

To: All Plan Holders of Record

From: CT Consultants, Inc.
For the Owner

Re: *Addendum No. 2*
Forest Lawn Stormwater Park
ABC Water and Stormwater District

Date: May 29, 2024

This Addendum forms a part of the contract documents and modifies the original bidding documents dated May 2024 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

BID OPENING DATE

The date and time of receiving and opening bids shall be changed from May 30, 2024 at 12:00 p.m. to June 6, 2024 at 1:00 p.m. The location is unchanged.

PRE-BID CONFERENCE

Attached are the Meeting Minutes and Sign-In Sheet.

QUESTIONS AND ANSWERS

Q1. Is the existing (sanitary) sewer abandoned or removed?

A1. The existing sanitary sewer that is proposed to be relocated per the contract documents is proposed to be removed and replaced. Abandoning in place is not being proposed.

Q2. Can you clarify the Stormwater Pollution Prevention Plan (SWPPP) items in the bid proposal form?

A2. A detailed SWPPP is not included in the contract design documents. The contract bid proposal is structured with bid line items for 1: Design, Permitting and Developing a Proposed SWPPP, and 2: to Implement and Install the SWPPP features as a part of the approved plan.

Q3. When is the anticipated start date?

A3. Per conversation at the pre-bid meeting, the estimated award of contract is for middle of June 2024.

Q4. How can we request CAD files?

A4. To request CAD files, please refer to Specific Project Requirements, page SR.3, Item 14. Please send a request to the email listed. From there, CT will provide a CAD Indemnification form to be signed and returned. Then CAD files for reference can be shared.

Q5. Is this project multiple contracts?

A5. No, this project is one singular contract. The specifications are presented in parts due to the Sanitary sewer relocation being a facility owned by the Mahoning County Sanitary Engineer (MCSE). MCSE has required that specifications pertaining to work on the sanitary sewer relocation to be per their technical specifications, and they were kept as a separate part of the specifications. There are two parts to the contract, with each part governed by respective technical specifications and details per the plans.

Q6. Can you provide existing record drawings for the existing underground detention system?

A6. Yes, we will provide the record drawings of the detention system that was installed on site and a part of this addendum.

Q7. Who is responsible for grass cutting during construction?

A7. Per discussion at the pre-bid meeting, ABC Water & Stormwater District intends to hire a company to mow areas that are not within the construction fence area (if needed).

However, the Contractor is responsible for site landscape maintenance within the project area. Refer to specification section 320190.16 Landscape Maintenance.

Q8. Is there a construction fencing requirement?

A8. Yes, a construction fence is a requirement around extents of the work area for protection and safety of residents and small children. As a part of this addendum, we have added an item "Fence Misc: Temporary Safety Fence – 4' Plastic" to the bid proposal for temporary construction/safety fence. The per foot price shall include 4-foot orange construction fence, posts spaced every 10-ft, and maintenance of the fence throughout duration of construction, including removing the fence once construction is complete.

Q9. Is the contractor responsible for pre and post construction CCTV of the sewer rehabilitation?

A9. Yes, contractor is responsible for Pre and Post Construction CCTV of the sewer rehabilitation. Refer to MCSE Spec CIPP-1 and Spec 330130.72.

Q10. Can flow data be provided for the sewers to be lined?

A10-1. The flows were provided by MCSE for the PTI application as follows.

3. Design Flow in Proposed Sewer					
Identify flows expected at start-up (for example, currently existing flows plus design flow for this project) and the flows expected at design (for example, start-up flows plus flows from future phases of development) at terminus of proposed sewer.					
NOTE: We are not proposing to change or add new startup flows or anticipate design flow increases with this extension. It is purely to change the route of the pipe.	Average Daily Flow		Peak Hourly Flow		
	0.62*	MGD	1.92*	MGD	
		MGD		MGD	
		MGD		MGD	
Assumptions used to calculate above flows: (check all that apply)					
<input type="checkbox"/>	Residential Population at: _____	gal/home*	_____ homes	_____ homes	
<input type="checkbox"/>	Residential Population at: _____	gal/cap/day	_____ people	_____ people	
<input type="checkbox"/>	Non-Residential Flows (for example commercial, industrial, etc.): _____		MGD	_____ MGD	
<input type="checkbox"/>	Computer Flow Modeling Results (attach explanation and data)				
			*Flow estimate provided by MCSE		
*120 gallon/bedroom in accordance w/ OAC 3745-42-05 unless additional information is submitted					

A10-2. Storm flows are provided by USGS StreamStats as follows.

Peak-Flow Statistics Flow Report [Peak Flow Full Model Reg A SIR2019 5018]					
PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)					
Statistic	Value	Unit	PII	PIu	ASEp
50-percent AEP flood	106	ft^3/s	56	201	40.1
20-percent AEP flood	183	ft^3/s	101	332	37.2
10-percent AEP flood	245	ft^3/s	134	447	37.6
4-percent AEP flood	333	ft^3/s	181	612	38.1
2-percent AEP flood	405	ft^3/s	218	752	37.8
1-percent AEP flood	483	ft^3/s	257	907	39.6
0.2-percent AEP flood	686	ft^3/s	361	1300	40.3

Q11. What is the warranty period and requirements?

A11. The project includes (as req by ORC) a 100% Performance and Payment Bond which includes the Correction (Warranty) Period. This period is 1 yr by default in the Gen Cond (13.07) and starts upon Final Acceptance (Final PE) instead of Substantial Completion per the Supplementary Conditions (13.07). This covers all work, not part of the work. The Correction Period is confirmed by the bidder and the Surety on BF.6 at time of bid.

Q12. Per the demolition plan, if existing sandstone from the Old Boardman Ditch is present, will this require a change order?

A12. Per conversation with the Owner – this would be a change order. The contractor would perform test excavations in the area. If sandstone is encountered, contractor would notify the Owner to determine next steps for removing. The Owner would then state if they would like

the material to be stockpiled at a location determined by Owner. If material is asked to be stockpiled by the Owner, contractor would provide a change order price for review and confirmation prior to performing the work.

Q13. Is removal of the abutments a separate pay item?

A13. Yes – please see prices to include #2.8.

Q14. Does the haul away material and debris have to be taken to an “approved site”?

A14. From our records and information of the site, site soils are earthwork material has not been classified as having contamination. As such, soil hauled off from the site would not require an “approved” site. In the event this question was meant to address a dump site “approved” by the Owner, then no – the Owner does not have a designated dumping location for the spoils and hauled off materials.

Q15. Upon review of the plans and bid form there are details that include #301 Asphalt, however there are no quantities for this item on the bid forms. Please advise

A15. That is correct, we do not have a line item for #301 asphalt. Our detail is structured as “Type C Pavement Replacement”. Item 2.37 of the Prices to Include detail reference this information and unit price is to include all pavement courses. #301 Asphalt is indicated if the existing base thickness is more than 3”, or #441 if existing materials is less than 3” thick. In response to this question, we have reviewed and updated the detail and instead are specifying as part of the pavement that #441 Type 2 material be used for intermediate course. Thus, the option of #301 is omitted.

Q16. Please review striping items, you have 3 different products list for a small project this will get very costly, 642 paint, 643 polyester and 644 thermoplastic.

A16. Striping has been reviewed. In agreeance to reduce project costs, please bid parking striping and pavement markings as ODOT Item 642: Traffic Paint. This includes items 61 through 65 in the bid proposal sheet. The bid proposal sheet is updated as per this addendum.

Q17. We quote an AT10X39-10K. However, it looks like they are changing the size to be 8X39-10K. Can you confirm? They also reference the 10’ wide option as well. The spec sheet is referencing two different sizes for the curved arbor. Just need to confirm which size is needed. (EMAIL)

A17. The model number from the quote, detail and the plan dimensions are correct for the 10’x39’ model. Item 6a in the specification should note 10’ wide not 8’.

Q18. The footage listed on # 37 60-inch Spray In Place Pipe Lining, As Per Plan is listed as 685 ft. The footage on page 14 lists out 139 LF to be sprayed (I am assuming this is 139 x 2 which would give you 278 ft.) Then on pg. 19, the footage listed is 225 LF to be sprayed (I am assuming this equals a total of 450 ft.) Adding both of those footages gives 728 ft, so I am wondering which footage to account for?

A18. Use 728-FT for the quantity of spray lining the 60-in sewer. Quantity is updated in the bid proposal form. The bid proposal sheet is updated as per this addendum.

Q19. The Spray In Place Pipe Lining (SAPL) specification requires the SAPL to be designed for HS-20 live loading. It appears most of the 60-inch CMP conduits to be lined are located outside of roadway pavement areas. Is the HS-20 loading design necessary?

A19. Each sewer segment shall be lined with the same uniform thickness from manhole to manhole. If a portion of the sewer lies beneath a roadway or paved area, HS-20 loadings shall be incorporated into the thickness calculation for the entire sewer segment. If the sewer segment lies completely outside of a roadway or paved area, HS-20 loadings are NOT required to be used in the calculation of the liner thickness.

Q20. The CMP conduits to be spray lined convey stormwater flow. The approved GeoSpray HCE material is intended for acidic wastewater applications where the pH <2.0 (datasheet attached). The standard GeoSpray material is intended for storm, combined sewer, and diluted sanitary applications where the average pH >2.0. Will it be acceptable to use the standard GeoSpray material for the storm conduits to be spray lined?

A20. Yes, this is an acceptable product.

Q21. What is the average cover over the 60-inch CMP conduits? From the attached original plan and profile sheet, it appears the average cover is 1.5 feet from the pipe crown to ground surface. Is it acceptable to use the 1.5 foot of cover in the thickness calculations?

A21. Each segment shall be designed based on the highest potential loadings throughout that segment of pipe.

Q22. For the Light Poles, what height do they need to be. The supplier told me that they are normally 12'.

A22. 12' is correct.

Q23. There is only one bench item in the bid tab but you guys are calling out for two type of benches, stone and Bench with back. Could I get a little for clarification on that?

A23. Please refer to the details provided in the drawings and the specifications for further detail. Stone Seatwall Detail is on page 39. Both Stone Seatwall and Bench with back specifications provided in Site Furnishing Specifications 129300. To clarify - "Stone Bench" and "Stone Seatwall" and "Stone Block Seatwall" are one in the same item.

Q24. For the sanitary sewer that is to be removed, not the 21" VCP, do you guys know if it connected to anything else? I popped the manhole lids and they were flowing water, not sure if it is storm water.

A24. The 21" sewer is a sanitary sewer and it actively conveys sanitary flows through the site from south to north. The private sanitary laterals shown on the existing conditions drawing and demolition drawing are proposed to be removed as a part of the contract with item "Pipe Removed, 24 INCH and under". If these sewers are found to not exist, the pay item will be non-performed. The best available information is provided within the plan set.

Additionally, the former Market Street Elementary School demolition plans were provided as a part of the bid package. The contractor is responsible for review of all drawings and any further confirmations necessary to perform the work items in this contract.

Q25 There was a general inquiry about having a substitute product approved as an equal.
General response is provided below.

A25. There is a specification section that covers substitutions and the process for gaining approval. Please refer to section 012513 - PRODUCT SUBSTITUTION PROCEDURES.

Q26 Will contractors have access to the open ended areas once they have been constructed for spray lining portion?

A26. Construction sequencing is not dictated to the contractor by the contract documents. This is a decision for the contractor to make.

Q27 (Regarding the above stated project, line item 105, (Ecological Maintenance-----3 YRS). I cannot find anywhere in the spec that explains this item. If I could get a little more clarification on it that would be great.

A27-1. In section 329200.19 under section 3.6 Establishment item C. it describes maintenance cutting and treatment of invasive plants.

A27-2. A price to include has been added. See "Bid Documents" section below.

Q28. The phone number my applicator called to try and contact you with questions is 330-746-1200. I tried calling it and it goes to voicemail.

A28. Specific Project Requirements Item 1 – CONTACT DURING BIDDING lists Patrick at (440) 530-2341 not 330-746-1200.

BID DOCUMENTS

1. **Remove** the Prices to Include Item 2.3 on Page BD.10. This is duplicate.
2. **Remove** the Prices to Include Item 2.12 on Page BD.13. This is redundant and covered by the line items within the bid proposal sheet for Erosion Control, and SWPPP.
3. **Add** to Specific Project Requirements (SPR) the following item.

17 - ESTABLISHMENT PERIOD AND RETAINER

17.1 After installation of all plantings, the Contractor shall perform all required maintenance of the plantings including pruning, waterings, etc. during the Establishment Period. Final Acceptance and Final Payment will not be made until the end of the respective Establishment Period.

17.2 As per the General Conditions, once the Engineer has certified Substantial Completion, the Contractor may request that the Retainer be reduced.

The Retainer may be reduced to twice the value of the Punch List but not less than \$5,000.00. Retainer may be reduced again upon completion of the Punch List, but only if the Retainer is more than \$5,000.00. Final Retainer shall be held and Final Acceptance will not occur until the end of the Establishment Period.

Note: Work to be performed during the establishment period is covered by the technical specifications. Refer to specifications for detail.

4. Add to Prices to Include item 2.58 - Ecological Maintenance - 3 YRS

Method of Measurement

The method of measurement shall be on a per year basis in accordance with the plans and specifications.

Basis of Payment

The price shall include all costs for labor, materials, hardware, tools, and appurtenances necessary to complete the work as specified in Specification Section 329200.19 Seeding and Mulching and in accordance with manufacturer's recommendations and details in the contract documents. Payment shall be made annually based upon completion of yearly maintenance. Ecological maintenance shall include all native meadow seeded areas for 3 years from final completion. Invasive and undesirable weed shall be as defined by the Ohio Invasive Plants Website and ecological maintenance shall be performed by an experienced environmental landscape management company familiar with meadow plantings.

BID FORMS

Replace Bid Form, Page BF.4, with the enclosed Bid Form, Page BF.4A.

Replace Bid Form, Pages BF.8 to BF.12 with the enclosed Bid Form, Pages BF.8A to BF.12A.

PLANS

Replace *Type C Flexible Pavement Replacement Detail* on Sheet 5 of 43 with the enclosed Exhibit A detail.

Addendum No. 2
Date: May 29, 2024
Page 8

SPECIFICATIONS

Add the following paragraph to Specification Section 329200.19 - SEEDING AND MULCHING, Item 3.6A:

When seeding work is complete and an acceptable stand of growth is attained, the Contractor shall request the Owner's Representative to make an inspection to determine (1) commencement of the 3 year ecological maintenance period.

CORRECTION PERIOD (WARRANTY)

Upon acceptance of all work except for plantings, and seeding and mulching, the 1-year warranty period will begin for all work (once accepted as final and complete) except plantings (See establishment period section 329300.23 - TREE, SHRUBS, AND GROUND COVER) and seeding and mulching (See establishment period 329200.19 - SEEDING AND MULCHING). The plantings shall be warranted through and until the end of the establishment period as defined by the specifications. The seeding and mulching shall be warranted through and until the end of the 3-year ecological maintenance period under bid item "Ecological Maintenance - 3 YRS".

MD/PB:mep

Enclosures

H:\2023\231566\SPEC\Addenda\Addendum 02\Addendum 02.Doc

Meeting Summary

To: File

From: Project Design Team, Mark Delisio, P.E., Patrick Blake, P.E.

Subject: Pre-Bid Meeting

Date: 2024.05.20

Special Funding

WPCLF – DB Goals
ARPA – BABA Requirements
State Capital – ODNR Requirements in SR section
FEMA – no additional requirements beyond others listed

Contractor responsible for understanding all requirements of the funding sources being utilized.

Federal prevailing wages. Not state or local unions. See bid book.

Project Specific Requirements 2, 14, 15, 16

Appendix 10 – USACE Permit Compliance.

Summary of Work

Bid Items Review

Bid Forms BF.4 Update , addendum forthcoming.

Meeting Minutes/Q&A from today, addendum forthcoming.

Date

Addressee

Page **2** of **3**

Questions from prebid meeting:

1. Existing sewer abandoned or removed?
2. Price to stamp and get SWPPP approved?
3. Anticipated State Date?
 - a. Award expected mid June
4. How to access CAD files
 - a. SR.3 #14
5. Multiple contractos?
 - a. No, 1 contract
6. DWG's for existing arches?
7. Who is responsible for grass cutting during construction>
8. Is there construction fencing requirement?
9. Is contractor responsible for pre & post CCTV of sanitary sewer?
10. Flow data for sewers to be lined?
 - a. San
 - b. STO 60's
11. What is the warranty period and requirement?
12. Sandstone if present will require a change order. How will that work?
13. Is removed of abudtments a separate pay item?
 - a. Yes, see Prices to include #2.8
14. Does the haul away material and debris have to be taken to an "approved site"?
 - a. Provide via addendum 2.

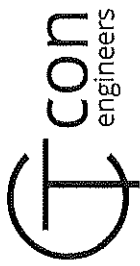
Date

Addressee

Page **3** of **3**

The Meeting Minutes is what was understood by the personnel of CT Consultants, Inc. If anything was missed or misinterpreted, please contact CT Consultants, Inc. and these Minutes will be amended.

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SIGN-IN SHEET

PROJECT NAME & JOB NUMBER: _____

DATE: _____

NAME	COMPANY (REPRESENTING)	ADDRESS	CITY	ZIP	PHONE#	EMAIL A
Dave Siedel	Mark Hayes Construction	3130 STR 18 Norwalk	Norwalk		216 637 9348	dshafar@markhayesconstruction.com
Eric Azeami	YARIAN BROTHERS Co		Columbus		330 429-0030	eric@yarianbrothers.com
Greg Barbic	YAZINI BROS	46486 STR 14 COLUMBIANA OH		44405	330 502 2133	greg@yazini-bros.com
Ryan Beedien	Rudzick Excavating	401 Lowellville Rd. Struthers, OH 44471	Struthers	44471	330-227-3357	Ryan@rudzickexcavating.com
RICK BASISTA	J S BOVA	235 STATE ST STRUTHERS OH 44471	STRUTHER	44471	330 610-0927	Bidding@J.S.BOVA.CO
Jon Markota	Muracci & Gaffney	12 Hogue St. Youngstown, OH 44402	Youngstown	44402	330-743-8770	jon@muracci-gaffney.com
Rebecca Lanning	Vizmeg Landscape	778 McLaughlin Rd, Stow	Stow	44224	330-686-6901	rebecca.lanning@vizmeg.com

PATH

EXPERIENCE RECORD

The Bidder is required to state the character of previous work, give references, and such other detailed information as will enable the Owner to determine capability, responsibility, experience, skill, and financial standing. ***Provide data for the last five (5) years.*** Duplicate this sheet as needed. **Information submitted in an alternate format MUST contain all the information requested on this page.**

Project Name: _____

Description/Scope of Bidder's _____

On this project you were a ___ Prime Contractor **OR** ___ Sub Contractor to _____

Year: _____ Your Contract or
Total Project Cost: \$ _____ Subcontract Amount: \$ _____

% Complete (if in progress) _____ % or Date Completed (if _____

Project Owner: _____

Owner Contact: _____ Phone: () _____

Engineer/Arch. Firm: _____

Engineer/Arch. Contact: _____ Phone: () _____

Your Bonding Company on this project (if any):
LF of Stream Restored _____
ACRES of floodplain or wetland restored _____
Quantity of Root Wad/Woody Debris installed _____
Quantity Live stakes planted _____
Quantity Riffle, Cross Vane, Grade Control structures installed _____

Project Name: _____

Description/Scope of Bidder's _____

On this project you were a ___ Prime Contractor **OR** ___ Sub Contractor to _____

Year: _____ Your Contract or
Total Project Cost: \$ _____ Subcontract Amount: \$ _____

% Complete (if in progress) _____ % or Date Completed (if _____

Project Owner: _____

Owner Contact: _____ Phone: () _____

Engineer/Arch. Firm: _____

Engineer/Arch. Contact: _____ Phone: () _____

Your Bonding Company on this project (if any):
LF of Stream Restored _____
ACRES of floodplain or wetland restored _____
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Quantity Live stakes planted _____
Quantity Riffle, Cross Vane, Grade Control structures installed _____

**Proposal to ABC Water & Stormwater District
For Forest Lawn Stormwater Park**

Project No. 231566

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
1	(SPC) PRECONSTRUCTION VIDEO DOCUMENTATION	1.00	LS	\$	\$	\$	\$
2	(SPC) BONDS AND INSURANCES, AS PER PLAN	1.00	LS	\$	\$	\$	\$
3	(201) CLEARING AND GRUBBING	1.00	LS	\$	\$	\$	\$
4	(201) SPECIAL - TREE REMOVED, GREATER THAN 12"	8.00	EACH	\$	\$	\$	\$
5	(202) STRUCTURE REMOVED, AS PER PLAN	2.00	EACH	\$	\$	\$	\$
6	(202) PAVEMENT REMOVED, ASPHALT, AS PER PLAN	1,200.00	SY	\$	\$	\$	\$
7	(202) WALK REMOVED, AS PER PLAN	3,400.00	SF	\$	\$	\$	\$
8	(202) PIPE REMOVED, 24 INCH AND UNDER	2,500.00	FT	\$	\$	\$	\$
9	(202) PIPE REMOVED, OVER 24 INCH	1,300.00	FT	\$	\$	\$	\$
10	(202) MANHOLE REMOVED	8.00	EACH	\$	\$	\$	\$
11	(202) CATCH BASIN REMOVED	4.00	EACH	\$	\$	\$	\$
12	(202) FENCE REMOVED	950.00	FT	\$	\$	\$	\$
13	(202) LIGHT POLE REMOVED	4.00	EACH	\$	\$	\$	\$
14	(202) REMOVAL MISC.: DRAINAGE CHANNEL	1.00	LS	\$	\$	\$	\$
15	(202) FLAG POLE REMOVED, AS PER PLAN	1.00	EACH	\$	\$	\$	\$
16	(203) EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, AS PER PLAN	1.00	LS	\$	\$	\$	\$
17	(SPC) SPECIAL - BIORETENTION CELL, AS PER PLAN	1.00	EACH	\$	\$	\$	\$
18	(204) GEOTEXTILE FABRIC, AS PER PLAN	670.00	SY	\$	\$	\$	\$
19	(SPC) TYPE "C" PAVEMENT REPLACEMENT (ASPHALT), DRIVEWAY, APRON, OR PARKING LOT	375.00	SY	\$	\$	\$	\$
20	(SPC) CONCRETE PAVEMENT REPLACEMENT, ROADWAY, AS PER PLAN	25.00	SY	\$	\$	\$	\$
21	(SPC) CONCRETE APRON OR DRIVE REPLACEMENT, AS PER PLAN	13.00	SY	\$	\$	\$	\$
22	(254) PAVEMENT PLANING, ASPHALT CONCRETE	230.00	SY	\$	\$	\$	\$

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For Forest Lawn Stormwater Park**

Project No. 231566

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
23	(304) AGGREGATE BASE	678.00	CY	\$	\$	\$	\$
24	(407) TACK COAT	1,502.00	GAL	\$	\$	\$	\$
25	(422) SINGLE CHIP SEAL, TYPE A	2,447.00	SY	\$	\$	\$	\$
26	(SPC) POLYMER FOG SEAL EMULSION	2,768.00	SY	\$	\$	\$	\$
27	(441) ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	135.00	CY	\$	\$	\$	\$
28	(441) ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	172.00	CY	\$	\$	\$	\$
29	(518) 4 INCH PERFORATED CORRUGATED PLASTIC PIPE	40.00	FT	\$	\$	\$	\$
30	(601) ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	9.00	CY	\$	\$	\$	\$
31	(602) HEADWALL, FULL-HEIGHT, AS PER PLAN	2.00	EACH	\$	\$	\$	\$
32	(603) 10 INCH CONDUIT, TYPE C, AS PER PLAN	256.00	FT	\$	\$	\$	\$
33	(603) 12 INCH CONDUIT, TYPE C	649.00	FT	\$	\$	\$	\$
34	(603) 24 INCH CONDUIT, TYPE C, AS PER PLAN	875.00	FT	\$	\$	\$	\$
35	(SPC) 21 INCH CURED-IN-PLACE PIPE LINING	191.00	FT	\$	\$	\$	\$
36	(SPC) PROTRUDING TAP-IN CONNECTION REMOVED, AS PER PLAN	10.00	EACH	\$	\$	\$	\$
37	(SPC) 60 INCH SPRAY-IN-PLACE PIPE LINING, AS PER PLAN	728.00	FT	\$	\$	\$	\$
38	(SPC) 60 INCH SEWER JOINT SEALING, AS PER PLAN	7.00	EACH	\$	\$	\$	\$
39	(604) CATCH BASIN, NO. 3A	1.00	EACH	\$	\$	\$	\$
40	(SPC) INLET, YARD DRAIN, AS PER PLAN	10.00	EACH	\$	\$	\$	\$
41	(604) MANHOLE, AS PER PLAN	4.00	EACH	\$	\$	\$	\$
42	(606) BOLLARD, AS PER PLAN	4.00	EACH	\$	\$	\$	\$
43	(607) FENCE, ORNAMENTAL, 6' HEIGHT, AS PER PLAN	384.00	FT	\$	\$	\$	\$
44	(607) FENCE, SPLIT RAIL, AS PER PLAN	1,220.00	FT	\$	\$	\$	\$
45	(607) FENCE MISC: TEMPORARY SAFETY FENCE - 4' PLASTIC	3,700.00	FT	\$	\$	\$	\$

**Proposal to ABC Water & Stormwater District
For Forest Lawn Stormwater Park**

Project No. 231566

REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
46	(608) 4 INCH CONCRETE WALK	225.00	SF	\$	\$	\$	\$
47	(608) 4 INCH COLORED, IMPRINTED, AND TEXTURED CONCRETE PAVING AS PER PLAN	1,633.00	SF	\$	\$	\$	\$
48	(608) 4 INCH CONCRETE WALK, WITH INTEGRAL VEHICULAR CURB, AS PER PLAN	1,475.00	SF	\$	\$	\$	\$
49	(608) CURB RAMP, AS PER PLAN	290.00	SF	\$	\$	\$	\$
50	(SPC) HORIZONTAL CURB CUT, AS PER PLAN	8.00	FT	\$	\$	\$	\$
51	(SPC) BRICK PAVERS, PEDESTRIAN, WITH AGGREGATE BASE, AS PER PLAN	654.00	SF	\$	\$	\$	\$
52	(608) WALKWAY, MISC.: WEED, POWER WASH AND SEAL EXISTING CONCRETE WALK	1,010.00	SF	\$	\$	\$	\$
53	(609) CURB, TYPE 6	505.00	FT	\$	\$	\$	\$
54	(611) 60" CONDUIT, TYPE B, AS PER PLAN	260.00	FT	\$	\$	\$	\$
55	(611) CONDUIT, MISC.: TRENCH DAM	3.00	EACH	\$	\$	\$	\$
56	(614) MAINTAINING TRAFFIC	1.00	LS	\$	\$	\$	\$
57	(623) CONSTRUCTION LAYOUT STAKES AND SURVEYING	1.00	LS	\$	\$	\$	\$
58	(624) MOBILIZATION	1.00	LS	\$	\$	\$	\$
59	(625) LIGHT POLE, ORNAMENTAL, AS PER PLAN	6.00	EACH	\$	\$	\$	\$
60	(630) SIGN, FLAT SHEET, WITH MOUNTING POST	1.00	EACH	\$	\$	\$	\$
61	(630) SIGNING, MISC.: WAYFINDING SIGNAGE	8.00	EACH	\$	\$	\$	\$
62	(642) CROSSWALK LINE, AS PER PLAN	36.00	FT	\$	\$	\$	\$
63	(642) ISLAND MARKING	2,300.00	SF	\$	\$	\$	\$
64	(642) PARKING LOT STALL MARKING	165.00	FT	\$	\$	\$	\$
65	(642) LANE ARROW	2.00	EACH	\$	\$	\$	\$
66	(642) HANDICAP SYMBOL MARKING	1.00	EACH	\$	\$	\$	\$
67	(659) SEEDING AND MULCHING, AS PER PLAN	1.00	LS	\$	\$	\$	\$

**Proposal to ABC Water & Stormwater District
For Forest Lawn Stormwater Park**

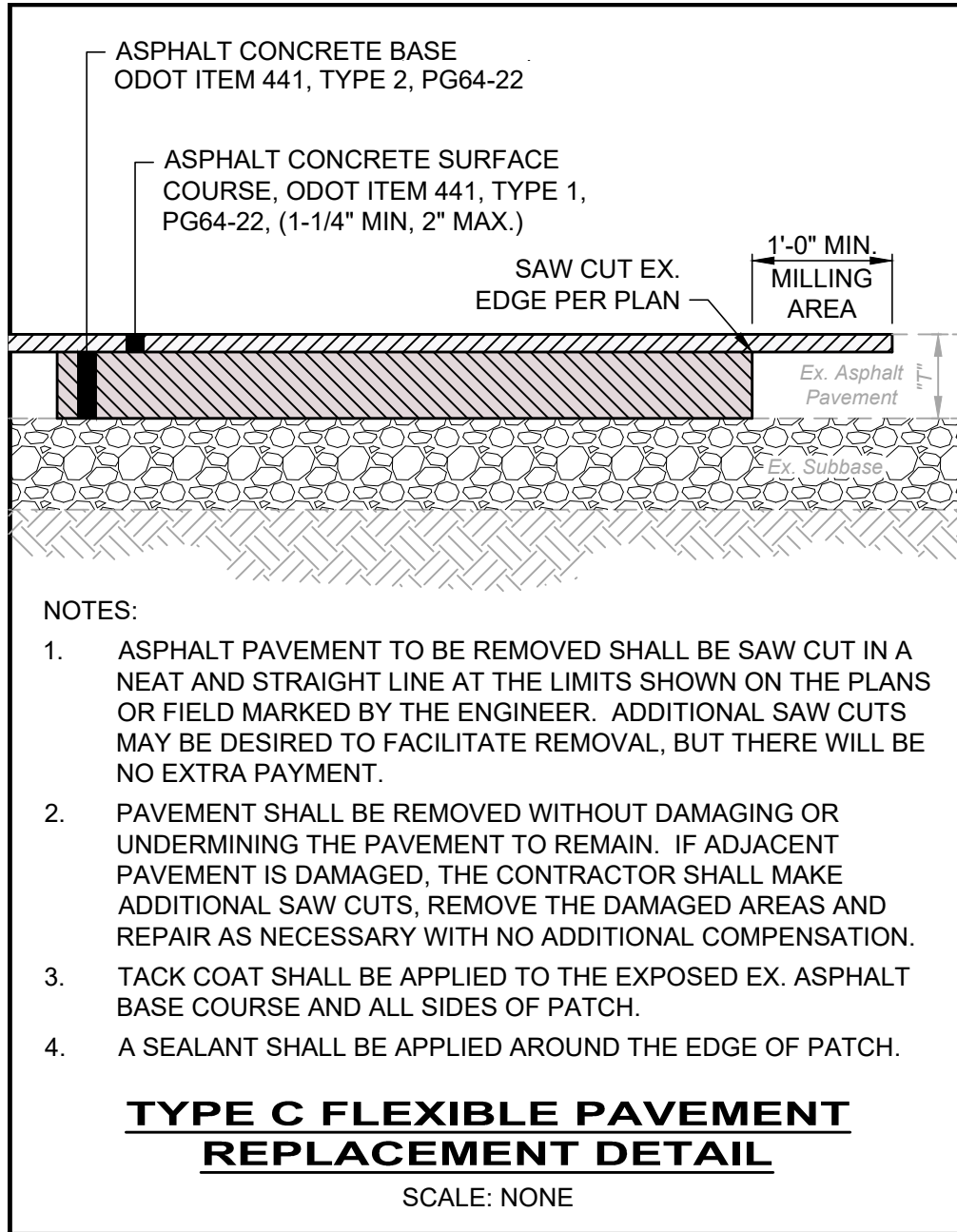
Project No. 231566

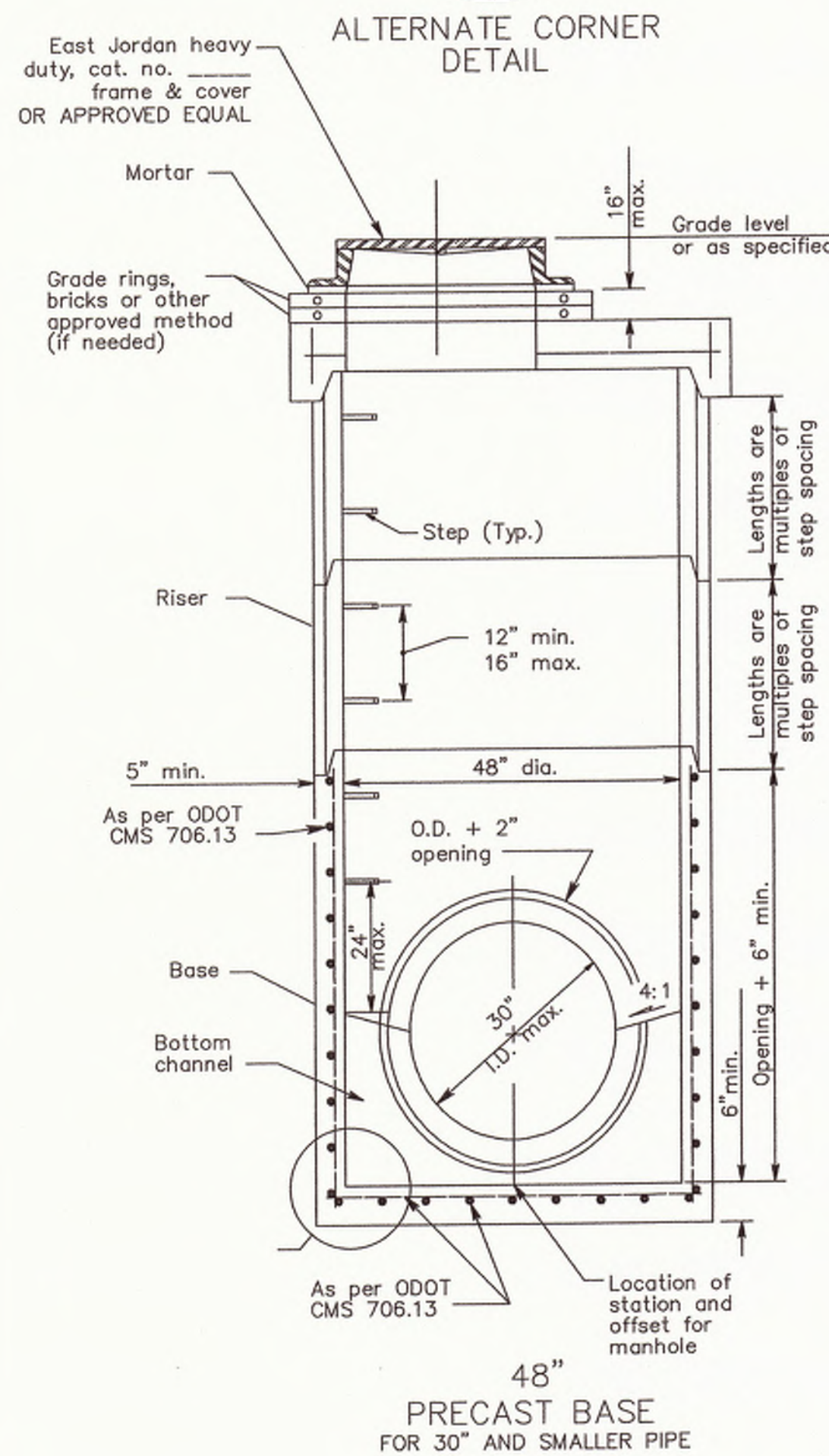
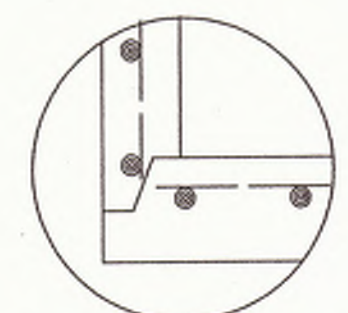
REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
68	(661) MULCH	32.00	CY	\$	\$	\$	\$
69	(661) PERENNIALS	74.00	EACH	\$	\$	\$	\$
70	(661) DECIDUOUS SHRUB, 12 INCH HEIGHT	3.00	EACH	\$	\$	\$	\$
71	(661) DECIDUOUS SHRUB, 15 INCH HEIGHT	44.00	EACH	\$	\$	\$	\$
72	(661) DECIDUOUS SHRUB, 18 INCH HEIGHT	16.00	EACH	\$	\$	\$	\$
73	(661) DECIDUOUS SHRUB, 2' HEIGHT	41.00	EACH	\$	\$	\$	\$
74	(661) DECIDUOUS TREE, 6' HEIGHT	49.00	EACH	\$	\$	\$	\$
75	(661) DECIDUOUS TREE, 1-1/4 INCH CALIPER	43.00	EACH	\$	\$	\$	\$
76	(661) DECIDUOUS TREE, 2 INCH CALIPER	54.00	EACH	\$	\$	\$	\$
77	(661) EVERGREEN TREE, 4' HEIGHT	11.00	EACH	\$	\$	\$	\$
78	(661) EVERGREEN TREE, 6' HEIGHT	19.00	EACH	\$	\$	\$	\$
79	(661) PLANTING, MISC.: PLANTING MIX	48.00	CY	\$	\$	\$	\$
80	(671) EROSION CONTROL MAT, TYPE C	230.00	SY	\$	\$	\$	\$
81	(SPC) STRUCTURAL FRAMED CANOPY, AS PER PLAN	1.00	EACH	\$	\$	\$	\$
82	(680) SPECIAL - WASTE RECEPTACLE	3.00	EACH	\$	\$	\$	\$
83	(680) SPECIAL - DOG WASTE STATION	3.00	EACH	\$	\$	\$	\$
84	(SPC) SPECIAL - BENCH	17.00	EACH	\$	\$	\$	\$
85	(SPC) FLAG POLE, AS PER PLAN	1.00	EACH	\$	\$	\$	\$
86	(680) SPECIAL - GRASS PAVER	3,200.00	SF	\$	\$	\$	\$
87	(680) SPECIAL - GRAVEL PATH	1,040.00	SF	\$	\$	\$	\$
88	(SPC) NEWBURY RIFFLE (TYPE C STONE FOR RIFFLE CREST), AS PER PLAN	25.00	CY	\$	\$	\$	\$
89	(SPC) BOULDER RIFFLE (TYPE A STONE), AS PER PLAN	1.00	CY	\$	\$	\$	\$
90	(SPC) NEWBURY RIFFLE (TYPE D STONE FOR RUN/GLIDE), AS PER PLAN	200.00	CY	\$	\$	\$	\$

**Proposal to ABC Water & Stormwater District
For Forest Lawn Stormwater Park**

Project No. 231566

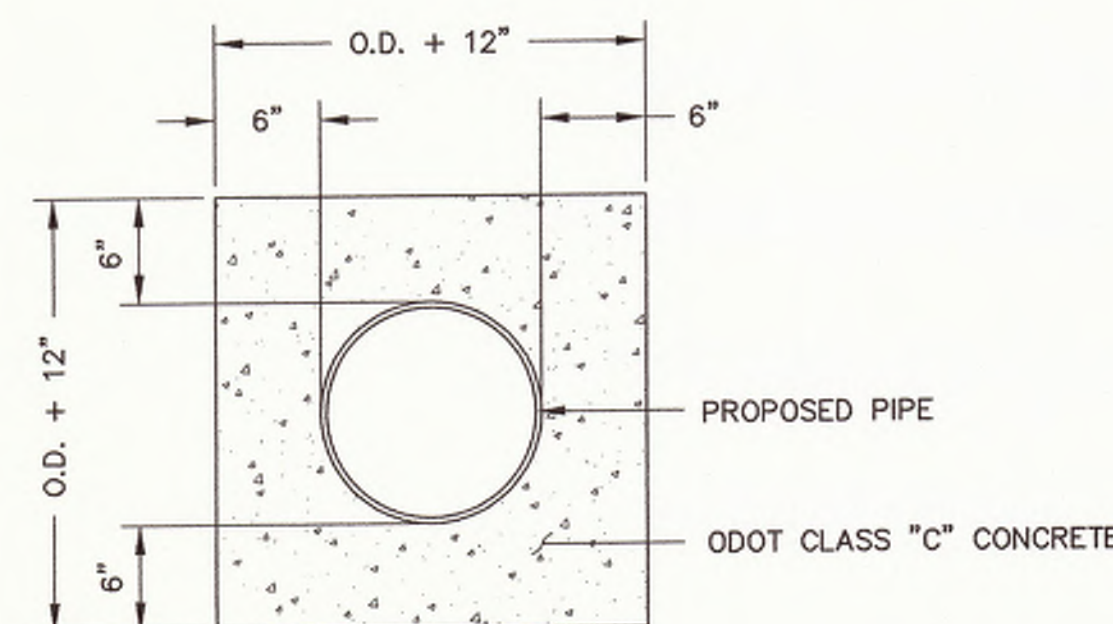
REF. NO.	DESCRIPTION	QTY.	MEASURE UNITS	UNIT PRICE LABOR	UNIT PRICE MATERIAL	TOTAL UNIT PRICE	ITEM TOTAL
91	(SPC) IMBRICATED ROCK WALL (TYPE B STONE), AS PER PLAN	60.00	CY	\$	\$	\$	\$
92	(SPC) TYPE C STONE, FOR VEGETATED RIP RAP	378.00	CY	\$	\$	\$	\$
93	(SPC) TRANSVERSE GLIDE STRUCTURE, AS PER PLAN	2.00	EACH	\$	\$	\$	\$
94	(SPC) LOG SILL STRUCTURE, AS PER PLAN	2.00	EACH	\$	\$	\$	\$
95	(SPC) STONE SEATWALL, AS PER PLAN	200.00	FT	\$	\$	\$	\$
96	(SPC) BATBOX, AS PER PLAN	3.00	EACH	\$	\$	\$	\$
97	(SPC) MONUMENT SIGN, AS PER PLAN	1.00	EACH	\$	\$	\$	\$
98	(SPC) INFORMATION KIOSK, SINGLE SIDED, AS PER PLAN	3.00	EACH	\$	\$	\$	\$
99	(SPC) TRAIL SIGN, AS PER PLAN	4.00	EACH	\$	\$	\$	\$
100	(SPC) STREAM BYPASS SYSTEM	1.00	EACH	\$	\$	\$	\$
101	(SPC) BRUSH LAYERING FOR VEGETATED RIP RAP, AS PER PLAN	4,300.00	SF	\$	\$	\$	\$
102	(SPC) IMPORT AND PLACE REINFORCED BED MIXTURE, AS PER PLAN	375.00	CY	\$	\$	\$	\$
103	(SPC) ROOT WADS, AS PER PLAN	4.00	EACH	\$	\$	\$	\$
104	(SPC) LIVE STAKES, AS PER PLAN	1,000.00	EACH	\$	\$	\$	\$
105	(SPC) DEER TREE GUARDS	176.00	EACH	\$	\$	\$	\$
106	(SPC) ECOLOGICAL MAINTENANCE	3.00	YEAR	\$	\$	\$	\$
107	(SPC) UNDERGROUND DETENTION: EXCAVATION	5,625.00	CY	\$	\$	\$	\$
108	(690) SPECIAL - BOLLARD, REMOVABLE	1.00	EACH	\$	\$	\$	\$
109	(817) SPECIAL - HERBICIDE FOR WEED CONTROL	63,000.00	SY	\$	\$	\$	\$
110	(832) STORM WATER POLLUTION PREVENTION PLAN	1.00	LS	\$	\$	\$	\$
111	(832) EROSION CONTROL	30,000.00	EACH	\$	\$	\$	\$
112	(SPC) ROCK CHECK DAM WITH FILTER	6.00	CY	\$	\$	\$	\$
INFORMAL TOTAL BID							\$





MANHOLE NO. 3 DETAIL

SCALE: N.T.S.



CONCRETE ENCASEMENT DETAIL

SCALE: N.T.S. FOR 8" SANITARY SEWER REPLACEMENT

NOTES

GENERAL: With normal soil and site conditions this standard precast manhole may be used for any required manhole depth.

Sections of the precast manhole shall be cast and assembled with either all tongue or all groove ends up.

Lift holes may be provided in each section for handling. Handling device for the flat slab shall be left in place.

TOP: This section shall be a flat slab unless an eccentric cone is specified.

TRANSITION (OR REDUCER): This section can be either eccentric cone or flat slab.

BASE: Manhole No. 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Openings for inlet and outlet pipes shall be provided, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete, precast in the base or field constructed as shown on ODOT SCD MH-1.1 and MH-3.1.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may be either prefabricated, or cut in the field provided the sides of the pipe at the springline do not project into the manhole.

CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with resilient connectors conforming to ASTM C 923.

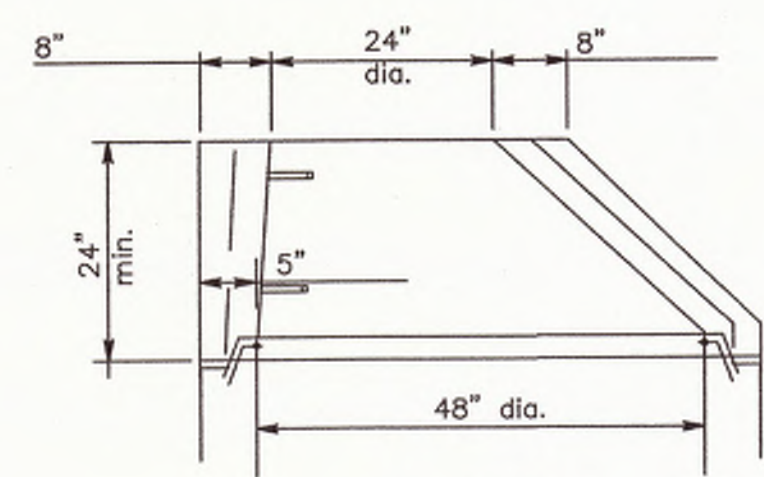
JOINT SEAL: Seal between precast manhole sections on sanitary sewers shall be resilient and flexible gasket joints per ODOT CMS 706.11.

MATERIALS: Materials for bases and other precast sections, including reinforcement not specified herein, shall comply with the requirements of ODOT CMS 706.13.

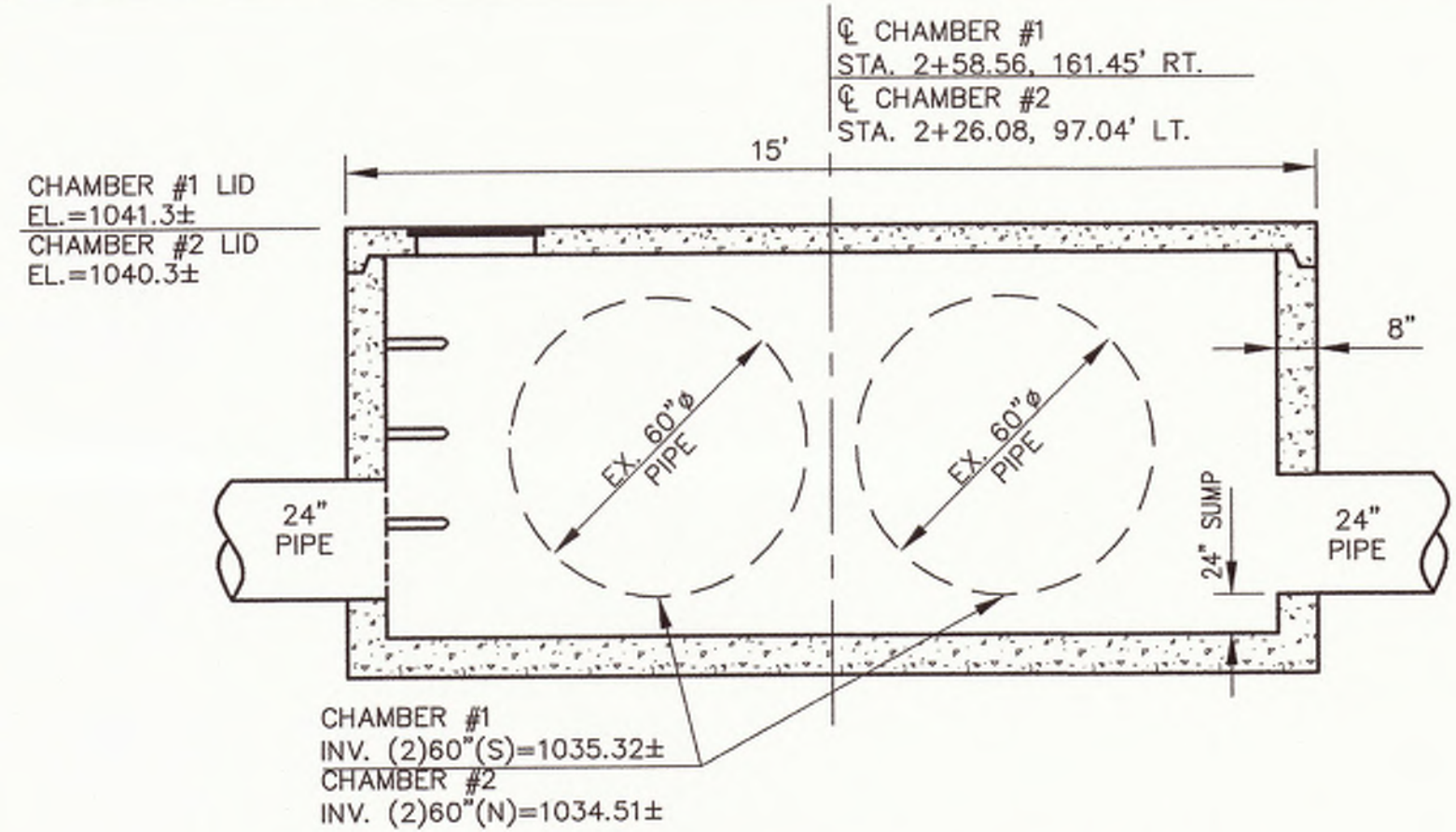
DROP PIPE: When specified on the plans, drop pipe shall be constructed as shown on ODOT SCD MH-3.1.

STEPS, FRAMES AND COVERS: Shall comply with the requirements set forth on ODOT SCD MH-1.1.

TOP SLAB REBAR: Reinforcing steel used within the top slab shall be epoxy coated.

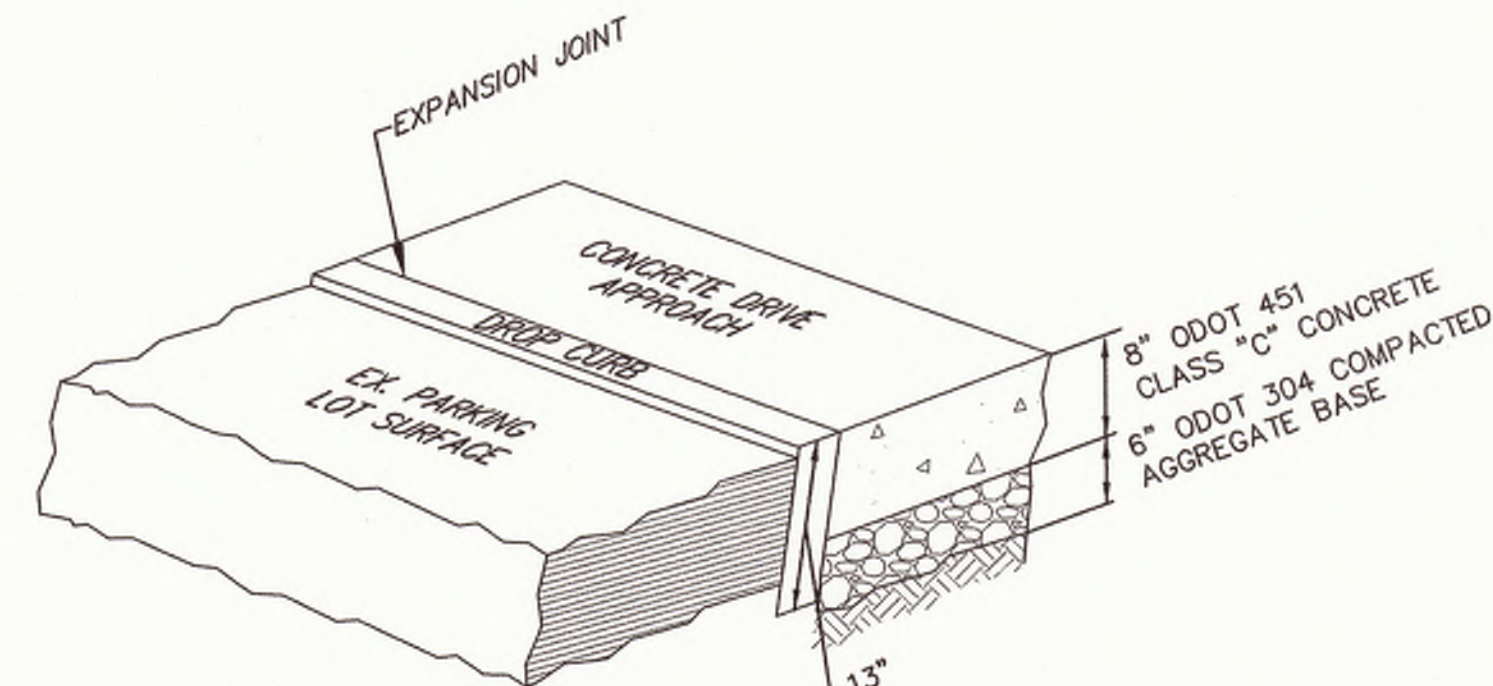


ALTERNATE ECCENTRIC CONE TOP
(Only if specified)

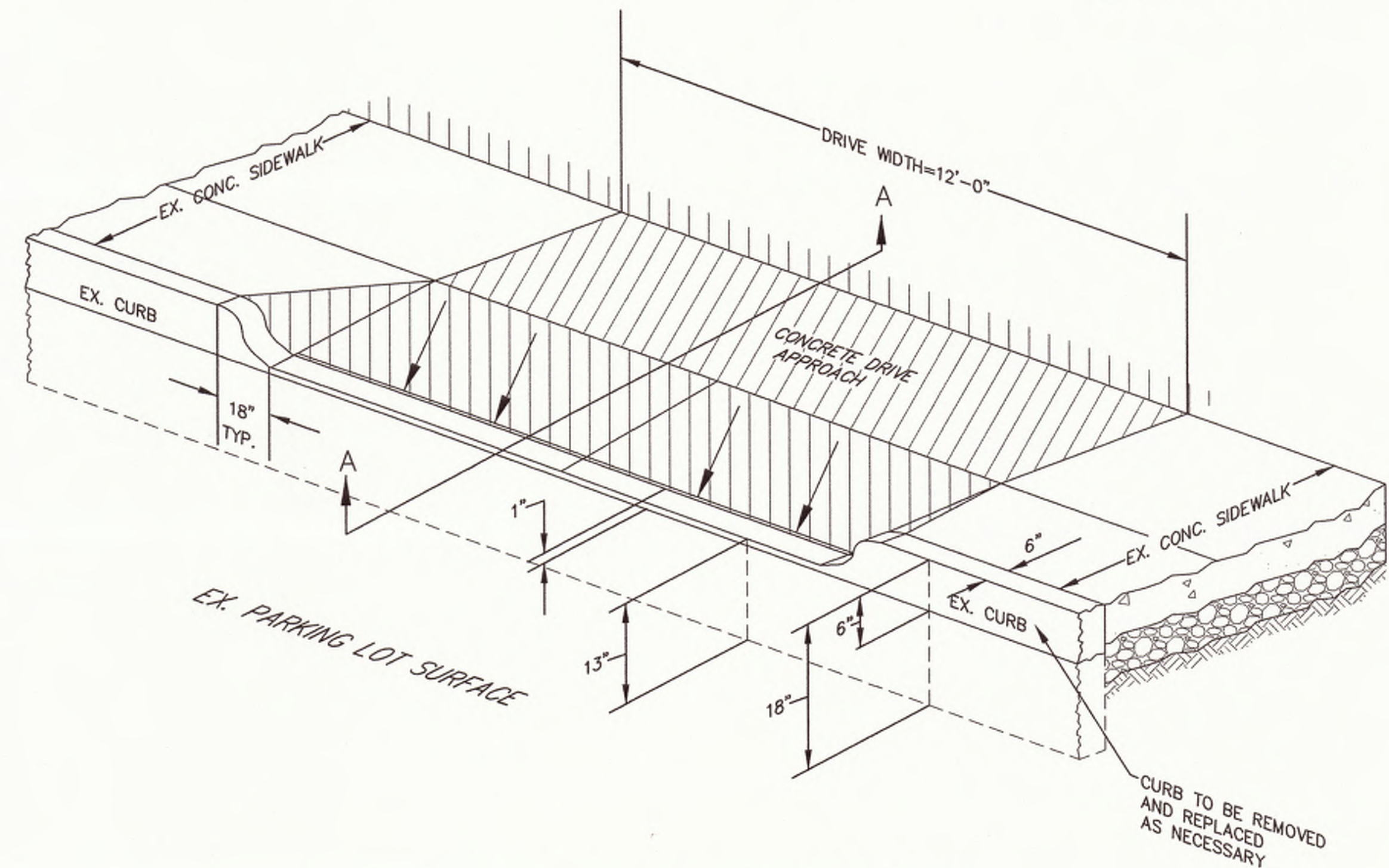


PRECAST 15'X6' CONCRETE CHAMBERS DETAIL

SCALE: N.T.S.



SECTION A-A



TYPICAL CONCRETE DRIVE APPROACH DETAIL

SCALE: N.T.S.

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NO.	REVISIONS	DATE	NO.	REVISIONS	DATE

PROJECT NUMBER: 61-20302-00	SCALE: (22x34) N.T.S.
DRAWN: DAC/PAS	CHECKED: GJD
DATE: 6/8/07	SCALE: (11x17) N.T.S.

ms consultants, inc.
engineers, architects, planners
333 WEST FEDERAL STREET
YOUNGSTOWN, OHIO 44503-1885
Phone 330-744-5321 Fax 330-744-5256

BOARDMAN TOWNSHIP
MARKET STREET SCHOOL
UNDERGROUND DETENTION BASIN PROJECT

MISCELLANEOUS DETAILS

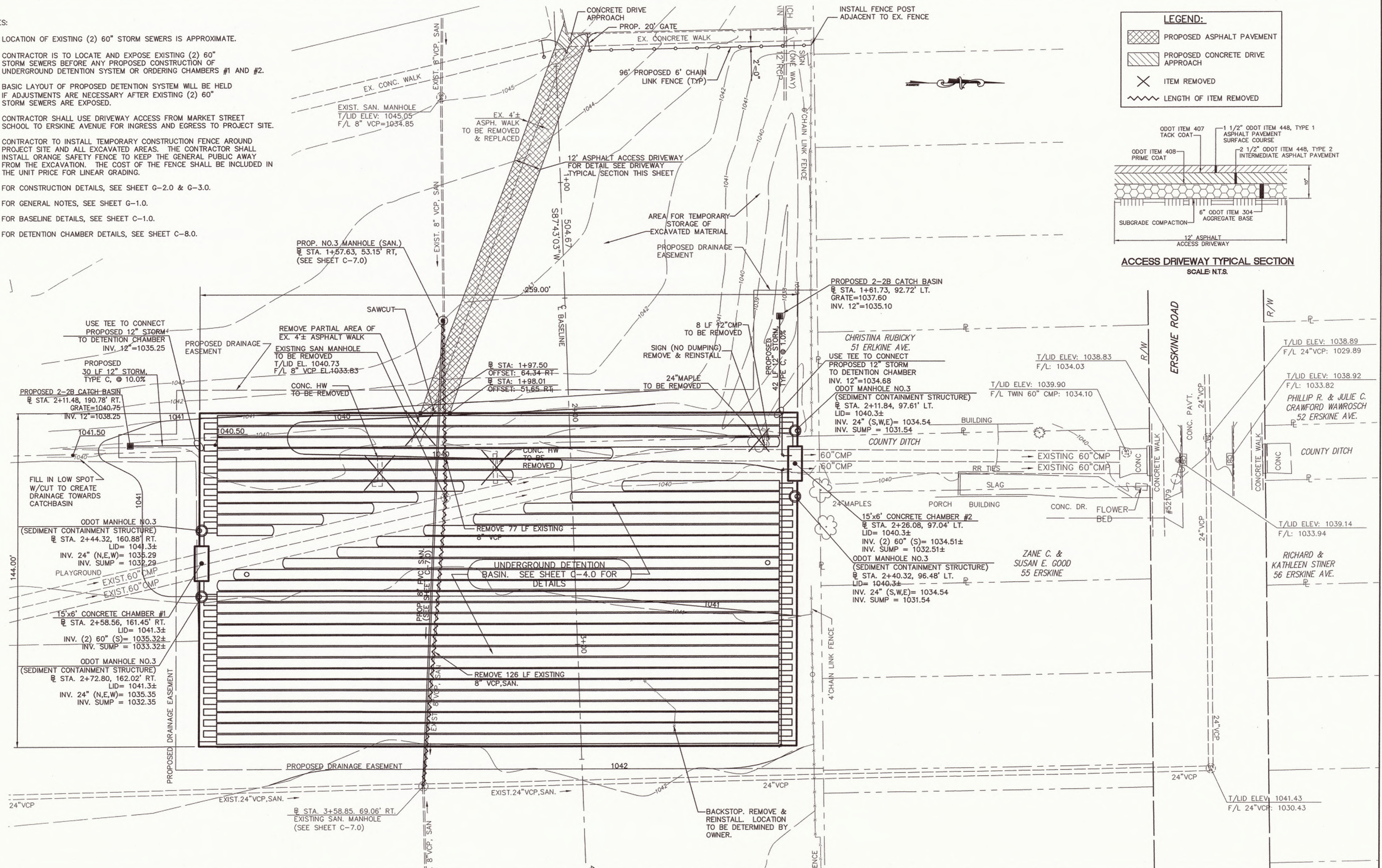
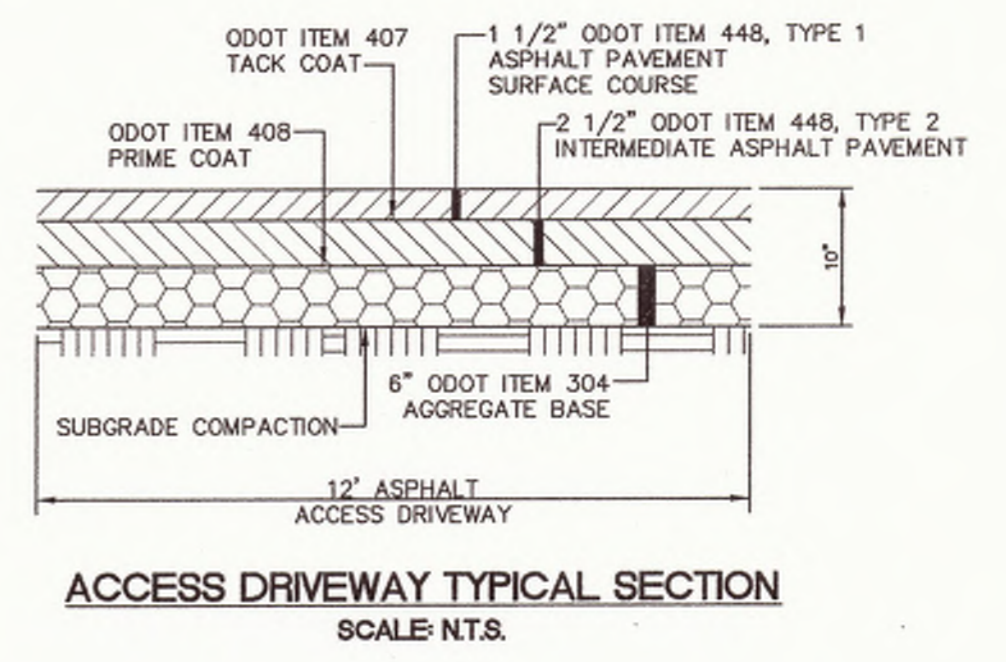
DWG. NO. G-3.0
SHEET 4 OF 12

NOTES:

1. LOCATION OF EXISTING (2) 60" STORM SEWERS IS APPROXIMATE.
2. CONTRACTOR IS TO LOCATE AND EXPOSE EXISTING (2) 60" STORM SEWERS BEFORE ANY PROPOSED CONSTRUCTION OF UNDERGROUND DETENTION SYSTEM OR ORDERING CHAMBERS #1 AND #2.
3. BASIC LAYOUT OF PROPOSED DETENTION SYSTEM WILL BE HELD IF ADJUSTMENTS ARE NECESSARY AFTER EXISTING (2) 60" STORM SEWERS ARE EXPOSED.
4. CONTRACTOR SHALL USE DRIVEWAY ACCESS FROM MARKET STREET SCHOOL TO ERSKINE AVENUE FOR INGRESS AND EGRESS TO PROJECT SITE.
5. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION FENCE AROUND PROJECT SITE AND ALL EXCAVATED AREAS. THE CONTRACTOR SHALL INSTALL ORANGE SAFETY FENCE TO KEEP THE GENERAL PUBLIC AWAY FROM THE EXCAVATION. THE COST OF THE FENCE SHALL BE INCLUDED IN THE UNIT PRICE FOR LINEAR GRADING.
6. FOR CONSTRUCTION DETAILS, SEE SHEET G-2.0 & G-3.0.
7. FOR GENERAL NOTES, SEE SHEET G-1.0.
8. FOR BASELINE DETAILS, SEE SHEET C-1.0.
9. FOR DETENTION CHAMBER DETAILS, SEE SHEET C-8.0.

LEGEND:

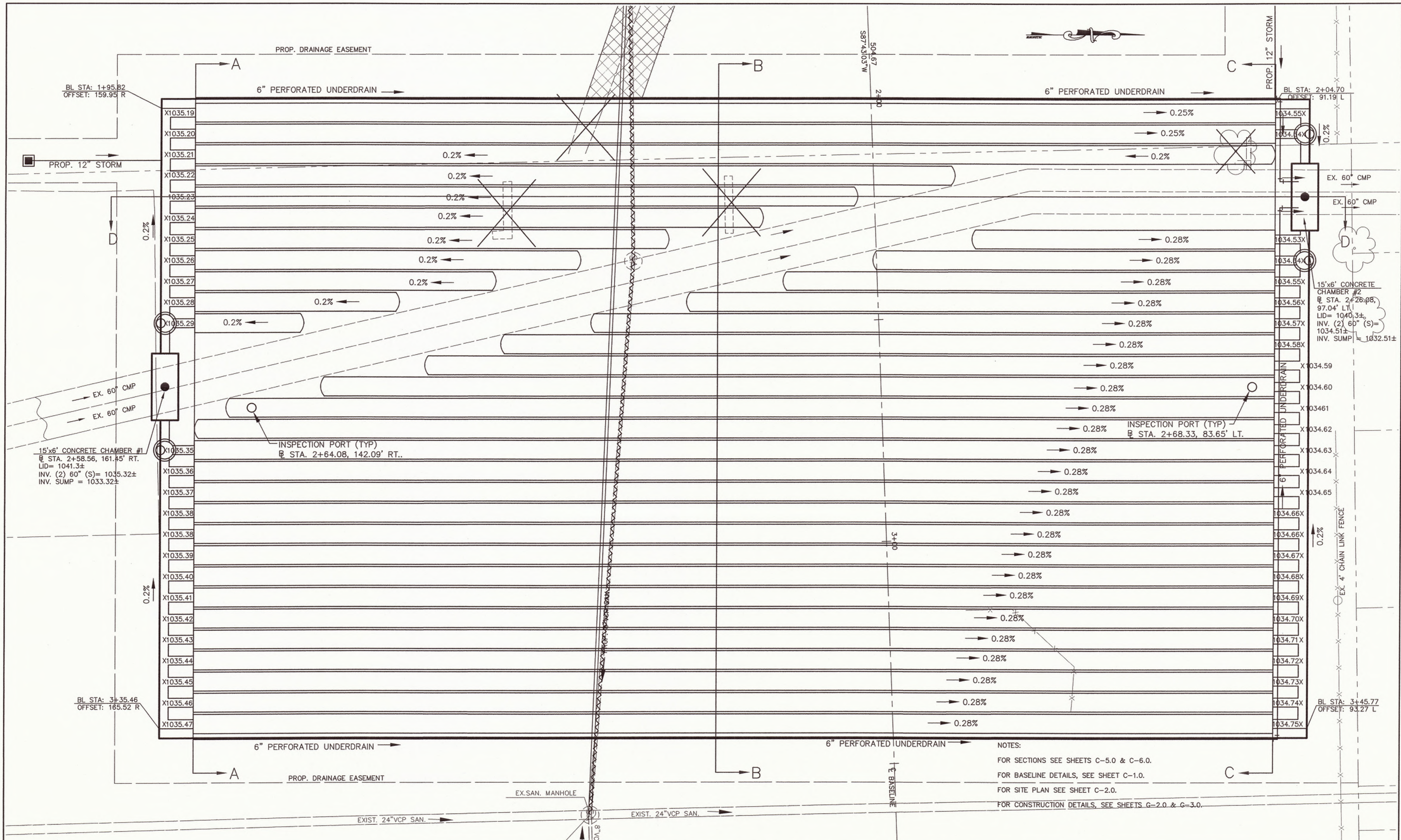
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE DRIVE APPROACH
- ITEM REMOVED
- LENGTH OF ITEM REMOVED



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PROJECT NUMBER: 61-20302-00		SCALE: (22x34) 1"=20'		ms consultants, inc. engineers, architects, planners 333 WEST FEDERAL STREET YOUNGSTOWN, OHIO 44503-1885 Phone 330-744-5321 Fax 330-744-5256		BOARDMAN TOWNSHIP MARKET STREET SCHOOL UNDERGROUND DETENTION BASIN PROJECT		DWG. NO. C-2.0	
DRAWN: DAC/PAS		CHECKED: GJD		DATE: 6/8/07		SCALE: (11x17) 1"=40'		SHEET 6 OF 12	
SEAL	NO.	REVISIONS	DATE	NO.	REVISIONS	DATE			

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NOTES:
 FOR SECTIONS SEE SHEETS C-5.0 & C-6.0.
 FOR BASELINE DETAILS, SEE SHEET C-1.0.
 FOR SITE PLAN SEE SHEET C-2.0.
 FOR CONSTRUCTION DETAILS, SEE SHEETS G-2.0 & G-3.0.

NO.	REVISIONS	DATE	NO.	REVISIONS	DATE

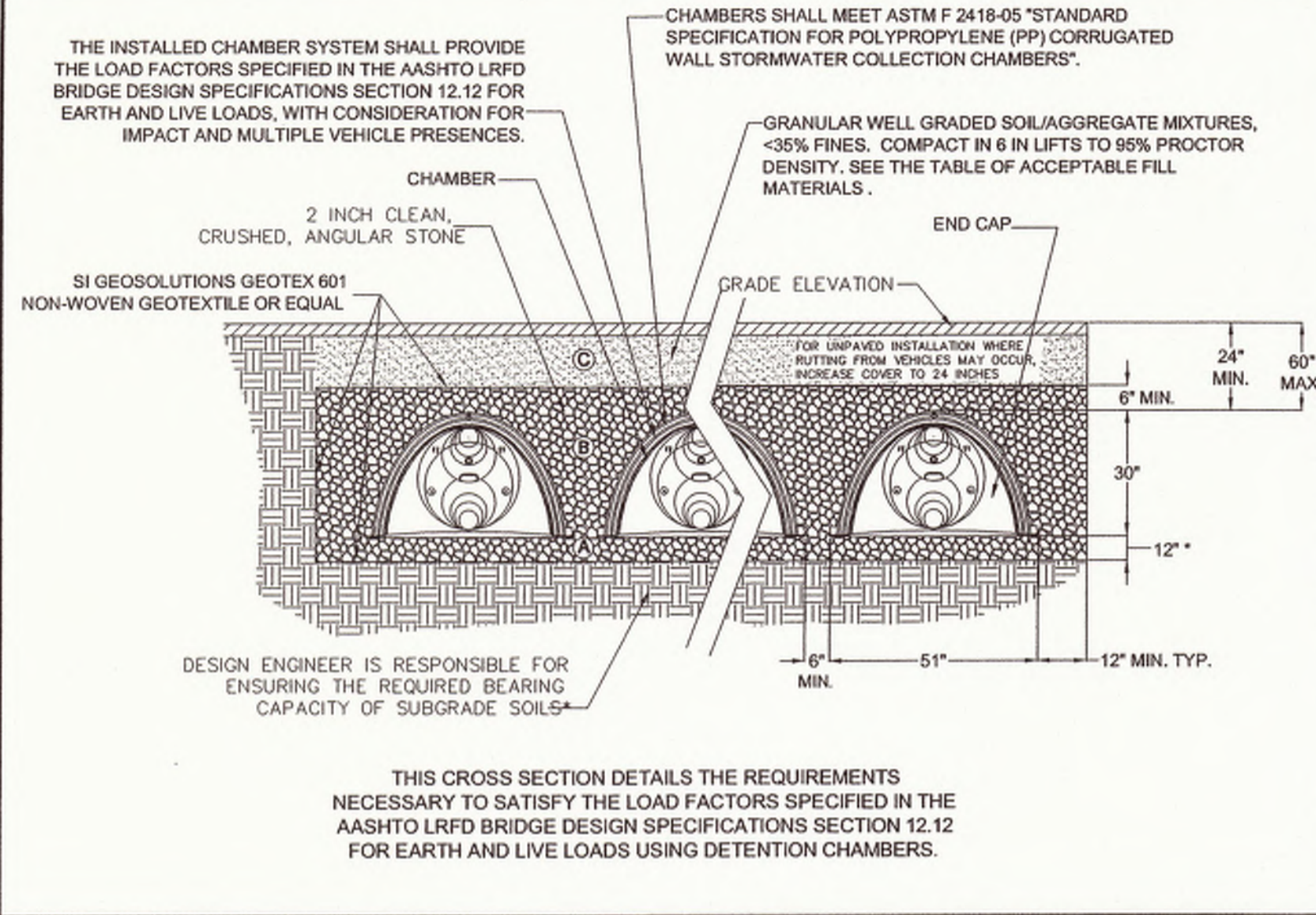
PROJECT NUMBER: 61-20302-00	SCALE: (22x34) 1"=10'
DRAWN: DAC/PAS	CHECKED: GJD
DATE: 6/8/07	SCALE: (11x17) 1"=20'

ms consultants, inc.
 engineers, architects, planners
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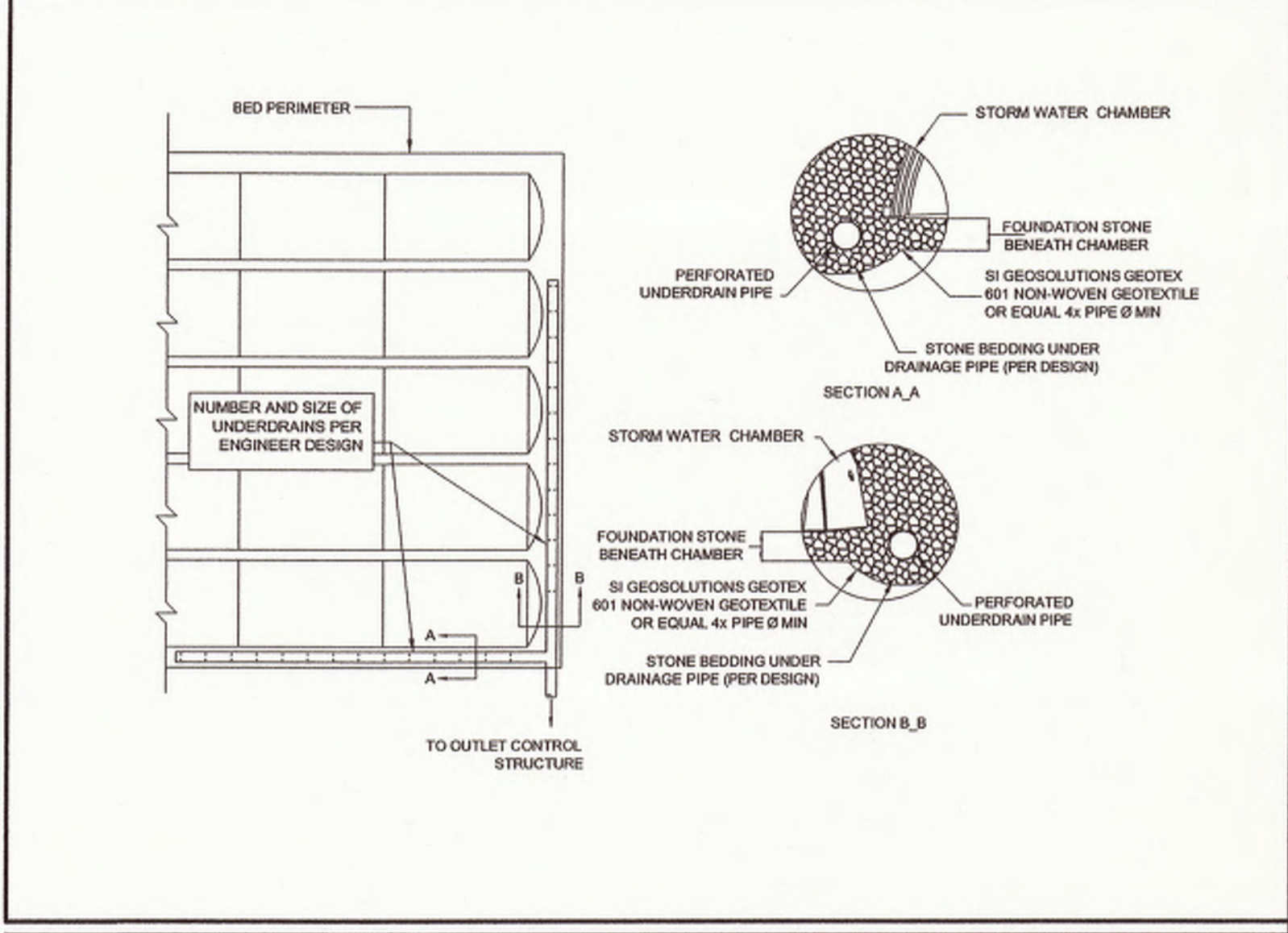
BOARDMAN TOWNSHIP
 MARKET STREET SCHOOL
 UNDERGROUND DETENTION BASIN PROJECT

DETENTION BASIN LAYOUT

DWG. NO. C-4.0
SHEET 8 OF 12

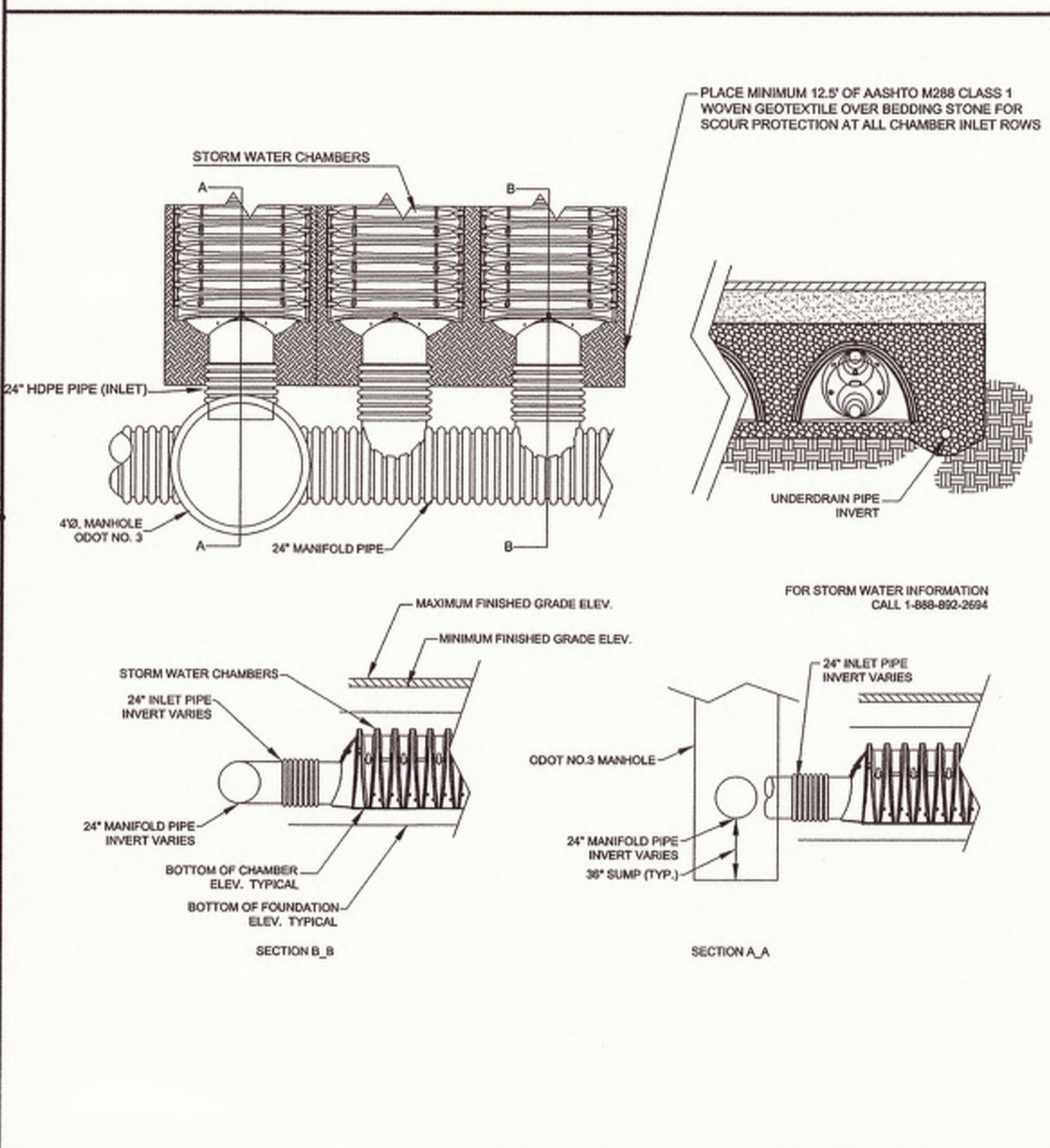


TYPICAL CROSS SECTION



UNDERDRAIN DETAIL

CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS LOADS SHALL BE CALCULATED IN ACCORDANCE WITH SECTION 3 AND SHALL INCLUDE H20 DESIGN TRUCK, IMPACT FACTOR, MULTIPLE PRESENCE, AND LANE LOAD.

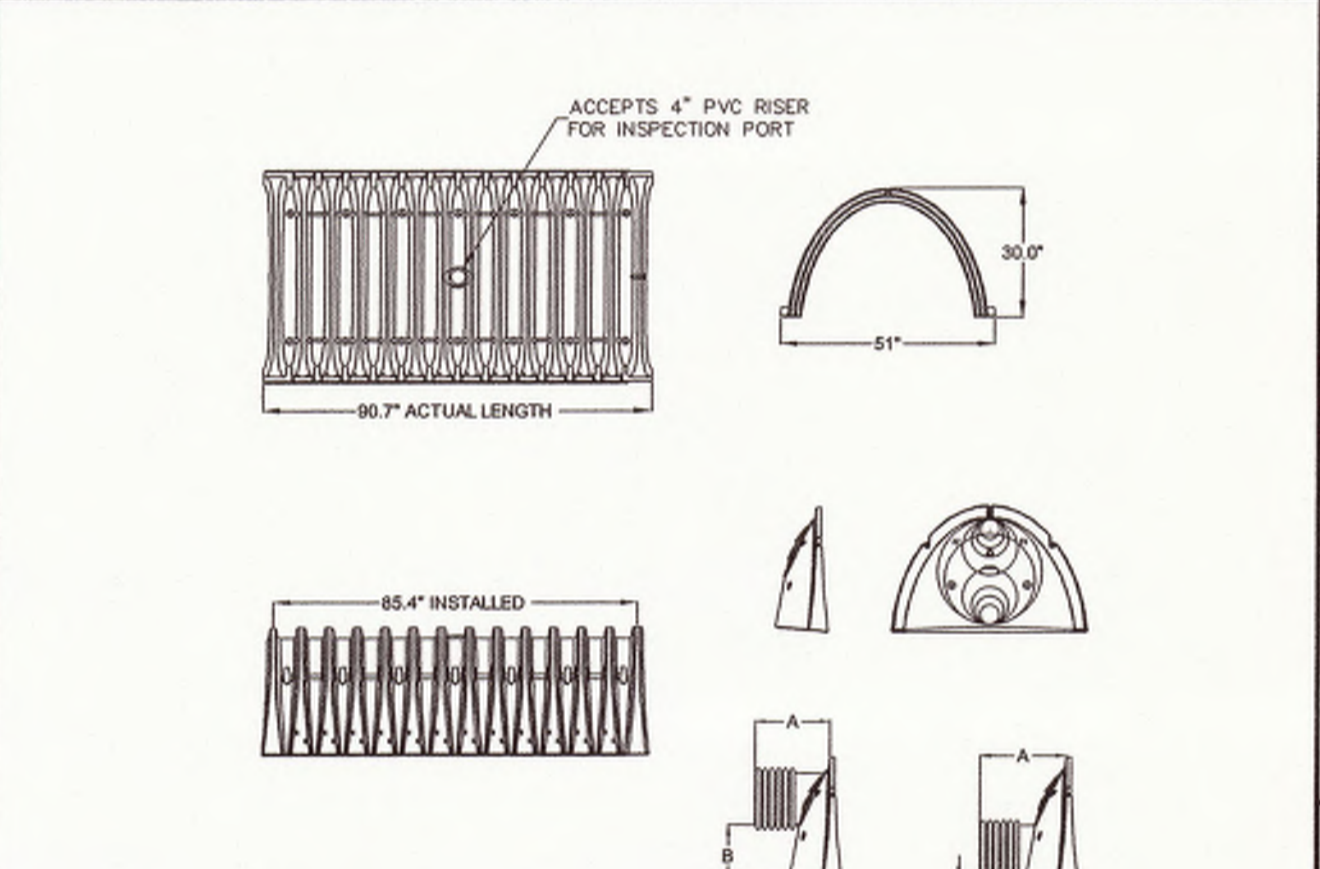


DETENTION SYSTEM ELEVATIONS

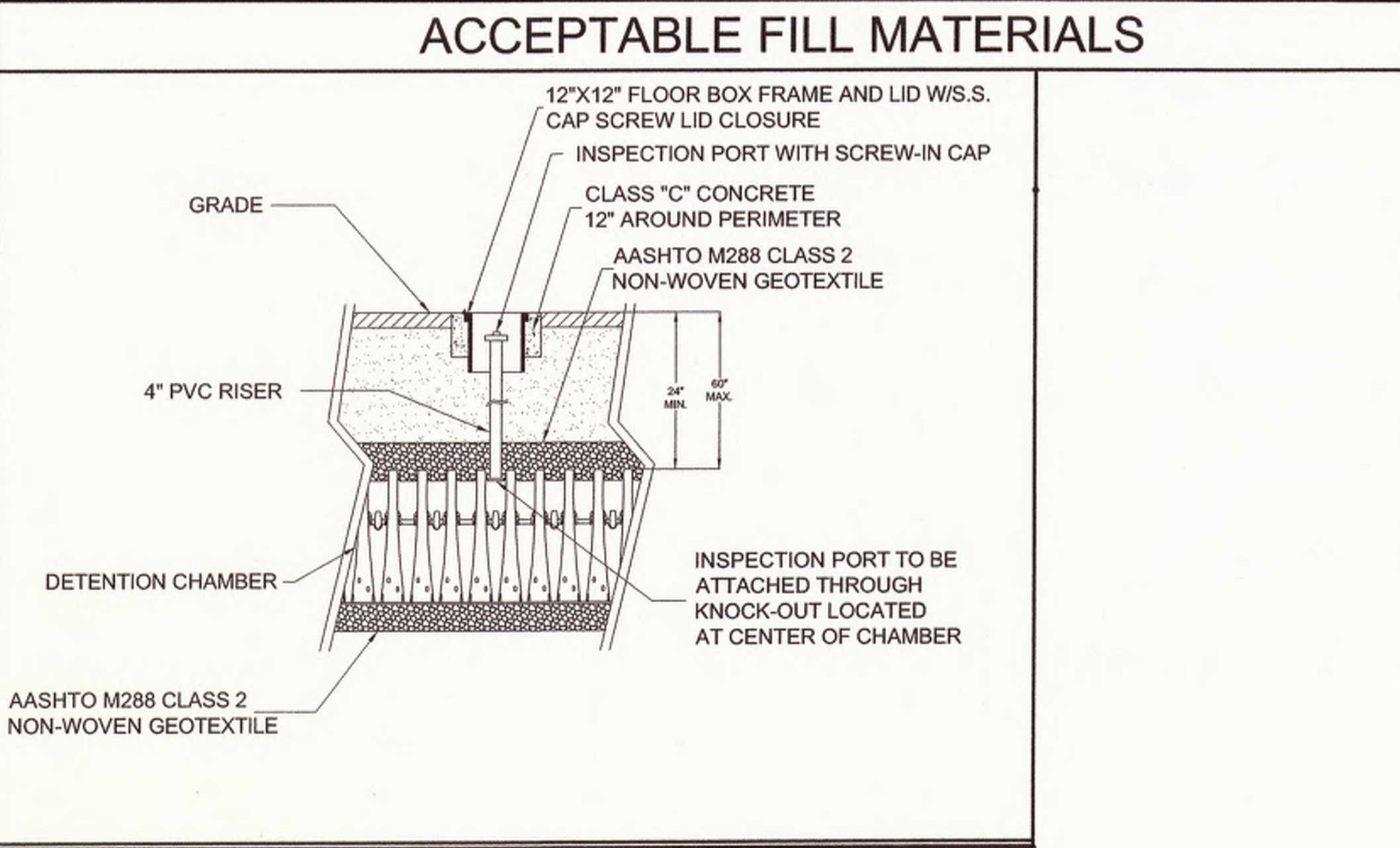
ACCEPTABLE FILL MATERIALS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
③ FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
② EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN ¾ - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
① FOUNDATION STONE BELOW CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN ¾ - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS CLEAN, CRUSHED, ANGULAR NO. 4 STONE.



TECHNICAL DETAILS



INSPECTION PORT DETAIL

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W x H x INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE	WEIGHT
51.0" x 30.0" x 85.4"	45.9 CUBIC FEET	74.9 CUBIC FEET	75 LBS.

CHAMBER	PIPE SIZE	STUBS AT TOP OF END CAP FOR PARTS NUMBERS ENDING WITH "1"			STUBS AT BOTTOM OF END CAP FOR PARTS NUMBERS ENDING WITH "2"		
		A	B	C	A	B	C
DETENTION 6 in (150 mm)	10.90 in (277 mm)	18.50 in (470 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 6 in (150 mm)	10.90 in (277 mm)	N/A	0.50 in (13 mm)	N/A	N/A	N/A	N/A
DETENTION 8 in (200 mm)	12.25 in (310 mm)	18.50 in (470 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 8 in (200 mm)	12.25 in (310 mm)	N/A	0.80 in (20 mm)	N/A	N/A	N/A	N/A
DETENTION 10 in (250 mm)	13.40 in (340 mm)	14.50 in (368 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 10 in (250 mm)	13.40 in (340 mm)	N/A	0.70 in (18 mm)	N/A	N/A	N/A	N/A
DETENTION 12 in (300 mm)	14.70 in (373 mm)	12.50 in (318 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 12 in (300 mm)	14.70 in (373 mm)	N/A	1.20 in (30 mm)	N/A	N/A	N/A	N/A
DETENTION 15 in (375 mm)	16.40 in (417 mm)	8.50 in (216 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 15 in (375 mm)	16.40 in (417 mm)	N/A	1.30 in (33 mm)	N/A	N/A	N/A	N/A
DETENTION 18 in (450 mm)	19.70 in (500 mm)	5.00 in (127 mm)	N/A	N/A	N/A	N/A	N/A
DETENTION 18 in (450 mm)	19.70 in (500 mm)	N/A	1.60 in (41 mm)	N/A	N/A	N/A	N/A
DETENTION 24 in (600 mm)	18.50 in (470 mm)	N/A	0.10 in (3 mm)	N/A	N/A	N/A	N/A

NOTE: ALL DIMENSIONS ARE NOMINAL.

- NOTES:**
- ALL DESIGN SPECIFICATIONS FOR DETENTION CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DESIGN MANUAL.
 - THE INSTALLATION OF DETENTION CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
 - CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
 - THE COST FOR FURNISHING AND INSTALLING MANIFOLD PIPES AND INLET AND OUTLET PIPES TO BE INCLUDED IN THE COST FOR THE UNIT COST FOR FABRICATED END CAPS.
 - FOR DETENTION BASIN LAYOUT, SEE SHEET C-4.0.
 - FOR CROSS SECTIONS SEE SHEETS C-5.0 & C-6.0.

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PROJECT NUMBER: 61-20302-00	SCALE: (22x34) NO SCALE	ms consultants, inc. engineers, architects, planners 333 WEST FEDERAL STREET YOUNGSTOWN, OHIO 44503-1885 Phone 330-744-5321 Fax 330-744-5256	BOARDMAN TOWNSHIP MARKET STREET SCHOOL UNDERGROUND DETENTION BASIN PROJECT	DWG. NO. C-8.0
DRAWN: DAC/PAS	CHECKED: GJD		DATE: 6/8/07	SCALE: (11x17) NO SCALE