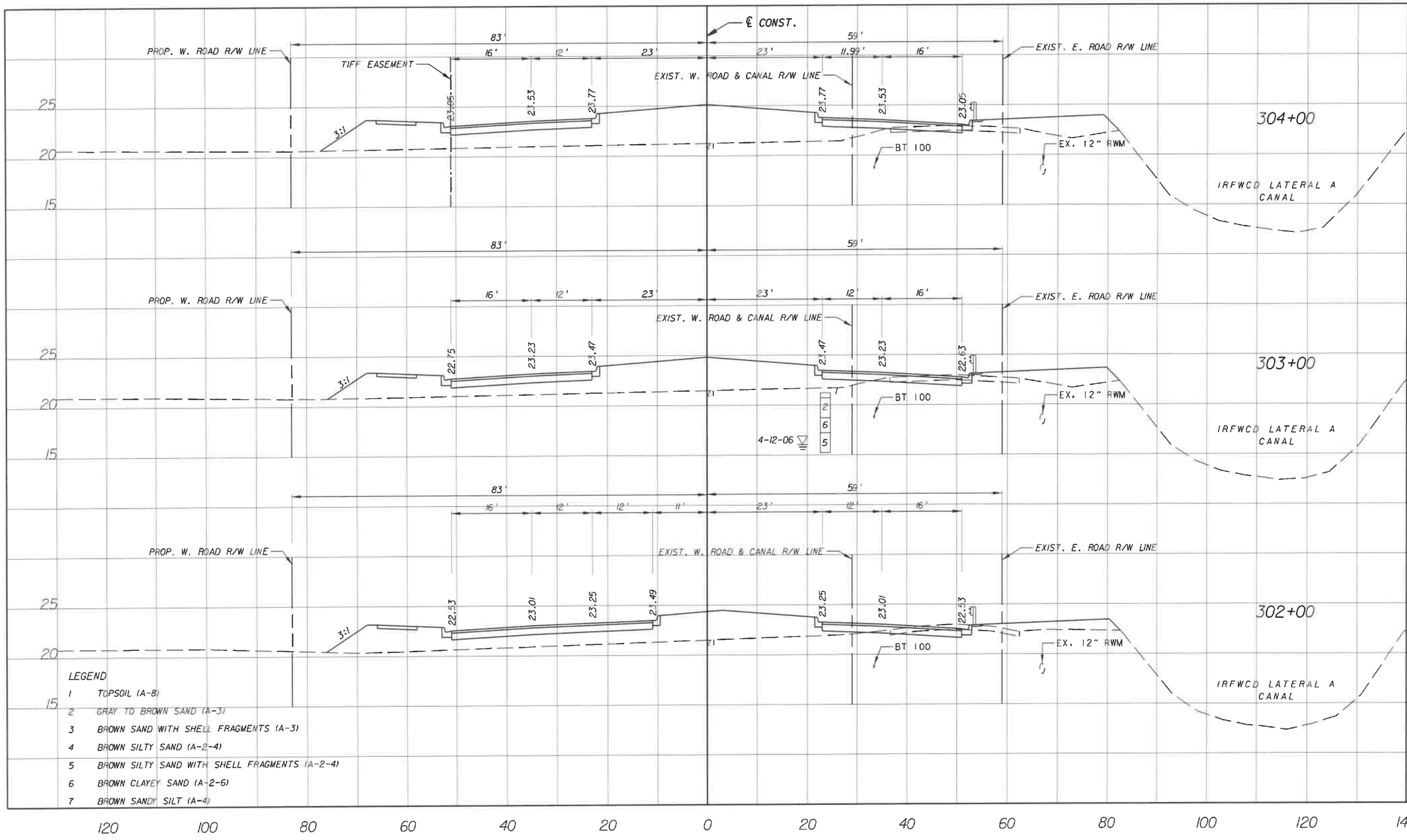
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 74
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:54:58 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		17		1,265
0		8		301	
	0		39		1,049
0		13		265	
	0		54		860
0		16		199	

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

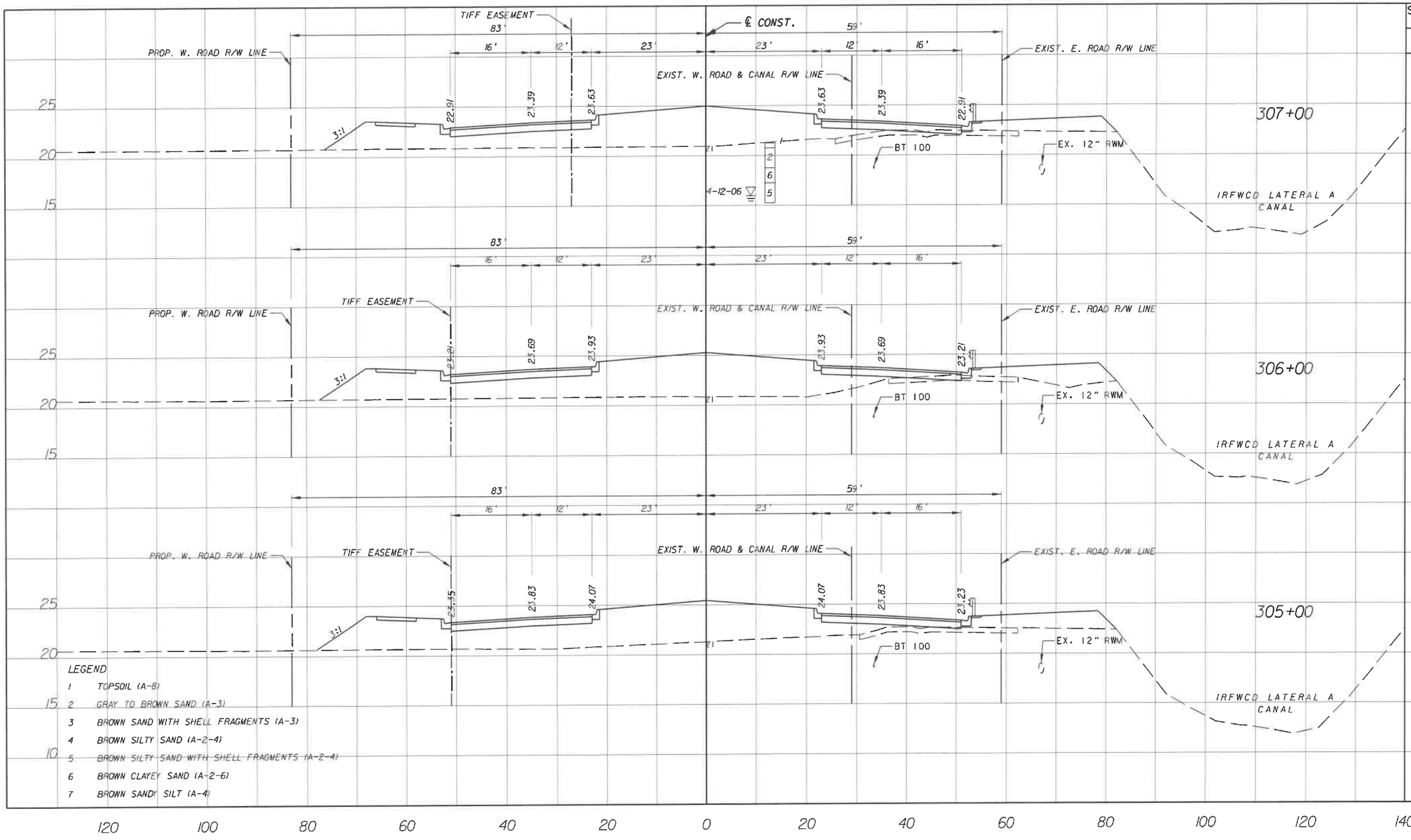
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 75
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:55:10 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		34		986
0		4		285	
	0		10		1,171
0		1		347	
	0		4		1,350
0		1		382	

GB310 / LC26000269

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE, H: 1"=20'
V: 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

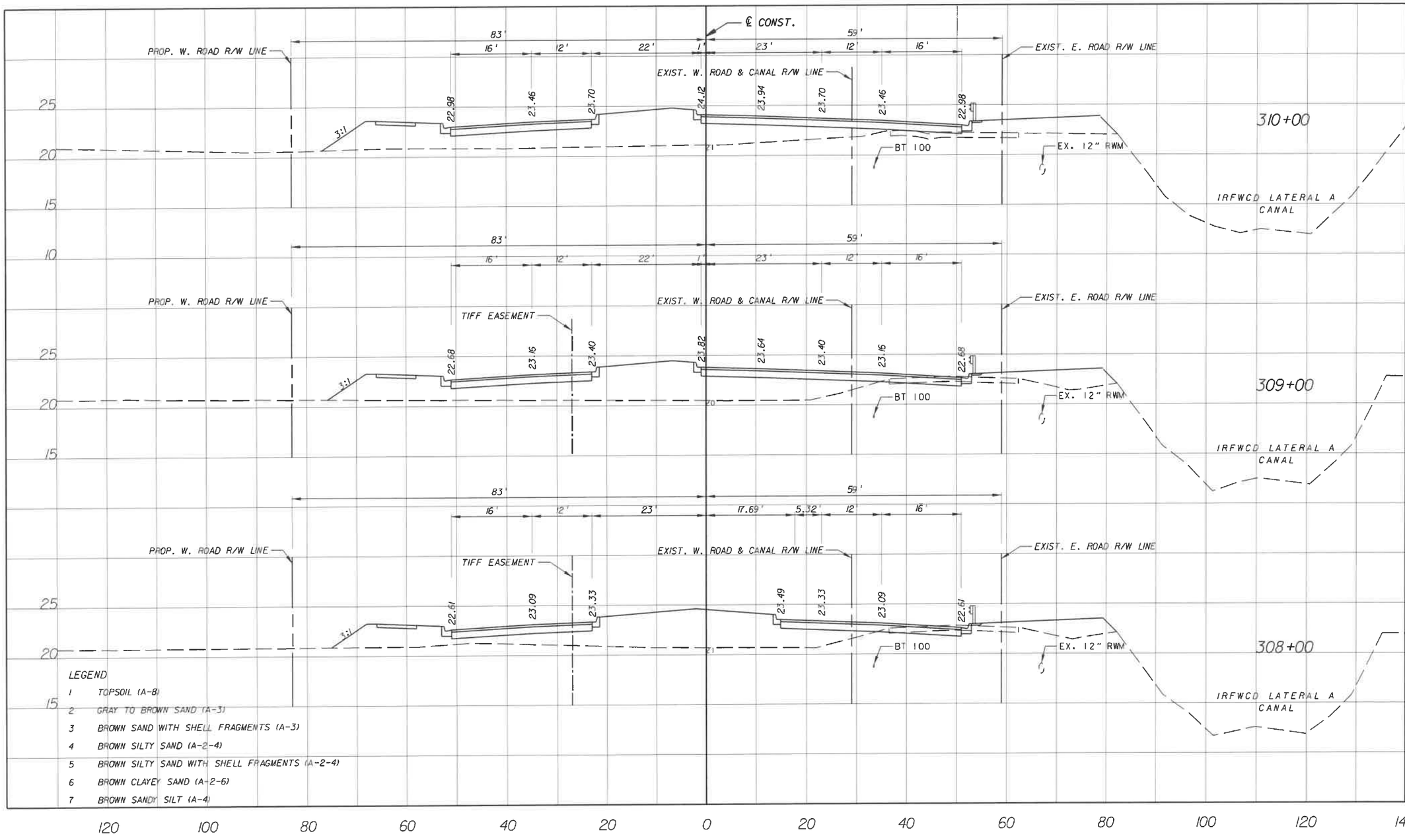
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 76
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:55:20 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		2		1,117
0		1		261	
	0		23		973
0		11		264	
	0		47		947
0		14		247	

1	TOPSOIL (A-8)
2	GRAY TO BROWN SAND (A-3)
3	BROWN SAND WITH SHELL FRAGMENTS (A-3)
4	BROWN SILTY SAND (A-2-4)
5	BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6	BROWN CLAYEY SAND (A-2-6)
7	BROWN SANDY SILT (A-4)

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: H: 1":20'
V: 1":10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

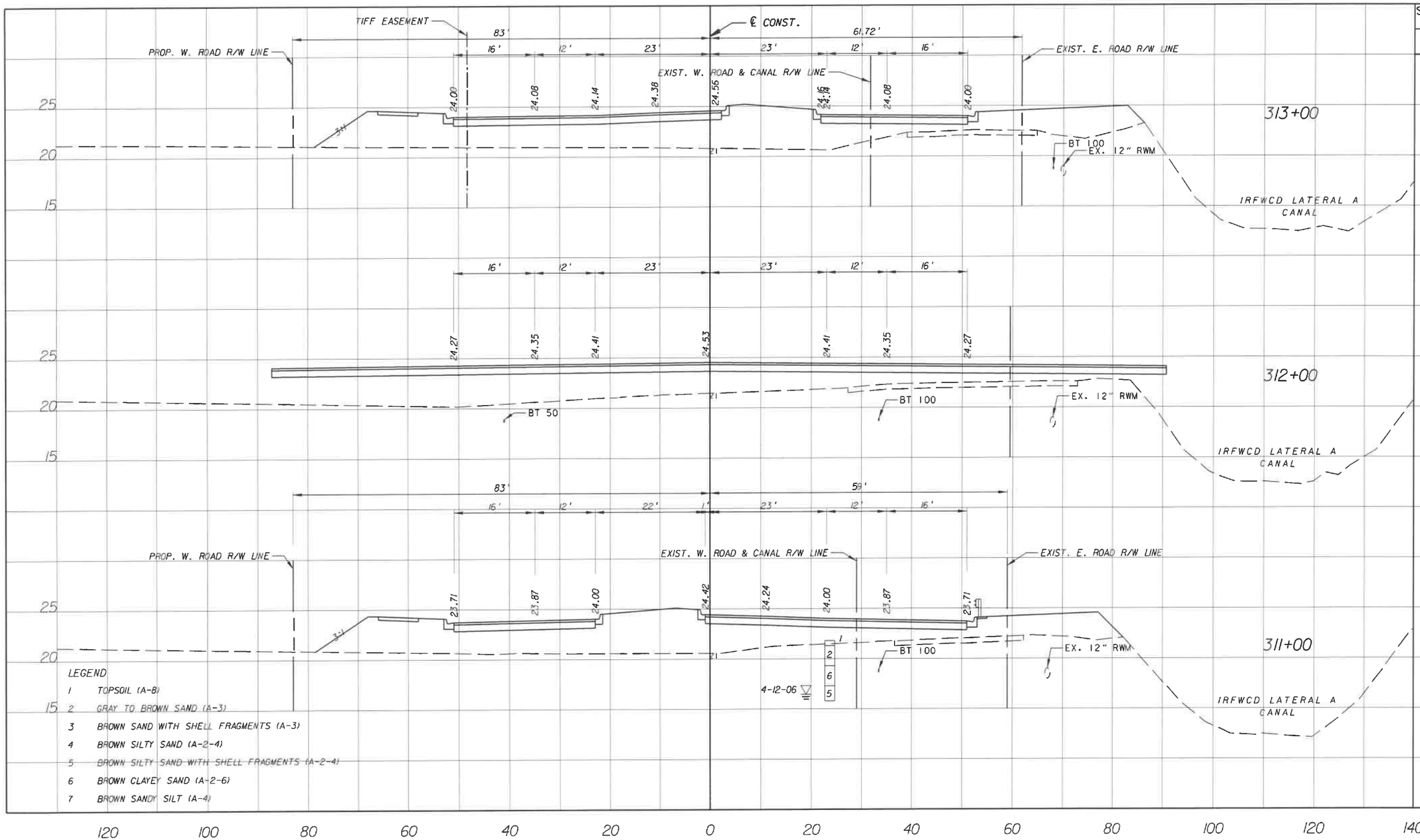
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 77
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:55:28 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		2		1,213
0		0		342	
	0		0		634
0		0		0	
	0		0		634
0		0		342	

GB310/ LC26000269

ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

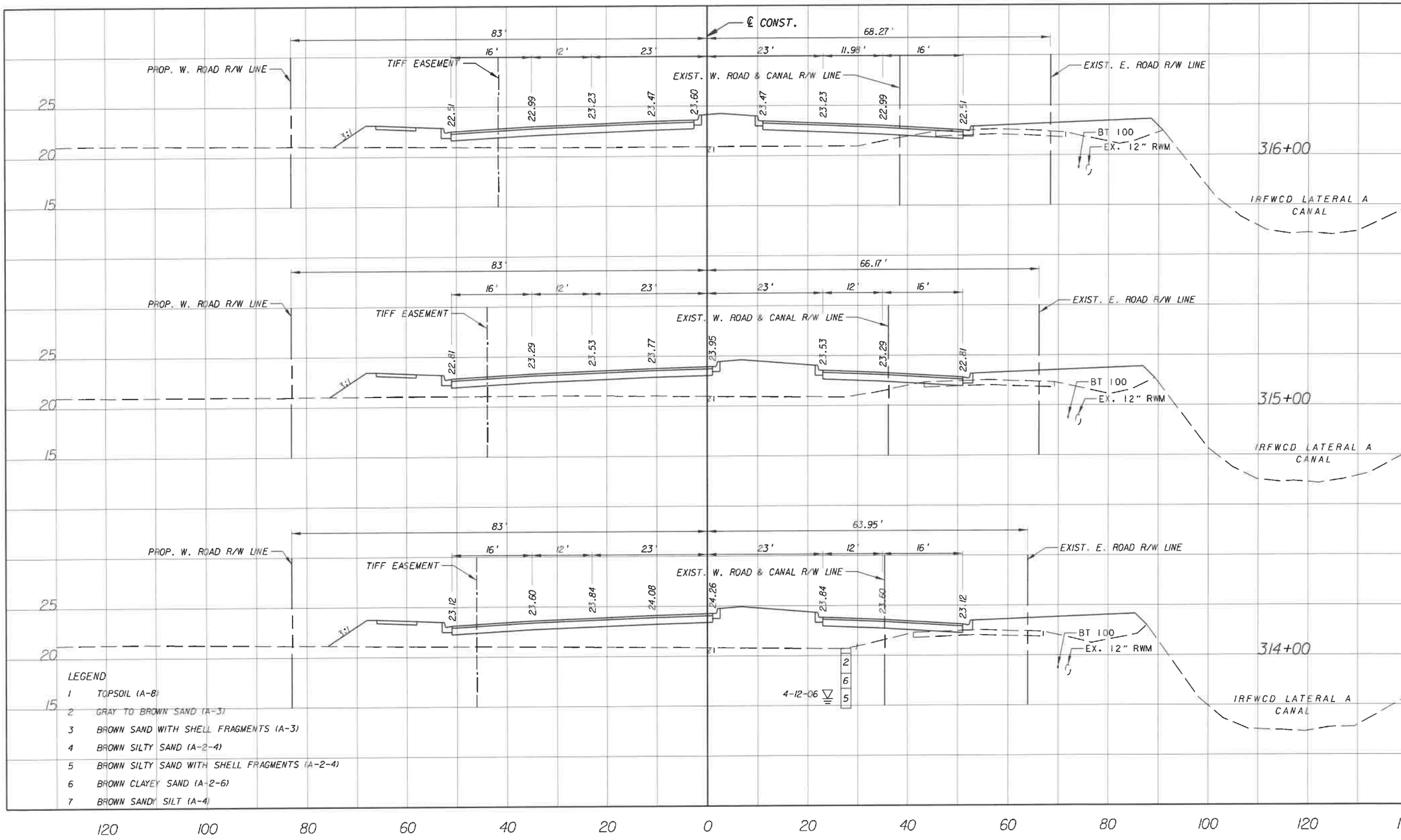
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 78
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:55:43 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		26		826
0		6		215	
	0		17		882
0		3		261	
	0		8		1,063
0		1		313	

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

SCALE: H: 1"=20'
V: 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

CROSS SECTION

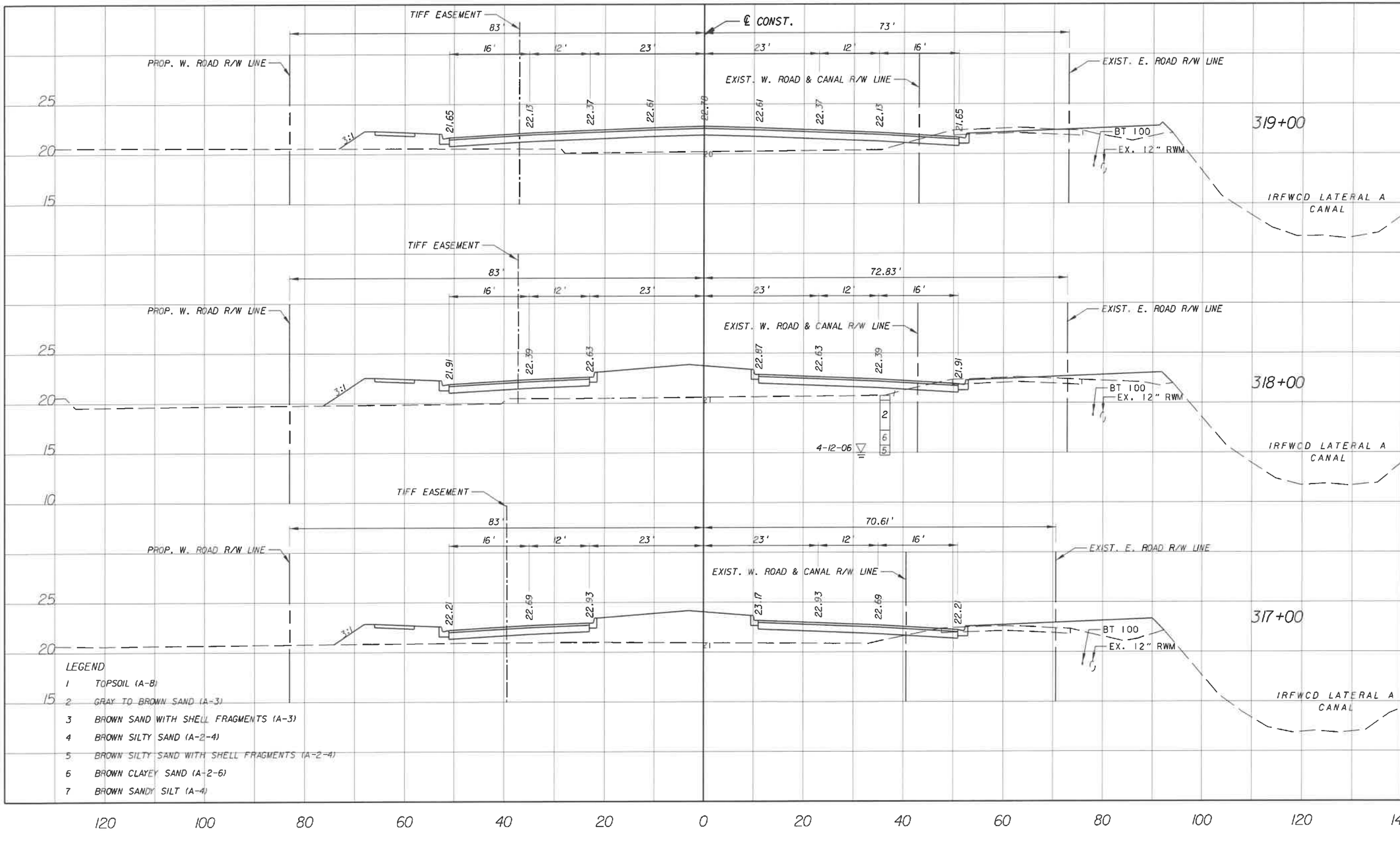
66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 79
OF: 112

PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:55:52 PM



LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		52		662
0		19		142	
	0		58		693
0		12		232	
	0		38		858
0		8		231	

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ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

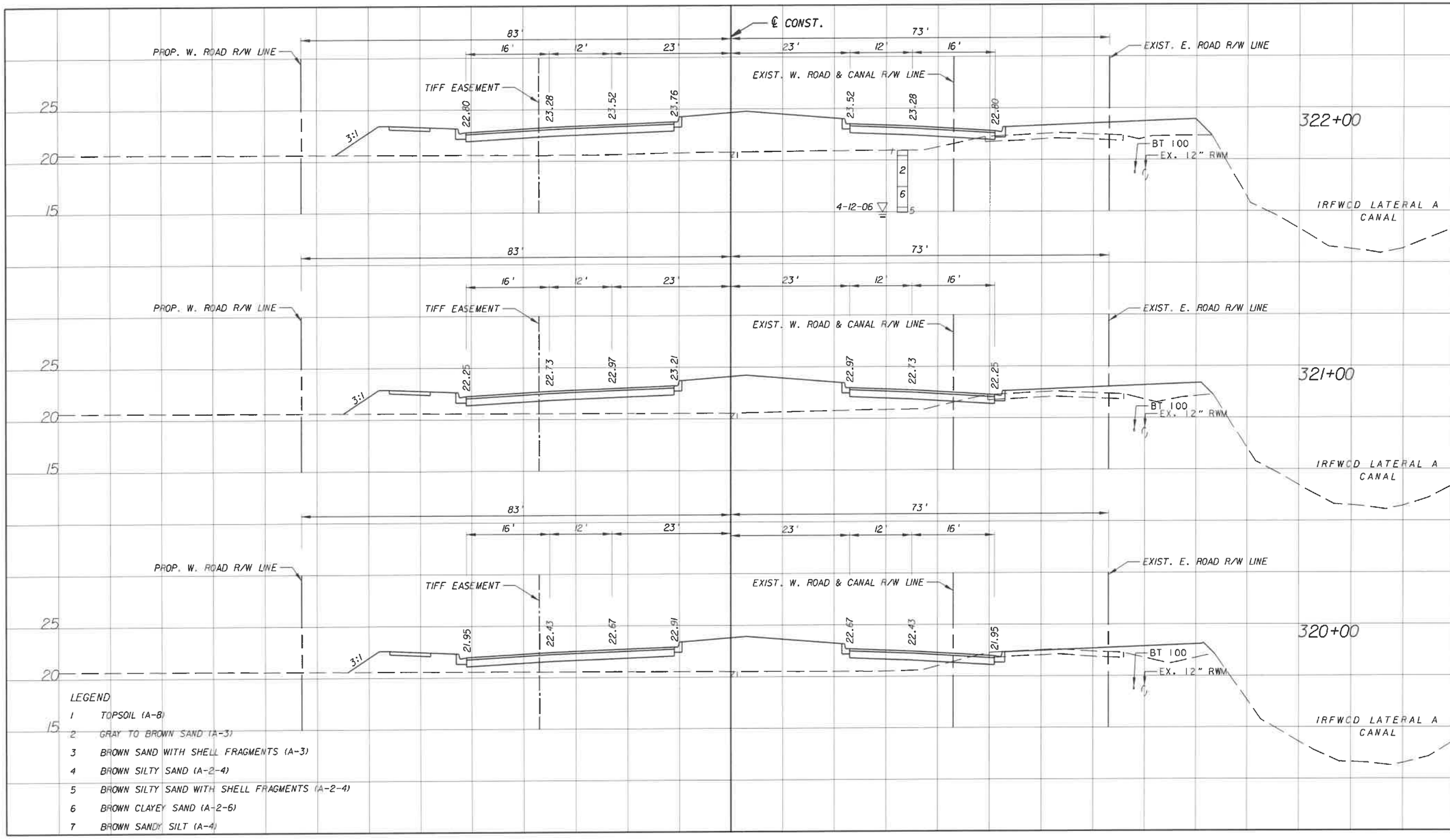
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 80
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:56:02 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		10		1,460
0		5		271	
	0		19		954
0		5		244	
	0		26		850
0		9		215	

ARCADIS U.S., INC.
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EB 7917 / LB 7062
GB310 / LC26000269

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: H: 1":20'
V: 1":10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

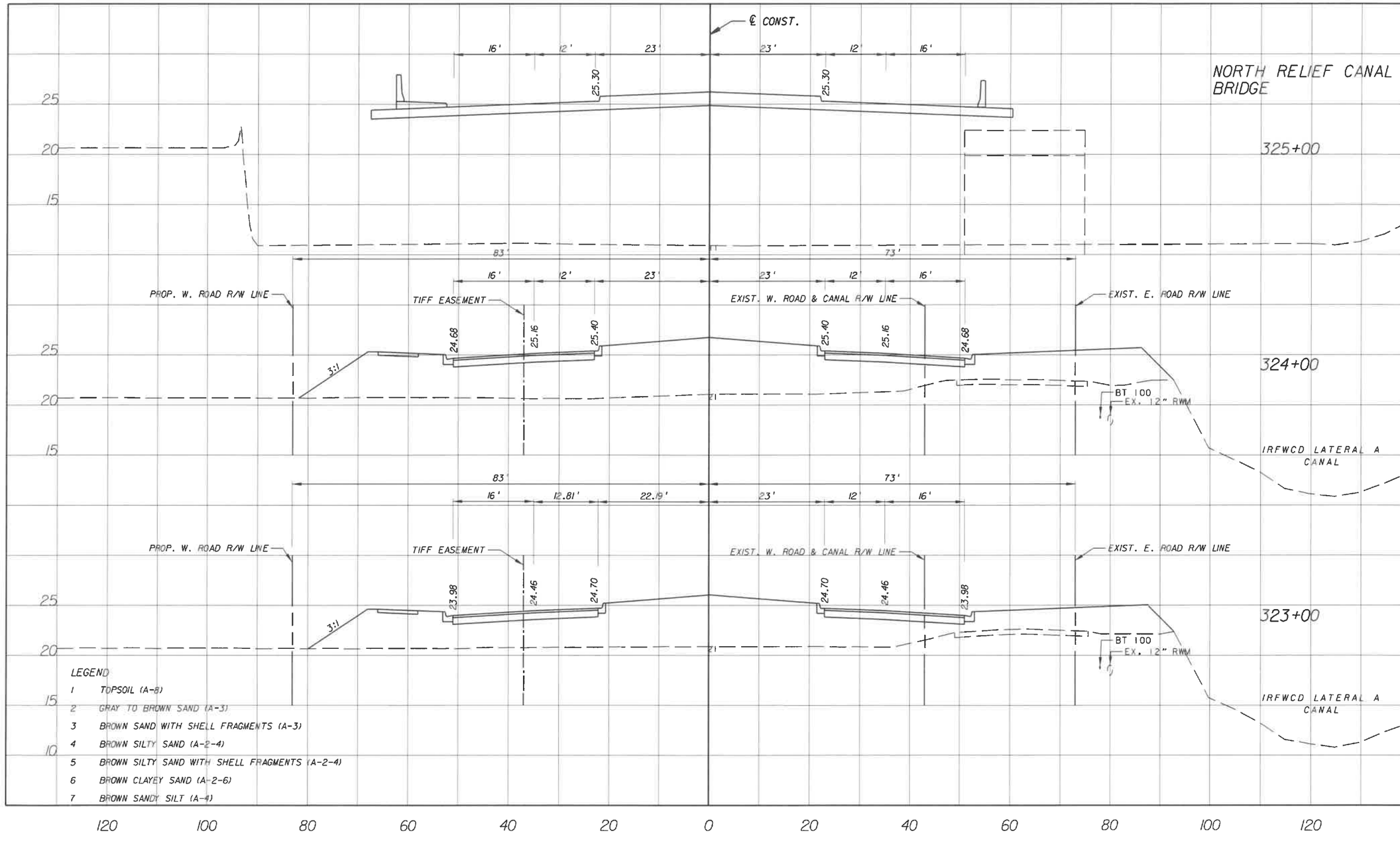
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 81
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:56:13 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		791
0		0		0	
	0		0		1,158
0		0		625	
	0		0		2,115
0		0		517	

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H: 1"=20'
V: 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 82
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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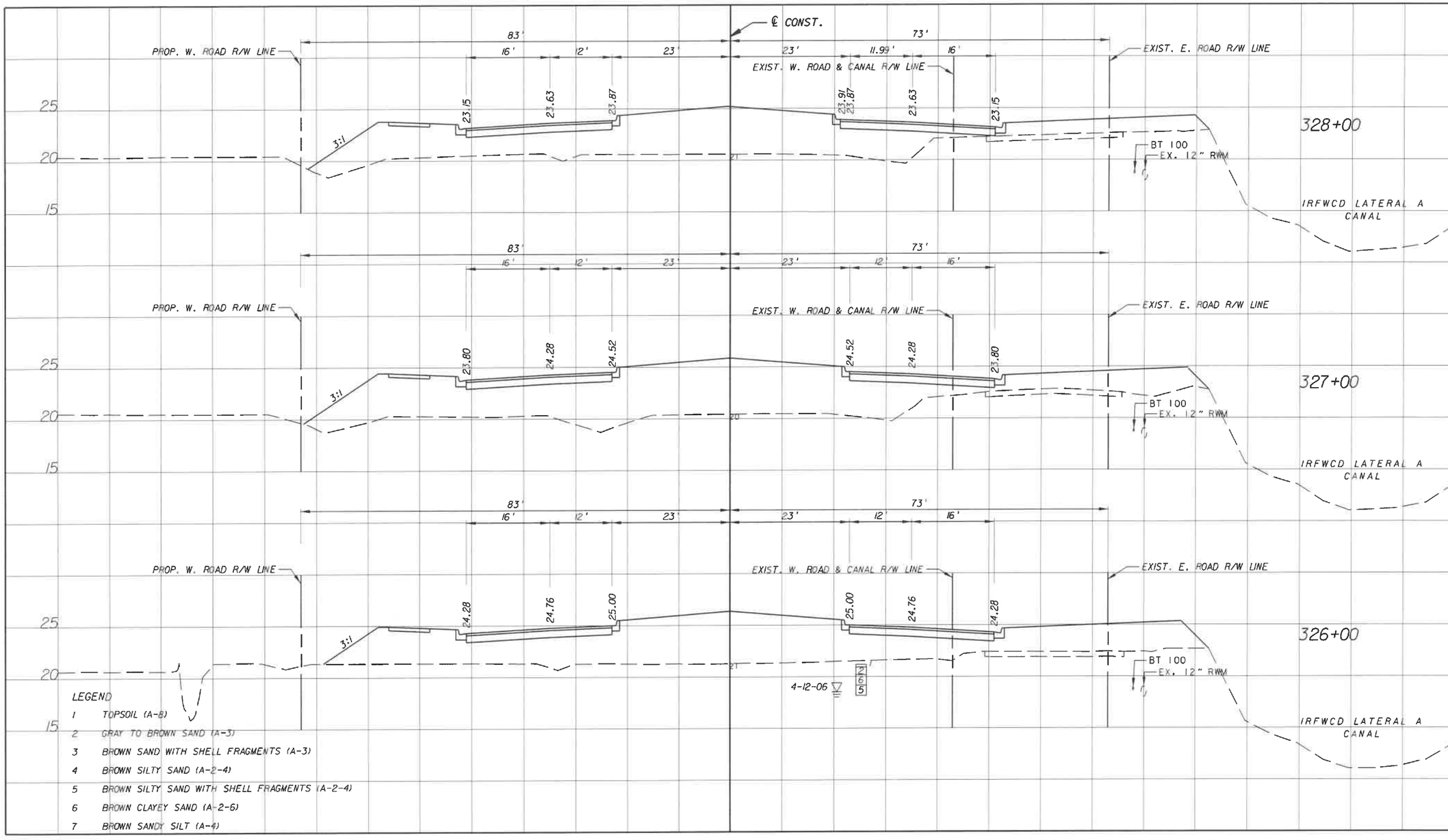

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		13		1,384
0		0		422	
	0		0		1,806
0		0		553	
	0		0		1,815
0		0		427	

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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: H. 1"=20'
V. 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

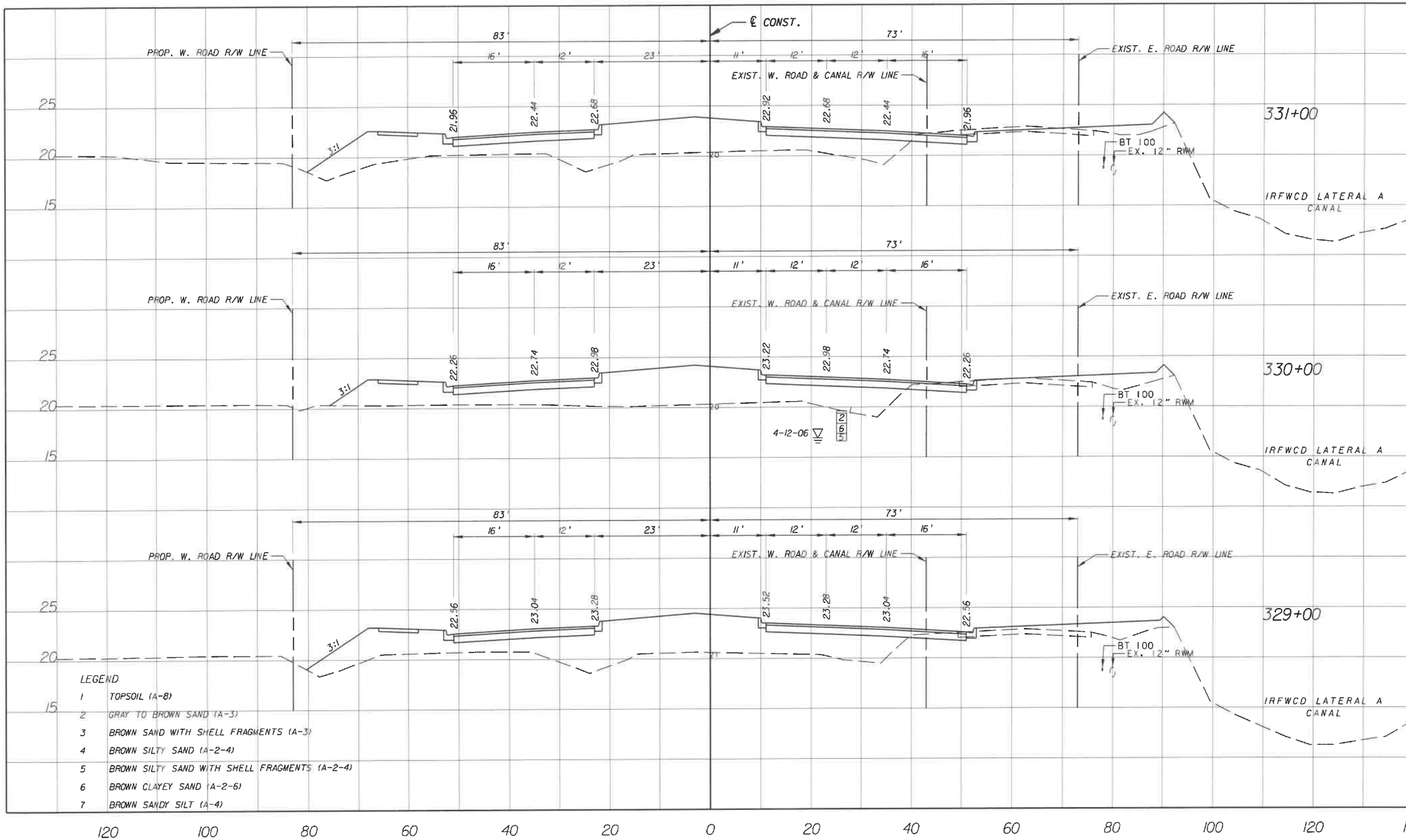
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 83
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:56:47 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		91		938
0		20		279	
	0		58		1,030
0		11		277	
	0		34		1,115
0		7		325	

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 84
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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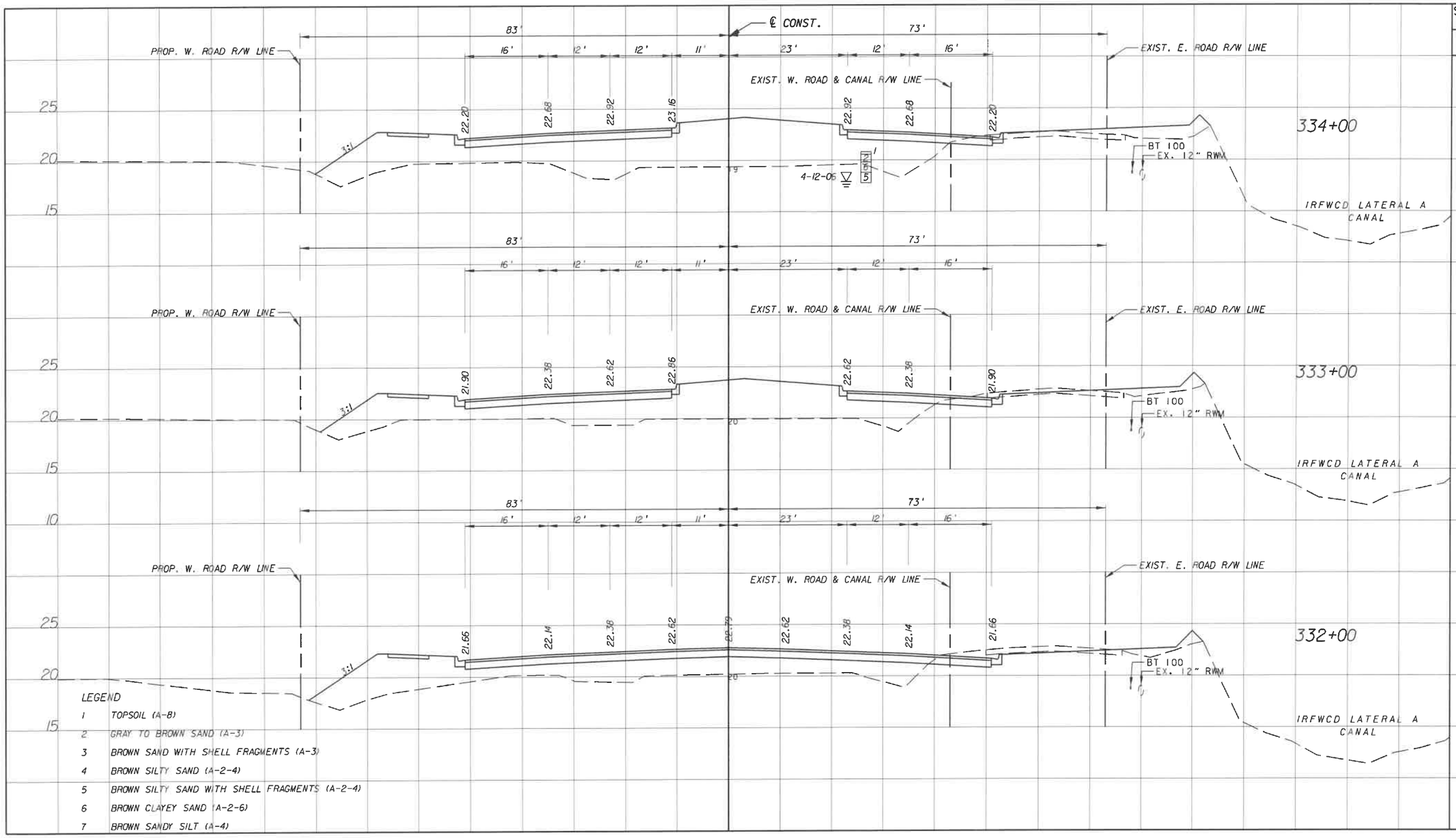

LEGEND

1	TOPSOIL (A-8)
2	GRAY TO BROWN SAND (A-3)
3	BROWN SAND WITH SHELL FRAGMENTS (A-3)
4	BROWN SILTY SAND (A-2-4)
5	BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6	BROWN CLAYEY SAND (A-2-6)
7	BROWN SANDY SILT (A-4)

	SUBSOIL EXC.		REGULAR EXC.		FILL	
	A	V	A	V	A	V
334+00		0		345		1,145
IRFWCD LATERAL A CANAL	0		7		388	
333+00		0		45		1,256
IRFWCD LATERAL A CANAL	0		17		290	
332+00		0		86		958
IRFWCD LATERAL A CANAL	0		29		227	

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EB 7917 / LB 7062
GB310/ LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

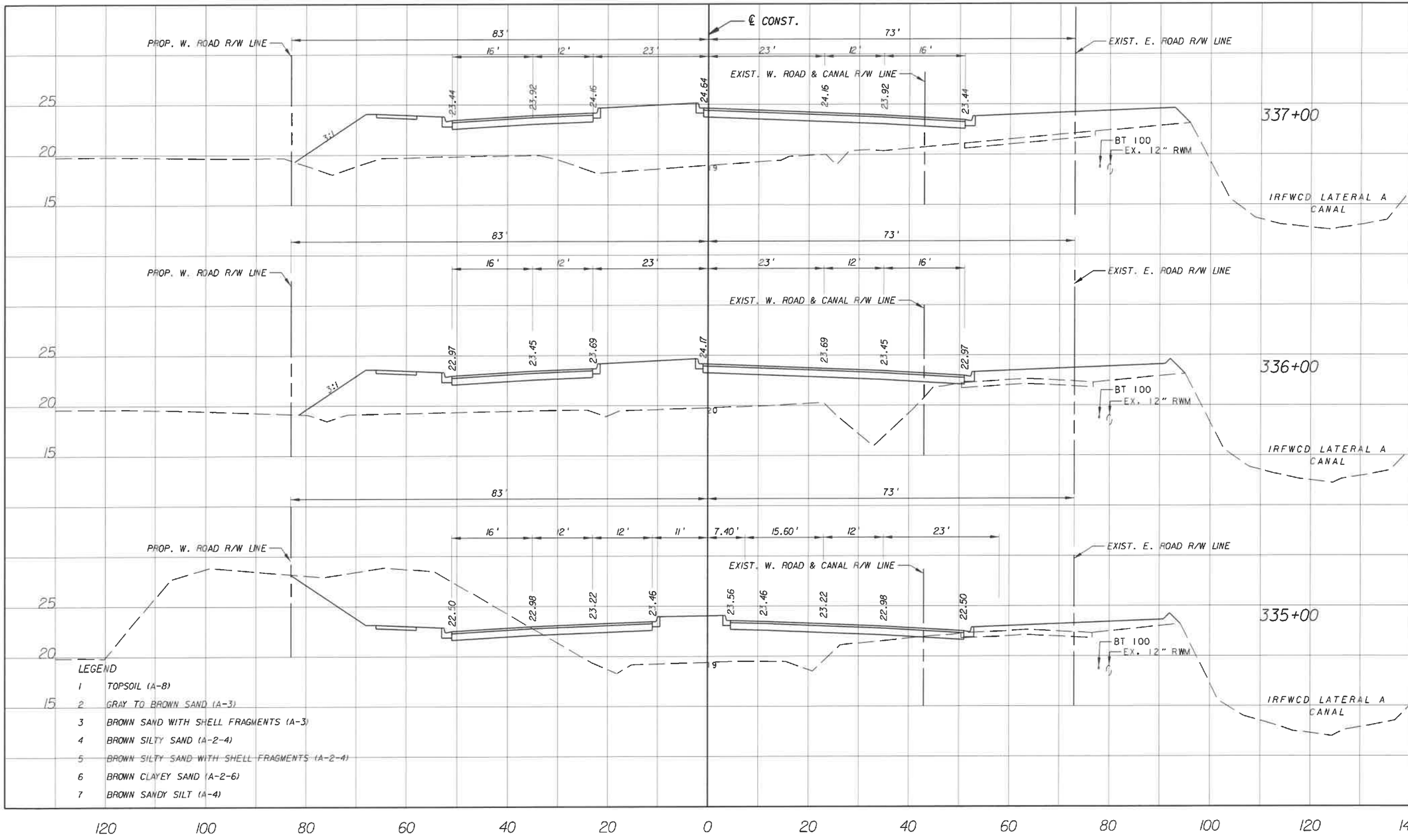
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 85
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:57:07 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		1,795
0		0		535	
	0		2		1,860
0		1		469	
	0		334		1,295
0		179		230	

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H: 1"=20'
V: 1"=10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 86
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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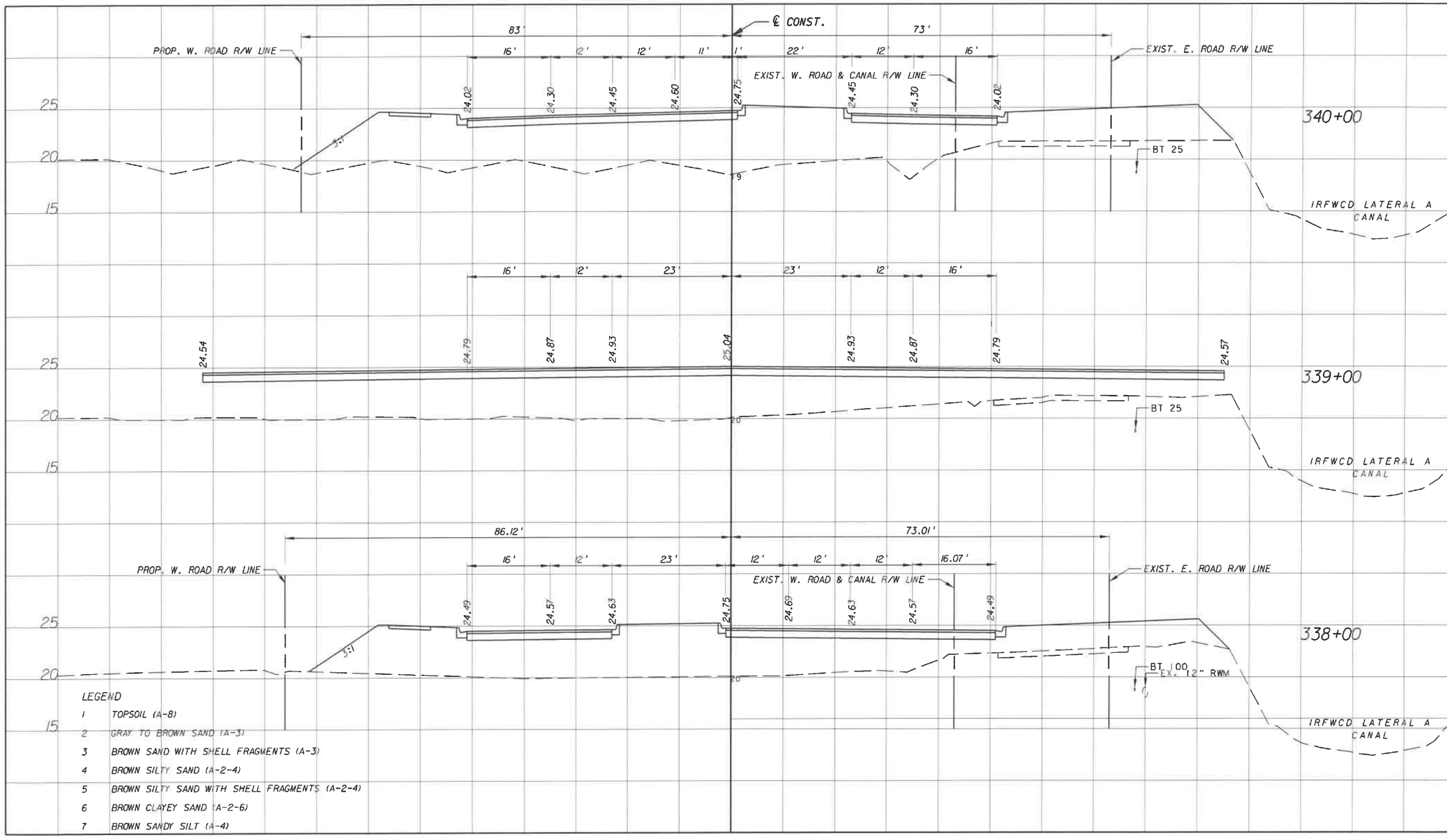

LEGEND

1	TOPSOIL (A-8)
2	GRAY TO BROWN SAND (A-3)
3	BROWN SAND WITH SHELL FRAGMENTS (A-3)
4	BROWN SILTY SAND (A-2-4)
5	BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6	BROWN CLAYEY SAND (A-2-6)
7	BROWN SANDY SILT (A-4)

	SUBSOIL EXC.		REGULAR EXC.		FILL	
	A	V	A	V	A	V
		0		0		2,106
	0		0		573	
		0		0		1,062
	0		0		0	
		0		0		804
	0		0		434	

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: H. 1"=20'
V. 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 87
OF: 112

PROJECT NO. A1053
IRC_JOB_NO. 1505

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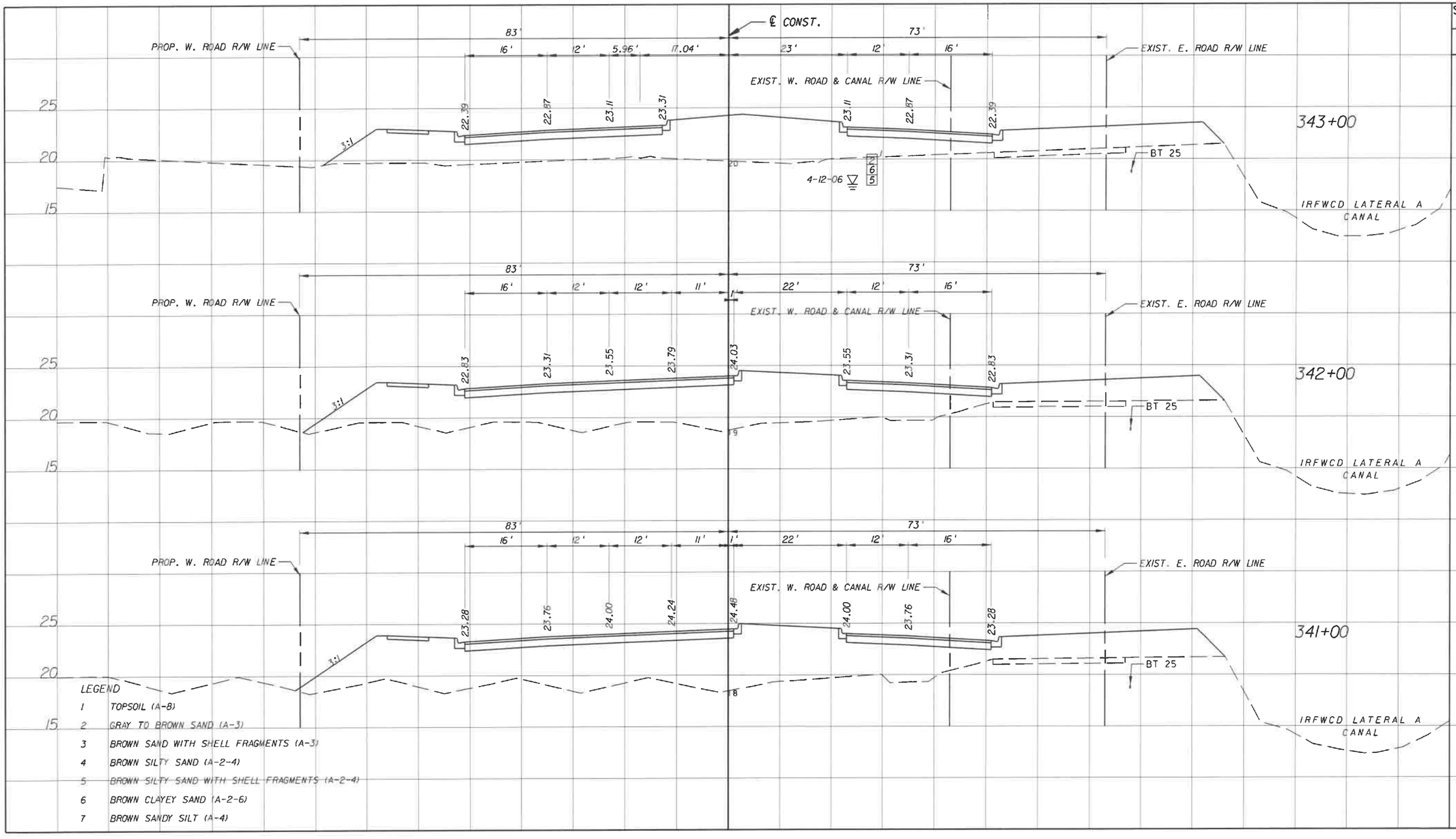

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		2		1,563
0		0		416	
	0		0		1,678
0		0		490	
	0		0		1,952
0		0		564	

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE, H. 1"=20'
V. 1"=10'
APPROVED,
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 88
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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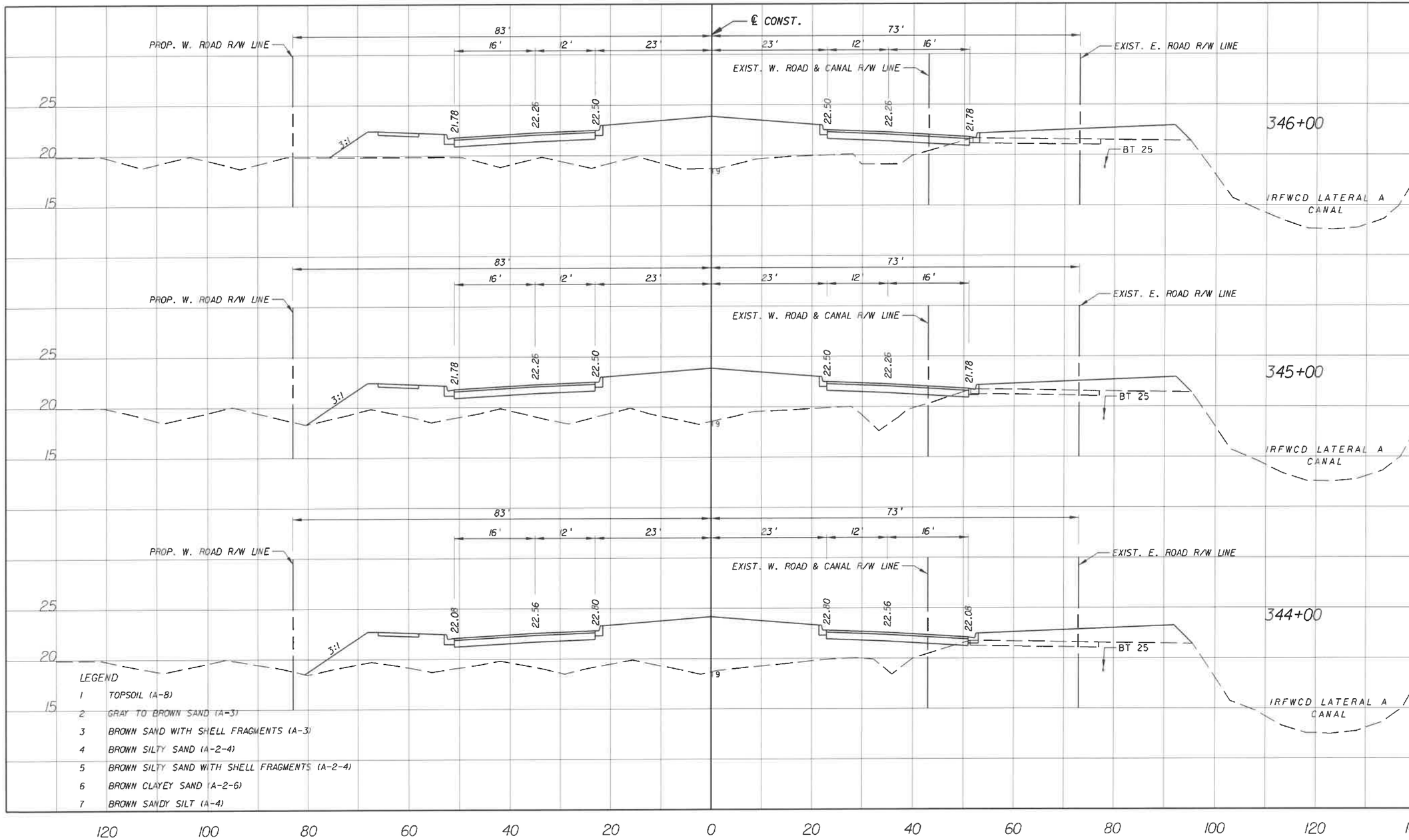

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		8		1,212
0		2		356	
	0		8		1,380
0		2		389	
	0		6		1,513
0		1		428	

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731
GB310/ LC26000269
EB 7917 / LB 7052

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H: 1"=20'
V: 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 89
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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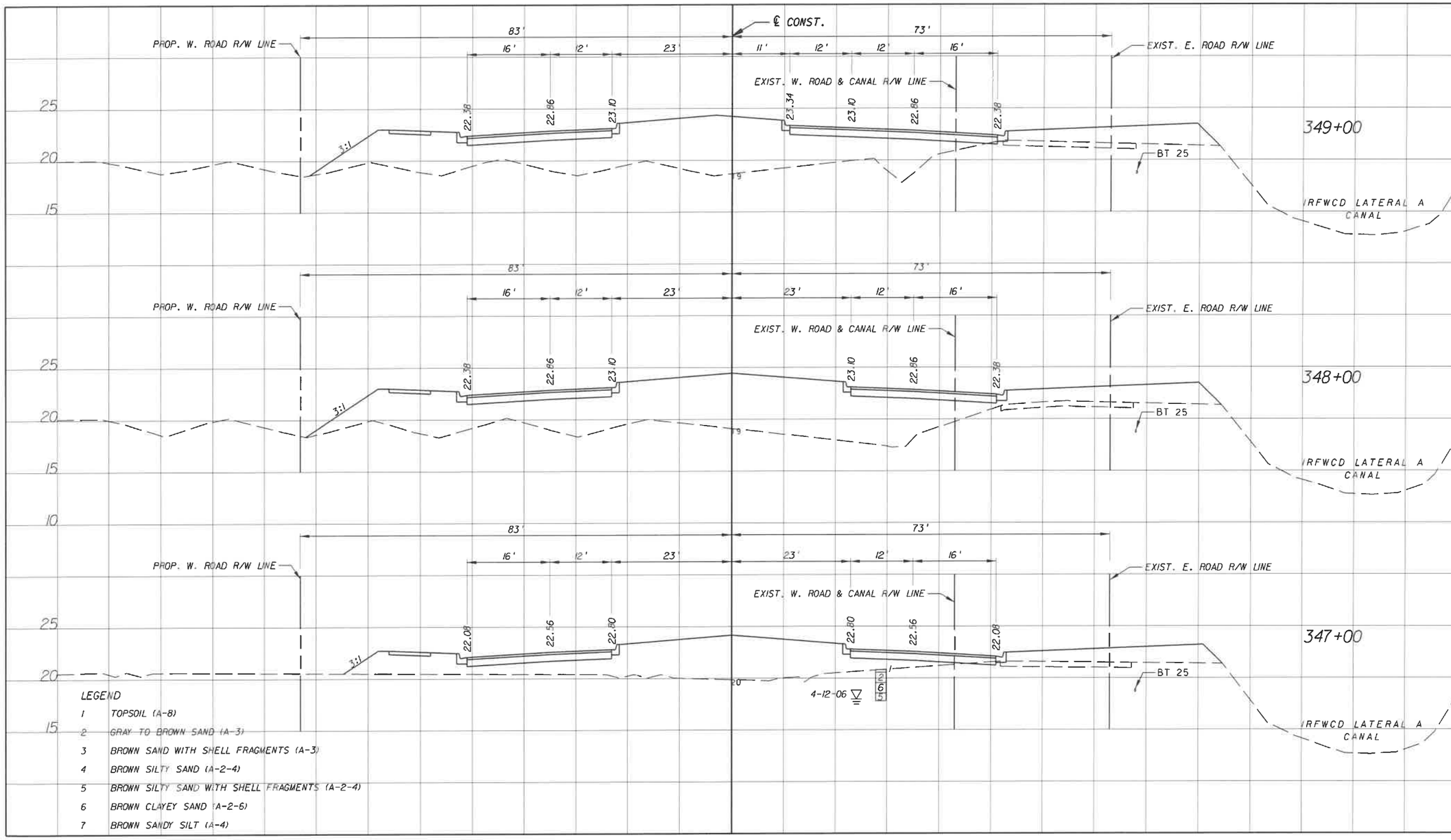

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		2		1,388
0		1		448	
	0		2		1,802
0		0		525	
	0		4		1,525
0		2		298	

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EB 7917 / LB 7062
GB310 / LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY, FLORIDA

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 90
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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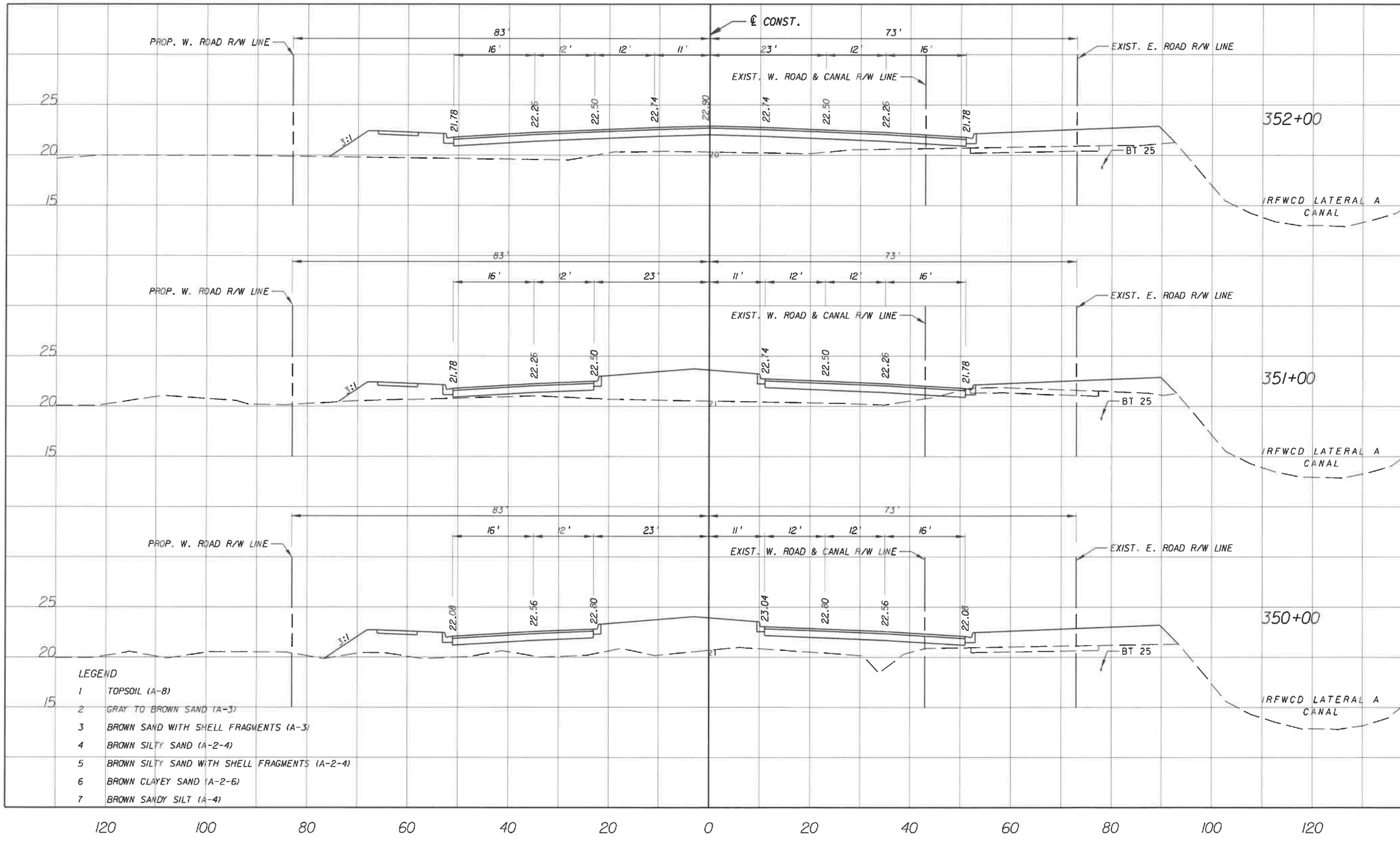

LEGEND

1	TOPSOIL (A-8)
2	GRAY TO BROWN SAND (A-3)
3	BROWN SAND WITH SHELL FRAGMENTS (A-3)
4	BROWN SILTY SAND (A-2-4)
5	BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6	BROWN CLAYEY SAND (A-2-6)
7	BROWN SANDY SILT (A-4)

	SUBSOIL EXC.		REGULAR EXC.		FILL	
	A	V	A	V	A	V
352+00		0		0		1,193
351+00	0		0		242	
		0		4		1,006
	0		2		301	
350+00		0		4		1,115
	0		0		301	

ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062
6B310 / LC26000269

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE, H: 1"=20'
V: 1"=10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 91
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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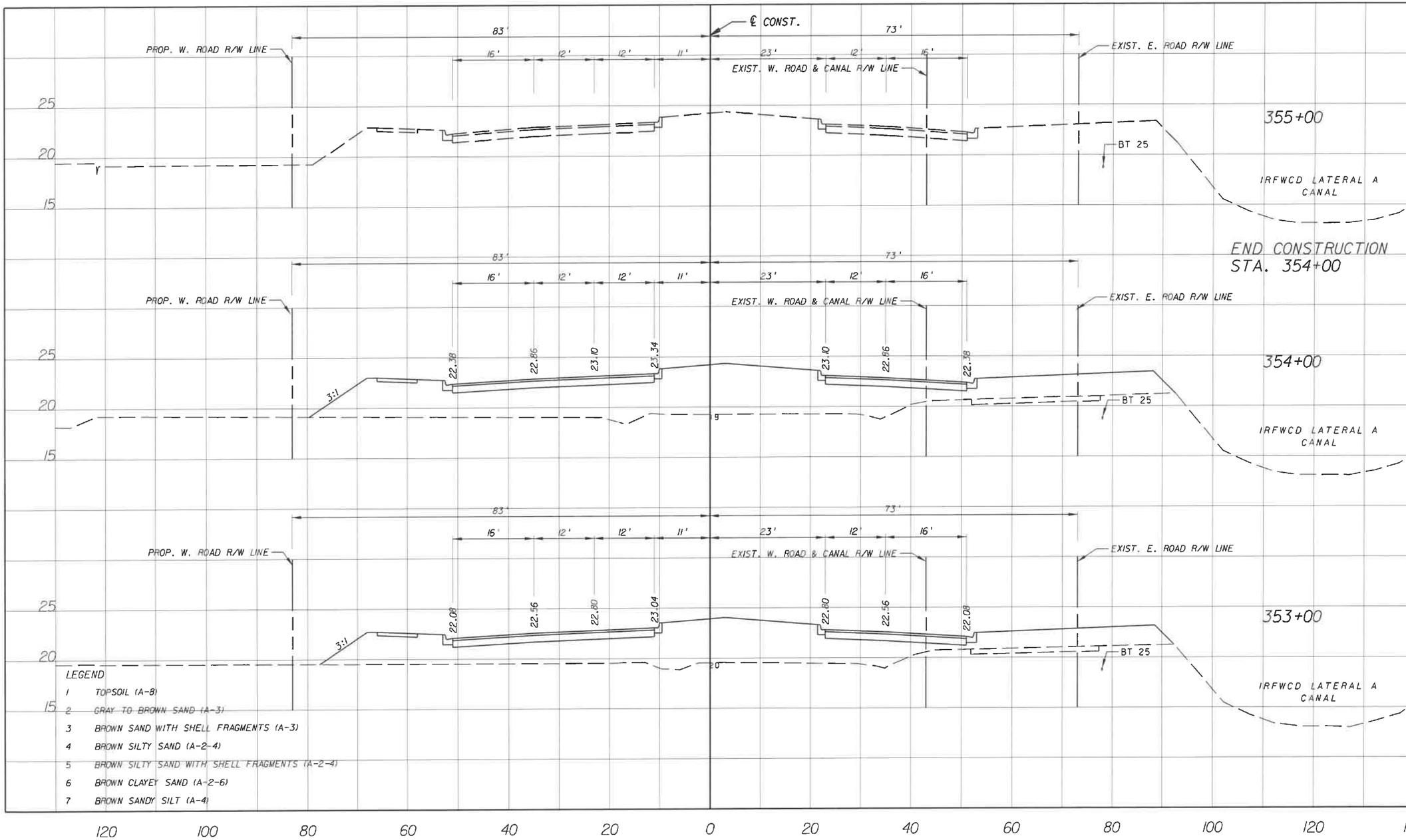

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
0		0		498	
0		0		1,667	
0		0		402	

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ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

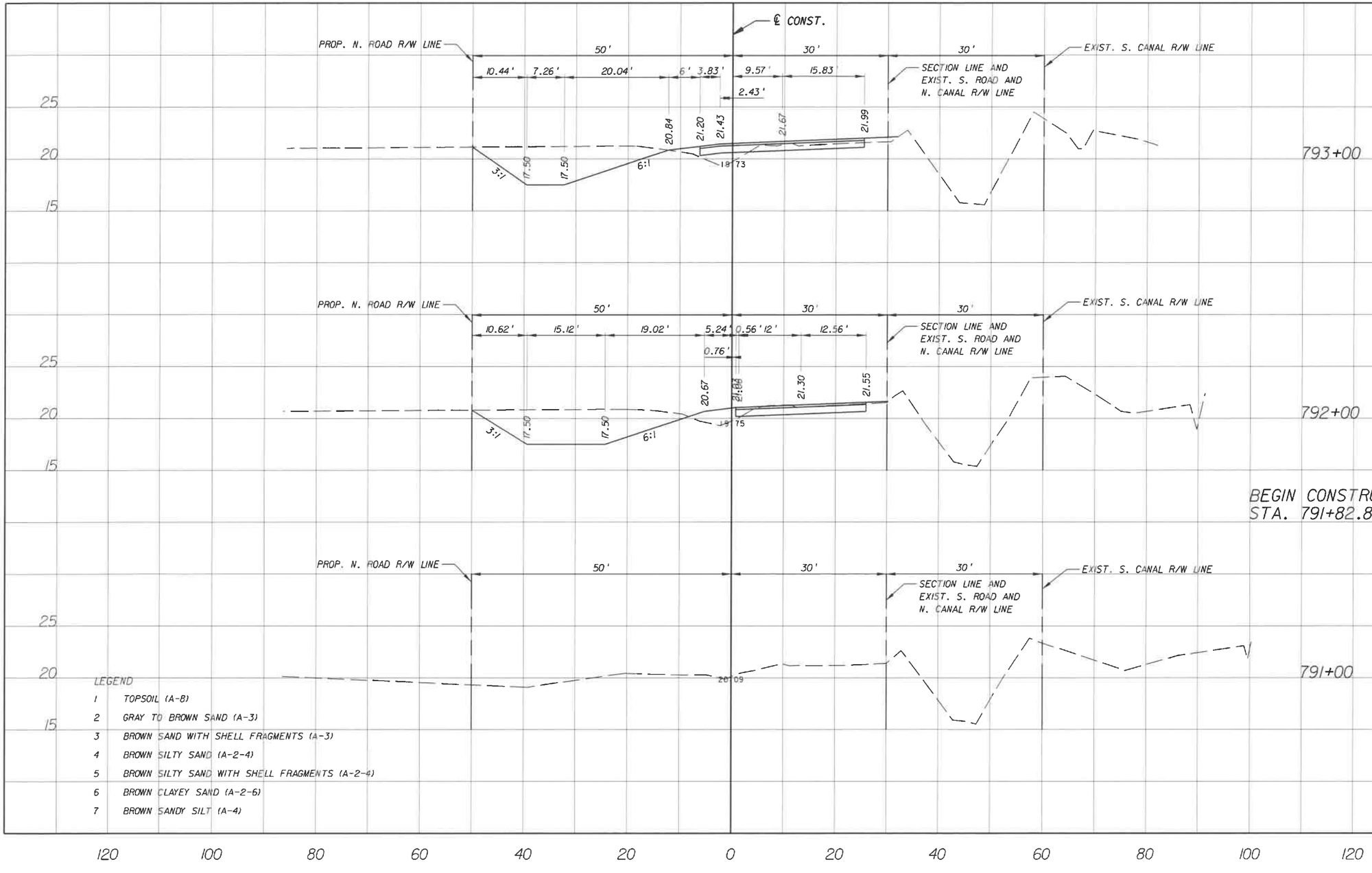
CROSS SECTION

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET. 92
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053rdxsrd01.dgn 10/11/2017 4:58:51 PM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		342		54
0		104		11	
	0		415		41
0		120		11	
	0		76		7

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1"=20'
V. 1"=10'
APPROVED,
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

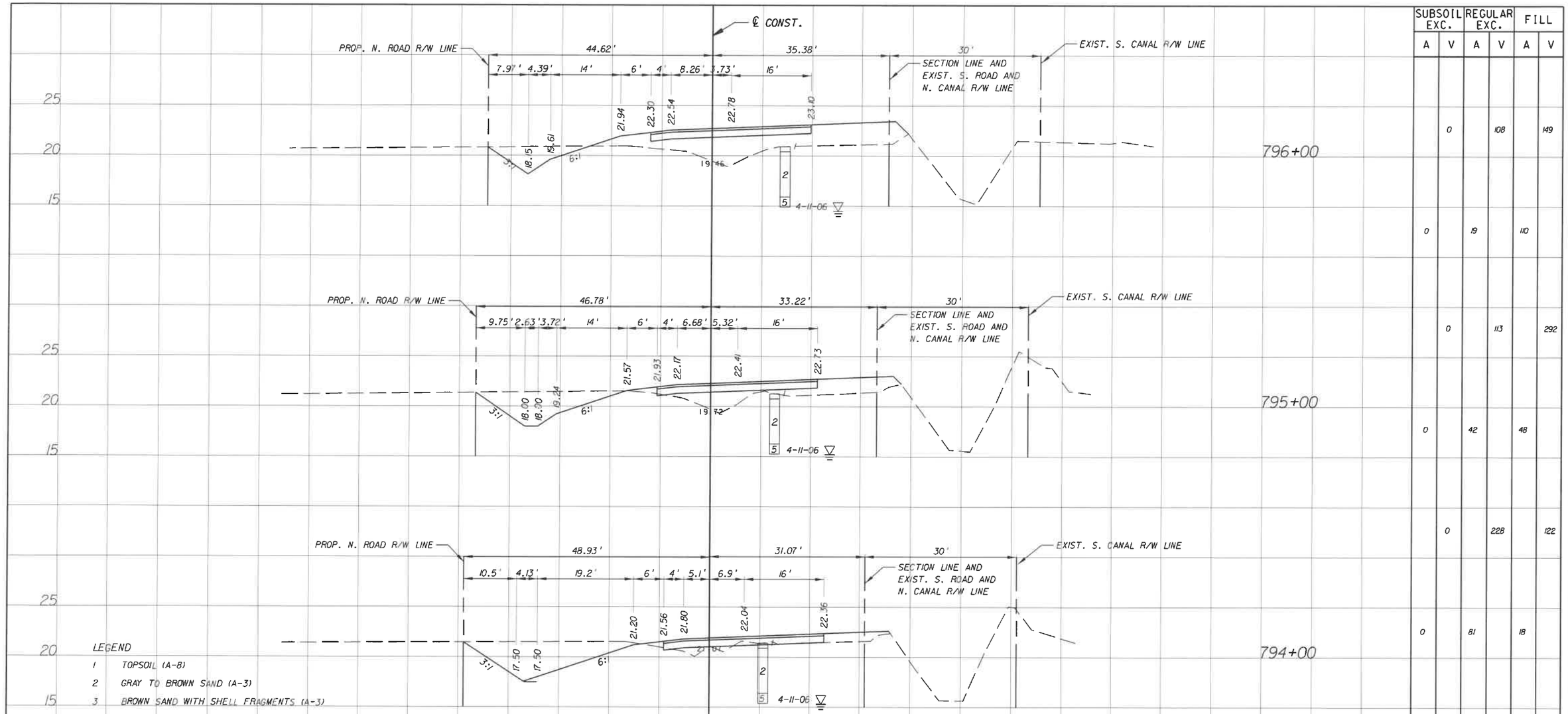
CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 93
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsrd5301.dgn 3/15/2017 10:47:48 AM



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		108		149
0		19		110	
	0		113		292
0		42		48	
	0		228		122
0		81		18	

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: H: 1":20'
V: 1":10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

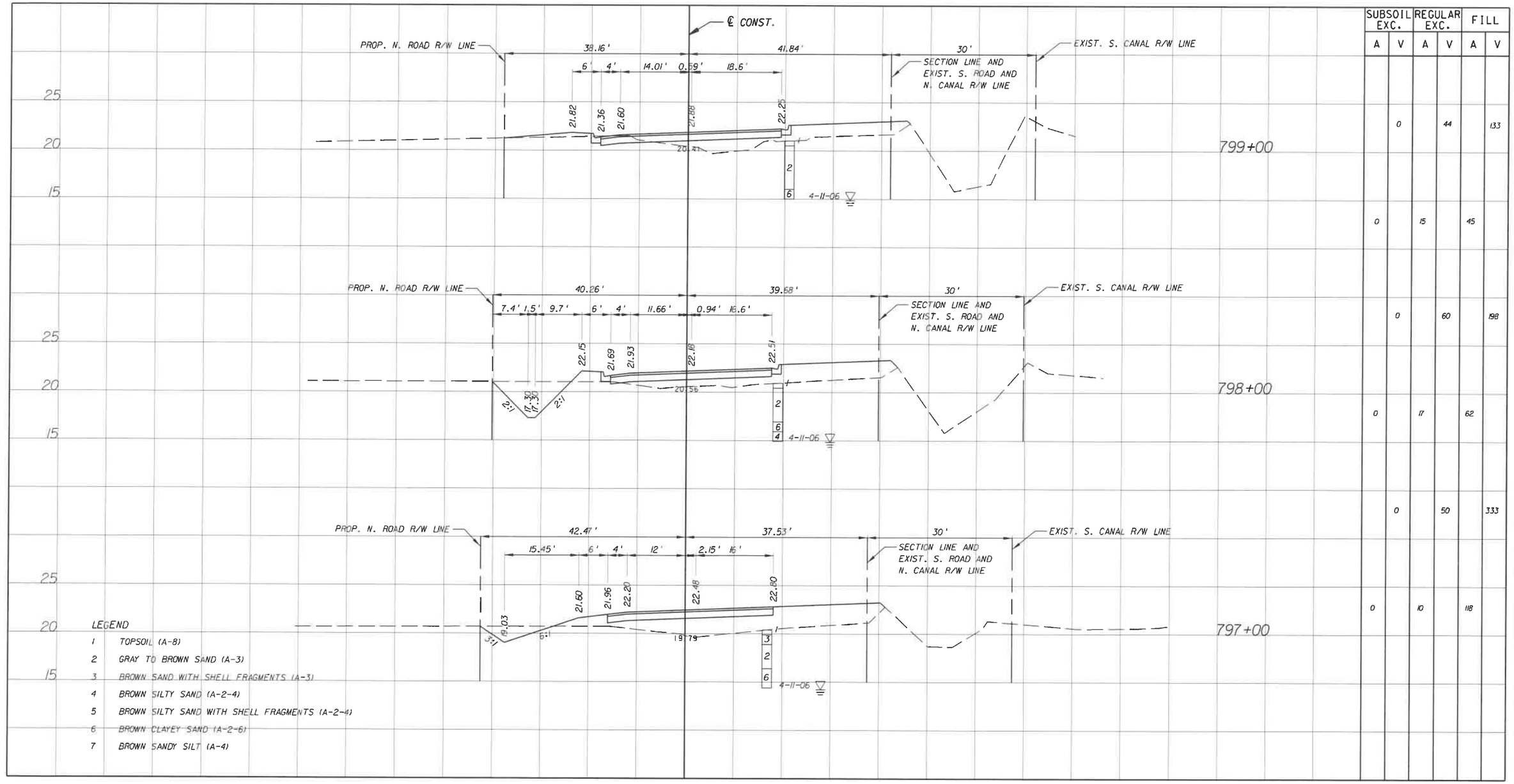
CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 94
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsrd5301.dgn 3/15/2017 10:48:07 AM



LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		44		133
0		15		45	
	0		60		198
0		17		62	
	0		50		333
0		10		118	

GB3107 LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 95
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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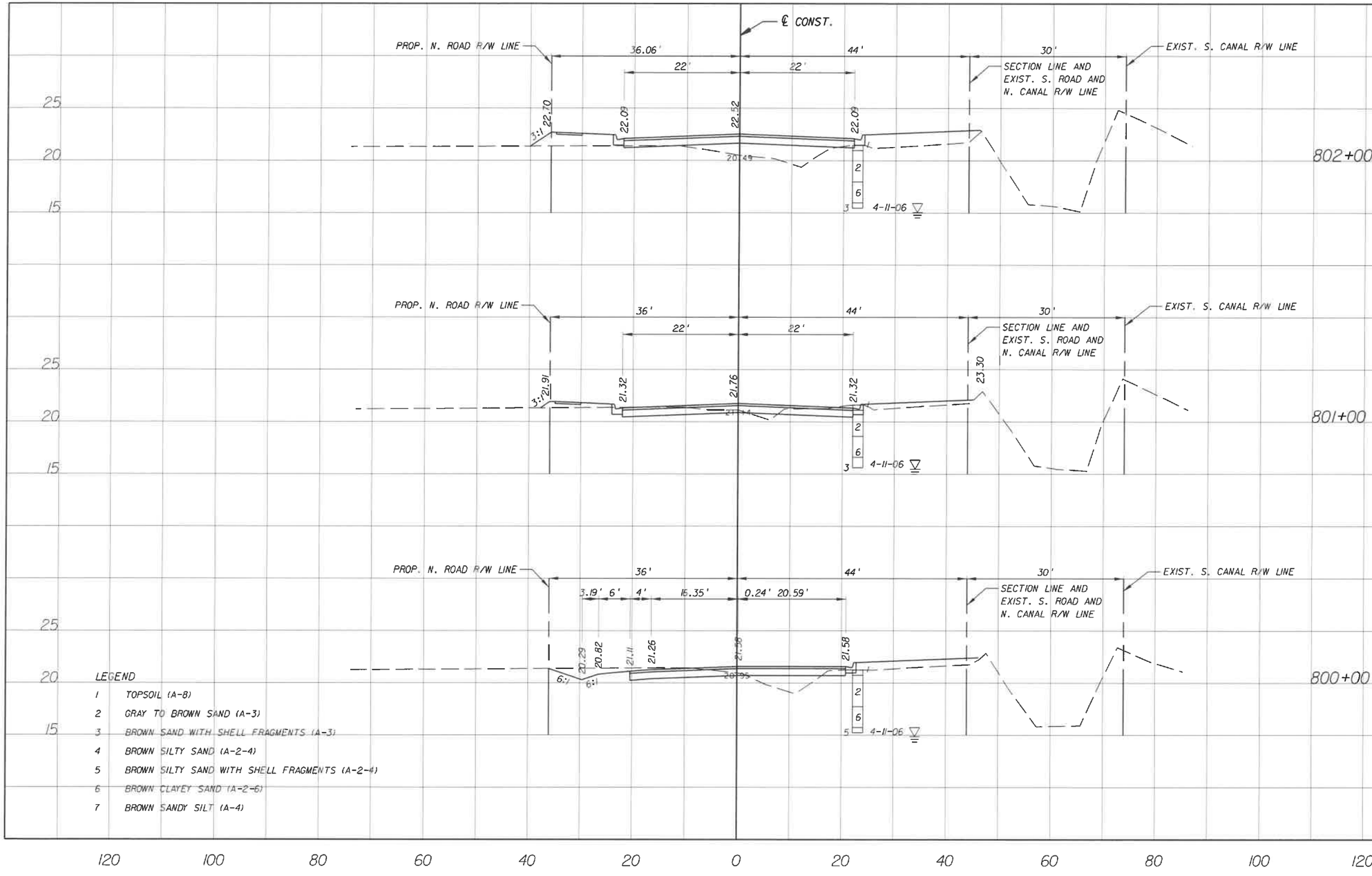

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		437
0		0		69	
	0		0		152
0		32		13	
	0		76		74
0		9		27	

ARCADIS U.S., INC.
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EB 7917 / LB 7062
GB310/ LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 96
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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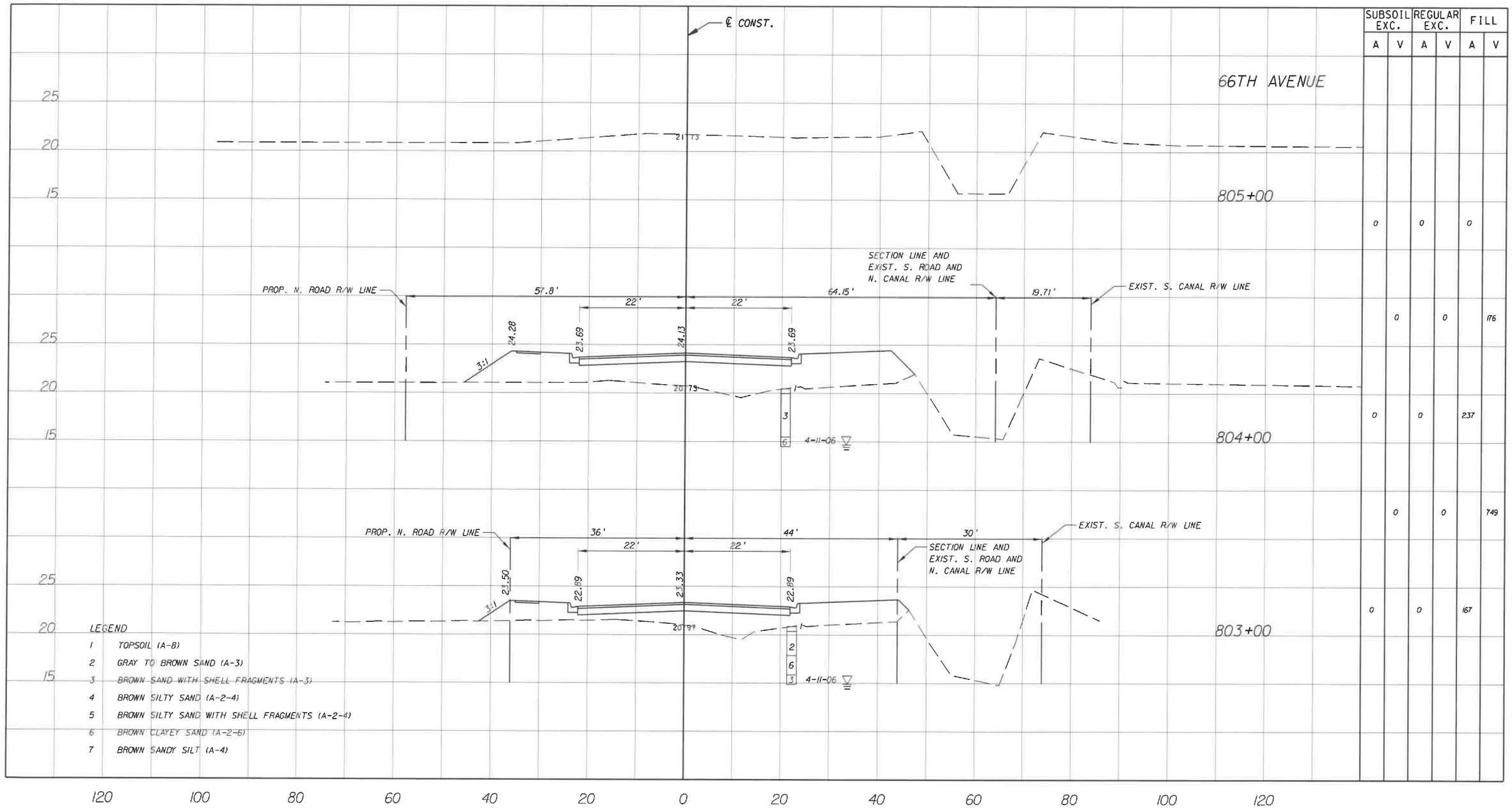

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
0		0		0	
	0		0		176
0		0		237	
	0		0		749
0		0		167	

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

SCALE, H: 1":20'
V: 1":10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 97
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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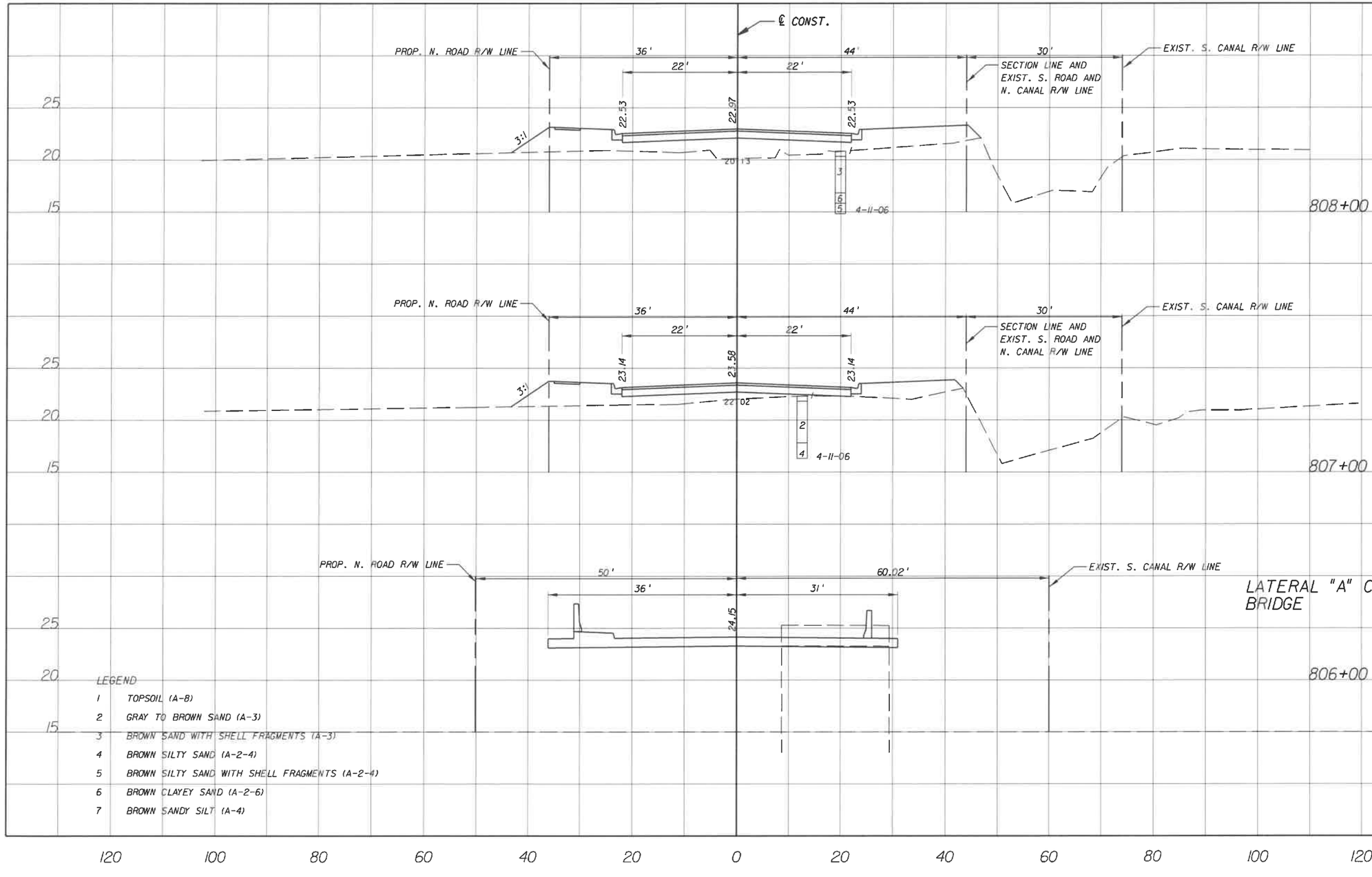

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		600
0		0		117	
	0		0		367
0		0		81	
	0		0		120

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EB 7917 / LB 7062
GB310 / LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 98
OF. 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

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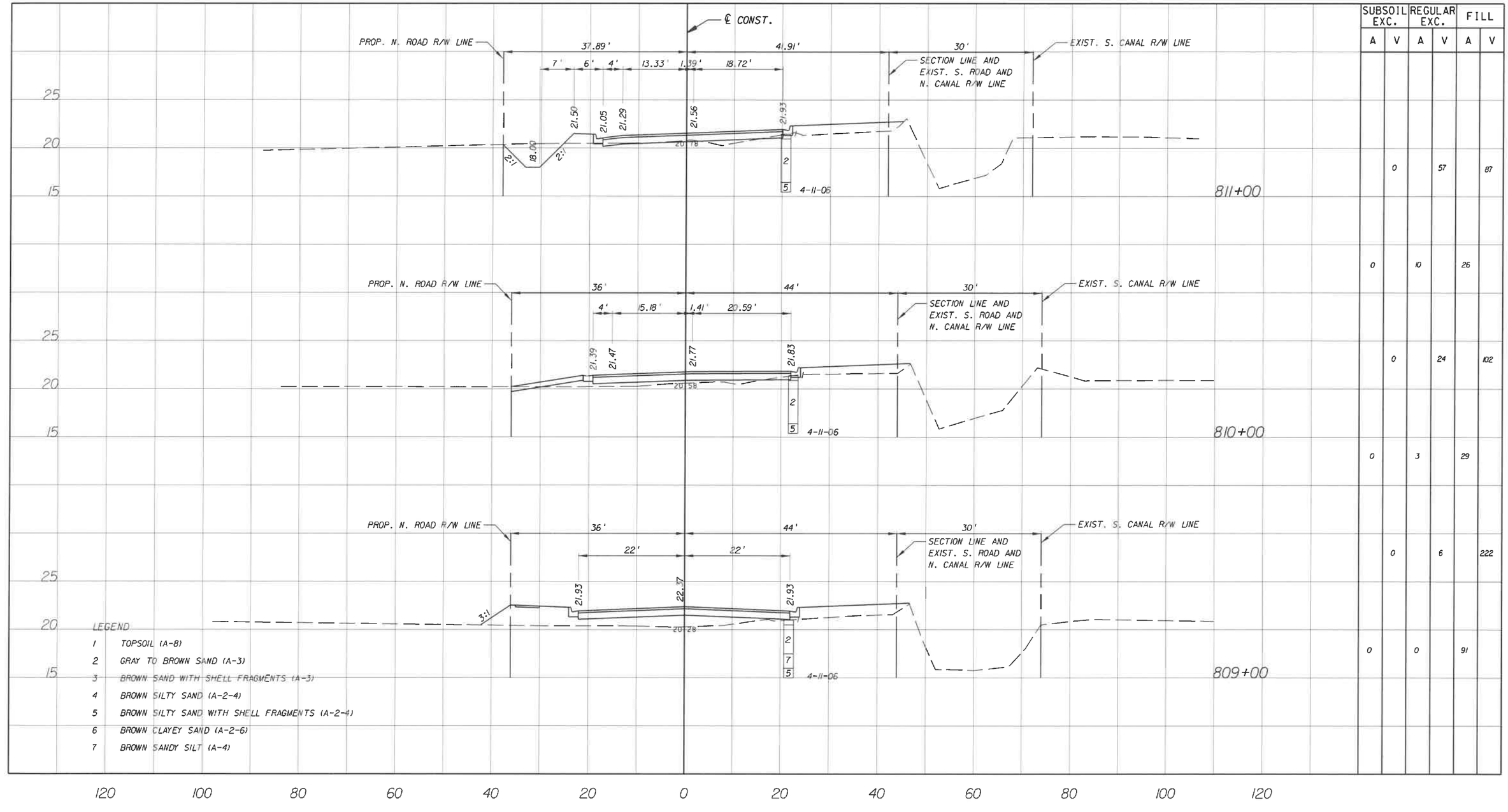

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		57		87
0		10		26	
	0		24		102
0		3		29	
	0		6		222
0		0		91	

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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: H: 1":20'
V: 1":10'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET: 99
OF: 112

PROJECT NO. A1053
IRC_JOB_NO.

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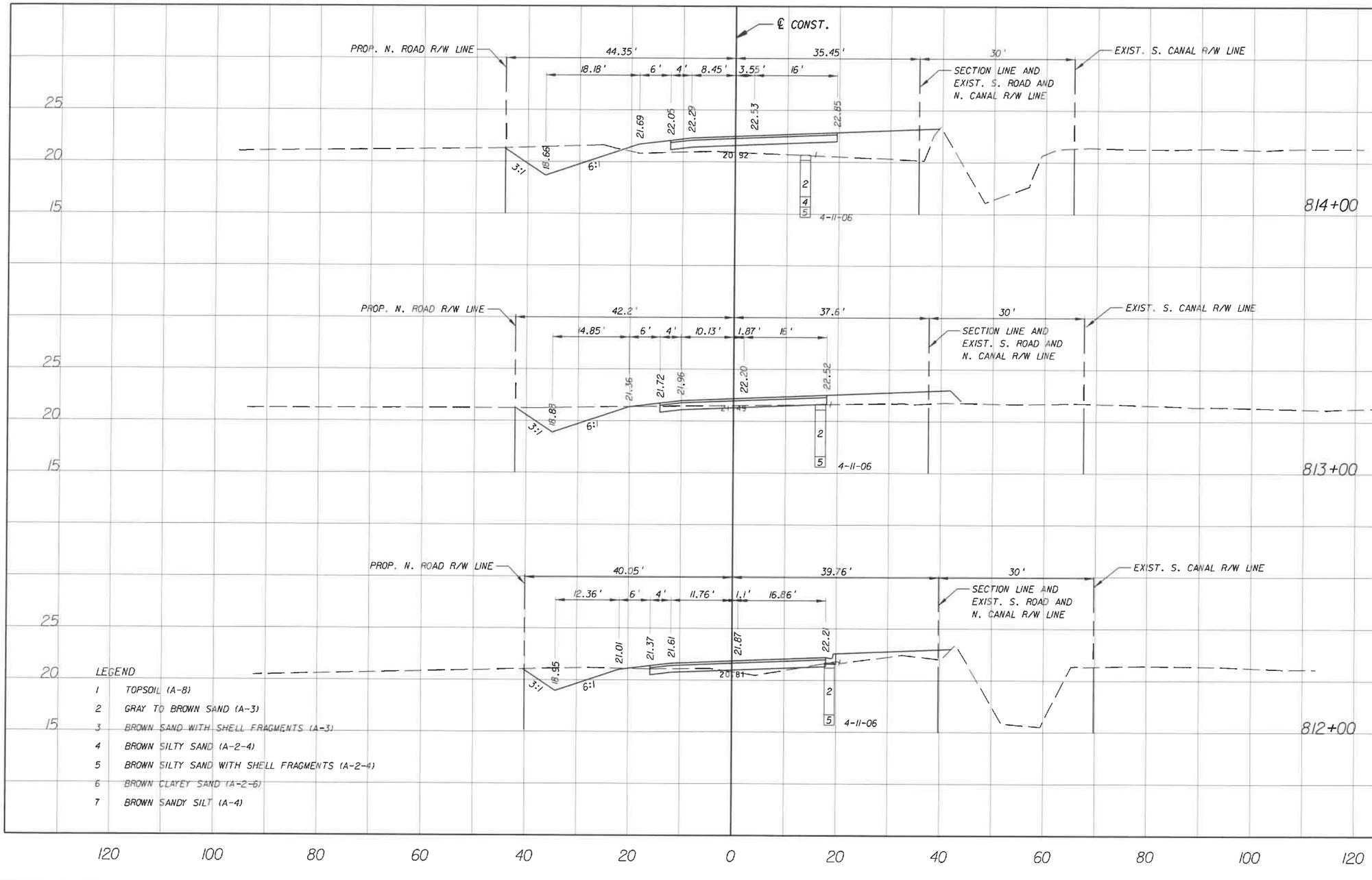

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		174		159
0		32		70	
	0		98		174
0		21		24	
	0		78		83
0		21		21	

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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 100
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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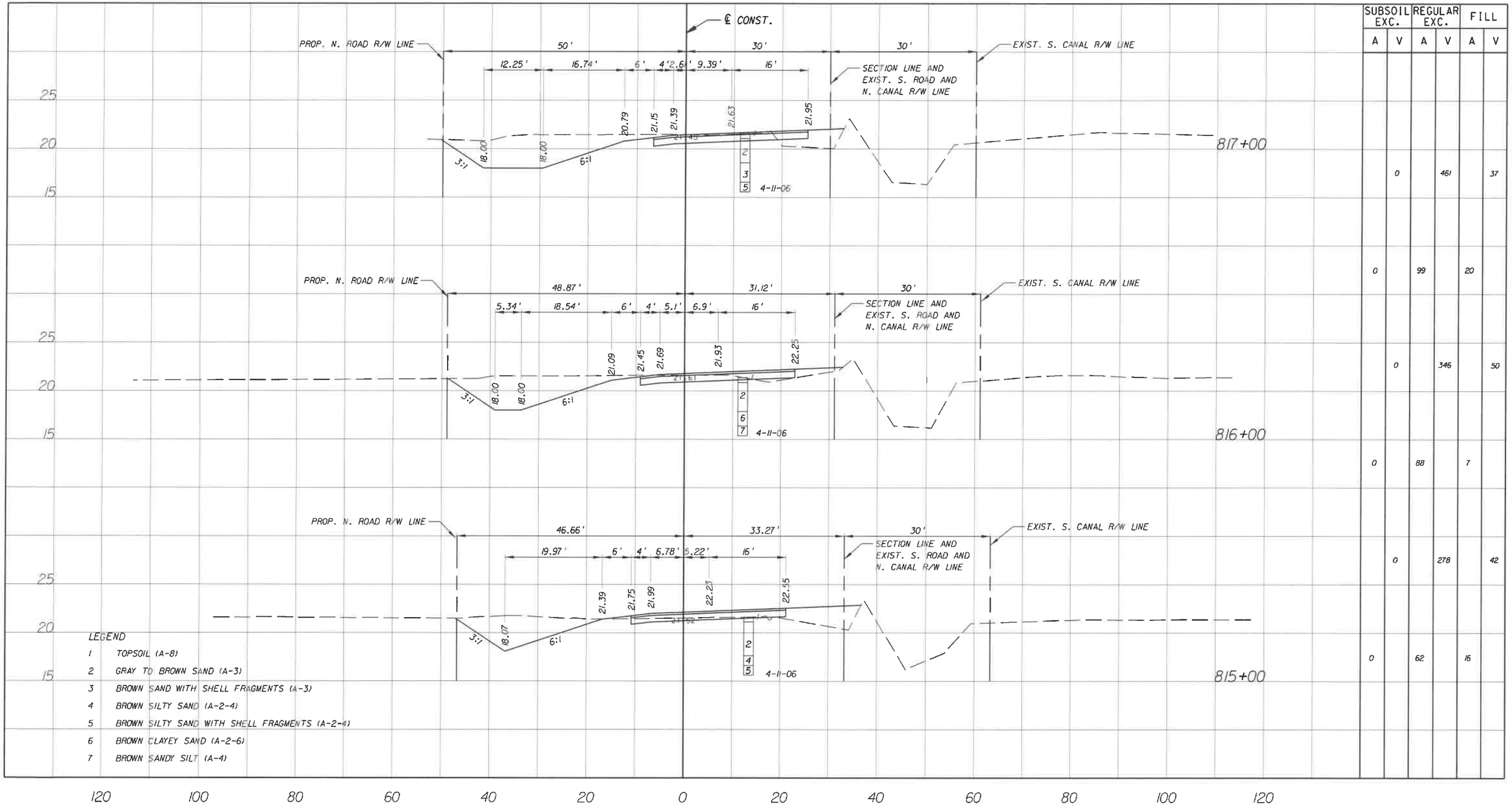

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		461		37
0		99		20	
	0		346		50
0		88		7	
	0		278		42
0		62		16	

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 101
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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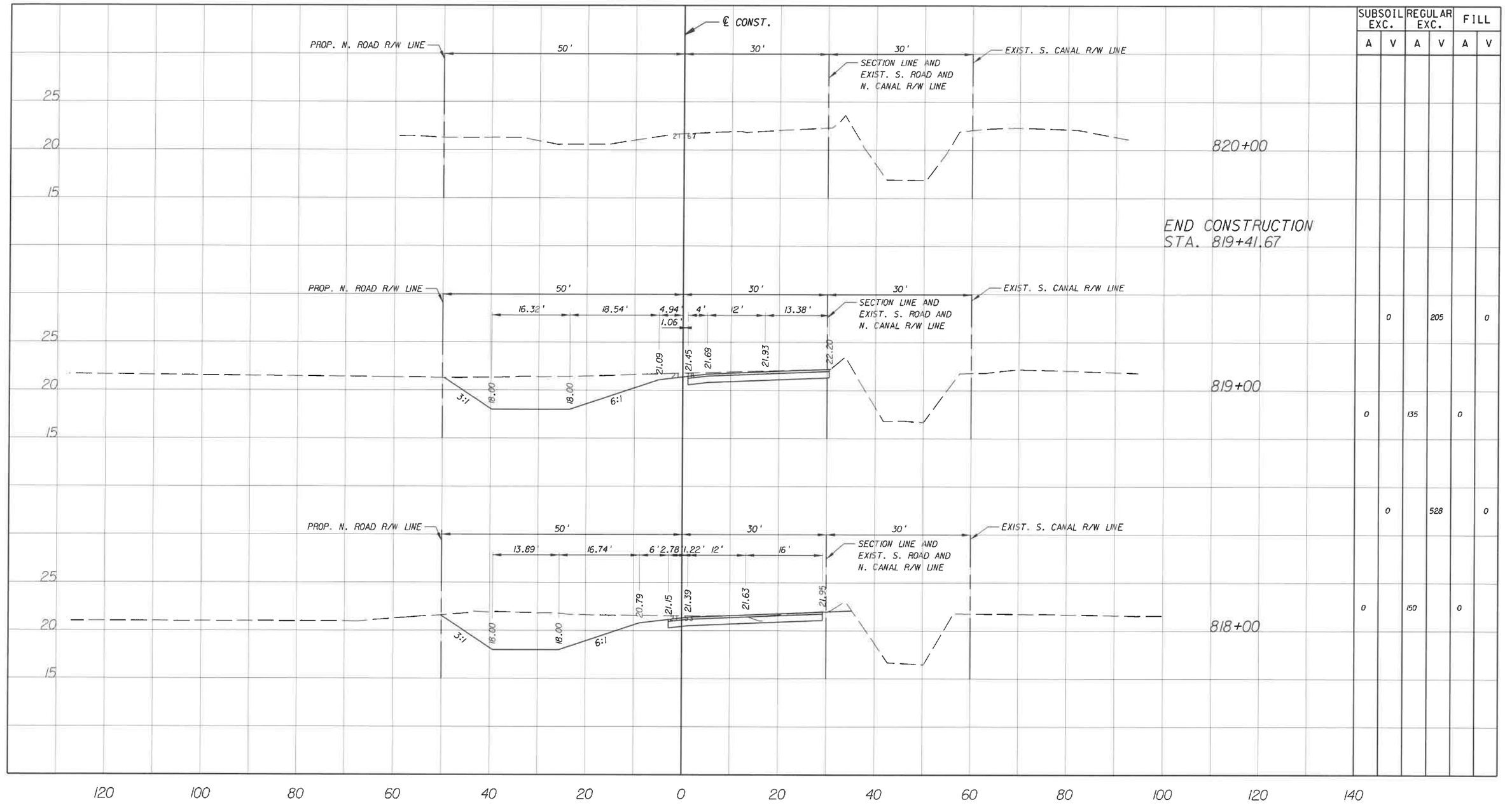

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		205		0
0		135		0	
	0		528		0
0		150		0	

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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

53RD STREET

SHEET. 102
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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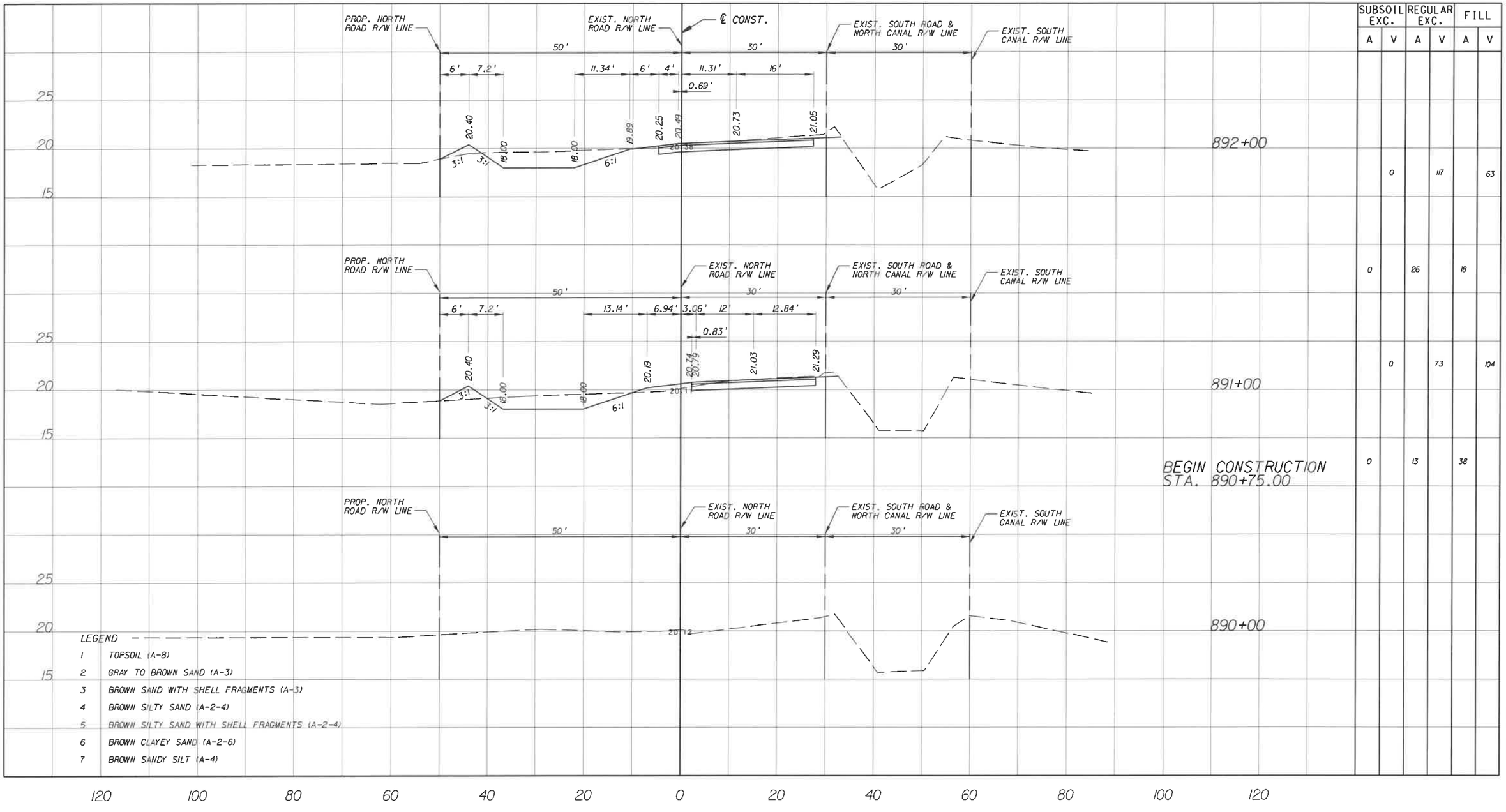

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		117		63
0		26		18	
	0		73		104
0		13		38	

GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET. 103
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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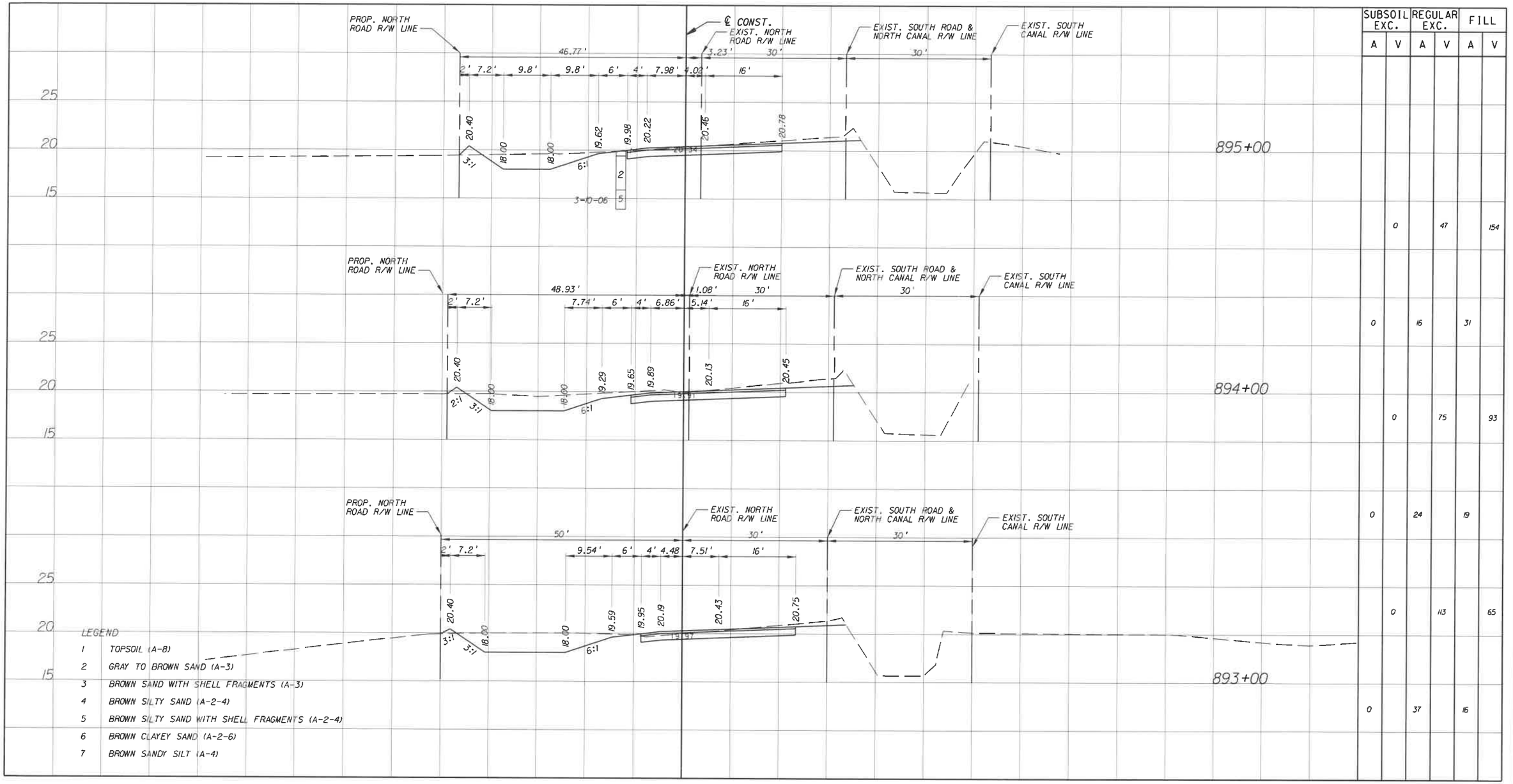

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		47		154
0		16		31	
	0		75		93
0		24		19	
	0		113		65
0		37		16	

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ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION
66 TH AVENUE-PHASE 1A
57TH STREET

SHEET. 104
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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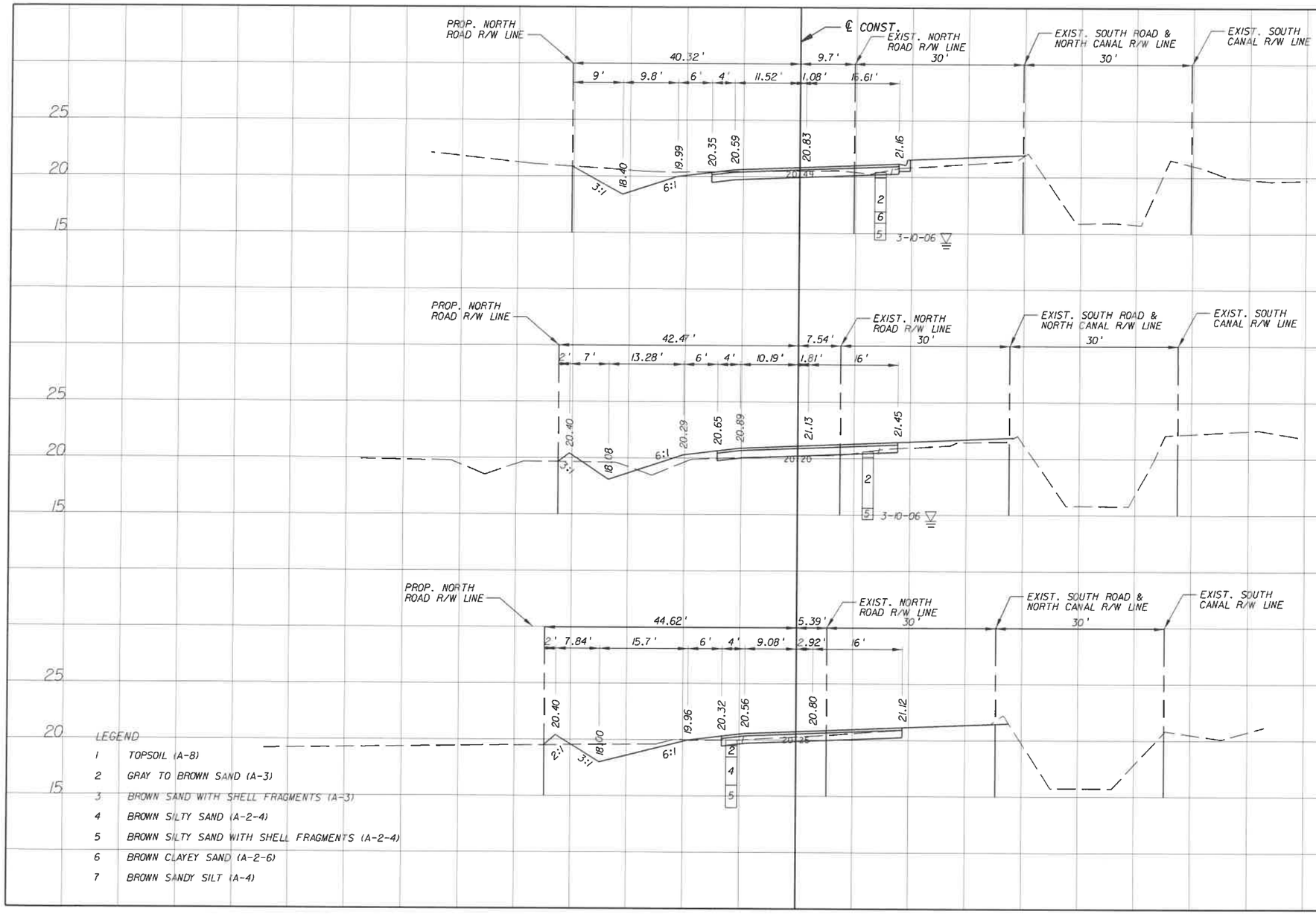

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		12		197
0		5		88	
	0		25		299
0		8		73	
	0		32		232
0		9		52	

LEGEND

1	TOPSOIL (A-8)
2	GRAY TO BROWN SAND (A-3)
3	BROWN SAND WITH SHELL FRAGMENTS (A-3)
4	BROWN SILTY SAND (A-2-4)
5	BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6	BROWN CLAYEY SAND (A-2-6)
7	BROWN SANDY SILT (A-4)

GB310 / LC26000269

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H: 1":20'
V: 1":10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET: 105
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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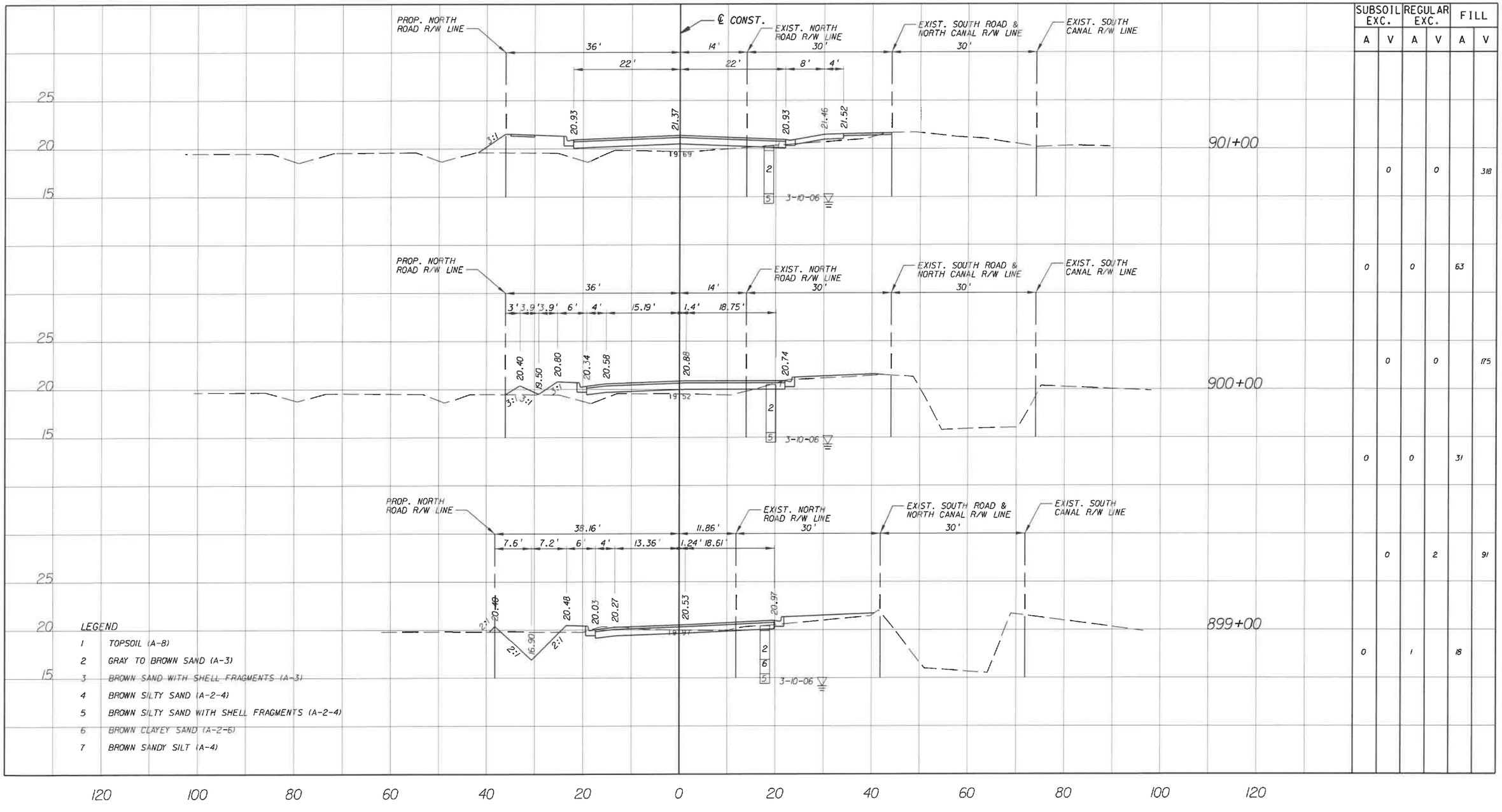

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		318
0		0		63	
	0		0		175
0		0		31	
	0		2		91
0		1		18	

LEGEND

1 TOPSOIL (A-8)
2 GRAY TO BROWN SAND (A-3)
3 BROWN SAND WITH SHELL FRAGMENTS (A-3)
4 BROWN SILTY SAND (A-2-4)
5 BROWN SILTY SAND WITH SHELL FRAGMENTS (A-2-4)
6 BROWN CLAYEY SAND (A-2-6)
7 BROWN SANDY SILT (A-4)

GB310/ LC26000269

ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE, H. 1"=20'
V. 1"=10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET. 106
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

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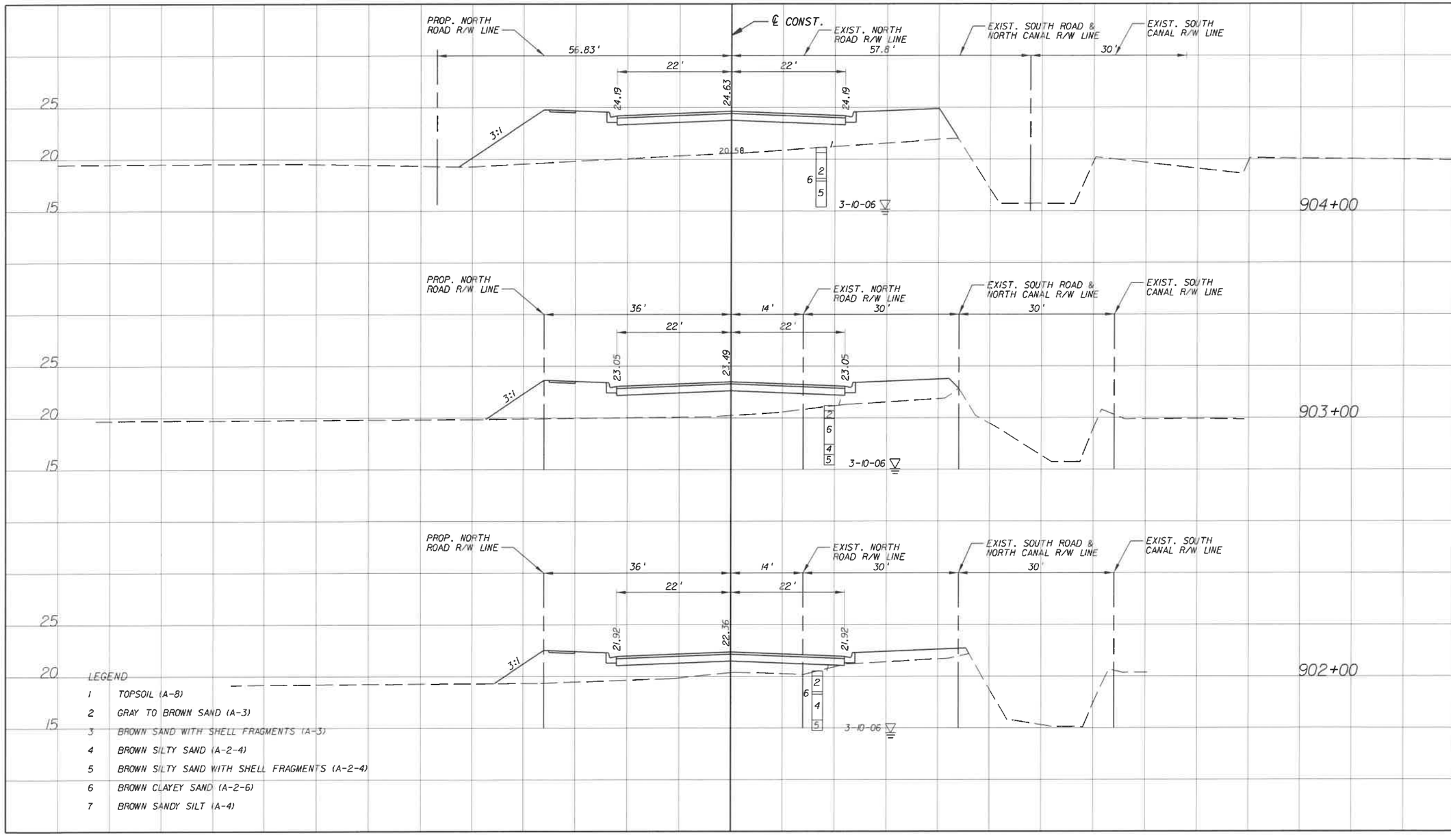

SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		541
0		0		292	
	0		0		932
0		0		211	
	0		0		602
0		0		114	

GB310/ LC26000269

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

CROSS SECTION

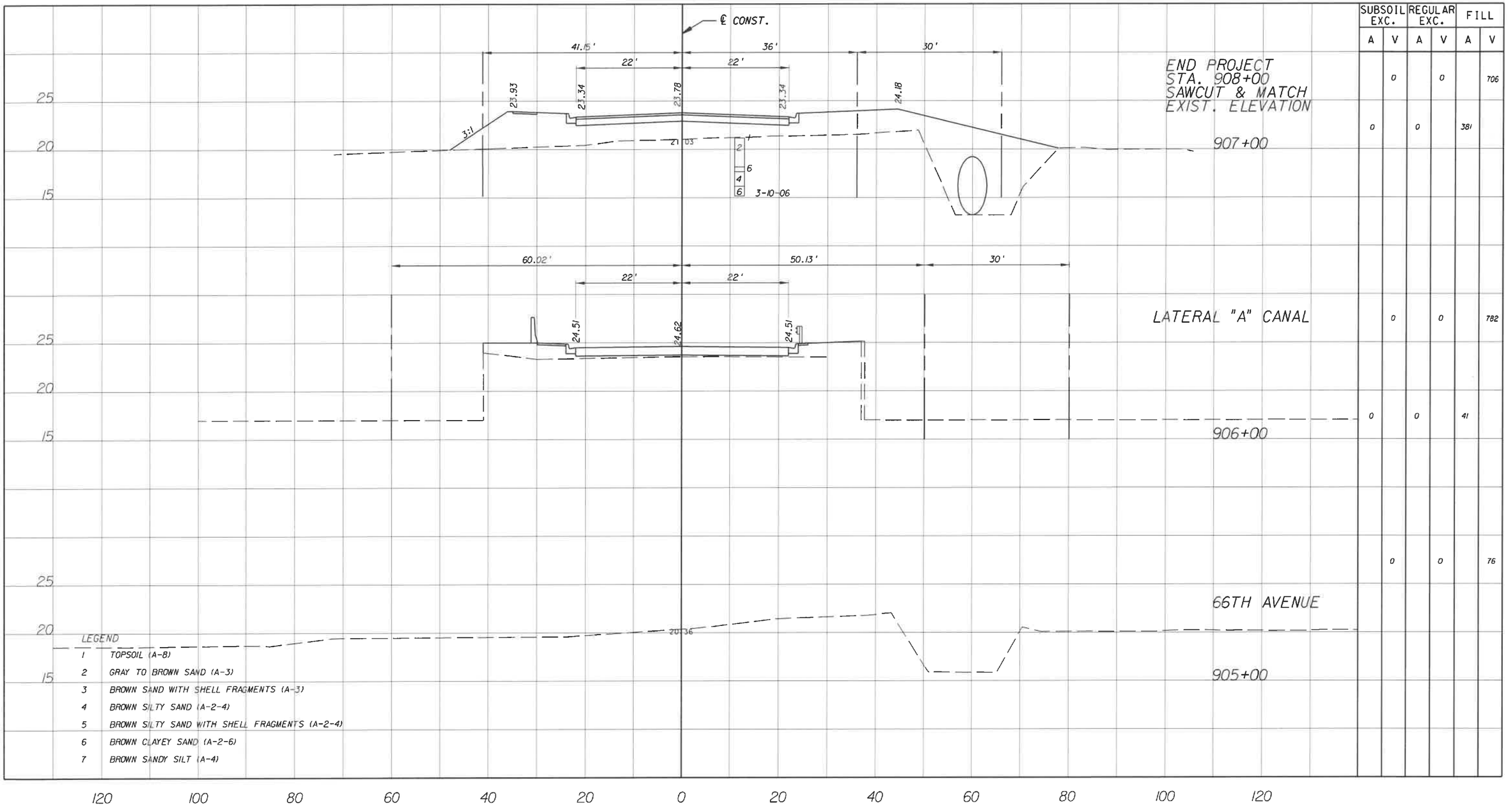
66 TH AVENUE-PHASE 1A

57TH STREET

SHEET. 107
OF. 112

PROJECT NO. A1053

IRC_JOB_NO.



SUBSOIL EXC.		REGULAR EXC.		FILL	
A	V	A	V	A	V
	0		0		706
0		0		381	
	0		0		782
0		0		41	
	0		0		76

GB310/LC26000269

ARCADIS U.S., INC.
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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: H. 1":20'
V. 1":10'
APPROVED.
DRAWN. B.F.
CHECKED. H.D.
DATE. 10-16
FIELD BOOK NO.

CROSS SECTION

66 TH AVENUE-PHASE 1A

57TH STREET

SHEET. 108
OF. 112
PROJECT NO. A1053
IRC_JOB_NO.

A1053rdxsrd5701.dgn 3/14/2017 10:46:56 AM

N.P.D.E.S. STORMWATER POLLUTION PREVENTION PLAN

THE CONTRACTOR SHALL PREPARE AND PROVIDE INDIAN RIVER COUNTY WITH A SPECIAL PLAN FOR THE PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION.

THIS PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE GENERAL REQUIREMENTS AND/OR ANY SPECIAL CONDITIONS OF ALL PERMITS WHICH AUTHORIZE THE CONSTRUCTION OF THE PROJECT. IN THE EVENT THERE ARE NO PERMITS REQUIRED TO CONSTRUCT THE PROJECT, OR THE APPROVED PERMITS TO DO SPECIFICALLY ADDRESS EROSION AND WATER POLLUTION OR THEY DO NOT CONTROL SPECIAL CONDITIONS RELATING TO EROSION AND WATER POLLUTION, THE PROJECT STORMWATER POLLUTION PLAN FOR CONSTRUCTION ACTIVITIES SHALL BE GOVERNED BY FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2007) SUBARTICLES 7-1.1, 7-2.2, 7-8.2, AND ARTICLES 104.1 THROUGH 104.9.

THE CONTRACTOR'S PART OF THE SWPPP WILL INCLUDE HIS EROSION CONTROL AND STORMWATER MANAGEMENT PLAN DURING CONSTRUCTION AND ALL ADDITIONAL MEASURES HE WILL EMPLOY TO DISPOSE OF, CONTROL, OR OTHERWISE PREVENT THE DISCHARGE OF SOLID, HAZARDOUS, AND SANITARY WASTES TO WATERS OF THE U.S. PROCEDURES TO CONTROL ON-SITE TRACKING AND SPILLING OF SOIL BY VEHICLES AND CONSTRUCTION EQUIPMENT SHALL ALSO BE INCLUDED. THE CONTRACTOR SHALL INCLUDE A PROCEDURE FOR CLEANUP AND REPORTING OF NON-STORM WATER DISCHARGES SUCH AS CONTAMINATED GROUNDWATER AND ACCIDENTAL SPILLS OF CONTAMINANTS. THE CONTRACTOR'S PART OF SWPPP INCLUDING REQUIRED SIGNED CERTIFICATION STATEMENTS, SHALL BE FURNISHED TO AND APPROVED BY INDIAN RIVER COUNTY PRIOR TO INITIATION OF ANY SOIL DISTURBING ACTIVITIES.

THE SWPPP FOR CONSTRUCTION ACTIVITIES SHALL BE PREPARED IN ACCORDANCE WITH THE FORMAT AND GUIDELINES SET FORTH IN THE EPA DOCUMENT NUMBER 833-R-92-001, DATED OCTOBER 1992, TITLED "STORMWATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES" AND THE CONTRACTOR'S PROPOSED SEQUENCE OF OPERATIONS. THE SWPPP FOR CONSTRUCTION ACTIVITIES SHALL DESCRIBE, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS OR ACTIVITIES:

NON-STORMWATER DISCHARGES

DEWATERING FOR UNDERGROUND FACILITIES INSTALLATION, POND CONSTRUCTION AND BUILDING FOUNDATIONS, WHEN NECESSARY, WILL BE DETAINED ONSITE WITHIN THE LAKE SYSTEM OR SMALL IMPOUNDMENTS AND MAY DISCHARGE FROM THE SITE UNDER EXTREME CONDITIONS. ANY DISCHARGE FROM THE SITE WILL REQUIRE FILTRATION AND TREATMENT PRIOR TO ENTERING THE OFFSITE CONVEYANCE SYSTEM AND SHALL MEET THE REQUIREMENTS OF THE STATE PERMITS FOR STORMWATER DISCHARGE AND DEWATERING ACTIVITIES FOR THE SITE. SPILL REPORTING FOR ITEMS SUCH AS OILS, FUEL, ETC. SHALL MEET THE REQUIREMENTS OF 40 CFR PART 117 AND 40 CFR PART 302. CLEANUP AND DISPOSAL OF ALL SPILLS SHALL MEET THE APPLICABLE REGULATORY AGENCY REQUIREMENTS AND SHALL BE HANDLED AND DISPOSED OF AS REQUIRED BY LAW.

CONTRACTOR SHALL PREPARE AND SUBMIT FOR THE ENGINEERS APPROVAL A PLAN FOR THE CONTROL AND ABATEMENT OF THE DISCHARGE OF TURBID WATERS FROM THE PROJECT SITE. THIS PLAN SHALL INCLUDE THE TYPE AND LOCATION OF ANY SETTLING BASINS, SETTLING TANKS, AND SWALES.

THE PERMITTEE SHALL TAKE TURBIDITY READINGS ONCE PER WEEK AT ALL POINTS OF DIRECT DISCHARGE INTO RIVERS, STREAMS, OR CANALS. A STATE CERTIFIED LABORATORY MUST ANALYZE THE SAMPLES COLLECTED FROM THE BACKSIDE OF THE APPROPRIATE TURBIDITY BARRIER, AND THE RESULTS SHALL BE SUBMITTED MONTHLY TO THE NEAREST ST. JOHNS RIVER WATER MANAGEMENT DISTRICT OFFICE. THE RESULTS MUST CONTAIN THE FOLLOWING INFORMATION THAT MUST BE SUBMITTED AT PROJECT COMPLETION:

A. NAME OF PERSON SAMPLING.
B. DATE AND TIME SAMPLE WAS TAKEN.
C. LOCATION OF SAMPLE POINT.
D. TIME AT WHICH TURBIDITY WAS MEASURED.
E. TURBIDITY READING IN NTU'S.
F. THE PERMIT TRACKING NUMBER.

THE PERMITTEE SHALL IMPLEMENT THE FOLLOWING TURBIDITY CONTROL MEASURES, AS APPROPRIATE, FOR ANY DISCHARGES OFF-SITE:

A. IF THE DISCHARGE IS TO BE TO A DRAINAGE SYSTEM EITHER PIPE WATER DIRECTLY INTO THE DRAINAGE STRUCTURE; OR IF THE DISCHARGE WILL BE THROUGH A SWALE, OR OVERLAND, TO A STRUCTURE OR WATER BODY, THEN THE PATH OF DISCHARGE SHALL BE LINED WITH VISQUEEN PLASTIC, SOD, OR HAY BALES APPROPRIATELY TO PREVENT A TURBID DISCHARGE TO THE STRUCTURE OR WATER BODY.
B. IF WATER WILL DISCHARGE TO AN OPEN WATER BODY, APPROPRIATE FABRIC SILT SCREEN OR HAY BALES SHALL BE USED TO PREVENT TURBID DISCHARGES. WHEN POSSIBLE, ESTABLISH A DETENTION AREA TO ALLOW SUSPENDED SOLIDS TO SETTLE PRIOR TO ENTERING THE WATER BODY.
C. IF THE ABOVE TURBIDITY CONTROL MEASURES ARE INADEQUATE TO RETAIN SEDIMENT ON-SITE AND PREVENT TURBID DISCHARGE, THE PERMITTEE SHALL SELECT, IMPLEMENT, AND OPERATE SUCH ADDITIONAL OR MODIFIED EROSION AND SEDIMENT CONTROL MEASURES NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS AS SPECIFIED IN CHAPTER 62-302, F.A.C..

1. FOR EACH PHASE OF CONSTRUCTION OPERATIONS OR ACTIVITIES, THE CONTRACTOR SHALL SUPPLY THE FOLLOWING INFORMATION:
   A. LOCATIONS OF ALL EROSION CONTROL DEVICES.
   B. TYPES OF ALL EROSION CONTROL DEVICES.
   C. ESTIMATE LENGTH OF TIME EROSION CONTROL DEVICES WILL BE IN OPERATION.
   D. MONITORING SCHEDULES FOR MAINTENANCE OF EROSION CONTROL DEVICES.
   E. METHOD OF MAINTENANCE EROSION CONTROL DEVICES.
   F. METHODS OF CONTAINMENT OR REMOVAL OR POLLUTANTS OR HAZARDOUS WASTES.
   G. METHODS FOR THE CONTROL OF TURBIDITY DURING EXCAVATION AND DEWATERING OF THE PROJECT INCLUDING SETTLING BASINS, SWALES, AND TURBIDITY BARRIERS.
2. THE CONTRACTOR SHALL FURNISH THE ENGINEER THE NAME AND TELEPHONE NUMBER OF THE PERSON WHO WILL BE RESPONSIBLE FOR MONITORING AND MAINTAINING THE EROSION CONTROL DEVICES.
3. THE CONTRACTOR SHALL SUBMIT A COPY OF HIS SWPPP FOR CONSTRUCTION ACTIVITIES TO THE ENGINEER FOR HIS REVIEW AND APPROVAL ON OR BEFORE THE PROJECT PRECONSTRUCTION MEETING.

NO CONSTRUCTION ACTIVITIES SHALL COMMENCE UNTIL THE SWPPP FOR CONSTRUCTION ACTIVITIES HAS BEEN REVIEWED AND APPROVAL RECEIVED FROM THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT TWO (2) COPIES OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES TO THE ENGINEER AND ONE (1) COPY OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES TO INDIAN RIVER GOUNTY PROIR TO THE BEGINNING OF CONSTRUCTION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING, MONITORING AND MODIFYING THE SWPPP FOR CONSTRUCTION ACTIVITIES TO MEET CHANGING PROJECT SITE CONDITIONS.
5. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES AT A CENTRAL LOCATION ON THE PROJECT SITE AT ALL TIMES AND BE RESPONSIBLE FOR COMPLIANCE WITH THE APPROVED SWPPP FOR CONSTRUCTION ACTIVITIES.
6. FULL PAYMENT FOR ALL WORK AND MATERIALS NECESSARY FOR PREPARATION, SUBMITTAL AND SUBSEQUENT MODIFICATION OF THE CONTRACTOR'S SWPPP FOR CONSTRUCTION ACTIVITIES AND FOR IMPLEMENTING IT DURING CONSTRUCTION SHALL BE INCLUDED IN THE MOBILIZATION PAY ITEM (L.S.).
7. THE CONTRACTOR SHALL UTILIZE TEMPORARY & PERMANENT EROSION CONTROL MEASURES AND DEVICES AS SHOWN IN THE FDOT STANDARD INDEX NUMBERS 104 AND 105 DURING CONSTRUCTIONOF THE PROJECT.
8. NATURAL OR STRAW HAY BALES ARE NOT RECOGNIZED AS A BMP BY INDIAN RIVER COUNTY AND SHALL NOT BE USED ON THE PROJECT.

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ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731
EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

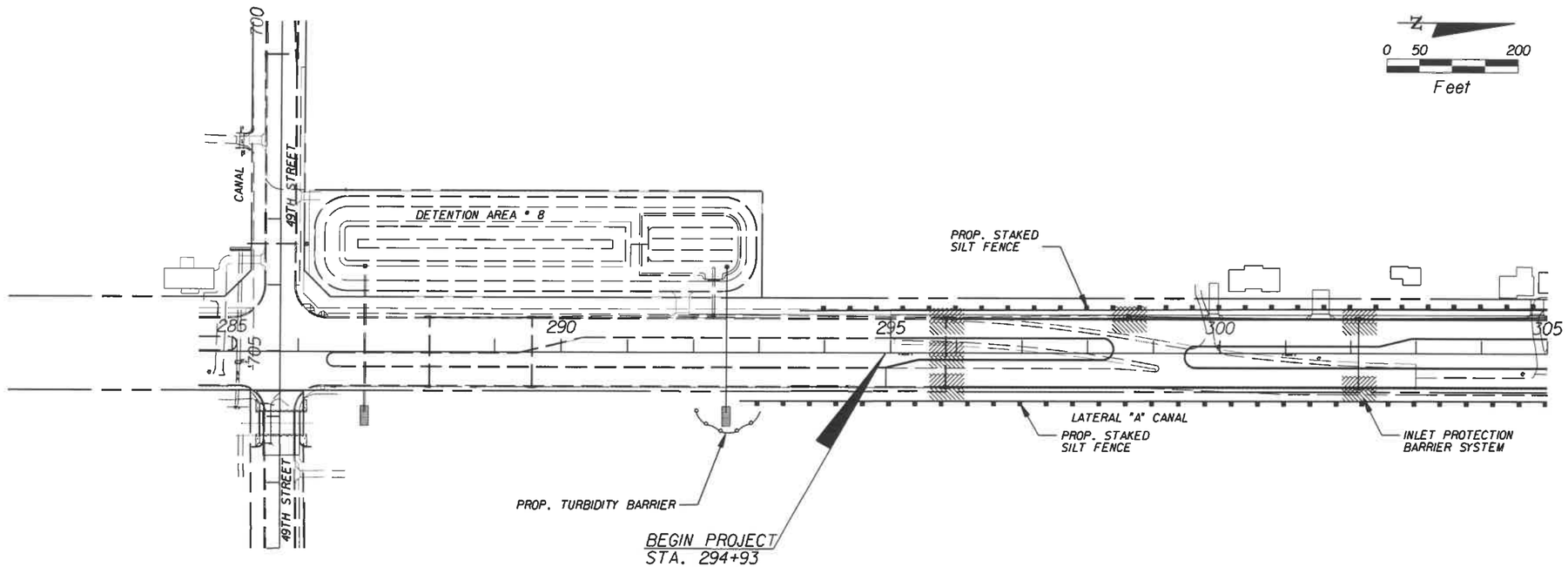
Department of Public Works
Engineering Division

SCALE: N.T.S.
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

STORM WATER POLLUTION PREVENTION
66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 109
OF: 112
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053SWPPRDNT00.dgn 11/17/2017 1:24:49 PM



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EB 7917 / LB 7062
GB310 / LC26000269

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division
INDIAN RIVER COUNTY FLORIDA

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

STORM WATER POLLUTION PREVENTION

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 110
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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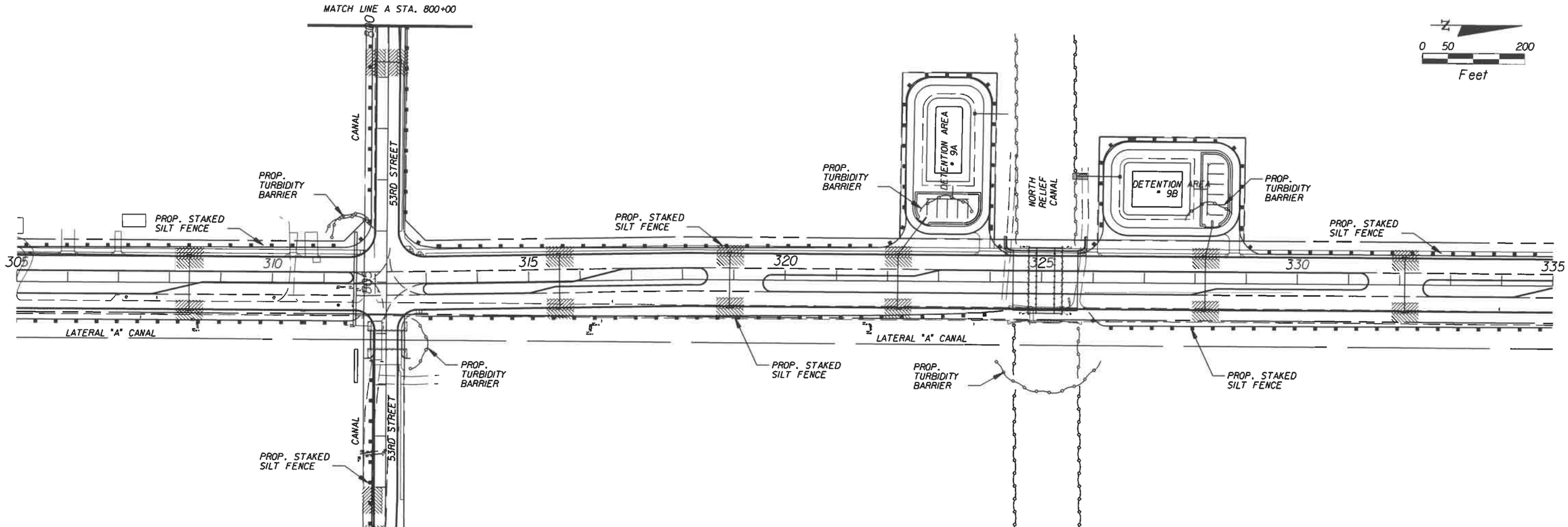

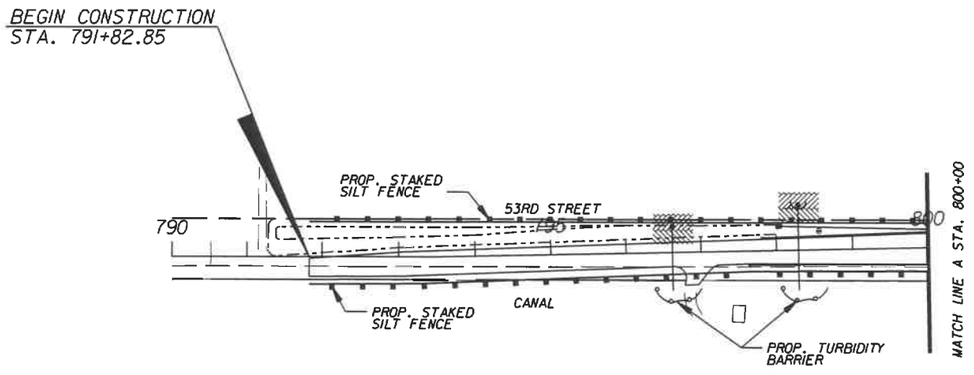

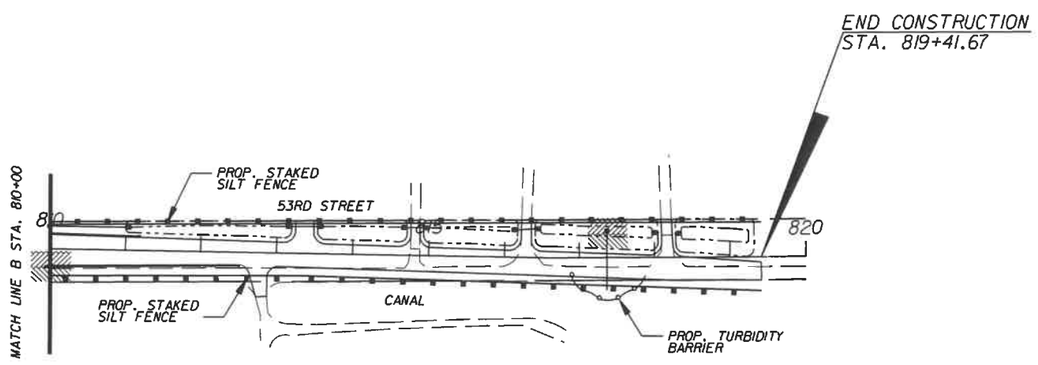

INLET PROTECTION BARRIER SYSTEM TYPICAL ALL INLETS

GB310/LC26000269

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=200'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

STORM WATER POLLUTION PREVENTION

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 111
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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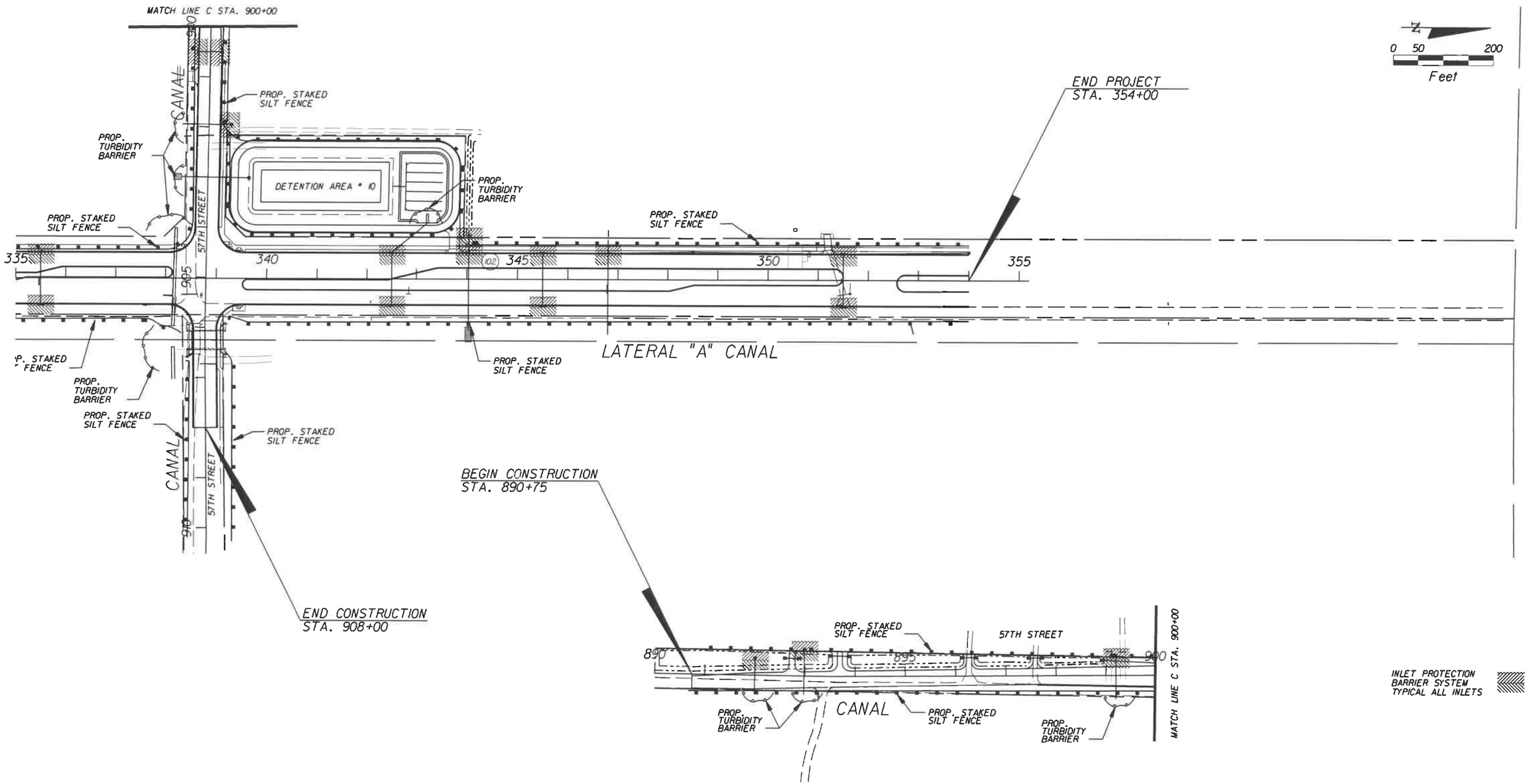

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=200'
APPROVED.
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

STORM WATER POLLUTION PREVENTION

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: 112
OF: 112
PROJECT NO. A1053
IRC_JOB_NO.

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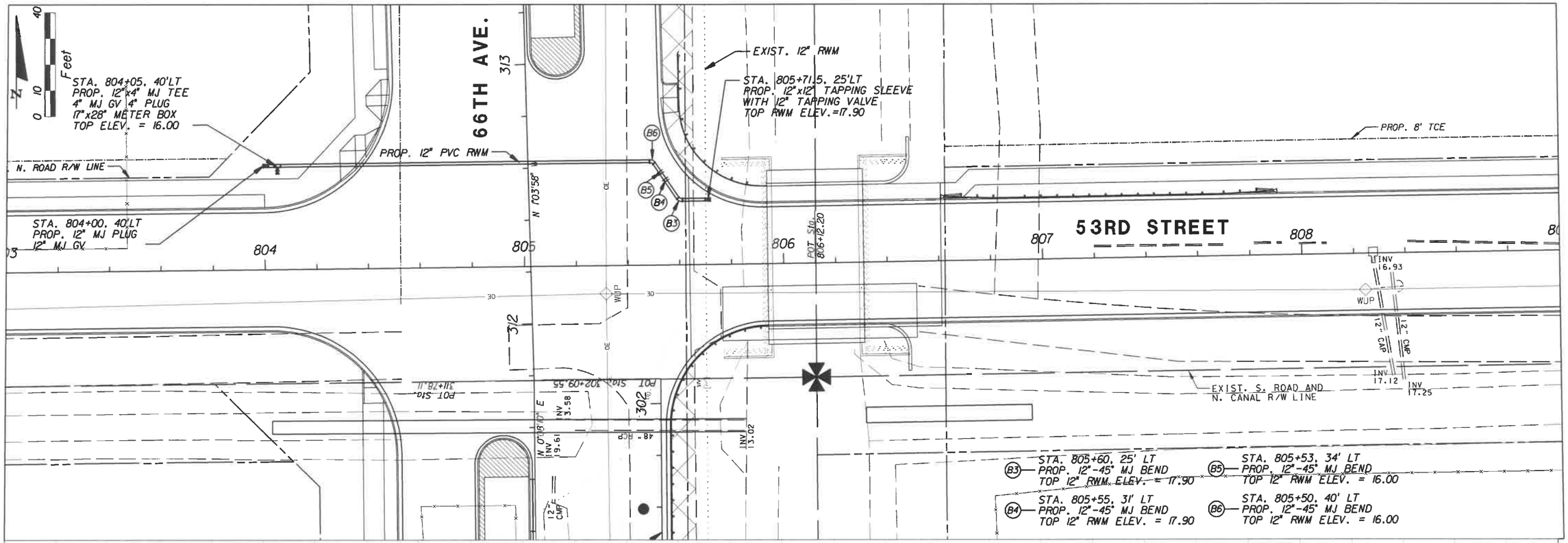

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE:	1"=40'
APPROVED:	HWD
DRAWN:	FM
CHECKED:	FM
DATE:	04-08
FIELD BOOK NO.	

UTILITY PLAN AND PROFILE

53RD STREET
66TH AVENUE-PHASE 1A

SHEET:	UT-1
OF:	UT-2
PROJECT NO.	A1053
IRC_JOB_NO.	

A1053PLPRUT53RD.dgn 11/17/2017 2:14:10 PM

66TH AVE.

57TH STREET

EXIST. R/W LINE

EXIST. W. ROAD R/W LINE

EXIST. E. ROAD R/W LINE

POT Sta.906+07.69

EXIST. N. ROAD R/W LINE

℄ CONST.

902 903 904 905 906 907 908

339

338

STA. 903+75 37 RT
PROP. 12" MJ PLUG
12" MJ GV

STA. 903+87 37 RT
PROP. 12"x4" MJ TEE
4" MJ GV
4" MJ PLUG
~~12"x28" METER BOX~~
TOP EL= 17.90

PROP. 12" PVC RWM

EXIST. S. ROAD AND N. CANAL R/W LINE

STA. 905+84 37 RT
PROP. 12"x12" TAPPING SLEEVE
WITH 12" TAPPING VALVE
TOP RWM = 17.90±

EXIST. 12" RWM

INV 16.56
INV 15.66
INV 13.09
INV 14.15
INV 13.40

12" CMP
66" RCP
12" RWM

ROADWAY PGL

APPROXIMATE FINISH GRADE @ WM

PROP. 12" RWM
TOP ELEV. = 17.90

64 LF - 72" RCP

FL 13.30

FL 13.40

26 24 22 20 18 16 14

0 10 40 Feet

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EB 7917 / LB 7062
GB310/ LC26000269

NO.	REVISION.	BY:	DATE:

Department of Public Works
Engineering Division

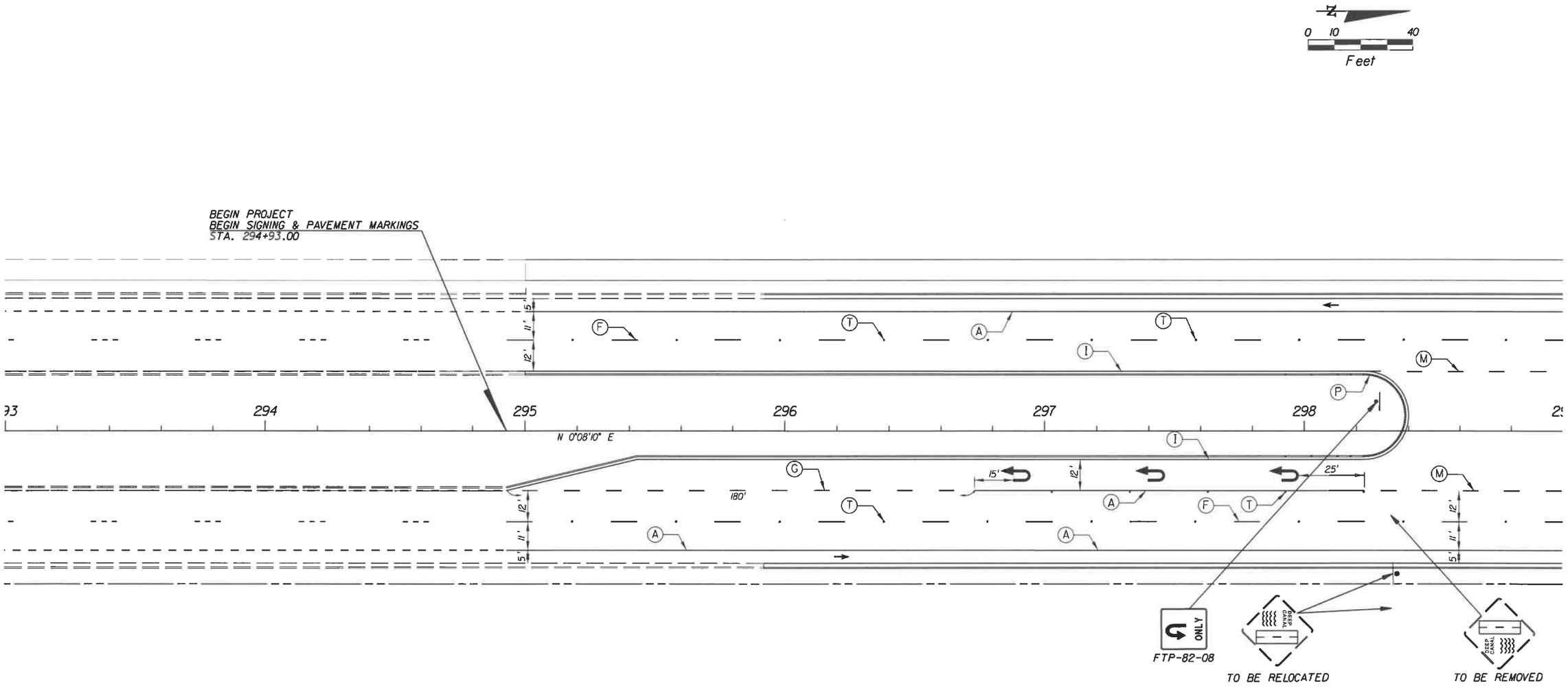
SCALE: 1"=40'
APPROVED: HWD
DRAWN: FM
CHECKED: FM
DATE: 04-08
FIELD BOOK NO.

UTILITY PLAN AND PROFILE

57TH STREET
66TH AVENUE-PHASE 1A

SHEET: UT-2
OF: UT-2
PROJECT NO. A1053
IRC_JOB_NO.

A1053PLPRUT57RD.dgn 11/17/2017 3:37:59 PM



Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

All Pavements are to consists of 90-mil extruded alkyd thermoplastic unless otherwise indicated on plans.

Raised reflective pavement markers (RPM's) are to consist of 4-inch square mono-directional white and bi-directional yellow.

Lane line RPM's on the 4 (or more) lane portion of any divide roadway shall be bi-directional white/red.

RPM's shall be positioned in accordance with fdot index # 17352 and this plan.

STRIPING KEY

- (A) • 6" SOLID WHITE
- (B) • 8" SOLID WHITE
- (C) • 12" SOLID WHITE
- (D) • 18" SOLID WHITE
- (E) • 24" SOLID WHITE
- (F) • 6" SKIP WHITE TYP. (10' - 30')
- (G) • 6" SKIP WHITE TYP. (6' - 10')
- (H) • 6" SKIP WHITE TYP. (2' - 4')
- (I) • 6" SOLID YELLOW
- (J) • 18" SOLID YELLOW
- (K) • 6" DOUBLE YELLOW
- (L) • 6" SKIP YELLOW TYP. (10' - 30')
- (M) • 6" SKIP YELLOW TYP. (6' - 10')
- (N) • 6" SKIP YELLOW TYP. (2' - 4')
- (P) • RPM BI-DIRECTIONAL AMBER/AMBER
- (R) • FDP WHITE
- (S) • FDP YELLOW
- (T) • RPM BI-DIRECTIONAL WHITE/RED

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY TYPICAL DRAWING DATED SEPTEMBER 5, 2000, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS.

ARCADIS U.S., INC.
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EB 7917 / LB 7062
6B310 / L22600920

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-1
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP28.dgn 11/17/2017 4:11:06 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

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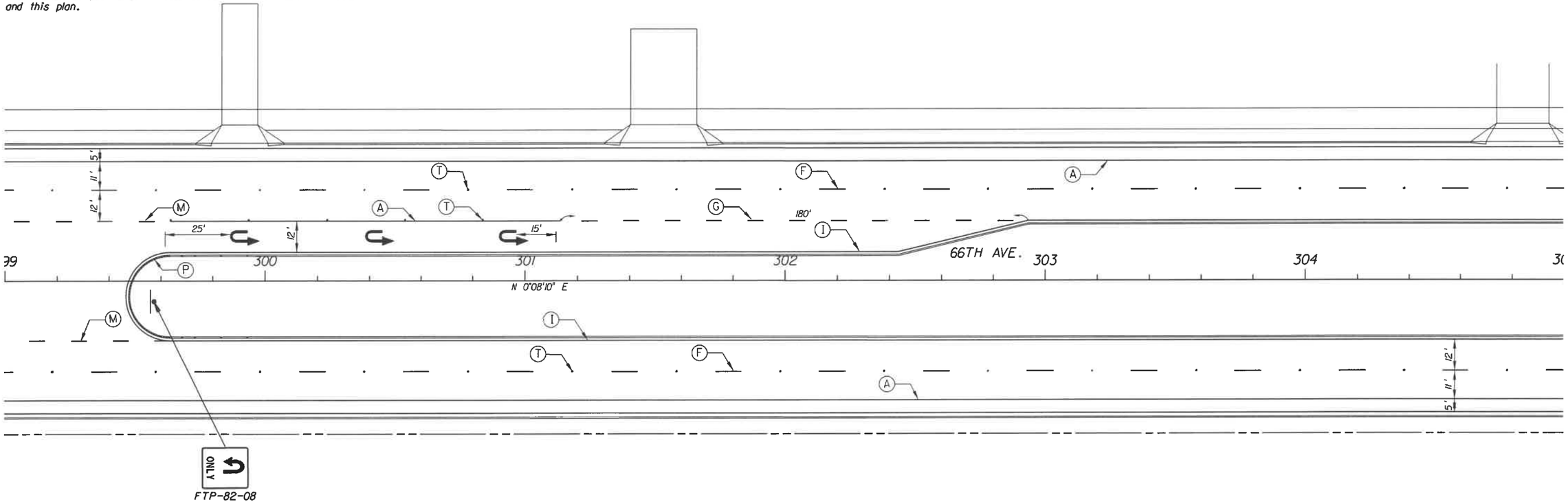
RPM's shall be positioned in accordance with fdot index # 17352 and this plan.

N

0 10 40

Feet



FTP-82-08

STRIPING KEY

- (A) - 6" SOLID WHITE
- (B) - 8" SOLID WHITE
- (C) - 12" SOLID WHITE
- (D) - 18" SOLID WHITE
- (E) - 24" SOLID WHITE
- (F) - 6" SKIP WHITE TYP. (10' - 30')
- (G) - 6" SKIP WHITE TYP. (6' - 10')
- (H) - 6" SKIP WHITE TYP. (2' - 4')
- (J) - 6" SOLID YELLOW
- (J) - 18" SOLID YELLOW
- (K) - 6" DOUBLE YELLOW
- (L) - 6" SKIP YELLOW TYP. (10' - 30')
- (M) - 6" SKIP YELLOW TYP. (6' - 10')
- (N) - 6" SKIP YELLOW TYP. (2' - 4')
- (P) - RPM BI-DIRECTIONAL AMBER/AMBER
- (R) - FDP WHITE
- (S) - FDP YELLOW
- (T) - RPM BI-DIRECTIONAL WHITE/RED

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY TYPICAL DRAWING DATED SEPTEMBER 5, 2000, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS.

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ARCADIS U.S., INC.
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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-2
OF: S-15

PROJECT NO. A1053

IRC_JOB_NO. 1505

A1053PLANSP29.dgn 11/17/2017 4:12:26 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

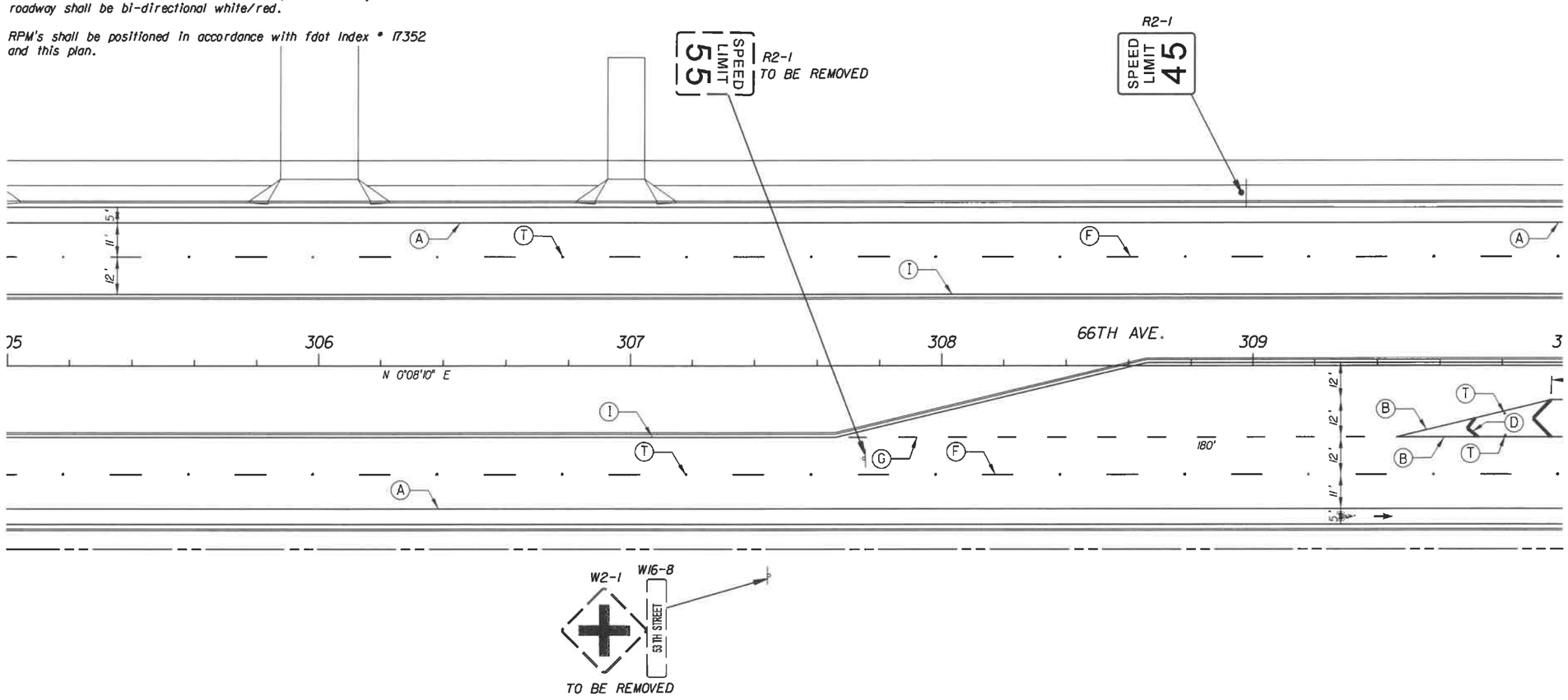
All Pavements are to consists of 90-mil extruded alkyd thermoplastic unless otherwise indicated on plans.

Raised reflective pavement markers (RPM's) are to consist of 4-inch square mono-directional white and bi-directional yellow.

Lane line RPM's on the 4 (or more) lane portion of any divide roadway shall be bi-directional white/red.

RPM's shall be positioned in accordance with fdot Index * 17352 and this plan.

N
0 10 40
Feet



TO BE REMOVED

STRIPING KEY

- (A) - 6" SOLID WHITE
- (B) - 8" SOLID WHITE
- (C) - 12" SOLID WHITE
- (D) - 18" SOLID WHITE
- (E) - 24" SOLID WHITE
- (F) - 6" SKIP WHITE TYP. (10' - 30')
- (G) - 6" SKIP WHITE TYP. (6' - 10')
- (H) - 6" SKIP WHITE TYP. (2' - 4')
- (I) - 6" SOLID YELLOW
- (J) - 18" SOLID YELLOW
- (K) - 6" DOUBLE YELLOW
- (L) - 6" SKIP YELLOW TYP. (10' - 30')
- (M) - 6" SKIP YELLOW TYP. (6' - 10')
- (N) - 6" SKIP YELLOW TYP. (2' - 4')
- (P) - RPM BI-DIRECTIONAL AMBER/AMBER
- (R) - FDP WHITE
- (S) - FDP YELLOW
- (T) - RPM BI-DIRECTIONAL WHITE/RED

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY TYPICAL DRAWING DATED SEPTEMBER 5, 2000, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS.

GB310/LC26000269

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1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION	BY	DATE

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-3
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP30.dgn 11/17/2017 4:13:23 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

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RPM's shall be positioned in accordance with fdot Index # 17352 and this plan.

N

0 10 40

Feet

R6-3 DIVIDED HIGHWAY

R1-1 STOP

D-3 66 TH AVENUE

D-3 53 TH STREET

R1-1 TO BE REMOVED STOP

W14-1 DEAD END

W14-1 TO BE REMOVED DEAD END

53RD STREET

804

805

806

POT Sta 311+78.11

POT Sta 806+12.80

N 0°08'10" E

N 1°03'58" W

66TH AVE.

R4-7

R4-7

53 TH STREET D-3

66 TH AVENUE D-3

R1-1 STOP

R6-3 DIVIDED HIGHWAY

D-3 53RD STREET

D-3 66TH AVENUE

R1-1 STOP

TO BE REMOVED

OM-3R TO BE REMOVED

SPEED LIMIT 45

R2-1

STRIPING KEY

- (A) - 6" SOLID WHITE
- (B) - 8" SOLID WHITE
- (C) - 12" SOLID WHITE
- (D) - 18" SOLID WHITE
- (E) - 24" SOLID WHITE
- (F) - 6" SKIP WHITE TYP. (10' - 30')
- (G) - 6" SKIP WHITE TYP. (6' - 10')
- (H) - 6" SKIP WHITE TYP. (2' - 4')
- (I) - 6" SOLID YELLOW
- (J) - 18" SOLID YELLOW
- (K) - 6" DOUBLE YELLOW
- (L) - 6" SKIP YELLOW TYP. (10' - 30')
- (M) - 6" SKIP YELLOW TYP. (6' - 10')
- (N) - 6" SKIP YELLOW TYP. (2' - 4')
- (P) - RPM BI-DIRECTIONAL AMBER/AMBER
- (R) - FDP WHITE
- (S) - FDP YELLOW
- (T) - RPM BI-DIRECTIONAL WHITE/RED

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY TYPICAL DRAWING DATED SEPTEMBER 5, 2000, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS.

GB310 / LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-4
OF: S-15

PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP31.dgn 11/17/2017 4:14:01 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

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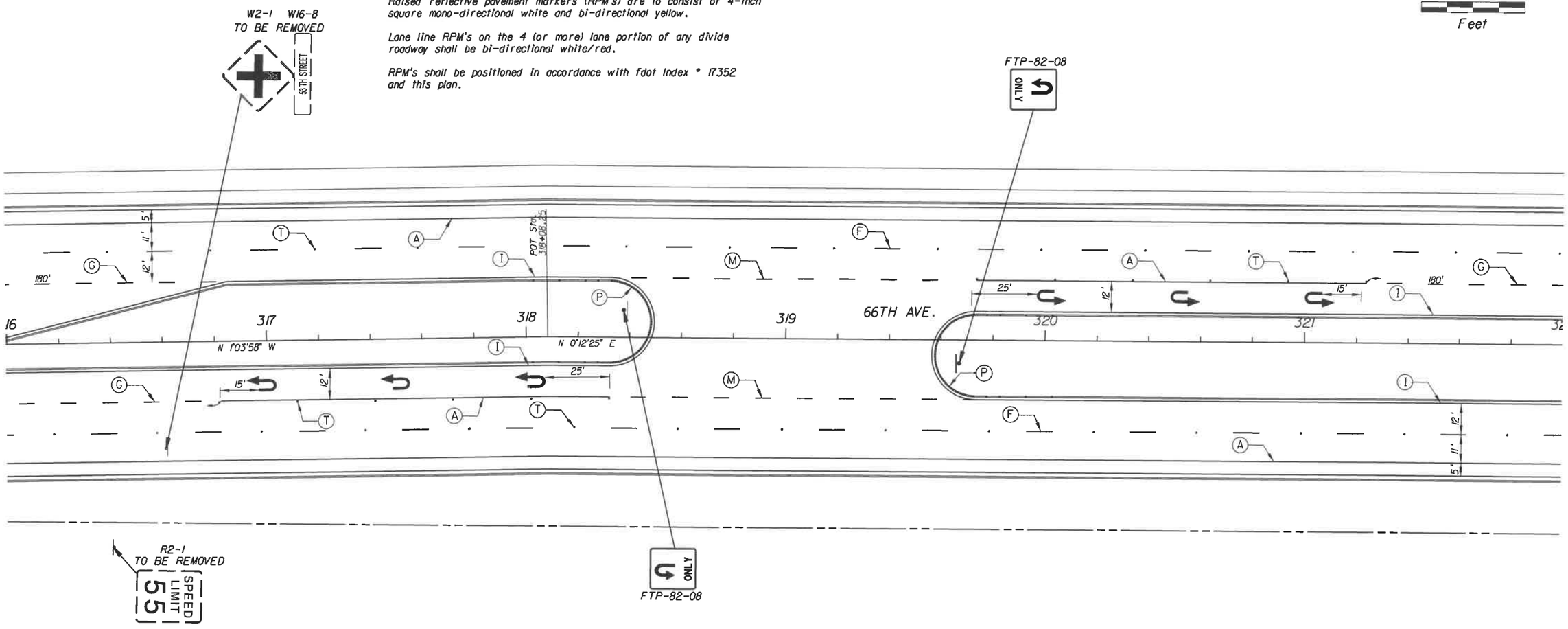
RPM's shall be positioned in accordance with fdot index * 17352 and this plan.

N
0 10 40
Feet



STRIPING KEY

- (A) - 6" SOLID WHITE
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- (C) - 12" SOLID WHITE
- (D) - 18" SOLID WHITE
- (E) - 24" SOLID WHITE
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- (P) - RPM BI-DIRECTIONAL AMBER/AMBER
- (R) - FDP WHITE
- (S) - FDP YELLOW
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GB310 / LC26000969

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

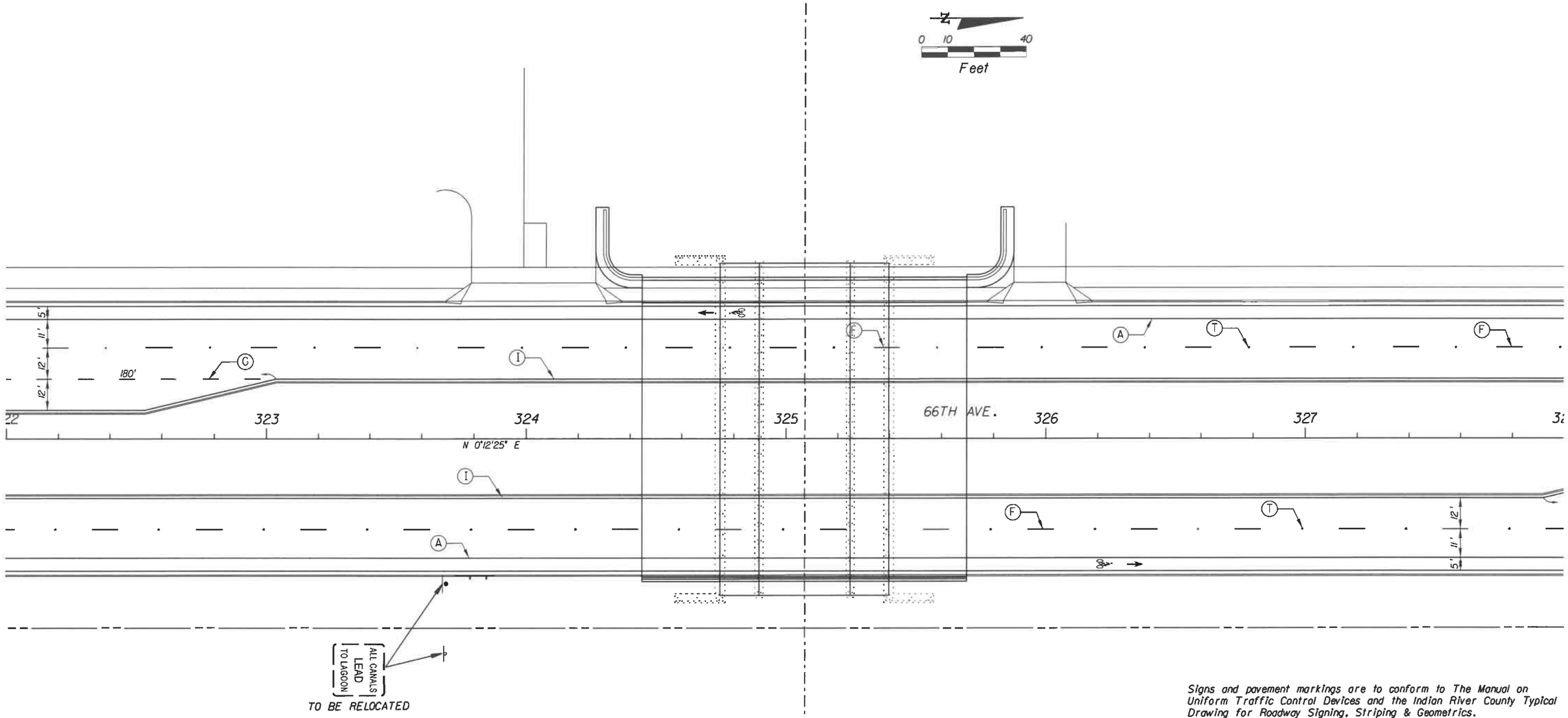
SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-5
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP32.dgn 11/17/2017 4:15:01 PM



STRIPING KEY

- (A) • 6" SOLID WHITE
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RPM's shall be positioned in accordance with fdot index # 17352 and this plan.

GB310/ LC26000269

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(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-6
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP33.dgn 11/17/2017 4:15:51 PM

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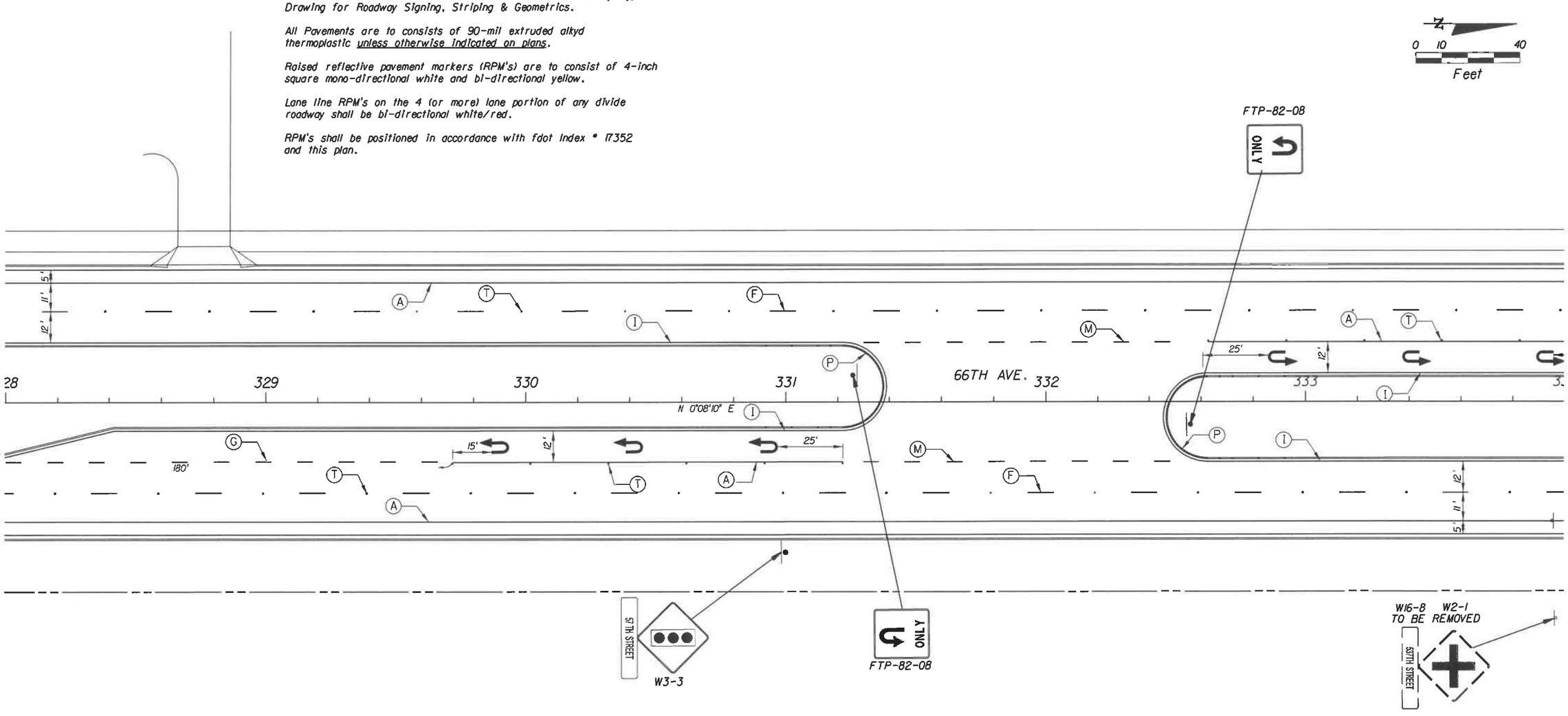

STRIPING KEY

- (A) - 6" SOLID WHITE
- (B) - 8" SOLID WHITE
- (C) - 12" SOLID WHITE
- (D) - 18" SOLID WHITE
- (E) - 24" SOLID WHITE
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- (L) - 6" SKIP YELLOW TYP. (10' - 30')
- (M) - 6" SKIP YELLOW TYP. (6' - 10')
- (N) - 6" SKIP YELLOW TYP. (2' - 4')
- (P) - RPM BI-DIRECTIONAL AMBER/AMBER
- (R) - FDP WHITE
- (S) - FDP YELLOW
- (T) - RPM BI-DIRECTIONAL WHITE/RED

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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO:

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-7
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP34.dgn 11/17/2017 4:20:31 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

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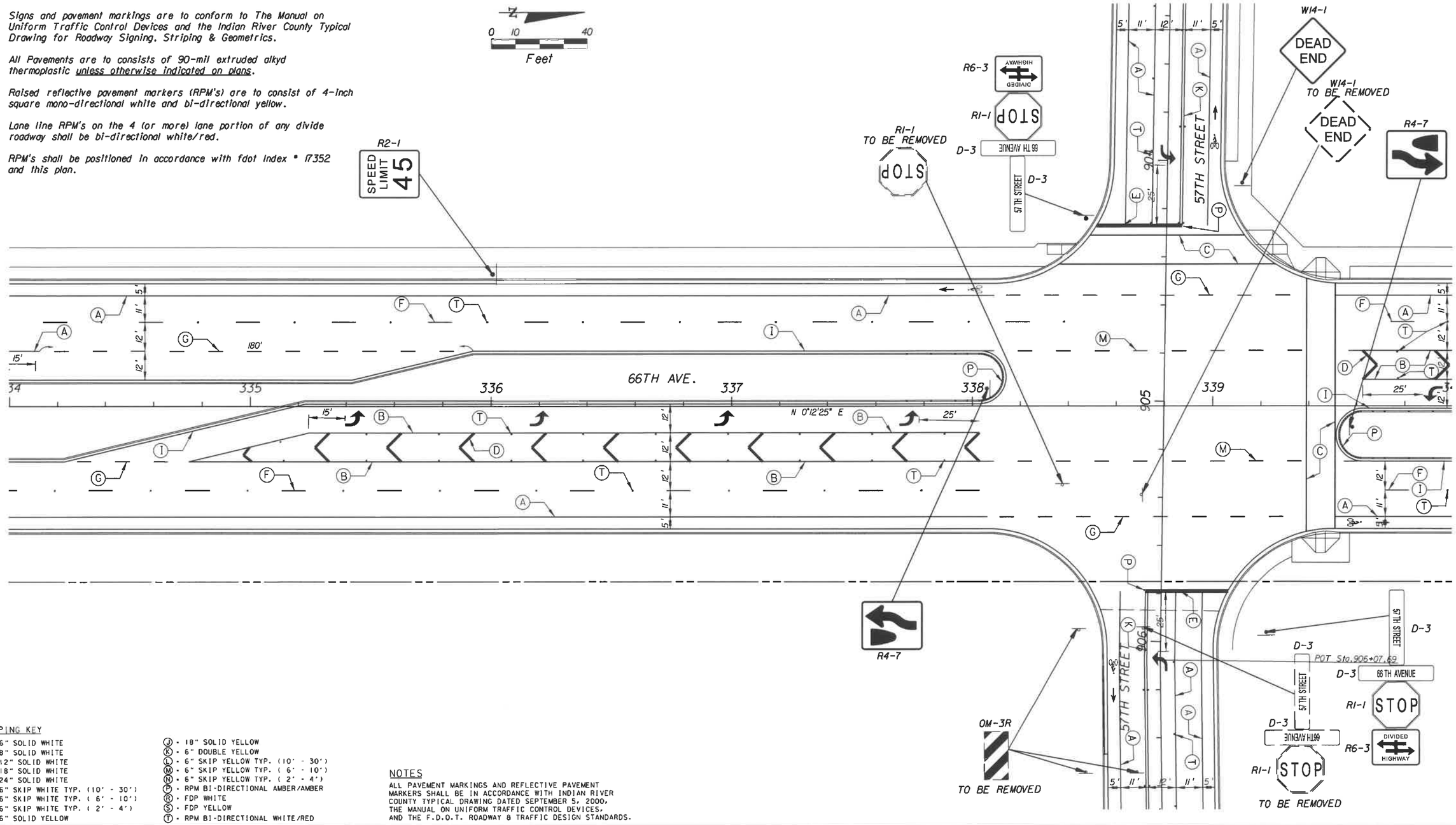
RPM's shall be positioned in accordance with fdot index # 17352 and this plan.



STRIPING KEY

- (A) - 6" SOLID WHITE
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- (S) - FDP YELLOW
- (T) - RPM BI-DIRECTIONAL WHITE/RED

NOTES

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

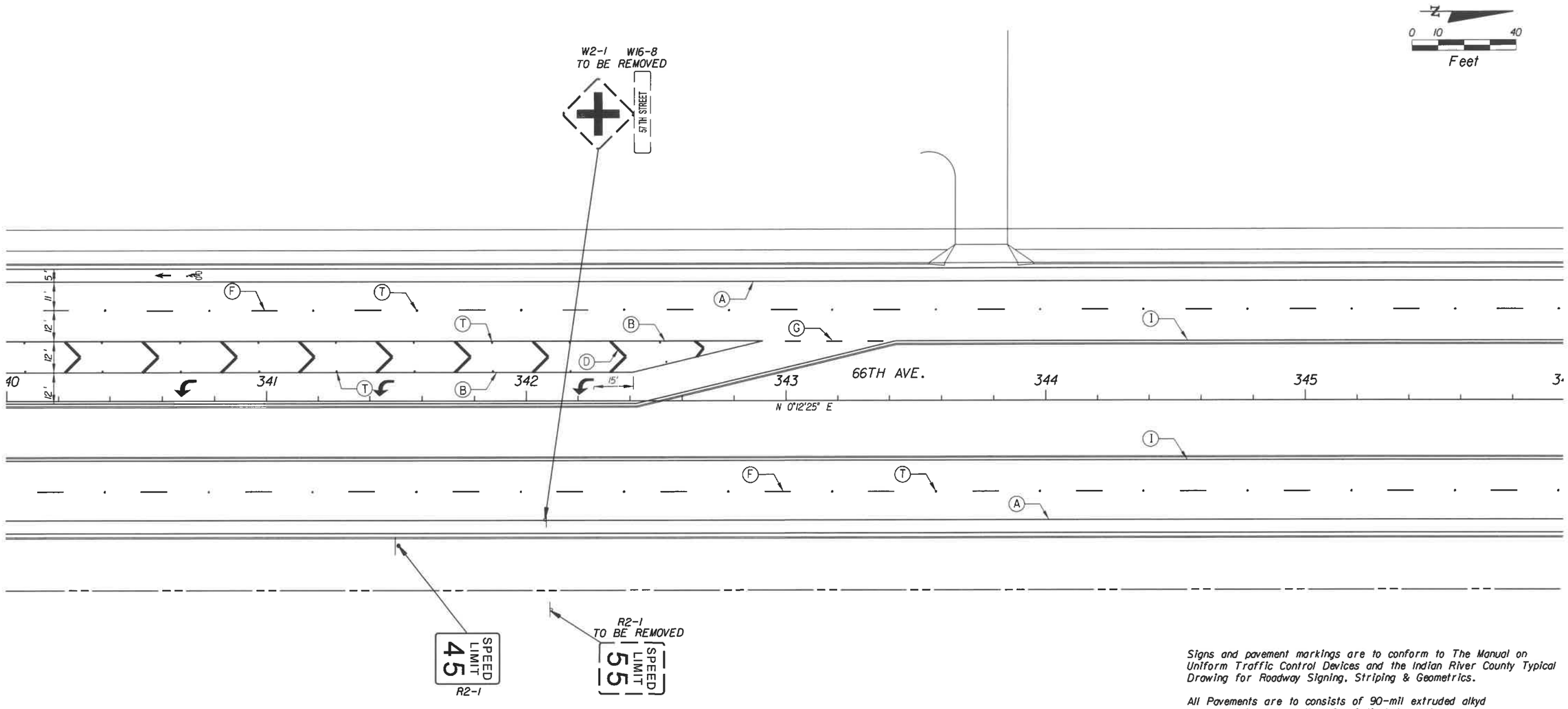
SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-8
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP35.dgn 11/17/2017 4:17:08 PM



STRIPING KEY

- (A) • 6" SOLID WHITE
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- (C) • 12" SOLID WHITE
- (D) • 18" SOLID WHITE
- (E) • 24" SOLID WHITE
- (F) • 6" SKIP WHITE TYP. (10' - 30')
- (G) • 6" SKIP WHITE TYP. (6' - 10')
- (H) • 6" SKIP WHITE TYP. (2' - 4')
- (I) • 6" SOLID YELLOW
- (J) • 18" SOLID YELLOW
- (K) • 6" DOUBLE YELLOW
- (L) • 6" SKIP YELLOW TYP. (10' - 30')
- (M) • 6" SKIP YELLOW TYP. (6' - 10')
- (N) • 6" SKIP YELLOW TYP. (2' - 4')
- (P) • RPM BI-DIRECTIONAL AMBER/AMBER
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- (S) • FDP YELLOW
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NOTES

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.:

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-9
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP36.dgn 11/17/2017 4:18:12 PM

Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

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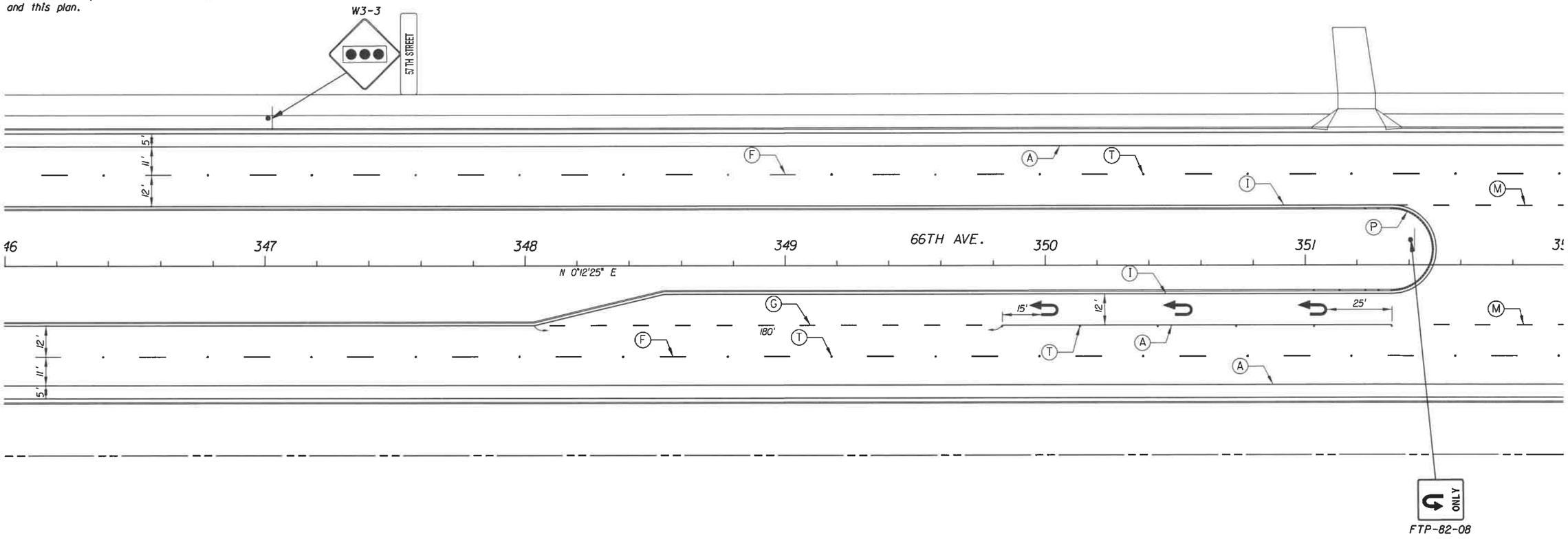
N

0 10 40

Feet



FTP-82-08

STRIPING KEY

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EB 7917 / LB 7062

NO.	REVISION.	BY.	DATE.

Department of Public Works
Engineering Division

SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-10
OF: S-15

PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP37.dgn 11/17/2017 4:20:54 PM

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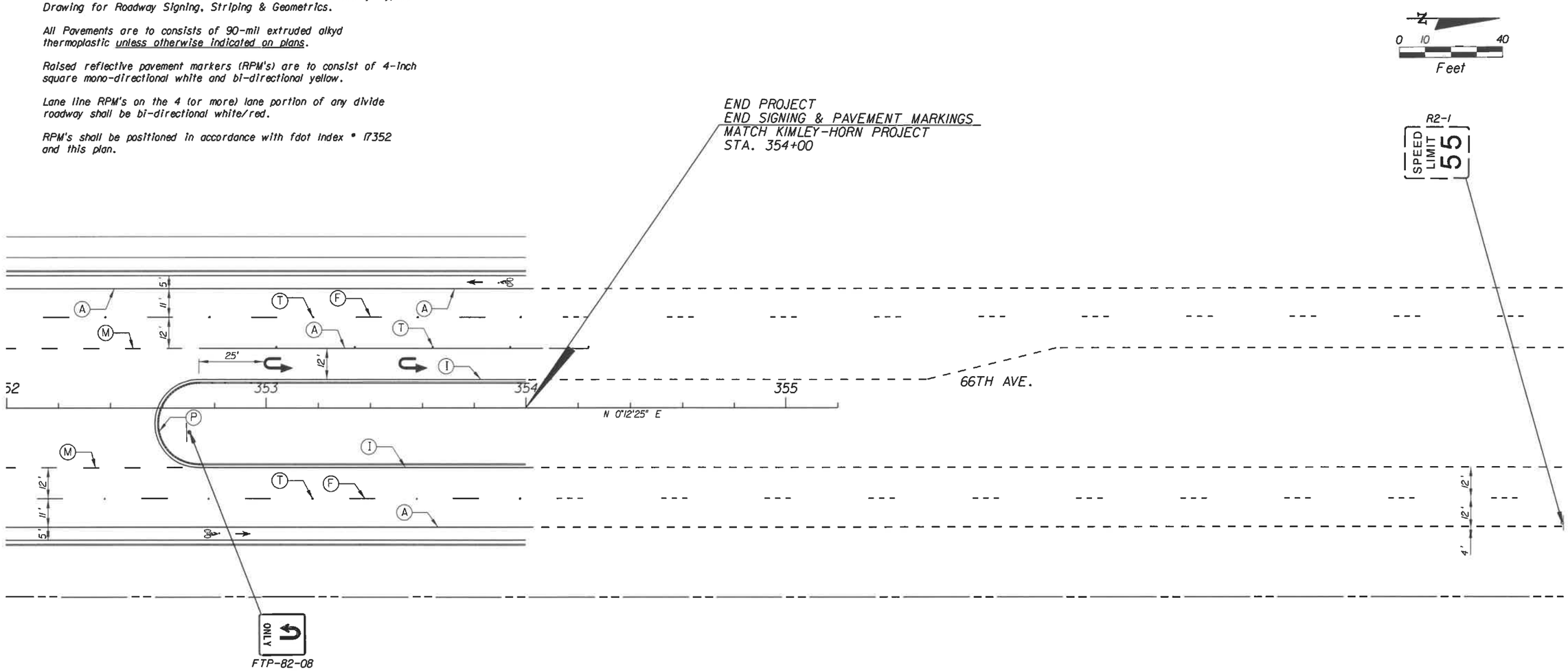

STRIPING KEY

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EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
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SCALE: 1"=40'
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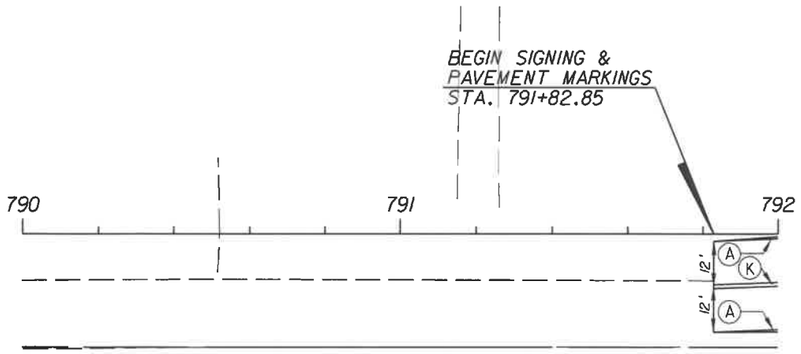
SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A

NORTH OF 49TH ST. TO NORTH OF 57TH ST.

SHEET: S-11
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSP38.dgn 11/17/2017 4:21:35 PM



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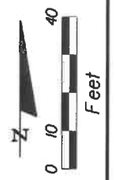
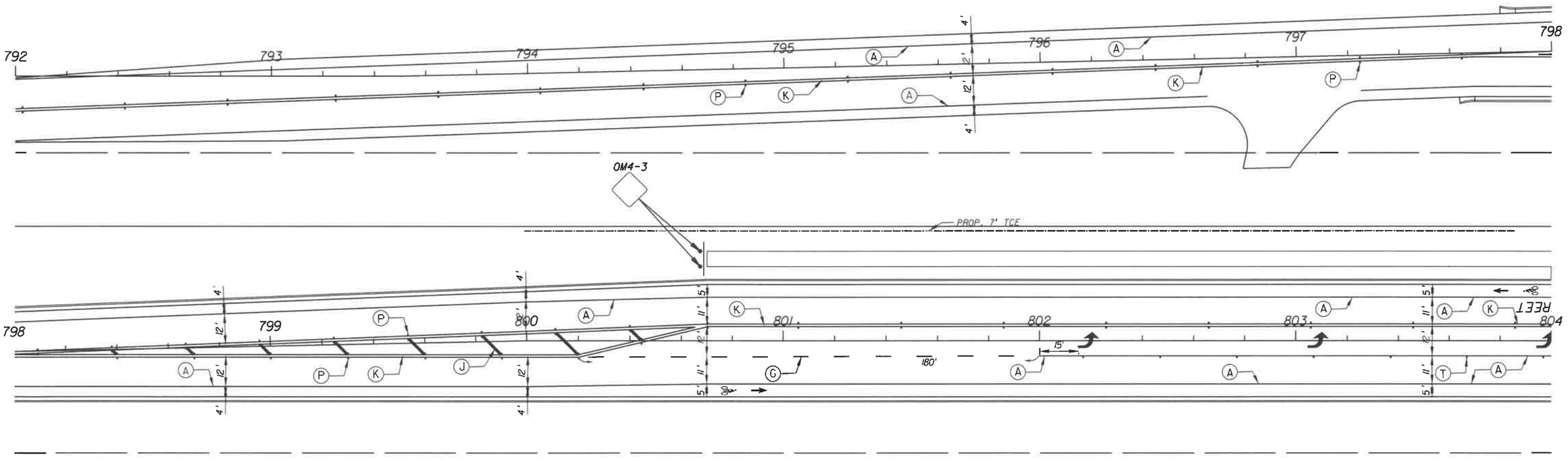




GB310/ LC26000269

ARCADIS U.S., INC.
1500 GATEWAY BLVD. SUITE 200, BOYNTON BEACH, FL 33426
(561) 697-7000, FAX (561) 369-4731

EB 7917 / LB 7062

NO.	REVISION:	BY:	DATE:

Department of Public Works
Engineering Division

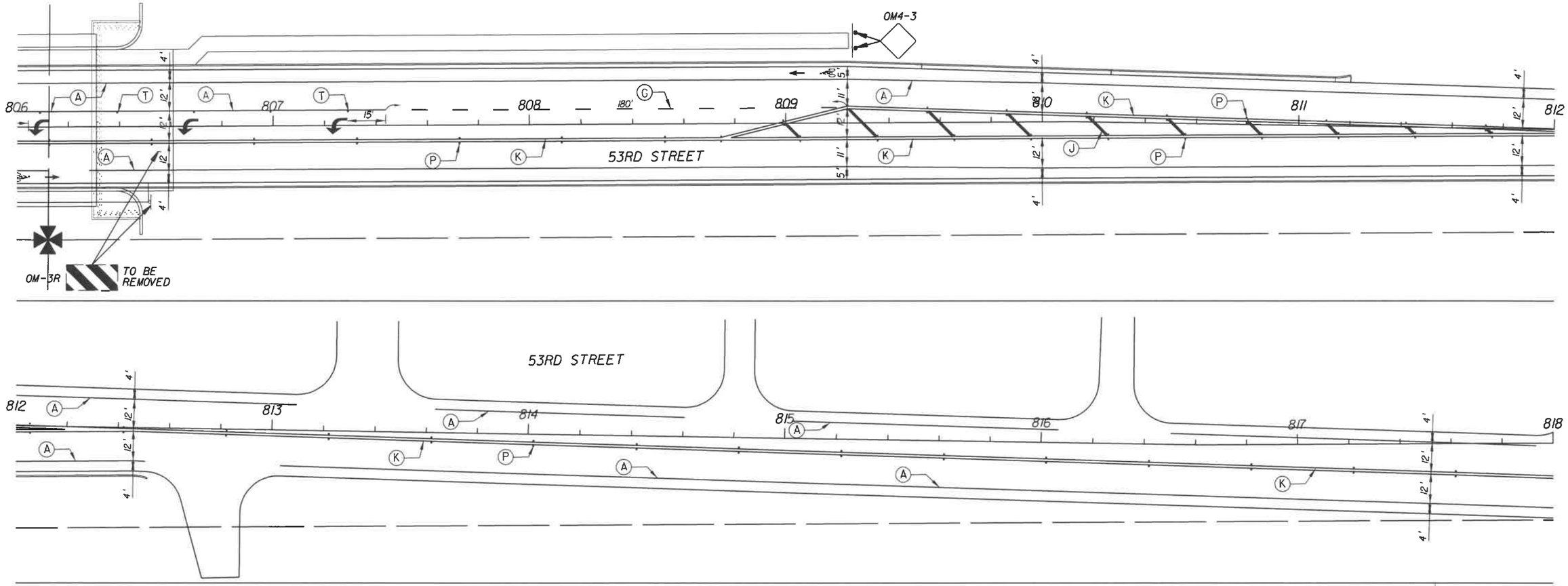
SCALE: 1"=40'
APPROVED:
DRAWN: B.F.
CHECKED: H.D.
DATE: 10-16
FIELD BOOK NO.

SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: S-12
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

A1053PLANSPST5302.dgn 11/17/2017 4:22:20 PM



STRIPING KEY

- (A) • 6" SOLID WHITE
- (B) • 8" SOLID WHITE
- (C) • 12" SOLID WHITE
- (D) • 18" SOLID WHITE
- (E) • 24" SOLID WHITE
- (F) • 6" SKIP WHITE TYP. (10' - 30')
- (G) • 6" SKIP WHITE TYP. (6' - 10')
- (H) • 6" SKIP WHITE TYP. (2' - 4')
- (I) • 6" SOLID YELLOW
- (J) • 18" SOLID YELLOW
- (K) • 6" DOUBLE YELLOW
- (L) • 6" SKIP YELLOW TYP. (10' - 30')
- (M) • 6" SKIP YELLOW TYP. (6' - 10')
- (N) • 6" SKIP YELLOW TYP. (2' - 4')
- (P) • RPM BI-DIRECTIONAL AMBER/AMBER
- (R) • FDP WHITE
- (S) • FDP YELLOW
- (T) • RPM BI-DIRECTIONAL WHITE/RED

0 10 40 Feet

NOTES

ALL PAVEMENT MARKINGS AND REFLECTIVE PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH INDIAN RIVER COUNTY TYPICAL DRAWING DATED SEPTEMBER 5, 2000, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE F.D.O.T. ROADWAY & TRAFFIC DESIGN STANDARDS.

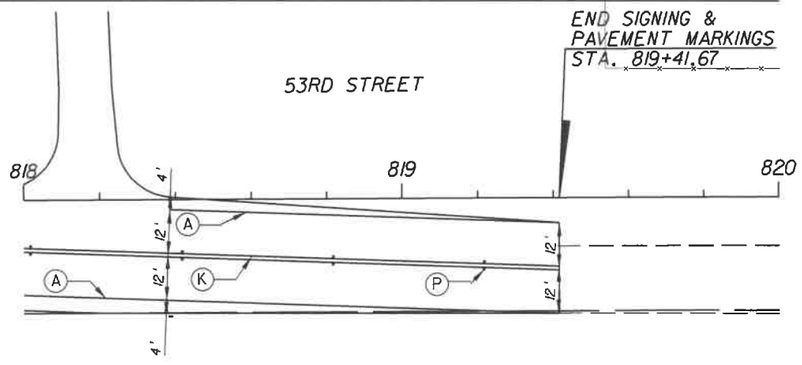
Signs and pavement markings are to conform to The Manual on Uniform Traffic Control Devices and the Indian River County Typical Drawing for Roadway Signing, Striping & Geometrics.

All Pavements are to consists of 90-mil extruded alkyd thermoplastic unless otherwise indicated on plans.

Raised reflective pavement markers (RPM's) are to consist of 4-inch square mono-directional white and bi-directional yellow.

Lane line RPM's on the 4 (or more) lane portion of any divide roadway shall be bi-directional white/red.

RPM's shall be positioned in accordance with fdot Index # 17352 and this plan.



GB310 / LC26000269

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SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
53RD STREET

SHEET: S-13
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

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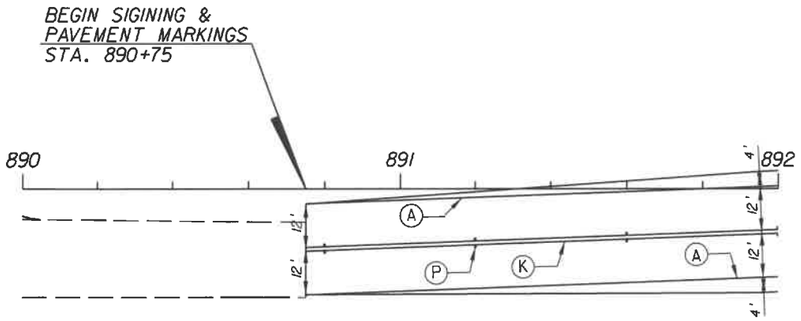

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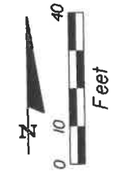

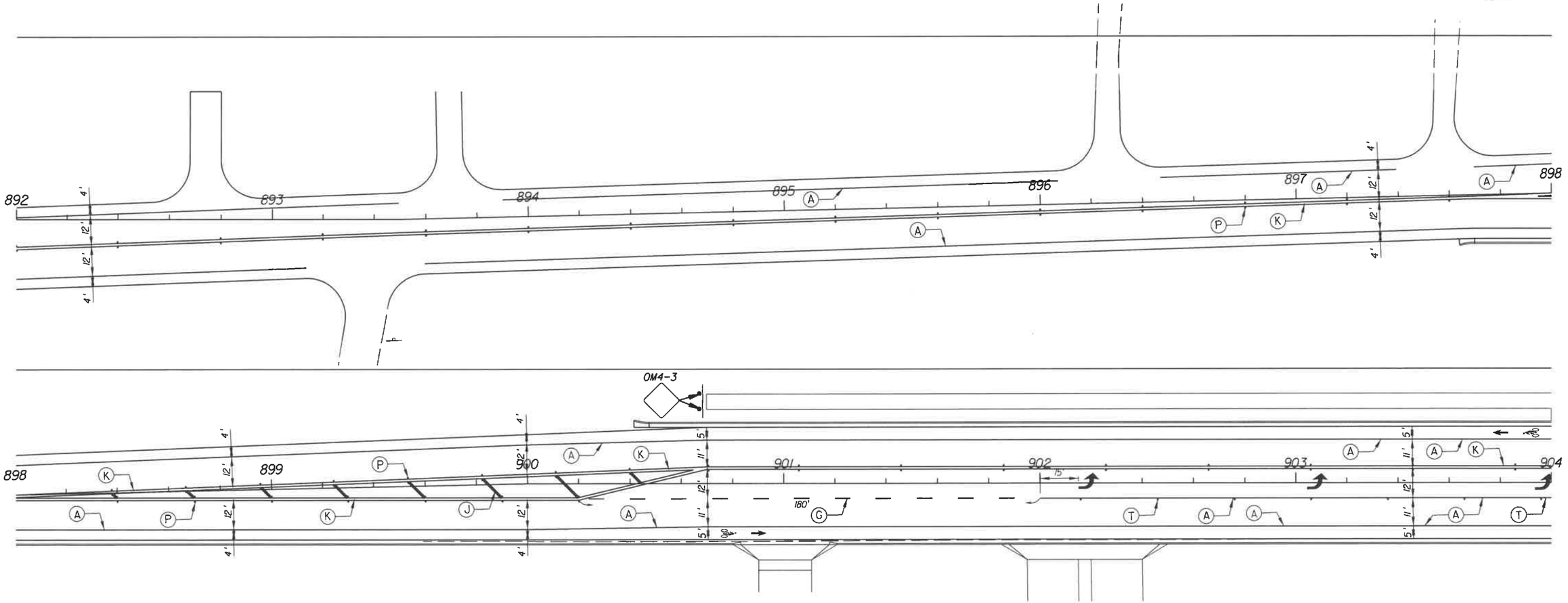

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SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: S-14
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

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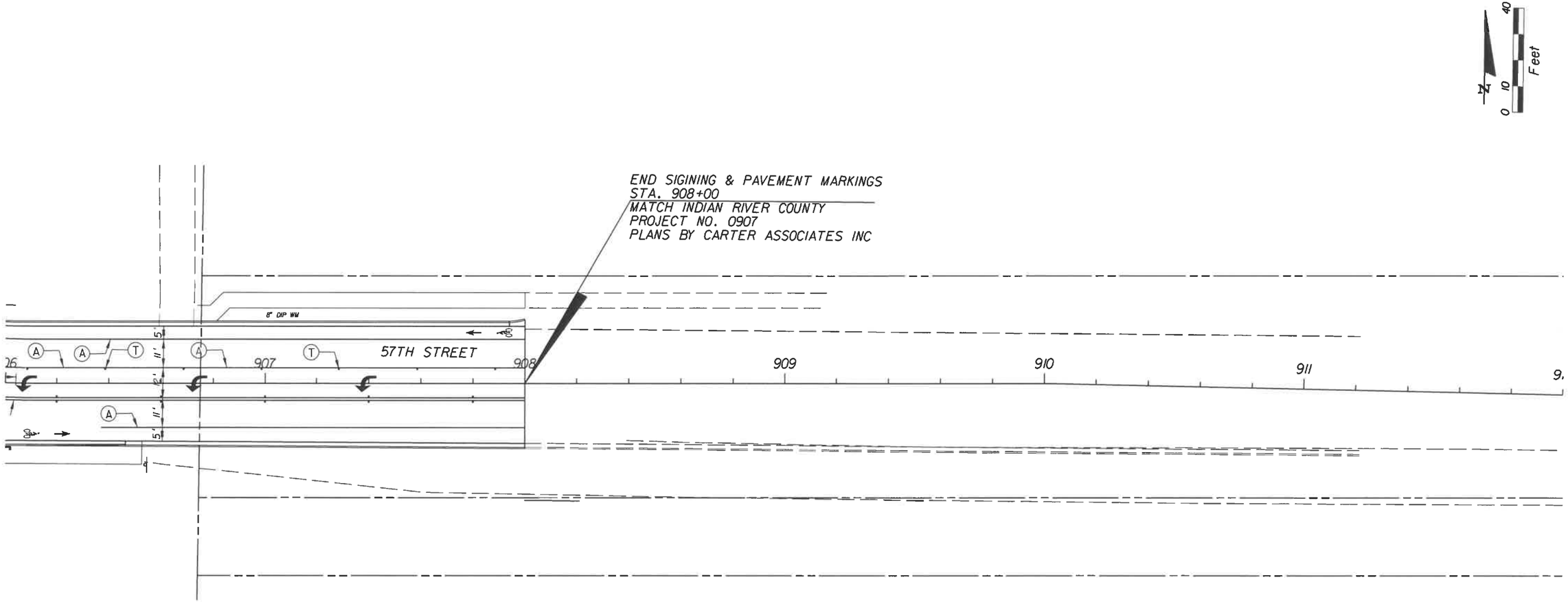

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GB3107/LC26000269

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SIGNING & PAVEMENT MARKING PLANS

66 TH AVENUE-PHASE 1A
57TH STREET

SHEET: S-15
OF: S-15
PROJECT NO. A1053
IRC_JOB_NO. 1505

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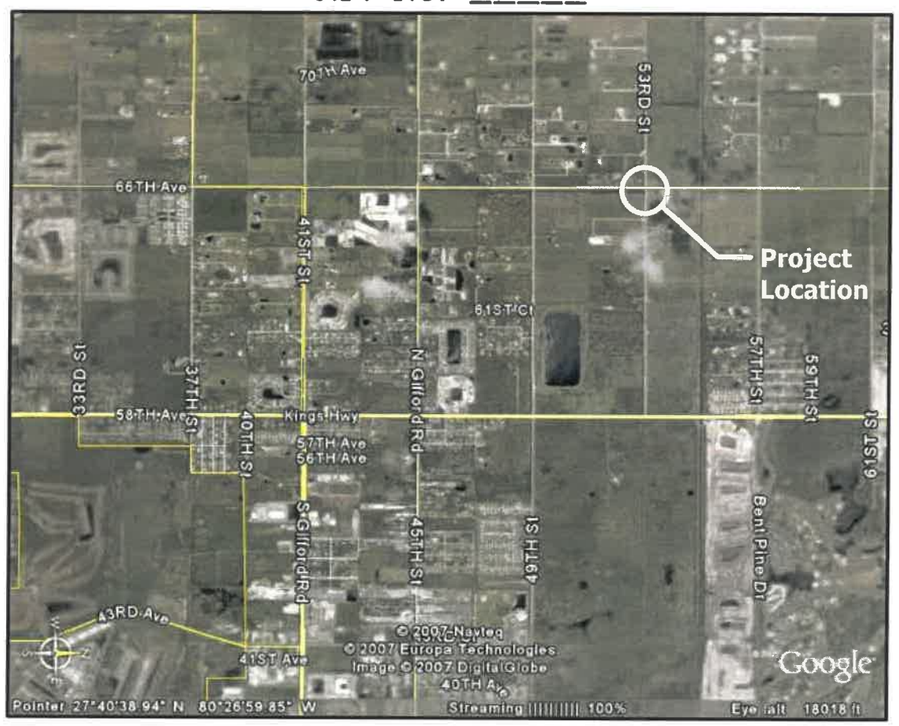
INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

66th Avenue at 53rd Street
over Lateral "A" Canal
PROJECT
C.P. No. _____



F.D.O.T. Standard Sheets

Sheet Number	Sheet Title
410	CONCRETE BARRIER WALL (CANTILEVERED WALL), (SHEET 3 OF 25)
420	TRAFFIC RAILING BARRIER - (32" F SHAPE), (SHEETS 1 - 3)
423	TRAFFIC RAILING BARRIER - (32" VERTICAL SHAPE), (SHEETS 1 - 3)
821	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS FOR TRAFFIC RAILING BARRIER - (32" F SHAPE)
822	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS (SHEETS 1 - 3)
20600	GENERAL NOTES AND DETAILS FOR PRESTRESSED CONCRETE PILES
20614	14" SQUARE PRESTRESSED CONCRETE PILE
20618	18" SQUARE PRESTRESSED CONCRETE PILE
20910	APPROACH SLABS (RIGID PAVEMENT APPROACHES) (SHEETS 1 - 2)

Sheet List Table

Sheet Number	Sheet Title
C-1	COVER SHEET
B-1	PROPOSED CROSS SECTION
B-2	GENERAL NOTES_PRESTRESSED MEMBERS NOTES AND CONSTRUCTION NOTES
B-3	SUMMARY OF QUANTITIES
B-4	PROPOSED BRIDGE PLAN
B-5	PROPOSED BRIDGE ELEVATION
B-6	PROPOSED ROCK RUBBLE DETAILS
B-7	PROPOSED SUBSTRUCTURE PILES PLAN
B-8	PILE DATA TABLE AND SOIL BORINGS
B-9	FINISH GRADE ELEVATIONS PLAN
B-10	WEST END BENT PLAN AND ELEVATION
B-11	EAST END BENT PLAN AND ELEVATION
B-12	BENT ELEVATION TABLE
B-13	END BENT DETAILS
B-14	WEST END BENT QUANTITIES AND REINFORCING SCHEDULES
B-15	EAST END BENT QUANTITIES AND REINFORCING SCHEDULES
B-16	PRECAST SLAB LAYOUT PLAN
B-17	TYPICAL BRIDGE CROSS SECTION
B-18	PRECAST SLAB UNIT TYPE A (TYPE A1 AND A2) PLAN AND ELEVATION
B-19	PRECAST SLAB UNIT TYPE B PLAN AND ELEVATION
B-20	PRECAST SLAB DETAILS_TYPE A AND B
B-21	PRECAST SLAB DETAILS_TYPE A1_A2 AND A3
B-22	PRECAST SLAB DETAILS
B-23	SHEET WALL DETAILS
B-24	MISCELLANEOUS DETAILS
B-25	LOAD RATING CHART

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS. (BOOKLET DATED JANUARY, 2016)

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2016, AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION:
I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN GENERAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE _____ *PROFESSIONAL ENGINEER #* _____

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

Sunshine811

DATE: Oct 31, 2016 - 4:31pm C:\Jarworking\wgi\d0399576\COVER SHEET.dwg

WGI
2035 Vista Parkway
West Palm Beach, FL 33411
Phone No. 561.687.2220
Fax No. 561.687.1110
Cert No. 6091 - LB No. 7055
ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

NO.	REVISION	DATE	BY

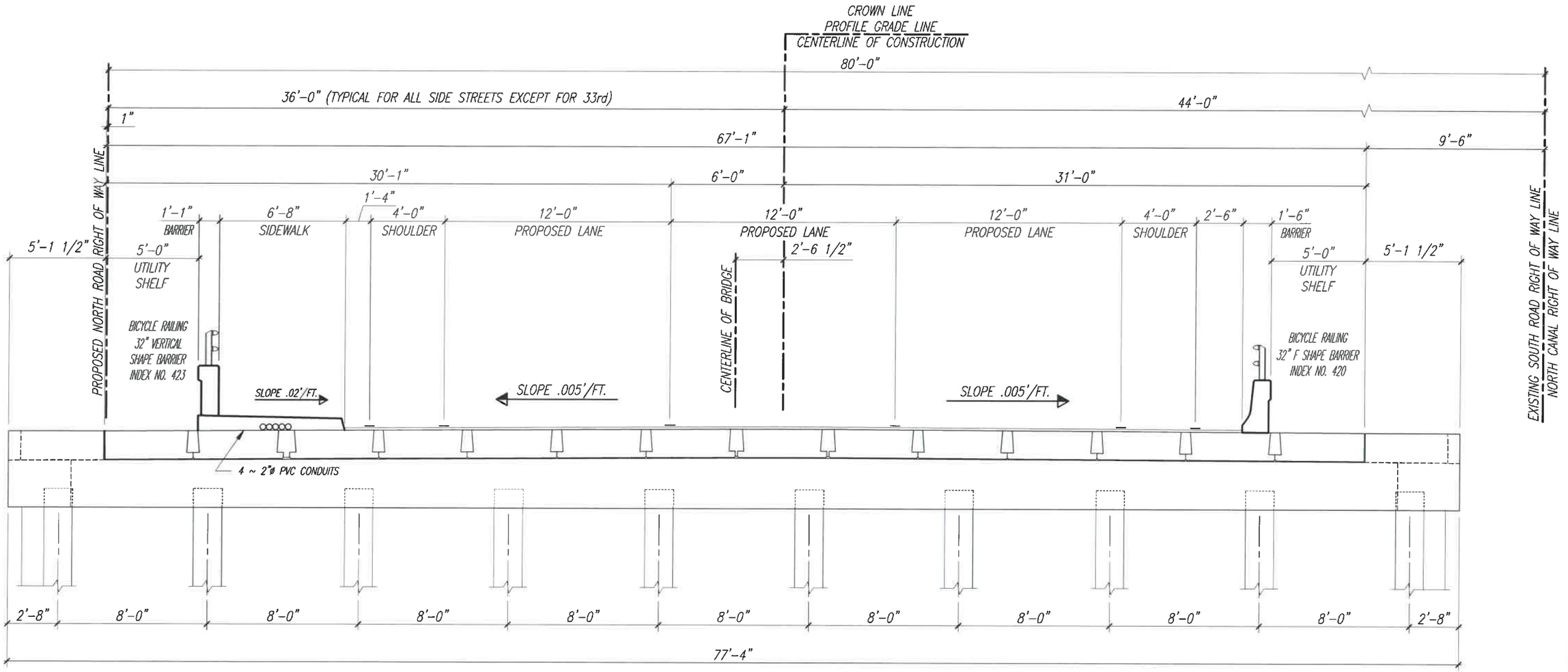
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
C-1
PROJECT NO.
16162296.00



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Sunshine 811

A PROPOSED BRIDGE CROSS SECTION LOOKING EAST (53rd STREET)

Scale: 3/8" = 1'-0"

WGI
2035 Vista Parkway
West Palm Beach, FL 33411
Phone No. 561.687.2220
Fax No. 561.687.1110
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Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-1

PROJECT NO.
16162296.00

DATE: Oct 31, 2016 - 4:31pm C:\permitting\wip\16039576\PROPOSED CROSS SECTION.dwg

GENERAL NOTES

GENERAL SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (2016 EDITION).

DESIGN SPECIFICATION:

7TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2014 WITH CURRENT INTERIMS. 2016 EDITION OF THE F.D.O.T. STRUCTURE DESIGN GUIDELINES WITH CURRENT INTERIMS.

DESIGN LOADING:

LIVE LOAD:	HL-93 WITH DYNAMIC LOAD ALLOWANCE	
DEAD LOAD:	FUTURE WEARING SURFACE	0.015 K.S.F.
	REINFORCED CONCRETE	0.15 K.C.F.
	NORTH SIDEWALK	0.872 K/FT
	32" VERTICAL SHAPE BARRIER AND ALUMINUM RAILING	0.395 K/FT
	32" F SHAPE BARRIER AND ALUMINUM RAILING	0.430 K/FT
UTILITY LOAD:	12"Ø D.I.P. (X2)	0.10 K.L.F.

CONCRETE:

NOTE: CONCRETE TO BE IN COMPLIANCE WITH F.D.O.T. SPECIFICATIONS 346.

CONCRETE CLASS	MINIMUM 28 DAY COMPRESSIVE STRESS (KSI)	LOCATION OF CONCRETE IN STRUCTURE
CLASS II (BRIDGE DECK)	FC' = 4.5	CAST-IN-PLACE APPROACH SLABS, CAST-IN-PLACE CLOSURE POURS
CLASS V (SPECIAL)	FC' = 6.0	PRESTRESSED PILES, PRESTRESSED SLABS
CLASS II	FC' = 3.4	CAST-IN-PLACE PILE CAPS, SHEET PILES AND BARRIER WALLS BRIDGE SIDEWALKS

CONCRETE:

1. PROVIDE 3/4 INCH CHAMFERS ON ALL EXPOSED EDGES AND CORNERS EXCEPT AS OTHERWISE NOTED.
2. CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATIONS INDICATED ON THE PLANS, ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE APPROVAL BY THE ENGINEER.

REINFORCEMENT:

1. REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. SPIRAL TIES FOR PRESTRESSED CONCRETE PILES SHALL BE MANUFACTURED FROM COLD DRAWN STEEL WIRE MEETING THE REQUIREMENTS OF ASTM A82.
2. ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
3. REINFORCEMENT DETAIL DIMENSIONS ARE OUT-TO-OUT OF BARS.

MINIMUM CONCRETE COVER:

CIP SUPERSTRUCTURE = 2 IN. (TYPICAL EXCEPT AS NOTED).

CIP SUBSTRUCTURE/BENT CAP = 4½ IN. FOR EXTERNAL SURFACES CAST AGAINST EARTH.
CIP SUBSTRUCTURE/BENT CAP = 4 IN. FOR OTHER EXTERNAL SURFACES.

PRECAST SUBSTRUCTURE/SHEET WALLS.

CONCRETE COVERS SHOWN IN THE PLANS DO NOT INCLUDE PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE F.D.O.T. STANDARD SPECIFICATIONS SECTION 415 FOR ALLOWABLE TOLERANCES.

GENERAL NOTES (CONTINUED)

DESIGN METHOD:

ALL ELEMENTS WERE DESIGNED USING THE LRFD (LOAD AND RESISTANCE FACTOR DESIGN).

PILE LOAD:

SEE SHEET B-8 FOR PILE LOADS.

PILES:

14" SQUARE PRESTRESSED CONCRETE PILES.
18" SQUARE PRESTRESSED CONCRETE PILES.

SURFACE FINISH:

ALL EXPOSED SURFACES OF END BENT WING WALLS, BARRIERS AND SUPERSTRUCTURE FASCIA SHALL RECEIVE A "CLASS 5 APPLIED FINISH COATING". SEE CLASS 5 FINISH DETAIL.

ENVIRONMENT:

SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE
LOCATION:	INLAND WATERS

DATUM:

ALL ELEVATIONS SHOWN ARE IN N.G.V.D. 29, UNLESS NOTED OTHERWISE.

PRESTRESSED MEMBERS NOTES

FINISH:

THE TOP OF PRESTRESSED UNITS SHALL BE FINISHED TO A SMOOTH, DENSE SURFACE WITH A STEEL TROWEL, THEN COURSELY BROOMED OR RAKED TO PROVIDE A SURFACE SUITABLE FOR BONDING TO ASPHALT. ALL OTHER SURFACES OF THE UNIT SHALL RECEIVE A "CLASS 3" SURFACE FINISH. THE EDGE OF THE TOP OF THE SURFACE OF THE UNITS SHALL BE FINISHED BY USE OF A SMALL RADIUS TOOL.

CONCRETE STRENGTH:

AT TRANSFER OF THE PRESTRESSING LOAD, THE CYLINDER STRENGTH OF THE CONCRETE SHALL BE 4,500 PSI.
IT SHALL BE 6,000 PSI AT TWENTY-EIGHT (28) DAYS FOR SLAB UNITS.

HANDLING AND STORAGE:

DURING HANDLING AND STORAGE, THE PRESTRESSED UNITS MUST BE PICKED UP AT THE ENDS OF THE UNITS TO PREVENT DAMAGE. THE PRESTRESSED UNITS MUST BE STORED IN AN UP-RIGHT POSITION AT ALL TIMES.

FORMS AND PALLETS:

ALL PRESTRESSED UNITS SHALL BE CAST ON CONCRETE BASED PALLETS AND IN METAL FORMS. KEYWAY FORM MAY BE WOOD.

STRAND EXTENSION:

ALL STRANDS SHALL EXTEND 2-1/2 INCHES BEYOND THE ENDS OF THE PRESTRESSED UNITS.

SHOP DRAWINGS:

THE CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS, SHOWING COMPLETE DETAILS OF THE PROPOSED PRESTRESSED UNITS. THE DRAWINGS SHALL INCLUDE REINFORCING STEEL, PRESTRESSING STEEL, PRESTRESSING BED LAYOUT, TENSIONING AND DETENSIONING SCHEDULES, AND ALL COMPUTATIONS REQUIRED TO CONTROL THE WORK.

BEARING PADS:

NEOPRENE BEARING PADS SHALL BE 1/2 INCH X 6 INCH STRIPS IN ACCORDANCE WITH SECTION 932-2 OF THE SPECIFICATIONS. THE PADS MAY BE CONTINUOUS STRIPS OR MULTIPLE LENGTHS OF 2 FEET AND 0 INCHES MINIMUM LENGTH. THE PADS MAY BE CUT FROM COMMERCIALLY AVAILABLE SHEETS.

POST TENSIONING:

POST TENSION CABLES SHALL BE FOUR (3) .6 INCH DIAMETER 270K LO LAX STRANDS. CABLES SHOULD BE IN ACCORDANCE WITH ASTM SPECIFICATION A-416. THE CABLES SHALL BE STRESSED AND ANCHORED AT 132,000 POUNDS PER (3) STRAND POST-TENSION CABLE. THE TRANSVERSE POST-TENSION CABLES SHALL NOT BE TENSIONED UNTIL THE CONCRETE IN THE JOINTS AND KEYWAYS HAS BEEN CURED FOR A MINIMUM OF SEVENTY-TWO (72) HOURS OR HAS ACHIEVED 75% OF DESIGN STRENGTH.

CABLE ANCHORAGES:

THE FABRICATOR SHALL SUBMIT DETAILS OF THE CABLE ANCHORAGE AND ANCHORAGE REINFORCEMENT DETAILS FOR APPROVAL WITH THE SHOP DRAWINGS.

CONSTRUCTION NOTES

EQUIPMENT ON UNITS:

BEFORE HEAVY CONSTRUCTION EQUIPMENT IS PERMITTED ON THE STRUCTURE DURING CONSTRUCTION, SKETCHES SHOWING THE AXLE SPACING AND ANTICIPATED LOADINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER.

POST-TENSIONING SEQUENCE:

POST-TENSIONING SHALL BE DONE ACCORDING TO THE NUMBER SEQUENCE SHOWN ON THE PRECAST SLAB LAYOUT SHEET. SEE SHEET B-35.

FILLING CONCRETE JOINTS BETWEEN UNITS:

JOINTS BETWEEN SLAB UNITS SHALL BE POURED A MINIMUM OF SEVENTY-TWO (72) HOURS OR HAVE 75% OF THE DESIGN STRENGTH BEFORE ANY POST-TENSIONING OPERATIONS CAN BEGIN. CARE SHOULD BE TAKEN TO PREVENT INTRUSION OF MIX INTO DUCTS.

GROUTING POST-TENSION DUCTS:

THE POST-TENSIONED STRANDS SHALL BE GROUTED IN ACCORDANCE WITH SECTION 938 OF THE SPECIFICATIONS. THE GROUTED STRANDS SHALL NOT BE DISTURBED, NOR SHALL APPRECIABLE LOADS BE PLACED ON THE SPAN FOR A PERIOD OF SEVENTY-TWO (72) HOURS FOLLOWING GROUTING OPERATIONS.

FILLING ANCHORAGE BLOCKOUTS:

ALL ANCHORAGE BLOCKOUTS SHALL BE FILLED WITH CONCRETE AND FINISHED FLUSH WITH SURFACE OF DECK FACE.

PLACING BARRIER WALLS AND SURFACING:

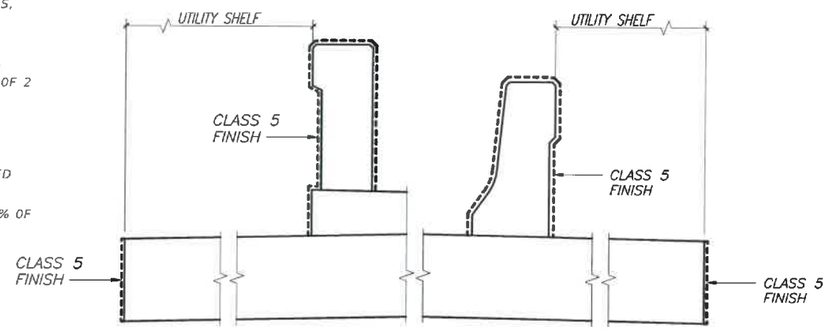
ALL POST-TENSIONING STRANDS SHALL HAVE BEEN GROUTED AND THE MINIMUM SEVENTY-TWO 72 HOURS HAVE PASSED BEFORE THE BARRIER WALLS AND WEARING COURSE CAN BE PLACED.

VIBRATION MONITORING:

THE SETTLEMENT OF STRUCTURES AND VIBRATION LEVELS SHALL BE MONITORED IN ACCORDANCE WITH F.D.O.T. SPECIFICATIONS 455-1.1. A PRE-CONSTRUCTION VIDEO RECORDING OF ALL STRUCTURES WITHIN THE DISTANCES SPECIFIED IN THE SPECIFICATIONS SHALL BE MADE.

MISCELLANEOUS NOTES

1. FLOATING TURBIDITY BARRIER WITH FINE MESH SHALL BE USED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS, SECTION 104.
2. ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET EITHER HORIZONTALLY OR VERTICALLY, U.O.N.



CLASS 5 FINISH DETAIL CLASS 5 FINISH DETAIL
NO SCALE NO SCALE

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

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DATE: Oct 31, 2016 - 4:32pm C:\Jobs\Active\Engr\d0239576\GENERAL NOTES, PRESTRESSED MEMBERS NOTES AND CONSTRUCTION NOTES.dwg

WGI
2035 Vista Parkway
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Fax No. 561.687.1110
Cert No. 6091 - LB No. 7055
ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-2
PROJECT NO.
16162296.00

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	NO. REQUIRED	UNIT	QUANTITY	AS BUILT
	BRIDGE				
100-1	MOBILIZTION		L. S.	1	
110-3	DEMOLITION AND REMOVAL OF EXISTING BRIDGE		L. S.	1	
	(SUPERSTRUCTURE)				
12450-88-18	PRESTRESSED PRECAST DECK UNITS				
	18" x 4'-3" x 36'-0"	12	L. F.	432'-0"	
	18" x 4'-6" x 36'-0"	2	L. F.	72'-0"	
400-2-4	CLASS II CONCRETE FOR CLOSURE POURS BETWEEN DECK UNITS		Cu. Yds.	13.0	
415-1-4	REINFORCING STEEL		Lbs.	990	
521-5-1	CONCRETE TRAFFIC RAILING BARRIER - (32" F SHAPE)		L. F.	37'-0"	
521-5-4	CONCRETE TRAFFIC RAILING BARRIER (32" VERTICAL SHAPE)		L. F.	37'-0"	
521-72-3	SHOULDER CONCRETE BARRIER WALL (INDEX 410 - CANTILEVERED WALL)		L. F.	66'-0"	
460-70-2	ALUMINUM BICYCLE BULLET BARRIER RAILING		L.F.	74'-0"	
	(SUBSTRUCTURE)				
400-2-5	CLASS II CONCRETE FOR PILES CAPS		Cu. Yds.	76.0	
415-1-5	REINFORCING STEEL		Lbs.	12,122	
	PRESTRESSED PILES				
	(ABUTMENT)				
455-133-2	18" SQUARE x 65'-0" MINIMUM (TEST PILE - ABUTMENT)	2 EACH	L. F.	130'-0"	
455-34-2	18" SQUARE x 50'-0" MINIMUM (ABUTMENT)	19 EACH	L. F.	950'-0"	
455-34-2	14" SQUARE x 50'-0" MINIMUM (WING BENT)	12 EACH	L. F.	600'-0"	
455-137	PILE DYNAMIC LOAD TESTING	1 EACH	L. S.	1	
455-14-5	8" x 8'-0" x 12'-0" Sheet Wall	26 EACH	L. F.	312'-0"	
	(SIDEWALKS)				
400-2-4	CLASS II CONCRETE		Cu. Yds.	8	
415-1-4	REINFORCING STEEL		Lbs.	343	
	(APPROACH SLABS)		Each	2	
400-2-10	CLASS II CONCRETE		Cu. Yds.	112	
415-1-9	REINFORCING STEEL		Lbs.	19,570	
715-2117	2"ø PVC CONDUIT		L. F.	152'-0"	
339-1	MISCELLANEOUS ASPHALT		TN	2	
530-3-3	(ROCK RUBBLE) (CANAL EXCAVATION AS REQUIRED SHALL BE INCLUDED IN THE COST OF THE ROCK RUBBLE)		TN	1,232	

Contractor shall verify all dimensions and quantities prior to construction and fabrication. Discrepancies shall be brought to the attention of the Engineer before construction.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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WGI
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Cert No. 6091 - LB No. 7055
ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

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INDIAN RIVER COUNTY FLORIDA

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ENGINEERING DIVISION

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66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-3

PROJECT NO.
16162296.00

313

312

805

806

807

EAST ROAD RIGHT OF WAY
WEST CANAL RIGHT OF WAY

T.O.B.

E.O.W.

SECTION LINE

LATERAL "A" CANAL

E.O.W.

T.O.B.

EAST CANAL RIGHT OF WAY

JANI
GRE

PROVIDE TURBIDITY BARRIER IN CANAL DURING CONSTRUCTION PER F.D.O.T. INDEX 103 (TYPICAL)

30'-0"
PROPOSED APPROACH SLAB.

37'-0"
SPAN 1

30'-0"
PROPOSED APPROACH SLAB

7'-0"

R10'-0"
R40'-0"
R30'-9"

5'-0"
UTILITY SHELF

24'-0" ROCK RUBBLE

24'-0" ROCK RUBBLE

R10'-0"

12'-0"
MIN.

PROPOSED NORTH ROAD RIGHT OF WAY

6'-8"
SIDEWALK

1'-1"
BARRIER

1'-4"

14'-7"

1'-6"

17'-8"

9'-8½"

8'-0"

TRANSITION VERTICAL BARRIER INDEX NO. 423 TO REINFORCED CONCRETE BARRIER WALL INDEX NO. 410 (SHEET 3 OF 25).

30'-1"

4'-0"
SHLDR

12'-0"
PROPOSED LANE

END
BRIDGE
STA. 806+30.92

END
APPROACH SLAB
STA. 806+60.92

36'-0"

53rd STREET

CENTERLINE OF
BRIDGE CONSTRUCTION

67'-1"

12'-0"
PROPOSED LANE

36'-0"

44'-0"

PROFILE GRADE LINE
CROWN LINE

2'-6½"

37'-0"

4'-0"
SHLDR

12'-0"
PROPOSED LANE

BEGIN
APPROACH
STA. 805+63.92

BEGIN
BRIDGE
STA. 805+93.92

EXISTING BRIDGE
TO BE REMOVED

8'-0"

TRANSITION VERTICAL BARRIER INDEX NO. 423
TO REINFORCED CONCRETE BARRIER WALL
(SHOULDER) INDEX NO. 410 (SHEET 3 OF 25).

17'-8"

44'-0"

2'-6"

1'-6"
BARRIER

MISCELLANEOUS ASPHALT
(ALL 4 CORNERS)

R10'-0"

8'-0"

PROPOSED GUARDRAIL
(SEE ROADWAY PLANS)

C.J.

5'-0"
UTILITY SHELF

C.J.

SOUTH LINE SEC 17 T 32 S R 39 E

EXISTING SOUTH ROAD
RIGHT OF WAY
NORTH CANAL RIGHT OF WAY
SECTION LINE

NORTH LINE SEC 20 T 32 S R 39 E

EXTEND EXISTING
72"∅ R.C.P. CULVERT
TO TOE OF CANAL
(INVERT = 13.40)
SEE ROADWAY PLANS

T.O.B.

E.O.W.

R40'-0"

E.O.W.

T.O.B.

12'-0"

CANAL A-9

SOUTH CANAL RIGHT OF WAY

PROPOSED 72"∅ R.C.P. TO BE
CONSTRUCTED PRIOR TO BRIDGE
CONSTRUCTION (SEE ROADWAY PLANS)

96'-0" ROCK RUBBLE

96'-0" ROCK RUBBLE

℄ PILE CAP

BENT NO. 1
STA. 805 + 93.92

℄ PILE CAP

BENT NO. 2
STA. 806 + 30.92

A BRIDGE PLAN

Scale: 1" = 10'-0"

VERIFY SCALE
1"
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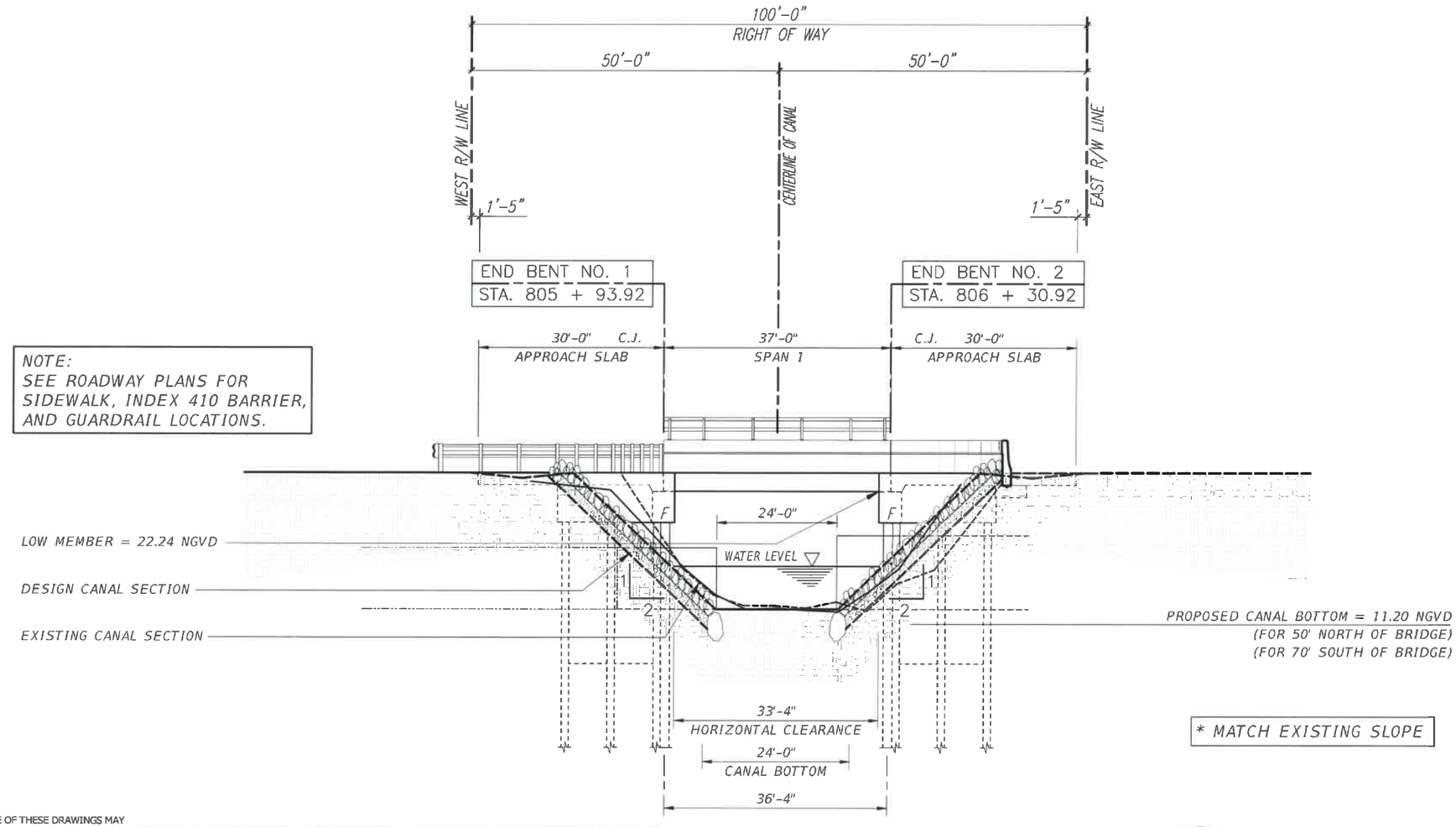
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-4

PROJECT NO.
16162296.00

NOTE:
SEE ROADWAY PLANS FOR SIDEWALK, INDEX 410 BARRIER, AND GUARDRAIL LOCATIONS.



* MATCH EXISTING SLOPE

100 YEAR FLOOD ELEVATION = 20.9 NGVD
ALLOWABLE LOW MEMBER ELEVATION = 22.0 NGVD
PROVIDE SILT BARRIER IN CANAL DURING CONSTRUCTION

VERIFY SCALE
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A BRIDGE ELEVATION

Scale: 1" = 10'-0" (HORIZONTAL) 1" = 5'-0" (VERTICAL)

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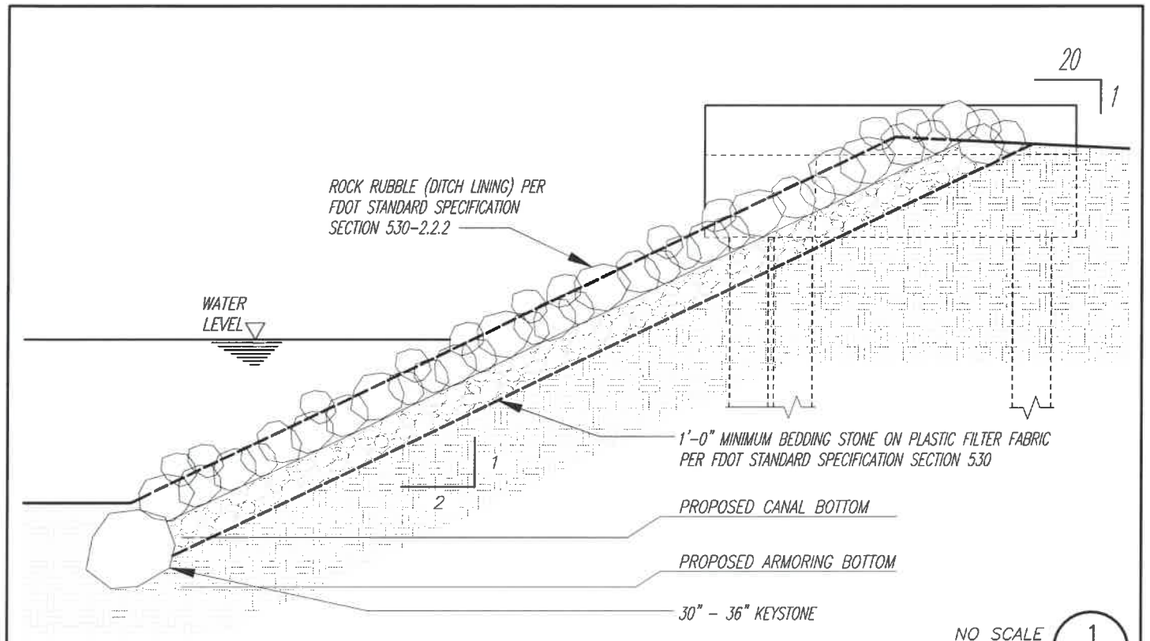
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-5
PROJECT NO.
16162296.00

DATE: Oct. 31, 2016 — 4:16pm C:\Survey\Proj\16229567B\PROPOSED BRIDGE ELEVATION.dwg



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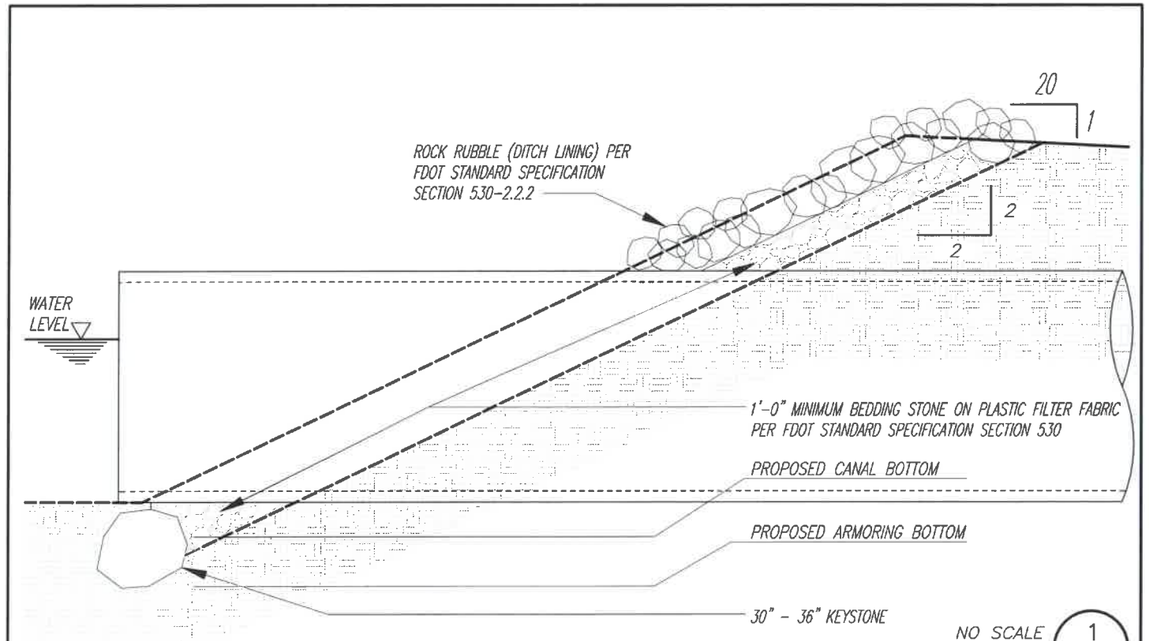
B-6

TYPICAL SECTION FOR EROSION CONTROL ON SLOPES



NO SCALE

1
B-6

TYPICAL SECTION FOR EROSION CONTROL ON SLOPES

VERIFY SCALE

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SHEET
B-6

PROJECT NO.
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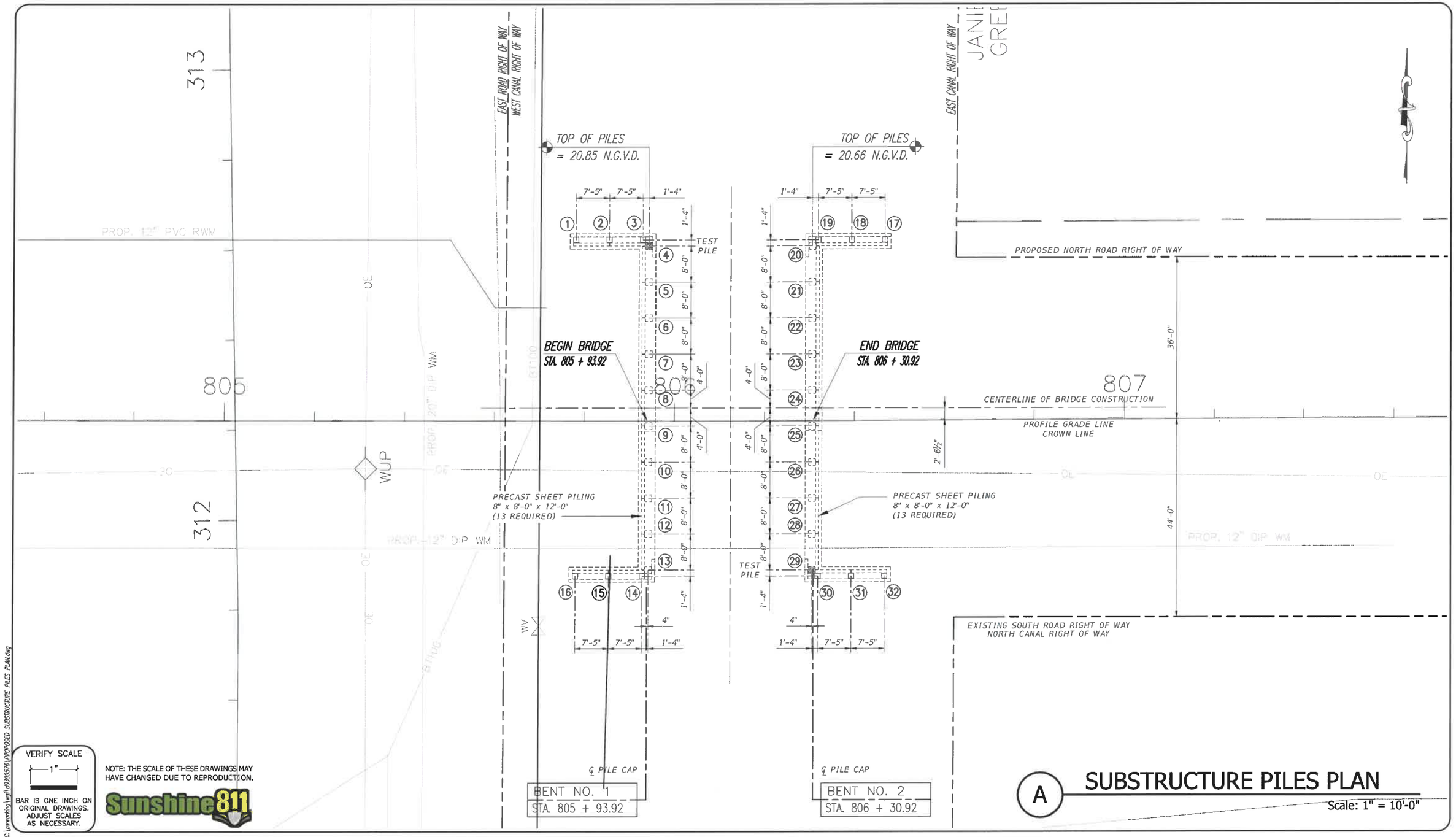

A **SUBSTRUCTURE PILES PLAN**

Scale: 1" = 10'-0"

VERIFY SCALE

1"

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NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

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66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-7

PROJECT NO.
16162296.00

53rd Street – Pile Data Table

Bent/Pier	Pile Size (in.)	Nominal Bearing Capacity (tons)	Tension Capacity (tons)	Minimum Tip Elevation (ft.,N.G.V.D.)	Test Pile Length (ft.)	Required Jet Elevation (ft.,N.G.V.D.)	Required Preform Elevation (ft.,N.G.V.D.)	Factored Design Load (tons)	Down Drag (tons)	Total Scour Resistance (tons)	Net Scour Resistance (tons)	Long Term Scour Elevation (ft.)	100 Year Scour Elevation (ft.)	Ø
	Installation Criteria							Design Criteria						
Abutments														
Pile 4	18	151	N/A	(–) 3.80	65	N/A	N/A	98	0	N/A	N/A	N/A	N/A	0.65
Pile 5 – 13	18	151	N/A	(–) 3.80		N/A	N/A	98	0	N/A	N/A	N/A	N/A	0.65
Pile 20 – 28	18	151	N/A	(–) 3.80		N/A	N/A	98	0	N/A	N/A	N/A	N/A	0.65
Pile 29	18	151	N/A	(–) 3.80	65	N/A	N/A	98	0	N/A	N/A	N/A	N/A	0.65
Pile 1 – 3 & 14 – 16	14	31	N/A	(–) 3.80		N/A	N/A	20	0	N/A	N/A	N/A	N/A	0.65
Pile 17 – 19 & 30 – 32	14	31	N/A	(–) 3.80		N/A	N/A	20	0	N/A	N/A	N/A	N/A	0.65

PILE DATA – ABUTMENTS

PILE (4) TEST PILE 65'–0" LONG MINIMUM.
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PRECAST PRESTRESSED CONCRETE PILING
LOADING SHALL BE AS FOLLOWS:

PILES (1) – (3) & (14) – (16)
14" SQUARE PILES WITH 50'–0" LONG MINIMUM.
PILES (17) – (19) & (30) – (32)
14" SQUARE PILES WITH 50'–0" LONG MINIMUM.

PILES (5) – (13)
18" SQUARE PILES WITH 50'–0" LONG MINIMUM.
PILES (20) – (28)
18" SQUARE PILES WITH 50'–0" LONG MINIMUM.
PILE (29) TEST PILE 65'–0" LONG MINIMUM.
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PILE INSTALLATION NOTES:

Contractor to verify location of all utilities prior to any pile driving.

Minimum Tip Elevations required for lateral stability.

NOTES:

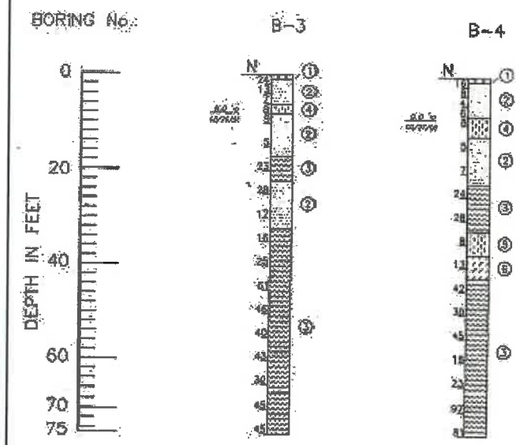
Nominal Bearing Capacity (NBC) = (Factored Design Load + Net Scour Resistance + Down Drag) / ø

Test piles are to be monitored dynamically with the Pile Driving Analyzer (PDA).

Service Load: 64 Tons

Soil Borings

SEE REPORT DATED 11/30/2005.
PREPARED BY TIERRA
FILE NO. 6611-05-417-2



LEGEND

① TOPSOIL (PT)
② GRAY TO BROWN SAND (SP)
③ BROWN SAND WITH SHELL FRAGMENTS (SP)
④ BROWN SILTY SAND (SM)
⑤ BROWN SILTY SAND WITH SHELL FRAGMENTS (SM)
⑥ BROWN CLAYEY SAND (SC)

Groundwater Depth in feet, with date of reading.

Borings were drilled on October and November of 2005 using a Nobil B-50 drilling rig.

(SP) Unified Soil Classification System Group Symbol (ASTM D 2488)

N Number of blows of a 140 lb. hammer freely falling a distance of 30 inches, required to drive a 2-inch diameter sampler a distance of 12 inches. (ASTM D 1586)

VERIFY SCALE
1"
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SEAL
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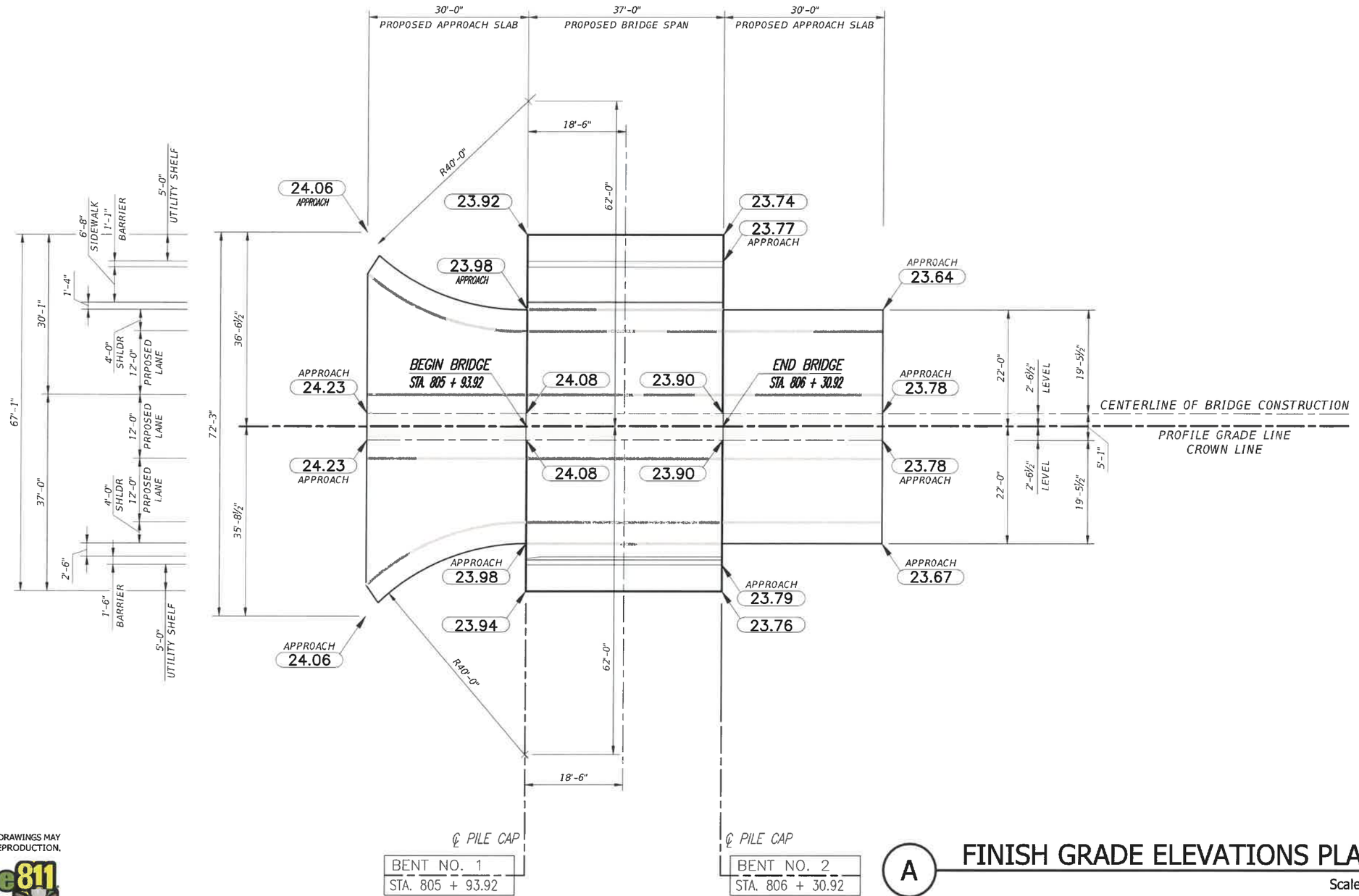
FLORIDA P.E. NAME & NUMBER

SHEET
B-8

PROJECT NO.
16162296.00



A **FINISH GRADE ELEVATIONS PLAN**

Scale: 1" = 10'-0"

VERIFY SCALE

1"

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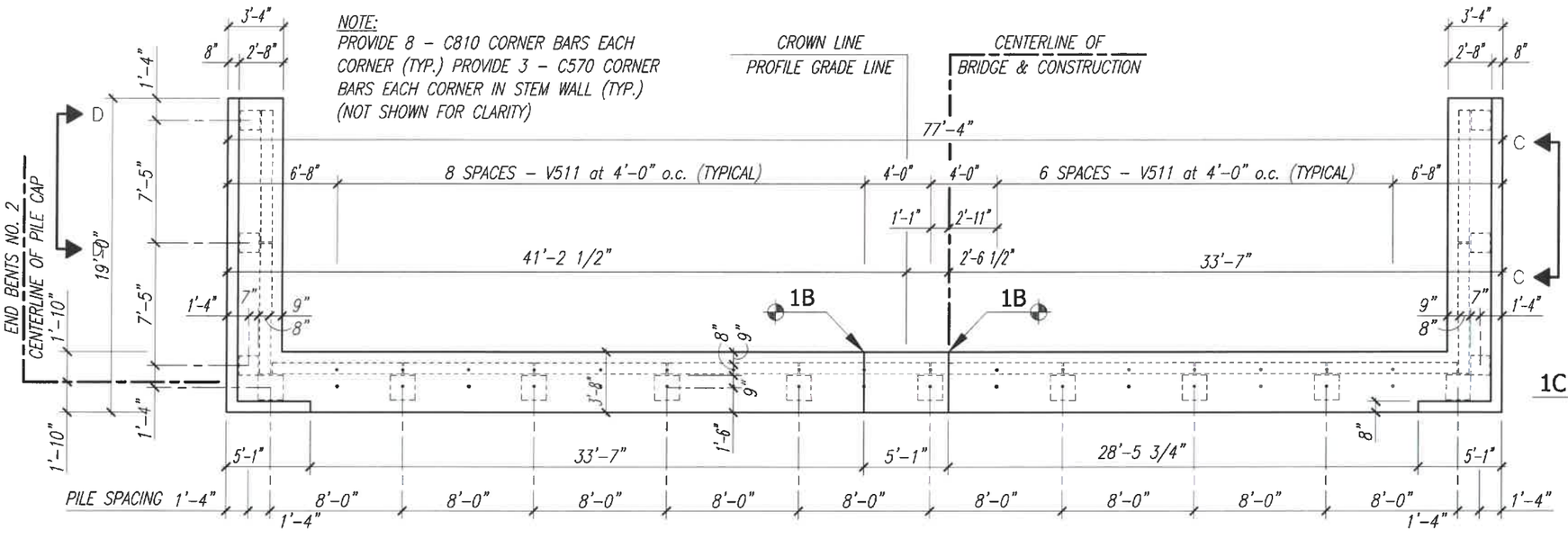
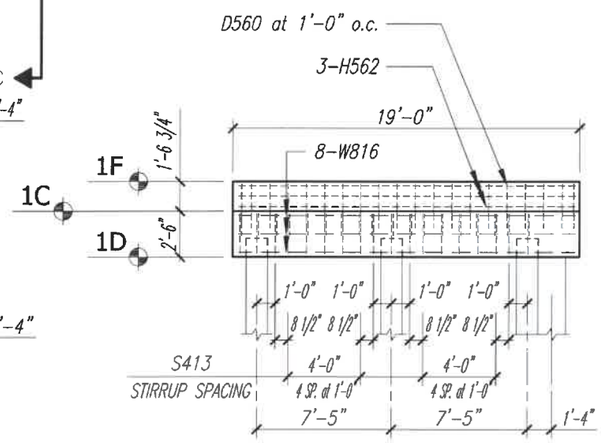


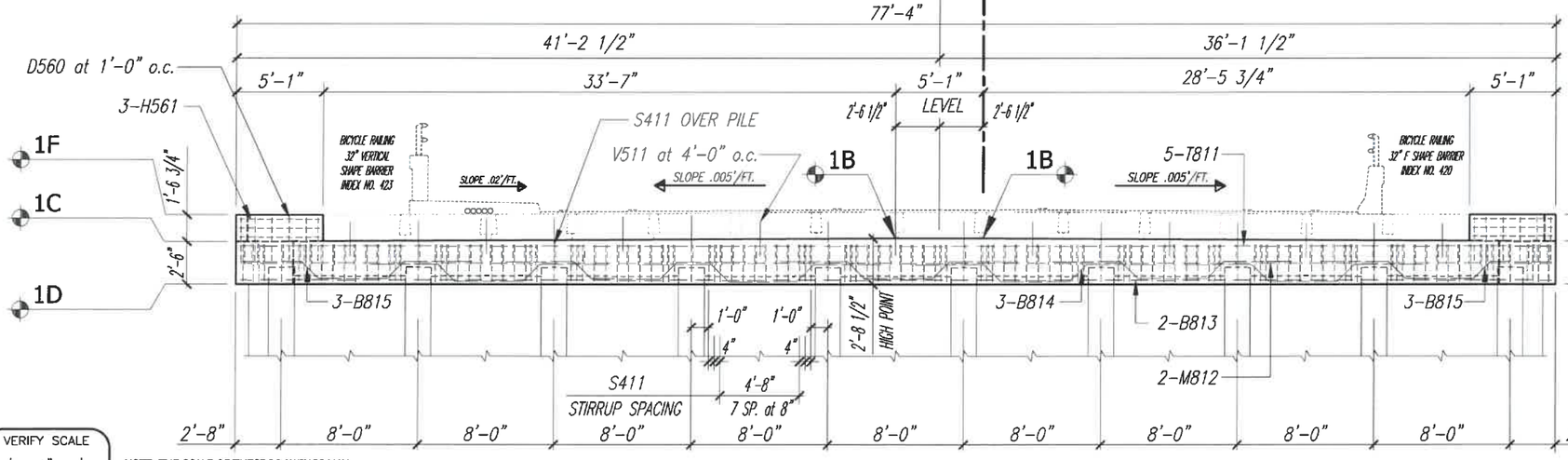
A WEST END BENT NO. 1 PLAN (53rd Street)

Scale: 1/4" = 1'-0"



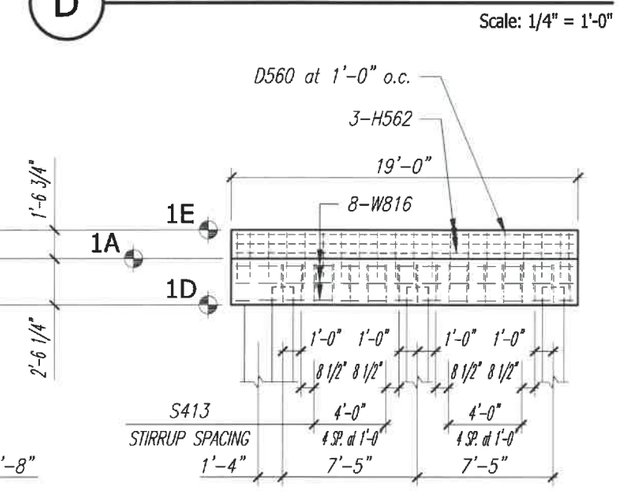
D ELEVATION D - D

Scale: 1/4" = 1'-0"



B WEST END BENT NO. 1 ELEVATION (53rd Street)

Scale: 1/4" = 1'-0"



C ELEVATION C - C

Scale: 1/4" = 1'-0"

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

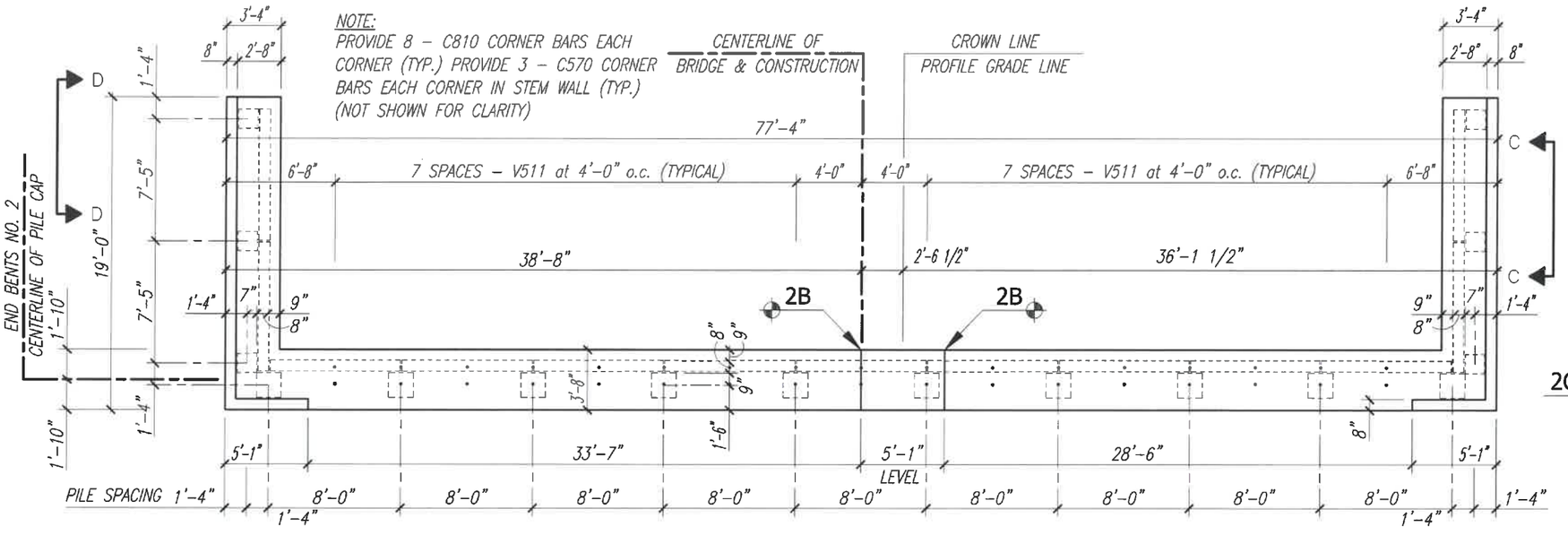
SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-10

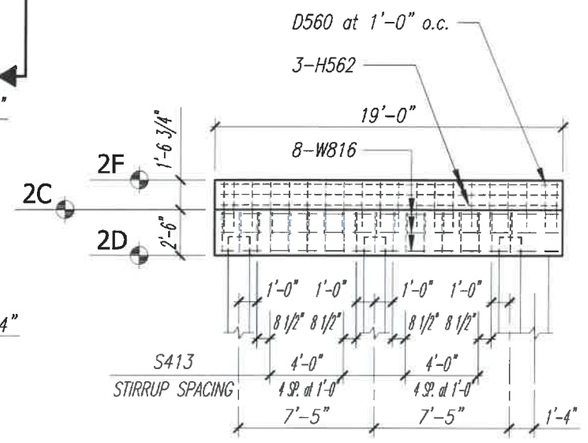
PROJECT NO.
16162296.00

DATE: Oct 31, 2016 - 4:38pm C:\pwworking\wgi\d0395761\END BENT PLANS AND ELEVATIONS.dwg



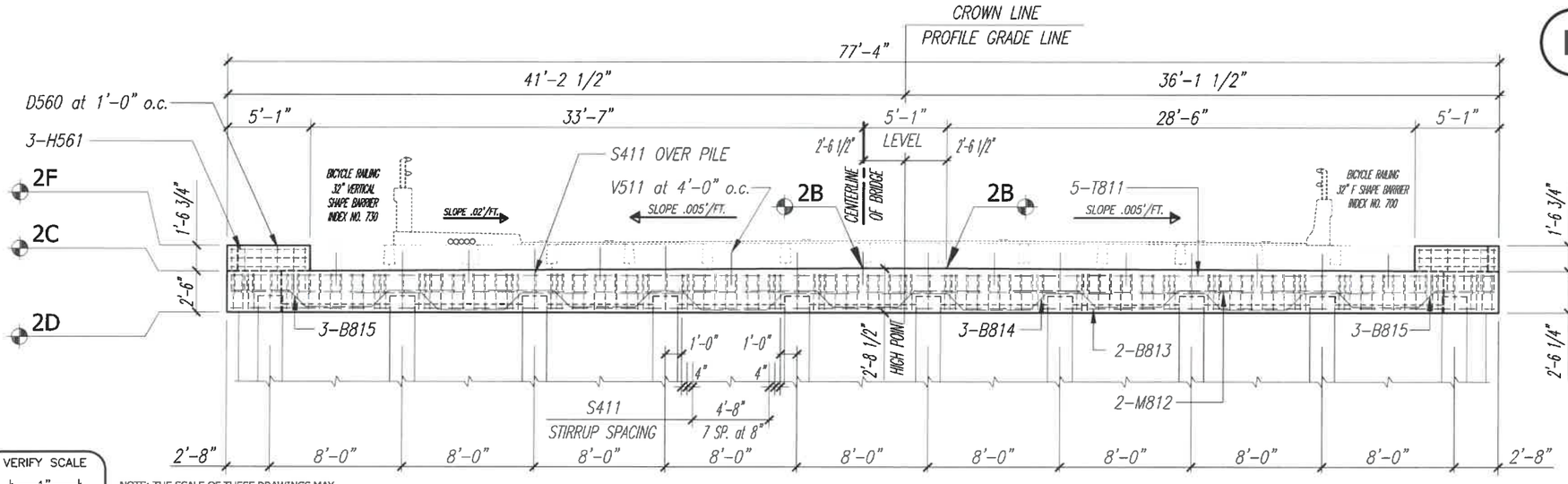
A EAST END BENT NO. 2 PLAN (53rd Street)

Scale: 1/4" = 1'-0"



D ELEVATION D - D

Scale: 1/4" = 1'-0"



VERIFY SCALE

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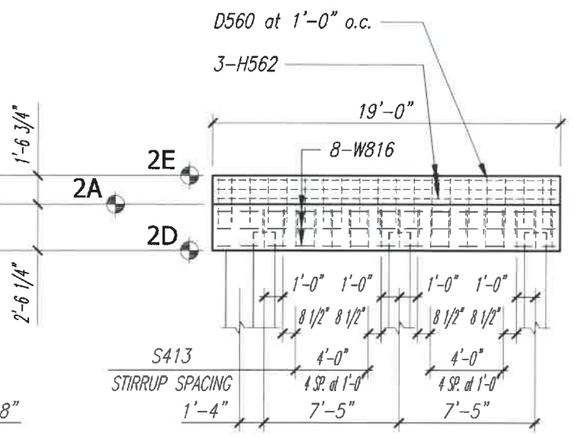
B EAST END BENT NO. 2 ELEVATION (53rd Street)

Scale: 1/4" = 1'-0"



C ELEVATION C - C

Scale: 1/4" = 1'-0"

WGI
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Cert No. 6091 · LB No. 7055
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DEPARTMENT OF PUBLIC WORKS
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Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland–71588
FLORIDA P.E. NAME & NUMBER

SHEET
B–11
PROJECT NO.
16162296.00

DATE: Oct 31, 2016 - 4:39pm C:\jamesthing\wgi\d0399578\END BENT PLANS AND ELEVATIONS.dwg

53rd Street – Bent Elevation Table

Bents	Elevations (ft.)						
	A	B	C	D	E	F	P.G.L. (TOP OF ASHPALT)
Bent No. 1	22.379	22.547	22.354	19.854	23.942	23.917	24.18
Bent No. 2	22.199	22.367	22.174	19.674	23.762	23.737	24.00

VERIFY SCALE

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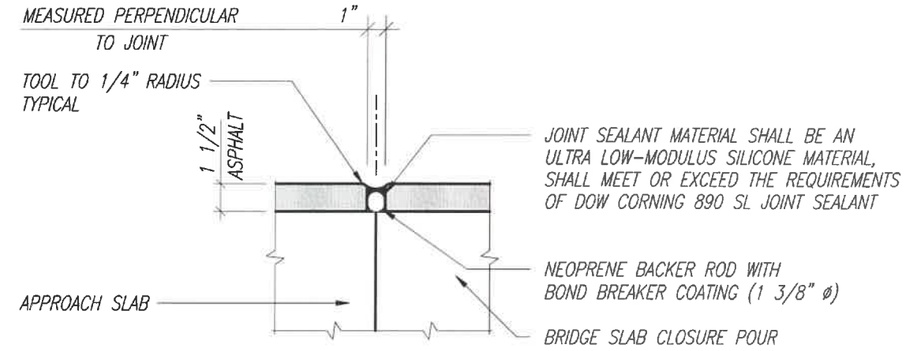
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

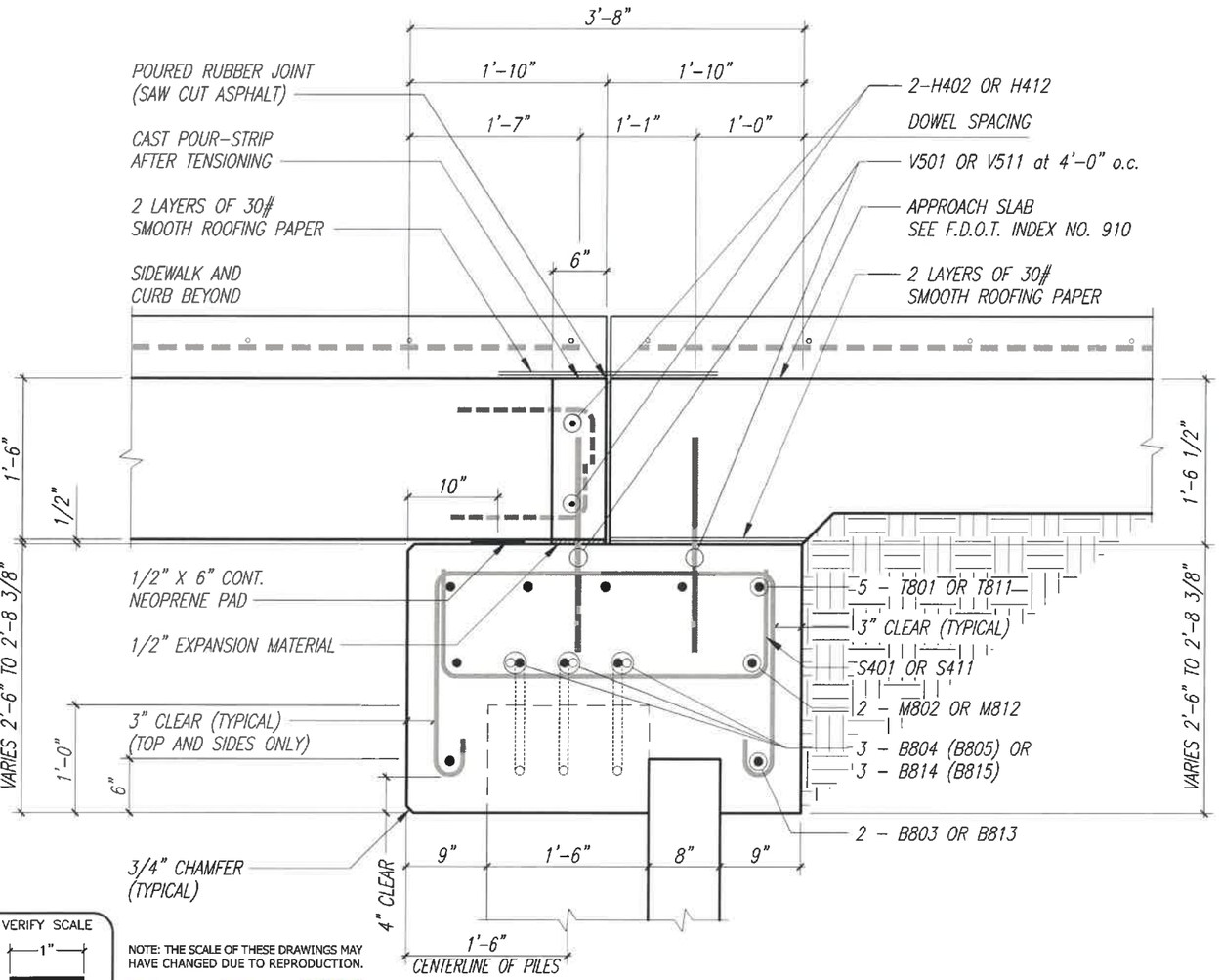
SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-12

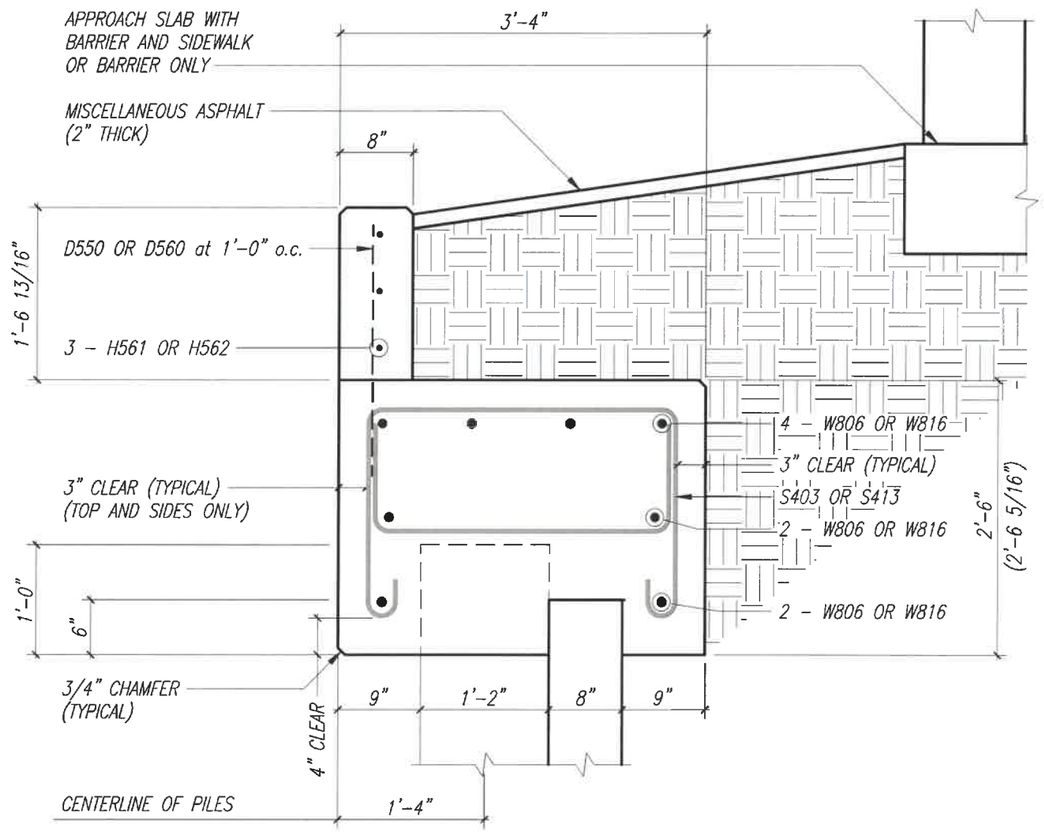
PROJECT NO.
16162296.00



JOINT AT END BENT DETAIL



END BENT DETAIL A



WING BENT DETAIL B

VERIFY SCALE
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Date: OCTOBER 2016
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PROJECT:
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66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-13
PROJECT NO.
16162296.00

Estimated End Bent Quantities

Item	Unit	Quantity
Class IV Concrete (Pile Cap) (West)	Cu. Yds.	38.0
Reinforcing Steel (Pile Cap) (West)	lbs.	6065

Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
C810	#8	16		8'-0"	Bar C800	341.8
T811	#8	5	76'-10" + 6'-6"	83'-4"	Straight	1112.5
M812	#8	2	76'-10" + 4'-6"	81'-4"	Straight	434.3
B813	#8	2	76'-10" + 4'-6"	81'-4"	Straight	434.3
B814	#8	21		14'-10"	Bar B804	831.7
B815	#8	6		14'-5"	Bar B805	231.0
S411	#4	126		13'-4"	Bar S401	1122.2
H412	#4	2	66'-7" + 2'-0"	68'-7"	Straight	91.6
W816	#8	16		18'-6"	Straight	790.3
S413	#4	38		12'-8"	Bar S403	321.5
V511	#5	34		2'-3"	Straight	79.8
D560	#5	40		2'-6"	Straight	104.3
H561	#5	6		4'-7"	Straight	28.7
H562	#5	6		18'-6"	Straight	115.8
C570	#5	6		4'-0"	Bar C560	25.0

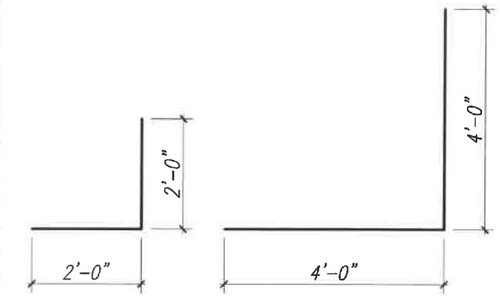
Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.

Required Bar Lap Splices

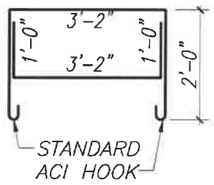
Mark	Size	Splice Length
T	#4	29"
T	#5	36"
T	#6	44"
T	#8	78"
M	#8	54"
B	#6	36"
B	#8	54"
W (Top)	#8	54"
W (Middle)	#8	54"
W (Bottom)	#8	54"
H	#4	24"
H	#5	36"

Note:
Splice continuous bars thus:
Top bars at mid-span between the piles
Bottom bars at the piles

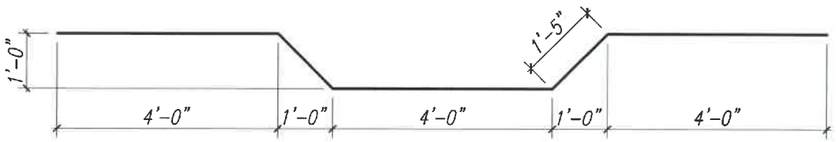
BENDING DIAGRAM



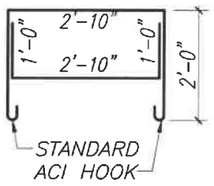
BAR C570 BAR C810



BAR S411



BARS B814



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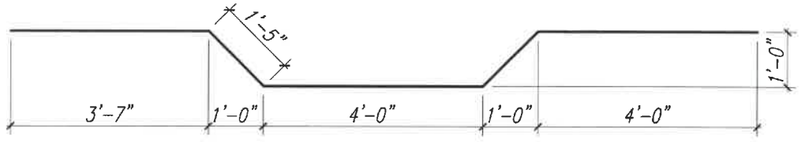

BARS B815

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ENGINEERING DIVISION

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Checked: T.A.D.
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PROJECT:
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66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-14
PROJECT NO.
16162296.00

DATE: Oct 31, 2016 - 4:40pm C:\pwworking\wgi\d0395976\END BENT QUANTITIES AND REINFORCING SCHEDULES.dwg

Estimated End Bent Quantities

Item	Unit	Quantity
Class IV Concrete (Pile Cap) (East)	Cu. Yds.	38.0
Reinforcing Steel (Pile Cap) (East)	lbs.	6065

Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
C810	#8	16		8'-0"	Bar C800	341.8
T811	#8	5	76'-10" + 6'-6"	83'-4"	Straight	1112.5
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C570	#5	6		4'-0"	Bar C560	25.0

Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.

Required Bar Lap Splices

Mark	Size	Splice Length
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H	#4	24"
H	#5	36"

Note:
Splice continuous bars thus:
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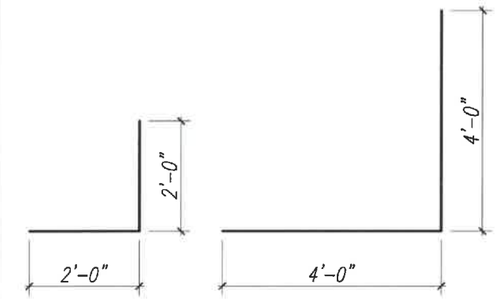
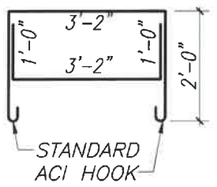
Bottom bars at the piles

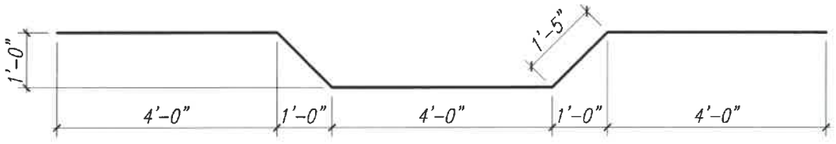
BENDING DIAGRAM



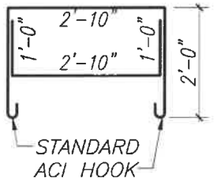
BAR C570 BAR C810



BAR S411



BARS B814



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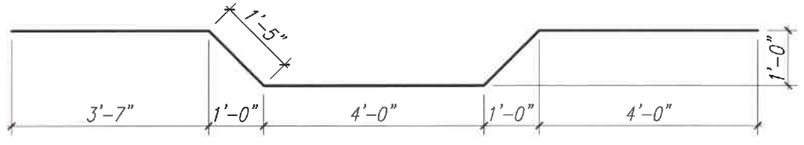

BARS B815

VERIFY SCALE
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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
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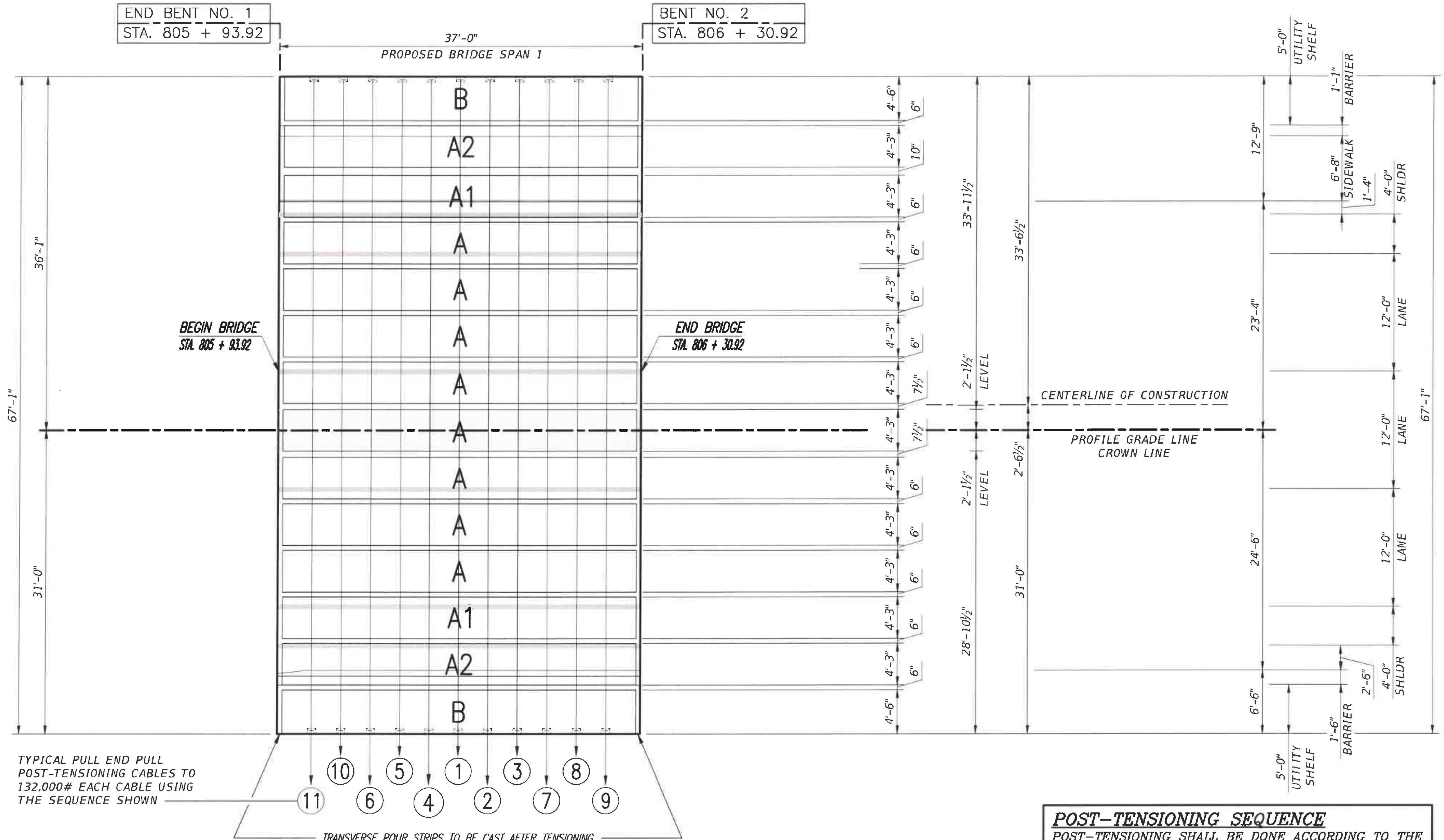
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-15
PROJECT NO.
16162296.00



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(A) PRECAST SLAB LAYOUT PLAN

Scale: 3/16" = 1'-0"

POST-TENSIONING SEQUENCE

POST-TENSIONING SHALL BE DONE ACCORDING TO THE NUMBER SEQUENCE ON THE SUPER-STRUCTURE. CONCRETE IN CLOSURE POURS SHALL HAVE A MINIMUM CYLINDER STRENGTH OF 3000 psi BEFORE TENSIONING.

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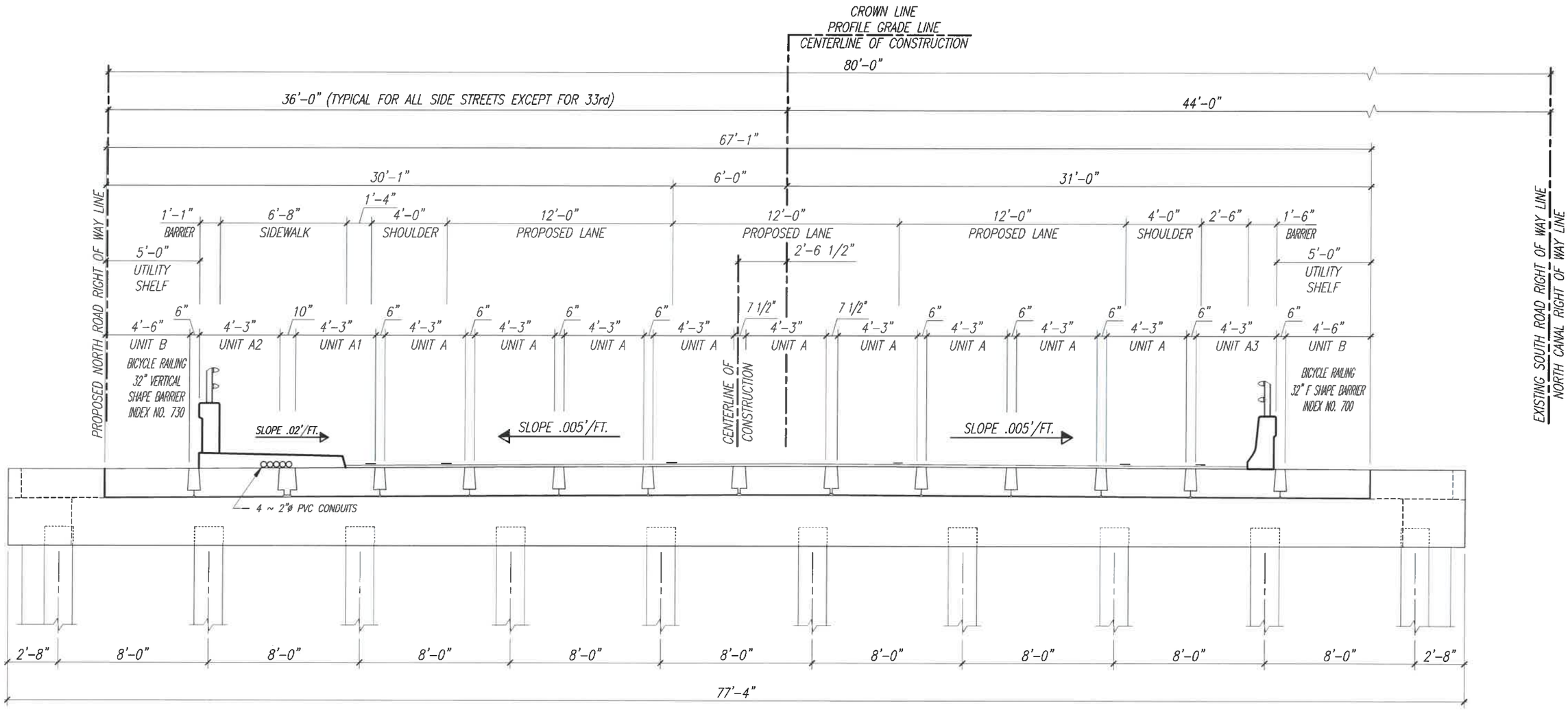
Timothy Alan Deland–71588
FLORIDA P.E. NAME & NUMBER

SHEET B–16
PROJECT NO. 16162296.00



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A TYPICAL BRIDGE CROSS SECTION LOOKING EAST

Scale: 3/8" = 1'-0"

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SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-17

PROJECT NO.
16162296.00

DATE: Oct. 31, 2016 - 4:42pm C:\prworking\wgi\d0399576\TYPICAL BRIDGE CROSS SECTION.dwg

ESTIMATED QUANTITIES

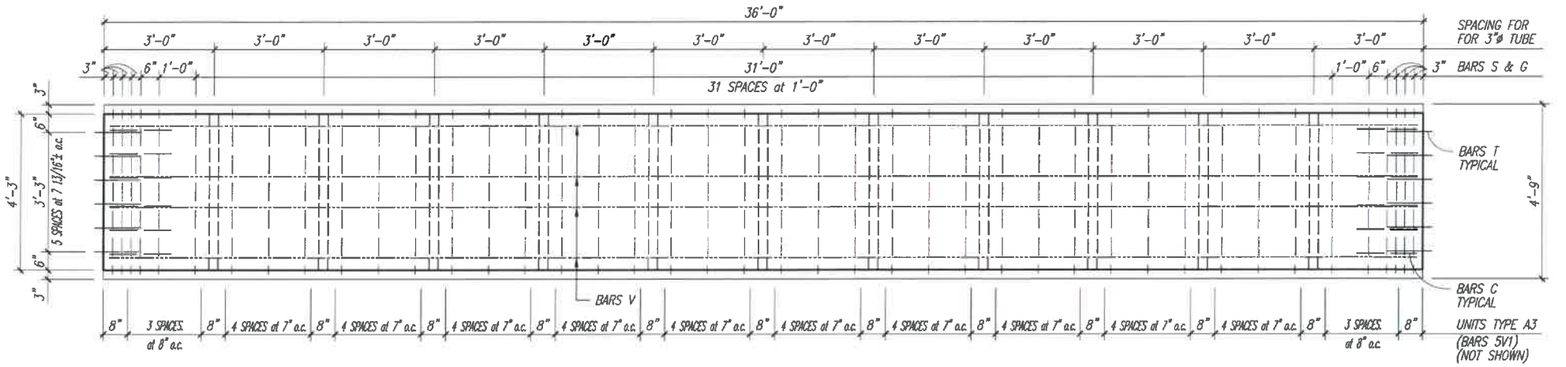
ITEM	UNIT	QUANTITY
TYPE A SLAB UNITS (9 REQUIRED)	L.F.	324'-0"
TYPE A1 SLAB UNITS (1 REQUIRED)	L.F.	36'-0"
TYPE A2 SLAB UNITS (1 REQUIRED)	L.F.	36'-0"
TYPE A3 SLAB UNITS (1 REQUIRED)	L.F.	36'-0"

BILL OF REINFORCING STEEL

MARK	SIZE	NUMBER REQUIRED TYPE A	A1	A2	A3	LENGTH	BENDING
C	4	12	12	12	12	4'-4 1/2"	SEE DIAG.
G	4	42	42	42	42	4'-3"	STRAIGHT
R	4		24	24		2'-9 3/4"	SEE DIAG.
** S	4	42	42	42	42	15'-2"	SEE DIAG.
T	4	24	24	24	24	1'-9"	SEE DIAG.
V	5	4	4	4	4	35'-6"	STRAIGHT
5T1	5			36		9'-4"	SEE DIAG.
5X1	5			36		5'-7"	SEE DIAG.
5V1	5				58	7'-6"	SEE DIAG.

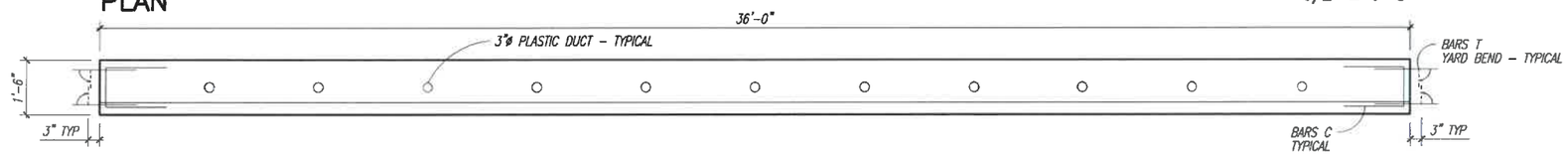
SEE SHEET B5-20 & B5-21 FOR BENDING DIAGRAM

ESTIMATED QUANTITIES AND BILL OF REINFORCING STEEL ARE FOR ONE BRIDGE ONLY



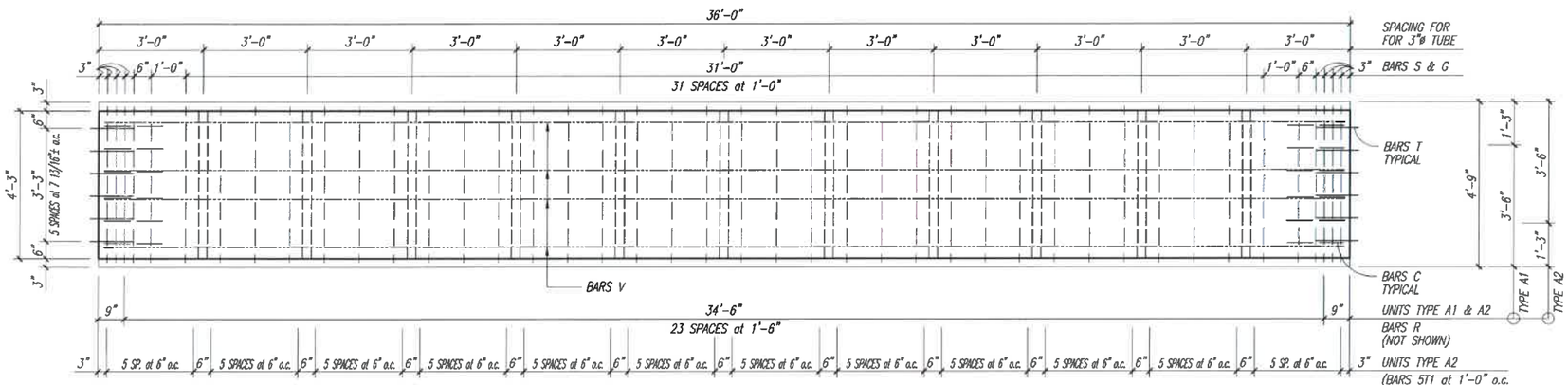
PRESTRESSED SLAB UNITS — TYPE A (TYPE A3)

PLAN — 1/2" = 1'-0"



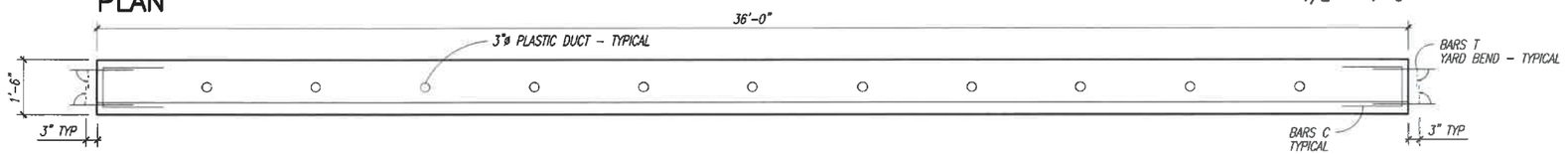
PRESTRESSED SLAB UNITS — TYPE A (TYPE A3)

ELEVATION — 1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE A1 (TYPE A2 SIMILAR)

PLAN — 1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE A1 (TYPE A2 SIMILAR)

ELEVATION — 1/2" = 1'-0"

VERIFY SCALE

1"

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DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-18

PROJECT NO.
16162296.00

ESTIMATED QUANTITIES

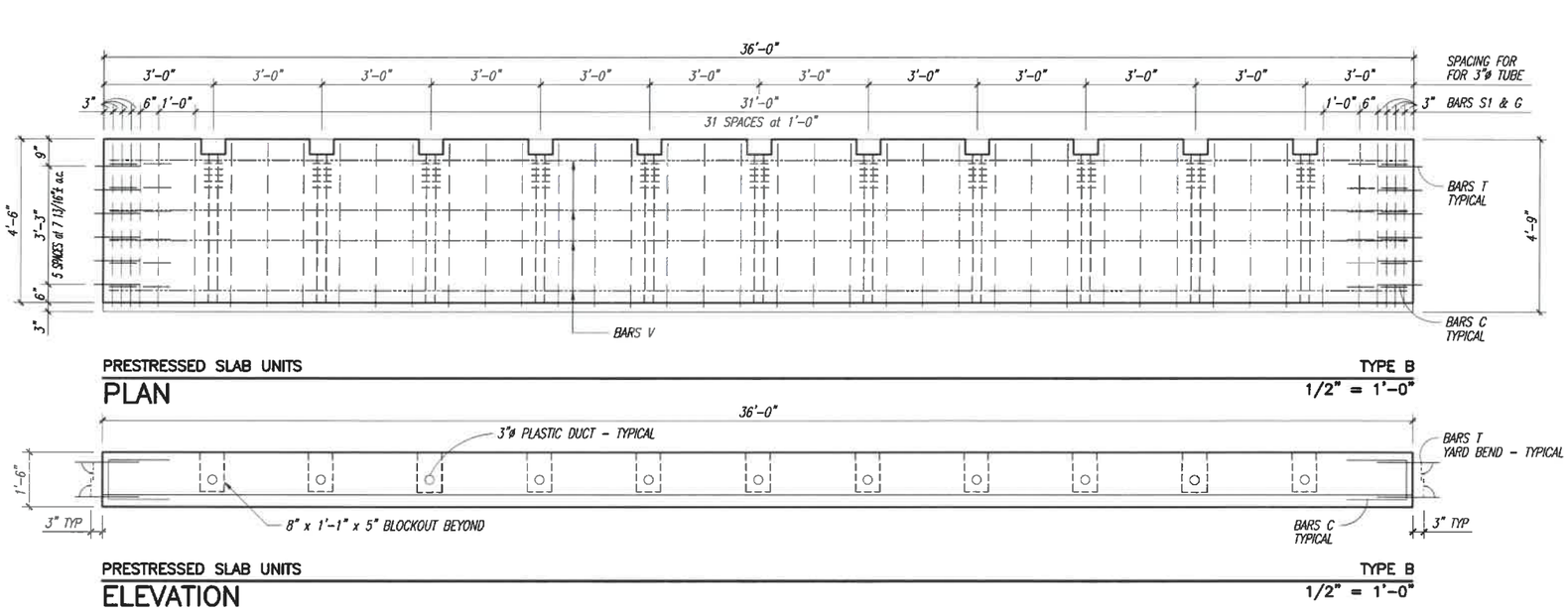
ITEM	UNIT	QUANTITY
TYPE B SLAB UNITS (2 REQUIRED)	L.F.	72'-0"

BILL OF REINFORCING STEEL

	MARK	SIZE	NUMBER REQUIRED TYPE B	LENGTH	BENDING
	C	4	12	4'-4 1/2"	SEE DIAG.
	G	4	42	4'-3"	STRAIGHT
**	S1	4	42	16'-2"	SEE DIAG.
	T	4	24	1'-9"	SEE DIAG.
	V	5	4	35'-6"	STRAIGHT
	D	3	55	2'-0"	STRAIGHT

SEE SHEET B5-20 & B5-21 FOR BENDING DIAGRAM

ESTIMATED QUANTITIES AND BILL OF REINFORCING STEEL ARE FOR ONE BRIDGE ONLY



VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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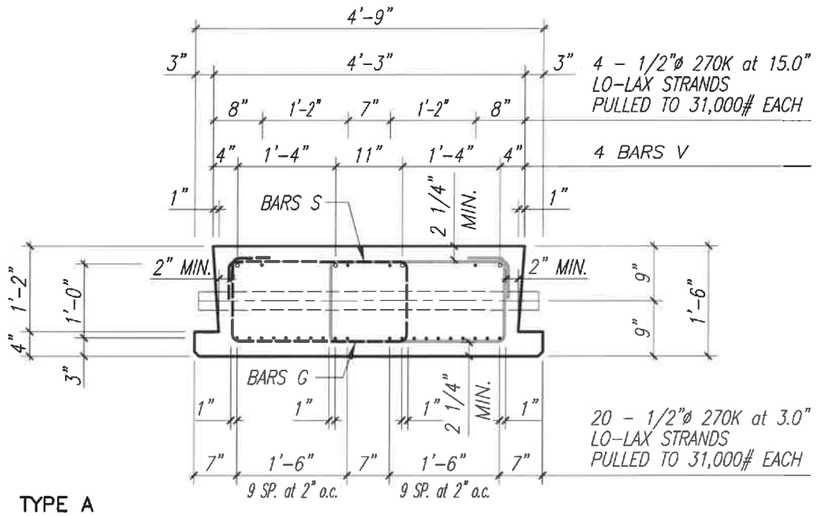
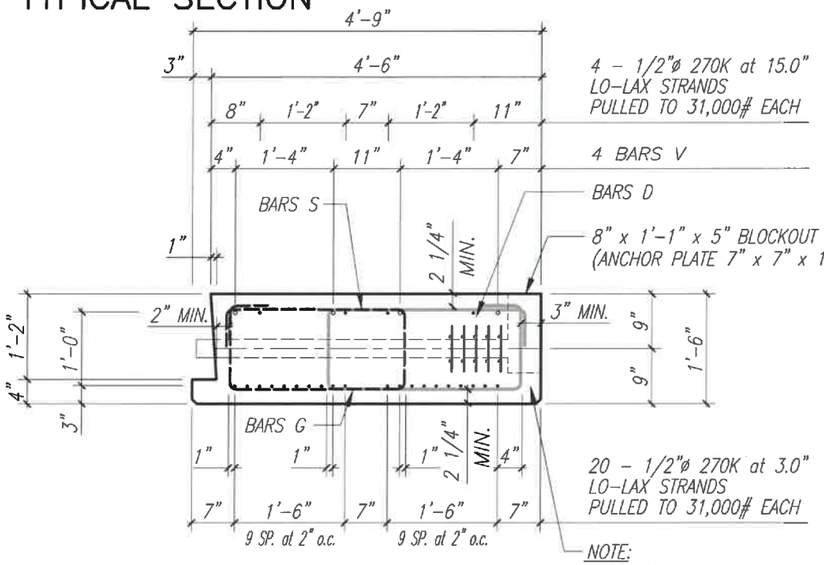
SHEET
B-19

PROJECT NO.
16162296.00



TYPE A

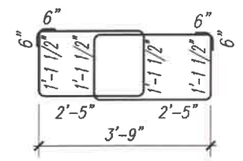
TYPICAL SECTION



TYPE B

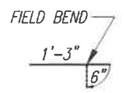
TYPICAL SECTION

BENDING DIAGRAM



BARS S

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



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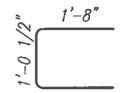

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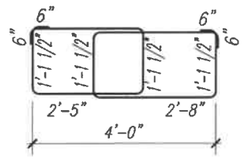
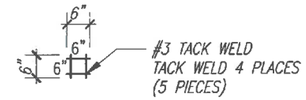


BARS S1

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



BARS D

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *

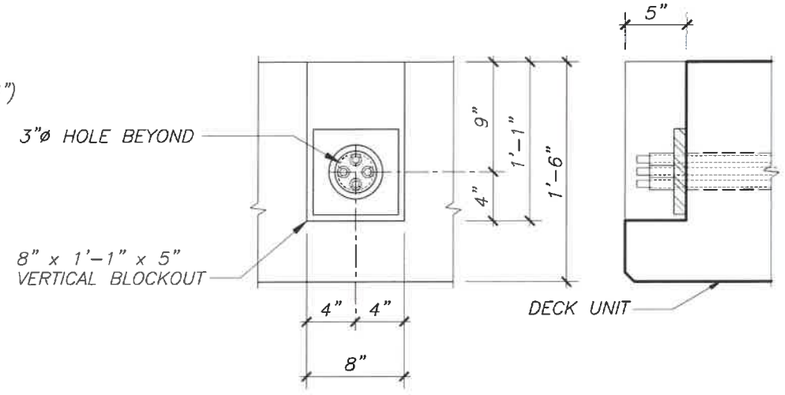
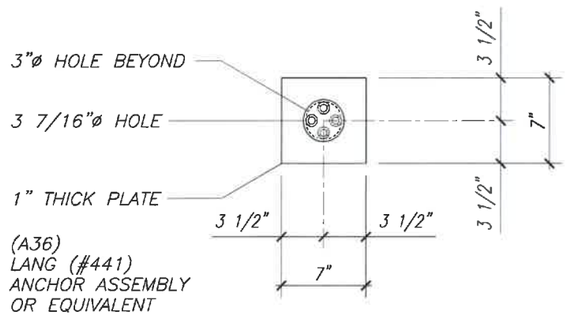


PLATE BLOCKOUT DETAIL (4 STRANDS)



TYPICAL ANCHOR PLATE DETAIL (4 STRANDS)

VERIFY SCALE
1"
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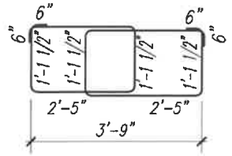
SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-20
PROJECT NO.
16162296.00

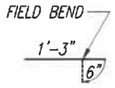
DATE: Oct 11, 2016 - 4:46pm C:\pwworking\wgi\d0599378\PRECAST SLAB DETAILS.dwg

BENDING DIAGRAM

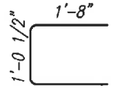


BARS S

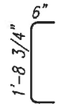
** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



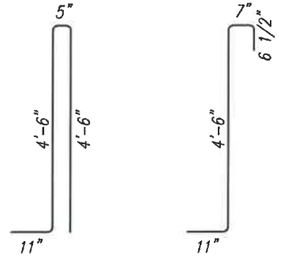
BARS T



BARS C



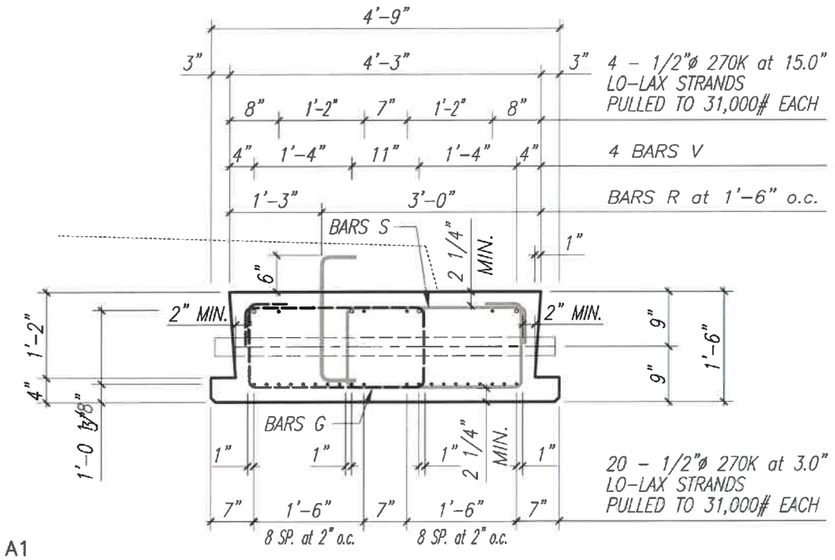
BARS R



BARS 5T1 BARS 5X1

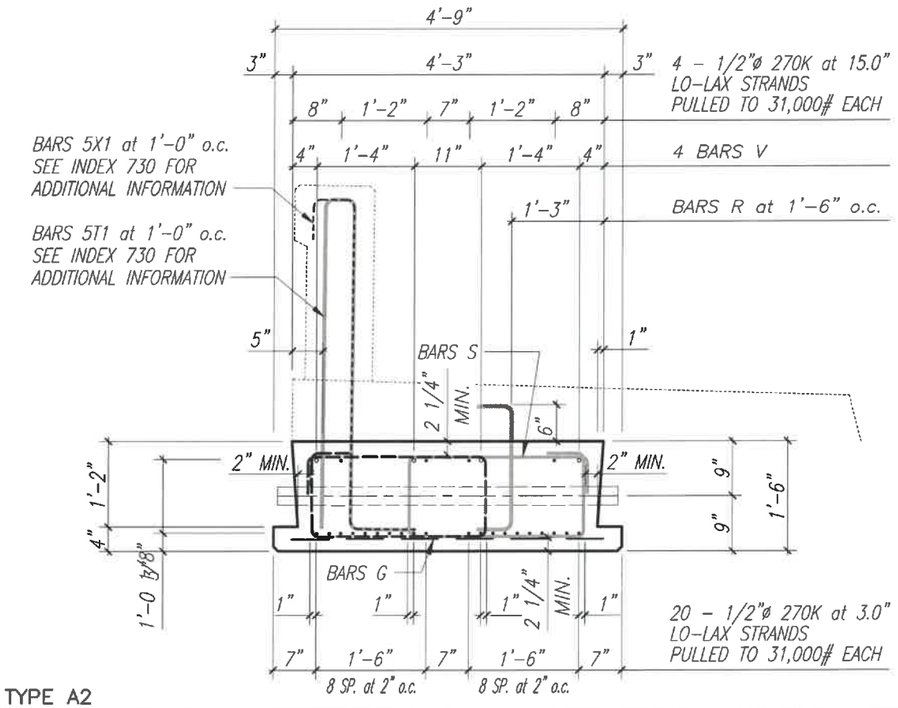
SEE SHEET INDEX NO. 730 FOR ADDITIONAL INFORMATION.

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *



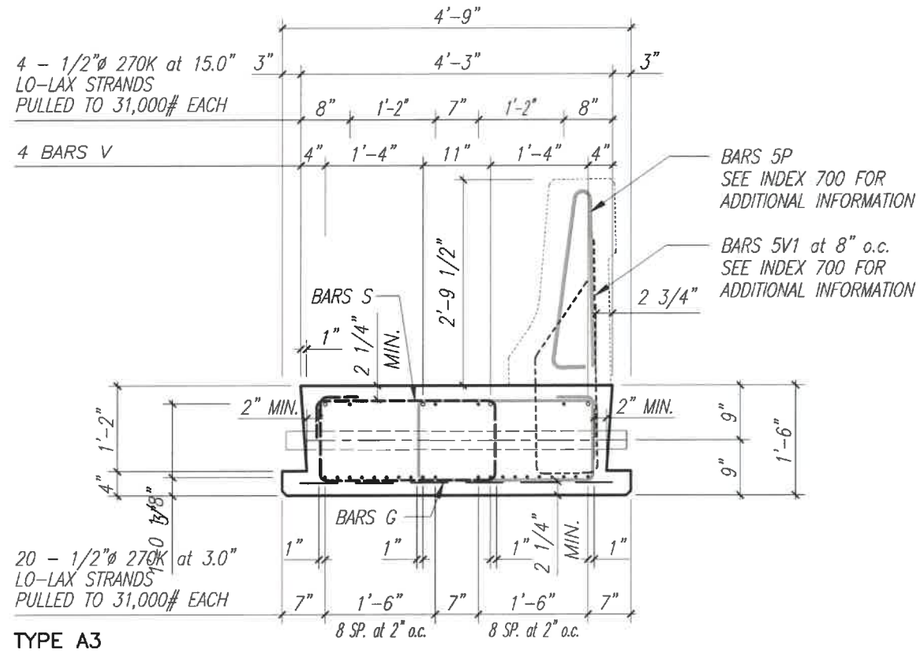
TYPE A1

TYPICAL SECTION



TYPE A2

TYPICAL SECTION



TYPE A3

TYPICAL SECTION

VERIFY SCALE

1"

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INDIAN RIVER COUNTY, FLORIDA

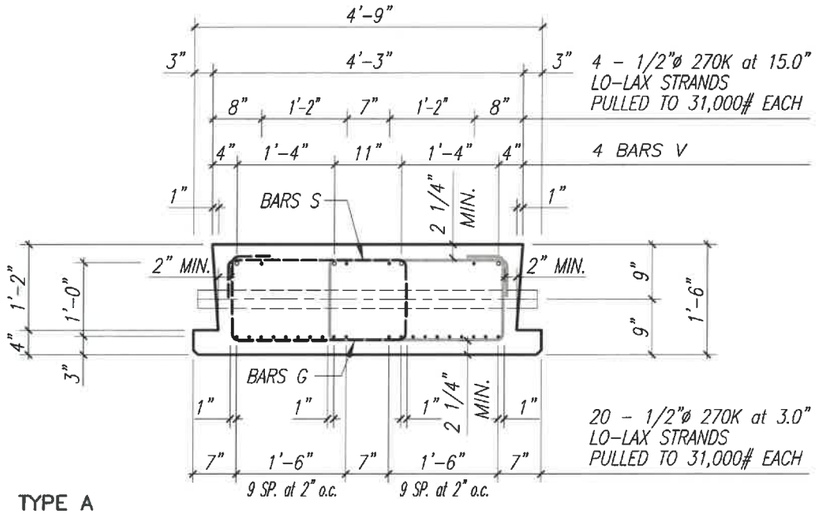
SEAL

Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-21

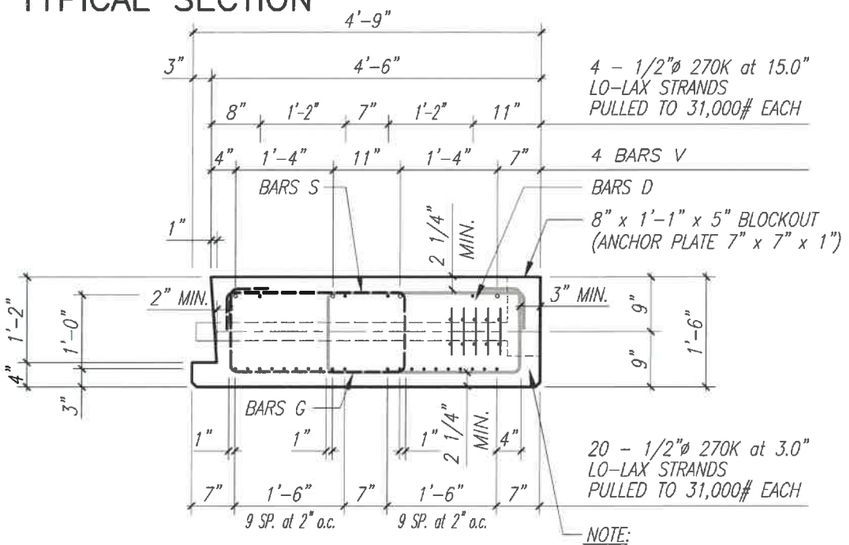
PROJECT NO.
16162296.00

DATE: Oct 31, 2016 - 4:43pm C:\Users\tadeland\Desktop\16162296.00\PRECAST SLAB DETAILS_TYPE A1, A2 AND A3.dwg



TYPE A

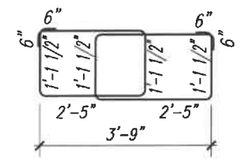
TYPICAL SECTION



TYPE B

TYPICAL SECTION

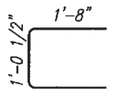
BENDING DIAGRAM



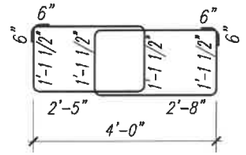
BARS S

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS

BARS T



BARS C



BARS S1

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS

BARS D

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *

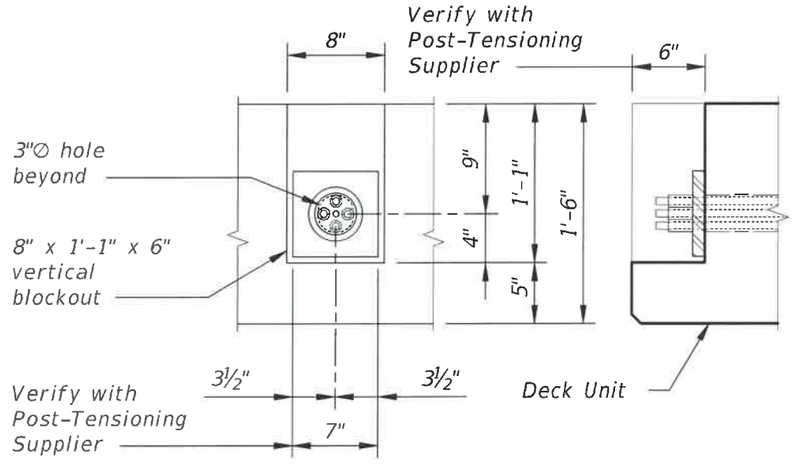
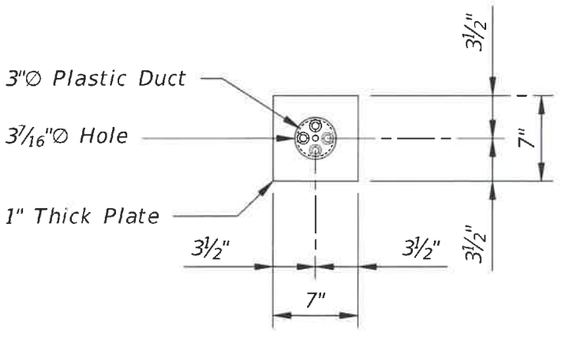


PLATE BLOCKOUT DETAIL
(4 STRANDS)



TYPICAL ANCHOR PLATE DETAIL
(4 STRANDS)

VERIFY SCALE
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Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-22
PROJECT NO.
16162296.00

PAYMENT

The contract unit price for precast concrete sheet piling shall include reinforcing steel and S.R. cables. All corner piling shall be paid for at the contract unit price for concrete sheet piling.

CONCRETE

Class II Concrete (f'c = 3,400 p.s.i.)

PICKUP BARS

At the option of the contractor, 2-7/16" strands may be substituted for No. 6 pickup bar. Strands shall be embedded in pile a minimum of two (2) feet.

REINFORCING STEEL

Reinforcing steel shall be Grade 60.

PLASTIC FILTER FABRIC

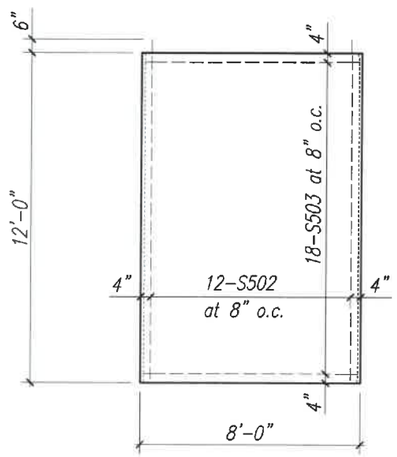
A plastic filter fabric (see Florida Department of Transportation Standard Specifications for Road and Bridge Construction) shall be placed between fill and precast sheet piles for the entire depth of the sheet pile and extend into the cap. Cost of all labor and materials required for installing plastic filter fabric shall be included in the contract unit price for sheet piling.

Estimated Quantities

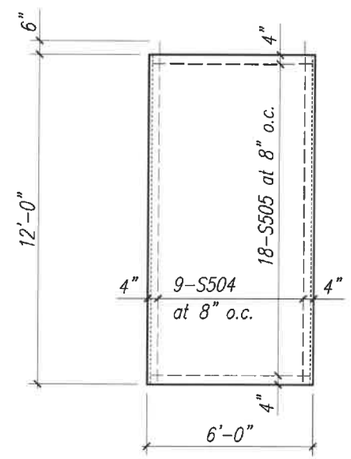
Item	Required	Unit	Quantity
8" x 8'-0" x 12'-0" Sheet Wall	26	L. F.	312'-0"
8" x 6'-0" x 12'-0" Sheet Wall	2	L. F.	24'-0"

Bill of Reinforcing Steel

Mark	Size	Number Required	Total Length	Bending	Weight (lbs.)
SHEET WALLS (TOTAL)					
S502	5	312	12'-2"	Straight	3959
S503	5	468	7'-4"	Straight	3580
S504	5	18	12'-2"	Straight	228
S505	5	36	5'-4"	Straight	200

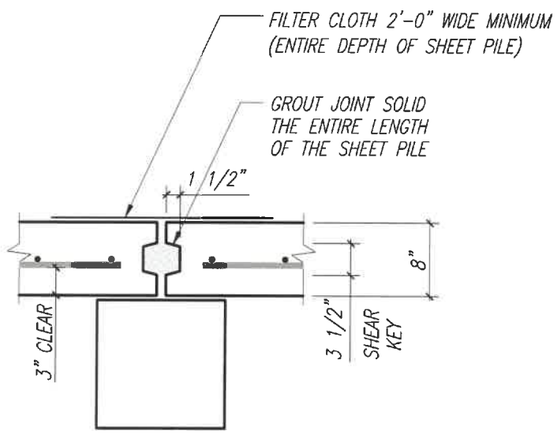


(26 REQUIRED)



(2 REQUIRED)

8" SHEET WALL DETAIL



SHEET WALL JOINT DETAIL

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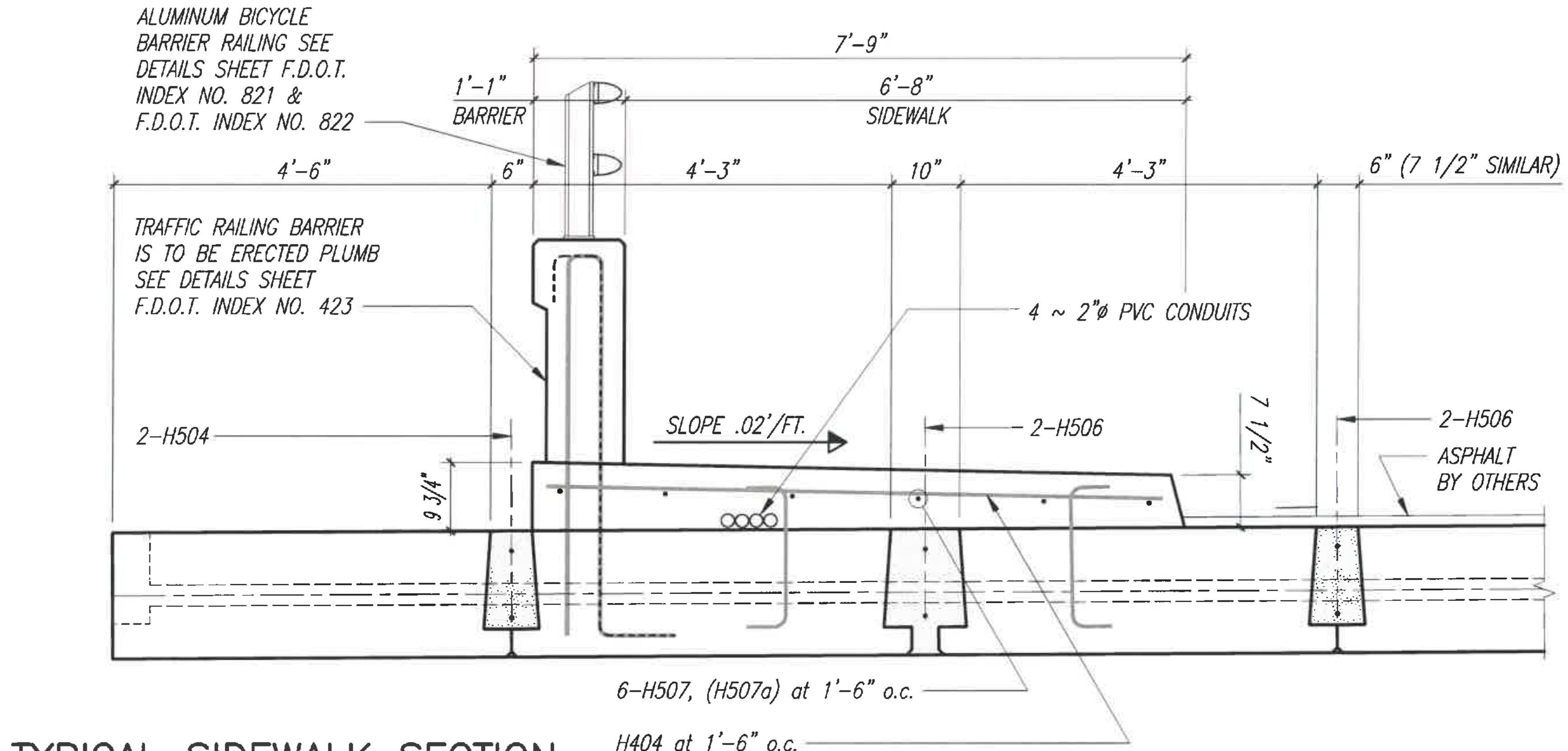
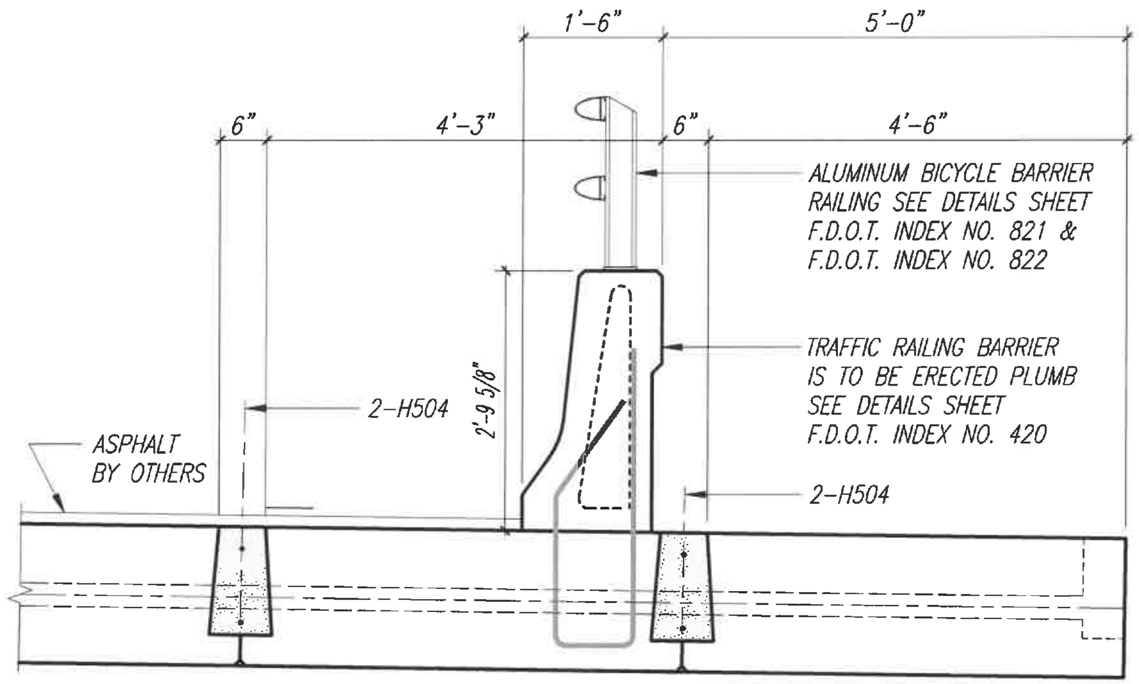


TYPICAL SIDEWALK SECTION

1" = 1'-0"



TYPICAL TRAFFIC RAILING BARRIER SECTION

1" = 1'-0"

Estimated End Bent Quantities

Item	Required	Unit	Quantity
Class II Concrete (Closure Pours)		Cu. Yds.	13.0
Reinforcing Steel (Closure Pours)		lbs.	990
Class II Concrete (Sidewalks including Approach Slabs)		Cu. Yds.	8.0
Reinforcing Steel (Sidewalks including Approach Slabs)		lbs.	343

Bill of Reinforcing Steel

Mark	Size	Number Required	Total Length	Bending	Weight (lbs.)
CLOSURE POURS (TOTAL)					
H506	5	26	36'-6"	Straight	989.8
SIDEWALKS (TOTAL)					
H404	4	24	7'-2"	Straight	114.9
H507	5	6	36'-6"	Straight	228.4

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SHEET
B-24
PROJECT NO.
16162296.00

Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table Date 07-19-13

Table 2 – LRFR using Part A[3]

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments: Interior/exterior beam DF Method if other than LRFD. Other appropriate comments
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	
Design Load Rating	Strength I (Inv)	HL-93		1.75	1.25	1.50	0.46	1.19		0.5L	17.75	0.60	4.13		Transfer	2.25	Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Strength I (Op)	HL-93		1.35	1.25	1.50	0.46	1.54		0.5L	17.75	0.60	5.49		Transfer	2.25	
	Service III (Inv)	HL-93		0.80	1.00	1.00	0.46	1.04		0.5L	17.75						Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Service III (Op)	HL-93		0.80	1.00	1.00	0.46	1.40		0.5L	17.75						
Legal Load Rating	Strength I	SU4	35.00	1.35	1.25	1.50	0.46	1.60	56.03	0.5L	17.75	0.60	5.93	207.53	Transfer	2.25	(M) – Slab 5; (V) – Slab 5
	Strength I	C5	40.00	1.35	1.25	1.50	0.46	2.05	81.96	0.5L	17.75	0.60	7.29	291.59	Transfer	2.25	(M) – Slab 5; (V) – Slab 5
	Strength I	ST5	40.00	1.35	1.25	1.50	0.46	2.15	86.07	0.5L	17.75	0.60	7.77	310.83	Transfer	2.25	(M) – Slab 5; (V) – Slab 5
	Service III	SU4	35.00	0.80	1.00	1.00	0.46	1.46	50.95	0.5L	17.75						Moment (M) Controlled by 5
	Service III	C5	40.00	0.80	1.00	1.00	0.46	1.86	74.54	0.5L	17.75						
	Service III	ST5	40.00	0.80	1.00	1.00	0.46	1.96	78.28	0.5L	17.75						
Permit Load Rating	Strength II	FL120	60.00	1.60	1.25	1.50	0.46	1.02	60.95	0.4L	14.15	0.60	2.36	141.44	0.7L	24.95	Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Service I	FL120	60.00	1.00	1.00	1.00	0.46	1.41	84.52	0.5L	17.75						Moment (M) Controlled by 5

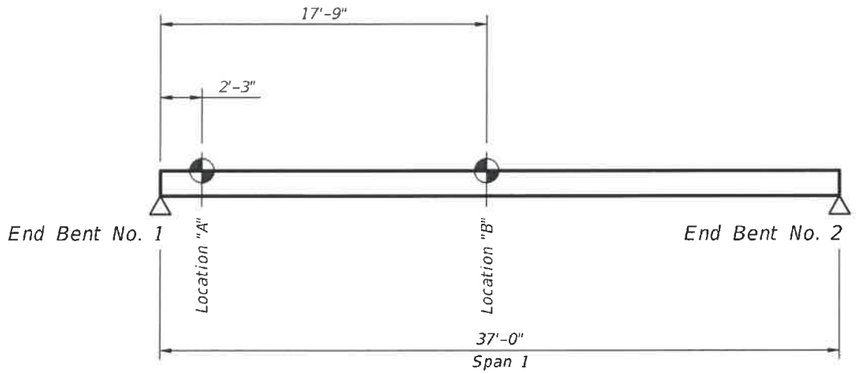
Abbreviations:
Inv – Inventory
Op – Operating

General Notes:
1. *This table is based on the requirements established in the January 2011 "Structures Manual".*

Table 2 Notes:
1. *Permit capacity is determined by using the permit vehicle in all lanes.*
2. *If the Design Operating Load Rating is greater than 1.4, Load Rating using Legal Vehicles SU4, C5, and ST5 is not required.*
3. *Service III Design Inventory tensile stress limits = $6\sqrt{f'c}$, Service III Design Operating, Legal, and Permit tensile stress limits = $7.5\sqrt{f'c}$.*
4. *Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? ☒ Yes ☐ No*

Controlling Load Rating

Limit State	Vehicle	Weight (Tons)	Rating Factor
Service III (Inv)	HL-93	–	



RATING LOCATIONS

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

Sunshine 811

WGI
2035 Vista Parkway
West Palm Beach, FL 33411
Phone No. 561.687.2220
Fax No. 561.687.1110
Cert No. 6091 - LB No. 7055
ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

NO.	REVISION	DATE	BY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: OCTOBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
66th AVENUE at 53rd STREET
OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan Deland-71588
FLORIDA P.E. NAME & NUMBER

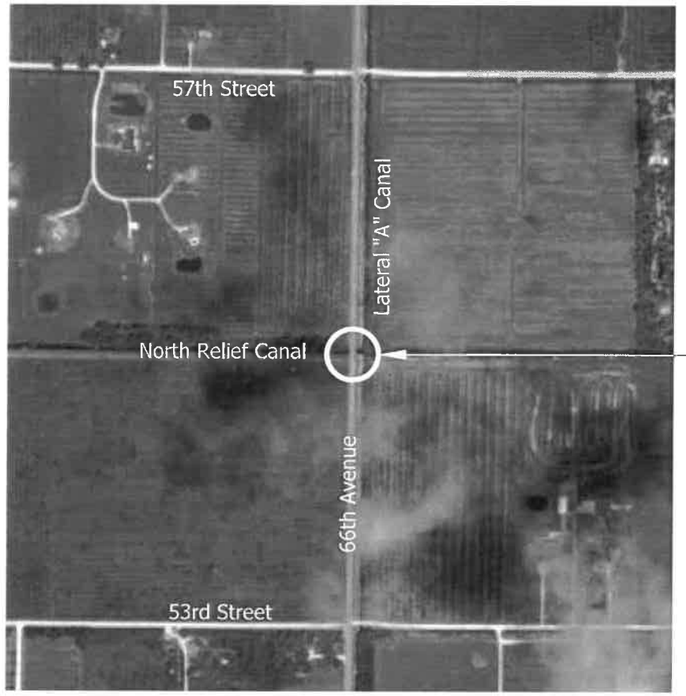
SHEET
B-25
PROJECT NO.
16162296.00

DATE: Oct 31, 2016 – 4:48pm C:\pwworking\wgi\d0395761\LOAD RATING CHART.dwg

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

66th Avenue over the North Relief Canal

PROJECT
C.P. No. 06040



Project Location

INDEX OF SHEETS – BRIDGE PLANS

B1	INDEX OF SHEETS AND LOCATION MAP
B2	SUMMARY OF QUANTITIES
B3	PROPOSED BRIDGE CROSS SECTION at END BENT
B4	PROPOSED BRIDGE CROSS SECTION at INTERMEDIATE BENT
B5	GENERAL NOTES, PRESTRESSED MEMBERS NOTES & CONSTRUCTION NOTES
B6	PROPOSED BRIDGE PLAN
B7	PROPOSED BRIDGE ELEVATION
B8	REVETMENT DETAIL AND INDEX 410 BARRIER DETAIL
B9	SUBSTRUCTURE PILES PLAN
B10	PILE DATA TABLE AND SOIL BORINGS
B11	FINISH GRADE ELEVATIONS PLAN
B12	NORTH END BENT NO. 1 PLAN
B13	NORTH END BENT NO. 1 ELEVATION
B14	END AND WING BENT DETAILS
B15	END BENT ESTIMATED QUANTITIES AND BILL OF REINFORCING STEEL
B16	INTERMEDIATE BENT PLAN AND ELEVATION
B17	INTERMEDIATE BENT DETAILS
B18	INTERMEDIATE BENT ESTIMATED QUANTITIES AND BILL OF REINFORCING STEEL
B19	PRECAST SLAB PLACING PLAN
B20	TYPICAL BRIDGE CROSS SECTION
B21	34'-0" PRECAST SLAB PLANS AND ELEVATIONS (TYPES A, A1, A2, & A3)
B22	34'-0" PRECAST SLAB PLAN AND ELEVATION (TYPES B)
B23	34'-0" PRECAST SLAB DETAILS (TYPE A & B)
B24	34'-0" PRECAST SLAB DETAILS (TYPE A1, A2 & A3)
B25	14'-0" PRECAST SLAB PLANS AND ELEVATIONS (TYPES C, C1, C2, C3, & D)
B26	14'-0" PRECAST SLAB DETAILS (TYPE C & D)
B27	15'-0" PRECAST SLAB DETAILS (TYPE C1, C2 & C3)
B28	SHEET WALL DETAILS AND MISCELLANEOUS QUANTITIES AND BILL OF REINFORCING STEEL
B29	MISCELLANEOUS DETAILS AND MISCELLANEOUS QUANTITIES AND BILL OF REINFORCING STEEL

F.D.O.T. STANDARD SHEETS

INDEX NO.		
B30	600	GENERAL NOTES AND DETAILS FOR PRESTRESSED CONCRETE PILES – INDEX NO. 600
B31	601	PRESTRESSED CONCRETE PILE SPLICES – INDEX 601
B32	614	14" SQUARE PRESTRESSED CONCRETE PILE – INDEX 614
B33	618	18" SQUARE PRESTRESSED CONCRETE PILE – INDEX 618
B34	700-1	TRAFFIC RAILING BARRIER – (32" F SHAPE) INDEX NO. 700 (DRAWING 1 OF 2)
B35	700-2	TRAFFIC RAILING BARRIER – (32" F SHAPE) INDEX NO. 700 (DRAWING 2 OF 2)
B36	730-1	TRAFFIC RAILING BARRIER – (32" VERTICAL SHAPE) INDEX NO. 730 (DRAWING 1 OF 2)
B37	730-2	TRAFFIC RAILING BARRIER – (32" VERTICAL SHAPE) INDEX NO. 730 (DRAWING 2 OF 2)
B38	810	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING FOR TRAFFIC RAILING BARRIER – (32" F SHAPE) – INDEX NO. 810
B39	820-1	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS INDEX NO. 820 (DRAWING 1 OF 2)
B40	820-2	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS INDEX NO. 820 (DRAWING 2 OF 2)
B41	S-910-1	APPROACH SLABS (RIGID PAVEMENT APPROACHES) INDEX NO. S-910 (DRAWING 1 OF 2)
B42	S-910-2	APPROACH SLABS (RIGID PAVEMENT APPROACHES) INDEX NO. S-910 (DRAWING 2 OF 2)

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS. (BOOKLET DATED JANUARY, 2004)

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2004, AND SPECIAL PROVISIONS THERETO IF IN NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION:
I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN GENERAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE _____ PROFESSIONAL ENGINEER # _____

_____

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd., Bldg. 230, Royal Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B1
PROJECT NO.
05-619

DATE: Nov 29, 2012 - 5:18am S:\2005-Jobs\05-6196 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B1-COVER.dwg

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	NO. REQUIRED	UNIT	QUANTITY	AS BUILT
	BRIDGE				
100-1	MOBILIZTION		L. S.	1	
110-3	DEMOLITION AND REMOVAL OF EXISTING BRIDGE		L. S.	1	
	(SUPERSTRUCTURE)				
12450-88-15	PRESTRESSED PRECAST DECK UNITS				
	15" x 4'-5" x 14'-0"	48	L. F.	672'-0"	
	15" x 4'-8" x 14'-0"	4	L. F.	56'-0"	
	18" x 4'-5" x 34'-0"	24	L. F.	816'-0"	
	18" x 4'-8" x 34'-0"	2	L. F.	68'-0"	
400-2-4	CLASS II CONCRETE FOR CLOSURE POURS BETWEEN DECK UNITS		Cu. Yds.	56.0	
415-1-4	REINFORCING STEEL		Lbs.	3,546	
521-5-4	CONCRETE TRAFFIC RAILING BARRIER (32" VERTICAL SHAPE)		L. F.	125'-0"	
521-5-1	CONCRETE TRAFFIC RAILING BARRIER (32" F SHAPE)		L. F.	125'-0"	
460-70-2	ALUMINUM PEDESTRIAN BULLET BARRIER RAILING		L. F.	250'-0"	
	CONCRETE TRAFFIC RAILING BARRIER (SHOULDER) WITH SPREAD FOOTING (INDEX NO. 410, SHEET NO. 5 OF 22)			147'-0"	
	(SUBSTRUCTURE)				
400-2-5	CLASS II CONCRETE FOR PILES CAPS		Cu. Yds.	216.0	
415-1-5	REINFORCING STEEL		Lbs.	40,298	
455-34-3	PRESTRESSED PILES				
	(ABUTMENT)				
	18" SQUARE x 55'-0" MINIMUM (TEST PILE - ABUTMENT)	1 EACH	L. F.	55'-0"	
	18" SQUARE x 40'-0" MINIMUM (ABUTMENT)	33 EACH	L. F.	1,320'-0"	
	14" SQUARE x 30'-0" MINIMUM (WING BENT)	12 EACH	L. F.	360'-0"	
	18" SQUARE x 65'-0" MINIMUM (TEST PILE - INTERMEDIATE BENT)	1 EACH	L. F.	65'-0"	
	18" SQUARE x 50'-0" MINIMUM (INTERMEDIATE BENT)	41 EACH	L. F.	2,050'-0"	
455-137	PILE DYNAMIC LOAD TESTING	1 EACH	L. S.	1	
455-133	8" x 8'-0" x 14'-0" Sheet Wall	40 EACH	L. F.	560'-0"	
	(SIDEWALKS & MEDIAN)				
400-2-4	CLASS II CONCRETE		Cu. Yds.	164.0	
415-1-4	REINFORCING STEEL		Lbs.	7,252	
	(APPROACH SLABS)		Each	2	
400-2-10	CLASS II CONCRETE		L. S.	1	
415-1-9	REINFORCING STEEL		L. S.	1	
715-2117	4"ø PVC CONDUIT		L. F.	625'-0"	
339-1	MISCELLANEOUS ASPHALT		S. F.	524	
530-78	(REVETMENT MAT) (CANAL EXCAVATION AS REQUIRED SHALL BE INCLUDED IN THE COST OF THE REVETMENT)		S. F.	14,000	

Contractor shall verify all dimensions and quantities prior to construction and fabrication. Discrepancies shall be brought to the attention of the Engineer before construction.

DATE: Nov 29, 2012 - 9:18am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B2-SUMMARY.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3680 Fax (561) 791-1955
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

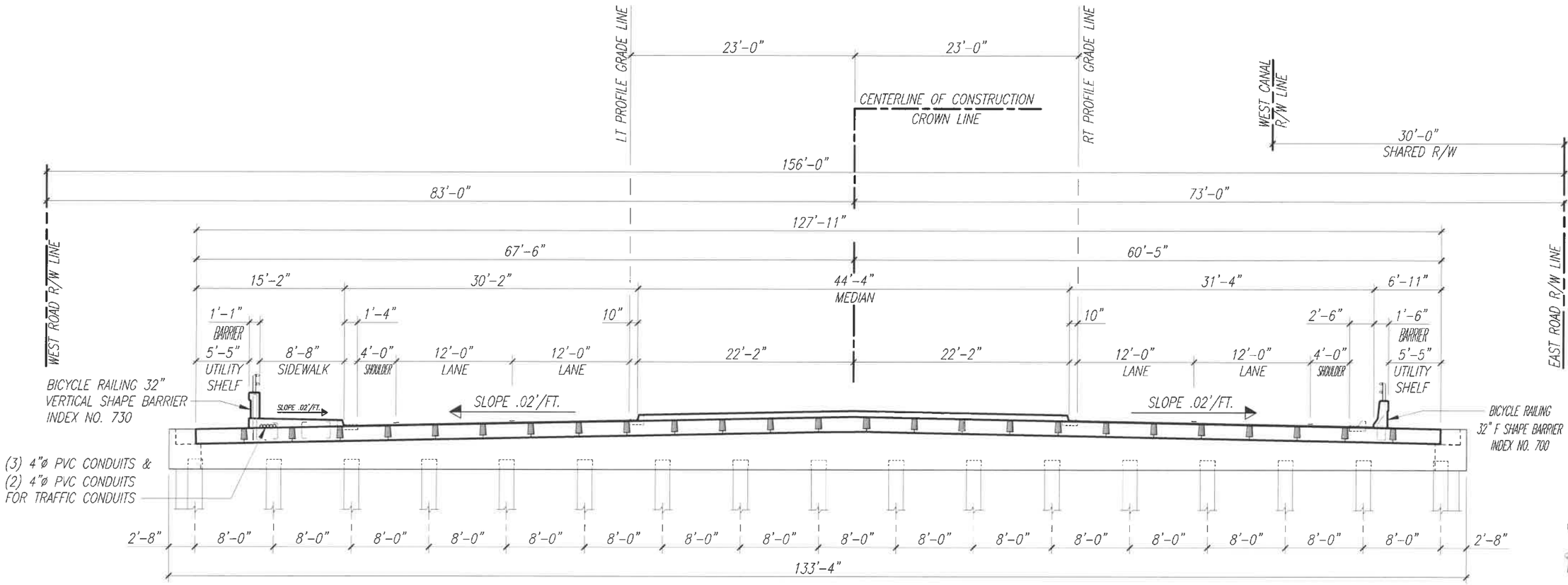
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B2
PROJECT NO.
05-619



PROPOSED BRIDGE CROSS SECTION at END BENT

3/16" = 1'-0"

DATE: Nov 29, 2012 - 9:18am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\2D_4-PROPSECT.dwg

VERIFY SCALE

1"

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BRIDGE DESIGN ASSOCIATES, INC.
1405 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3860 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA C.B. NO. 4352

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

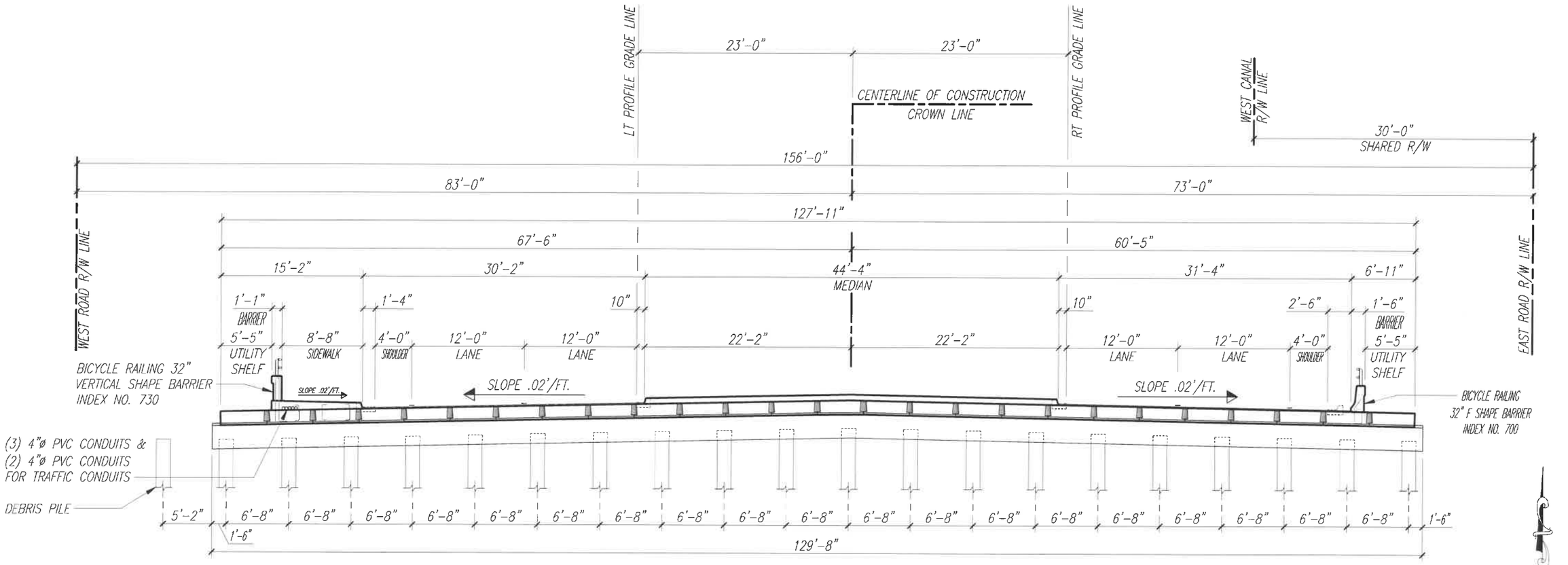
PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL

Brian C. Rheault P.E. - 35797
FLORIDA P.E. NAME & NUMBER

SHEET
B3

PROJECT NO.
05-619



PROPOSED BRIDGE CROSS SECTION at INTERMEDIATE BENT

3/16" = 1'-0"

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3560 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL

Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B4

PROJECT NO.
05-619

DATE: Nov 29, 2012 - 9:18am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B3_4-PROPSECT.dwg

GENERAL NOTES

GENERAL SPECIFICATIONS:
Florida Department of Transportation Standard Specification for Road and Bridge Construction (2004).

DESIGN SPECIFICATION:
2004 Edition of the AASHTO LRFD Bridge Design Specifications with current interims.
2004 Edition of the F.D.O.T. Structure Design Guidelines with current interims.

DESIGN LOADING:
HL-93

CONCRETE:

Note: Concrete to be in compliance with F.D.O.T. Specifications 346.

CONCRETE CLASS	MIN. 28 DAY COMPRESSIVE STRESS (ksi)	LOCATION OF CONCRETE IN STRUCTURE
Class II	fc' = 3.4	CIP Closure Pours, Pour Strips and Barriers
Class II (Bridge Deck)	fc' = 4.5	Cast-in-place Approach Slabs
Class V (Special)	fc' = 6.0	Prestressed Slabs
Class II	fc' = 3.4	Cast-in-place Pile Caps and Sheet Piles
Class V (Special)	fc' = 6.0	Prestressed Piling

CONCRETE:
1. Provide 3/4 inch chamfers on all exposed edges and corners except as otherwise noted.
2. Construction joints will be permitted only at the locations indicated on the plans, additional construction joints or alterations to those shown will require approval by the engineer.

REINFORCEMENT:
1. Reinforcement shall be ASTM A-615, Grade 60.
Spiral ties for prestressed concrete piles shall be manufactured from cold drawn steel wire meeting the requirements of ASTM A82.
2. All dimensions pertaining to location of reinforcing are to centerline of bars except where the clear dimension is shown to face of concrete.
3. Reinforcement detail dimensions are out-to-out of bars.

MINIMUM CONCRETE COVER:
CIP Superstructure = 2 in. (Typical except as noted).

CIP Substructure/Bent Cap = 4 in. for external surfaces cast against earth.
CIP Substructure/Bent Cap = 3 in. for other external surfaces.

CIP Substructure/Sheet Walls = 3 in.

Concrete covers shown ini the plans do not include placement and fabrication tolerances unless shown as "minimum cover". See F.D.O.T. Standard Specifications for allowable tolerances.

DESIGN METHOD:
All elements were designed using the LRFD (Load and Resistance Factor Design)

PILE LOAD:
See Sheet B10 for Pile Loads.

PILES:
14 inch square prestressed concrete piles.
18 inch square prestressed concrete piles.

FUTURE WEARING SURFACE:
15 pounds per square foot.

SURFACE FINISH:
All exposed surfaces of end bent wing walls, barriers, and exterior face of deck units & approach slabs shall receive a "Class 5 applied finish coating".

ENVIRONMENT:
Superstructure: Slightly Aggressive
Substructure: Slightly Aggressive

PAYMENT:
Payment for incidental items which are not covered in the individual bid items shall be included in the contract unit price for the bid items.

PRESTRESSED MEMBERS NOTES

FINISH:
The top of prestressed units shall be finished smooth, dense surface with a steel trowel, then coursely broomed or raked to provide a surface suitable for bonding to asphalt. All other surfaces of the unit shall receive a "Class 3" surface finish. The edge of the top of the surface of the units shall be finished by use of a small radius tool.

CONCRETE STRENGTH:
At transfer of the prestressing load, the cylinder strength of the concrete shall be 4000 psi. It shall be 6,000 psi at twenty-eight (28) days for slab units.

HANDLING AND STORAGE:
During handling and storage, the prestressed units must be picked up at the ends of the units to prevent damage. The prestressed units must be stored in an up-right position at all times.

FORMS AND PALLETS:
All prestressed units shall be cast on concrete based pallets and in metal forms. Keyway form may be wood.

STRAND EXTENSION:
All strands shall extend 2-1/2 inches beyond the ends of the prestressed units.

SHOP DRAWINGS:
The contractor shall submit seven (7) sets of shop drawings, showing complete details of the proposed prestressed units. The drawings shall include reinforcing steel, prestressing steel, prestressing bed layout, tensioning and detensioning schedules, and all computations required to control the work.

BEARING PADS:
Neoprene bearing pads shall be 1/2 inch X 6 inch strips in accordance with section 932-2 of the specifications. The pads may be continuous strips or multiple lengths of 2 feet and 0 inches minimum length. The pads may be cut from commercially available sheets.

PAYMENT:
The contract unit prices for the precast-prestressed units shall include the units, prestressed strands, reinforcing steel shipped with the units, post-tension cables and anchor assemblies, and temporary post tensioning cables and hardware, neoprene bearing pads, premoulded expansion material, epoxy grout and non-shrink grout.

POST TENSIONING:
Post tension cables shall be three (3) .6 inch diameter 270k LO-LAX strands and (4) .6 inch diameter 270k LO_LAX or equivalent. Cables should be in accordance with ASTM specification A-421. The cables shall be stressed and anchored at 132,000 pounds per (3) strand post-tension cable and 176,000 pounds per (4) strand post-tension cable. The transverse post-tension cables shall not be tensioned until the concrete in the joints and keyways has been cured for a minimum of seventy-two (72) hours or has achieved 75% of design strength.

CABLE ANCHORAGES:
The fabricator shall submit details of the cable anchorage and anchorage reinforcement details for approval with the shop drawings.

CONSTRUCTION NOTES

EQUIPMENT ON UNITS:
Before heavy construction equipment is permitted on the structure during construction, sketches showing the axle spacing and anticipated loadings shall be submitted to and approved by the Engineer.

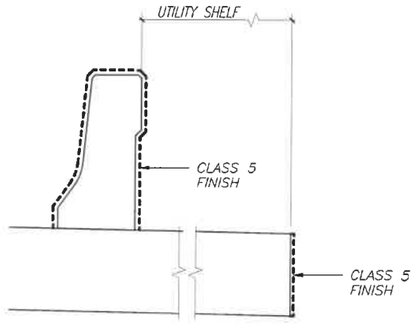
POST-TENSIONING SEQUENCE:
Post-tensioning shall be done according to the number sequence shown on the precast slab layout sheet.

FILLING CONCRETE JOINTS BETWEEN UNITS:
Joints between slab units shall be poured a minimum of seventy-two (72) hours or have 75% of the design strength before any post-tensioning operations can begin. Care should be taken to prevent intrusion of mix into ducts.

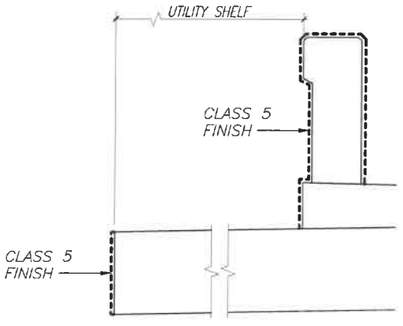
GROUTING POST-TENSION DUCTS:
The post-tensioned strands shall be grouted in accordance with section 934 of the specifications. The grouted strands shall not be disturbed, nor shall appreciable loads be placed on the span for a period of seventy-two (72) hours following grouting operations.

FILLING ANCHORAGE BLOCKOUTS:
All anchorage blockouts shall be filled with concrete and finished flush with surface of deck face.

PLACING BARRIER WALLS AND SURFACING:
All post-tensioning strands shall have been grouted and the minimum seventy-two 72 hours have passed before the barrier walls and wearing course can be placed.



CLASS 5 FINISH DETAIL
NO SCALE



CLASS 5 FINISH DETAIL
NO SCALE

DATE: Nov. 29, 2012 - 9:18am S:\2005-Jobs\05-6190 66th Avenue Bridge over N. Relief Canal\07 Structural Dwgs\(A00)B5-NOTES.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd., Bldg. 300, Royal Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 791-1955
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

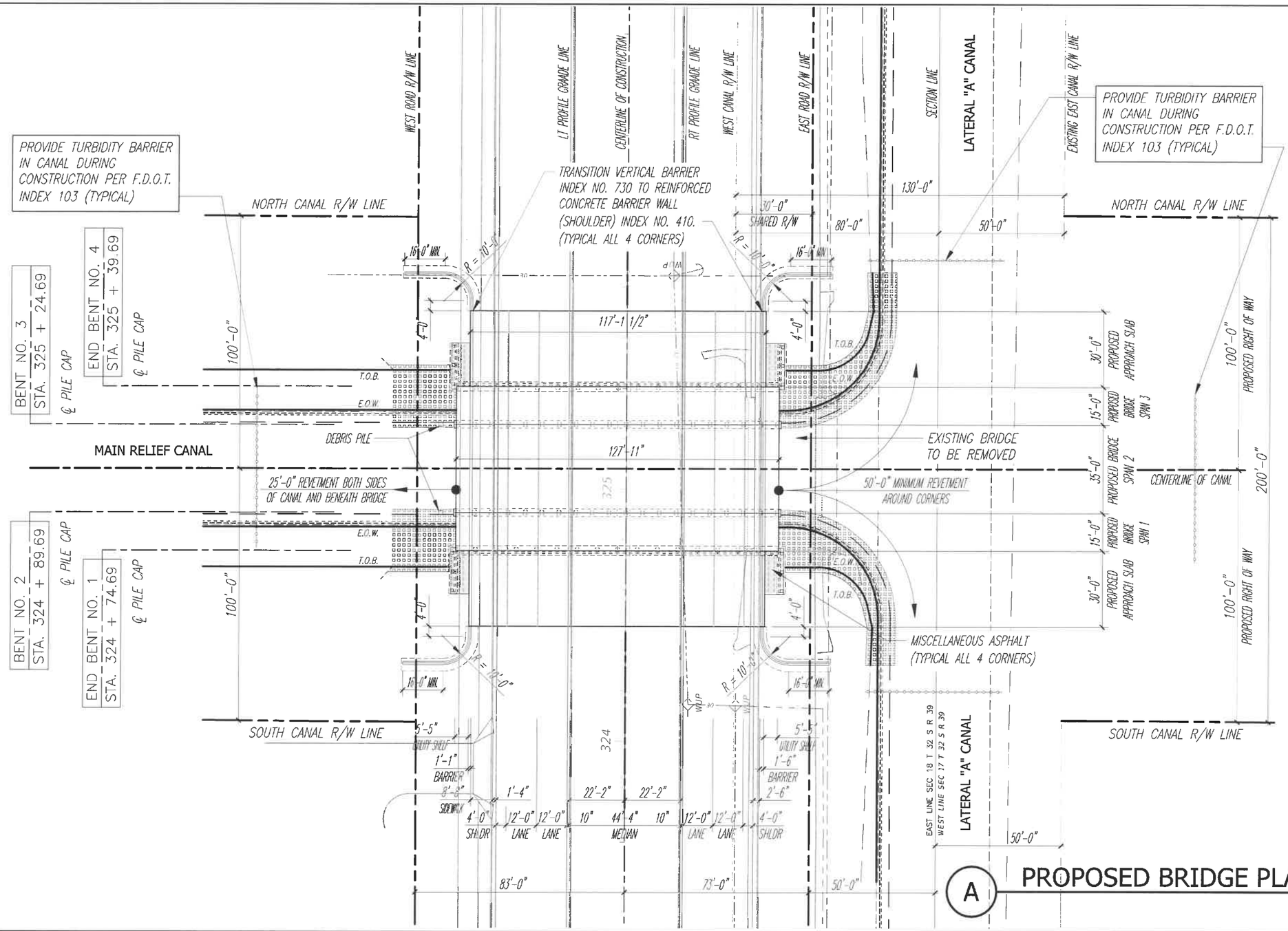
INDIAN RIVER COUNTY FLORIDA
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B5
PROJECT NO.
05-619



A **PROPOSED BRIDGE PLAN**

Scale: 1" = 20'-0"

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B6-PLAN.dwg

VERIFY SCALE
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BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3680 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

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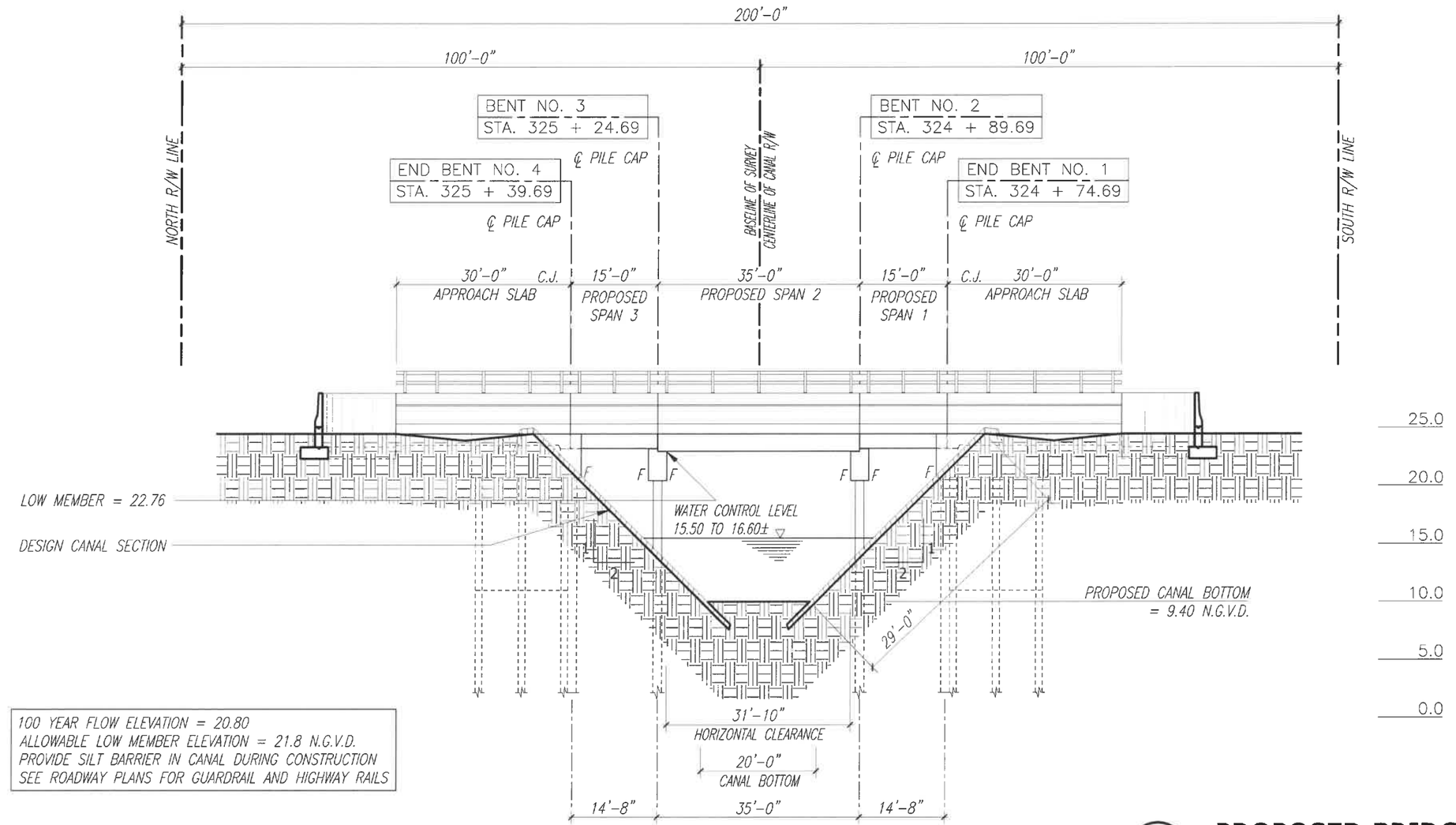
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B6
PROJECT NO.
05-619



100 YEAR FLOW ELEVATION = 20.80
ALLOWABLE LOW MEMBER ELEVATION = 21.8 N.G.V.D.
PROVIDE SILT BARRIER IN CANAL DURING CONSTRUCTION
SEE ROADWAY PLANS FOR GUARDRAIL AND HIGHWAY RAILS

A PROPOSED BRIDGE ELEVATION

Scale: 1" = 10'-0" (HORIZONTAL) 1" = 5'-0" (VERTICAL)

DATE: Nov 29, 2007 — 9:19am S:\2005-Jobs\05-619\C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\B7-ELEV.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA C.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY, FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
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PROJECT:
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Indian River County, Florida

SEAL
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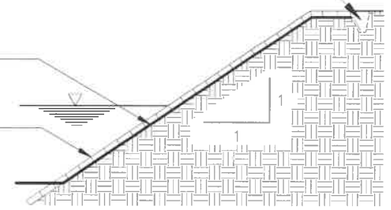
SHEET
B7
PROJECT NO.
05-619

BURRY TOP FLAP OF FILTER FABRIC 12 TO 18 INCHES

REVETMENT IS DESIGNED TO SUPPORT AND ENCOURAGE REVEGETATION

PLASTIC FILTER FABRIC

PETRAFLEX H416 REVETMENT OR EQUIVALENT



NOTE:
ANCHORING MAY BE REQUIRED.
CHECK MANUFACTURERS RECOMMENDATIONS FOR THE GIVEN SLOPE.

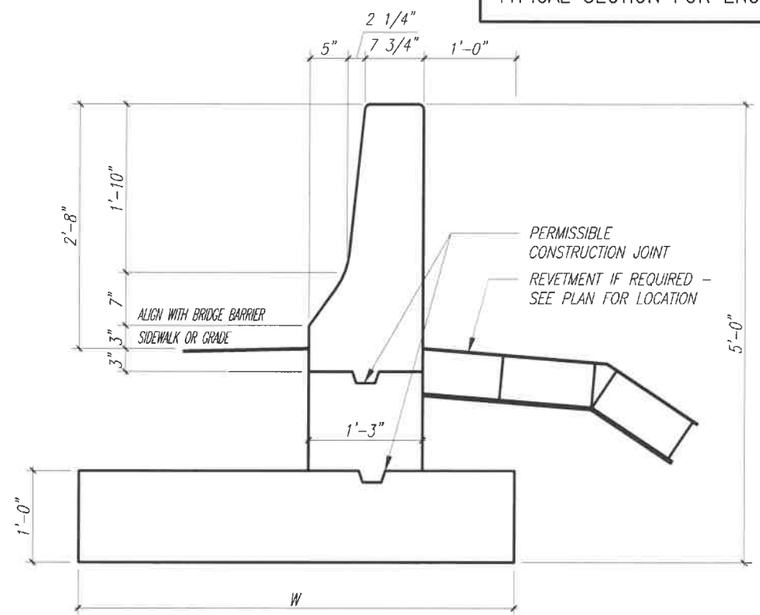
USE SELECT MATERIAL AS REQUIRED TO ACHIEVE SLOPE.
COST TO BE INCLUDED IN UNIT COST OF REVETMENT.

SUBMIT SHOP DRAWINGS AS PER MANUFACTURERS RECOMMENDATION FOR THE REQUIRED SLOPE.

NO SCALE

1 / B8

TYPICAL SECTION FOR EROSION CONTROL ON SLOPES



SEE INDEX 410, PAGE 5 OF 22 FOR ADDITIONAL INFORMATION.

2 / B8

REINFORCED CONCRETE BARRIER WALL (SHOULDER)

NO SCALE

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-6190 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\C400\B8-REVET_LWDDWGR.dwg

VERIFY SCALE
1"
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FLORIDA E.B. NO. 4952

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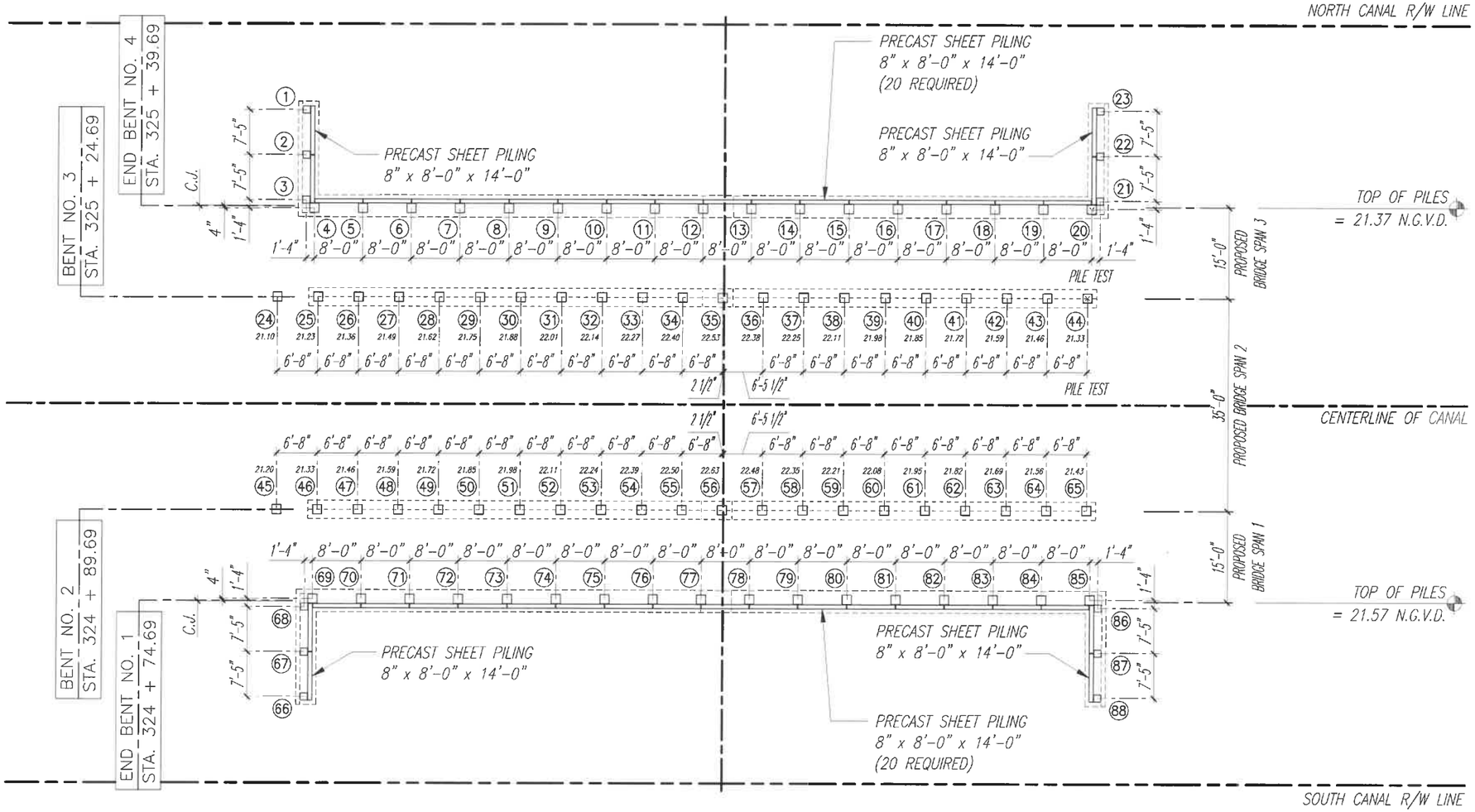
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B8
PROJECT NO.
05-619



A SUBSTRUCTURE PILES PLAN

Scale: 1" = 10'-0"

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\C4001\B9-SUBSTR1.dwg

VERIFY SCALE

1"

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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
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PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL

Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B9

PROJECT NO.
05-619

Soil Borings

SEE REPORT DATED 11/30/2005.
PREPARED BY TIERRA
FILE NO. 6611-05-417-2

S:\2005-Jobs\05-619E 53rd St Bridge over Lateral A Canal\SOIL BORING 3 4.JPG

Groundwater Depth in feet, with date of reading.

Borings were drilled on March of 2005 using a Mobil B-50 drilling rig.

(SP) Unified Soil Classification System Group Symbol (ASTM D 2488).

N Number of blows of a 140 lb. hammer freely falling a distance of 30 inches, required to drive a 2-inch diameter sampler a distance of 12 inches. (ASTM D 1586)

Pile Data Table

Installation Criteria								Design Criteria						
Bent/Pier	Pile Size (in.)	Nominal Bearing Capacity (tons)	Tension Capacity (tons)	Minimum Tip Elevation (ft.,N.G.V.D.)	Test Pile Length (ft.)	Required Jet Elevation (ft.,N.G.V.D.)	Required Preform Elevation (ft.,N.G.V.D.)	Factored Design Load (tons)	Down Drag (tons)	Total Scour Resistance (tons)	Net Scour Resistance (tons)	Long Term Scour Elevation (ft.)	100 Year Scour Elevation (ft.)	∅
Abutments														
Pile 20	18	86	N/A	(-) 10.0	55	N/A	N/A	56	0	N/A	N/A	N/A	N/A	0.65
Pile 4 - 19	18	86	N/A	(-) 10.0		N/A	N/A	56	0	N/A	N/A	N/A	N/A	0.65
Pile 69 - 85	18	86	N/A	(-) 10.0		N/A	N/A	56	0	N/A	N/A	N/A	N/A	0.65
Pile 1 - 3 & 21 - 23	14	31	N/A	(-) 10.0		N/A	N/A	20	0	N/A	N/A	N/A	N/A	0.65
Pile 66 - 68 & 86 - 88	14	31	N/A	(-) 10.0		N/A	N/A	20	0	N/A	N/A	N/A	N/A	0.65
Intermediate Bents														
Pile 44	18	142	N/A	(-) 10.0	65	N/A	N/A	92	0	N/A	N/A	N/A	N/A	0.65
Pile 24 - 43	18	142	N/A	(-) 10.0		N/A	N/A	92	0	N/A	N/A	N/A	N/A	0.65
Pile 45 - 65	18	142	N/A	(-) 10.0		N/A	N/A	92	0	N/A	N/A	N/A	N/A	0.65

PILE DATA - ABUTMENTS

PILE (20) TEST PILE 55'-0" LONG MINIMUM.
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PRECAST PRESTRESSED CONCRETE PILING
LOADING SHALL BE AS FOLLOWS:

PILES (1) - (3) & (21) - (23)
14" SQUARE PILES WITH 30'-0" LONG MINIMUM.
PILES (66) - (68) & (86) - (88)
14" SQUARE PILES WITH 30'-0" LONG MINIMUM.

PILES (4) - (19)
18" SQUARE PILES WITH 40'-0" LONG MINIMUM.
PILES (69) - (85)
18" SQUARE PILES WITH 40'-0" LONG MINIMUM.

PILE INSTALLATION NOTES:

Contractor to verify location of all utilities prior to any pile driving.

Minimum Tip Elevations required for lateral stability.

PILE DATA - INTERMEDIATE BENTS

PILE (44) TEST PILE WITH 92 TON CAPACITY (65'-0" LONG MINIMUM)
USE TEST PILE TO DETERMINE FINAL PILE LENGTHS.

PRECAST PRESTRESSED CONCRETE PILING
LOADING SHALL BE AS FOLLOWS:

PILES (24) - (43)
18" SQUARE PILES WITH 50'-0" LONG MINIMUM.
PILES (45) - (65)
18" SQUARE PILES WITH 50'-0" LONG MINIMUM.

NOTES:

Nominal Bearing Capacity (NBC) = (Factored Design Load + Net Scour Resistance + Down Drag) / ∅

Test piles are to be monitored dynamically with the Pile Driving Analyzer (PDA).

Service Load: End Bent = 37 Tons
Service Load: Intermediate Bent = 61 Tons

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\B10 - SUBSTR2.dwg

VERIFY SCALE
1"
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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

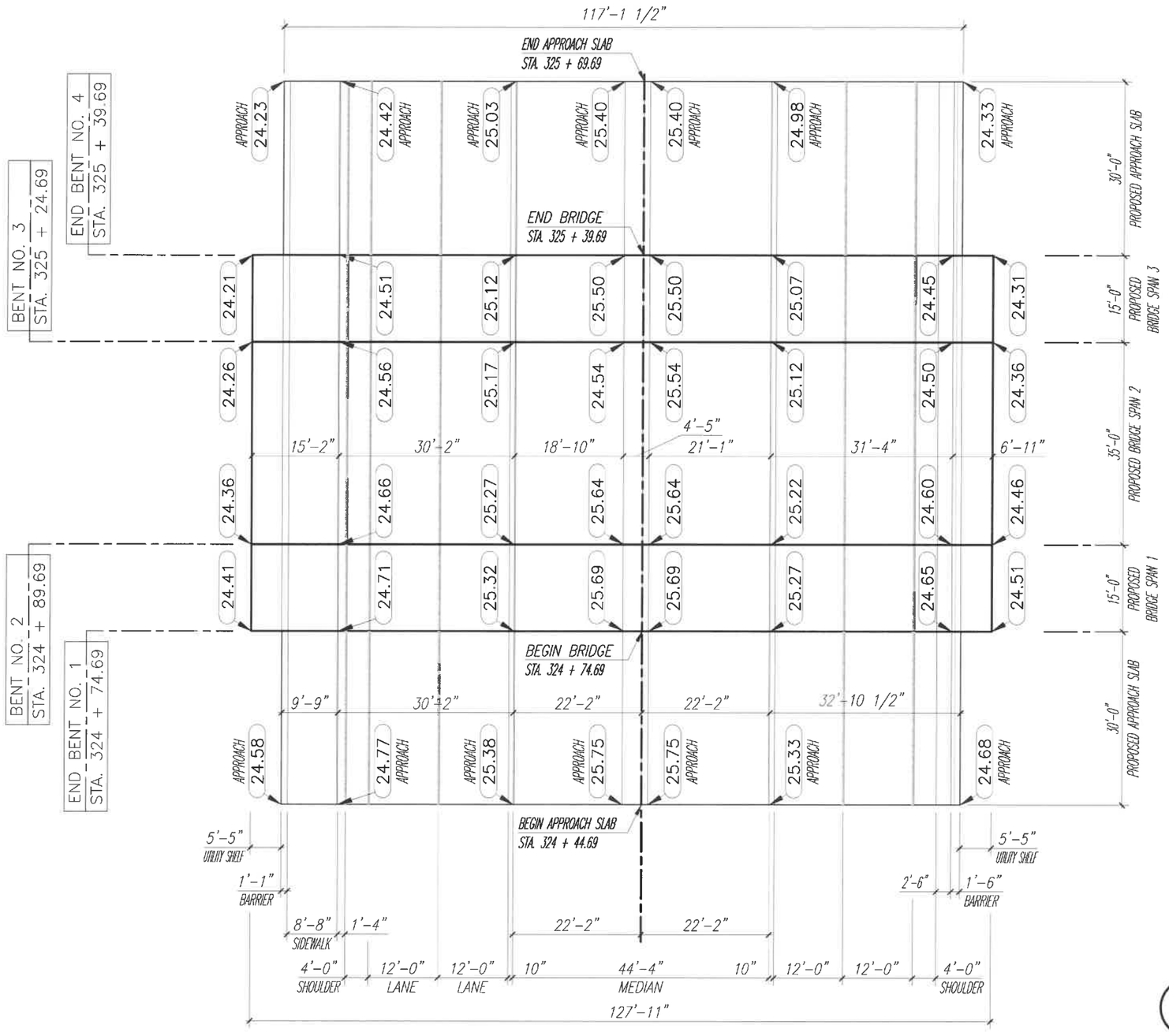
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B10
PROJECT NO.
05-619



NOTES:

1. *GRADE IS TO TOP OF PRECAST CONCRETE SLABS. ASPHALT, SIDEWALKS, AND BARRIERS ARE NOT INCLUDED.*

A FINISH GRADE ELEVATIONS PLAN

Scale: 1" = 10'-0"

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-6190 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\B11-FINGRD.dwg

VERIFY SCALE
1"
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Tel. (561) 686-3650 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

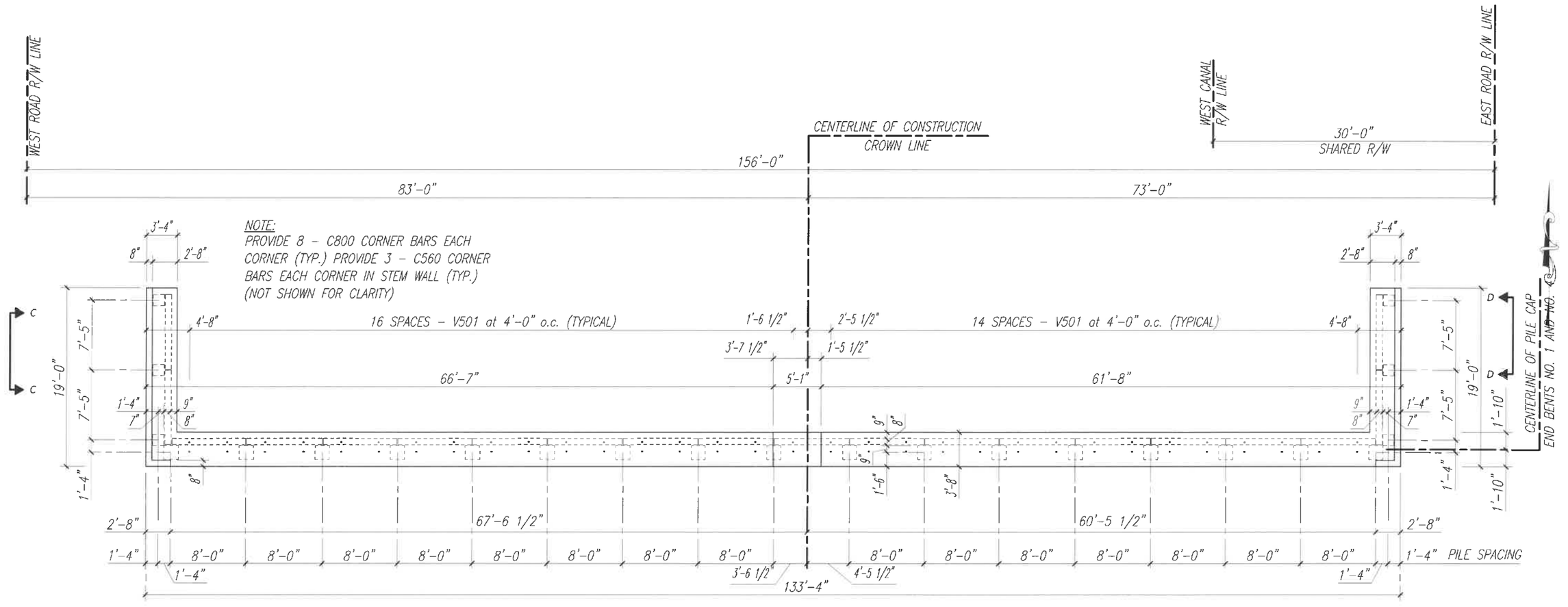
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B11
PROJECT NO.
05-619



NOTE:
PROPOSED END BENT NO. 1 SIMILAR - OPPOSITE HAND
END BENT NO. 1 - STA. 324 + 74.69
END BENT NO. 4 - STA. 325 + 39.69

NORTH END BENT NO. 1 PLAN

DATE: Nov 29, 2012 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B1213-ENDBENT1.dwg

VERIFY SCALE
1"
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Tel. (561) 688-3680 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

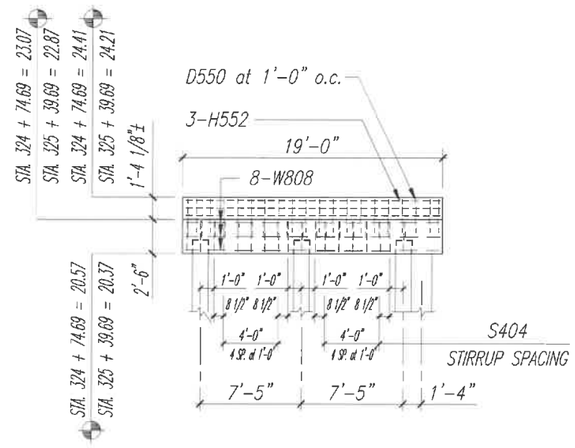
INDIAN RIVER COUNTY FLORIDA
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 07/16/07
Field Book No:

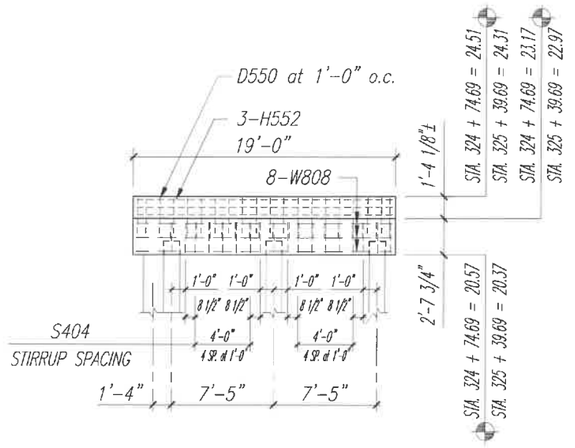
PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
South of S.R. 60 to 59th Street
Indian River County, Florida

SEAL
Brian C. Rhecuill P.E. - 38797
FLORIDA P.E. NAME & NUMBER

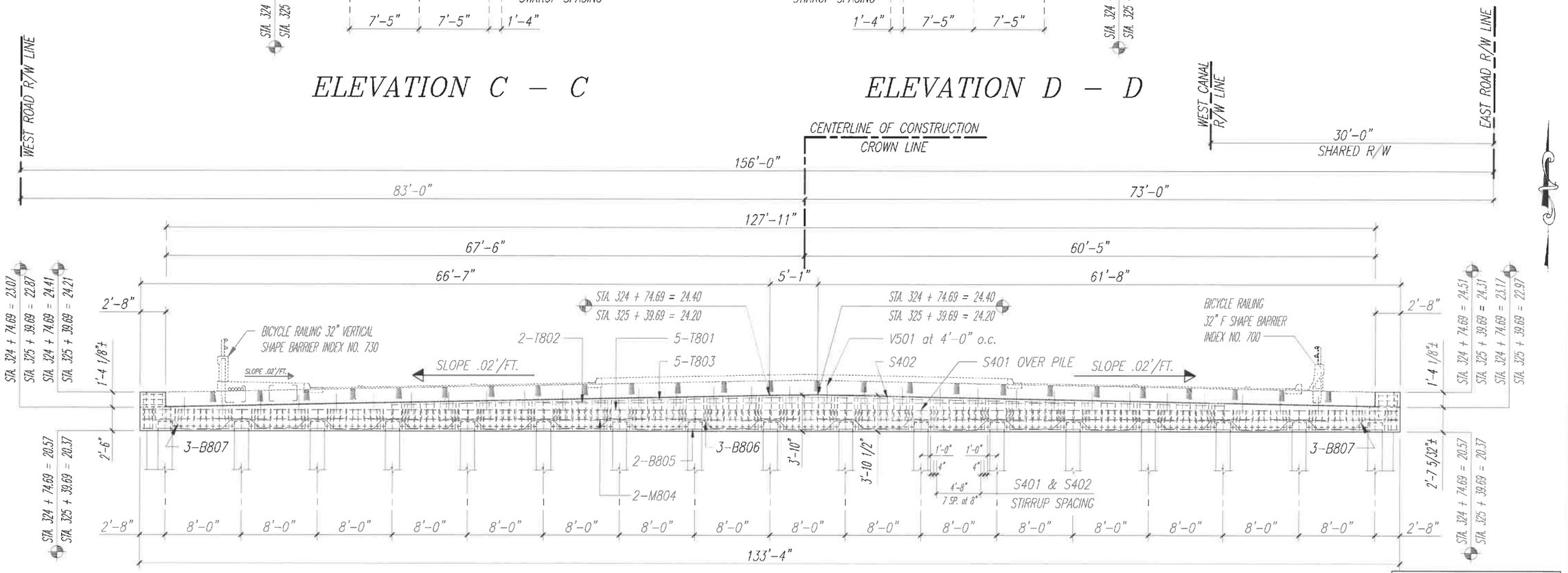
SHEET
B12
PROJECT NO.
05-619



ELEVATION C – C



ELEVATION D – D



NORTH END BENT NO. 1 ELEVATION

NOTE:
PROPOSED END BENT NO. 1
SIMILAR – OPPOSITE HAND
END BENT NO. 1 – STA. 324 + 74.69
END BENT NO. 4 – STA. 325 + 39.69

DATE: Nov 29, 2012 – 9:19am S:\2005-Jobs\05-6190 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\21213-EXBRTAIL1.dwg

VERIFY SCALE
1"
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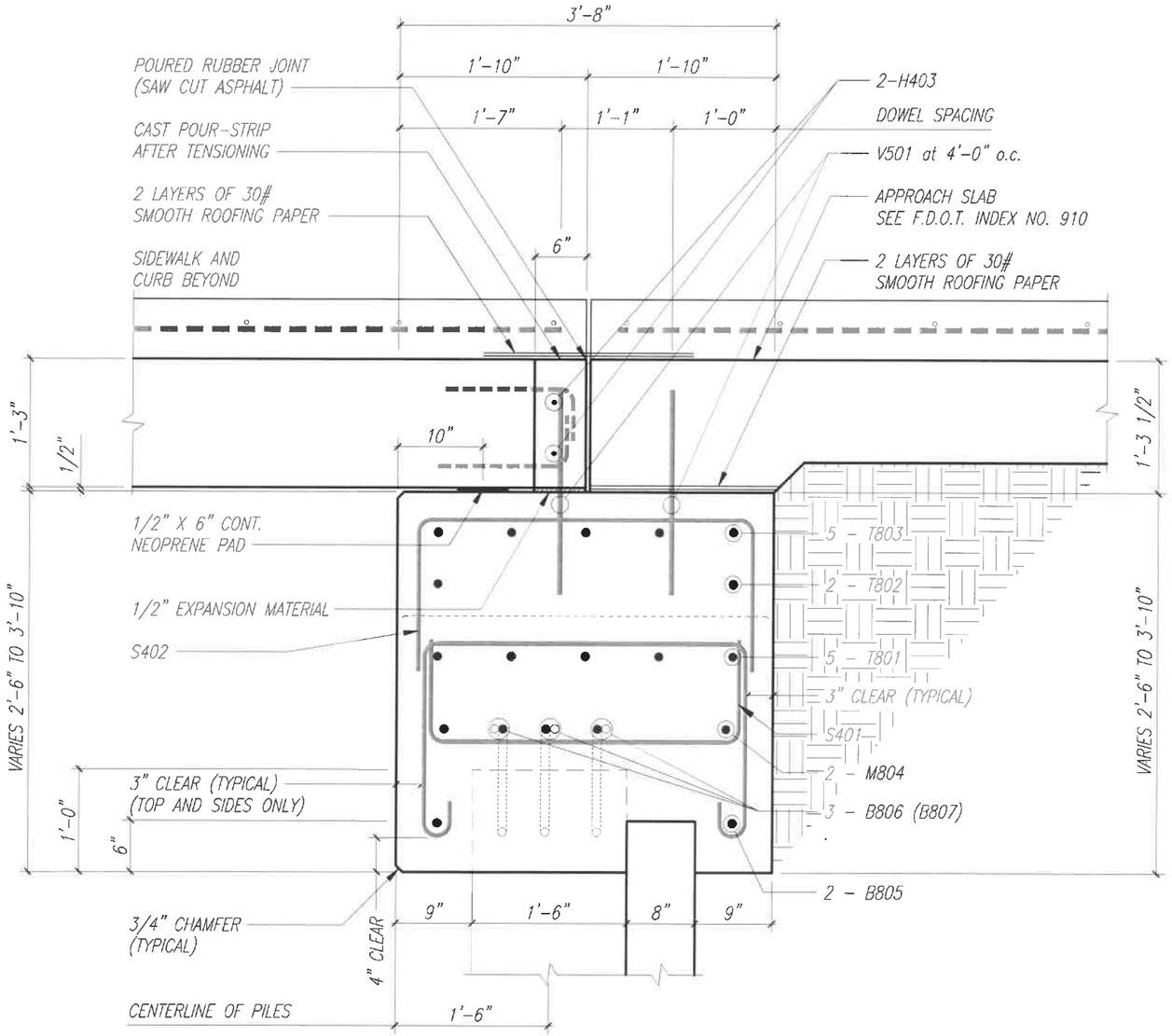
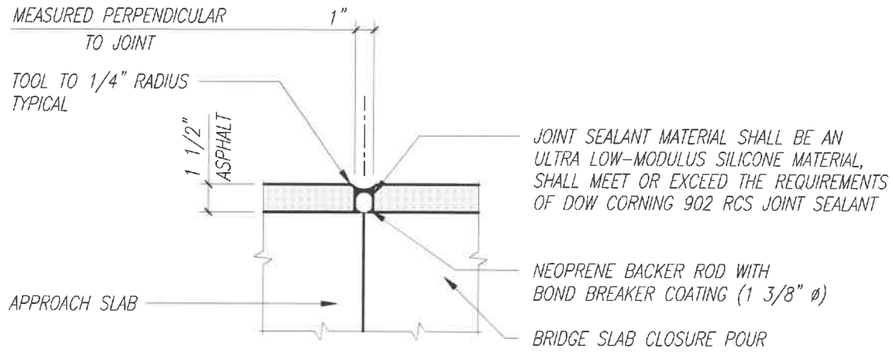
Indian River County, Florida

SEAL
Brian C. Rheault P.E. – 38797
FLORIDA P.E. NAME & NUMBER

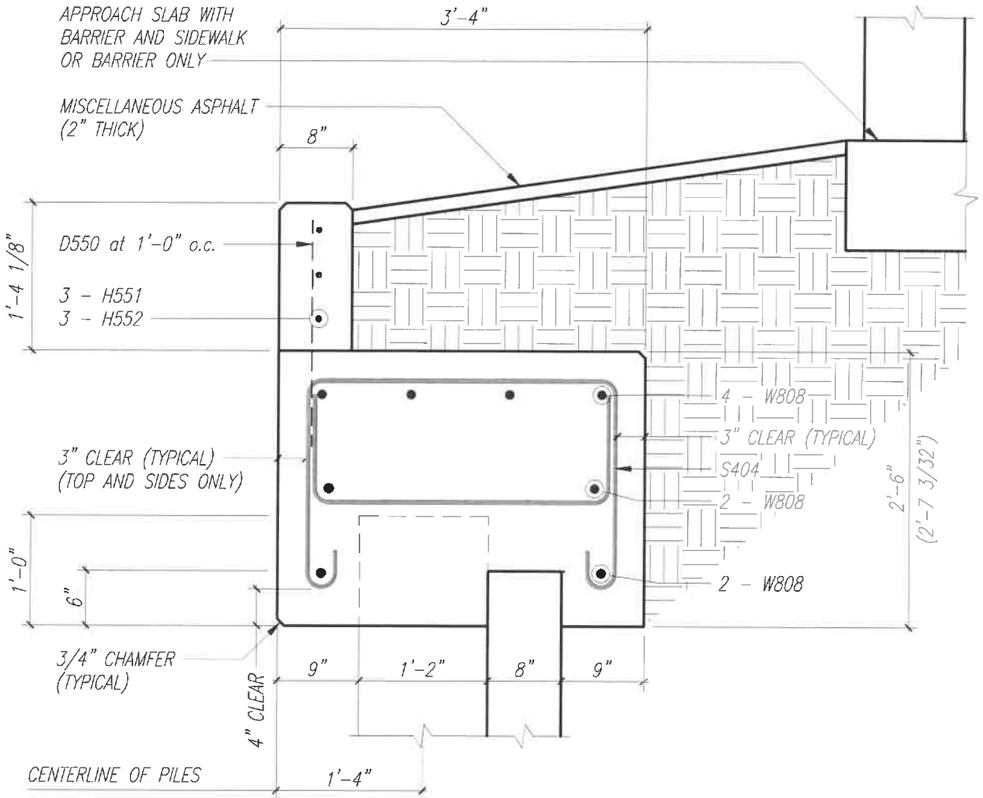
SHEET
B13
PROJECT NO.
05-619



END BENT DETAIL A



JOINT AT END BENT DETAIL



WING BENT DETAIL B

VERIFY SCALE
1"
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SEAL
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B14
PROJECT NO.
05-619

DATE: Nov 29, 2007 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\C2D\B14.15-EXHIBIT.dwg

Estimated End Bent Quantities

Item	Unit	Quantity
Class IV Concrete (Pile Cap)	Cu. Yds.	70.0
Reinforcing Steel (Pile Cap)	lbs.	12239

Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
C800	#8	16		8'-0"	Bar C800	342
T801	#8	5	132'-10" + 19'-6"	152'-4"	Straight-3 Laps	2034
T802	#8	2	132'-10" + 13'-0"	145'-10"	Straight-3 Laps	779
T803	#8	5	88'-0" + 19'-6"	107'-6"	Straight-3 Laps	1435
M804	#8	2	132'-10" + 13'-0"	145'-10"	Straight-3 Laps	779
B805	#8	2	132'-10" +13'-6"	146'-4"	Straight-3 Laps	781
B806	#8	42		14'-10"	Bar B806	1663
B807	#8	6		14'-1"	Bar B807	226
S401	#4	217		13'-4"	Bar S401	1933
S402	#4	144		6'-2	Bar S402	593
H403	#4	2	127'-5" + 6'-0"	133'-5"	Straight-3 Laps	178
W808	#8	16		18'-5"	Straight	787
S404	#4	36		12'-8"	Bar S404	305
V501	#5	64		2'-3"	Straight	150
D550	#5	40		2'-6"	Straight	104
H551	#5	6		1'-8 1/2"	Straight	11
H552	#5	6		18'-5"	Straight	115
C560	#5	6		4'-0"	Bar C560	25

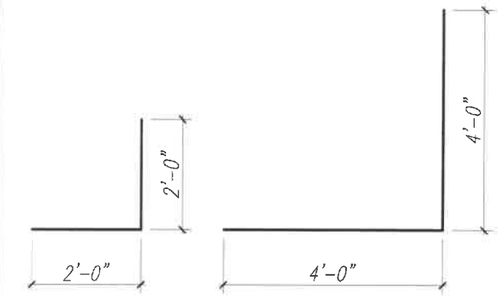
Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.

Required Bar Lap Splices

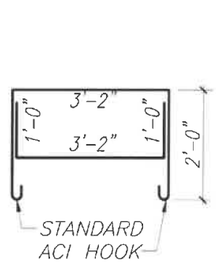
Mark	Size	Splice Length
T	#4	29"
T	#5	36"
T	#6	44"
T	#8	78"
M	#8	54"
B	#6	36"
B	#8	54"
W (Top)	#8	54"
W (Middle)	#8	54"
W (Bottom)	#8	54"
H	#4	24"
H	#5	36"

Note:
Splice continuous bars thus:
Top bars at mid-span between the piles
Bottom bars at the piles

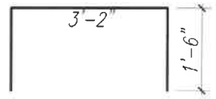
BENDING DIAGRAM



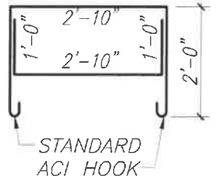
BAR C560 BAR C800



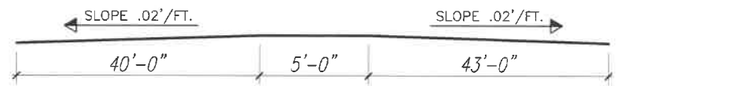
BAR S401



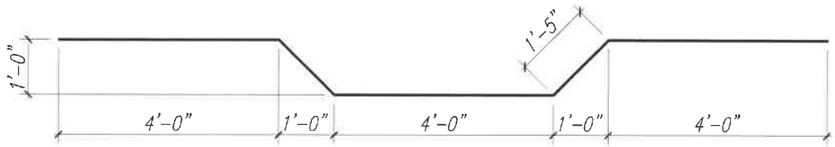
BAR S402



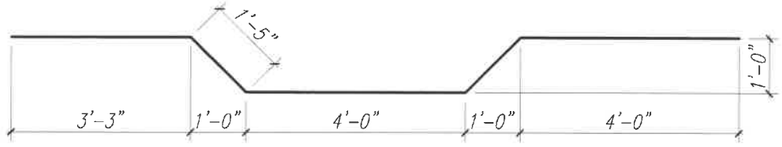
BAR S404



BARS T803



BARS B806



BARS B807

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd. Bldg. 200, Royal Palm Beach, FL 33411
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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
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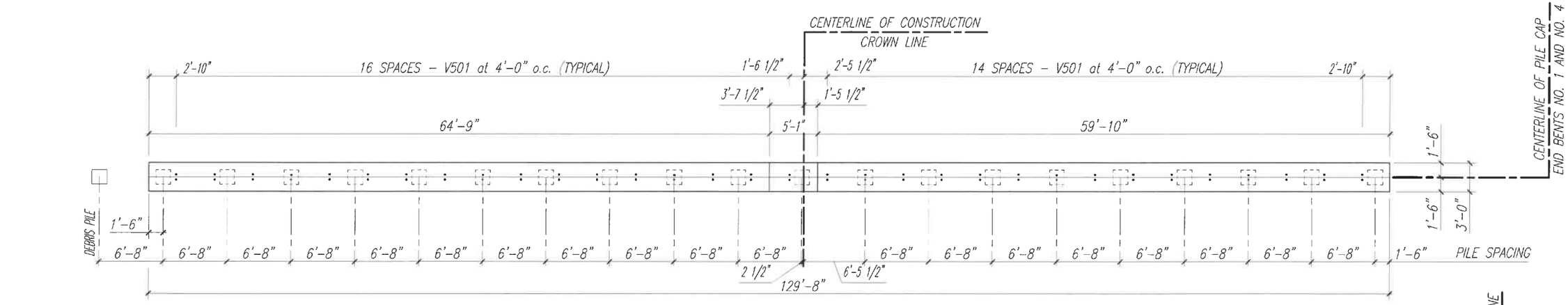
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

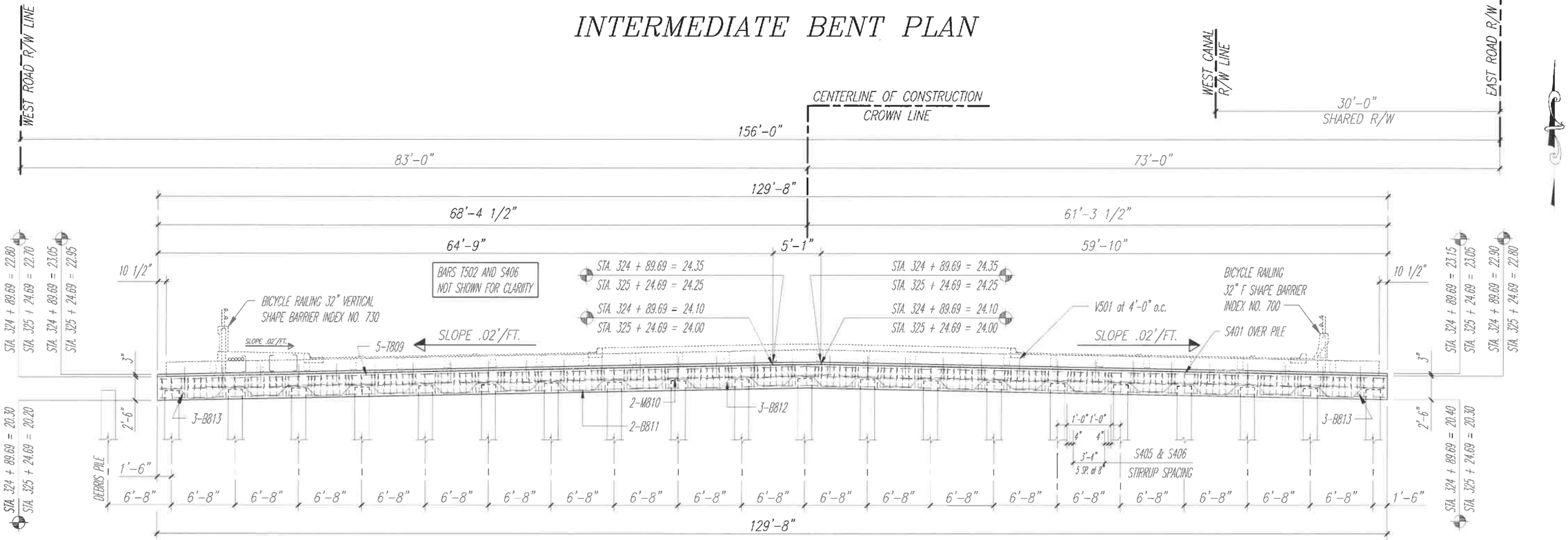
SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B15
PROJECT NO.
05-619

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\619415-EYEBNDET.dwg



INTERMEDIATE BENT PLAN



INTERMEDIATE BENT ELEVATION

VERIFY SCALE
1"
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BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 206, Royal Palm Beach, FL 33411
Tel. (561) 685-3660 Fax (561) 791-1935
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

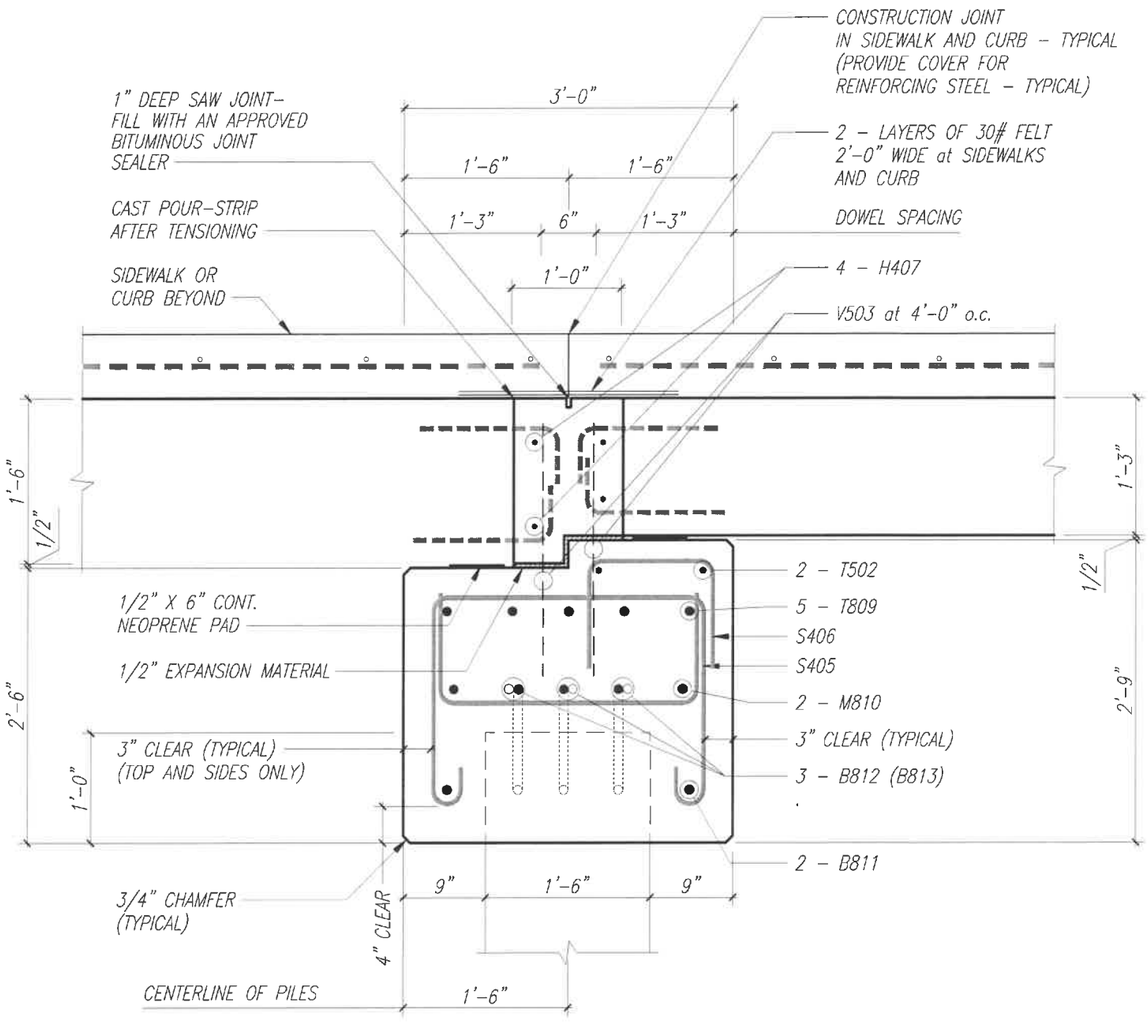
Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. – 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B16
PROJECT NO.
05-619

DATE: Nov 29, 2012 – 9:19pm S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\04DGN\B16-INTBYPLEL1.dwg



INTERMEDIATE BENT DETAIL E

DATE: Nov 29, 2012 - 9:19am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\[218-INTBNTDET.dwg

VERIFY SCALE
1"
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INDIAN RIVER COUNTY FLORIDA

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SEAL
Brian C. Rheault P.E. - 38797
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SHEET
B17
PROJECT NO.
05-619

Estimated Intermediate Bent Quantities

Item	Unit	Quantity
Class IV Concrete (Pile Cap)	Cu. Yds.	38.0
Reinforcing Steel (Pile Cap)	lbs.	7910

Bill of Reinforcing Steel

Mark	Size	Number Required	Length + Lap	Total Length	Bending	Weight (lbs.)
T502	#5	2	129'-2" + 9'-0"	138'-2"	Straight-3 Laps	288
T809	#8	5	129'-2" + 19'-6"	148'-8"	Straight-3 Laps	1985
M810	#8	2	129'-2" + 19'-6"	148'-8"	Straight-3 Laps	794
M812	#8	51		13'-6"	Bar S405	1838
B813	#8	6		11'-7"	Bar S406	186
S405	#4	212		13'-4"	Bar S405	1888
S406	#4	212		3'-0"	Bar S406	425
H407	#4	4	127'-5" + 6'-0"	133'-5"	Straight-3 Laps	356
V503	#5	64		2'-3"	Straight	150

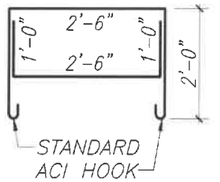
Bill of Reinforcing Steel and Estimated Quantities are for one pile cap only.

Required Bar Lap Splices

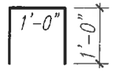
Mark	Size	Splice Length
T	#4	29"
T	#5	36"
T	#6	44"
T	#8	78"
M	#8	54"
B	#6	36"
B	#8	54"
W (Top)	#8	54"
W (Middle)	#8	54"
W (Bottom)	#8	54"
H	#4	24"
H	#5	36"

Note:
Splice continuous bars thus:
Top bars at mid-span between the piles
Bottom bars at the piles

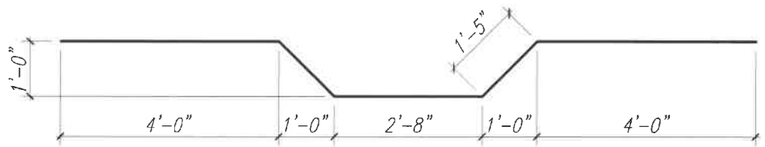
BENDING DIAGRAM



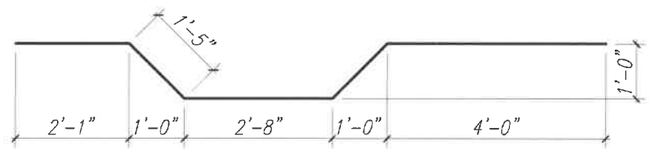
BAR S405



BAR S406



BARS B812



BARS B813

DATE: Nov 29, 2012 — 9:20am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\B18-INTERWIDE1.dwg

VERIFY SCALE
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CONSULTING ENGINEERS
FLORIDA E.B. #0. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
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SEAL
Brian C. Rheault P.E. - 38797
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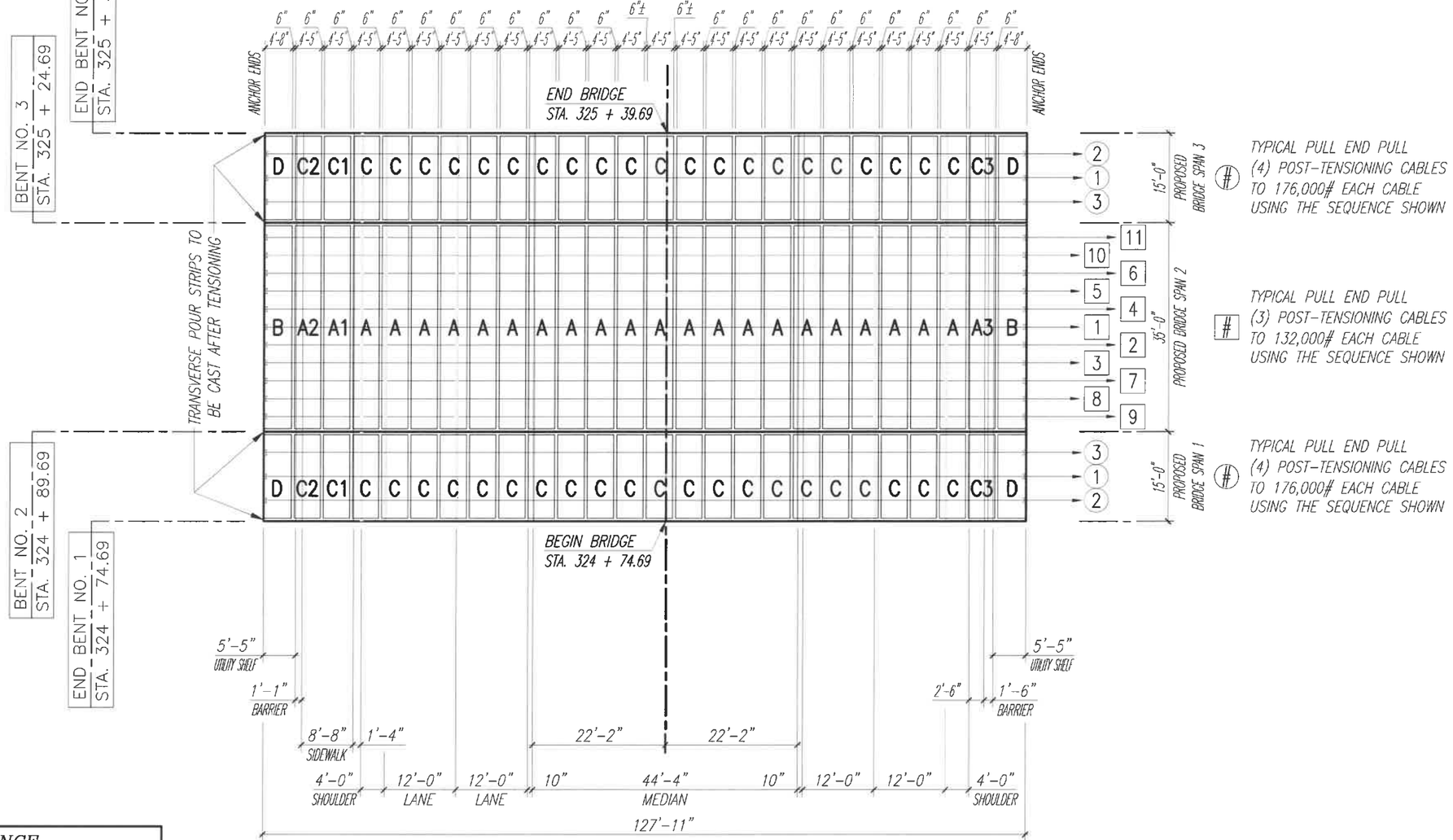
SHEET
B18
PROJECT NO.
05-619



POST-TENSIONING SEQUENCE

POST-TENSIONING SHALL BE DONE ACCORDING TO THE NUMBER SEQUENCE ON THE SUPER-STRUCTURE. CONCRETE IN CLOSURE POURS SHALL HAVE A MINIMUM CYLINDER STRENGTH OF 3000 psi BEFORE TENSIONING.

A PRECAST SLAB LAYOUT PLAN

Scale: 1" = 10'-0"

VERIFY SCALE
1"
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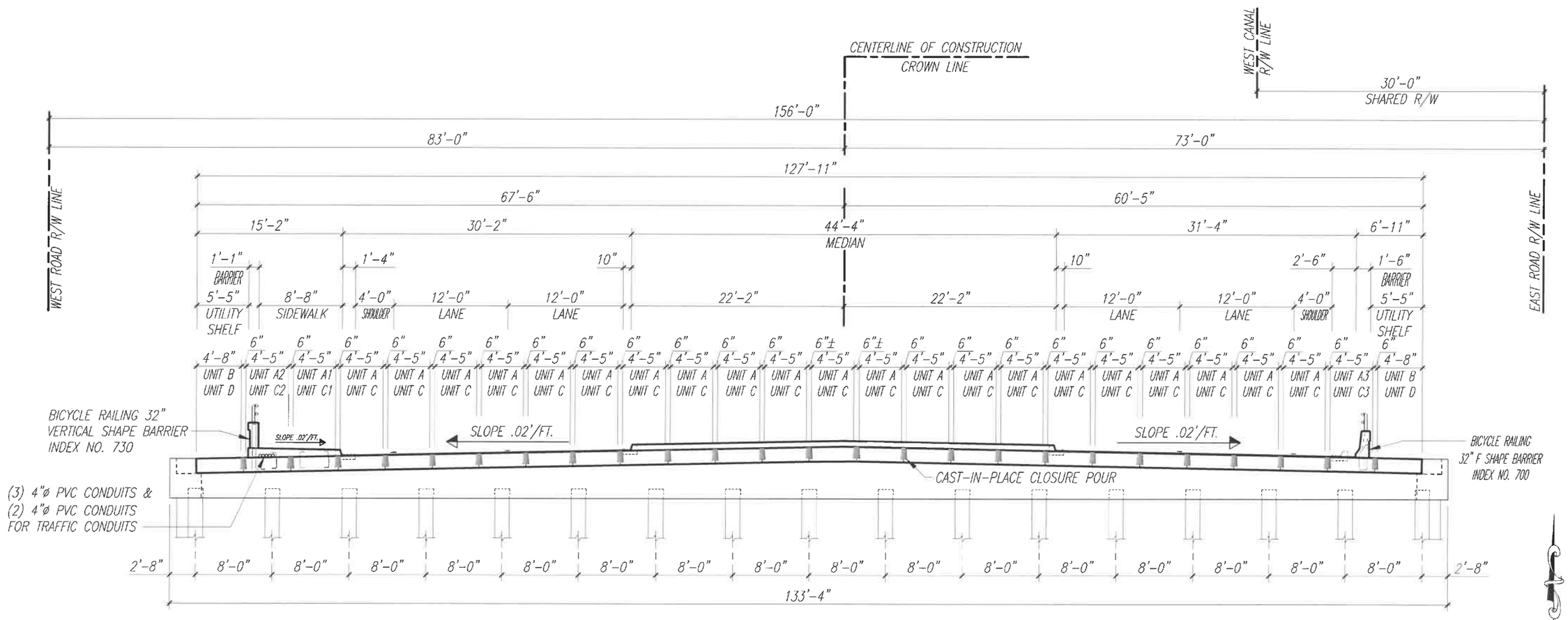
B19
PROJECT NO.
05-619



TYPICAL BRIDGE CROSS SECTION at END BENT

3/16" = 1'-0"

DATE: Nov 29, 2012 - 9:30am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\920-TYPSECT.dwg

VERIFY SCALE

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Engineering Division

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PROJECT:
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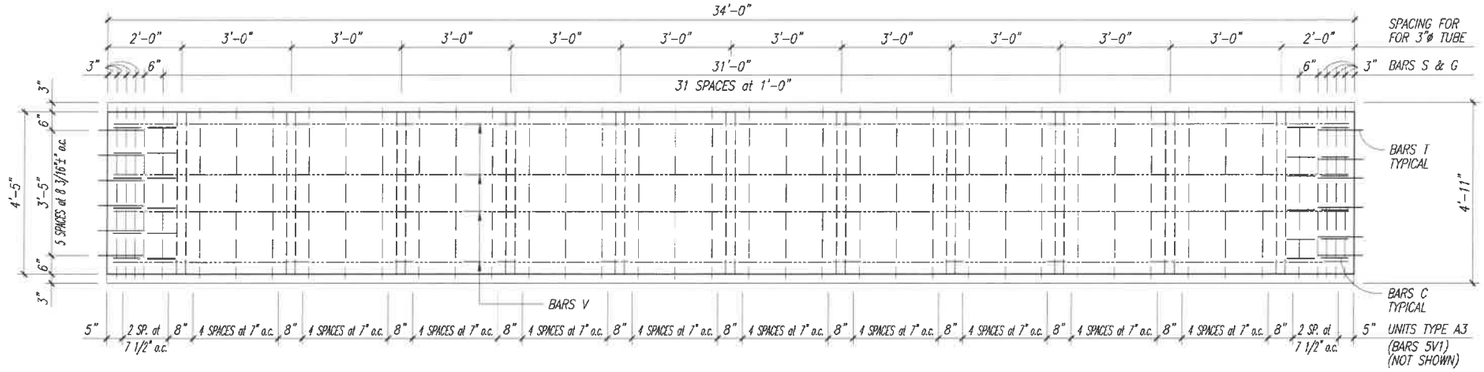
Indian River County, Florida

SEAL

Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B20

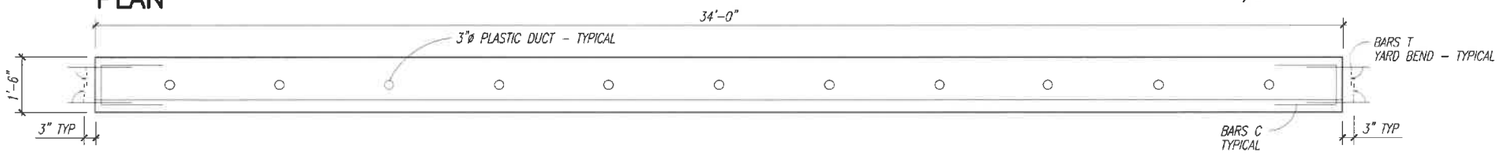
PROJECT NO.
05-619



PRESTRESSED SLAB UNITS — TYPE A (TYPE A3)

PLAN

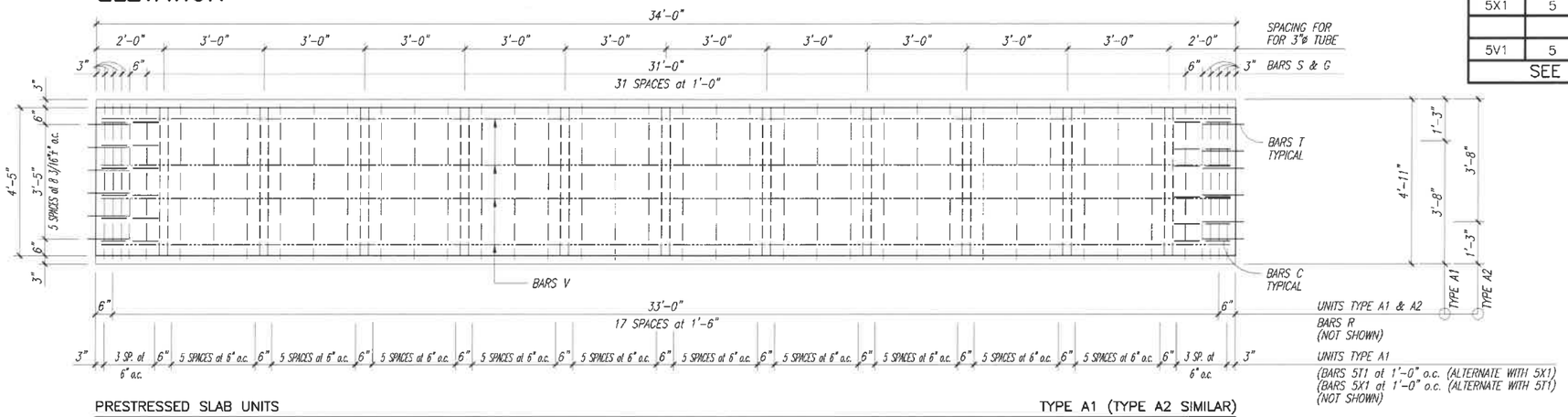
1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE A (TYPE A3)

ELEVATION

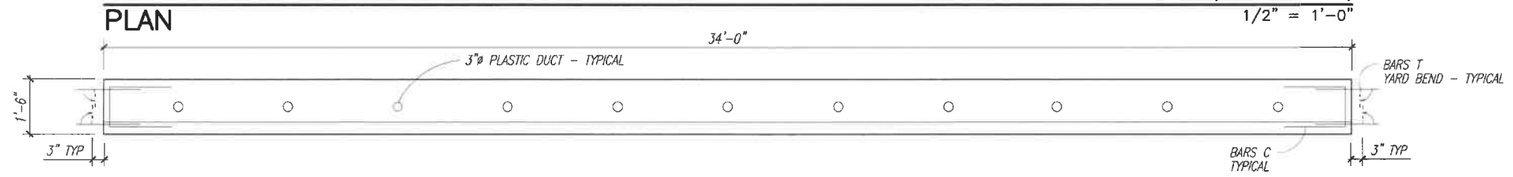
1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE A1 (TYPE A2 SIMILAR)

PLAN

1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE A1 (TYPE A2 SIMILAR)

ELEVATION

1/2" = 1'-0"

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
TYPE A SLAB UNITS (21 REQUIRED)	L.F.	714'-0"
TYPE A1 SLAB UNITS (1 REQUIRED)	L.F.	34'-0"
TYPE A2 SLAB UNITS (1 REQUIRED)	L.F.	34'-0"
TYPE A3 SLAB UNITS (1 REQUIRED)	L.F.	34'-0"

BILL OF REINFORCING STEEL

MARK	SIZE	NUMBER REQUIRED TYPE A	A1	A2	A3	LENGTH	BENDING
C	4	12	12	12	12	4'-4 1/2"	SEE DIAG.
G	4	40	40	40	40	4'-3"	STRAIGHT
R	4		28	28		2'-9 3/4"	SEE DIAG.
S	4	40	40	40	40	16'-10"	SEE DIAG.
T	4	24	24	24	24	1'-9"	SEE DIAG.
V	5	4	4	4	4	33'-6"	STRAIGHT
5T1	5			34		9'-4"	SEE DIAG.
5X1	5			34		5'-7"	SEE DIAG.
5V1	5				56	7'-6"	SEE DIAG.

SEE SHEET B23 & B24 FOR BENDING DIAGRAM

**

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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

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INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

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Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B21
PROJECT NO.
05-619

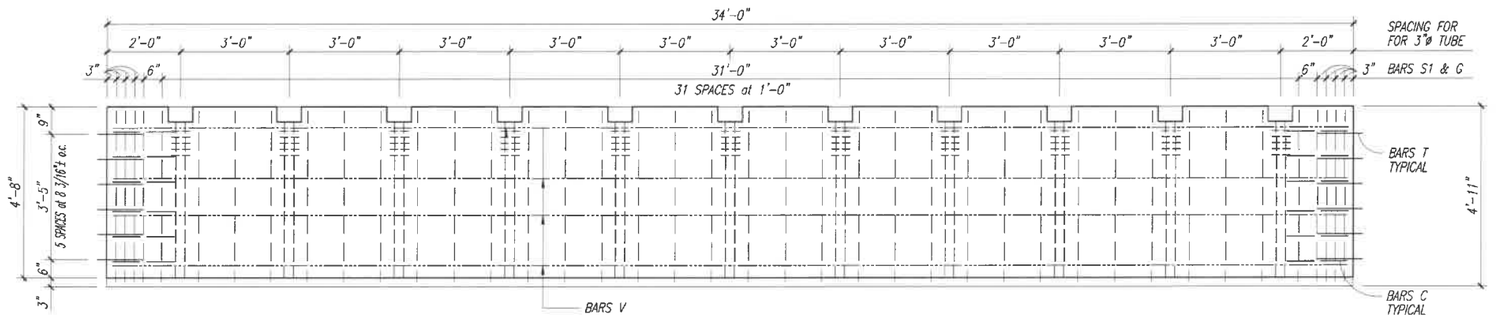
ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
TYPE B SLAB UNITS (2 REQUIRED)	L.F.	68'-0"

BILL OF REINFORCING STEEL

MARK	SIZE	NUMBER REQUIRED TYPE B	LENGTH	BENDING
C	4	12	4'-4 1/2"	SEE DIAG.
G	4	40	4'-3"	STRAIGHT
** S1	4	40	17'-4"	SEE DIAG.
T	4	24	1'-9"	SEE DIAG.
V	5	4	33'-6"	STRAIGHT
D	3	55	2'-0"	STRAIGHT

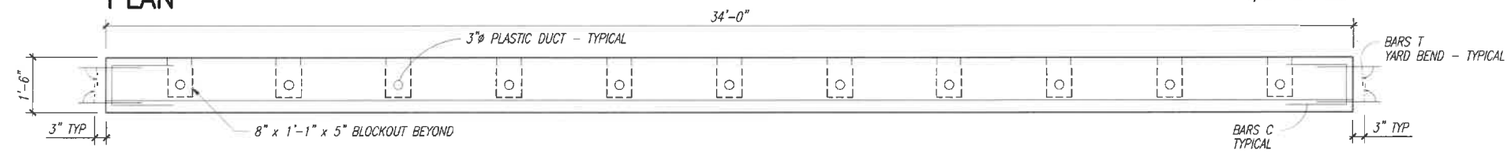
SEE SHEET B23 & B24 FOR BENDING DIAGRAM



PRESTRESSED SLAB UNITS — TYPE B

PLAN

1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE B

ELEVATION

1/2" = 1'-0"

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-6190 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\2400\B2122-PCSP3.4.dwg

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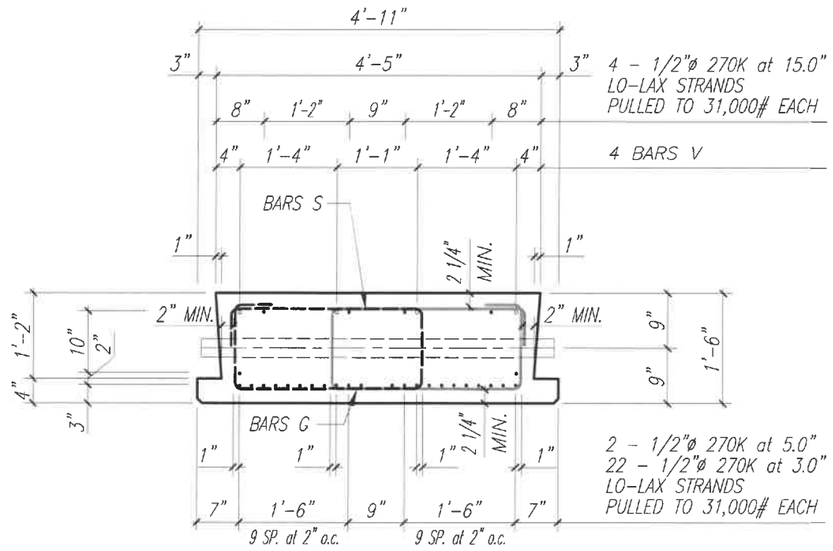
SEAL

Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

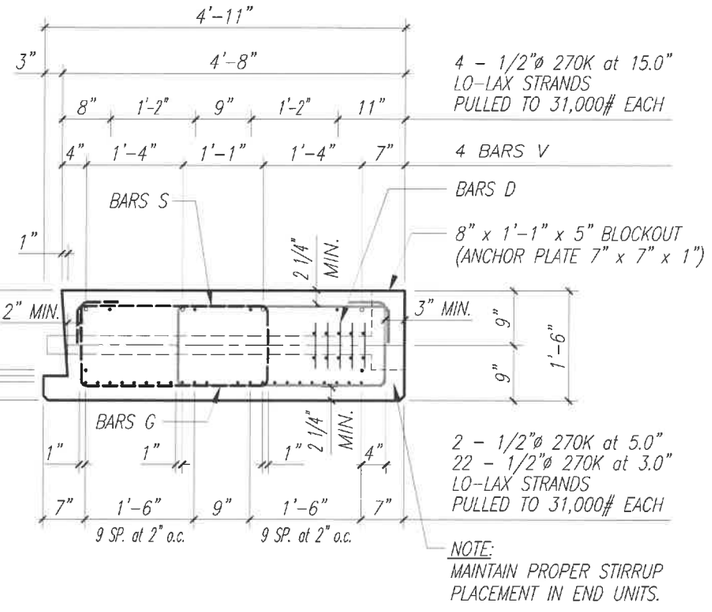
SHEET
B22

PROJECT NO.
05-619



TYPE A

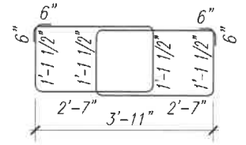
TYPICAL SECTION



TYPE B

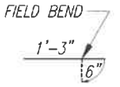
TYPICAL SECTION

BENDING DIAGRAM



BARS S

** NUMBER REQUIRED SHOWN
REPRESENTS PAIRS OF BARS



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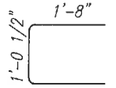

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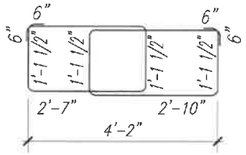

BARS S1

** NUMBER REQUIRED SHOWN
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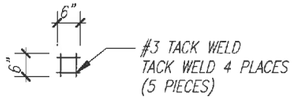

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* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *

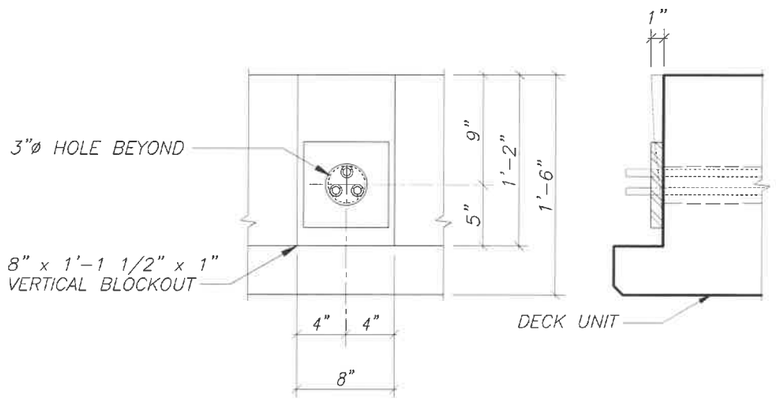
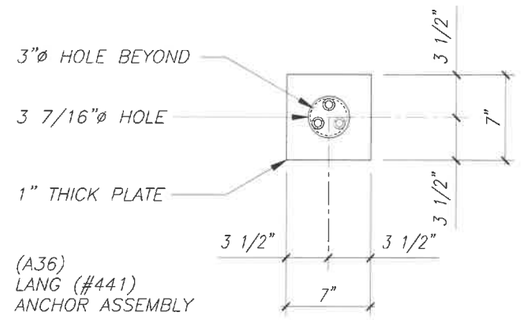


PLATE BLOCKOUT DETAIL



TYPICAL ANCHOR PLATE DETAIL

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\0400\623 - SIDET34_1.dwg

VERIFY SCALE
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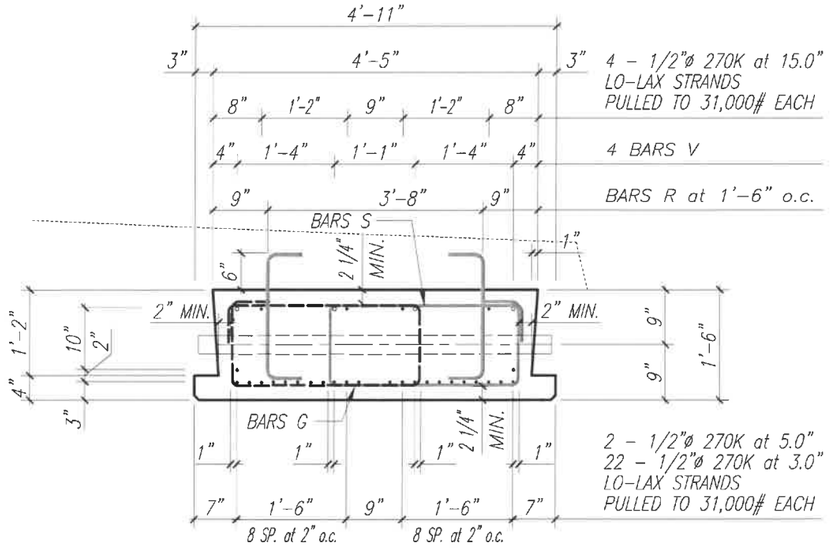
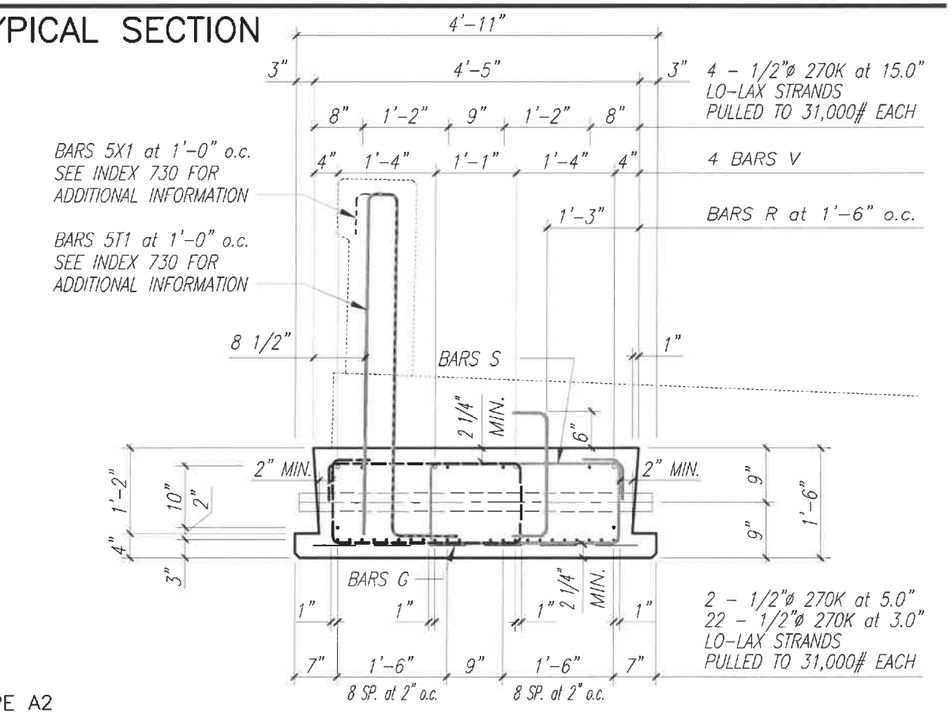


TYPE A1

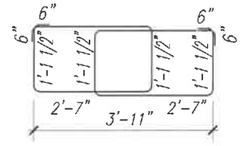
TYPICAL SECTION



TYPE A2

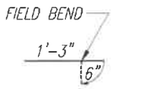
TYPICAL SECTION

BENDING DIAGRAM



BARS S

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



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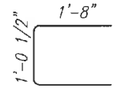
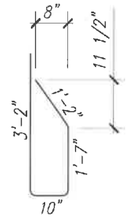


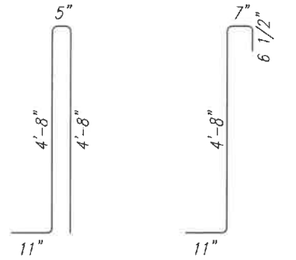
BARS C

BARS R



BARS 5V1

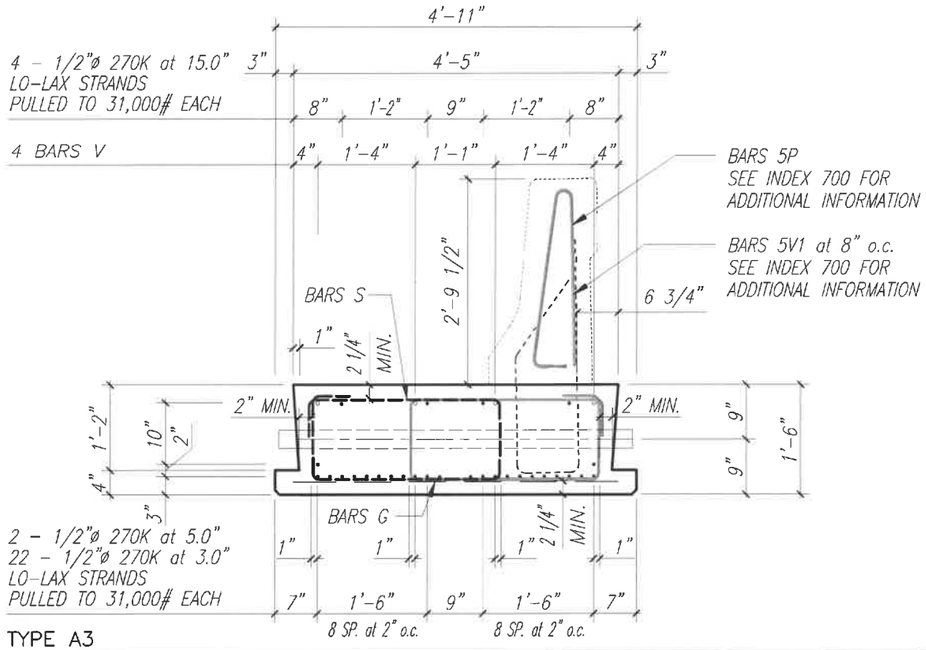
SEE SHEET INDEX NO. 700 FOR ADDITIONAL INFORMATION.



BARS 5T1 BARS 5X1

SEE SHEET INDEX NO. 730 FOR ADDITIONAL INFORMATION.

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *



TYPE A3

TYPICAL SECTION

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CAD\B24-SUDET34_2.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd. Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3560 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

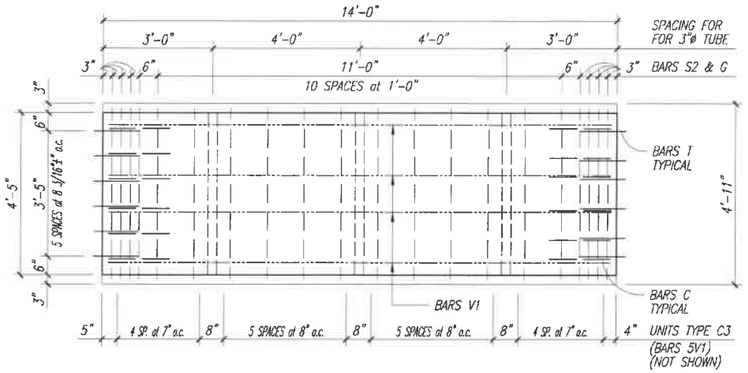
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheoult P.E. - 38797
FLORIDA P.E. NAME & NUMBER

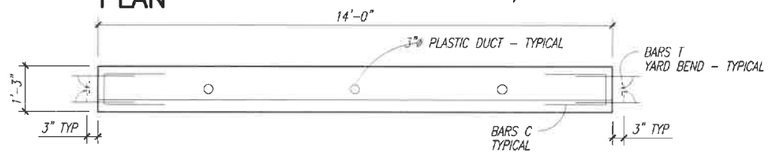
SHEET
B24
PROJECT NO.
05-619



PRESTRESSED SLAB UNITS — TYPE C (TYPE C3)

PLAN

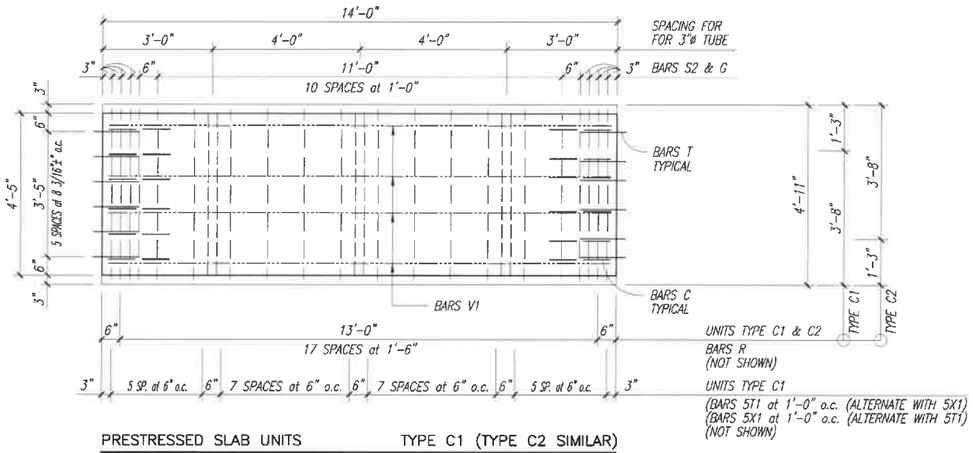
1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE C (TYPE C3)

ELEVATION

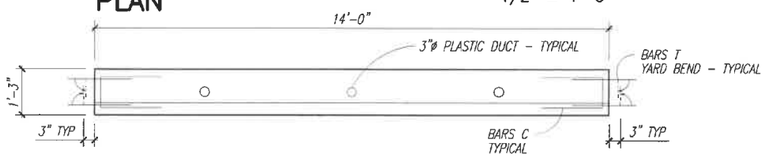
1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE C1 (TYPE C2 SIMILAR)

PLAN

1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE C1 (TYPE C2 SIMILAR)

ELEVATION

1/2" = 1'-0"

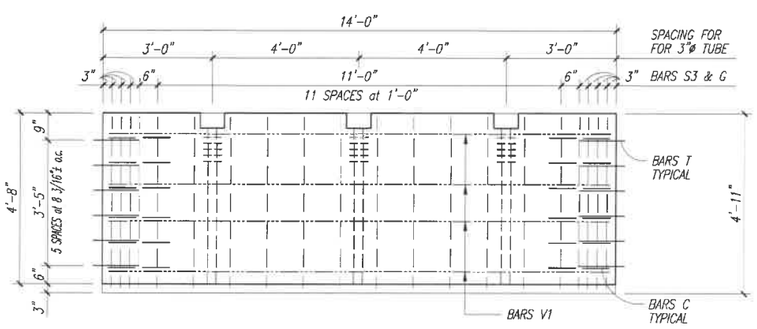
BILL OF REINFORCING STEEL

MARK	SIZE	NUMBER REQUIRED TYPE A	A1	A2	A3		B		LENGTH	BENDING
C	4	12	12	12	12		12		4'-1 1/2"	SEE DIAG.
G	4	20	20	20	20		20		4'-3"	STRAIGHT
R	4		36	18					2'-5 3/4"	SEE DIAG.
** S2	4	20	20	20	20		20		15'-10"	SEE DIAG.
** S3	4	20	20	20	20		20		16'-4"	SEE DIAG.
T	4	24	24	24	24		24		1'-9"	SEE DIAG.
V1	5	4	4	4	4		4		13'-6"	STRAIGHT
5T1	5			14					10'-2"	SEE DIAG.
5X1	5			14					6'-5 1/2"	SEE DIAG.
5V1	5				22		22		6'-3"	SEE DIAG.

SEE SHEET B26 & B27 FOR BENDING DIAGRAM

ESTIMATED QUANTITIES

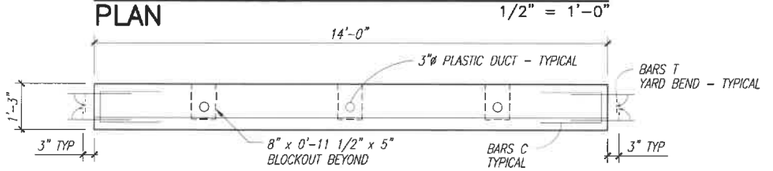
ITEM	UNIT	QUANTITY
TYPE C SLAB UNITS (42 REQUIRED)	L.F.	588'-0"
TYPE C1 SLAB UNITS (2 REQUIRED)	L.F.	28'-0"
TYPE C2 SLAB UNITS (2 REQUIRED)	L.F.	28'-0"
TYPE C3 SLAB UNITS (2 REQUIRED)	L.F.	28'-0"
TYPE D SLAB UNITS (4 REQUIRED)	L.F.	56'-0"



PRESTRESSED SLAB UNITS — TYPE B

PLAN

1/2" = 1'-0"



PRESTRESSED SLAB UNITS — TYPE B

ELEVATION

1/2" = 1'-0"

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 200, Royal Palm Beach, FL 33411
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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
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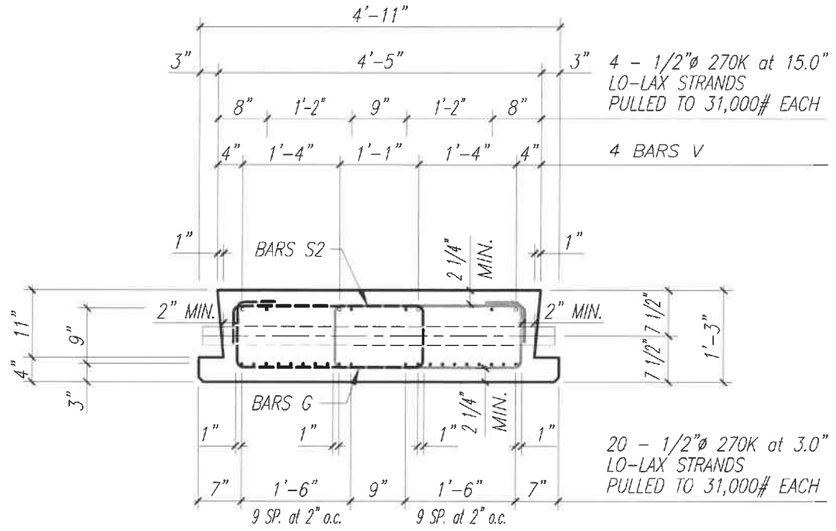
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL

Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

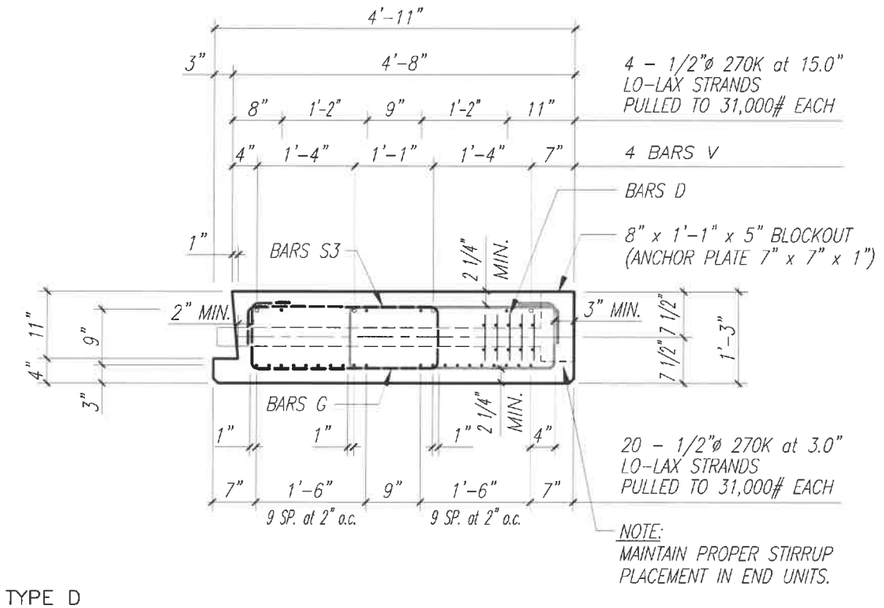
SHEET
B25
PROJECT NO.
05-619

DATE: Nov. 29, 2012 - 9:20am S:\2005-Jobs\05-6190 66th Avenue Bridge over N. Relief Canal\07 Structural Dwgs\CAD\B25-PCSP114.dwg



TYPE C

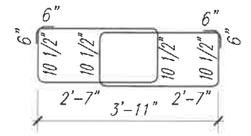
TYPICAL SECTION



TYPE D

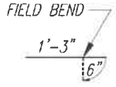
TYPICAL SECTION

BENDING DIAGRAM

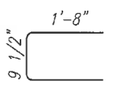


BARS S

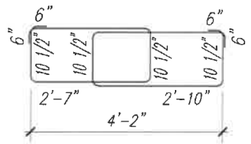
** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



BARS T

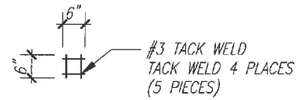


BARS C



BARS S1

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS



BARS D

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *

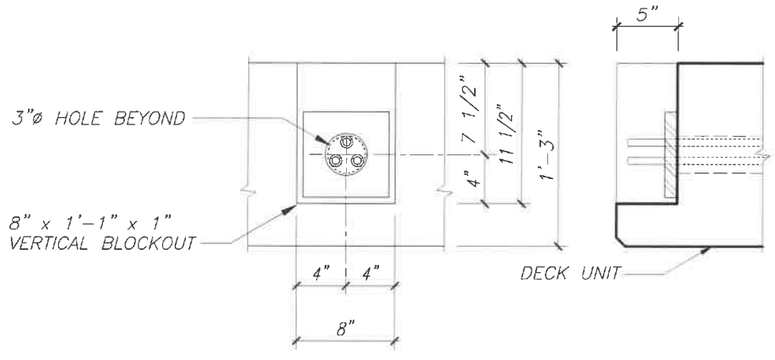
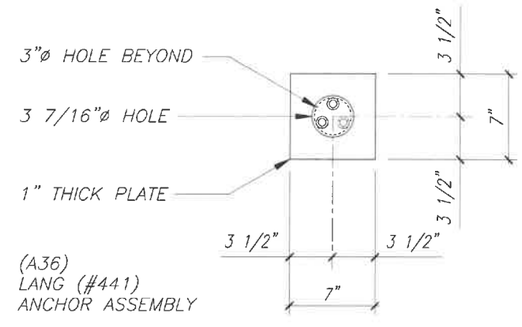


PLATE BLOCKOUT DETAIL



TYPICAL ANCHOR PLATE DETAIL

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\CADD\BDA-SLOETH_1.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd, Bldg. 20C, Royal Palm Beach, FL 33411
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CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

INDIAN RIVER COUNTY, FLORIDA

Department of Public Works
Engineering Division

Scale: AS NOTED
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Drawn: C.A.B.
Checked: B.C.R.
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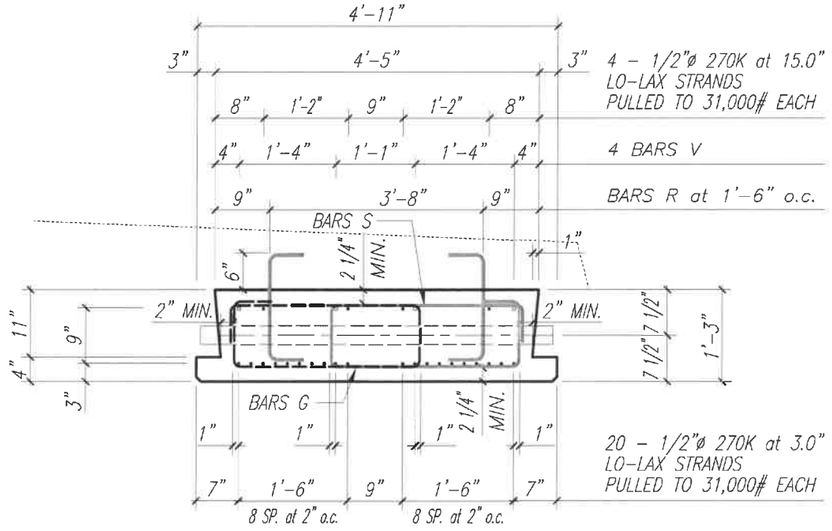
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

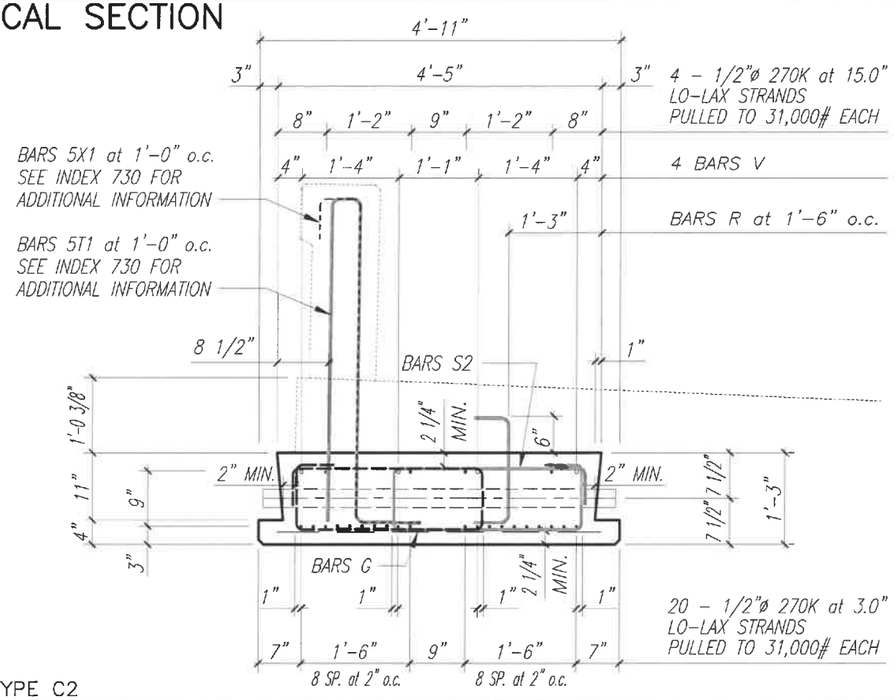
SEAL
Brian C. Rheault P.E. - 36797
FLORIDA P.E. NAME & NUMBER

SHEET
B26
PROJECT NO.
05-619



TYPE C1

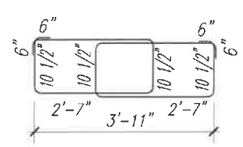
TYPICAL SECTION



TYPE C2

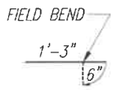
TYPICAL SECTION

BENDING DIAGRAM

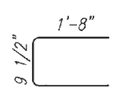


BARS S

** NUMBER REQUIRED SHOWN REPRESENTS PAIRS OF BARS

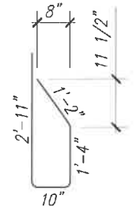


BARS T



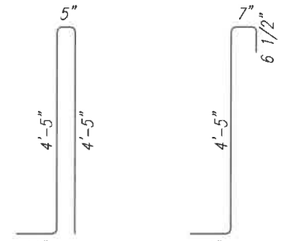
BARS C

BARS R



BARS 5V1

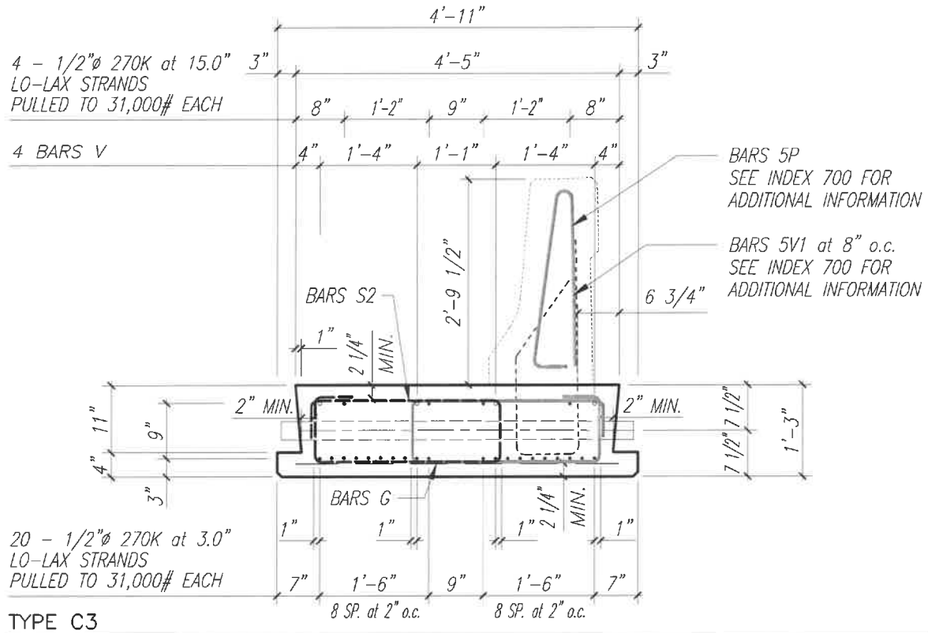
SEE SHEET INDEX NO. 700
FOR ADDITIONAL INFORMATION.



BARS 5T1 BARS 5X1

SEE SHEET INDEX NO. 730
FOR ADDITIONAL INFORMATION.

* MEASUREMENTS ARE FROM OUT TO OUT OF REINFORCING STEEL. *



TYPE C3

TYPICAL SECTION

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-619C 66th Avenue Bridge over N Relief Canal\07 Structural Dwgs\C2007827-SUBSTR_2.dwg

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

BRIDGE DESIGN ASSOCIATES, INC.
1402 Royal Palm Beach Blvd. Bldg. 200, Royal Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 791-1995
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

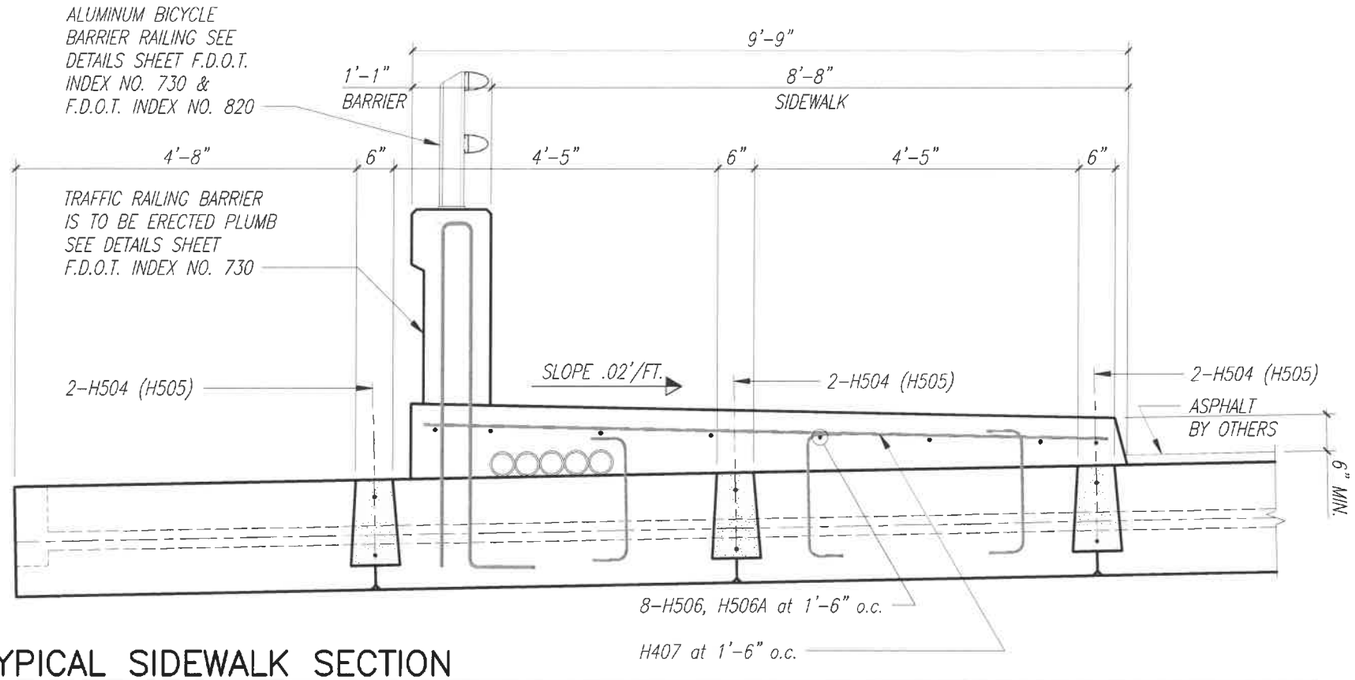
Department of Public Works
Engineering Division

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: B.C.R.
Date: 08/15/07
Field Book No:

PROJECT:
Proposed Concrete Bridge for:
66th Avenue over the North Relief Canal
Indian River County, Florida

SEAL
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B27
PROJECT NO.
05-619



TYPICAL SIDEWALK SECTION

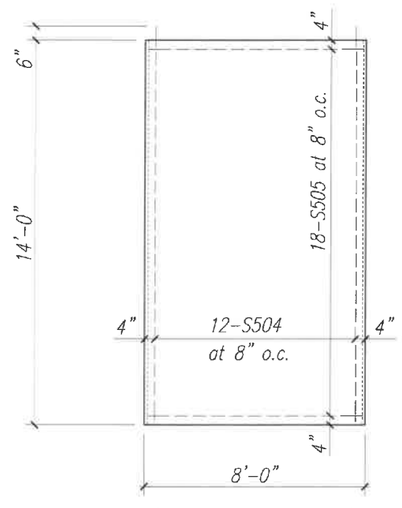
1" = 1'-0"

Miscellaneous Quantities

Item	Required	Unit	Quantity
Class II Concrete (Closure Pours)		Cu. Yds.	56.0
Reinforcing Steel (Closure Pours)		lbs.	3546
Class II Concrete (Sidewalks including Approach Slabs)		Cu. Yds.	37.0
Reinforcing Steel (Sidewalks including Approach Slabs)		lbs.	1566
8" x 8'-0" x 14'-0" Sheet Wall	40	L.F.	560'-0"

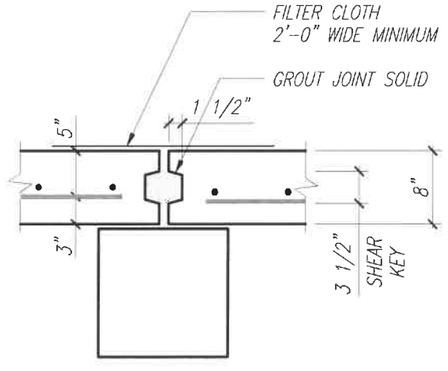
Bill of Reinforcing Steel

Mark	Size	Number Required	Total Length	Bending	Weight (lbs.)
SHEET WALLS (TOTAL)					
S502	5	480	14'-3"	Straight	7134
S503	5	840	7'-4"	Straight	6425
CLOSURE POURS (TOTAL)					
H504	5	100	16'-0"	Straight	1669
H505	5	50	36'-0"	Straight	
SIDEWALKS (TOTAL)					
H407	4	88	9'-3"	Straight	544
H506	5	8	34'-6"	Straight	288
H506A	5	16	14'-6"	Straight	242
H506B	5	16	29'-6"	Straight	492



(40 REQUIRED)

8" SHEET WALL DETAIL



SHEET WALL JOINT DETAIL

GENERAL NOTES

PAYMENT

THE CONTRACT UNIT PRICE FOR PRECAST CONCRETE SHEET PILING SHALL INCLUDE REINFORCING STEEL AND PICK-UP BARS. ALL CORNER PILING SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR CONCRETE SHEET PILING.

CONCRETE

CLASS II CONCRETE (f'c = 3400 p.s.i.)

PICKUP BARS

AT THE OPTION OF THE CONTRACTOR, 2-7/16" STRANDS MAY BE SUBSTITUTED FOR NO. 6 PICKUP BAR. STRANDS SHALL BE EMBEDDED IN PILE A MINIMUM OF TWO (2) FEET.

REINFORCING STEEL

REINFORCING STEEL SHALL BE GRADE 60.

PLASTIC FILTER FABRIC

A PLASTIC FILTER FABRIC (SEE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION) SHALL BE PLACED BETWEEN FILL AND BULKHEAD CAP AND BETWEEN FILL AND PRECAST SHEET PILES TO TWO (2) FEET BELOW MUD LINE. COST OF ALL LABOR AND MATERIALS REQUIRED FOR INSTALLING PLASTIC FILTER FABRIC SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR SHEET PILING.

DATE: Nov 29, 2012 - 9:20am S:\2005-Jobs\05-6196 66th Avenue Bridge over N Relief Cond\07 Structural Dwgs\400\B2829-MISC.dwg

VERIFY SCALE 1" — BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

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FLORIDA E.B. NO. 4952

NO.	REVISION	DATE	BY

Department of Public Works
Engineering Division

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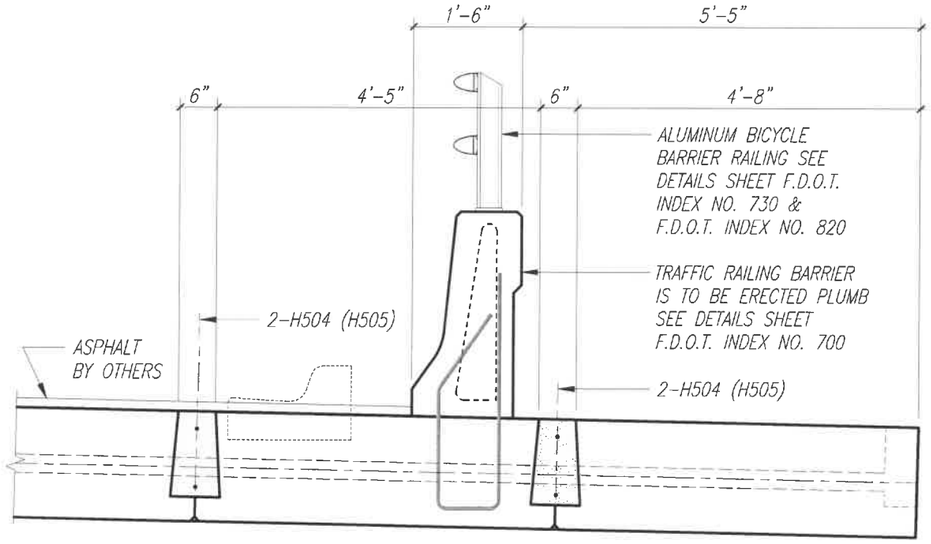
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B28
PROJECT NO.
05-619



TYPICAL TRAFFIC RAILING BARRIER SECTION

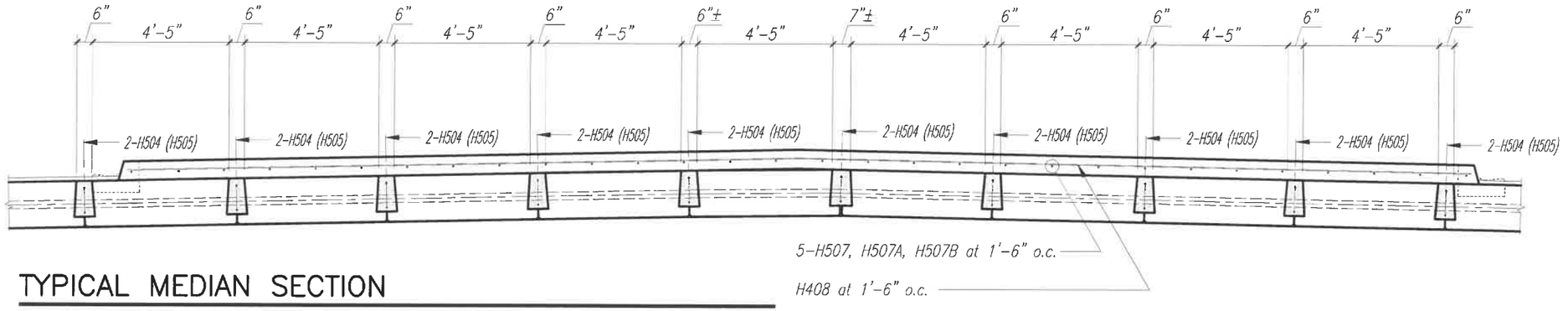
1" = 1'-0"

Miscellaneous Quantities

Item	Required	Unit	Quantity
Class II Concrete (Median including Approach Slabs)		Cu. Yds.	127.0
Reinforcing Steel (Median including Approach Slabs)		lbs.	5686

Bill of Reinforcing Steel

Mark	Size	Number Required	Total Length	Bending	Weight (lbs.)
MEDIANS (TOTAL)					
H408	4	88	43'-8"	Straight	2567
H507	5	30	34'-6"	Straight	691
H507a	5	60	14'-6"	Straight	581
H507b	5	60	29'-6"	Straight	1846



TYPICAL MEDIAN SECTION

1/2" = 1'-0"

VERIFY SCALE

1"

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Indian River County, Florida

SEAL

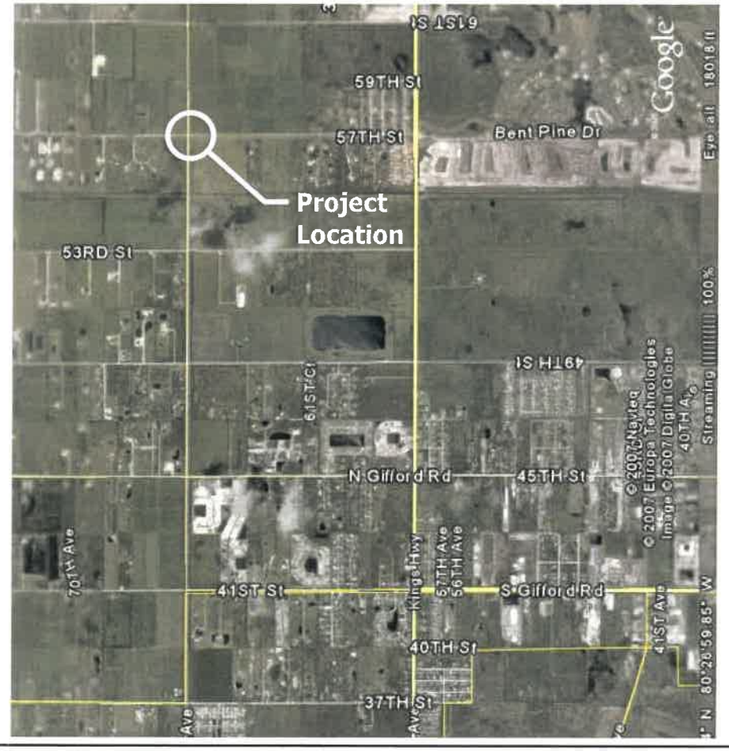
Brian C. Rheault P.E. - 38797
FLORIDA P.E. NAME & NUMBER

SHEET
B29
PROJECT NO.
05-619

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

57th Street over Lateral "A" Canal

PROJECT
C.P. No. _____



Sheet List Table

Sheet Number	Sheet Title
C-1	COVER SHEET
B-1	PROPOSED BRIDGE CROSS SECTION
B-2	GENERAL NOTES_PRESTRESSED MEMBERS NOTES AND CONSTRUCTION NOTES
B-3	SUMARY OF QUANTITIES
B-4	PROPOSED BRIDGE PLAN
B-5	EXISTING AND PROPOSED BRIDGE CROSS SECTIONS
B-6	PRECAST SLAB LAYOUT PLAN
B-7	ENLARGED SLAB PLAN AT SIDEWALK
B-8	APPROACH SLAB PLANS
B-9	MISCELLANEOUS DETAILS
B-10	LOAD RATING CHART

F.D.O.T. Standard Sheets

Sheet Number	Sheet Title
410	CONCRETE BARRIER WALL (CANTILEVERED WALL), (SHEET 3 OF 25)
420	TRAFFIC RAILING BARRIER - (32" F SHAPE), (SHEETS 1 - 3)
423	TRAFFIC RAILING BARRIER - (32" VERTICAL SHAPE), (SHEETS 1 - 3)
821	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS FOR TRAFFIC RAILING BARRIER - (32" F SHAPE)
822	ALUMINUM PEDESTRIAN/BICYCLE BULLET RAILING DETAILS (SHEETS 1 - 3)
20910	APPROACH SLABS (RIGID PAVEMENT APPROACHES) (SHEETS 1 - 2)

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS. (BOOKLET DATED JANUARY, 2004)

GOVERNING SPECIFICATIONS:
THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2008, AND SPECIAL PROVISIONS THERETO IF IN NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ENGINEER'S CERTIFICATION:
I HEREBY CERTIFY THAT THE ATTACHED PLANS AND DESIGN ARE IN GENERAL COMPLIANCE WITH THE DESIGN STANDARDS AND CRITERIA IN EFFECT ON THIS DATE FOR INDIAN RIVER COUNTY ENGINEERING DEPARTMENT AND THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION.

DATE _____ *PROFESSIONAL ENGINEER #* _____

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

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Fax No. 561.687.1110
Cert No. 6091 - LB No. 7055
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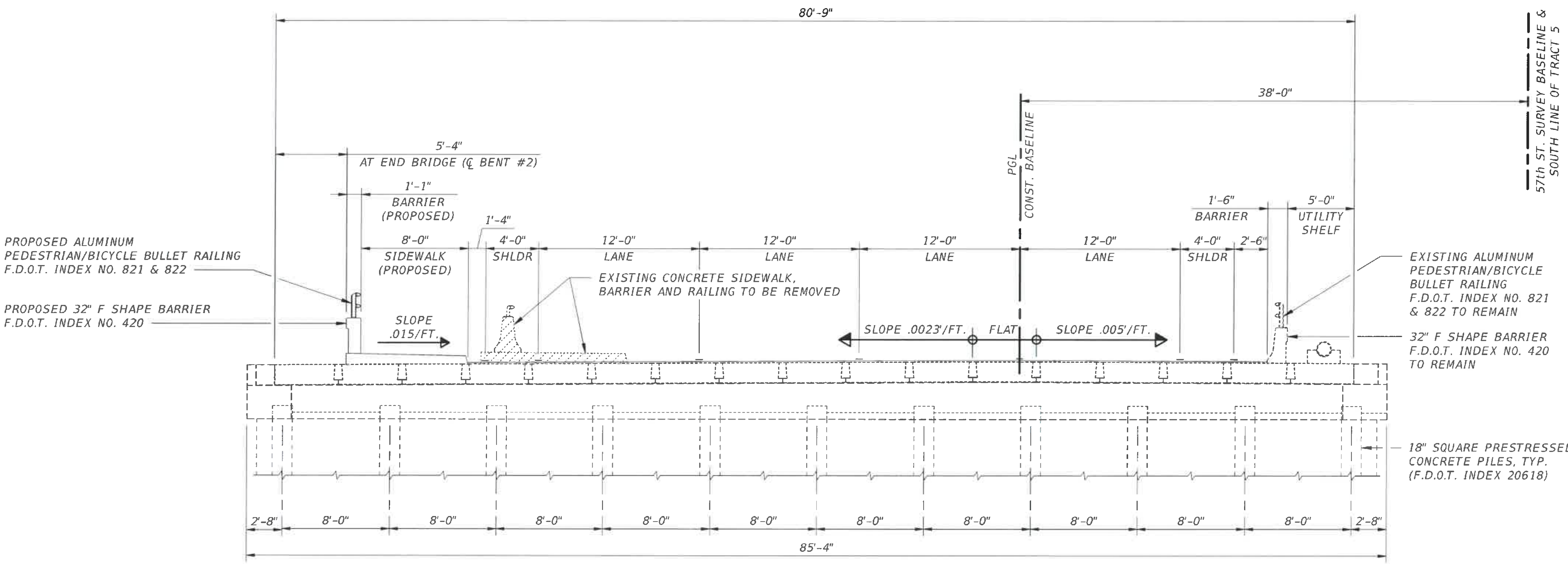
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: SEPTEMBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
57th AVENUE OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan DeLand-71588
FLORIDA P.E. NAME & NUMBER

SHEET
C-1
PROJECT NO.
16162296.00



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BRIDGE CROSS SECTION LOOKING EAST

NORTH

4 0 2 4 8 16

GRAPHIC SCALE (IN FEET)

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DATE: Oct 11, 2016 - 12:30pm C:\pwworking\wgi\d0399627\PROPOSED BRIDGE CROSS SECTION.dwg

GENERAL NOTES

GENERAL SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (2016 EDITION).

DESIGN SPECIFICATION:

7TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2014 WITH CURRENT INTERIMS.
2016 EDITION OF THE F.D.O.T. STRUCTURE DESIGN GUIDELINES WITH CURRENT INTERIMS.

DESIGN LOADING:

LIVE LOAD:	HL-93 WITH DYNAMIC LOAD ALLOWANCE	
DEAD LOAD:	REINFORCED CONCRETE	0.15 K.C.F.
	NORTH SIDEWALK	1.02 K/FT
	32" VERTICAL SHAPE AND ALUMINUM RAILING	0.395 K/FT
CONSTRUCTION LOAD:	TEMPORARY TYPE "K" BARRIER	0.9 K/FT
UTILITY LOAD:	12"Ø D.I.P.	0.05 K.L.F.

CONCRETE:

NOTE: CONCRETE TO BE IN COMPLIANCE WITH F.D.O.T. SPECIFICATIONS 346.

CONCRETE CLASS	MINIMUM 28 DAY COMPRESSIVE STRESS (KSI)	LOCATION OF CONCRETE IN STRUCTURE
CLASS II	FC' = 3.4	CAST-IN-PLACE SIDEWALK, BARRIER
CLASS II (BRIDGE DECK)	FC' = 4.5	APPROACH SLABS

CONCRETE:

1. PROVIDE 3/4 INCH CHAMFERS ON ALL EXPOSED EDGES AND CORNERS EXCEPT AS OTHERWISE NOTED.
2. CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATIONS INDICATED ON THE PLANS, ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE APPROVAL BY THE ENGINEER.

REINFORCEMENT:

1. REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. SPIRAL TIES FOR PRESTRESSED CONCRETE PILES SHALL BE MANUFACTURED FROM COLD DRAWN STEEL WIRE MEETING THE REQUIREMENTS OF ASTM A82.
2. ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
3. REINFORCEMENT DETAIL DIMENSIONS ARE OUT-TO-OUT OF BARS.

MINIMUM CONCRETE COVER:

CIP SUPERSTRUCTURE = 2 IN. (TYPICAL EXCEPT AS NOTED).

CIP SUBSTRUCTURE/BENT CAP = 4½ IN. FOR EXTERNAL SURFACES CAST AGAINST EARTH.
CIP SUBSTRUCTURE/BENT CAP = 4 IN. FOR OTHER EXTERNAL SURFACES.

DESIGN METHOD:

ALL ELEMENTS WERE DESIGNED USING THE LRFD (LOAD AND RESISTANCE FACTOR DESIGN).

SURFACE FINISH:

ALL EXPOSED SURFACES OF END BENT WING WALLS, BARRIERS AND SUPERSTRUCTURE FASCIA SHALL RECEIVE A "CLASS 5 APPLIED FINISH COATING". SEE CLASS 5 FINISH DETAIL.

ENVIRONMENT:

SUPERSTRUCTURE:	SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:	SLIGHTLY AGGRESSIVE
LOCATION:	INLAND

DATUM:

ALL ELEVATIONS SHOWN ARE IN N.A.V.D. 88, UNLESS NOTED OTHERWISE.

CONSTRUCTION NOTES

EQUIPMENT ON UNITS:

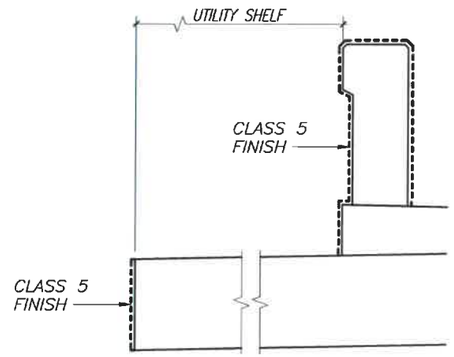
BEFORE HEAVY CONSTRUCTION EQUIPMENT IS PERMITTED ON THE STRUCTURE DURING CONSTRUCTION, SKETCHES SHOWING THE AXLE SPACING AND ANTICIPATED LOADINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER.

MISCELLANEOUS NOTES

1. FLOATING TURBIDITY BARRIER WITH FINE MESH SHALL BE USED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS, SECTION 104.
2. ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET EITHER HORIZONTALLY OR VERTICALLY. U.O.N.

BRIDGE NAME:

PALMETTO PARK OVER L.W.D.D. E-4 CANAL (EL RIO) CANAL)
BRIDGE #934947



CLASS 5 FINISH DETAIL
NO SCALE

VERIFY SCALE
1"
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DATE: Oct 11, 2016 - 12:38pm C:\Jamworking\wgi\dd359821\GENERAL NOTES, PRESTRESSED MEMBERS NOTES AND CONSTRUCTION NOTES.dwg

WGI
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Fax No. 561.687.1110
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INDIAN RIVER COUNTY FLORIDA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
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Checked: T.A.D.
Date: SEPTEMBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
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SEAL
Timothy Alan DeLand-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-2
PROJECT NO.
16162296.00

Contractor shall verify all dimensions and quantities prior to construction and fabrication. Discrepancies shall be brought to the attention of the Engineer before construction.

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	NO. REQUIRED	UNIT	QUANTITY	AS BUILT
	BRIDGE				
100-1	MOBILIZATION		L. S.	1	
110-3	DEMOLITION AND REMOVAL OF EXISTING BRIDGE		L. S.	1	
102-1	MAINTENANCE OF TRAFFIC		L. S.	1	
	STORM WATER POLLUTION PREVENTION PLAN & WATER QUALITY TESTING		L. S.	1	
	(SUPERSTRUCTURE)				
12450-88-18	PRESTRESSED PRECAST DECK UNITS				
	18" x 4'-3" x 36'-0"	15	L. F.	540'-0"	
	18" x 4'-6" x 36'-0"	2	L. F.	72'-0"	
400-2-4	CLASS II CONCRETE FOR CLOSURE POURS BETWEEN DECK UNITS		Cu. Yds.	21	
415-1-4	REINFORCING STEEL		Lbs.	1218	
521-5-1	CONCRETE TRAFFIC RAILING BARRIER - (32" F SHAPE)		L. F.	46'-0"	
	TEMPORARY BARRIER RAILING & HARWARE		L. F.	54'-0"	
	CONCRETE BARRIER WALL (CANTILEVER WALL) (INDEX 410 SHT 5 of 22)		L. F.	40'-0"	
460-70-2	ALUMINUM BICYCLE BULLET BARRIER RAILING		L.F.	37'-0"	
	(SUBSTRUCTURE)				
400-2-5	CLASS II CONCRETE FOR PILES CAPS		Cu. Yds.	82	
415-1-5	REINFORCING STEEL		Lbs.	11,290	
455-34-3	PRESTRESSED PILES				
	(ABUTMENT)				
	18" SQUARE x 65'-0" MINIMUM (TEST PILE - ABUTMENT)	1 EACH	L. F.	65'-0"	
	18" SQUARE x 50'-0" MINIMUM (ABUTMENT)	21 EACH	L. F.	1050'-0"	
	14" SQUARE x 40'-0" MINIMUM (WING BENT)	12 EACH	L. F.	480'-0"	
455-137	PILE DYNAMIC LOAD TESTING	1 EACH	L. S.	1	
455-133	8" x 8'-0" x 14'-0" Sheet Wall	28 EACH	L. F.	392'-0"	
	(SIDEWALKS)				
400-2-4	CLASS II CONCRETE		Cu. Yds.	49	
415-1-9	REINFORCING STEEL		Lbs.	2589	
	(APPROACH SLABS)		Each	2	
339-1	MISCELLANEOUS ASPHALT		S. F.	328	
530-78	(ROCK RUBBLE) (CANAL EXCAVATION AS REQUIRED SHALL BE INCLUDED IN THE COST OF THE SLOPE PROTECTION)		S. F.	3511	

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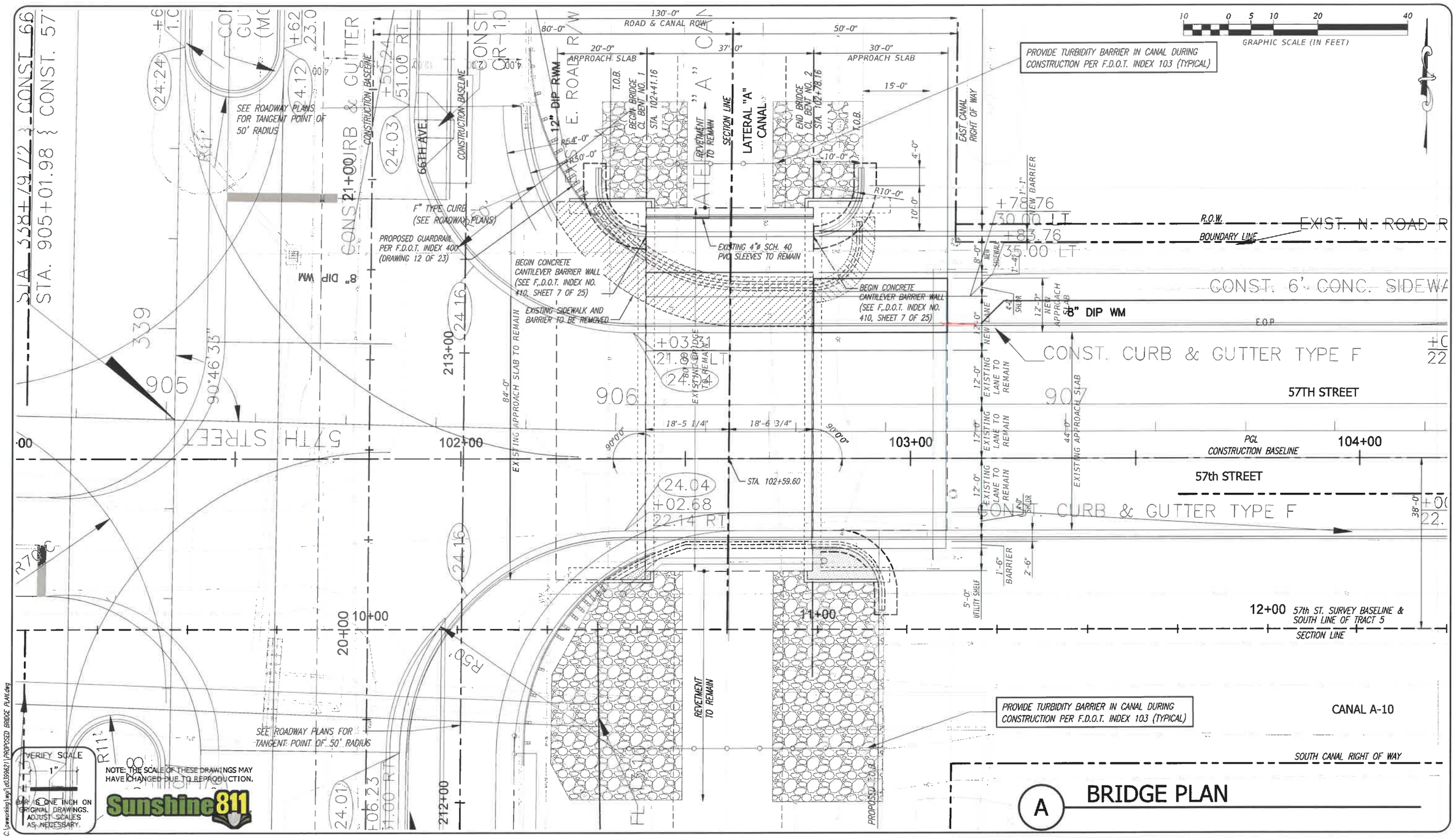
57th AVENUE OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan DeLand-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-3
PROJECT NO.
16162296.00



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INDIAN RIVER COUNTY, FLORIDA

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SHEET
B-4
PROJECT NO.
16162296.00

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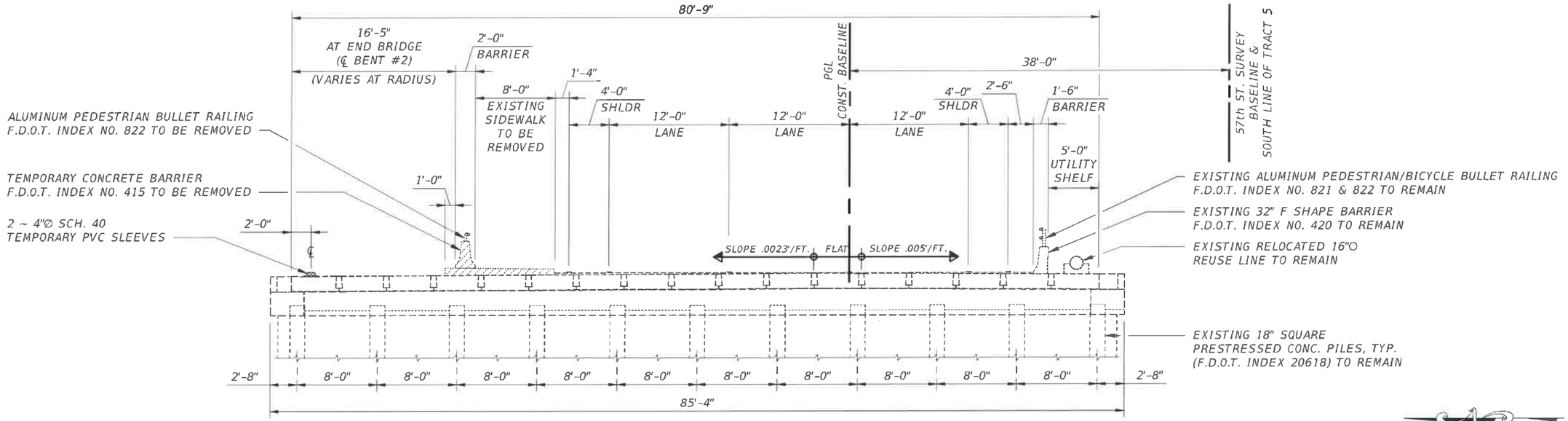
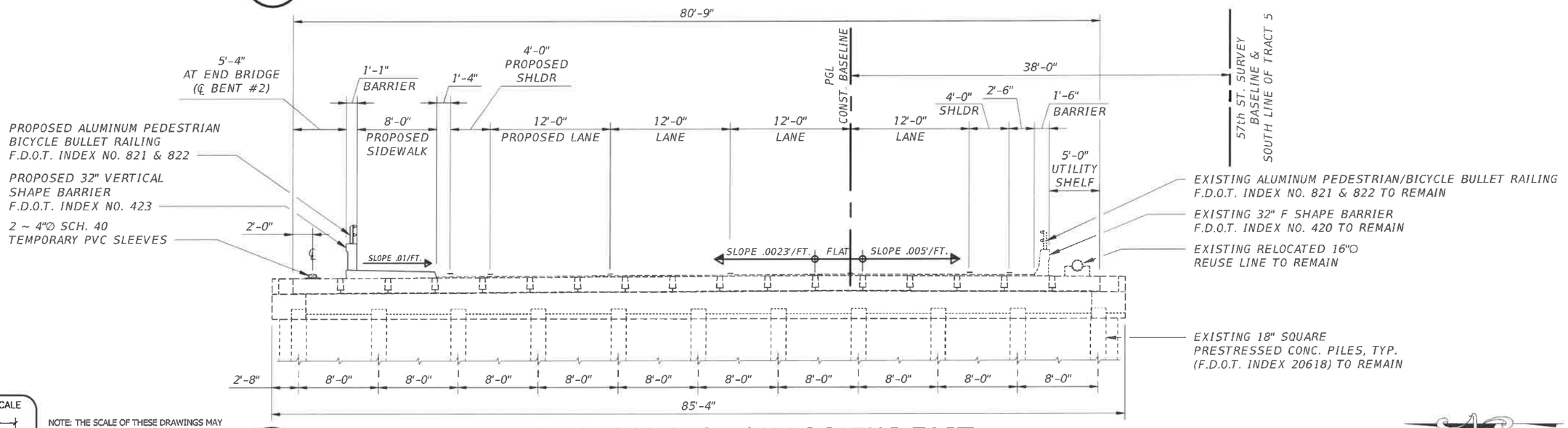


A EXISTING BRIDGE CROSS SECTION LOOKING EAST

Scale: 3/16" = 1'-0"



B PROPOSED BRIDGE CROSS SECTION LOOKING EAST

Scale: 3/16" = 1'-0"

VERIFY SCALE
1"
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Field Book No:

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INDIAN RIVER COUNTY, FLORIDA

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Timothy Alan DeLand-71588
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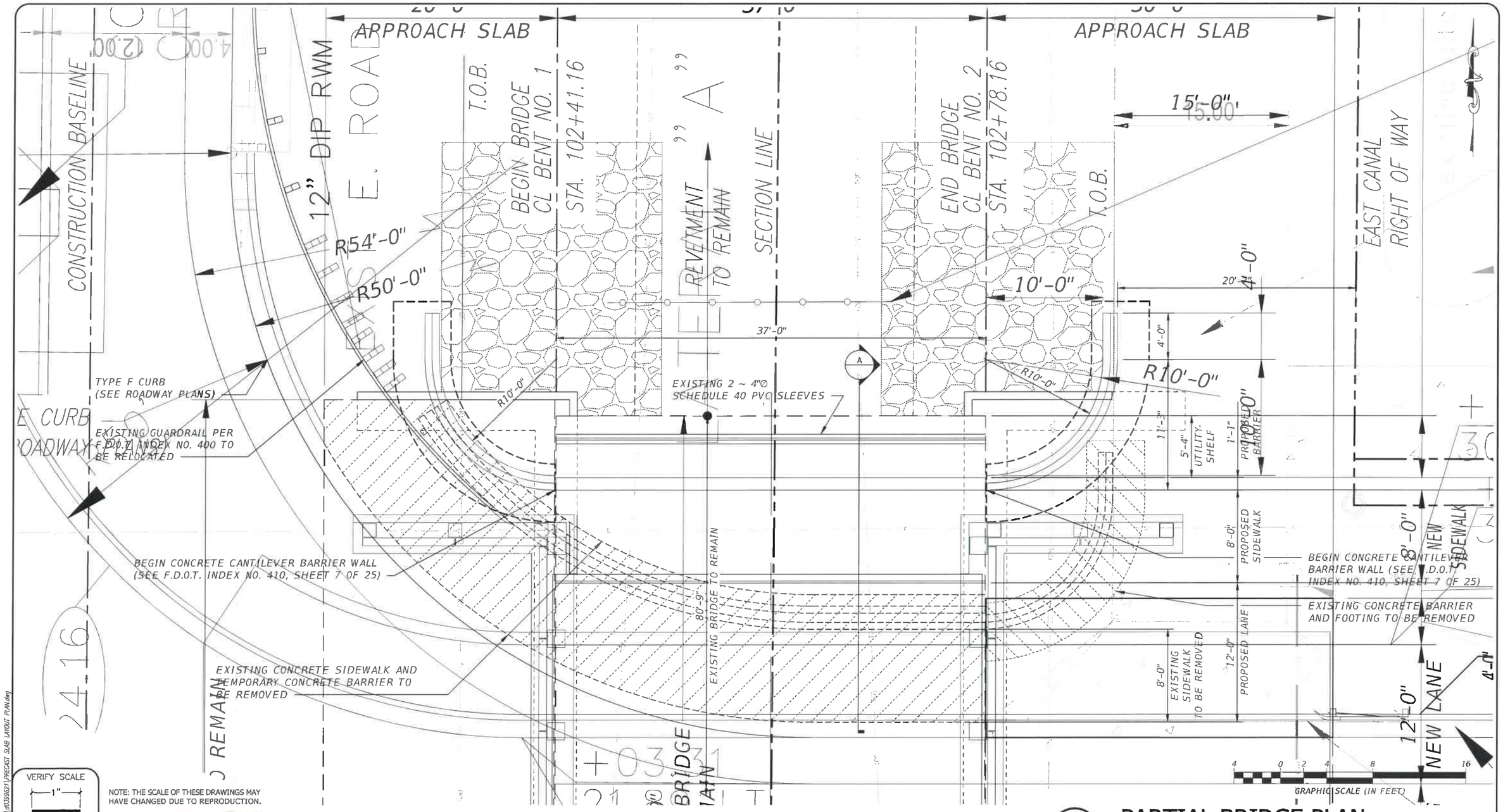
SHEET
B-5
PROJECT NO.
16162296.00



A PARTIAL BRIDGE PLAN

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B-6
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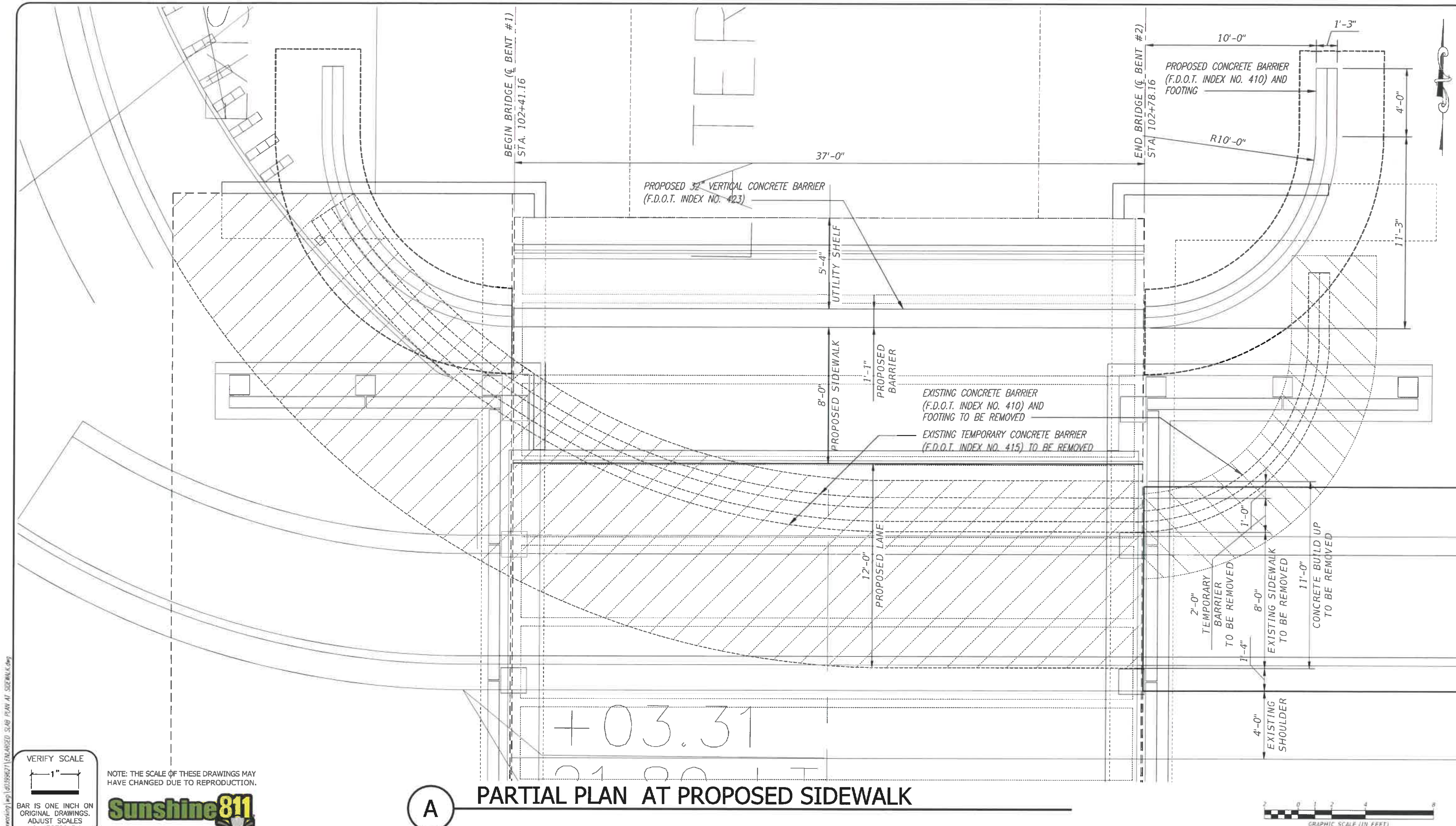

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(A) PARTIAL PLAN AT PROPOSED SIDEWALK

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B-7
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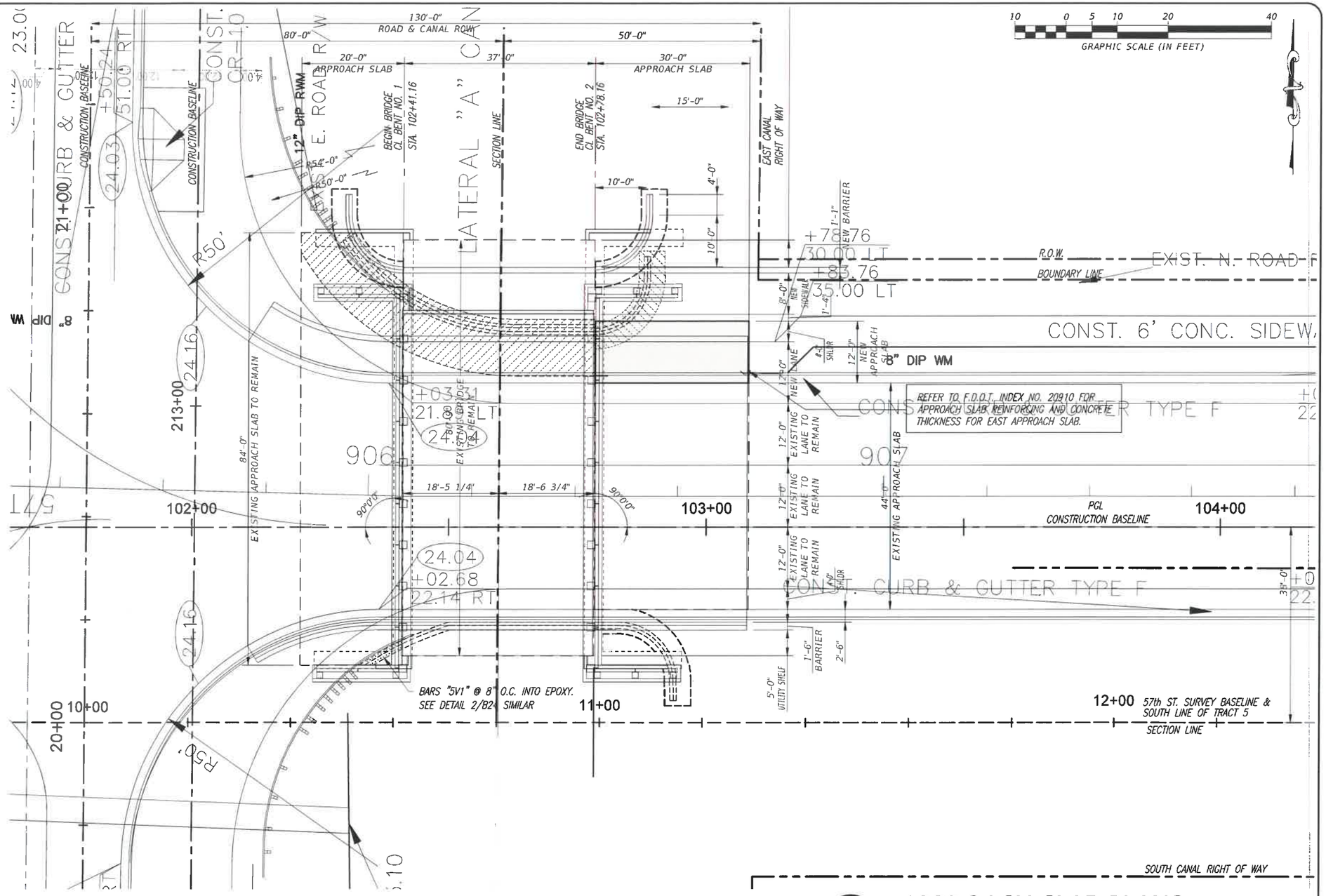

A APPROACH SLAB PLANS

VERIFY SCALE
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SHEET
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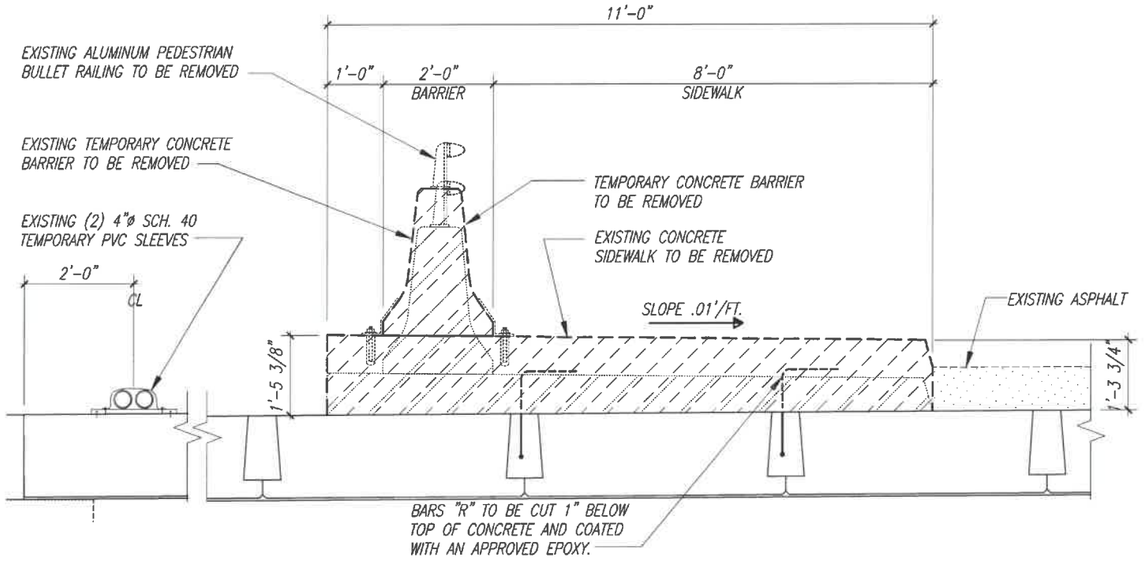
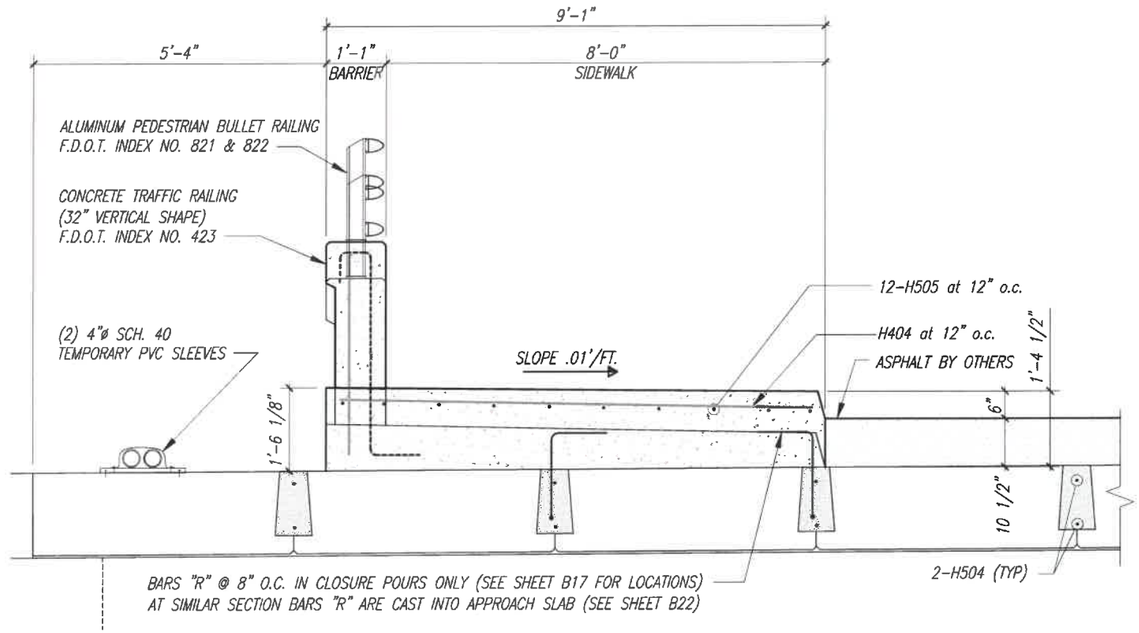


SECTION AT EXISTING SIDEWALK/TEMP. BARRIER (NEAR END BENT #2)

1

Scale:

GRAPHIC SCALE (IN FEET)

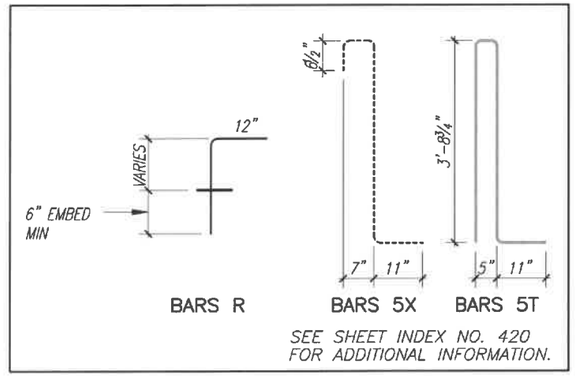


SECTION AT PROPOSED SIDEWALK/BARRIER (NEAR END BENT #2)

2

Scale:

GRAPHIC SCALE (IN FEET)



SEE SHEET INDEX NO. 420 FOR ADDITIONAL INFORMATION.

Estimated Misc. Quantities

Item	Required	Unit	Quantity
Class II Concrete (Closure Pours)		Cu. Yds.	---
Reinforcing Steel (Closure Pours)		lbs.	####
Class II Concrete (Sidewalks including Approach Slabs)		Cu. Yds.	---
Reinforcing Steel (Sidewalks including Approach Slabs)		lbs.	####

Misc. Bill of Reinforcing Steel

Mark	Size	Number Required	Total Length	Bending	Weight (lbs.)
CLOSURE POURS (TOTAL)					
H504	5			Straight	####
SIDEWALKS (TOTAL)					
H404	4			Straight	###
H505	5			Straight	####

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INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan DeLand-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-9

PROJECT NO.
16162296.00

Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table Date 07-19-13

Table 2 - LRFR using Part A[3]

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments: Interior/exterior beam; DF Method if other than LRFD. Other appropriate comments
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	
Design Load Rating	Strength I (Inv)	HL-93															Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Strength I (Op)	HL-93															
	Service III (Inv)	HL-93															Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Service III (Op)	HL-93															
Legal Load Rating	Strength I	SU4															(M) - Slab 5; (V) - Slab 5
	Strength I	C5															(M) - Slab 5; (V) - Slab 5
	Strength I	ST5															(M) - Slab 5; (V) - Slab 5
	Service III	SU4															Moment (M) Controlled by 5
	Service III	C5															
	Service III	ST5															
Permit Load Rating	Strength II	FL120															Moment (M) Controlled by 5 Shear (V) Controlled by 5
	Service III	FL120															Moment (M) Controlled by 5

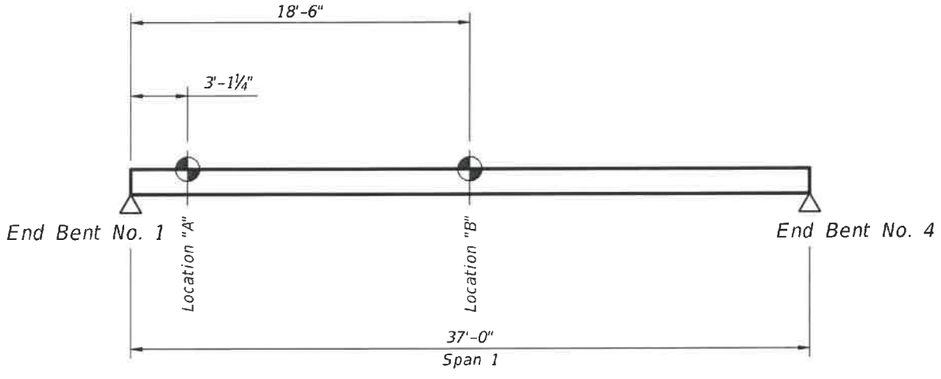
Abbreviations:
Inv - Inventory
Op - Operating

General Notes:
1. This table is based on the requirements established in the January 2011 "Structures Manual".

Table 2 Notes:
1. Permit capacity is determined by using the permit vehicle in all lanes.
2. If the Design Operating Load Rating is greater than 1.4, Load Rating using Legal Vehicles SU4, C5, and ST5 is not required.
3. Service III Design Inventory tensile stress limits = $6\sqrt{f'c}$, Service III Design Operating, Legal, and Permit tensile stress limits = $7.5\sqrt{f'c}$.
4. Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? ☒ Yes ☐ No

Controlling Load Rating

Limit State	Vehicle	Weight (Tons)	Rating Factor
Service III (Inv)	HL-93	-	



RATING LOCATIONS

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.

Sunshine 811

WGI
2035 Vista Parkway
West Palm Beach, FL 33411
Phone No. 561.687.2220
Fax No. 561.687.1110
Cert. No. 6091 - LB No. 7055
ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

NO.	REVISION	DATE	BY

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Scale: AS NOTED
Approved:
Drawn: C.A.B.
Checked: T.A.D.
Date: SEPTEMBER 2016
Field Book No:

PROJECT:
PROPOSED BRIDGE MODIFICATIONS FOR:
57th AVENUE OVER LATERAL "A" CANAL
INDIAN RIVER COUNTY, FLORIDA

SEAL
Timothy Alan DeLand-71588
FLORIDA P.E. NAME & NUMBER

SHEET
B-10
PROJECT NO.
16162296.00

DATE: Oct 11, 2016 - 12:35pm C:\Jobs\working\wgi\d0396271\LOAD RATING CHART.dwg

66th Avenue Streetscape

Indian River County

100% Landscape Plans - September 2016

Station 295+00 to 354+00

DRAFT

INDEX OF LANDSCAPE PLANS

Sheet Number	Description
1 thru 10 of 19	ROADWAY LANDSCAPE PLANS
11 thru 13 of 19	LITTORAL ZONE AND LAKE BANK LANDSCAPE PLANS
14 of 19	TYPICAL MEDIAN DETAIL
15 of 19	PLANT SCHEDULES
16 of 19	LANDSCAPE SPECIFICATIONS
17 thru 19 of 19	FDOT INDEX 544 LANDSCAPE DETAILS

DEVELOPMENT TEAM

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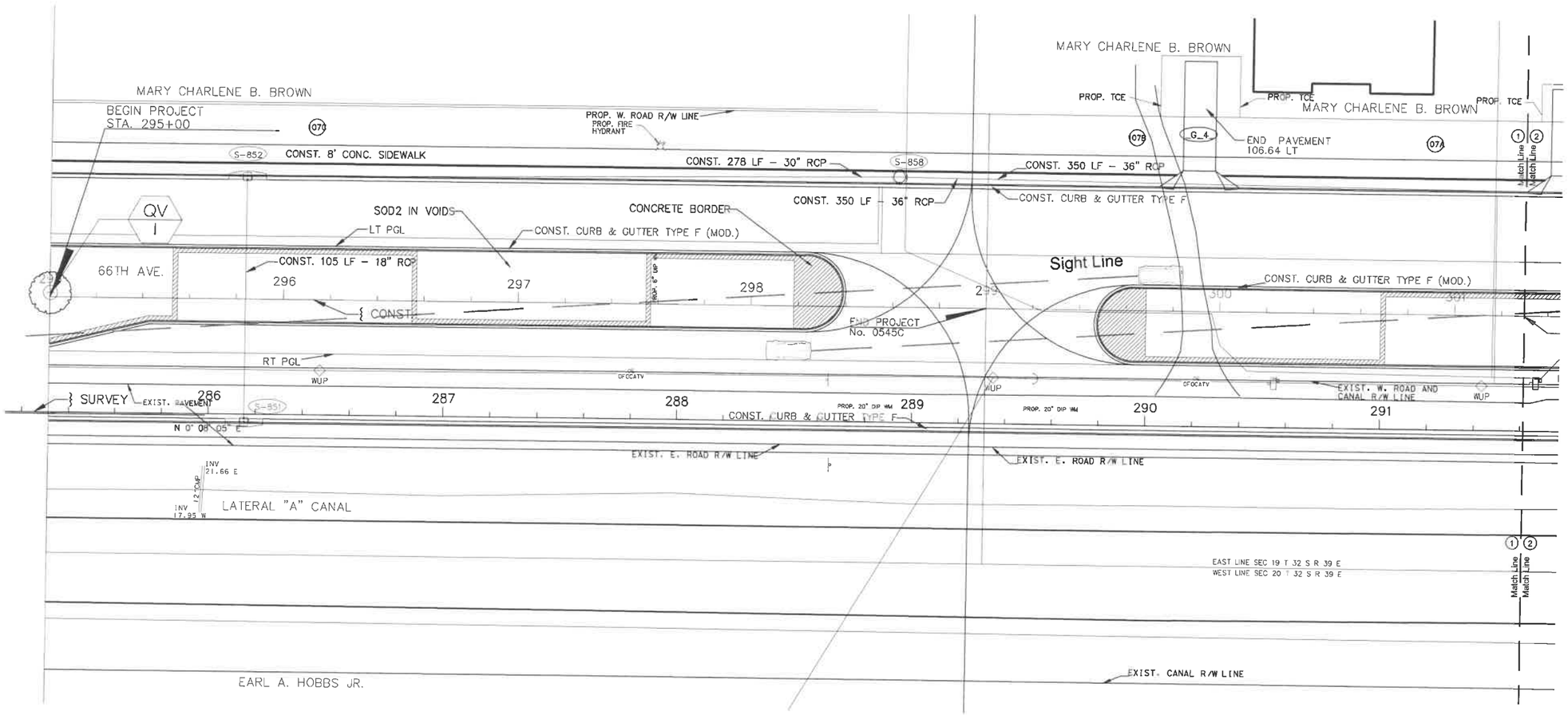

PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
	Live Oak
	Sabal Palm
SHRUB AREAS	**COMMON NAME**
	Imperial Blue Plumbago
	Dwarf Indian Hawthorn
GRASSES	**COMMON NAME**
	Dwarf Fakahatchee Grass

TREES TO BE REMOVED

- Palm
- Oak
- Unknown

lucido & associates
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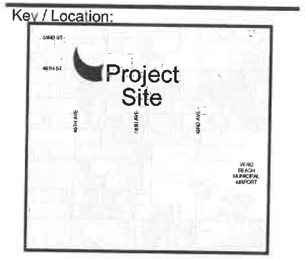
Key / Location:



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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	1 of 19
Project Number	16-260	
Municipal Number	00-000	
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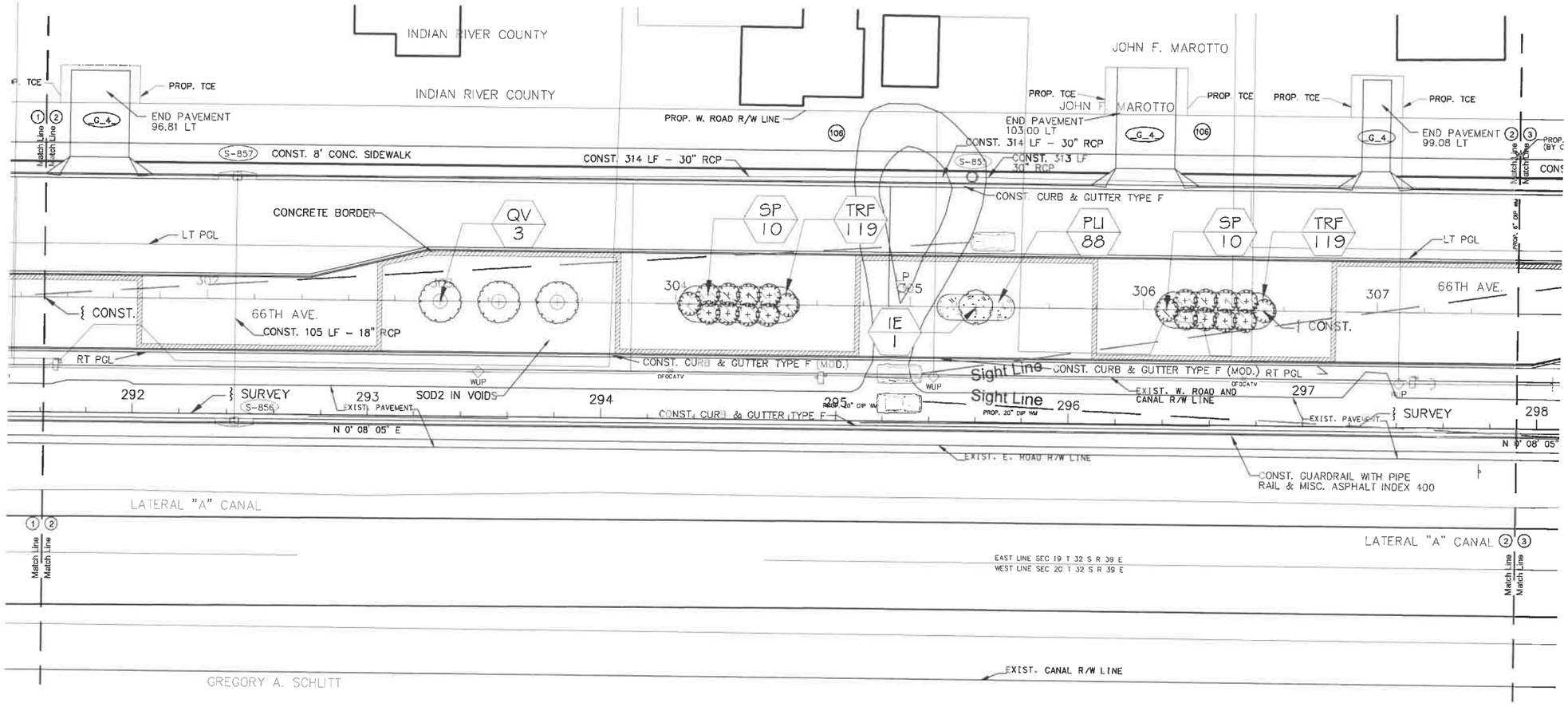

PLANT SCHEDULE MEDIAN

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	East Palatka Holly
	Japanese Privet Tree
	Live Oak
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SHRUB AREAS	**COMMON NAME**
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- Oak
- Unknown

lucido & associates
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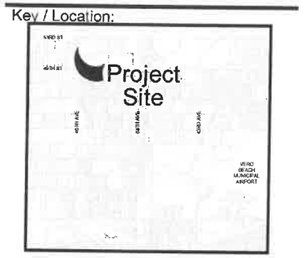
Key / Location:



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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	2 of 19
Project Number	16-260	
Municipal Number	00-000	
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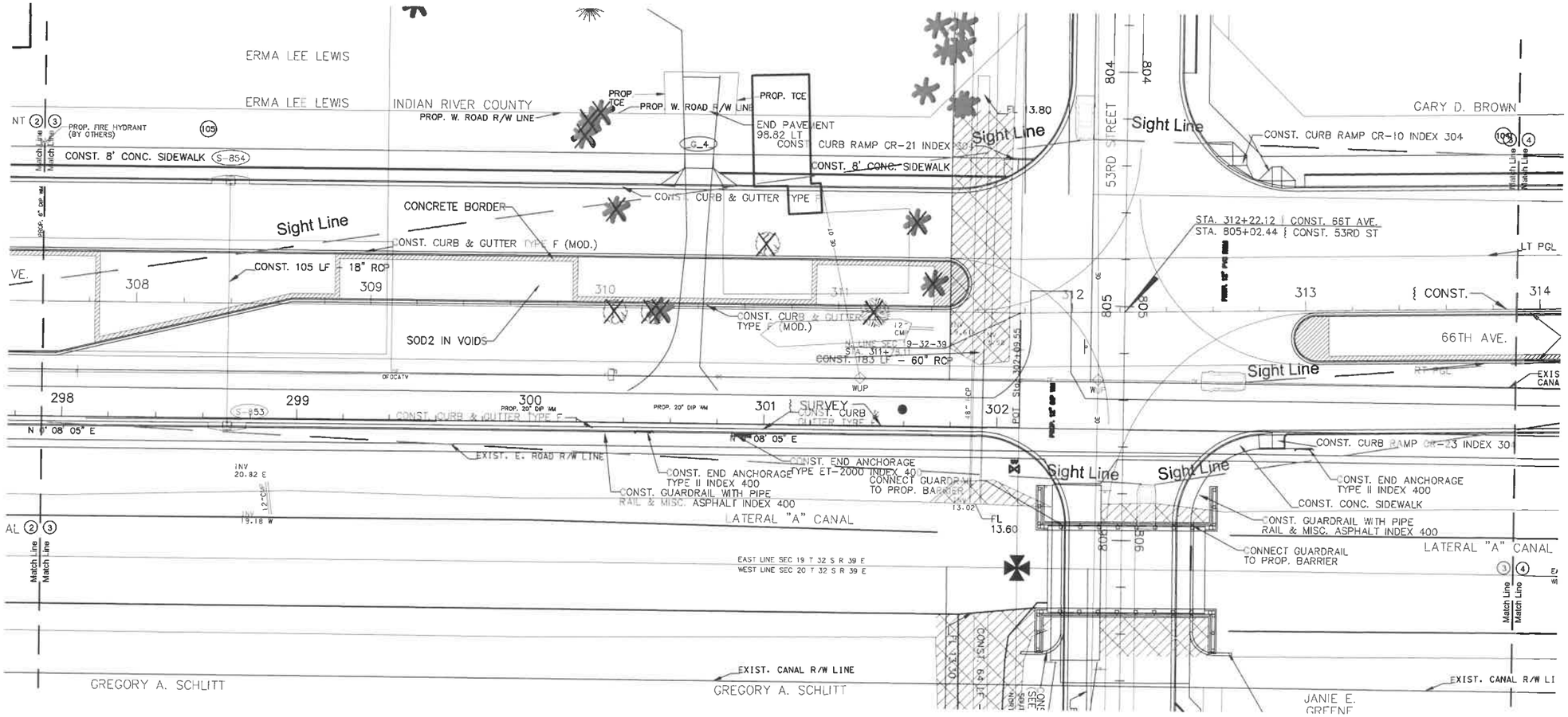

PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
	Live Oak
	Sabal Palm
SHRUB AREAS	**COMMON NAME**
	Imperial Blue Plumbago
	Dwarf Indian Hawthorn
GRASSES	**COMMON NAME**
	Dwarf Fakahatchee Grass

TREES TO BE REMOVED

- Palm
- Oak
- Unknown

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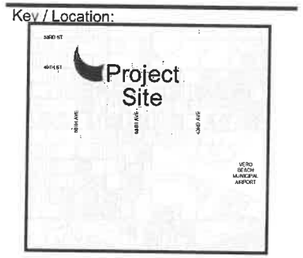
Key / Location:



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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	3 of 19
Project Number	16-260	
Municipal Number	00-000	
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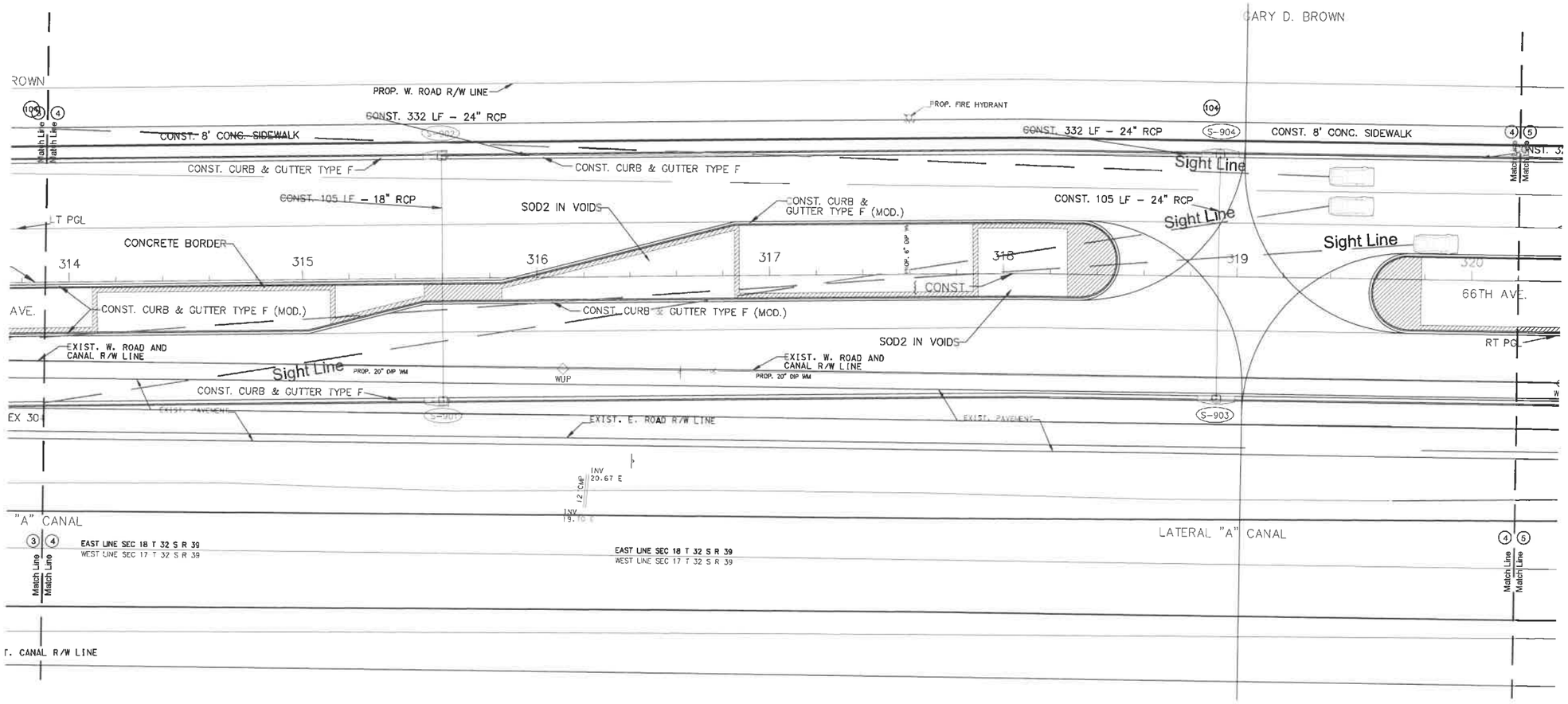

PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
	Live Oak
	Sabal Palm
SHRUB AREAS	**COMMON NAME**
	Imperial Blue Plumbago
	Dwarf Indian Hawthorn
GRASSES	**COMMON NAME**
	Dwarf Fakahatchee Grass

TREES TO BE REMOVED

- Palm
- Oak
- Unknown

lucido & associates
Land Planning / Landscape Architecture
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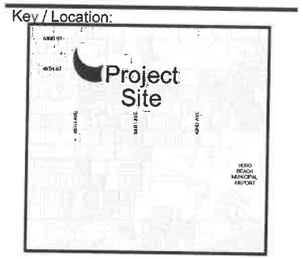

N.T.S.

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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	4 of 19
Project Number	16-260	
Municipal Number	00-000	
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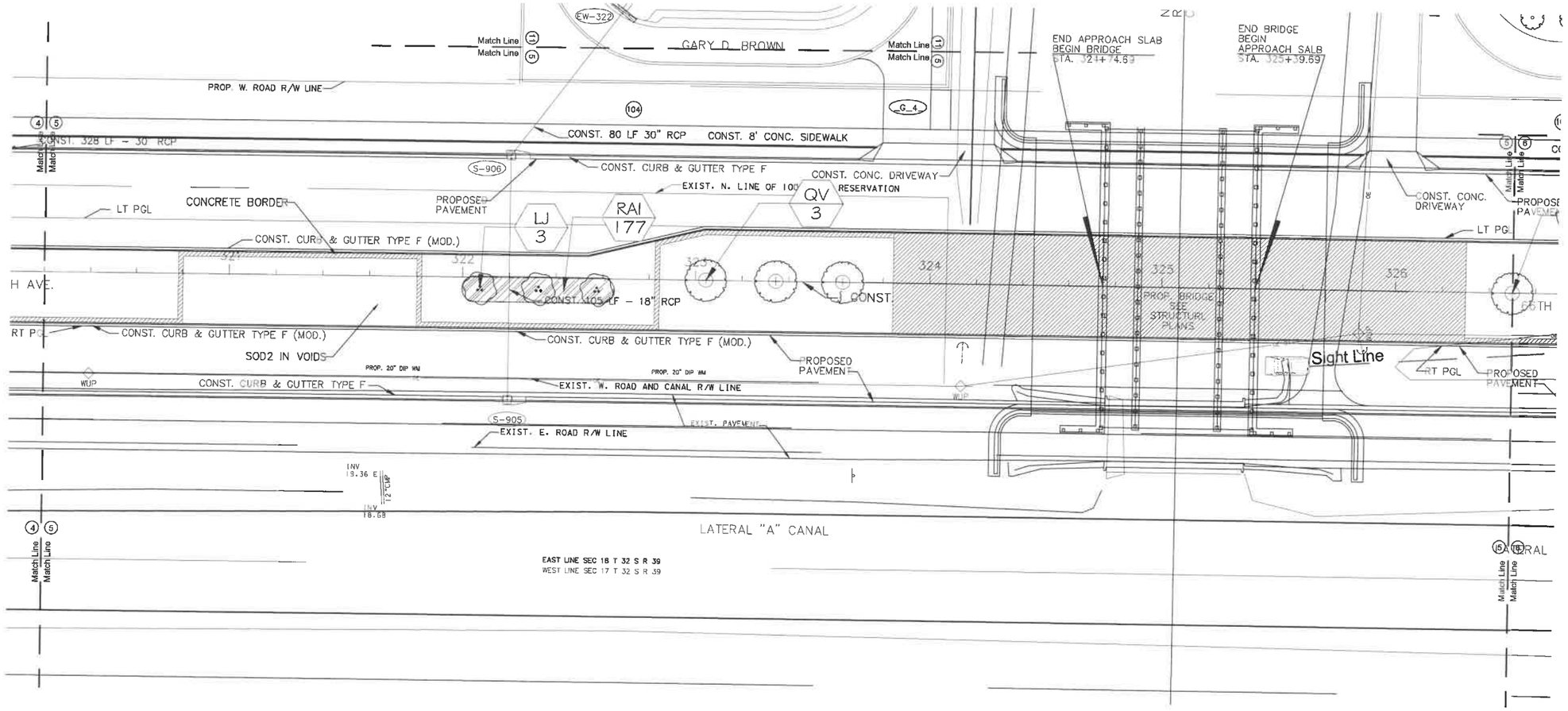

PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
	Live Oak
	Sabal Palm

SHRUB AREAS	COMMON NAME
	Imperial Blue Plumbago
	Dwarf Indian Hawthorn

GRASSES	COMMON NAME
	Dwarf Fakahatchee Grass

TREES TO BE REMOVED

- Palm
- Oak
- Unknown

lucido & associates
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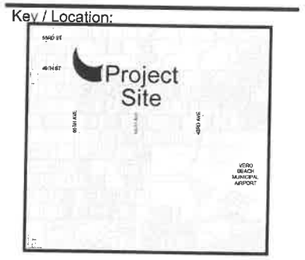
Key / Location:



N.T.S.

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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

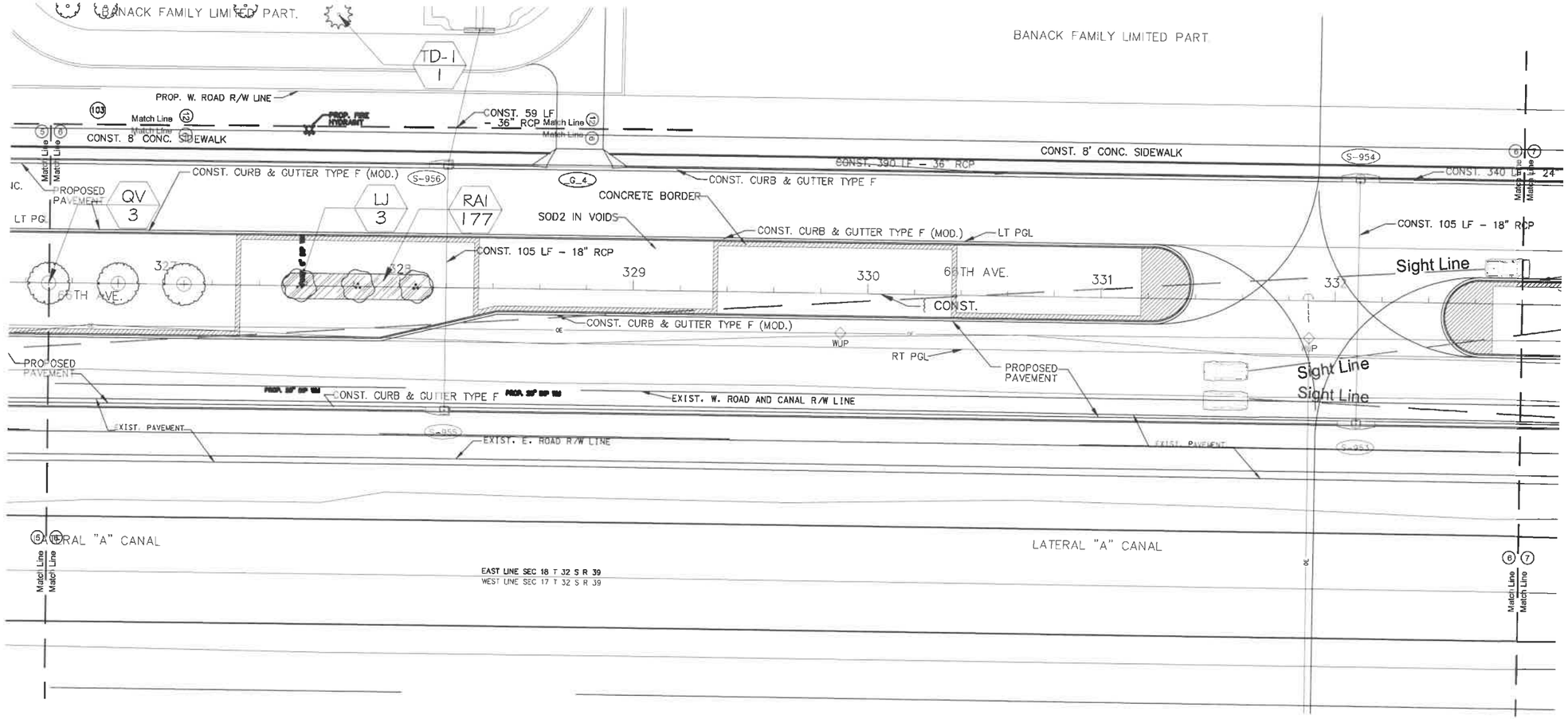
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	5 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



PLANT SCHEDULE MEDIAN

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SHRUB AREAS	**COMMON NAME**
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TREES TO BE REMOVED

- Palm
- Oak
- Unknown

lucido & associates
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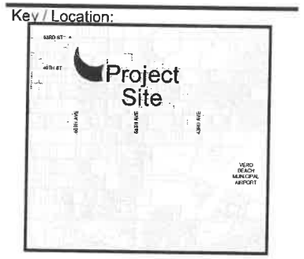
Key / Location:



N.T.S.

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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

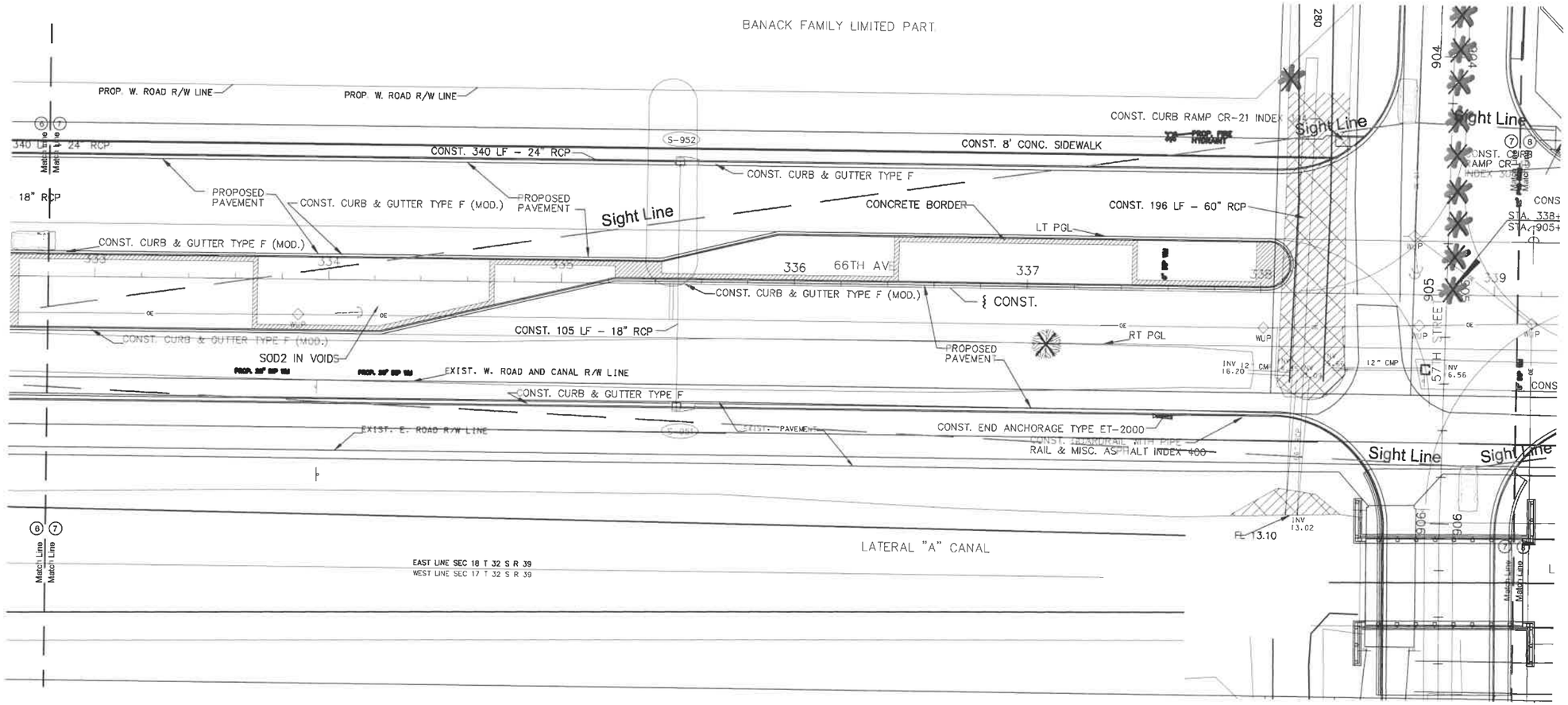
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	6 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
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SHRUB AREAS	COMMON NAME
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GRASSES	COMMON NAME
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TREES TO BE REMOVED

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- Oak
- Unknown

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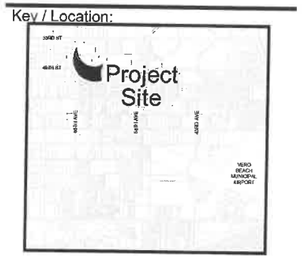
Key / Location:



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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	7 of 19
Project Number	16-260	
Municipal Number	00-000	
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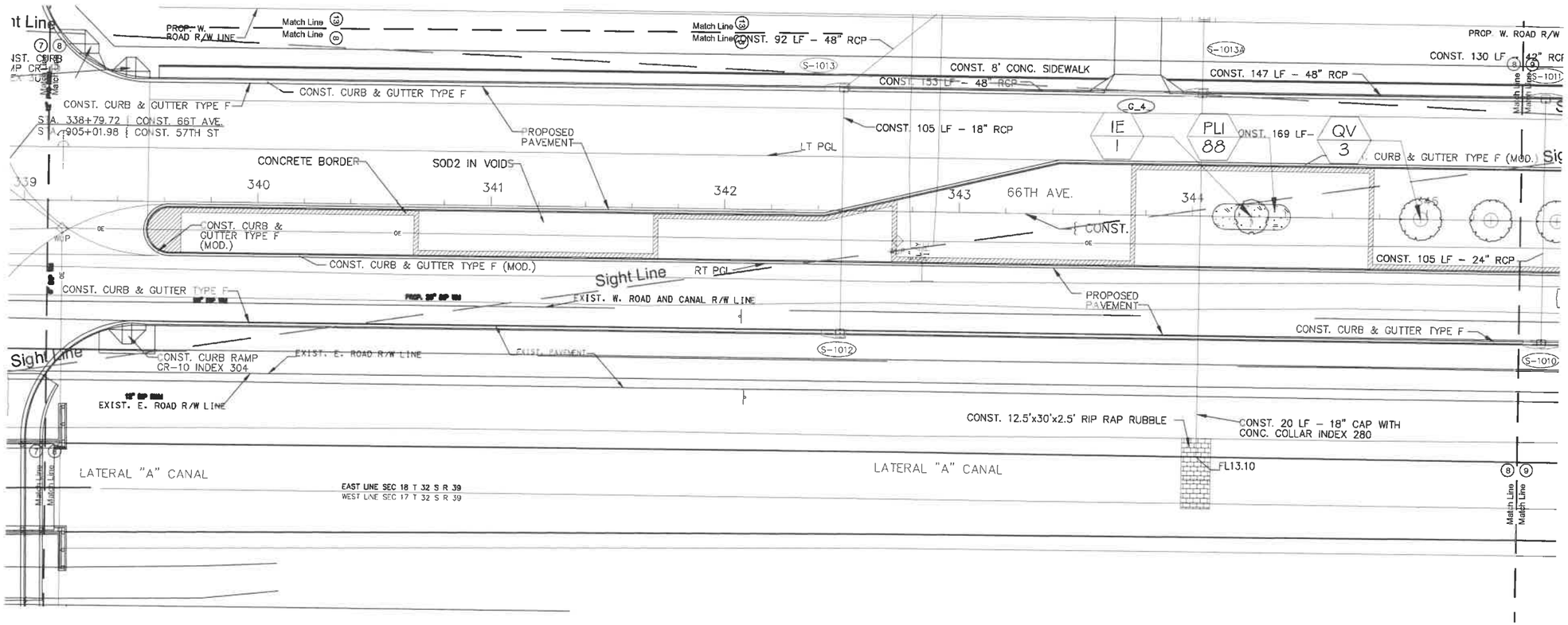

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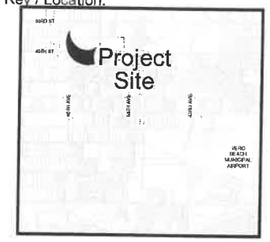

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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

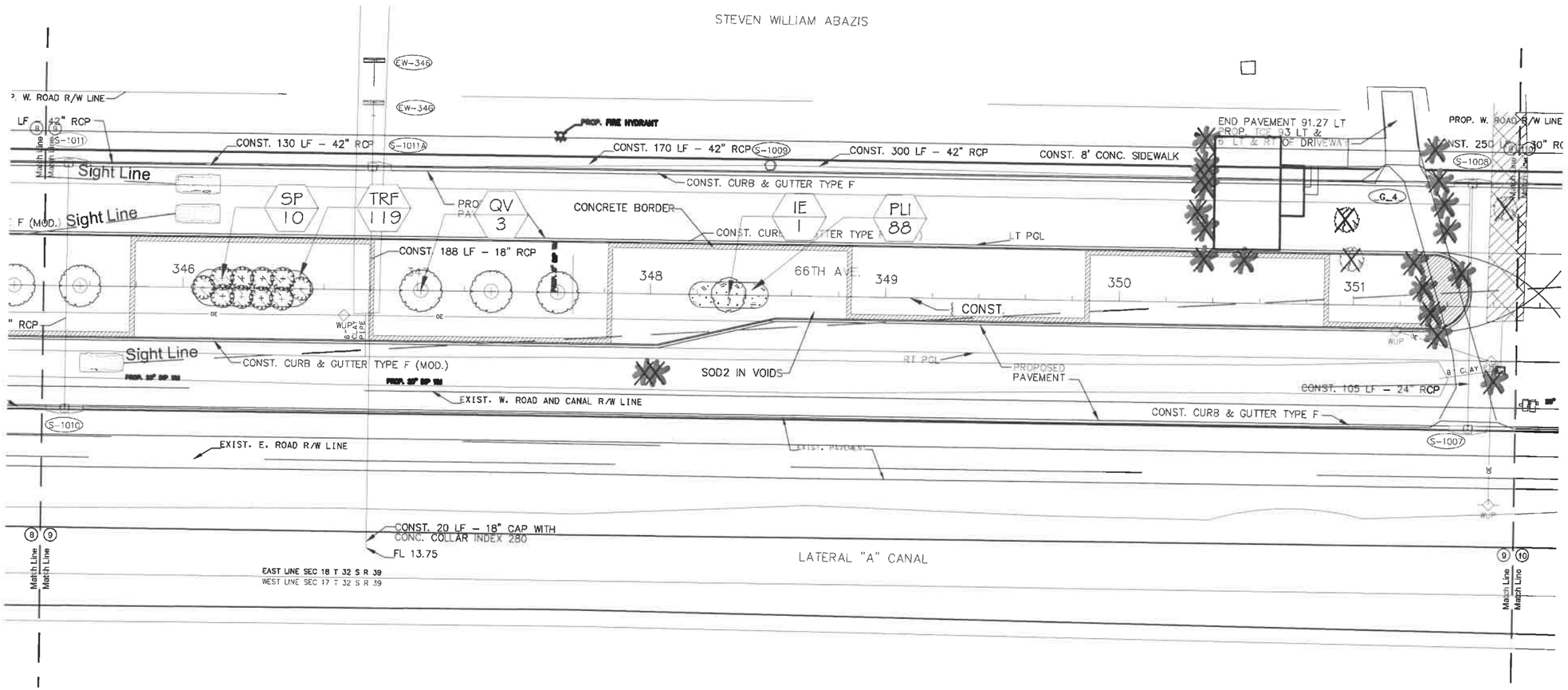
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	8 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



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Key / Location:

N.T.S.

Project Team:

Client
Indian River County
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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

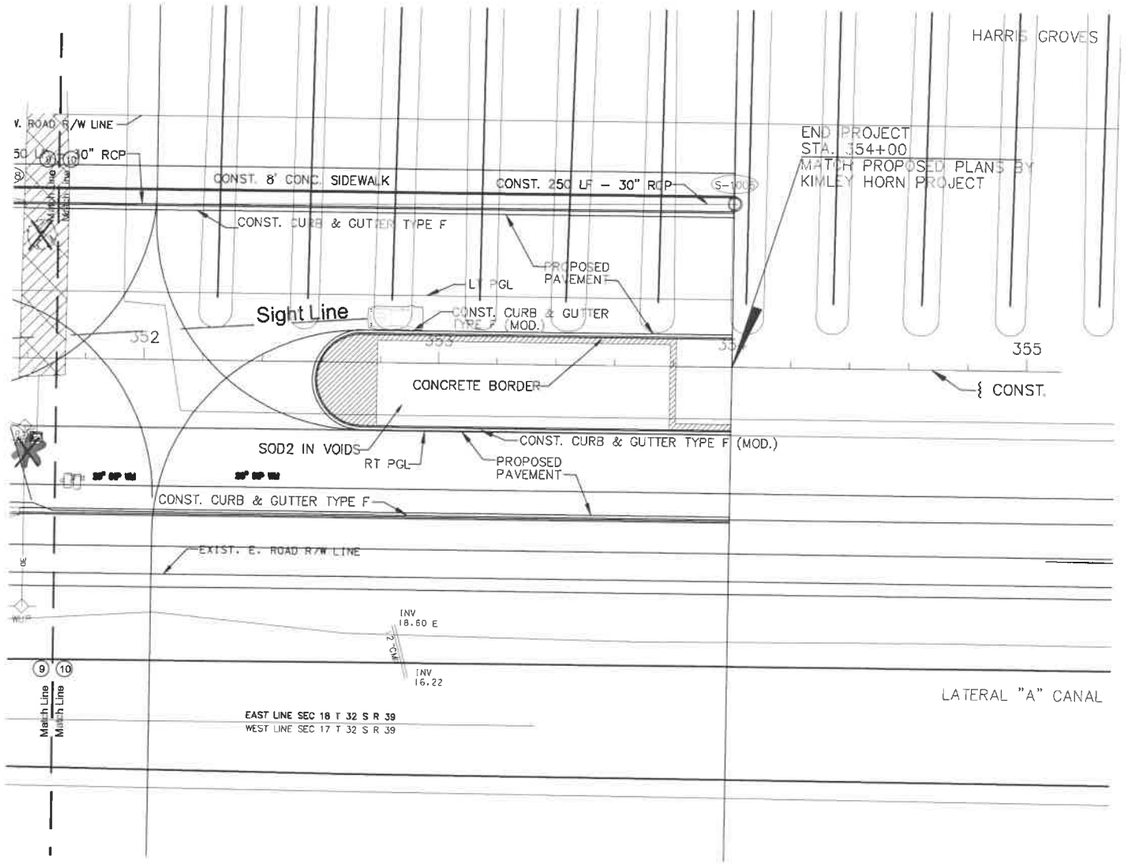
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	**9 of 19**
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



PLANT SCHEDULE MEDIAN

TREES	COMMON NAME
	East Palatka Holly
	Japanese Privet Tree
	Live Oak
	Sabal Palm
SHRUB AREAS	**COMMON NAME**
	Imperial Blue Plumbago
	Dwarf Indian Hawthorn
GRASSES	**COMMON NAME**
	Dwarf Fakahatchee Grass
TREES TO BE REMOVED	
	Palm
	Oak
	Unknown

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Key / Location:

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66th Avenue

Indian River County

Roadway Landscape Plan

Date	By	Description

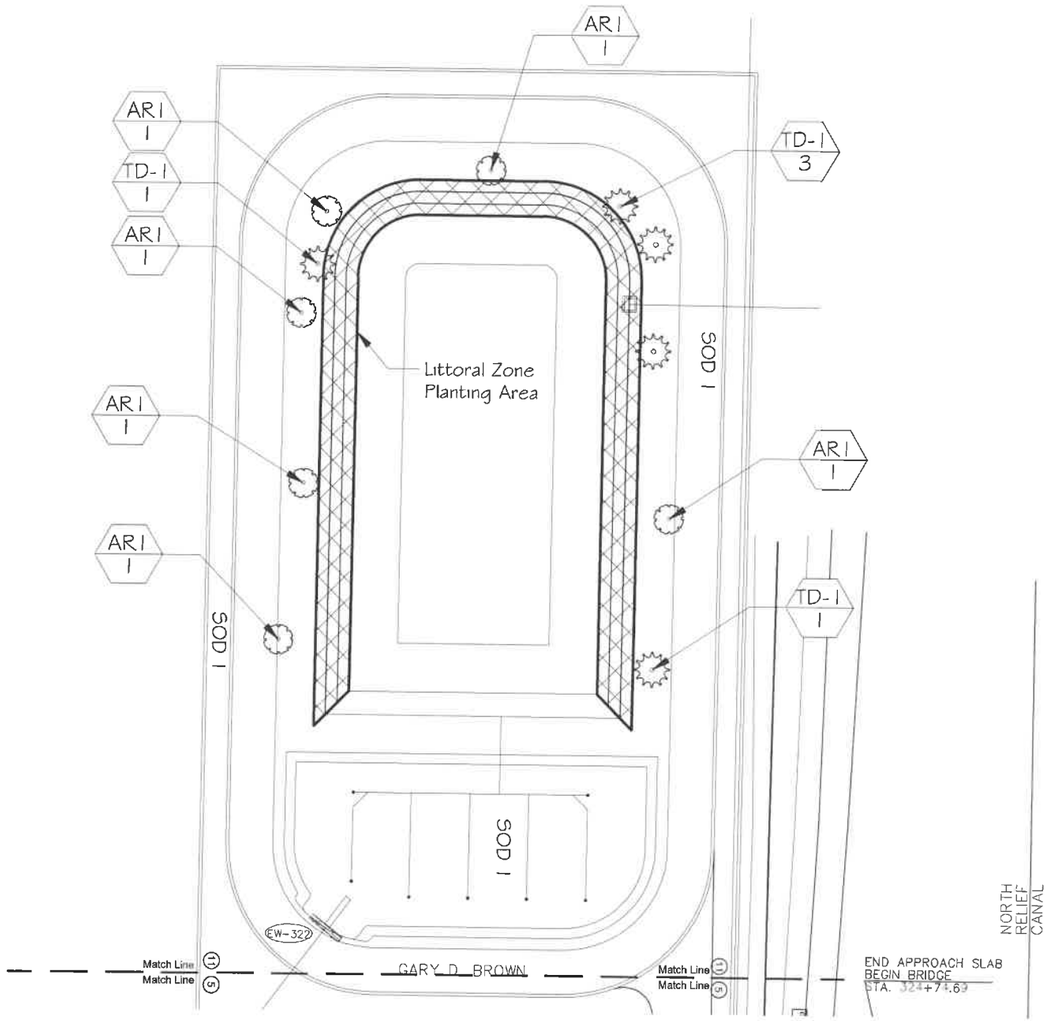
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

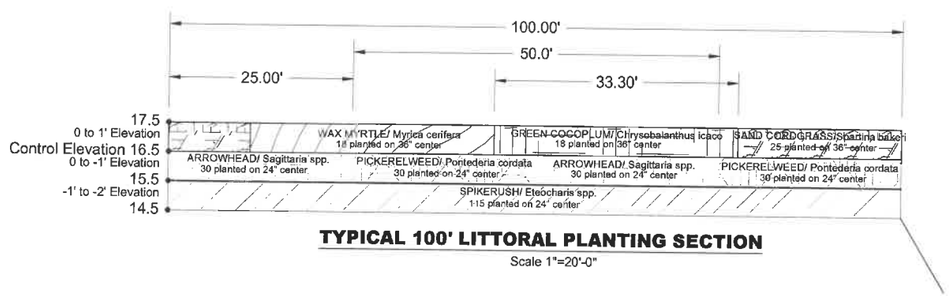
REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	10 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



PLANT SCHEDULE POND 9A

TREES	COMMON NAME
	Red Maple
	Bald Cypress



TYPICAL 100' LITTORAL PLANTING SECTION

Scale 1"=20'-0"

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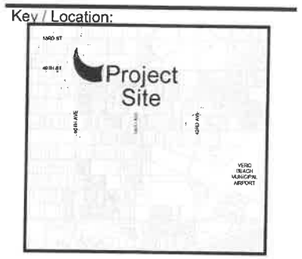
Key / Location:



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66th Avenue

Indian River County

Pond 9A Landscape Plan

Date	By	Description

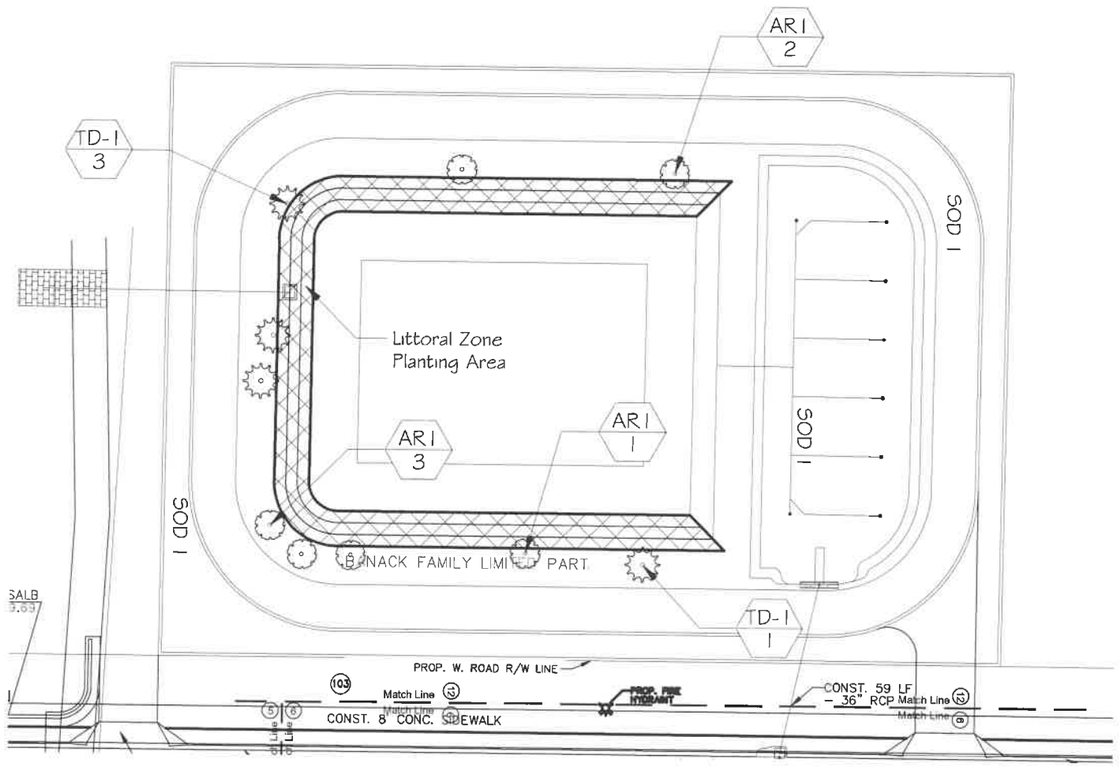
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

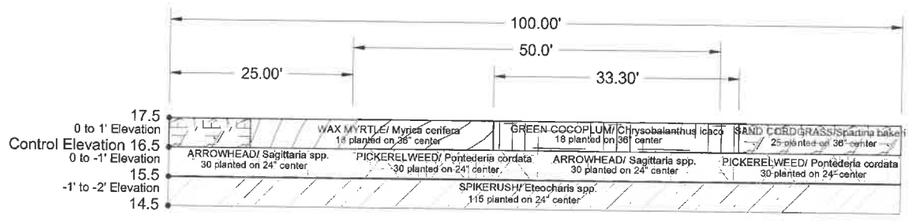
REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	11 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



PLANT SCHEDULE POND 9B

TREES	COMMON NAME
	Red Maple
	Bald Cypress



TYPICAL 100' LITTORAL PLANTING SECTION

Scale 1"=20'-0"

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Key / Location:

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66th Avenue

Indian River County

Pond 9B Landscape Plan

Date	By	Description

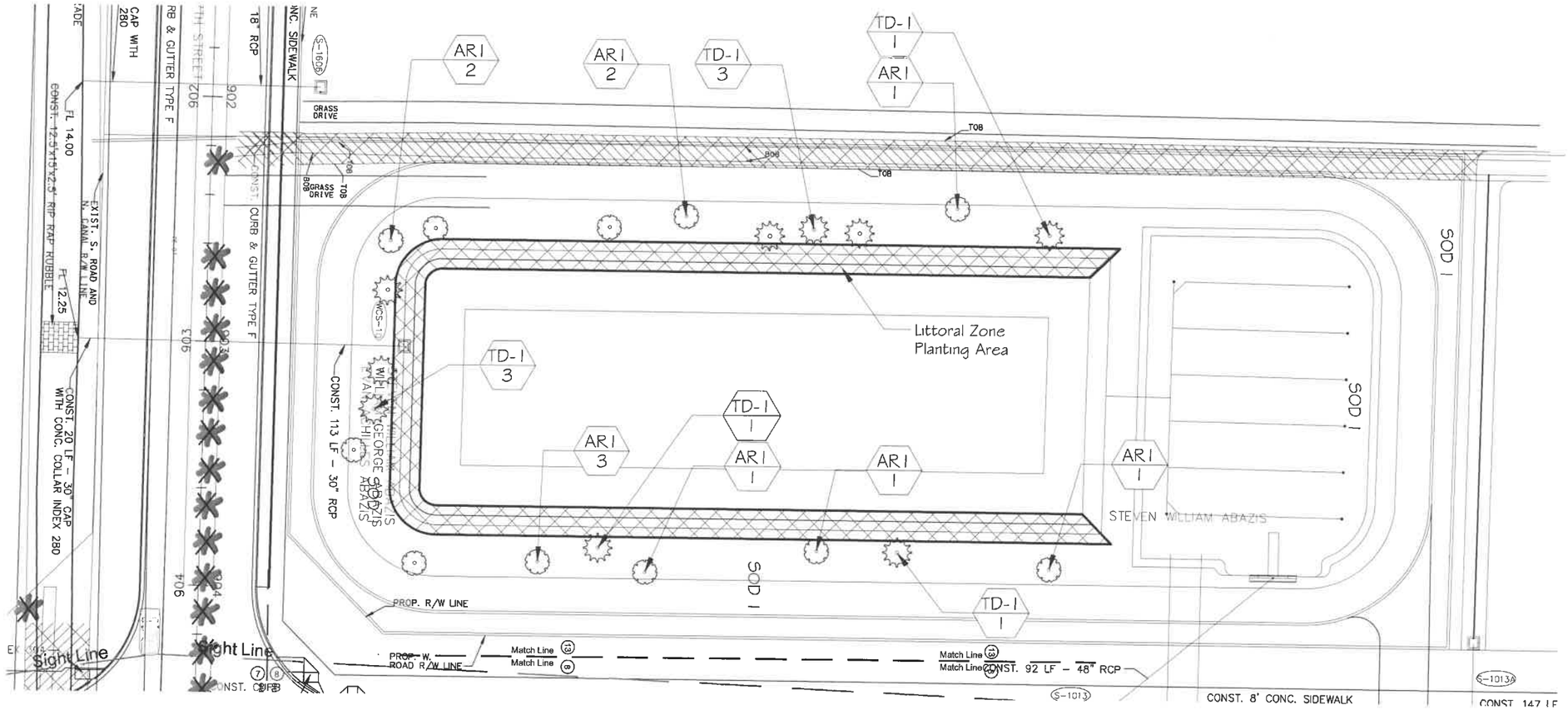
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet	
Manager	BN		12 of 19
Project Number	16-260		
Municipal Number	00-000		
Computer File	16-260_66thAve_RoadwayLandscapeCurre		

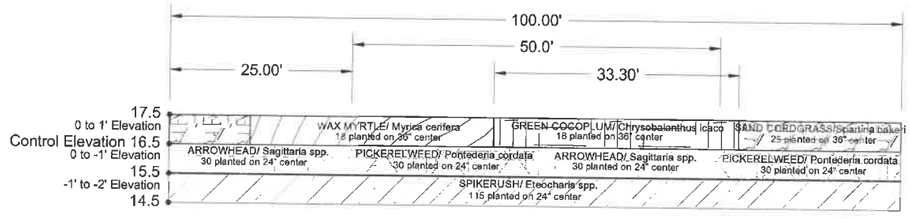


PLANT SCHEDULE POND 10

TREES	COMMON NAME
	Red Maple
	Bald Cypress

TREES TO BE REMOVED

	Palm
	Oak
	Unknown



TYPICAL 100' LITTORAL PLANTING SECTION

Scale 1"=20'-0"

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66th Avenue

Indian River County

Pond 10 Landscape Plan

Date	By	Description

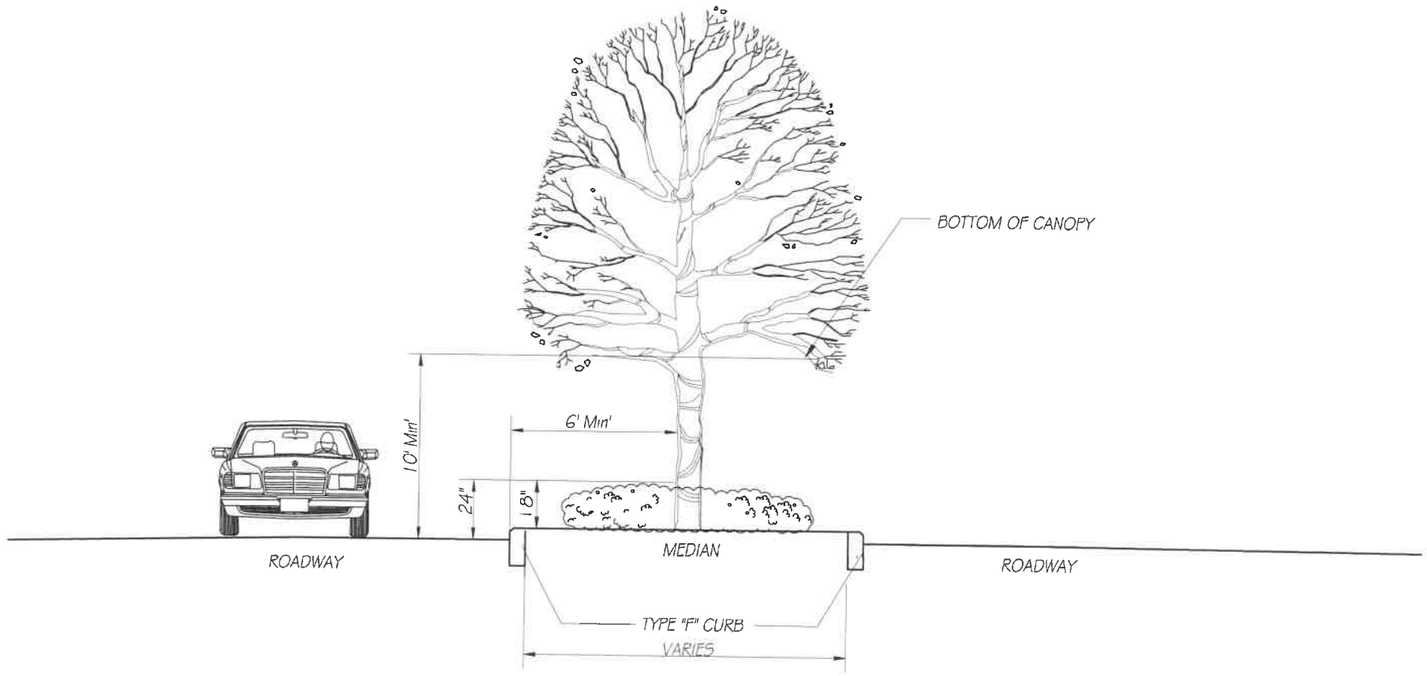
NORTH

SCALE: 1" = 50'

0 12.5' 25' 50'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet	
Manager	BN		13 of 19
Project Number	16-260		
Municipal Number	00-000		
Computer File	16-260_66thAve_RoadwayLandscapeCurre		



* TREE DEPICTED SHOWN FOR GRAPHIC PURPOSES ONLY. IT DOES NOT REFLECT PLANTING SPECIFICATIONS.

*MAINTAIN AN 18" MULCH STRIP WHERE SHRUBS AND GROUNDCOVER ARE PLACED IMMEDIATELY ADJACENT TO CURB.

Notes:
1. All medians or portions thereof are within the limits of clear sight.
2. Any trunk larger than 4" in diameter shall be removed on multi-trunk trees if they are within limits of clear sight.
3. All Shrubs & Groundcovers shall be maintained at a height no greater than 18" above top of curb if they are within the limits of clear sight.
4. Canopy or high borne foliage should never be lower than 10' above the roadway within the limits of clear sight. (See typical elevation)
5. Landscape Contractor should verify all existing underground utilities prior to digging.
6. Site prep, clean up , grading, and plant bed prep is the responsibility of the Landscape Contractor.

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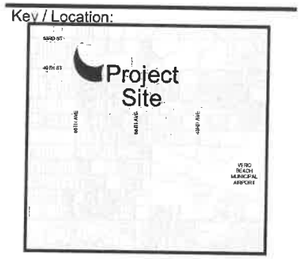
Key / Location:



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66th Avenue

Indian River County

Typical Median Landscape Detail

Date	By	Description

NORTH

SCALE: 1" = NTS

0 0 0 0

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	14 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	

66th Avenue - Roadway and Stormwater Area Landscape Improvements Plant Schedule

FDOT Pay Item No.	SYM	Description	Spacing	SIZE	UNIT	QTY
Landscape Complete - Small Plants						
580-1-1	SP2	Sand Cord Grass - Spartina bakeri	36"	1G, 12" HT x 10" SPR, F	EA.	260
580-1-1	MC2	Wax Myrtle - Myrica cerifera	36"	1G, 18" OA, FTB	EA.	260
580-1-1	CH2	Green Coco Plum - Chrysobalanus icaco	36"	1G, 18" HT x 12" SPR, F	EA.	260
580-1-1	PON	Pickerel Weed - Pontederia cordata	24"	BR, Clean, Free of Weeds	EA.	850
580-1-1	ELE	Jointed Spikerush - Eleocharis interstincta	24"	BR, Clean, Free of Weeds	EA.	1629
580-1-1	SAT	Duck Potato - Sagittaria lancifolia	24"	BR, Clean, Free of Weeds	EA.	850
580-1-1	RAI	Dwarf Indian Hawthorn - Rhaphiolepis indica	24"	3G, 12" HT x 15" SPR, F	EA.	354
580-1-1	TRF	Dwarf Fakahatchee Grass - Tripsacum floridanum	30"	3G, 18" OA, FTB	EA.	357
580-1-1	PLI	Imperial Blue Plumbago - Plumbago auriculata 'Imperial Blue'	24"	3G, 18" OA, FTB	EA.	264
Landscape Complete - Large Plants						
580-1-2	IE	East Palatka Holly - Ilex attenuata 'East Palatka'		FG, 12' HT x 6' SPR, 3"C, SP, AS	EA.	3
580-1-2	LJ	Japanese Privet Tree - Ligustrum japonicum		CG, 12'OA, 8' CT, STD, F, SP, AS	EA.	6
580-1-2	QV	Live Oak - Quercus virginiana		FG, 12' HT x 6' SPR, 3"C, F, SP, HO W/FEEDE	EA.	15
580-1-2	SP	Cabbage Palm - Sabal palmetto		FG, 8'-20' CT HT, BTD OR SLK TR, SUN GR(	EA.	30
580-1-2	AR1	Red Maple - Acer rubrum		7G, 5' OA, 1"C	EA.	23
580-1-2	TD-1	Bald Cypress - Taxodium distichum		7G, 5' OA	EA.	18
Performace Turf - Sod						
570-1-2	SOD1	Paspalum notatum - Argentine Bahia	N/A	Solid sod; certified weed, desease and pest free	SY	Refer to Civil Engineering Plans
570-1-2	SOD2	Stenotaphrum secundatum - St. Augustine	N/A	Solid sod; certified weed, desease and pest free	SY	

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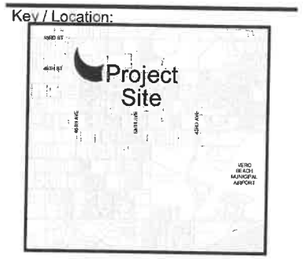
Key / Location:



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66th Avenue

Indian River County

Plant Schedules

Date	By	Description

NORTH

SCALE: 1" = NTS

0 0 0 0

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	15 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	

LANDSCAPE SPECIFICATIONS

PART 1: GENERAL CONDITIONS

1.01 SCOPE:
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of all plants on the landscape plans.

1.02 AGENCY STANDARDS:
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no misunderstanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property and/or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and as located on the drawings. The Landscape Contractor is responsible for his/her own quantity count. If there is a discrepancy between drawings and plant list, the drawing shall be considered as correct.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to what was intended.

1.05 EXECUTION OF THE WORK:
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Superintendent on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Superintendent shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, the Superintendent shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY:
A. The Landscape Contractor shall protect all materials and work against injury from any causes, and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e. damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at the Owner's discretion.

1.08 GUARANTEE:
A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guaranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement(s) costs equally with the Owner, should the replacement plant fail to survive.

C. All replacements shall be plants of the same kind and size as specified in the plant list. They shall be furnished and planted as specified.

1.09 CARE AND MAINTENANCE:
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials until final acceptance by the Owner or Landscape Architect.

B. Upon final acceptance of the work, the Landscape Contractor shall furnish the Owner with a written and detailed description for the care and maintenance of all plant material at the time of final acceptance.

C. The Owner agrees to execute the instructions for such care and maintenance.

1.10 SAFETY:
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.) .

1.11 CONTRACTOR QUALIFICATION:
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than three (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization, and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be $300,000.00 per person and $300,000.00 per aggregate. The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the contract.

1.13 PERMITS AND CERTIFICATES:
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MATERIALS

2.01 PLANT MATERIALS:
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Landscape Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of the material shall be increased at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted. Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, Part I revised edition 1973, and Grades and Standards for Nursery Plants, Part II, for Palms and Trees, revised edition 1972. (Updated May 2003).

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect.

2.02 INSPECTION
A. The Landscape Architect and/or Owner may inspect trees and shrubs at place of growth or at project site prior to planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and/or Owner retain the right to further inspect trees and shrubs for size and condition of root ball systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS:
A. Balled and burlapped plants (B&B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Root ball shall be firmly wrapped with burlap or similar materials, and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient root balls will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or damage to plants.

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the fire drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE:
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours.

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING:
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark stripage by use of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails.

2.06 PLANTING SOIL:
A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth. All undesirable backfill to be removed from planting areas/islands.

B. Planting soil backfill for raised planters, if applicable, shall consist of 40% potting soil, 40% builders sand and 20% perlite.

C. Planting soil ph (potential of hydrogen) to be suitable for plant materials or modified to meet the appropriate (ph) range with soil amendments.

2.07 FERTILIZER:
A. Commercial slow release fertilizer shall comply with the state fertilizer laws. A 12-4-12 blend with minors shall be applied to the outside portion of the root ball and up to twelve inches (12") beyond the edge of the root ball. Any fertilizer that becomes caked or otherwise damaged shall be rejected.

B. Fertilizer application is at or shortly after planting for a one year establishment period.

C. Fertilizer rate is for trees that do not systematically receive turf fertilizer in accordance with the following rates:

Diameter of Canopy	Rate per Tree
3'	0.53 lbs
4'	0.95 lbs
5'	1.47 lbs
6'	2.12 lbs
7'	2.89 lbs
8'	3.78 lbs
9'	4.78 lbs
10'	5.91 lbs

The Landscape Architect reserves the right to inspect and review the application of fertilizer.

2.08 MULCH:
A. Mulch material shall be clean, Earthwise Mulch free of weeds, seeds and pests, and shall contain no Cypress. Mulch to be moistened at the time of application. Keep mulch at six inches (6") minimum from trunk.

B. All trees and shrub beds shall receive 3" mulch immediately after planting. Provide thin layer of mulch over the root ball. Tree mulch circles to be minimum six feet (6') diameter.

PART 3: EXECUTION

3.01 DIGGING:
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Landscape Architect shall be consulted and will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his or her work.

3.02 GRADING:
A. Grading for drainage, swales, etc. to be provided by others to within two inches (2") of the finished grade.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

3.03 PLANTING:
A. Planting shall take place during favorable weather conditions. Thoroughly wet root ball prior to planting.

B. The Contractor shall ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Landscape Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting details located in the planting plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned 'Tree and Shrub Planting Details".

E. A representative number of planting pits (a minimum of one per 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Details and Section 4.0 for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions (1.5 times root ball width), and refilled with existing native soil:

1 Gallon material:	12" diameter
3 Gallon material:	18" diameter
7 Gallon material:	20" diameter
10 Gallon material:	24" diameter
15 Gallon material:	26" diameter
30 Gallon material:	35" diameter
45 Gallon material:	45" diameter
65 Gallon material:	53" diameter
100 Gallon material:	63" diameter
200 Gallon material:	72" diameter
Field grown material and trees:	1.5 times width of root ball (light, coarse texture soil)
Field grown material and trees on slope:	2.5 times width of root ball (light, coarse texture soil)

G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc., and the ground has been brought to an even grade approved by the Landscape Architect.

H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines. Manually or mechanically (tractor forks) lift/roll the root ball into the hole. Do NOT pinch the trunk. Remove air pockets during watering.

I. All plants shall be set in center of hole to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the root ball and removed from the planting hole before backfilling.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.

L. All palms shall be planted in sand, thoroughly washed in during planting operations, and with a shallow saucer depression left at the soil line for future waterings.

3.04 PRUNING:
A. Remove dead and broken branches from all plant material. Prune only as required to retain typical growth habit of individual plants with as much height and spread as possible. Prune only in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments and flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

C. Trees shall not be hat racked, topped or otherwise trimmed into unnatural shapes.

D. Remove all trimmings from site at time of trimming and/or daily basis.

3.05 GUYING:
A. All trees over eight feet (8') in height shall, immediately after setting to proper grade, be guyed with one inch (1") wide polypropylene strapping as per the planting details.

B. Trees between 1" caliper to less than or equal to 2" caliper to be staked with a minimum of one vertical 2" x 2" P.T. wood stake with approved straps as per the planting details.

D. Trees larger than 2" caliper to less than or equal to 4" caliper to be staked with three (3) 'Arborbrace' anchors/strapping or approved equivalent as per the planting details.

E. Trees larger than 4" caliper to be staked with four (4) 'Arborbrace' anchors or approved equivalent.

F. Stakes/anchors and guying attachments to remain in place for one growing season. Remove the attachments only after inspection of the tree for stability. Reattach if the root system moves or stem bends excessively.

3.06 WATER:
A. Each plant or tree shall be thoroughly watered-in during and after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.

B. All trees shall be deep watered for a period of ninety (90) days after planting. (see water application schedule)

C. Water shall be potable and furnished by Owner unless contracted otherwise.

3.07 SOD:
A. The Landscape Contractor shall sod all areas as indicated on the drawings.

B. Additional areas, if not specified on the drawings, to be sodded at a predetermined per square foot cost.

C. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, and eliminate all bumps, depressions, sticks, stones, and other debris. General Contractor to provide rough site grade to +/- 1/10th of a foot.

D. The sod shall be solid, and have a compacted growth of grass with good root development. It shall contain no weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, and free from all stones and debris.

E. The field sod shall have been mowed at least three times with a lawn mower prior to being cut and lifted. The sod shall be carefully cut into uniform dimensions for ease of installation.

F. 5-2-0 'Milorganite' fertilizer or equivalent with trace elements is to be applied, after laying sod, at the rate of 40 lbs. per 5,000 square feet.

G. Lay solid sod with closely abutting joints, and tamp or roll surface.

H. The finished level of all sodded areas after settlement shall be one inch (1") below the top of abutting curbs, sidewalks, paving and/or wood borders to allow for building turf.

I. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.

3.08 SEEDING:
A. The Landscape Contractor shall remove all vegetation and rocks in the proposed seeded area.

B. Application: Argentine Bahia Grass seed – 200 Pounds per acre mixed with common hulled Bermuda seed – 30 lbs. per acre. All other seed mixtures shall be applied per the manufacturer's instructions.

C. Apply fertilizer at the rate of 150 lbs. per acre 45-60 days after seeding.

D. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch cover.

3.09 SITE CLEAN UP:
A. The contractor shall at all times keep the premises free from accumulations of waste materials and/or trash caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.

3.10 MAINTENANCE:
A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.

B. Proper protection to lawn areas shall be provided, and any damage resulting from planting operations shall be repaired promptly.

C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Landscape Contractor's responsibility to remove them.

E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Landscape Contractor at no additional expense to the Owner. Hurricane force wind damage is the only exception to the wind damage rule.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.

B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Landscape Architect. The Landscape Contractor shall notify the Landscape Architect and request final inspection upon completion of the work.

C. All plant material shall be alive and in good growing condition for each specified kind of plant at inspection and acceptance. The grading of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection.

D. The Landscape Contractor shall be notified by the Landscape Architect of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.

4.01 DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS
PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER:

A. Dig each planting pit to the minimum specified size.

B. Fill planting pit with twelve inches (12") of water. If the water level drops four inches (4") or more within four (4) hours, a drainage channel is not required. If the water level drops less than four inches (4") within the four (4) hour period, a drainage channel is required.

C. Where required, the drainage channel must extend down through the non porous soil and into porous soil. (See Detail)

D. All material removed from the drainage channel shall be discarded.

E. When backfilling planting pits with yellow sand, care must be taken to keep the consistency the same throughout the planting pit and drainage channels.

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Landscape Specifications

Date	By	Description

NORTH

SCALE: 1" = NTS

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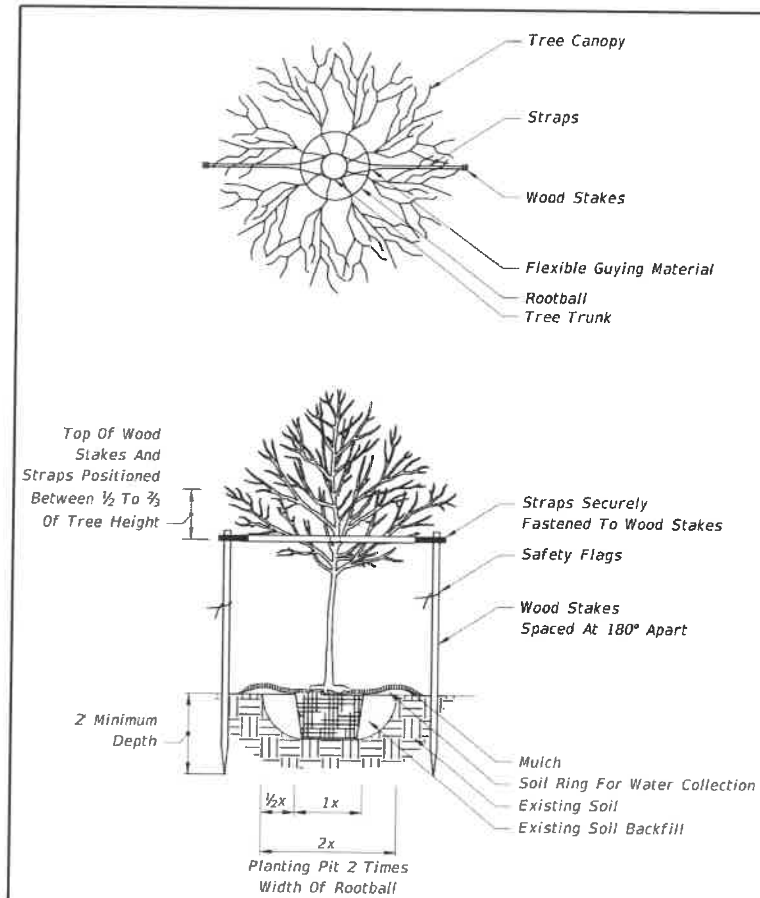
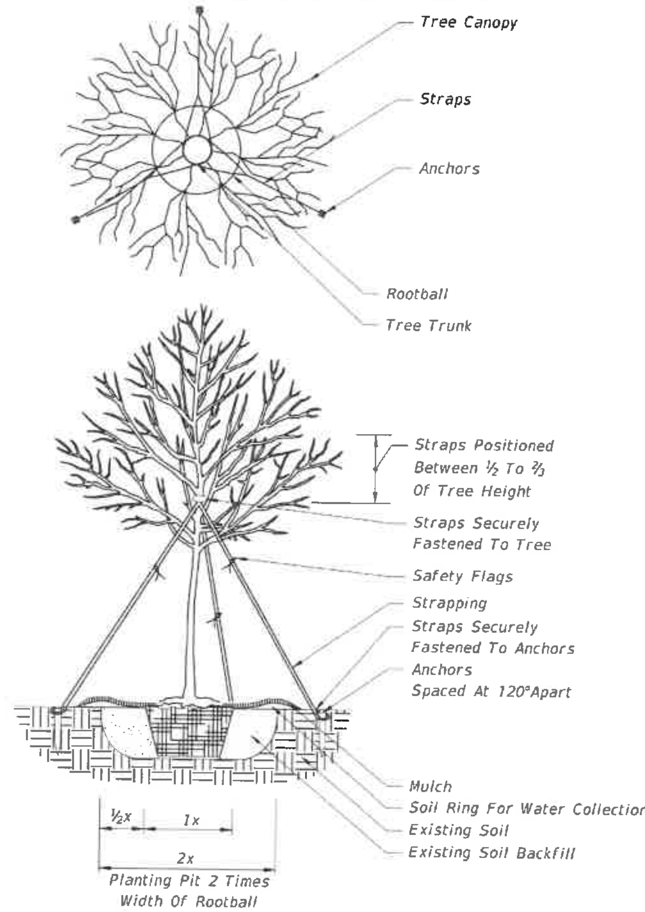
REG. # 1018
Thomas P. Lucido

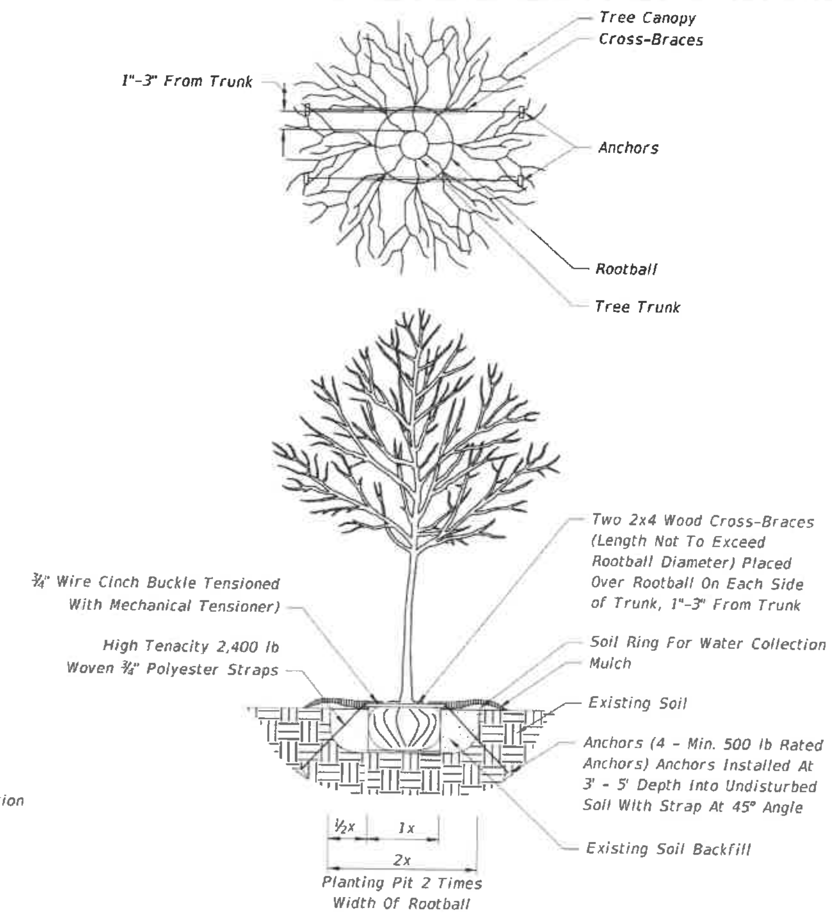
Designer	BN	Sheet
Manager	BN	16 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



1" - 3 1/2 " CALIPER TREE PLANTING



4" AND LARGER CALIPER TREE PLANTING



1" - 3½" CALIPER TREE PLANTING WITH UNDERGROUND BRACING

GENERAL NOTES:

1. All dimensions 6" and less are exaggerated for illustrative purposes only.
2. Plant containers shall be removed prior to planting. If plants are not container grown, remove a minimum of the top ⅓ of burlap, fabric, or wire mesh. Never lift or handle the tree by the trunk.
3. The uppermost root on all trees shall be covered by less than 1" of soil. Use hand tools to carefully remove all excess soil. The top of root ball shall be set 1"-2" above finish grade and set plumb to the horizon. If planting pit is too deep, remove the tree and firmly pack additional soil in the bottom of the planting pit to raise the rootball. After positioning the tree in the planting pit, slice through rootballs with 3 or 4 vertical slices (top to bottom) equally distributed around the tree.
4. Backfill shall be loosened existing soil. Remove rocks, sticks, or other deleterious material greater than 1" in any direction prior to backfilling. Water and tamp to remove air pockets. If existing soils contain excessive sand, clay, or other material not conducive to proper plant growth, contact Engineer prior to planting.
5. Soil rings shall be constructed of existing soil at the outer edge of the planting pit, with a height of 3" and gently sloping sides. Do not pile soil on top of rootball.
6. Mulch shall be a 3" deep layer placed to the edge of the trunk flare, around the base of shrub, or solidly around groundcover. Never pile mulch against the tree trunk.
7. Straps shall be minimum 1" wide nylon or polypropylene. All wood stakes or anchors shall be located beyond the edge of soil ring and located below finished grade, unless otherwise specified.
8. Sabal Palms may be hurricane cut. All other palms must have fronds tied with biodegradable twine. Palm trunks shall have no burn marks, scars, or sanding.
9. All dimensions provided for wood materials are nominal.
10. When a permanent, subsurface, or drip irrigation system is provided, a soil ring is not required. Mulch to edge of planting pit.
11. Alternate tree bracing and guying systems approved by the Engineer may be used in lieu of the tree bracing and guying methods detailed on the Index. Alternate tree protection systems approved by the Engineer may be used in lieu of the tree protection barricade detailed on the index.
12. Remove aboveground guying systems at the end of the establishment period.

LAST REVISION	REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	LANDSCAPE INSTALLATION	INDEX NO.	SHEET NO.
07/01/07					544	1

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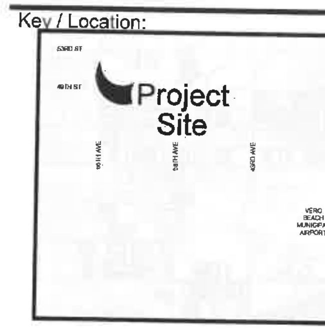
Key / Location:



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FDOT Index 544 Details

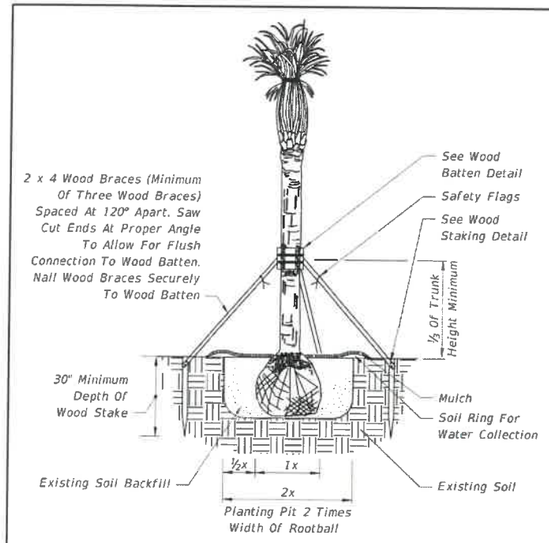
Date By Description

NORTH

SCALE: 1" = NTS

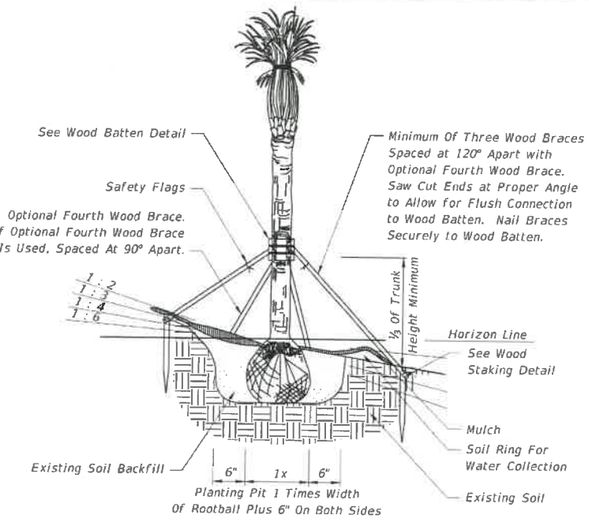
REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	**17 of 19**
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



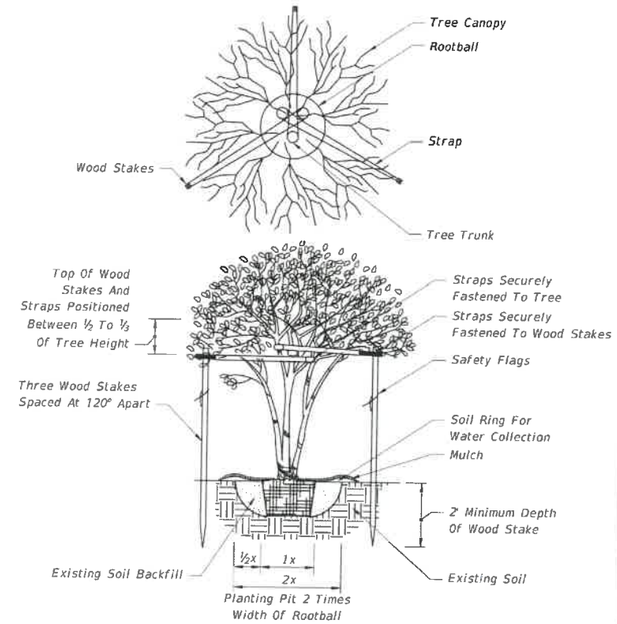
NOTE: For All Other Palms, Use Detail Provided By Landscape Architect In Contract Plans.

CABBAGE PALM PLANTING FOR UP TO 24' CLEAR TRUNK

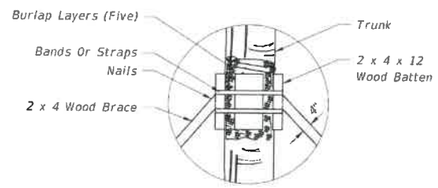


NOTES: Slope Provided As Rise:Run. For All Other Palms, Use Detail Provided By Landscape Architect In Contract Plans.

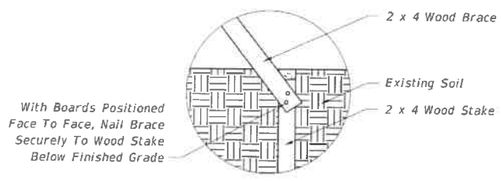
CABBAGE PALM PLANTING ON SLOPE FOR UP TO 24' CLEAR TRUNK



MULTI-TRUNK TREE PLANTING

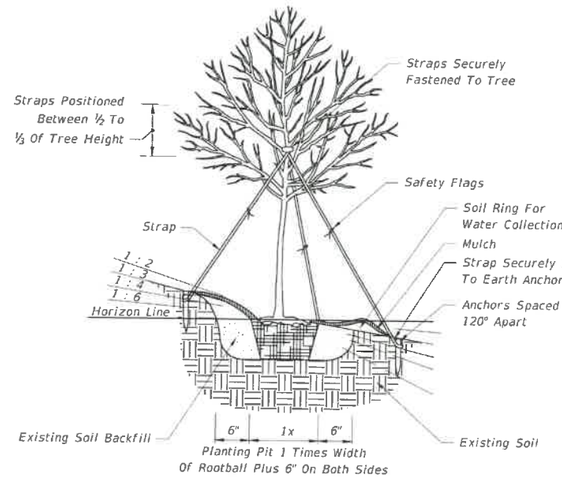


WOOD BATTEN DETAIL



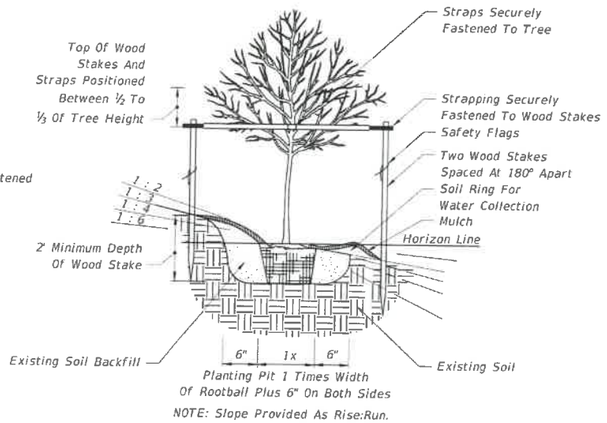
NOTE: Stake Into Firm, Existing Soil.

WOOD STAKING DETAIL



NOTE: Slope Provided As Rise:Run.

4" AND LARGER CALIPER TREE PLANTING ON SLOPE



NOTE: Slope Provided As Rise:Run.

1" - 3 1/2 " CALIPER TREE PLANTING ON SLOPE

LAST REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
07/01/07	REVISION	FDOT DESIGN STANDARDS FY 2012/2013	544	2

LANDSCAPE INSTALLATION

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FDOT Index 544 Details

Date	By	Description

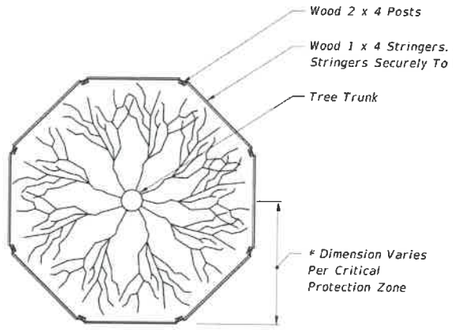
NORTH

SCALE: 1" = NTS

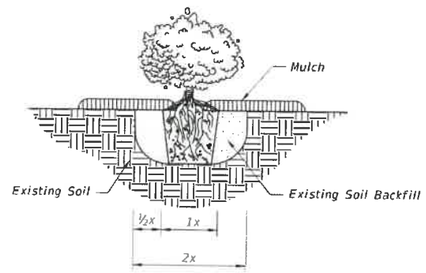
0 0' 0' 0'

REG. # 1018
Thomas P. Lucido

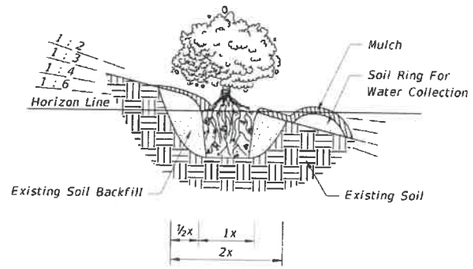
Designer	BN	Sheet
Manager	BN	18 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	



NOTE: For Groups Of Trees, Place Barricades Between Trees And Construction Activity.

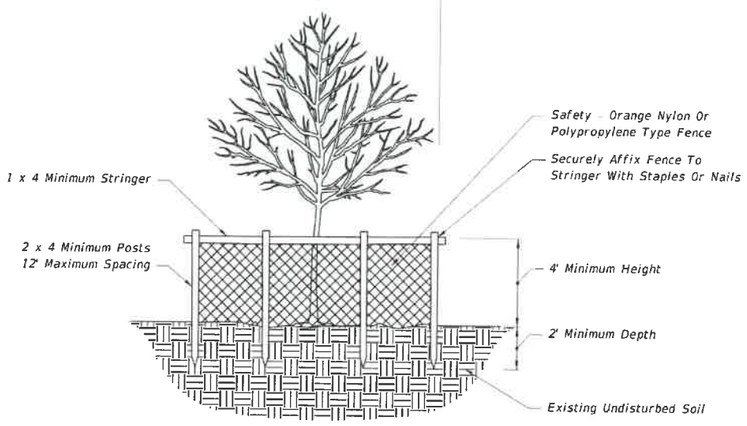


GROUND COVER/SHRUB PLANTING



NOTE: Slope Provided As Rise:Run.

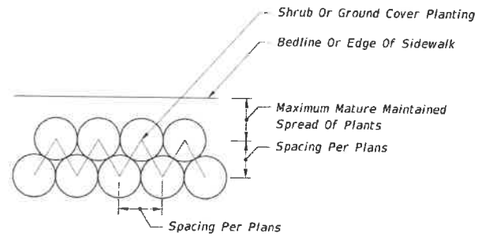
GROUND COVER/SHRUB PLANTING ON SLOPE



NOTES: Critical Protection Zone: The Area Surrounding A Tree Within A Circle Described By A Radius Of One Foot For Each Inch Of The Tree Trunk Diameter At 54" Above Finished Grade. For Groups Of Trees, Place Barricades Between Trees And Construction Activity.

* Tree Protection Barricades Shall Be Located To Protect A Minimum Of 75% Of The Critical Protection Zone.

TREE PROTECTION BARRICADE



GROUND COVER/SHRUB LAYOUT DETAIL

LAST REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	LANDSCAPE INSTALLATION	INDEX NO.	SHEET NO.
07/01/07	REVISION			544	3

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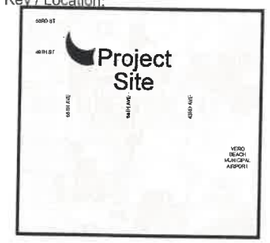
Key / Location:



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FDOT Index 544 Details

Date By Description

NORTH

SCALE: 1" = NTS

0 0' 0' 0'

REG. # 1018
Thomas P. Lucido

Designer	BN	Sheet
Manager	BN	19 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_RoadwayLandscapeCurre	

66th Avenue Streetscape

Indian River County

100% Irrigation Plans - September 2016

Station 295+00 to 354+00

DRAFT

INDEX OF IRRIGATION PLANS

Sheet Number	Description
1 of 19	ROADWAY IRRIGATION KEY SHEET & LEGEND
2 thru 12 of 19	ROADWAY IRRIGATION PLANS
13 of 19	ROADWAY IRRIGATION PUMP(S)
14 thru 16 of 19	ROADWAY IRRIGATION DETAILS
17 of 19	ROADWAY IRRIGATION DETAIL & NOTES
18 thru 19 of 19	ROADWAY IRRIGATION NOTES

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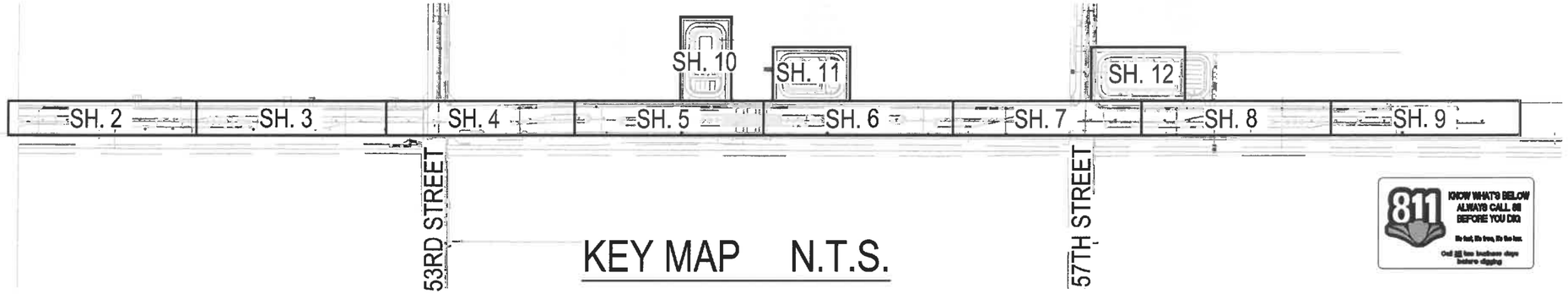

KEY MAP N.T.S.

811 KNOW WHAT'S BELOW ALWAYS CALL 811 BEFORE YOU DIG

IRRIGATION LEGEND

QTY	SYM	DESCRIPTION	DET.
	P1-9 / 2" / 51.7	PUMP STATION # – STATION NUMBER GALLONS PER MINUTE–CATALOG FLOW VALVE SIZE	
1	P1	SULLIVAN ELECTRIC 5 HP SUBMERSIBLE PUMP STATION MODEL # EPS–I–5–230–3–VFD–S–ECON WITH FLOW METER, VARIABLE FREQUENCY DRIVE, CLOCK START, ALUMINUM ENCLOSURE, HUNTER ACC 18 STATION CONTROLLER, GROUNDING GRID, RAIN/FREEZE CLIK SENSOR MODEL #RFC AND BASELINE WATERTEC S100 SOIL MOISTURE SENSOR INTERFACE MOUNTED ADJACENT TO CONTROLLER (SENSORS INSTALLED BY CONTRACTOR). THE PUMP POWER SHALL BE 230V/1PH AND THE WATER SOURCE IS A 4" WELL.	A
1	P2	SULLIVAN ELECTRIC 5 HP SUBMERSIBLE PUMP STATION MODEL # EPS–I–5–230–3–VFD–S–ECON WITH FLOW METER, VARIABLE FREQUENCY DRIVE, CLOCK START, ALUMINUM ENCLOSURE, HUNTER ACC 18 STATION CONTROLLER, GROUNDING GRID, RAIN/FREEZE CLIK SENSOR MODEL #RFC AND BASELINE WATERTEC S100 SOIL MOISTURE SENSOR INTERFACE MOUNTED ADJACENT TO CONTROLLER (SENSORS INSTALLED BY CONTRACTOR). THE PUMP POWER SHALL BE 230V/1PH AND THE WATER SOURCE IS A 4" WELL.	A
28		RAIN BIRD PEB SERIES RCV (SIZED PER PLAN) WITH A NIBCO T–113 GATE VALVE IN A CARSON 1220 JUMBO VALVE BOX WITH PURPLE LID.	B
2	R	POLE MOUNTED HUNTER RAIN FREEZE CLIK SENSOR MODEL RFC	C2
2	MS	BASELINE WATERTEC S100 SOIL MOISTURE SENSOR biSENSOR INSTALLED ON SITE PER MANUFACTURER'S RECOMMENDATIONS. COMMUNICATION WIRE TO BE CONNECTED TO SMS INTERFACE AT CONTROLLER VIA 1" CONDUIT	C3
7		NIBCO P–619–RW MAINLINE ISOLATION VALVE (LINE SIZE) IN A CARSON 1419 VALVE BOX WITH PURPLE LID.	D
———		CLASS 200 PANTONE PURPLE PVC LATERAL LINE W/ SCH 40 SOLVENT WELD PVC FITTINGS (SIZE PER PLAN, MINIMUM PIPE SIZE SHALL BE 3/4", NO 1/2" PIPES PERMITTED)	L
— — —		CLASS 200 'PANTONE PURPLE' PVC GASKETED 'O' RING MAINLINE WITH LEEMCO DUCTILE IRON FITTINGS WITH MECHANICAL JOINT RESTRAINTS (SIZE PER PLANS)	L
—··—		SCH 40 GRAY PVC CONDUIT W/SCH 40 SOLVENT–WELD PVC FITTINGS, SHOWN WHERE NOT WITH MAINLINE (SIZE PER PLAN)	
- - - - - -		CLASS 200 PVC SLEEVES W/SCH 40 SOLVENT–WELD PVC FITTINGS (SIZE PER PLAN)	O

QUANTITIES GIVEN ARE FOR CONTRACTOR CONVENIENCE ONLY. THE ACCURACY IS NOT GUARANTEED. ALL QUANTITIES SHALL BE VERIFIED.

*DET (ON THE LEGEND) – THE LETTER IN THIS COLUMN DENOTES THE CORRESPONDING DETAIL SHOWN ON THE DETAIL SHEET.

IRRIGATION HEAD LEGEND

SYMBOL QUANTITY	SYMBOL	DESCRIPTION	DETAIL	DESIGN PSI	DESIGN GPM PER SYMBOL
66	■	EACH SYMBOL DENOTES TWO (2) RAIN BIRD 1804–SAM–1404 FLOOD BUBBLERS W/ NP COVER	Q	30	2.00
14	M	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP1000 NOZZLE MAROON ADJ ARC 90–210 W/ NP COVER	R	30	VAR
52	M	RAIN BIRD 1812–SAM–PRS–30 W/ HUNTER MP1000 NOZZLE MAROON ADJ ARC 90–210 ON SCH 40 RISER W/ NP COVER	T	30	VAR
181	K	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP2000 NOZZLE BLACK ADJ ARC 90–210 W/ NP COVER	R	30	VAR
2	G	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP2000 NOZZLE GREEN ADJ ARC 210–270	R	30	VAR
24	K	RAIN BIRD 1812–SAM–PRS–30 W/ HUNTER MP2000 NOZZLE BLACK ADJ ARC 90–210 ON SCH 40 RISER W/ NP COVER	T	30	VAR
80	B	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP3000 NOZZLE BLUE ADJ ARC 90–210 W/ NP COVER	R	30	VAR
11	Y	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP3000 NOZZLE YELLOW ADJ ARC 210–270 W/ NP COVER	R	30	VAR
28	A	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP3000 NOZZLE GRAY ARC 360 W/ NP COVER	R	30	3.15
278	LB	RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MP3500 NOZZLE LT. BROWN ADJ ARC 90–210 W/ NP COVER	R	30	VAR
4		RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MPCORNER NOZZLE LST W/ NP COVER	R	30	VAR
8		RAIN BIRD 1806–SAM–PRS–30 W/ HUNTER MPCORNER NOZZLE SST W/ NP COVER	R	30	VAR

NOTES:
1. CONTRACTOR TO PROVIDE NEW WELL UP TO 100' DEEP, WITH DIAMETER AS SPECIFIED. PROVIDE A LINE ITEM 'PER FOOT' COST FOR EACH ADDITIONAL FOOT OF DEPTH, IF NEEDED. CONTRACTOR SHALL NOT DRILL THE WELL DEEPER THAN 100' WITHOUT RECEIVING PRIOR WRITTEN AUTHORIZATION. IF PRIOR AUTHORIZATION IS NOT OBTAINED, IN WRITING, NO ADDITIONAL MONIES WILL BE PAID.
2. AFTER THE WELL IS DRILLED, A STEP TEST MUST BE PERFORMED ON THE WELL TO VERIFY THE WELL CAN PRODUCE THE REQUIRED VOLUME OF WATER ON A CONTINUAL BASIS. THE STEP TEST MUST LAST 8 HOURS WITH WATER LEVEL MEASURED EACH HALF HOUR. PEAK DEMAND IS THE GPM IDENTIFIED IN THE POC NOTE ON THE NOTES SHEET:
   HOURS 1–2 – PUMP AT 50% OF PEAK DEMAND
   HOURS 3–4 – PUMP AT 75% OF PEAK DEMAND
   HOURS 5–6 – PUMP AT 100% PEAK DEMAND
   HOURS 7–8 – PUMP AT 125% OF PEAK DEMAND
   THE RESULTS OF THIS TEST MUST BE APPROVED BY THE OWNER/OWNERS REPRESENTATIVE PRIOR TO THE INSTALLATION OF THE PUMP OR IRRIGATION SYSTEM COMPONENTS. IF THE CONTRACTOR DOES NOT FOLLOW THESE REQUIREMENTS AND THE WELL PROVES TO BE INSUFFICIENT, THE CONTRACTOR BEARS 100% OF THE RESPONSIBILITY AND COSTS TO CORRECT/MODIFY THE SYSTEM TO ACCOMODATE THE EVENTUAL WATER SOURCE.
3. AFTER DRILLING THE WELL, CHECK THE WATER QUALITY TO ENSURE IT IS SUITABLE FOR LANDSCAPE PLANTINGS. USE THE SERVICES OF A REPUTABLE, LICENSED LABORATORY ONLY. WATER QUALITY TESTING MUST INCLUDE pH, CONDUCTIVITY, SODIUM, POTASSIUM, CALCIUM, MAGNESIUM, CARBONATE, BICARBONATE, CHLORIDE, PHOSPHOROUS, NITRATE NO3, SULFATE SO4, BORON, IRON, TOTAL DISSOLVED SOLIDS, SODIUM ABSORPTION RATIO, AND HARDNESS. IF THE WATER IS DETERMINED SUITABLE CONTINUE IRRIGATION INSTALLATION. IF THE WATER QUALITY IS UNSUITABLE, DO NOT PROCEED WITHOUT WRITTEN DIRECTION FROM THE OWNER/OWNER'S REPRESENTATIVE.
4. IF A HIGH IRON CONTENT (OR OTHER STAIN PRODUCING COMPOUND) IS DETECTED, ADVISE THE OWNER/OWNER'S REPRESENTATIVE. DO NOT PROCEED WITHOUT WRITTEN PERMISSION. IF A CHEMICAL INJECTION SYSTEM IS REQUIRED BY THE OWNER, IT MUST BE DIRECTED BY THE OWNER AND INSTALLED BY THE PUMP SYSTEM MANUFACTURER.
5. THE WELL CASING SHALL BE GALVANIZED STEEL PIPE (SIZED PER PLAN).
6. THE PUMP DROP PIPE SHALL BE 2" CERTA LOCK PVC PIPE.
7. PRIOR TO INSTALLING ANY IRRIGATION SYSTEM COMPONENTS, THE CONTRACTOR SHALL OBTAIN A WATER SAMPLE FROM THE PROPOSED WATER SUPPLY. CONDUCT A PARTICLE SIZE AND COUNT ANALYSIS ON THE SAMPLE USING THE SERVICES OF A REPUTABLE LAB CERTIFIED IN SUCH ANALYSES. SUBMIT THE TEST RESULTS TO THE OWNER/OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL. DO NOT PROCEED FURTHER WITH SYSTEM INSTALLATION UNTIL GIVEN WRITTEN APPROVAL TO DO SO. IF CONTRACTOR DOES NOT COMPLY WITH THIS REQUIREMENT, ANY COSTS TO MAKE THE IRRIGATION SYSTEM OPERATE AS REQUIRED (WHICH WOULD NOT HAVE BEEN INCURRED HAD THESE REQUIREMENTS BEEN COMPLIED WITH), WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE FUTURE INTENDED IRRIGATION WATER SOURCE IS RECLAIMED WATER IF IT BECOMES AVAILABLE. ALL IRRIGATION MATERIAL SHALL BE COLOR CODED 'PANTONE PURPLE' AS REQUIRED BY FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

CONTROL NOTES:
1. CONTRACTOR TO PROGRAM THE CONTROLLER(S) TO RUN BUBBLER AND SHRUB ZONES TWO AT A TIME (BUBBLER WITH BUBBLER AND SHRUB WITH SHRUB) TO MAINTAIN FLOW ABOVE THE PUMP'S MINIMUM 5 GPM FLOW AND BELOW 65 GPM.

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66th Avenue

Indian River County

Roadway Irrigation

Key Sheet & Legend

Date	By	Description

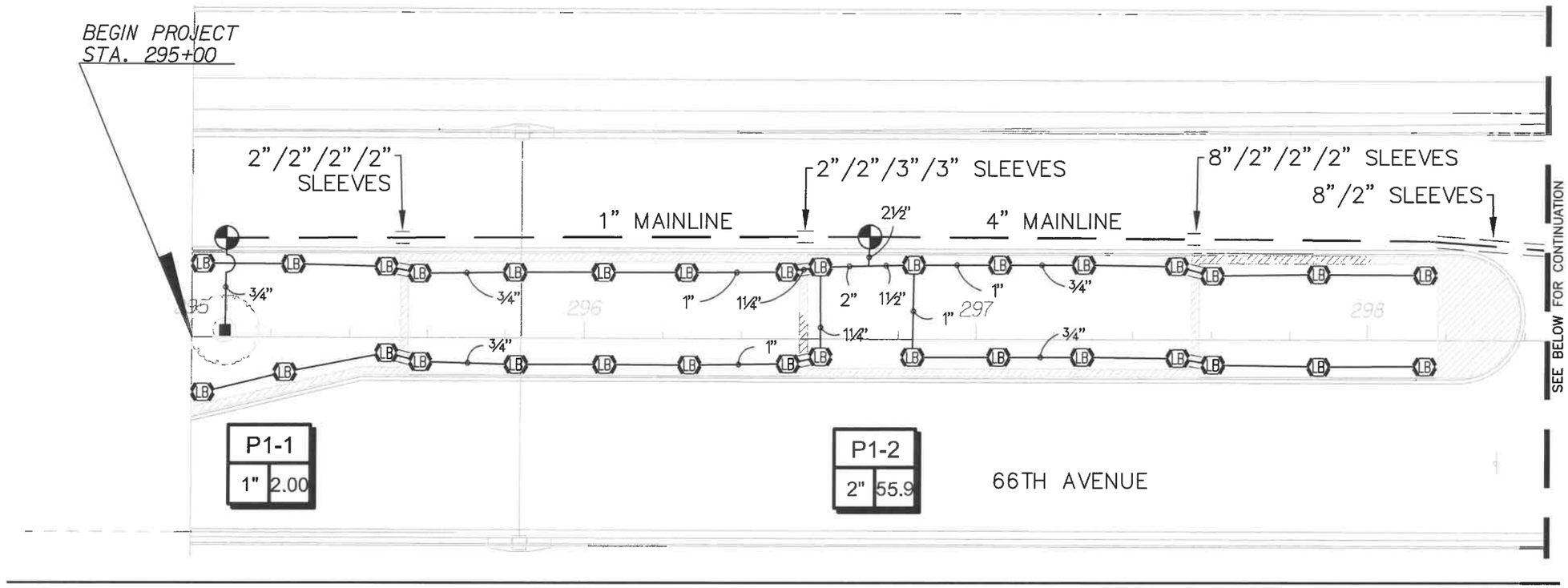
NORTH

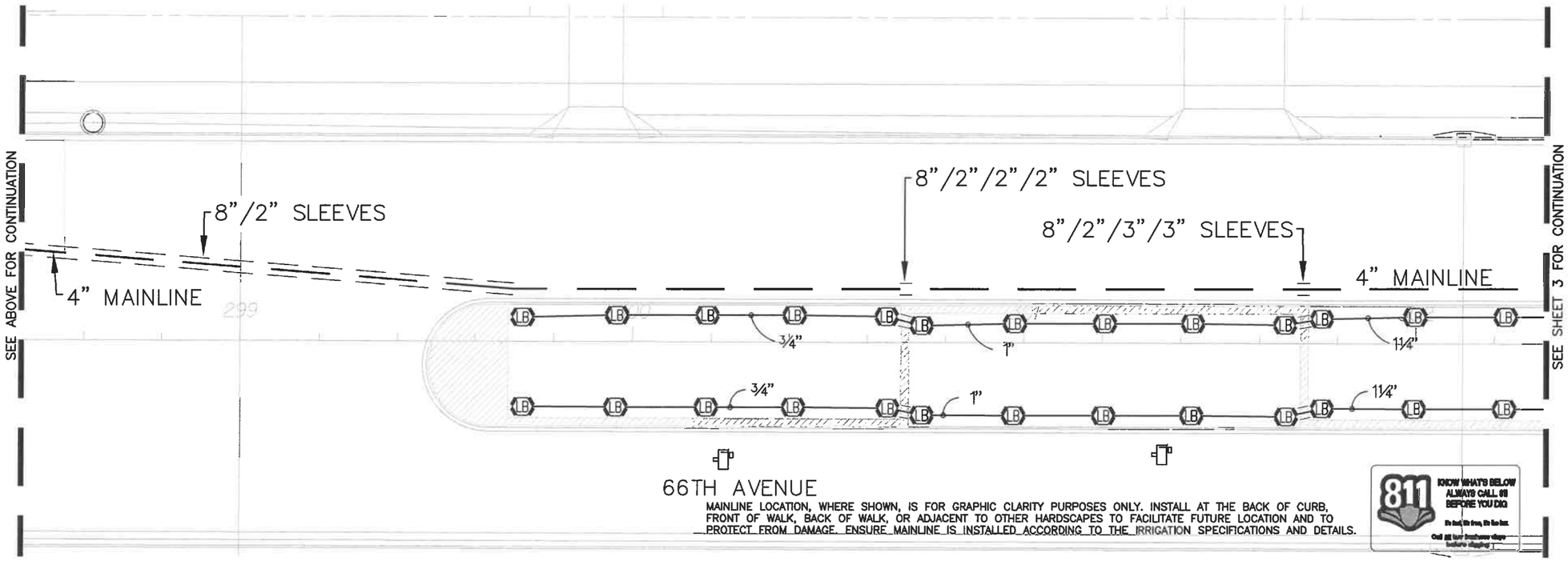
SCALE: 1" = 30'

0 7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	1 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	





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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = 30'

0 7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	2 of 19
Project Number	16-260	
Municipal Number	00-000	
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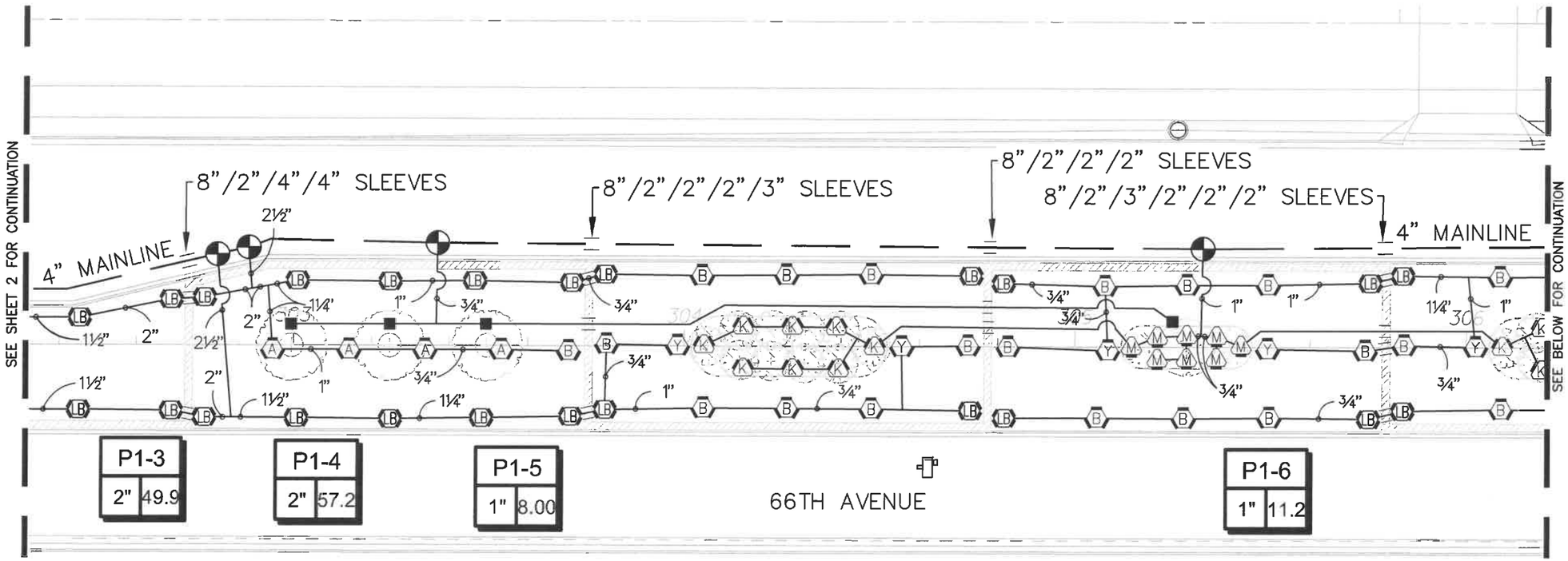

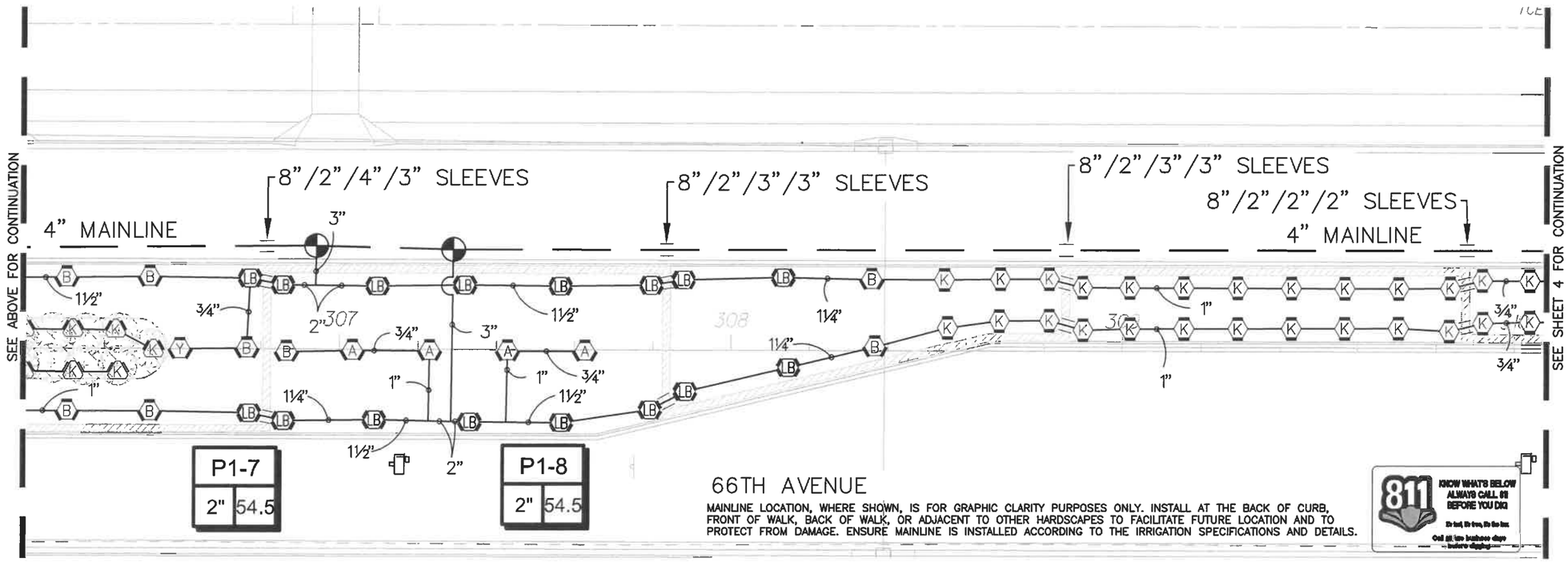

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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = 30'

0 7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	3 of 19
Project Number	16-260	
Municipal Number	00-000	
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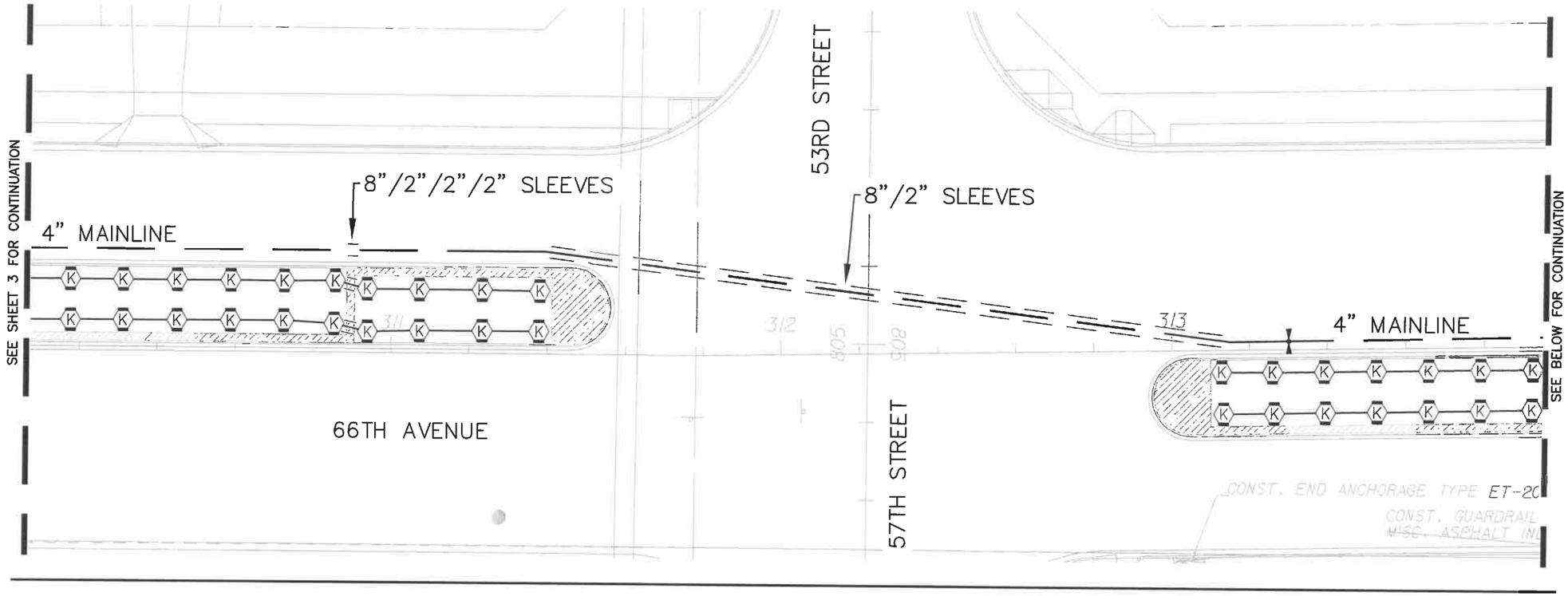

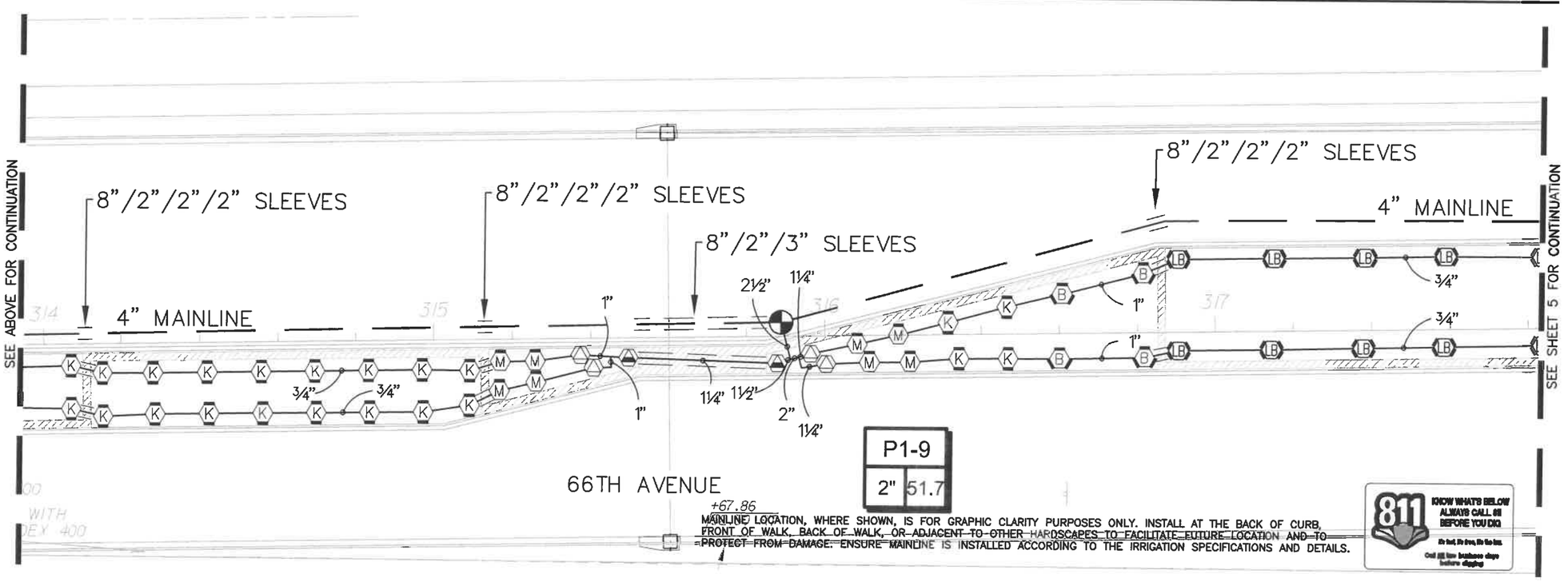

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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

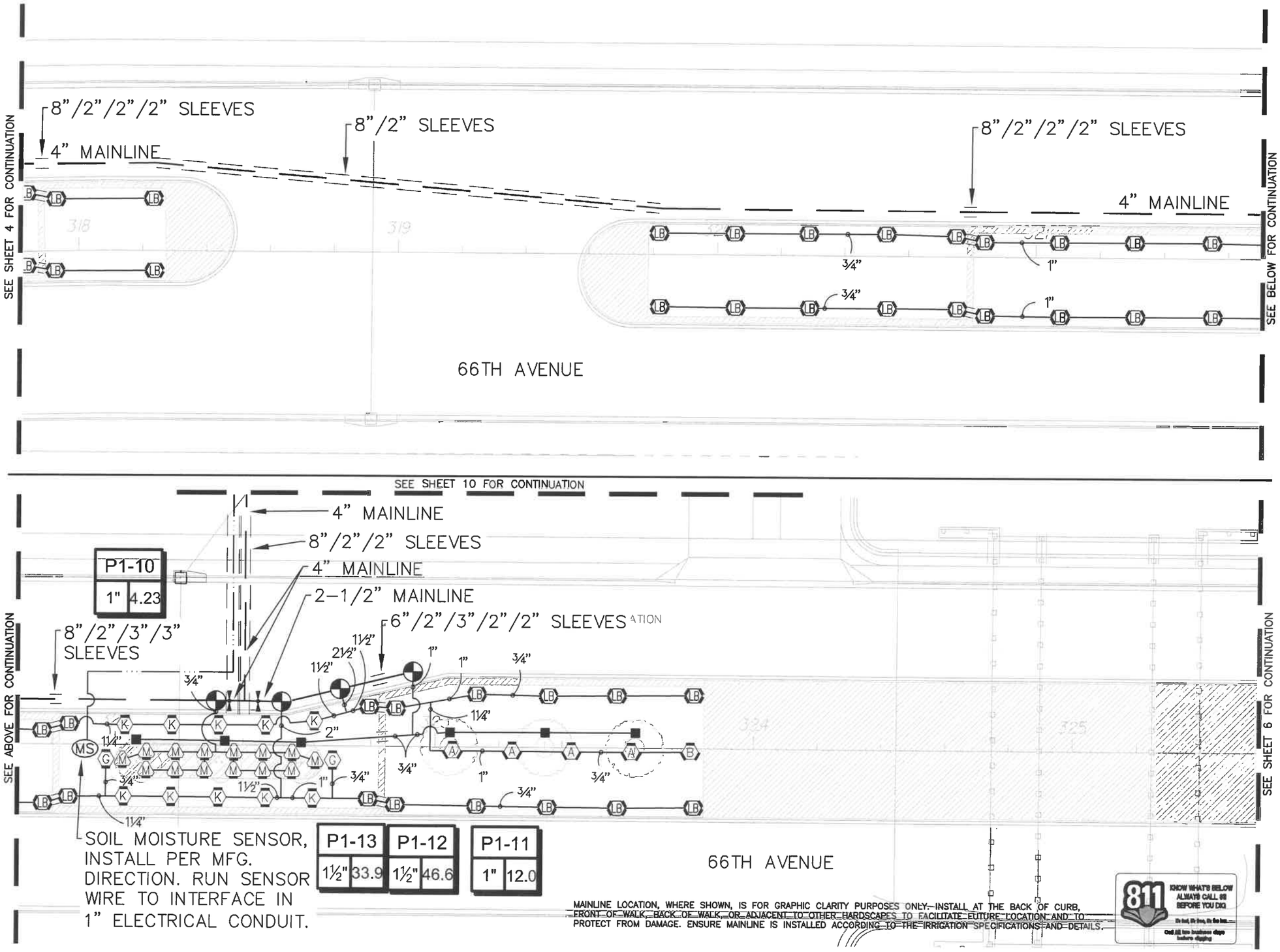
NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	4 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	



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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	5 of 19
Project Number	16-260	
Municipal Number	00-000	
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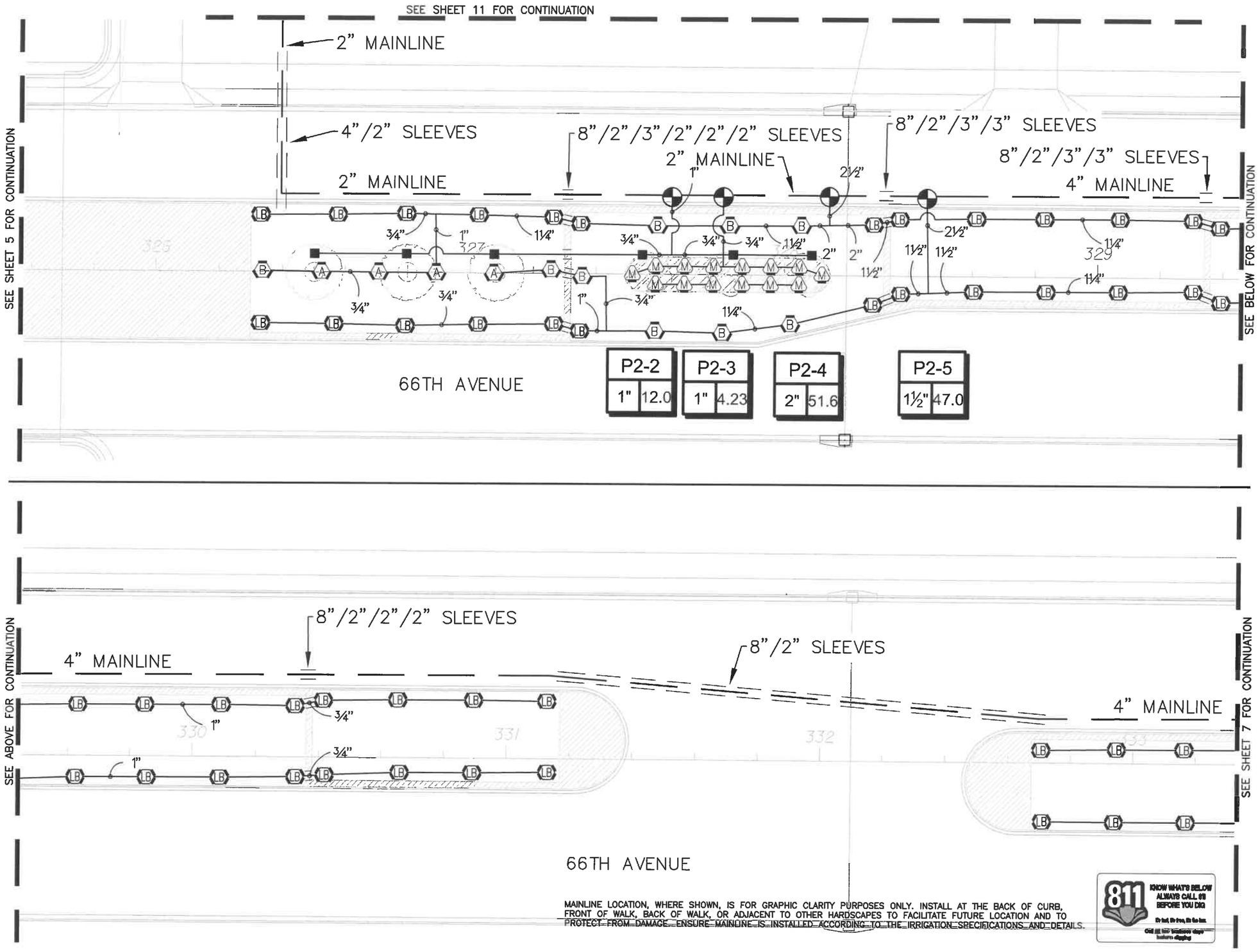

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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

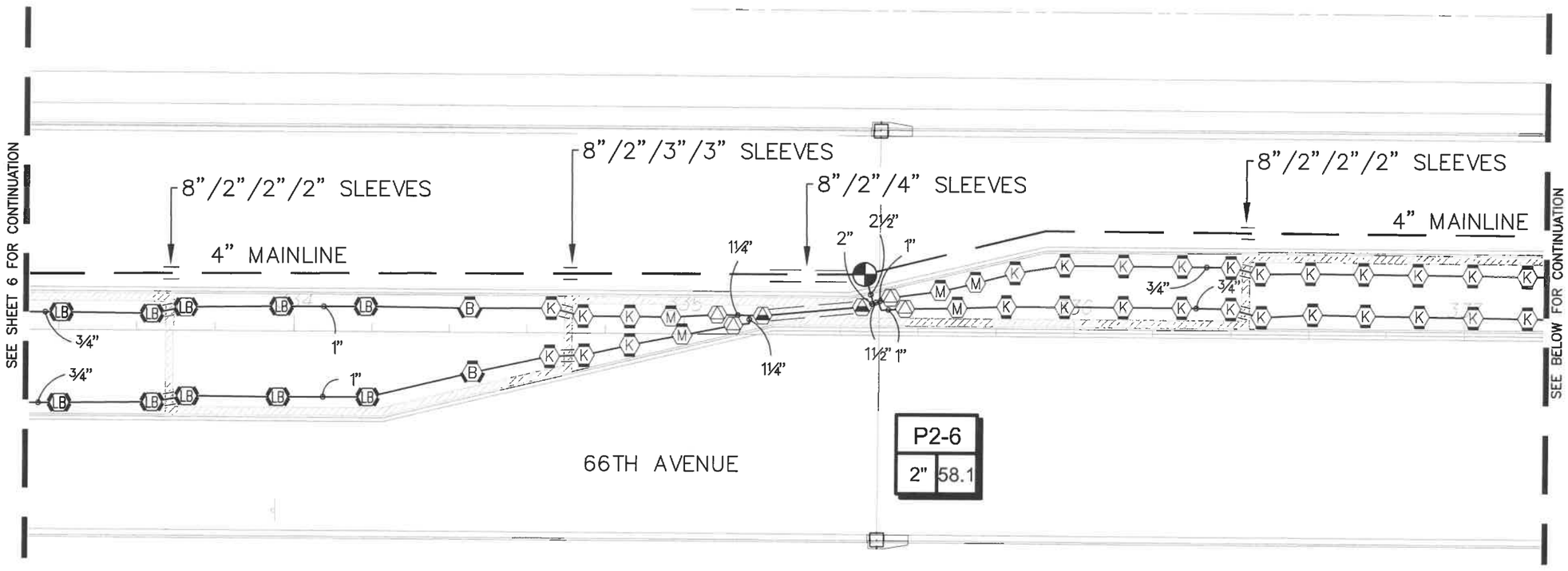
NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	6 of 19
Project Number	16-250	
Municipal Number	00-000	
Computer File	16-250_66thAve_Roadway_IR.dwg	



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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

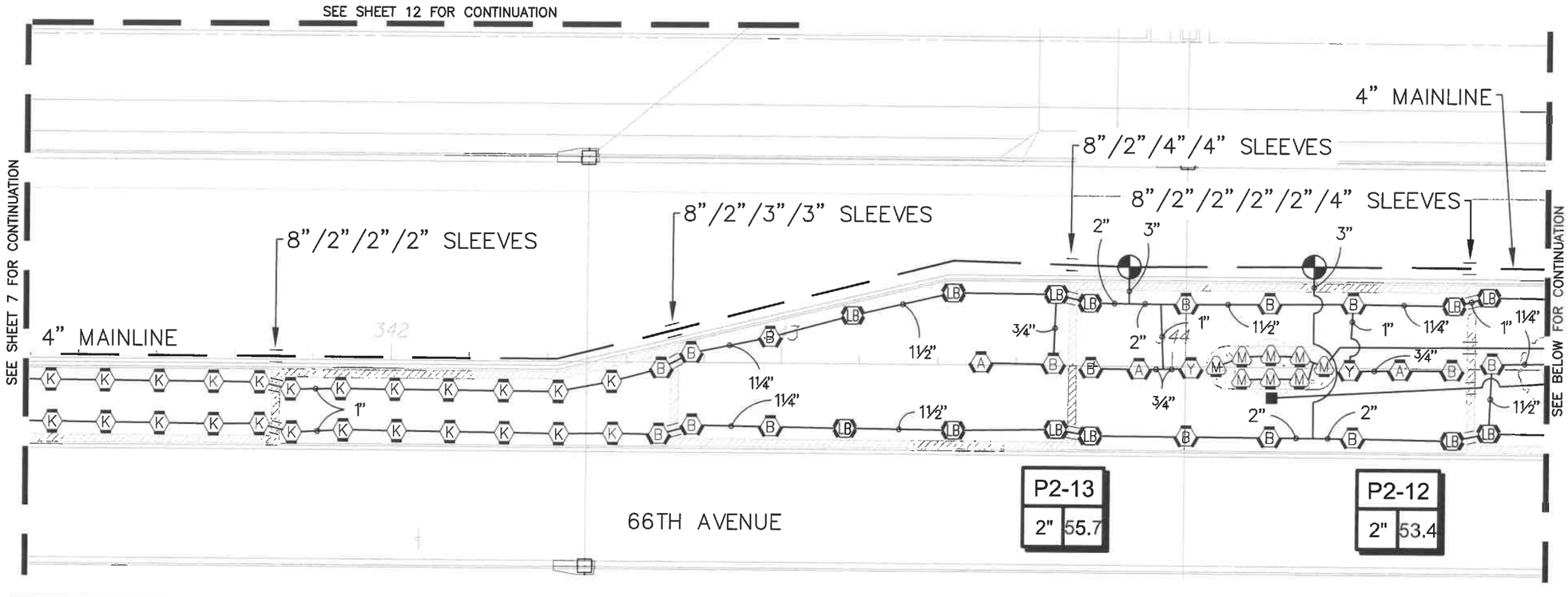
NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	7 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	



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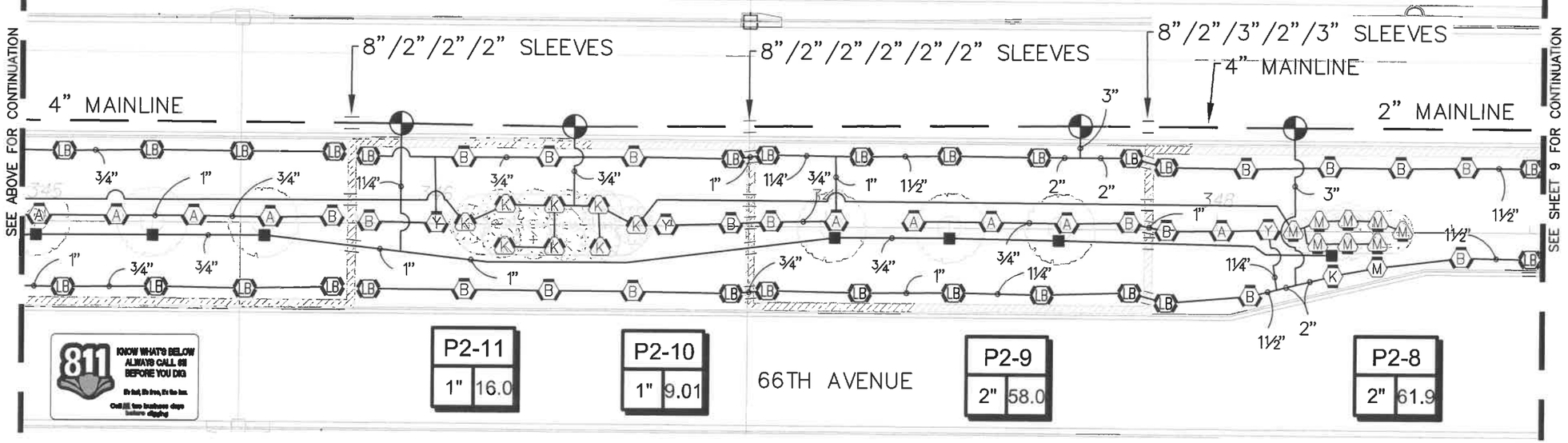

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Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

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0 7.5' 15' 30'

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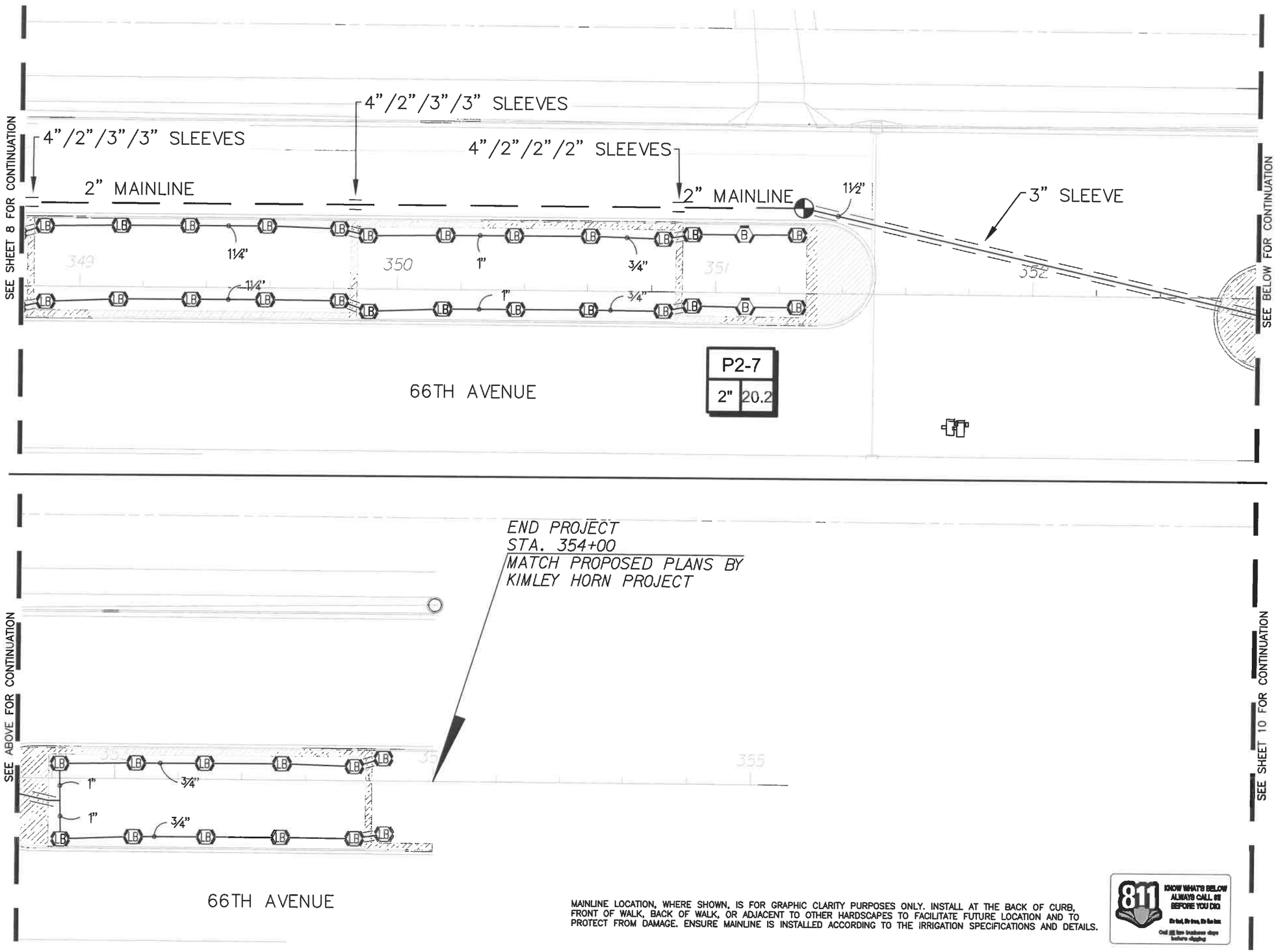
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	



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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

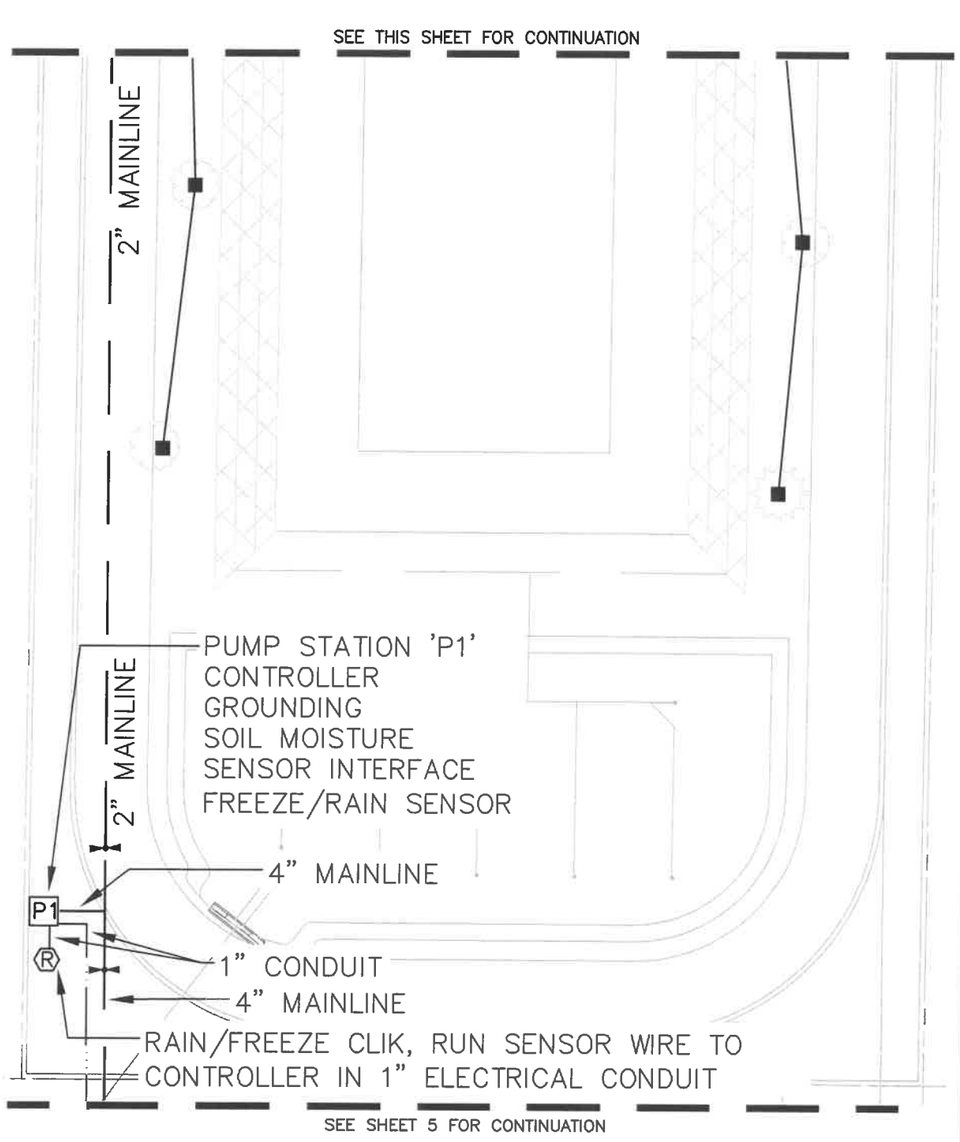
NORTH

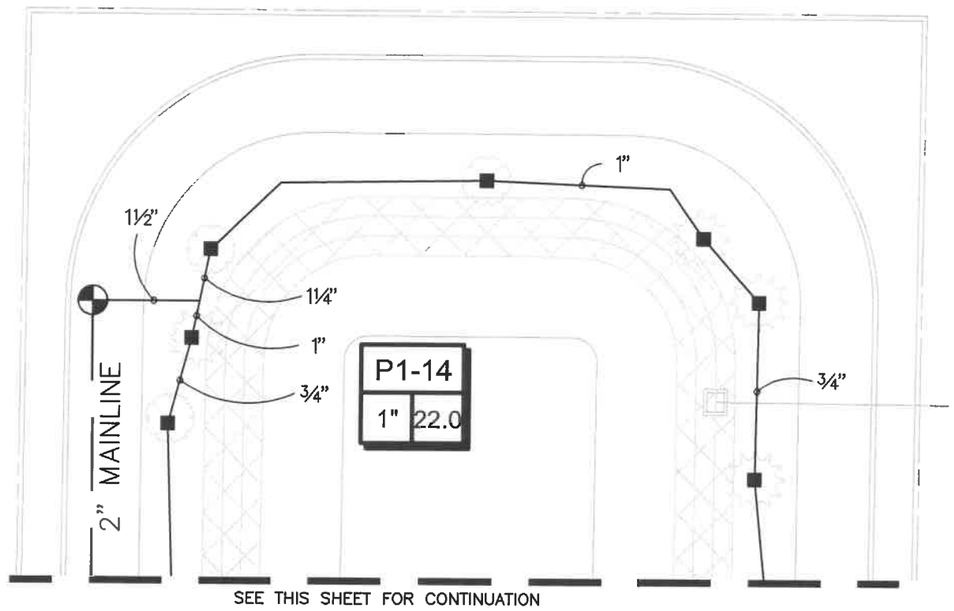
SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	9 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	





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66th Avenue

Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = 30'

0 7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	10 of 19
Project Number	16-280	
Municipal Number	00-000	
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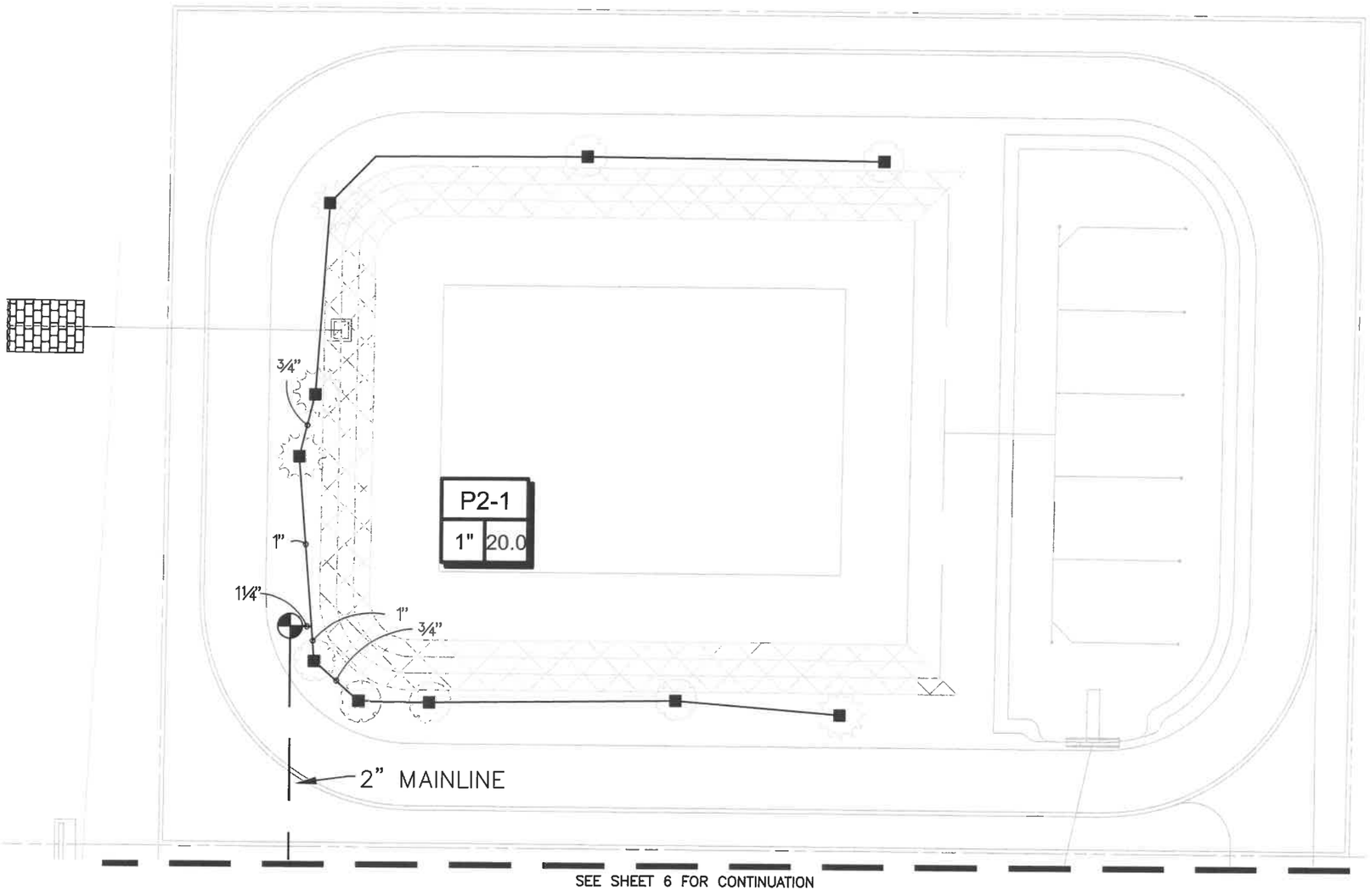

SEE SHEET 6 FOR CONTINUATION

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Indian River County

Roadway Irrigation Plan

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	11 of 19
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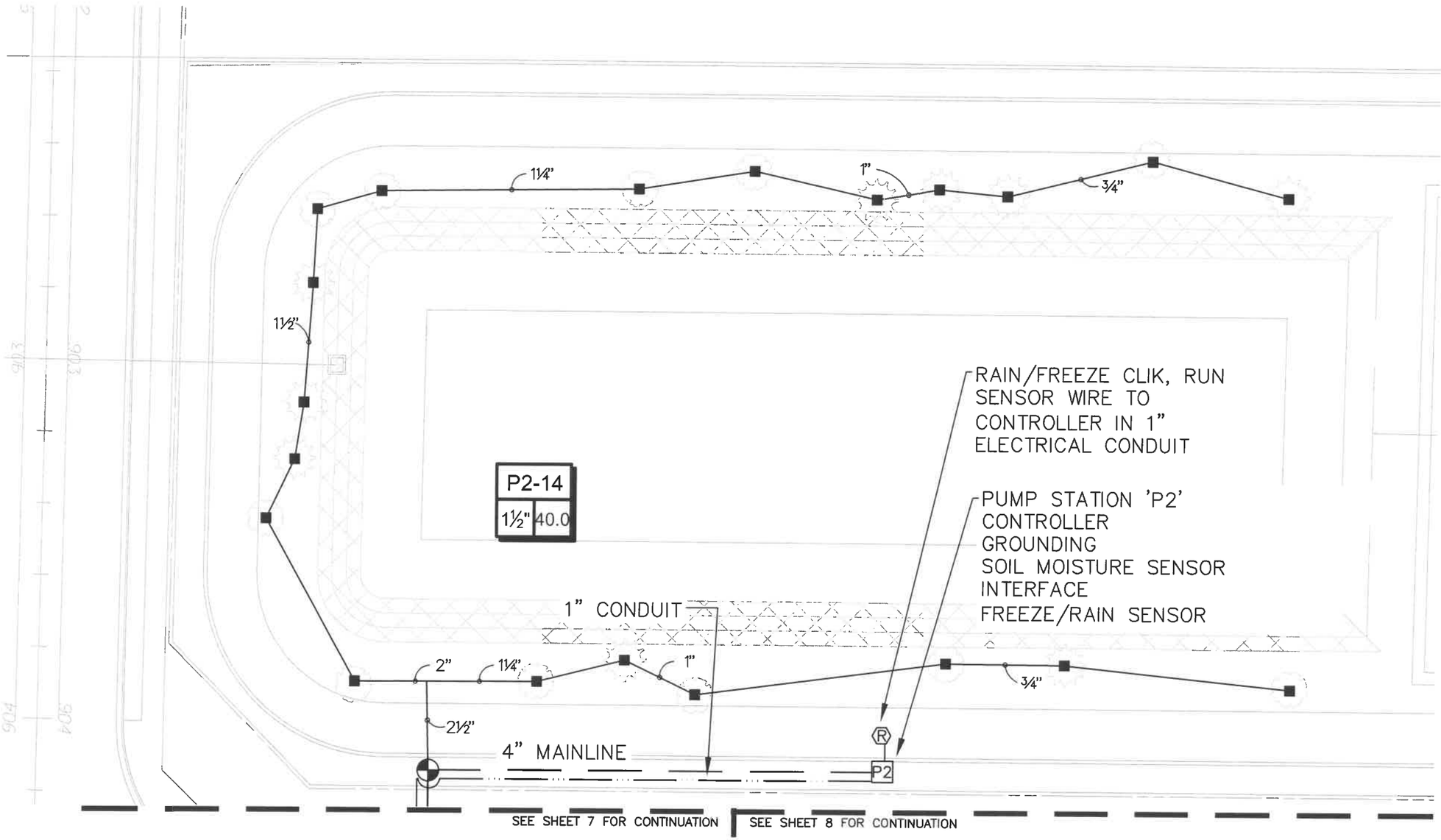

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Indian River County

Roadway Irrigation Plan

Date	By	Description
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NORTH

SCALE: 1" = 30'

7.5' 15' 30'

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	12 of 19
Project Number	16-260	
Municipal Number	00-000	
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General
The pump station shall be a prefabricated self contained pumping station designed to produce 65 GPM at 175 TDH. Station electrical requirements to be 230 volt 3 phase. The Manufacture must have minimum 5 Years experience in manufacturing and servicing of VFD irrigation pumping stations.

1.2
System Piping: SCH 40 Galvanized Steel.

1.3
Bolts: All bolts used in the assembly of the pump station shall be cadmium plated or 316 stainless steel to retard corrosion. All bolts used within one mile of the salt water location shall be 316 stainless steel. All bolts used to connect equipment to the aluminum pump skid shall be 316 stainless steel.

1.4
All skid wiring shall conform to the National Electric Code (NEC) standards current addition and all applicable local building codes. It shall be the pump station manufactures responsibility to verify the stations compliance with the local building codes. All wiring from control panel to the electric motors shall be in liquid-type conduit with type THWN copper conductors rated not less than 600 VAC and of the proper size to carry the full load amperage of the motors without exceeding 80% capacity of the conductor. A grounding cable sized to the requirements of NEC shall be run to each motor. There shall be no splices between the motor starters and the motor connection boxes. If applicable, the water level float switch shall be 16 gauge stranded copper conductors rated at 600 volt VAC. No liquid tight conduit shall exceed 6 feet in length.

2.0 PUMPS

2.1 DISCHARGE HEAD
The discharge head shall be galvanized steel construction. There shall be a threaded hub to pass the submersible cable.

2.2 COLUMN
The drop column shall be galvanized threaded steel.

2.3 SUBMERSIBLE PUMP ASSEMBLY
The pump shall be 4" stainless steel to fit in 4" well. The impellers and stages are glass filled Noryl for maximum efficiency. Pump shall have ceramic shaft sleeve and rubber discharge bearing to eliminated sand wear. The pump shall have a 2" inline check valve at the discharge of the pump assembly. The pump assembly shall be as manufactured by Franklin Electric, Goulds or approved equal.

2.4 MOTOR
The motor shall be a submersible type designed for continuous underwater operation and with a combination of a maximum water temperature and minimum velocity past the motor. The service factor shall be of 1.15. The motor shall be of a water filled type and fitted with a segmented plate type thrust bearing. Motor leads shall be protected by a stainless steel cable guard for the entire length of the bowl assembly. The motor rating shall be selected so that the load at design is not greater than the name plate rating at 1.0 service factor and at no point on the curve shall the load exceed the name plate rating plus 10 %. The motor shall be manufactured by Franklin Electric. The power cable shall be sized per manufacture specification and shall not exceed 3% voltage drop. The pump riser pipe and the well casing and the motor shall be bonded together with a copper wire sized in accordance with the National Electric Code article 250 table 122 Equipment Grounding Conductor.

3.0 PUMP STATION ENCLOSURE
The entire pump station including valves, manifold, control panel and VFD shall be housed in an aluminum pump enclosure. The enclosure shall be hinged to easy access to all components. The enclosure shall be constructed of 5356 .080 aluminum sheet. The hinge shall be 316 stainless steel with stainless hardware.

5.0 VALVES

5.1 PUMP CHECK VALVE
Pump check valve shall be in line single disc check. Check valve shall be as manufactured by Nibco or approved equal.

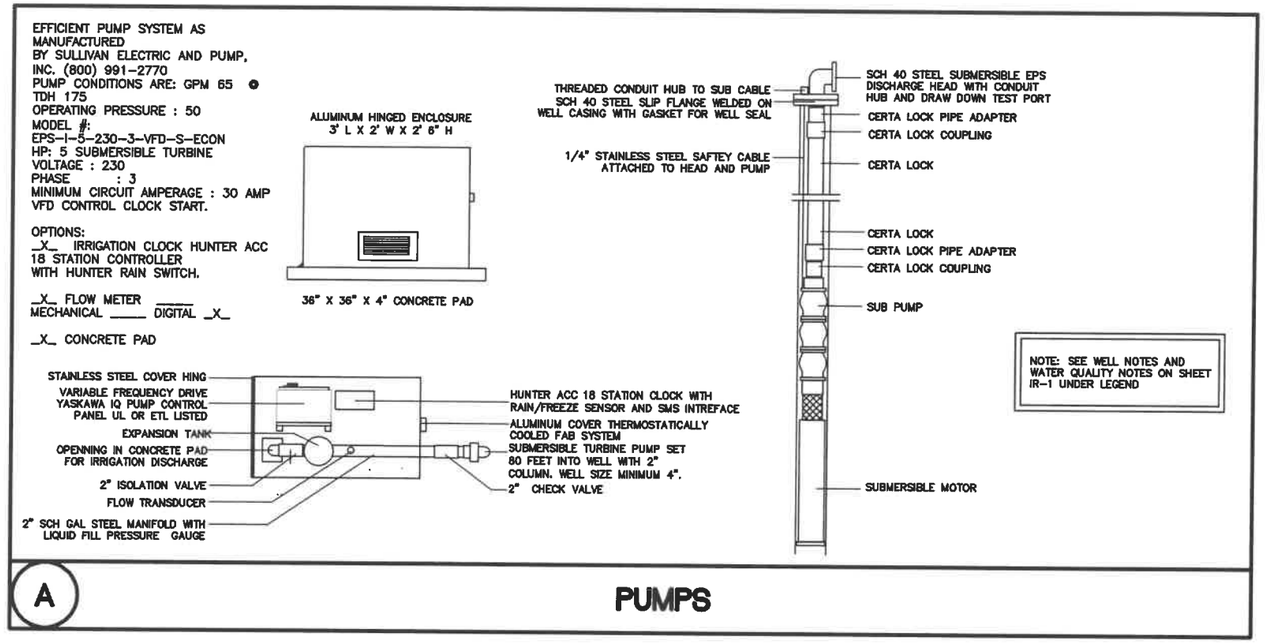
5.3 STATION ISOLATION VALVE
Station isolation valve shall brass ball valve as manufactured by Nibco or approved equal.

6.0 VARIABLE SPEED MOTOR CONTROLS

6.1.13 VARIABLE FREQUENCY DRIVE
The variable frequency drive (VFD) shall be sine-coded, pulse width modulated through insulated gate bipolar transistors (IGBT's). The VFD shall have microprocessor control logic with adjustable acceleration and deceleration, critical frequency rejection, 4 – 20 MA process follower input, run and fault contacts for customer use, overload capability of 150% for 60 seconds; 200% peak, current limited stall prevention during acceleration, deceleration and run conditions, auto restart after momentary power loss, electronic motor overload, current limiting DC bus fuse, isolated operator controls, heat sink over temperature protection, DC bus charge lamp, volts to hertz adjustment, carrier frequency of .38–15 kHz with turn of time of 2–3 micro seconds and digital operator interface to select parameters and view operating conditions. The drive shall operate at or above the 10 kHz range for cooler motor operation and noise suppression. The VFD shall have input for flow sensing and flow totalization using Badger 220B flow transducer. The VFD shall be Yaskawa iQ pump no exceptions.

6.1.1 VFD CONTROL OPERATION
The Control Logic shall operate the pressurized system at a selectable pressure set point value using a P.I.D. algorithm in the VFD control logic. The setting display shall be in pressure. The VFD control logic will have no significant damaging reductions or increases in pressure. The VFD control logic shall shut down by sensing no water flow. The VFD control logic shall have an automatic method of pressurizing the piping system when pressure drops below a selectable set point pressure (autofill). The VFD Control logic shall have alternation on multiple the pump systems. The VFD control logic shall eliminate any pump that fails to respond to a pump run signal and proceed to the next available pump. The VFD control logic shall have the following safety shut down alarms display on operator interface: loss of prime, low pressure, high pressure, improper power (phase failure, phase reversal or low voltage), VFD failure, and high pump temperature and pump failure. The system shall be capable of auto restart for power loss or external VFD failure ten (10) times before locking system out for manual reset. The system shall be capable low pressure override.

6.1 VFD POWER CONTROL PANEL
The VFD shall be fed from a power control panel containing disconnect, motor fuses, control transformer, and surge protective device. The components shall be house in a single weatherproof NEMA 4X enclosure. The enclosure shall be fabricated from stainless steel, sun



light resistant fiberglass or aluminum. A removable back panel shall be provided for all component mounting. Padlocking provisions shall be included to prevent unauthorized entry. The enclosure shall be fabricated per NEMA standards and bear a National Testing Laboratory Listing (UL label, ETL or equivalent). All equipment and wiring shall be properly labeled for identification. A complete wiring schematic with all terminals, components and wires identified shall be provided on the inside of the control panel door with weatherproof cover. All wires will be numbered according to diagram for future reference and maintenance. The panel wiring shall be contained where possible in wiring duct and spiral wrap. The use of tie wraps shall be limited.

6.1.1 MAIN DISCONNECT SWITCH
The power control panel shall be provided with a main disconnect switch. The main disconnect switch shall be rated for maximum connected horsepower and have a "Thru-the-Door" operating handle. The handle shall be rated NEMA 3R and have provisions for locking in the "OFF" position. The door shall not be able to be opened when the switch is in the "ON" position and shall de-energize all components in the enclosure.

6.1.3 OVER CURRENT PROTECTION
The VFD shall be protected with current limiting UL class RK 5 dual element fuses for motor short circuit protection. Fuses shall be equal to Ferraz Shawmut, Bussman. Circuit breakers or motor circuit protectors are not acceptable.

6.1.4 SURGE PROTECTIVE DEVICE
All electrical equipment shall be protected by UL listed surge protective device with clamping voltage at or below 1500 Volts @ 100 Amps. Suppressor shall have response time of 3 – 5 nanoseconds. Unit shall meet the following specification: IEEE 587 Category C and UL 1449–1987.

6.1.8 CONTROL TRANSFORMER
The control transformer shall be size for all external electrical requires including but not limited to the irrigation clock and pump station enclosure cooling. The control transformer shall not any external device extending outside the pump station enclosure. The transformer shall have a dual primary input for use with 480 volt or 240 volt systems. The transformer primary shall be fused with UL Class CC time delay fuses design for the inrush of the transformer. The transformer secondary shall be protected by fuse or circuit breaker and one leg shall be grounded and become the grounded conductor. The transformer shall be as manufactured by Sq 'D',Acme Transformer Company or equal. No transformer larger than 500va shall be contained in the panel unless provisions for cooling are provided.

6.3.16 DIGITAL FLOW TRANSDUCER
The flow transducer shall be as manufactured by Data Industrial model #220 B. The flow transducer shall be install to manufacture specification so as to assure its accuracy. The flow transducer shall not be located more than 15 wire feet from the control panel. The transducer control cable shall be pulled in a metallic electrical conduit. The conductor shall be installed so as to not run within 4" parallel to any energized wiring until it interfaces with the VFD.

6.3.17 PRESSURE TRANSDUCER
The pressure transducer shall be a solid state type with a repeatability of plus/minus 0.02% and as accuracy of plus or minus 0.2%. The transducer output shall be 4 to 20 MA current to PLC. The transducer control cable shall have a maximum wire length of 15 feet and shall be so arrange it will not run parallel within 4" of any other energized wiring until it interfaces with the PLC. The pressure transducer shall connect to the PLC with a shielded cable as recommended by the transducer manufacture.

6.1.31 TESTING LABORATORY
The pump station control panel shall be listed as a control assembly by a nationally recognized testing laboratory (UL or ETL or equivalent). The panel shall be constructed to UL 508A Industrial control panel specifications and the National Electric Code 1996 Edition.

6.1.33 SERVICE
The manufacture shall have a service company located within 150 miles of the installation location. The service company shall have a background for at least five (5) years in maintenance and repair of variable speed drive equipment. The service company shall be properly licensed and insured. The service company shall be verified as to their qualification before equipment is approved. The service company shall have an inventory of needed parts for the control system and pump system.

11.0 INSTALLATION

11.1
The pump system manufacturer shall be responsible for the off-loading of the pump system, setting of concrete pad and installation of the suction into well.

11.2
A licensed electrical contractor shall provide electrical power to the panel. The power shall have a maximum voltage drop of 3% from service equipment with a maximum over all voltage drop of 5%. The electrical feeder shall be installed and sized in accordance with the current edition of the National Electric Code and all applicable building codes. The feeder conduit shall not, under any circumstances, penetrate the top of the control panel. Care shall be taken to see that the panel is properly protected from the weather while it is opened. Care is to be taken to see that metal particles, shavings or sand is kept out of the control component and the bottom of the panel is cleaned out.

11.3 GROUNDING AND BONDING
The discharge head, steel well casing, pump, motor and pump skid shall be electrically bonded together with a bare solid #4 copper conductor and connected to the control panel equipment ground bar. There shall be a 10' copper ground rod driven at the pump station and connected to the control panel grounding bar. The grounding electrode conductor from the ground rod shall be tested to 10 ohms of less. Additional ground rods shall be installed to achieved 10 ohms or less.

12.0 OPERATOR TRAINING
12.1
A factory trained technician shall conduct a training session at the time of start-up for the designated owner's representative to review the pump system's operation, maintenance and adjustment. Technician shall make one trip of one day for start-up and calibration. All equipment not provided by manufacturer shall be ready before calling for start-up.

12.2
The manufacturer shall provide the owner complete operation and maintenance manuals including pump performance curves, electrical schematic, panel layout, panel bill of material, specification sheet, station start up sheet showing all design and performance settings, standard operation information, installation information and maintenance information.

13.0 WARRANTY
The manufacturer shall warranty the pump station from defects do to installation or materials for a period of one (1) year from start up not to exceeding 18 months from delivery.

14.0 MANUFACTURER
The pumping system shall be Efficient Pumping Systems as manufactured by Sullivan Electric & Pump, Inc., Flo-Boy as manufactured by Flowtronex, Watertronix or approved equal by the engineer. A proposed equal shall have at least ten (10) operating pump systems with references, contacts and phone numbers provided operating for five years of more.

15.0 DISCHARGE PIPING
The discharge pipe from the pump to connection below ground shall be SCH 40 galvanized to 2' below grade.

16.0 OPTIONAL RUST CHEMICAL INJECTION SYSTEM
The rust chemical injection system shall have a non metallic tank capable of 30 gallons with rust injection pump.

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66th Avenue

Indian River County

Roadway Irrigation Pumps

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = NTS

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	13 of 19
Project Number	16-260	
Municipal Number	00-000	
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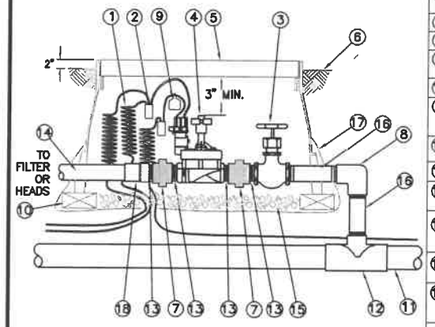
NOTE:
REFER TO PRODUCT LITERATURE FOR ADDITIONAL INSTALLATION AND ADJUSTMENT INFORMATION.

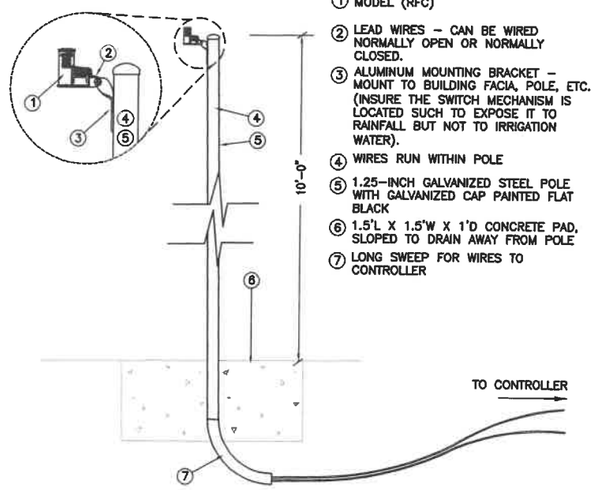
ALL SCH 80 NIPPLES ARE TO BE CONTINUOUS AND THREADED ON BOTH SIDES

THE INTENT OF THE FABRIC IS TO KEEP THE VALVE BOX FREE OF DIRT/DEBRIS. FILTER FABRIC SHOULD SPAN BASE OF VALVE BOX AND BE SECURED A MINIMUM OF 6" UP FROM BASE VIA DUCT TAPE AROUND SIDES OF VALVE BOX. FABRIC SHOULD CONTAIN NO HOLES EXCEPT FOR WIRE/PIPES AS APPLICABLE.



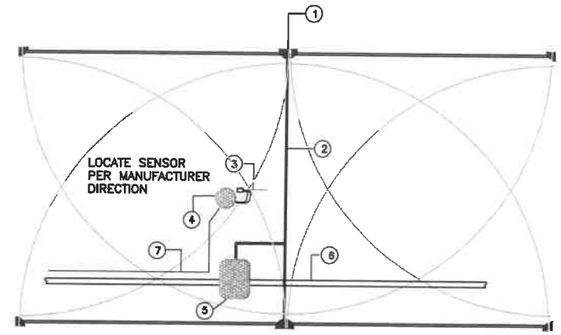
1	30–INCH LINEAR LENGTH OF WIRE, COILED.
2	3M–DBY/R CONNECTORS PER MANUFACTURER SPEC
3	NIBCO T–113 BRASS GATE VALVE
4	REMOTE CONTROL VALVE: RAINBIRD PEB OR PEB–PRS–D (AS DENOTED IN LEGEND)
5	CARSON 1220 JUMBO VALVE BOX W/ BOLT DOWN LID
6	FINISH GRADE/TOP OF MULCH
7	SCH 80 PVC UNION
8	PVC SCH 80 ELL
9	CHRISTY I.D. TAG (STATION/CONTROLLER)
10	COMMON BRICK (1 OF 4)
11	IRRIGATION MAINLINE – SIZE AND TYPE AS SPECIFIED
12	SERVICE TEE – SIZE, TYPE AND MAKE PER MAINLINE SPEC.
13	PVC SCH 80 CLOSE NIPPLE
14	SOLVENT WELDED PVC LATERAL PIPE
15	3.0–INCH MINIMUM DEPTH OF 3/4–INCH WASHED GRAVEL
16	PVC SCH 80 NIPPLE (SIZE AS REQUIRED)
17	US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.
18	PVC SCH 80 THREADED X SLIP FEMALE ADAPTER

B RAIN BIRD RCV W/GATE VALVE



1. HUNTER WIRED RAIN & FREEZE SENSOR MODEL (RFC)
2. LEAD WIRES – CAN BE WIRED NORMALLY OPEN OR NORMALLY CLOSED.
3. ALUMINUM MOUNTING BRACKET – MOUNT TO BUILDING FACIA, POLE, ETC. (INSURE THE SWITCH MECHANISM IS LOCATED SUCH TO EXPOSE IT TO RAINFALL BUT NOT TO IRRIGATION WATER).
4. WIRES RUN WITHIN POLE
5. 1.25–INCH GALVANIZED STEEL POLE WITH GALVANIZED CAP PAINTED FLAT BLACK
6. 1.5'L X 1.5'W X 1'D CONCRETE PAD, SLOPED TO DRAIN AWAY FROM POLE
7. LONG SWEEP FOR WIRES TO CONTROLLER

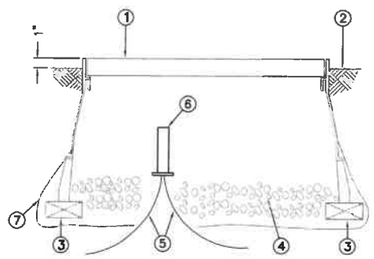
C2 POLE MOUNTED RAIN/FREEZE SENSOR



1. SPRINKLER HEAD
2. LATERAL LINE PER PLANS
3. BASELINE MOISTURE SENSOR
4. 6" ROUND JUNCTION BOX
5. RECTANGULAR STANDARD OR JUMBO VALVE BOX
6. MAIN LINE SIZE PER PLANS
7. BASELINE 14 GA. CONTROL WIRE TO CONTROLLER IN 1" SCH 40 PCV CONDUIT

C3 SOIL MOISTURE SENSOR

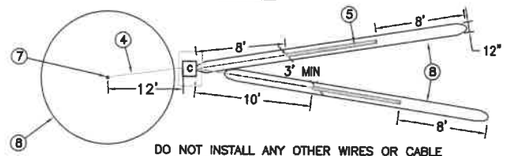
FILTER FABRIC SHOULD SPAN BASE OF VALVE BOX AND BE SECURED A MINIMUM OF 6" UP FROM BASE VIA DUCT TAPE AROUND SIDES OF VALVE BOX. FABRIC SHOULD CONTAIN NO HOLES EXCEPT FOR WIRE AND PIPES (IF APPLICABLE) AS SHOWN.



1. SPLICE BOX WITH COVER: 12–INCH SIZE
2. FINISH GRADE/TOP OF MULCH
3. BRICK (1 OF 4)
4. 3.0–INCH MINIMUM DEPTH OF 3/4–INCH WASHED GRAVEL
5. DIRECT BURIAL LOW VOLTAGE CONTROL WIRE (TYP.)
6. 3M–DBY WATER PROOF CONNECTOR (TYP.)
7. US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.

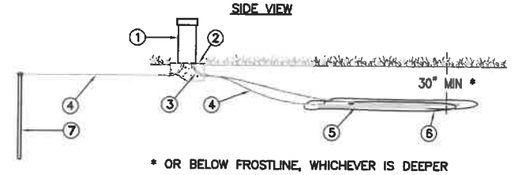
C WIRE SPLICE

TOP VIEW



DO NOT INSTALL ANY OTHER WIRES OR CABLE WITHIN THE SPHERE OF INFLUENCE

SIDE VIEW

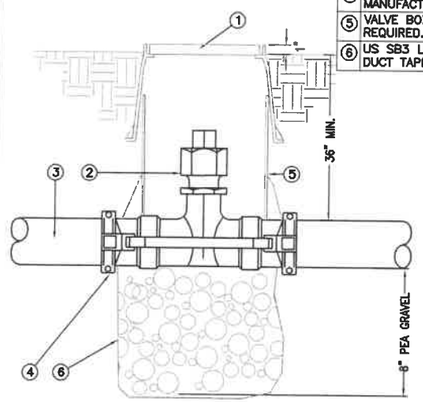


* OR BELOW FROSTLINE, WHICHEVER IS DEEPER

1. CONTROLLER/PUMP CONTROL PANEL (IF APPLICABLE)
2. CONCRETE PAD
3. PVC SWEEP ELL (1 1/2" OR LARGER)
4. #6 AWG INSULATED COPPER WIRES.
5. GROUND PLATE (4" X 96" X .0625")
6. EARTH CONTACT MATERIAL
7. GROUND ROD (5/8" X 10')
8. ELECTRODE SPHERE OF INFLUENCE BOUNDARIES

C GROUNDING DETAIL

THE INTENT OF THE FABRIC IS TO KEEP THE VALVE BOX FREE OF DIRT/DEBRIS. FILTER FABRIC SHOULD SPAN BASE OF VALVE BOX AND BE SECURED A MINIMUM OF 6" UP FROM BASE VIA DUCT TAPE AROUND SIDES OF VALVE BOX. FABRIC SHOULD CONTAIN NO HOLES EXCEPT FOR WIRE/PIPES AS APPLICABLE.



1	CARSON 1419–18 VALVE BOX W/ BOLT–DOWN COVER (SEE VALVE NOTES)
2	NIBCO P619–RW GASKETED 'O' RING CAST IRON GATE VALVE
3	IRRIGATION MAINLINE, SIZE AND TYPE AS SPECIFIED IN IRRIGATION PLANS. RESTRAIN AS REQUIRED
4	LEEMCO JOINT RESTRAINT PER MANUFACTURERS SPECS
5	VALVE BOX EXTENSION LENGTH AS REQUIRED.
6	US SB3 LANDSCAPE FABRIC TO BE DUCT TAPED TO VALVE BOX EXTERIOR.

D P-619-RW GATE VALVE

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66th Avenue

Indian River County

Roadway Irrigation Details

Date	By	Description
9/9/16	JJ	North Extension Irrigation

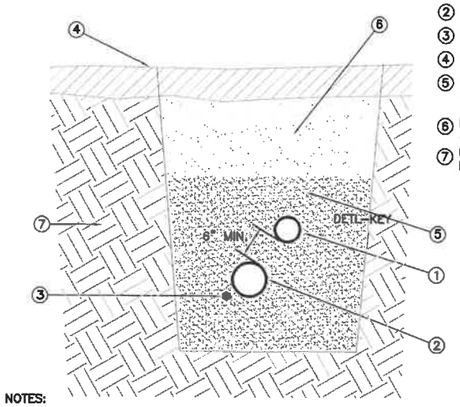
NORTH

SCALE: 1" = NTS

REG. # 1018
Thomas P. Lucido

Designer	JJ
Manager	JJ
Project Number	16-260
Municipal Number	00-000
Computer File	16-260_66thAve_Roadway_IR.dwg

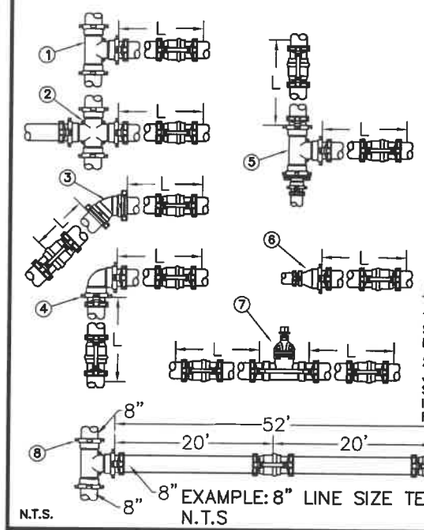
Sheet 14 of 19



NOTES:

BACKFILL MINIMUM DEPTHS:
1. MAIN LINE – 24"
2. LATERAL PIPE – 18"
THERE SHALL BE A MINIMUM OF 6" BACKFILL BETWEEN ADJACENT PIPES/CONDUIT

L MAINLINE AND LATERAL BACKFILL DETAIL



NOTES:

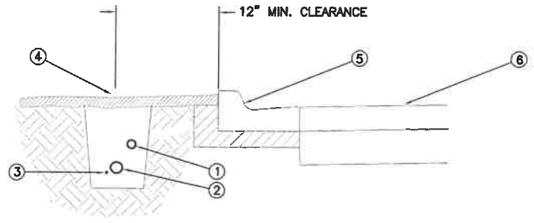
1. ALL PVC MAINLINE PIPING SHALL RECEIVE LEEMCO JOINT RESTRAINTS.
2. CONTRACTOR SHALL REFER TO JOINT MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS TO ENSURE PROPER RESTRAINT.

MINIMUM RESTRAINED LENGTH IN FEET

PIPE SIZE	DEGREE OF BEND				TEE	GATE VALVE	REDUCERS			DEAD END
	11	22	45	90			1 STEP	2 STEP	3 STEP	
2"	0'	3'	8'	24'	24'	33'	0'	0'	0'	43'
2.5"	1'	4'	9'	27'	27'	36'	23'	0'	0'	56'
3"	3'	5'	12'	29'	29'	41'	27'	0'	0'	83'
4"	4'	7'	15'	35'	35'	49'	32'	67'	0'	99'
6"	5'	9'	20'	49'	49'	69'	71'	92'	107'	139'
8"	5'	11'	21'	52'	52'	73'	61'	105'	119'	147'
10"	7'	12'	25'	63'	63'	87'	59'	108'	143'	173'
12"	7'	15'	31'	72'	72'	104'	101'	109'	149'	207'
14"	8'	16'	33'	81'	81'	117'	60'	145'	152'	235'
16"	9'	19'	37'	91'	91'	131'	60'	112'	187'	260'

TABLE A ESTABLISHES VALUES FOR THE MINIMUM LENGTH OF PIPE (L) WITHIN WHICH OTHER JOINTS MUST BE RESTRAINED. TABLE A VALUES (IN FEET) ARE BASED ON 200 PSI LINE PRESSURE, 36" COVER, SAND–CLAY TYPE SOIL, AND A SAFETY FACTOR OF 2.

L LEEMCO JOINT RESTRAINTS



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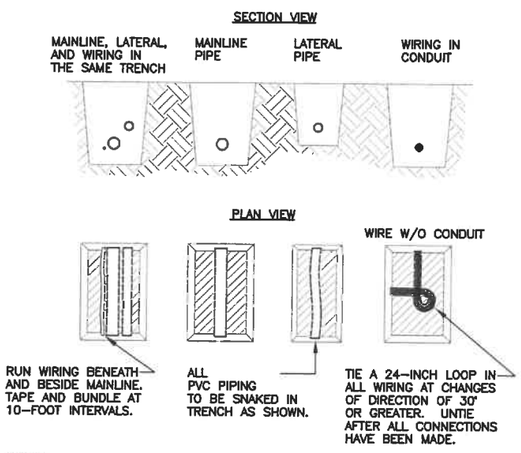
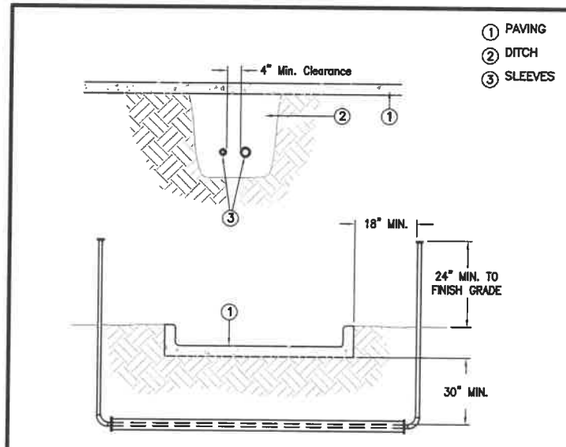
L MAINLINE AND LATERAL PIPING DETAIL



NOTES:

1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CL 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN – MINIMUM OF 2"
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

L PIPE AND WIRE TRENCHING



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE CL 200 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. MECHANICALLY TAMP TO 95% PROCTOR.

O SLEEVING

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66th Avenue

Indian River County

Roadway Irrigation Details

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = NTS

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	15 of 19
Project Number	16-260	
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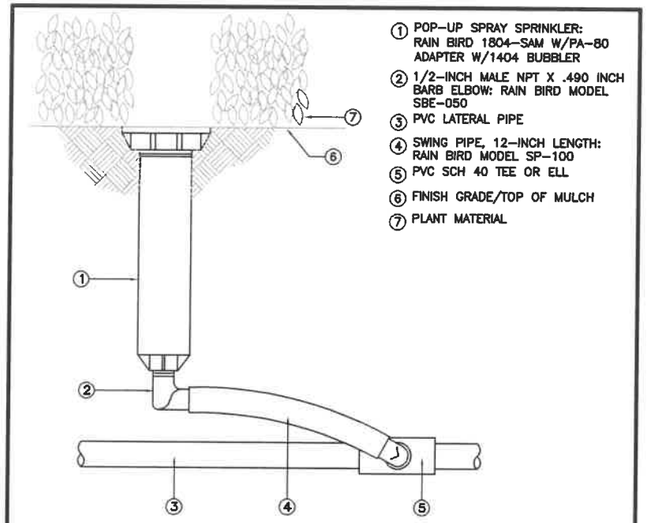
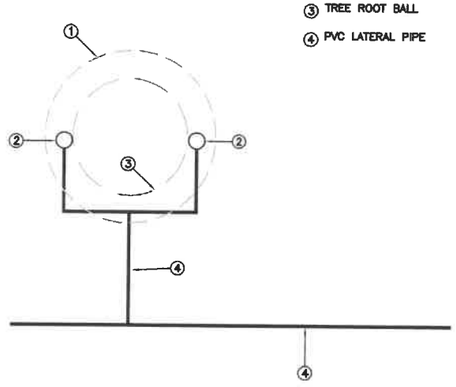


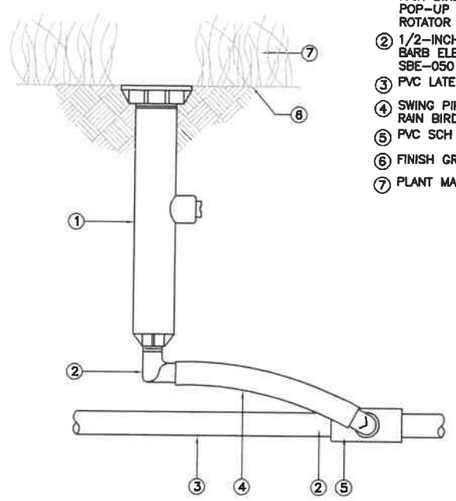
1. POP-UP SPRAY SPRINKLER: RAIN BIRD 1804-SAM W/PA-80 ADAPTER W/1404 BUBBLER
2. 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
3. PVC LATERAL PIPE
4. SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
5. PVC SCH 40 TEE OR ELL
6. FINISH GRADE/TOP OF MULCH
7. PLANT MATERIAL

Q RAIN BIRD 1804-SAM POP-UP WITH 1404 BUBBLER



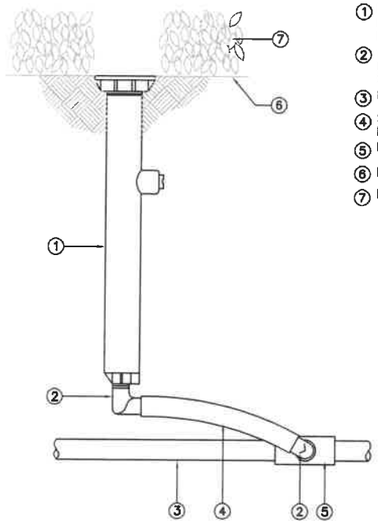
1. EARTHEN BERM – SEE LANDSCAPE PLANS
2. FLOOD BUBBLER (PER PLANS, SEE LEGEND)
3. TREE ROOT BALL
4. PVC LATERAL PIPE

Q BUBBLER PLACEMENT



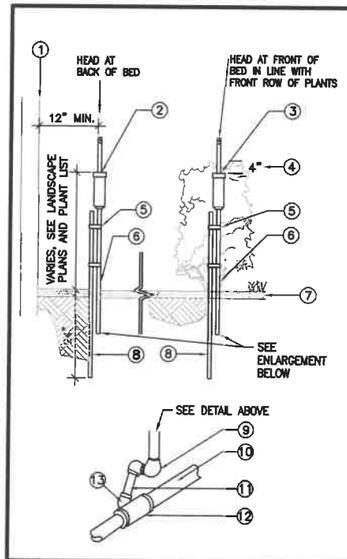
1. POP-UP SPRAY SPRINKLER: RAIN BIRD 1806 SAM-PRS POP-UP WITH HUNTER MP ROTATOR NOZZLE
2. 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
3. PVC LATERAL PIPE
4. SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
5. PVC SCH 40 TEE OR ELL
6. FINISH GRADE/TOP OF MULCH
7. PLANT MATERIAL

R RAIN BIRD 1806 SAM-PRS SPRAY



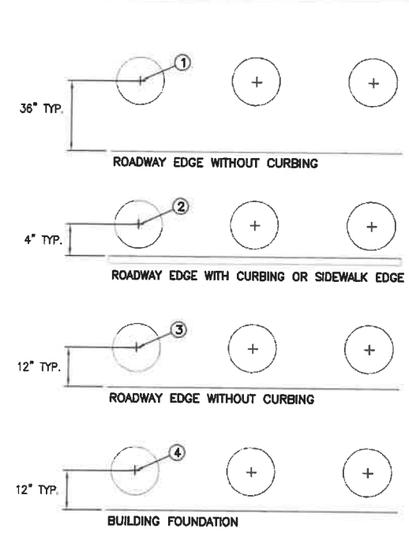
1. POP-UP SPRAY SPRINKLER: RAIN BIRD 1812-SAM-PRS W/ HUNTER MP ROTATOR NOZZLE
2. 1/2-INCH MALE NPT X .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
3. PVC LATERAL PIPE
4. SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
5. PVC SCH 40 TEE OR ELL
6. FINISH GRADE/TOP OF MULCH
7. PLANT MATERIAL

S RAIN BIRD 1812 SAM-PRS SPRAY



1. WALL OR STRUCTURE
2. POP-UP SPRAY HEAD AT STRUCTURE
3. POP-UP SPRAY HEAD AT FRONT OF BED
4. NOTE: INSTALL TOP OF HEAD (THIS IS NOT TO INCLUDE POP-UP PORTION) 4" BELOW SURROUNDING PLANT MATERIAL. SEE LANDSCAPE PLANS & PLANT LIST.
5. TWO (2) STAINLESS STEEL HOSE CLAMPS
6. 3/4" PVC SCH. 40 RISER, PAINTED FLAT BLACK.
7. MULCH
8. 1" X 1" STEEL ANGLE, 24" DEPTH
9. PVC SCH. 80 ELBOW
10. LATERAL LINE
11. PVC SCH. 80 NIPPLE, POSITION RISER AT 45° ANGLE 3/4" DIA., MAX 18" LENGTH.
12. PVC TEE W/ THREADED REDUCER CONNECTION.
13. TWO (2) STREET ELLS.

T POP-UP HEAD ON RISER



1. ROTOR HEAD TYPICAL
2. SPRAY OR ROTOR HEAD TYPICAL
3. SPRAY HEAD TYPICAL
4. SPRAY OR ROTOR HEAD TYPICAL

T POP-UP HEAD TO HARDSCAPE LOCATION DETAIL-A

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66th Avenue

Indian River County

Roadway Irrigation Details

Date	By	Description
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NORTH

SCALE: 1" = NTS

REG. # 1018
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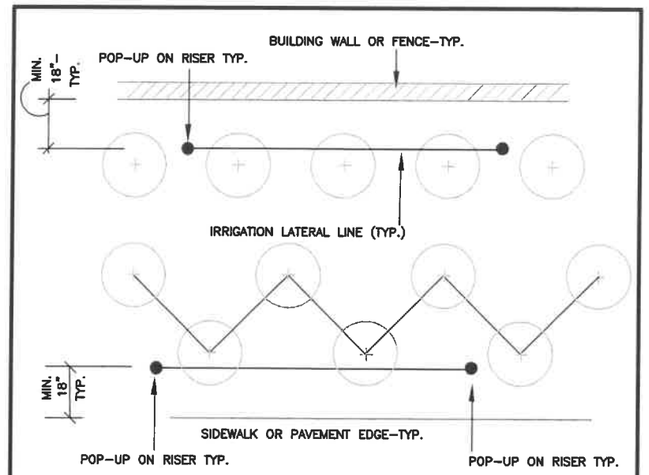

NOTE: THE DESIGN INTENT IS FOR THE RISERS TO BE INSIDE OF THE PLANT MASS TO OBSCURE IT FROM VIEW AND OFFER PROTECTION. THE TOP OF THE SPRAY HEAD SHOULD BE 4" BELOW THE MAINTAINED HEIGHT OF THE SHRUBBERY. THE SPRAY HEAD ON RISER SHOULD BE 'INSET' INTO THE SHRUBS 6". THIS 'INSET' DISTANCE IS THE CONTROLLING FACTOR. THEREFORE THE 18" MINIMUM DISTANCE FROM SIDEWALK/PAVEMENT IS APPROXIMATE ONLY.

T **POP-UP HEAD ON RISER LOCATION DETAIL-B**

IRRIGATION NOTES & SPECIFICATIONS

Irrigation design based on the Lucido & Associates Landscape Plan dated August 2016. Contractor shall refer to these plans to coordinate sprinkler and pipe locations.

The system has been designed to conform with the requirements of all applicable codes, laws, ordinances, rules, regulations and conventions. Should any conflict exist, the requirements of the codes shall prevail. It is the responsibility of the owner/installation contractor to ensure the entire system is installed as designed. Irrigation contractor responsible for obtaining all required permits according to federal, state and local laws.

The scope of work is shown on the plans, notes and details. The Irrigation Contractor shall be certified as a CERTIFIED IRRIGATION CONTRACTOR by the Irrigation Association. The certification shall be current and in good standing.

THE WORK

The work specified in this section consists of furnishing all components necessary for the installation, testing, and delivery of a complete, fully functional automatic landscape irrigation system that complies with the irrigation plans, specifications, notes, and details. This work shall include, but not be limited to, the providing of all required material if applicable (pump(s), backflows, pipes, valves, fittings, controllers, wire, primer, glue, etc.), layout, protection to the public, excavation, assembly, installation, back filling, compacting, repair of road surfaces, controller and low voltage feeds to valves, cleanup, maintenance, guarantee and as–built plans.

All irrigated areas shall provide 100% head–to–head coverage from a fully automatic irrigation system with a rain/freeze shut off device. If the shut off device is a rain sensor, it shall be installed to prevent activation by adjacent heads and in a visually un–obtrusive location approved by owner. Zones are prioritized first by public safety and then by hydraulic concerns. This sequencing will be a mandatory punch list item.

These plans have been designed to satisfy/exceed the Florida Building Code (FBC) Appendix F and the Florida Irrigation Society Standards and Specifications for Turf and Landscape Irrigation Systems, fourth edition. All products should be installed per manufacturer's recommendation. Contractor shall verify all underground utilities 72 hours prior to commencement of work.

It is the responsibility of the irrigation contractor to familiarize themselves with all grade differences, location of walls, retaining walls, structures and utilities. Do not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that unknown obstruction, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions, or differences, should be brought to the attention of the owner's authorized representative. In the event this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.

Irrigation contractor shall repair or replace all items damaged by their work. Irrigation contractor shall coordinate their work with other contractors for the location and installation of pipe sleeves and laterals through walls, under roadways and paving, etc.

The contractor shall take immediate steps to repair, replace, or restore all services to any utilities which are disrupted due to their operations. All costs involved in disruption of service and repairs due to negligence on the part of the contractor shall be their responsibility.

POINT OF CONNECTION (P.O.C.)

There are two P.O.C.s on this project. Both P.O.C.s are new Sullivan Electric 5hp Pump Stations model #EPS–1–5–230–3–VFD–S–ECON each utilizing a new 4" well as the water source. Each P.O.C. must be capable of delivering a minimum of 65 GPM at 50 PSI downstream of the pump discharge.

Contractor to verify these minimum conditions can be met prior to ordering of materials and the beginning of installation. If the conditions can not be met, the contractor must notify the designer prior to proceeding with the work. If the contractor does not do so, the contractor proceeds at their own risk and becomes responsible for any future work required to make the system perform as required.

THE PIPE

Pipe locations shown on the plan are schematic and shall be adjusted in the field. When laying out mainlines place a maximum of 18" away from either the back of curb, front of walk, back of walk, or other hardscape to allow for ease in locating and protection from physical damage. Install all lateral pipe near edges of pavement or against buildings whenever possible to allow space for plant root balls. Always install piping inside project's property boundary.

All pipes are to be placed in planting beds. If it is necessary to have piping under hardscapes, such as roads, walks, and patios, the pipes must be sleeved using Class 200 PVC with the sleeve diameter being twice the size of the pipe it is carrying with a minimum sleeve size of 2". No sleeve shall have turns or fittings that prevent a pipe from being manually pushed/pulled through after it is installed.

Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes shall be permitted, but substitutions of larger sizes may be approved. All damaged and rejected pipe shall be removed from the site at the time of said rejection.

Mainline shall be Class 200 gasketed 'pantone purple' PVC with Leemco Ductile iron fittings and mechanical joint restraints (sized per plans).

Contractor to ensure all mainline piping is properly restrained using mechanical joint fittings, restraining collars, threaded rods, thrust blocks, etc.., as and where required. Contractor shall refer to pipe manufacturers recommended installation practices for further direction.

PVC pipe joint compound and primer: The PVC cement shall be Weld–On 711 (grey, slow–drying, heavy duty) and the primer shall be Weld–On P70 (purple tinted, compatible with cement), or approved equals.

ELECTRICAL POWER SUPPLY

Electrical supply for irrigation pumps, controllers, sensors, & relays to be provided by irrigation contractor. Contractor to coordinate with local utilities for the installation of, and connection to, site available power supplies for required electrical components as set forth in the irrigation plans.

All electrical work is to comply with the National Electrical Code and any, and all, other applicable electrical codes, laws and regulations. A licensed electrician shall perform all electrical hook–ups. Power for each controller shall be a dedicated 120 volt, 20 amp circuit unless otherwise specified in the plans. Power for each pump to be according to pump specifications indicated in these plans.

WIRING

Irrigation control wire shall be thermoplastic solid copper, single conductor, low voltage irrigation controller wire; suitable for direct burial and continuous operation at rated voltages.

Tape and bundle control wires every 10' and run alongside the mainline. At all turns in direction make a 2' coil of wire. At all valve boxes coil wire around a 3/4" piece of PVC pipe to make a coil using 30 linear inches of wire. Make electrical connections with 3MDBY/R connectors.

Number all wires, using an electrical book of numbers, according to the plans. Number wires in all valve boxes, junction boxes and at the controller.

Wire sized, numbered and colored as follows:
South Pump 'P1' control system:
#10 white for common
#10 spare black common
#10 individual color coded hot wire
#10 spare yellow hot wire

North Pump 'P2' control system:
#12 white for common
#12 spare black common
#12 individual color coded hot wire
#12 spare yellow hot wire

Spare wires
Leaving each controller, run three spare wires in both directions (six spare wires total). Install as 1 common spare (2 total) and 2 hot wires (4 total). Loop these wires into each RCV along their path and terminate in the last valve box controlled by the wires respective controller. The loop into each valve box shall extend up into the valve box a minimum of 8" and be readily accessible by opening the valve box lid. These wires must be all numbered and color coded as required in these plans.

Controller and Pump station Control Panel grounding – Contractor to utilize 4"X96"X0.0625" copper grounding plates, 5/8"X10' copper clad grounding rods, 'One Strike' CAD wells at all connection points, #6 insulated copper wire, and earth contact material. Install these and other required components as outlined in the detail. Contractor to verify that the earth to ground resistance does not exceed 10 ohms. Contractor shall provide a written certification, on a licensed electrical contractors letter head, showing the date of the test, controller/pump location, and test results. Each controller/pump shall be so grounded and tested. Each component must have its own separate grounding grid, unless they are sitting side by side, in which case up to two controllers can share a common grounding grid.

LAYOUT

Lay out irrigation system mainlines and lateral lines. Make the necessary adjustments as required to take into account all site obstructions and limitations prior to excavating trenches.

Stake all sprinkler head locations. Adjust location and make the necessary modifications to nozzle types, etc. required to ensure 100% head to head coverage. Refer to the Edge of Pavement Detail on the Irrigation Detail Sheet.

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Spray heads shall be installed 4" from sidewalks or curbed roadways and 12" from uncurbed roadways and building foundations. Rotors shall be installed 4" from sidewalks or curbed roadways, 12" from building foundations, and 36" from uncurbed roadways.

Shrub heads shall be installed on 3/4" Sch 40 PVC risers. The risers shall be set at a minimum of 18" off sidewalks, roadway curbing, building foundations, and/or any other hardscaped areas. Shrub heads shall be installed to a standard height of 4" below maintained height of plants and shall be installed a minimum of 6" within planted masses to be less visible and offer protection. Paint all shrub risers with flat black or forest green paint, unless irrigation system will utilize reuse water; in this case the risers shall be purple PVC and shall not be painted.

Locate valves prior to excavation. Ensure that their location provides for easy access and that there is no interference with physical structures, plants, trees, poles, etc. Valve boxes must be placed a minimum of 12" and a maximum of 15" from the edge of pavement, curbs, etc. and the top of the box must be 2" above finish grade. No valve boxes shall be installed in turf areas without approval by the irrigation designer – only in shrub beds. Never install in sport field areas.

VALVES

Sequence all valves so that the farthest valve from the P.O.C. operates first and the closest to the P.O.C. operates last. The closest valve to the P.O.C. should be the last valve in the programmed sequence.

Adjust the flow control on each RCV to ensure shut off in 10 seconds after deactivation by the irrigation controller.

Using an electric branding iron, brand the valve I.D. letter/number on the lid of each valve box. This brand must be 2"–3" tall and easily legible.

EQUIPMENT

All pop–up heads and shrub risers shall be pressure compensating. All pop–up heads shall be mounted on flex–type swing joints. All rotors shall be installed with PVC triple swing joints unless otherwise detailed.

All sprinkler equipment, not otherwise detailed or specified on these plans, shall be installed as per manufacturer's recommendations and specifications, and according to local and state laws.

TRENCHING

Excavate straight and vertical trenches with smooth, flat or sloping bottoms. Trench width and depth should be sufficient to allow for the proper vertical and horizontal separation between piping as shown in the pipe installation detail on the detail sheet.

Protect existing landscaped areas. Remove and replant any damaged plant material upon job completion. The replacement material shall be of the same genus and species, and of the same size as the material it is replacing. The final determination as to what needs to be replaced and the acceptability of the replacement material shall be solely up to the owner or owner's representative.

INSTALLATION

Solvent Weld Pipe: Cut all pipe square and deburr. Clean pipe and fittings of foreign material; then apply a small amount of primer while ensuring that any excess is wiped off immediately. Primer should not puddle or drip from pipe or fittings. Next apply a thin coat of PVC cement; first apply a thin layer to the pipe, next a thin layer inside the fitting, and finally another very thin layer on the pipe. Insert the pipe into the fitting. Insure that the pipe is inserted to the bottom of the fitting, then turn the pipe a 1/4 turn and hold for 10 seconds. Make sure that the pipe doesn't recede from the fitting. If the pipe isn't at the bottom of the fitting upon completion, the glue joint is unacceptable and must be discarded.

Pipes must cure a minimum of 30 minutes prior to handling and placing into trenches. A longer curing time may be required; refer to the manufacturer's specifications. The pipe must cure a minimum of 24 hours prior to filling with water.

Gasketed Pipe: With pipe in the trench, cut pipe square, deburr, and place beveled edge on male portion of pipe, if not using a piece with a factory bevel. Clean pipe and fittings of foreign material; then apply a small amount of pipe grease to the rubber gasket on the female end. Fully insert the male end of the pipe into the bell end of adjacent pipe until the bevel is fully seated into the bell. Restrain pipe as required.

BACK FILL

The Back fill 6" below, 6" above, and around all piping shall be of clean sand and anything beyond that in the trench can be of native material but nothing larger than 2" in diameter. All piping and excavations shall be backfilled and compacted to a density of 95% modified Proctor, or greater.

Main line pipe depth measured to the top of pipe shall be:
24" minimum for 3/4"–2 1/2" PVC with a 30" minimum at vehicular crossings;
30" minimum for 3" & 4" PVC with a 36" minimum at vehicular crossings.

Lateral line depths measured to top of pipe shall be:
18" minimum for 3/4"–3" PVC with a 30" minimum at vehicular crossings

Contractor shall backfill all piping, both mainline and laterals, prior to performing any pressure tests. The pipe shall be backfilled with the exception of 2' on each side of every joint (bell fittings, 90's, tees, 45's, etc.). These joints shall not be backfilled until all piping has satisfactorily passed its appropriate pressure test as outlined below.

FLUSHING

Prior to the placement of valves, flush all mainlines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Prior to the placement of heads, flush all lateral lines for a minimum of 10 minutes or until lines are completely clean of debris, whichever is longer.

Use screens in heads and adjust heads for proper coverage avoiding excess water on walls, walks and paving.

TESTING

Soil: At a minimum of 2 locations on the site, soil tests for infiltration and texture shall be performed according to the USDA Soil Quality Test Kit Guide. The tests shall be documented in a USDA Soil Worksheet. (All of the above is available at http://soils.usda.gov/sqi/assessment/ test_kit.html) The completed worksheet shall be submitted to the owners representative for review/approval. Do not proceed without written direction from the owner/owner's representative.

Schedule testing with Owner's Representative a minimum of three (3) days in advance of testing.

Mainline: Remove all remote control valves and cap using a threaded cap on SCH 80 nipple. Hose bibs and gate valves shall not be tested against during a pressure test unless authorized by written permission from the owner. Fill mainline with water and pressurize the system to 125 PSI using a hydrostatic pump. Monitor the system pressure at two gauge locations; the gauge locations must be at opposite ends of the mainline. With the same respective pressures, monitor the gauges for two hours. There can be no loss in pressure at either gauge for solvent–welded pipe. For gasketed pipe, testing requires measurement of the water pumped into the mainline system, using a hydrostatic pump, to maintain 125 PSI – this water volume shall be no more than the result of the following formula:

$$L=(ND\sqrt{P})/7400$$

where L=Allowable leakage in gallons per hour
N=Number of joints in pipe tested
D=Nominal diameter of pipe (in inches)
P=Average Test Pressure (in PSI)

If these parameters are exceeded, locate the problem; repair it; wait 24 hours and retry the test. This procedure must be followed until the mainline passes the test.

Lateral Lines: The lateral lines must be fully filled to operational pressure and visually checked for leaks. Any leaks detected must be repaired.

Operational Testing –Once the mainline and lateral lines have passed their respective tests, and the system is completely operational, a coverage test and demonstration of the system is required. The irrigation contractor must demonstrate to the owner, or his/her representative, that proper coverage is obtained and the system works automatically from the controller. This demonstration requires each zone to be turned on, in the proper sequence as shown on the plans, from the controller. Each zone will be inspected for proper coverage and function. The determination of proper coverage and function is at the sole discretion of the owner or owner's representative.

Upon completion of the operational test, run each zone until water begins to puddle or run off. This will allow you to determine the number of irrigation start times necessary to meet the weekly evapotranspiration requirements of the planting material in each zone. In fine sandy soils, it is possible no puddling will occur. If this is experienced, then theoretical calculations for run times will be required for controller programming.

SUBMITTALS

Pre–Construction: Deliver five (5) copies of submittals to Owner's Representative within ten (10) working days from date of Notice to Proceed. Furnish information in 3–ring binder with table of contents and index sheet. Index sections for different components and label with specification section number and name of component. Furnish submittals for components on material list. Indicate which items are being supplied on catalog cut sheets when multiple items are shown on one sheet. Incomplete submittals will be returned without review. In lieu of hardcopies, an electronic package in PDF format can be submitted.

After project completion;
As a condition of final acceptance, the irrigation contractor shall provide the owner with:

1. Irrigations As–builts – shall be provided utilizing a sub–foot Global Navigation Satellite System (GNSS) to accurately locate all mainlines, sleeves, remote control valves, gate valves, independent wire runs, wire splice boxes, controllers, high voltage supply sources/conduit path, control mechanisms, sensors, wells and water source connections in Florida East State Plane, NAD 83, and CORS 96 format. The data collected shall be in POINT format and include an ID for each data point with Manufacturer, Type, Size, and Depth. All mainline and independent runs of wire shall be located every 30' for straight runs and at every change of direction. Sleeves will be located at end points and every 20' of length. All underground items shall include depth in inch format. These POINTS once collected shall be imported into an AutoCAD DWG geo–referenced base file to be labeled accordingly. The completed AS–Built shall be a Geo–Referenced DWF file and delivered to the owner on a compact disk (CD).

2. Controller charts – Upon completion of "as–built" prepare controller charts; one per controller. Indicate on each chart the area controlled by a remote control valve (using a different color for each zone). This chart shall be reduced to a size that will fit inside of the controller door. The reduction shall be hermetically sealed inside two 2ml pieces of clear plastic.

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66th Avenue

Indian River County

Roadway Irrigation Notes

Date	By	Description
9/9/16	JJ	North Extension Irrigation

NORTH

SCALE: 1" = NTS

REG. # 1018
Thomas P. Lucido

Designer	JJ	Sheet
Manager	JJ	18 of 19
Project Number	16-260	
Municipal Number	00-000	
Computer File	16-260_66thAve_Roadway_IR.dwg	

3. Grounding Certification – Provide ground certification results for each controller and pump panel grounding grid installed. This must be on a licensed electrician letter head indicating location tested (using IR plan symbols), date, time, test method, and testing results.

INSPECTIONS AND COORDINATION MEETINGS REQUIRED – Contractor is required to schedule, perform, and attend the following, and demonstrate to the owner and/or owners representative to their satisfaction, as follows:

1. Pre–construction meeting – Designer and contractor to review entire install process and schedule with owner/general contractor.
2. Mainline installation inspection(s) – all mainline must be inspected for proper pipe, fittings, depth of coverage, backfill. and installation method
3. Mainline pressure test – All mainline shall be pressure tested according to this design's requirements
4. Flow Meter calibration – All flow meters must be calibrated, provide certified calibration report for all flow meters.
5. USDA Soil Quality Tests for infiltration/texture
6. Coverage and operational test
7. Final inspection
8. Punch list inspection

FINAL ACCEPTANCE

Final acceptance of the irrigation system will be given after the following documents and conditions have been completed and approved. Final payment will not be released until these conditions are satisfied.

1. All above inspections are completed, documented, and approved by owner.
2. Completion and acceptance of 'as–built' drawings.
3. Acceptance of required controller charts and placement inside of controllers.
4. All other submittals have be made to the satisfaction of the owner.

GUARANTEE: The irrigation system shall be guaranteed for a minimum of one calendar year from the time of final acceptance.

MINIMUM RECOMMENDED
IRRIGATION MAINTENANCE PROCEDURES

1. Every irrigation zone should be checked monthly and written reports generated describing the date(s) each zone was inspected, problems identified, date problems repaired, and a list of materials used in the repair. At minimum, these inspections should include the following tasks:

A. Turn on each zone from the controller to verify automatic operation.

B. Check schedules to ensure they are appropriate for the season, plant and soil type, and irrigation method. Consult an I.A. certified auditor for methods used in determining proper irrigation scheduling requirements.

C. Check remote control valve to ensure proper operation.

D. Check setting on pressure regulator to verify proper setting, if present.

E. Check flow control and adjust as needed; ensure valve closure within 10–15 seconds after deactivation by controller.

F. Check for leaks – mainline, lateral lines, valves, heads, etc.

G. Check all heads as follows:

1. Proper set height (top of sprinkler is 1" below mow height)
2. Verify head pop–up height – 6" in turf, 12" in ground cover, and pop–up on riser in shrub beds.
3. Check wiper seal for leaks – if leaking, clean head and re–inspect.
4. If still leaking, replace head with the appropriate head with pressure regulator and built–in check valve.
5. All nozzles checked for proper pattern, clogging, leaks, correct make model, etc. – replace as needed
6. Check for proper alignment – perfectly vertical; coverage area is correct; minimize over spray onto hardscapes.
7. Riser height raised/lowered to accommodate plant growth patterns and ensure proper coverage.
8. Verify the pop–up riser retracts after operation. If not, repair/replace as needed.

H. Check controller/C.C.U. grounds for resistance (10 ohms or less) once per year. Submit written reports.

I. Check rain shut–off device monthly to ensure it functions properly.

J. Inspect all filters monthly and clean/repair/replace as needed.

K. Inspect backflow devices by utilizing a properly licensed backflow inspector. This should be done annually, at minimum.

L. Inspect all valve boxes to ensure they are in good condition, lids are in place and locked.

M. Check pump stations for proper operation, pressures, filtration, settings, etc. – refer to pump station operations manual.

N. Check and clean intake screens on all suction lines quarterly, at minimum. Clean and/or repair, as needed.

O. Winterize, if applicable, as weather in your area dictates. Follow manufacturer recommendations and blow out all lines and equipment using compressed air. Perform seasonal startup of system as per manufacturer recommendations.

P. Conduct additional inspections, maintenance tasks, etc. that are particular for your site.

Soil Moisture Sensor

1. Place all soil moisture sensor wiring in 1" SCH 40 PVC conduit
2. Soil moisture sensor should be placed in the middle of a spray or drip area as per manufacturer's recommendations.
3. Controller shall be set to the Florida Automated Weather Network's urban scheduler settings using the SMS as a moisture cut off device (like a rain switch) per manufacturer directions.

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