

HEADWATERS COMMERCE PARK SEWER EXTENSION



Florida Department of Economic Opportunity 2021-2022 Florida Job Growth Grant Fund Public Infrastructure Grant Proposal



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Florida DEO Job Growth Grant Application Additional Project Narratives Project Location Map USGS Map Preliminary Design Plans Detailed Project Cost Estimate



2021-2022 Florida Job Growth Grant Fund Public Infrastructure Grant Proposal

Proposal Instructions: Please read this document carefully and provide the information requested below. Some questions may request that a separate narrative be completed. If additional space is needed, attach a word document with your entire answer.

Governmental Entity Information

Name of Governmen	tal Entity: City of Fellsmere
Government Federal	Employer Identification Number:
Primary Contact Nam	ne: Mark D. Mathes, PE
Title: City Manager	
Mailing Address:	22 S. Orange St
	Fellsmere, FL 32948
Phone Number:	772-646-6303
Email: citymanage	er@cityoffellsmere.org
Secondary Contact N	Jame: Claudia Alvarado
Title: Senior Accour	ntant
Phone Number:	772-646-6307

Public Infrastructure Grant Eligibility

Pursuant to section 288.101, F.S., the Florida Job Growth Grant Fund was created to promote economic opportunity by improving public infrastructure and enhancing workforce training. Eligible entities that wish to access this grant fund must submit public infrastructure proposals that:

- Promote economic recovery in specific regions of the state, economic diversification or economic enhancement in a targeted industry. (<u>View Florida's Targeted Industries here.</u>)
- Are not for the exclusive benefit of any single company, corporation or business entity.
- Are for infrastructure that is owned by the public and is for public use or predominately benefits the Public.

1. Program Requirements:

(If additional space is needed, attach a word document with your entire answer.)

Each proposal must include the following information describing how the project satisfies eligibility requirements listed on page 1.

A.	Provide a detailed description of the public infrastructure improve	ments.	
	A detailed response is provided as part of the additional narrative attachment.		
В.	Provide location of public infrastructure, including physical address	ss and county	of project.
	SECTION 70, TOWNSHIP 31 SOUTH, RANGE 37 EAST SECTION 71, TOW FELLSMERE, FLORIDA. A location map for the project is provided.	'NSHIP 32 SOU'	TH, RANGE 37
C.	Is this infrastructure currently owned by the public?	• Yes	O No
	If no, is there a current option to purchase or right of way provide	d to the Coun	ty?
D.	Provide current property owner.		
	Fellsmere Joint Venture		
E.	Is this infrastructure for public use or does it predominately benefi	t the public?	
		Yes	O No
F.	Will the public infrastructure improvements be for the exclusive be corporation, or business entity?	enefit of any s	ingle company,
		O Yes	No

PUBLIC INFRASTRUCTURE GRANT PROPOSAL

- **G.** Provide a detailed description of, and quantitative evidence demonstrating, how the proposed public infrastructure project will promote:
 - · Economic recovery in specific regions of the state;
 - · Economic diversification; or
 - Economic enhancement of a Targeted Industry (View Florida's Targeted Industries here.)
 - o Describe how the project will promote specific job growth. Include the number of jobs that will be retained or created, and in which industry(ies) the new net jobs will be created using the North American Industry Classification System (<u>NAICS</u>) codes. Where applicable, you may list specific businesses that will retain or create jobs or make capital investment.
 - Provide a detailed explanation of how the public infrastructure improvements will connect to a broader economic development vision for the community and benefit additional current or future businesses.

A detailed response is provided as part of the additional narrative attachment.

2. Additional Information:

(If additional space is needed, attach a word document with your entire answer.)

A. Provide the proposed commencement date and number of days required to complete construction of the public infrastructure project.

With final design and permitting underway and expected to be completed in the next four months, commencement of construction can begin immediately upon award through release of the request for bids. Bidding and contracting generally require 60 to 90 days. Construction will commence immediately thereafter, and the construction duration is expected to be six months.

- **B.** What permits are necessary for the public infrastructure project?
 - Florida Department of Environmental Protection Sewer Line Extension
 - Indian River County Right-of-way Permit
 - Fellsmere Water Control District Utility Permit

2021-2022 FLORIDA JOB GROWTH GRANT FUND

C.	Detail whether required permits have been secured, and if not, dethese permits. Additionally, if any required permits are local permits prioritized? A detailed response is provided as part of the additional narrative attachment.	its, will these	· ·
D.	What is the future land use and zoning designation on the proposimprovements, and will the improvements conform to those uses'		e infrastructure
	A detailed response is provided as part of the additional narrative attachment.		
E.	Will an amendment to the local comprehensive plan or a develop the site of the proposed project or on adjacent property to accompotential current or future job creation opportunities? If yes, pleas	nodate the in	frastructure and
		Yes	O No
	No comprehensive plan amendments are required and no development order However, any development in Fellsmere is first required to obtain a development order will first be required.		
F.	Is the project ready to commence upon grant fund approval and oplease explain.	_	_
		Yes	○ No
	Preliminary design has been completed. Final specifications and permitting ar completed in the next three months. If awarded, release of bids is expected to construction of the project would begin within approximately three months of the agreement. Construction is anticipated to be completed within nine months from	proceed immed he execution of	diately. The a funding
G.	Does this project have a local match amount?	Yes	O No
	If yes, please describe the entity providing the match and the amount	ount.	
	A detailed response is provided as part of the additional narrative attachment.		
н.	Provide any additional information or attachments to be considered other supporting documents are encouraged. The following documentation is provided to support this proposal: 1. Additional Project Narratives 2. Project Location Map 3. USGS Map 4. Preliminary Design Plans 5. Detailed Project Cost Estimate	ed for this pro	posal. Maps and

3. Program Budget

(If additional space is needed, attach a word document with your entire answer.)

Estimated Costs and Sources of Funding: Include all applicable public infrastructure costs and other funding sources available to support the proposal.

1.)	Total Amount Requested	\$ 2,500,000.00	
	Florida Job Growth Grant Fund		
A.	Other Public Infrastructure Proj City/County Private Sources	ect Funding Sources: \$ \$100,000.00	
	Other (grants, etc.) Total Other Funding	\$ \$ 100,000.00	Please Specify:
B.	Public Infrastructure Project Construction Reconstruction Design & Engineering Land Acquisition Land Improvement	\$ 2,500,000.00 \$ \$ 100,000.00 \$ \$	
	Other	\$ \$ 2,600,000.00	Please Specify:
	Total Project Costs	3 2,000,000.00	

Note: The total amount requested must be calculated by subtracting the total other public infrastructure project funding sources in A. from the total public infrastructure project costs in B.

C.	Provide a detailed budget narrative, including the timing and steps necessary to obtain the
	funding and any other pertinent budget-related information.

A detailed response is provided as part of the additional narrative attachment.

4. Approvals and Authority

(If additional space is needed, attach a word document with your entire answer.)

A. If the governmental entity is awarded grant funds based on this proposal, what approvals must be obtained before it can execute a grant agreement with the Florida Department of Economic Opportunity (e.g., approval of a board, commission or council)?

A resolution must be approved by the City Council, authorizing the Mayor to execute the grant agreement. The approval of the resolution can be completed at the next available meeting after notice of award is received by the City.

If board authorization is not required, who is authorized to sign?

- **B.** If approval of a board, commission, council or other group is needed prior to execution of an agreement between the governmental entity and the Florida Department of Economic Opportunity:
 - Provide the schedule of upcoming meetings for the group for a period of at least six months.
 - ii. State whether entity is willing and able to hold special meetings, and if so, upon how many days' notice.
 - i. The City Council meets on the first and third Thursday of each month.
 - ii. The City is able to conduct special meetings. Due to advertising requirements, special meetings require at least 14 days notice.
- **C.** Attach evidence that the undersigned has all necessary authority to execute this proposal on behalf of the governmental entity. This evidence may take a variety of forms, including but not limited to: a delegation of authority, citation to relevant laws or codes, policy documents, etc.

The Fellsmere City Council authorized submission of the proposal through legislative action. On March 18, 2021, the Council adopted Resolution 2021-34 approving the submission of the project to the Department of Economic Opportunity through the Jobs Growth Grant Fund.

PUBLIC INFRASTRUCTURE GRANT PROPOSAL

I, the undersigned, do hereby certify that I have express authority to sign this proposal on behalf of the above-described entity and to the best of my knowledge, that all data and information submitted in

proposal is truthful and accurate and no material fact has been omitted. Name of Governmental Entity: City of Fellsmere Name and Title of Authorized Representative: Mark D. Mathes, City Manager Representative Signature: Mach D'Malter

Signature Date: 8-13-21



2021-2022 Florida Job Growth Grant Fund Public Infrastructure Grant Proposal City of Fellsmere – Headwaters Commerce Park Sewer Extension Additional Project Narrative

1. PROGRAM REQUIREMENTS:

A. Provide a detailed description of the public infrastructure improvements.

The proposed project will consist of a sewer extension to the Headwaters Commerce Park (Park) located in the City of Fellsmere. The project will directly impact the 1,000-acre agricultural and technology site by increasing the wastewater discharge capacity. The sewer expansion will not only allow the current businesses at the site to expand but will also lead to new and more diverse businesses being able to locate to and utilize the Park.

Originally platted as a one-square mile town in 1915 surrounded by 40,000 acres of agricultural lands, Fellsmere has grown to over 54 square miles with agriculture remaining a leading economic driver. Even though the City of Fellsmere has a long-storied relationship with agriculture and agricultural industries and wants to remain relevant in the agricultural sector, diversification is also desired. The land on which Headwaters Commerce Park lies was first annexed into the City of Fellsmere in 2007 as a means to enhance economic development. Since then, the City created specific policies in 2010 to guide the development of this land and surrounding areas, specifically creating a future land use designation of Employment Activity Centers to accommodate major economic development initiatives such as the Headwaters Commerce Park. Fellsmere partnered in 2014 with the original developer of the predecessor company to the Florida Shrimp Company to develop access roads into the park, which led to the location of Parabel at Headwaters Commerce Park in 2016. Natural gas was also extended from Interstate 95, over six miles east of the park, to serve the Florida Shrimp Company and other industries in the area.

With all these inducements, central sewer has arisen as a remaining constraint to both the retention and expansion of existing businesses and the capture of new businesses. By extending sewer to the Headwaters Commerce Park, industries that cannot rely on septic systems due to size or discharge characteristics, will still be able to find Fellsmere home.

To remove this barrier and foster growth, the proposed project will include construction of a new sanitary sewer system that includes over 15,000 LF of 6" force main and three lift stations. The work needed to complete the project will also require site work and other activities such as air release valves, manholes, and 8" PVC gravity sanitary piping. The project will be completed on County owned right of way and land conveyed to the City by the site owner. The final design of the project is underway and is being partially paid for by the owner of the Commerce Park. Once funding is secured, it is anticipated that construction of the project can begin within three months of contract execution. The requested financial assistance represents 100% of the project's construction cost of \$2,500,000.

- G. Provide a detailed description of, and quantitative evidence demonstrating, how the proposed public infrastructure project will promote:
 - Economic recovery in specific regions of the state;
 - Economic diversification; or
 - Economic enhancement of a Targeted Industry

Describe how the project will promote specific job growth. Include the number of jobs that will be retained or created, and in which industry(ies) the new net jobs will be created using the North American Industry Classification System (NAICS) codes. Where applicable, you may list specific businesses that will retain or create jobs or make capital investment.

Provide a detailed explanation of how the public infrastructure improvements will connect to a broader economic development vision for the community and benefit additional current or future businesses.

The proposed sewer extension to Headwaters Commerce Park will further the City of Fellsmere's efforts to enhance economic diversification and the capture of local and state designated targeted industries. Headwaters Park encompasses an area of approximately 1,000 acres and is home to four agricultural technology companies. Existing business include:

- B&W Growers (NAISC 111998) America's largest arugula producer
- Parabel (NAISC 112519) a new start-up, developing plant protein food additives from duck weed
- Benchmark Genetics (NAICS 112519) an internationally renowned firm providing broodstock for the shrimp aquaculture industry around the world
- Florida Shrimp Company (NAISC 112519) a new start-up, growing adult shrimp for the domestic markets along the east coast.

The sewer expansion will have a direct impact on the ability of Benchmark Genetics and the Florida Shrimp Company to remain in business and expand. Although both companies utilize cutting edge technology in the production of their aquaculture products, discharge of wastewater is still required in small amounts. However, given the adjacent agricultural interests in the area, including B&W Growers and Parabel within close proximity, open air evaporation ponds are not an option due to concerns for saltwater pollution of common irrigation ditches.

Due to the discharge constraints, the Florida Shrimp Company is using only 50% of their production capacity. Without the sewer extension, continued operation at this location may not be feasible as the only other option for saltwater discharge is an expensive injection well, and approximately 20 jobs will be lost. If the sewer extension comes to fruition, they will be able to run at 100% of existing capacity and invest \$1 Million creating an additional 15 jobs. Additional areas on their approved site can accommodate further expansion that would be possible with the sewer extension resulting in an investment of \$5 Million and creation of an additional 30 jobs.

Benchmark Genetics currently employs 18 people, which without a discharge option, may also be in jeopardy. Staffing the expansion of their production capacity follows a simple rule: add one production employee for every six new grow out tanks. Benchmark is currently expanding its current capacity of 18 tanks to 29 tanks and is adding two new jobs. Benchmark currently disposes of its saltwater discharge by sending the water to the Florida Shrimp Company as a mix for their grow tanks. Given the Florida Shrimp Company's constraints, no additional effluent from Benchmark can be accepted, and thus, Benchmark expansion is also limited without a sewer extension.

By the end of 2023, with a sewer extension, Benchmark will expand 19 additional tanks and three more production jobs. As production increases, new indirect positions will follow: sales, maintenance, logistics, etc., that are in addition to the one employee for every six tanks norm. Following this expansion, there are plans in 2024 and 2025 to expand to another 18 production tanks and three more production jobs. Benchmark's final goal is to export from Fellsmere 300,000 breeders/year which would require a grand total of 156 tanks in production.

Aquaculture is already present in the region. The possibility to dispose safely of some of the process water will definitively boost everyone's confidence to expand beyond current plans. Aquaculture jobs are specialized jobs paying above the region's average. As more people move in, all local businesses will benefit.

In addition to the protection of existing jobs and expansion of existing businesses, the sewer extension will allow for the site selection of a much wider range of businesses. According to management of Headwaters Commerce Park, in the past 12-15 months, inquiries have been received for the following types of businesses:

- Manufacturing 100,000 to 1,000,000 sq ft (short term and long term plans)
- Manufacturing 25,000 sq ft
- Manufacturing 600,000 sq ft (Multiple buildings @ 50,000 sq ft each)
- AgriTech Processing 35,000 sq ft
- Cold Storage 15,000 sq ft
- Corp HQ 66,000 sq ft
- Hotel 300 rooms
- Aquaculture

2. ADDITIONAL INFORMATION:

C. Detail whether required permits have been secured, and if not, detail the timeline for securing these permits. Additionally, if any required permits are local permits, will these permits be prioritized?

Preliminary engineering plans have been completed and final specifications needed for bidding are currently being finalized. As final plans are being competed, permitting can be obtained. The required permits include the Florida Department of Environmental Protection for Sewer extension. The FDEP permit will be obtained over the next four months. An Indian River County Right-of-way permit is also required as a portion of the sewer extension will fall within the CR512 right-of-way owned by Indian River County. This permit will also be obtained in the next four months. The third and final permit needed will be from the Fellsmere Water Control District. This permit is required as a result of the sewer line crossing a Fellsmere Water Control District ditch. No other local permits are required. There are no anticipated issues that would delay approval by the regulatory agencies.

D. What is the future land use and zoning designation on the proposed site of the infrastructure improvements, and will the improvements conform to those uses?

The Future Land Use is Villages of Fellsmere with Employment Activity Center subdistrict. The zoning is currently Agriculture, which is suitable for existing businesses. The final zoning for non-ag developments will be Planned Development.

The above future land use and zoning allow for the sewer extension as well as the uses sought at Headwaters Commerce Park.

G. Does this project have a local match amount?If yes, please describe the entity providing the match and the amount.

The local match is provided by the owner of Headwater Commerce Park. The local share being provided is a cash match in the amount of \$100,000. This funding is being provided to cover the cost of design and construction engineering inspection services. In addition, a non-cash match is being provided in the form of property needed to complete the project. The owner of the commerce park is providing the land required for the lift stations that are needed to support the sewer extension.

3. PROGRAM BUDGET:

C. Provide a detailed budget narrative, including the timing and steps necessary to obtain the funding and any other pertinent budget-related information.


The proposed project will use DEO funding to construct new wastewater infrastructure to expand service to the Headwaters Commerce Park. The scope of the project will consist of the construction of an expanded sanitary sewer system including over 15,000 LF of 6" force main and three lift stations. The work needed to complete the project will also require site work and other activities such as air release valves, manholes, and 8" PVC gravity sanitary piping.

The opinion of cost developed by the engineer who completed the preliminary plans is \$2,459,275.00. The City is requesting financial assistance in the amount of \$2,500,000. Funds would be used for construction and construction inspections services.

The costs for design are not included in the grant request. This work is underway and the cost if being paid by the owner of the Headwaters Commerce Park. The value of these activities is over \$100,000.

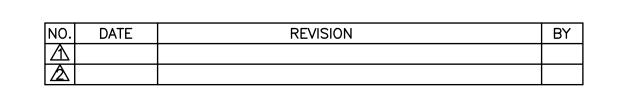


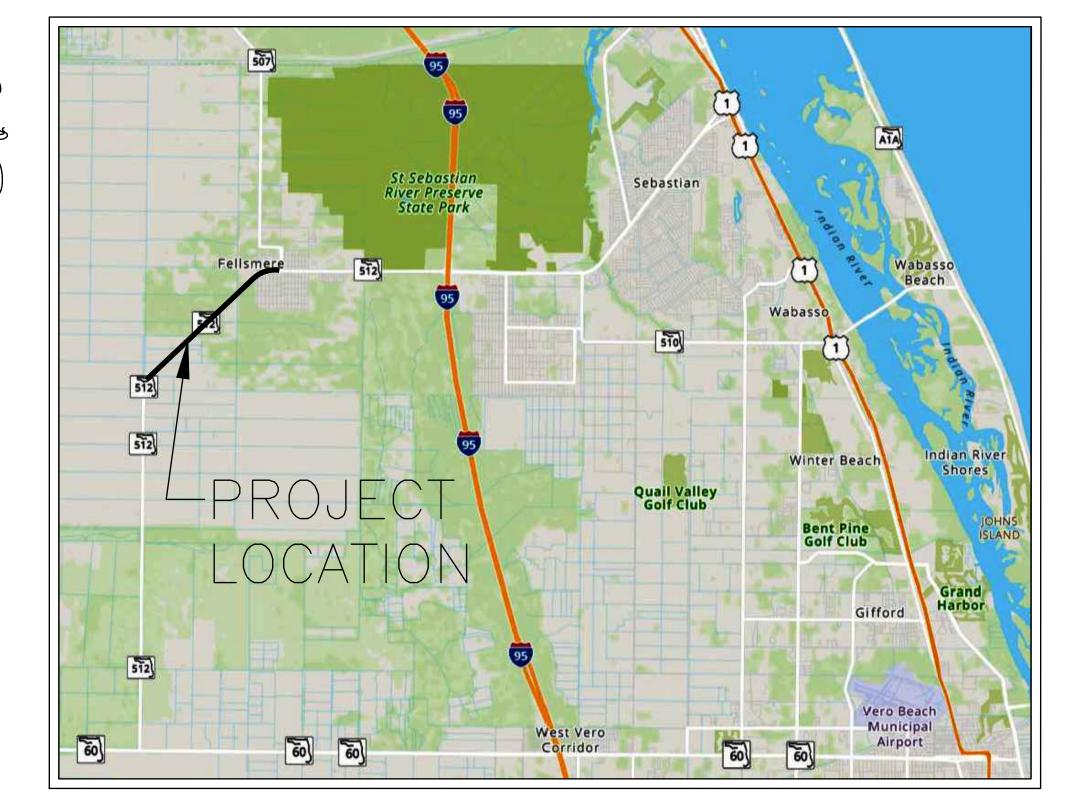




ENGINEERING PLANS AND SPECIFICATIONS FOR

FORCE MAIN EXTENSION SECTION 70, TOWNSHIP 31 SOUTH, RANGE 37 EAST & SECTION 71, TOWNSHIP 32 SOUTH, RANGE 37 EAST FELLSMERE, FLORIDA

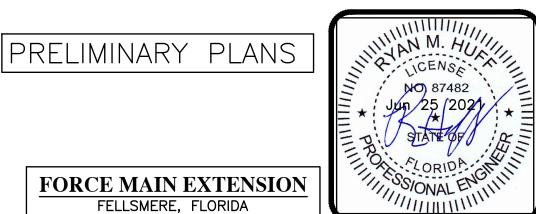




LOCATION MAP

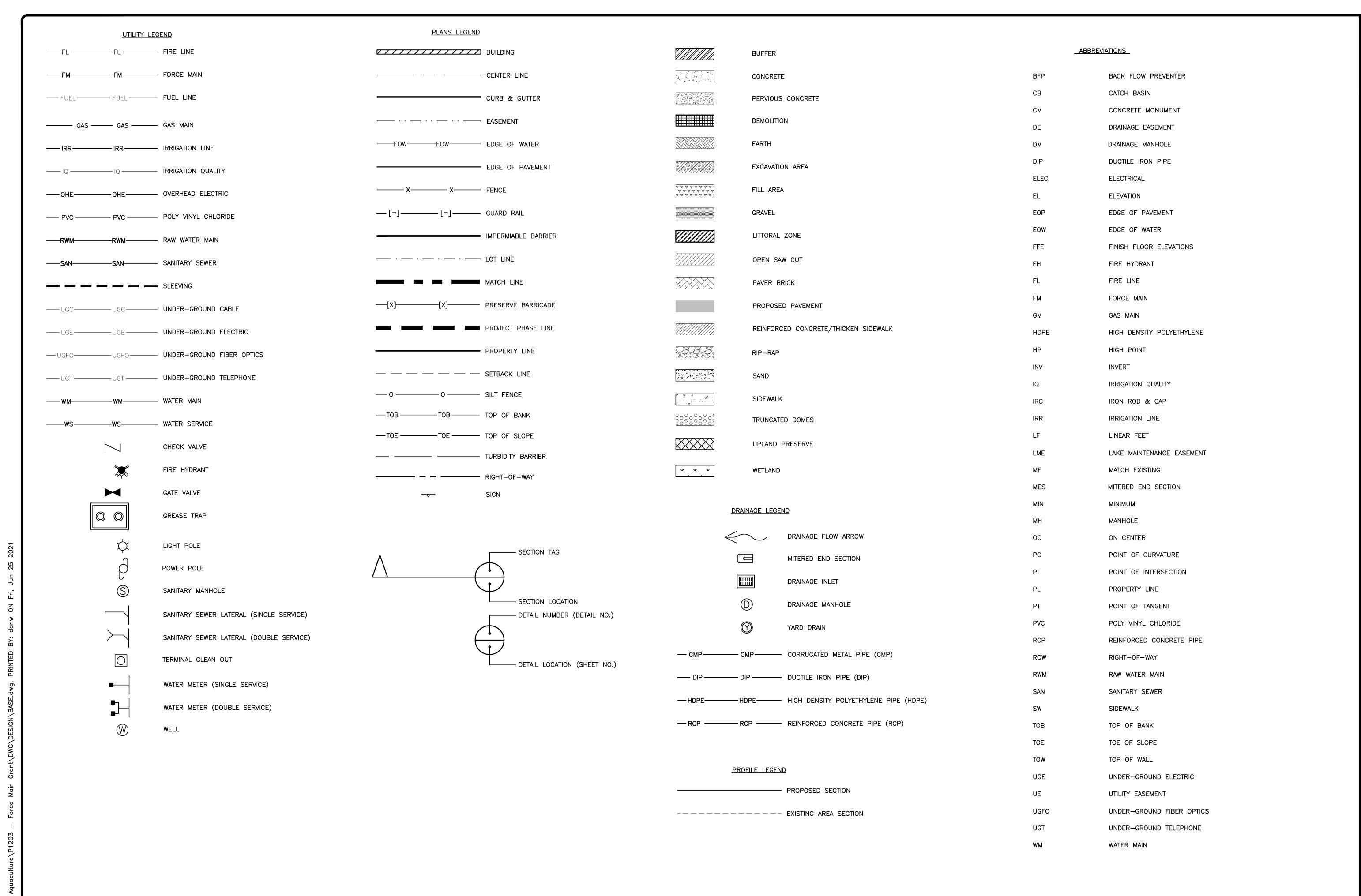
SHEET NUMBER	SHEET TITLE/DESCRIPTION
1	COVER
2	LEGEND & ABBREVIATIONS
3	KEY SHEET
4-13	UTILITY PLAN
14-15	UTILITY PROFILES
16-18	UTILITY DETAIL





PRELIMINARY PLANS

FELLSMERE, FLORIDA



MILCOR HOBE SOUND, FL 33455 725 SE PORT ST LUCIE BLVD UNIT 104 PORT ST. LUCIE, FL 34984 PH: (772) 223-8850 FAX: (772) 223-8851 WWW.THEMILCORGROUP.COM CERTIFICATE OF AUTHORIZATION: IN M. HUM

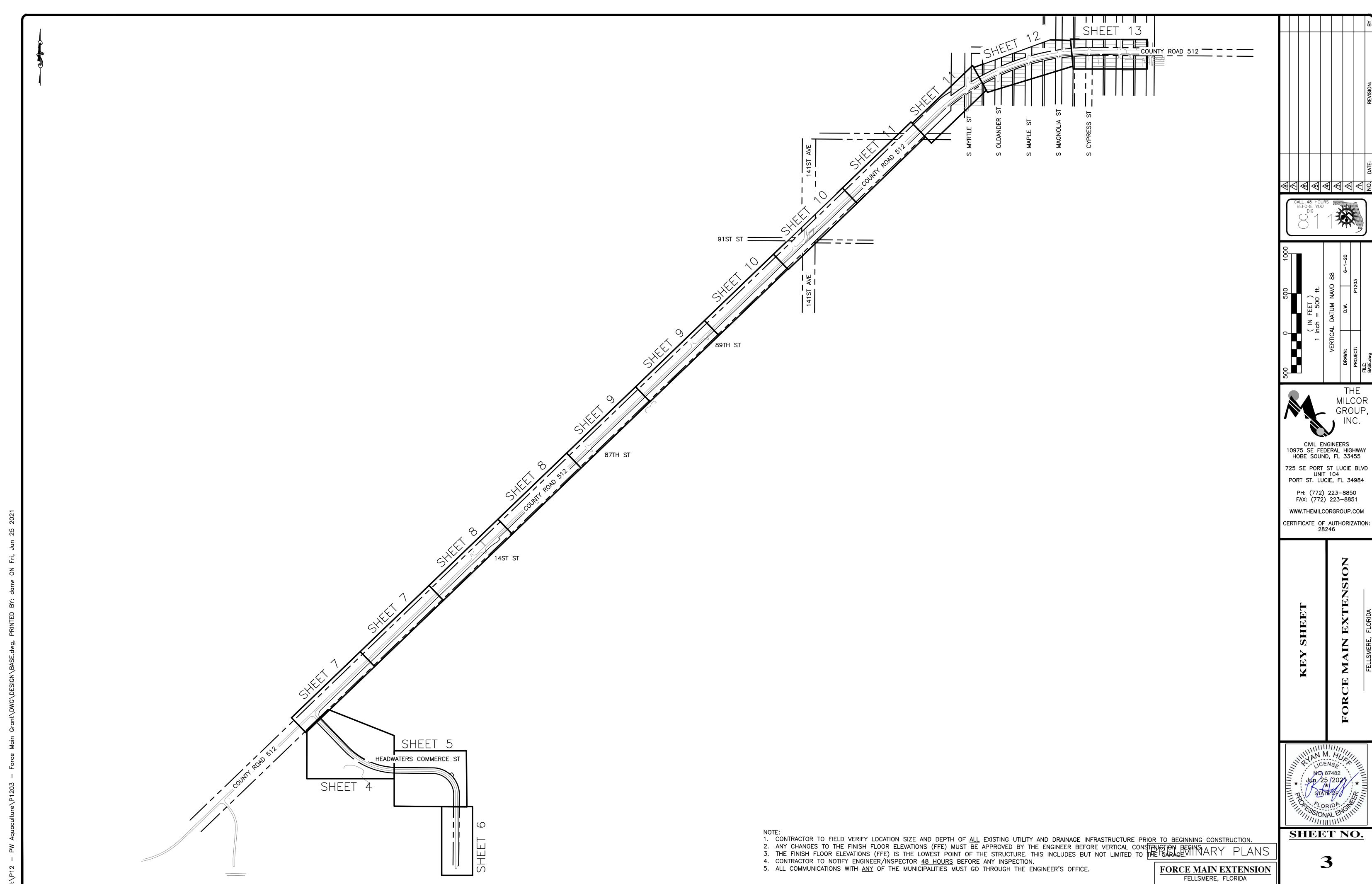
FORCE MAIN EXTENSION

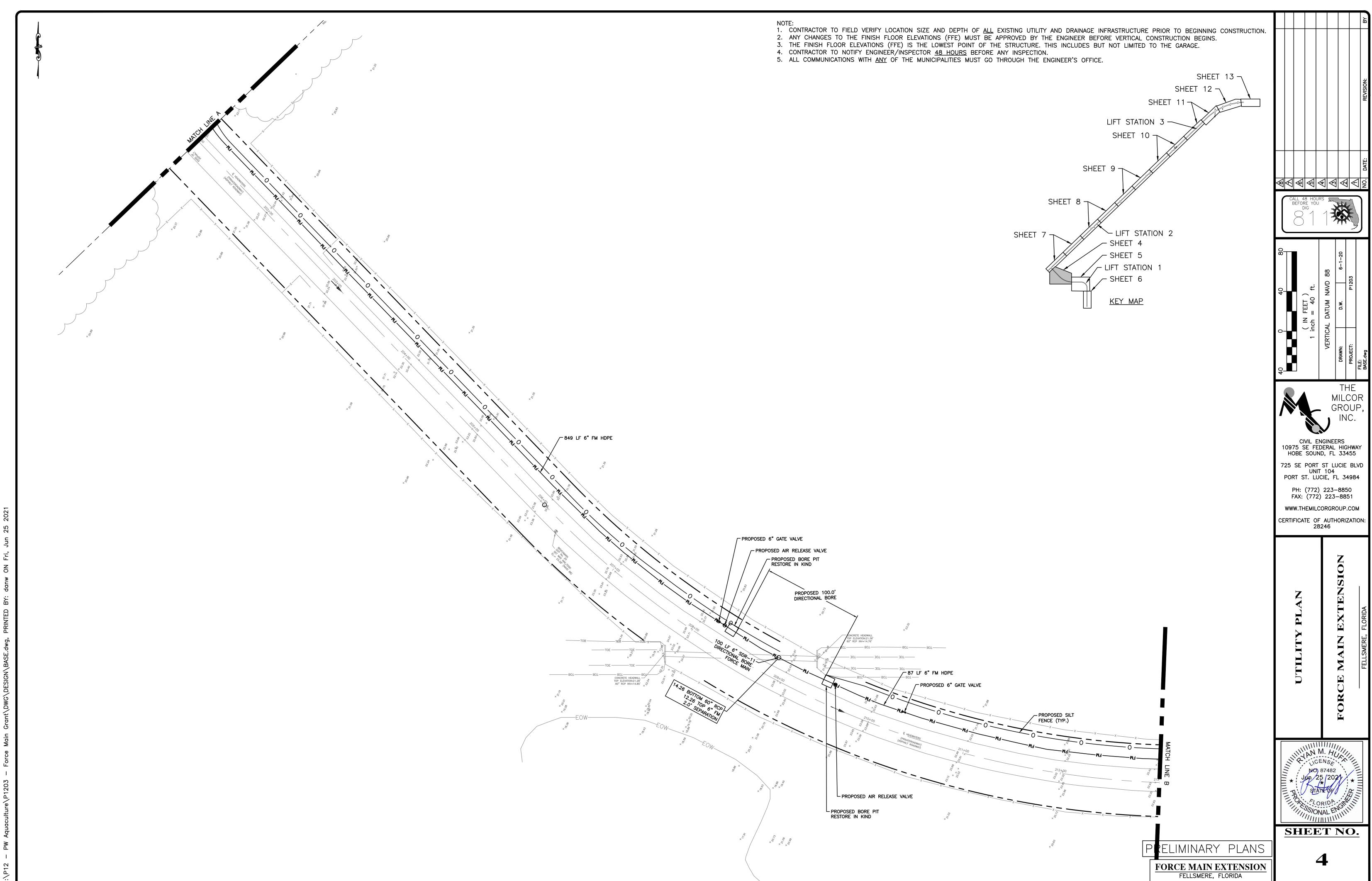
FELLSMERE, FLORIDA

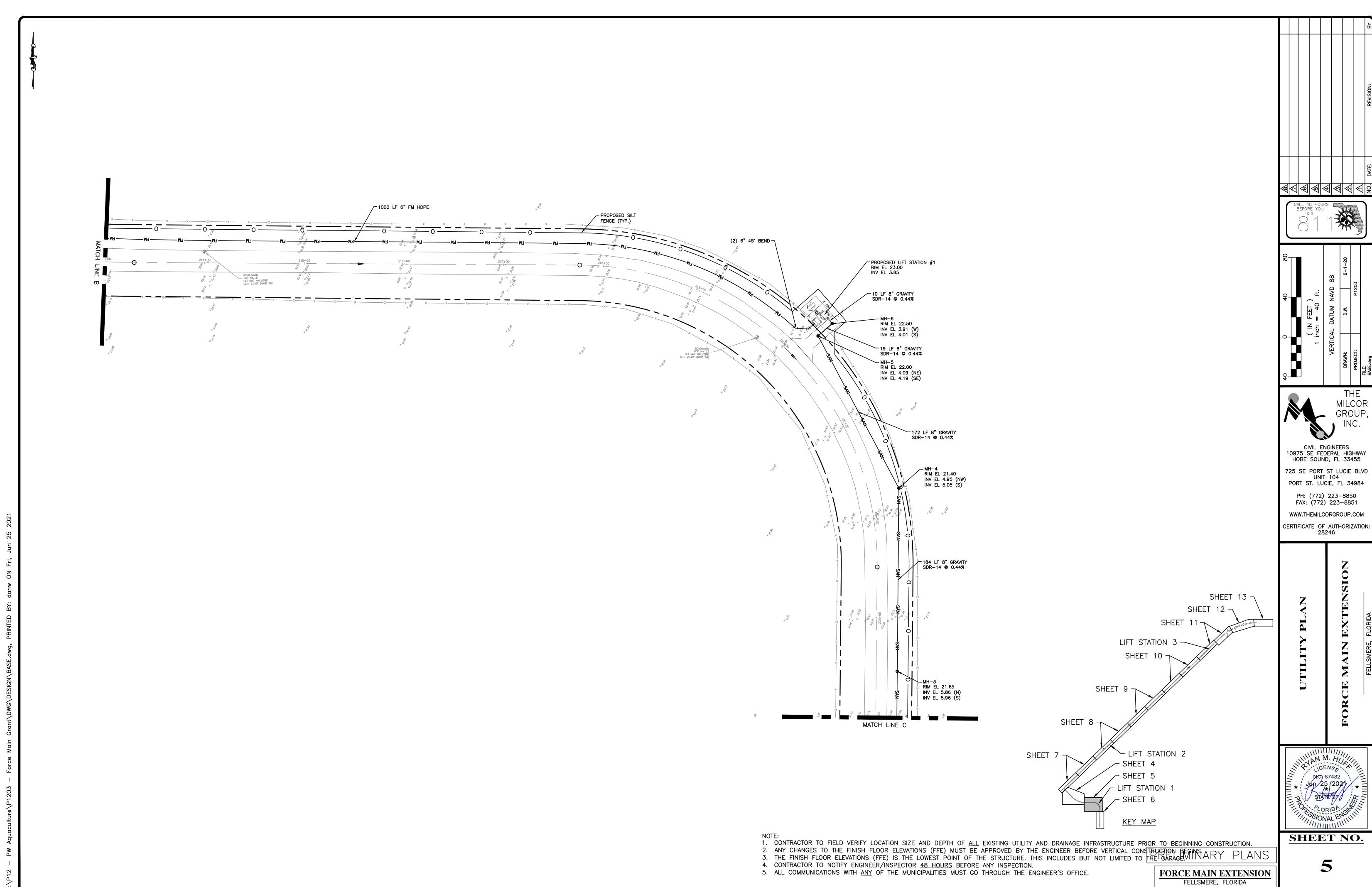
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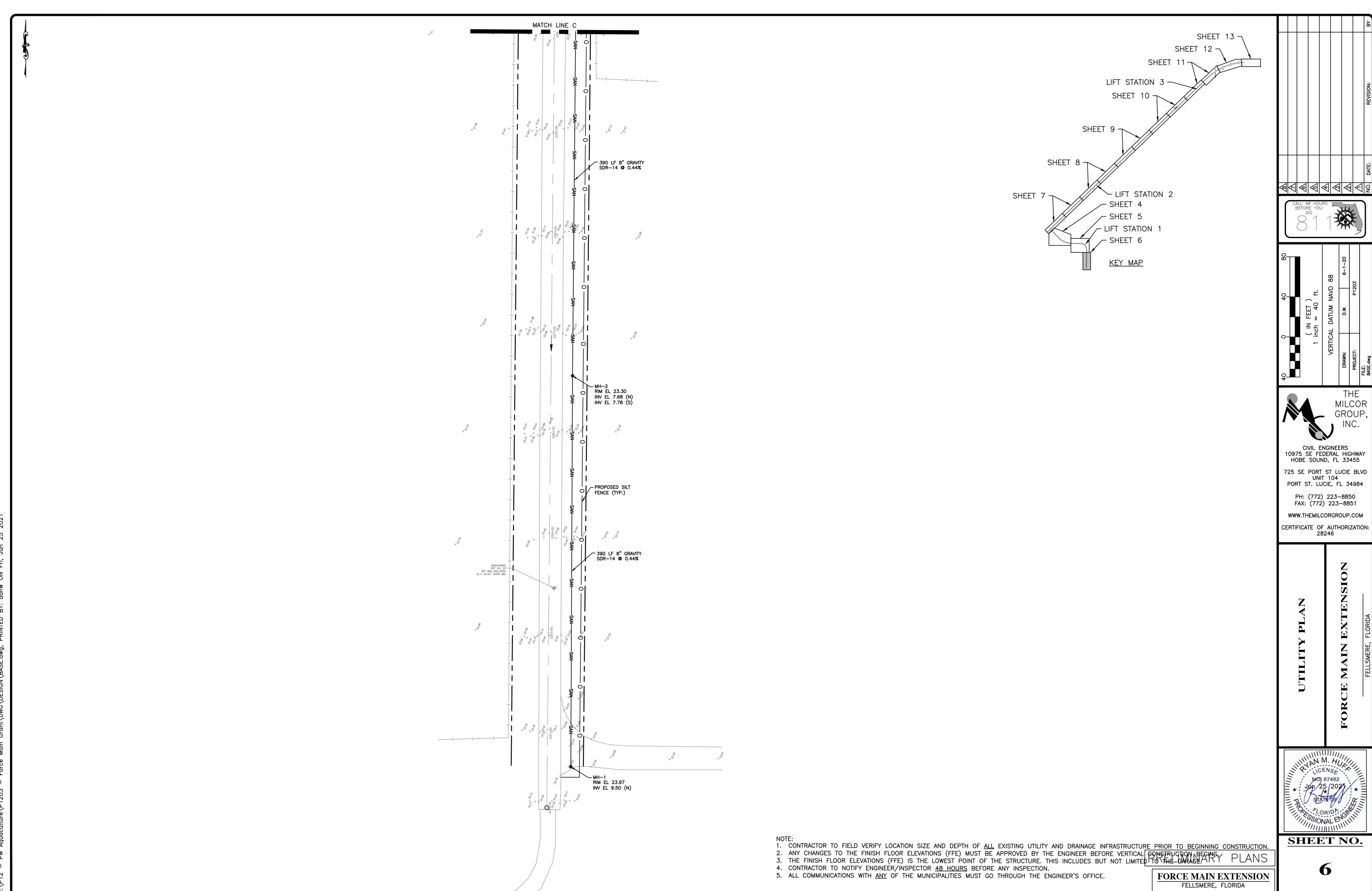
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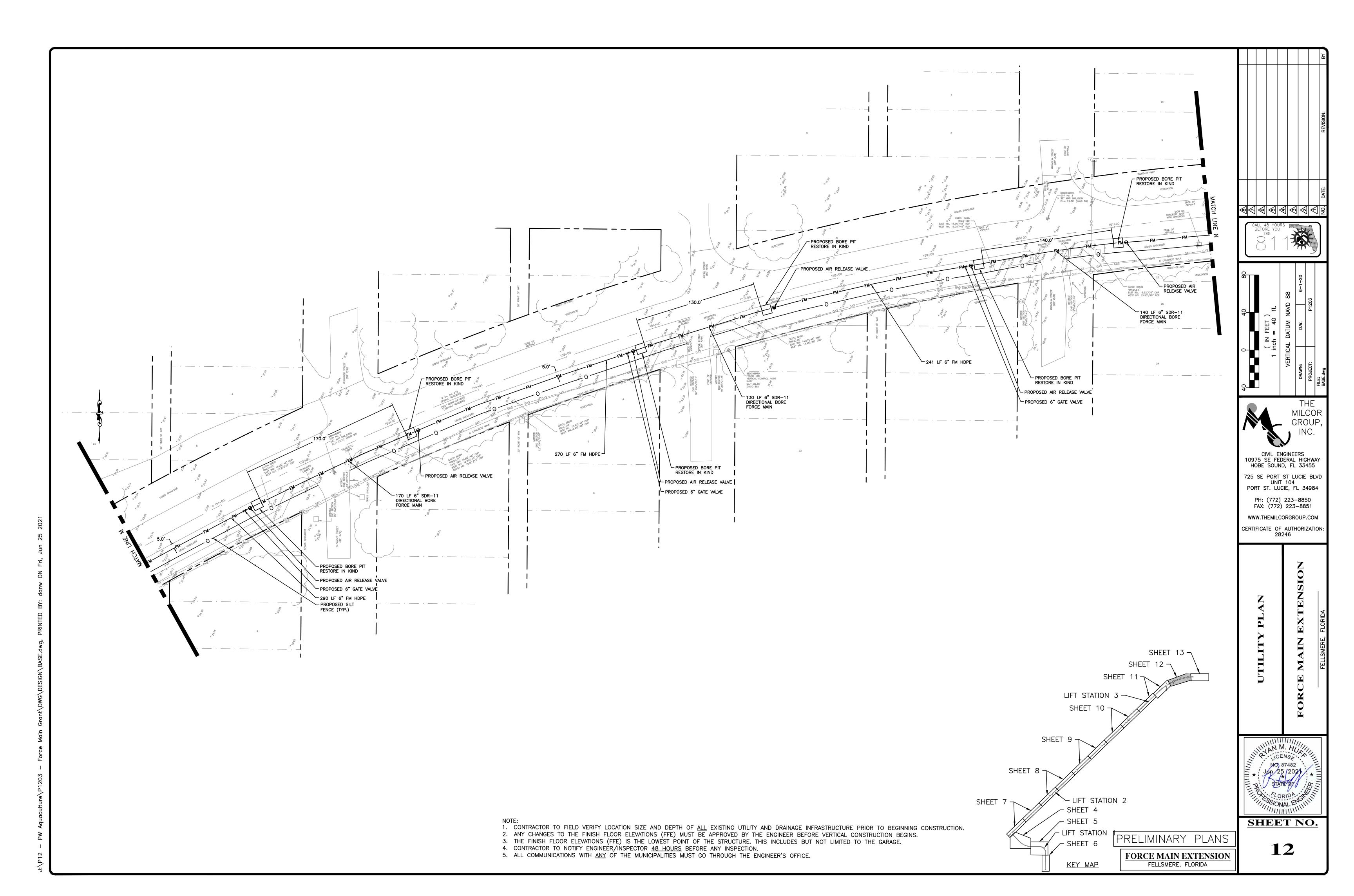


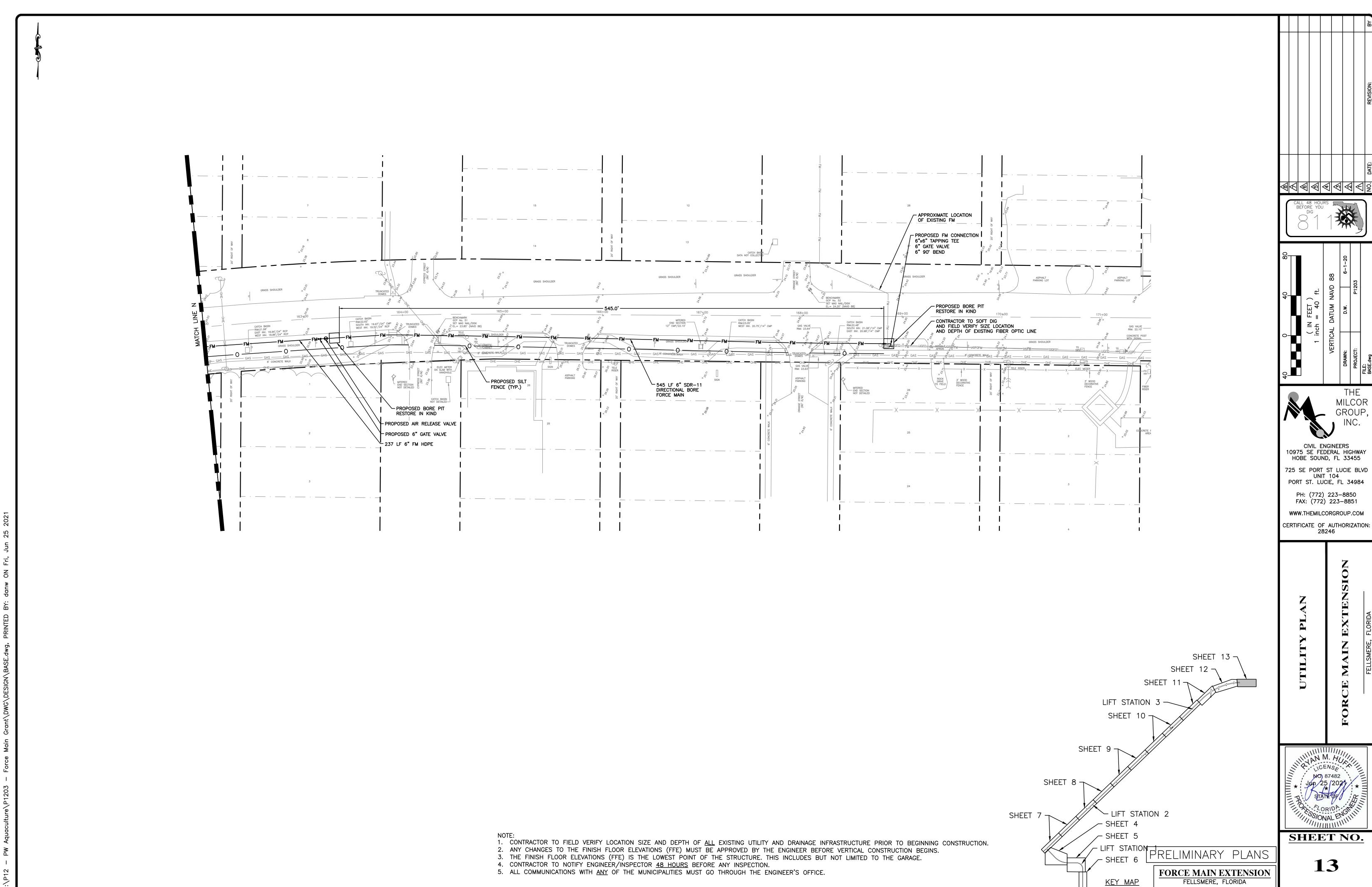


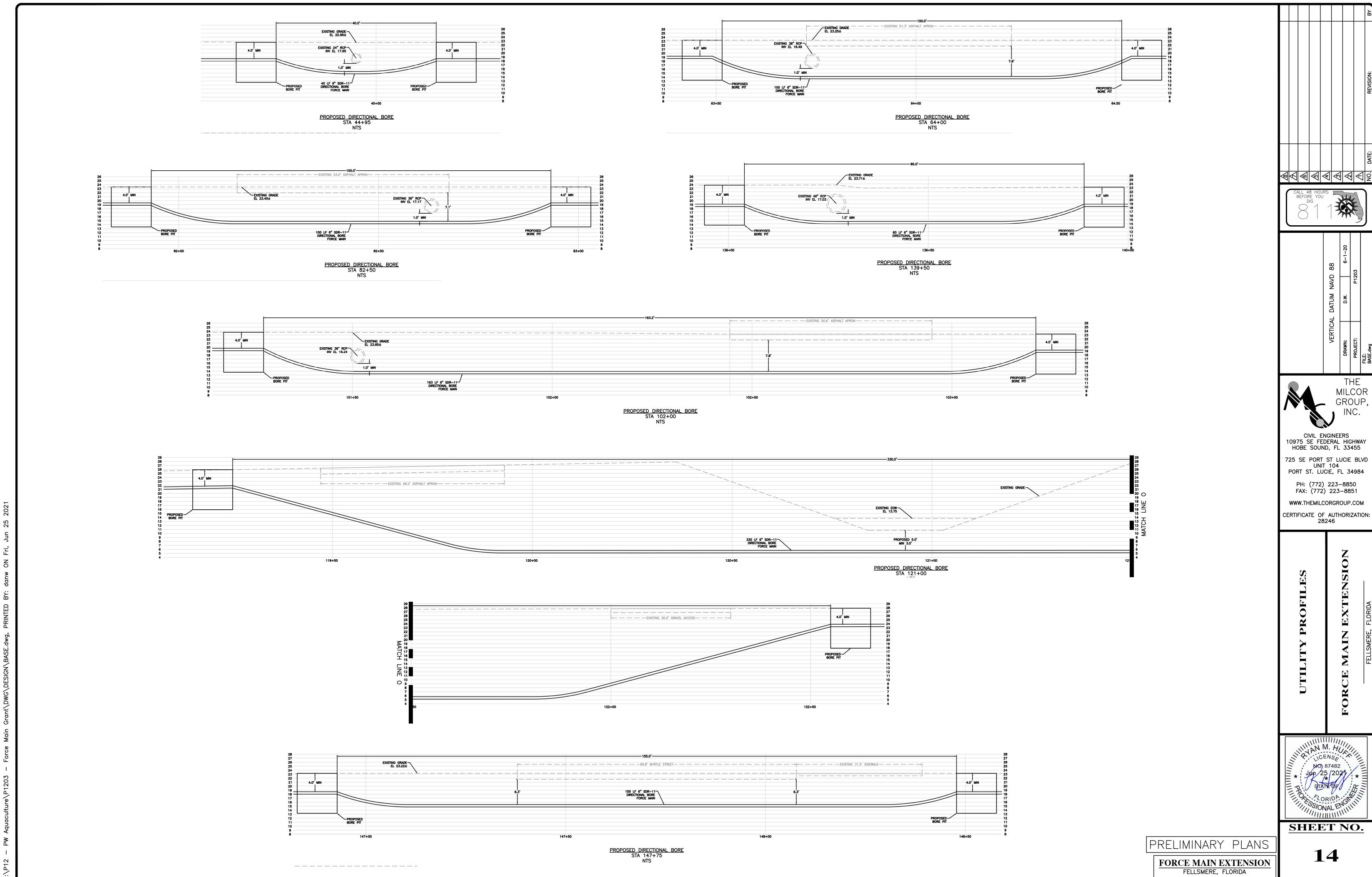




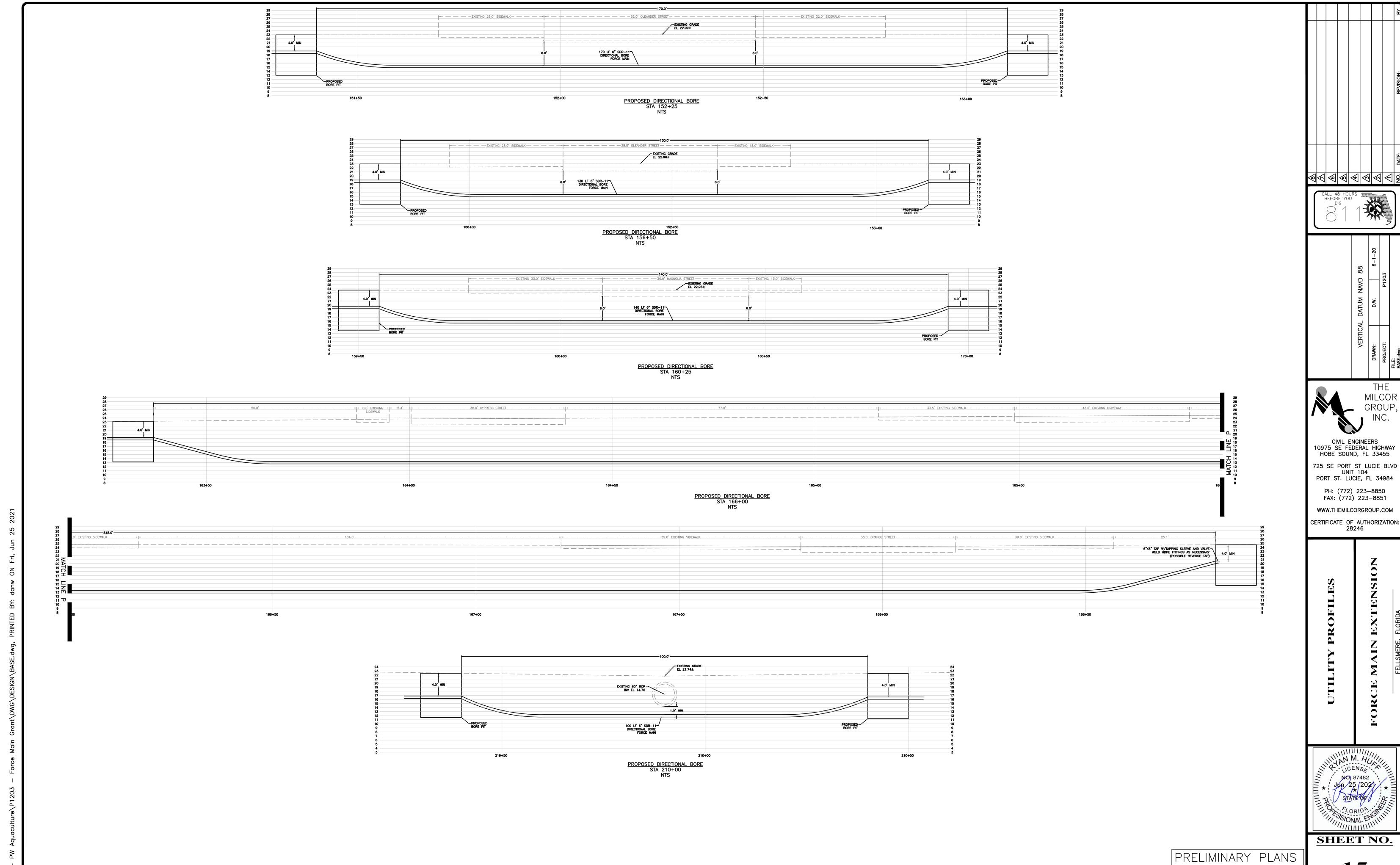
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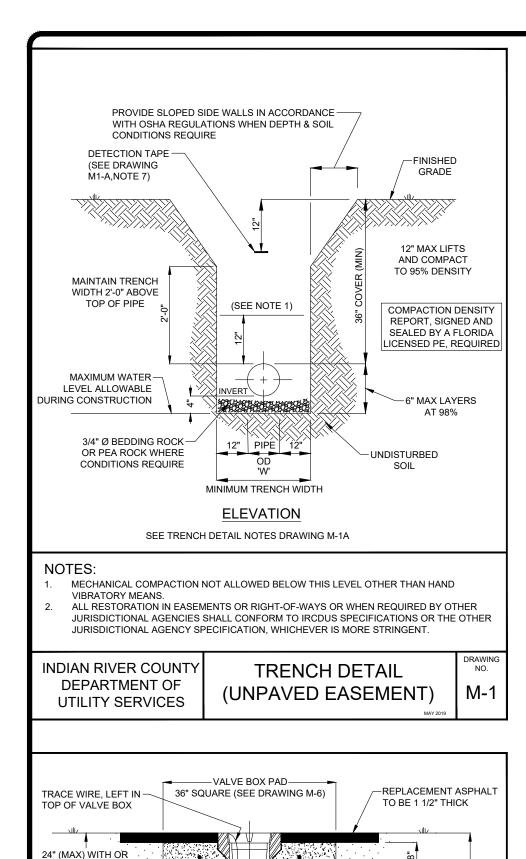


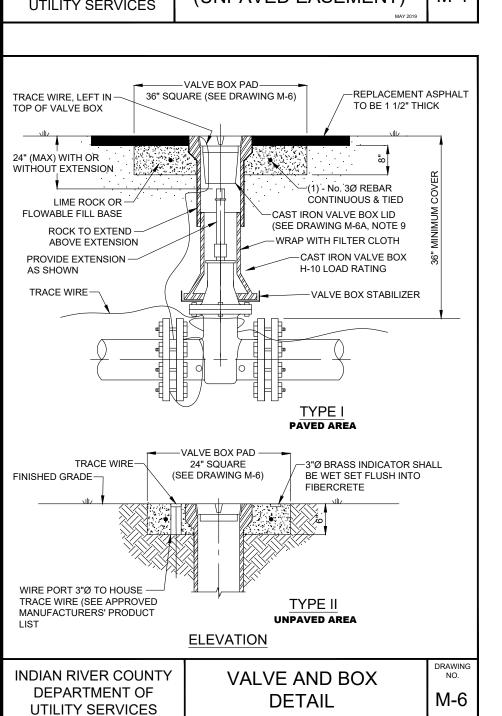
HOBE SOUND, FL 33455 725 SE PORT ST LUCIE BLVD UNIT 104 PORT ST. LUCIE, FL 34984 PH: (772) 223-8850 FAX: (772) 223-8851 WWW.THEMILCORGROUP.COM

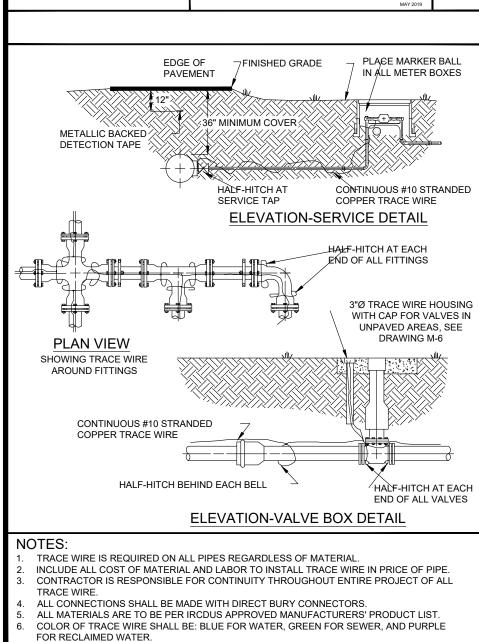


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FORCE MAIN EXTENSION FELLSMERE, FLORIDA



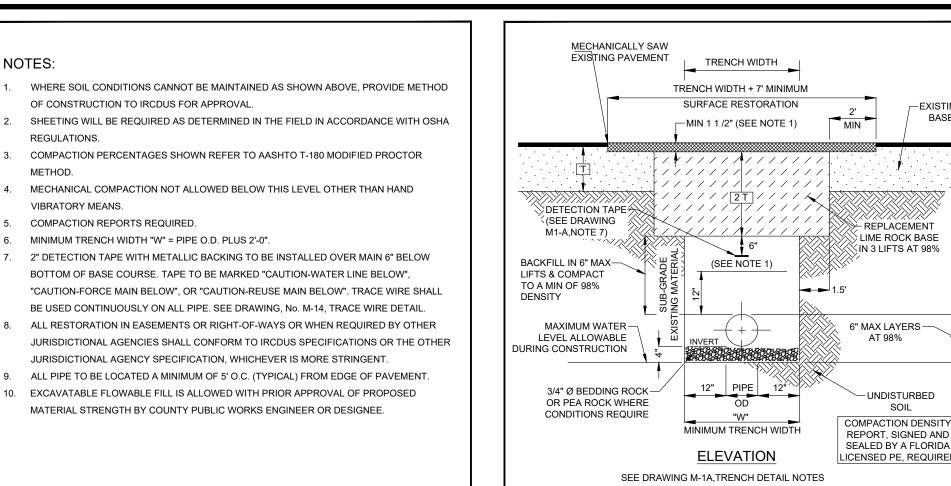




TRACE WIRE DETAILS

NDIAN RIVER COUNTY

DEPARTMENT OF **UTILITY SERVICES**



INDIAN RIVER COUNTY TRENCH DETAIL

VALVE MARKERS ARE TO BE INSTALLED ADJACENT TO ALL VALVES IN

TRACE WIRE IS REQUIRED. (SEE DRAWING, No. M-14, TRACE WIRE DETAILS)

ALL VALVES REQUIRE STATE PLANE COORDINATES.

REFLECTIVE MARKERS SHALL NOT BE PLACED IN BIKE LANES.

10. VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE.

11. VALVE EXTENSIONS OVER 36" REQUIRE IRCDUS ENGINEERING APPROVAL.

VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1,000' MAXIMUM.

VALVE AND BOX DETAIL

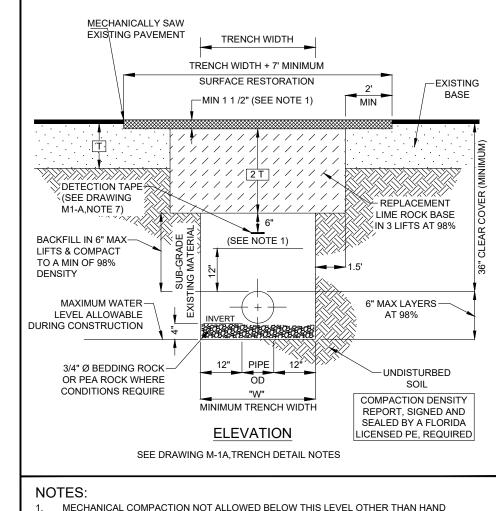
DEPARTMENT OF

UTILITY SERVICES

INDIAN RIVER COUNTY

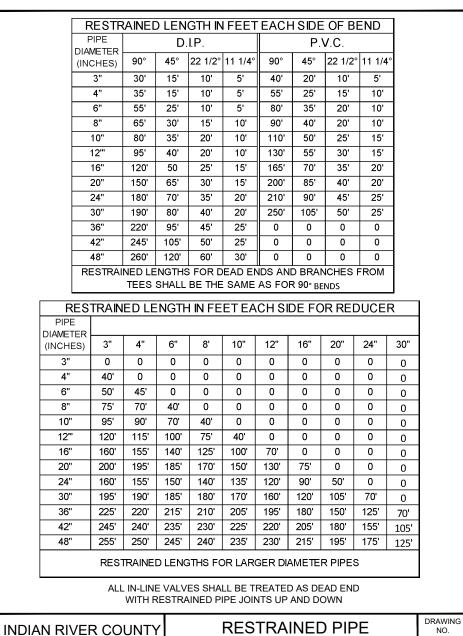
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UTILITY SERVICES

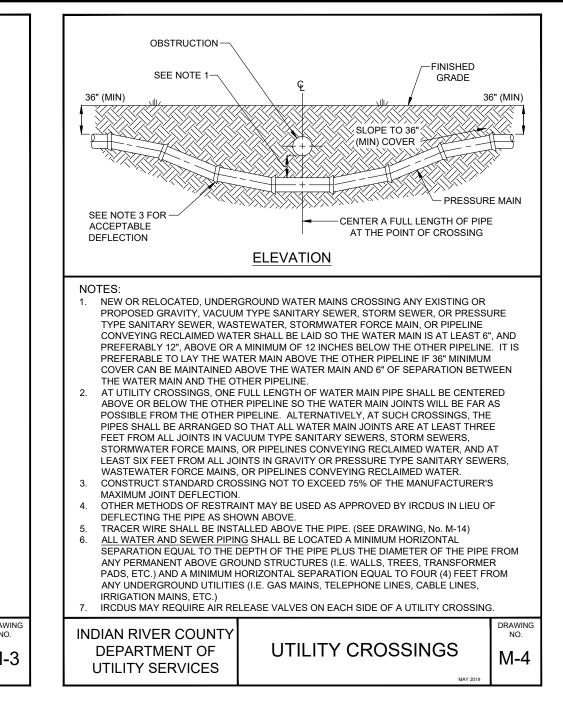


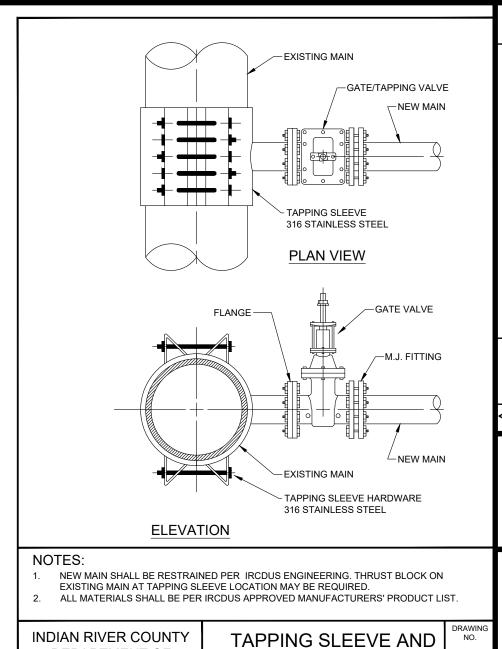
MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS. NEW SURFACE MATERIALS SHALL BE CONSISTENT IN DEPTH WITH EXISTING MATERIALS AND SHALL HAVE LAPPED JOINTS, (1 1/2" MINIMUM THICKNESS). PAVEMENT MATERIAL TO BE SPECIFIED. MINIMUM TRENCH WIDTH "W" = PIPE OD PLUS 2'-0". EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED

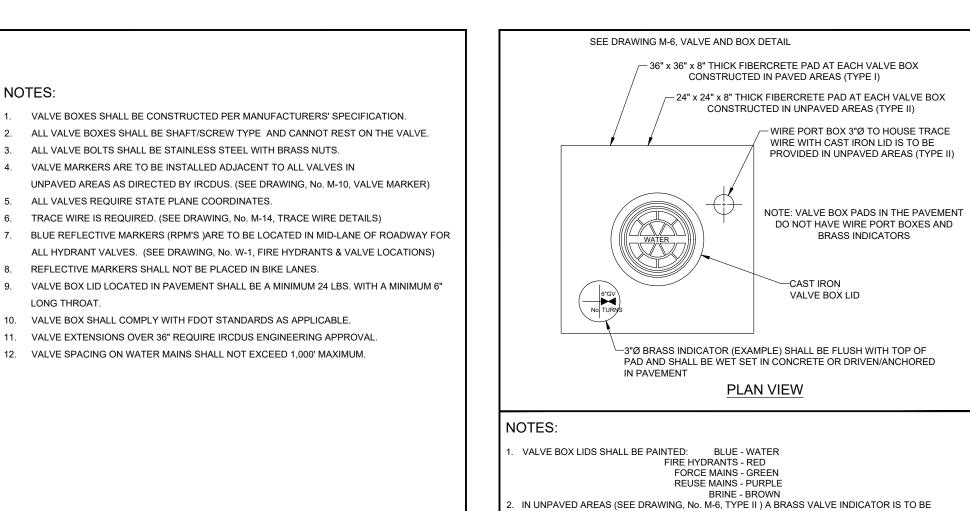
MATERIAL STRENGTH BY COUNTY PUBLIC WORKS ENGINEER OR DESIGNEE. INDIAN RIVER COUNTY DEPARTMENT OF AREAS & SHOULDERS) UTILITY SERVICES



LENGTHS AND SCHEDULE







ABOVE) INDICATOR SHALL BE FLUSH WITH VALVE PAD

"SEWER" "BRINE" OR "REUSE WATER" AS APPLICABLE

NO VALVE RINGS ARE TO BE USED.

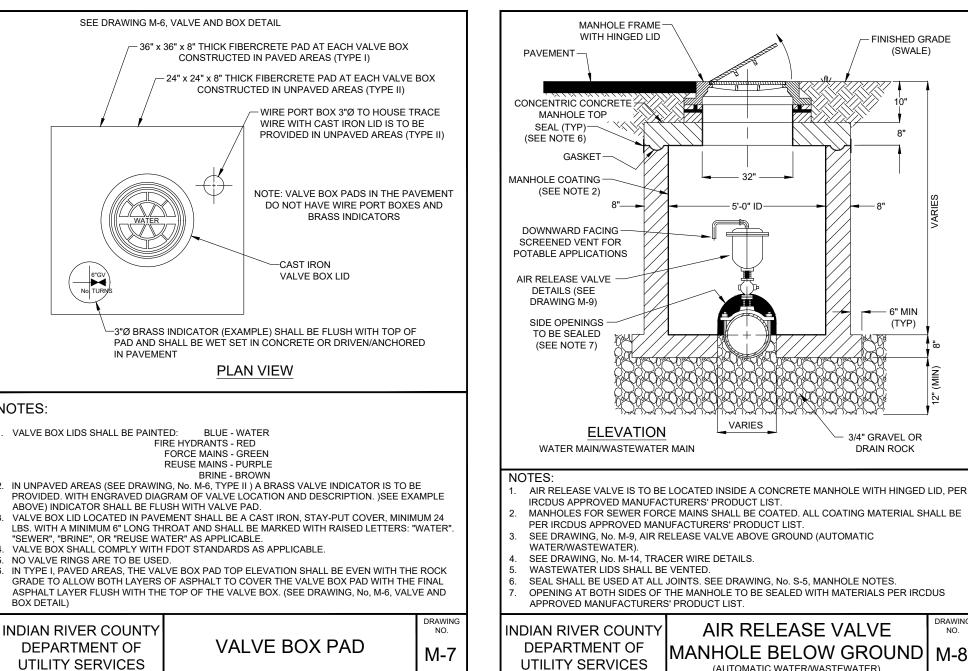
INDIAN RIVER COUNT

DEPARTMENT OF

UTILITY SERVICES

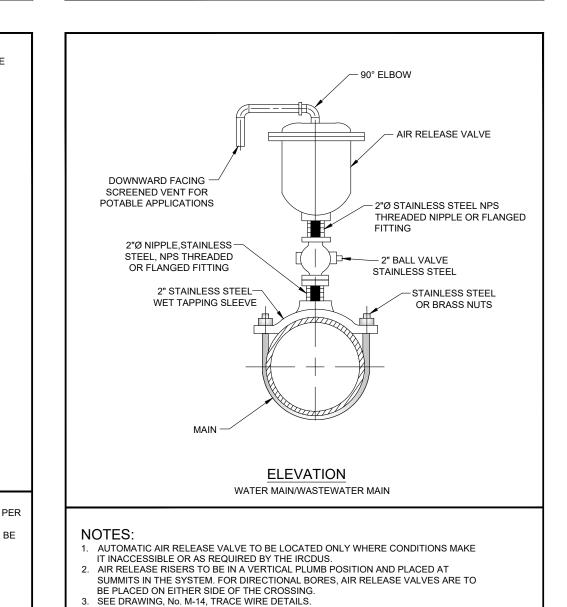
BOX DETAIL)

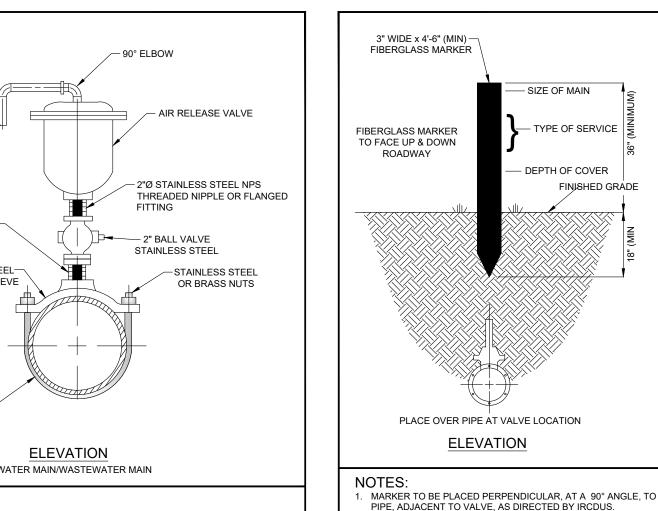
VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE.



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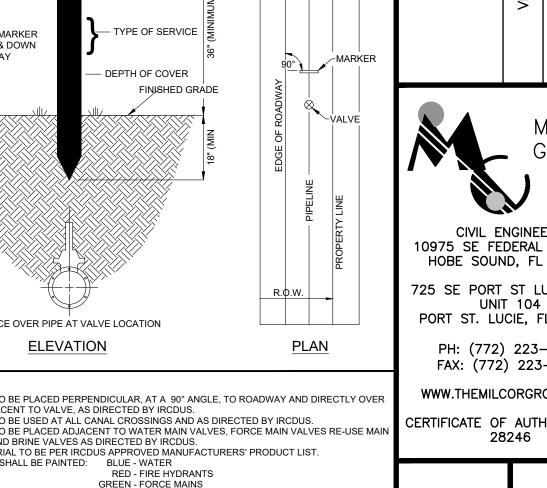
UTILITY SERVICES





DEPARTMENT OF

UTILITY SERVICES



VALVE ASSEMBLY



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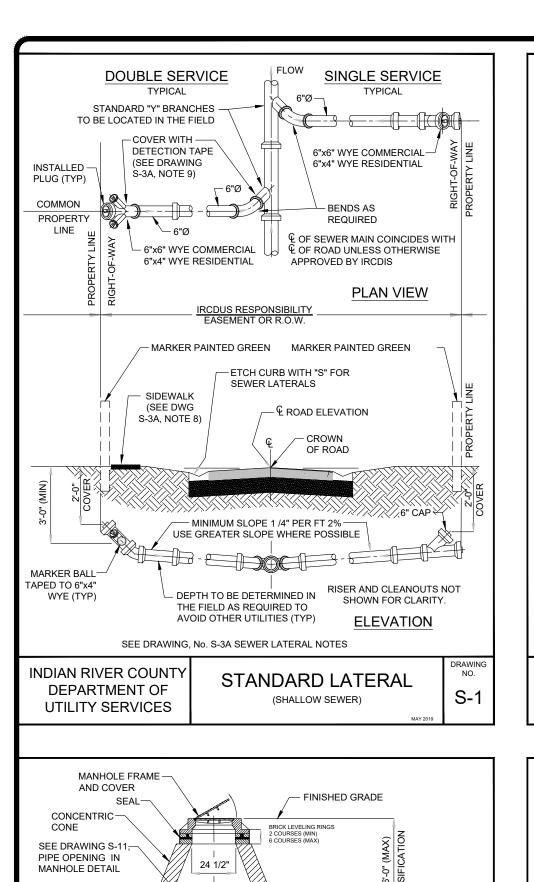


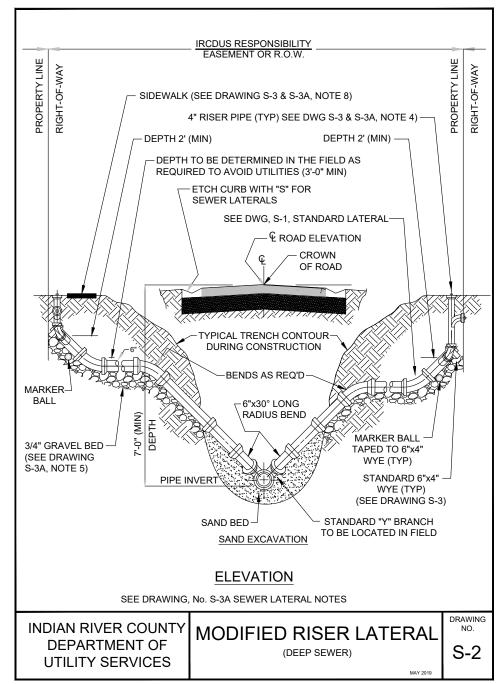
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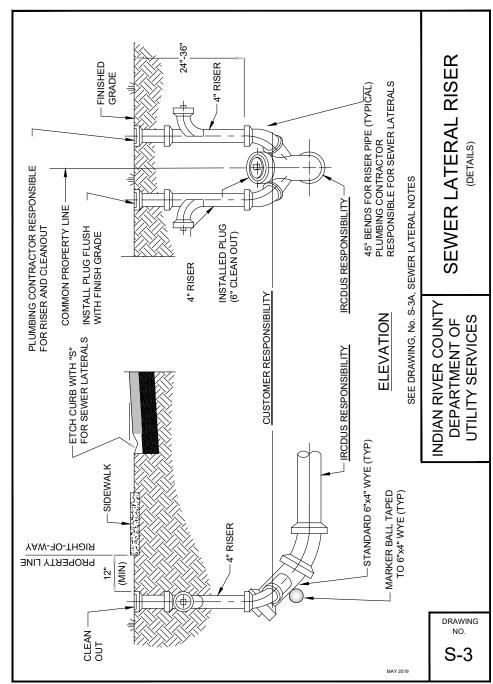
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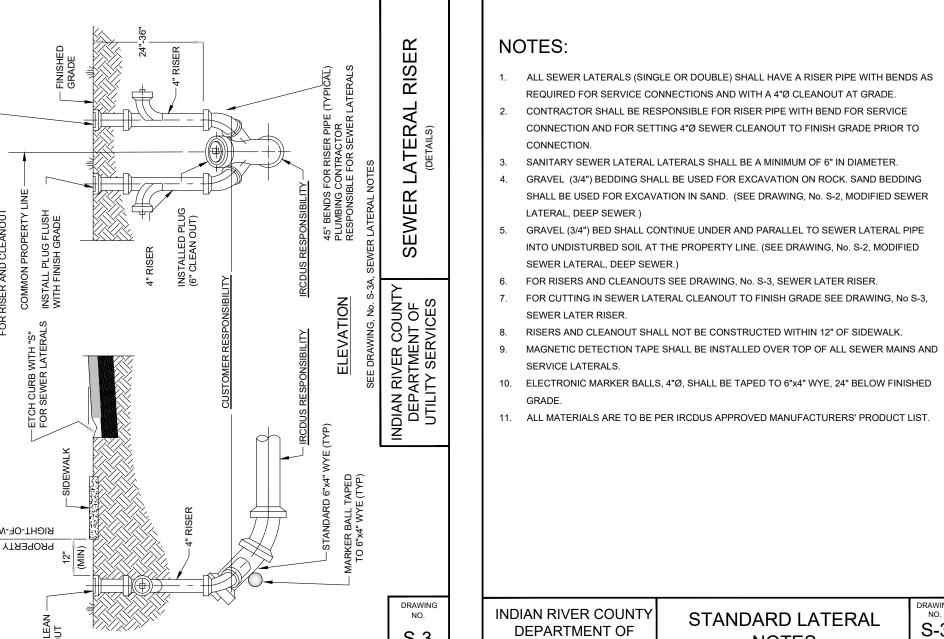
PRELIMINARY PLANS FORCE MAIN EXTENSION FELLSMERE, FLORIDA

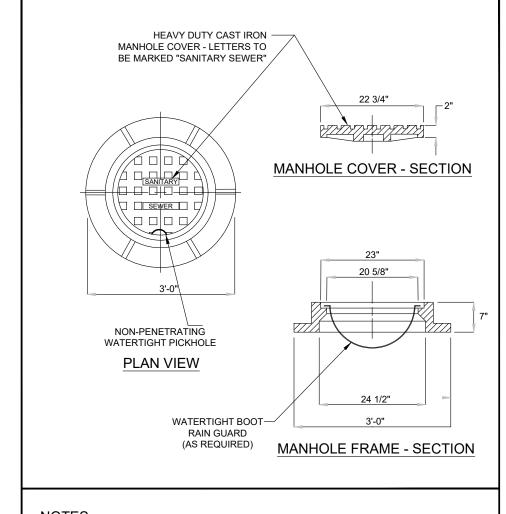
HOBE SOUND, FL 33455 725 SE PORT ST LUCIE BLVD UNIT 104 PORT ST. LUCIE, FL 34984 PH: (772) 223-8850 FAX: (772) 223-8851 WWW.THEMILCORGROUP.COM . MARKER TO BE PLACED PERPENDICULAR, AT A 90° ANGLE, TO ROADWAY AND DIRECTLY OVER MARKER TO BE USED AT ALL CANAL CROSSINGS AND AS DIRECTED BY IRCDUS. CERTIFICATE OF AUTHORIZATION: MARKER TO BE PLACED ADJACENT TO WATER MAIN VALVES, FORCE MAIN VALVES RE-USE MA VALVES AND BRINE VALVES AS DIRECTED BY IRCDUS. ALL MATERIAL TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST. . MARKERS SHALL BE PAINTED: BLUE - WATER GREEN - FORCE MAINS 4. FOR AIR RELEASE VALVES LARGER THAN 2" CONSULT IRCDUS. PURPLE - REUSE MAINS BROWN - BRINE AIR RELEASE VALVE **INDIAN RIVER COUNTY** INDIAN RIVER COUNTY DEPARTMENT OF DEPARTMENT OF VALVE MARKER ASSEMBLY ABOVE GROUND | M-9 UTILITY SERVICES **UTILITY SERVICES** (AUTOMATIC WATER/WASTEWATER) (AUTOMATIC/WASTEWATER)

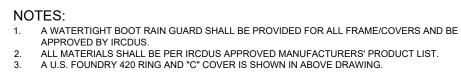












NDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES	STANDARD MAN CASTING

INDIAN RIVER COUNTY DEPARTMENT OF	MANHOLE NOTES

REINFORCING AREA OF 0.20 SQ. IN./FT. FOR WALL SECTION, MINIMUM TO MEET OR EXCEE

ALL CEMENT FOR PRECAST MANHOLES TO BE MINIMUM 3,000 P.S.I. TO MEET OR EXCEED

INSIDE AND OUTSIDE OF MANHOLE SHALL BE COATED WITH TWO COATS OF EW-1 WATE

BOTTOM SECTION TO BE MONOLITHIC POUR EXCEPT WHERE DROP CONNECTION REQUIRED.

CONNECTIONS TO EXISTING MANHOLE AND LIFT STATION WET WELL STRUCTURES SHALL B

BY MEANS OF BORING A PENETRATION IN THE STRUCTURE, RATHER THAN PUNCHING.

CONTRACTOR SHALL TAKE POSITIVE MEASURES TO PREVENT ANY CONCRETE

13. 2 COURSES BRICK MINIMUM, 6 COURSES MAXIMUM REQUIRED BETWEEN ALL PRECAS

14. 3 /4" CRUSHED STONE FOUNDATION FOR A MINIMUM DEPTH OF 12" SHALL BE PROVIDED AS

S. SEWER PIPE INVERTS AT BOTTOM OF MANHOLES SHALL HAVE AS INVERT ELEVATION

DIFFERENTIAL OF 0.1 FEET FOR A CHANGE IN DIRECTION AND 0.05 FEET FOR A STRAIGHT RUN

. A WATERTIGHT RAIN GUARD BOOT. TO BE PER IRCDUS APPROVED MANUFACTURER'

8 MATERIALS FOR LINING MANHOLES, WHERE REQUIRED, TO BE PER IRCDUS, APPROVED

RECEIVING PUMPED SEWAGE, PLUS 5 MANHOLES IN EACH DIRECTION. (AS DIRECTED BY

19. PUMP OUT MANHOLE SHALL BE LOCATED WITHIN 20' OF LIFT STATION AND CONSTRUCTED

D. ALL EXISTING MANHOLES, LIFT STATION WET WELLS, VALVE VAULTS, JOINTS AND COURSES

1. SLOPES ON ALL CHANNEL BOTTOMS TO BE EQUAL TO SLOPES OF PIPE ENTERING AI

DEPTH OF MANHOLE LESS THAN 10' GREATER THAN 10'

MATERIALS FOR LINING MANHOLES, WHERE REQUIRED, TO BE PER IRCDUS, APPROVED

MANUFACTURER'S PRODUCT LIST. MANHOLE LINERS SHALL BE INSTALLED ON ALL MANHOLES

MANUFACTURER'S PRODUCT LIST. MANHOLE LINERS SHALL BE INSTALLED ON ALL MANHOLES

MANUFACTURER'S PRODUCT LIST. MANHOLE LINERS SHALL BE INSTALLED ON ALL MANHOLES

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MANHOLES PRODUCT LIST. MANHOLES PRODUCT LIST. MANHOLES

MANHOLES PRODUCT LIST

BOTTOMS AND CHANNELS OF ALL MANHOLES TO BE A MINIMUM OF 2,5000 P.S.I.

MANHOLE NOTES

MANHOLE TOPS AND CASINGS.

REQUIRED BY IRCDUS.

OUT OF RIGHT-OF-WAY.

EXITING MANHOLE

OF BRICK SHALL BE SEALED.

UTILITY SERVICES

22. DIAMETERS OF MANHOLES SHALL BE

A.S.T.M. C-478.

ALL CEMENT MORTAR TO BE TYPE I OR TYPE II.

CONCRETE SHALL BE FINISHED SMOOTH WITH STEEL TROWEL.

BASED EPOXY, BLACK, WITH THE IRCDUS INSPECTOR PRESENT.

CONCRETE MANHOLES TO HAVE A MINIMUM WALL THICKNESS OF 8".

CHANNELS TO BE FORMED IN ALL MANHOLES TO ACCEPT T.V.CAMERA

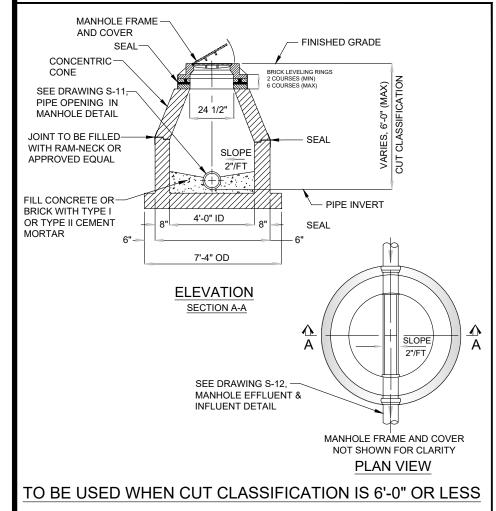
ORIENT ECCENTRIC CONE AS REQUIRED BY IRCDUS INSPECTOR IN FIELD.

CONSTRUCTION DEBRIS FROM ENTERING THE WASTEWATER SYSTEM. BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL MANHOLES.

2. NO. 4Ø BARS, 9" O.C. REQUIRED EACH WAY IN SLAB (TOP AND BOTTOM).

PRODUCT LIST, SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS.

5. MANHOLE LID SHALL BE TRAFFIC BEARING (H-20 LOADING).



DEPARTMENT OF

UTILITY SERVICES

EFFLUENT PIPE

— 3 /4" ROCK

INDIAN RIVER COUNTY

DEPARTMENT OF

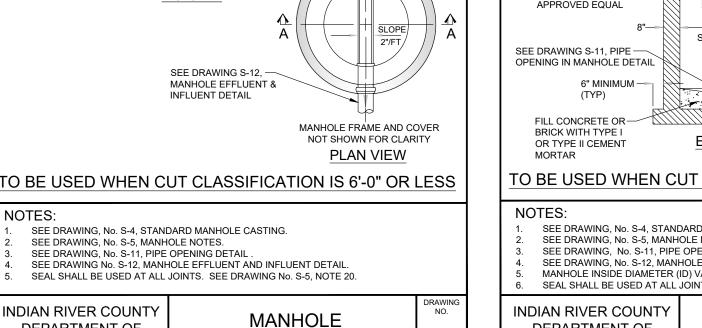
UTILITY SERVICES

(20' DOWNSTREAM)

W/TYPE I OR TYPE II

CEMENT MORTAR

FILL CONCRETE OR BRICK



STANDARD SHALLOW

BENCH WALL TO SLOPE 2"/FT

igwedgeINFLUENT PIPE

3 /4" ROCK -----

(20' UPSTREAM)

CHANNEL TO HAVE

MANHOLE INFLUENT

& EFFLUENT PIPING

DETAIL

SMOOTH TROWEL FINISH

PIPE TO MANHOLE CONNECTION TO BE NEOPRENE BOOT WITH\STAINLESS STEEL ACCESSORIES. SEE DRAWING

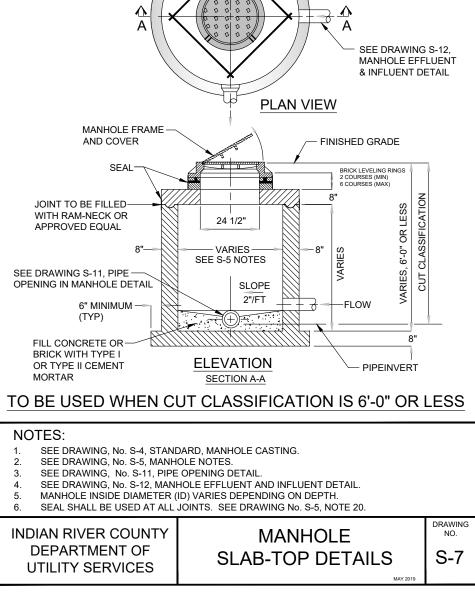
PIPE JOINT DETAIL AT MANHOLE

PIPE JOINT DETAIL IS TYPICAL FOR ALL PIPE TO MANHOLE CONNECTIONS.

SEE DRAWING, No. S-5, MANHOLE NOTES. NOTE 16.

ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST. 3/4" ROCK SHALL BE USED AS BEDDING FOR 20' UPSTREAM AND 20' DOWNSTREAM OF

S-11, PIPE OPENING IN MANHOLE DETAIL



MANHOLE FRAME-

AND COVER

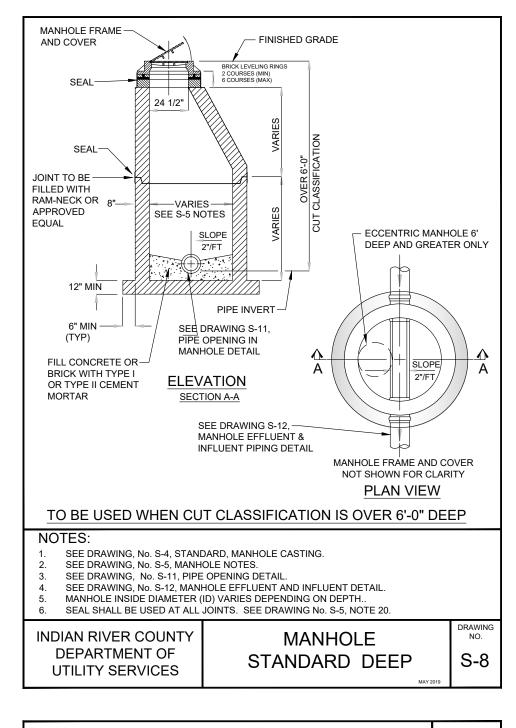
ADDITIONAL REINFORCING BARS

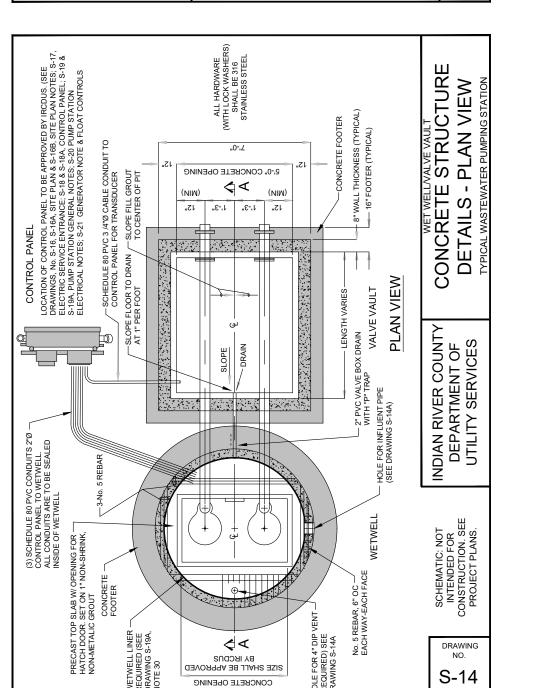
REQUIRED AROUND OPENING IN

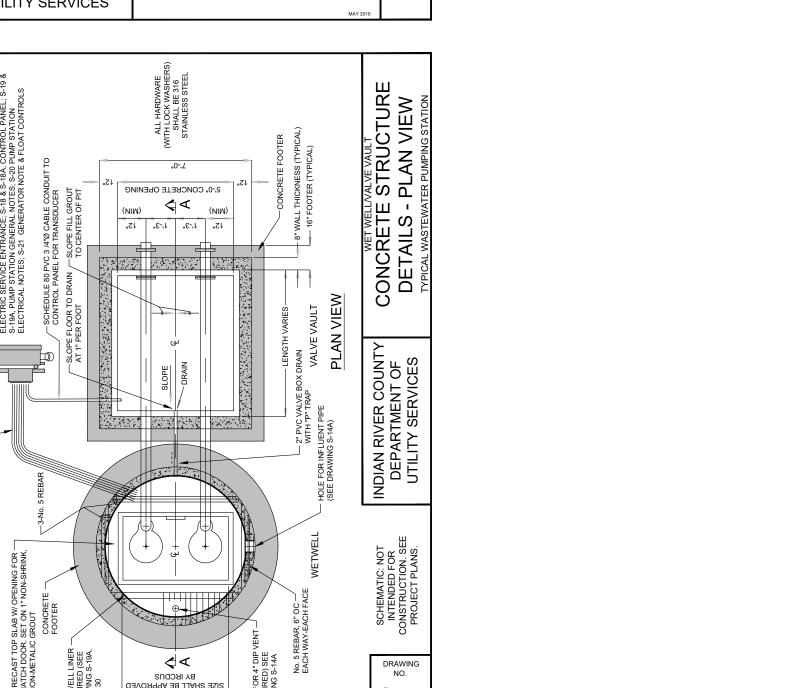
TOP SLAB. SLAB TO BE TRAFFIC

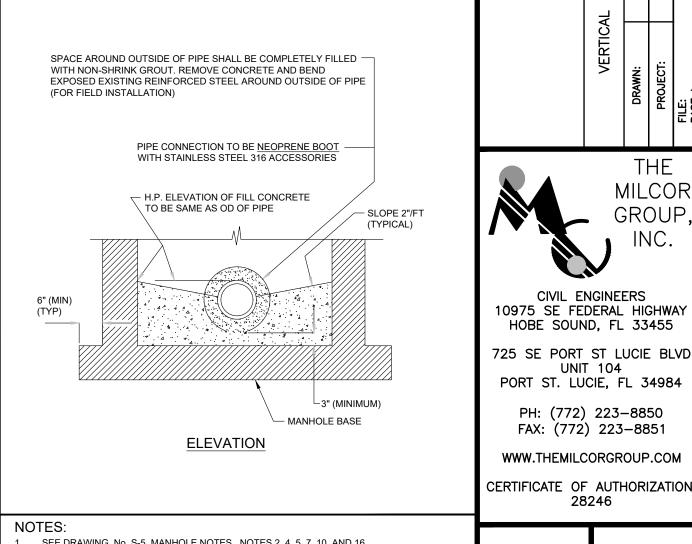
BEARING, SUBMIT SHOP

DRAWING FOR APPROVAL









SEE DRAWING, No. S-5, MANHOLE NOTES. NOTES 2, 4, 5, 7, 10, AND 16. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

With Lots	NDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES	PIPE OPENING IN MANHOLE DETAIL	DRAWING NO.
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CIVIL ENGINEERS

HOBE SOUND, FL 33455

UNIT 104

PORT ST. LUCIE, FL 34984

PH: (772) 223-8850

FAX: (772) 223-8851

WWW.THEMILCORGROUP.COM

28246

LICENSE. NO) 87482

SHEET NO.

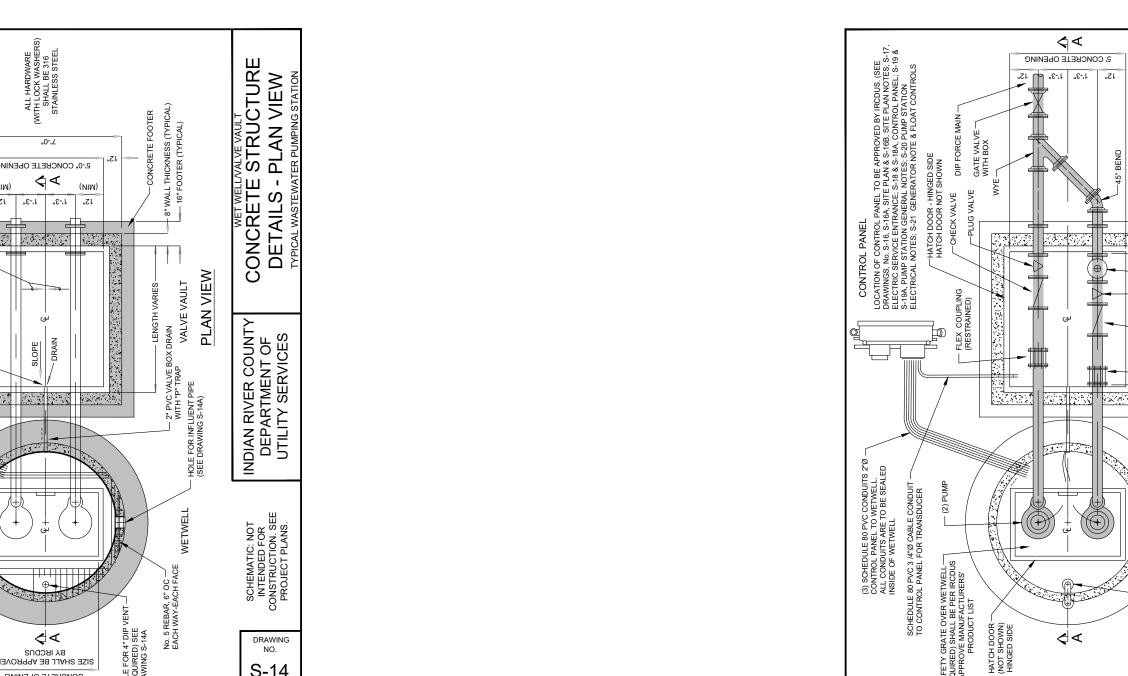
PRELIMINARY PLANS FORCE MAIN EXTENSION

FELLSMERE, FLORIDA

-ASPHALT PAVEMENT SEAL-**GRADE** FORCE MAIN --FIBERGLASS LINER RESTRAINED JOINTS — WITH MEGA LUGS OR OTHER APPROVED EQUAL (TYP) INLET GRAVITY SEWER RESTRAINED JOINTS -SAME AS WITH MEGA LUGS OR DOWNSTREAM OTHER APPROVED INLET EQUAL (TYP) STANDARD LONG —6" MIN (TYP) RADIUS ELBOW CUT HOLE (USE NEOPRENE – 6" MIN BOOT TO SEAL (AS PER DRAWING S-11, PIPE OPENING DETAIL) -GRAVITY SEWER **ELEVATION** NOTES: SEE DRAWING, No. S-5, MANHOLE NOTES, SEE DRAWING, No. S-12, PIPE OPENING DETAIL SEE DRAWING, No. S-12, MANHOLE EFFLUENT AND INFLUENT DETAIL. NO INSIDE DROP WILL ACCEPTED FOR FORCE MAIN TIE-INS. MATERIALS FOR LINING MANHOLES SHALL BE EQUAL TO THAT MANUFACTURED BY ASSOCIATED FIBERGLASS ENGINEERS OR APPROVED EQUAL AND SHALL BE ENGINEERED TO A STANDARD OF 16,000-POUNDS VERTICAL DYNAMIC WHEEL LOAD (AASHTO-H-20). FIBERGLASS LINERS SHALL BE INSTALLED ON ALL MANHOLES RECEIVING PUMPED SEWAGE SEAL SHALL BE USED AT ALL JOINTS. SEE DRAWING No. S-5, MANHOLE NOTES. NOTE 20. INDIAN RIVER COUNTY FORCE MAIN TIE-IN DEPARTMENT OF

TO MANHOLE

UTILITY SERVICES

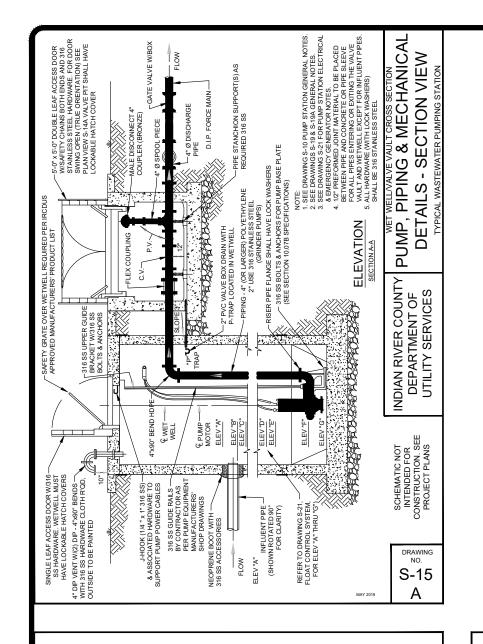


STANDARD LATERAL

UTILITY SERVICES

S-3

S-15



PUMP STATION GENERAL NOTES

- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS AGAINST FLOATATION OF WET WELL UNTIL ALL BACKFILL IS IN PLACE.
- UNTIL ALL BACKFILL IS IN PLACE.

 ALL CONCRETE SHALL BE CLASS A-A (4,000 PSI FOR PRECAST AND 3,000 PSI FOR CAST-IN-PLACE) UNLESS OTHERWISE SPECIFIED.

 REINFORCING STEEL SHALL BE GRADE 60 FABRICATED AND PLACED IN ACCORDANCE WITH ACI CODE SPLICES AND SHALL BE SIX (6) TIMES THE BAR DIAMETER NUMBER SIZE OR 18"

 MINIMUM UNLESS OTHERWISE NOTED (STAG, SPL., TYP).
- WETWELL WALL SHALL CONTAIN A MINIMUM OF .022 SQ IN/LINEAR FOOT REINFORCEMENT, EACH WAY TOP TO BOTTOM.
- ALL PIPING AT THE PUMP STATION SITE SHALL BE RESTRAINED.
- REQUIRED PUMP STATION CALCULATIONS.

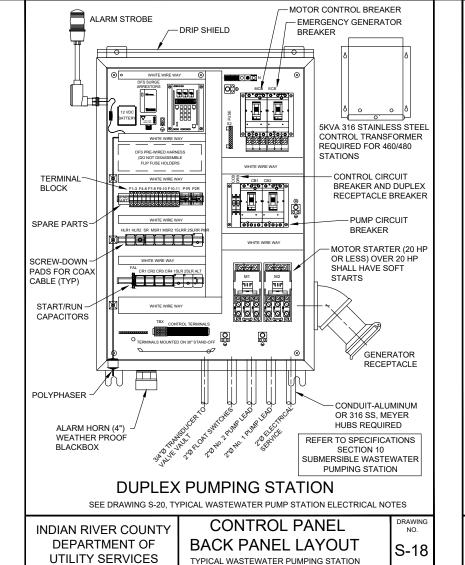
 NO UNI-FLANGE PIPE CONNECTIONS ALLOWED. 2. MAINTAIN MINIMUM OF 6" BETWEEN ANY PIPING. FITTINGS ETC. AND PRECAST CONCRETE.
- ALL NEW MANHOLES SHALL BE COATED PER IRCDUS APPROVED MANUFACTURERS'
- ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST
- ACCESS DRIVES SHALL BE A MINIMUM OF 12' WIDE, 45' LONG. IF FENCE IS INSTALLED, SWING GATE SHALL HAVE A 12' OPENING.
- . POWERS SHALL BE DESIGNED TO PROVIDE A MIANIMUM CLEARANCE OF TEN FEET OUTSIDE OF LIFT STATION WETWELL FOR FUTURE MAINTENANCE.). ALL RE-PUMP STATIONS SHALL HAVE BIO-CUBE ODOR CONTROL SYSTEMS AS REQUIRED BY
- CUL-DE-SACS AND SURFACE BODY WATER. A SAFETY GRATE WITH STAINLESS STEEL (316) HARDWARE IS REQUIRED FOR ALL WETWELLS.

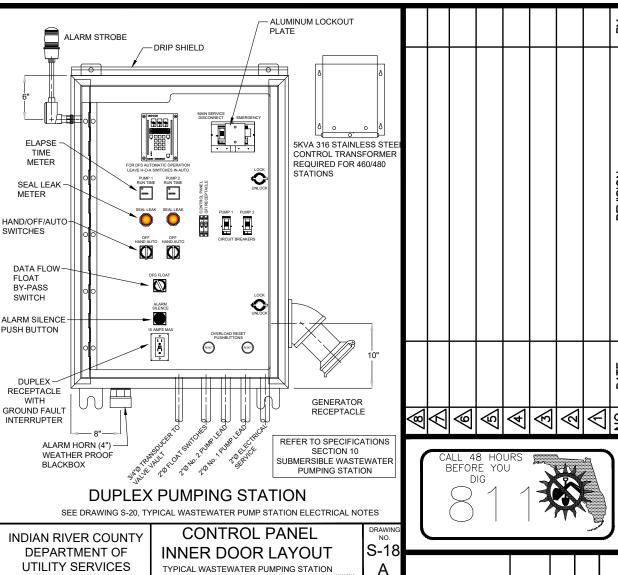
- REINFORCED CONCRETE SLAB 6" THICK (MINIMUM), SHALL HAVE A FINISHED PAD ELEVATION 4" ABOVE FINISHED GRADE ELEVATION.
- EXPANSION AND CONTRACTION JOINTS SHALL BE REQUIRED AT WETWELL, VALVE VAULT AND MANHOLE AS APPLICABLE.
- CONCRETE SLAB CONSTRUCTION TO CONFORM TO ACI 318 STANDARD. NATURAL GAS TO BE USED TO POWER GENERATOR IF AVAILABLE.
- LOCATION OF CONTROL PANEL PER IRCDUS INSPECTOR. CONTROL PANEL TO MEET NEC CODE 1.10.26A STANDARD. SEE DRAWING S-20, ELECTRICAL
- THREE SCHEDULE 80 PVC CABLE CONDUITS (2"Ø) REQUIRED FROM WETWELL TO CONTROL PANEL FOR POWER/INSTRUMENTATION. ONE CONDUIT (3/4"Ø) REQUIRED FROM VALVE VAULT TO CONTROL PANEL FOR TRANSDUCER. ONE CONDUIT (1"Ø) FOR TELEMETRY EQUIPMENT. ONE SCHEDULE 80 PVC CABLE CONDUIT (2"Ø) REQUIRED FOR ELECTRICAL SERVICE. TOTAL OF FIVE (5) CONDUITS.
- A 6' FOOT HIGH CHAIN LINK FENCE WITH 12 FOOT WIDE, DOUBLE SWING GATES, ACROSS THE DRIVE IS TO BE INSTALLED WHERE REQUIRED BY IRCDUS.
- DATA FLOW TOWER FOUNDATION TOP SHALL BE 6" ABOVE FINISHED GRADE. LOCATION TO BE APPROVED BY IRCDUS.

DRAWING S-18 & S-19)	
(2) 4" ALUMINUM SCH 40 SUPPORT POST (TYP) SERVICE DISCONNECT (316 STAINLESS STEEL) ENCASED	
3' CLEAR ZONE VARIES 3' CLEAR ZONE	
ALARM STROBE ————————————————————————————————————)'D
SERVICE DISCONNECT 316 STAINLESS STEEL CONTROL PANEL, POWDER COATED 316 SS GENERATOR RECEPTACL	
(2) 4" ALUMINUM OR 316 STAINLESS STEEL SCH 40 SUPPORT POST (TYP) SCHEDULE 80 ALUMINUM CONDUITS (ABOVE GROUN	ND)
GROUND CLAMP # 3/0 BARE COPPER WIRE FINISHED GRADE	,
2' (MIN) 2' (MIN) 2' (MON) 2' (MON) 2' (MON) 2' (MON) 2' (MON) 3000 PSI POURED AGAIN UNDISTURBED SOIL 5/8"Ø x 10' LONG COPPER	
12" (MIN) WELD GROUND ROD 2" PVC TUBE	
CONDUIT TO POWER POLE (SEE DRAWING S-16 OR S-16A SITE PLAN) SCHEDULE 80 PVC CONDUITS (BELOW GROUND) (SEE DRAWINGS S-18 & S-19)	
REFER TO SPECIFICATIONS SECTION 10 SUBMERSIBLE WASTEWATE PUMPING STATION	
SERVICE STRUCTURE LOCATION TO BE APPROVED BY IRCDUS SEE DRAWING S-20, TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES	
INDIAN RIVER COUNTY DEPARTMENT OF METER/PANEL BOX TYPICAL WASTEWATER PLANNING STATION S-	Э.

CONTROL PANEL (SEE — / = -

UTILITY SERVICES





- ALL BACKFILL AROUND THE PUMP STATION SITE SHALL BE COMPACTED @ 98% OF MAXIMUM
- DENSITY, PER AASHTO-T-180.
 CHAMFER EXPOSED CONCRETE EDGES 3/4" (TYP)
- ALL PUMPS AND PUMPING EQUIPMENT SEE IRCDUS APPROVED MANUFACTURERS' PRODUCT
- STAINLESS STEEL (316) CABLE HOLDER SHALL BE LOCATED ON OPPOSITE SIDE OF WETWELL FROM THE INFLUENT PIPE.

 D. BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL PUMP STATIONS ALONG WITH THE
- FIBERGLASS LINERS SHALL BE INSTALLED ON ALL PUMP STATION WETWELLS AND MANHOLES RECEIVING PUMPED SEWAGE, PLUS 5 MANHOLES IN EACH DIRECTION.
- 5. PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTNING
- 6. AN ACCESS DRIVE SHALL BE PROVIDED TO ALL IRCDUS MAINTAINED LIFT STATIONS. ALL
- ALL PROPOSED PRIVATE STATION OWNERS ARE TO SIGN AN AGREEMENT ACKNOWLEDGING STATION IS TO REMAIN PRIVATE UNLESS SUBJECT STATION IS CONSTRUCTED TO IRCDUS
- PUMPS SHALL BE DESIGNED TO PROVIDE A MINIMUM PUMP RUN TIME EQUAL TO HALF THE 9. PUMPS SHALL BE DESIGNED TO PROVIDE A MAXIMUM CLEARANCE OF TEN FEET OUTSIDE OF
- MANUFACTURER, AND APPROVED BY IRCDUS.

 LIFT STATION IS TO BE LOCATED IN A DEDICATED UTILITY EASEMENT, 50' AWAY FROM HOMES,

REFER TO SPECIFICATIONS SECTION 10 SUBMERSIBLE WASTEWATER PUMPING STATION

PUMPING STATION INDIAN RIVER COUNTY **GENERAL NOTES** DEPARTMENT OF UTILITY SERVICES TYPICAL WASTEWATER PUMPING STATION

PUMP STATION GENERAL NOTES

WITH TWO COATS OF WATER BASE EPOXY.

- CONTRACTOR TO INSTALL PERMANENT SIGNAGE WITH CONTACT INFORMATION AND PHONE NUMBER AT ALL IRCDUS AND PRIVATE LIFT STATIONS. CONTRACTOR TO PROVIDE SECURITY FOR PRIVATE LIFT STATIONS PER IRCDUS PLANS REVIEW. SECURITY TO INCLUDE, BUT NOT LIMITED TO, LOCKABLE HATCH COVER LIDS FOR THE
- WETWELL AND VALVE PIT. CONTRACTOR TO CONTACT IRCDUS INSPECTOR PRIOR TO PUMP STATION SEE TYPICAL WASTEWATER PUMPING STATION DRAWINGS, S-14 & S-14A PLAN VIEW AND DRAWINGS, S-15 & S-15A.CROSS SECTION FOR GENERAL LAYOUT OF WETWELL AND VALVE VAULT. SEE DRAWING S-16, S-16A AND S16B FOR TYPICAL PUMPING STATION SITE PLAN GENERAL LAYOUT. SEE DRAWINGS S-17, S-18, S-18A, S-19 AND S-19A FOR ELECTRICAL DETAILS.
- STRUCTURE DIMENSIONS MAY VARY UPON APPROVAL BY THE IRCDUS DUE TO BUOYANCY COMPENSATION OR OTHER REQUIREMENTS. GATE VALVE TO BE LOCATED AT FORCE MAIN JUNCTION. STAINLESS STEEL (316) LIFTING BAILS SHALL BE USED FOR PUMPS IN LIFT STATIONS. GRINDER PUMPS SHALL BE A MAXIMUM OF 5.0 HP UNLESS OTHERWISE APPROVED BY
- ELECTRICAL CONTROL PANEL (NEMA 4X, POWDER COATED 316 STAINLESS STEEL) SHALL CONFORM TO PUMP MANUFACTURERS' & SCADA SYSTEM REQUIREMENTS.
- ALL WET WELLS SHALL BE LINED. SEE SPECIFICATIONS SECTION 10. ALL WET WELLS 15' DEEP OR GREATER THAN 10' DIAMETER MUST BE APPROVED BY OUTSIDE WALLS AND UNDERSIDE OF WETWELL TOP SLAB AND VALVE BOX SHALL BE PAINTED WITH (2) TWO COATS OF WATER BASE EPOXY.
- ALL HARDWARE TÓ BE 316 STAINLESS STEEL PUMP STATION POWER SUPPLY FROM FLORIDA POWER & LIGHT ELECTRIC POWER PANEL SHALL BE INCLUDED ON THE RECORD DRAWING. PAINT OUTSIDE OF WALLS, UNDERSIDE OF WETWELL TOP SLAB AND VALVE VAULT

REFER TO SPECIFICATIONS SECTION 10 SUBMERSIBLE WASTEWATER PUMPING STATION

NDIAN RIVER COUNTY	PUMPING STATION	DRA
DEPARTMENT OF	GENERAL NOTES	S.
UTILITY SERVICES	TYPICAL WASTEWATER PUMPING STATION	

PUMP STATION ELECTRICAL NOTES

- A MINIMUM 3' CLEAR ZONE IS REQUIRED AROUND THE ELECTRICAL AREA. THE MINIMUM WORKSPACE REQUIREMENTS SHALL ADHERE TO THE NATIONAL ELECTRICAL CODE (NEC), A 3/4" CONDUIT SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE VALVE VAULT
- FOR THE TRANSDUCER.
 THREE (3) SCHEDULE 80, 2" CONDUITS SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE WET WELL FOR NO. 1 PUMP LEAD, NO. 2 PUMP LEAD AND THE FLOAT SWITCHES. ALL BURIED CONDUIT SHALL BE SCHEDULE 80 PVC. ALL EXPOSED CONDUIT SHALL BE STAINLESS STEEL (316) OR ALUMINUM, CONDUIT TO BE SEALED.
- A MASTIC COATING IS REQUIRED WHERE PANEL POST AND ALUMINUM OR STAINLESS STEE (316) CONDUIT IS IN DIRECT CONTACT WITH CONCRETE.
- THE CONTROL PANEL DOOR MUST OPEN TOWARD THE WET WELL. ELECTRIC SERVICE SHALL BE 3 PHASE. ALARM HORN SHALL BE SEALED TO PREVENT LEAKAGE.
- CONTROL PANEL SHALL BE APPROVED BY IRCDUS BEFORE INSTALLATION.
 REFER TO SECTION 10 FOR PUMPING STATION SPECIFICATIONS.
- BOTTOM OF CONTROL PANEL TO BE 28" TO 34" ABOVE GROUND.
 ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL (316). TOOLS AND SPARE PARTS ARE REQUIRED (SEE SECTION 10.05
- CONTROL PANEL SHALL MEET THE REQUIREMENTS OF SERVICE ENTRANCE BY PROPERLY BONDING OR SHALL BE UL SERVICE ENTRANCE RATED. CONTROL PANEL SHALL HAVE A DATA FLOW, FLOAT BY-PASS SWITCH.
 THE MAXIMUM HORSEPOWER RATING FOR A 120/240 VOLT WASTEWATER PUMPING STATION
- PANEL IS 20 HP. ANY PUMP SIZE GREATER THAN 20 HP SHALL HAVE 480 VOLT SERVICE AND BE DESIGNED BY AN ELECTRICAL ENGINEER.
- THE CONTROL PANEL SHALL BE 4X NEMA, WHITE POWDER COATED STAINLESS STEEL. A WATER SERVICE LINE (1"Ø) WITH REDUCED PRESSURE BACKFLOW PREVENTER, WATER
- METER AND HOSE BIBB IS RÉQUIRED. ALL PENETRATIONS INTO ELECTRIC CONTROL PANEL REQUIRE MEYER HUBS. CORROSIVE MATERIALS WILL NOT BE ALLOWED.
- DISCONNECT BETWEEN METER AND PANEL TO BE 316 STAINLESS STEEL, NON-FUSABLE. STATIONS WITH GENERATORS SHALL BE FUSED. PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTHING ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST STANDARDS.

REFER TO SPECIFICATIONS SECTION 10
SUBMERSIBLE WASTEWATER

	PUMPING STAT	ION
NDIAN RIVER COUNTY	PUMPING STATION	D
DEPARTMENT OF	ELECTRICAL NOTES	
UTILITY SERVICES	TYPICAL WASTEWATER PUMPING STATION	١٢

PUMP STATION EMERGENCY GENERATOR NOTES

HOUSING DEVELOPMENTS OF 200 OR MORE UNITS SHALL PROVIDE BACKUP GENERATOR SETS FOR EMERGENCY USE AS REQUIRED. GENERATOR SHALL BE PROVIDED WITH AUTOMATIC THROW OVER SWITCH THAT SENSES POWER INTERRUPTION FROM THE MAIN POWER SOURCE, STARTS THE GENERATOR AND SHIFTS THE POWER SUPPLY TO THE LIFT STATION FROM THE GENERATOR. IF LESS THAN 200 HOMES ARE CONSTRUCTED INITIALLY, BUT IN FUTURE PHASES THE BUILD-OUT IS 200 HOMES ARE GREATER, AN EMERGENCY GENERATOR WILL BE REQUIRED

THE PUMPING STATION SHALL BE CONSTRUCTED WITH SPACE AVAILABLE FOR AN

SEE SECTION 17 ENGINE DRIVEN GENERATOR SETS FOR SPECIFICATIONS.

SITE PLAN - NOTES

TYPICAL WASTEWATER PUMPING STATION

EMERGENCY GENERATOR TO BE INSTALLED WHEN 200 HOMES ARE CONSTRUCTED. IRCDUS MAY CONNECT ADDITIONAL DEVELOPMENTS INTO A PROPOSED PUMPING STATION AND MAY REQUIRE AN EMERGENCY GENERATOR.
NATURAL GAS TO BE USED FOR POWER WHEN AVAILABLE.

INDIAN RIVER COUNTY

DEPARTMENT OF

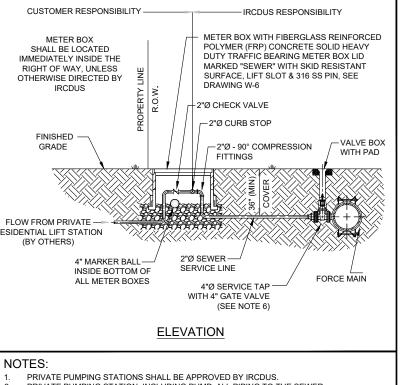
UTILITY SERVICES

PUMPING STATION DATA TABLE				
LIFT STA	ATION NUMBER			
DDUMADY	PUMPING CAPACITY	GPM	0	
PRIMARY	TOTAL HEAD ±	FEET	0	
CONDITION	EFFICIENCY	%	0%	
	PUMPING CAPACITY	GPM	0	
SECONDARY CONDITION	TOTAL HEAD ±	FEET	0	
	EFFICIENCY	%	0%	
	PUMPING CAPACITY	GPM	0	
	TOTAL HEAD	FEET	0	→ PUMP SHALL OPERATE BETWEEN
	EFFICIENCY	%	0%	PRIMARY AND SECONDARY POINTS
MINIMUM SOLIDS PASS. IMPELLER		INCHES	0"	
PUMP MODEL NUMBER		NO.	00-00-0	
PUMP IMPELLER		INCHES	XX-00	
PUMP SPEED (DESIGN)		R.P.M.	0000	
MOTOR NAMEPLATE H.P.		H.P.	0	

FLOAT CONTROL SYSTEM MAXIMUM NPSHR @ SECONDARY FEET SEE DRAWING S-15 A. PUMP, PIPING 8 MECHANICAL DETAILS - SECTION VIEW, FOR GENERAL ARRANGEMENT OF FLOAT INIMUM PUMP CYCLE TIME MINS. CONTROL SWITCHES. ALARM SIGNAL ON ELEVATION

FLUENT PIPE INVERT ELEVATION | ELEV. "B" AG PUMP ON ELEVATION PUMPS OFF ELEVATION ELEV. "E" 0.00
ALARM SIGNAL ON ELEVATION ELEV. "F" 0.00 REFER TO SPECIFICATIONS SECTION 10
SUBMERSIBLE WASTEWATER BOTTOM OF WET WELL ELEV. "G" 0.00

PUMPING STATION GENERATOR NOTES & DRAWING NO. INDIAN RIVER COUNTY DEPARTMENT OF FLOAT CONTROLS UTILITY SERVICES TYPICAL WASTEWATER PUMPING STATION



TYPICAL WASTEWATER PUMPING STATION

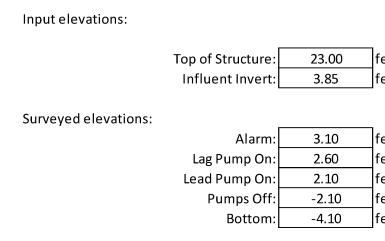
PRIVATE PUMPING STATION, INCLUDING PUMP, ALL PIPING TO THE SEWER
METER BOX, CONTROLS AND ELECTRICAL CONTROL PANEL SHALL BE CONSTRUCTED BY THE OWNER AT NO EXPENSE TO IRCDUS. OWNER SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH THE OPERATION AND

MAINTENANCE OF A PRIVATE PUMPING STATION.

INI	DIAN RIVER COUNTY DEPARTMENT OF	FORCE MAIN SERVICE FOR TYPICAL PRIVATE	DRAWING NO.
6.	TO THE FORCE MAIN WITH A 4" G	STATIONS SHALL HAVE A 4"Ø SERVICE TAP CONI ATE VALVE. RESIDENTIAL PRIVATE PUMPING STA CONNECTION WITH A 2"Ø CORP STOP.	
5.	ALL PRIVATE PUMPING STATION MANUFACTURERS' PRODUCT LIS	EQUIPMENT SHALL BE PER IRCDUS APPROVED T.	
4.	ACKNOWLEDGING PUMPING STA	TION IS TO REMAIN PRIVATE.	

PUMPING STATION ...

UTILITY SERVICES



* Working Depth is Lead Pump On minus Pumps Off: Working Depth = 4.20 feet

Lift Station 2

Lift Station 1

Input elevations:

Top of Structure: 24.25 feet Influent Invert: 18.15 feet

Surveyed elevations:

Alarm:	17.40	feet
Lag Pump On:	16.90	feet
Lead Pump On:	16.40	feet
Pumps Off:	13.00	feet
Bottom:	11.00	feet

* Working Depth is Lead Pump On minus Pumps Off: Working Depth = 3.40 feet

Lift Station 3

Input elevations:

Top of Structure: 25.50 feet Influent Invert: 19.30 feet

Surveyed elevations:

Alarm: 18.55 | feet Lag Pump On: 18.05 Lead Pump On: 17.55 feet Pumps Off: 13.25 feet Bottom: 11.25 feet

* Working Depth is Lead Pump On minus Pumps Off: Working Depth = 4.30 feet



PORT ST. LUCIE, FL 34984 PH: (772) 223-8850 FAX: (772) 223-8851 WWW.THEMILCORGROUP.COM

CERTIFICATE OF AUTHORIZATION

28246

AN M. HUMI LICENSE Jun 25 (2021)

SHEET NO.

18

FORCE MAIN EXTENSION FELLSMERE, FLORIDA

PRELIMINARY PLANS

Fellsmere Force Main Extension Preliminary Engineer's Opinion of Probable Cost

a. Site Work				
ITEM	Unit Price	Units	Quantity	Total \$
Mobilization	\$30,000.00	LS	1	\$30,000.00
Sod/Seed and Mulch	\$2.50	SY	9,172	\$22,930.00
Silt Fence	\$2.00	LF	16,510	\$33,020.00
Surveying - Construction Staking & Record Info	\$15,000.00	LS	1	\$15,000.00
SUB-TOTAL				\$100,950.00

c. Sanitary Sewer System				
ITEM	Unit Price	Units	Quantity	Total \$
Lift Station	\$400,000.00	EA	3	\$1,200,000.00
Manholes	\$4,000.00	EA	8	\$32,000.00
8" PVC Gravity Sanitary	\$26.00	LF	1,155	\$30,030.00
6" Force Main	\$20.00	LF	15,352	\$307,040.00
6" 45 Bend	\$250.00	EA	6	\$1,500.00
6" Gate Valve	\$400.00	EA	20	\$8,000.00
Air Release Valve	\$2,500.00	EA	23	\$57,500.00
Connection to FM	\$2,500.00	EA	1	\$2,500.00
Directional Bore	\$100.00	LF	2,164	\$216,400.00
Maintenance of Traffic	\$10,000.00	LS	1	\$10,000.00
Sanitary Sewer System Television	\$750.00	EA	2	\$1,500.00
SUB-TOTAL				\$1,866,470.00

TOTAL:	\$1,967,420.00
Contingency (25%)	\$491,855.00
Grand Total	\$2,459,275.00