

CONTRACT PLANS COMPONENTS

ROADWAY PLANS
SIGNING AND MARKING PLANS

**CITY OF NAPLES
STREETS AND STORMWATER**

INTERSECTION IMPROVEMENTS

**HARBOUR DRIVE & CRAYTON ROAD ROUNDABOUT
CITY OF NAPLES PROJECT ID: 2017-00174
JEI PROJECT ID: 20150110-006
COLLIER COUNTY (03000)
CONTRACT NO.**

INDEX OF ROADWAY PLANS

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NAPLES CITY COUNCIL

MAYOR:	BILL BARNETT
VICE-MAYOR:	GARY PRICE
COUNCIL MEMBER:	RAYMOND CHRISTMAN
COUNCIL MEMBER:	ELLEN SEIGEL
COUNCIL MEMBER:	MICHELLE MCLEOD
COUNCIL MEMBER:	REG BUXTON
COUNCIL MEMBER:	TERRY HUTCHISON

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2019-20 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

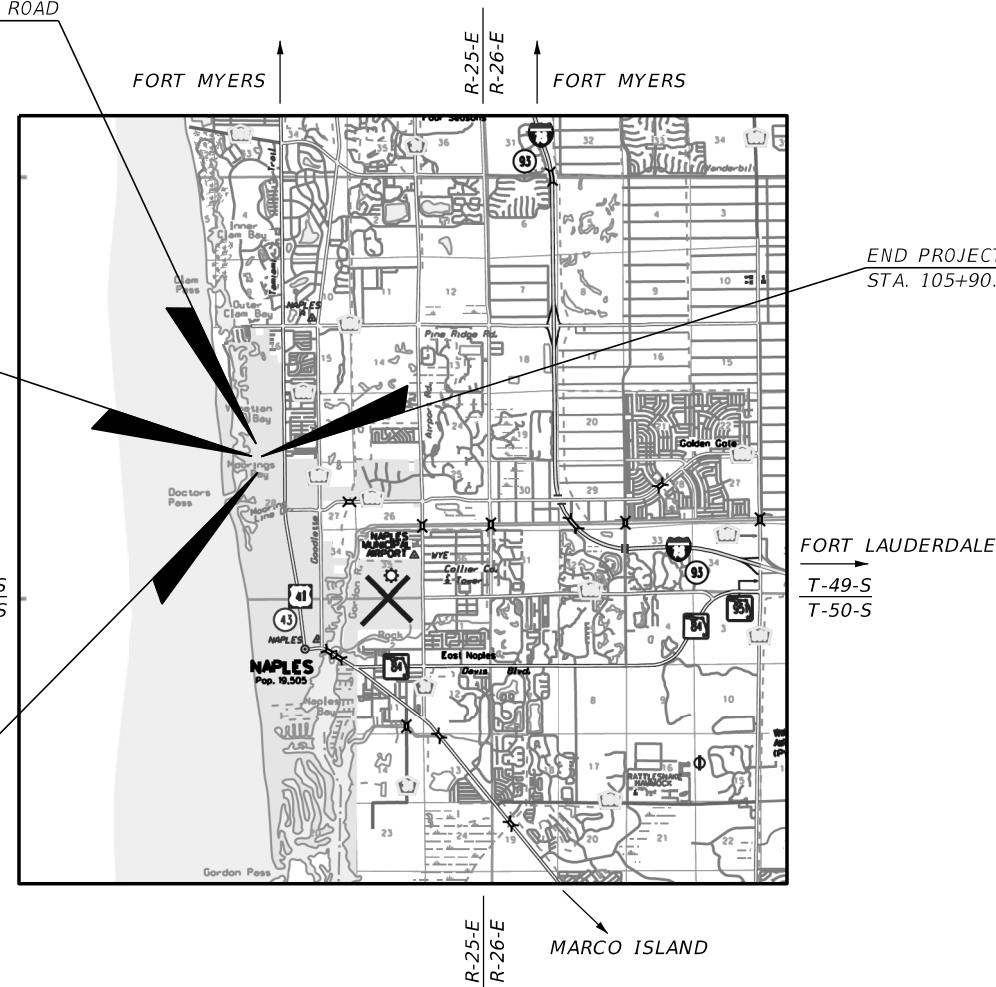
GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2019 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

END PROJECT - CRAYTON ROAD
STA. 207+70.00

BEGIN PROJECT - HARBOUR DRIVE
STA. 101+80.00

BEGIN PROJECT - CRAYTON ROAD
STA. 203+00.00

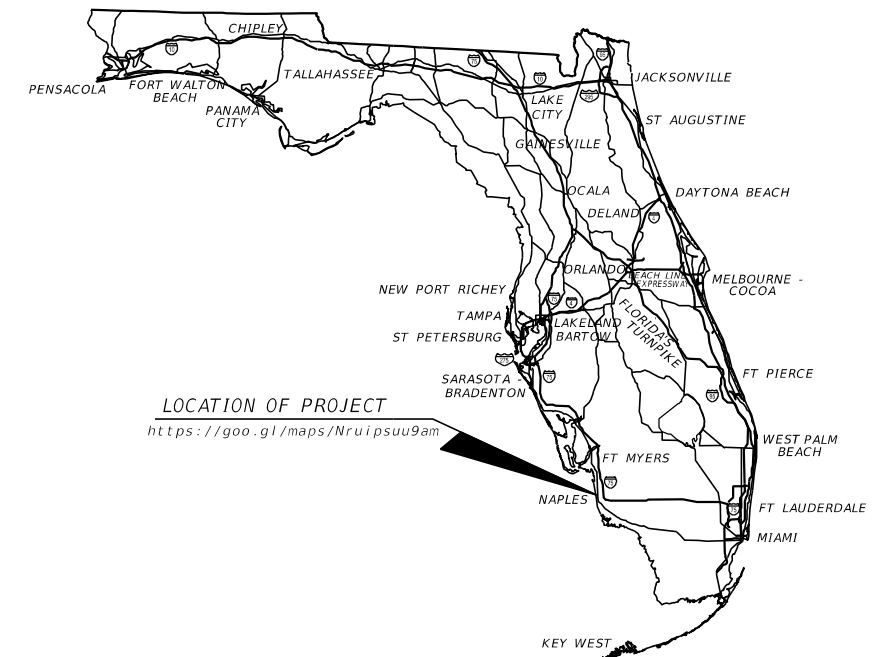


END PROJECT - HARBOUR DRIVE
STA. 105+90.91

48 HOURS BEFORE DIGGING
"CALL SUNSHINE"
1-800-432-4770



FINAL SUBMITTAL



LOCATION OF PROJECT
<https://goo.gl/maps/Nruipsuu9am>

THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL
PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.



**ROADWAY PLANS
ENGINEER OF RECORD:**

JOSHUA J. HILDEBRAND, P.E.
P.E. NO.: 73952
JOHNSON ENGINEERING, INC.
2350 STANFORD COURT
NAPLES, FLORIDA 34112
CERTIFICATE OF AUTHORIZATION NO.: 642

**CITY OF NAPLES
PROJECT MANAGER:**

GREGG STRAKALUSE

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	19	1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF PAY ITEMS			
ROADWAY			
PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
101 1	MOBILIZATION	LS	1
102 1	MAINTENANCE OF TRAFFIC	LS	1
104 10 3	SEDIMENT BARRIER	LF	1,210
104 18	INLET PROTECTION SYSTEM	EA	7
110 1 1	CLEARING & GRUBBING (AC)	LS	1
110 7 1	MAILBOX, F&I SINGLE	EA	3
120 1	EXCAVATION	CY	1280
120 6	EMBANKMENT	CY	460
160 4	TYPE B STABILIZATION (LBR 40)	SY	1545
162 1 11	PREPARED SOIL LAYER, FINISH SOIL, 6" (BIO FILTRATION SYSTEM)	SY	263
285 7 09	OPTIONAL BASE GROUP 09	SY	2218
327 70 5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	SY	993
334 1 12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, 9.5 (1")	TN	54.62
334 1 12	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, 12.5 (2")	TN	195.79
337 7 80	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC B (1")	TN	152.52
425 1 341	INLETS, CURB, TYPE P-4, <10'	EA	3
425 1 521	INLETS, DITCH BOTTOM, TYPE C, <10'	EA	1
425 2 61	MANHOLE, P-8, <10'	EA	1
425 5	MANHOLE, ADJUST	EA	1
425 11	MODIFY EXISTING DRAINAGE STRUCTURE	EA	3
430 174 115	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 15"SD	LF	87
430 174 118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18"SD	LF	173
520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	632
520 2 2	CONCRETE CURB, TYPE B	LF	506
520 2 4	CONCRETE CURB, TYPE D	LF	570
520 2 8	CONCRETE CURB, TYPE RA	LF	192
520 3	VALLEY GUTTER - CONCRETE	LF	721
522 2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	1210
526 1 1A	PAVERS, ARCHITECTUAL, TRUCK APRON	SY	173
526 1 1B	PAVERS, ARCHITECTUAL, SPLITTER ISLAND	SY	163
526 1 1C	PAVERS, ARCHITECTUAL, DRIVEWAY	SY	70
527 2	DETECTABLE WARNINGS	SF	191
570 1 2	PERFORMANCE TURF (ST. AUGUSTINE)	SY	2800

SUMMARY OF PAY ITEMS			
LIGHTING			
PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
630 2 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	214
630 2 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	314
635 2 11	PULL & SPLICE BOX, F&I, 13" X 24" COVER SIZE	EA	10
639 1 112	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR FROM POWER COMPANY	AS	1
639 2 1	ELECTRICAL SERVICE WIRE	LF	197
641 2 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1
641 2 80	PRESTRESSED CONCRETE POLE, REMOVE COMPLETE	EA	2
646 1 60	ALUMINUM SIGNALS POLE, REMOVE	LS	1
670 5 600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE	LS	1
715 1 12	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 8-6 (NO. 6)	LF	4,512
715 4 14	LIGHT POLE COMPLETE, F&I, STANDARD POLE STANDARD FOUNDATION, 45' MOUNTING HEIGHT	EA	8
715 4 70	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA	1
715 7 11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1
715 500 1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH & INSTALL, CONVENTIONAL	EA	8

SUMMARY OF PAY ITEMS			
SIGNING AND MARKING			
PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
700 1 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	30
700 1 50	SINGLE POST SIGN, RELOCATE	AS	2
700 1 60	SINGLE POST SIGN, REMOVE	AS	6
706 3	RETRO-REFLECTIVE PAVEMNT MARKERS	EA	122
710 11 290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	40
710 90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM	0.374
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF	192
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF	162
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE OR SYMBOL	EA	4
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-2 DOTTED GUIDELINE, 12" FOR ROUNDABOUT	GM	0.030
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM	0.354
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, 18" SOLID FOR DIAGONAL OR CHEVRON	LF	154
711 11 123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	192
711 11 143	THERMOPLASTIC, STANDARD, WHITE, 2-2 DOTTED GUIDELINE, 12" FOR ROUNDABOUT	GM	0.030
711 11 160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	EA	4
711 11 224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	154
711 14 125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	162
711 16 101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.374
711 16 201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.354

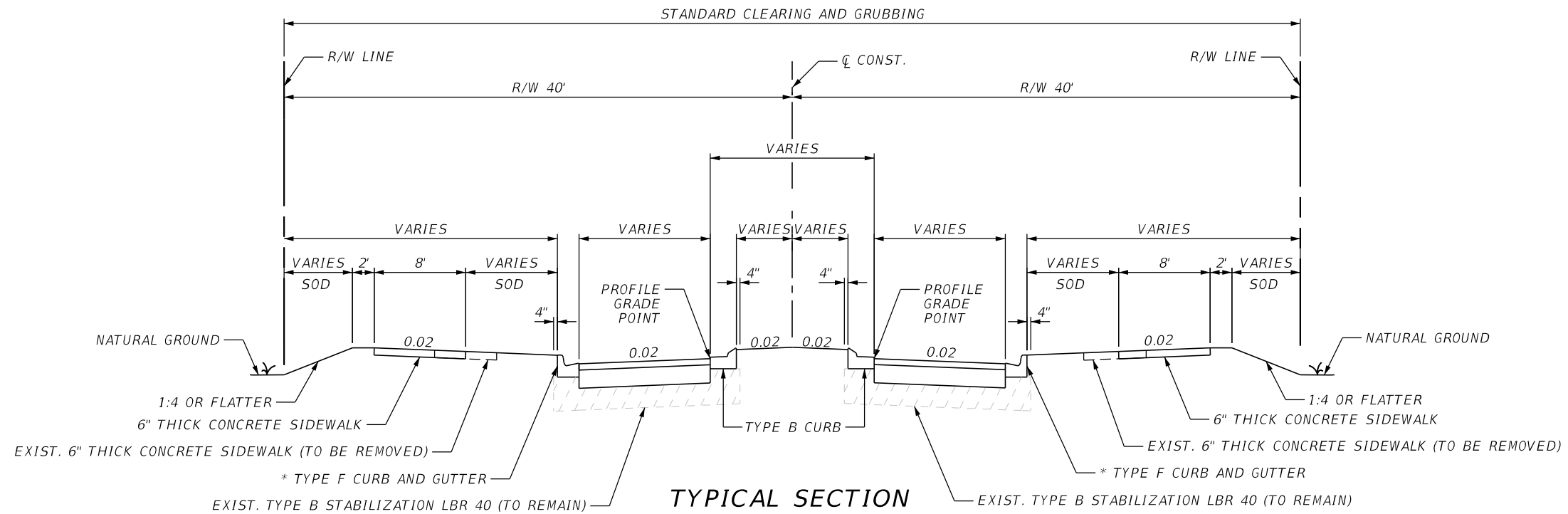
SUMMARY OF PAY ITEMS			
LANDSCAPING			
PAY ITEM NO.	DESCRIPTION	UNIT	QUANTITY
PR	Phoenix roebelenii (PYGMY DATE PALM), 8' CT., SINGLE TRUNK, B&B	EA	1
VM	Veitchia montgomeryana (MONTGOMERY PALM) 16'0A., 5 FROND MIN., SINGLE TRUNK, MATCHED	EA	4
AA	Agapanthus africanus (LILLY OF THE NILE) 18" HT.	EA	28
CM	Carissa macrocarpa 'Emerald Blanket' (EMERALD BLANKET CARISSA) 12" HT.	EA	117
DT	Dianella tasmanica 'Blueberry' (BLUEBERRY FLAX LILLY VARIEGATED) 12" HT.	EA	131
DE1	Duranta erecta 'Gold Mound Dewdrop' (GOLD MOUND DURANTA) 18" HT.	EA	61
MC	Muhlenbergia capillaris (MUHLY GRASS) 24" HT.	EA	14
SB2	Spartina bakeri (SAND CORD GRASS) 18" HT.	EA	368
AG	Arachis glabrata (PERENNIAL PEANUT) 1 GAL.	EA	360
TA2	Trachelospermum asiaticum 'Minima' (ASIAN JASMINE) 4" HT.	EA	1944
ML	MULCH (SHREDDED EUCALYPTUS) 3" DEPTH	CY	16.25
PP	PLANTING PREPARATION	SF	1625
IRR	IRRIGATION, F&I, COMPLETE	LS	1

PAY ITEM NOTES:

- 110 1 1 CLEARING AND GRUBBING PAY ITEM SHALL INCLUDE EXCAVATION AND REMOVAL OF EXISTING SIDEWALK. ALL CLEARING AND GRUBBING DEBRIS SHALL BE REMOVED FROM THE JOB SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 162 1 11 INCLUDES ALL COSTS ASSOCIATED WITH INSTALLATION OF BIO FILTRATION SYSTEM, INCLUDING BUT NOT LIMITED TO; PLANTING SOIL FILTER, SAND FILTER BED, NO. 57 AGGREGATE FILTER BED, AND FILTER FABRIC.
- 527 2 DETECTABLE WARNINGS SHALL BE EMBEDDED IN CONCRETE.

<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS		DATE	DESCRIPTION			 <p>JOHNSON ENGINEERING JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT • NAPLES, FL 34112 CERTIFICATE OF AUTHORIZATION NO. 642</p>	<p>CITY OF NAPLES STREETS & STORMWATER</p> <table border="1"> <tr> <th>ROAD NO.</th> <th>COUNTY</th> <th>JEI PROJECT ID</th> </tr> <tr> <td> </td> <td>COLLIER</td> <td>20150110-006</td> </tr> </table>	ROAD NO.	COUNTY	JEI PROJECT ID		COLLIER	20150110-006	<p>SUMMARY OF PAY ITEMS</p> <p>SHEET NO. 2</p>
REVISIONS																
DATE	DESCRIPTION															
ROAD NO.	COUNTY	JEI PROJECT ID														
	COLLIER	20150110-006														
		<p>7/18/2019 4:22:05 PM U:\Projects\20150110-006\roadway\CESSRD01.DGN</p>														

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**TYPICAL SECTION
HARBOUR DRIVE
STA. 101+80.00 - STA. 103+60.00**

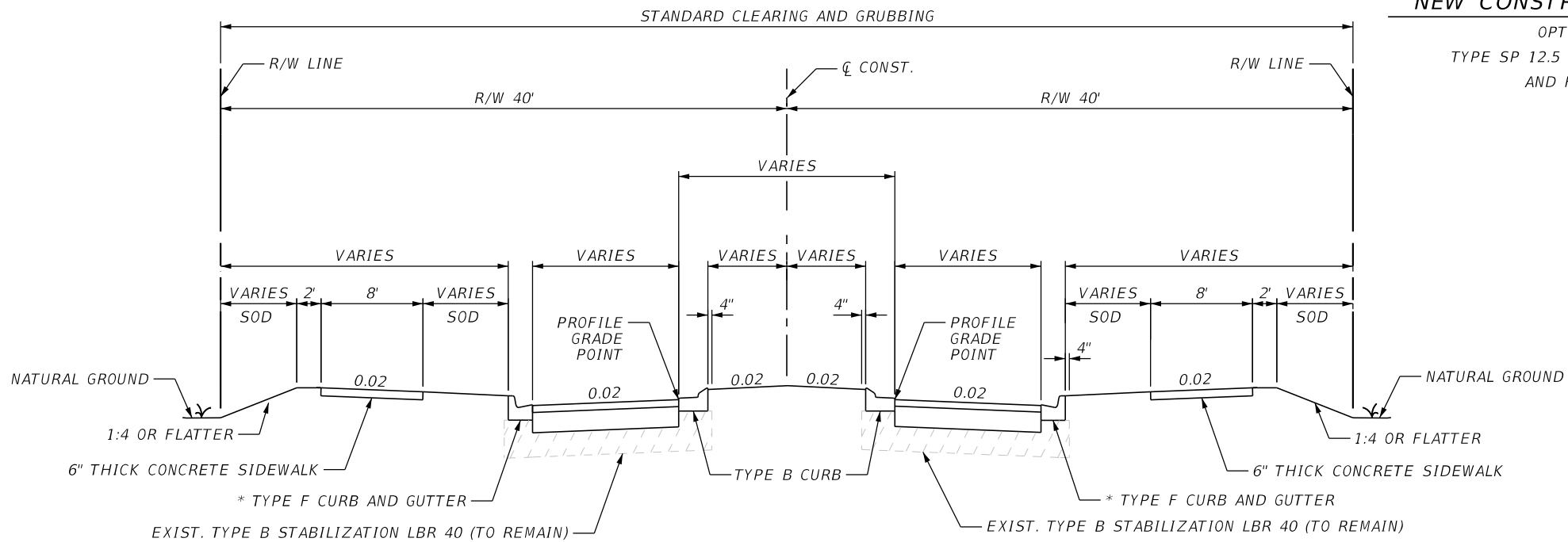
* VALLEY GUTTER TRANSITION
AT STA. 102+78.03 (LT) AND STA. 102+73.24 (RT)
SEE DETAIL.

MILLING AND RESURFACING

MILL EXISTING ASPHALT (2" AVG. DEPTH)
TYPE SP 9.5 STRUCTURAL COURSE (TRAFFIC B) (1")
AND FRICTION COURSE FC-9.5 (1")

NEW CONSTRUCTION / RECONSTRUCTION

OPTIONAL BASE GROUP 9 WITH
TYPE SP 12.5 STRUCTURAL COURSE (TRAFFIC B) (2")
AND FRICTION COURSE FC-9.5 (1")



**TYPICAL SECTION
HARBOUR DRIVE
STA. 104+68.00 - STA. 105+90.91**

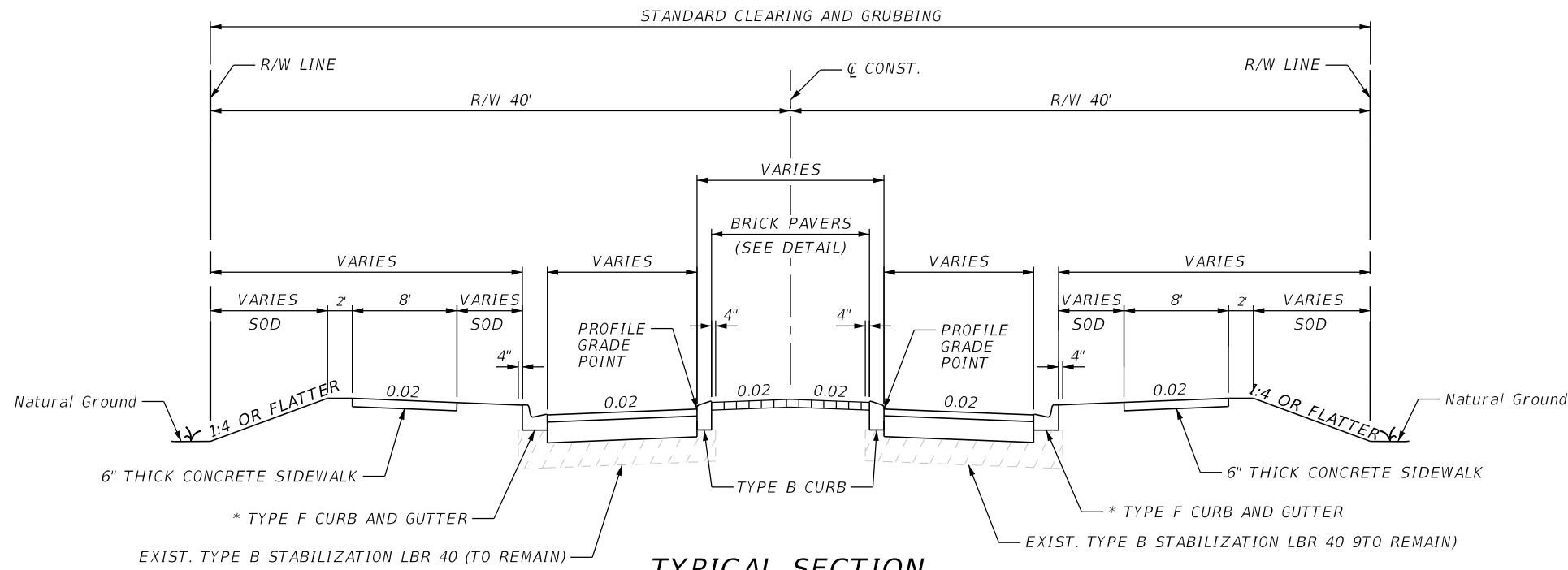
* VALLEY GUTTER TRANSITION
AT STA. 105+50.52 (LT) AND STA. 105+54.41 (RT)
SEE DETAIL.

TRAFFIC DATA

DESIGN SPEED = 30 MPH
POSTED SPEED = 30 MPH

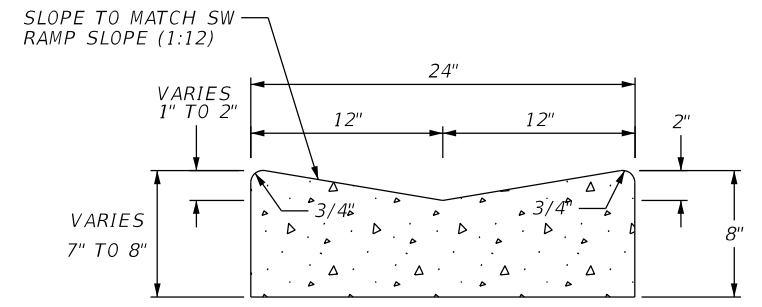
REVISIONS				 JOHNSON ENGINEERING JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT • NAPLES, FL 34112 CERTIFICATE OF AUTHORIZATION NO. 642	CITY OF NAPLES STREETS & STORMWATER			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					COLLIER	20150110-006	TYPICAL SECTIONS 3	

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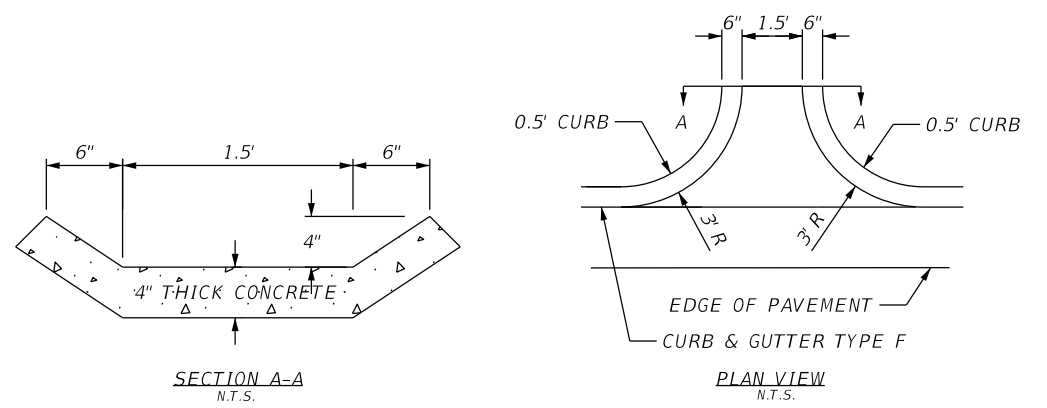
**TYPICAL SECTION
CRAYTON ROAD
STA. 203+00.00 - STA. 205+00.00**

* VALLEY GUTTER TRANSITION
AT STA. 204+97.63 (LT) AND STA. 04+65.52 (RT)
SEE DETAIL.



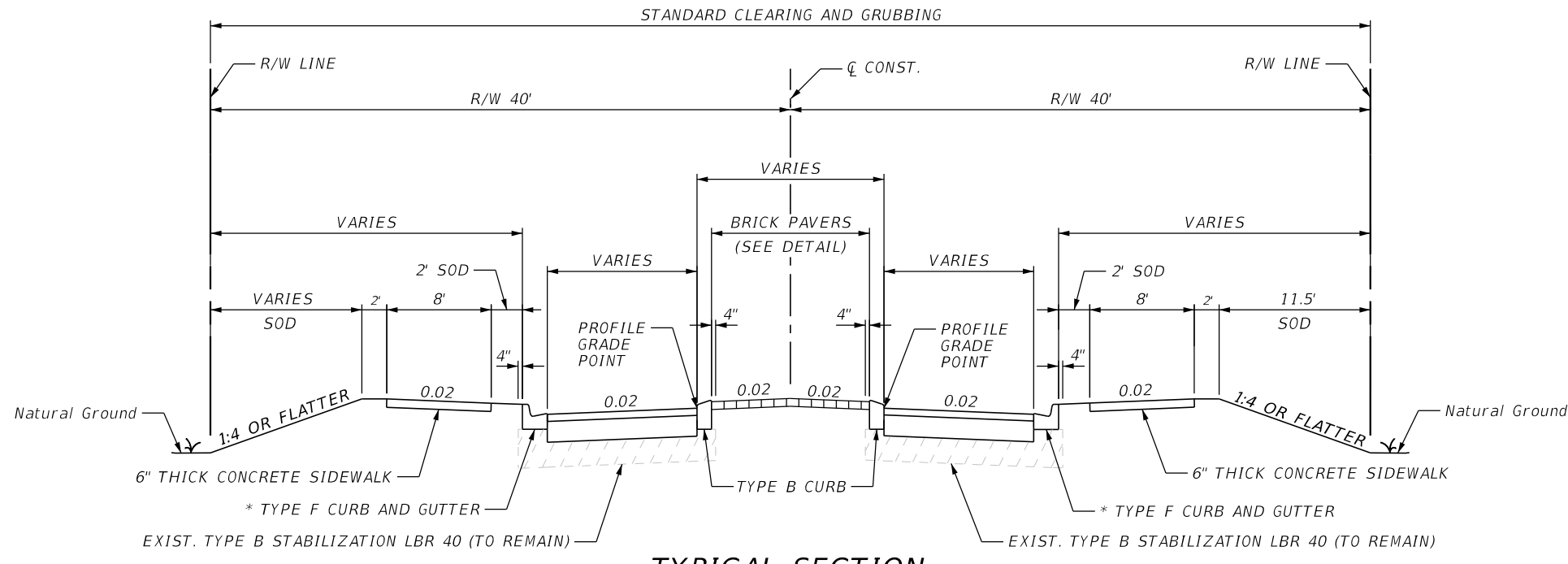
NOTE: VALLEY GUTTER TO BE PAID FOR UNDER PARENT CURB - TYPE F CURB AND GUTTER

VALLEY GUTTER DETAIL
N.T.S.
(CITY OF NAPLES)



CONCRETE OPEN FLUME DETAIL

NOTE: COST OF FLUMES TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR TYPE F CURB AND GUTTER



**TYPICAL SECTION
CRAYTON ROAD
STA. 206+12.00 - STA. 207+70.00**

* VALLEY GUTTER TRANSITION
AT STA. 206+26.45 (LT) AND STA. 206+26.07 (RT)
SEE DETAIL

MILLING AND RESURFACING

MILL EXISTING ASPHALT (2" AVG. DEPTH)
TYPE SP 9.5 STRUCTURAL COURSE (TRAFFIC B) (1")
AND FRICTION COURSE FC-9.5 (1")

NEW CONSTRUCTION / RECONSTRUCTION

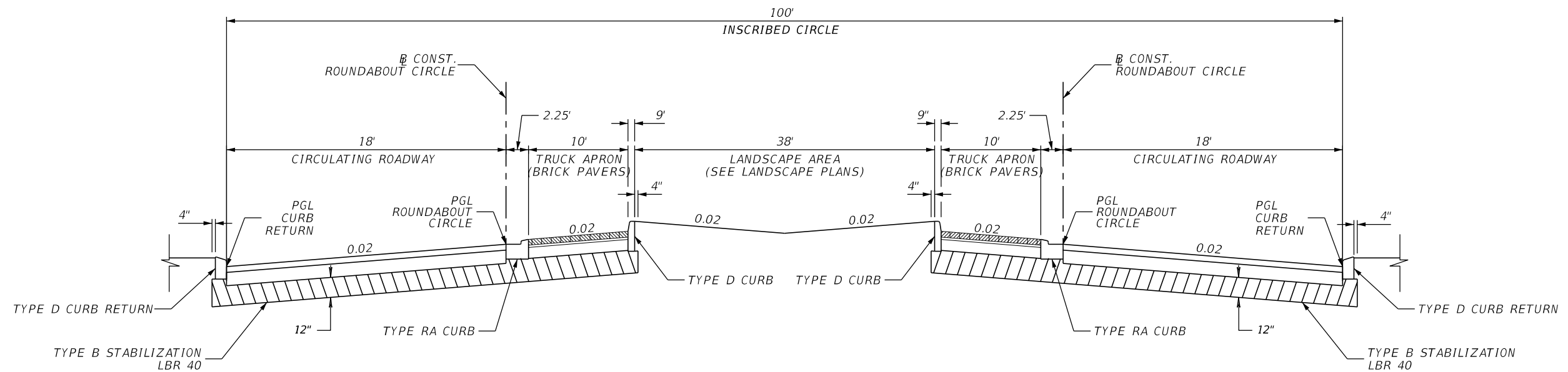
OPTIONAL BASE GROUP 9 WITH
TYPE SP 12.5 STRUCTURAL COURSE (TRAFFIC B) (2")
AND FRICTION COURSE FC-9.5 (1")

TRAFFIC DATA

DESIGN SPEED = 30 MPH
POSTED SPEED LIMIT = 30 MPH

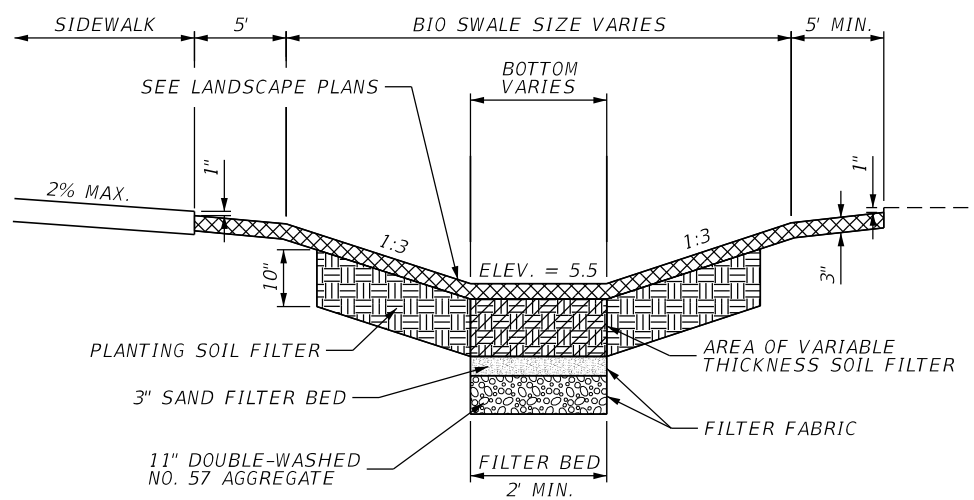
REVISIONS				 JOHNSON ENGINEERING JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT • NAPLES, FL 34112 CERTIFICATE OF AUTHORIZATION NO. 642	CITY OF NAPLES STREETS & STORMWATER			SHEET NO. 4
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
					COLLIER	20150110-006	TYPICAL SECTIONS	

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TYPICAL SECTION ROUNDABOUT

SCALE: NTS

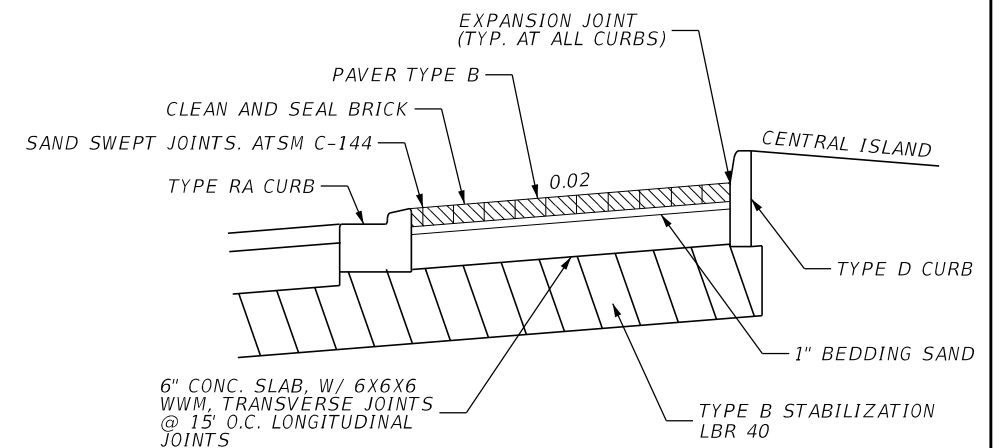


TYPICAL SECTION OF BIO FILTRATION SYSTEM

SCALE: NTS

NEW CONSTRUCTION / RECONSTRUCTION

OPTIONAL BASE GROUP 9 WITH
TYPE SP 12.5 STRUCTURAL COURSE (TRAFFIC B) (2")
AND FRICTION COURSE FC-9.5 (1")

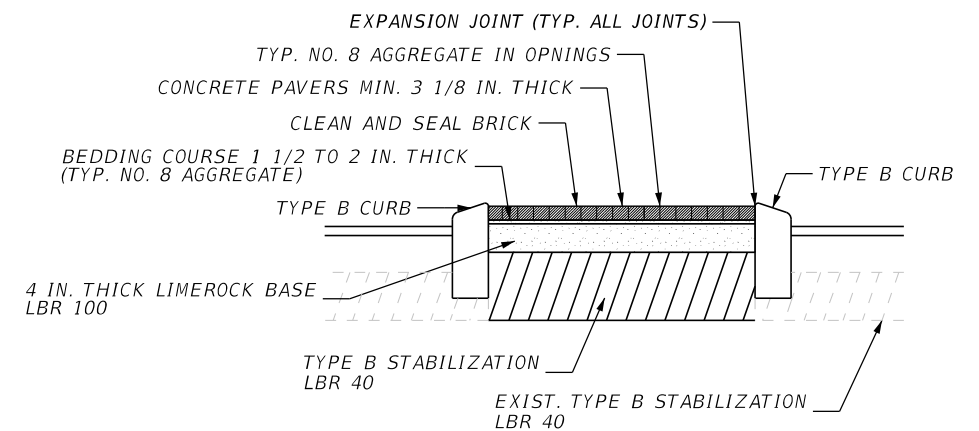


TRUCK APRON DETAIL

SCALE: NTS

CONCRETE PAVER NOTES:

1. PAVER TYPE-STYLE: 4X8 BRICK; SIZE: 3 7/8" X 7 7/8" X 3/8"; PATTERN: HERRINGBONE; COLOR: RANDOMLY PLACED EQUAL MIX OF CHARCOAL TAN AND ARK ORANGE.
2. CITY OF NAPLES STAFF TO APPROVE BRICK PAVER COLORS PRIOR TO INSTALLATION.
3. ALL PAVERS TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.



SPLITTER ISLAND DETAIL

SCALE: NTS

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
 JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952
 JOHNSON ENGINEERING, INC.
 2350 STANFORD COURT • NAPLES, FL 34112
 CERTIFICATE OF AUTHORIZATION NO. 642

CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

TYPICAL SECTIONS

SHEET NO. 5

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QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM DRAIN OPTIONAL MATERIAL		CURB INLET	MANHOLES		DITCH BOTTOM INLETS		NOTES
						ROUND		P-4	P-8	MODIFY	C	MODIFY	
						15"	18"	<10'	<10'		<10'		
P	S-1	103+04.76	RT.	Exist. Inlet	1							1	
F													
P	S-1A	103+04.85	LT.	Exist. Inlet	1							1	
F													
P	S-2	103+78.24	RT.	Inlet, Pipe	1	70		1					
F													
P	S-3	103+85.92	LT.	Exist. Manhole, Pipe	1		60			1			
F													
P	S-4	104+41.00	LT.	Inlet, Pipe	1		36	1					
F													
P	S-5	104+49.37	LT.	Manhole, Pipe	1		52		1				
F													
P	S-6	104+52.65	RT.	Inlet, Pipe	1		25	1					
F													
P	S-7	104+76.25	RT.	Inlet, Pipe	1	17					1		
F													
P	S-8	104+90.50	RT.	Exist. Inlet	1							1	
F													
P													
F													
P													
F													
P													
F													
P													
F													
SHEET TOTALS -				SHEET TOTAL		87	173	3	1	1	1	3	
				FINAL QUANTITY									

S-1

STA. 103+04.76 (26.01' RT)
 MODIFY EXIST. INLET
 INDEX NO. 425-001
 GRATE EL. = 5.60'
 INV. = 3.10 (SE)
 INV. = 2.90 (N)
 INV. = 2.37 (W)
 INV. = 2.32 (NE)

S-1A

STA. 103+04.14 (30.14' LT)
 MODIFY EXIST. INLET
 INDEX NO. 425-001
 GRATE EL. = 5.80'
 INV. = 3.13 (S)

S-2

STA. 103+78.24 (37.83' RT)
 CONST. CURB INLET TYPE P-4
 INDEX NO. 425-020
 GRATE EL. = 6.49
 INV. = 3.10 (NW)
 INV. = 3.73 (S)

S-3

STA. 103+85.92 (32.90' LT)
 MODIFY EXIST. MANHOLE
 INDEX NO. 425-001
 INV. = 3.00 (E)
 INV. = 3.02 (SW)

S-4

STA. 104+41.00 (39.35' LT)
 CONST. CURB INLET TYPE P-4
 INDEX NO. 425-020
 GRATE EL. = 6.74
 INV. = 3.21 (W)
 INV. = 3.19 (S)

S-5

STA. 104+49.37 (8.00' LT)
 CONST. MANHOLE
 INDEX NO. 425-001
 RIM EL. = 7.04
 INV. = 2.89 (N)
 INV. = 2.84 (S)
 INV. = 3.91 (E)

S-6

STA. 104+52.65 (39.59' RT)
 CONST. CURB INLET TYPE P-4
 INDEX NO. 425-020
 GRATE EL. = 6.76
 INV. = 3.30 (N)
 INV. = 3.30 (SE)

S-7

STA. 104+76.25 (60.07' RT)
 CONST. DBI TYPE C
 INDEX NO. 425-052
 GRATE EL. = 5.50
 INV. = 3.30 (NW)
 INV. = 3.30 (SE)

S-8

STA. 104+90.50 (72.07' RT)
 MODIFY EXIST. INLET
 INDEX NO. 425-001
 INV. = 3.37 (W)
 INV. = 3.44 (E)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION


 JOHNSON ENGINEERING
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CITY OF NAPLES
 STREETS & STORMWATER

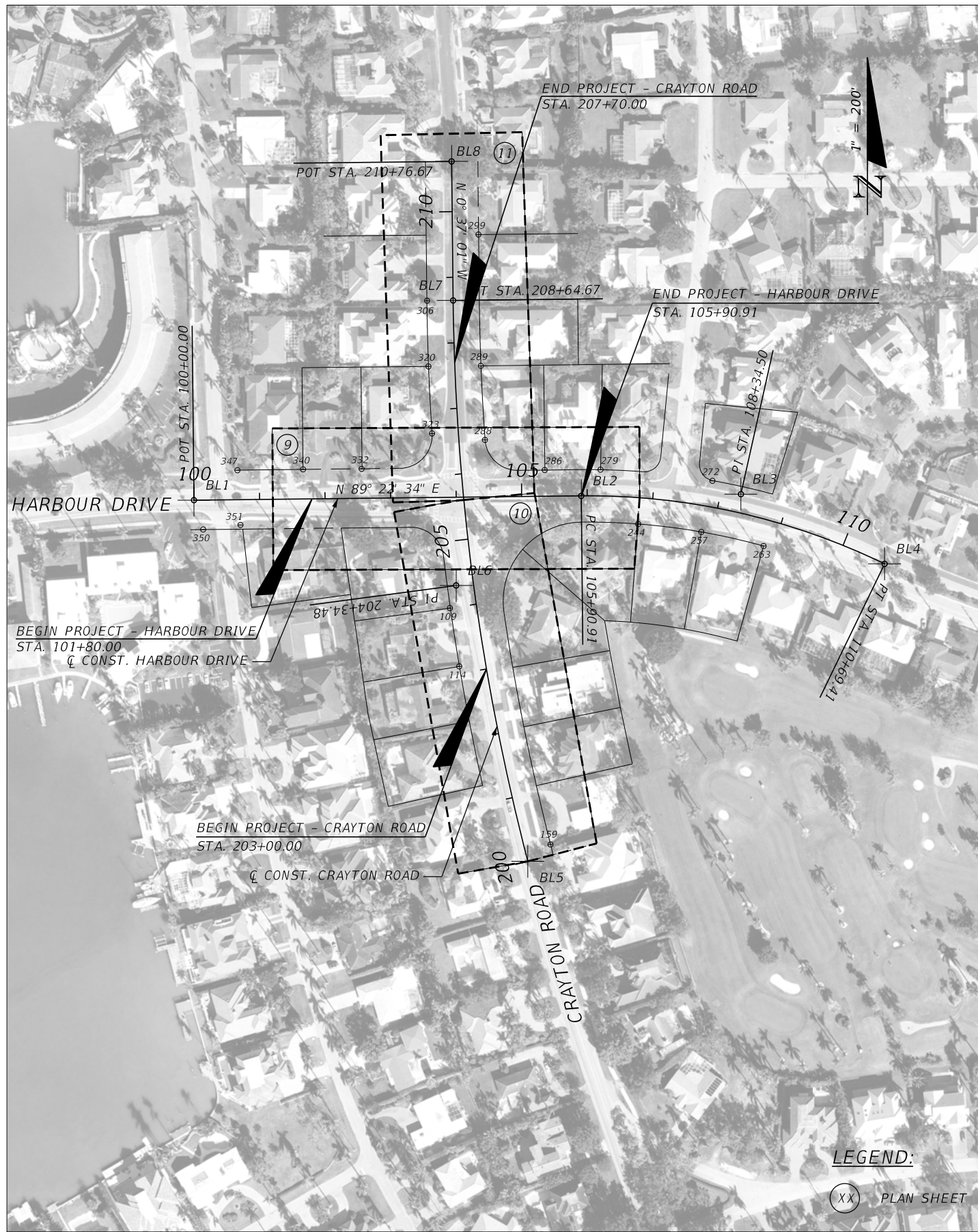
 ROAD NO. COUNTY JEI PROJECT ID

 COLLIER 20150110-006

**SUMMARY OF
 DRAINAGE STRUCTURES**

SHEET NO.
6

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Q CONST. HARBOUR DRIVE						
POINT NO.	COORDINATES		CONTROL	BEARING	CURVE NO.	STATION
	NORTHING	EASTING				
BL1	672312.0289	390931.3000	PT			100+00.00
TANGENT				N 89°22'34" E		
BL2	672318.4631	391522.1750	PC		CL1	105+90.91
BL3	672321.0732	391765.7553	PI		CL1	108+34.50
BL4	672214.8894	391984.9885	PT		CL1	110+69.41

Q CONST. CRAYTON ROAD						
POINT NO.	COORDINATES		CONTROL	BEARING	CURVE NO.	STATION
	NORTHING	EASTING				
BL5	671761.4166	391440.6753	PC		CL2	200+00.00
BL6	672181.9211	391331.3513	PI		CL2	204+34.48
BL7	672616.3793	391326.6730	PT		CL2	208+64.67
TANGENT				N 0°37'01" W		
BL8	672828.3670	391324.3902	PT			210+76.67

109 FIR 5/8 N. = 672147.4540 E. = 391321.7450 ELEV. = 6.77 (NAVD 88)	114 FIR 1/2 PSM 4085 N. = 672058.5740 E. = 391336.0380 ELEV. = 6.80 (NAVD 88)	159 FIR 5/8 PLS 5621 N. = 671787.1610 E. = 391475.3250 ELEV. = 7.25 (NAVD 88)	244 FIR 5/8 UR N. = 672275.5850 E. = 391608.9600 ELEV. = 8.02 (NAVD 88)	257 FIR 5/8 N. = 672263.4470 E. = 391705.3480 ELEV. = 8.49 (NAVD 88)
263 FIR 5/8 BENT 6427 N. = 672242.0500 E. = 391800.4240 ELEV. = 7.86 (NAVD 88)	272 FIR 5/8 BENT N. = 672341.4170 E. = 391722.3540 ELEV. = 7.88 (NAVD 88)	279 FIR 5/8 N. = 672358.4730 E. = 391551.5500 ELEV. = 7.64 (NAVD 88)	286 FIR 5/8 LB6753 N. = 672357.9040 E. = 391466.4320 ELEV. = 6.97 (NAVD 88)	288 FIR 5/8 N. = 672403.8160 E. = 391375.2220 ELEV. = 6.76 (NAVD 88)
289 FIR 5/8 N. = 672516.8330 E. = 391369.0180 ELEV. = 6.04 (NAVD 88)	299 FIR 5/8 N. = 672716.8730 E. = 391365.3150 ELEV. = 5.80 (NAVD 88)	306 FIR 5/8 BENT N. = 672615.9160 E. = 391286.9450 ELEV. = 5.38 (NAVD 88)	320 FIR 5/8 N. = 672515.8320 E. = 391289.0050 ELEV. = 5.71 (NAVD 88)	323 FIR 5/8 FLA 5569 N. = 672413.7510 E. = 391294.4850 ELEV. = 7.47 (NAVD 88)
332 FIR 5/8 FLA 5569 N. = 672359.6120 E. = 391187.0610 ELEV. = 7.49 (NAVD 88)	340 FIR 5/8 N. = 672358.8960 E. = 391097.8000 ELEV. = 5.05 (NAVD 88)	347 FIR 5/8 N. = 672357.5540 E. = 390997.6040 ELEV. = 4.41 (NAVD 88)	350 FCM 4X4 N. = 672267.2060 E. = 390945.3810 ELEV. = 3.80 (NAVD 88)	351 FCM 4X4 N. = 672274.2630 E. = 391002.1940 ELEV. = 5.97 (NAVD 88)

LEGEND:
 (XX) PLAN SHEET

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
 JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952
 JOHNSON ENGINEERING, INC.
 2350 STANFORD COURT • NAPLES, FL 34112
 CERTIFICATE OF AUTHORIZATION NO. 642

CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

PROJECT LAYOUT

SHEET NO. 7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

GENERAL NOTES:

1. ELEVATIONS SHOWN IN THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. HORIZONTAL DATUM = NAV 83 FLORIDA STATE PLAN, EAST ZONE, US FOOT.
3. EXISTING FACILITIES SHALL BE RESTORED TO THAT WHICH EXISTED PRIOR TO COMMENCING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
4. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED.
5. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
6. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA PRIOR TO CONSTRUCTION AND CONTACT THE SUNSHINE STATE ONE CALL AT (800) 432-4770.
7. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
8. UTILITY/AGENCY OWNERS:

COMPANY	CONTACT	PHONE
FLORIDA POWER & LIGHT	TRACY STERN	(386) 329-5152
CENTURYLINK - NAPLES	JIGS SLIANG	(239) 263-6234
COMCAST	MARK COOK	(239) 432-1805
SUMMIT BROADBAND	MIKE REBER	(239) 631-9251
HOTWIRE COMMUNICATIONS	PHIL GALLUB	(305) 219-0286
TECO PEOPLES GAS - FT MYERS	MARILYN ALOI	(239) 896-0812
FPL FIBERNET LLC	DANNY HASKETT	(305) 552-2931
CITY OF NAPLES - STREETS AND TRAFFIC	DAVE RIVERA	(239) 213-5011
CITY OF NAPLES - SEWER	ALICIA ACEVEDO	(239) 213-4712
CITY OF NAPLES - WATER	ALICIA ACEVEDO	(239) 213-4712

9. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE CITY OF NAPLES WITHOUT DELAY BY TELEPHONE AT (239) 213-5000.
10. CONTRACTOR SHALL PROMPTLY REPORT ALL FIELD CHANGES TO ENGINEER.
11. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL.
12. CONTRACTOR TO MAINTAIN EXISTING TRAFFIC / ACCESS, EXISTING DRAINAGE, AND EXISTING UTILITIES DURING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE CITY OF NAPLES.
13. CONSTRUCTION STAKING IS THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE SERVICES DURING CONSTRUCTION.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CONSTRUCTION RELATED PERMITTING. PAYMENT FOR ACQUISITION OF CONSTRUCTION RELATED PERMITS SHALL BE INCIDENTAL TO THE COST OF CONSTRUCTION RELATED ACTIVITIES. NO ADDITIONAL PAYMENT SHALL BE MADE.
15. CONTRACTOR SHALL NOT BRING ANY HAZARDOUS MATERIALS ONTO THE PROJECT. SHOULD THE CONTRACTOR REQUIRE SUCH FOR PERFORMING CONTRACTED WORK, THE CONTRACTOR SHALL REQUEST, IN WRITING, WRITTEN PERMISSION FROM THE CITY PROJECT MANAGER. THE CONTRACTOR SHALL PROVIDE THE CITY PROJECT MANAGER WITH A COPY OF THE MATERIAL SAFETY DATA SHEET (MSDS) FOR EACH HAZARDOUS MATERIAL PROPOSED FOR USE. BECAUSE STATE LAW DOES NOT TREAT PETROLEUM PRODUCTS THAT ARE PROPERLY CONTAINERIZED AND INTENDED FOR EQUIPMENT USE AS A HAZARDOUS MATERIAL, SUCH PRODUCTS DO NOT NEED A MSDS SUBMITTAL ANY KNOWN OR SUSPECTED HAZARDOUS MATERIAL FOUND ON THE PROJECT BY THE CONTRACTOR SHALL BE IMMEDIATELY REPORTED TO THE CITY PROJECT MANAGER, WHO SHALL DIRECT THE CONTRACTOR TO PROTECT THAT AREA OF KNOWN OR SUSPECTED CONTAMINATION FROM FURTHER ACCESS. THE CITY PROJECT MANAGER WILL ARRANGE FOR INVESTIGATION,

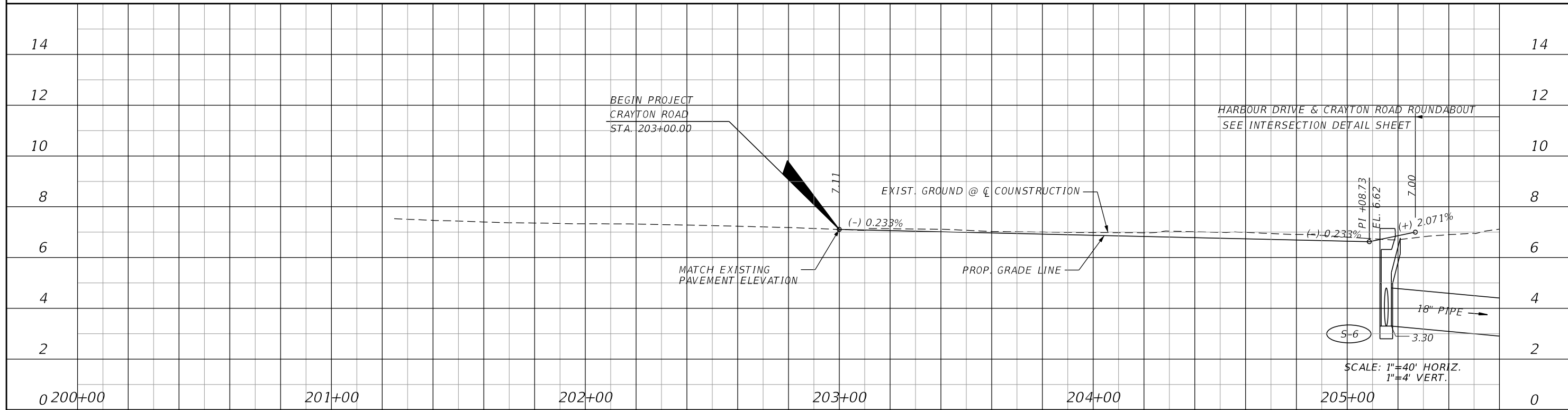
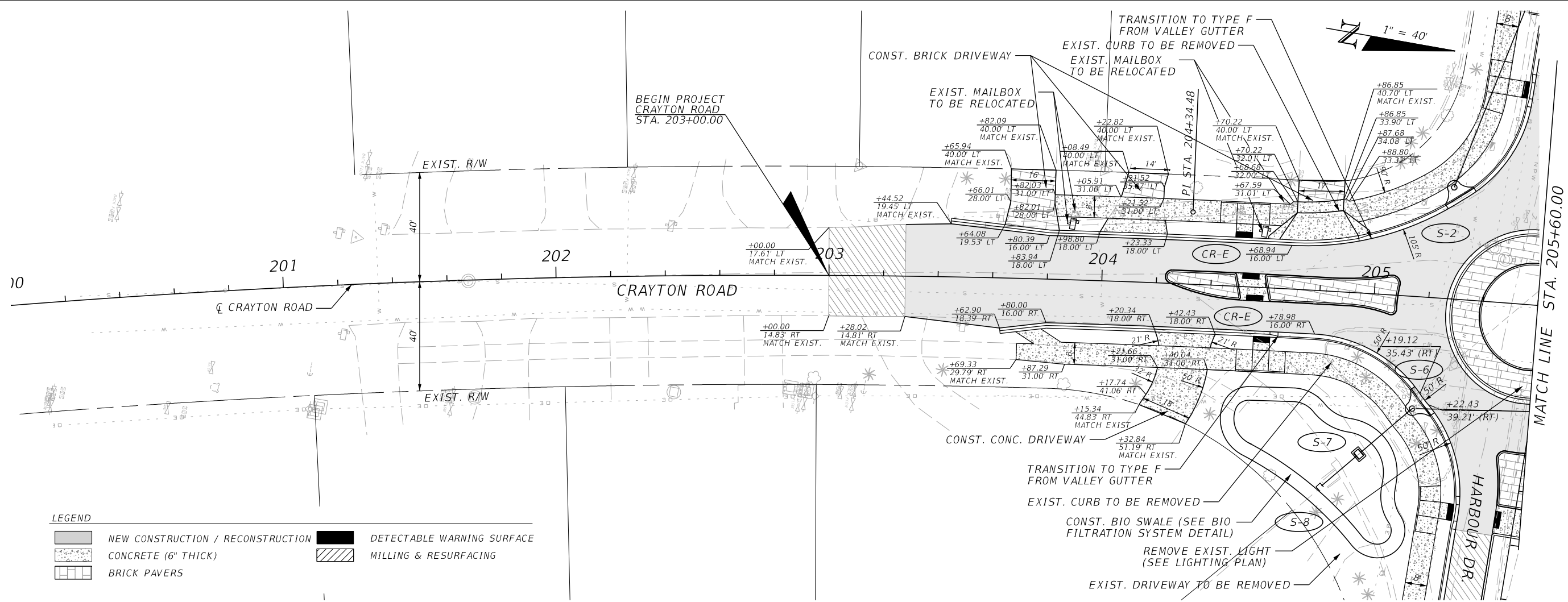
IDENTIFICATION, AND REMEDIATION OF THE HAZARDOUS MATERIAL. THE CONTRACTOR SHALL NOT RETURN TO THE AREA OF CONTAMINATION UNTIL APPROVAL IS PROVIDED BY THE CITY PROJECT MANAGER.

16. PRIOR TO INCORPORATION INTO THE PROJECT, A CERTIFICATION FROM THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES DIVISION OF PLANT INDUSTRY, STATING THAT THE SOD, HAY, STRAW, AND MULCH MATERIALS, ARE FREE OF NOXIOUS WEEDS, INCLUDING TROPICAL SODA APPLE, SHALL BE FURNISHED TO THE CITY PROJECT MANAGER BY THE CONTRACTOR. ALL SOD MATERIALS SHALL BE SUBJECT TO INSPECTION BY THE CITY OR APPOINTED REPRESENTATIVE PRIOR TO PLACEMENT. ANY SOD WITH NOXIOUS WEEDS AND GRASSES, INCLUDING TROPICAL SODA APPLE, SHALL BE REJECTED FOR USE ON THE PROJECT.
17. AT THE COMPLETION OF THIS PROJECT, ALL DISTURBED SURFACES SHALL BE COVERED BY PERFORMANCE TURF.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING CONVEYANCES AND DRAINAGE CONNECTIONS WITHIN THE PROJECT LIMITS AT ALL TIMES.
19. CONTRACTOR SHALL REPLACE ANY EXISTING SIDE STREET MARKINGS OBLITERATED DURING CONSTRUCTION.
20. SOD QUANTITY INCLUDES ONLY THOSE AREAS INTENDED TO BE DISTURBED BY PROPOSED IMPROVEMENTS. OTHER DISTURBED AREAS NOT INTENDED TO BE DISTURBED, INCLUDING BUT NOT LIMITED TO STAGING AREAS, STOCKPILE AREAS, ETC., SHALL BE SODDED AT NO ADDITIONAL COST.
21. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD PLANS INDEX 102 SERIES.
22. MAINTENANCE OF TRAFFIC PLAN MUST INCLUDE FDOT STANDARD PLANS INDEX 102-660 PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS.
23. THE CITY OF NAPLES DOES NOT CERTIFY THE LOCATION OR EXISTENCE OF ANY UNDERGROUND UTILITIES, NOR AS TO THE SOIL OR GROUND CONDITIONS, AND ASSUMES NO LIABILITY FOR SUCH. THE LOCATION OF UNDERGROUND UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. BEFORE WORKING IN THE AREA, CONTRACTOR SHALL GUARANTEE THAT ALL UNDERGROUND UTILITIES HAVE BEEN LOCATED.
24. IT IS RECOMMENDED THAT THE CONTRACTOR CONDUCT SITE INVESTIGATIONS TO SATISFY HIM/HERSELF WITH THE EXISTING TOPOGRAPHY AND GENERAL CONDITION OF THE AREA OF WORK. ANY FAILURE BY THE CONTRACTOR TO ACQUAINT HIM/HERSELF WITH THE AVAILABLE INFORMATION AND FIELD CONDITIONS WILL NOT RELIEVE HIM/HER FROM RESPONSIBILITY FOR ESTIMATING PROPERLY THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK.
25. THE ENGINEER SHALL BE CONSULTED TO MAKE ANY REQUIRED INTERPRETATIONS OF THE PLANS. HOWEVER, THIS IN NO WAY RELIEVES THE CONTRACTOR OF HIS/HER RESPONSIBILITY FOR CONSTRUCTING THE PROJECT IN ACCORDANCE WITH THE INTENT OF THE PLANS. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL CONTROL AND SCOPE OF WORK.
26. EACH ITEM LISTED IN SUMMARY OF ESTIMATE QUANTITIES IS TO INCLUDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE ITEM. PAYMENT FOR CONTRACT ITEMS WILL BE BASED ON ACTUAL FIELD (IN-PLACE) MEASUREMENTS OF THE COMPLETED ITEMS, READY FOR SERVICE BY THE CITY OF NAPLES. ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE QUANTITIES AS PROVIDED ARE APPROXIMATE ONLY AND NO CLAIM SHALL BE MADE AGAINST THE CITY OF NAPLES FOR ANY EXCESS OR DEFICIENCY THE CONSTRUCTION LENGTHS INDICATED IN THESE PLANS ARE APPROXIMATE. ACTUAL LIMITS MAY BE SET IN THE FIELD AS DIRECTED BY THE ENGINEER. REQUIRED WORK NOT ITEMIZED UNDER SUMMARY OF ESTIMATED QUANTITIES OR SPECIAL PROVISIONS SHALL BE INCIDENTAL TO THE CONTRACT.
27. ANY MAILBOX WITHIN THE LIMITS OF CONSTRUCTION IS TO BE TAKEN DOWN AND RESET BY THE CONTRACTOR IN ACCORDANCE WITH POSTAL REQUIREMENTS; COST TO BE INCLUDED UNDER 110-7-1. REMOVAL AND RELOCATION OF MAILBOXES IS INCIDENTAL TO THIS PAY ITEM. REPLACEMENT OF MAILBOXES DAMAGED DURING REMOVAL AND RELOCATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
28. ANY EXISTING PAVEMENT THAT IS TO BE REMOVED MUST BE SAW-CUT PRIOR TO REMOVAL. WHERE CONNECTIONS TO EXISTING WALKS AND DRIVES ARE NOT INDICATED IN THE PLANS, PROPER CONNECTIONS SHALL BE MADE AT THE DIRECTION OF THE ENGINEER.
29. LIGHTING FIXTURE TO BE HOLOPHANE MONGOOSE MGLED WITH 7 COB'S 4K/5K COLOR TEMP.

REVISIONS				 JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT • NAPLES, FL 34112 CERTIFICATE OF AUTHORIZATION NO. 642	CITY OF NAPLES STREETS & STORMWATER			SHEET NO. 8
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
						COLLIER	20150110-006	

PROJECT NOTES

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REVISIONS			
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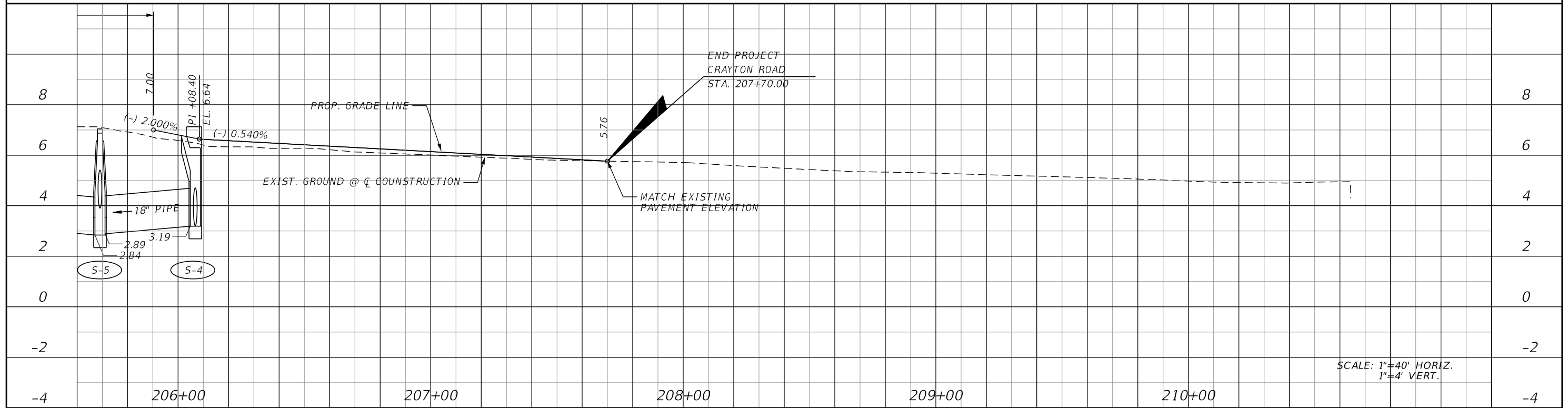
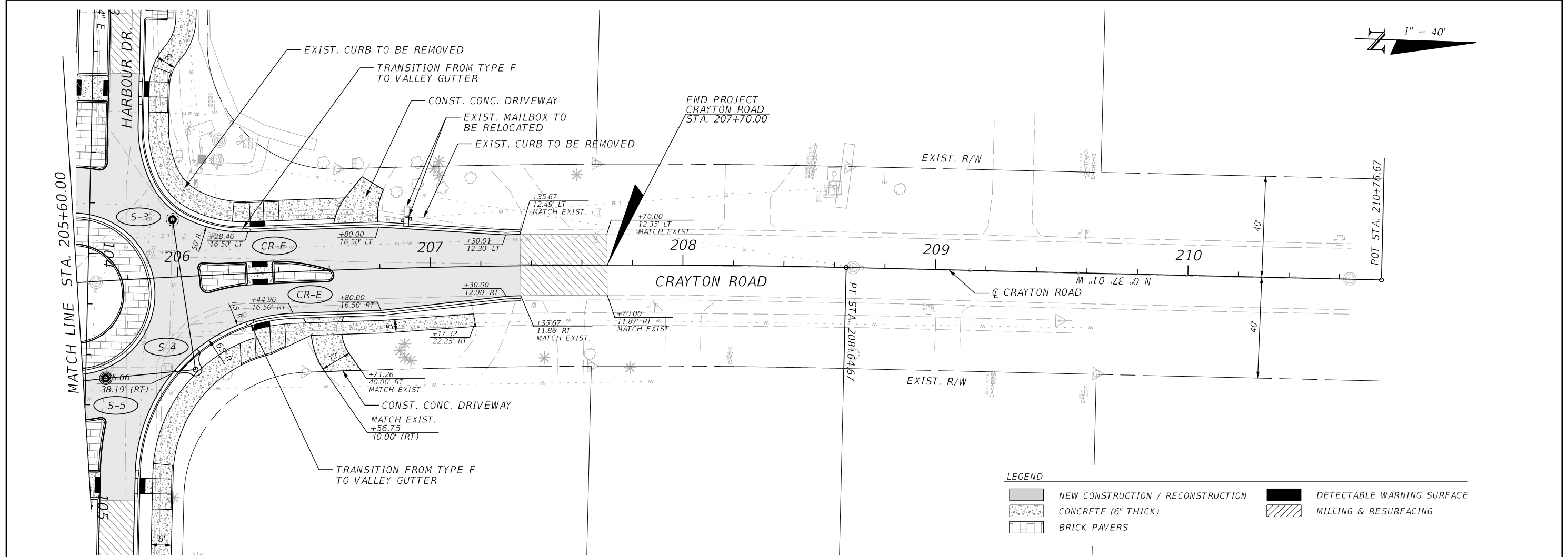
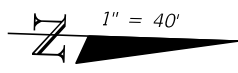
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CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

ROADWAY PLAN-PROFILES

SHEET NO. 10

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SCALE: 1"=40' HORIZ.
1"=4' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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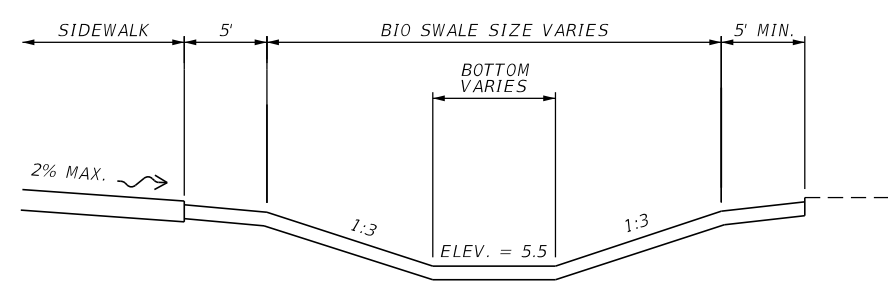
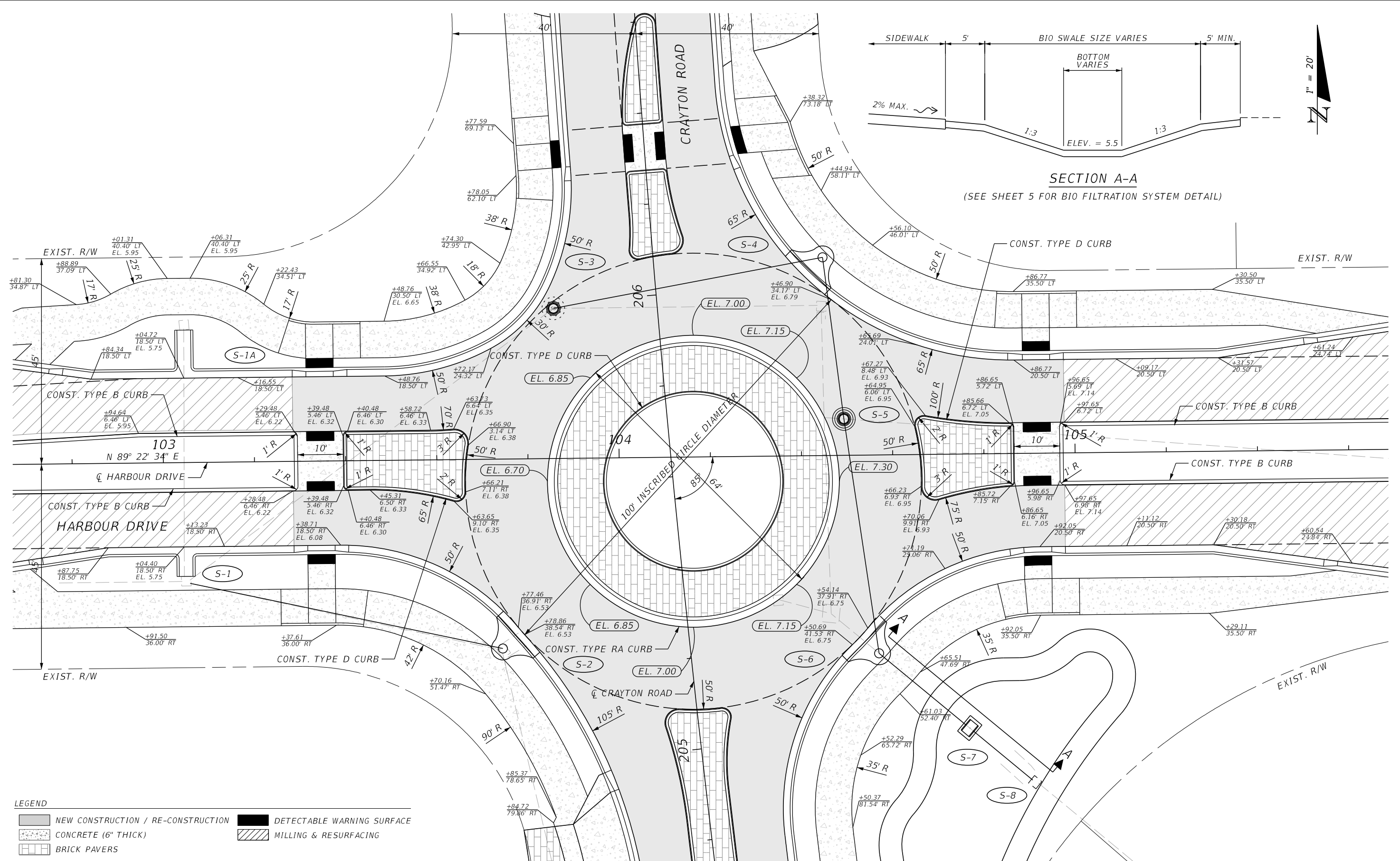
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 STREETS & STORMWATER

ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

ROADWAY PLAN-PROFILES

SHEET NO.
11

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SECTION A-A
(SEE SHEET 5 FOR BIO FILTRATION SYSTEM DETAIL)

LEGEND

	NEW CONSTRUCTION / RE-CONSTRUCTION		DETECTABLE WARNING SURFACE
	CONCRETE (6" THICK)		MILLING & RESURFACING
	BRICK PAVERS		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

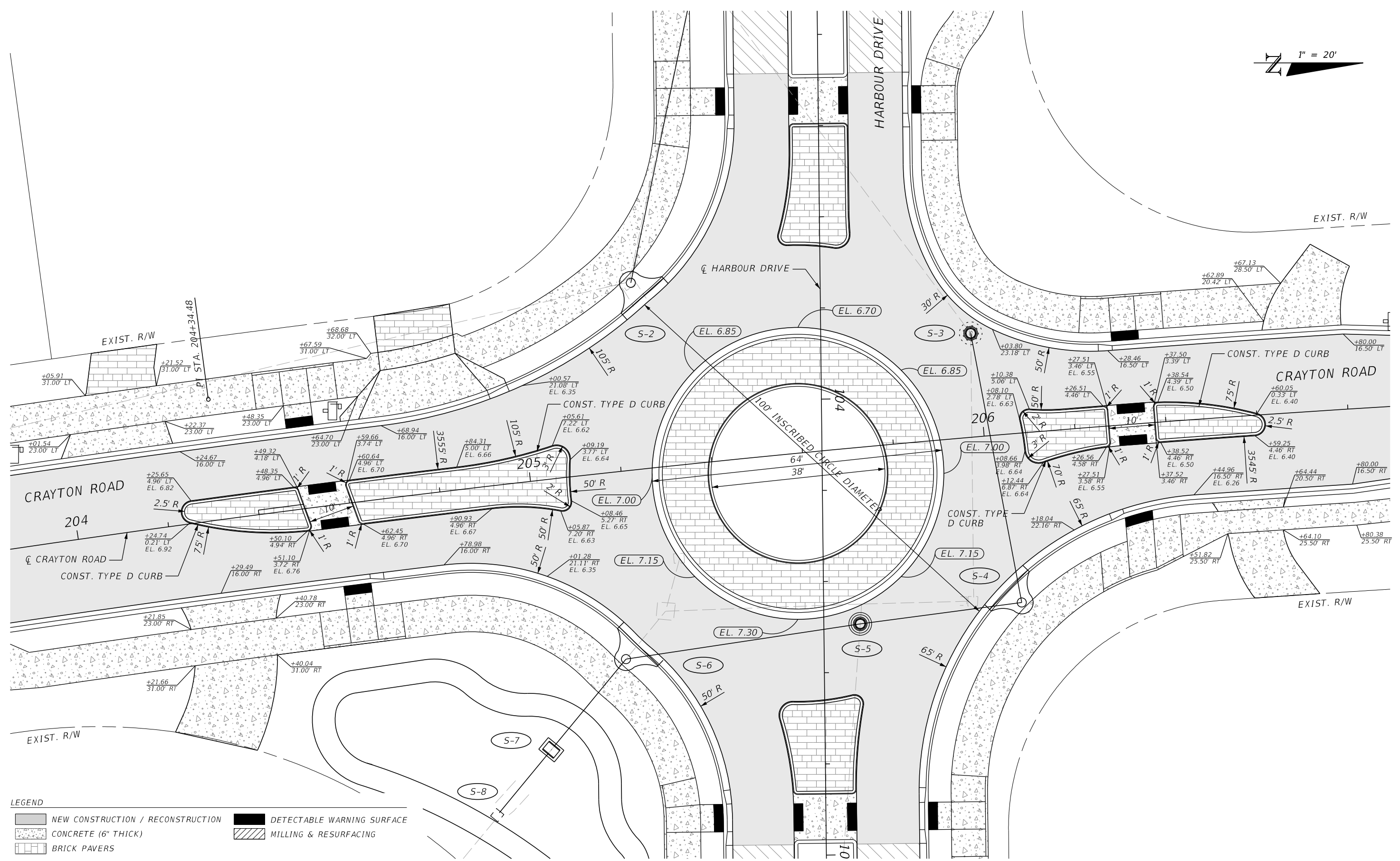
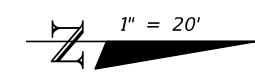
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CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

**HARBOUR DRIVE
ROUNDABOUT DETAILS**

SHEET NO.
12

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LEGEND

	NEW CONSTRUCTION / RECONSTRUCTION		DETECTABLE WARNING SURFACE
	CONCRETE (6" THICK)		MILLING & RESURFACING
	BRICK PAVERS		

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

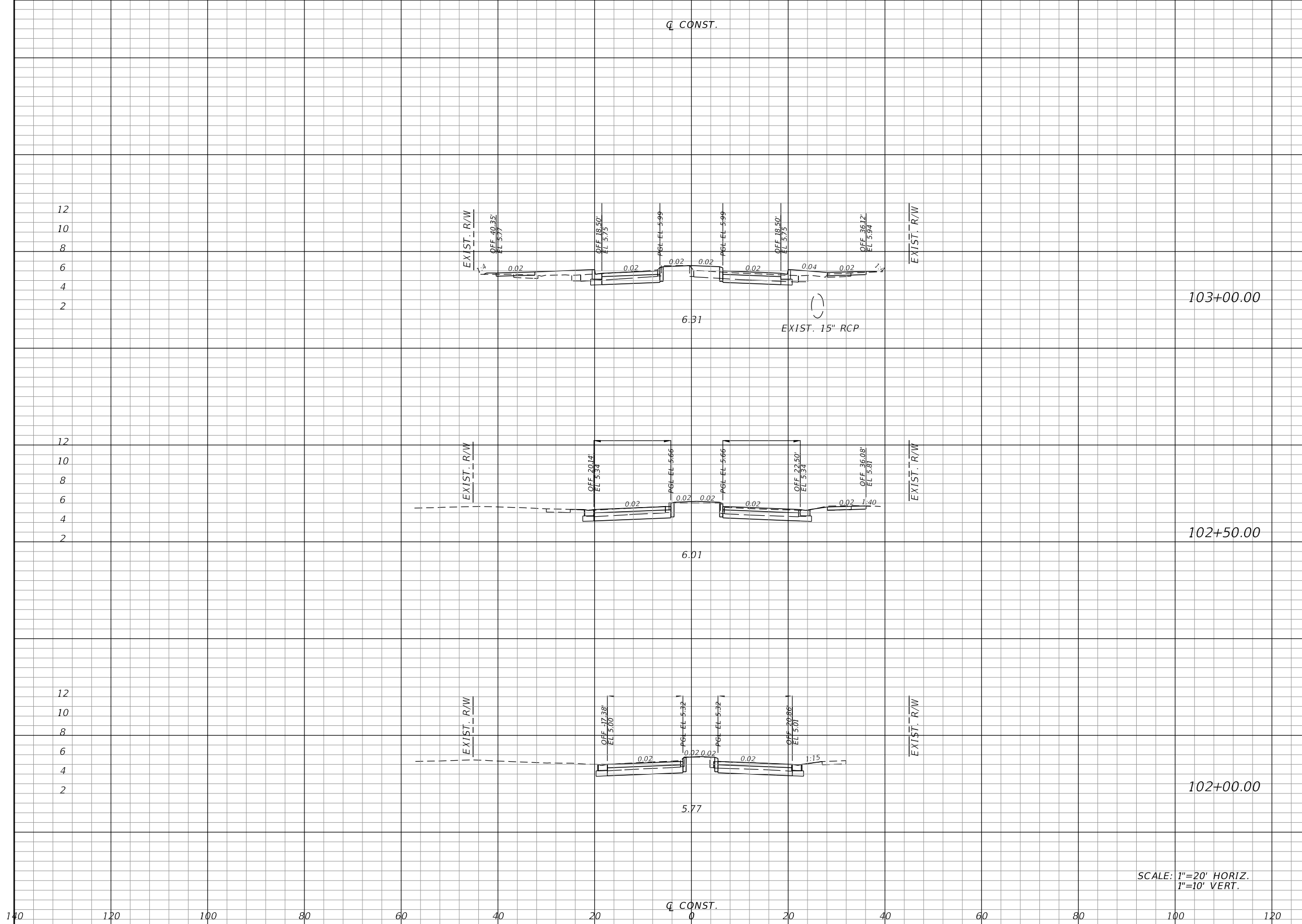
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CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

**CRAYTON ROAD
ROUNDABOUT DETAIL**

SHEET NO.
13

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Regular		Exc.		Embankment	
A	V	A	V	A	V
34.3	72	21.3	20		
43.7	79	0.4	1		
41.8	0	0.3	0		

SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

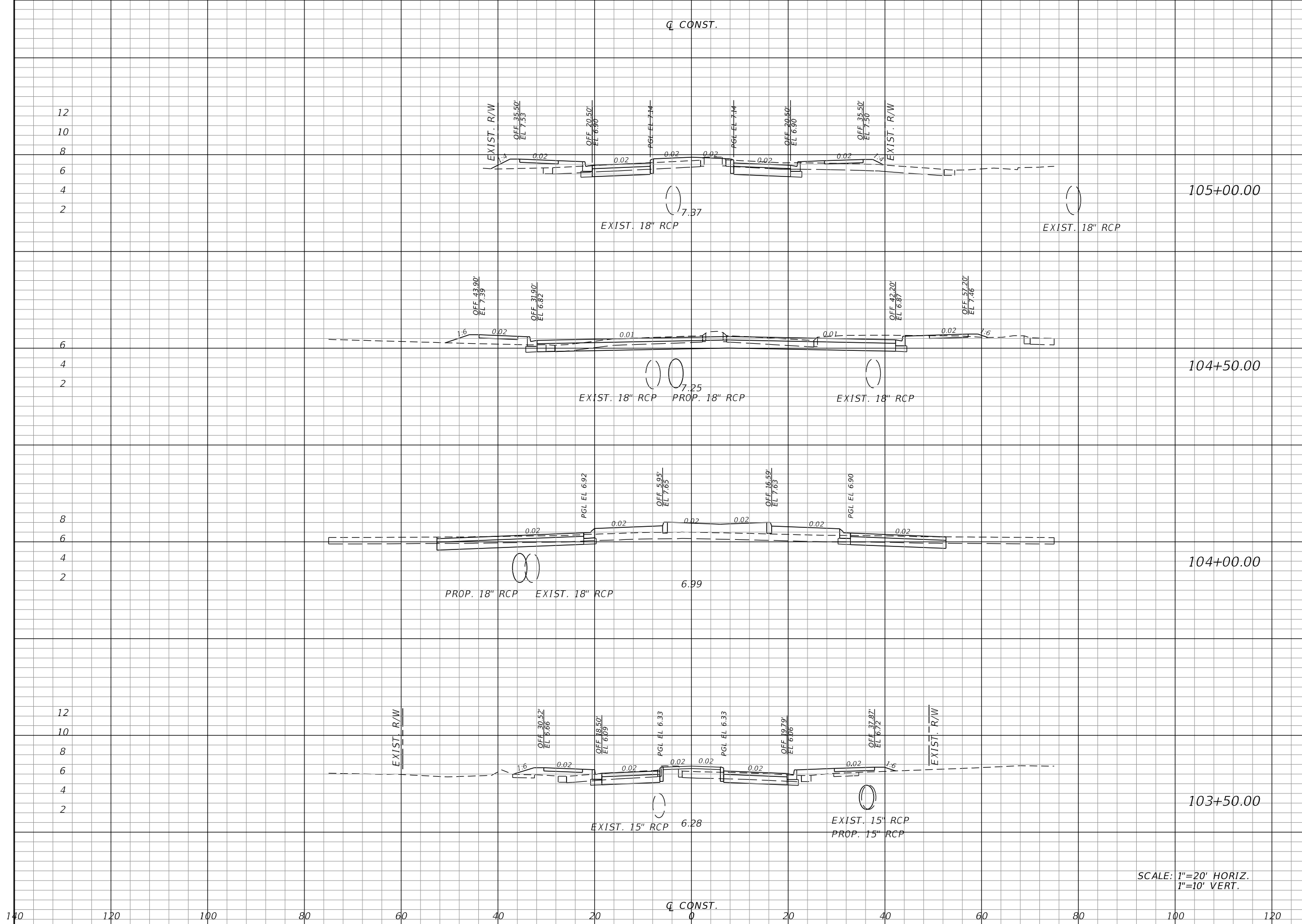
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CITY OF NAPLES
STREETS & STORMWATER
 ROAD NO. COUNTY JEI PROJECT ID
 COLLIER 20150110-006

CROSS SECTIONS
HARBOUR DRIVE

SHEET NO.
14

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		Regular Exc.		Embankment	
		A	V	A	V
12					
10					
8					
6					
4					
2					
	105+00.00	39.3	125	20.1	32
6					
4					
2					
	104+50.00	95.4	144	14.8	50
8					
6					
4					
2					
	104+00.00	60.4	90	39.7	58
12					
10					
8					
6					
4					
2					
	103+50.00	36.3	65	22.6	41

SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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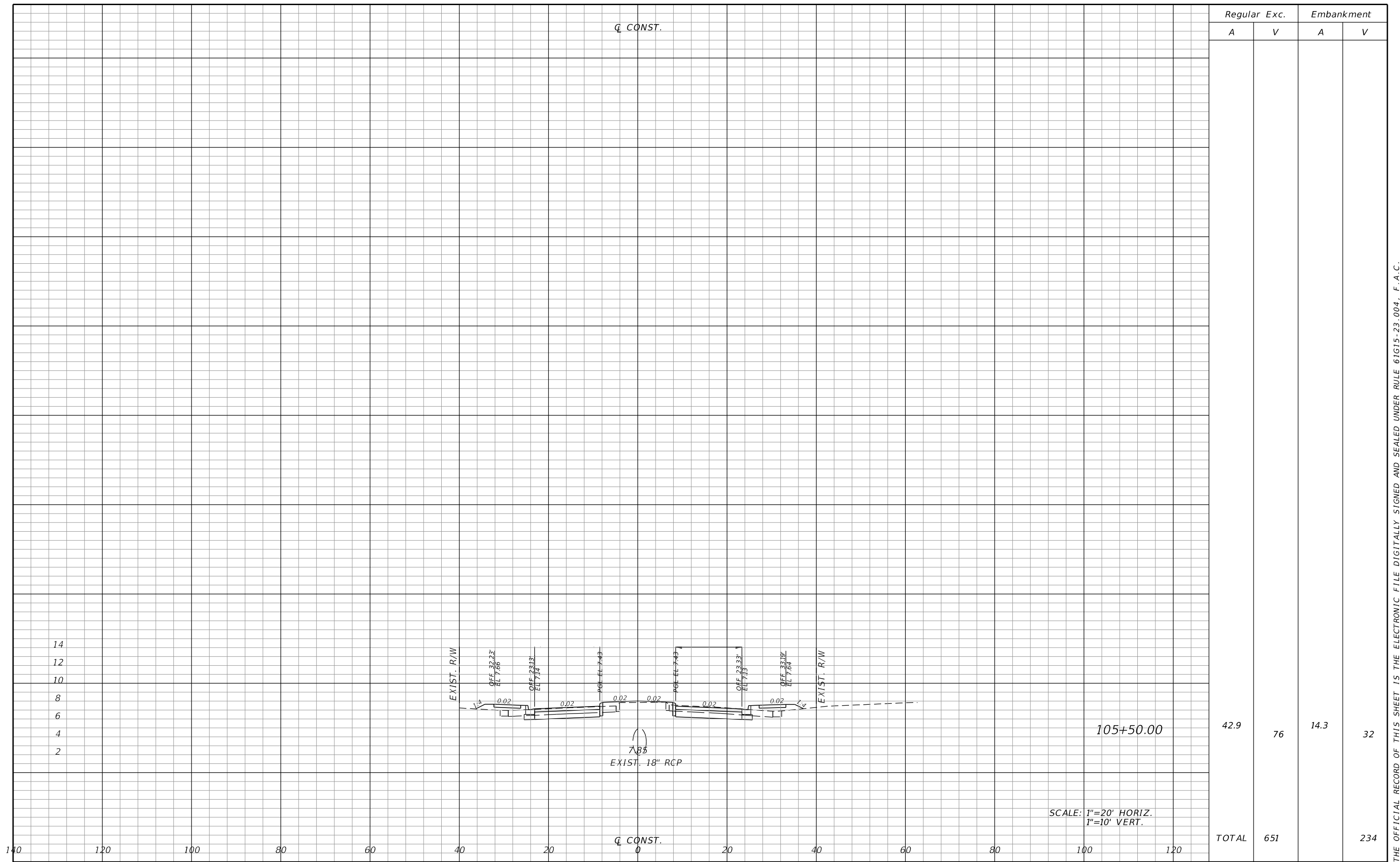
CITY OF NAPLES
STREETS & STORMWATER

ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

**CROSS SECTIONS
HARBOUR DRIVE**

SHEET NO.
15

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Regular		Exc.		Embankment	
A	V	A	V	A	V
42.9		76		14.3	32
TOTAL		651			234

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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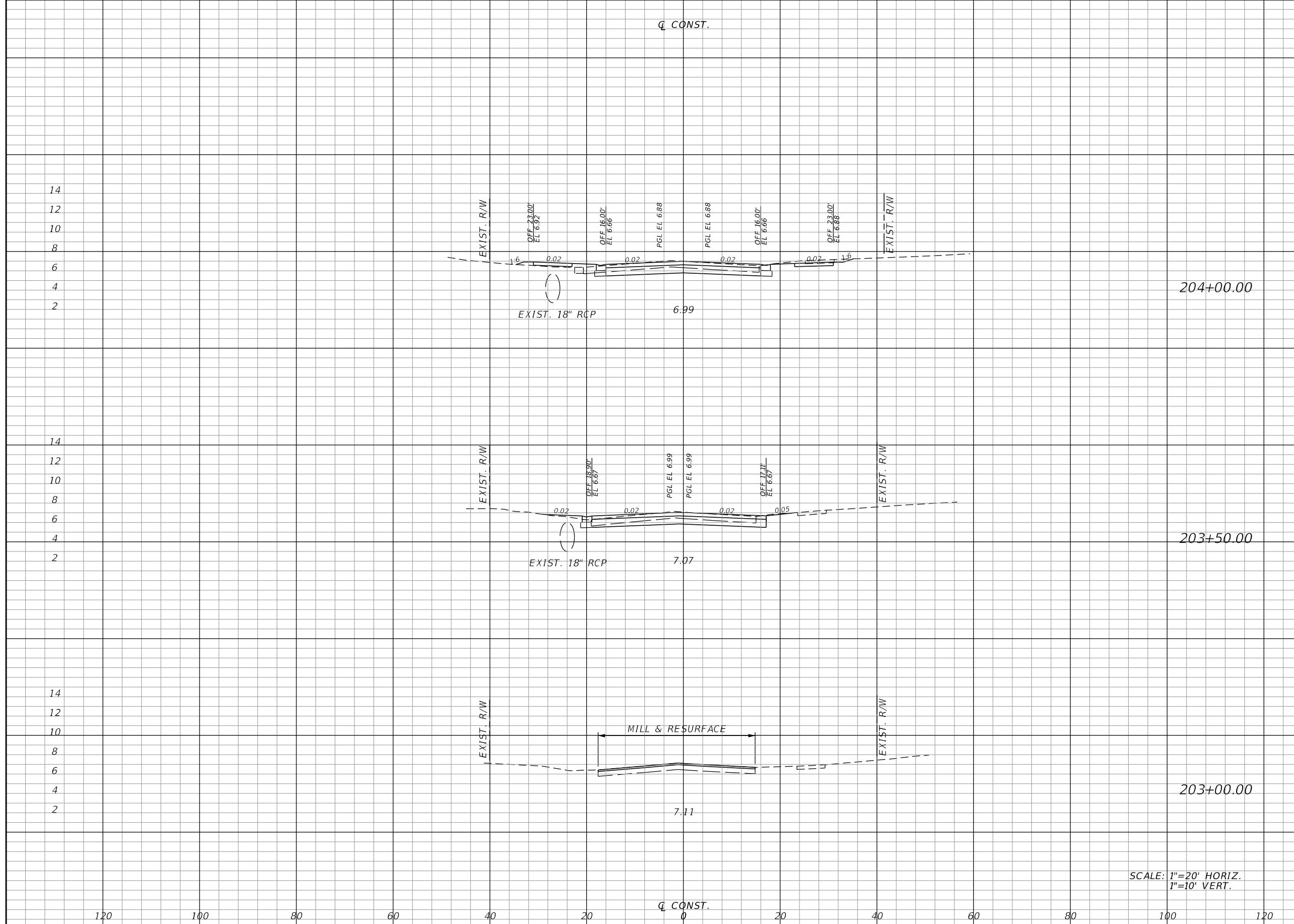
**CITY OF NAPLES
 STREETS & STORMWATER**

ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

**CROSS SECTIONS
 HARBOUR DRIVE**

SHEET NO.
16

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Regular		Exc.		Embankment	
A	V	A	V	A	V
48.1	84	3.2	4		
42.5	44	1.3	1		
5.4	0	0.0	0		

SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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CITY OF NAPLES
STREETS & STORMWATER

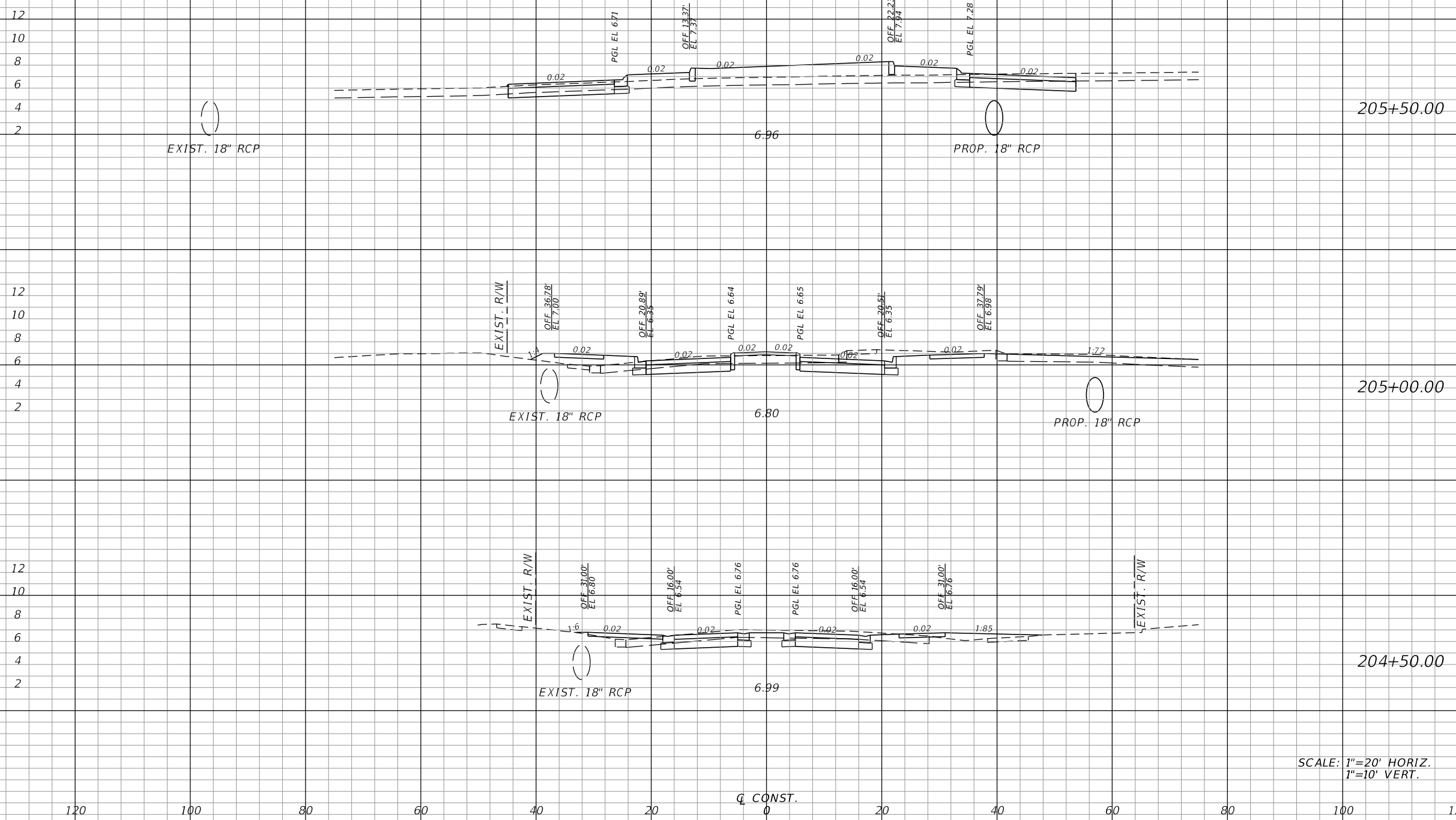
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

CROSS SECTIONS
CRAYTON ROAD

SHEET NO.
17

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Regular		Exc.		Embankment	
A	V	A	V	A	V
48.9	106	47.2	54		
65.2	103	10.7	18		
45.5	87	8.7	11		



SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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CITY OF NAPLES
 STREETS & STORMWATER

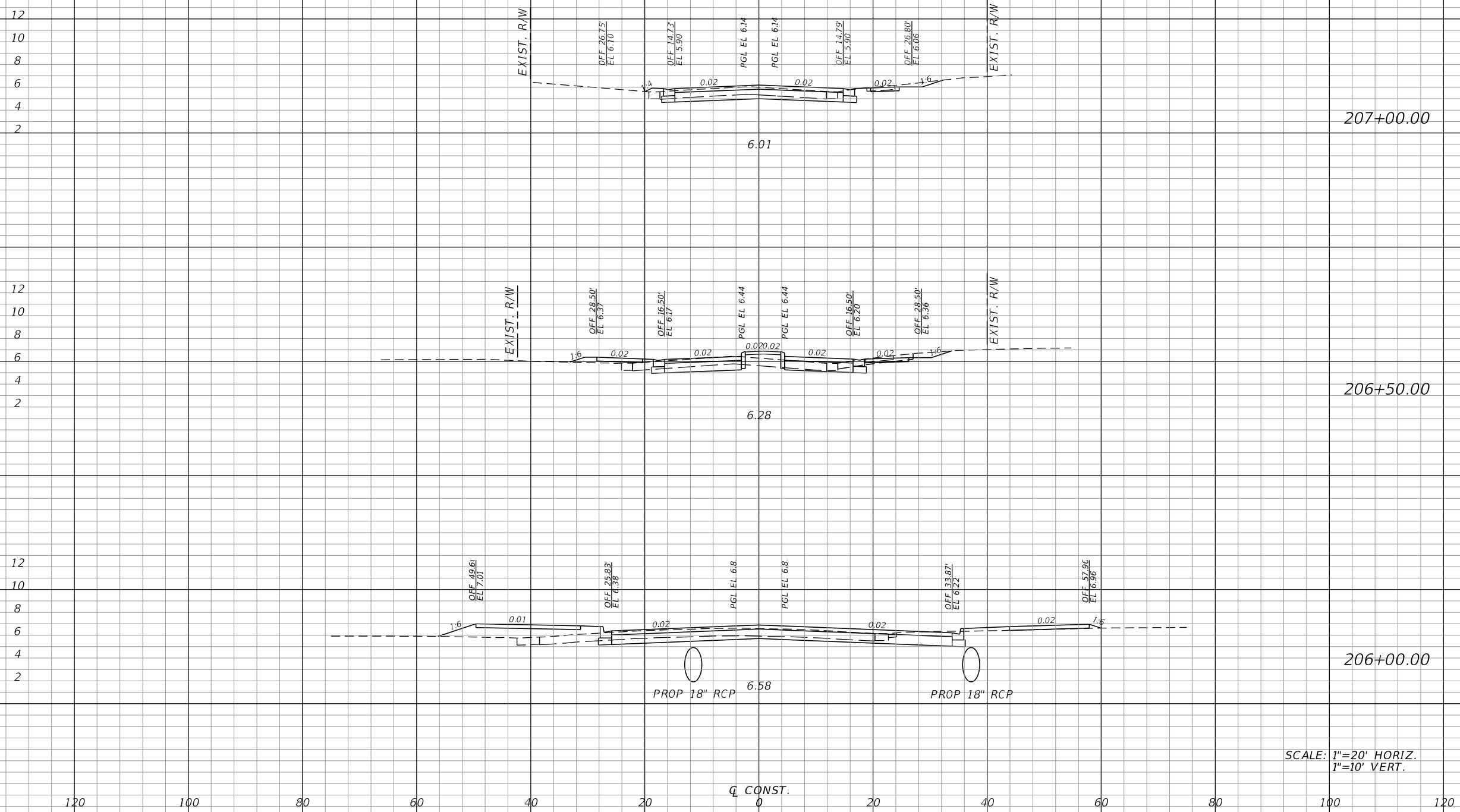
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

CROSS SECTIONS
CRAYTON ROAD

SHEET NO.
18

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Regular		Exc.		Embankment	
A	V	A	V	A	V
36.3	68	1.4	4		
37.1	95	3.0	23		
65.4	106	22.2	64		



SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
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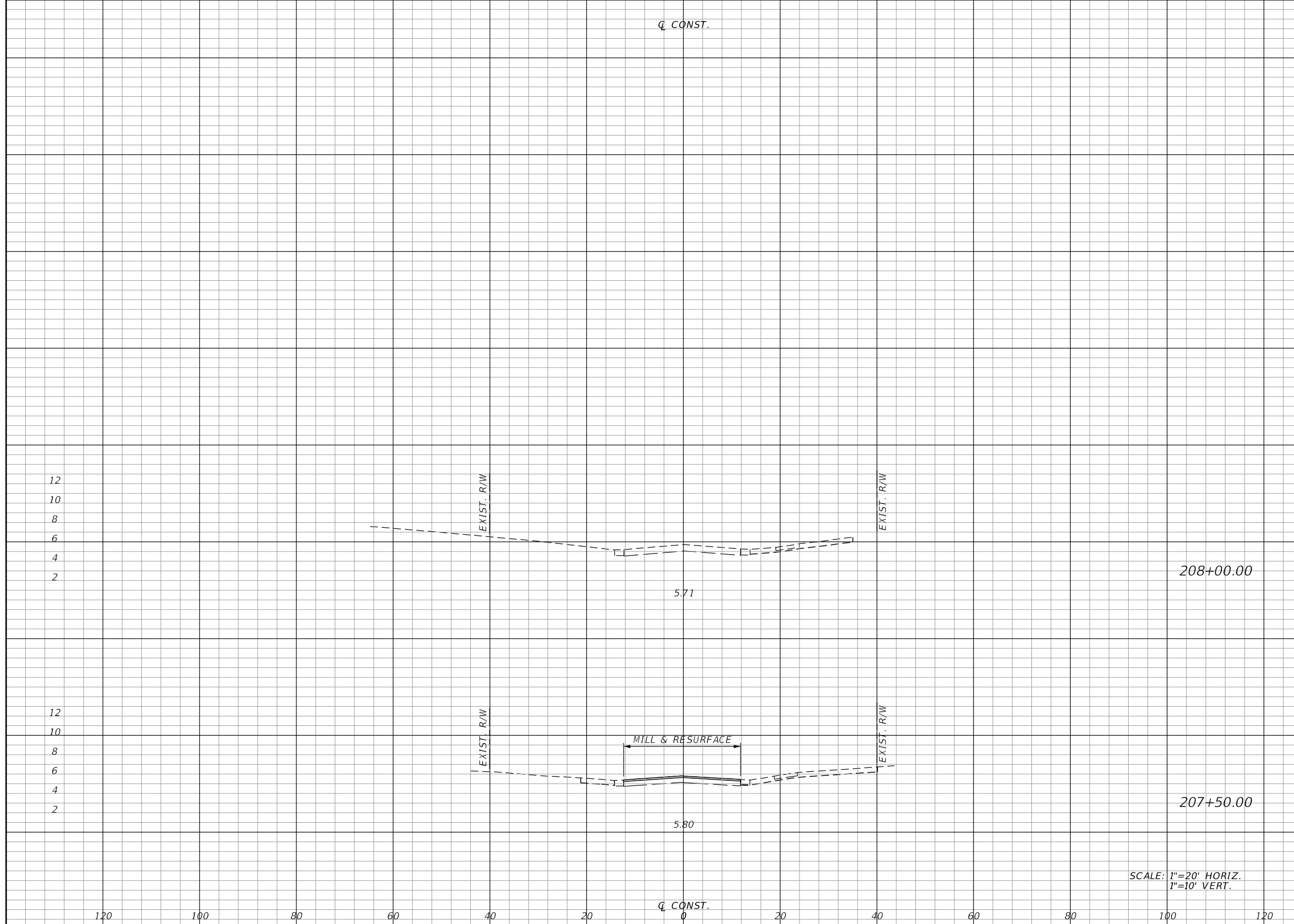
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STREETS & STORMWATER

ROAD NO.	COUNTY	JEI PROJECT ID
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CROSS SECTIONS
CRAYTON ROAD

SHEET NO.
19

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Regular		Exc.		Embankment	
A	V	A	V	A	V
4.0	7	0.0	0		
4.0	37	0.0	1		
TOTAL		737		180	

SCALE: 1"=20' HORIZ.
1"=10' VERT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
 JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952
 JOHNSON ENGINEERING, INC.
 2350 STANFORD COURT • NAPLES, FL 34112
 CERTIFICATE OF AUTHORIZATION NO. 642

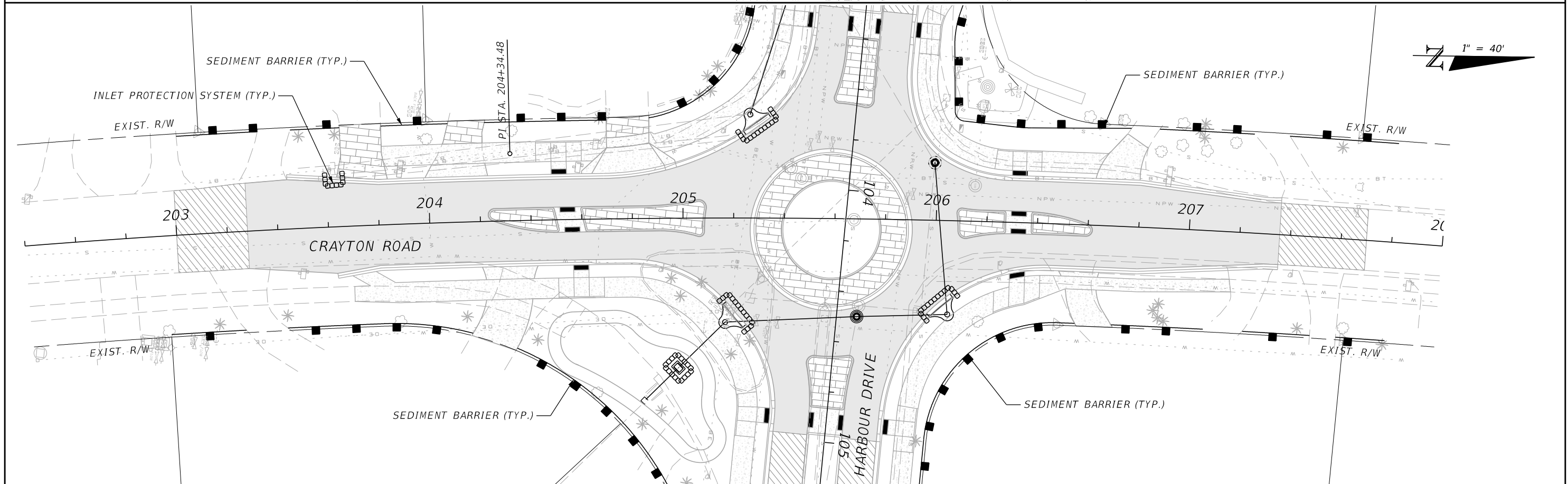
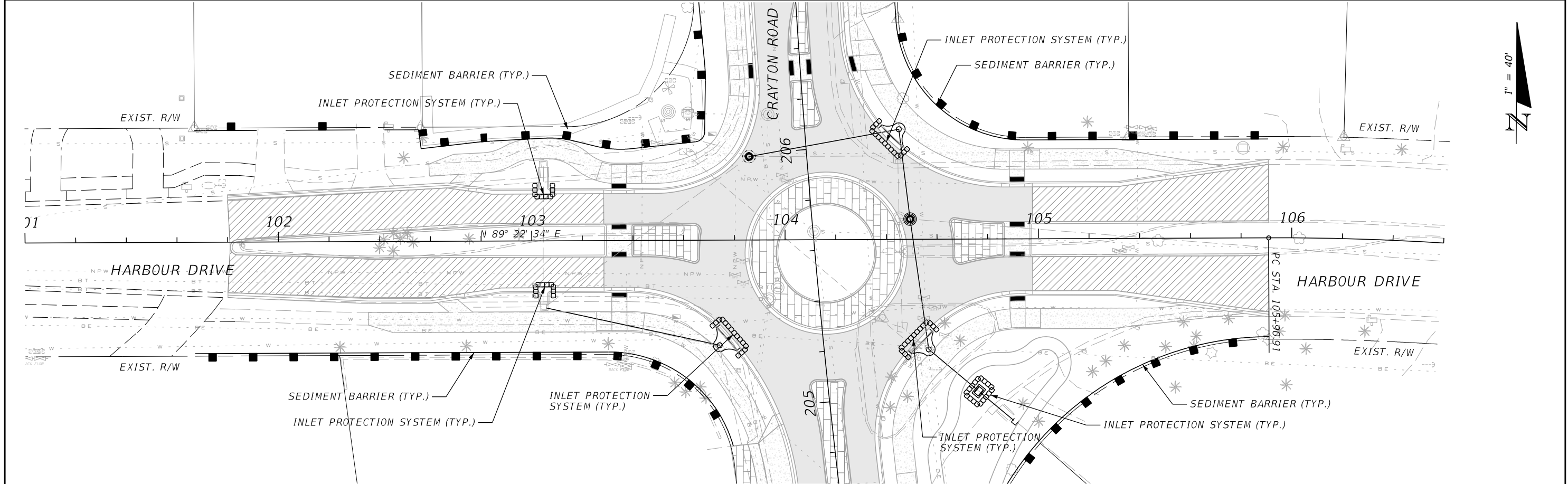
**CITY OF NAPLES
STREETS & STORMWATER**

ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

**CROSS SECTIONS
CRAYTON ROAD**

SHEET NO.
20

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CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

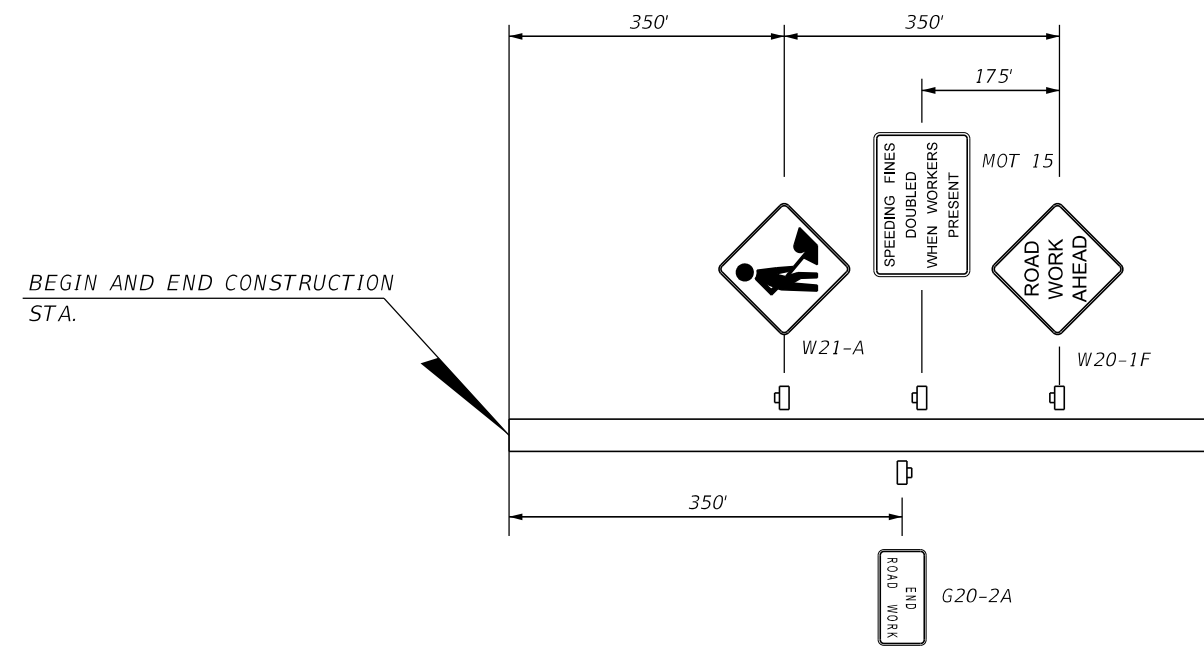
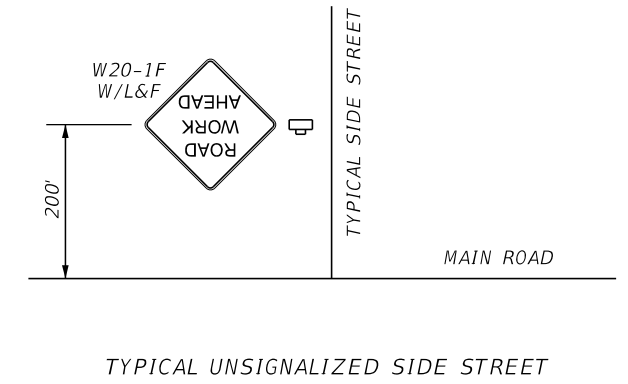
EROSION CONTROL PLAN

SHEET NO.
21

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GENERAL NOTES:

1. THE EXISTING SPEED LIMITS SHALL REMAIN IN EFFECT FOR ALL TRAFFIC CONTROL AREAS.
2. WHENEVER CONSTRUCTION EQUIPMENT IS BEING DRIVEN OR TRANSPORTED ON OPEN TRAVEL LANES, UTILIZE STANDARD PLANS INDEX NO. 102-625.
3. DETERMINE INTENDED SEQUENCING PLAN AND SUBMIT TO THE CITY OF NAPLES FOR APPROVAL PRIOR TO CONSTRUCTION. ALL TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH STANDARD PLANS INDEX 102 SERIES.
4. PROVISIONS FOR TRAFFIC DISRUPTIONS THAT ARE NOT ANTICIPATED IN THE TRAFFIC CONTROL PLAN, BUT ARE NECESSARY TO CONSTRUCT THE PROJECT, WILL BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED 24 HOURS BEFORE THE START OF THE WORK. SUBMITTAL MATERIAL SHALL INCLUDE SKETCHES, CALCULATIONS, AND OTHER DATA REQUIRED BY THE ENGINEER.
5. NOTIFY ALL LOCAL LAW ENFORCEMENT, FIRE DEPARTMENT AND EMERGENCY SERVICES IN THE AREA, 24 HOURS IN ADVANCE OF ANY LANE CLOSURES.
6. AT THE DISCRETION OF THE ENGINEER, OPEN ANY TEMPORARY LANE CLOSURE CAUSING EXTENDED TRAFFIC CONGESTION (5 MINUTE DELAY) UNTIL TRAFFIC HAS RETURNED TO AN ACCEPTABLE FLOW AS DETERMINED BY THE ENGINEER.
7. DO NOT CLOSE TWO CONSECUTIVE SIDE STREETS IN ANY GIVEN PHASE.
8. NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS IN ADVANCE OF ANY LANE CLOSURES.
9. PROVIDE A DEDICATED CREW FOR THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE TRAFFIC CONTROL DEVICES (i.e. BARRICADES, SIGNS, ARROW BOARDS, etc.). THIS CREW SHALL CONSIST OF AT LEAST THREE MEMBERS OF THE CONTRACTOR'S WORK FORCE WHOSE SOLE RESPONSIBILITY WILL BE THE MAINTENANCE OF TRAFFIC CONTROL. THE CONTRACTOR SHALL FURNISH A WORK VEHICLE TO AID IN MAINTAINING THE CONTROL DEVICES.
10. SUBMIT A WRITTEN PLAN, WHICH DETAILS EACH ACTIVITY INVOLVED IN THE LANE CLOSURE. THE PLAN SHALL INCLUDE BACK-UP PLANS FOR ACTIVITIES CRITICAL TO RE-OPENING THE LANES TO TRAFFIC. THE BACK-UP PLAN SHALL INCLUDE ACTIVITIES OF ALL SUBCONTRACTOR'S OPERATIONS AS WELL AS THE PRIME CONTRACTOR'S. NO LANE CLOSURE WILL BE ALLOWED WITHOUT A PLAN TO ACHIEVE RE-OPENING. AN EXAMPLE ON AN ACCEPTABLE BACK-UP PLAN WOULD INCLUDE THE CONTRACTOR CHOOSING TO HAVE A TEMPORARY TAPE ON HAND.
11. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES THAT ARE IN THE LIMITS OF CONSTRUCTION.
12. ADVANCED WARNING SIGNS SHALL BE REMOVED OR FULLY COVERED WHEN NO WORK IS BEING PERFORMED.



ADVANCE WARNING SIGN DIAGRAM
AT BEGIN AND END PROJECT

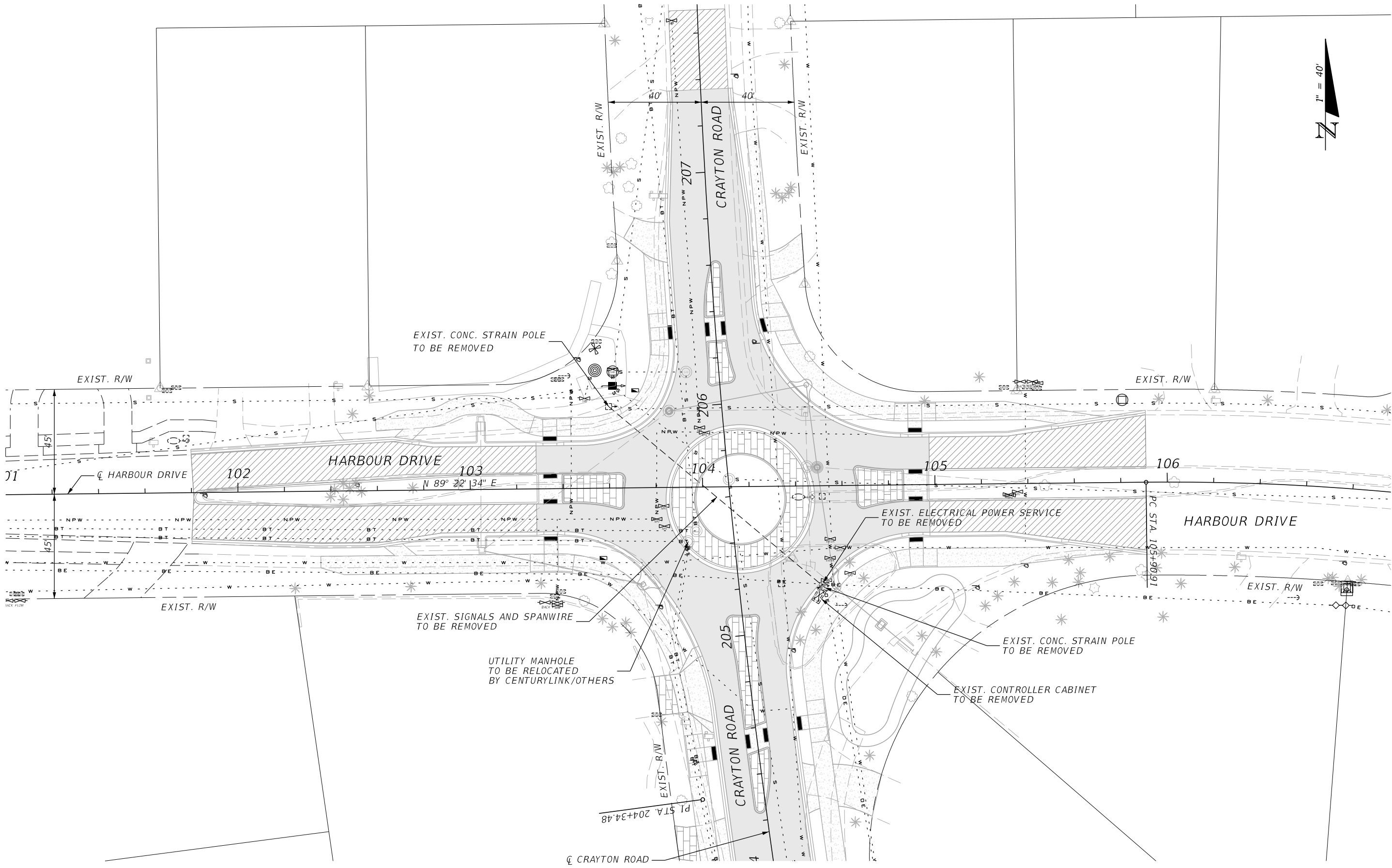
- * ADVANCED WARNING TO BE PLACED 350' PRIOR TO START OF CURVE WHEN APPLICABLE.
- ** SHOULDER WORK SIGN (W21-5) MAY BE USED AS AN ALTERNATE TO WORKERS AHEAD SIGN (W21-1).

TEMPORARY TRAFFIC CONTROL PHASING NOTES:

1. CONSTRUCT ALL WORK, MORE THAN 2 FEET FROM THE EDGE OF TRAVEL WAY, INCLUDING BUT NOT LIMITED TO SILT FENCE PLACEMENT, SIDEWALK CONSTRUCTION, GRADING, SODDING AND SIGN INSTALLATION, IN ACCORDANCE WITH STANDARD PLANS INDEX 102-602.
2. ALL WORK CLOSER THAN 2 FEET TO THE EDGE OF TRAVEL WAY AND WITHIN THE TRAVEL WAY, INCLUDING SIDEWALK CONSTRUCTION, DETECTABLE WARNING SURFACE INSTALLATION AND STRIPING, SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD PLANS INDEX 102-603. LANE CLOSURES MUST BE COORDINATED WITH AND APPROVED IN ADVANCE BY THE CITY OF NAPLES.
3. WORK WITHIN A SIDE STREET INTERSECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD PLANS INDEX 102-604.
4. WORK NEAR A SIDE STREET INTERSECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD PLANS INDEX 102-605.
5. WORK INVOLVING THE CLOSURE OF SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD PLANS INDEX 102-660.

REVISIONS				JOHNSON ENGINEERING <small>JOSHUA J. HILDEBRAND • P.E. LICENSE NO. 73952 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT • NAPLES, FL 34112 CERTIFICATE OF AUTHORIZATION NO. 642</small>	CITY OF NAPLES STREETS & STORMWATER			TEMPORARY TRAFFIC CONTROL PLAN	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID		22
						COLLIER	20150110-006		

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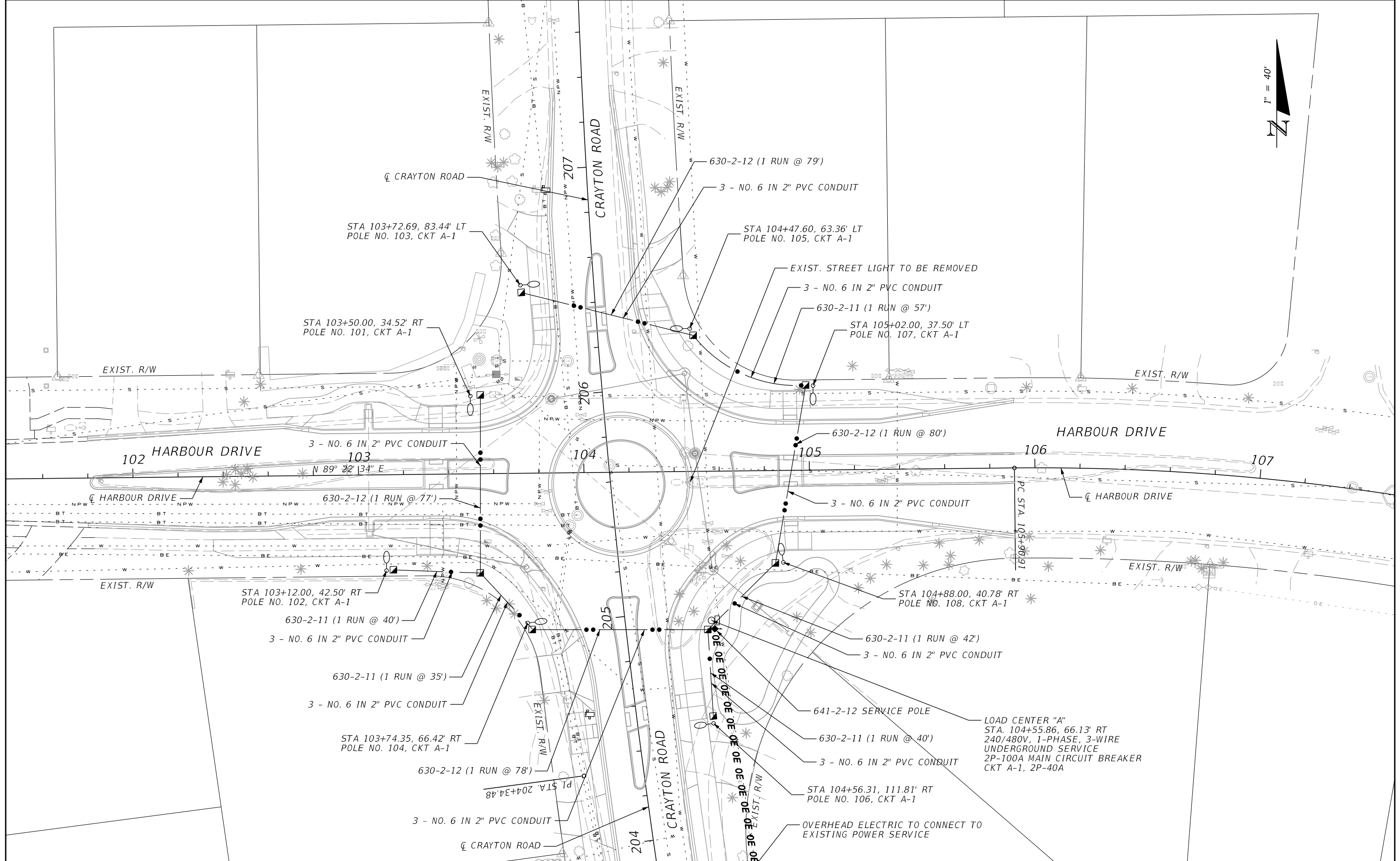
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 JOHNSON ENGINEERING, INC.
 2350 STANFORD COURT • NAPLES, FL 34112
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CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

UTILITY ADJUSTMENTS

SHEET NO.
23

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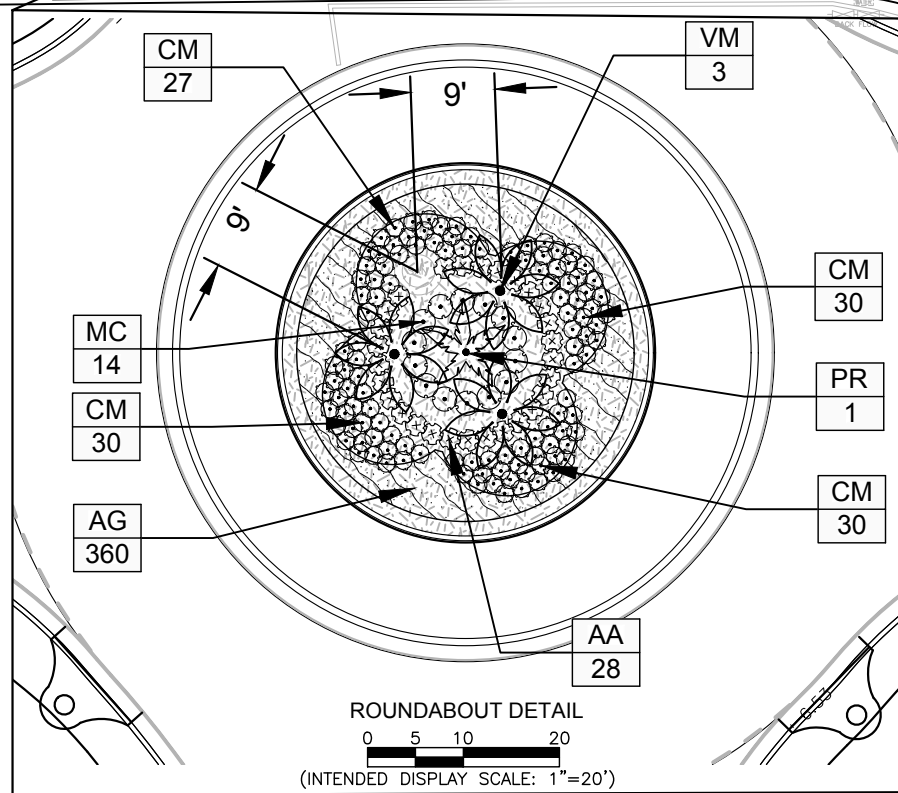
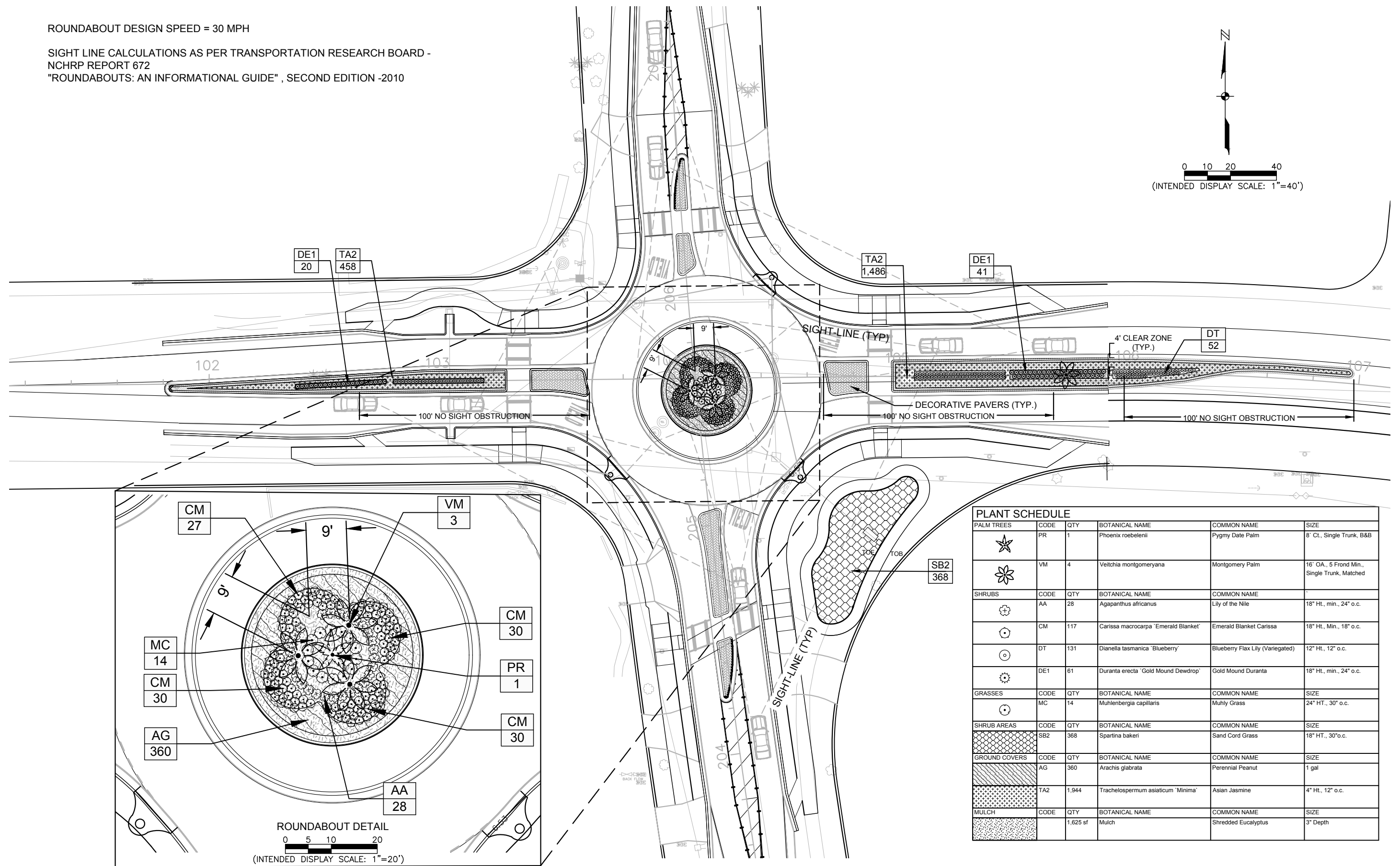
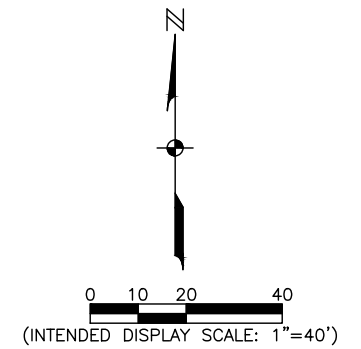
CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

LIGHTING PLAN
 SHEET NO. L-1

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ROUNDAABOUT DESIGN SPEED = 30 MPH

SIGHT LINE CALCULATIONS AS PER TRANSPORTATION RESEARCH BOARD -
NCHRP REPORT 672
"ROUNDAABOUTS: AN INFORMATIONAL GUIDE", SECOND EDITION -2010



PLANT SCHEDULE					
PALM TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	PR	1	Phoenix roebelenii	Pygmy Date Palm	8' Ct., Single Trunk, B&B
	VM	4	Veitchia montgomeryana	Montgomery Palm	18' OA., 5 Frond Min., Single Trunk, Matched
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	AA	28	Agapanthus africanus	Lily of the Nile	18" Ht., min., 24" o.c.
	CM	117	Carissa macrocarpa 'Emerald Blanket'	Emerald Blanket Carissa	18" Ht., Min., 18" o.c.
	DT	131	Dianella tasmanica 'Blueberry'	Blueberry Flax Lily (Variegated)	12" Ht., 12" o.c.
	DE1	61	Duranta erecta 'Gold Mound Dewdrop'	Gold Mound Duranta	18" Ht., min., 24" o.c.
GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	MC	14	Muhlenbergia capillaris	Muhly Grass	24" HT., 30" o.c.
SHRUB AREAS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	SB2	368	Spartina bakeri	Sand Cord Grass	18" HT., 30" o.c.
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	AG	360	Arachis glabrata	Perennial Peanut	1 gal
	TA2	1,944	Trachelospermum asiaticum 'Minima'	Asian Jasmine	4" Ht., 12" o.c.
MULCH	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
		1,625 sf	Mulch	Shredded Eucalyptus	3" Depth

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059
JOHNSON ENGINEERING, INC.
2350 STANFORD COURT NAPLES FL 34112
CERTIFICATE OF AUTHORIZATION #642

CITY OF NAPLES STREETS & STORMWATER		
ROAD NO.	COUNTY	JEI PROJECT ID
	COLLIER	20150110-006

LANDSCAPE PLAN

SHEET NO.
L01

LANDSCAPE MATERIAL SPECIFICATIONS

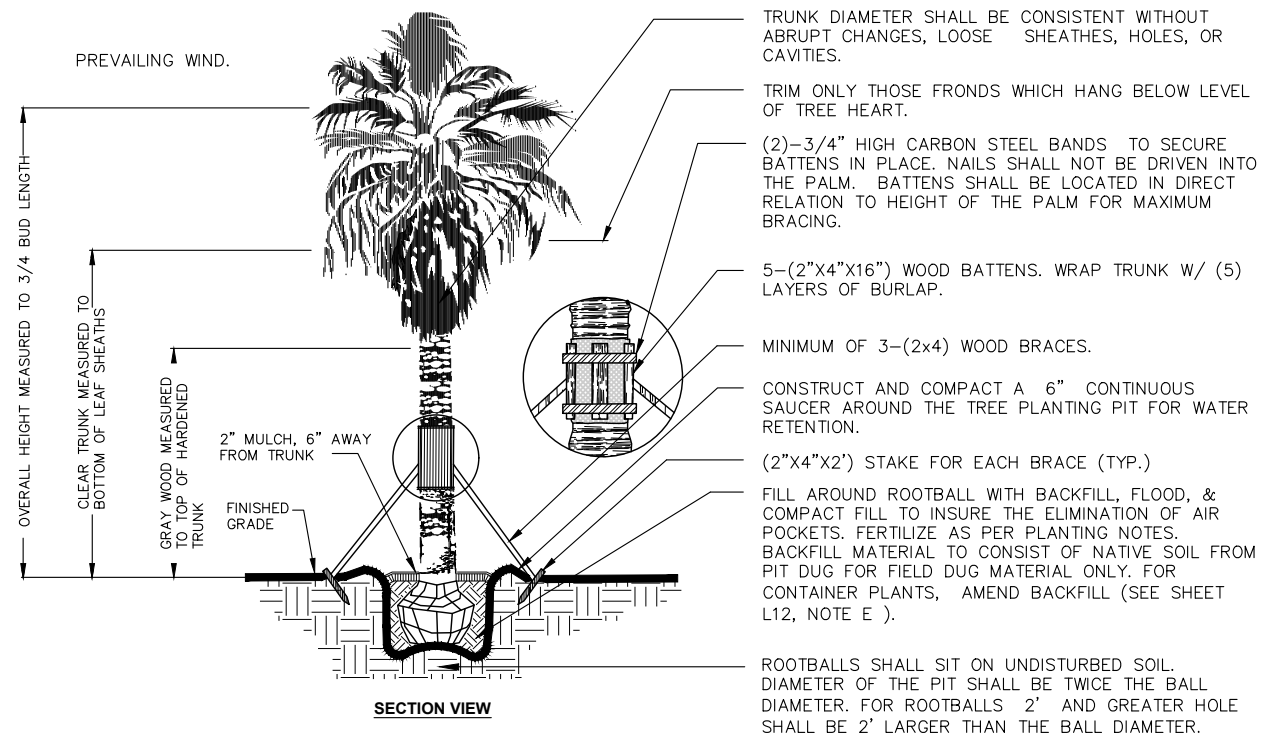
- A. PLANT MATERIALS:** ALL TREES, PALMS, SHRUBS, GROUNDCOVERS, LITTORALS, WATER PLANTS, SOD AND VINES SHALL CONFORM TO THOSE SPECIES AND SIZES INDICATED ON THE DRAWINGS. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS AS DETERMINED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE FLORIDA GRADE NUMBER 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. SPECIMEN MEANS A PLANT THAT IS TRAINED IN ITS DEVELOPMENT TO POSSESS UNQUESTIONABLE AND OUTSTANDINGLY SUPERIOR IN FORM, BRANCHING, COMPACTNESS AND SYMMETRY. TREES FOR PLANTING ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. SINGLE TRUNK TREES SHALL HAVE A STRAIGHT, CENTRAL LEADER. MULTI-TRUNK TREES ARE TO HAVE 3-5 EQUAL SIZED TRUNKS UNLESS OTHERWISE SPECIFIED. PLANTS WITH MARRED OR BURNED TRUNKS WILL NOT BE ACCEPTED. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY IN ACCORDANCE WITH INTERNATIONAL SOCIETY OF ARBORIST GUIDELINES TO INSURE PROPER HEALTH AND VIGOROUS GROWTH. ALL MATERIALS SHALL BE SUBJECT TO THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER
- B. BALLED & BURLAPPED:** ALL BALLED & BURLAPPED STOCK SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED, FREE FROM DISEASE AND INSECTS, SECURE IN THE ROOTBALL, AND POSSESS ADEQUATE ROOT SYSTEMS. ALL BURLAP SHALL BE REMOVED FROM THE TOP ONE-THIRD OF THE BALL TO PREVENT WICKING. ANY BURLAP THAT IS NOT BIODEGRADABLE SHALL BE CAREFULLY REMOVED TO PROTECT DAMAGE TO FEEDER ROOTS. GROW BAGS SHALL BE REMOVED IN THEIR ENTIRETY. ALL BALLED & BURLAPPED STOCK THAT IS NOT IMMEDIATELY PLANTED, SHALL BE HEALED IN AND THOROUGHLY WATERED UNTIL PLANTING. LIFTING, MOVING, OR ADJUSTING THE PLANT MATERIAL BY THE TRUNK IS PROHIBITED.
- C. CONTAINER GROWN STOCK:** ALL CONTAINER GROWN STOCK SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED (NOT ROOT BOUND), AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS OF GOOD QUALITY AND BE IN A HEALTHY GROWING CONDITION. ALL CONTAINER GROWN STOCK THAT IS NOT IMMEDIATELY PLANTED, SHALL BE STORED IN A MANNER TO SHADE THE CONTAINERS FROM DIRECT SUNLIGHT TO MINIMIZE ROOT DAMAGE. ALL CONTAINER STOCK SHALL BE THOROUGHLY WATERED PRIOR TO PLANTING AND DURING STORAGE UNTIL PLANTING. LIFTING AND MOVING OF THE PLANT MATERIAL SHALL BE BY THE CONTAINER ONLY.
- D. MEASUREMENTS:** TREE HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE TOP MOST PORTION OF THE PLANTED TREE. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS SHALL NOT INCLUDE ANY TERMINAL GROWTH. SHRUBS' HEIGHT SHALL BE MEASURED FROM THE GROUND TO THE AVERAGE POINT WHERE MATURE PLANT GROWTH STOPS. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE SHRUB MASS. MEASUREMENT SHALL NOT INCLUDE ANY TERMINAL GROWTH. PALMS SHALL BE MEASURED BY THREE HEIGHT CLASSIFICATIONS: OVERALL HEIGHT, CLEAR TRUNK, AND GRAY WOOD. OVERALL HEIGHT SHALL BE MEASURED FROM THE FROM THE GROUND TO THE AVERAGE FROND HEIGHT AT TIME OF INSTALLATION. CLEAR WOOD SHALL BE MEASURED FROM THE GROUND AT TIME OF INSTALLATION TO THE BOTTOM OF THE FROND SHEATH. GRAY WOOD SHALL BE MEASURED FROM THE GROUND AT TIME OF INSTALLATION TO THE TOP OF HARDENED WOOD.
- E. PLANTING SOIL PREPARATION (MEDIANS ONLY):** CONTRACTOR SHALL PREPARE EXISTING MEDIAN SOIL FOR PLANTING BY APPLYING INITIAL APPLICATION HERBICIDE AS PER MANUFACTURER'S RECOMMENDATIONS TO EXISTING MEDIAN SOD, APPLY FERTILIZER 13-2-13 WITH ADDED SULFUR AND MANGANESE APPLIED AT MANUFACTURER'S RECOMMENDED RATE, TILL EXISTING SOIL TO A DEPTH OF 18"(TILLING IN A MINIMUM OF FOUR DIFFERENT DIRECTIONS), REMOVE ALL OBJECTIONABLE MATERIAL (ROCK, CONCRETE, WOOD, PLASTIC, ETC.) GREATER THAN 1.5" IN SIZE AND SURFICIAL SOD CLUMPS AFTER FINAL GRADING, EXCESS SOIL AFTER TILLING SHALL BE PLACED IN THE CENTER OF THE MEDIAN TO CREATE A CROWN (CROWN NOT TO EXCEED MAX. 2% SLOPE) AS NECESSARY TO PROVIDE FINAL GRADE AT 3" BELOW TOP OF EXISTING CURB AFTER COMPACTION (95% PROCTOR). CONTRACTOR SHALL INCLUDE A TOTAL OF 3 HERBICIDE APPLICATIONS DURING CONSTRUCTION. THE RESULTS OF POST SOIL MODIFICATION TESTING, BASED ON LIKE PLANTING CONDITIONS AND AREA PROXIMITY, SHALL BE SUBMITTED TO THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER FOR APPROVAL PRIOR TO PLANTING.
- F. PLANTING SOIL BACKFILL MATERIAL:** PLANTING SOIL FOR USE IN BACKFILLING PLANTING PITS SHALL BE A FERTILE, FRIABLE, COARSE, CLEAN, WELL-DRAINING, NATIVE SAND SUITABLE FOR SOUTHWEST FLORIDA VEGETATION. BOTH TOP AND SUBSOIL (36" DEPTH) SHOULD BE A SANDY LOAM SOIL WITH 80-85% MEDIUM AND COARSE SAND (<25 % FINE SAND), 5-10% CLAY, 5-10% SILT, AND SHALL CONTAIN NO MORE THAN 3% ORGANIC MATTER. SHALL HAVE A PH BETWEEN 5.5 AND 7.0. STONES RANGING FROM 0.5 TO 1 INCH (1.25 TO 2.5 CM) SHALL NOT EXCEED 5% OF THE SOIL VOLUME, AND GRAVEL ¼ TO ½ INCHES (0.6 TO 1.25 CM) SHALL NOT EXCEED 5% OF THE SOIL VOLUME. PARTICLES GREATER THAN 1.5 INCH IN THE LONGEST DIMENSION ARE NOT PERMITTED. THIS INCLUDES FRAGMENTS OF BRICK, CONCRETE, WOOD, GLASS, METAL, STONE AND PLASTIC. THE PLANTING SOIL BACKFILL MATERIAL SHALL HAVE NO HERBICIDES, HEAVY METALS, BIOLOGICAL TOXINS, OR HYDROCARBONS THAT WILL IMPACT PLANT GROWTH OR ARE AT LEVELS EXCEEDING THE EPA'S STANDARDS FOR SOIL CONTAMINANTS. FOR SHRUBS/GROUNDCOVER/ANNUAL PLANTS AMEND SOIL WITH 3"MINIMUM DEPTH OF ORGANIC COMPOST TO ACHIEVE OPTIMAL PH LEVELS AND SOIL AERATION. THE RESULTS OF POST SOIL TESTING BASED ON LIKE PLANTING CONDITIONS AND AREA PROXIMITY SHALL BE SUBMITTED TO THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER FOR APPROVAL PRIOR TO PLANTING. THE PLANTING SOIL BACKFILL MATERIAL SHALL BE INCLUDED IN PLANT MATERIAL COSTS, A SEPARATE PAY ITEM WILL NOT BE ISSUED.
- G. PLANTING FERTILIZER:** FERTILIZER FOR PLANTING PITS SHALL BE UNIFORM IN COMPOSITION, DRY, AND FREE FLOWING AND DELIVERED TO THE SITE IN ORIGINAL UNOPENED BAGS BEARING ALL THE MANUFACTURER'S LABELS. ALL FERTILIZER IS TO BE SLOW RELEASE AND COMPLETE WITH NECESSARY MICRONUTRIENTS. AFTER INSTALLATION, FERTILIZER SHALL BE CLEANED FROM ALL HARDSCAPE SURFACES AND WATERED IN THOROUGHLY PER MANUFACTURER'S SPECIFICATIONS. TREES AND SHRUBS MIXTURE SHALL CONSIST OF A SLOW RELEASE FORMULATION OF 8-2-12+4MG, SULPHUR COATED FERTILIZER INCLUDING ALL MACRO NUTRIENTS. ALL TREES AND SHRUBS SHALL BE FERTILIZED BI MONTHLY DURING THE GROWING SEASON AT A RATE OF 1.5 LBS. PER 100 SQ. FT. OF BEDS / TREE CANOPY (3' FROM BASE TO DRILINE) OR PER MANUFACTURE'S RECOMMENDATION. INSTALL PLANTS WITH 21 GRAM "AGRIFORM" OR APPROVED EQUAL FERTILIZER TABLETS AT THE MANUFACTURER'S RECOMMENDED RATES. SOD FERTILIZER SHALL BE TURF SPECIFIC FOR ESTABLISHING NEW LAWNS AND APPLIED PER MANUFACTURE'S RECOMMENDATION. UPON ESTABLISHMENT, THE TURF SHALL BE FERTILIZED AT A RATE OF 1 LB OF ACTUAL NITROGEN PER 1000 FT. SQ. OR PER MANUFACTURE'S RECOMMENDATION. (NOTE: BAHIA TURF SHALL RECEIVE FERTILIZATION AT A HALF RATE OF THE ABOVE TURF RECOMMENDATIONS.) APPLY A 1/2 LBS. OF A PALM SPECIFIC (1 PART NITROGEN TO 1 PART POTASSIUM WITH 0.3 PARTS MAGNESIUM) FERTILIZER QUARTERLY FOR ALL ESTABLISHED PALMS PER 2' OF HEIGHT OR PER MANUFACTURE'S RECOMMENDATION.
- H. MULCH:** MULCH MATERIAL SHALL SHREDDED HARDWOOD OR APPROVED EQUAL, FREE FROM WEED SEEDS, AND APPLIED TO A MINIMUM 2" DEPTH. CYPRESS MULCH IS NOT ACCEPTABLE.
- I. SOD:** ALL SOD SHALL BE SAND GROWN AND SHALL MEET FLORIDA DIVISION OF PLANT INDUSTRY SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, INSECTS, AND DISEASES OF ANY KIND. JOINTS SHALL BE STAGGERED AND BUTTED TIGHTLY TOGETHER TO MINIMIZE AIR GAPS. THE GRADE SHALL BE SMOOTH, FREE OF DEBRIS, POSITIVELY DRAINED, AND MOIST TO SOD INSTALLATION. THE SOD SHALL BE ROLLED IN TWO DIRECTIONS PERPENDICULAR FROM ONE ANOTHER AFTER INSTALLATION TO ENSURE PROPER GROUND CONTACT. IN AREAS WHERE A ROLLER CANNOT BE USED, HAND TAMPING SHALL BE REQUIRED. SOD SHALL BE INSTALLED AND WATERED WITHIN 24 HOURS AFTER HARVESTING.
- J. SUBSTITUTIONS:** NO SUBSTITUTION OF ANY MATERIALS' VARIETIES, GRADES, OR SIZES SHALL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER. ANY / ALL UNAUTHORIZED SUBSTITUTIONS MAY REQUIRE REPAIRING / REPLACING AT THE CONTRACTOR'S EXPENSE AND THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER DISCRETION.
- K. WARRANTY:** THE CONTRACTOR SHALL WARRANTY ALL WORKMANSHIP FOR THE PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE FROM THE OWNER AND THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER. ANY DEAD, UNHEALTHY, NON-CONFORMING PLANT MATERIAL SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITHIN 7 DAYS OF NOTICE FROM THE OWNER OR JOHNSON ENGINEERING, INC. THE CONTRACTOR SHALL NOT BE LIABLE FOR "ACTS OF GOD" AND VANDALISM, NEGLIGENCE AND THEFT BY OTHERS.
- L. IRRIGATION:** CONTRACTOR SHALL MAINTAIN THE INSTALLED IRRIGATION SYSTEM IN AN OPERABLE CONDITION AT ALL TIMES, INCLUDING DURING CONSTRUCTION. CONTRACTOR SHALL CHECK FOR LINE BREAKS AND CLEAN BUBBLER'S OF DEBRIS SO THAT THEY PROVIDE UNIFORM WATER DISTRIBUTION AT ALL TIMES.

GENERAL LANDSCAPE NOTES:

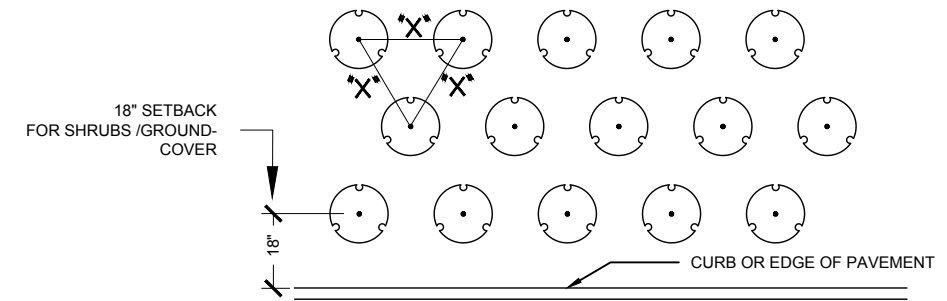
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.
- CONTRACTORS ARE ADVISED TO REFER TO THE SPECIFICATIONS, CONTRACT DOCUMENTS, AND PLAN SHEETS FOR A MORE DETAILED DISCLOSURE OF PERFORMANCE STANDARDS AND REQUIREMENTS.
- THE CONTRACTOR IS CAUTIONED TO BE AWARE OF UNDERGROUND UTILITIES. PRIOR TO EXCAVATION, THE CONTRACTOR SHALL CHECK WITH THE JOB SITE SUPERINTENDENT. "NO- CUTS", AND THE CITY OF NAPLES UTILITIES FOR THE LOCATION OF ALL UTILITIES A MINIMUM OF 48 HOURS BEFORE BEGINNING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND SERVICES BOTH UNDERGROUND AND OVERHEAD PRIOR TO THE COMMENCEMENT OF WORK. PROTECTION OF ALL UTILITIES AND SERVICES THROUGHOUT THE COURSE OF WORK IS EXPECTED.
- ALL LANDSCAPE AREAS (EXCEPT FOR PLANTING BEDS) SHALL BE SODDED UNLESS OTHERWISE INDICATED ON THE DRAWINGS. CONTRACTOR SHALL GET APPROVAL OF FINE GRADING FROM THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER PRIOR TO COMMENCING THIS WORK TO CONFIRM ACTUAL SHAPES AND ELEVATIONS OF THE LANDSCAPE BERMING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FINISH GRADE ALL LANDSCAPE AREAS, ELIMINATING ALL BUMPS, DEPRESSIONS, ROCKS, STICK, OR OTHER DEBRIS PRIOR TO THE INSTALLATION OF PLANT MATERIAL. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING POSITIVE SHEET FLOW DRAINAGE AWAY FROM ALL STRUCTURES AND TO ALL DRAINAGE WAYS SHOWN OR IMPLIED ON THE DRAWINGS.
- THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER RESERVES THE RIGHT TO RELOCATE/ REPOSITION ANY PLANTS AS SITE CONDITIONS MAY DICTATE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL TRADES SO AS TO AVOID ANY CONFLICT WITH THE EXECUTION OF WORK BY OTHERS. THE CITY OF NAPLES SHALL NOT BE RESPONSIBLE FOR THE DAMAGE TO PLANT MATERIALS CAUSED BY OTHER TRADES OR SUBCONTRACTORS. THE CONDITION OF PLANT MATERIAL SHALL BE IN ACCORDANCE TO THE LANDSCAPE PLAN SPECIFICATION AND APPROVED BY THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER.
- THE CONTRACTOR SHALL VERIFY ALL QUANTITIES ON THE DRAWINGS PRIOR TO BIDDING. ALL QUANTITIES ON THE DRAWINGS ARE PROVIDED FOR CONVENIENCE ONLY.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS
- CONTRACTOR INSTALLED FILL MATERIAL SHALL COMPLY WITH PLANTING SOIL BACKFILL MATERIAL AS SPECIFIED ON PLANS, SUITABLE FOR PLANT GROWTH. SUBMIT SAMPLE OF FILL TO THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER FOR REVIEW. ALL EXISTING TURF AREAS TO BE GRADED TO A SMOOTH UNIFORM GRADE. NO FILL IS TO BE PLACED AROUND EXISTING TREES.
- ANY EXCESS SOIL OR DEBRIS FROM CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND TAKEN TO THE COUNTY LAND FILL OR OTHER LAWFUL DISPOSAL SITE.
- THE LANDSCAPE CONTRACTOR SHALL WATER ALL PLANT MATERIAL UNTIL FINAL COMPLETION. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING TREES AND SHRUBS EXPERIENCING TRANSPLANT SHOCK DUE TO LACK OF WATER AT ANY TIME DURING THE COURSE OF THE CONTRACT PERIOD.
- ALL TREES AND PALMS WITHIN SOD AREAS SHALL BE MULCHED 2" DEEP WITHIN A 6"-0" MIN. DIAMETER RING. STAKES SHALL BE LOCATED OUTSIDE PLANTING PIT IN STABLE UNDISTURBED SOIL AND WITHIN MULCH RINGS.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL EXISTING SOD, DEBRIS, WEEDS AND NECESSARY HANDWORK IN PREPARATION FOR ANY PLANTING.
- CONTRACTOR SHALL REPAIR ANY AREAS DISTURBED DURING THE COMPLETION OF WORK INCLUDING RESODDING OF IRRIGATION TRENCHES AND PLANTING PITS RESULTING FROM MATERIAL RELOCATIONS.
- CONTRACTOR SHALL COLLECT PREPARED SOIL SAMPLES, AS APPROVED BY THE CITY OF NAPLES STREETS AND STORMWATER PROJECT MANAGER, FOR STATE AGRICULTURE EXTENSION SOIL TEST FOR PHYSICAL & CHEMICAL PROPERTIES INCLUDING FERTILIZATION SOIL AMENDMENT RECOMMENDATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING FERTILIZER ON ALL PLANT MATERIAL ACCORDING TO THE RECOMMENDATION PROVIDED IN THE LAB'S SOIL ANALYSIS REPORT THIS WILL BE CONSISTENT WITH THE SPECIFICATIONS.
- ALL TREE RINGS CONTAINING WEED GROWTH SHALL BE SPRAYED WITH HERBICIDE AT THE MFG. RECOMMEND APPLICATION RATE. TREE RINGS AND ALL BEDS ARE TO REMAIN WEED FREE UNTIL FINAL INSPECTION FOR ACCEPTANCE. CONTRACTOR SHALL PROVIDE A MINIMUM OF 3 APPLICATIONS OF HERBICIDE DURING THE COURSE OF CONSTRUCTION).
- THE FIRST EMERGING ROOT OF THE ROOT BALL SHALL BE AT FINISH GRADE AND VISIBLE AT INSPECTION.
- NO STONES LARGER THEN 1.5" ALLOWED IN BACK FILL OR PLANTING SOIL.
- ALL PLANT MATERIAL SHALL BE HANDLED BY EQUIPMENT SO AS NOT TO DAMAGE TRUNKS OR FOLIAGE.
- THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN SAFE SIGHT DISTANCE AT ALL INTERSECTIONS AND VEHICULAR CONNECTIONS. LIMITS OF CLEAR SIGHT MUST BE IN ACCORDANCE WITH THE ROADSIDE RECOVERY AREA PROVISIONS OF MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, AND FDOT DESIGN STANDARDS - LATEST EDITION. ALL LANDSCAPING WITHIN THE LIMITS OF CLEAR SIGHT SHALL MAINTAIN A WINDOW OF VERTICAL LIMITS BETWEEN THIRTY-SIX (36) INCHES AND EIGHT FEET (8'). CONTRACTOR TO VERIFY PRIOR TO FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN CLEAR SIGHT DISTANCE AT ALL ROADWAY R.O.W. AND PROPERTY LINE INTERSECTIONS IN ACCORDANCE WITH THE CITY OF NAPLES REQUIREMENTS. ALL LANDSCAPING WITHIN THE CLEAR SIGHT DISTANCE (TRIANGLE) SHALL PROVIDE UNOBSTRUCTED VISIBILITY BETWEEN 30 INCHES (30") AND 8 FEET (8') ABOVE THE CROWN OF THE ROAD.
- AN AUTOMATIC IRRIGATION SYSTEM COMBINING DRIP, SPRAY HEADS AND ROTORS AS APPROPRIATE WILL BE INSTALLED TO PROVIDE 100% COVERAGE TO ALL LANDSCAPED AREAS. A RAIN SENSOR WILL BE INCLUDED IN THE IRRIGATION SYSTEM AND LOCATED ON THE SITE SO THAT IT WILL RECEIVE DIRECT RAINFALL, NOT IMPEDED BY OTHER OBJECTS.
- TEST & VERIFY IRRIGATION COVERAGE BEFORE PLANT INSTALLATION.
- FOR ALL PLANTING AND IRRIGATION ITEMS THE TABULATION OF ESTIMATED QUANTITIES ON THESE SHEET ARE APPROXIMATE AND FOR INFORMATION ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING A FULLY FUNCTIONAL AUTOMATIC IRRIGATION SYSTEM AS PER PLANS.
- CONTRACTOR IS RESPONSIBLE FOR TRIMMING AND MAINTENANCE OF SOD, GROUNDCOVERS, AND PLANT MATERIAL DURING THE INSTALLATION OF THE LANDSCAPE MATERIALS. FOLLOWING FULL ESTABLISHMENT OF THE SOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REGULAR MOWING, DEPENDING ON RATE OF GROWTH, UNTIL FINAL COMPLETION.
- TREES GRADED FLORIDA NO. 1 MAY REQUIRE SOME CORRECTIVE PRUNING SO THEY DEVELOP GOOD TRUNK AND BRANCH STRUCTURE. THEY MAY HAVE MINOR TRUNK INJURIES OR COULD HAVE OTHER DEFECTS. DEFECTS CAN BE CORRECTED BY PRUNING THE TREE AT PLANTING AND/OR ONCE OR TWICE WITHIN A YEAR OR TWO AFTER PLANTING. CONTRACTOR SHALL PRUNE TO MAINTAIN LANDSCAPE MATERIALS UNTIL FINAL COMPLETION AND WILL FOLLOW THE ANSI A300 AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS - TREE, SHRUB, AND OTHER WOODY PLANT MANAGEMENT - STANDARD PRACTICES (PRUNING).
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY REMOVAL OF ALL LITTER PROXIMATE TO THE SITE, BOTH GENERATED BY THE PROJECT AND IN GENERAL, DURING THE PERIOD OF INSTALLATION UNTIL FINAL COMPLETION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING THE INSTALLED SOD AS NEEDED DURING CONSTRUCTION.

REVISIONS				 JOHNSON ENGINEERING JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT NAPLES FL 34112 CERTIFICATE OF AUTHORIZATION #642	CITY OF NAPLES STREETS & STORMWATER			SHEET NO. L02
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
						COLLIER	20150110-006	

LANDSCAPE NOTES



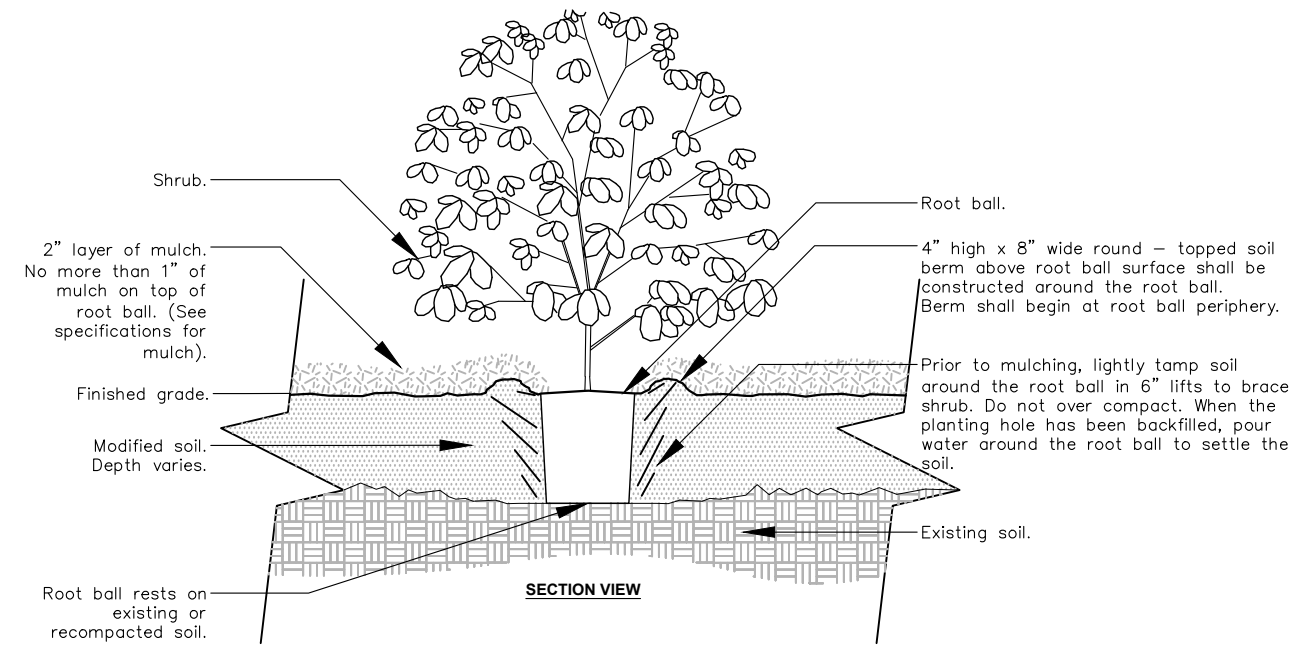
TYPICAL PALM TREE PLANTING
N.T.S.



Note:
For TRIANGULAR planting patterns, the distance between plants within and between rows equals "X".
All shrubs and groundcover masses to use triangular spacing except where noted otherwise. Refer to plant schedule for individual plant spacing "X".

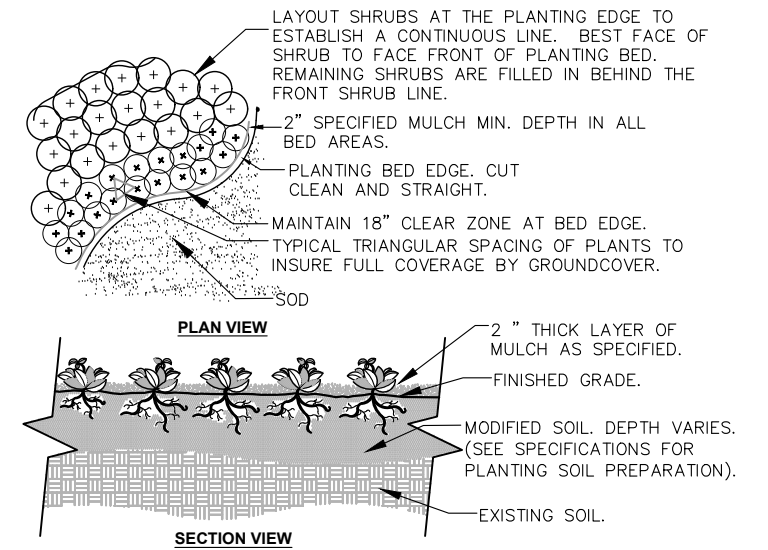
1- SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE, AND SPACING DIMENSION.
2- SMALL ROOTS (1/4" OR LESS) THAT GROW AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY SHOULD BE ELIMINATED AT THE TIME OF PLANTING.
3- SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.

PLANT SPACING (TYP.) N.T.S.



Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.
2- See specifications for further requirements related to this detail.

TYPICAL SHRUB PLANTING



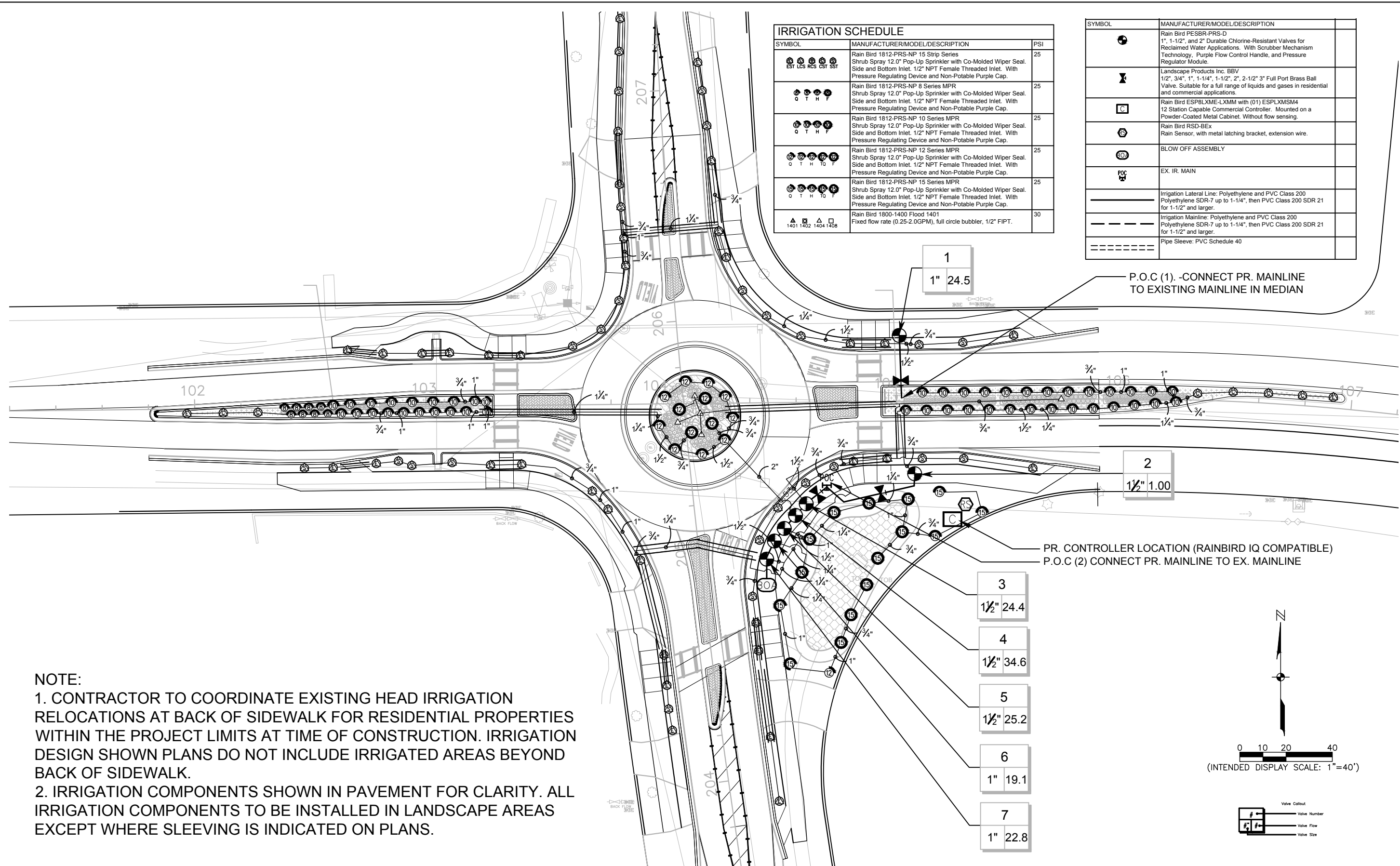
TYPICAL SHRUB BED PLANTING

N.T.S.

REVISIONS				JOHNSON ENGINEERING JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT NAPLES FL 34112 CERTIFICATE OF AUTHORIZATION #642	CITY OF NAPLES STREETS & STORMWATER			LANDSCAPE DETAILS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID		
						COLLIER	20150110-006		

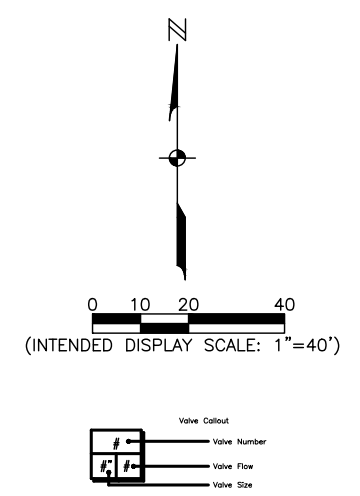
IRRIGATION SCHEDULE		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	Rain Bird 1812-PRS-NP 15 Strip Series Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device and Non-Potable Purple Cap.	25
	Rain Bird 1812-PRS-NP 8 Series MPR Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device and Non-Potable Purple Cap.	25
	Rain Bird 1812-PRS-NP 10 Series MPR Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device and Non-Potable Purple Cap.	25
	Rain Bird 1812-PRS-NP 12 Series MPR Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device and Non-Potable Purple Cap.	25
	Rain Bird 1812-PRS-NP 15 Series MPR Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device and Non-Potable Purple Cap.	25
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT.	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR-PRS-D 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, Purple Flow Control Handle, and Pressure Regulator Module.
	Landscape Products Inc. BBV 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2" 3" Full Port Brass Ball Valve. Suitable for a full range of liquids and gases in residential and commercial applications.
	Rain Bird ESP8LXME-LXMM with (01) ESPLXMSM4 12 Station Capable Commercial Controller. Mounted on a Powder-Coated Metal Cabinet. Without flow sensing.
	Rain Bird RSD-BEX Rain Sensor, with metal latching bracket, extension wire.
	BLOW OFF ASSEMBLY
	EX. IR. MAIN
	Irrigation Lateral Line: Polyethylene and PVC Class 200 Polyethylene SDR-7 up to 1-1/4", then PVC Class 200 SDR 21 for 1-1/2" and larger.
	Irrigation Mainline: Polyethylene and PVC Class 200 Polyethylene SDR-7 up to 1-1/4", then PVC Class 200 SDR 21 for 1-1/2" and larger.
	Pipe Sleeve: PVC Schedule 40



NOTE:
 1. CONTRACTOR TO COORDINATE EXISTING HEAD IRRIGATION RELOCATIONS AT BACK OF SIDEWALK FOR RESIDENTIAL PROPERTIES WITHIN THE PROJECT LIMITS AT TIME OF CONSTRUCTION. IRRIGATION DESIGN SHOWN PLANS DO NOT INCLUDE IRRIGATED AREAS BEYOND BACK OF SIDEWALK.
 2. IRRIGATION COMPONENTS SHOWN IN PAVEMENT FOR CLARITY. ALL IRRIGATION COMPONENTS TO BE INSTALLED IN LANDSCAPE AREAS EXCEPT WHERE SLEEVING IS INDICATED ON PLANS.

- 1 1/2" 24.5
- 1 1/2" 1.00
- 1 1/2" 24.4
- 1 1/2" 34.6
- 1 1/2" 25.2
- 1" 19.1
- 1" 22.8



REVISIONS				JOHNSON ENGINEERING JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT NAPLES FL 34112 CERTIFICATE OF AUTHORIZATION #642	CITY OF NAPLES STREETS & STORMWATER		IRRIGATION PLAN	SHEET NO. IR01
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY		
					COLLIER	JEI PROJECT ID 20150110-006		

- THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS - CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVEING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- COMPONENT SPACINGS ARE MAXIMUM. DO NOT EXCEED SPACINGS SHOWN OR NOTED ON THE PLANS. COMPONENT SPACINGS MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACINGS DO NOT EXCEED THE SPACINGS SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS. ALL INSTALLATIONS SHALL BE AS RECOMMENDED BY MANUFACTURERS. THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.
- ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN, DEBRIS-FREE MATERIALS. CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEIOUS DEBRIS. PULLING PIPE SHALL BE PROHIBITED.
- ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER.
- DURING INSTALLATION AND UPON COMPLETION OF THE IRRIGATION SYSTEM, DECODERS SHALL BE PROGRAMMED TO THE CONTROLLER STATION AS PER THE IRRIGATION ZONE NUMBER. CONTRACTOR TO LABEL ALL VALVE BOX COVERS WITH THE CORRESPONDING CONTROLLER ZONE NUMBER. NUMBERING SIZE 1". PROVIDE TAGS TO ALL VALVES AS SHOWN PER DETAILS.
- CONTRACTOR TO PLACE TREE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE.
- PIPING INCLUDING MAINLINES AND LATERALS SHALL BE COLOR CODED PANTONE PURPLE 522C FOR FUTURE CONVERSION OF THE SYSTEM TO REUSE WATER PER COUNTY ORDINANCES AND STATE STATUTES. THE IRRIGATION SYSTEM COMPONENTS SHALL BE COMPATIBLE FOR USE WITH REUSE WATER AND FLORIDA ADMINISTRATIVE CODE 62-610 REUSE OF RECLAIMED WATER AND LAND APPLICATION. ALL VALVES, VALVE BOX COVERS, AND OTHER APPLICABLE EQUIPMENT SHALL BE COLOR CODED PANTONE PURPLE 522C (EXCEPT FOR SCH. 40 DRILINE HEADER/EXHAUST PIPE).
- THE TWO-WIRE PATH SHALL BE HUNTER ID2 COMMUNICATION CABLE 12 AWG LAID BELOW THE IRRIGATION MAINLINE. ALL WIRE PATHS THAT GO TO THE NORTH OR WEST OF THE CONTROLLER SHALL BE ID2-BLU (BLUE). ALL WIRE PATHS THAT GO TO THE SOUTH OR EAST OF THE CONTROLLER SHALL BE ID2-ORG (ORANGE).
- ALL CONNECTIONS FROM THE 2-WIRE PATH TO THE DECODERS GROUND RODS, GROUND PLATES AND CONTROLLER SHALL BE WITH 3M DBR-6 WIRE CONNECTORS. ALL CONNECTIONS BETWEEN THE SOLENOID VALVES AND DECODERS SHALL BE WITH HIT DBC-Y CONNECTORS. WHERE ADDITIONAL WIRE IS REQUIRED FROM THE DECODER TO THE CONTROL VALVE SOLENOID, THE WIRE SHALL BE DIRECT BURIAL STANDARD PAIR 14 AWG.
- ALL DRIP IRRIGATION CONTROL VALVE ASSEMBLIES WILL HAVE A RAINBIRD XCZ-100-PRBR CONTROL VALVE KIT SIZED PER PLAN.
- ELECTRICAL CONNECTIONS: CONTRACTOR WILL BE RESPONSIBLE FOR THE ELECTRICAL CONNECTION(S) TO THE ELECTRICAL SUPPLY(S). THE ELECTRICAL CONNECTION FOR EACH PUMP STATION WILL BE WITHIN 25' OF THE DESIGNATED WELL/PUMP LOCATION(S) AS SHOWN ON THE IRRIGATION PLANS. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING ALL PROJECT RELATED ELECTRICAL CONNECTIONS BEYOND THIS POINT FOR THE PUMP STATION AND IRRIGATION SYSTEM EQUIPMENT.
- ALL CONNECTIONS TO THE IRRIGATION MAINLINE (2 1/2" OR LARGER) SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON SERVICE TEES. ALL CHANGES OF DIRECTION SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON 45 DEGREE ELBOWS W/ PROPER THRUST BLOCKING.
- LOCATE ALL VALVES IN PLANTING BEDS OR MULCHED AREAS WITH A MINIMUM OFFSET OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT. VALVES LOCATED IN MEDIANS SHALL BE INSTALLED AS CLOSE TO THE MEDIAN CENTER AS POSSIBLE.
- ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN THE SPECIFIED VALVE BOXES AS SHOWN ON THE VALVE BOX SIZING TABLE.
- ALL IRRIGATION LINES UNDER PAVEMENT SHALL BE INSTALLED WITHIN HDPE DR 11 OR EXISTING SCH 40 PVC SLEEVES AS NOTED. IRRIGATION COMMUNICATION CABLE SHALL HAVE IT'S OWN SEPARATE SLEEVE UNLESS NOTED OTHERWISE. WHERE ELECTRIC CONTROL VALVE WIRES PASS THROUGH A SLEEVE WITH MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER SCH 80 PVC CONDUIT.
- THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR ALL SLEEVEING AND DIRECTIONAL BORES, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL FURNISH AND INSTALL TECHLINE AS REQUIRED TO REFLECT THE PROPOSED PLANT MATERIAL SPACING AS SHOWN ON THE LANDSCAPE PLANS.
- ALL UNSIZED PIPE SHALL BE 3/4".
- EACH TREE AND PALM SHALL HAVE TWO (2) OR THREE (3) PRESSURE COMPENSATING FLOOD BUBBLERS (AS SHOWN ON THE PLANS). EACH BUBBLER SHALL BE ON A MINIMUM 5'-0" LENGTH OF FUNNY PIPE TO ALLOW ITS POSITIONING AT THE TREE. LOCATE BUBBLERS ON THE UPHILL SIDE OF TREES ON ALL SLOPES. LOCATE BUBBLERS IN THE CENTER OF THE ROOTBALL AND EQUAL DISTANCE APART.
- DURING INSTALLATION AND UPON COMPLETION OF THE IRRIGATION SYSTEM, DECODERS SHALL BE PROGRAMMED TO THE CONTROLLER STATION AS PER THE IRRIGATION ZONE NUMBERS.
- ONE (1) FOOT BELOW SITE FINISH GRADE, THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED DETECTABLE METAL MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: WATER LINE BURIED BELOW". TAPE SHALL BE MANUFACTURED BY LINEGUARD, INC., OR APPROVED EQUAL.
- IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 24" UNLESS NOTED OTHERWISE.
- IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 36" UNLESS NOTED OTHERWISE.
- ALL COMPONENTS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE EXACT LOCATION AND DEPTH BELOW FINISH GRADE OF ALL COMPONENTS SHALL BE NOTED ON THE "AS-BUILT" DRAWINGS. EACH POINT OF IRRIGATION SHALL BE MEASURED FROM 2 FIXED POINTS OF REFERENCE.
- CAP SLEEVES UNTIL PIPE IS INSTALLED. SEAL EACH END OF SLEEVES WITH FOAM-A-SEAL AFTER PIPE AND WIRE IS INSTALLED.
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE LANDSCAPE SUPERVISOR. WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY FLOW OF VEHICULAR TRAFFIC AND COMPLETION OF ALL WORK ON THE SITE.
- RESTORE ALL DISTURBED AREAS TO THE SATISFACTION OF THE OWNER. SEED AREAS THAT ARE LESS THAN 12" WIDE WITH ARGENTINE BAHIA GRASS SEED AT THE RATE OF 10 LBS. PER 100 SQUARE FEET. SOD AREAS 12" OR WIDER WITH ARGENTINE BAHIA GRASS SOD. PROVIDE A SMOOTH TRANSITION BETWEEN THE REPAIRED DISTURBED AREAS AND THE UNDISTURBED AREAS.
- PIPE LOCATIONS SHOWN ARE SCHEMATIC. THE MAINLINE SHALL BE INSTALLED 36" FROM THE EDGE OF PAVEMENT BUT NO CLOSER THAN 12". THE CONTRACTOR IS RESPONSIBLE FOR LOCATION ADJUSTMENTS WHEN NECESSARY TO AVOID CONFLICTS.

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.

- Final walk-thru and correction of all punch list items.
- Completion and acceptance of 'as-built' drawings.
- Acceptance of required controller charts and placement inside of controllers.
- Turn over of all required parts and tools as outlined in the project specifications.
- Turn over of the "irrigation manual" as outlined in the project specifications.

GUARANTEE: The irrigation systems shall be guaranteed for a minimum of one calendar year from the time of final acceptance.

MINIMUM RECOMMENDED IRRIGATION MAINTENANCE PROCEDURES

- 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:
 - Turn on each zone from the controller to verify automatic operation.
 - 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.
 - Check remote control valve to ensure proper operation.
 - Check setting on pressure regulator to verify proper setting, if present.
 - Check flow control and adjust as needed; ensure valve closure within 10-15 seconds after deactivation by controller.
 - Check for leaks - mainline, lateral lines, valves, heads, etc.
- Check controller/C.C.U. grounds for resistance (10 ohms or less) once per year. Submit written reports.
- Check rain shut-off device monthly to ensure it functions properly.
- Inspect all filters monthly and clean/repair/replace as needed.
- Inspect backflow devices by utilizing a properly licensed backflow inspector. This should be done annually, at minimum.
- Inspect all valve boxes to ensure they are in good condition, lids are in place and locked.
- Check controller stations for proper operation, pressures, filtration, settings, etc. - refer to pump station operations manual.
- Check and clean intake screens on all suction lines quarterly, at minimum. Clean and/or repair, as needed.
- Conduct additional inspections, maintenance tasks, etc. that are particular for your site.

CDR VALVE BOX NUMBER A10-1015-12	CDR VALVE BOX NUMBER A10-1118-12	CDR VALVE BOX NUMBER A10-1118-18
GROUND RODS & PLATES	ELECTRIC SOLENOID VALVE & GATE VALVE	ELECTRIC SOLENOID VALVE &
QUICK COUPLING VALVE		PRESSURE REDUCING VALVE
MAINLINE GATE/ISOLATION VALVE		
MAINLINE AIR RELIEF VALVE		
PRESSURE GAUGE CHECK POINTS		
CDR VALVE BOX NUMBER A10-1324-12	CDR VALVE BOX NUMBER WA00-1132-12	CDR VALVE BOX NUMBER A10-1324-18
WHEN A JUMBO BOX IS REQUIRED	GATE/ISOLATION VALVE	GATE/ISOLATION VALVE & LARGE DISC
	SMALL DISC FILTER	FILTER (1 1/2" OR 2" SUPER FILTER), W/
	ELECTRIC SOLENOID VALVE	SOLENOID VALVE & PRESSURE REDUCING
	PRESSURE REDUCING VALVE	VALVE. *INSTALL SOLENOID VALVE AND
		PRESSURE REDUCING VALVE IN MODEL
		A10-1118-18 VALVE BOX
CARSON VALVE BOX NUMBER 910 - AIR RELIEF VALVE, LINE FLUSHING VALVE		

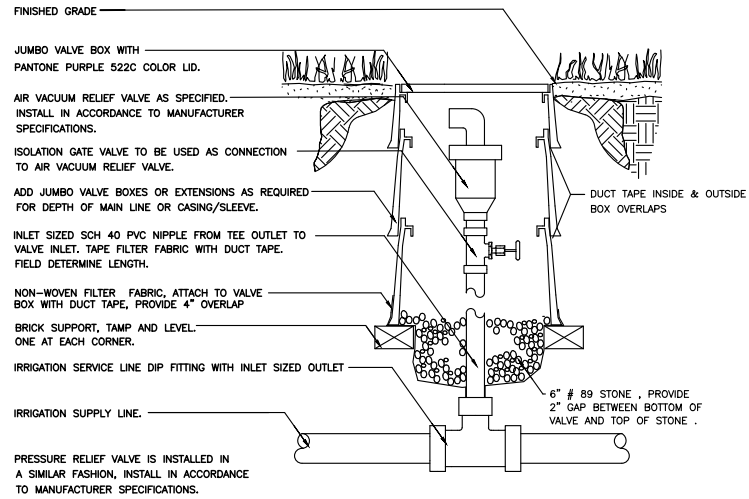
NOTES:

- CDR VALVE BOXES SHALL BE POLYMER/CONCRETE WITH PURPLE LIDS
- CARSON VALVE BOXES SHALL BE CONSTRUCTION GRADE WITH PURPLE LIDS
- VALVE BOXES SHALL HAVE FILTER FABRIC SECURELY ATTACHED TO THE SIDES OF THE BOX AND HAVE 6" OF WASHED PEA GRAVEL ON TOP OF THE FILTER FABRIC INSIDE THE BOX
- PROVIDE A 2" MINIMUM AIR GAP BETWEEN THE TOP OF THE GRAVEL AND THE BOTTOM OF THE DEVICES, AND A 2" AIR GAP BETWEEN THE TOP OF THE DEVICES AND THE BOTTOM OF THE VALVE BOX COVER
- CONCRETE PAVERS OR BRICKS SHALL BE USED TO LEVEL AND SUPPORT THE VALVE BOX ON EACH SIDE

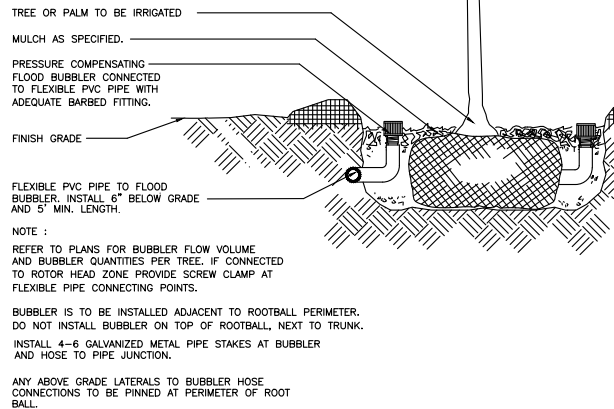
VALVE BOX SIZING TABLE

REVISIONS				 JOHNSON ENGINEERING JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059 JOHNSON ENGINEERING, INC. 2350 STANFORD COURT NAPLES FL 34112 CERTIFICATE OF AUTHORIZATION #642	CITY OF NAPLES STREETS & STORMWATER			SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	JEI PROJECT ID	
						COLLIER	20150110-006	IR02

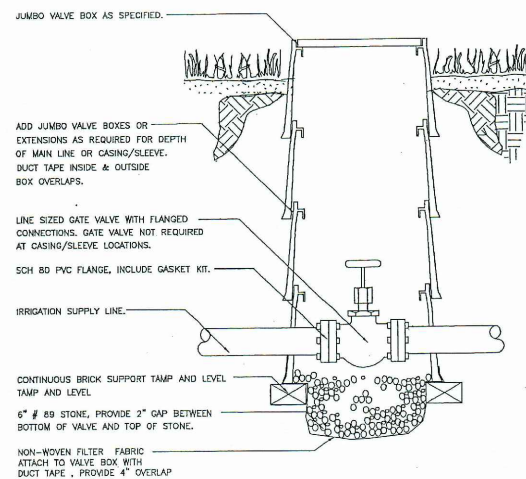
IRRIGATION NOTES



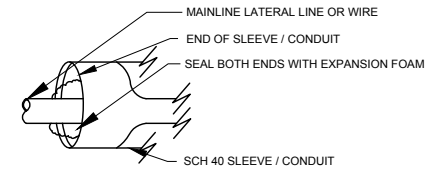
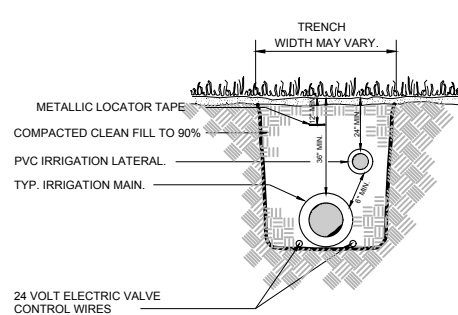
MAIN LINE AIR VACUUM RELEASE VALVE INSTALLATION DETAIL
N.T.S.



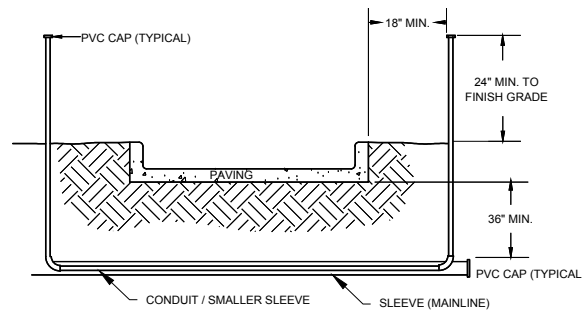
TREE IRRIGATION FLOOD BUBBLER BELOW GRADE INSTALLATION DETAIL
N.T.S.



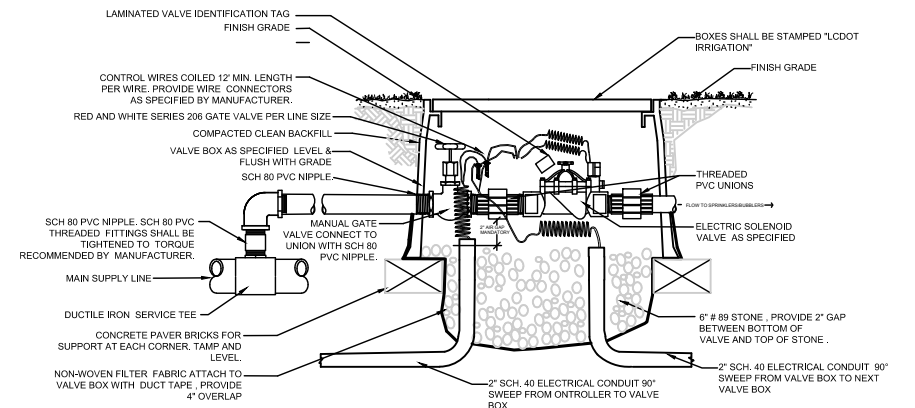
MAINLINE ISOLATION VALVE DETAIL
N.T.S.



- NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCH40 PVC AND ALL CONDUIT TO BE SCH40 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 90% PROCTOR.
5. PULLING PIPE IS PROHIBITED. ALL IRRIGATION PIPES AND ELECTRICAL WIRES SHALL BE IN SEPARATE SLEEVES. ANY PIPE RUNNING UNDER ANY PAVED SURFACE SHALL BE SLEEVED WHETHER SHOWN OR NOT.
6. NO JETTING OF PIPE ALLOWED.
7. ANY CONTROL WIRE NOT INSTALLED UNDER THE MAINLINE MUST BE A MINIMUM OF 12" IN DEPTH.

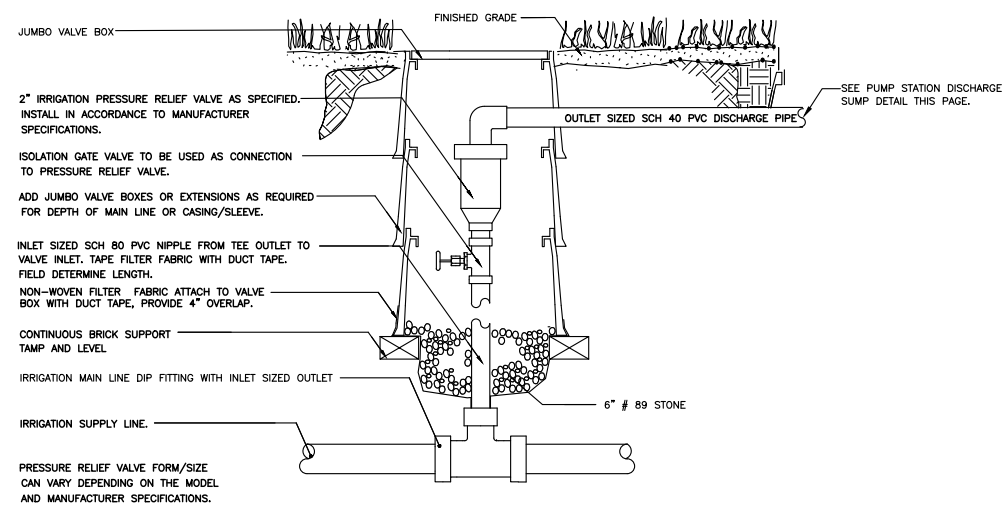


SLEEVING AND TRENCHING DETAIL
N.T.S.

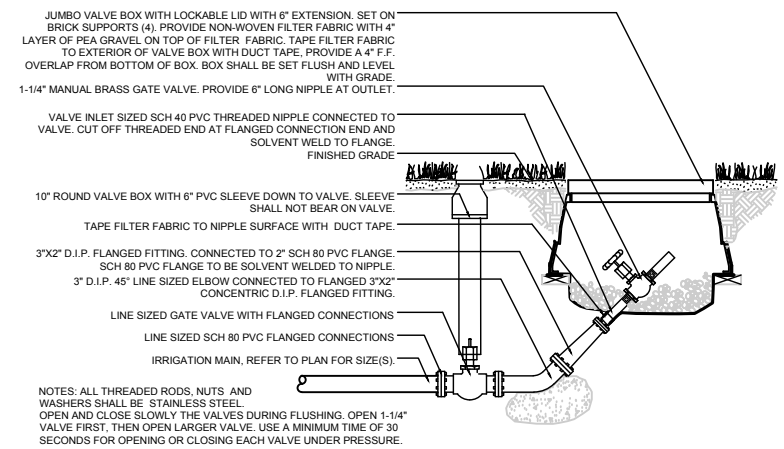


ELECTRIC SOLENOID VALVE W/ GATE VALVE
N.T.S.

IRRIGATION CONTRACTOR SHALL FIELD DETERMINE NIPPLE LENGTHS, MAINLINE OUTLET TEE, INTERCONNECTING NIPPLES AND ALL OTHER INTERCONNECTING FITTINGS SHALL BE SIZED TO THE VALVES INLET OPENINGS COORDINATE WITH UTILITIES CONTRACTOR.



MAIN LINE PRESSURE RELIEF VALVE INSTALLATION DETAIL
N.T.S.



IRRIGATION MAIN BLOW OFF

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

JOHNSON ENGINEERING
JEFFREY NAGLE, RLA FL LICENSE NO. LA-6667059
JOHNSON ENGINEERING, INC.
2350 STANFORD COURT NAPLES FL 34112
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CITY OF NAPLES STREETS & STORMWATER		
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IRRIGATION DETAILS

SHEET NO. IR03