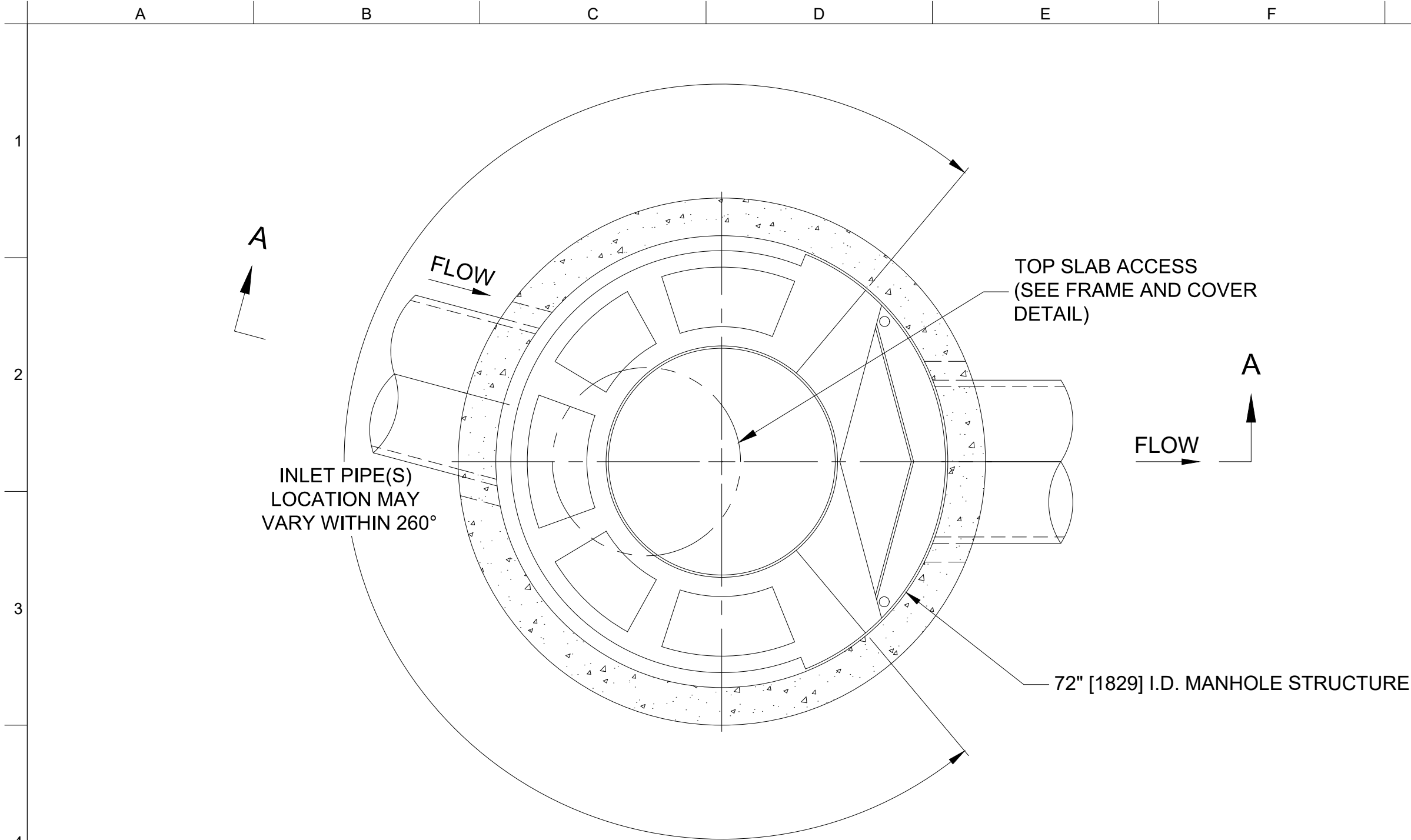
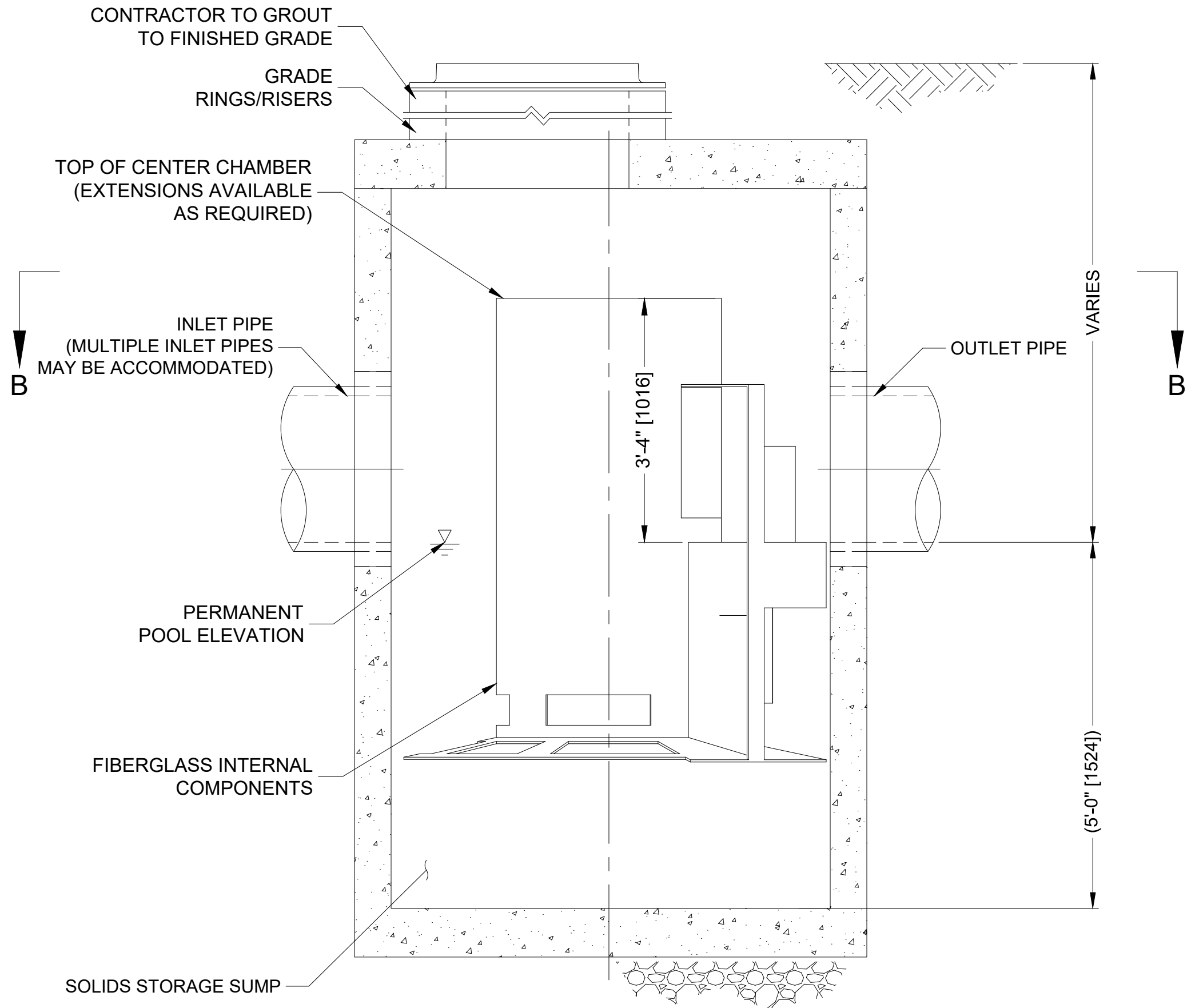




PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

1 HYDRODYNAMIC SEPARATOR (HDS-2) - CONTECH CS-6 (OR APPROVED SIMILAR)
N.T.S.

CASCADE SEPARATOR DESIGN NOTES

CS-6 RATED TREATMENT CAPACITY IS 5.6 CFS, OR PER LOCAL REGULATIONS.

THE STANDARD CS-6 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

GRATED INLET ONLY (NO INLET PIPE)

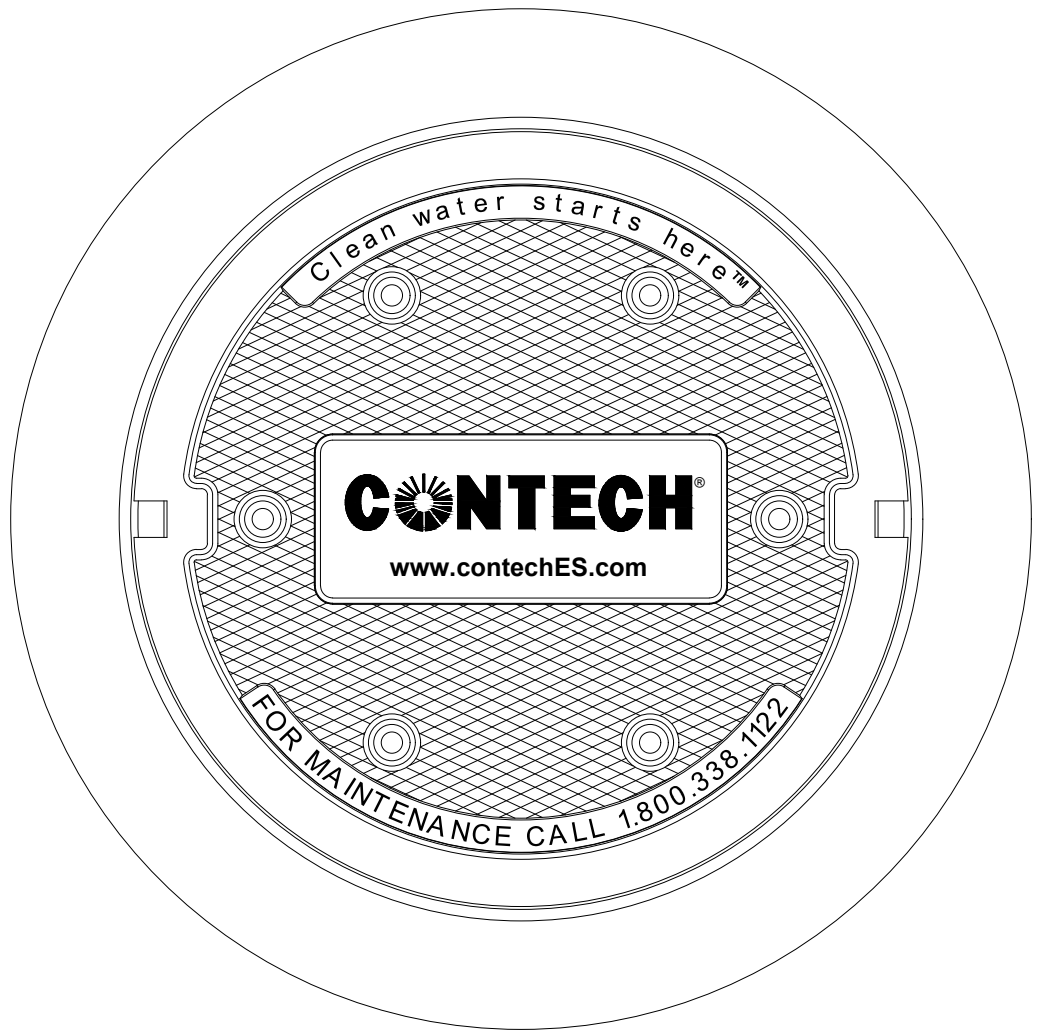
GRATED INLET WITH INLET PIPE OR PIPES

CURB INLET ONLY (NO INLET PIPE)

CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	HDS-2
WATER QUALITY FLOW RATE (cfs)	2.32
PEAK FLOW RATE (cfs)	23.03
RETURN PERIOD OF PEAK FLOW (yrs)	100



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES:

- PRODUCT SHALL BE CONTECH CS-6 OR APPROVED SIMILAR
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND ASSHTO LOAD FACTOR DESIGN MENTION.

INSTALLATION NOTES:

- SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD DURING SUBSEQUENT DETAILED DESIGN.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CS STRUCTURE.
- CONTRACTOR TO INSTALL JOIN SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPES. MATCH INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURERS TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM.

Issue	Date	Revisions
A	9/22/23	DRAFT ISSUED FOR REVIEW
B	9/28/23	CONSTRAINT MAPPING
C	8/21/24	10% DESIGN SUBMISSION
D	9/13/24	30% DESIGN DRAFT
E	11/01/24	ISSUED FOR ISO-NE SIS APPLICATION
F	02/28/2025	30% DESIGN
G	03/18/2025	30% DESIGN REVISION

ARUP

60 State Street , Boston, MA
02109, United States

www.arup.com

Client

MORAGA STORAGE LLC

Job Title

MORAGA STORAGE
ZOVL - Oakham, MA

Seal

**NOT FOR
CONSTRUCTION**

Drawing Title

**CIVIL DETAIL
SHEET 8**

Scale

NTS

File Name

C8-01.DWG

Drawing Status

30% DESIGN DRAWINGS

Job No

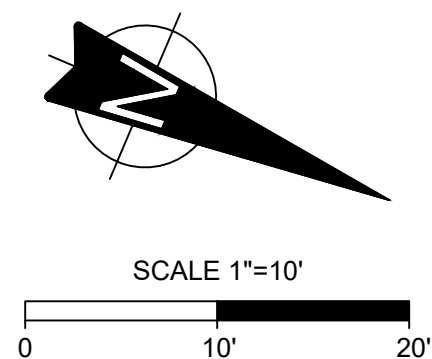
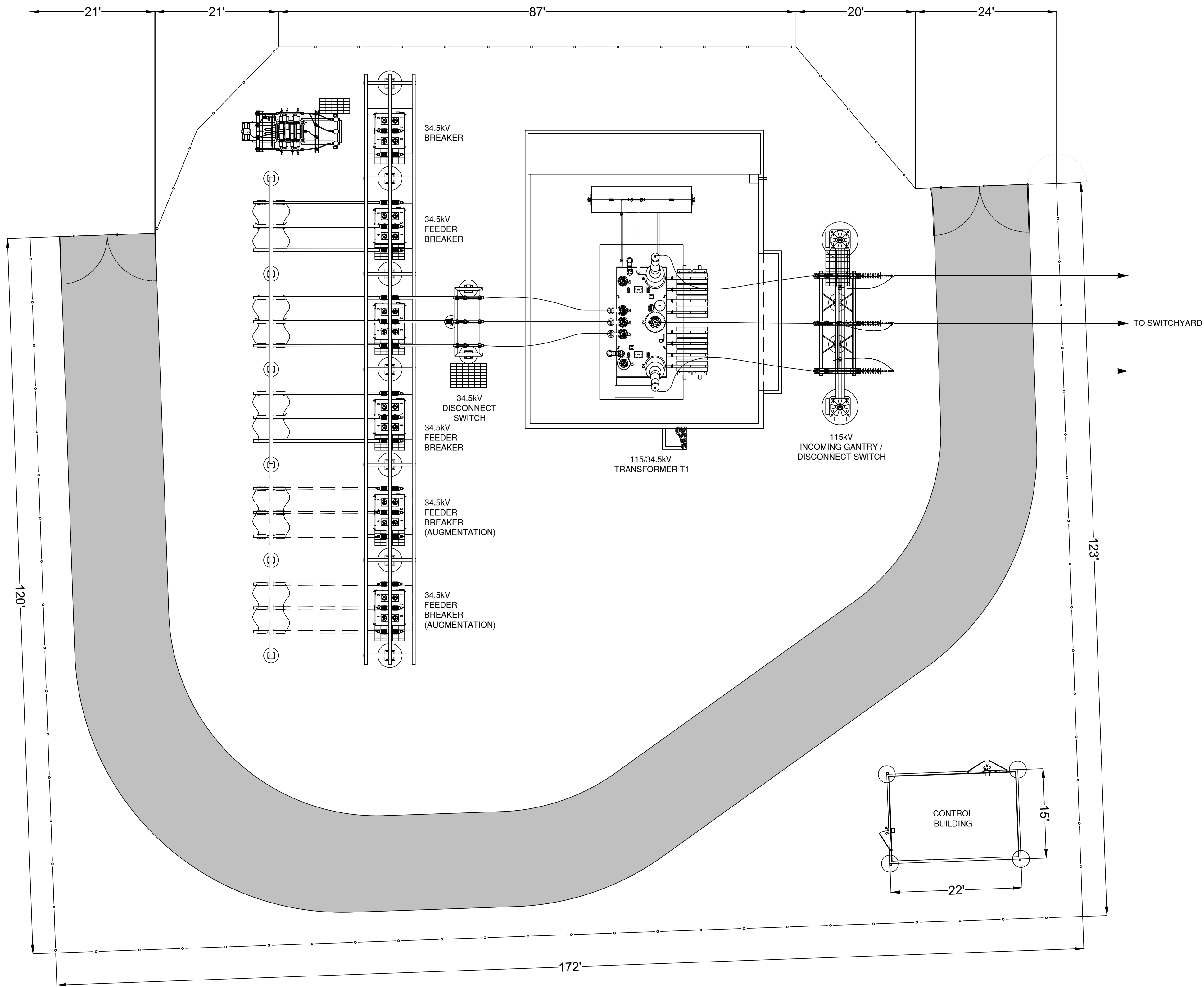
296229-00

Drawing No

C8-08

Issue

G



Revisions		
Rev #	Date	Description
A	02/19/25	ISSUED FOR DISCUSSION
B	02/27/25	ISSUED FOR DISCUSSION

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Job Title

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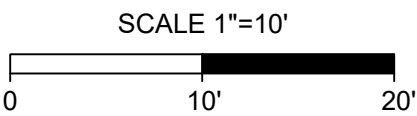
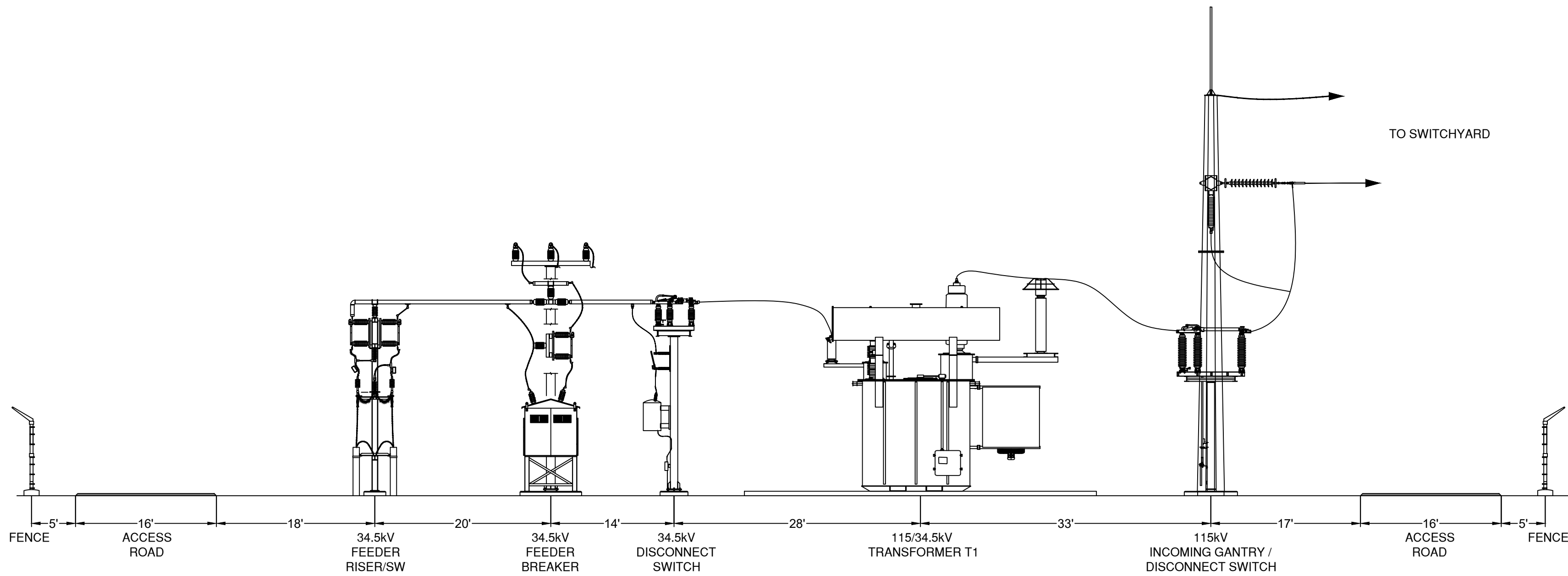
FOR REVIEW

NOT FOR
CONSTRUCTION

Drawing Title

**MORAGA STORAGE
SUBSTATION GENERAL
ARRANGEMENT**

Scale		1" = 10'
Job No	Drawing No	
296299	E500	



Revisions		
Rev #	Date	Description
A	02/19/25	ISSUED FOR DISCUSSION
B	02/27/25	ISSUED FOR DISCUSSION

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Job Title

MORAGA STORAGE
Oakham, MA

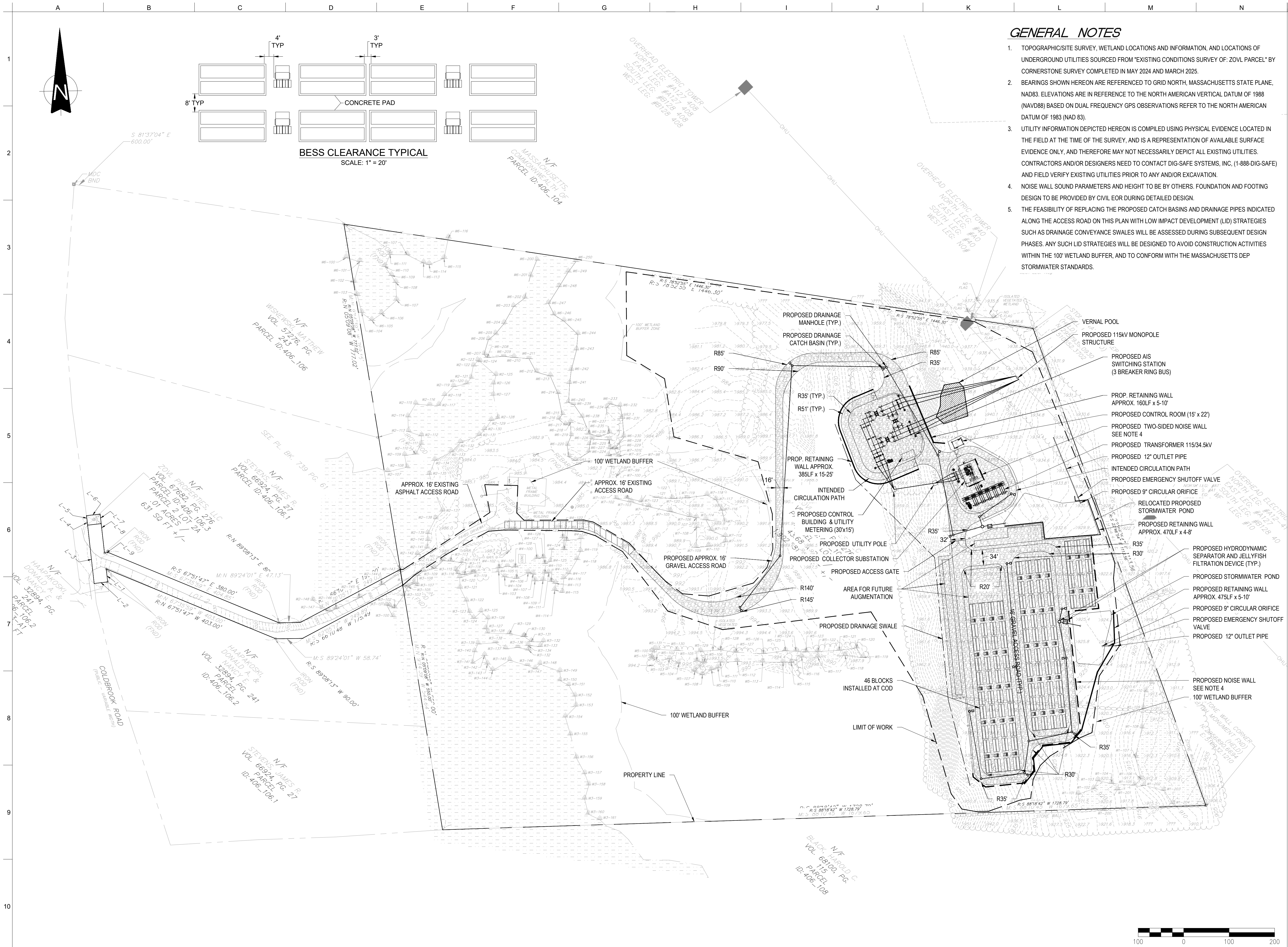
FOR REVIEW

NOT FOR
CONSTRUCTION

Drawing Title

MORAGA STORAGE
SUBSTATION
SECTION VIEW

Scale		1" = 10'
Job No	Drawing No	
296299	E501	



GENERAL NOTES

- TOPOGRAPHIC/SITE SURVEY, WETLAND LOCATIONS AND INFORMATION, AND LOCATIONS OF UNDERGROUND UTILITIES SOURCED FROM "EXISTING CONDITIONS SURVEY OF: ZOVLF PARCEL" BY CORNERSTONE SURVEY COMPLETED IN MAY 2024 AND MARCH 2025.
- BEARINGS SHOWN HEREON ARE REFERENCED TO GRID NORTH, MASSACHUSETTS STATE PLANE, NAD83. ELEVATIONS ARE IN REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) BASED ON DUAL FREQUENCY GPS OBSERVATIONS REFER TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
- UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD AT THE TIME OF THE SURVEY, AND IS A REPRESENTATION OF AVAILABLE SURFACE EVIDENCE ONLY, AND THEREFORE MAY NOT NECESSARILY DEPICT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO ANY AND/OR EXCAVATION.
- NOISE WALL SOUND PARAMETERS AND HEIGHT TO BE BY OTHERS. FOUNDATION AND FOOTING DESIGN TO BE PROVIDED BY CIVIL EOR DURING DETAILED DESIGN.
- THE FEASIBILITY OF REPLACING THE PROPOSED CATCH BASINS AND DRAINAGE PIPES INDICATED ALONG THE ACCESS ROAD ON THIS PLAN WITH LOW IMPACT DEVELOPMENT (LID) STRATEGIES SUCH AS DRAINAGE CONVEYANCE SWALES WILL BE ASSESSED DURING SUBSEQUENT DESIGN PHASES. ANY SUCH LID STRATEGIES WILL BE DESIGNED TO AVOID CONSTRUCTION ACTIVITIES WITHIN THE 100' WETLAND BUFFER, AND TO CONFORM WITH THE MASSACHUSETTS DEP STORMWATER STANDARDS.

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A	9/22/23	DRAFT ISSUED FOR REVIEW
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D	9/13/24	30% DESIGN DRAFT
E	11/01/24	ISSUED FOR ISO-NE SIS APPLICATION
F	02/28/2025	30% DESIGN
G	03/18/2025	30% DESIGN REVISION
H	11/14/2025	SITE PLAN ALTERNATIVE
I	12/16/2025	SITE PLAN ALTERNATIVE

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Job Title

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ZOVLF - Oakham, MA

Seal

NOT FOR
CONSTRUCTION

Drawing Title

CIVIL SITE PLAN

Scale

1" = 100'

File Name

C2-01 - VERNAL POOL ALTERNATE.V3.DWG

Drawing Status

30% DESIGN DRAWINGS

Job No

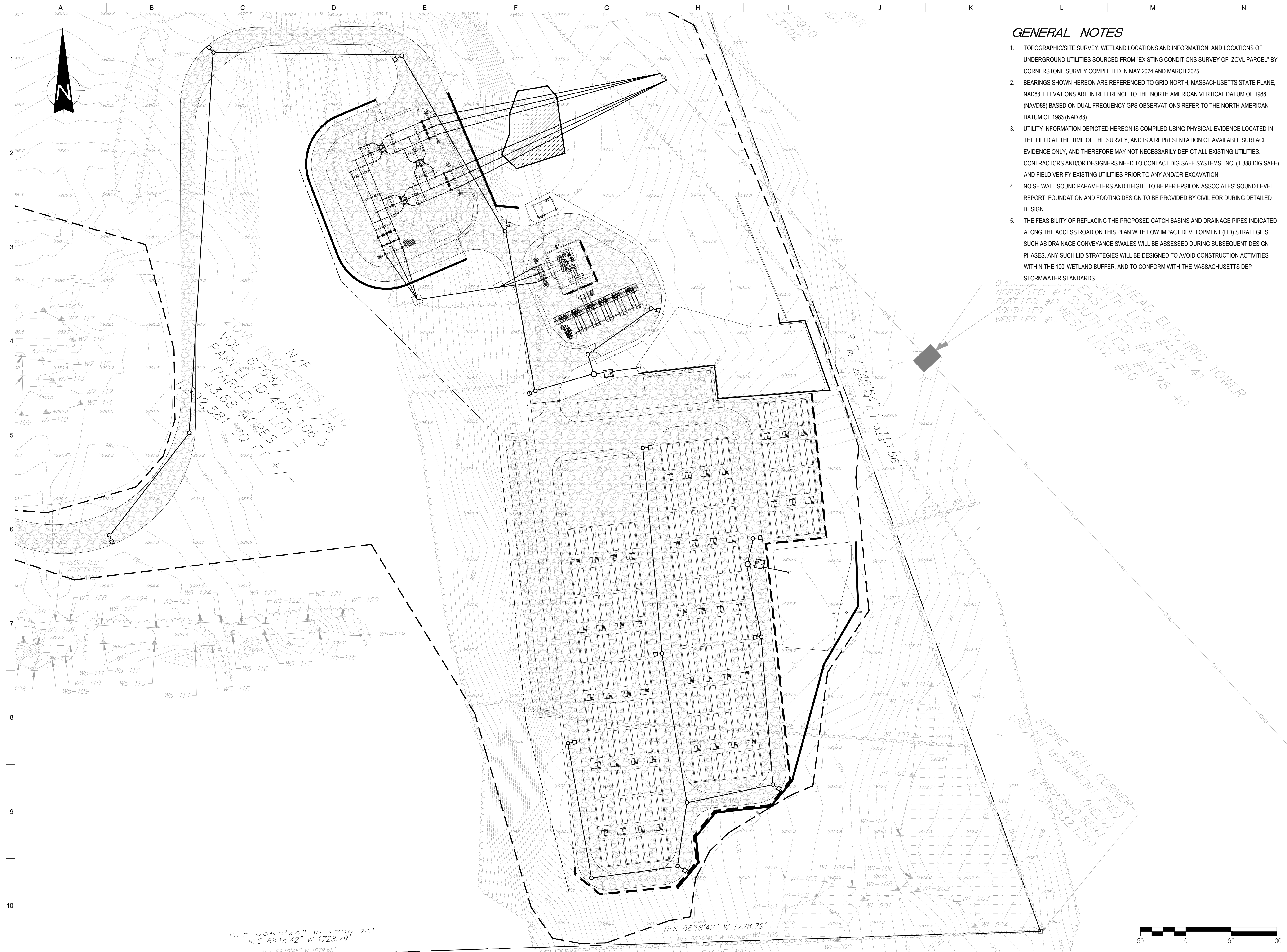
296229-00

Drawing No

C2-01

Issue

I



Issue	Date	Revisions
A	9/22/23	DRAFT ISSUED FOR REVIEW
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C	8/21/24	10% DESIGN SUBMISSION
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H	11/14/2025	SITE PLAN ALTERNATIVE
I	12/16/2025	SITE PLAN ALTERNATIVE

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MORAGA STORAGE LLC

Job Title

MORAGA STORAGE
ZOVL - Oakham, MA

Seal

NOT FOR
CONSTRUCTION

Drawing Title

CIVIL SITE PLAN

Scale $1" = 50'$

File Name C2-01 - VERNAL POOL ALTERNATE.V3.DWG

Drawing Status
30% DESIGN DRAWINGS

Job No
296229-00

Drawing No
C2-02

Issue
I