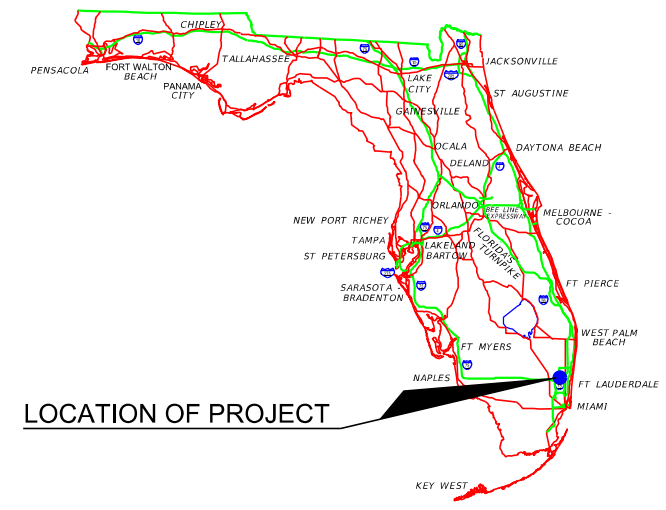




CITY OF LAUDERDALE LAKES

STORMWATER CONVEYANCE AND WATER QUALITY IMPROVEMENT PROJECT



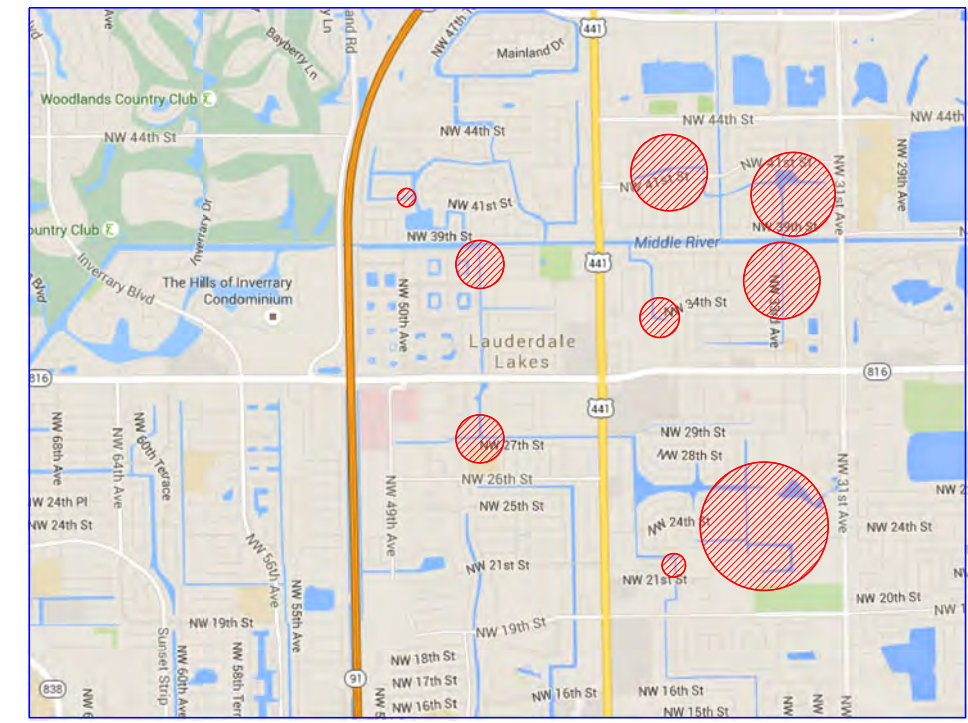
LOCATION OF PROJECT

N.T.S

INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1	COVER SHEET & LOCATION MAP
2	PROJECT LAYOUT
3	GENERAL NOTES
4 - 8	TYPICAL SECTION
9 - 11	TYPICAL SECTION DETAILS
12	PAY ITEMS NOTES
12-A	SUMMARY OF PAY ITEMS
13 - 39	SITE PLANS
40 - 121	CROSS SECTIONS
122 - 148	DEMOLITION PLANS
149 - 151	MISCELLANEOUS DETAILS
152 - 153	WALL REPAIR DETAILS
154 - 155	STORMWATER POLLUTION PREVENTION PLAN
S-1 - S-5	CONTROL SURVEY

RJB PROJECT No. 15076



LEGEND:  PROJECT LOCATION

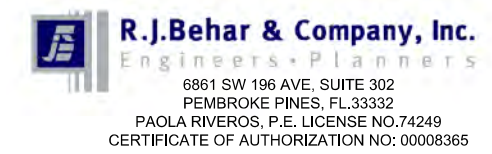
LOCATION MAP

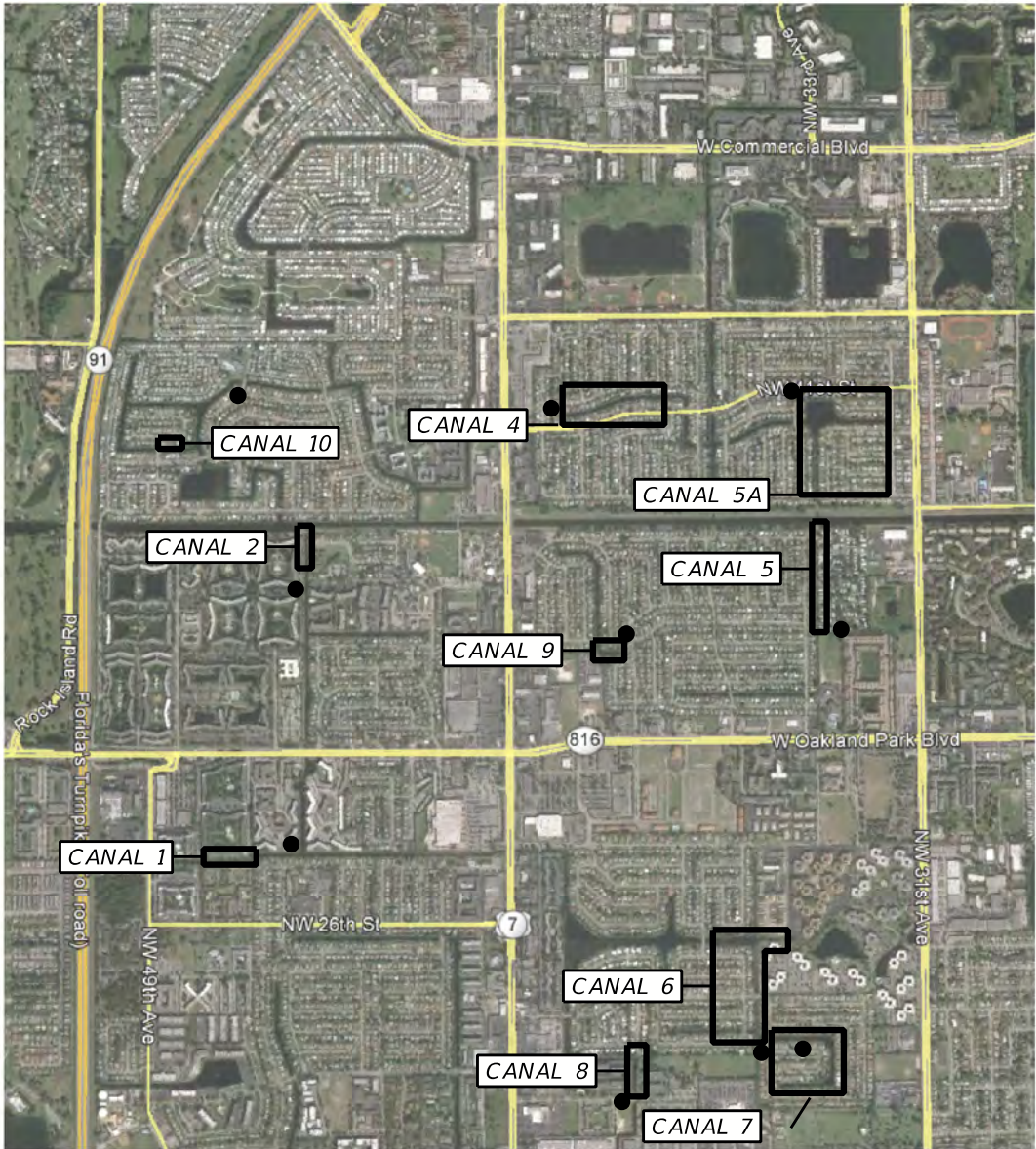
N.T.S

MAYOR	BARRINGTON A. RUSSELL, SR.
VICE MAYOR	EILEEN RATHERY
COMMISSIONER	PATRICIA HAWKINS-WILLIAMS
COMMISSIONER	GLORIA LEWIS
COMMISSIONER	EDWINA COLEMAN
COMMISSIONER	BEVERLY WILLIAMS
CITY MANAGER	KEVIN L. BAKER, SR.
DIRECTOR PUBLIC WORKS	MANNY DIEZ

ISSUED FOR BIDS
(AUGUST, 2016)

PREPARED BY
R.J. BEHAR & COMPANY, INC
PEMBROKE PINES, FLORIDA





KEY MAP

● CANAL ACCESS RAMP LOCATIONS



CANAL 1



CANAL 4



CANAL 5A



CANAL 2



CANAL 5



CANAL 6



CANAL 7



CANAL 8



CANAL 9



CANAL 10

NO.	REVISION	BY	DATE

CANAL BANK STABILIZATION

SCALE: N/A
APPROVED:
DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

LAYOUT

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 2

OF: 155

PROJECT NO. 15076

GENERAL NOTES

1.

NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED BY THE CONTRACTOR AND THE CONTRACTOR IS ISSUED "NOTICE TO PROCEED".
2.

A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE CITY OF LAUDERDALE LAKES, UTILITY OWNERS, CONTRACTOR, SUBCONTRACTORS, ENGINEER AND OTHER INTERESTED PARTIES.
3.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN CHANGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
4.

GRADES SHOWN ARE FINISHED GRADES, UNLESS OTHERWISE NOTED.
STATION AND OFFSETS REFER TO THE CENTERLINE OF CONSTRUCTION, UNLESS OTHERWISE NOTED.
5.

THE CONSTRUCTION STAKE-OUT AND RECORD DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ALL ASSOCIATED COSTS ARE TO BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF THE SPECIFIC ITEM CONSTRUCTED.
6.

THE LOCATION OF THE EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY; THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
7.

LOCATIONS MAY BE DETERMINED BY CALLING SUNSHINE ONE CALL AND THE SPECIFIC UTILITY COMPANY. SUNSHINE 811 OR (800)-432-4770. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT/LOCATE OTHER UTILITIES NOT SUBSCRIBING TO "SUNSHINE" UTILITY.

UTILITY/AGENCY OWNERS:

COMPANY	CONTACT	TELEPHONE NO.
COMCAST CABLE	JOHN MATONTI	954-732-7846
FP&L	TRACY STERN	800-868-9554
CITY OF LAUDERDALE LAKES	SONIA TORRES	954-535-2712
AT&T	OTIS KEEVE	954-723-2540
CROWN CASTLE NG	BRYAN LOWE	724-416-2193
FPL FIBERNET	DANNY HASKETT	305-552-2931
HOTWIRE COMUNICATIONS	WALTER SANCHO-DAVILA	954-417-3606

8.

THE CONTRACTOR IS ADVISED THAT THE PRESENCE OF OVERHEAD ELECTRIC CONDUCTORS IN CLOSE PROXIMITY TO THE LOCATIONS OF THE PROPOSED FACILITIES AND THIS MAY LIMIT THE TYPE OF EQUIPMENT THAT CAN BE USED DURING CONSTRUCTION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD OR UNDERGROUND UTILITIES.
9.

WHEN UTILITY POLES ARE IN AREAS OF EXCAVATION, MAINTAIN A MINIMUM SEPARATION OF FIVE (5') FEET BETWEEN THE POLE AND ANY EXCAVATION.
10.

FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED IN ADVANCE AND IN WRITING BY THE ENGINEER OF RECORD.
11.

CONTRACTOR SHALL PROTECT STRUCTURES AND EXISTING OBJECTS THAT ARE TO REMAIN. IF DAMAGE BY THE CONTRACTOR'S OPERATIONS THEY SHALL BE REPLACED OR REPAIR AT NO COST TO THE OWNER.
12.

NO CONSTRUCTION FILL OR DEBRIS SHALL BE DEPOSITED IN THE CANALS.
13.

THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL AND STATE REQUIREMENTS AS WELL AS APPLICABLE PERMIT SPECIAL PROVISIONS.
14.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH CITY OF LAUDERDALE LAKES AND ANY OTHER ENTITIES AS NECESSARY TO SECURE ADEQUATE ACCESS TO THE WORK ZONE OR FOR STAGING AREAS.
15.

THE CONTRACTOR SHALL COORDINATE AND OBTAIN ANY PERMITS REQUIRED FOR CONSTRUCTION.

16.

ALL EXISTING OUTFALL PIPES SHALL BE EXTENDED TROUGH GABION WALLS OR EROSION CONTROL SYSTEM. SEE MISC. DETAIL SHEETS.
17.

SOD ALL DISTURBED AREAS AT NO ADDITIONAL COST TO THE CITY.
18.

PRIOR TO START OF CONSTRUCTION DOCUMENT THE CONDITION OF ADJACENT STRUCTURES PER SECTION 01320 OF THE SPECIFICATIONS.
19.

TEMPORARY FENCES ARE REQUIRED AS PER SECTION 01010 AND 01530 OF THE SPECIFICATIONS.

SURVEYOR'S NOTES

1.

THE ELEVATIONS DEPICTED HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AS REFERENCED TO THE FOLLOWING NATIONAL GEODETIC SERVICE (NGS) BENCHMARKS:
2.






















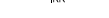
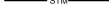
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NGS DESIGNATION: P 664PID: LD2185ELEV: 9.58 (NAVD '88)
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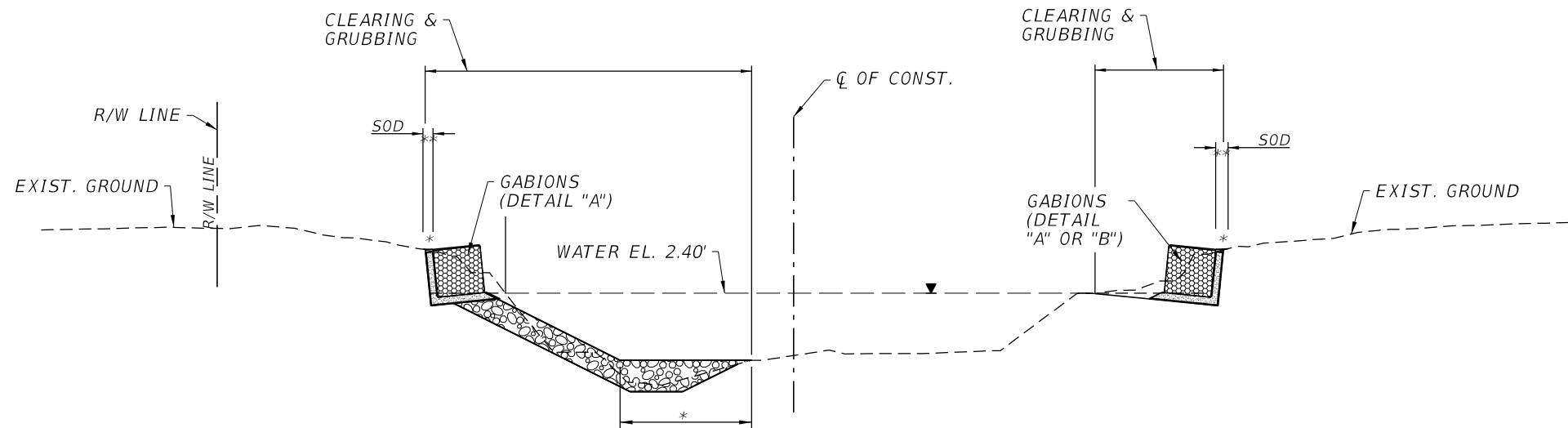
AND AS REFERENCED TO THE FOLLOWING FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT CONTROL NETWORK; PROJECT ID 413886-1-52-01, BENCHMARKS:
4.

FDOT: A-25FND PK NAIL W/WASHER STAMPED "A25" ELEV: 6.28 (NAVD '88)
FDOT: BLC-01FND CONC. MONUMENT STAMPED "816 / 86 / 05 / C01"ELEV: 9.10 (NAVD '88)
5.

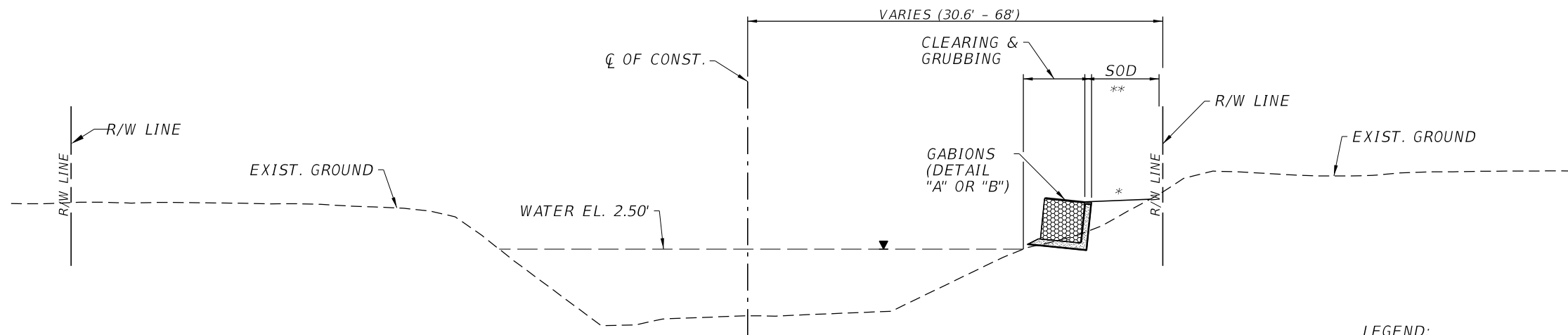
THE RIGHT-OF-WAY LINES AND PROPERTY LINES DEPICTED HEREON IS BASED ON BROWARD COUNTY PROPERTY APPRAISERS GIS PARCEL DATA MAP AND NO PROPERTY CORNERS WERE RECOVERED FOR THIS SURVEY.

LEGEND:

	CATV PEDESTAL
	DECORATIVE/YARD LIGHT POLE
	ELECTRICAL OUTLET
	ELECTRICAL PULL BOX
	IRRIGATION CONTROL VALVE
	OUTFALL
	PIPE
	PLUG
	SANITARY MANHOLE
	SIGN
	SPOT ELEVATION
	STORM MANHOLE
	TELEPHONE PEDESTAL
	WOOD POST
	WOOD TELEPHONE POLE
	PALM TREE
	SHADE TREE
	GUARD RAIL
	CHAIN LINK FENCE
	IRR STORM DRAINAGE
	STM STORM DRAINAGE
	VINYL FENCE
	WOOD FENCE




TYPICAL - CANAL 1



TYPICAL - CANAL 2

LEGEND:

- * SEE CROSS SECTIONS
- ** SLOPE VARIES SEE CROSS SECTIONS
- ▼ WATER AT TIME OF SURVEY (VARIES)
-  RIPRAP LIMITS VARY. SEE PLAN AND CROSS SECTIONS.

NOTE:

ALTERNATIVE 1 SHOWN. SEE TYPICAL SECTION DETAILS FOR ALTERNATIVE 2.



R.J. BEHAR & COMPANY, INC.
Engineers • Planners
6861 SW 196th AVENUE, SUITE 302
PEMBROKE PINES, FL 33332
PAOLA RIVEROS, P.E. LICENSE NO. 74249
CERTIFICATE OF AUTHORIZATION NO. 00008365
RJB PROJECT NO.: 15076

BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL BANK STABILIZATION

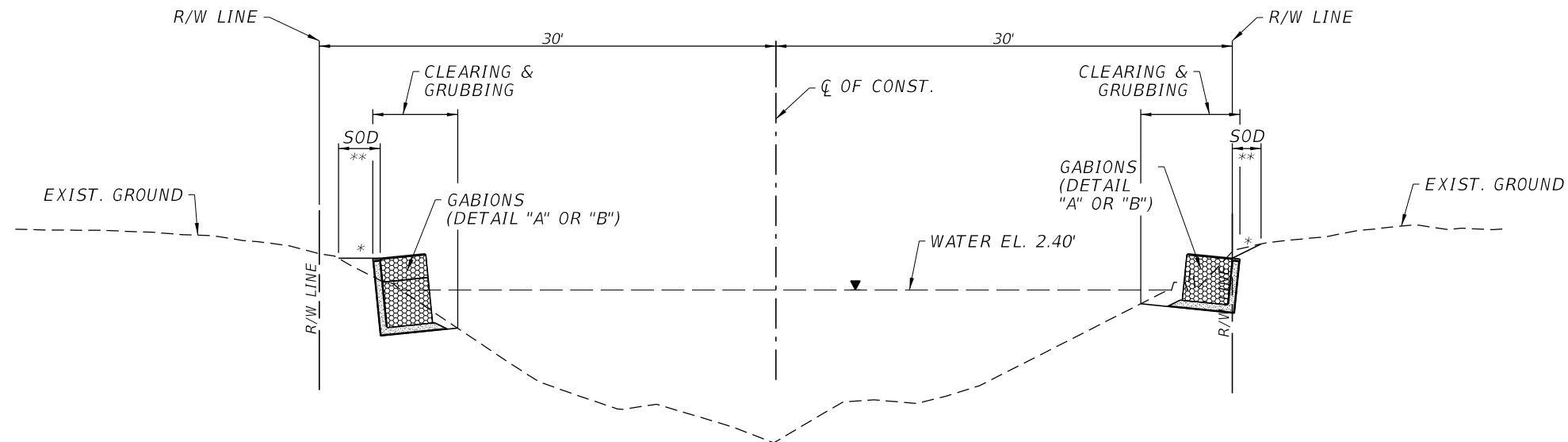
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DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

TYPICAL SECTION

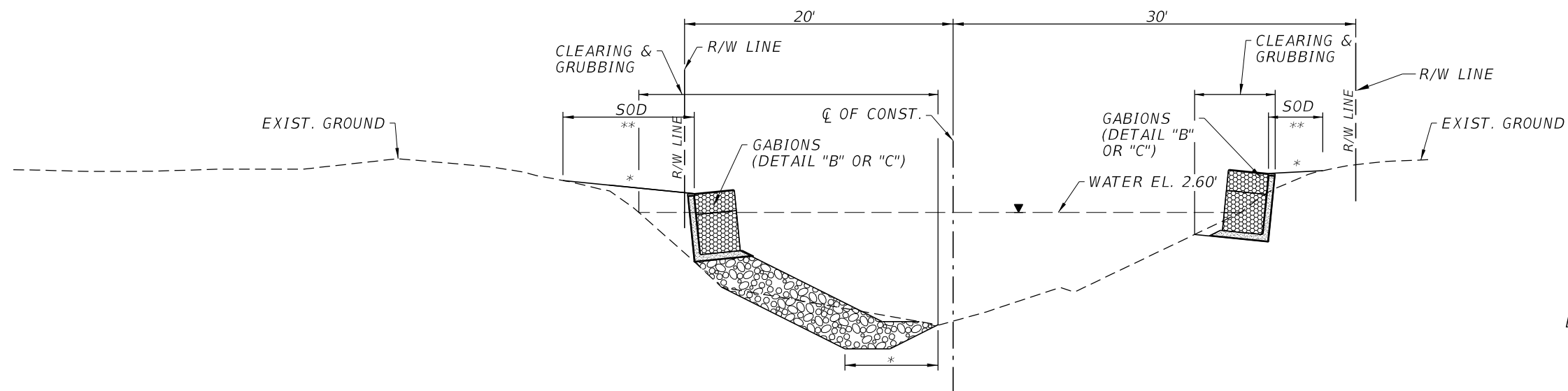
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DESIGN FILE NAME: \$FILES\$

SHEET: 4
OF: 155
PROJECT NO. 15076




TYPICAL - CANAL 4



TYPICAL - CANAL 5

LEGEND:

- * SEE CROSS SECTIONS
- ** SLOPE VARIES SEE CROSS SECTIONS
- ▼ WATER AT TIME OF SURVEY (VARIES)
-  RIPRAP LIMITS VARY. SEE PLAN AND CROSS SECTIONS.

NOTE:

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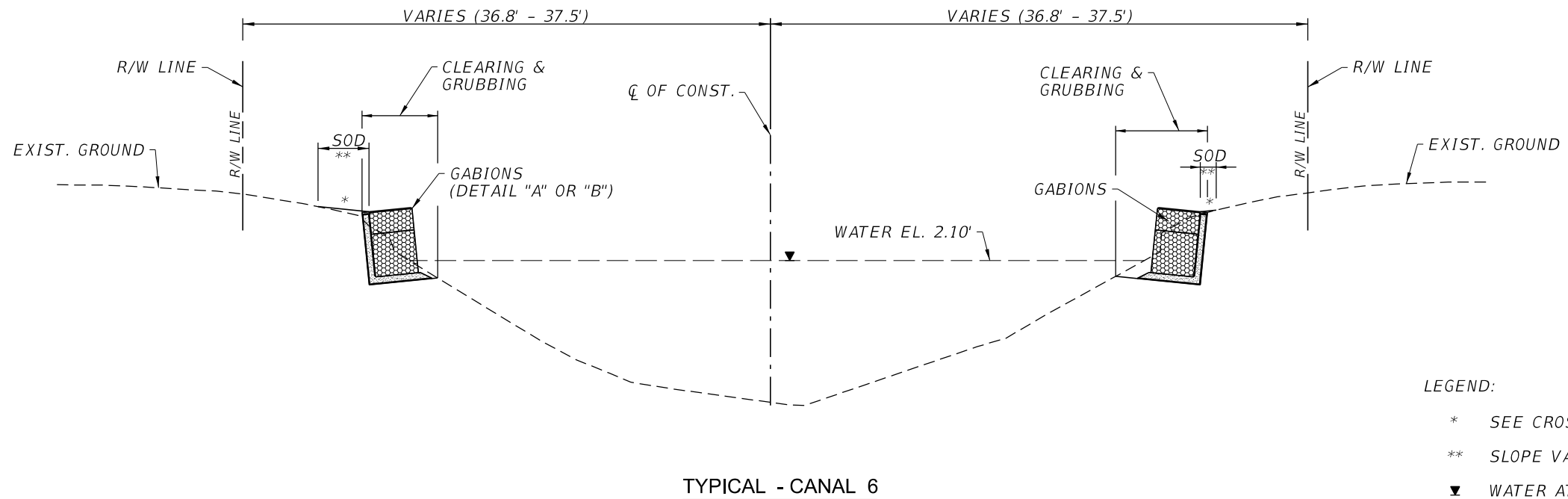
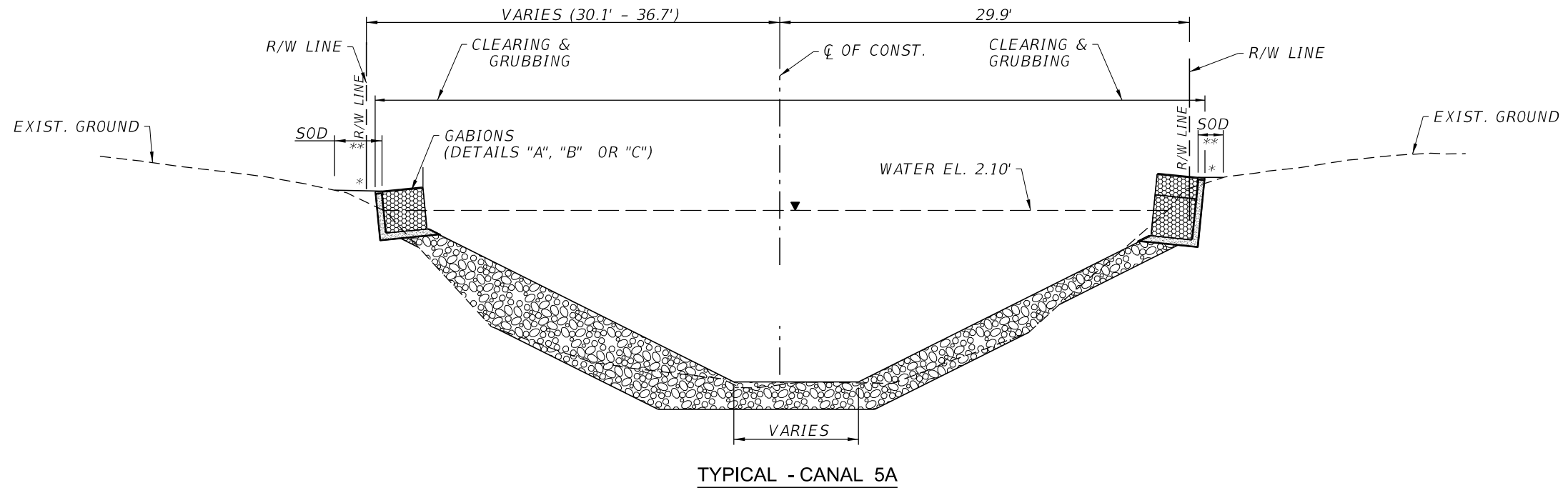
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DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.


TYPICAL SECTION

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 5
OF: 155
PROJECT NO. 15076



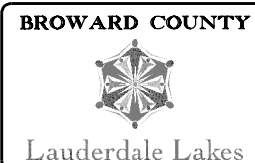
- LEGEND:
- * SEE CROSS SECTIONS
 - ** SLOPE VARIES SEE CROSS SECTIONS
 - ▼ WATER AT TIME OF SURVEY (VARIES)
 -  RIPRAP LIMITS VARY. SEE PLAN AND CROSS SECTIONS.

NOTE:

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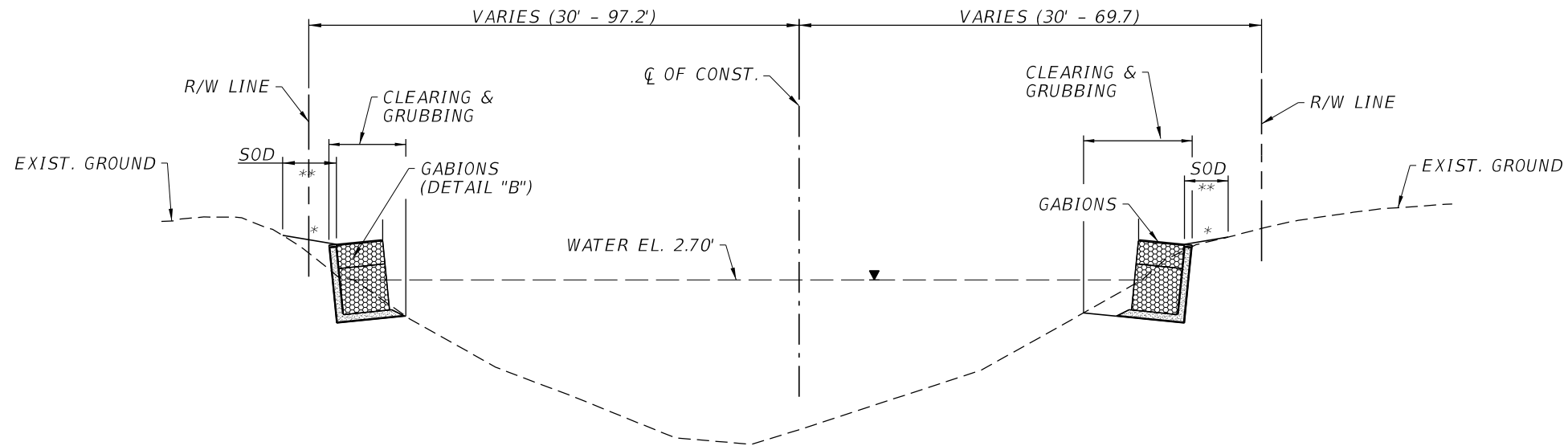
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FIELD BOOK NO.

TYPICAL SECTION

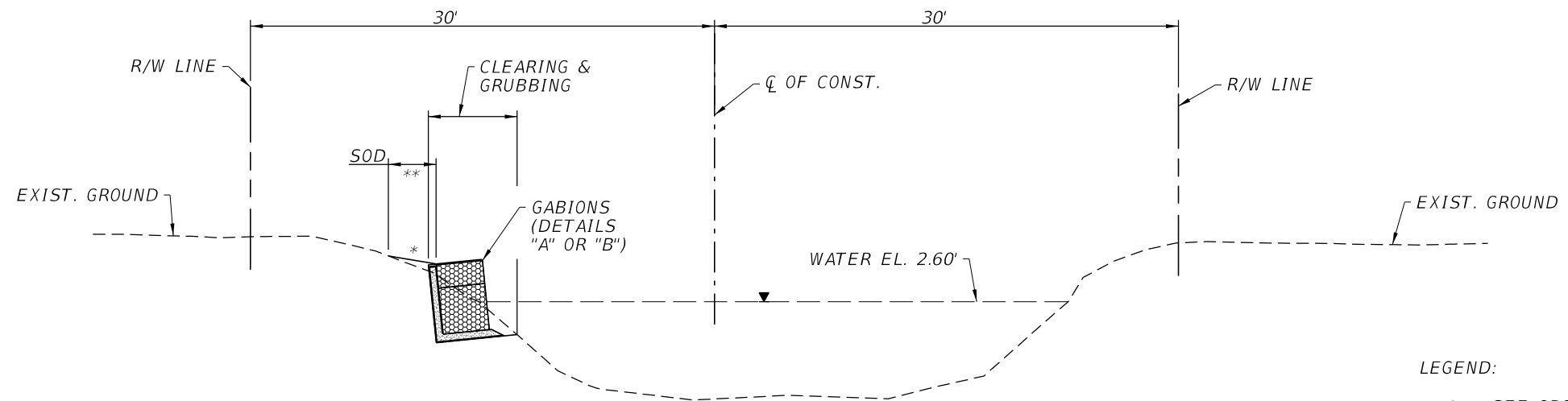
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DESIGN FILE NAME: \$FILES\$


SHEET: 6
OF: 155
PROJECT NO. 15076



TYPICAL - CANAL 7



TYPICAL - CANAL 8

- LEGEND:
- * SEE CROSS SECTIONS
 - ** SLOPE VARIES SEE CROSS SECTIONS
 - ▼ WATER AT TIME OF SURVEY (VARIES)
 -  RIPRAP LIMITS VARY. SEE PLAN AND CROSS SECTIONS.

NOTE:
ALTERNATIVE 1 SHOWN. SEE TYPICAL SECTION DETAILS FOR ALTERNATIVE 2.



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BROWARD COUNTY



Lauderdale Lakes

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CANAL BANK STABILIZATION

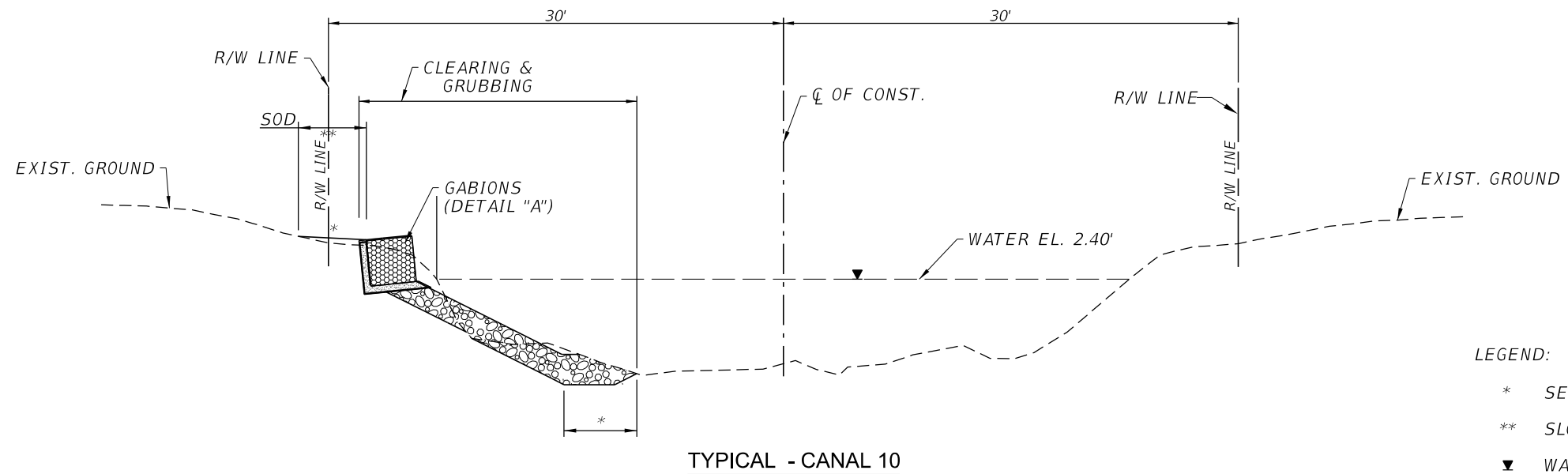
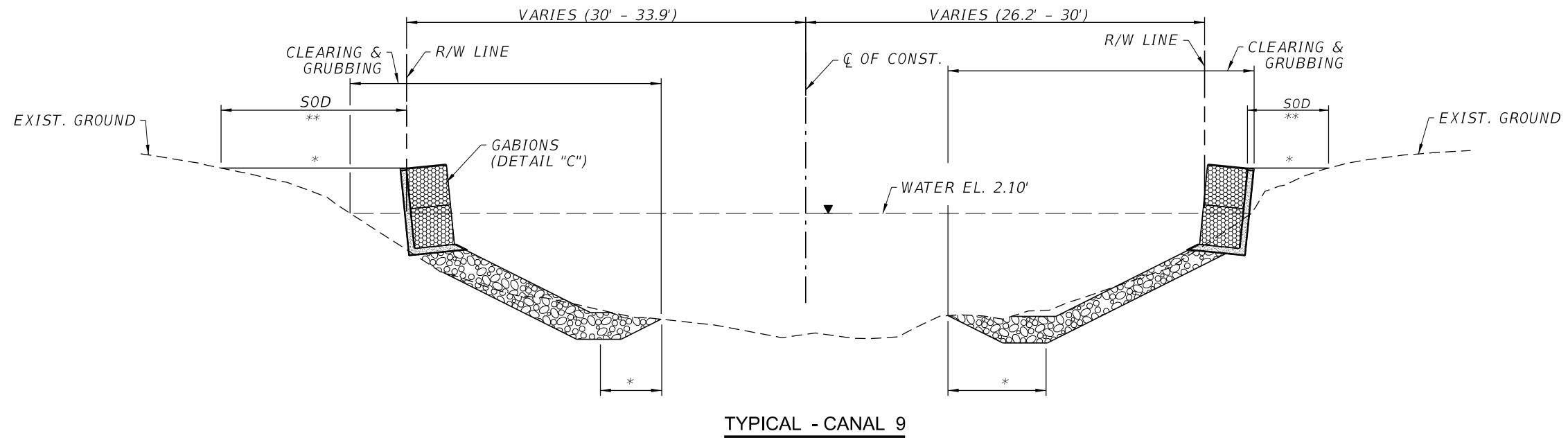
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DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

TYPICAL SECTION

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 7
OF: 155
PROJECT NO. 15076



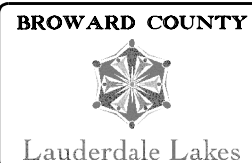
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- * SEE CROSS SECTIONS
 - ** SLOPE VARIES SEE CROSS SECTIONS
 - ▼ WATER AT TIME OF SURVEY (VARIES)
 - RIPRAP LIMITS VARY. SEE PLAN AND CROSS SECTIONS.

NOTE:

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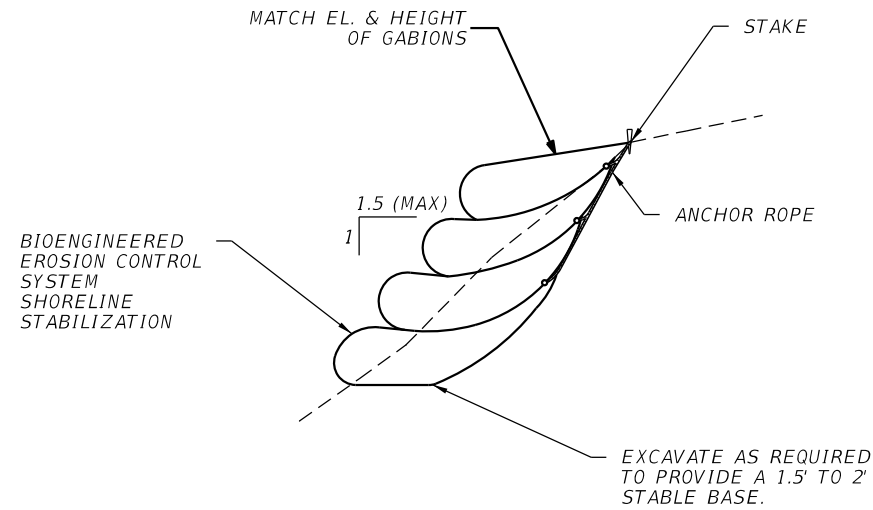
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DRAWN:
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DATE
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FIELD BOOK NO.

TYPICAL SECTION

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 8
OF: 155
PROJECT NO. 15076



CANAL 1

STA	SIDE	STA	SIDE
10+45.00 	LT	17+78.00 	LT
10+01.00 	RT	14+54.00 	RT
15+55.80 	RT	17+79.00 	RT

CANAL 8

STA	SIDE	STA	SIDE
250+68.00 	LT	254+88.00 	LT

CANAL 2

STA	SIDE	STA	SIDE
20+21.00 	RT	26+60.00 	RT

CANAL 9

STA	SIDE	STA	SIDE
230+37.20 	LT	233+77.00 	LT

CANAL 4

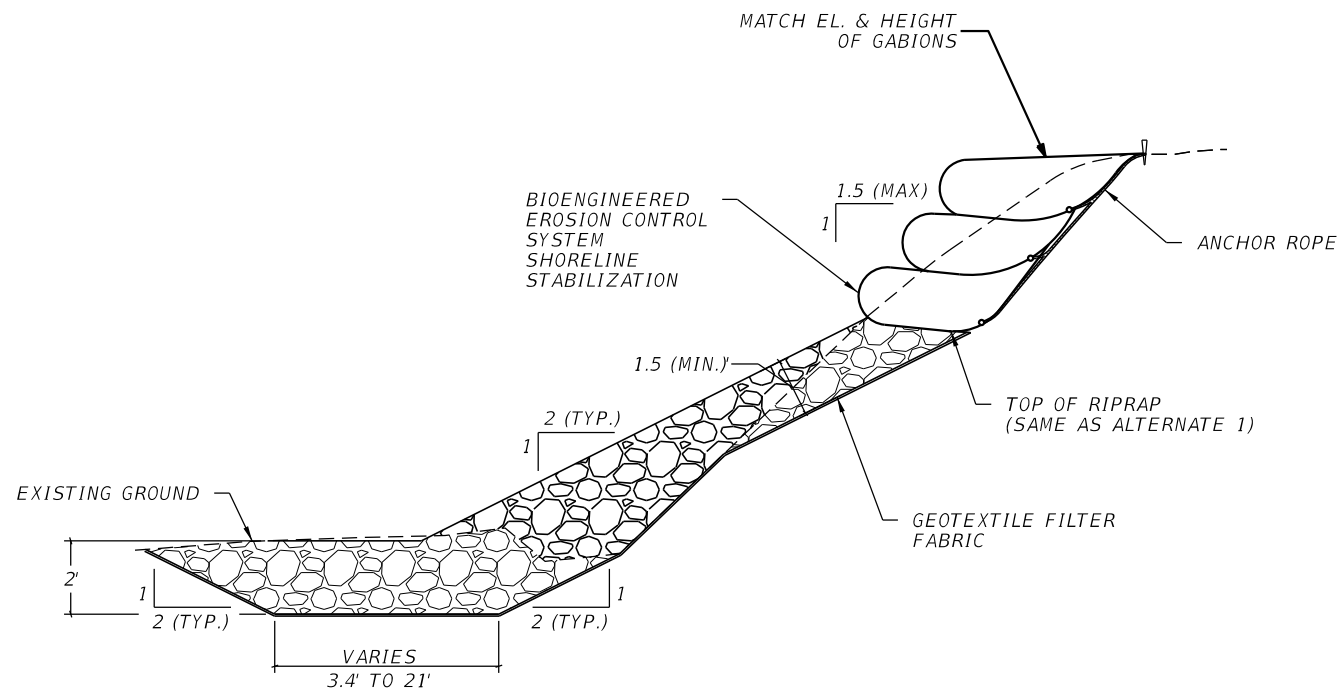
STA	SIDE	STA	SIDE
40+35.72 	LT	43+99.00 	LT
44+14.00 	LT	51+62.00 	LT
52+28.00 	LT	53+56.00 	LT

CANAL 5

STA	SIDE	STA	SIDE
120+57.00 	RT	132+22.00 	RT

CANAL 7

STA	SIDE	STA	SIDE
200+18.00 	RT	210+55.00 	RT
211+20.00 	RT	219+08.00 	RT
200+18.00 	LT	216+34.00 	LT
217+06.00 	LT	219+08.00 	LT



DETAIL A
TYPICAL SHORES0X INSTALLATION

NOTE:
ALTERNATE 2 WILL BE ALLOWED ONLY AT THE INDICATED STATIONS
IN LIEU OF GABION INSTALLATION.

ALTERNATE 2



R.J.BEHAR & COMPANY, INC.
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BROWARD COUNTY



Lauderdale Lakes

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CANAL BANK STABILIZATION

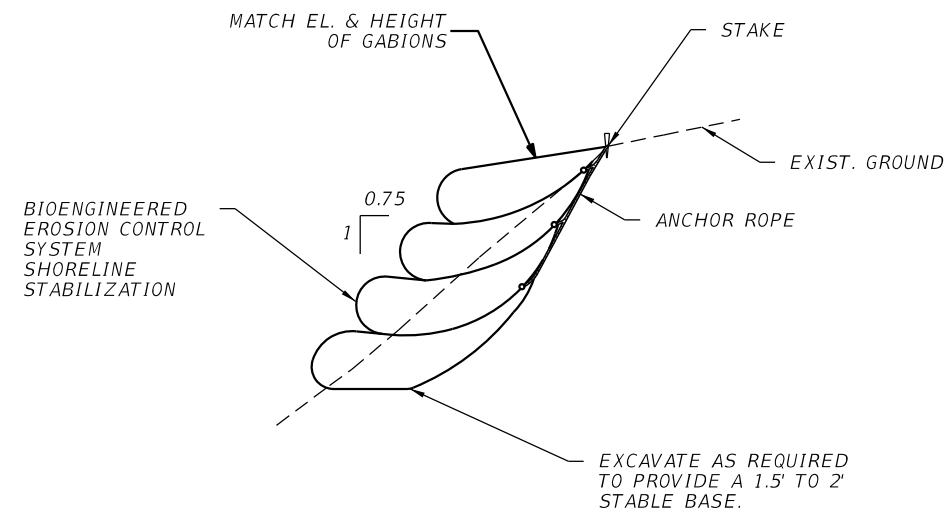
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APPROVED:
DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

TYPICAL SECTION - DETAILS

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 9
OF: 155
PROJECT NO. 15076



CANAL 4

STA	SIDE	STA	SIDE
41+30.49 	RT	53+59.00 	RT

CANAL 9

STA	SIDE	STA	SIDE
231+24.50 	RT	233+15.05 	RT
234+39.09 	RT	234+42.39 	N/A

CANAL 5

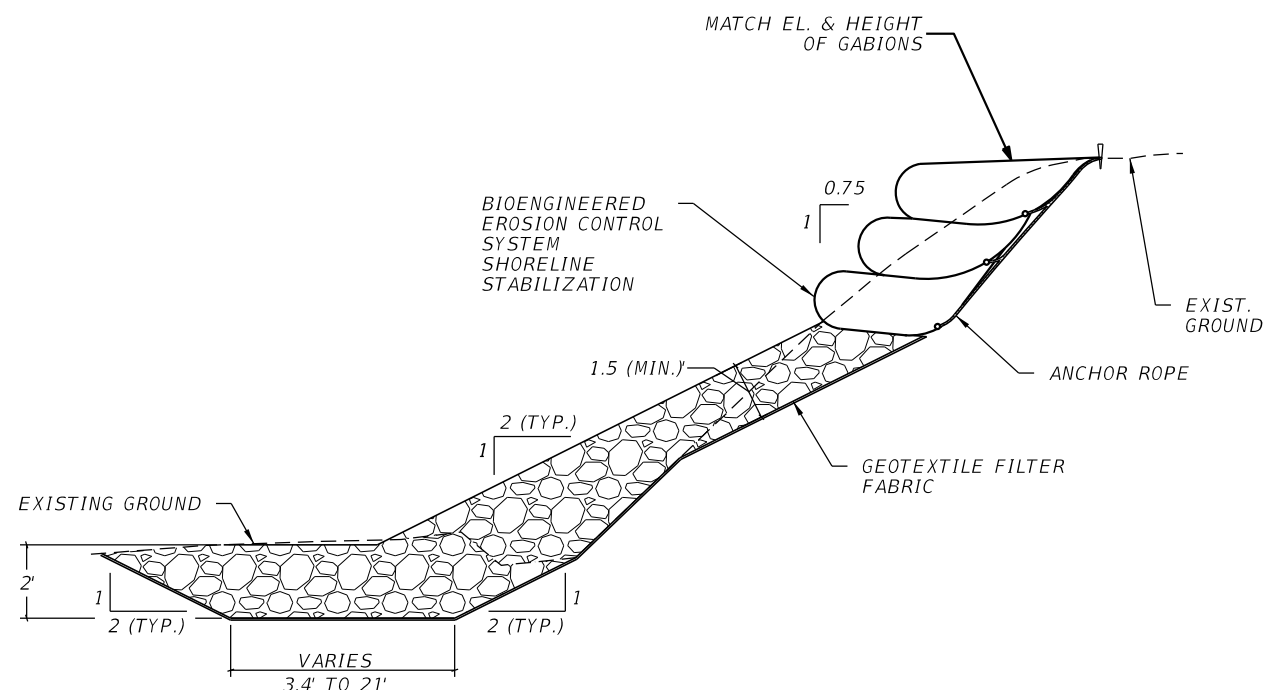
STA	SIDE	STA	SIDE
120+05.00 	LT	128+06.00 	LT
128+66.00 	LT	130+49.00 	LT

CANAL 10

STA	SIDE	STA	SIDE
30+35.89 	LT	30+99.00 	LT
31+13.13 	LT	33+59.00 	LT

CANAL 5A

STA	SIDE	STA	SIDE
70+39.00  5A1	RT	77+86.00  5A1	RT
70+31.00  5A1	LT	100+38.90  5A2	RT
100+29.00  5A2	LT	104+63.94  5A2	LT
103+75.00  5A2	RT	110+80.00  5A2	RT
111+50.00  5A2	RT	111+87.00  5A2	RT
105+12.00  5A2	LT	111+87.00  5A2	LT



CANAL 6

STA	SIDE	STA	SIDE
150+18.00  6A	LT	170+94.00  6B	RT
150+19.00  6A	RT	161+23.00  6C	RT
161+22.00  6C	LT	156+87.50  6A	RT
170+39.00  6B	LT	156+87.00  6A	LT
175+19.00  6D	RT	198+61.00  6F	RT
175+21.00  6D	LT	188+91.00  6E	RT
185+02.00  6E	RT	188+82.00  6E	RT

NOTE:

IF ALTERNATE 2 IS USED, GABIONS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

CANAL NUMBER	STA	SIDE	STA	SIDE
4	40+16.00 	RT	41+04.00 	RT
4	41+16.00 	RT	40+30.00 	RT
5	130+49.00 	LT	131+15.00 	LT
5A	110+80.00  5A2	RT	111+50.00  5A2	RT
6	170+43.00  6B	RT	170+94.00  6B	RT
7	210+55.00 	RT	211+20.00 	RT

NOTE:

ALTERNATE 2 WILL BE ALLOWED ONLY AT THE INDICATED STATIONS IN LIEU OF GABION INSTALLATION.

DETAIL B
TYPICAL SHORES0X INSTALLATION

ALTERNATE 2

LOCATION OF RIPRAP- CANAL 1					
LOCATION					SIDE
FROM STA. TO STA.					
12+12.16	CL	to	12+30.05	CL	RT
12+64.42	CL	to	13+11.43	CL	RT
13+57.59	CL	to	13+80.95	CL	RT
14+28.23	CL	to	15+56.16	CL	RT
15+71.44	CL	to	15+94.94	CL	RT
16+42.49	CL	to	16+64.43	CL	RT
17+19.48	CL	to	17+79.09	CL	RT
10+45.00	CL	to	11+00.00	CL	LT
11+25.95	CL	to	12+30.98	CL	LT
12+58.85	CL	to	13+05.00	CL	LT
13+48.83	CL	to	13+64.72	CL	LT
15+56.30	CL	to	16+07.78	CL	LT
16+47.06	CL	to	17+31.13	CL	LT
17+50.28	CL	to	17+67.67	CL	LT

LOCATION OF RIPRAP- CANAL 2					
LOCATION					SIDE
FROM STA. TO STA.					
20+28.59	CL	to	21+10.13	CL	RT
21+84.16	CL	to	22+41.06	CL	RT
22+92.86	CL	to	23+38.21	CL	RT
24+80.00	CL	to	25+05.00	CL	RT
26+22.38	CL	to	26+60.00	CL	RT

LOCATION OF RIPRAP- CANAL 4					
LOCATION					SIDE
FROM STA. TO STA.					
40+96.78	CL	to	42+99.66	CL	RT
43+60.00	CL	to	43+85.00	CL	RT
45+90.00	CL	to	46+10.00	CL	RT
46+90.00	CL	to	47+30.00	CL	RT
49+27.09	CL	to	52+12.35	CL	RT
41+05.00	CL	to	42+90.00	CL	LT
47+00.00	CL	to	48+60.00	CL	LT
49+20.00	CL	to	49+80.00	CL	LT
50+00.00	CL	to	53+57.85	CL	LT

LOCATION OF RIPRAP- CANAL 5					
LOCATION				SIDE	
FROM STA. TO STA.					
120+90.99	CL	to	121+25.08	CL	RT
120+04.86	CL	to	120+80.00	CL	LT
122+00.00	CL	to	128+05.86	CL	LT
128+66.19	CL	to	131+15.31	CL	LT


LOCATION OF RIPRAP- CANAL 5A					
LOCATION					SIDE
FROM STA. TO STA.					
71+45.00	CL 5A1	to	78+20.00	CL 5A1	RT
79+88.00	CL 5A1	to	78+60.00	CL 5A1	LT
100+90.00	CL 5A2	to	102+00.00	CL 5A2	RT
100+80.00	CL 5A2	to	104+64.00	CL 5A2	LT
103+20.00	CL 5A2	to	107+70.00	CL 5A2	RT
109+00.00	CL 5A2	to	111+67.00	CL 5A2	RT
105+00.00	CL 5A2	to	111+60.00	CL 5A2	LT

LOCATION OF RIPRAP- CANAL 6					
LOCATION					SIDE
FROM STA. TO STA.					
151+60.00	CL 6A	to	160+40.00	CL 6A	RT
153+05.00	CL 6A	to	153+90.00	CL 6A	RT
154+20.00	CL 6A	to	154+80.00	CL 6A	RT
155+10.00	CL 6A	to	155+80.00	CL 6A	RT
160+60.00	CL 6C	to	160+90.00	CL 6C	RT
175+80.00	CL 6D	to	175+95.00	CL 6D	RT
176+20.00	CL 6D	to	176+80.00	CL 6D	RT
177+30.00	CL 6D	to	177+50.00	CL 6D	RT
178+00.00	CL 6D	to	179+30.00	CL 6D	RT
179+62.32	CL 6D	to	180+47.53	CL 6D	RT
181+56.89	CL 6D	to	197+20.00	CL 6D	RT
185+92.25	CL 6E	to	187+05.25	CL 6E	RT
189+55.00	CL 6E	to	190+40.00	CL 6E	RT
190+80.00	CL 6E	to	191+20.00	CL 6E	RT
198+54.10	CL 6F	to	198+61.03	CL 6F	RT
151+20.00	CL 6A	to	151+45.00	CL 6A	LT
152+27.73	CL 6A	to	152+85.11	CL 6A	LT
153+70.00	CL 6A	to	155+50.00	CL 6A	LT
170+50.00	CL 6B	to	170+85.00	CL 6B	LT
175+40.00	CL 6D	to	176+15.00	CL 6D	LT
177+85.00	CL 6D	to	177+95.00	CL 6D	LT

LOCATION OF RIPRAP- CANAL 9					
LOCATION				SIDE	
FROM STA. TO STA.					
232+15.58	CL	to	232+80.00	CL	RT
233+40.00	CL	to	234+39.35	CL	RT
230+37.20	CL	to	234+39.35	CL	LT

LOCATION OF RIPRAP- CANAL 10					
LOCATION					SIDE
FROM STA. TO STA.					
30+60.00	CL	to	32+00.00	CL	LT
33+30.00	CL	to	33+59.13	CL	LT

LOCATION OF RIPRAP- CANAL 7				
LOCATION				SIDE
FROM STA. TO STA.				
200+80.00	CL	to	203+20.00	CL RT
209+80.00	CL	to	210+40.00	CL RT
213+80.00	CL	to	214+20.00	CL RT
200+80.00	CL	to	201+20.00	CL LT
203+40.00	CL	to	203+60.00	CL LT
208+20.00	CL	to	208+40.00	CL LT
208+80.00	CL	to	215+80.00	CL LT
216+30.00	CL	to	218+20.00	CL LT



R.J.BEHAR & COMPANY, INC.

Engineers · Planners

6861 SW 196th AVENUE, SUITE 302

PEMBROKE PINES, FL 33332

PAOLA RIVEROS, P.E. LICENSE NO. 74249

CERTIFICATE OF AUTHORIZATION NO. 00008365

RJB PROJECT NO.: 15076

BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL

BANK STABILIZATION

SCALE: N/A

APPROVED:

DRAWN:

CHECKED:

DATE

DRAWN: 03/24/2016

FIELD BOOK NO.

TYPICAL SECTION DETAILS

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 11

OF: 155

PROJECT NO. 15076

CITY OF LAUDERDALE LANES
CANAL BANK STABILIZATION PROJECT

PAY ITEM NOTES

1. MOBILIZATION COSTS SHALL INCLUDE ALL REQUIRED FIELD ENGINEERING, PERMITS FEES, PREPARATION OF SUBMITTALS, TESTING, QUALITY CONTROL, AND CONTRACT CLOSEOUT ACTIVITIES. PAYMENTS WILL BE MADE ON A MONTHLY BASIS FOR THE DURATION OF THE PROJECT.

2. PRIOR TO START OF CLEARING AND GRUBBING ACTIVITIES, CONTRACTOR SHALL ESTABLISH ALL TEMPORARY BARRIERS AND CONTROLS PER SECTION 01530 OF THE SPECIFICATIONS. COST OF TEMPORARY BARRIERS AND CONTROLS SHALL BE DISTRIBUTED AMONG THE RELATED PAY ITEMS.

3. TEMPORARY LANE CLOSURES AND CONSTRUCTION SIGNS AT ROADWAY/STREET ENTRANCE POINTS SHALL MEET THE REQUIREMENTS OF THE FDOT STANDARD INDEX 600. CONTRACTOR SHALL SUBMIT HIS TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PER THE REQUIREMENTS OF SECTION 01300 OF THE SPECIFICATIONS. COSTS OF WARNING SIGNS, DELINEATION DEVICES, FLAGMEN, AND OTHER ITEMS AS REQUIRED SHALL BE INCLUDED IN THE COST OF MAINTENANCE OF TRAFFIC PAY ITEM. PAYMENTS WILL BE MADE ON A MONTHLY BASIS FOR THE DURATION OF THE PROJECT.

4. REMOVAL OF STRUCTURES AND OBSTRUCTIONS INCLUDES ALL ITEMS AS DESIGNATED IN THE PLANS AND AS REQUIRED FOR THE INTENDED NEW CONSTRUCTION. THE COSTS OF REMOVING AND DISPOSING OF STRUCTURES AND OBSTRUCTIONS PER THE REQUIREMENTS OF SECTION 02050 SHALL BE INCLUDED IN THE PAY ITEM FOR REMOVAL OF STRUCTURES AND OBSTRUCTIONS. PAYMENT WILL BE MADE BASED ON COMPLETING THE REMOVAL AND SATISFACTORILY DISPOSING OF THE MATERIALS.

5. TURBIDITY MONITORING INCLUDES ALL THE REQUIREMENTS OF SECTION 02135 OF THE SPECIFICATIONS. PAYMENT WILL BE MADE ON A MONTHLY BASIS BASED ON THE SATISFACTORY SUBMITTAL OF MONITORING DATA AND MEETING THE STATE WATER QUALITY STANDARDS AND PERMIT CONDITIONS. DEDUCTIONS WILL BE MADE FOR EACH DAY WHERE THE REQUIRED CONDITIONS ARE NOT MET UNTIL CORRECTIVE ACTIONS HAVE BEEN TAKEN AND PROJECT IS BACK TO COMPLIANCE.

6. DUST CONTROL INCLUDES ALL THE REQUIREMENTS OF SECTION 02270 OF THE SPECIFICATIONS. PAYMENT WILL BE MADE ON A DAILY BASIS BASED ON THE SATISFACTORY CONTROL OF DUST THROUGHOUT THE PROJECT. DEDUCTIONS WILL BE MADE FOR EACH DAY WHERE THE REQUIRED CONDITIONS ARE NOT MET UNTIL CORRECTIVE ACTIONS HAVE BEEN TAKEN.

7. SITE PREPARATION AND CLEARING AND GRUBBING WILL INCLUDE PAYMENT FOR ALL CLEARING, GRUBBING, TREE REMOVALS AND PREPARATION FOR THE AREAS DESIGNATED IN THE DRAWINGS AND REQUIRED FOR THE CONSTRUCTION OF THE ENTIRE PROJECT AND SATISFACTORY DISPOSAL OF ALL DEBRIS PER SECTIONS 02100, 0210 AND 02200 OF THE SPECIFICATIONS.

8. MEASUREMENT FOR CHANNEL EXCAVATION WILL INCLUDE ONLY MATERIAL EXCAVATED TO THE LINES AND GRADES INDICATED IN THE PLANS OR IN ACCORDANCE WITH AUTHORIZED PLAN CHANGES. THE MEASUREMENT WILL INCLUDE THE FULL STATION TO STATION LENGTH SHOWN IN THE PLANS INCLUDING ANY AUTHORIZED CHANGES. THE CONTRACTOR SUBMITTED SUBGRADE CROSS SECTIONS, PER SECTION 02200, WILL BE USED TO CONFIRM THE LINES AND GRADES INDICATED IN THE PLANS.

9. MEASUREMENT FOR EMBANKMENT CONSTRUCTION WILL INCLUDE ONLY MATERIAL PLACED TO THE LINES AND GRADES INDICATED IN THE PLANS OR IN ACCORDANCE WITH AUTHORIZED PLAN CHANGES. THE CONTRACTOR SUBMITTED FINISHED CROSS SECTIONS, PER SECTION 02200, WILL BE USED TO CONFIRM THE LINES AND GRADES INDICATED IN THE PLANS.

10. ALL COSTS ASSOCIATED WITH THE EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL REQUIRED FOR PROPER INSTALLATION OF THE GABION BASKETS MUST BE INCLUDED IN THE COST OF THE GABION BASKETS. THE BID PRICE MUST INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT INCLUDING GABIONS BASKETS, CONNECTING WIRE, GEOTEXTILE FABRIC, GABION ROCK, BEDDING, AND BACKFILL MATERIAL INSTALLED IN PLACE. INCLUDE THE COST OF GRADING, SHAPING AND DRESSING THE SUBGRADE FOR PLACING THE GABION BASKETS. THE QUANTITY TO BE PAID FOR "GABION" MUST BE SQUARE YARD OF GABION BASKET, OF THE SPECIFIED THICKNESS, IN THEIR FINAL LOCATIONS.

11. MEASUREMENT FOR RIPRAP CONSTRUCTION WILL INCLUDE ONLY MATERIAL PLACED TO THE LINES AND GRADES INDICATED IN THE PLANS OR IN ACCORDANCE WITH AUTHORIZED PLAN CHANGES. THE CONTRACTOR SUBMITTED FINISHED CROSS SECTIONS (AS-BUILT DRAWINGS), PER SECTION 01300, WILL BE USED TO CONFIRM THE LINES AND GRADES INDICATED IN THE PLANS.

12. SOD WILL BE PAID FOR THE PLAN QUANTITY IN SQUARE YARDS BASED ON THE AREA SHOWN ON THE PLANS, COMPLETED AND ACCEPTED.


13. THE BID PRICE FOR GROUT MUST INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE PROPER PLACEMENT OR INJECTION OF THE GROUT. THE QUANTITY TO BE PAID FOR "GROUT" MUST BE CUBIC YARDS OF MATERIAL PLACED AND ACCEPTED.

14. THE BID PRICE FOR CONCRETE MUST INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE PROPER PLACEMENT OF CONCRETE FOR SHEET PILE CAPS. THE PRICE INCLUDES THE REINFORCEMENT AS INDICATED ON THE PLANS.

15. SHEET PILE REPAIRS WILL INCLUDE COST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT AS CALLED FOR IN THE PLANS FOR REPAIR OF SHEET PILE WALLS. PAYMENT WILL BE A LUMP SUM AMOUNT FOR THE WORK AS CALLED FOR IN THE PLANS.
16. ACM HANDLING AND DISPOSAL (LBS) – ACM HANDLING AND DISPOSAL WILL BE PAID ONLY WITH PRE-APPROVAL BY THE CITY AND WILL INCLUDE, HANDLING, HAULING AND DISPOSAL AT AN APPROVED SITE ACCORDING TO THE STATE, FEDERAL AND LOCAL REGULATIONS. PROVIDE APPROVED SITE DOCUMENTATION FOR APPROVAL BY THE CITY. PAYMENT WILL BE BASED ON THE RECEIPTS INDICATING THE WEIGHT OF THE DISPOSED MATERIAL FROM THE APPROVED DISPOSAL SITE.

17. COST OF REMOVAL AND RESET OF SIGNS SHALL BE INCLUDED AS PART OF CLEARING AND GRUBBING.

18. ALL COSTS ASSOCIATED WITH EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL REQUIRED FOR PROPER INSTALLATION OF THE BIOENGINEERED EROSION CONTROL SYSTEM SHALL BE INCLUDED IN THE COST PER LINEAR FEET OF THE EROSION CONTROL SYSTEM. THE QUANTITY TO BE PAID FOR BIOENGINEERED EROSION CONTROL SYSTEM MUST BE PER LINEAR FEET OF BANK STABILIZED AND ACCEPTED.



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CERTIFICATE OF AUTHORIZATION NO. 00008365

RJB PROJECT NO.: 15076

BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL
BANK STABILIZATION

SCALE: N/A

APPROVED:

DRAWN:

CHECKED:

DATE

DRAWN: 03/24/2016

FIELD BOOK NO.

PAY ITEM NOTES

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 12

OF: 155

PROJECT NO. 15076

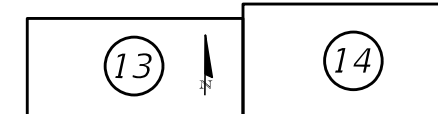
ALTERNATIVE 1

ITEM	SPEC	DESCRIPTION	UNIT	CANAL 1	CANAL 2	CANAL 4	CANAL 5	CANAL 5A	CANAL 6	CANAL 7	CANAL 8	CANAL 9	CANAL 10	TOTAL QTY
1	Gen. Cond.	MOBILIZATION	LS											1
2	Gen. Cond.	PROJECT SIGN	EA											1
3	01065	PROJECT PERMITS	LS											1
4	01570	MAINTENANCE OF TRAFFIC	LS											1
5	01320	CONSTRUCTION VIDEOS AND PHOTOGRAPHS	LS											1
6	02050	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS											1
7	02435	FLOATING TURBIDITY BARRIER	LF	95	86	101	81	60	191	38	40	32	87	810
8	02270	TRUCK WASH OUT	EA	1	1	1	1	1	1	1	1	1	1	10
9	02435	TURBIDITY MONITORING	MONTHS	1	1	1	1	1	1	1	1	1	1	10
10	02270	DUST CONTROL	DAY	33	33	33	33	33	33	33	33	33	33	333
11	02110 02114 02100	SITE PREPARATION AND CLEARING & GRUBBING	AC	0.40	0.19	0.88	0.73	2.84	1.05	1.10	0.05	0.37	0.12	7.73
12	02200	CHANNEL EXCAVATION	CY	605	359	1,171	958	2,821	987	1,317	0	396	164	8,778
13	02200	EMBANKMENT (FILL CONSTRUCTION)	CY	49	79	81	327	344	414	322	8	662	265	2,551
14	02221	IRRIGATION LINE RECONNECTIONS (SEE DETAIL)	EA	10	3	48	18	46	28	65	1	11	4	234
15	02272	GABION BASKET, 36" THICK	SY	484	257	1,070	1,124	2,045	1,727	1,872	197	372	144	9,292
16	02370	RIPRAP-RUBBLE, DITCH LINING OR BEDDING STONE	CY	936	330	1,473	1,341	13,056	1,950	2,003		963	426	22,478
17	02433	STORMWATER PIPES (INCLUDES CONCRETE COLLARS)	LF	24	8	40		42	40	32		8		194
18	02486	SOD	SY	552	320	706	1,002	1,599	1,887	1,891	117	620	111	8,805
19	02821	FENCING RESET EXISTING (WOOD FENCE)	LF					10						10
20	02821	FENCING RESET EXISTING (CHAIN LINK)	LF	60	10	415	50	448	98				119	1,200
21	02821	FENCING NEW	LF	10					10					20
22	03600	GROUT	CF			1.5								1.5
23	03700	CONCRETE	CY				19.5							19.5
24	03700	SHEET PILE REPAIRS	LS				1							1
25	02050	ACM HANDLING AND DISPOSAL (AS APPROVED BY THE CITY)	LBS											3,750
26	Gen. Cond.	ALLOWANCE (As Approved by the City)												\$ 250,000.00

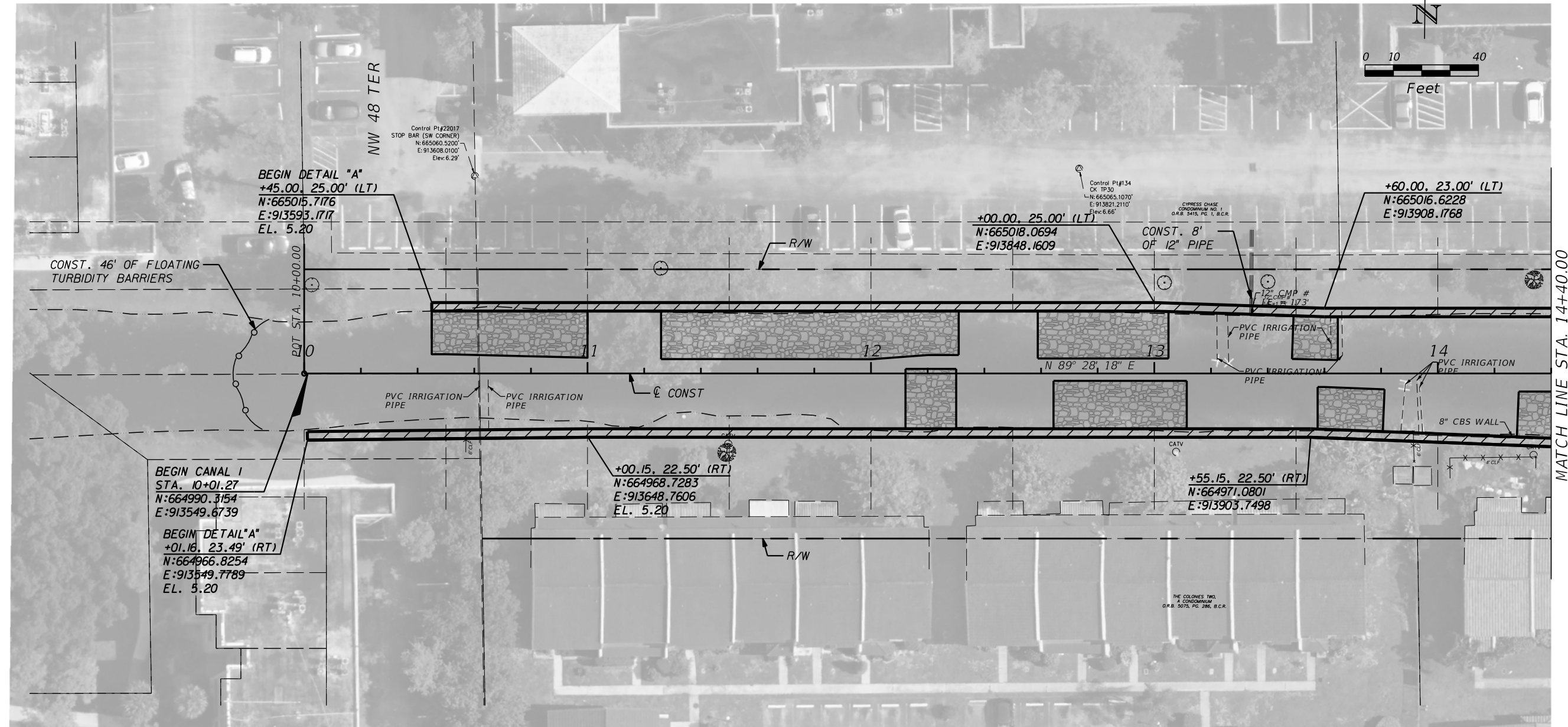
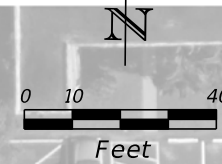
ALTERNATIVE 2:
ALL THE QUANTITIES ARE THE SAME AS ALTERNATIVE 1 EXCEPT FOR THE ITEMS BELOW.

ITEM	SPEC	DESCRIPTION	UNIT	CANAL 1	CANAL 2	CANAL 4	CANAL 5	CANAL 5A	CANAL 6	CANAL 7	CANAL 8	CANAL 9	CANAL 10	TOTAL QTY
15	02272	GABION BASKET, 36" THICK	SY			40	42	48	60	36				226
15A	02280	BIOENGINEERED EROSION CONTROL (SHORESOX)	LF	1,432	630	2,367	2,150	3,963	3,708	3,655	420	558	309	19,192

CANAL 1



KEY SHEET



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER

R.J.BEHAR & COMPANY, INC.
Engineers · Planners
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PAOLA RIVEROS, P.E. LICENSE NO. 74249
CERTIFICATE OF AUTHORIZATION NO. 00008365
RJB PROJECT NO.: 15076

BROWARD COUNTY

Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL BANK STABILIZATION

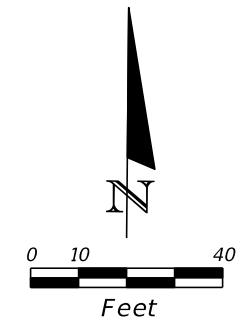
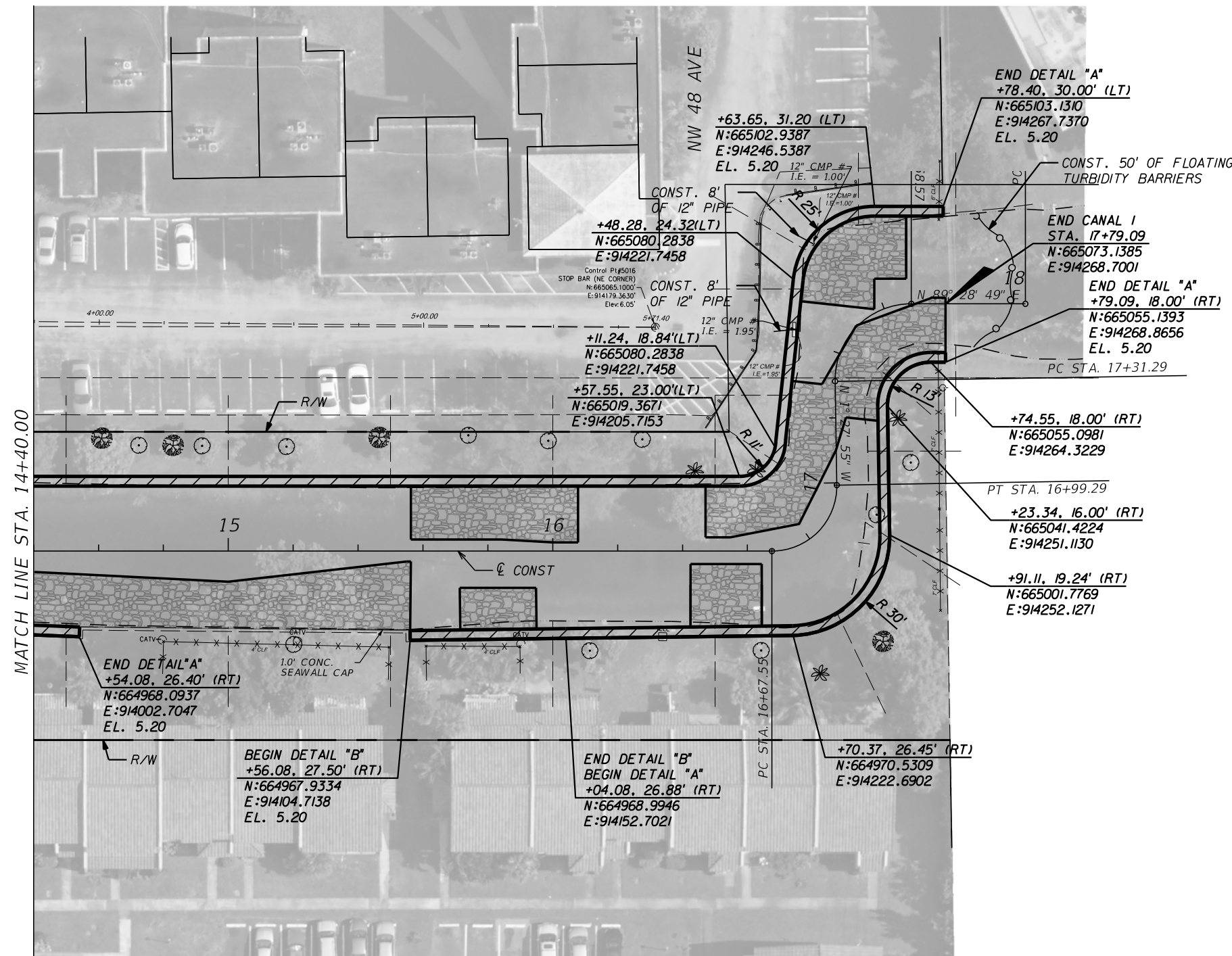
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DRAWN: 03/24/2016
FIELD BOOK NO.

SITE PLAN
CANAL 1

DRAWING NO.

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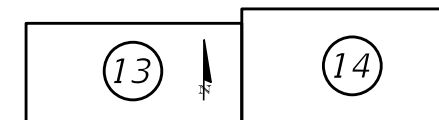
SHEET: 13
OF: 155
PROJECT NO. 15076



CURVE DATA CL1-2
PI STA. = 17+55.17
Δ = 90° 56' 44" (RT)
D = 243° 56' 46"
T = 23.88
L = 37.28
R = 23.49
PC STA. = 17+31.29
PT STA. = 17+68.57

CURVE DATA CL1-1
PI STA. = 16+87.88
Δ = 90° 56' 13" (LT)
D = 286° 28' 44"
T = 20.33
L = 31.74
R = 20.00
PC STA. = 16+67.55
PT STA. = 16+99.29

CANAL 1



KEY SHEET

LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER

NO.	REVISION	BY	DATE

CANAL BANK STABILIZATION

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SITE PLAN
CANAL 1

DRAWING NO.

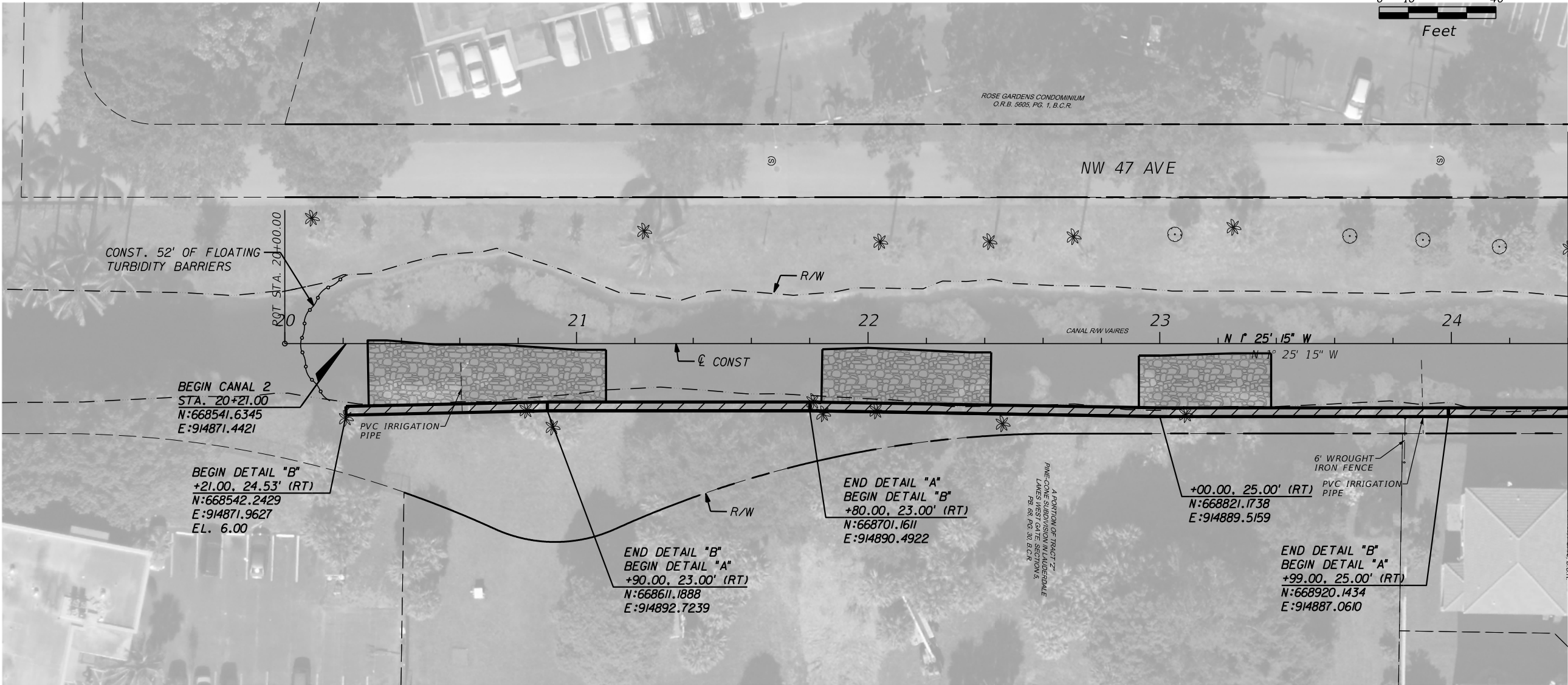
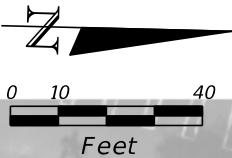
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SHEET: 14
OF: 155
PROJECT NO. 15076

CANAL 2




KEY SHEET



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER



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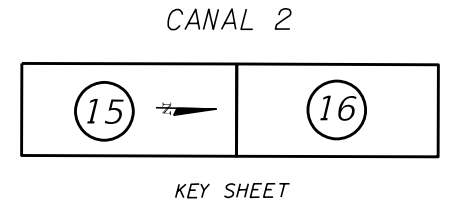
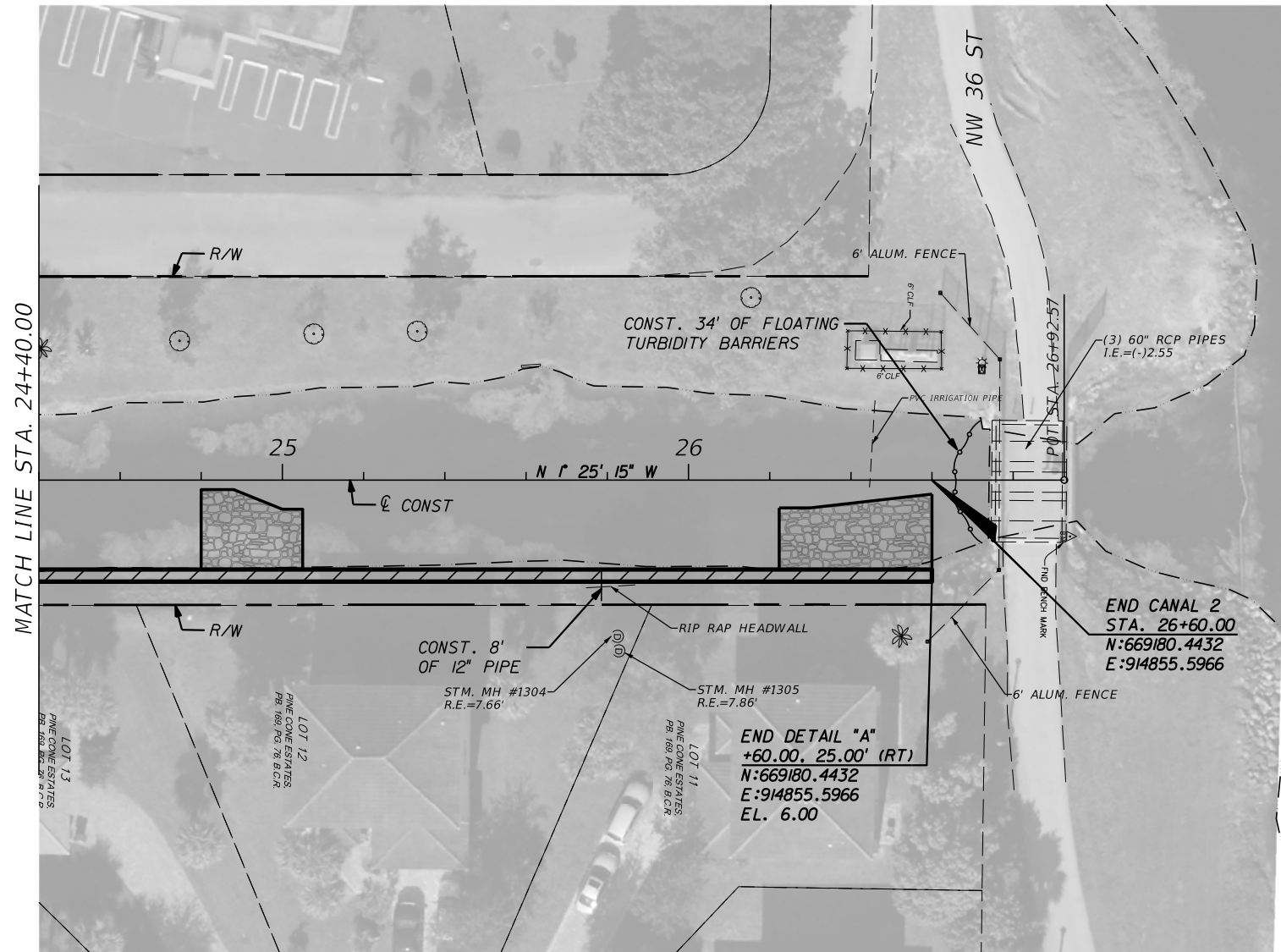
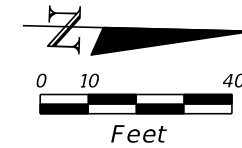
CANAL
BANK STABILIZATION

SCALE: N/A
APPROVED:
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FIELD BOOK NO.

SITE PLAN
CANAL 2

DRAWING NO. DESIGN FILE NAME: \$FILES\$

SHEET: 15
OF: 155
PROJECT NO. 15076



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER

R.J.BEHAR & COMPANY, INC.
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CANAL
BANK STABILIZATION

SCALE: N/A
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FIELD BOOK NO.

SITE PLAN
CANAL 2

DRAWING NO.

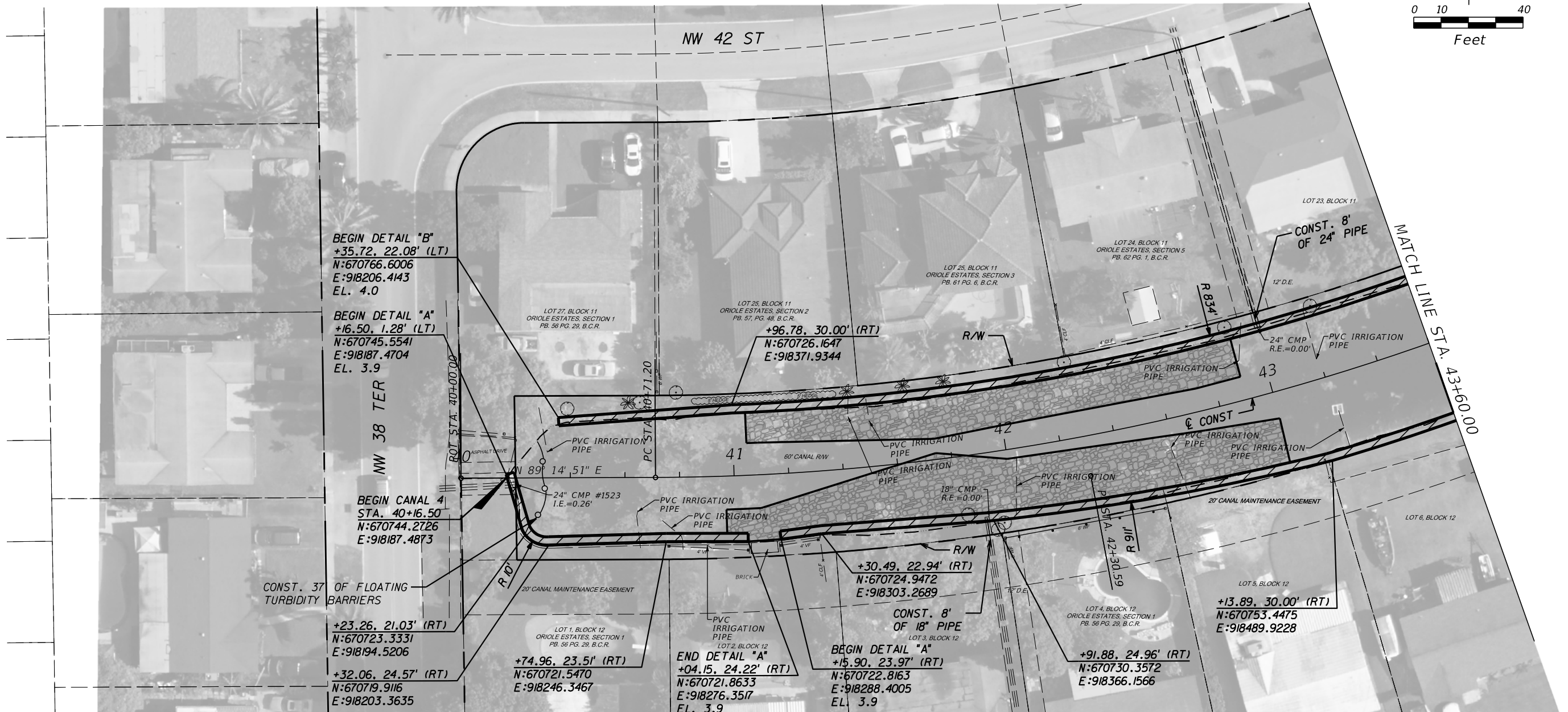
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SHEET: 16
OF: 155
PROJECT NO. 15076


CANAL 4


17 18 19


KEY SHEET

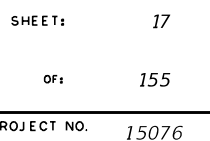


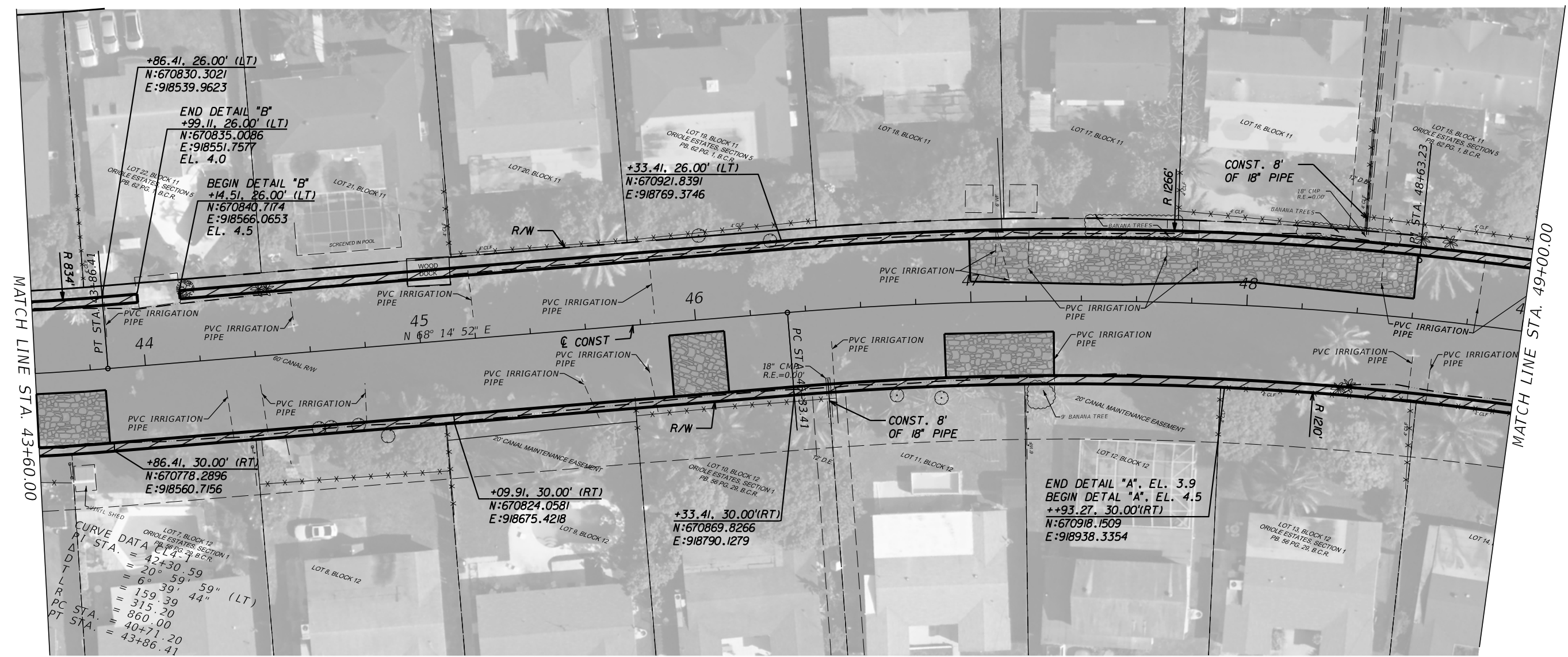
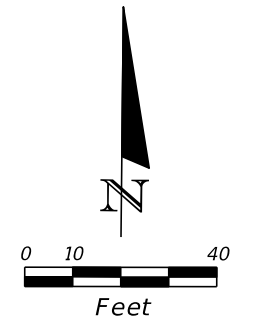
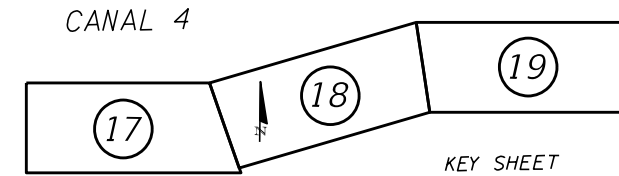
 *GABIONS*

 *RIPRAP*

 *FLOATING TURBIDITY BARRIERS*

 *EDGE OF WATER*





- LEGEND:
- GABIONS
 - RIPRAP
 - EDGE OF WATER

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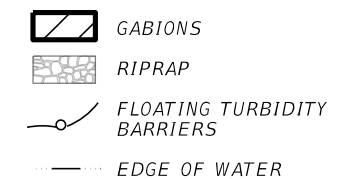
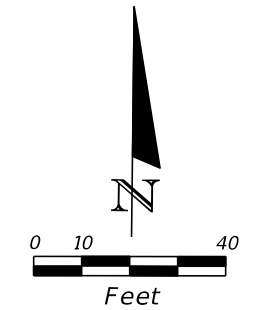
CANAL BANK STABILIZATION

SCALE: N/A
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FIELD BOOK NO.


SITE PLAN
CANAL 4

DRAWING NO. DESIGN FILE NAME: \$FILES\$

SHEET:	18
OF:	155
PROJECT NO.	15076



A diagram of a 3x3 grid. The top row contains a cell with a circled number 23, a cell with a compass rose pointing right, and a cell with a circled number 24. The middle row contains a cell with a circled number 26, a cell with a circled number 25, and an empty cell. The bottom row contains a cell with a circled number 27, an empty cell, and an empty cell. Below the grid is the text "KEY SHEET".

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SCALE: N/A
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DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

SITE PLAN
CANAL 5A

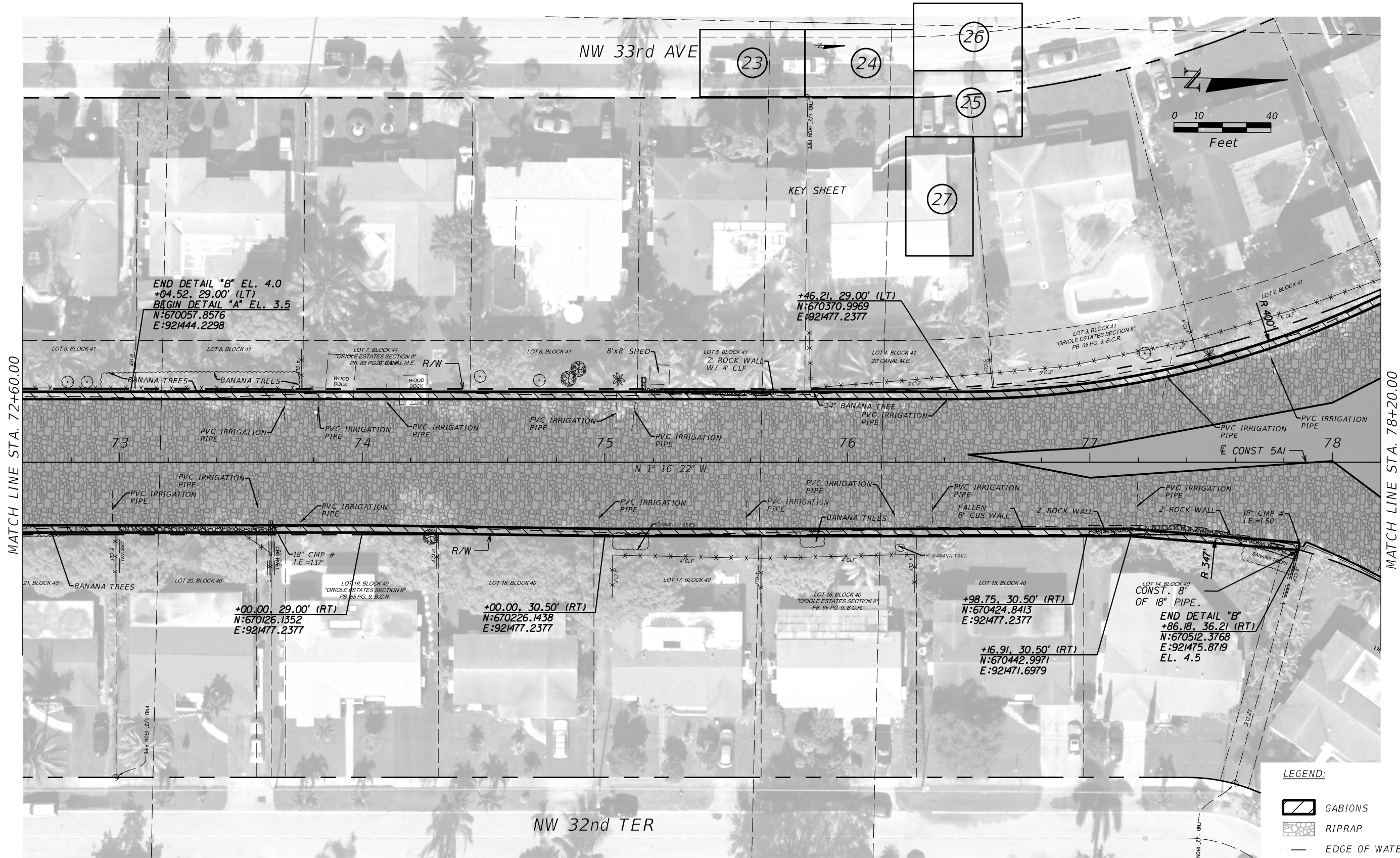
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SHEET: 23

OF: 155

PROJECT NO. 15076





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PEMBROKE PINES, FL 33332
PAOLA RIVEROS, P.E. LICENSE NO. 74249
CERTIFICATE OF AUTHORIZATION NO. 00008365
RJB PROJECT NO.: 15076

BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL
BANK STABILIZATION

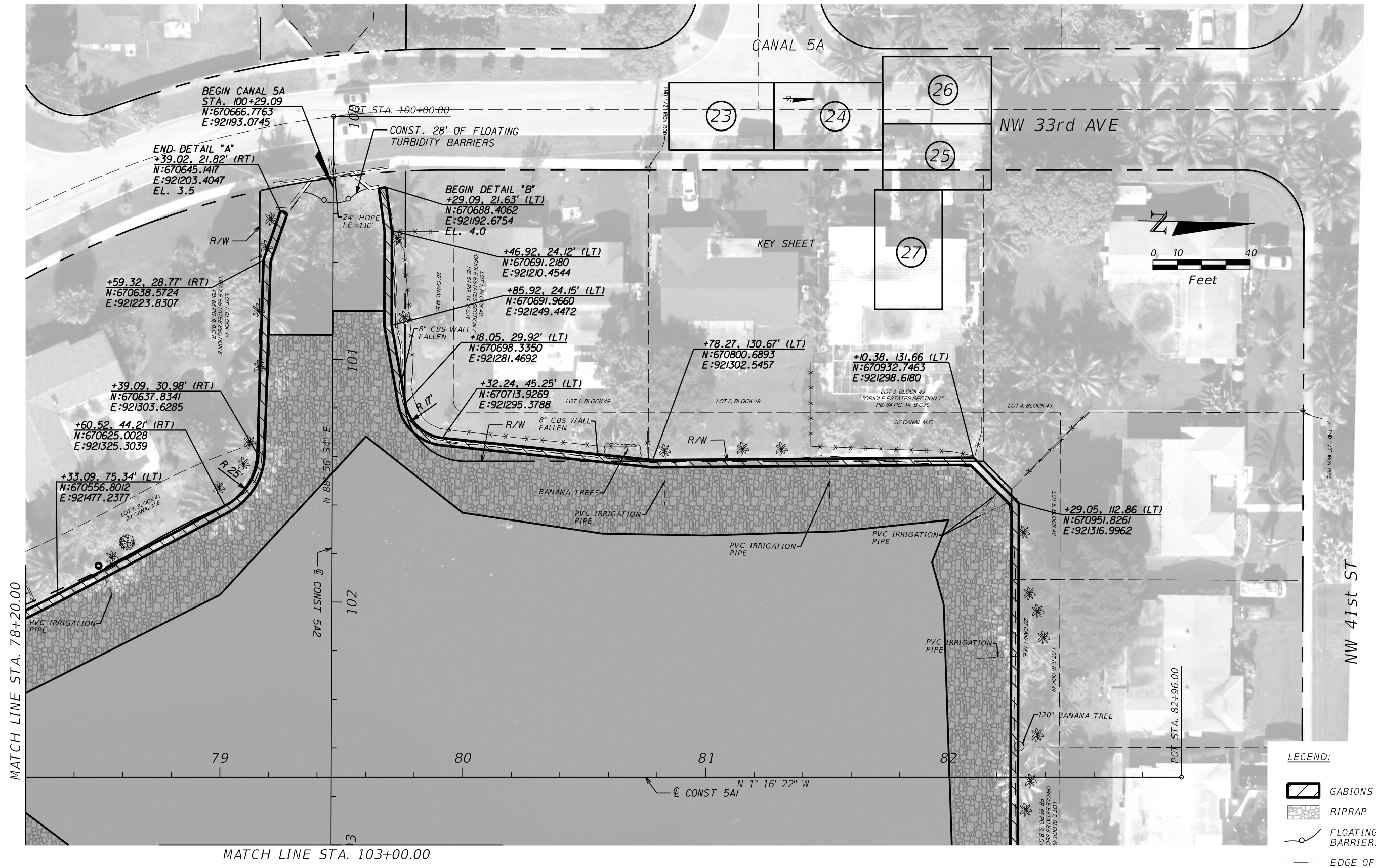
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FIELD BOOK NO.

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CANAL 5A

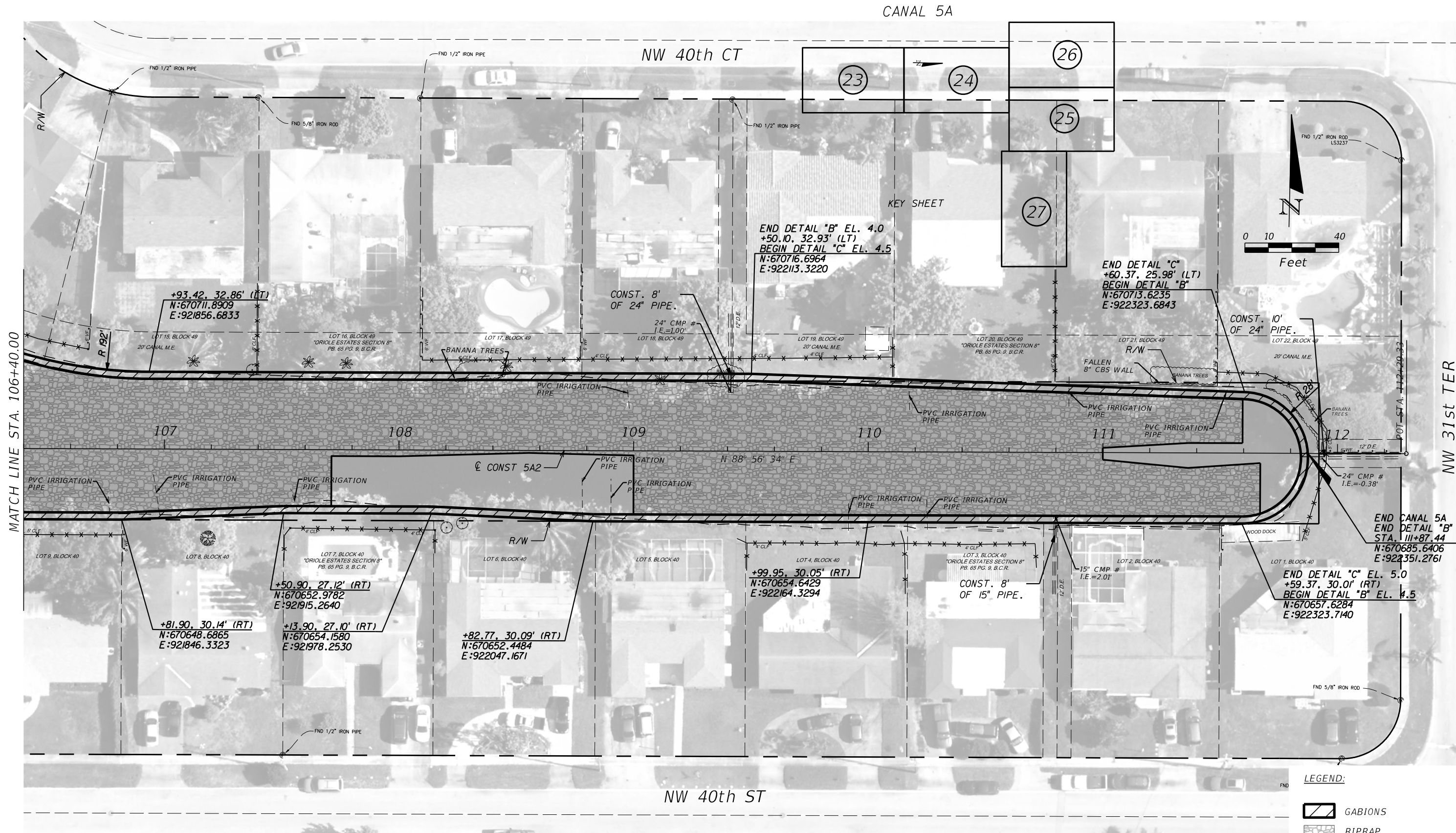
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SHEET:	24
OF:	155
PROJECT NO.	15076









R.J.BEHAR & COMPANY, INC.

Engineers · Planners

6861 SW 196th Avenue, Suite 302
Pembroke Pines, FL 33332
PAOLA RIVEROS, P.E. LICENSE NO. 74249
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RJB PROJECT NO.: 15076

BROWARD COUNTY



Lauderdale Lakes

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CANAL
BANK STABILIZATION

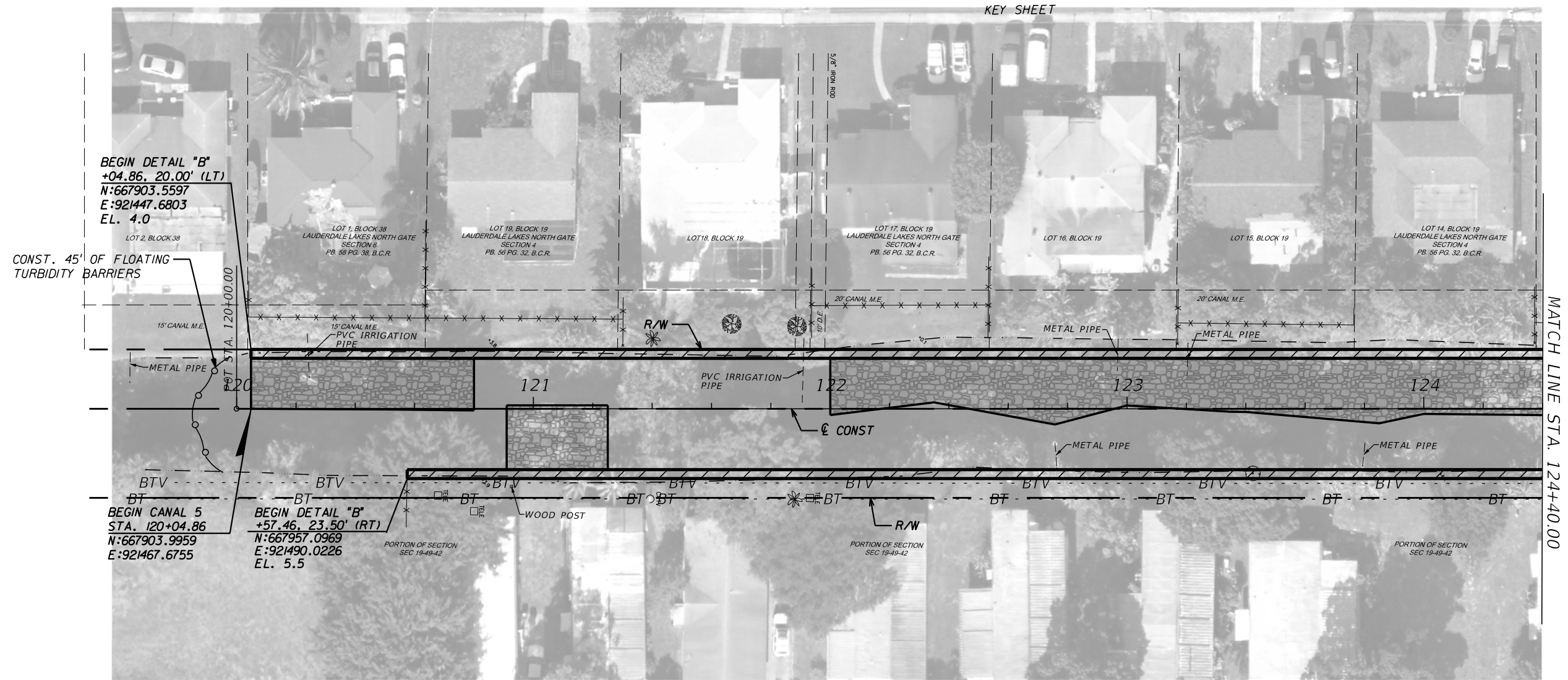
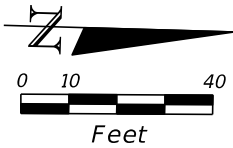
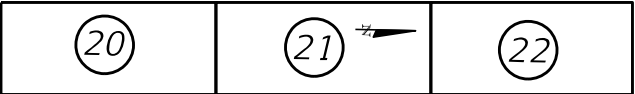
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FIELD BOOK NO.

SITE PLAN
CANAL 5A

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PROJECT NO.	15076

CANAL 5



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER



R.J.BEHAR & COMPANY, INC.
Engineers · Planners
6861 SW 196th AVENUE, SUITE 302
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CANAL
BANK STABILIZATION

SCALE: N/A
APPROVED:
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DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

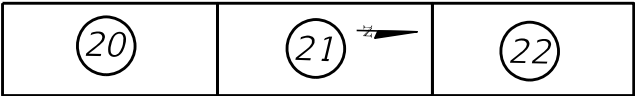
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CANAL 5

DRAWING NO.

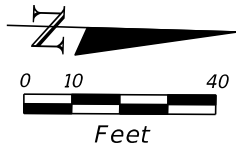
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OF: 155
PROJECT NO. 15076

CANAL 5



KEY SHEET



LEGEND:

- GABIONS
- RIPRAP
- EDGE OF WATER

R.J.BEHAR & COMPANY, INC.
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CERTIFICATE OF AUTHORIZATION NO. 00008365
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BROWARD COUNTY

Lauderdale Lakes

NO.	REVISION	BY	DATE

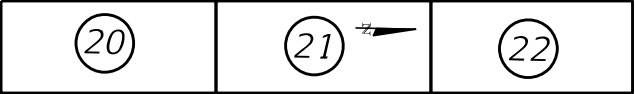
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FIELD BOOK NO.

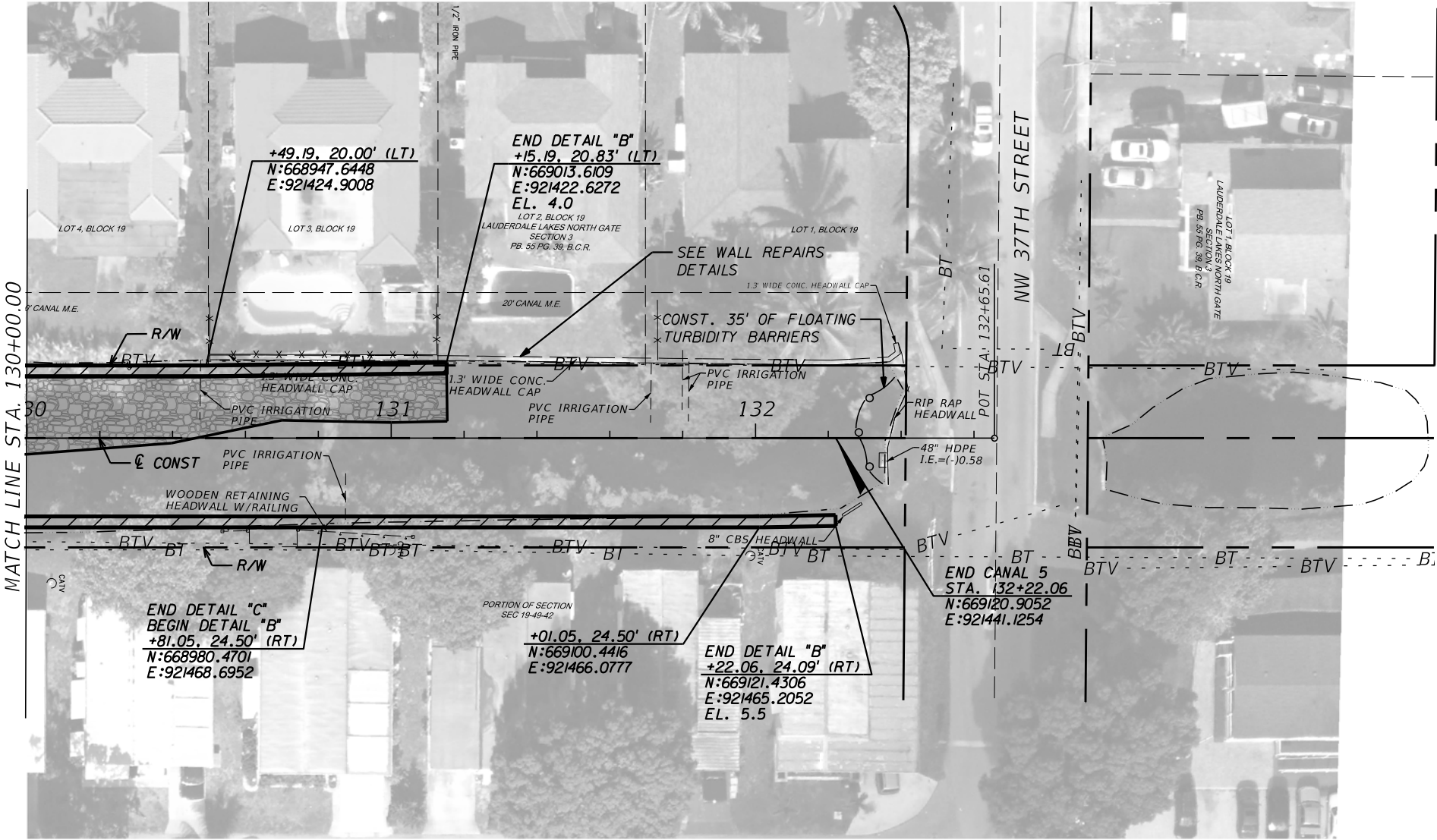
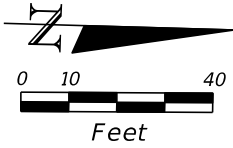
SITE PLAN
CANAL 5

DRAWING NO.	DESIGN FILE NAME: \$FILES\$
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SHEET:	21
OF:	155
PROJECT NO.	15076




KEY SHEET



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER



R.J.BEHAR & COMPANY, INC.
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BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL
BANK STABILIZATION

SCALE: N/A
APPROVED:
DRAWN:
CHECKED:
DATE
DRAWN: 03/24/2016
FIELD BOOK NO.

SITE PLAN
CANAL 5

DRAWING NO. DESIGN FILE NAME: \$FILES\$

SHEET: 22
OF: 155
PROJECT NO. 15076

CANAL 6

28

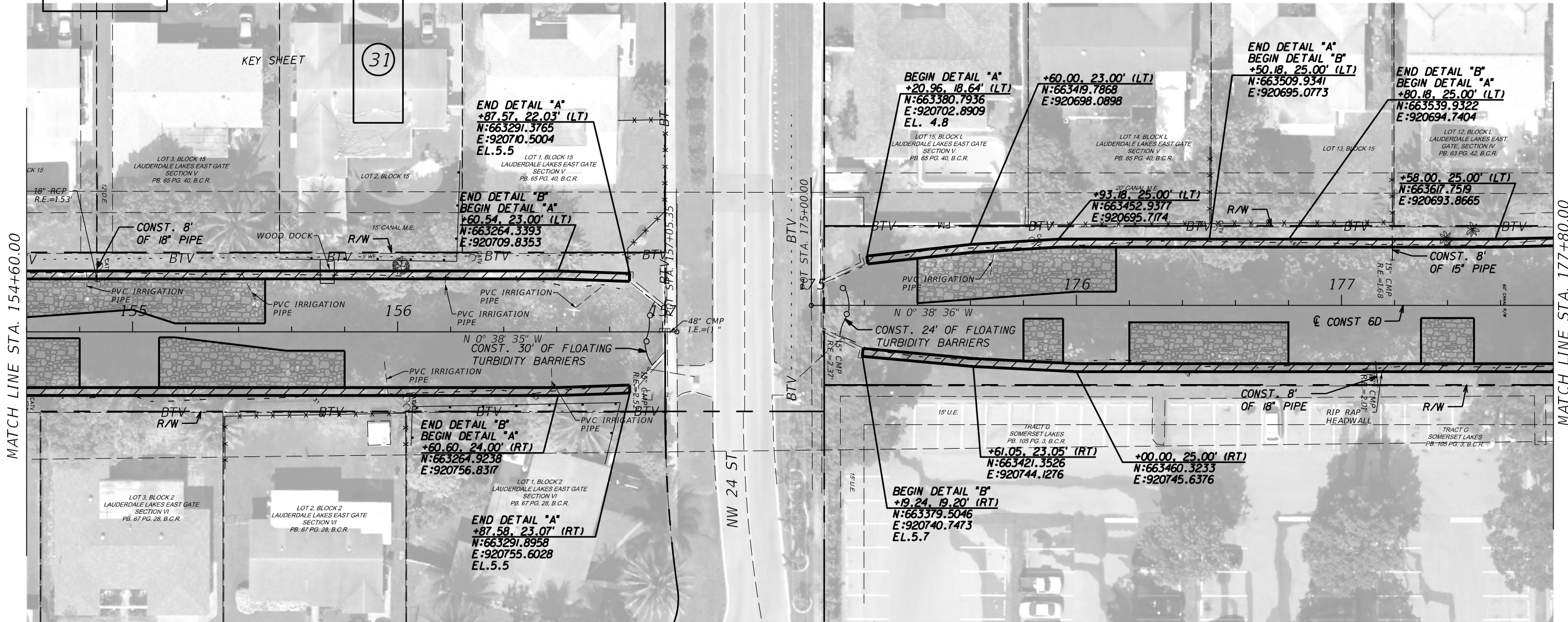
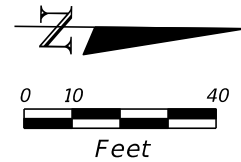
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30

31

31

KEY SHEET



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER



R.J.BEHAR & COMPANY, INC.
Engineers - Planners
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BROWARD COUNTY



Lauderdale Lakes

NO.	REVISION	BY	DATE

CANAL BANK STABILIZATION

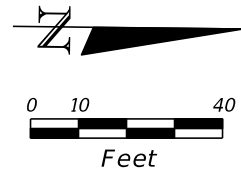
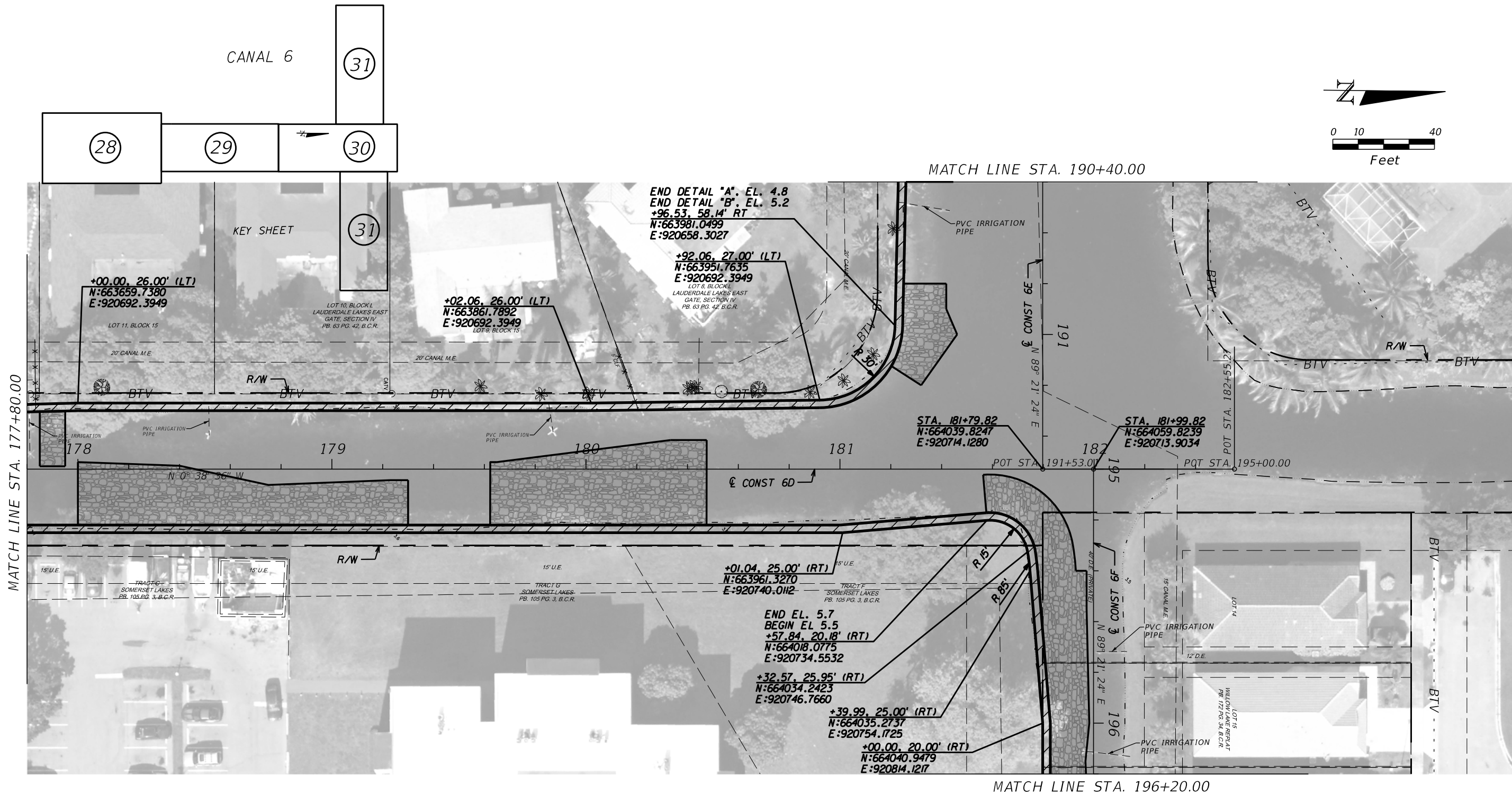
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SITE PLAN CANAL 6

DRAWING NO.


DESIGN FILE NAME: \$FILES\$

SHEET: 29
OF: 155
PROJECT NO. 15076



LEGEND:

- GABIONS
- RIPRAP
- FLOATING TURBIDITY BARRIERS
- EDGE OF WATER



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DATE

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FIELD BOOK NO.

SITE PLAN

CANAL 6

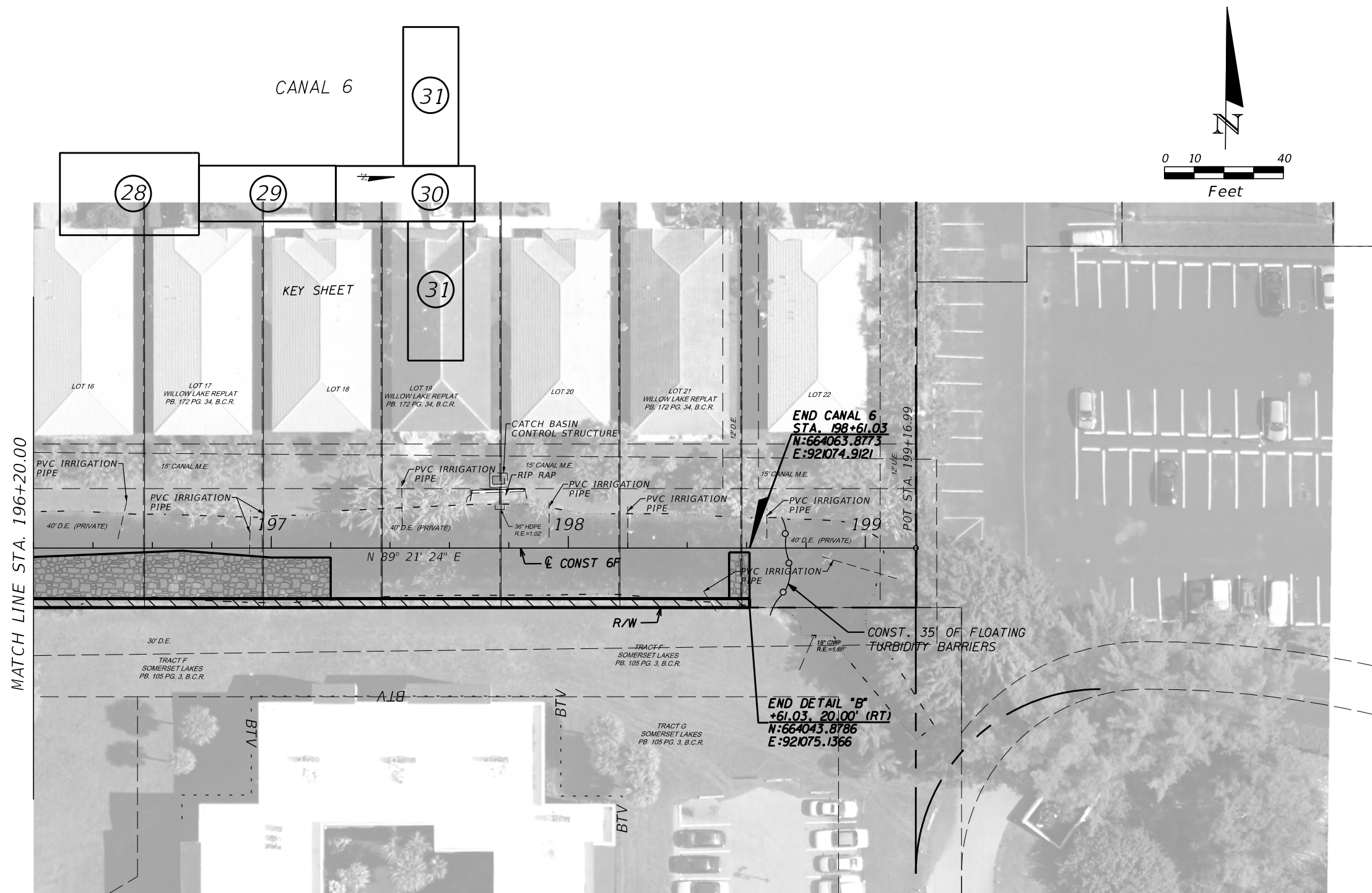
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PROJECT NO. 15076



LEGEND:



GABIONS



RIPRAP



FLOATING TURBIDITY
BARRIERS



EDGE OF WATER



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SITE PLAN
CANAL 6

DRAWING NO.

DESIGN FILE NAME: \$FILES\$

SHEET: 31

OF: 155

PROJECT NO. 15076