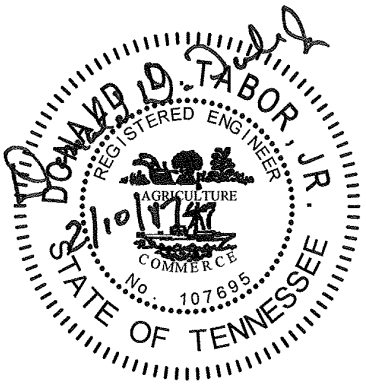
ADDENDUM NO. 4

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201

CITY OF CHATTANOOGA, TENNESSEE

The following changes shall be made to the Contract Documents, Specifications, and Drawings:



I. CONTRACT DOCUMENTS

A. ***Section 00 41 00, Bid Form.*** Pages 00 41 00-1 through 00 41 00-7

1. DELETE Section 00 41 00 in its entirety and SUBSTITUTE therefor the attached Section 00 41 00.

B. **Section 00 52 00, Agreement.** Page 00 52 00-1

1. DELETE Article 4.02 in its entirety and SUBSTITUTE therefor the following:

"4.02 Days to Achieve Substantial Completion and Final Payment

A. The Work will be substantially completed within 390 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 420 days after the date when the Contract Times commence to run. The 390 days includes 120 days for submittals review, material/equipment procurement, development of final construction sequence, etc. On site construction shall be completed within and limited to 270 calendar days thereafter unless additional construction time is allocated by change order."

C. ***Section 00 73 00, Supplementary Conditions.*** Article 18.13, Paragraphs A. through D., Pages 00 73 00-12 and -13.

1. DELETE Article 18.13 in its entirety.

II. SPECIFICATIONS

A. ***Section 09 92 00, Protective Coatings***. Page 09 92 00-3.1.

1. DELETE Article 1.6 in its entirety and SUBSTITUTE therefor the following:

"1.6 LEVELS OF REPAIR FOR INTERIOR CONCRETE SURFACES

A. Level I Repair – Surface preparation and application of protective coating on surfaces with none of the defects described below for Level II or III repairs. Surface preparation and application of the protective coating shall be done in accordance with the requirements stipulated in Parts 2 and 3 below.

B. Level II Repair – Surface preparation and application of surface restoration mortar and protective coating on surfaces with exposed aggregate, concrete spalling, cracking, delamination, voids, and/or any other defects identified by the Owner's representative that are greater than ¼ inch in any direction along the concrete surface and between ¼ and ½ inch in depth. Surface preparation and application of the surface restoration mortar and protective coating shall be done in accordance with the requirements stipulated in Parts 2 and 3 below.

C. Level III Repair – Surface preparation and concrete repair for areas with exposed aggregate, concrete spalling, cracking, delamination, voids, honeycombing, rock pockets, holes left by the tie rods, and/or other defects identified by the Owner's representative that are greater than ¼ inch in any direction along the concrete surface and greater than ½ inch in depth. Repairs shall be conducted in accordance with the requirements stipulated in Parts 2 and 3 below and as shown/stipulated on the Contract Drawings."

III. DRAWINGS

A. ***Drawing No. G2*****.** DELETE the drawing in its entirety and SUBSTITUTE therefor the attached Drawing No. G2.1.

B. ***Drawing No. G3.1.*** DELETE the drawing in its entirety and SUBSTITUTE therefor the attached Drawing No. G3.2.

C. ***Drawing No. G5.1.*** DELETE the drawing in its entirety and SUBSTITUTE therefor the attached Drawing No. G5.2.

D. ***Drawing No. C.3*** DELETE the drawing in its entirety and SUBSTITUTE therefor the attached Drawing No. C3.1.

E. ***Drawing No. C.4*** DELETE the drawing in its entirety and SUBSTITUTE therefor the attached Drawing No. C4.1.

F. ***Drawing No.s R17 through R22*** INSERT attached Drawing No.s R17 through R22.

G. ***Drawing No.s R1 through R16*** DELETE R16 from each of Drawing No.s R1 through R16 and SUBSTITUTE R22.

IV. REQUESTS FOR INFORMATION (RFIs)

The following are the responses to the Requests For Information (RFIs) that were submitted to the City Purchasing Department:

A. ***Addendum No.2, Item I.B.2 and Specification Section 00 41 00 (Bid Form), Article 7.01, Paragraphs E & F.*** Page 00 41 00-5.

RFI Statements and Questions

1. Regarding the requirement that EEO and Debarment forms from 00 21 13-15.01.E/F but 00 41 00-7.01.E/F remains intact. Should these sections (00 41 00-7.01.E/F) also be deleted? Please advise.

Engineer's Response

1. The requirements of Section 00 41 00-7.01.E/F shall be deleted as well. These paragraphs are being deleted in this addendum (see above).

B. ***Specification Section 00 73 00, (Supplementary Conditions), Article 18.13 (Davis-Bacon Wage Rates).*** Pages 00 73 00-12 and -13.

RFI Statements and Questions

1. Since this project is locally funded, are Davis-Bacon wage rates applicable to this project? If not, please delete this spec section. If D-B wage rates are applicable, please provide applicable wage rate determinations - none are currently found in the bidding documents.

Engineer's Response

1. The project is locally funded. Therefore, the Davis-Bacon wage rates are not applicable. This article is being deleted in this addendum (see above).

C. ***Specification Section 09 92 00 (Protective Coatings), Article 3.2, Paragraph A.1.*** Page 09 92 00-7.

RFI Statements and Questions

1. Regarding "Mineral slag by-products may not be used". Can coal slag abrasives be used if they meet the <5% silica content requirement? If needed, proposed product data can be provided for review. Please advise.

Engineer's Response

1. Coal slag abrasives may not be used.

D. ***Addendum No. 2, Items II.B, II.C.3, II.D, and Specification Section 01 25 00 (Substitutions and Options)***

RFI Statements and Questions

1. Regarding discussion about "equal" manufacturers/suppliers for different materials/equipment (valves, slide gates, & detritors). Spec section 01 25 00-1.05 details differences between "equal" manufacturers/suppliers dependent upon whether the term "equal" "***precedes***" or "***follows***" named manufacturers/ suppliers – if "equal" "***precedes***", no consideration until after the Notice to Proceed and if "equal" "***follows***", approval must be given prior to the bid date (submittal data must be submitted to the engineer no later than 14 days prior to the bid date). With the incorporation of the addenda items, the term "equal" is now found ***both*** "preceding" and "following" the named manufacturers/suppliers in 40 05 23-2.2.A, 40 05 73-2.2.A, & 46 23 7-1.1.C. Please advise if "equal" manufacturers/suppliers of these materials/equipment require approval prior to the bid (pre-bid submittal & approval via addendum) or will "equal" Manufacturers/ suppliers be evaluated/approved after the Notice to Proceed. Please clarify.

Engineer's Response

1. The 14-day period prior to the bid date has passed. Therefore, the only option at this point for consideration of substitutes for manufacturers/suppliers for the sections that were revised in Addendum No.2 is following the Notice to Proceed.

E. ***Specification Section 01 43 33 (Manufacturer Services), Article 1.06, Paragraphs K and L.*** Page 01 43 33-4.

RFI Statements and Questions

1. Regarding 30-day & 6-month "follow up" manufacturer services and instruction. These services/instructions are specified to be "in addition to the specified services of manufacturer's representative" found in the detailed equipment specs. Please confirm that these "follow up" visits are required.

Engineer's Response

1. The "follow up" visits are required.

F. ***Specification Section 01 75 16 (Starting of Systems), Article 1.01, Paragraph D and Article 1.06.*** Pages 01 75 16-1 and 01 75 16-2 repectively. ***Specification 00 72 00 (General Conditions), Article 1.01, Paragraph A.44.*** Page 5 of 91. ***Regarding the 30-day Operating Test.***

RFI Statements and Questions

1. Must the 30-day operating test period be successfully completed before "substantial completion" is attained?
2. Must a 30-day operating test period be performed on each detritor basin before moving on to the next detritor basin or sequenced construction activity?
3. Must the GC pay for all utilities (water, air, oil, power, fuel, chemicals, test equipment, etc.)?

Engineer's Response

1. Yes.
2. No.
3. The City will allow the GC to access/utilize on-site water and electrical service for use at the project trailer and for normal power tool use. All other services shall be provided and paid for by the GC.

G. ***Drawing G5.1 (Construction Sequence), "Minimum Temporary Bypass Pumping Requirements" for handling both the North & South Recycle Pump Station Flows.***

RFI Statements and Questions

1. How long can these pump stations be completely turned off (shut down) in order to determine "best" plans for tieing into or bypassing around the pump station force mains?
2. What portions of the road to the west of the detritor complex be closed to allow for installation of temporary bypass piping?
3. Where can the flows from these pump stations be temporarily routed/ discharged?
4. What quantities of grit and/or organics (sludge) should the contractor anticipate having to remove/dispose in the detritor basins and influent/effluent/bypass/ distribution channels once they are drained?

Engineer's Response

1. 4 hours (max.) for both the north and south recycle pump stations.

2. The main road west of the detritors shall remain open. Access to the septage receiving area shall also remain open. See response in item 3 below and Drawing G5.2 (included in this Addendum) for proposed temporary routing of force main from the north and south recycle pump stations.

3. The north and south recycle pump force mains may be temporarily intercepted, re-piped, and re-routed as shown on Drawing G5.2 (included in this Addendum). The GC may propose other routes, however the alternate routes must be approved by the City and the Engineer.

4. The GC should assume an average of 6 to 12 inches of grit/sludge mixture that could remain in detritors 1, 2, and 3 after draining. The mixture of grit/sludge removed by vac truck or other means may be disposed of in the City's decanter dumpster located just west of the filter press building. The quantity of daily disposed grit/sludge may be limited if it disrupts plant operation. Coordination with the City will be required. Similar depths of grit/sludge should be assumed when cleaning/removing solids from the primary clarifier influent channels.

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. **H.** ***Drawing C3 (Site Plan - Concrete Surface Improvements), Note 2, Sentence 2.***

RFI Statements and Questions

1. The exterior perimeter walls of the concrete decking are to be repaired and coated "from the top of the deck to the base of the wall". Is it the engineer's intent for the exterior perimeter walls to be repaired and coated in their entirety to the wall foundation slab or only the wall portion that is above grade and exposed to view? The indicated walls extend significantly below grade to their foundation. This would require excavation to expose the the below grade walls. Please Clarify.

Engineer's Response

1. Only the wall portions that is above grade and exposed to view shall be repaired and coated.

I. ***Drawing G5.1 (Construction Sequence)***

RFI Statements and Questions

1. Regarding the "Minimum Temporary Bypass Pumping Requirements". Please provide "as-built" drawings/details for the North & South Recycle PS's. Please provide "as-built" drawings/details for the "Existing MH (w/ 18" BFV)" and pipe connection detail between the 18" FM and Primary Influent Channel wall (North Recyle PS FM). This information is needed to assist in putting together a bypass plan for the respective North & South Recycle PS flows during construction.

2. Task 1.H – When is Gate “C” ever open so that it needs to be closed during Task 1? Isn’t Gate “C” always closed for this task? Isn’t Gate “C” always closed during the construction of this project?
3. Task 3.4 – Aren’t Primary Clarifiers 1-4 the “north” clarifiers, not “south”?
4. Task 5.4 – Aren’t Primary Clarifiers 5-8 the “south” clarifiers, not “north”?
5. Task 5.7 – Shouldn’t a task including “close Gate “O”” precede Task 5.7?
6. Regarding flows from the onsite Influent Pump Station. It appears that flows from the onsite Influent Pump Station have three (3) possible routes – one (1) to the existing Detritor Inlet Box, one (1) to the existing 66” concrete pipe, and one (1) to the existing 48” Plant Bypass. Is it of any concern to bidding contractors that no mention or discussion of flows to/from the existing 48” Plant Bypass is addressed? With that said, do any flows to/from this 48” Plant Bypass line impact construction sequencing in any way? Must any flows to/from the 48” Plant Bypass line need to be handled by the contractor? Please clarify/advise.
7. Drawing G5.1 (area E3), Drawing D2 (lower left corner), & Drawing R7 (areas E2 & F2) regarding a 42” diameter pipe (w/ 36” BFV w/ EMO) whose flow discharges into the Primary Clarifier Influent Channel. Are bidding contractors to assume no flows will enter the Primary Clarifier Influent Channel, in particular during Task 5 activities. No reference is made to when and/or how long this line can be shut down and/or fits into the construction sequencing details. Must any flows from this 42” line need to be temporarily handled by the contractor? We have assumed that the modifications to the 36” BFV can be made anytime during construction but that the 36” BFV will be “closed” (locked out/tagged out) during any work activities in the Primary Clarifier Channel south of either the location of temporary bulkhead “M” or permanent gate “O” (as required by sequencing). Please clarify/advise.

Engineer's Response

1. The requested drawings have been added as Reference Drawings R18 through R22 (included above in this addendum).
2. Disregard Task 1.H. However, verify that Gate "C" is closed as required under Task 1.A. Correction has been made in Drawing G5.2 (included in this addendum).
3. Correct. Primary Clarifiers 1-4 are the "north" clarifiers. Correction will be made in Drawing G5.2 (included in this addendum).
4. Correct. Primary Clarifiers 5-8 are the "south" clarifiers. Correction will be made in Drawing G5.2 (included in this addendum).
5. A task involving closing Gate "O" prior to Task 5.7 has been added to Drawing G5.2 (included in this addendum).
6. Flows to/from the 48" Plant Bypass line should not need to be handled by the contractor and should not impact the construction sequencing.
7. The 42-inch line is an old recycle line from the equalization basin pump station t that has not been used in 20-plus years. There are two isolation valves on this line that have been closed during this 20-plus-year time period. One is located near the SE corner of the south primary clarifiers and the other is located as shown on drawing D2. Care should be taken when draining the primary clarifier influent channel to the south primary clarifiers. Inspections for possible leaks

should be conducted before starting final cleaning and concrete restoration work. If any leakage is observed, it shall be brought to the attention of the Engineer.

Bidder Must Acknowledge Receipt of this Addendum on Bid Form

Addendum Prepared by
CTI ENGINEERS, INC.
February 10, 2017

MOCCASIN BEND WASTEWATER TREATMENT PLANT DETRITORS REHABILIATION
CONTRACT NUMBER W-15-001-201

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Chattanooga, Tennessee
Purchasing Department
101 E. 11th Street, Suite G13
Chattanooga, Tennessee 37402

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for period of time after the Bid opening as stated in the Advertisement for Bids, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except

Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. Where this Bid Form contains the provision for a bid based on a lump sum price, the Bidder shall be responsible for having prepared its own estimate of the quantities necessary for the satisfactory completion of the Work specified in these Contract Documents and for having based the lump sum price bid on its estimate of quantities.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

"coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

SCHEDULE IA - LUMP SUM BASE BID	
Furnish All Labor, Materials, Equipment, Services, Supervision, and All Necessary Appurtenances for the construction of the Detritors Facility Improvements at the Moccasin Bend Wastewater Treatment Plant (MBWWTP), as required for a complete operating installation as described in the Contract Documents and/or as shown on the Contract Drawings, including all Base Bid Equipment, but excluding work in Schedules IB, II, and III, for the lump sum of _____ _____Dollars and _____ Cents	$_____

SCHEDULE IB - UNIT PRICE BASE BID					
Item No.	**Description**	**Unit**	**Est. No. Of Units**	**Unit Price**	**Items Total**
CONCRETE REPAIRS AND PROTECTIVE COATINGS					
1	Level I Interior Concrete Repair/Coatings	SF	3,400		
2	Level II Interior Concrete Repair/Protective Coatings (Depth: 0.25" to < or = to 0.50")	SF	15,500		
3	Level III Interior Concrete Repair/Protective Coatings				
3a	Depth: >0.50" to < or = to 1.50"	SF	3,000		
3b	Depth: >1.50" to < or = to 2.50"	SF	1,000		
3c	Depth: >2.50" to < or = to 4.00"	SF	1,000		
4	Exterior Concrete Surface Repairs (Filling in Cracks)	LF	500		
5	Exterior Concrete Surface Repairs (Broken/Chipped Areas and other Miscellaneous Surface Imperfections)	SF	750		
6	Exterior Concrete Coating	SF	10,400		

	CASH ALLOWANCES				
7	Concrete and Materials Testing	LS	1	$7,500	$7,500
8	Odor Control Duct Repair	LS	1	$20,000	$20,000
TOTAL - SCHEDULE IB _____ _____Dollars and _____ Cents				$ _____	
TOTAL - SCHEDULES IA AND IB _____ _____Dollars and _____ Cents				$ _____	

SCHEDULE II – DEDUCTIVE ALTERNATE FOR DELETION OF NEW SUPPORT BRIDGES AND COATING/REUSING OF EXISTING BRIDGES - DETRITORS 1 AND 2		
Item No.	**Description**	**Item Total**
46 23 73	For deleting the new support bridges and handrail and coating and reusing the existing support bridges and handrail at Detritors 1 and 2: DEDUCT _____ _____Dollars and _____ Cents	$ _____

SCHEDULE III – DEDUCTIVE ALTERNATE FOR ALTERNATE DETRITOR EQUIPMENT MANUFACTURER		
Item No.	**Description**	**Item Total**
46 23 73	For furnishing Detritor Grit Separator Mechanisms and specified accessories manufactured by Envirodyne Systems, Inc. of Camp Hill, PA in lieu of the named base bid manufacturer (Ovivo USA, LLC): DEDUCT _____ _____Dollars and _____ Cents	$ _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Statement of Bidders Qualifications

B. Affidavit of No Collusion by Prime Bidder

C. Drug-Free Workplace Affidavit

D. Attestation Regarding Personnel Used in Contract Performance

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid submitted by:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Attest: _____
(Notary)

Name (typed or printed): _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

Attest: _____
(Signature of another Partner)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature)
Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)
Attest: _____
(Signature of Corporate Secretary)
Name (typed or printed): _____

Date of Qualification to do business in Tennessee is _____

A Joint Venture

Name of Joint Venturer: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

All Bidders shall complete the following:

Bidder's Business address: _____

_____

Phone:_____Facsimile: _____

Primary Contact: _____

E-mail: _____

Submitted on _____, 201___.

State Contractor License No. _____.

This document was prepared in part from material (EJCDC C-410 Suggested Bid Form for Construction Contracts) which is copyrighted as indicated below:

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R20	SOUTH RECYCLE PUMP STATION PLAN AND SECTIONS (DRAWING W403 - CONTRACT 28G)
R21	NORTH RECYCLE PUMP STATION PLAN AND SECTIONS (DRAWING W404 - CONTRACT 28G)
R22	DRAIN PUMP STATION AND VALVE BOX DETAILS (DRAWING W703 - CONTRACT 28G)

1

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7813

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION
1	01/17	ADDED REFERENCE DWGS R17 THRU R22 TO INDEX

THIS LINE IS ONE INCH LONG WHEN PLOTTED FULL SCALE

THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

CTI PROJECT NO: C15039-03

DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	ADS

SHEET TITLE
GENERAL DRAWINGS

DRAWING INDEX

SHEET
G2.1 of G5

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: DRAWING INDEX (479055\25/2/10/17 1:03PM), LAYOUT: SITE PLAN

PLOT DATE: 2/10/2017
BY: DTABOR
LAST SAVED: 2/10/2017
CREATED: 2/10/2017

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: OVERALL PLAN (479189v14/2/10/17 1:09PM), LAYOUT: GENERAL PLAN

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

SCALE: 1" = 100'

	STATE PLANE COORDINATES			MOCCASIN BEND GRID COORDINATES	
MONUMENT	NORTHING	EASTING	ELEVATION	NORTHING	EASTING
POH 34	262,783.0028	2,1676,35.5560	660.23	1,033.9358	−610.4533
POH 45	262,802.3196	2,167,316.9924	658.50	1,021.4900	−929.3592
POH 51	262,494.6222	2,167,191.9402	659.06	702.8867	−1,023.2058
POH 52	262,462.7801	2,167,503.4238	658.94	702.1650	−710.0992

POH 51 – EXISTING SURVEY MONUMENTS

TRAINING CENTER
POND W.E. 660.1
SEWER MAINTENANCE BUILDING
PLANT MAINTENANCE BUILDING
I & I BUILDING
CHLORINE CONTACT TANK NO. 4
CHLORINE CONTACT TANK NO. 3
DILUTION WATER PUMP STATION
CHLORINE CONTACT TANK NO. 5
SECONDARY CLARIFIER NO. 10
SECONDARY CLARIFIER NO. 9
SECONDARY CLARIFIER NO. 8
SECONDARY CLARIFIER NO. 7
SECONDARY CLARIFIER NO. 6
SECONDARY CLARIFIER NO. 5
SECONDARY CLARIFIER NO. 11
SECONDARY CLARIFIER NO. 12
SECONDARY CLARIFIER NO. 13
SECONDARY CLARIFIER NO. 14
FUTURE #16
EQUALIZATION BASIN PUMP STATION
OXYGEN PLANT
RETURN SLUDGE PUMP STATION
OXYGEN SYSTEM CONTROL BUILDING
OXYGENATION TANK NO. 4
OXYGENATION TANK NO. 3
OXYGENATION TANK NO. 2
OXYGENATION TANK NO. 1
SECONDARY CLARIFIER NO. 4
SECONDARY CLARIFER NO. 3
SECONDARY CLARIFIER NO. 2
SECONDARY CLARIFIER NO. 1
SEE NOTE 6
MIXED LIQUOR PUMP STATION NO. 2
MIXED LIQUOR PUMP STATION NO. 1
CHLORINE CONTACT BASIN NO. 2
CHLORINE CONTACT BASIN NO. 1
BLOWER BUILDING
EQUALIZATION BASIN NO. 2
EQUALIZATION BASIN NO. 1
NEW LOCATION FOR LAYDOWN/STORAGE AREA FOR DETRITORS REHAB PROJECT
GROUNDS EQUIP. STORAGE BUILDING
SOUTH RECYCLE PUMP STATION
SOUTH PRIMARY CLARIFIERS
NORTH PRIMARY CLARIFIERS
WET WEATHER CLARIFIER (FUTURE)
WET WEATHER CLARIFIER NO. 3
WET WEATHER CLARIFIER NO. 2
WET WEATHER CLARIFIER NO. 1
CHEMICAL BLDG.
LAYDOWN/STORAGE AREA CURRENTLY IN USE BY CONTRACTOR CONDUCTING PRIMARY CLARIFIER IMPROVEMENTS
CONSTRUCTION ENTRANCE
CONTRACT W-15-001-201 WORK AREA
DETRITOR NO.2
DETRITOR NO.1
DETRITOR NO.3
INFLUENT PUMP STATION
JUNCTION BOX A
MOCCASIN BEND ROAD
FORCE MAIN
SLUDGE THICKENER NO. 5
THICKENED SLUDGE PUMP STATION NO. 2
SLUDGE THICKENER NO. 3
SLUDGE THICKENER NO. 4
SLUDGE THICKENER NO. 2
PLANT WATER STORAGE TANK
THICKENED SLUDGE PUMP STATION NO. 1
SLUDGE THICKENER NO. 1
OPERATIONS AND CONTROL BUILDING
POH 45
POH 52
28K1 WORK AREA
CENTRIFUGE BUILDING NO. 2
POH 34
CENTRIFUGE BUILDING NO. 1
BIOSOLIDS LOADING FACILITY
DIGESTERS & BUILDING
FILTER PRESS BUILDING
ELECTRICAL TRANSFORMERS
NORTH RECYCLE PUMP STATION
PLANT WAREHOUSE
ADMINISTRATION BUILDING
GUARD HOUSE
SCALES
POH 51
S11+00 S10+00 S9+00 S8+00 S7+00 S6+00 S5+00 S4+00 S3+00 S2+00 S1+00 S0+00 N1+00 N2+00 N3+00 N4+00 N6+00 N7+00 N8+00 N9+00 N10+00 N11+00

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR JR.
REGISTERED ENGINEER
1/4/16
No. 107695
STATE OF TENNESSEE

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION
1	01/17	NEW LAYDOWN LOCATION
2	01/17	LABELED N&S RECYCLE PS

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THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

CTI PROJECT NO: C15039-03

DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

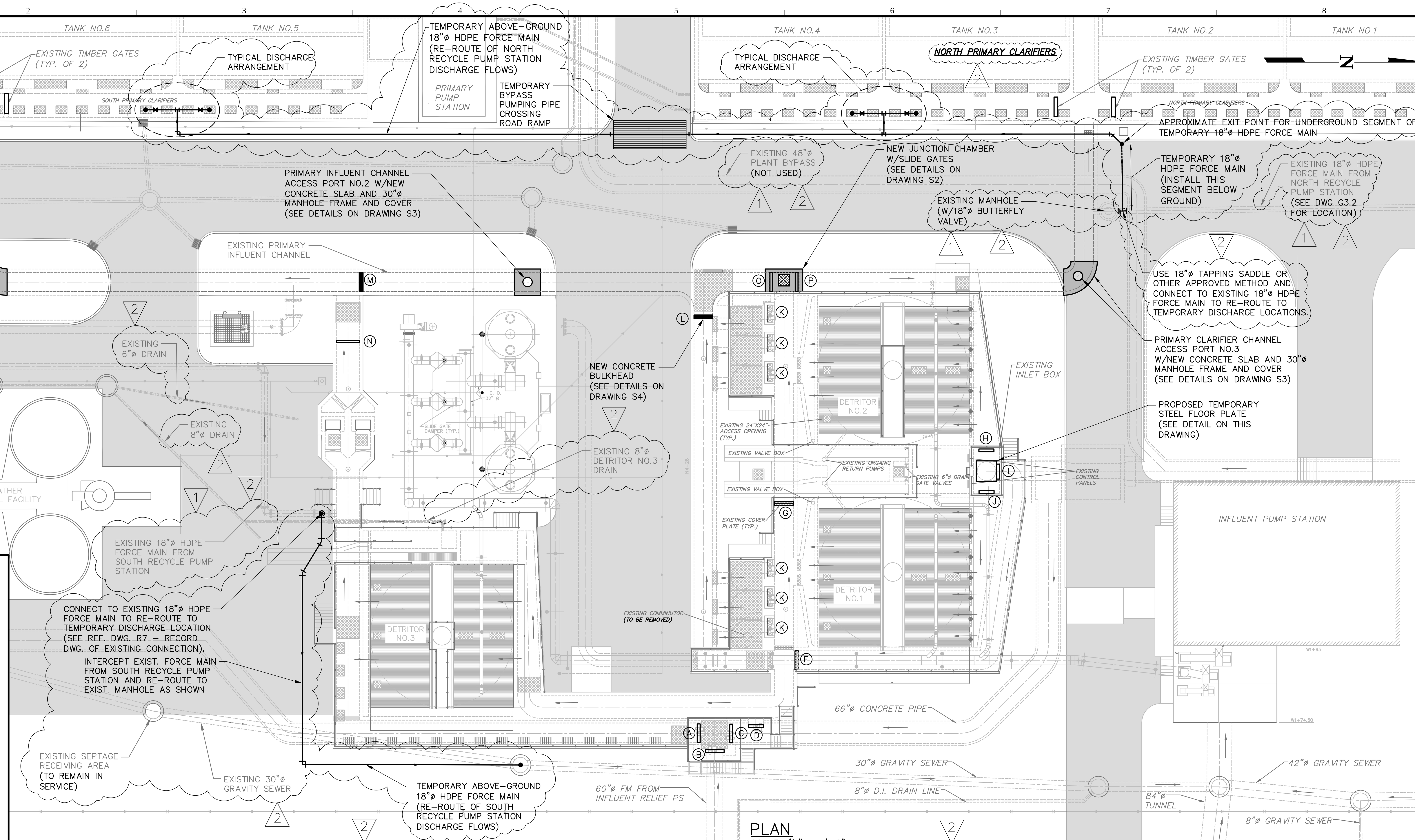
SHEET TITLE
GENERAL DRAWINGS

OVERALL PLAN

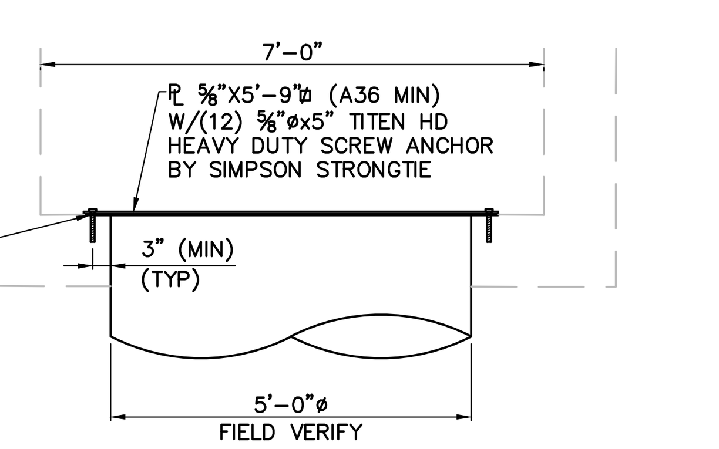
SHEET
G3.2 of G5

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: CONSTRUCTION SEQUENCE (487950v20/2/10/17 11:27AM), LAYOUT: G5

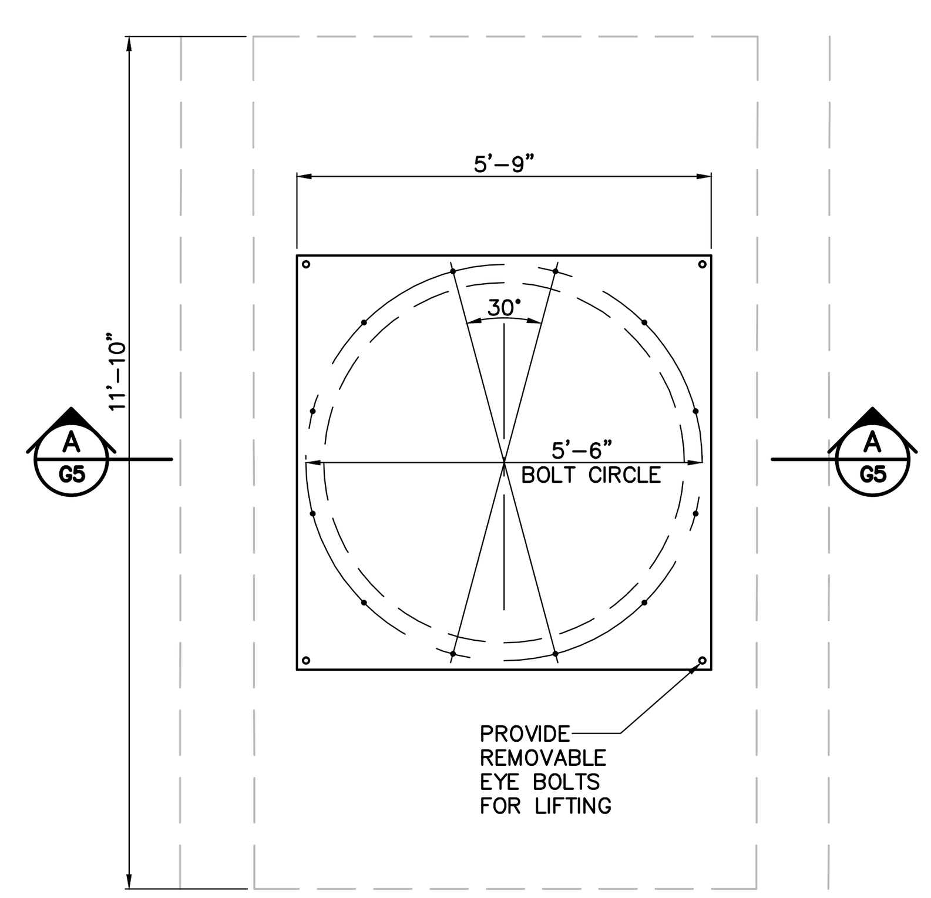
CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017



PLAN
SCALE: 1/16" = 1'-0"



SECTION A/G5
SCALE: 3/8" = 1'-0"



PLAN
SCALE: 3/8" = 1'-0"

TEMPORARY STEEL FLOOR PLATE DETAIL

NOTES:

1. THE CONTRACTOR MAY SUBMIT AN ALTERNATE CONSTRUCTION SEQUENCE TO THE ENGINEER FOR REVIEW AND CONSIDERATION FOR APPROVAL.
2. THE INFLUENT RELIEF PUMP STATION MAY NEED TO BE OPERATED DURING PEAK FLOW CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING GATES "A" AND "B" SHALL BE OPENED AND EXISTING GATE "C" SHALL REMAIN CLOSED WHEN THE INFLUENT RELIEF PUMP STATION IS OPERATING. THE CONTRACTOR SHALL COORDINATE OPERATION OF THE RELIEF PUMP STATION AND THE STATED EXISTING GATES WITH MBWWTP OPERATIONS PERSONNEL.
3. THE CONSTRUCTION SEQUENCE SHOWN IS BASED UPON A 6-MONTH TIME PERIOD. THE CONTRACTOR MAY INCREASE THE CONSTRUCTION SEQUENCE TO A MAXIMUM OF 38 WEEKS WITH EACH WORK TASK EXTENDED TO NO LONGER THAN THE MAXIMUM DURATION NOTED TO THE RIGHT OF EACH TASK.

CONSTRUCTION SEQUENCE *

WORK TASK NO.	ITEM NO.S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
I **	1.A - 1.I	■																								
2	2.1 - 2.7		■	■	■	■																				
3	3.1 - 3.7						■	■	■	■	■	■	■	■												
4	4.1 - 4.5														■	■	■	■								
5	5.1 - 5.11																		■	■	■	■				
6	6.1 - 6.5																						■	■	■	■
7	7.1 - 7.7		▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨

(WEEK NUMBER: columns 1–25)

* SEE NOTE 3.
** TO BE COMPLETED DURING DRY WEATHER WITH NO RAIN FORECAST FOR THE TIME PERIOD INDICATED.

NOTES:

1. THE CONTRACTOR SHALL PROVIDE A TEMPORARY BYPASS PUMPING SYSTEM(S) AND/OR RE-ROUTE DISCHARGE LOCATION TO CONVEY THE FLOWS FROM THE NORTH AND SOUTH RECYCLE PUMP STATIONS WHILE WORK IS BEING DONE IN THE PRIMARY INFLUENT CHANNEL AND IN ANY OTHER AFFECTED DOWNSTREAM AREAS DURING CONSTRUCTION. THE DESIGN, INSTALLATION, AND OPERATION OF THE TEMPORARY BYPASS PUMPING SYSTEM SHALL BE THE CONTRACTOR'S RESPONSIBILITY, SUBJECT TO THE ENGINEER'S APPROVAL AS SPECIFIED. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A SPECIALTY CONTRACTOR (FIRM) WHO CAN DEMONSTRATE TO THE ENGINEER THAT IT SPECIALIZES IN THE DESIGN AND OPERATION OF TEMPORARY BYPASS PUMPING SYSTEMS AS NOTED IN SPECIFICATION SECTION 01 51 43.
2. THE CAPACITY OF THE BYPASS PUMPING SYSTEM SHALL BE EQUAL TO OR GREATER THAN THE FIRM CAPACITY OF EACH PUMP STATION (IE. 5,200 GPM). EACH STATION IS CURRENTLY EQUIPPED WITH THREE 2,600 GPM PUMPS, WITH TWO PUMPS OPERATING SIMULTANEOUSLY DURING PEAK FLOW CONDITIONS AND ONE PUMP SERVING AS A BACKUP. A SECOND BYPASS PUMP(S) WITH A SIMILAR CAPACITY SHALL BE PROVIDED AS A BACKUP IN THE EVENT THE PRIMARY BYPASS PUMP(S) FAILS TO OPERATE. EACH PUMP STATION MAY BE SHUT DOWN A MAXIMUM OF FOUR (4) HOURS TO ACOMODATE BY-PASS PUMPING AND/OR FORCE MAIN RE-ROUTING.
3. THE CONTRACTOR SHALL PREPARE AND SUBMIT A SPECIFIC DETAILED DESCRIPTION OF THE PROPOSED PUMPING SYSTEM(S) REQUIRED PER THE REQUIREMENTS STIPULATED IN SPECIFICATION SECTION 01 51 43.
4. ALL TEMPORARY DISCHARGE PIPING SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT AND EXCAVATED/DAMAGED PAVEMENT SHALL BE RESTORED.

MINIMUM TEMPORARY BYPASS PUMPING REQUIREMENTS

TASK 1 - DURATION 1-2 WEEKS**
- 1.A VERIFY that existing Gates "A" and "B" are OPEN and existing Gate "C" is CLOSED.
- 1.B DIVERT all flow to the Influent Relief PS and SHUT-DOWN the Influent PS (All flows will be diverted to the Wet-Weather System).
- 1.C INSTALL temporary Stop-Plate "F".
- 1.D INSTALL temporary Bulkhead "M".
- 1.E INSTALL the temporary Floor Plate in the Detritor Inlet Box.
- 1.F OPEN existing Gate "D".
- 1.G RESTART the Influent PS, SHUT-DOWN the Influent Relief PS, and DIVERT all flows through Detritor No.3 (Limit flows through Influent PS and Detritor No.3 to 70 mgd).

TASK 2 - DURATION 4-6 WEEKS
- 2.1 COMPLETE improvements in Detritor Inlet Box (Including installation of new Gates "H," "I," and "J", coating of walls, etc.).
- 2.2 CONSTRUCT upper sections of New Junction Chamber.
- 2.3 REMOVE existing Comminutor Inlet Sluice Gates and Actuators (Detritors 1 & 2) and remaining Comminutor (Detritor 1).
- 2.4 INSTALL new Comminutor Inlet Channel Cover Plates (Plates "K").
- 2.5 INSTALL new permanent Bulkhead "L".
- 2.6 REMOVE Covers, Odor Draw-off Duct, and all existing Equipment from Detritor #2.
- 2.7 BEGIN Structural Improvements in Detritor #2.

TASK 3 - DURATION 8-12 WEEKS
- 3.1 COMPLETE Structural Improvements in Detritor #2.
- 3.2 INSTALL temporary Stop-Plate "G".
- 3.3 REMOVE Covers, Odor Draw-off Duct, and all existing Equipment from Detritor #1.
- 3.4 COORDINATE with MBWWTP personnel regarding draining of the North Primary Clarifier Tanks (ie. Tanks 1 thru 4) and DRAIN (or Pump Out) Primary Inlet Channel north of temporary Bulkhead "M".
- 3.5 REHABILITATE Primary Inlet Channel north of temporary Bulkhead "M" and INSTALL new Channel Access Ports #2 and #3.
- 3.6 INSTALL new Slide Gates "O" and "P" in New Junction Chamber.

TASK 4 - DURATION 4-6 WEEKS
- 4.1 INSTALL new Equipment (including Reciprocating Rakes) and Covers and REINSTALL Odor Draw-off Duct (Detritor #2).
- 4.2 COMPLETE Structural Improvements in Detritor #1.
- 4.3 REMOVE the temporary Floor Plate in the Detritor Inlet Box.
- 4.4 OPEN new Gate "H" and CLOSE Gates "I" and "J".
- 4.5 START Detritor #2 with outlet flows to Primary Clarifier Tanks #1 thru #4.

TASK 5 - DURATION 4-6 WEEKS
- 5.1 CLOSE existing Gate "D" and Shut-Down Detritor #3.
- 5.2 INSTALL new Equipment (including Reciprocating Rakes) and Covers and REINSTALL Odor Draw-off Duct (Detritor #1).
- 5.3 REMOVE existing Covers and Odor Draw-off Duct from and COMPLETE Structural Improvement to Detritor #3.
- 5.4 COORDINATE with MBWWTP personnel regarding draining of the South Primary Clarifier Tanks (ie. Tanks 5 thru 8) and DRAIN (or Pump Out) Primary Inlet Channel south of temporary Bulkhead "M".
- 5.5 REHABILITATE Primary Inlet Channel south of temporary Bulkhead "M" and INSTALL new Channel Access Port #1.
- 5.6 INSTALL and CLOSE new Slide Gate "N".
- 5.7 CLOSE new Slide Gate "O".
- 5.8 REMOVE temporary Bulkhead "M".
- 5.9 OPEN new Gate "J".
- 5.10 REMOVE temporary Stop-Plate "G".
- 5.11 START Detritor #1 with outlet flows to all Primary Clarifiers.
- 5.12 INCREASE flow limit on Influent PS to 100 mgd.

TASK 6 - DURATION 4-6 WEEKS
- 6.1 INSTALL new Covers and REINSTALL odor Draw-off Duct at Detritor #3.
- 6.2 REMOVE Temporary Stop Plate "F".
- 6.3 OPEN new Gate "I".
- 6.4 START Detritor #3.
- 6.5 INCREASE flow limit on Influent PS to 150 mgd.

TASK 7 - NON-CRITICAL PATH TASKS - DURATION 2 OR 3 THRU 38 WEEKS
- 7.1 Miscellaneous demolition of other Items not included in the tasks above.
- 7.2 Electrical upgrades.
- 7.3 Rehabilitation of odor control duct supports.
- 7.4 Rehabilitation of existing cover plates and Installation of new cover plates.
- 7.5 Coating of concrete deck and exposed ferrous metals.
- 7.6 Installation of new ultrasonic transducers.
- 7.7 Installation of new handrail.
- 7.8 Remove fine screen #6 if not already removed prior to construction.
- 7.9 Other work as required.

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR, JR. REGISTERED ENGINEER No. 107695 STATE OF TENNESSEE 10/14/16

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION
2	02/17	ADDED N&S RECYCLE PS
		TEMP FM & REVISED NOTES
1	01/17	ADDED TEMP. BYPASS
		NOTES AND N. RECYCLE FM

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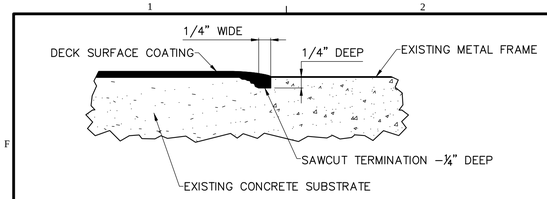
CTI PROJECT NO: C15039-03
DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	ADS

SHEET TITLE
GENERAL DRAWINGS
CONSTRUCTION SEQUENCE

SHEET G5.2 of G5



TYPICAL LEADING EDGE TERMINATION DETAIL FOR SURFACE PREPARATION OF EXISTING CONCRETE AROUND EXISTING EMBEDDED METAL FRAMES PRIOR TO APPLYING DECK SURFACE COATING

NOT TO SCALE

NOTES:

1. ALL INTERIOR CONCRETE WALLS AND CEILINGS SHOWN TO BE REPAIRED AND/OR COATED SHALL BE PRESSURE WASHED/ SURFACE PREPPED, REPAIRED WHERE REQUIRED, AND COATED IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS AND AS SHOWN ON THE LEVEL III CONCRETE SURFACE REPAIR DETAIL ON DRAWING C4. AREAS REQUIRING REPAIRS SHALL BE FIELD DETERMINED BY THE RPR. THE IDENTIFIED AREAS SHALL BE REPAIRED/COATED WITH ONE OF THE FOLLOWING LEVELS OF REPAIR:

   A. LEVEL I REPAIR – SURFACE PREPARATION AND APPLICATION OF PROTECTIVE COATING ONLY ON SURFACES WITH NONE OF THE DEFECTS LISTED BELOW LEVEL II OR III REPAIRS AND PER THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

   B. LEVEL II REPAIR – SURFACE PREPARATION AND APPLICATION OF SURFACE RESTORATION MORTAR AND PROTECTIVE COATING ON SURFACES WITH EXPOSED AGGREGATE, CONCRETE SPALLING, CRACKING, DELAMINATION, VOIDS, AND/OR ANY OTHER DEFECTS IDENTIFIED BY THE OWNER'S REPRESENTATIVE THAT ARE GREATER THAN ¼" IN ANY DIRECTION ALONG THE CONCRETE SURFACE AND BETWEEN ¼" AND ½" IN DEPTH. SURFACE PREPARATION AND APPLICATION OF THE SURFACE RESTORATION MORTAR AND PROTECTIVE COATING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

   C. LEVEL III REPAIR – SURFACE PREPARATION AND CONCRETE REPAIR FOR AREAS WITH EXPOSED AGGREGATE, CONCRETE SPALLING, CRACKING, DELAMINATION, VOIDS, HONEYCOMBING, ROCK POCKETS, HOLES LEFT BY TIE RODS, AND/OR OTHER DEFECTS IDENTIFIED BY THE OWNER'S REPRESENTATIVE THAT ARE GREATER THAN ¼" IN ANY DIRECTION ALONG THE CONCRETE SURFACE AND GREATER THAN ½" IN DEPTH. REPAIRS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS AND AS SHOWN/STIPULATED IN THE DETAIL ON THIS DRAWING. REPAIRS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED ON THE "LEVEL III CONCRETE SURFACE REPAIR DETAIL" SHOWN ON DRAWING C4.1.

2. THE CONCRETE DECK SHALL BE COATED WITHIN THE DECK COATING LIMITS INDICATED ON THIS DRAWING AND IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS. PRIOR TO COATING THE DECK, EXISTING DAMAGED AREAS SHALL BE REPAIRED, ALL CRACKS SHALL BE FILLED, AND ALL UNUSED OBJECTS/MATERIALS SHALL BE REMOVED. THE EXTERIOR PERIMETER WALLS OF THE CONCRETE DECKING (FROM THE TOP OF THE DECK TO THE BASE OF THE WALL) SHALL ALSO BE REPAIRED (INCLUDING CRACKS) AND COATED. THE CONCRETE SURFACE AROUND THE EXISTING EMBEDDED METAL FRAMES SHALL BE SURFACE PREPPED IN ACCORDANCE WITH THE DETAIL ON THIS DRAWING PRIOR TO APPLYING THE SURFACE COATING ON THE DECK.

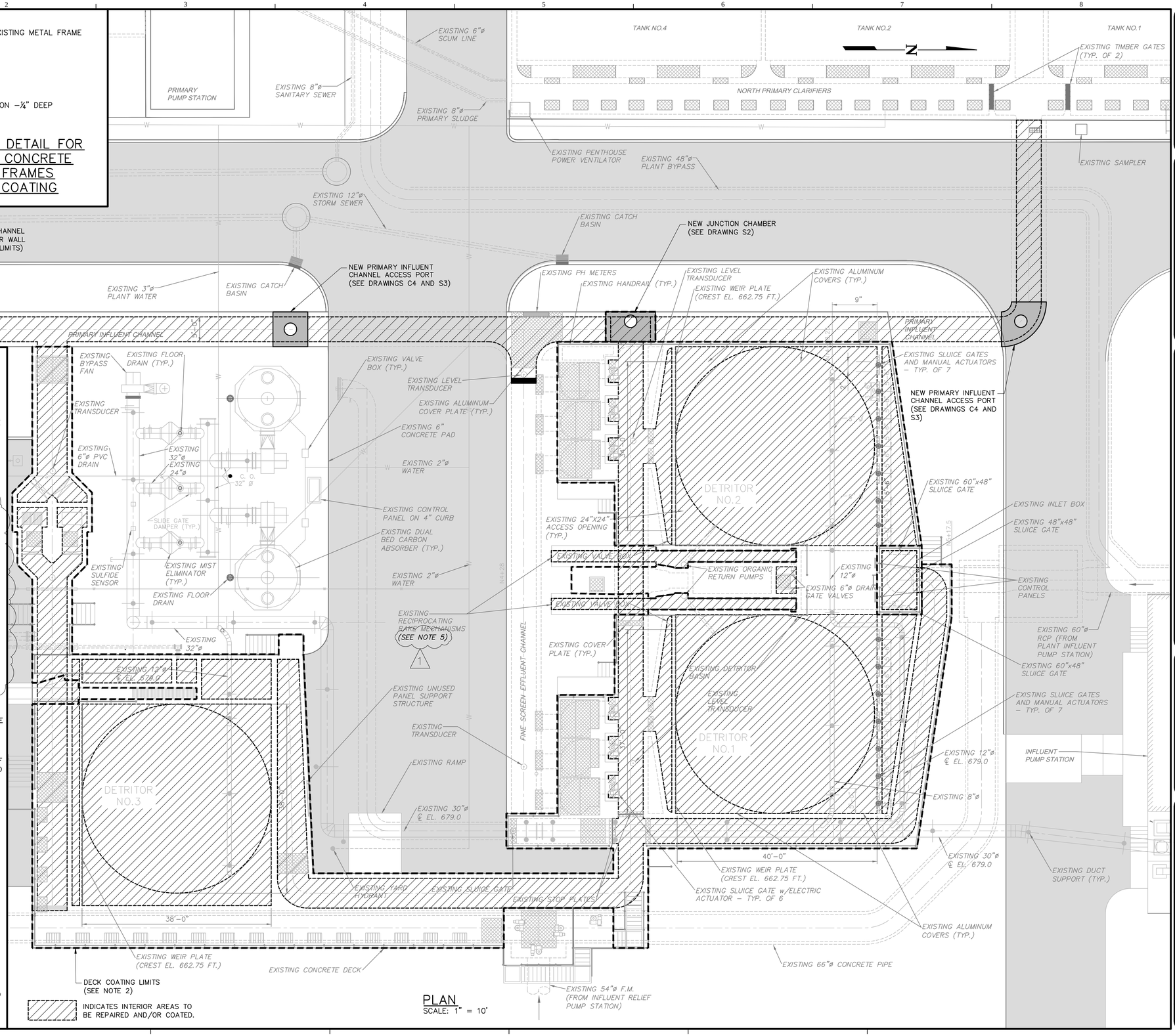
3. THE INTERIOR WALLS OF THE EXISTING INLET BOX SHALL BE REPAIRED (LEVEL I, II, OR III AS REQUIRED) IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

4. ALL NEW CONCRETE WALLS AND CEILINGS (INCLUDING THE NEW JUNCTION CHAMBER) SHALL BE COATED WITH A PROTECTIVE COATING (LEVEL I) IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

5. THE FLOOR AND WALLS OF THE EXISTING RECIPROCATING RAKE MECHANISM CHANNEL FOR DETRITORS 1 AND 2 SHALL BE REPAIRED (LEVEL I, II, OR III AS REQUIRED) IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

6. ALL INTERIOR REPAIRS/COATINGS SHALL BE CONDUCTED AT THE APPROPRIATE TIME DURING CONSTRUCTION AS OUTLINED IN THE CONSTRUCTION SEQUENCE DESCRIBED ON DRAWING G5.

7. REVIEW EACH REPAIR/COATED AREA WITH THE RPR AND TALLY QUANTITIES TO THE NEAREST 0.1 SQUARE FOOT. PAYMENT FOR CONCRETE REPAIRS SHALL BE MADE BASED ON THE LEVEL OF REPAIR REQUIRED AND AT THE UNIT PRICES INCLUDED IN THE BID SCHEDULE.



PLAN
SCALE: 1" = 10'

ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION
1	01/17	REVISED NOTES

THIS LINE IS ONE INCH LONG WHEN PLOTTED FULL SCALE

THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

CTI PROJECT NO: C13039-03

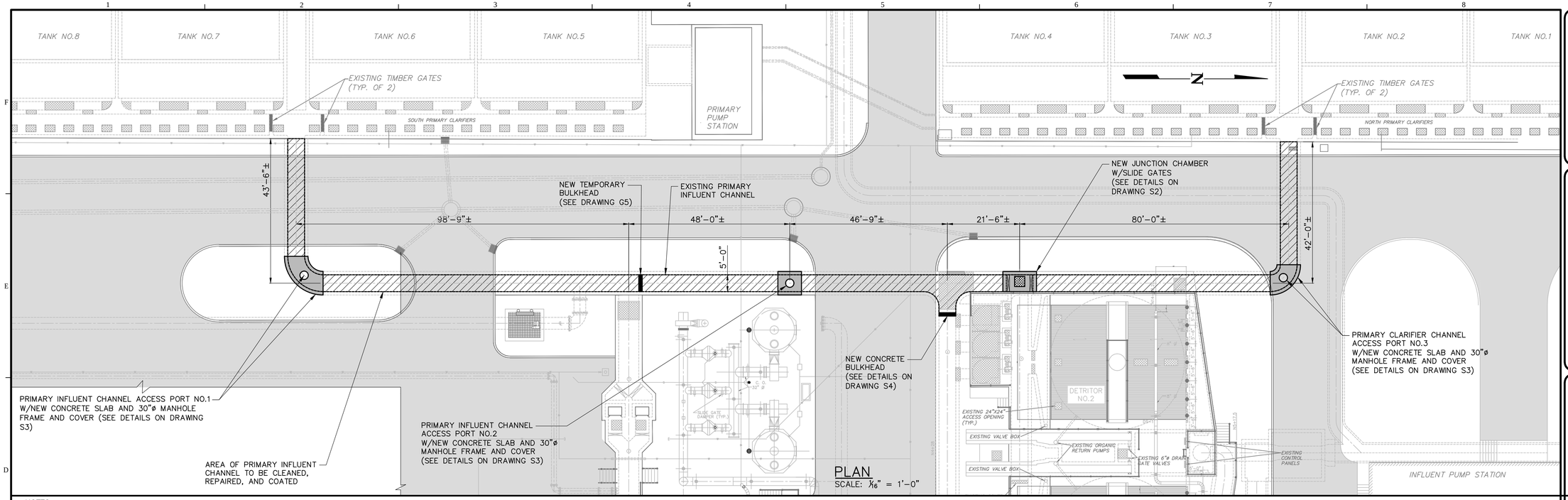
DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	ADS

SHEET TITLE
CIVIL DRAWINGS

SITE PLAN - CONCRETE SURFACE IMPROVEMENTS

SHEET
C3.1 of C5



PLAN
SCALE: 1/16" = 1'-0"

NOTES:

1. TEMPORARY BULKHEADS IN THE PRIMARY INFLUENT CHANNEL AND THE SLIDE GATES IN THE NEW JUNCTION CHAMBER SHALL BE USED TO ISOLATE SEGMENTS OF THE PRIMARY INFLUENT CHANNEL DURING CONSTRUCTION ACTIVITIES IN THE CHANNEL. ALL WORK SHALL BE COORDINATED WITH MBWWTP PERSONNEL AND DONE IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE CONSTRUCTION SEQUENCE ON DRAWING G5.

2. THE INTERIOR WALLS AND CEILING OF THE PRIMARY INFLUENT CHANNEL SHALL BE PRESSURE WASHED/SURFACE PREPPED, REPAIRED WHERE REQUIRED, AND COATED IN THE AREAS INDICATED ON THIS DRAWING IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS AND DETAILS ON THIS DRAWING. AREAS REQUIRING REPAIRS SHALL BE FIELD DETERMINED BY THE RPR. THE IDENTIFIED AREAS SHALL BE REPAIRED/COATED WITH ONE OF THE FOLLOWING LEVELS OF REPAIR:

   A. LEVEL I REPAIR – SURFACE PREPARATION AND APPLICATION OF PROTECTIVE COATING ONLY ON SURFACES WITH NONE OF THE DEFECTS DESCRIBED BELOW FOR LEVEL II OR III REPAIRS. SURFACE PREPARATION AND APPLICATION OF THE PROTECTIVE COATING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

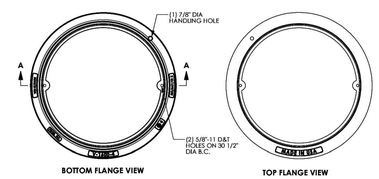
   B. LEVEL II REPAIR – SURFACE PREPARATION AND APPLICATION OF SURFACE RESTORATION MORTAR AND PROTECTIVE COATING ON SURFACES WITH EXPOSED AGGREGATE, CONCRETE SPALLING, CRACKING, DELAMINATION, VOIDS, AND/OR ANY OTHER DEFECTS IDENTIFIED BY THE OWNER'S REPRESENTATIVE THAT ARE GREATER THAN ¼" IN ANY DIRECTION ALONG THE CONCRETE SURFACE AND BETWEEN ¼" AND ½" IN DEPTH. SURFACE PREPARATION AND APPLICATION OF THE SURFACE RESTORATION MORTAR AND PROTECTIVE COATING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS.

   C. LEVEL III REPAIR – SURFACE PREPARATION AND CONCRETE REPAIR FOR AREAS WITH EXPOSED AGGREGATE, CONCRETE SPALLING, CRACKING, DELAMINATION, VOIDS, HONEYCOMBING, ROCK POCKETS, HOLES LEFT BY TIE RODS, AND/OR OTHER DEFECTS IDENTIFIED BY THE OWNER'S REPRESENTATIVE THAT ARE GREATER THAN ¼" IN ANY DIRECTION ALONG THE CONCRETE SURFACE AND GREATER THAN ½" IN DEPTH. REPAIRS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS STIPULATED IN THE SPECIFICATIONS AND AS SHOWN/STIPULATED IN THE DETAIL ON THIS DRAWING.

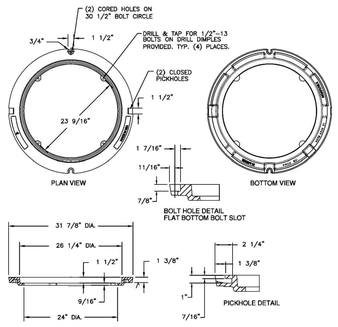
   REVIEW EACH REPAIR AREA WITH THE RPR AND TALLEY QUANTITIES TO THE NEAREST 0.1 SQUARE FOOT. PAYMENT FOR CONCRETE REPAIRS SHALL BE MADE BASED ON THE LEVEL OF REPAIR REQUIRED AND AT THE UNIT PRICES INCLUDED IN THE BID SCHEDULE.

3. A NEW 30"ø ACCESS MANHOLE FRAME AND COVER SHALL BE INSTALLED IN THE CEILING OF THE PRIMARY INFLUENT CHANNEL AT THE LOCATIONS SHOWN AND AS SPECIFIED.

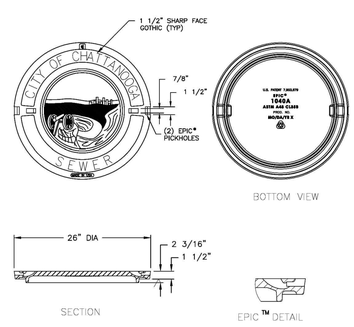
V1600-4 Frame



1810EPT DI Cover



1040A Cover



PLAN – FRAME

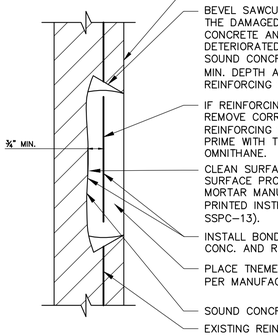
PLAN – FRAME INSERT

PLAN – COVER

NOTES:

1. THE MANHOLE FRAME AND COVER DETAIL DRAWINGS SHOWN ABOVE WERE CREATED BY THE EJ GROUP, INC. AND PROVIDED BY ACHESON FOUNDRY IN CHATTANOOGA, TN.
2. THE V1600–4 FRAME IS REVERSIBLE AND SHALL BE ORIENTED/INSTALLED AS SHOWN ON THE DETAILS ON DRAWING S3.

TYPICAL MANHOLE FRAME AND COVER DETAILS
N.T.S.



DETAIL NOTES:

1. REPAIR CONCRETE WITH EXPOSED AGGREGATE, SPALLING, CRACKING, DELAMINATION, VOIDS, HONEYCOMBING, ROCK POCKETS, HOLES LEFT BY TIES RODS, AND/OR ANY OTHER DAMAGE IDENTIFIED BY THE OWNER'S REPRESENTATIVE THAT ARE GREATER THAN ¼" IN ANY DIRECTION ALONG THE CONCRETE SURFACE AND GREATER THAN ½" IN DEPTH.
2. OUTLINE WITH MARKING PAINT THE EXACT EXTENT OF CONCRETE AREAS TO BE REPAIRED IN COORDINATION WITH THE OWNER'S REPRESENTATIVE. SOUND CONCRETE WITH A HAMMER TO DETERMINE THE EXTENT OF LOOSE OR DELAMINATE CONCRETE.
3. USING A MINIMUM NUMBER OF STRAIGHT LINES, LAYOUT AND MARK THE SAW–CUT LOCATIONS AROUND THE REPAIR AREA. SAW–CUT MIN. 1" DEEP AROUND REPAIR AREA AT SLIGHT BEVEL IN ORDER TO KEY THE REPAIR AREA INTO THE EXISTING CONCRETE.
4. REMOVE ALL UNSOUND CONCRETE, AGGREGATES, CEMENT PASTE, DIRT, OIL, GREASE, FUNGUS, MILDEW, PAINT, PREVIOUS COATINGS, FORM RELEASE, CURING AGENTS AND OTHER FOREIGN MATERIALS.
5. AT ALL EXPOSED REINFORCING BARS, CHIP OUT CONCRETE TO CREATE A MINIMUM ¾" SPACE BEHIND THE BAR.
6. REVIEW EACH REPAIR AREA WITH OWNER'S REPRESENTATIVE. TALLY QUANTITIES TO THE NEAREST 0.1 SQUARE FOOT.
7. SAND BLAST EXPOSED REINFORCING BARS TO COMPLY WITH SSPC–SP 6/NACE NO. 3 "COMMERCIAL BLAST CLEANING." IF REINFORCING STEEL HAS LOST MORE THAN 25% OF CROSS SECTIONAL AREA. THE REINFORCEMENT SHALL BE CUT AT THE EXTENTS OF THE SECTION LOSS, REMOVED FROM THE STRUCTURE AND A MATCHING BAR SHALL BE INSTALLED USING LENTON LOCK B–SERIES MECHANICAL REBAR COUPLERS AT EACH END. THE ERICO LENTON LOCK COUPLERS SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS.
8. SAND BLAST EXPOSED SURFACE OF CONCRETE. INSPECT CLEANER CONCRETE AND REMOVE LOOSE UNBONDED AGGREGATE. VACUUM REPAIR AREA TO REMOVE REMAINING LOOSE DEBRIS.
9. WET THE CONCRETE SUBSTRATE WITH CLEAN WATER FOR 24 HOURS TO ACHIEVE A SATURATED SURFACE DRIED CONDITION, WITH NO STANDING WATER.
10. INSTALL REPAIR MORTAR EXTENDED WITH ⅜" AGGREGATE. AGGREGATE SHALL BE NON–REACTIVE (PER ASTM C1260, C227 AND C289), CLEAN, WELL–GRADED, SATURATED SURFACE DRY, LOW ABSORPTION, HIGH DENSITY AND COMPLY WITH ASTM C33 SIZE NO. 8. REPAIR MORTAR SHALL BE MIXED, INSTALLED, FINISHED AND CURED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
11. APPLY CURING SYSTEM IMMEDIATELY AFTER FINISHING PATCH SURFACE. CURING SYSTEM SHALL BE TWO OR MORE COATS OF LIQUID MEMBRANE–FORMING CURING COMPOUND.

LEVEL III CONCRETE SURFACE REPAIR DETAIL
NOT TO SCALE

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION
1	01/17	CHANGED NOTES

THIS LINE IS ONE INCH LONG WHEN PLOTTED FULL SCALE

THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

CTI PROJECT NO: C15039-03

DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	ADS

SHEET TITLE
CIVIL DRAWINGS

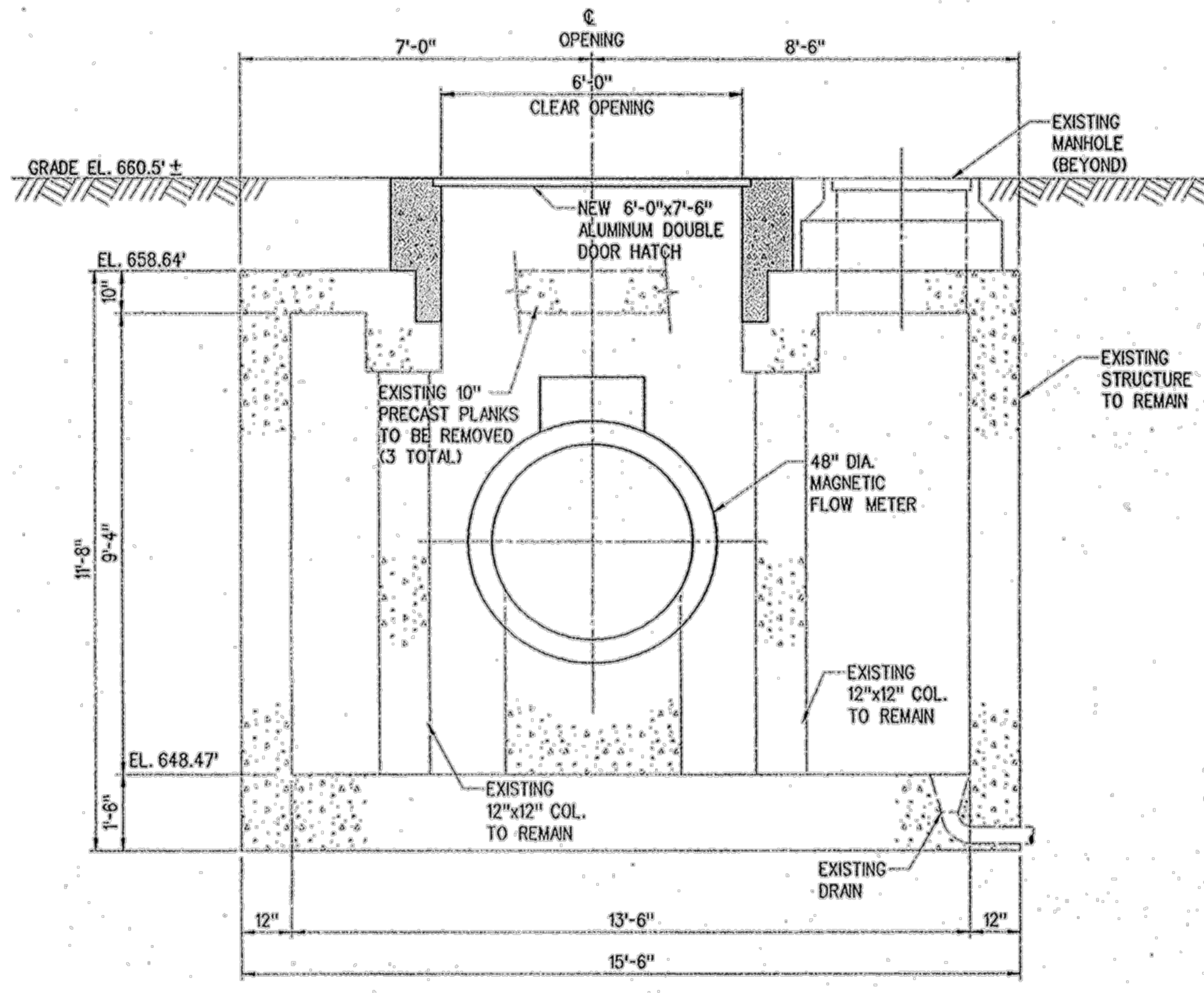
SITE PLAN - PRIMARY INFLUENT CHANNEL IMPROVEMENTS

SHEET
C4.1 of C5

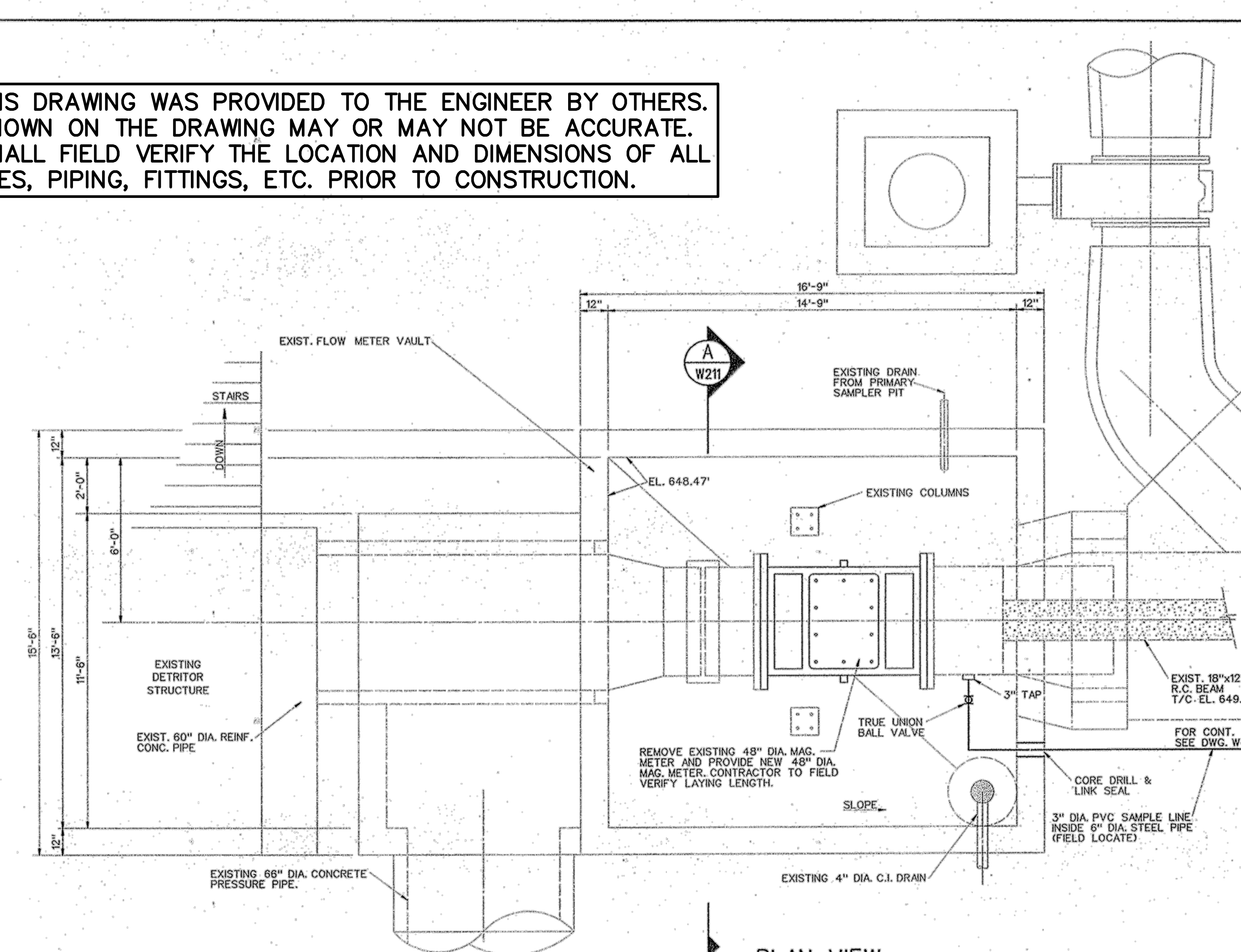
CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: REFERENCE DRAWINGS (482877v11/2/10/17 1:53PM), LAYOUT: R17

C:\97008-4\TESTBORD.DGN MS2 10/07/97

NOTE: "CAUTION" THIS DRAWING WAS PROVIDED TO THE ENGINEER BY OTHERS. THE INFORMATION SHOWN ON THE DRAWING MAY OR MAY NOT BE ACCURATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DIMENSIONS OF ALL AFFECTED STRUCTURES, PIPING, FITTINGS, ETC. PRIOR TO CONSTRUCTION.

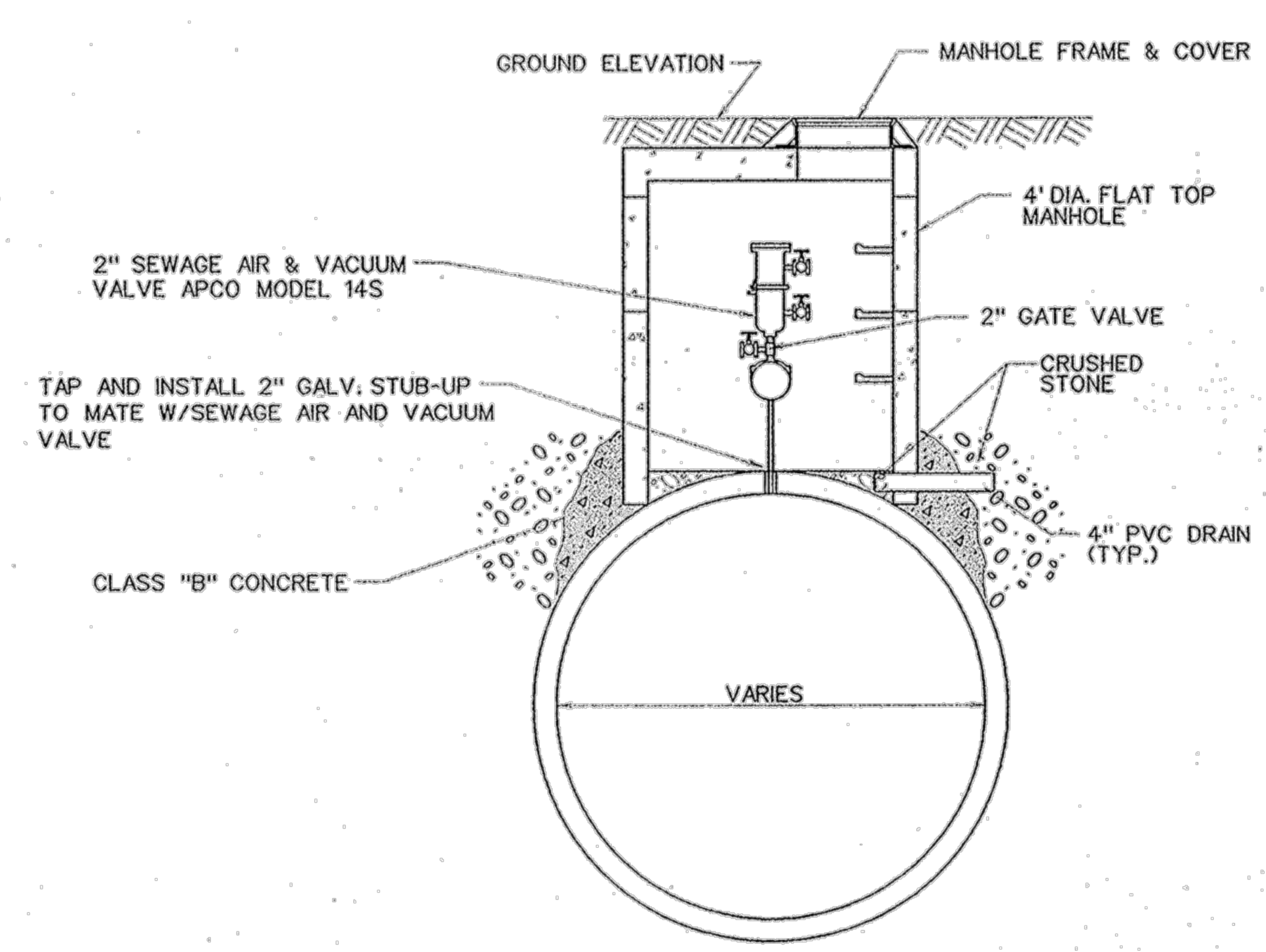


A W211 SECTION
SCALE: 3/8" = 1'-0"

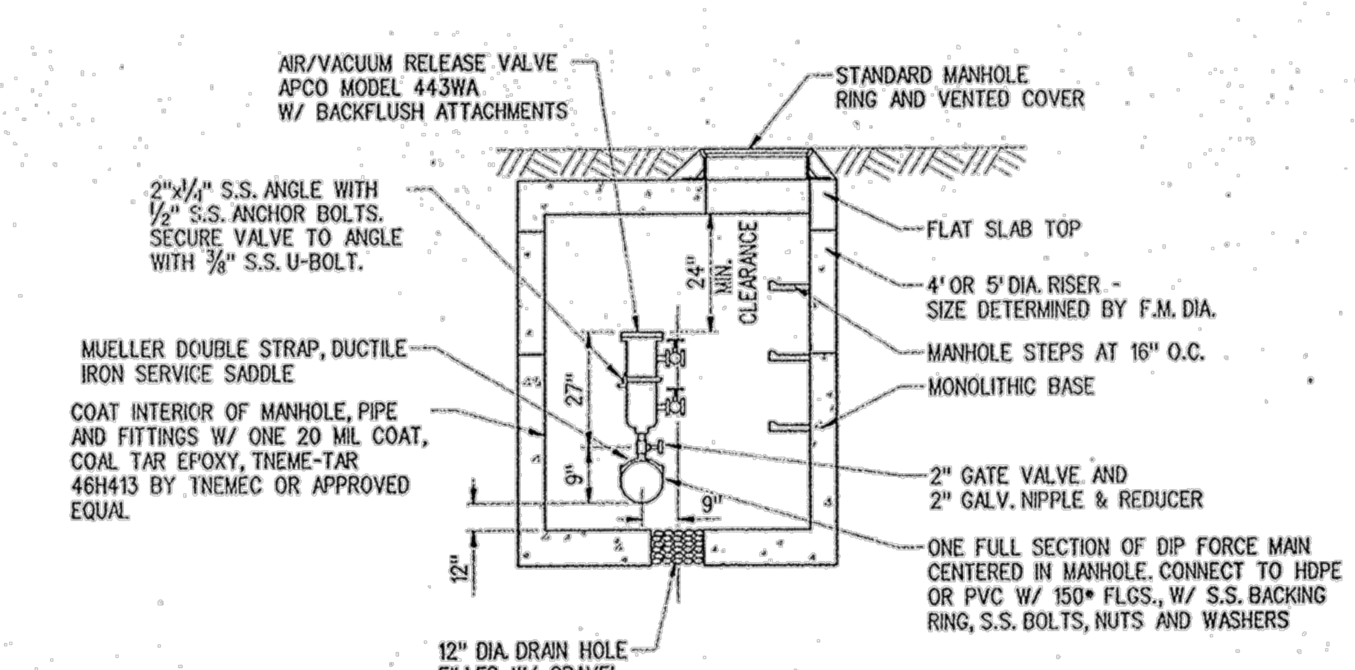


PLAN VIEW
SCALE: 3/8"=1'-0"

MODIFICATIONS TO MAIN INFLUENT METER VAULT



AIR AND VACUUM RELEASE VALVE MANHOLE DETAIL
LARGE DIAMETER FORCE MAIN
NO SCALE



TYPICAL AIR/VACUUM RELEASE VALVE ASSEMBLY FOR SMALL DIA. FORCE MAINS
NO SCALE

NOTE:
RECORD DRAWINGS WERE MODIFIED PER CHANGES DURING CONSTRUCTION AND ARE BASED ON INFORMATION PROVIDED BY THE CONTRACTOR.

RECORD DRAWING

NO.	DATE	REVISION DESCRIPTION	BY / CKD
0	3/23/98	ISSUED FOR BIDS	JDJ / ---
C	3/2/98	ISSUED FOR STATE REVIEW	TJC / ---
B	3/2/98	ISSUED FOR STATE REVIEW	JDJ / ---
A	11/21/97	90% REVIEW SUBMITTAL	TJC / ---
1	12/01	RECORD DRAWING	JDJ / ---

RAYMOND A. CORDON, REGISTERED ENGINEER, No. 103808, STATE OF TENNESSEE — 4-14-98

CTI-POH A Joint Venture

CONSOLIDATED TECHNOLOGIES, INC.
401 Chestnut St., Suite 220
Chattanooga, Tennessee 37402
Tel: 423/267-7613 Fax: 423/267-0603

PIEDMONT OLSEN HENSLEY, INC
611 Chestnut St., Suite 200
Chattanooga, Tennessee 37450
Tel: 423/756-7193 Fax: 423/756-7197

CITY OF CHATTANOOGA, TENNESSEE
MOCCASIN BEND WASTEWATER TREATMENT PLANT

CONTRACT NO. 28G

PLANT EXPANSION AND WET WEATHER TREATMENT

DRAWN: GMWEESNER | DATE: 5/97

MISCELLANEOUS DETAILS

PROJECT MANAGER: RAYMOND CORDON
PROJECT DIRECTOR: ALLEN D. STEPHENS
LEAD DESIGN PROF.: BRENT FOWLER
CHECKED
PROJECT NUMBERS: CTI: 97008, POH: 51892
DRAWING NUMBER: W211

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR, JR., REGISTERED ENGINEER, AGRICULTURE COMMERCE, No. 107695, STATE OF TENNESSEE — 2/10/17

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

CITY OF CHATTANOOGA SEAL, TENNESSEE

REV	DATE	REVISION DESCRIPTION

THIS LINE ⎯⎯⎯ IS ONE INCH LONG WHEN PLOTTED FULL SCALE

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CTI PROJECT NO: C15039-03
DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

SHEET TITLE
REFERENCE DRAWINGS

MISCELLANEOUS DETAILS (DRAWING W211 - CONTRACT 28G)

SHEET R17 of R22

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

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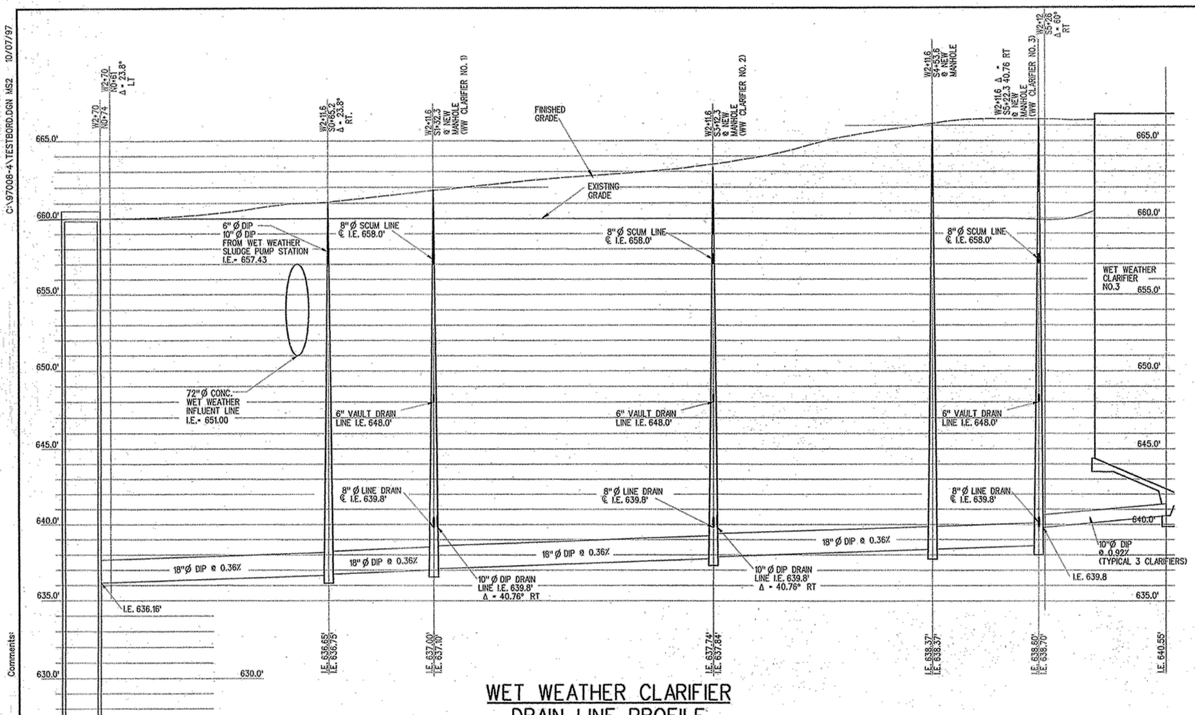
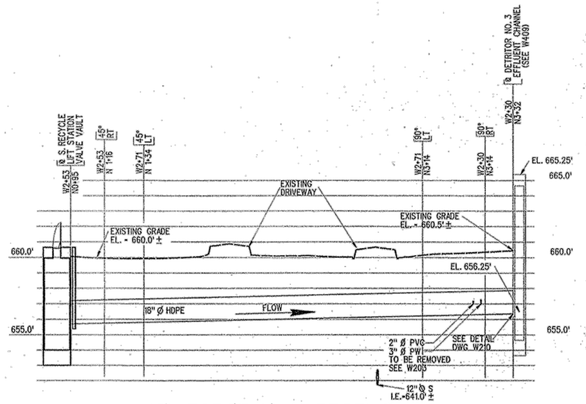


WET WEATHER CLARIFIER DRAIN LINE PROFILE

SCALE: 1" = 40' HORIZONTAL
1" = 4' VERTICAL
SEE DWG. W202 FOR PLAN

SOUTH RECYCLE LIFT STATION (SEE W403)

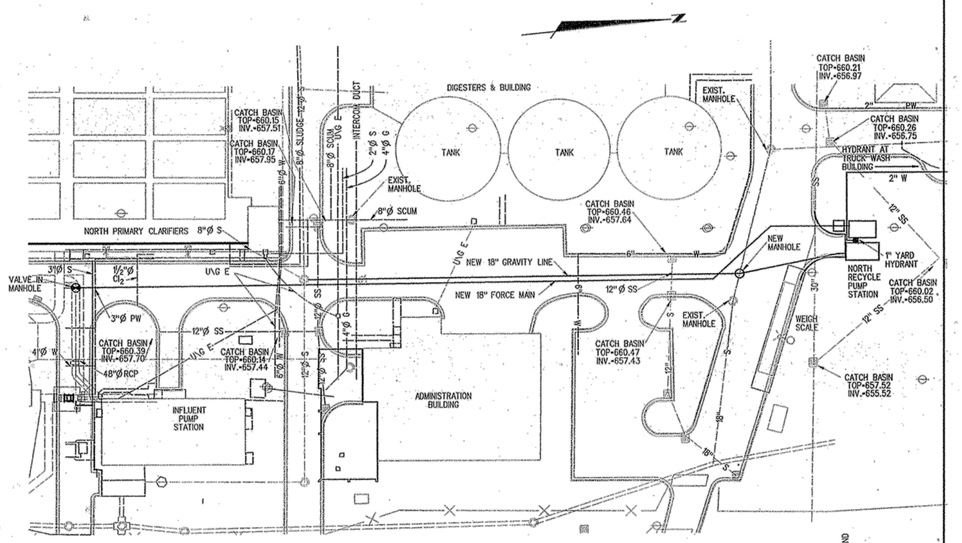


18" FORCE MAIN PROFILE (SOUTH RECYCLE LIFT STATION)

SCALE: 1" = 40' HORIZONTAL
1" = 4' VERTICAL
SEE DWG. W203 FOR PLAN

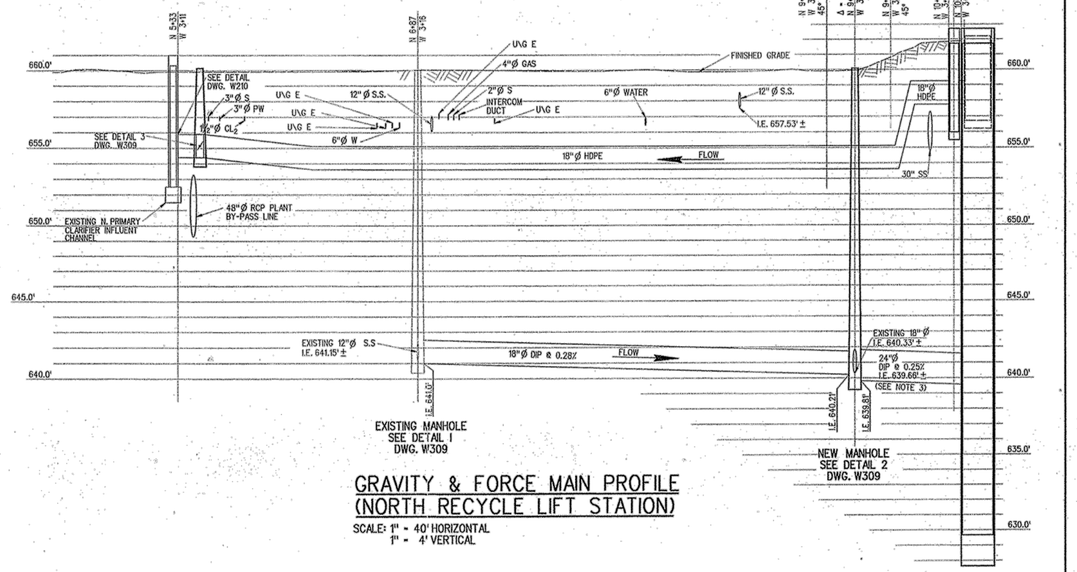
GENERAL NOTES

1. ALL EXISTING PIPE LOCATIONS AND INVERT ELEVATIONS (I.E.) ARE APPROXIMATED FROM ARCHIVED RECORD DRAWINGS.
2. CONTRACTOR SHALL FIELD VERIFY ALL PIPE LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
3. 24" DIP FROM MANHOLE ON EXISTING 18" LINE TO THE NORTH RECYCLE PUMP STATION SHAL BE POLYETHYLENE LINED.



GRAVITY & FORCE MAIN PLAN (NORTH RECYCLE LIFT STATION)

SCALE: 1" = 40'



GRAVITY & FORCE MAIN PROFILE (NORTH RECYCLE LIFT STATION)

SCALE: 1" = 40' HORIZONTAL
1" = 4' VERTICAL

		NOTE: RECORD DRAWINGS WERE MODIFIED PER CHANGES DURING CONSTRUCTION AND ARE BASED ON INFORMATION PROVIDED BY THE CONTRACTOR.	RECORD DRAWING

NO.	DATE	REVISION DESCRIPTION	BY / CKD
1	12/01	RECORD DRAWING	JDJ / ---
B	3/2/98	ISSUED FOR STATE REVIEW	TJC / ---
A	01/21/97	90% REVIEW SUBMITTAL	TJC / ---

RAYMOND A. CORDON — REGISTERED ENGINEER — STATE OF TENNESSEE — NO. 100809 — 4-14-98

CTI-POH A Joint Venture

CONSOLIDATED TECHNOLOGIES, INC.
401 Chestnut St., Suite 220
Chattanooga, Tennessee 37402
Tel: 423/267-7613 Fax: 423/267-0603

PIEDMONT OLSEN HENSLEY, INC
611 Chestnut St., Suite 200
Chattanooga, Tennessee 37450
Tel: 423/756-7193 Fax: 423/756-7197

CITY OF CHATTANOOGA, TENNESSEE MOCCASIN BEND WASTEWATER TREATMENT PLANT	DRAWN GMWEESNER	DATE 5/97	PROJECT MANAGER RAYMOND CORDON
			LEAD DESIGN PROF. BRENT FOWLER
CONTRACT NO. 28G PLANT EXPANSION AND WET WEATHER TREATMENT	PIPING PROFILES SLUDGE AND RECYCLE		PROJECT NUMBERS CTI: 97008 POH: 51892
			DRAWING NUMBER W305

ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR JR. — REGISTERED ENGINEER — 10/17 — NUMBER 107695 — STATE OF TENNESSEE

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION

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CTI PROJECT NO: C15039-03

DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

SHEET TITLE
REFERENCE DRAWINGS

PIPING PROFILES SLUDGE AND RECYCLE (DRAWING W305 - CONTRACT 28G)

SHEET
R18 of R22

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: REFERENCE DRAWINGS (482877v11/2/10/17 2:10PM), LAYOUT: R19

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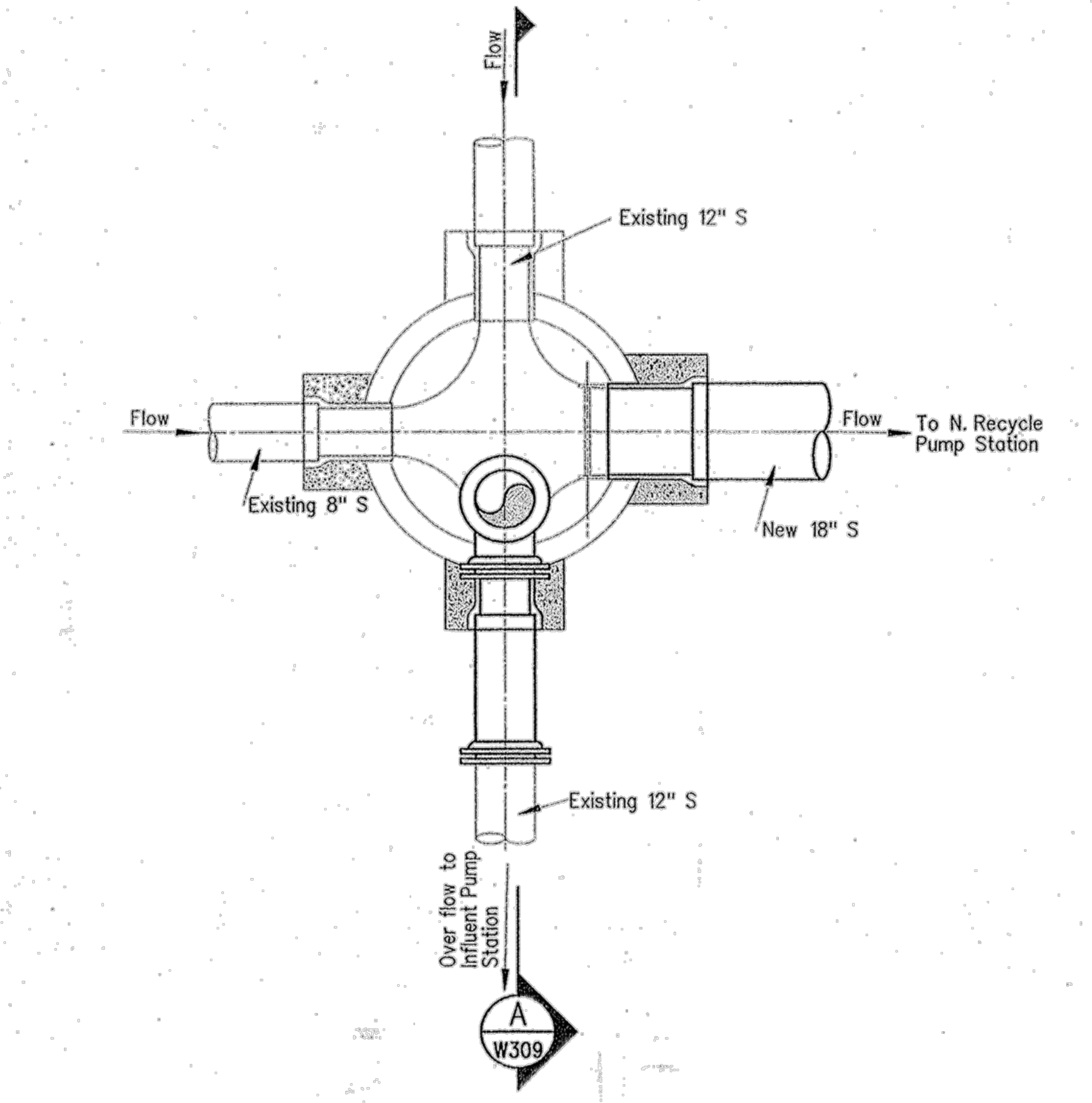
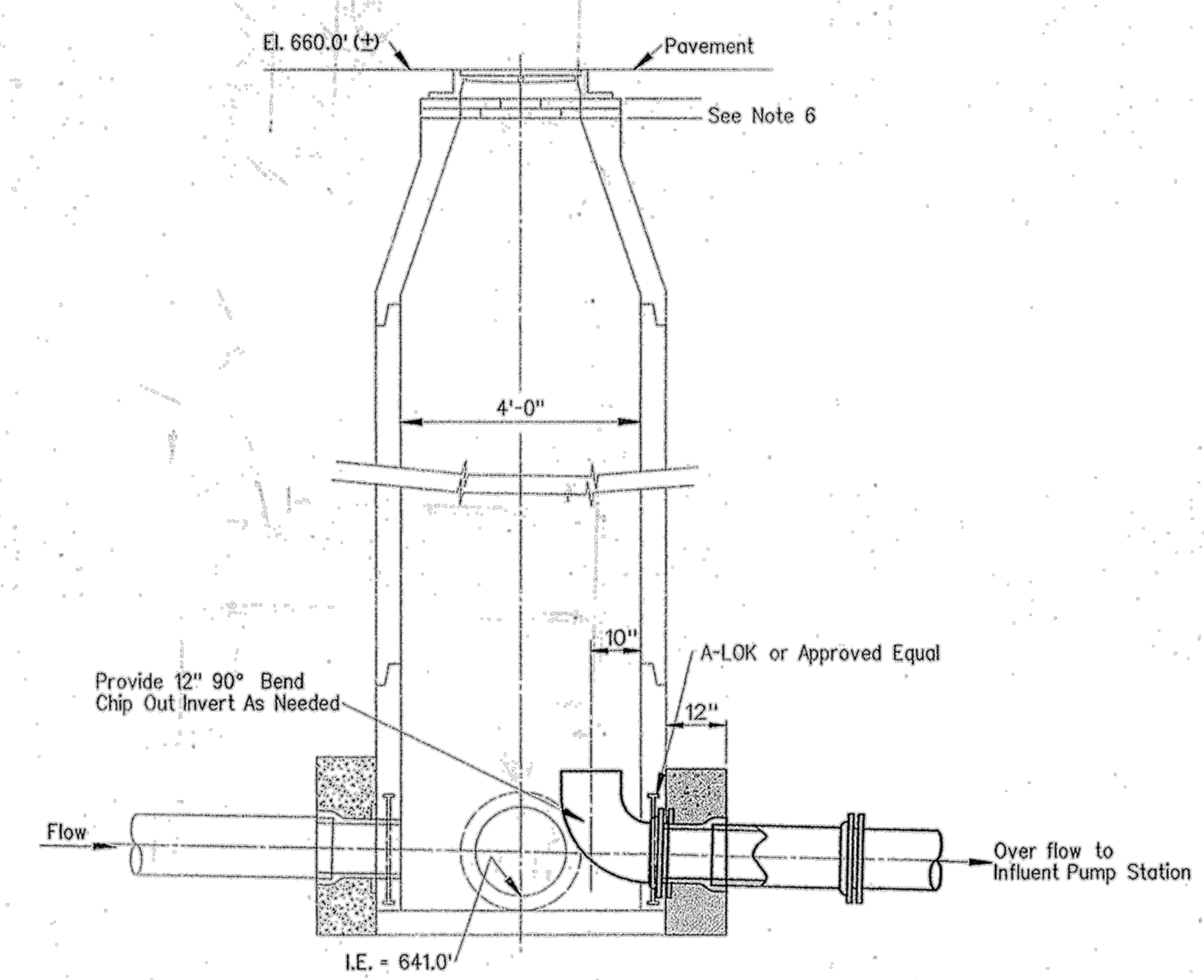
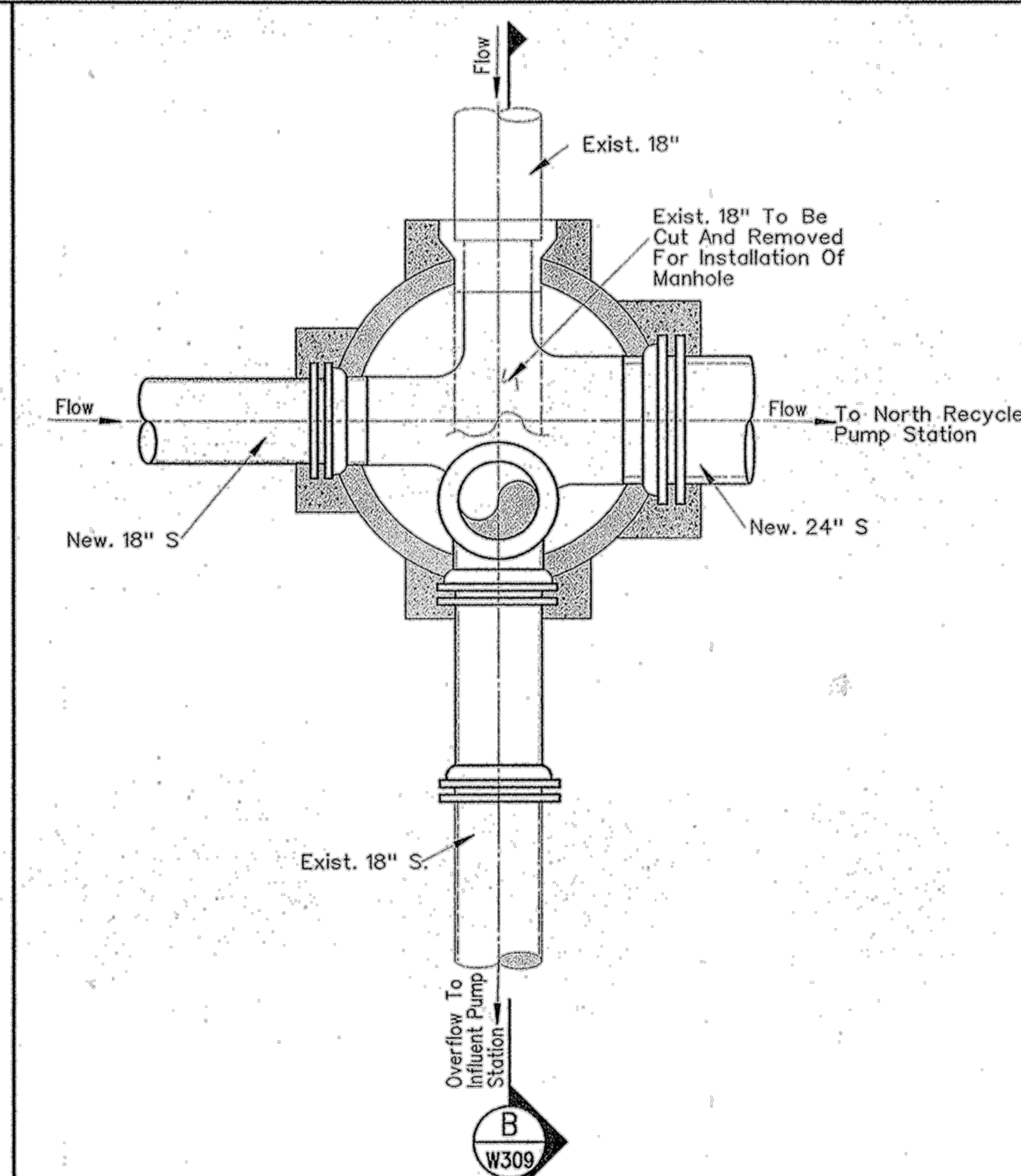


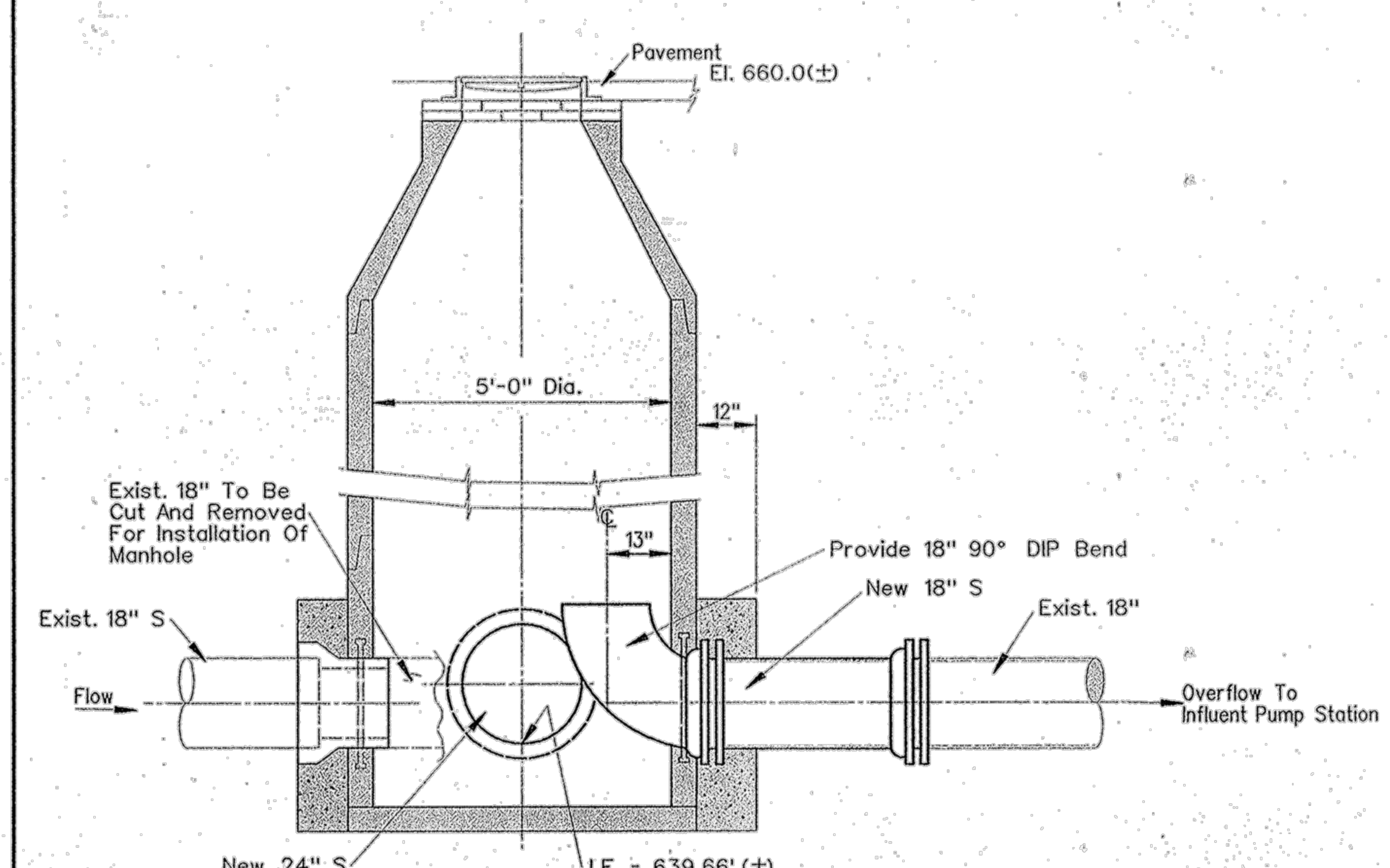
1 DETAIL (W305)



A SECTION (W309)



2 DETAIL (W305)



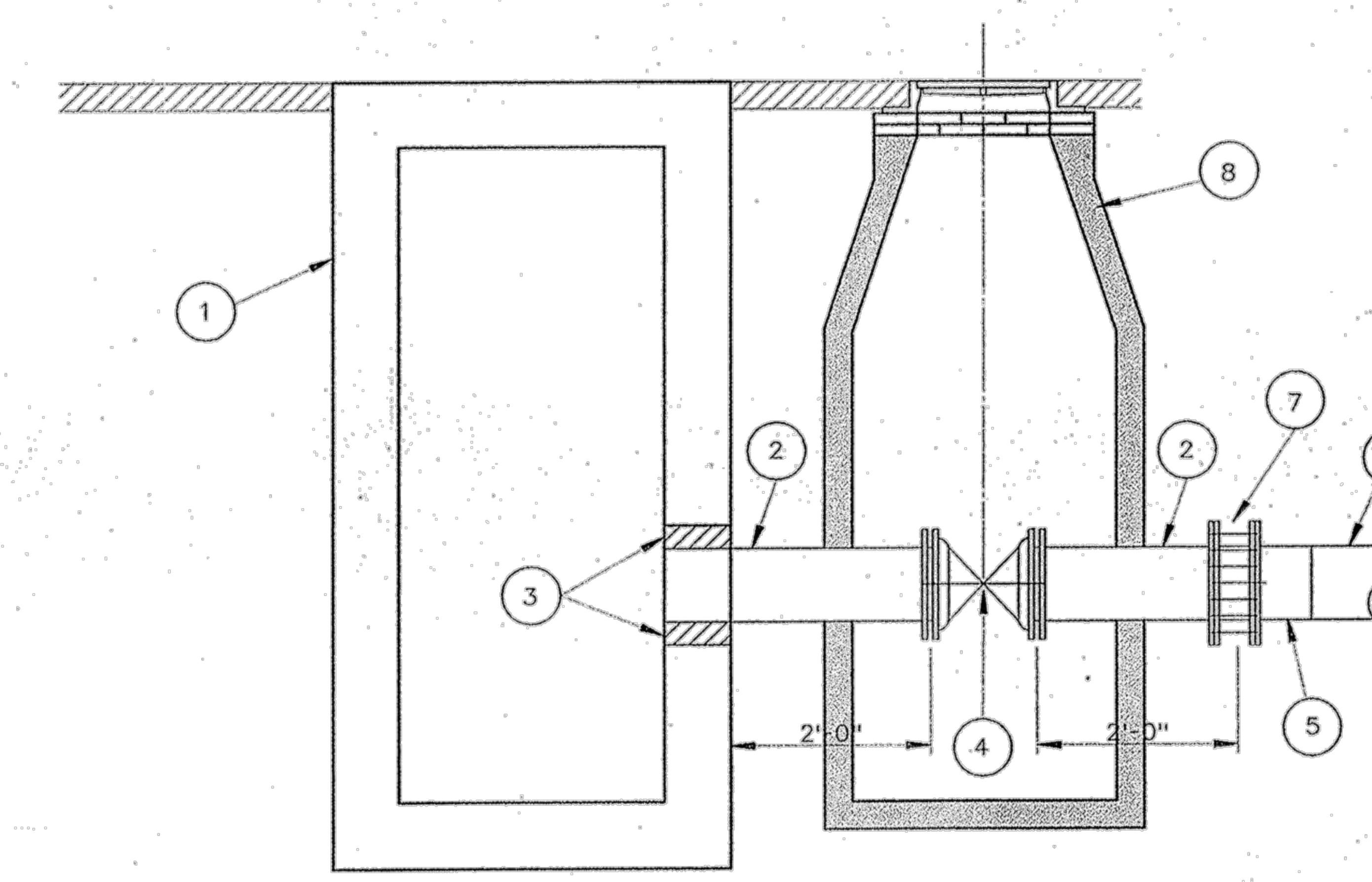
B SECTION (W309)

GENERAL NOTES

1. COAT AND APPLY POLYETHYLENE WRAP TO ALL D.I. PIPE, PIPE CONNECTIONS AND VALVE.

○ KEYNOTES

1. EXISTING INFLUENT CHANNEL TO PRIMARY CLARIFIERS
2. HDPE LINED D.I. PIPE
3. CORE DRILL & LINK SEAL
4. 18" BUTTERFLY VALVE W/M.J. CONNECTIONS
5. HDPE FLG. ADAPTER, BUTT FUSED
6. 18" Ø HDPE PIPE
7. LAP JOINT FLG.
8. PRECAST MANHOLE



3 DETAIL - 18" HDPE F.M. CONNECTION TO EXIST. PRIM. CLAR. INFLUENT CHANNEL (W305)
N.T.S.

NOTE:
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RECORD DRAWING

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1	12/01	RECORD DRAWING	JDJ
0	3/23/98	ISSUED FOR BIDS	TJC
B	3/2/98	ISSUED FOR STATE REVIEW	TJC
A	11/21/97	90% REVIEW SUBMITTAL	TJC

RAYMOND A. CORDON — REGISTERED ENGINEER — STATE OF TENNESSEE — No. 103808 — 4-14-98

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CITY OF CHATTANOOGA, TENNESSEE
MOCCASIN BEND WASTEWATER TREATMENT PLANT

CONTRACT NO. 28G

PLANT EXPANSION AND WET WEATHER TREATMENT

DRAWN GMWEESNER — DATE 7/97

SEWER DETAILS

PROJECT MANAGER RAYMOND CORDON
PROJECT DIRECTOR ALLEN D. STEPHENS
LEAD DESIGN PROF. BRENT FOWLER
CHECKED
PROJECT NUMBERS CTI: 97008 POH: 51892
DRAWING NUMBER W309

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

TI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR, JR. — REGISTERED ENGINEER — STATE OF TENNESSEE — No. 107695 — 2/10/17

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION

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CTI PROJECT NO: C15039-03
DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

SHEET TITLE
REFERENCE DRAWINGS

SEWER DETAILS (DRAWING W309 - CONTRACT 28G)

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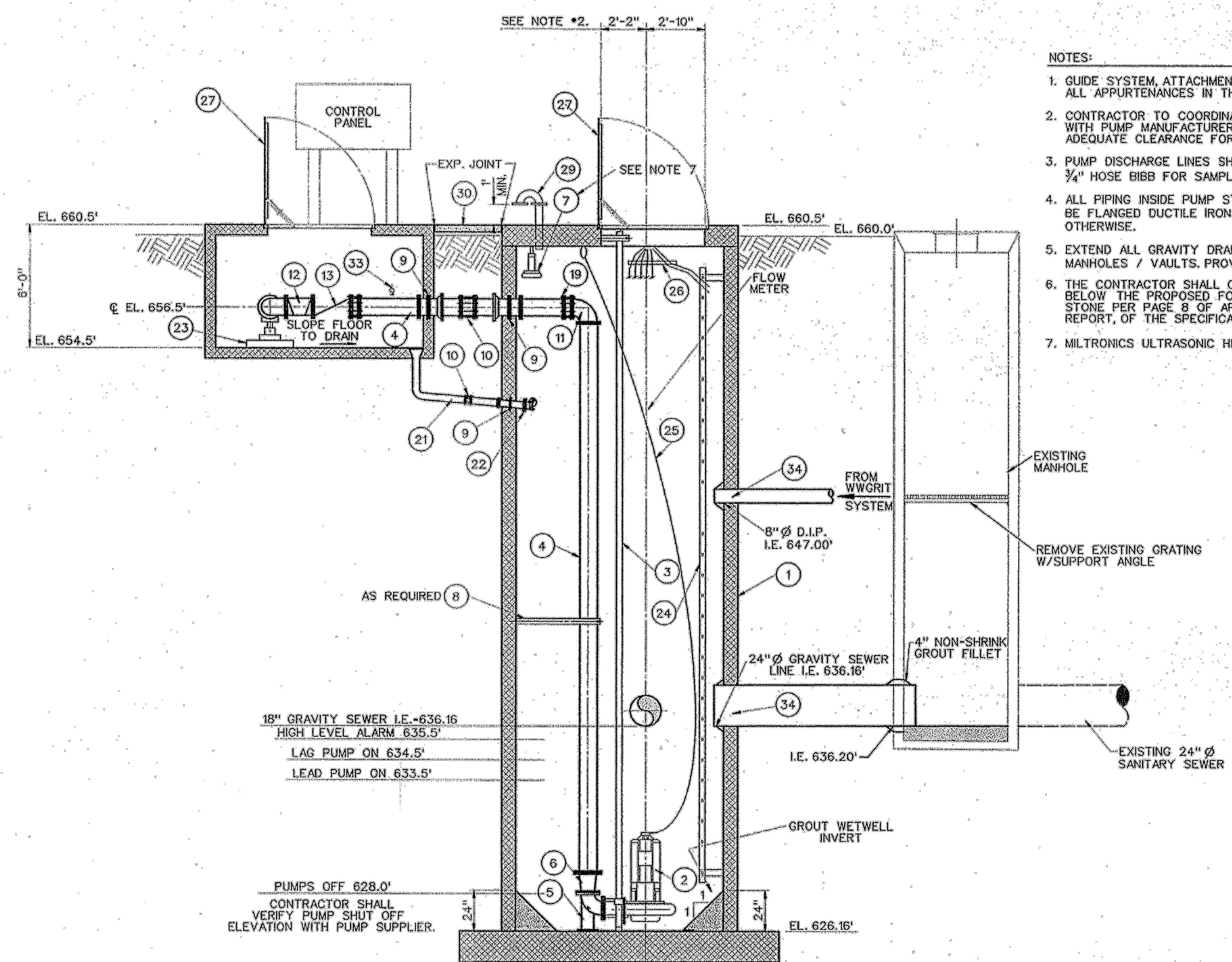
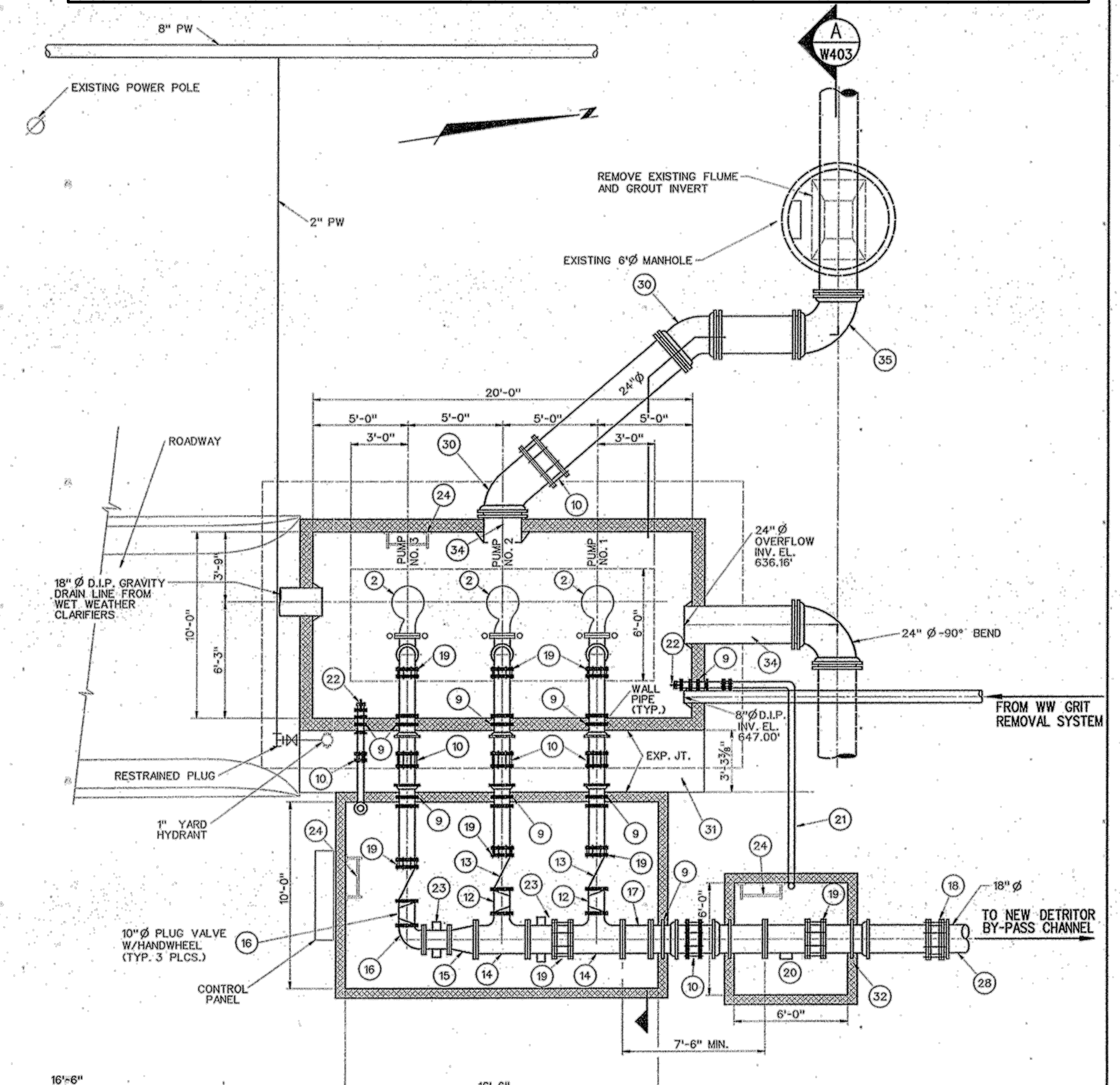


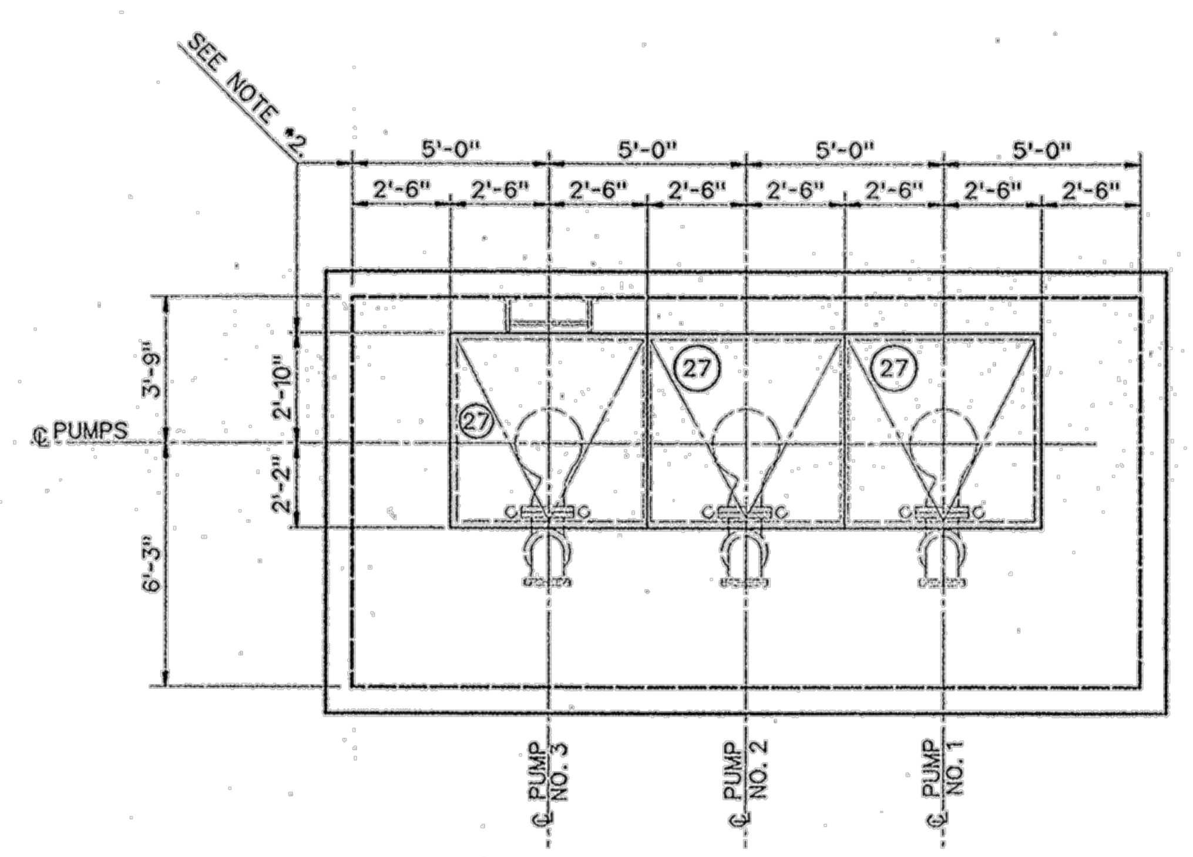
A W403 SECTION
SCALE: 1/4" = 1'-0"

NOTES:

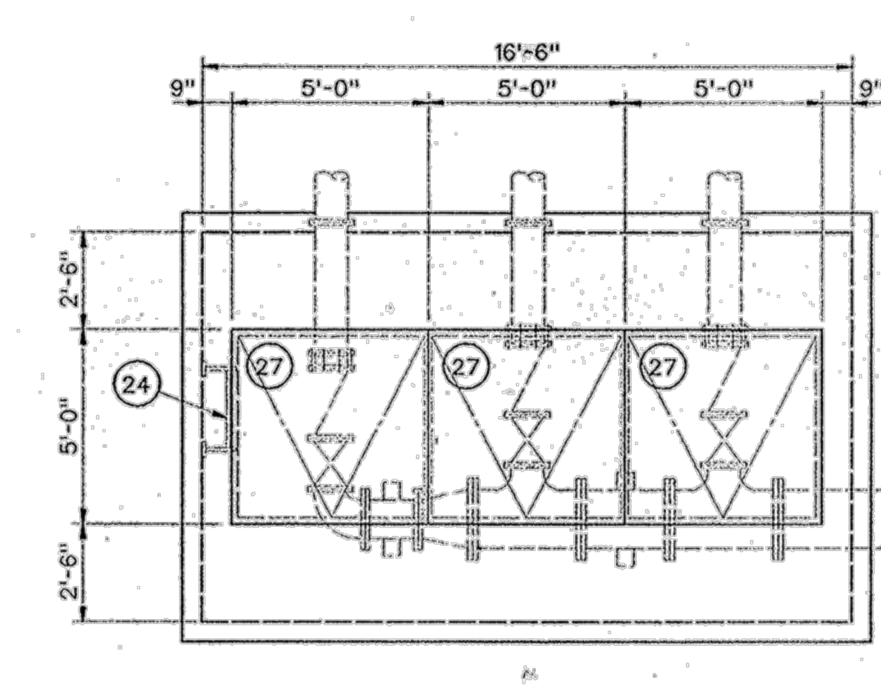
1. GUIDE SYSTEM, ATTACHMENTS, ANCHOR BOLTS, BRACKETS, AND ALL APPURTENANCES IN THE WETWELL SHALL BE STAINLESS STEEL.
2. CONTRACTOR TO COORDINATE FINAL DIMENSIONS OF HATCHES WITH PUMP MANUFACTURER'S SHOP DRAWINGS TO PROVIDE ADEQUATE CLEARANCE FOR REMOVAL OF PUMPS.
3. PUMP DISCHARGE LINES SHALL HAVE A 3/4" TAP WITH 3/4" HOSE BIBB FOR SAMPLING. LOCATE IN VALVE VAULT.
4. ALL PIPING INSIDE PUMP STATION AND VALVE PIT SHALL BE FLANGED DUCTILE IRON PIPE (DIP), UNLESS NOTED OTHERWISE.
5. EXTEND ALL GRAVITY DRAINS A MINIMUM OF 2" INSIDE MANHOLES / VAULTS. PROVIDE A GROUT FILLET SEAL.
6. THE CONTRACTOR SHALL OVER EXCAVATE APPROXIMATELY FIVE FEET BELOW THE PROPOSED FOUNDATION AND BACKFILL WITH CRUSHED STONE PER PAGE 8 OF APPENDIX A, GEOTECHNICAL INVESTIGATION REPORT, OF THE SPECIFICATIONS.
7. MILTRONICS ULTRASONIC HIGH RANGER WITH XPS 15 TRANSDUCER.



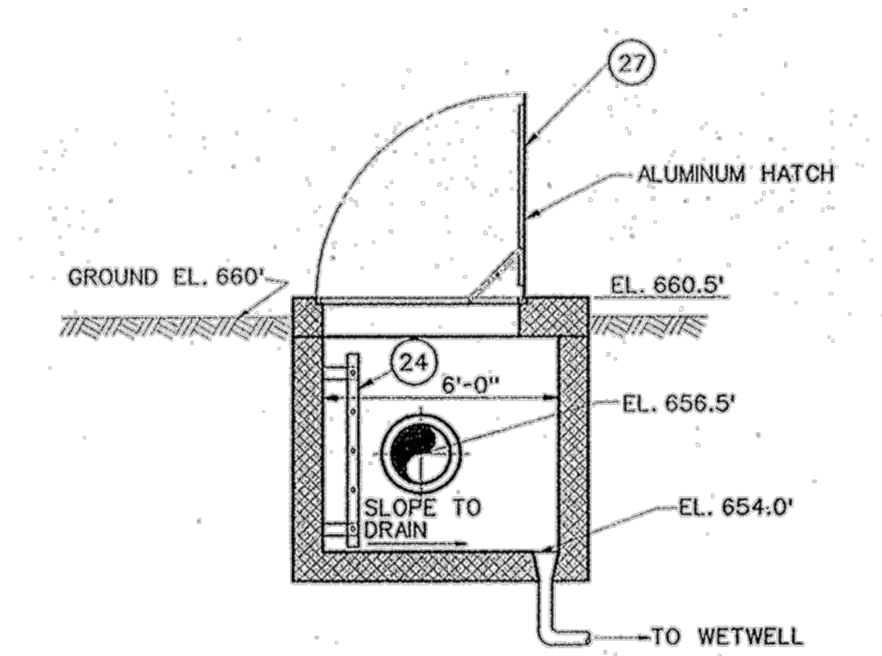
PUMP STATION PLAN
SCALE: 1/4" = 1'-0"



PUMP STATION COVER PLAN
SCALE: 1/4" = 1'-0"



VALVE PIT COVER PLAN
SCALE: 1/4" = 1'-0"



FLOW METER VAULT
SCALE: 1/4" = 1'-0"

○ KEY NOTES

1. PRECAST CONCRETE WETWELL
2. SUBMERSIBLE PUMP
3. STAINLESS STEEL GUIDERAIL SYSTEM
4. 10" DIP PUMP DISCHARGE LINE
5. PUMP DISCHARGE ELBOW W/SUPPORT
6. 10" x 8" REDUCER
7. ULTRASONIC LEVEL DETECTOR
8. SS PIPE SUPPORT BRACKET, AS REQUIRED
9. FL-C-MJ WALL PIPE
10. FLEXIBLE COUPLING
11. 10"-90° BEND
12. 10" PLUG VALVE
13. 10' SWING CHECK VALVE
14. 18" x 18" x 10" TEE
15. 18" x 12' REDUCER
16. 12" x 10" -90° REDUCING BEND
17. 18" SPOOL PIECE
18. HDPE MOULDED FLANGE ADAPTER W/STEEL FLANGE
19. FLANGED ADAPTER COUPLING
20. 18" MAGNETIC FLOW METER
21. 4" DIP DRAIN LINE W/INV. EL. 653.5
22. 4" FLAP VALVE
23. MECHANICAL PIPE SUPPORT WITH CONCRETE PEDESTAL
24. OSHA APPROVED ALUMINUM ACCESS LADDER
25. SS LIFTING CHAIN
26. CONTROL AND POWER CABLE RACK
27. 60" x 60" ALUMINUM HATCH
28. 18" HIGH DENSITY POLYETHELYNE PIPE
29. 4" DIP VENT W/BIRD SCREEN
30. 24" - 45° BEND
31. 4" CONCRETE WALK
32. 6'x6' PRECAST UTILITY VAULT
33. PRESSURE GAUGE (3 PLACES)
34. RUBBER BOOT
35. 24" 90° BEND

RECORD DRAWING

NOTE:
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NO.	DATE	REVISION DESCRIPTION	BY / CKD
1	12/01	RECORD DRAWING	JDJ / ---
0	3/23/98	ISSUED FOR BIDS	TJC / ---
C	3/2/98	ISSUED FOR STATE REVIEW	TJC / ---
B	11/21/97	90% REVIEW SUBMITTAL	TJC / ---
A	5/97	30% REVIEW SUBMITTAL	GMW / -

RAYMOND A. CORDON, REGISTERED ENGINEER, No. 103608, STATE OF TENNESSEE — 4-14-98

CONSOLIDATED TECHNOLOGIES, INC.
401 Chestnut St., Suite 220
Chattanooga, Tennessee 37402
Tel: 423/267-7613 Fax: 423/267-0603

CTI-POH A Joint Venture

PIEDMONT OLSEN HENSLEY, INC
611 Chestnut St., Suite 200
Chattanooga, Tennessee 37450
Tel: 423/756-7193 Fax: 423/756-7197

CITY OF CHATTANOOGA, TENNESSEE
MOCCASIN BEND WASTEWATER TREATMENT PLANT

CONTRACT NO. 28G

PLANT EXPANSION AND WET WEATHER TREATMENT

DRAWN THOMAS J. CARR	DATE 2/98	PROJECT MANAGER RAYMOND CORDON	PROJECT DIRECTOR ALLEN D. STEPHENS
SOUTH RECYCLE PUMP STATION PLAN AND SECTIONS		LEAD DESIGN PROF. BRENT FOWLER	CHECKED
		PROJECT NUMBERS CTI: 97008 POH: 51892	DRAWING NUMBER W403

C:\97008-4\TESTBORD.DGN MS2 10/07/97

Comments: Filename: wwtp/w403 Time: CPU Number: User Name: jody springer Date: 11/21/97

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR, JR., REGISTERED ENGINEER, AGRICULTURE COMMERCE, No. 107695, STATE OF TENNESSEE — 2/10/17

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION

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CTI PROJECT NO: C15039-03		
DATE: OCTOBER 2016		
DISC. LEAD: ADS	DESIGNER: DDT	CHECKER: DDT

SHEET TITLE
REFERENCE DRAWINGS

SOUTH RECYCLE PUMP STATION PLAN AND SECTIONS (DRAWING W403 - CONTRACT 28G)

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: REFERENCE DRAWINGS (482877v11/2/10/17 2:22PM), LAYOUT: R21

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

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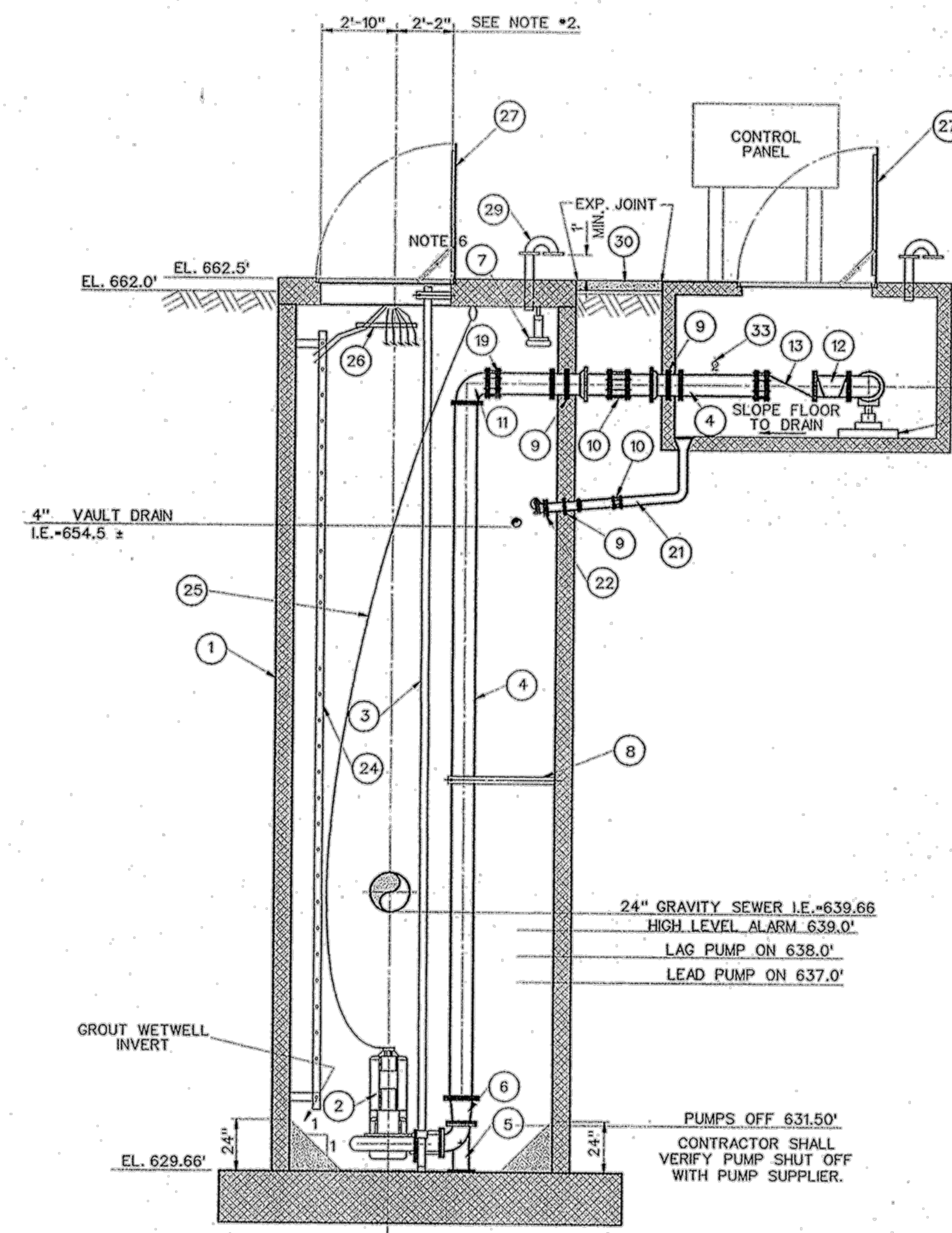


A SECTION (W404)

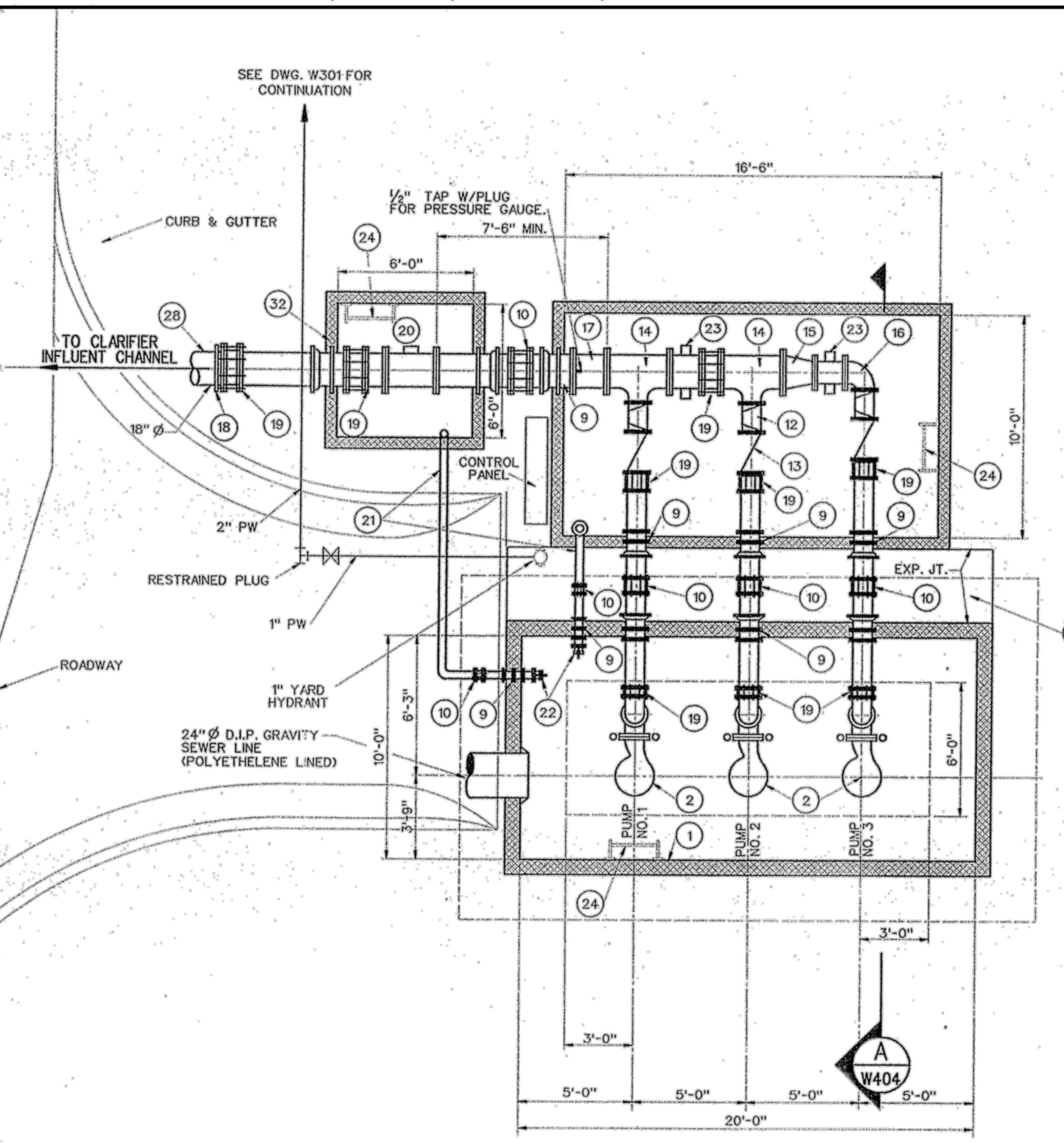
SCALE: 1/4" = 1'-0"

NOTES:

1. GUIDE SYSTEM, ATTACHMENTS, ANCHOR BOLTS, BRACKETS, AND ALL APPURTENANCES IN THE WETWELL SHALL BE STAINLESS STEEL.
2. CONTRACTOR TO COORDINATE FINAL DIMENSIONS OF HATCHES WITH PUMP MANUFACTURER'S SHOP DRAWINGS TO PROVIDE ADEQUATE CLEARANCE FOR REMOVAL OF PUMPS.
3. PUMP DISCHARGE LINES SHALL HAVE A 3/4" TAP WITH 3/4" HOSE BIBB FOR SAMPLING, LOCATED IN VALVE VAULT.
4. ALL PIPING INSIDE PUMP STATION AND VALVE PIT SHALL BE FLANGED DUCTILE IRON PIPE (DIP), WITH POLYETHYLENE LINING, UNLESS NOTED OTHERWISE
5. EXTEND ALL GRAVITY DRAINS A MINIMUM OF 2" INSIDE MANHOLES / VAULTS. PROVIDE A NON-SHRINK GROUT FILLET SEAL.
6. MILTRONICS ULTRASONIC HIGH RANGER WITH XPS 15 TRANSDUCER.

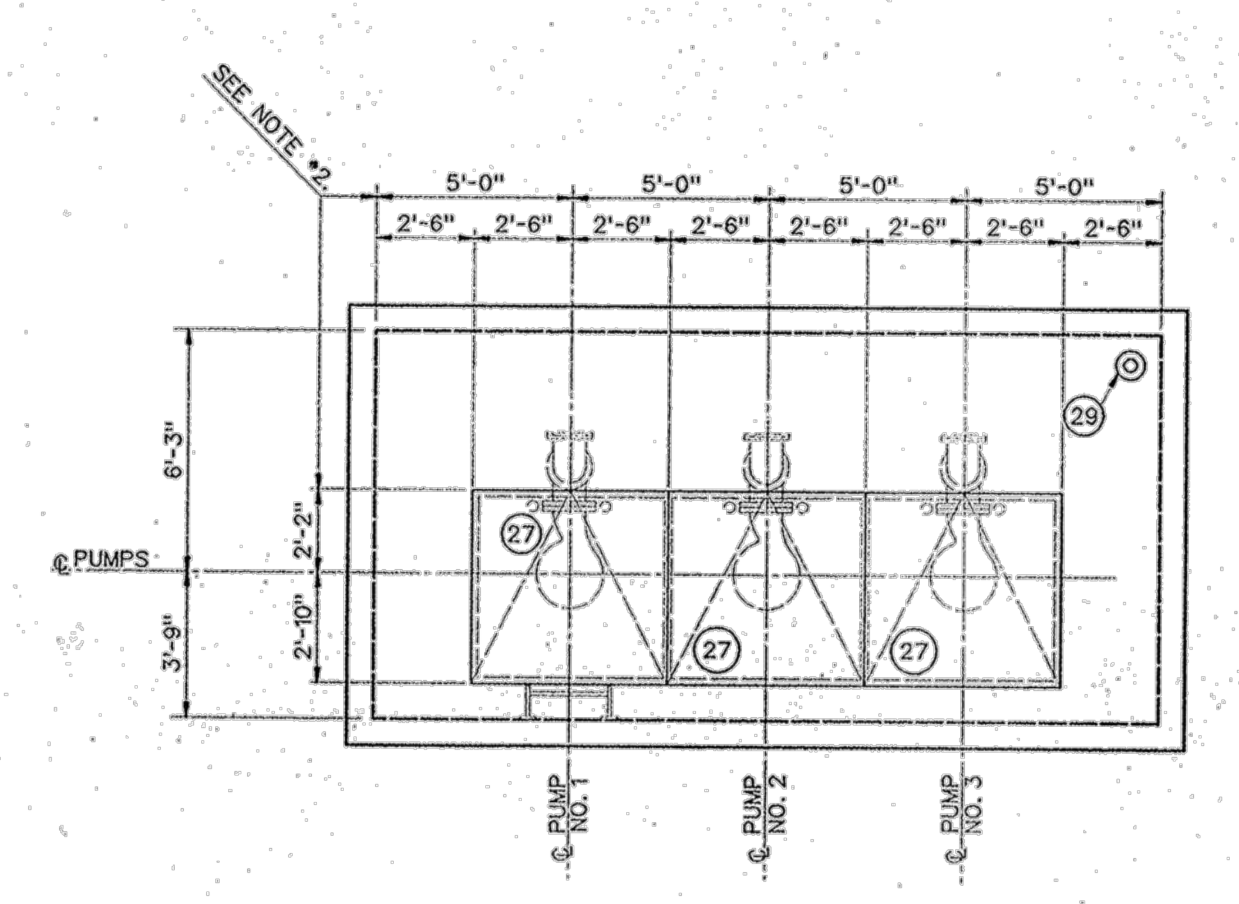
○ KEY NOTES

1. PRECAST CONCRETE WETWELL
2. SUBMERSIBLE PUMP
3. STAINLESS STEEL GUIDERAIL SYSTEM
4. 10" DIP PUMP DISCHARGE LINE (SEE NOTE 4)
5. PUMP DISCHARGE ELBOW W/SUPPORT
6. 10" x 8" REDUCER
7. ULTRASONIC LEVEL DETECTOR
8. SS PIPE SUPPORT BRACKET, AS REQUIRED
9. FL-C-MJ WALL PIPE
10. FLEXIBLE COUPLING
11. 10"-90° BEND
12. 10" PLUG VALVE
13. 10' SWING CHECK VALVE
14. 18" x 18" x 10" TEE
15. 18" x 12' REDUCER
16. 12" x 10" -90° REDUCING BEND
17. 18" SPOOL PIECE
18. HDPE MOULDED FLANGE ADAPTER W/STEEL FLANGE
19. FLANGED ADAPTER COUPLING
20. 18" MAGNETIC FLOW METER
21. 4" DIP DRAIN LINE
22. 4" FLAP VALVE
23. MECHANICAL PIPE SUPPORT WITH CONCRETE PEDESTAL
24. OSHA APPROVED FRP ACCESS LADDER
25. SS LIFTING CHAIN
26. CONTROL AND POWER CABLE RACK
27. 60" x 60" ALUMINUM HATCH
28. 18" HIGH DENSITY POLYETHELYNE PIPE
29. 4" DIP VENT W/BIRD SCREEN
30. NOT USED
31. 4" CONCRETE WALK
32. 6'x6' PRECAST UTILITY VAULT
33. PRESSURE GAUGE (3 PLACES)
34. RUBBER BOOT



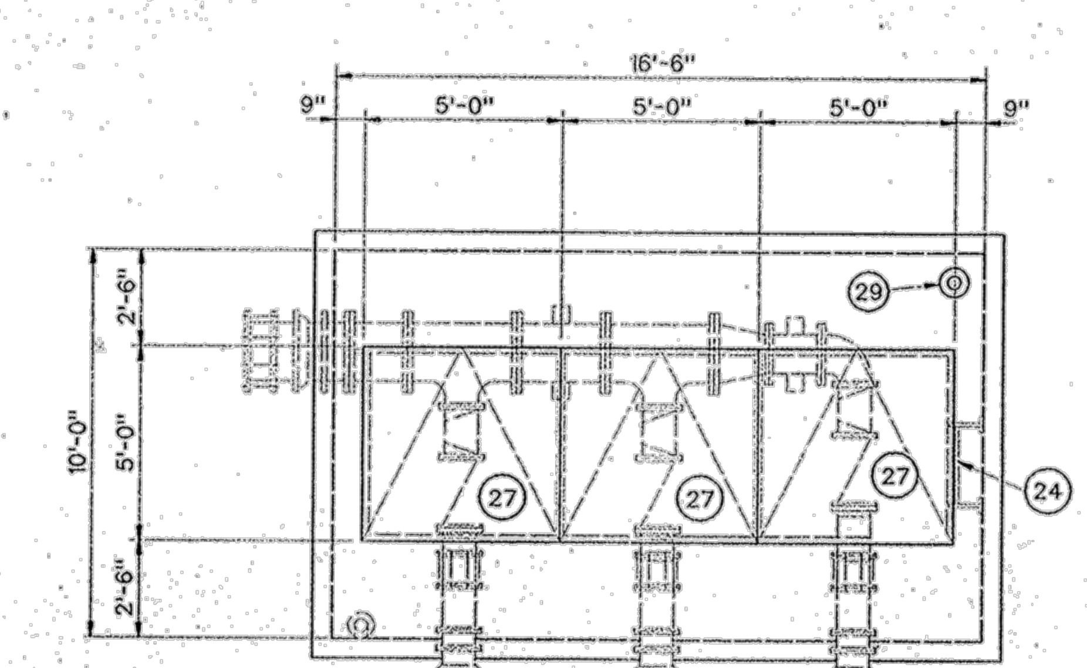
PUMP STATION PLAN

SCALE: 1/4" = 1'-0"



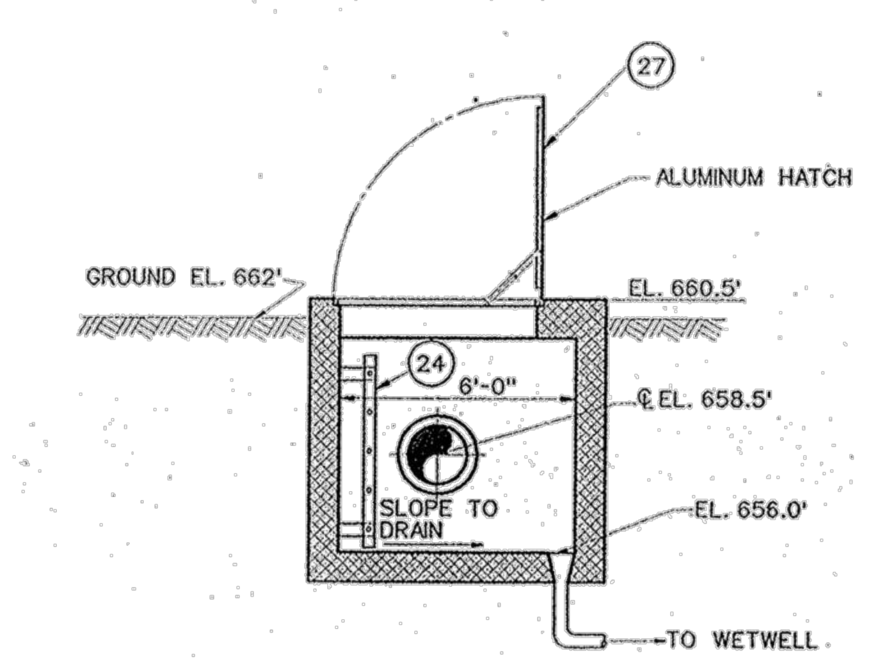
PUMP STATION COVER PLAN

SCALE: 1/4" = 1'-0"



VALVE PIT COVER PLAN

SCALE: 1/4" = 1'-0"



FLOW METER VAULT

SCALE: 1/4" = 1'-0"

C:\97008-4\TESTBORD.DGN MS2 10/07/97

Comments: Filename: wwtp/w404 Time: CPU Number: User Name: jody springer Date: 11/21/97

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RAYMOND A. CORDON, REGISTERED ENGINEER, STATE OF TENNESSEE, No. 103608 — 4-14-98

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Chattanooga, Tennessee 37402
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CITY OF CHATTANOOGA, TENNESSEE
MOCCASIN BEND WASTEWATER TREATMENT PLANT

CONTRACT NO. 28G

PLANT EXPANSION AND WET WEATHER TREATMENT

DRAWN: GMWEESNER | DATE: 4/97

NORTH RECYCLE PUMP STATION PLAN AND SECTIONS

PROJECT MANAGER: RAYMOND CORDON
PROJECT DIRECTOR: ALLEN D. STEPHENS
LEAD DESIGN PROF.: BRENT FOWLER
CHECKED
PROJECT NUMBERS: CTI: 97008, POH: 51892
DRAWING NUMBER: W404

CTI ENGINEERS, INC.
1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
423-267-7613

DONALD D. TABOR, JR., REGISTERED ENGINEER, AGRICULTURE COMMERCE, No. 107695, STATE OF TENNESSEE — 2/10/17

MOCCASIN BEND WASTEWATER TREATMENT PLANT
DETRITORS REHABILITATION
CONTRACT NO. W-15-001-201
CITY OF CHATTANOOGA, TN

REV	DATE	REVISION DESCRIPTION

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CTI PROJECT NO: C15039-03
DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

SHEET TITLE

REFERENCE DRAWINGS

NORTH RECYCLE PUMP STATION PLAN AND SECTIONS (DRAWING W404 - CONTRACT 28G)

SHEET

CTI PROJECT: C15039 (Chattanooga, Tennessee) MBWWTP Detritors Rehabilitation
DRAWING: REFERENCE DRAWINGS (482877v1/2/10/17 2:27PM), LAYOUT: R22

CREATED: 2/10/2017 LAST SAVED: 2/10/2017 BY: DTABOR PLOT DATE: 2/10/2017

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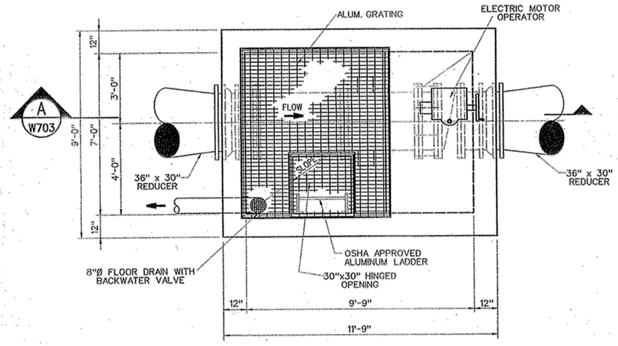
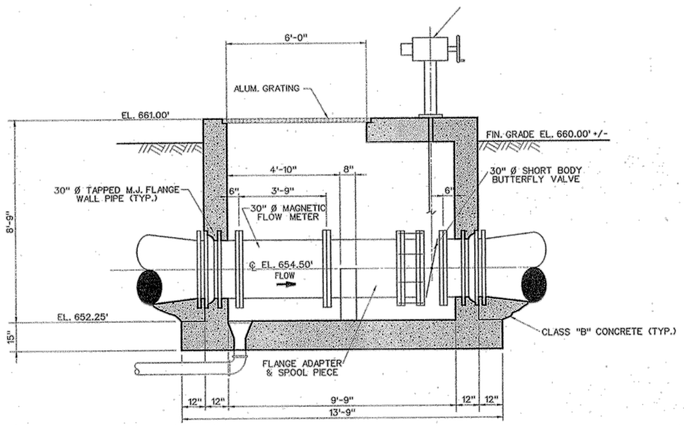


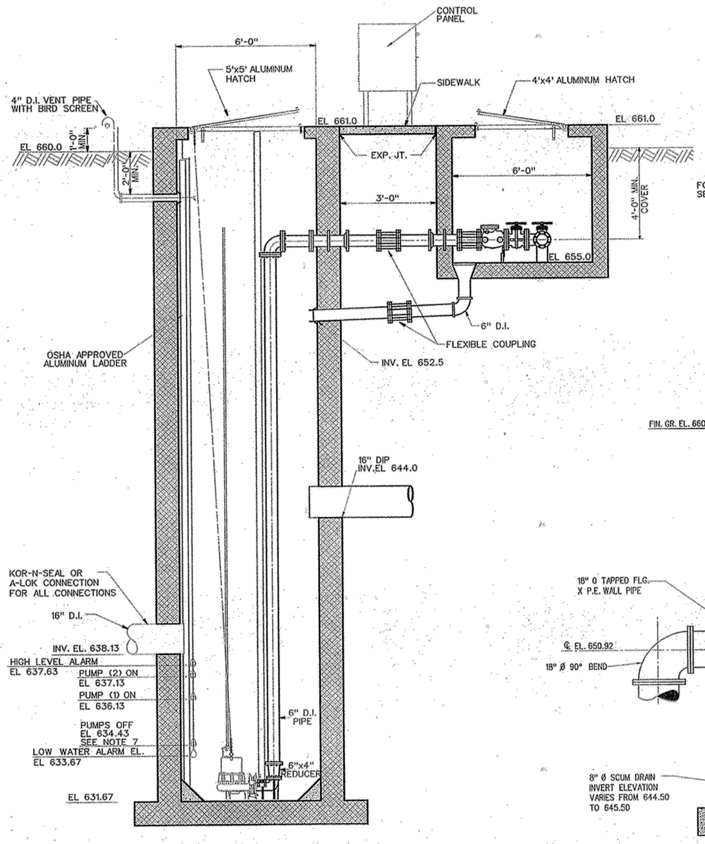
PLAN VIEW
SCALE: 3/8" = 1'-0"



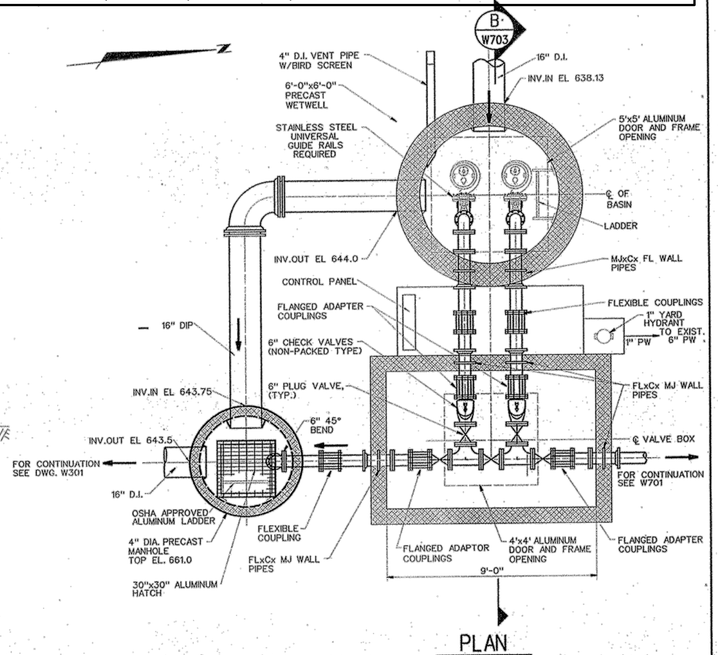
A W703 SECTION
SCALE: 3/8" = 1'-0"

VALVE BOX DETAILS
SCALE: AS NOTED

GENERAL NOTES
1. ALL PIPING IN STATION AND VALVE PIT SHALL BE DUCTILE IRON. THE PIPING SHALL BE COATED USING THE COAL TAR EPOXY SYSTEM AS SPECIFIED IN SECTION 09910 "PAINTING".
2. INSIDE OF WETWELL SHALL BE COATED WITH COAL TAR EPOXY SYSTEM ALSO.
3. GUIDE RAILS, LIFTING CHAINS, NUTS, BOLTS, WASHERS, BRACKETS, CLIPS, ETC. SHALL BE STAINLESS STEEL.
4. EXTEND GRAVITY LINES A MINIMUM OF 2" INTO VAULTS/MANHOLES. PROVIDE A RUBBER BOOT AND FILLETED NON-SHRINK GROUT SEAL.
5. CHECK VALVES ARE TO BE NON-PACKED SWING CHECK VALVES. ISOLATION VALVES SHALL BE PLUG VALVES.
6. CONTRACTOR SHALL VERIFY PUMP SET POINT ELEVATIONS WITH PUMP MANUFACTURER.
7. PRECAST WET WELL AND VALVE BOX STRUCTURES SHALL BE IN ACCORDANCE WITH ASTM C-478 AND BE CLASS "A" CONCRETE.

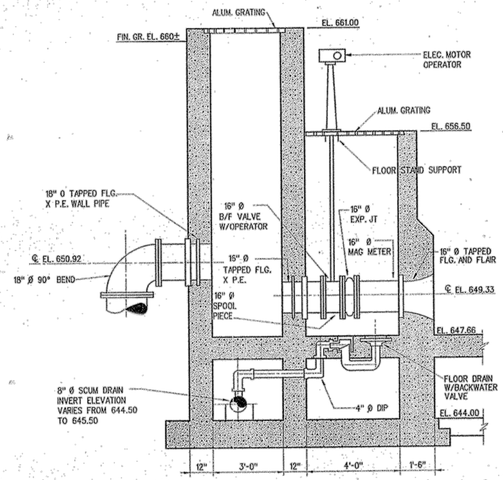


B W703 SECTION
SCALE: 3/8" = 1'-0"



PLAN
SCALE: 3/8" = 1'-0"

DRAIN PUMP STATION
SCALE: AS NOTED



C W704 SECTION
SCALE: NO SCALE

DRAIN PUMP STATION
SCALE: AS NOTED

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RAYMOND A. CORDON REGISTERED ENGINEER STATE OF TENNESSEE 4-14-98

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Chattanooga, Tennessee 37402
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CITY OF CHATTANOOGA, TENNESSEE MOCCASIN BEND WASTEWATER TREATMENT PLANT	DRAWN J. CARR	DATE 3/97	PROJECT MANAGER RAYMOND CORDON
			PROJECT DIRECTOR ALLEN D. STEPHENS
CONTRACT NO. 28G PLANT EXPANSION AND WET WEATHER TREATMENT	DRAIN PUMP STATION AND VALVE BOX DETAILS		LEAD DESIGN PROF. RAYMOND CORDON
			CHECKED
		PROJECT NUMBERS CTI: 97008 POH: 51892	DRAWING NUMBER W703

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1122 RIVERFRONT PARKWAY
CHATTANOOGA, TN 37402
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DONALD D. TABOR JR. REGISTERED ENGINEER 2/10/17 STATE OF TENNESSEE NO. 107695

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DETRITORS REHABILITATION
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CTI PROJECT NO: C15039-03

DATE: OCTOBER 2016

DISC. LEAD:	DESIGNER:	CHECKER:
ADS	DDT	DDT

SHEET TITLE
REFERENCE DRAWINGS

DRAIN PUMP STATION AND VALVE BOX DETAILS (DRAWING W703 - CONTRACT 28G)

SHEET
R22 of R22