

JOINT
PUBLIC NOTICE

CHARLESTON DISTRICT, CORPS OF ENGINEERS

**69A Hagood Avenue
Charleston, SC 29403-5107**

and

THE S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Office of Ocean and Coastal Resource Management

**1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405**

REGULATORY DIVISION

Refer to: P/N SAC-2021-01071

April 6, 2022

Pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1344), and the South Carolina Coastal Zone Management Act (48-39-10 et.seq.), an application has been submitted to the Department of the Army and the S.C. Department of Health and Environmental Control by

Mr. Andy Ruocco

c/o Terracon

1450 Fifth Street West

North Charleston, South Carolina 29405

Andy.ruocco@terracon.com

Ms. Desiree Fragoso

City of Isle of Palm

P.O. Drawer 508

Isle of Palm, South Carolina 29451

for the discharge of dredged or fill material and the installation of a structure in a tidal stormwater conveyance associated with the

ATLANTIC INTRACOASTAL WATERWAY (AIWW)

on 41ST Avenue in the City of Isle of Palms, Charleston County, South Carolina (Latitude: 32.805443 °, Longitude: -79.761311 °), Fort Moultrie Quad Sheet.

In order to give all interested parties an opportunity to express their views

NOTICE

is hereby given that written statements regarding the proposed work will be received by the **Corps** until

15 Days from the Date of this Notice,

and **SCDHEC** will receive written statements regarding the proposed work until

30 Days from the Date of this Notice

from those interested in the activity and whose interests may be affected by the proposed work.

The proposed work consists of the discharge of fill material into 0.33 acres of a tidal stormwater conveyance and the draining of 0.21 acre of a tidal stormwater conveyance. In detail, the proposed work involves the installation of riprap, slide gates, a junction box, three (3) in-line check valves, a headwall, three (3) 48" RCPs and associated backfill into 0.33 acre of tidal stormwater conveyance that will result in the loss of 0.18 acre of tidal vegetated wetlands. The proposed junction box with three in-line check valves will prevent tidal flow from entering stormwater conveyance system. As a result of the check valves, the remaining 0.21 acre of the tidal stormwater conveyance that will not be filled will no longer be tidal and will be "drained". The draining of the tidal stormwater conveyance will result in the loss of an additional 0.027 acre of tidal vegetated wetlands. The proposed project would impact a total of 0.54 acre of a tidal stormwater conveyance, which includes the loss of 0.22 acre of vegetated tidal wetlands. Stormwater from the upland/inland sources will still be able to flow through the stormwater conveyance and out through the check valves and junction box as normal.

Check Valves

With regard to the operation of the check valves, the applicant provided the following details: The junction box serves as an installation and maintenance access structure for the check valves. The three check valves will be in-line and will be located upstream of the junction box. The check valves will function independently under force of gravity stormwater flow. No manual or electrical power are needed. The rising tides will be prevented from backflowing into the tidal stormwater conveyance and causing sunny day flooding. Refer to the check valve brochure that is attached to the proposed project drawings. Slide gates will also be installed at the downstream end of the junction box and will be manually operated. They will remain open during normal operations and will be closed only when maintenance on the check valves or pipes is required. Closing the gates will allow everything upstream of the junction box to be pumped dry without needing to handle tidal water backflow. This will allow the check valves to be removed and cleaned, if necessary, and for the pipes to be inspected, cleaned and maintained.

Project Sequencing

The proposed work occur from downstream (nearest the AIWW) to upstream. The junction box will be constructed first. The three slide gates, which will be manually operated, will be installed on the downstream face of the junction box. The slide gates will be moved into the closed position which will prevent tidal waters from flowing into the tidal stormwater conveyance during project construction. Next, the pipes will be installed working from the

junction box towards Waterway Boulevard. The work will progress upstream installing the pipes in sections. A pump around system with sumps and check dams will be used to manage stormwater from upstream/inland areas.

Background

As stated in the permit application, the City of Isle of Palms is experiencing increased occurrences of flooding due to heavy rainfall events, extreme high tides, sea level rise, high-water table conditions, and more intense coastal storms. These conditions, combined with an inadequate drainage system, have created flooding conditions throughout the city. Flooding caused by the tidal conditions in the existing open, tidal stormwater conveyance causes frequent flooding in front of the Isle of Palms fire station located east of the stormwater conveyance, which limits the department's ability to respond to emergencies. In response, the City of Isle of Palms is proposing the activities as described in this public notice.

Purpose

The purpose of the proposed project is to improve existing stormwater drainage and to ensure public safety on the Isle of Palms by reducing flooding along 41st Avenue adjacent to the Isle of Palms fire station.

Avoidance and Minimization

The applicant stated that avoidance and minimization has occurred by locating the proposed project in an existing upland excavated stormwater conveyance that has historically been maintained. The applicant will also implement best management practices that will minimize erosion and migration of sediments on and off the project site during and after construction. Additionally, the construction of the proposed project will in dry conditions as previously described in Project Sequencing.

Mitigation

To compensate for the loss of 0.22 acre of vegetated tidal wetlands, the applicant is proposing to purchase 2.588 mitigation credits from Point Farm Mitigation Bank, Murray Hill Mitigation Bank, or Clydesdale Mitigation Bank.

NOTE: This public notice and associated plans are available on the Corps' website at: <http://www.sac.usace.army.mil/Missions/Regulatory/PublicNotices> .

The District Engineer has concluded that the discharges associated with this project, both direct and indirect, should be reviewed by the South Carolina Department of Health and Environmental Control in accordance with provisions of Section 401 of the

Clean Water Act. As such, this notice constitutes a request, on behalf of the applicant, for certification that this project will comply with applicable effluent limitations and water quality standards. The work shown on this application must also be certified as consistent with applicable provisions of the Coastal Zone Management Program (15 CFR 930). This activity may also require evaluation for compliance with the S. C. Construction in Navigable Waters Permit Program. State review, permitting and certification is conducted by the S. C. Department of Health and Environmental Control. The District Engineer will not process this application to a conclusion until such certifications are received. The applicant is hereby advised that supplemental information may be required by the State to facilitate the review. This Public Notice will serve as the notification to the Administrator of the Environmental Protection Agency (EPA) pursuant to section 401(a)(2) of the Clean Water Act.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Implementation of the proposed project would impact **0.54** acres of estuarine substrates and emergent wetlands utilized by various life stages of species comprising the shrimp, and snapper-grouper management complexes. The District Engineer's initial determination is that the proposed action would not have a substantial individual or cumulative adverse impact on EFH or fisheries managed by the South Atlantic Fishery Management Council and the National Marine Fisheries Service (NMFS). The District Engineer's final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

Pursuant to the Section 7 of the Endangered Species Act of 1973 (as amended), the Corps has reviewed the project area, examined all information provided by the applicant, and the District Engineer has determined, based on the most recently available information that the project will have no effect on any Federally endangered, threatened, or proposed species and will not result in the destruction or adverse modification of designated or proposed critical habitat. This public notice serves as a request to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for any additional information they may have on whether any listed or proposed endangered or threatened species or designated or proposed critical habitat may be present in the area which would be affected by the activity.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), this public notice also constitutes a request to Indian Tribes to notify the District Engineer of any historic properties of religious and cultural significance to them that may be affected by the proposed undertaking.

In accordance with Section 106 of the NHPA, the District Engineer has consulted South Carolina ArchSite (GIS), for the presence or absence of historic properties (as defined in 36 C.F.R. 800.16)(1)(1)), and has initially determined that no historic properties are present; therefore, there will be no effect on historic properties. To ensure

that other historic properties that the District Engineer is not aware of are not overlooked, this public notice also serves as a request to the State Historic Preservation Office and any other interested parties to provide any information they may have with regard to historic properties. This public notice serves as a request for concurrence within 30 days from the SHPO (and/or Tribal Historic Preservation Officer).

In accordance with Section 106 of the NHPA, the District Engineer has consulted South Carolina ArchSite (GIS), for the presence or absence of historic properties (as defined in 36 C.F.R. 800.16)(1)(1)), and has initially determined that there are historic properties present, but they will not be affected; therefore, there will be no effect on historic properties. To ensure that other historic properties that the District Engineer is not aware of are not overlooked, this public notice also serves as a request to the State Historic Preservation Office and other interested parties to provide any information they may have with regard to historic properties. This public notice serves as a request for concurrence within 30 days from the SHPO (and/or Tribal Historic Preservation Officer).

The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-identified permit area.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state, with particularity, the reasons for holding a public hearing.

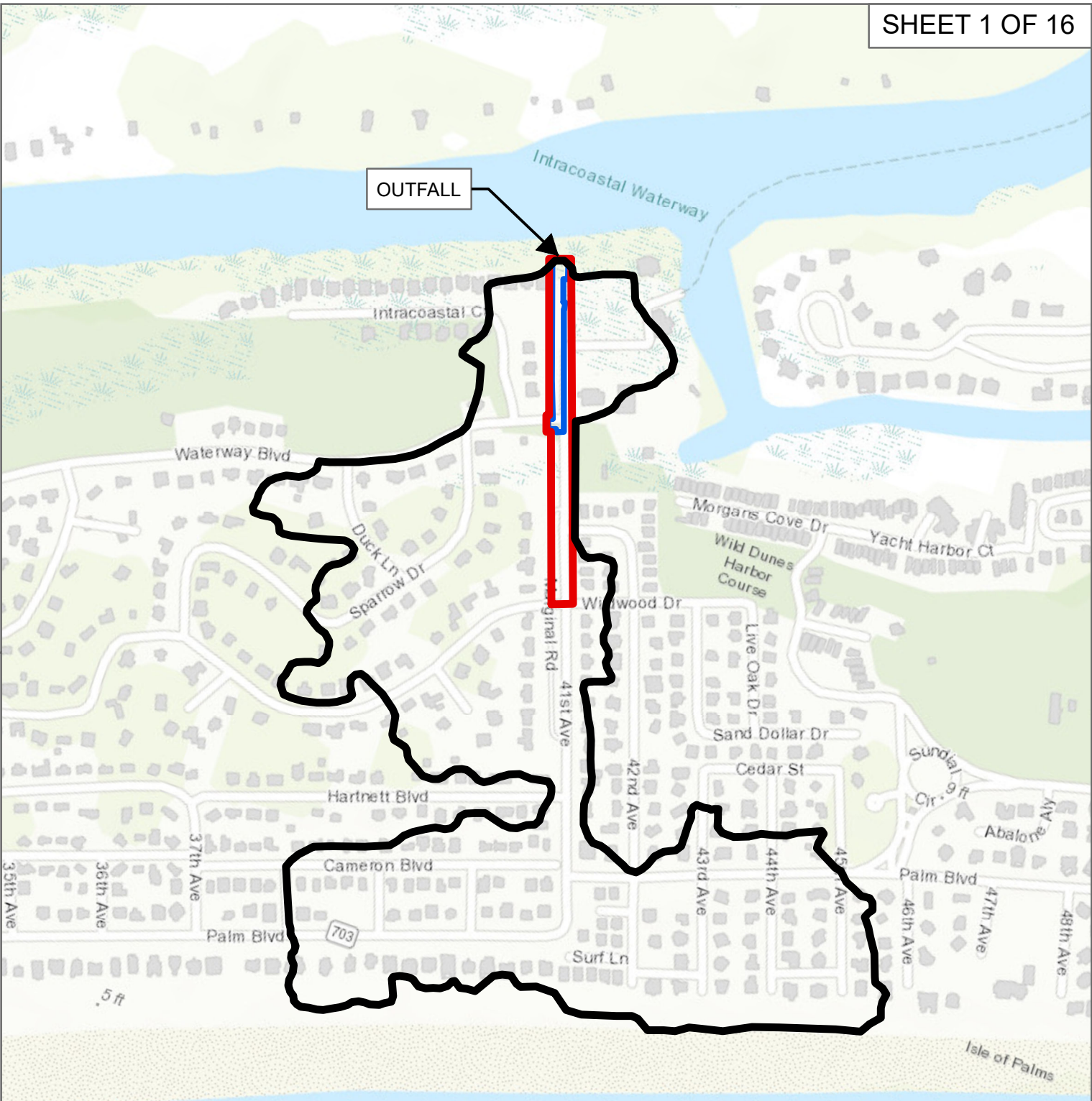
The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest and will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency (EPA), under authority of Section 404(b) of the Clean Water Act and, as appropriate, the criteria established under authority of Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the project must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the project will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. A permit will be granted unless the District Engineer determines that it would be contrary to the public interest. In cases of conflicting property rights, the Corps cannot undertake to adjudicate rival claims.




The Corps is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to

determine whether to issue, modify, condition or deny a permit for this project. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity. **Please submit comments in writing, identifying the project of interest by public notice number, to the following address:**

**U.S. Army Corps of Engineers
ATTN: REGULATORY DIVISION
69A Hagood Avenue
Charleston, SC 29403-5107**


If there are any questions concerning this public notice, please contact Tracy D. Sanders, Project Manager, at (843) 329-8190, toll free at 1-866-329-8187, or by email at Tracy.D.Sanders@usace.army.mil.




-  41st Avenue Basin
-  41st Avenue Project Boundary
-  41st Avenue Project Limits of Disturbance

Atlantic Ocean

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

0 300 600 1,200 Feet		
1 inch = 600 feet		
Job Number: 27470	Produced: 10/14/20	Produced By: HEA
File: Z:\27470\27470.000\GIS\Map\Exhibits\Wetland Permit Drawing\Project Location\Map\41st Ave\41st Ave.mxd	Modified: 3/9/2022	
Thomas & Hutton compiled the map information from the following sources:		
Data Source	Date	
Basin/Site	T&H	2020
<small>DISCLAIMER</small> Where Thomas & Hutton is cited as the data source, the firm has created or verified the data. For all other sources cited, Thomas & Hutton used the data "as is" and has made no independent investigation of the data, and makes no representation as to the accuracy or completeness of the data. Please see each source for available documentation of its respective datasets. Copyright © 2015 by Thomas & Hutton No part of this document may be reproduced without written permission from an officer of Thomas & Hutton.		

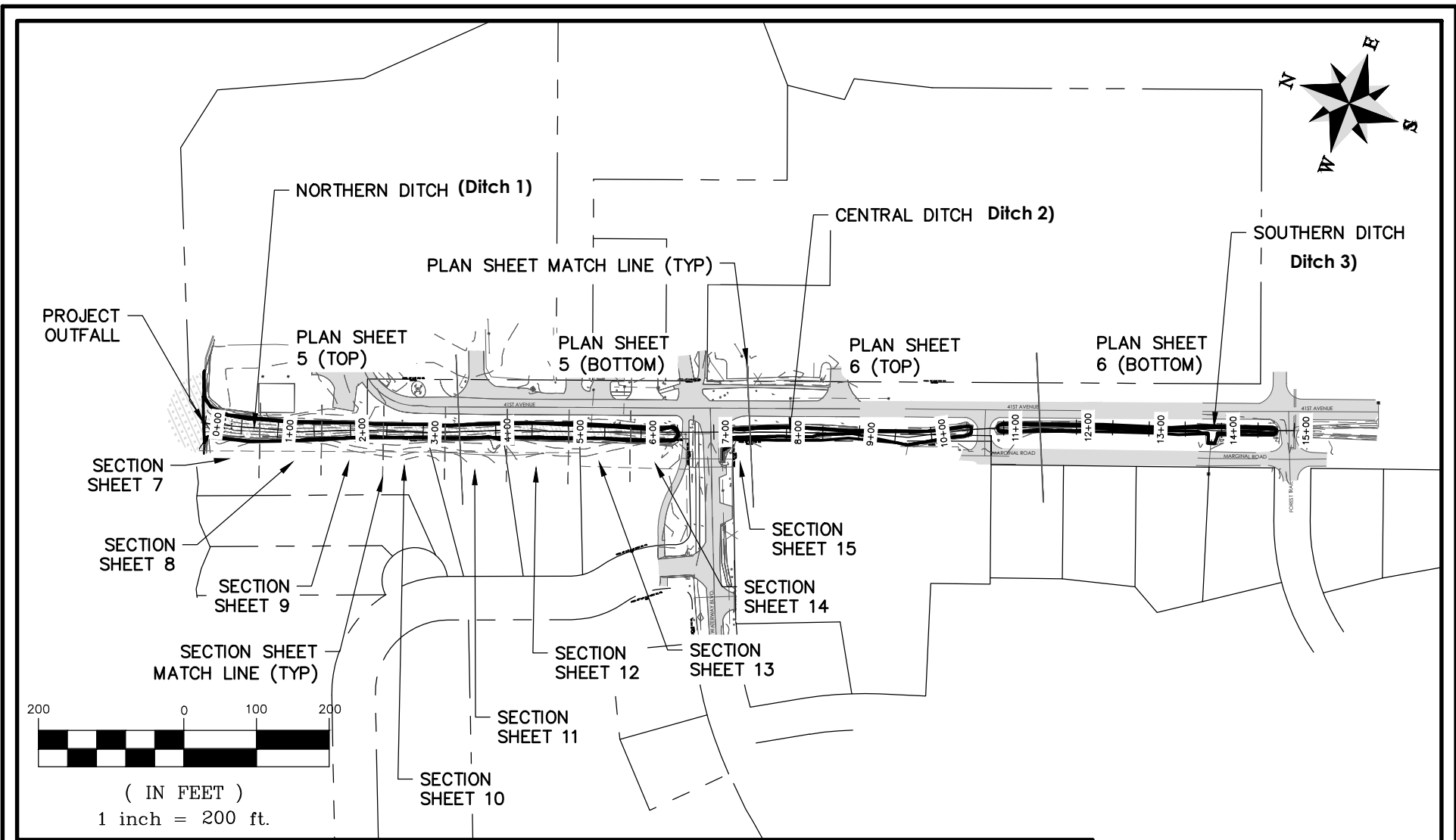
Phase 3 Drainage Improvements
41st Avenue Outfall
 Charleston County, South Carolina
Location Map



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 WWW.THOMASANDHUTTON.COM

GEOGRAPHIC INFORMATION SYSTEMS

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41ST AVENUE OUTFALL

EXISTING CONDITIONS
SITE OVERVIEW

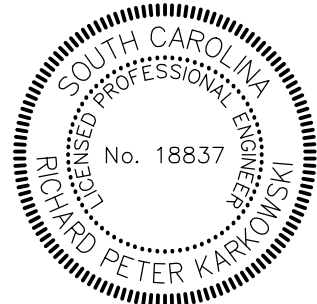
CLIENT:
CITY OF ISLE OF PALMS

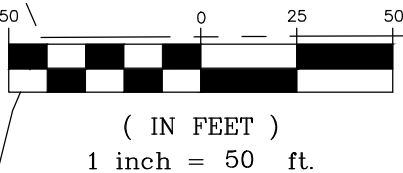
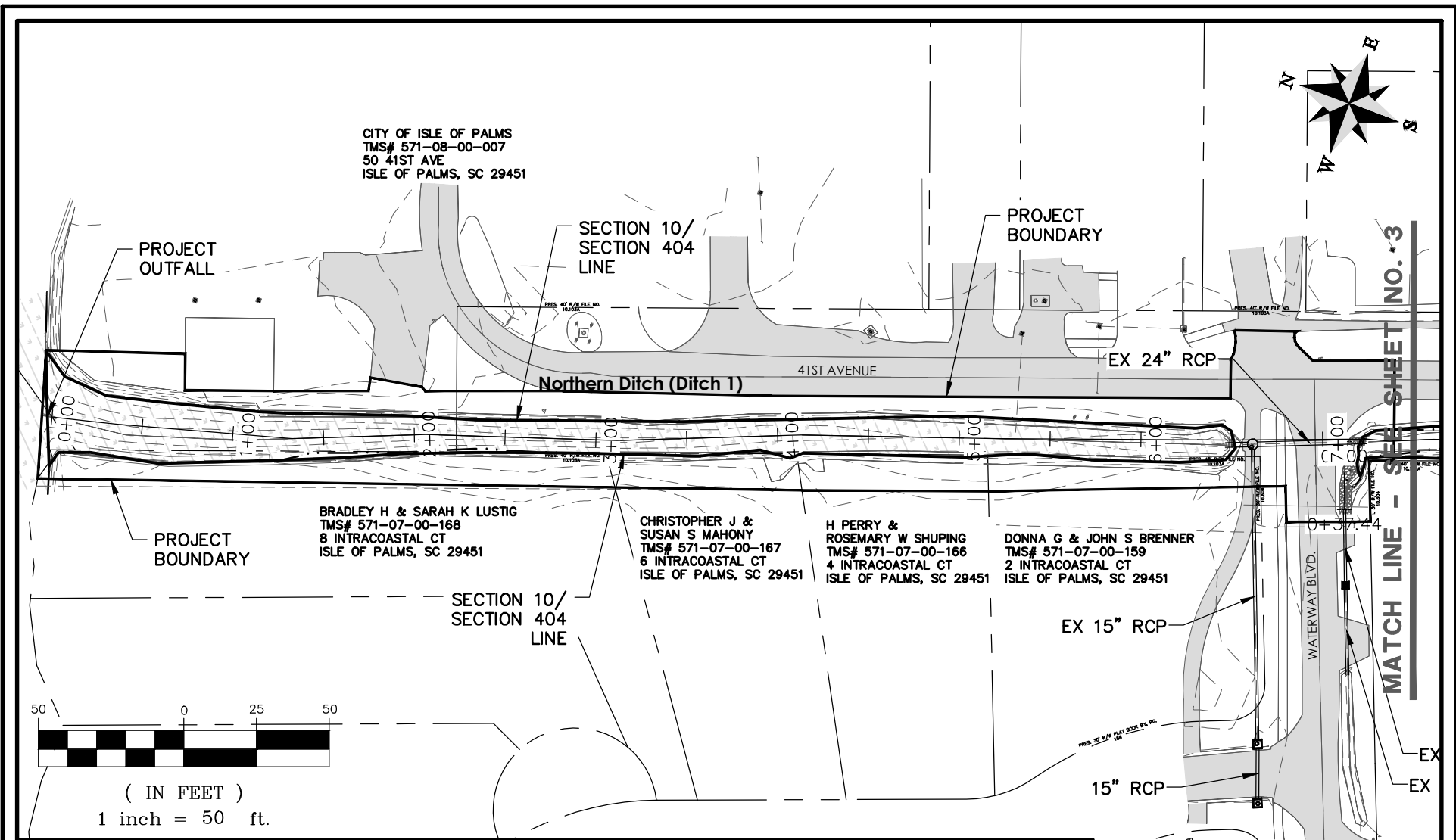
LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 2
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1" = 200'



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41ST AVENUE OUTFALL

EXISTING CONDITIONS
OVERALL PLAN

CLIENT:
CITY OF ISLE OF PALMS

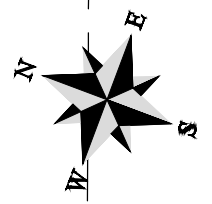
LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 3
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1" = 80'



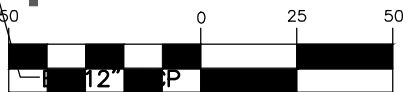
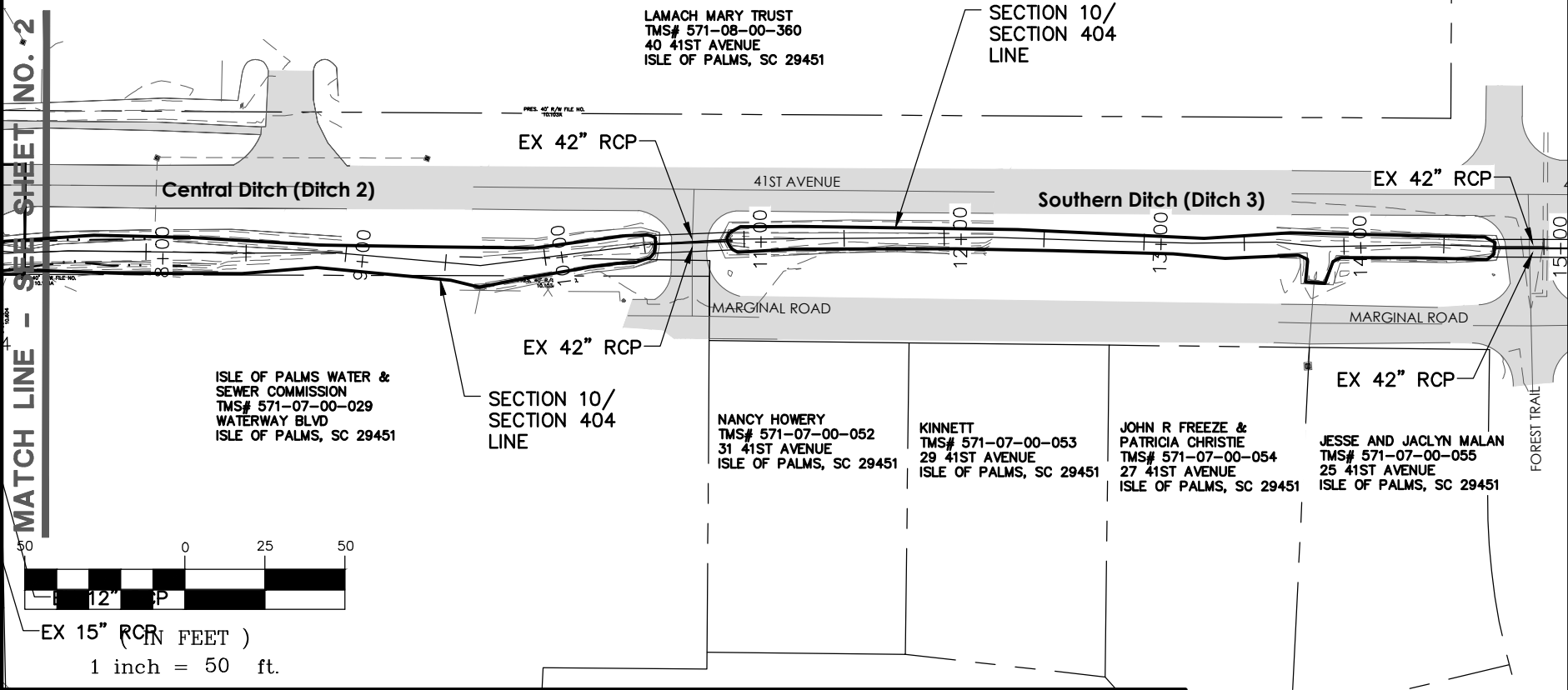
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MATCH LINE - SEE SHEET NO. 2



41ST AVENUE OUTFALL

EXISTING CONDITIONS
OVERALL PLAN

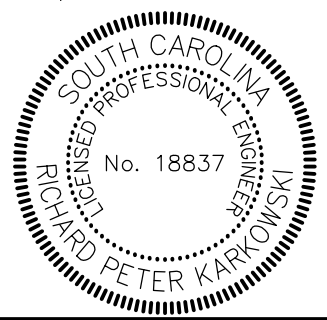
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CITY OF ISLE OF PALMS

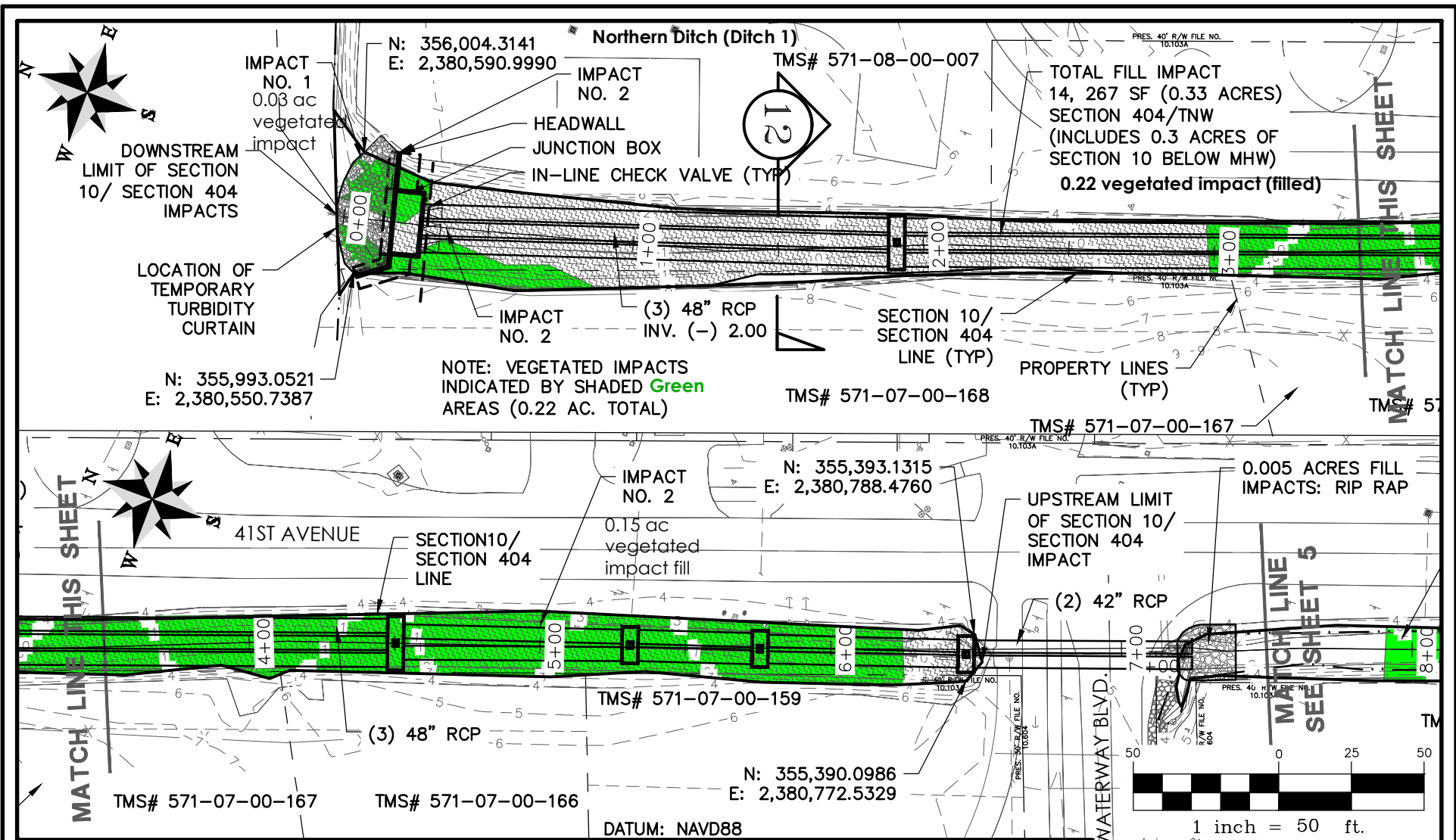
LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
DATE: 12/15/20 DRAWN BY: DNF SHEET: 4
JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1" = 80'



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41ST AVENUE OUTFALL

OUTFALL PLAN

CLIENT:
CITY OF ISLE OF PALMS

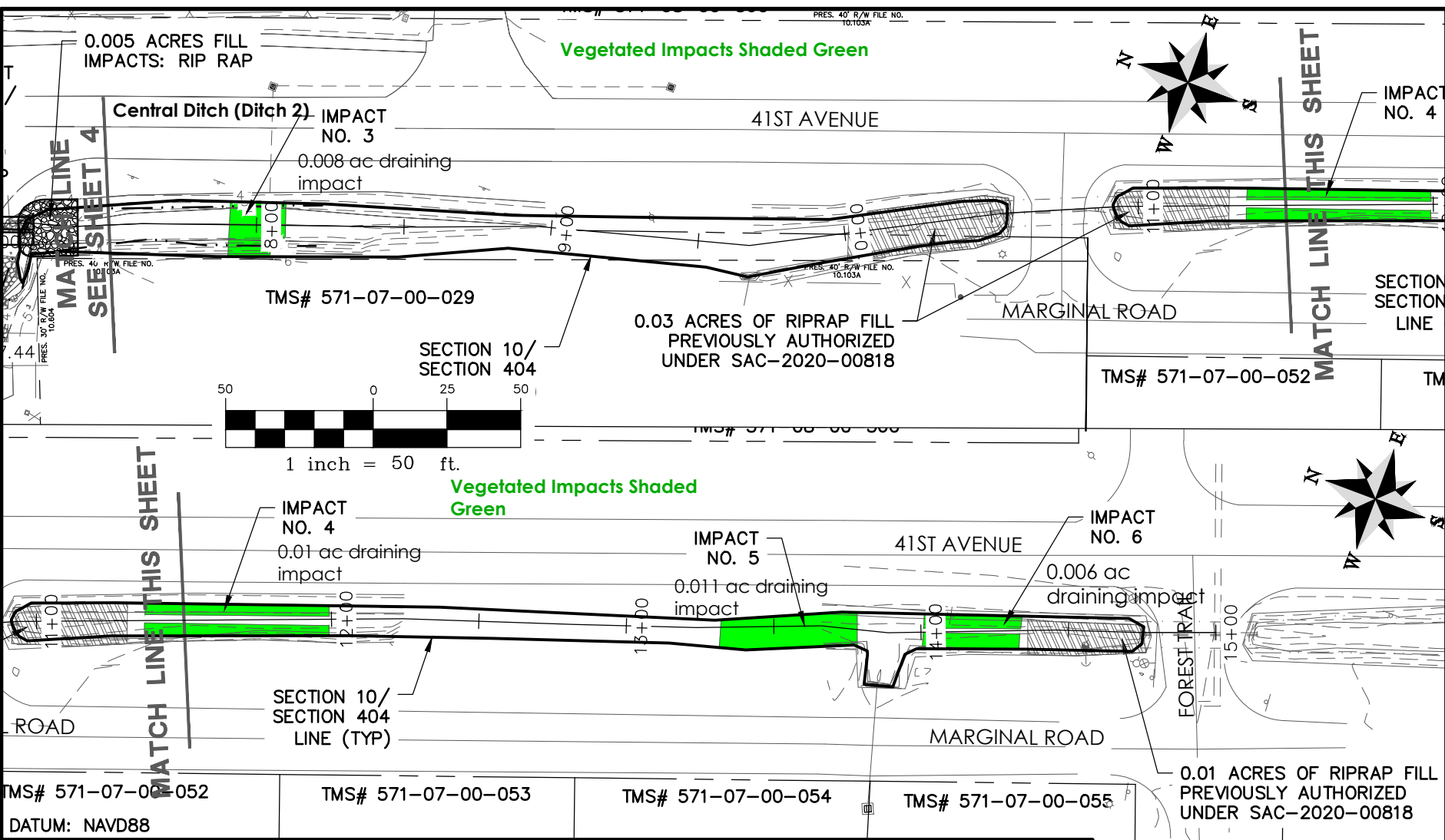
LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
DATE: 12/15/20 DRAWN BY: DNF SHEET: 5
JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1" = 50'



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41ST AVENUE OUTFALL

OUTFALL PLAN

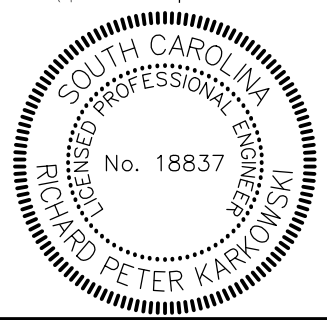
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CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
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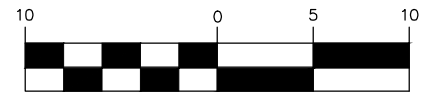
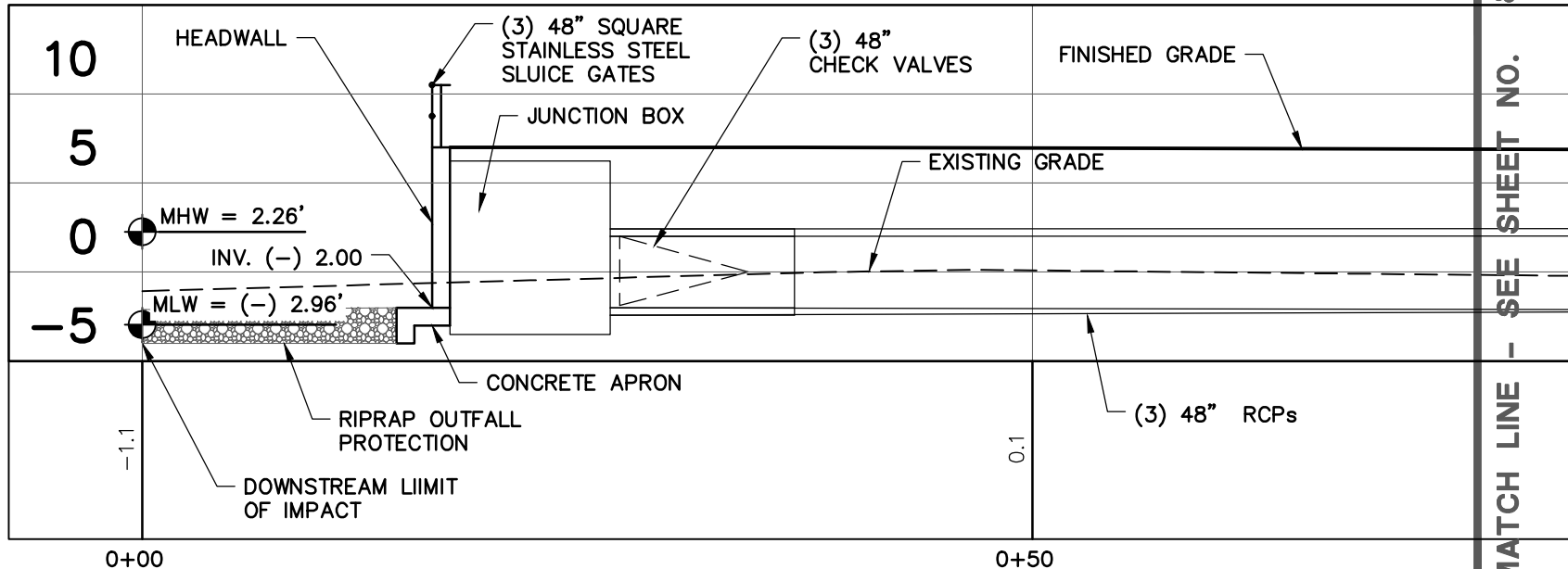


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INTRACOASTAL
WATERWAY



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

CLIENT:

CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA

DATE: 12/15/20

DRAWN BY: DNF

SHEET: 7

JOB NUMBER: J-27670.0004

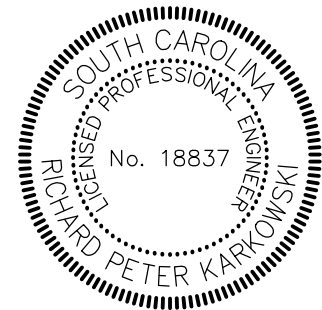
REVIEWED BY: RPK

SCALE: 1"=10'



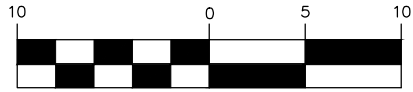
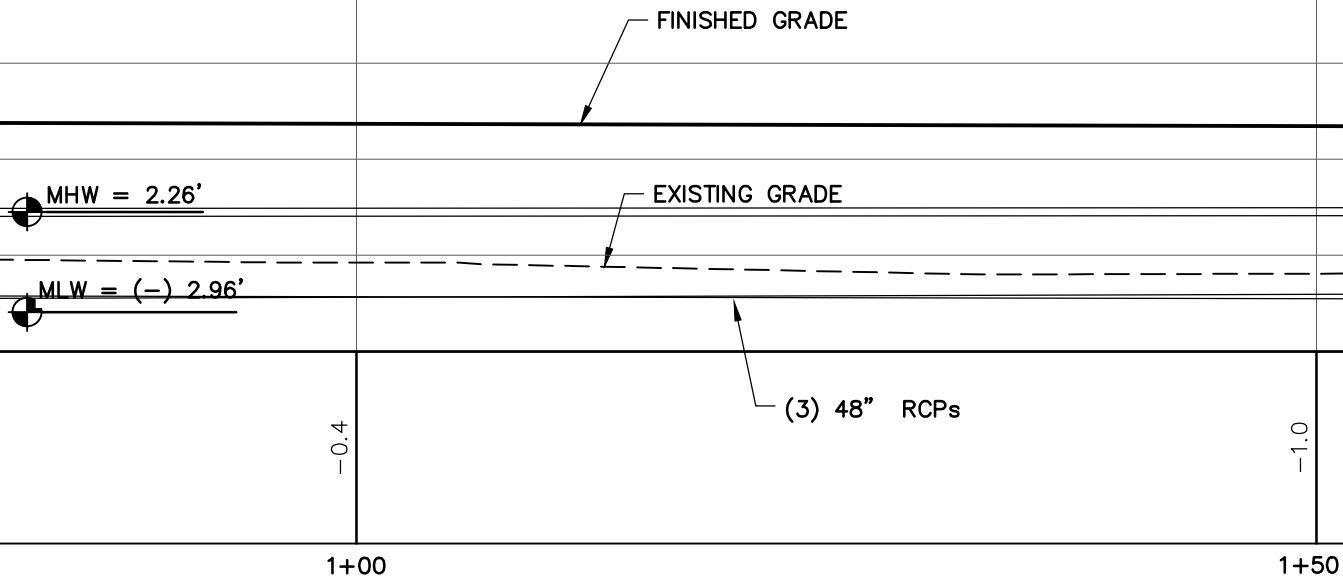
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MATCH LINE - SEE SHEET NO. 7

MATCH LINE - SEE SHEET NO. 9



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

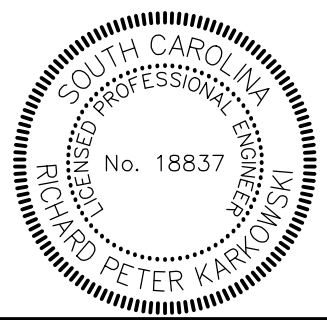
CLIENT:
CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 8
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



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MATCH LINE - SEE SHEET NO. 8

MATCH LINE - SEE SHEET NO. 10

JUNCTION BOX

FINISHED GRADE

MHW = 2.26'

MLW = (-) 2.96'

(3) 48" RCPs

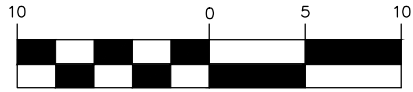
EXISTING GRADE

-0.8

-0.6

2+00

2+50



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

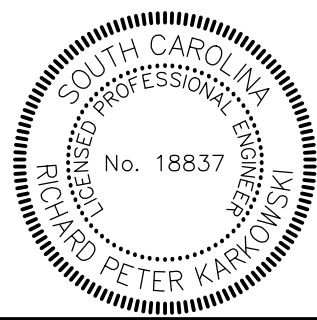
CLIENT:
CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
DATE: 12/15/20 DRAWN BY: DNF SHEET: 9
JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



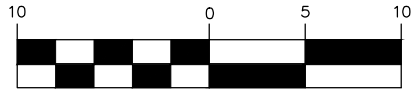
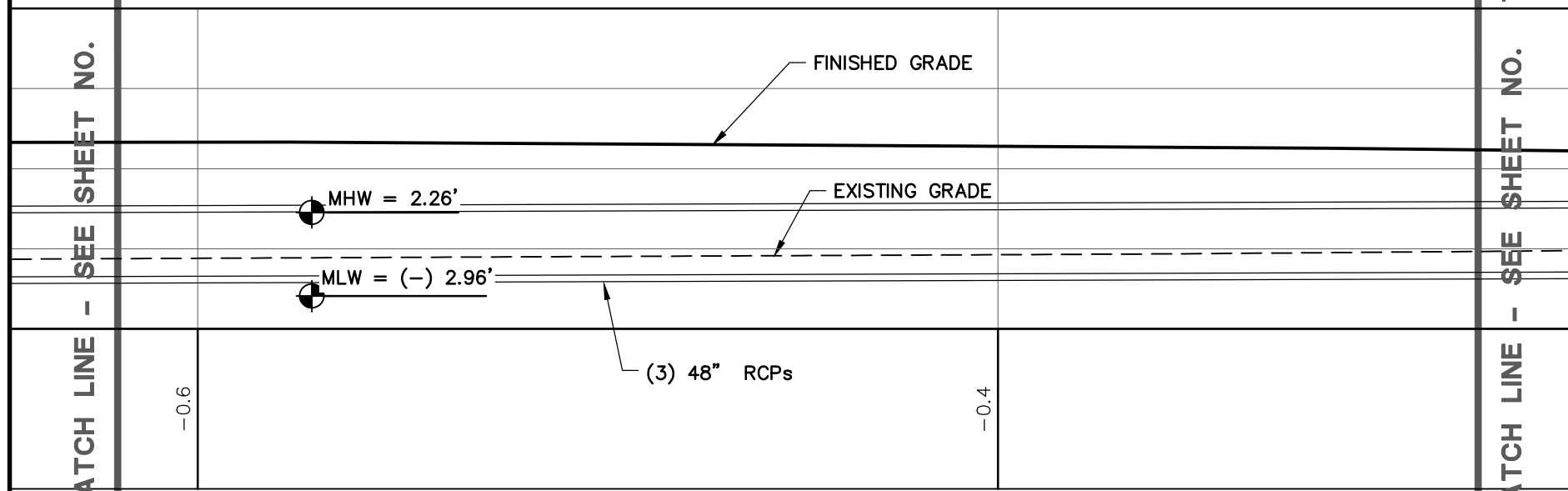
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MATCH LINE - SEE SHEET NO. 9

MATCH LINE - SEE SHEET NO. 11



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

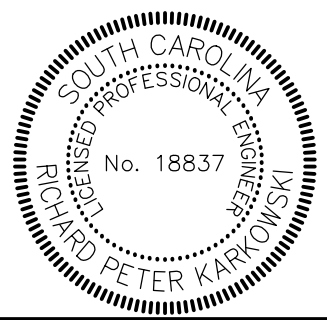
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CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
DATE: 12/15/20 DRAWN BY: DNF SHEET: 10
JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



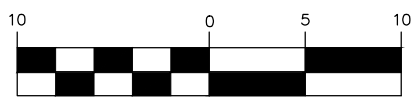
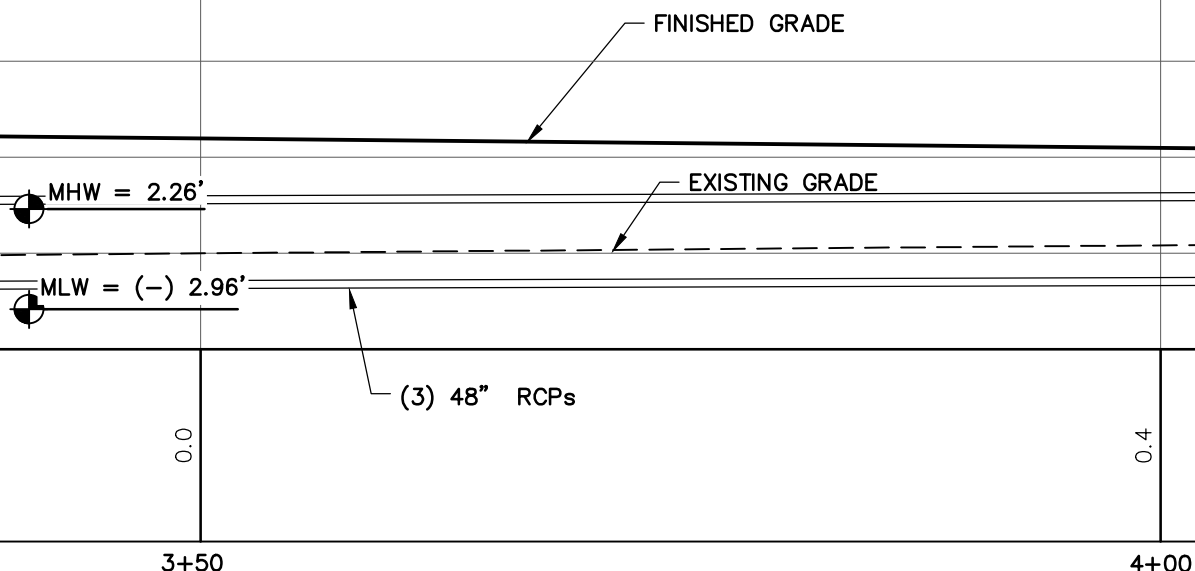
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MATCH LINE - SEE SHEET NO. 10

MATCH LINE - SEE SHEET NO. 12



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

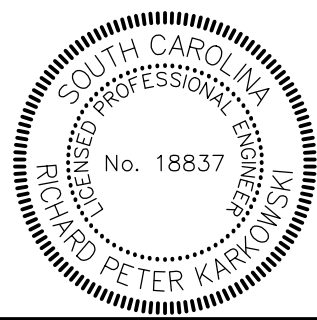
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CITY OF ISLE OF PALMS

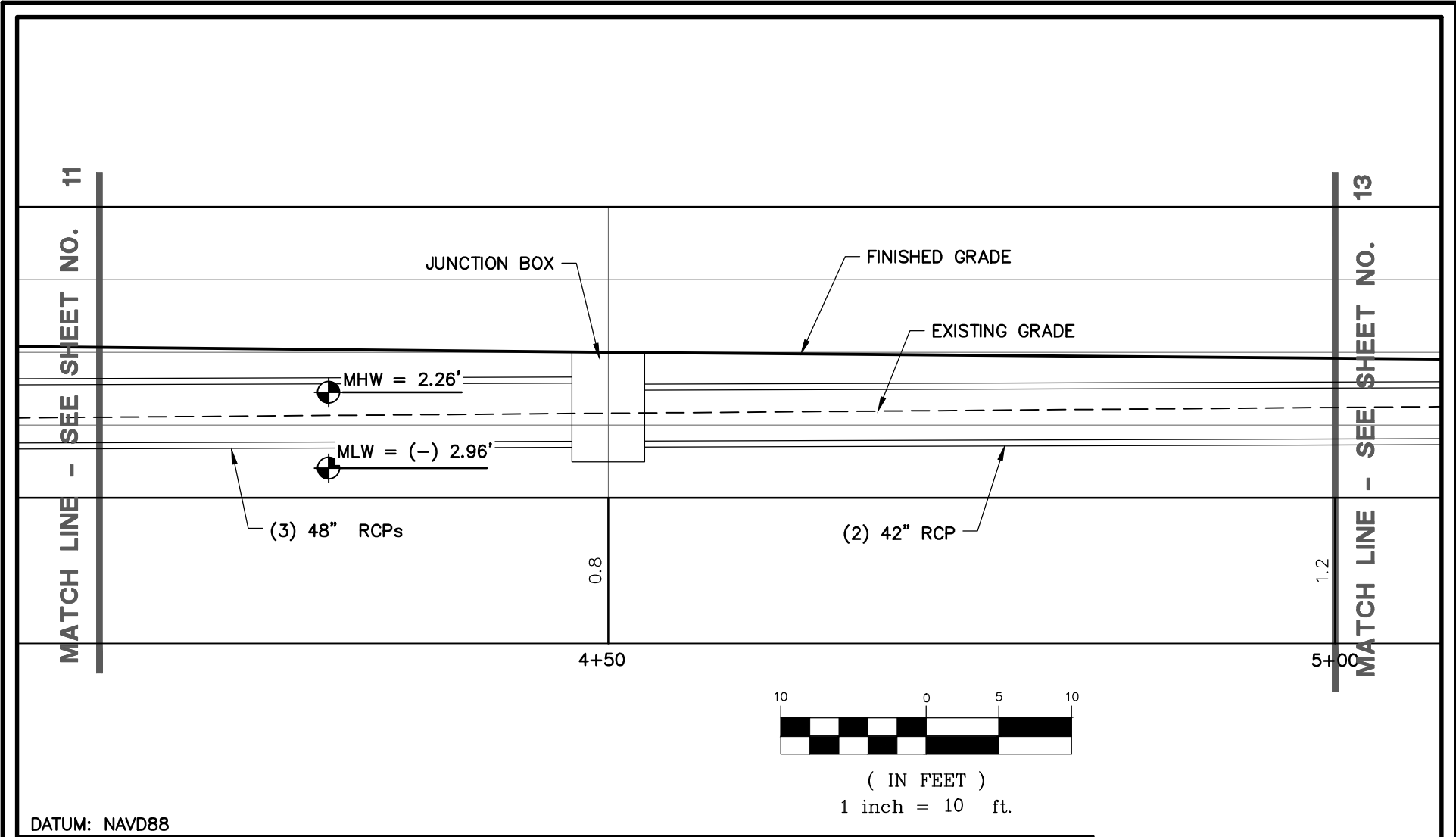
LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
DATE: 12/15/20 DRAWN BY: DNF SHEET: 11
JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



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DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

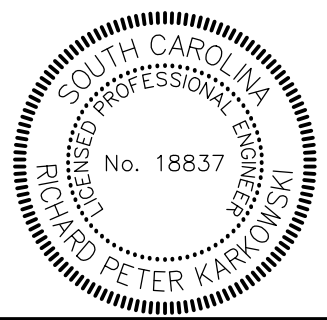
CLIENT:
CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 12
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



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MATCH LINE - SEE SHEET NO. 12

MATCH LINE - SEE SHEET NO. 14

JUNCTION BOX

FINISHED GRADE

JUNCTION BOX

MHW = 2.26'

MLW = (-) 2.96'

EXISTING GRADE

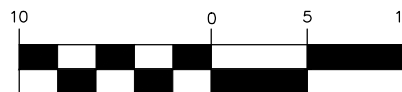
(2) 42" RCP

1.1

1.2

5+00

5+50



(IN FEET)

1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

CLIENT:

CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA

DATE: 12/15/20

DRAWN BY: DNF

SHEET: 13

JOB NUMBER: J-27670.0004

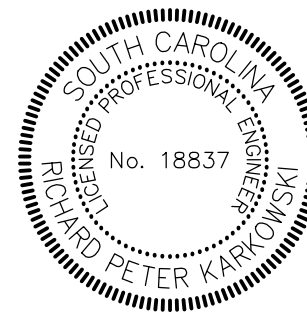
REVIEWED BY: RPK

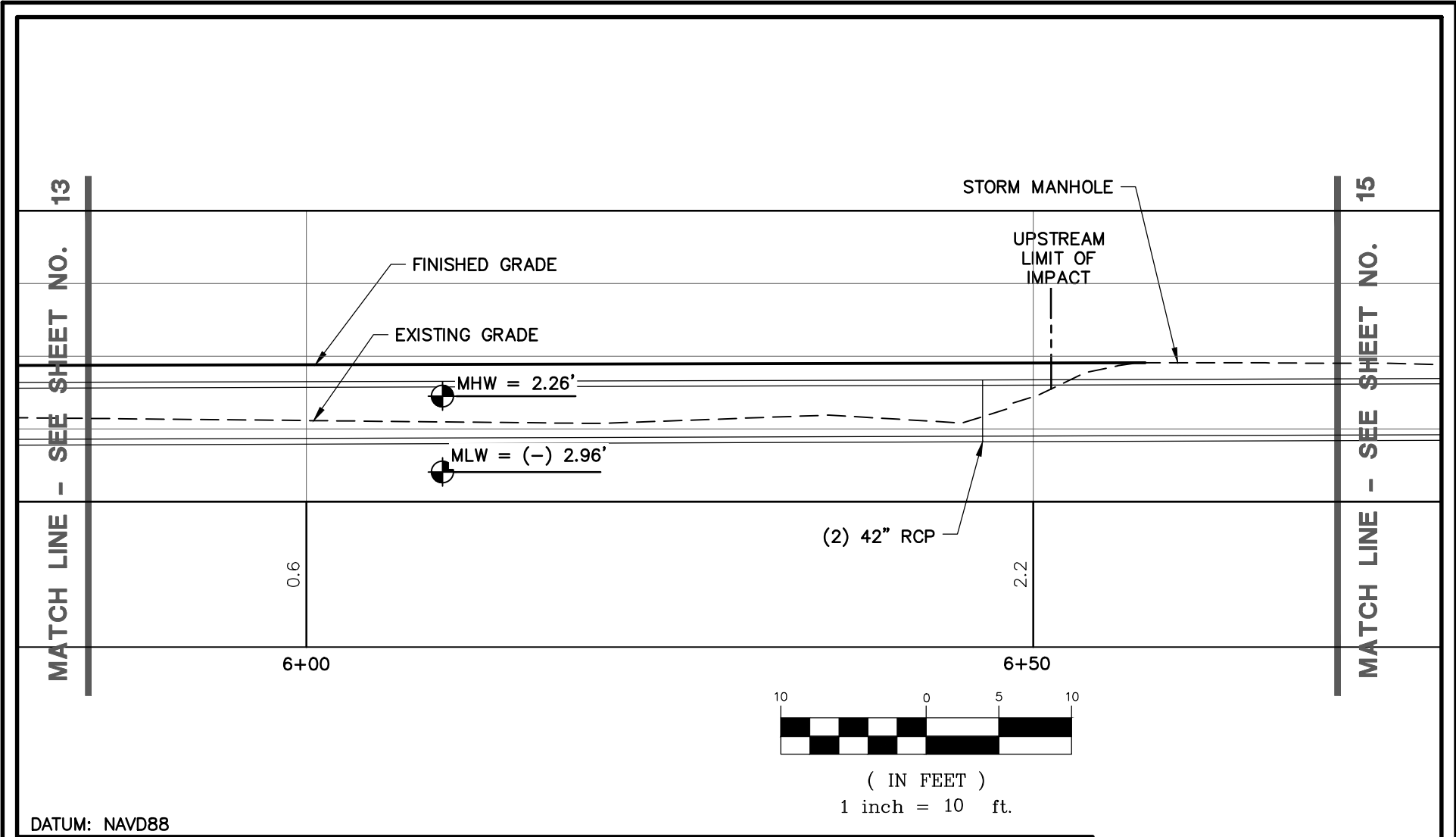
SCALE: 1"=10'



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DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

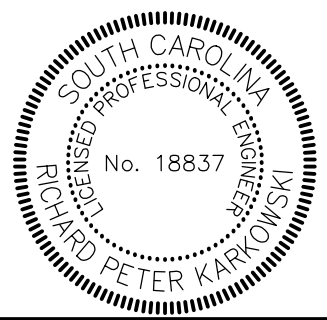
CLIENT:
CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 14
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: 1"=10'



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MATCH LINE - SEE SHEET NO. 14

STORM MANHOLE

HEADWALL

INV. (-) 0.25

(2) 42" RCP

CONCRETE APRON

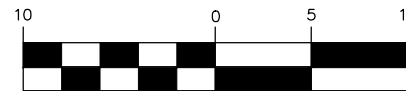
RIPRAP OUTFALL PROTECTION

4.6

1.2

7+00

7+50



(IN FEET)
1 inch = 10 ft.

DATUM: NAVD88

41ST AVENUE OUTFALL

LONGITUDINAL SECTION

CLIENT:

CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA

DATE: 12/15/20

DRAWN BY: DNF

SHEET: 15

JOB NUMBER: J-27670.0004

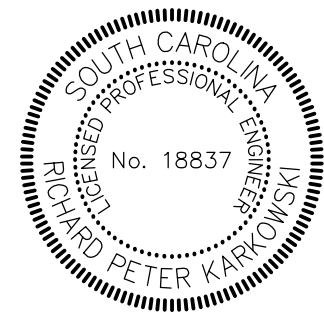
REVIEWED BY: RPK

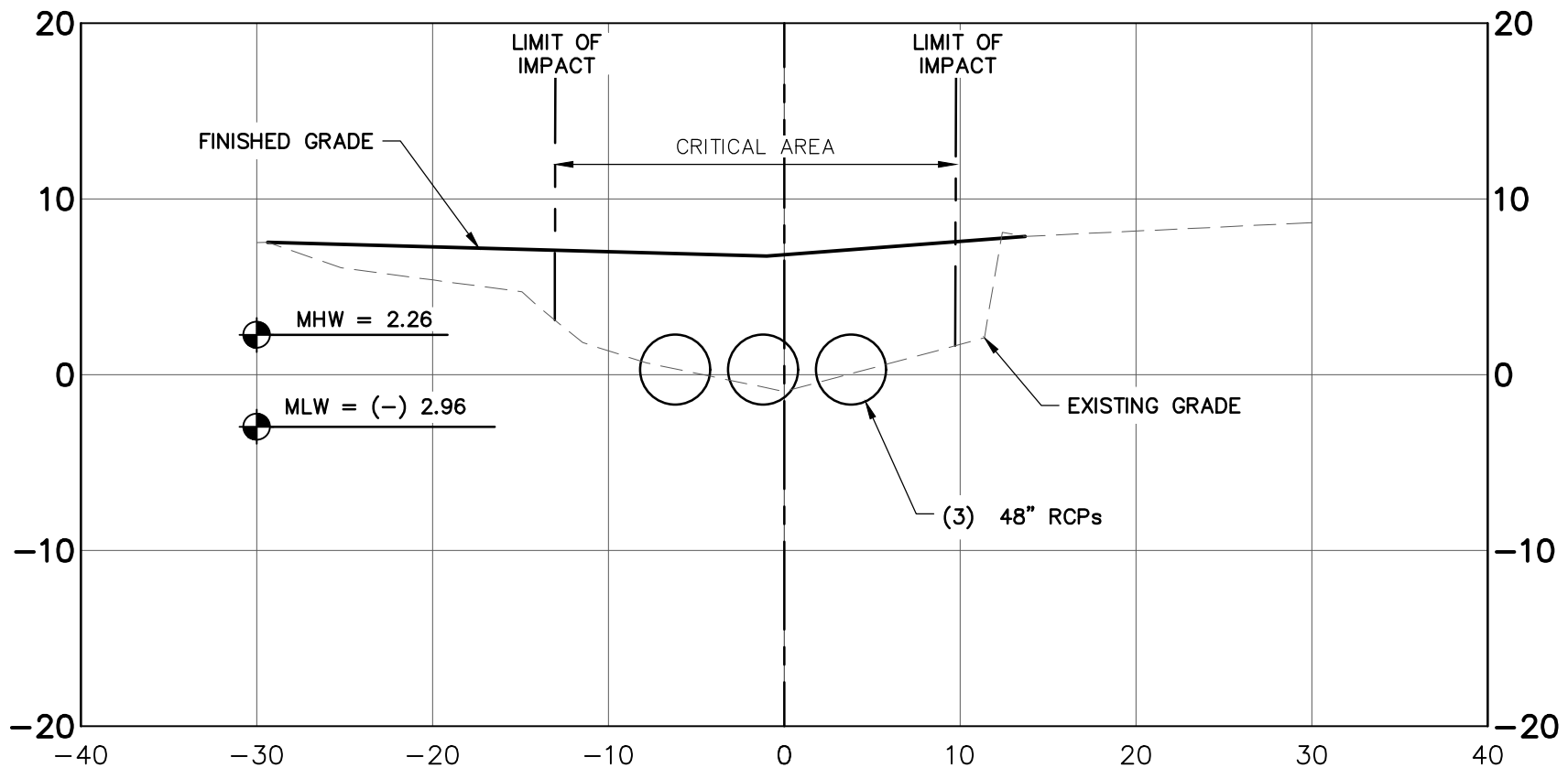
SCALE: 1"=10'

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TYPICAL SECTION

SCALE: HORZ.: 1" = 10'
 VERT.: 1" = 10'

DATUM: NAVD88

41ST AVENUE OUTFALL

TRANSVERSE SECTION

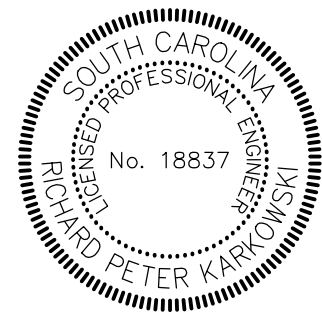
CLIENT:
CITY OF ISLE OF PALMS

LOCATION: CHARLESTON COUNTY, SOUTH CAROLINA
 DATE: 12/15/20 DRAWN BY: DNF SHEET: 16
 JOB NUMBER: J-27670.0004 REVIEWED BY: RPK SCALE: AS NOTED

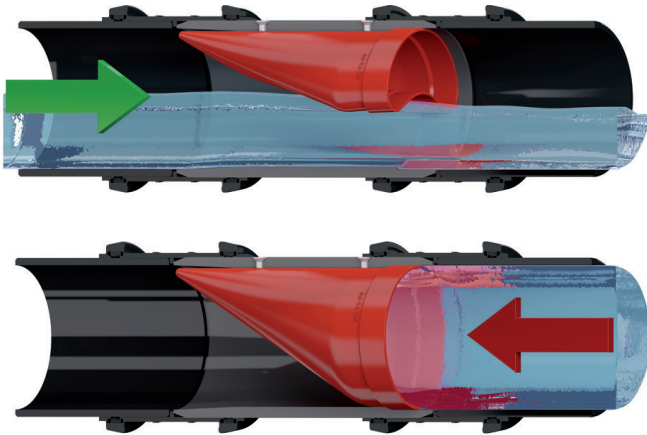


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WASTOP® INLINE CHECK VALVE



We all know someone who has been affected by it. We see it, feel it and experience it. Climate change and rising sea levels are affecting us all. Through the innovation of WaStop Inline Check Valve, we at Wapro have prevented thousands of floods worldwide.

In order to protect against flooding, we have engineered the WaStop inline check valve to ensure the lowest possible opening pressure whilst maintaining the best possible seal against backflow. This, combined with the lowest headloss available, gives the most efficient flow conditions, ensuring the fastest evacuation of water. An essential quality of check valves used to protect people and property. WaStop protects.

ADVANTAGES OF WASTOP®

- Easy installation saving on construction & installation costs
- Superior construction materials
- Lowest headloss amongst inline check valves
- Low life cycle cost
- No moving parts - virtually maintenance-free
- Many dimensions 75-2000mm std & non-standard pipes
- Stops liquids, gases, odours, insects and small animals
- Stops backflow effectively even in low flow events

APPLICATIONS - WASTE WATER, SURFACE WATER, TIDAL AREAS

We at Wapro know that any solution for flood prevention or odour control needs to function. Simply, effectively. That's why, when we invented the WaStop inline check valve in 2000, we had one thought in mind. Instant automatic protection. Working on differential pressure the WaStop functions autonomously, without human interaction, without electricity, without constant maintenance. It just works.

To invent the best inline check valve on the market our engineers went one step further. We also thought about the different parts of the process and who would be affected by the design of the valve. With function top of mind our engineers developed a valve that works in stormwater, sewer, odour applications, as well as ensuring to cover the range of sizes of existing pipes to enable retro-fitting with ease. We cover all sizes of pipes, all shapes, from 75mm-2000mm. As standard. Off the shelf in most cases, for fast delivery. We keep stock to ensure the contractor and end user can keep time and costs to a minimum.



WASTOP®

BENEFITS OF SUPERIOR CONSTRUCTION

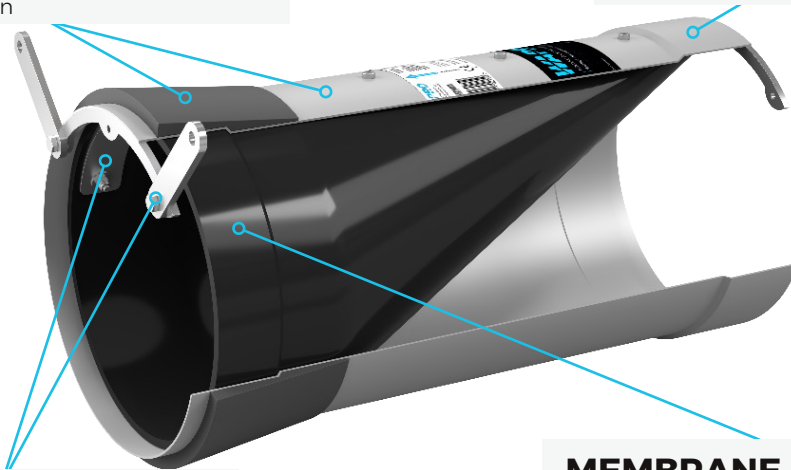
WaStop® is designed to provide asset and property owners' peace of mind. Simply the most reliable, high quality inline check valve on the market.

HOUSING & SEAL

- Thin stainless housing
- Perfect function regardless of the existing pipe quality
- Peace of mind knowing the seal is 100% tight
- Low life-cycle cost
- Lower energy costs
- Quick, easy installation

DOUBLE COLLARS

- Fast deliveries
- Easy installation for inlet or outlet installation
- Reduces costs by having one product for multiple installations situations
- Helps you meet your budget



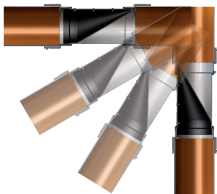
FIXATION MATERIAL

- Long life expectancy and low life-cycle cost with high quality materials
- Peace of mind - engineered product that exceeds expectations

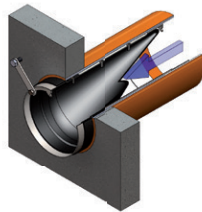
MEMBRANE

- Protection even in low flow events
- Pulsating flow reducing sedimentation up and downstream
- Extremely low headloss
- Low maintenance costs
- Memory membrane - doesn't sag

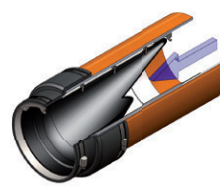
THE VERSATILITY OF WASTOP®



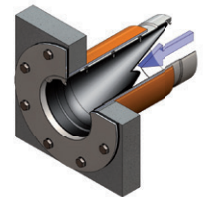
INLINE INSTALLATION



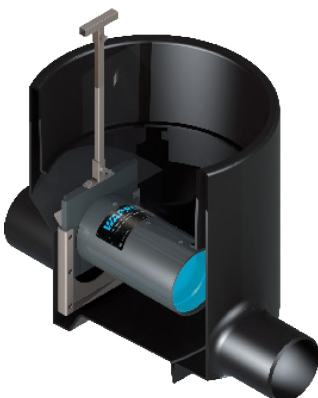
CHAMBER INSTALLATION



OUTLET INSTALLATION



FLANGE INSTALLATION



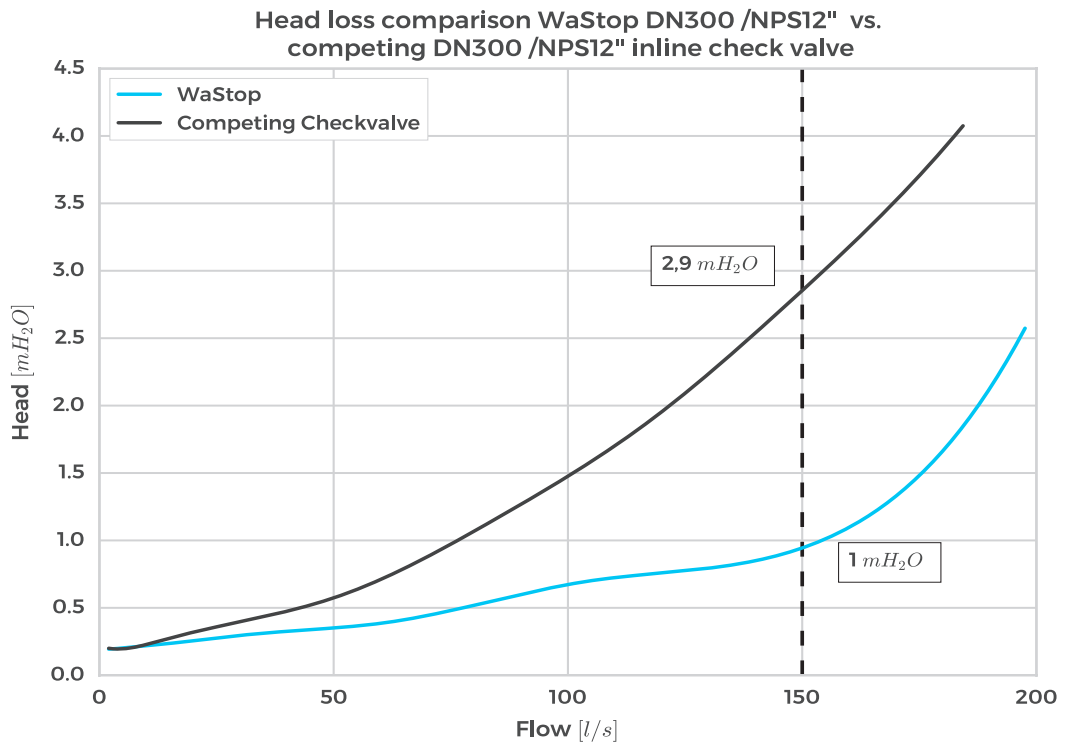
WASTOP® PRE-INSTALLED IN AN ACCESS CHAMBER

The WaStop Access Chamber provides you with peace of mind. Once installed the WaStop Access chamber provides complete protection against backflow in the sewer or combined sewer network. One ingenious product protects your basement or property from flooding caused by an overload or surcharge in the sewer system.

- Easy access from ground level
- Easy to inspect - simply lift manhole cover and pull up the WaStop module
- Delivered complete - inspection chamber and check valve in one

LOW HEAD LOSS IS ESSENTIAL

Comparing head loss data is difficult as the test procedure is rarely presented and there are multiple ways of altering data. However, the test results shown below were conducted in the same facility with the same reference points and are therefore comparable. The test result shows that the **WaStop has 65% lower head loss** than a competing inline check valve at flow 150l/s. Both valves were tested in the same open air scenario.

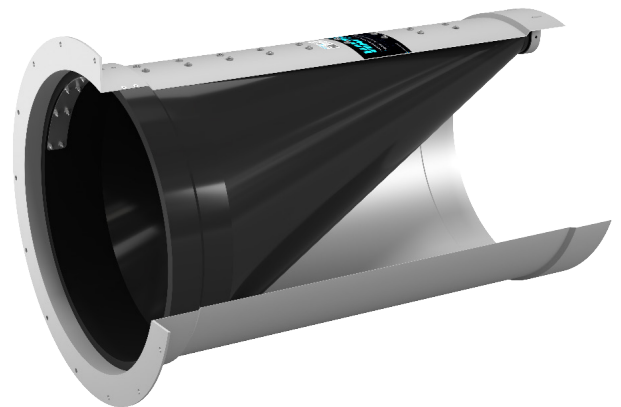


THE WIDEST RANGE OF SIZES TO SUIT ALL PIPES

We at Wapro know that there is a wide range of pipes available on the market, and that these pipes aren't always perfect. To ensure the valve we provide you with fits perfectly and protects 100% we've engineered the guess work out of it.

Keeping in line with our customer promise of commonsense and simplicity, we have developed a standard range of WaStop from DN75-2000mm. On top of this we have a Superior Fit Seal to ensure there is no leakage between the existing pipe and the WaStop inline check valve. We designed this seal to not only create the perfect fit, but also to ensure quick easy installation. Time is money.

All sizes are available in short versions or with flanges and can be customized to suit your needs. All WaStop standard valves are reversible for inlet or outlet installation and are able to be used vertically as well as horizontally.



WASTOP® STANDARD RANGE DIMENSIONS

Long life-cycle is part of our DNA. It's part of our values. With this in mind we use the right materials for the right application. Stainless steel AISI 304 (EN1.4301) and AISI 316L (EN1.4404), and PVC/PE, along with a membrane material suited to the application.

WASTOP® STANDARD - 304/316 STAINLESS STEEL

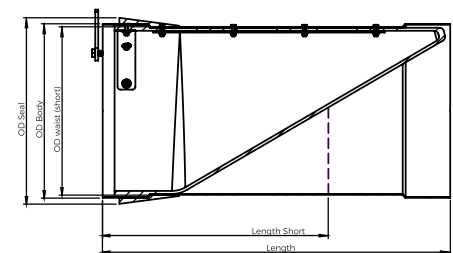
Model*	DN	Length	Length (Short)**	OD seal	OD body	OD waist (OD Short)	Opening pressure Standard***	Closing pressure Standard	Installation pipe*		Weight
									Min	Max	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mmH ² O]	[mmH ² O]			[kgs]
WS97	100	210	160	102	97	93	180	70	99	101	0,7
WS101	110	215	165	105	100	96	190	60	101	104	0,8
WS116	125	230	160	120	115	111	250	90	117	120	0,9
WS146	150	300	200	160,5	144,5	138,5	230	80	146	159	2,4
WS183	200	385	270	201	181	173	260	120	182	200	4
WS193	200	395	275	211	191	183	210	110	193	210	5
WS215	225	450	300	235	215	207	220	130	216	233	5,5
WS230	250	480	320	250	230	222	200	120	232	248	6
WS240	250	520	350	260	240	232	190	110	242	258	7
WS265	300	550	365	285	265	256	180	120	267	283	10
WS290	300	600	400	310	290	280	220	160	293	307	10
WS340	350	700	500	352	340	328	360	220	343	349	18
WS370	400	730	500	394	370	358	240	160	373	391	20
WS390	400	750	500	414	390	378	310	190	393	411	24
WS440	450	840	560	467	443	431	210	140	446	464	28
WS490	500	900	600	506	490	474	270	180	493	503	29
WS515	515	1000	650	539	515	499	265	165	518	536	38
WS590	600	1200	800	603	587	567	370	240	590	598	48
WS690	700	1300	870	710	690	670	280	180	695	705	63
WS750	750	1400	950	770	750	726	390	240	755	765	75
WS790	800	1500	1000	810	790	766	350	230	795	805	88
WS885	900	1700	-	915	885	855	400	270	890	910	116
WS985	1000	1800	-	1015	985	955	390	260	990	1010	141
WS1040	1050	2000	-	-	1040	-	350	220	1048	-	221
WS1185	1200	2250	-	-	1185	1155	460	290	1190	-	290
WS1385	1400	2600	-	-	1385	1349	540	350	1390	-	440
WS1485	1500	2800	-	-	1485	1441	620	390	1490	-	642
WS1585	1600	3000	-	-	1585	1541	600	380	1590	-	700

*We have a standard set of sizes which can be customized, easily, to suit any application. Flanges on inlet, outlet or somewhere in between are all easily available. Quickly. **Customized extra short valves are available. *** Open air. Standard membrane. Lower and higher opening pressures available.

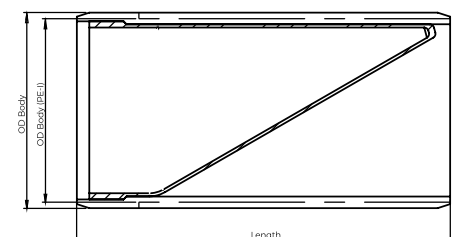
WASTOP® STANDARD - PVC/PE

Model	DN	Length	OD body	Opening Pressure Standard	Closing Pressure Standard	Weight
WS75PVC	75	125	75	190	70	0,3
WS110PVC	110	210	110	200	60	0,9
WS125PVC	125	240	125	190	80	1,2
WS160PVC	160	310	160	220	80	2,1
WS200PVC	200	400	200	190	110	4,1
WS250PE	250	480	250	220	130	6,3
WS250PE-I	250	480	236	220	140	4,6
WS315PE	315	600	315	220	160	12,5
WS315PE-I	315	600	295	230	170	8,3

WASTOP® STANDARD - STAINLESS



WASTOP® STANDARD - PVC/PE



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