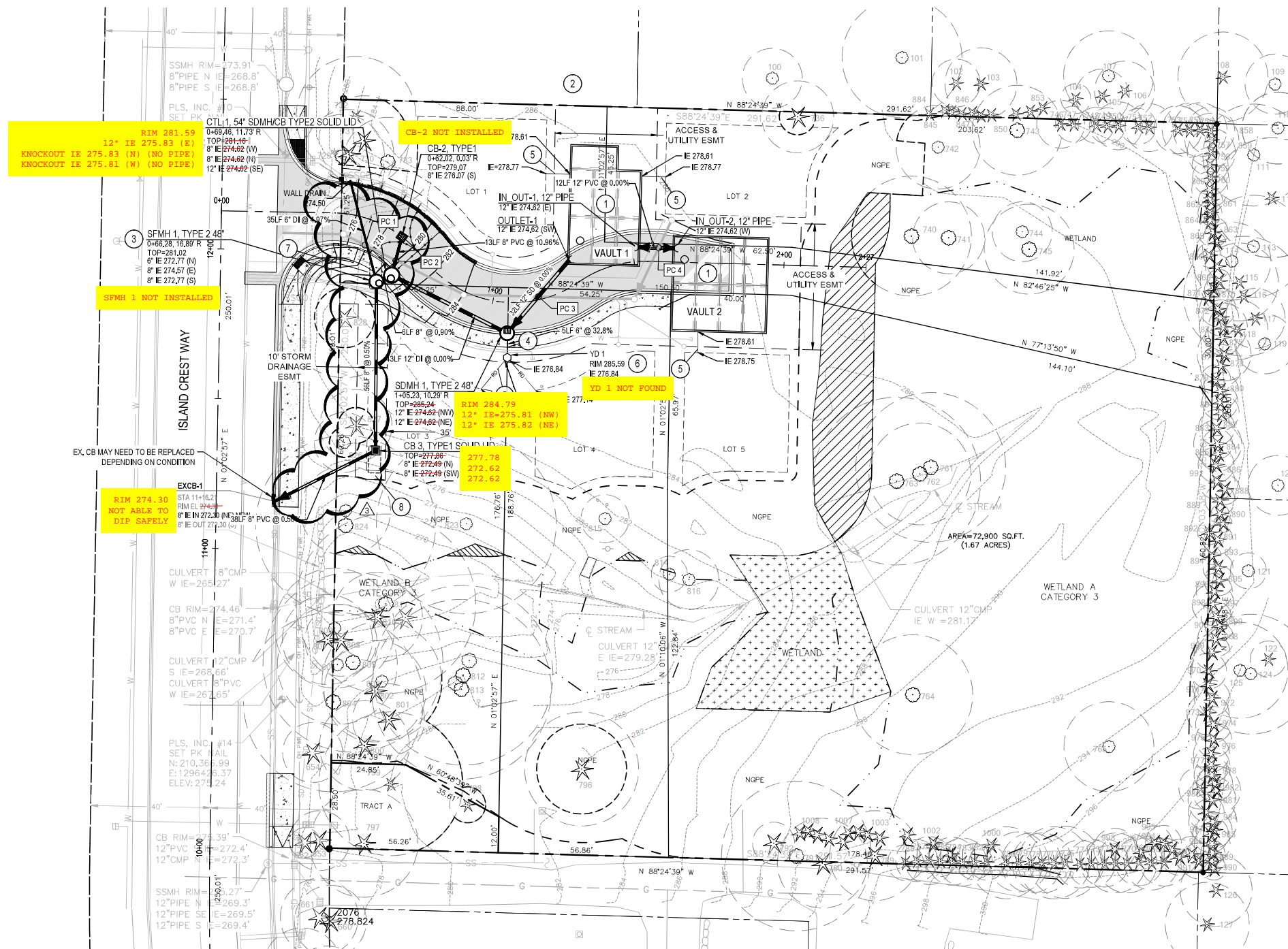


SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**



**CONSTRUCTION NOTES**

- ① DETENTION VAULTS - SEE DETAIL SHEET C4.4-C4.8
- ② FLOW CONTROL STRUCTURE - SEE DETAIL SHEET C4.2
- ③ STORM FILTER MANHOLE - SEE DETAIL SHEET 4.3
- ④ 5 LF 6" PVC @ 2% MIN.
- ⑤ 4" ROOF DRAIN
- ⑥ YARD DRAIN - SEE DETAIL SHEET C4.2
- ⑦ DIRECTIONAL BORE ACCESS PIT; SEE HORIZONTAL BORING NOTE
- ⑧ DIRECTIONAL BORE RECEIVING PIT; SEE HORIZONTAL BORING NOTE

**CROSSING TABLE - SEWER & STORM**

NO.	TOP OF SINK PIPE ELEVATION	BOTTOM OF SINK PIPE ELEVATION	SEPARATION	BOTTOM OF SEWER PIPE ELEVATION	TOP OF STORM PIPE ELEVATION
PC 1	272.18	273.37	1.19 FT		
PC 2	273.82	275.16	1.34 FT		
PC 3			3.5 FT	278.07	275.84
PC 4			6.49 FT	282.13	275.84

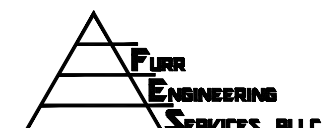
**LEGEND**

- CATCH BASIN TYPE 1
- CATCH BASIN TYPE 2
- YARD DRAIN
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPERTY BOUNDARY
- STORM DRAIN LINE
- ROOF DRAIN (6" @ 2% MIN.)
- WETLAND BUFFER LINE
- TREE PROTECTION ZONE
- WETLAND AS BUFFER
- WETLAND TO BE REPLACED
- WETLAND REPLACEMENT AREA

4320 ISLAND CREST WAY  
 MERCER ISLAND, WA 98040

Key Plan

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**STORM WATER PLAN**



Revisions

NO.	DATE	REVISION
△	03/30/22	REVISED PER CITY COMMENTS
△	06/03/22	REVISED PER CITY COMMENTS
△	05/23/23	REVISED PER CITY COMMENTS

Scale:  
 FES Project No: 21084  
 Date: Sept 27, 2021  
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**C4.0**

**GENERAL NOTES**

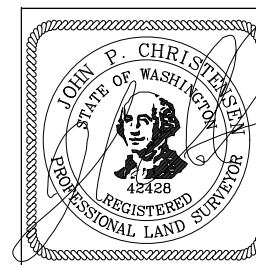
1. MITIGATED WETLAND & STREAM BOUNDARY & BUFFERS SHOWN. REFER TO THE WATERSHED CO. MITIGATION PLAN.

**HORIZONTAL BORING NOTE**

HORIZONTAL BORING ADJACENT TO AND WITHIN TREE ROOT ZONE SHOULD BE PERFORMED BY A QUALIFIED CONTRACTOR UNDER THE DIRECTION OF THE PROJECT ARBORIST AND THE CITY OF MERCER ISLAND ARBORIST IN ORDER TO COMPLY WITH TREE RETENTION REQUIREMENTS.

**STORMWATER NOTES**

1. ALL STORMWATER MAINS TO BE 8" SDR 35 PVC PIPE OR APPROVED EQUAL.
2. ROOF DOWNSPOUT STUBS SHALL BE 6" MIN SDR 35 PVC OR APPROVED EQUAL.
3. ROUTE FUTURE FOUNDATION DRAINS TO DAYLIGHT.
4. RAISE ALL STORM DRAINS, VALVE BOXES, MANHOLE COVERS AND MONUMENT COVERS TO MATCH ASPHALT FINISH GRADE. MONUMENT COVERS MUST BE RAISED WITHOUT DISTURBING MONUMENT. RISER EXTENSION CASTINGS ARE ACCEPTABLE.
5. DRIVEWAYS SHALL DRAIN TOWARDS ACCESS DRIVE OR OTHERWISE CONNECT TO ROOF DRAIN OR YARD DRAIN STUBS.
6. REFER TO DRAINAGE REPORT FOR SIZING INFORMATION.
7. BOTTOM OF BUILDING FOUNDATION FOR LOTS 1, 2 AND 5 MAX. ELEVATION 283.0.



HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS RECORD DRAWING IS AN ACCURATE AND COMPLETE REPRESENTATION OF DATA ESTABLISHED FROM FIELD INFORMATION OBTAINED UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR, AND THAT THE PHYSICAL DIMENSIONS OR ELEVATIONS SHOWN THUS ARE AS-BUILT INFORMATION AND THE FACILITY WAS CONSTRUCTED ACCORDING TO THE APPROVED PLANS, EXCEPT AS OTHERWISE NOTED HEREON.

SIGNATURE

11/16/23

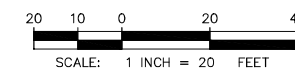
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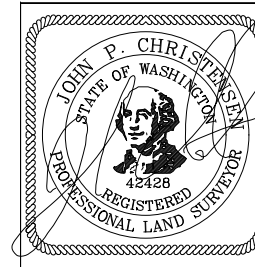
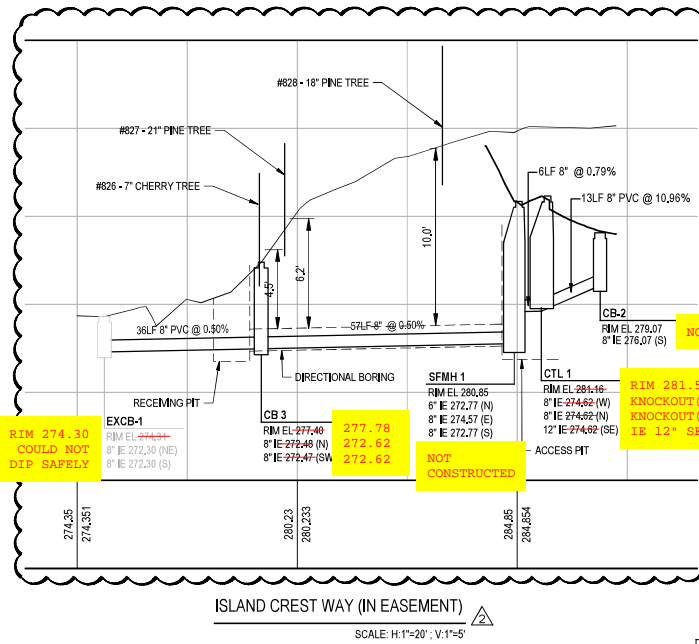
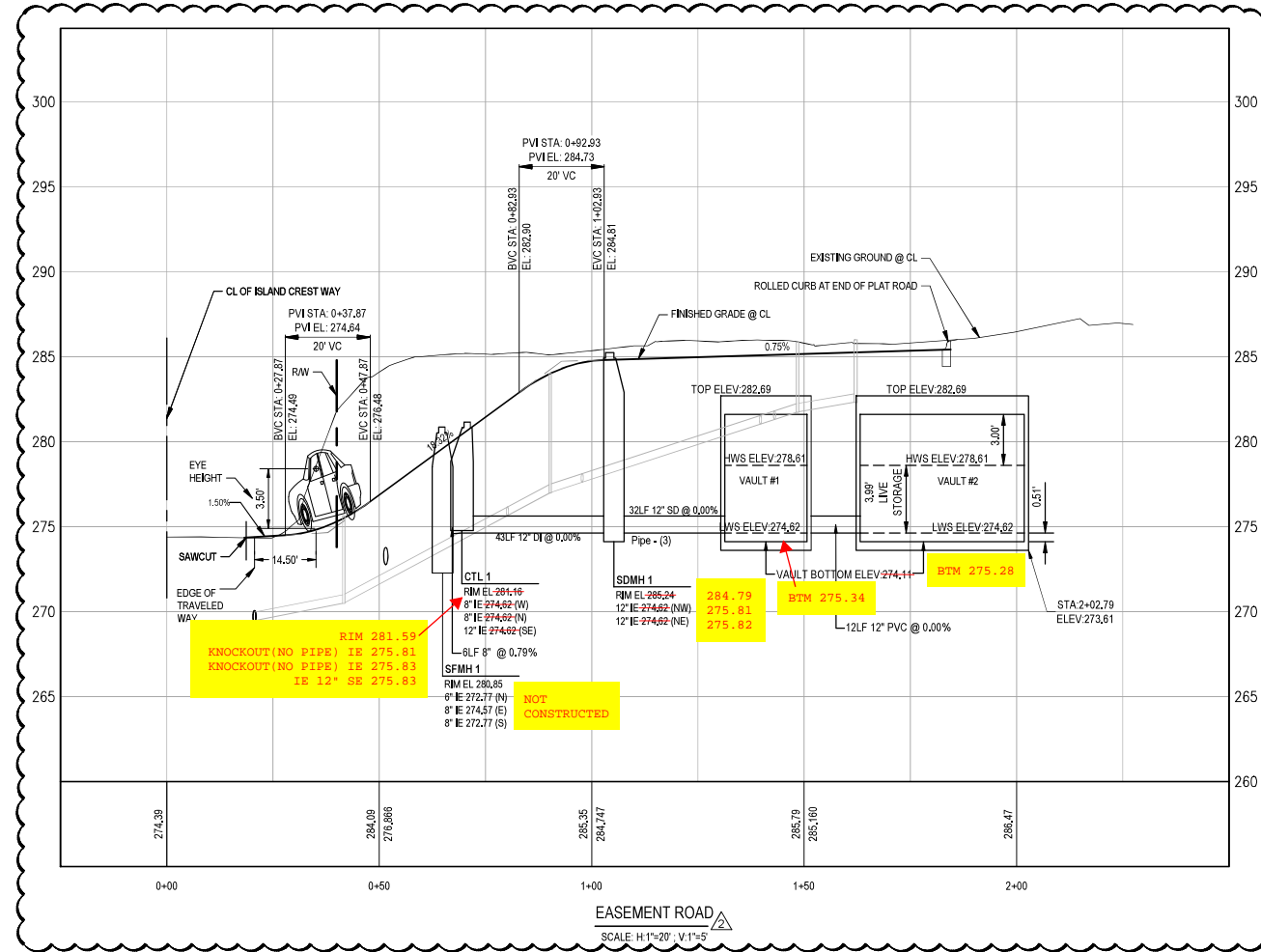


SCALE: 1 INCH = 20 FEET





SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**



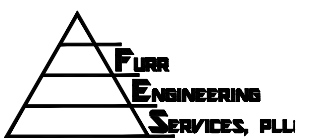
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SIGNATURE: *[Signature]* DATE: 11/16/23

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 MERCER ISLAND, WA 98040

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**STORM DRAINAGE  
 PROFILES**



Revisions

△	03/30/22	REVISED PER CITY COMMENTS
△	06/03/22	REVISED PER CITY COMMENTS
△	05/23/23	REVISED PER CITY COMMENTS

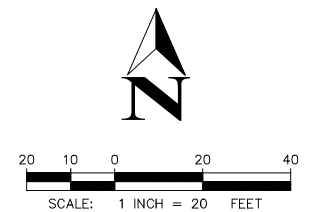
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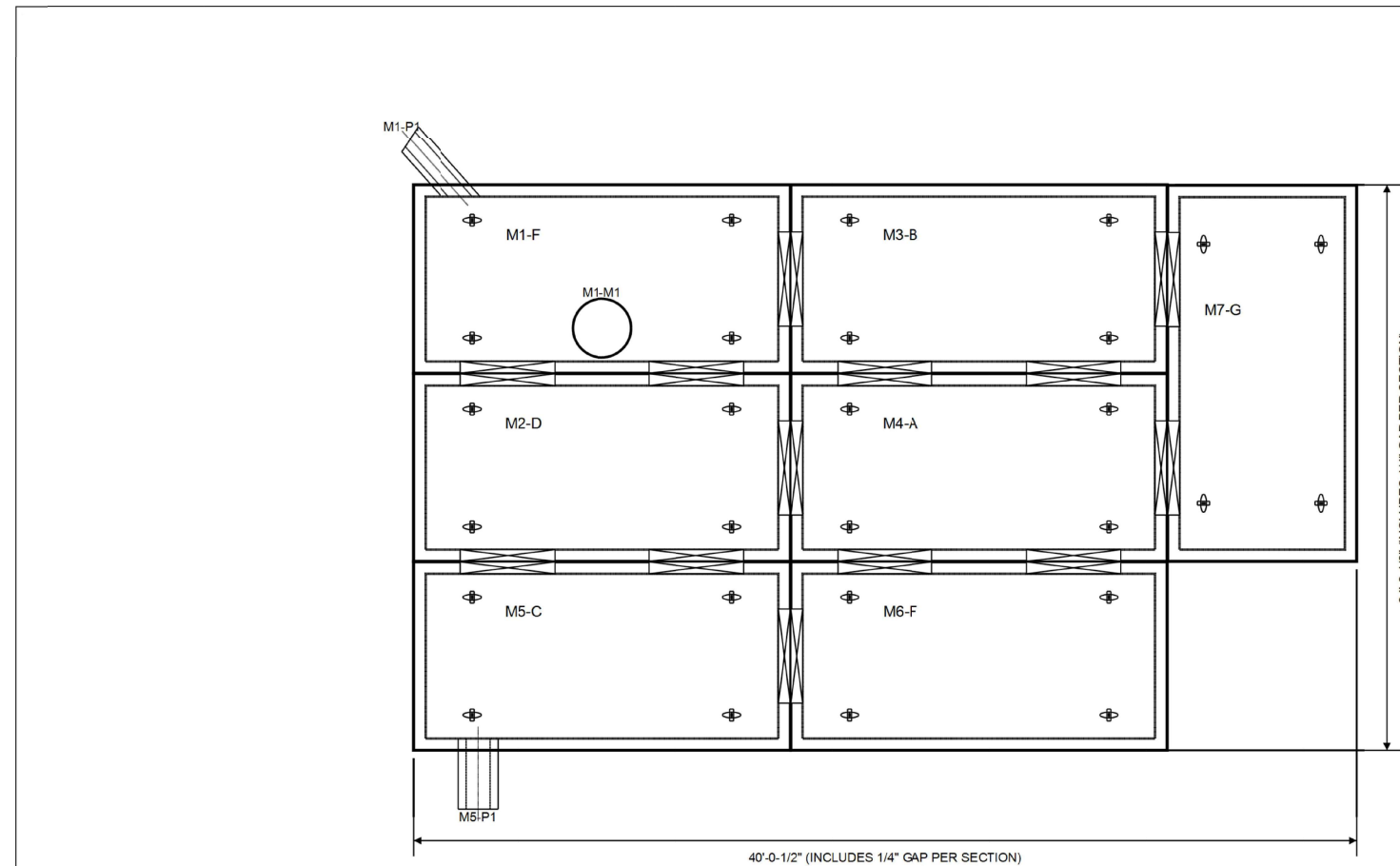
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**C4.1**

SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**

4320 ISLAND CREST WAY  
 MERCER ISLAND, WA 98040



MODULE NOTES		
TYPE	QUANTITY	HEIGHT
F	2	8
D	1	8
B	1	8
A	1	8
C	1	8
G	1	8
TOTAL	7	
VOLUME	6,182	CUBIC FEET

PIPE SCHEDULE		
PIPE	SIZE	INVERT
M1-P1	12" RCP	0.00'
M5-P1	12" RCP	0.00'

MANHOLE SCHEDULE		
MANHOLE	TYPE	RIM
M1-M1	30" DIA. F&C	0.00'

PLAN VIEW  
 SCALE: 3/16" = 1'-0"

- DESIGN NOTES:**
- DESIGN LOADINGS:
    - AASHTO HS-20-44 W/ IMPACT.
    - ASSUMED WATER TABLE = BELOW BOTTOM OF PRECAST.
    - DRY LATERAL EARTH PRESSURE (EFP) = 45 PCF.
    - LATERAL LIVE LOAD SURCHARGE = 80 PSF (APPLIED TO 8' BELOW GRADE).
    - NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALL PIERS, OR FOUNDATIONS.
  - CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 6,000 PSI.
  - STEEL REINFORCEMENT: REBAR, ASTM A-615 OR A-706, GRADE 60.
  - MESH REINFORCEMENT: ASTM A-1064, S1.2, GRADE 80.
  - CEMENT: ASTM C-150 SPECIFICATION.
  - STORMCAPTURE MODULE TYPE = DETENTION
  - REQUIRED BASE LAYER DEPTH = 2" SAND BEDDING LAYER.
  - REQUIRED NATIVE ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF. NATIVE SOIL SHOULD BE LEVEL/SCEEDED AND COMPACTED ADEQUATELY TO ALLOW FOR REQUIRED BEARING CAPACITY.
  - REFERENCE STANDARDS:
    - ASTM C 890
    - ASTM C 891
    - ASTM C 913
  - CONSTRUCTION EQUIPMENT EXCEEDING DESIGN LOADING SHALL NOT BE ALLOWED ON STRUCTURE. ANY DESIGN CONSTRAINT DIFFERENT FROM ABOVE REQUIRES CUSTOM STRUCTURAL DESIGN AND MAY REQUIRE THICKER SUBGRADE AND REVISED PRICING.

- NOTES TO REVIEWING ENGINEER:**
- THIS SYSTEM IS DESIGNED TO THE PARAMETERS NOTED. PLEASE VERIFY THAT THESE PARAMETERS MEET PROJECT REQUIREMENTS (I.E. LIVE LOAD AND FILL RANGE). IF DESIGN PARAMETERS ARE INCORRECT NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND RE-PRICING.
  - ENGINEER OF RECORD TO CONFIRM ALL PIPE PENETRATION LOCATIONS, SIZES, AND INVERTS.
  - ENGINEER OF RECORD TO CONFIRM ALL MANWAY ACCESS LOCATIONS AND RIM ELEVATIONS.
  - UNLESS OTHERWISE NOTED, ALL PIPE SUPPLIED AND INSTALLED BY OTHERS.
  - THIS SYSTEM IS DESIGNED FOR A GROUNDWATER TABLE BELOW SYSTEM INVERT. ENGINEER OF RECORD TO VERIFY THAT THE DESIGN GROUNDWATER TABLE IS BELOW INVERT OF PRECAST. IF DESIGN PARAMETERS ARE INCORRECT NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND REVISED PRICING.
  - THIS SYSTEM IS DESIGNED WITH A CONTAINMENT MEMBRANE LINER. IF A LINER IS NOT NEEDED PLEASE CONTACT OLDCASTLE TO PROVIDE THIS OPTION IN THE FINAL DESIGN. FOR WATERTIGHT PIPE BOOT CONNECTION TO LINER, CORRUGATED PIPE ADAPTER BY TRELLEBORG (OR EQUAL) REQUIRED FOR CONNECTION TO CORRUGATED HDPE PIPE, SUPPLIED AND INSTALLED BY OTHERS.

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**STORMCAPTURE®  
 SC2 DETENTION SYSTEM**

CUSTOMER:  
 Furr Engineering Services

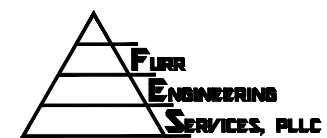
JOB NAME & LOCATION:  
 Mercertech Plat Detention - Vault 1 (Revision)

DRAWING NUMBER	REVISION	SHEET
WSCDD-3051-0 SC2 DT	REV DATE: 03/20/22	1 OF 2



Key Plan

Registration



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Sheet Title

**DETENTION VAULT 1**



Revisions

NO.	DATE	REVISION
1	03/30/22	REVISED PER CITY COMMENTS
2	06/03/22	REVISED PER CITY COMMENTS
3	05/23/23	REVISED PER CITY COMMENTS

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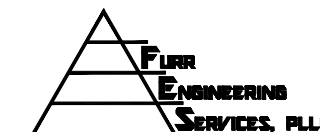
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SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**

4320 ISLAND CREST WAY  
 MERCER ISLAND, WA 98040

Key Plan

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Sheet Title

**DETENTION VAULT 1**



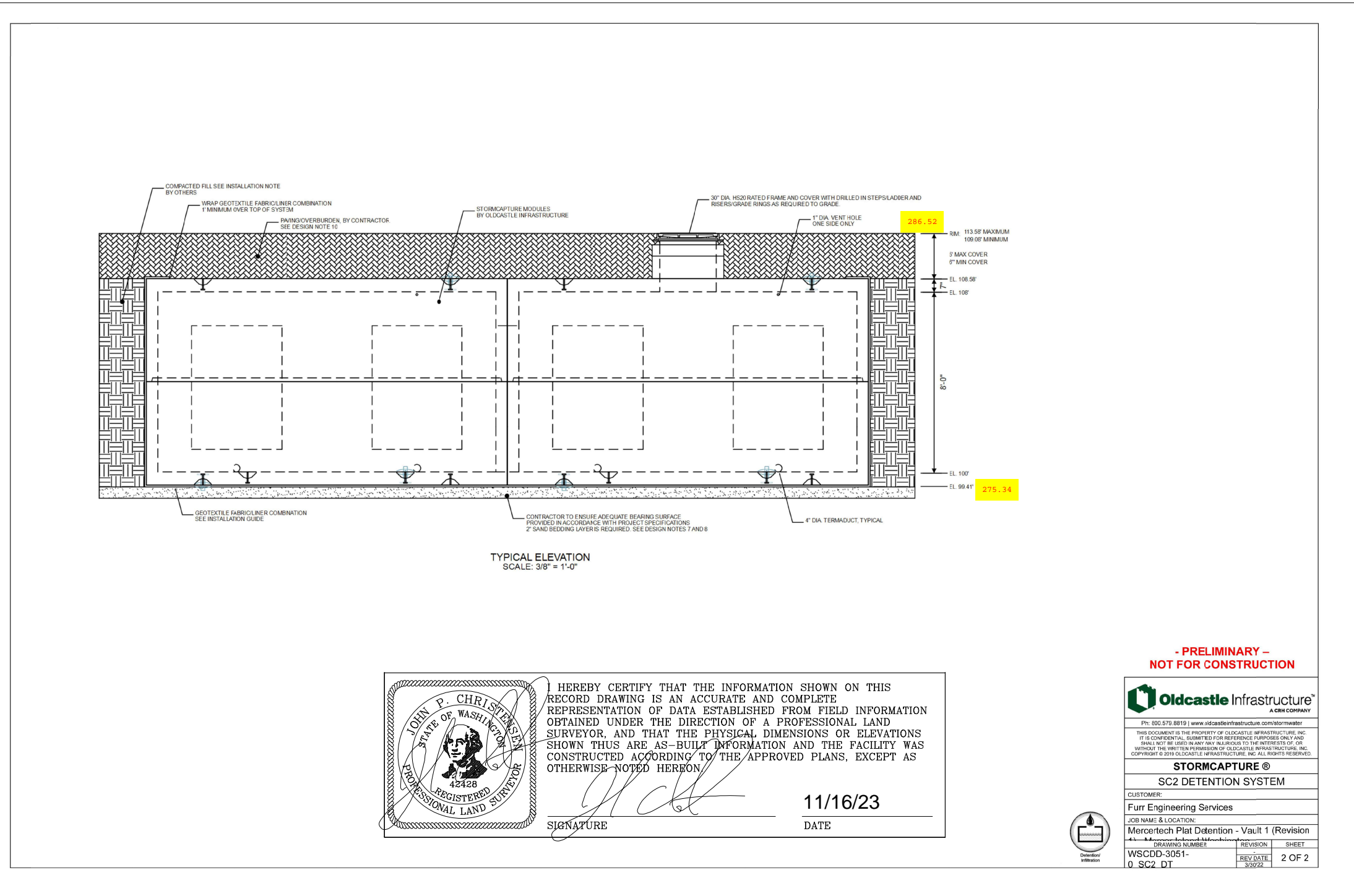
Revisions

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**C4.5**



TYPICAL ELEVATION  
 SCALE: 3/8" = 1'-0"

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*[Signature]*  
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**STORMCAPTURE®**  
**SC2 DETENTION SYSTEM**

CUSTOMER:  
 Furr Engineering Services

JOB NAME & LOCATION:  
 Mercertech Plat Detention - Vault 1 (Revision)

DRAWING NUMBER	REVISION	SHEET
WSCDD-3051-0 SC2 DT	REV DATE: 9/27/22	2 OF 2



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SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**

4320 ISLAND CREST WAY  
 MERCER ISLAND, WA 98040

**Module Sizes & Capacities**

Modules are 8'x16' outside dimensions.  
 Capacity varies by configuration of openings.

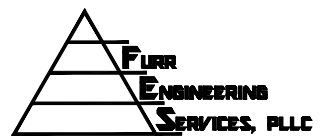
INSIDE DIMENSIONS (FT)	CAPACITY RANGE (FT <sup>3</sup> )	INSIDE DIMENSIONS (FT)	CAPACITY RANGE (FT <sup>3</sup> )
7x15x2	210-212	7x15x9	945-1,027
7x15x3	315-325	7x15x10	1,050-1,140
7x15x4	420-442	7x15x11	1,155 - 1,257
7x15x5	525-559	7x15x12	1,260 - 1,374
7x15x6	630-678	7x15x13	1,365 -1,491
7x15x7	735-793	7x15x14	1,470 - 1,608
7x15x8	840-910		

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Sheet Title

**DETENTION VAULT  
 DETAILS**



Revisions

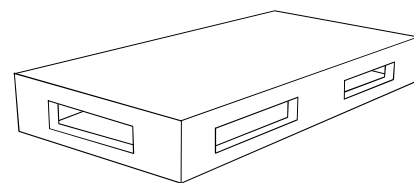
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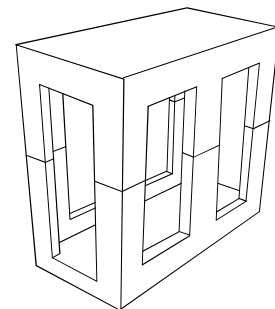
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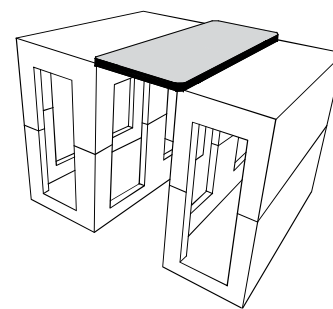
**StormCapture Modules**



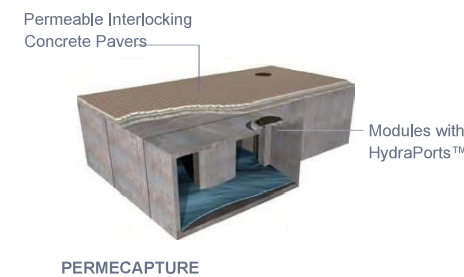
SC1 - Single piece modules can be used for applications from 2' to 7' tall. Appropriate for cisterns, infiltration, detention and retention systems. SC1 modules are typically installed on minimally compacted gravel base, depending on specific project requirements.



SC2 - Two piece modules can be used for applications from 7' to 14' tall for maximum storage capacity in a condensed footprint. Appropriate for cisterns, infiltration, detention and retention systems. SC2 modules are typically installed on compacted native subgrade.



Link Slab - Unique design allows for significant reduction in the quantity of modules and associated costs, while providing maximum storage capacity.



PERMECAPTURE



CISTERNS

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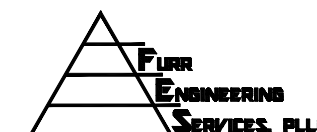
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**MERCERTECH PLAT**

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**DETENTION VAULT 2**



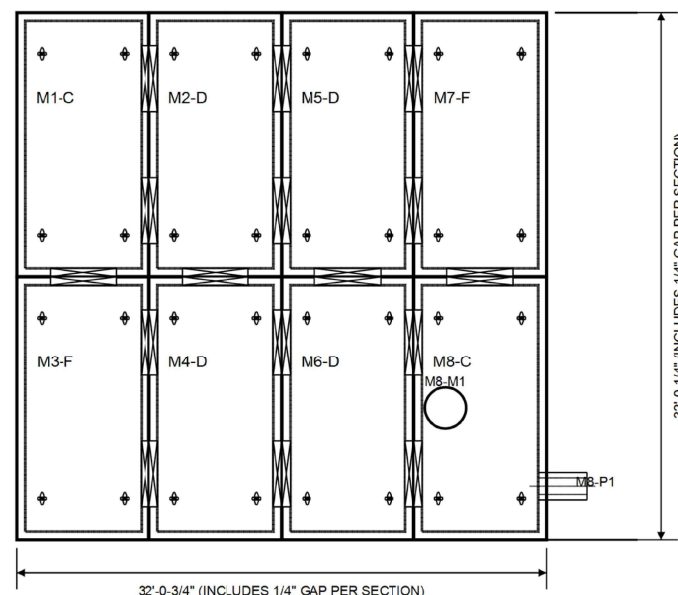
Revisions

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**C4.7**



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

**DESIGN NOTES:**

- DESIGN LOADINGS:
  - AASHTO HS-20-44 W/ IMPACT.
  - ASSUMED WATER TABLE = BELOW BOTTOM OF PRECAST.
  - DRY LATERAL EARTH PRESSURE (EFP) = 45 PCF.
  - LATERAL LIVE LOAD SURCHARGE = 80 PSF (APPLIED TO 8' BELOW GRADE).
  - NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALL PIERS, OR FOUNDATIONS.
- CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 6,000 PSI.
- STEEL REINFORCEMENT: REBAR, ASTM A-615 OR A-706, GRADE 60.
- MESH REINFORCEMENT: ASTM A-1064, S1.2, GRADE 80.
- CEMENT: ASTM C-150 SPECIFICATION.
- STORMCAPTURE MODULE TYPE = DETENTION
- REQUIRED BASE LAYER DEPTH = 2' SAND BEDDING LAYER.
- REQUIRED NATIVE ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSF. NATIVE SOIL SHOULD BE LEVEL/SCREEDED AND COMPACTED ADEQUATELY TO ALLOW FOR REQUIRED BEARING CAPACITY.
- REFERENCE STANDARDS:
  - ASTM C 890
  - ASTM C 891
  - ASTM C 913
- CONSTRUCTION EQUIPMENT EXCEEDING DESIGN LOADING SHALL NOT BE ALLOWED ON STRUCTURE. ANY DESIGN CONSTRAINT DIFFERENT FROM ABOVE REQUIRES CUSTOM STRUCTURAL DESIGN AND MAY REQUIRE THICKER SUBGRADE AND REVISED PRICING.

**NOTES TO REVIEWING ENGINEER:**

- THIS SYSTEM IS DESIGNED TO THE PARAMETERS NOTED. PLEASE VERIFY THAT THESE PARAMETERS MEET PROJECT REQUIREMENTS (I.E. LIVE LOAD AND FILL RANGE). IF DESIGN PARAMETERS ARE INCORRECT NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND RE-PRICING.
- ENGINEER OF RECORD TO CONFIRM ALL PIPE PENETRATION LOCATIONS, SIZES, AND INVERTS.
- ENGINEER OF RECORD TO CONFIRM ALL MANWAY ACCESS LOCATIONS AND RIM ELEVATIONS.
- UNLESS OTHERWISE NOTED, ALL PIPE SUPPLIED AND INSTALLED BY OTHERS.
- THIS SYSTEM IS DESIGNED FOR A GROUNDWATER TABLE BELOW SYSTEM INVERT. ENGINEER OF RECORD TO VERIFY THAT THE DESIGN GROUNDWATER TABLE IS BELOW INVERT OF PRECAST. IF DESIGN PARAMETERS ARE INCORRECT NOTIFY OLDCASTLE IMMEDIATELY FOR REDESIGN AND REVISED PRICING.
- THIS SYSTEM IS DESIGNED WITH A CONTAINMENT MEMBRANE LINER. IF A LINER IS NOT NEEDED PLEASE CONTACT OLDCASTLE TO PROVIDE THIS OPTION IN THE FINAL DESIGN. FOR WATERTIGHT PIPE BOOT CONNECTION TO LINER, CORRUGATED PIPE ADAPTER BY TRELLEBORG (OR EQUAL) REQUIRED FOR CONNECTION TO CORRUGATED HDPE PIPE, SUPPLIED AND INSTALLED BY OTHERS.

MODULE NOTES		
TYPE	QUANTITY	HEIGHT
C	2	8
D	4	8
F	2	8
TOTAL	8	
VOLUME	7,088	CUBIC FEET

PIPE SCHEDULE		
PIPE	SIZE	INVERT
M8-P1	12" RCP	0.00'

MANHOLE SCHEDULE		
MANHOLE	TYPE	RIM
M8-M1	30" DIA. F&C	0.00'

**- PRELIMINARY -  
 NOT FOR CONSTRUCTION**



Ph: 800.575.8819 | www.oldcastleinfrastructure.com/stormwater  
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**STORMCAPTURE®  
 SC2 DETENTION SYSTEM**

CUSTOMER:  
 Furr Engineering Services

JOB NAME & LOCATION:  
 Mercertech Plat Detention - Vault 2

DRAWING NUMBER	REVISION	SHEET
WSCDD-3055-0 SC2 DT	REV DATE: 3/30/22	1 OF 2



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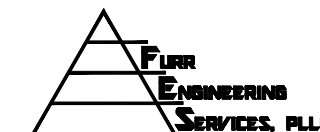
Know what's below.  
 Call before you dig.

SW 1/4 OF THE NW 1/4, SEC. 18, T 24N, R 05E, W.M.  
**MERCERTECH PLAT**

4320 ISLAND CREST WAY  
 MERCER ISLAND, WA 98040

Key Plan

Registration



4715 142nd Pl. SW #B,  
 Edmonds, WA 98026  
 ph 206.890.8291

Sheet Title

**DETENTION VAULT 2**

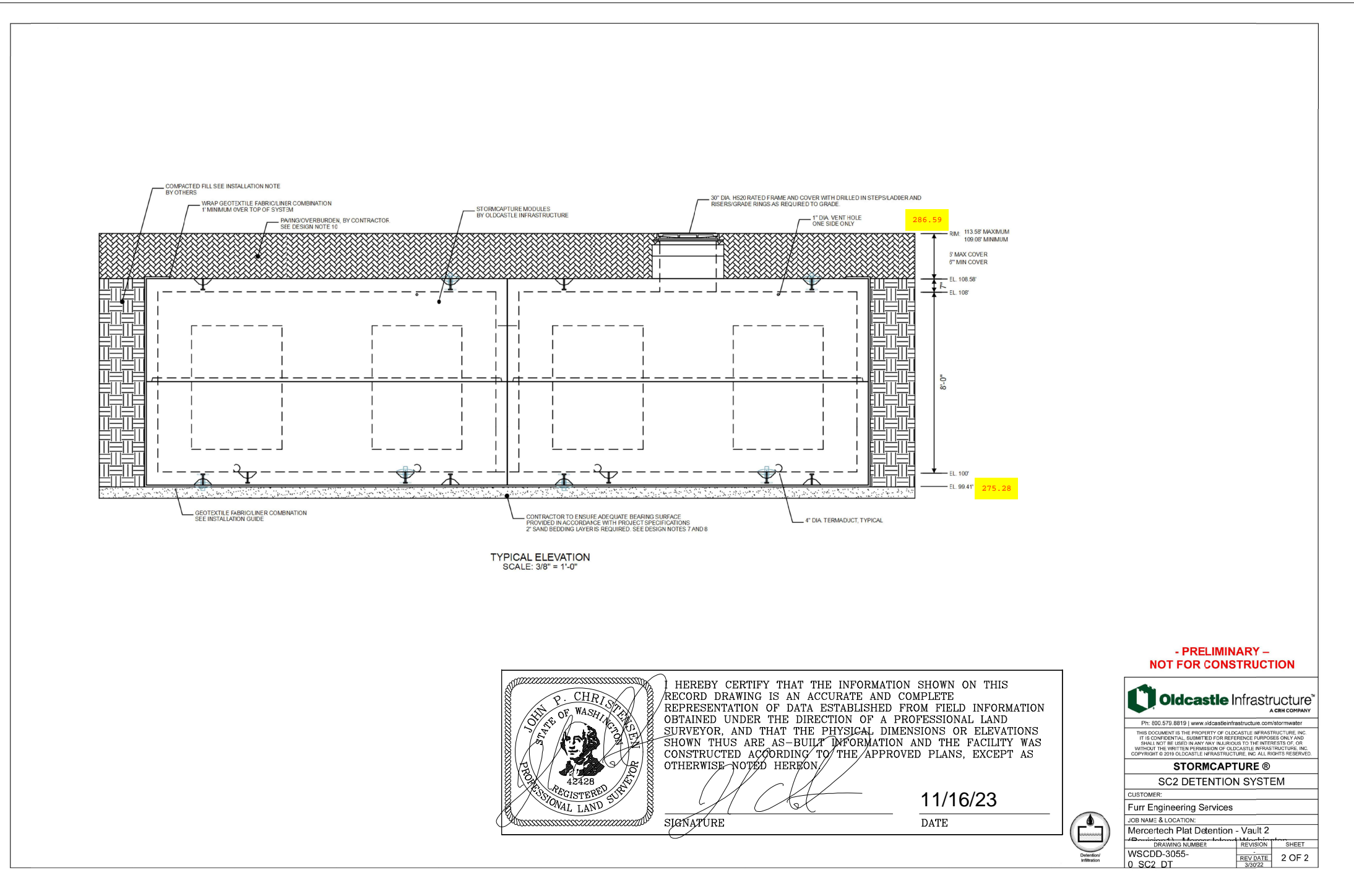


Revisions

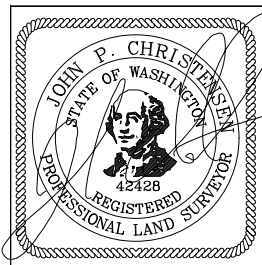
NO.	DATE	REVISION
1	03/30/22	REVISED PER CITY COMMENTS
2	06/03/22	REVISED PER CITY COMMENTS
3	05/23/23	REVISED PER CITY COMMENTS

Scale:  
 FES Project No: 21084  
 Date: Sept 27, 2021  
 Designed: DAF  
 Drawn: JAB  
 Checked: DAF

Sheet Number  
**C4.8**



TYPICAL ELEVATION  
 SCALE: 3/8" = 1'-0"



HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS RECORD DRAWING IS AN ACCURATE AND COMPLETE REPRESENTATION OF DATA ESTABLISHED FROM FIELD INFORMATION OBTAINED UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR, AND THAT THE PHYSICAL DIMENSIONS OR ELEVATIONS SHOWN THUS ARE AS-BUILT INFORMATION AND THE FACILITY WAS CONSTRUCTED ACCORDING TO THE APPROVED PLANS, EXCEPT AS OTHERWISE NOTED HEREON.

*[Signature]*  
 SIGNATURE  
 11/16/23  
 DATE

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**SC2 DETENTION SYSTEM**

CUSTOMER:  
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JOB NAME & LOCATION:  
 Mercertech Plat Detention - Vault 2

DRAWING NUMBER	REVISION	SHEET
WSCDD-3055-0 SC2 DT	REV DATE: 9/27/22	2 OF 2



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