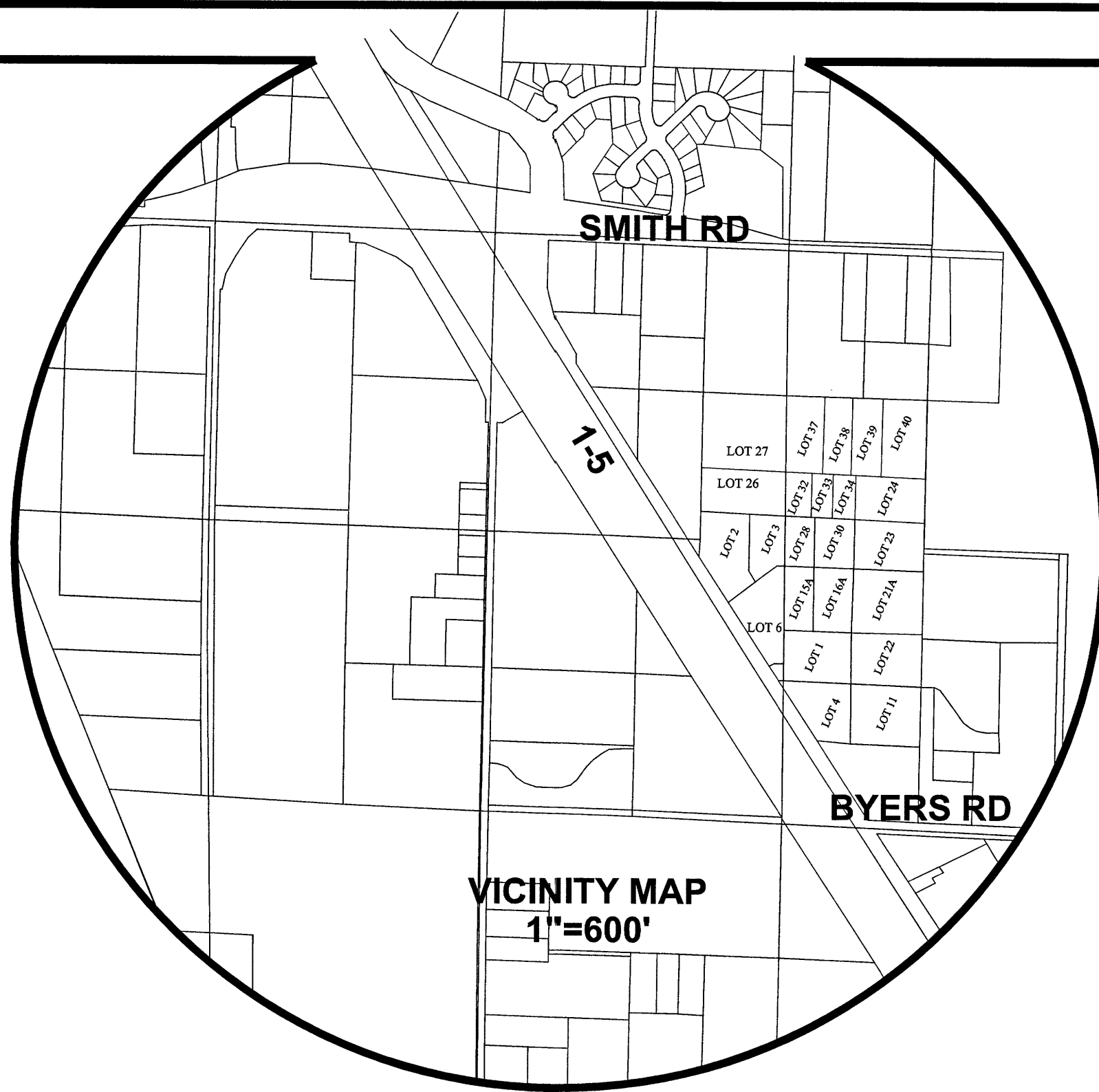


A PORTION OF THE NORTHEAST QUARTER OF SECTION 33, T39N, R2E, W.M.

# PACIFIC INDUSTRIAL PARK

## LOT 3

### Record Drawings



#### INDEX TABLE

- COVER SHEET
- EXISTING CONDITIONS
- EROSION CONTROL PLAN
- COMPOSITE UTILITY PLAN
- SITE GRADING PLAN AND CROSS SECTIONS
- STORM DRAINAGE PLAN AND PROFILE
- STORM DRAINAGE DETAILS
- STORMFILTER & CONTROL STRUCTURE DETAILS
- CHAMBER DETAILS SC-740 (STORMTECH)
- SANITARY SEWER PLAN AND WATER PLAN AND PROFILE
- SANITARY SEWER AND WATER DETAILS
- CITY OF FERNDAL GENERAL REQUIREMENT NOTES

OWNER/APPLICANT  
SAM BOULOS  
P.O. BOX 189  
FERNDAL, WA 98248

ENGINEER  
LDES, INC.  
5160 INDUSTRIAL PL., SUITE 108  
FERNDAL, WA 98248  
CONTACT: RAMON LLANOS, P.E.  
(360) 383-0620

SURVEYOR  
LDES, INC.  
5160 INDUSTRIAL PL., SUITE 108  
FERNDAL, WA 98248  
CONTACT: KYLE HAGGITH, PLS.  
(360) 383-0620

**SURVEYOR'S CERTIFICATION**  
I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS,  
AND AS-BUILT COMMENTS REFLECTING MATERIALS  
ACTUALLY USED DURING CONSTRUCTION ACCURATELY  
REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY  
ME OR UNDER MY DIRECT SUPERVISION ON THIS  
DATE: Aug 6, 2019  
Kyle Haggith  
KYLE HAGGITH, P.L.S.



#### LEGEND:

●	= PROPERTY CORNER	---OP---	= EXIST OVERHEAD POWER
□	= EXIST SD CATCH BASIN (TYPE 1)	---P---	= EXIST UNDERGROUND POWER
⊕	= EXIST SD CATCH BASIN (TYPE 2)	---OT---	= EXIST OVERHEAD PHONE
■	= PROPOSED STORM DRAIN CATCH BASIN	---UT---	= EXIST UNDERGROUND PHONE
●	= PROPOSED STORM DRAIN CATCH BASIN (TYPE 2)	---OH---	= EXIST OVERHEAD UTILITIES (UNKNOWN)
○	= EXIST SANITARY SEWER MANHOLE	---T---	= EXIST UNDERGROUND TV CABLE
⊕	= EXIST SANITARY SEWER CLEANOUT	---G---	= EXIST GAS MAIN
⊕	= EXIST SANITARY SEWER SERVICE	---W---	= EXIST WATER LINE
▲	= PROPOSED SANITARY SEWER SERVICE	---WL---	= EXIST WATER LINE
⊕	= PROPOSED SEWER CLEANOUT	---S---	= EXIST SANITARY SEWER LINE
●	= PROPOSED SEWER MANHOLE	---D---	= EXIST STORM DRAIN LINE
⊕	= EXISTING WATER METER BOX	-----	= EXIST CONC. FENCE OR RET. WALL
⊕	= EXISTING WATER VALVE	-----	= EXIST CONTOUR (5' INT)
⊕	= EXISTING FIRE HYDRANT	-----	= EXIST CONTOUR (1' INT)
⊕	= EXIST POWER/AND OR UTILITY POLE	-----	= PROPOSED TOP OF BANK
⊕	= EXIST GUY POLE	-----	= PROPOSED BOTTOM OF BANK
⊕	= EXIST GUY WIRE	-----	= PROPOSED STORM DRAIN LINE
⊕	= EXIST POWER METER/STRUCTURE	-----	= PROPOSED SAN. SEWER LINE
⊕	= EXIST POWER VAULT	-----	= PROPOSED WATER LINE
⊕	= EXIST POWER JBOX/HANDHOLD	-----	= PROPOSED WATER VALVE
⊕	= EXIST LIGHT POLE	-----	= PROPOSED TEE CONNECTION
⊕	= EXIST UTILITY POLE	-----	= PROPOSED TEE CONNECTION
⊕	= EXIST TV BOX	-----	= PROPOSED REDUCER
⊕	= EXIST TELEPHONE PEDESTAL	-----	= PROPOSED THRUST BLOCK
⊕	= EXIST TELEPHONE MANHOLE	-----	= PROPOSED WATER METER
⊕	= EXIST MAIL BOX	-----	= PROPOSED FIRE HYDRANT
⊕	= EXIST SIGN	-----	= PROPOSED 11.25° BEND (M.J.)
		-----	= PROPOSED 45° BEND (M.J.)
		-----	= PROPOSED 90° BEND (FL)
		-----	= PROPOSED PARKING ASPHALT
		-----	= EXIST ASPHALT
		-----	= PROPOSED UNDERGROUND STORM DRAIN SYSTEM
		-----	= PROPOSED CONTOUR (INDEX)
		-----	= PROPOSED CONTOUR (NORMAL)
		-----	= PROPOSED ECO-BLOCK WALL
		-----	= PROPOSED POWER

[AB] = AS-BUILT INFORMATION

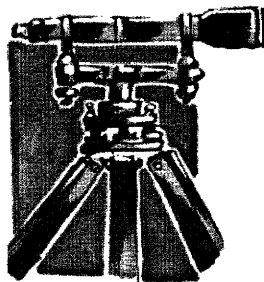
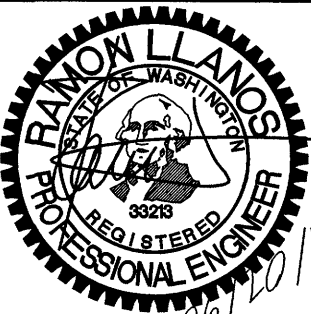
DRAWN BY SR DATE 10/11/2011  
CHKD BY RL DATE 10/11/2011

PACIFIC INDUSTRIAL PARK LOT 3

APPROVED

AUG 06 2019

BY  
CITY OF FERNDAL  
PUBLIC WORKS DEPARTMENT



LDES, INC.  
5160 INDUSTRIAL PL #108  
FERNDAL, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

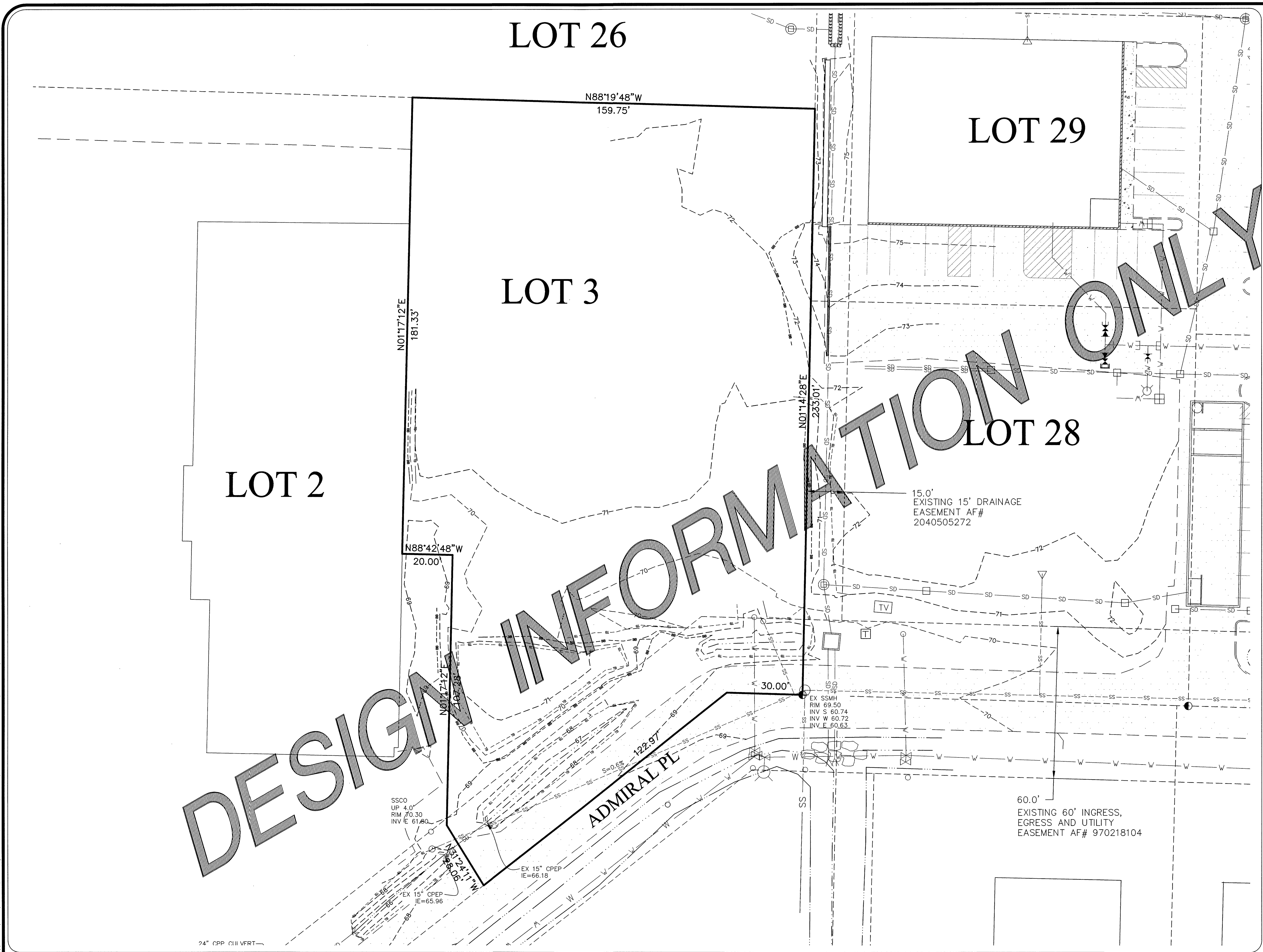
COVER SHEET

RECORD DRAWING CERTIFICATION:  
THESE DRAWINGS REFLECT THE WORK AS  
CONSTRUCTED AND ALL MODIFICATIONS MEET  
THE PERFORMANCE STANDARDS OF THE  
ORIGINAL DESIGN.  
Ramon Llanos  
RAMON LLANOS, P.E.  
DATE 06/20/19

REVISIONS - COMMENTS  
DC 06/20/19 AS-BUILTS SUBMITTAL

SHEET  
01  
OF 10

RECORD DRAWING



EXISTING CONDITIONS

JOB NO. 9019

SECTION BREAKDOWN

SECTION 33, TOWNSHIP 39 NORTH, RANGE 2 EAST., W.M.

SCALE 1" = 500'

BEARINGS SHOWN FOR CITY OF FERNDAL  
MONUMENT TIES REFERENCE THE CITY OF FERNDAL  
CO-ORDINATE SYSTEM AND DO NOT CORRELATE WITH  
THE SECTION BREAKDOWN OR ANY OTHER BEARINGS  
SHOWN ON THESE PLANS

NOTE:  
FND. CASED 3/4" PIPE W/ WOOD PLUG & TACK  
FND. CONC. MON. W/ BRASS PIN  
COF 2  
COF 15

N

W E

S

GRAPHIC SCALE

( IN FEET )

1 inch = 20 ft.

LEGAL DESCRIPTION:

LOT 3 AS DELINEATED ON PACIFIC INDUSTRIAL PARK SPECIFIC BINDING SITE PLAN No. 2, ACCORDING TO THE PLAT THEREOF, UNDER AUDITOR'S FILE No. 970218104, RECORDS OF WHATCOM COUNTY, WASHINGTON.

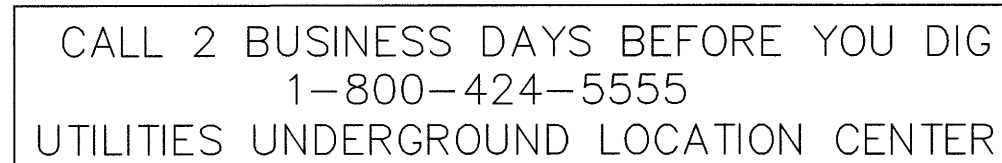
SURVEY NOTES:







- DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION.
- EQUIPMENT USED: NIKON DT500: 00'01.5" ± 2 PPM, ± 2 MM
- BASIS OF BEARINGS: PER SPECIFIC BINDING SITE PLAN No. 8 AF # 2040505272
- SURVEY WAS DONE ON OR ABOUT APRIL 2006
- HORIZONTAL DATUM:  
BASED ON CITY OF FERNDAL CONTROL POINT NUMBERS 13 AND 14, THE STATE PLANE, COORDINATE AT THE SOUTHWEST CORNER OF LOT 22 PER SPECIFIC BINDING SITE PLAN NO. 9 AF #2070504041 IS:  
NORTHING = 671496.57  
EASTING = 1225433.46  
THE BEARING ALONG THE WEST LINE OF LOT 23 HEREON IS N 01-14-38 E SHOWN HEREON ARE PLAT BEARINGS FOR THE SAID LINE: N 01-14-28 E  
VERTICAL DATUM:  
BENCHMARK DERIVED FROM DAVID EVANS AND ASSOCIATES ORIGINAL BASE MAP CITY OF FERNDAL  
EL = 68.05 (LDES POINT #2001)
- CONTOUR INTERVALS ARE 1 FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
- OCCUPANCIAL INDICATOR NOTE:  
IN ACCORDANCE WITH THE REVISED CODE OF WASHINGTON: 58.09 AND WASHINGTON AUTHORITY CODE CHAPTER 332-130, THIS RECORD OF SURVEY DEPICTS OCCUPANCIAL INDICATORS, SUCH AS FENCES. THESE INDICATORS REPRESENT A POTENTIAL FOR CLAIMS OF UNWRITTEN TITLE. THIS SURVEY DOES NOT RESOLVE ANY OF THE LEGAL OWNERSHIP ISSUES THAT MAY ARISE FROM THESE UNWRITTEN TITLE CLAIMS.
- THIS SURVEY WAS PERFORMED WITHOUT BENEFIT OF A CURRENT TITLE REPORT AND LAND DEVELOPMENT ENGINEERING AND SURVEYING IS NOT RESPONSIBLE FOR ANY EASEMENTS, COVENANTS, AND RESTRICTIONS NOT SHOWN HEREON.
- THIS SURVEY IS INTENDED TO SHOW DISCREPANCIES OF PAST ISSUES AND NOT INTENDED TO RESOLVE LEGAL BOUNDARY LINE ISSUES.

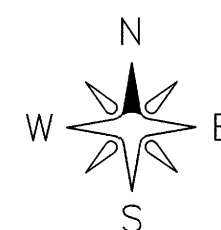
DRAWN BY SR DATE 10/11/2011 CHKD BY RL DATE 10/11/2011	PACIFIC INDUSTRIAL PARK LOT 3	APPROVED AUG 06 2019 BY CITY OF FERNDAL PUBLIC WORKS DEPARTMENT			LDES, INC. 5160 INDUSTRIAL PL #108 FERNDAL, WA 98248 PHONE 360-383-0620 FAX 360-383-0639	RECORD DRAWING CERTIFICATION: THESE DRAWINGS REFLECT THE WORK AS CONSTRUCTED AND ALL MODIFICATIONS MEET THE PERFORMANCE STANDARDS OF THE ORIGINAL DESIGN.  DATE 06/20/19 RAMON LLANOS, P.E.	<table><thead><tr><th colspan="2">REVISIONS -</th><th>COMMENTS</th></tr></thead><tbody><tr><td>DC</td><td>06/20/19</td><td>AS-BUILTS SUBMITTAL</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	REVISIONS -		COMMENTS	DC	06/20/19	AS-BUILTS SUBMITTAL										SHEET <b>02</b> OF 10
REVISIONS -		COMMENTS																					
DC	06/20/19	AS-BUILTS SUBMITTAL																					
JOB # 9019	FOR: SAM BOULOS PO BOX 189 FERNDAL WA 98248	EXISTING CONDITIONS																					

RECORD DRAWING



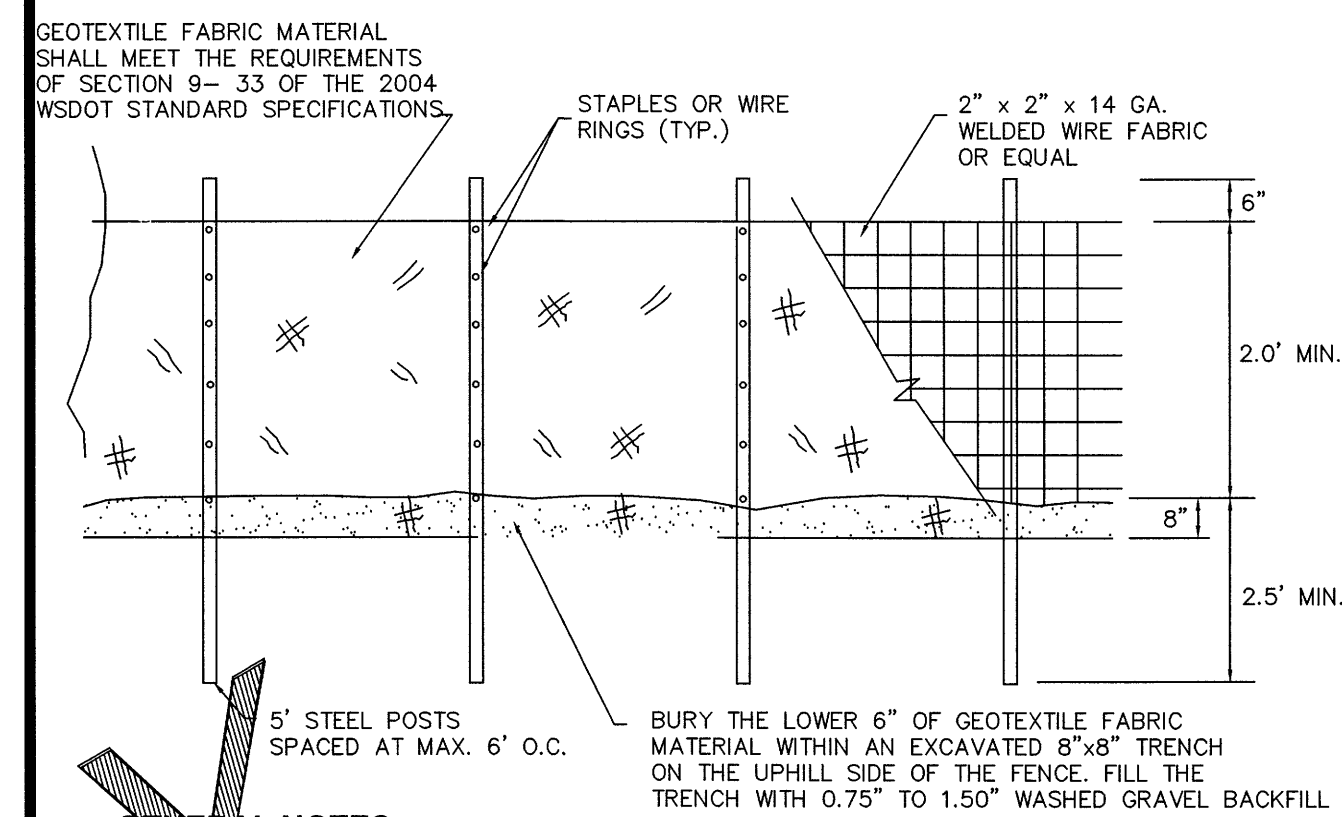


- ## LEGEND
- |   |   |
|---|---|
|  | = PROPOSED STORM DRAIN CATCH BASIN          |
|  | = PROPOSED STORM DRAIN CATCH BASIN (TYPE 2) |
|  | = PROPOSED STORM DRAIN FILTERS              |
|  | = PROPOSED STORM DRAIN LINE                 |
|  | = SILT FENCE                                |
|  | = PROPOSED CONSTRUCTION ENTRANCE            |



GRAPHIC SCALE

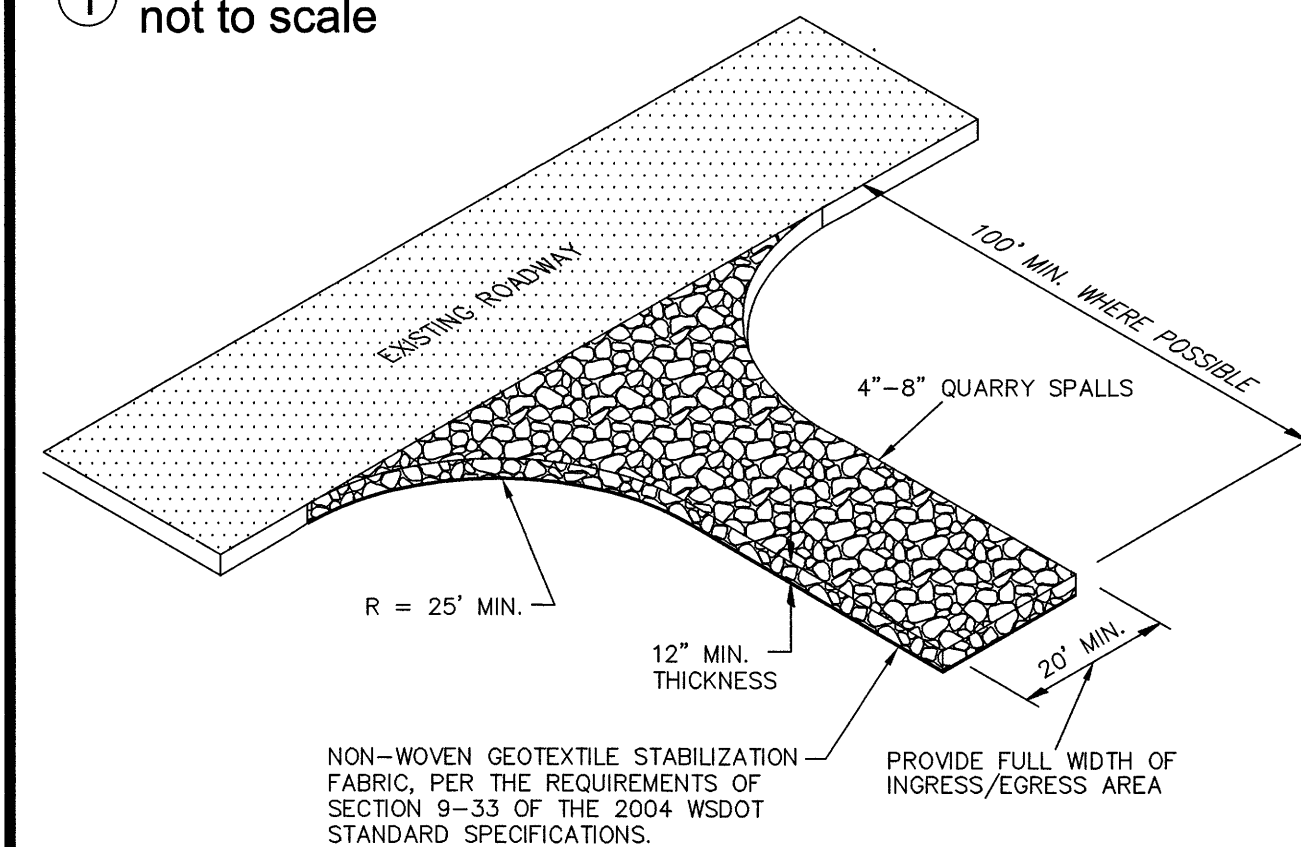
( IN FEET  
1 inch = 20 ft



**GENERAL NOTES:**

1. ANY DAMAGE TO FENCING SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEN THE WATER MUST BE INTERCEPTED AND CONVEYED TO A FULLY-FUNCTIONING SEDIMENT TRAP, POND, OR CONVEYANCE SYSTEM.
3. IT IS IMPORTANT TO PERIODICALLY CHECK THE UPHILL SIDE OF FENCING FOR SIGNS OF CLOGGING. IF CLOGGING OCCURS, THE FENCE WILL ACT AS A BARRIER TO WATER AND WILL CAUSE UNMANAGED FLOOD PROBLEMS. THE FENCE, TO REMEDY THIS, THE CONTRACTOR SHALL REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SILT FENCING SHALL BE CONSTRUCTED DIRECTLY AFTER CLEARING AND GRUBBING IS COMPLETE. THE FENCE SHALL ONLY BE REMOVED WHEN CONSTRUCTION OF UTILITIES DEMANDS ABSOLUTELY NECESSARY. IMMEDIATELY AFTER UTILITIES ARE COMPLETED, THE SILT FENCING SHALL BE REINSTALLED.

① SILT FENCE DETAIL (BASED ON FERNDAL ST-10)  
not to scale



**GENERAL NOTES:**

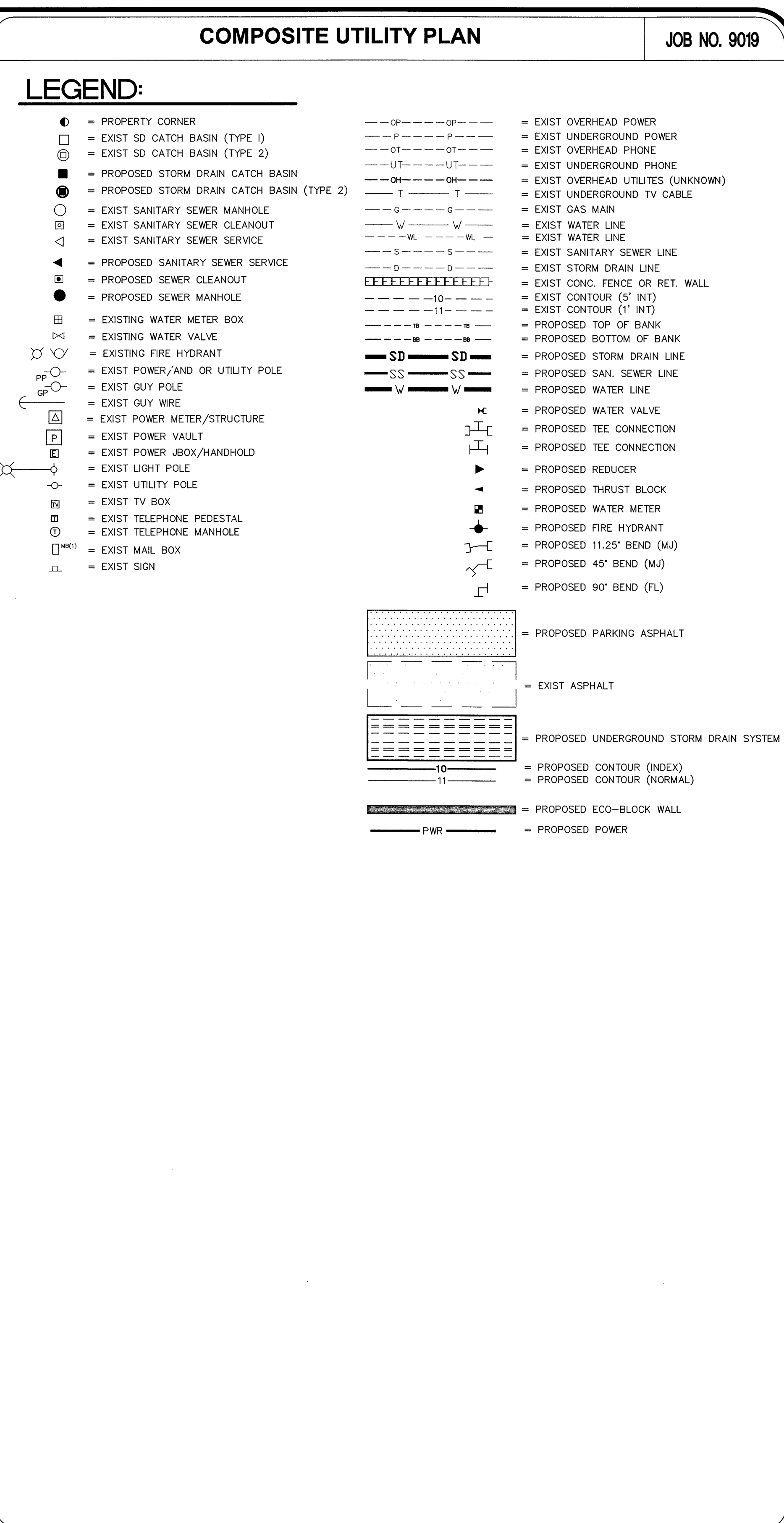
1. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO SURROUNDING FACILITIES, THEN ALTERNATIVE MEASURES TO KEEP THE FACILITIES FREE OF SEDIMENT SHALL TO USED. THIS MAY INCLUDE STREET SWEEPING OR UPSIZING THE DIMENSIONS OF THE ENTRANCE
2. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ON-SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH PAVEMENT, A GRASSY SLOPE SHALL BE CONSTRUCTED AND THE SEDIMENT SHALL BE CONVEYED INTO THE SUMP OR POND.

② QUARRY SPALL CONSTRUCTION ENTRANCE DETAIL  
not to scale

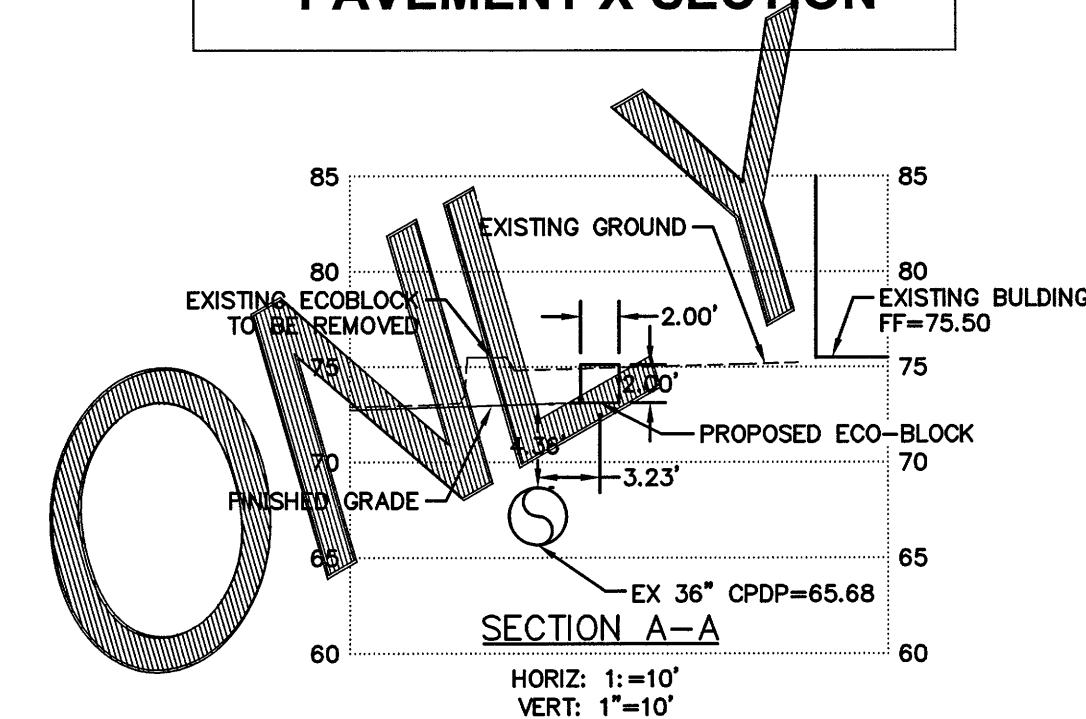
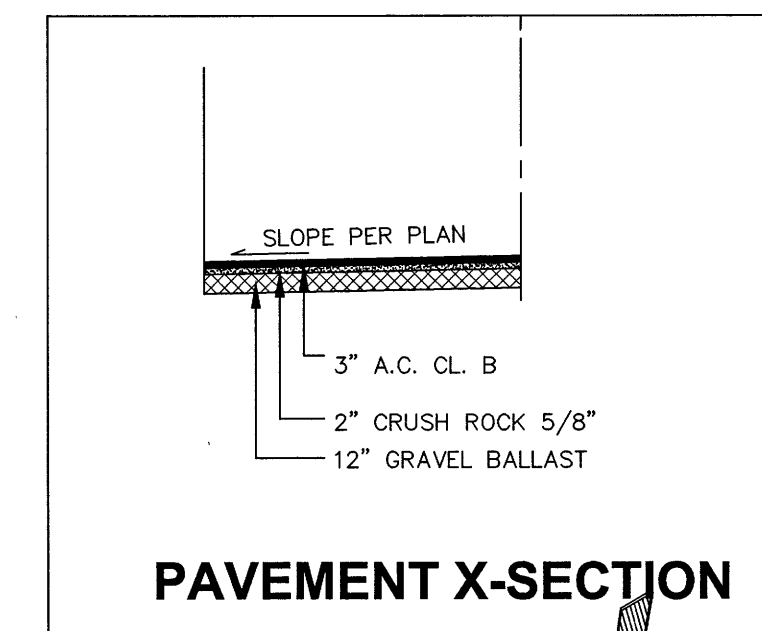
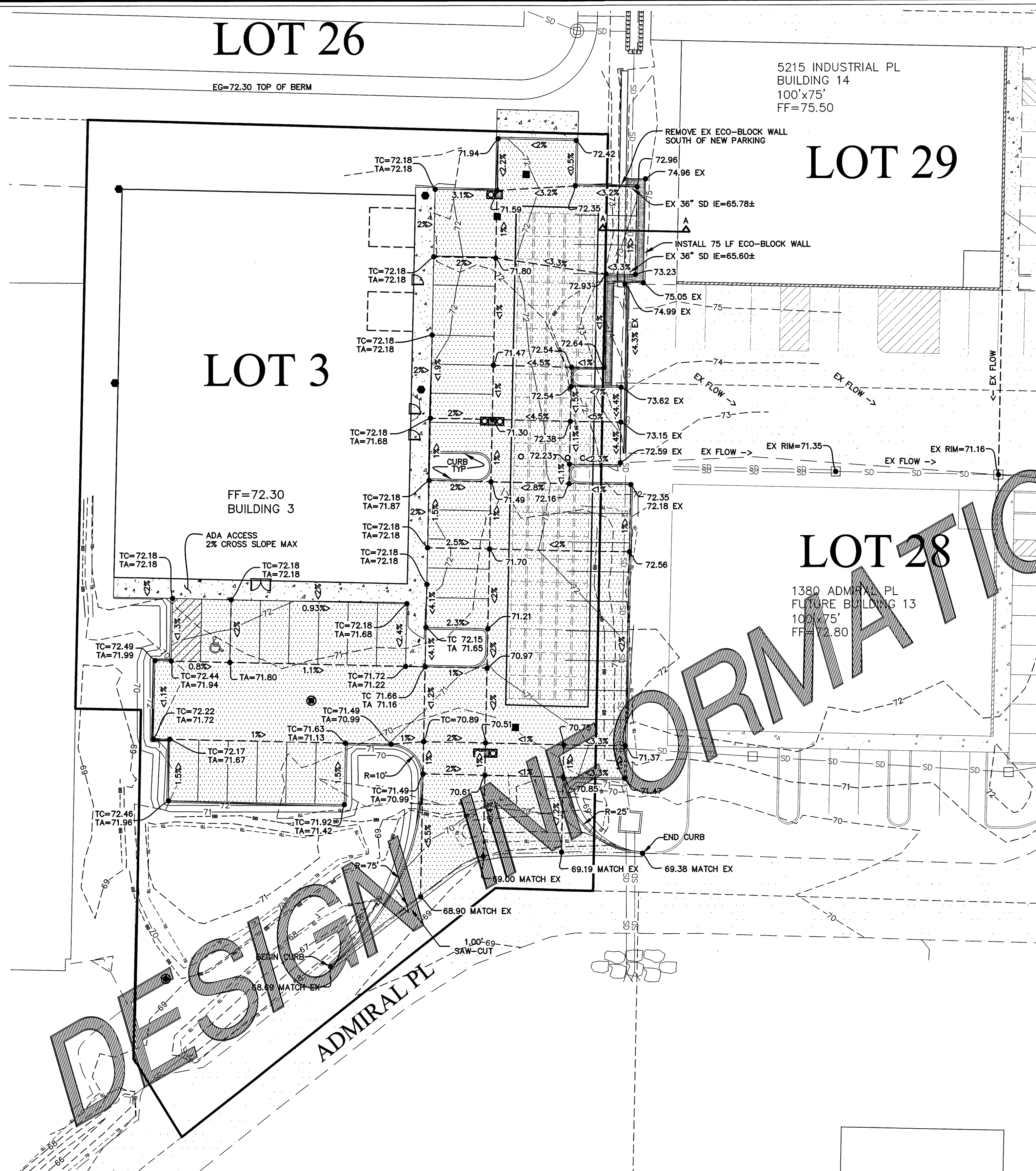
**EROSION AND SEDIMENT CONTROL GENERAL NOTES:**

1. EROSION CONTROL METHODS AND MATERIALS SHALL MEET THE REQUIREMENTS OF SECTION 8-01 OF THE 2006 WSDOT/APWA STANDARD SPECIFICATIONS, THE REQUIREMENTS SET FORTH IN VOLUME II OF THE "STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY, CURRENT EDITION, THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE PROJECT SWPPP AND THIS PLAN, WITH THE MOST EFFECTIVE REQUIREMENTS TAKING PRECEDENCE. THE CONTRACTOR SHALL FOLLOW RECOMMENDATIONS MADE BY SUPPLIERS AND MANUFACTURERS FOR ALL MATERIALS AND EQUIPMENT USED.
2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT SILTY STORMWATER FROM EXITING THE SITE. IF SILT LADEN STORMWATER EXISTS THE SITE, THE ENGINEER SHALL STOP WORK ON THE JOB. IT IS THE CONTRACTOR'S RESPONSIBILITY TO WORK WITH THE PROJECT ENGINEER OR LOCAL JURISDICTION TO COORDINATE FURTHER EROSION CONTROL MEASURES, NOT SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN, THAT MAY BE NECESSARY TO CONTROL SITE RUNOFF.
3. THE EXISTING AND PROPOSED STORM SYSTEMS SHALL BE CLEANED AND MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL ALL ON-SITE SOILS HAVE BEEN STABILIZED.
4. AT THE END OF ALL SITE CONSTRUCTION, THE CONTRACTOR SHALL FLUSH OUT ALL DEBRIS FROM THE STORM SYSTEM INSTALLED ON-SITE. MATERIAL FLUSHED FROM THE STORM SYSTEM SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED DISPOSAL SITE. FLUSHING OPERATION SHALL BE PERFORMED USING A VACTOR TRUCK.

OF **10**



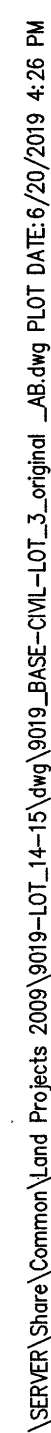


[illegible]

## RECORD DRAWING

SHEET **05**  
OF **10**





**CATCH BASIN FRAME AND VANED GRATE OR MANHOLE RING AND COVER**

**RECTANGULAR ADJUSTMENT SECTION OF RECTANGULAR CATCH BASIN SECTION**

**FLAT SLAB TOP**

**MORTAR (TYP.)**

**STEPS OR LADDER**

**12" (TYP.)**

**REINFORCING STEEL (TYP.) GRAVEL BACKFILL FOR PIPE ZONE BEDDING**

**SEPARATE BASE PRECAST**

**INTEGRAL BASE PRECAST WITH RISER (48" - 72" ONLY)**

**PIPE ALLOWANCES**

CATCH BASIN DIA.	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER			PROFILE WALL P.V.C.	SOLID WALL P.V.C.
	CONCRETE	ALL METAL	CPSPSP		
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

**CATCH BASIN DIMENSIONS**

CATCH BASIN DIA.	WALL THK.	BASE THK.	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL #/FT. EACH DIRECTION	SEPARATE INTEGRAL BASE
48"	4"	5"	36"	8"	0.045	No
54"	4.5"	5"	42"	8"	0.1	No
60"	5"	5"	48"	8"	0.15	No
72"	6"	6"	60"	12"	0.24	No
84"	8"	12"	72"	12"	0.33	No
96"	8"	12"	84"	12"	0.39	No
120"	10"	12"	96"	12"	0.49	No
144"	12"	12"	108"	12"	-	No

**NOTES:**

- No steps are required when height is 4' or less.
- The bottom of the precast catch basin may be sloped to facilitate cleaning.
- The rectangular frame and grate may be installed with the flange up or down. The frame may cast into the adjustment section.
- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fit the pipe with joint mortar in accordance with WSDOT Standard Specification 9-04.3.

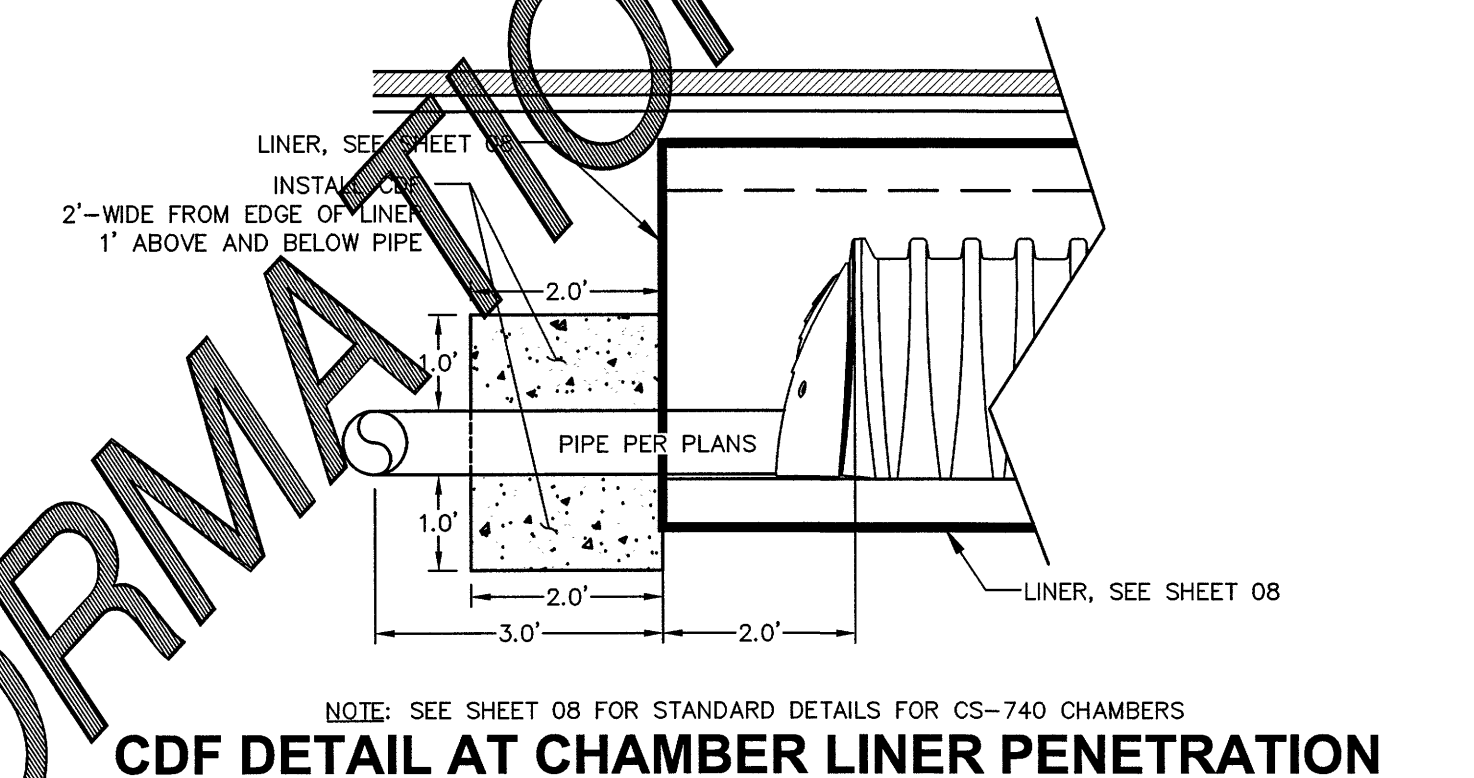
**APPROVED**

**PUBLIC WORKS DIRECTOR**

**DATE** 8/11/17

**NOVEMBER 23, 2016**

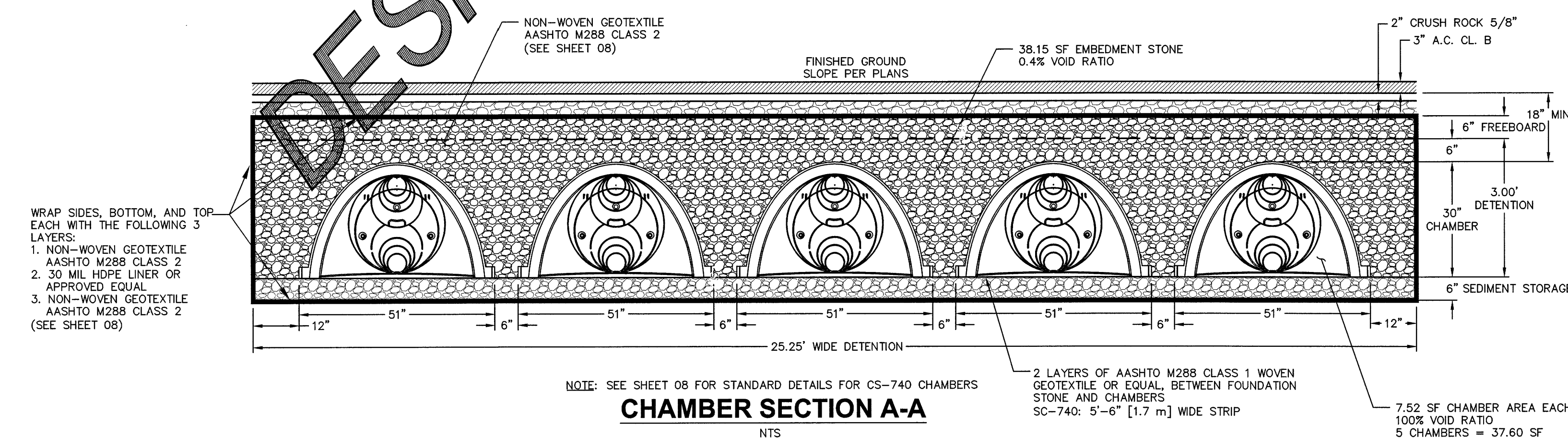
**CATCH BASIN TYPE 2 STANDARD DETAIL S-3 NOT TO SCALE**



**NORTHWEST LININGS AND GEOTEXTILE PRODUCTS, INC.**

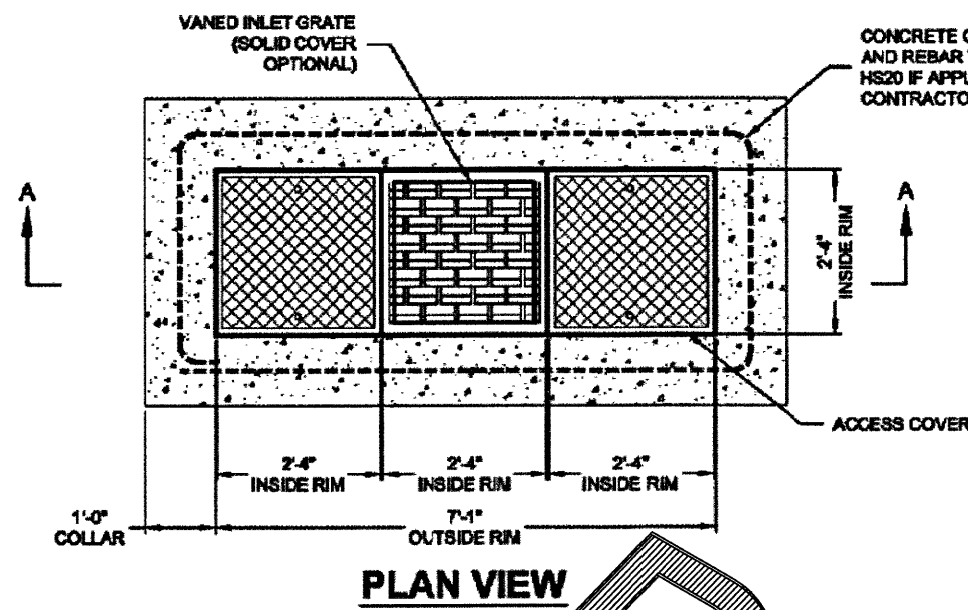
**PVC PIPE BOOT INSTALLATION**

1. Thoroughly clean the PVC liner surface within a 3' area of the pipe penetration. The area should be free of moisture, dirt and all foreign matter.
2. Cut an approximate 6" to 8" strip of PVC liner. Wrap the strip around the bottom of the pipe and glue the ends of the strip together using PVC adhesive. The strip (boot sleeve) should fit snugly around the pipe.
3. Cut an approximate 2' x 2' flange piece of PVC liner.
4. Cut a hole in the approximate center of the flange piece. The hole should be slightly smaller than the diameter of the pipe.
5. Slide the flange piece down the neck of the pipe so that the flange piece is in a "relaxed" state. Glue the flange piece to the boot sleeve using the PVC adhesive.
6. Round-off (trim) the corners of the flange piece.
7. Apply PVC adhesive to the primary liner and adhere the boot flange piece to the primary liner.
8. Apply caulking between the top of the boot sleeve and the pipe. Put 2" x 1/4" neoprene rubber stripping over the boot and clamp the boot sleeve tight to the rubber stripping (and pipe) using 1/2" stainless steel band clamp ("Make-A-Clamp").
9. Inspect the perimeter edge of the boot flange for complete adhesion to the primary PVC liner. Apply more adhesive where necessary.

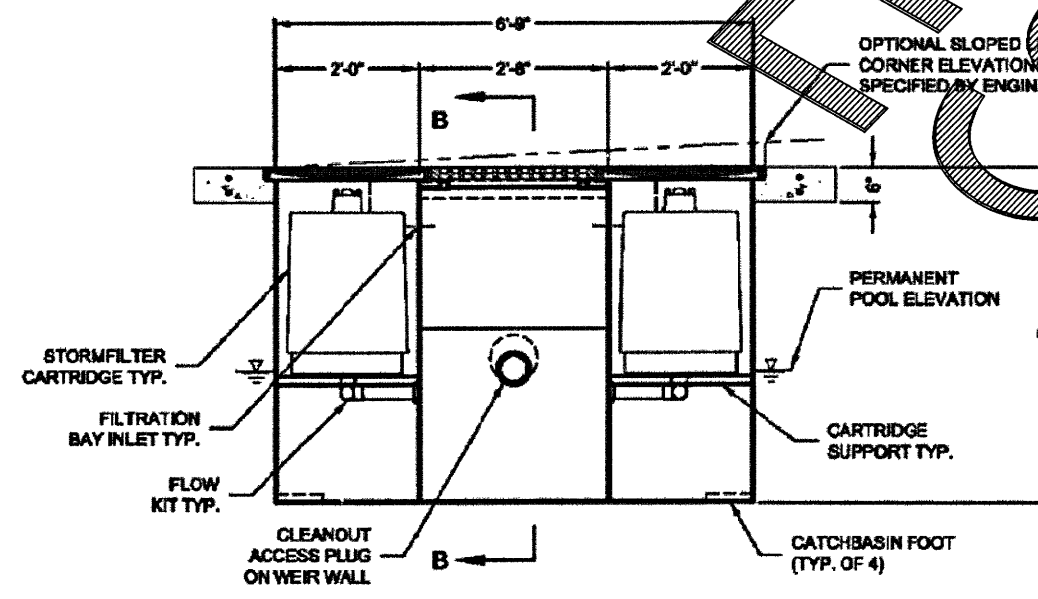




## FILTERS 2 & 3



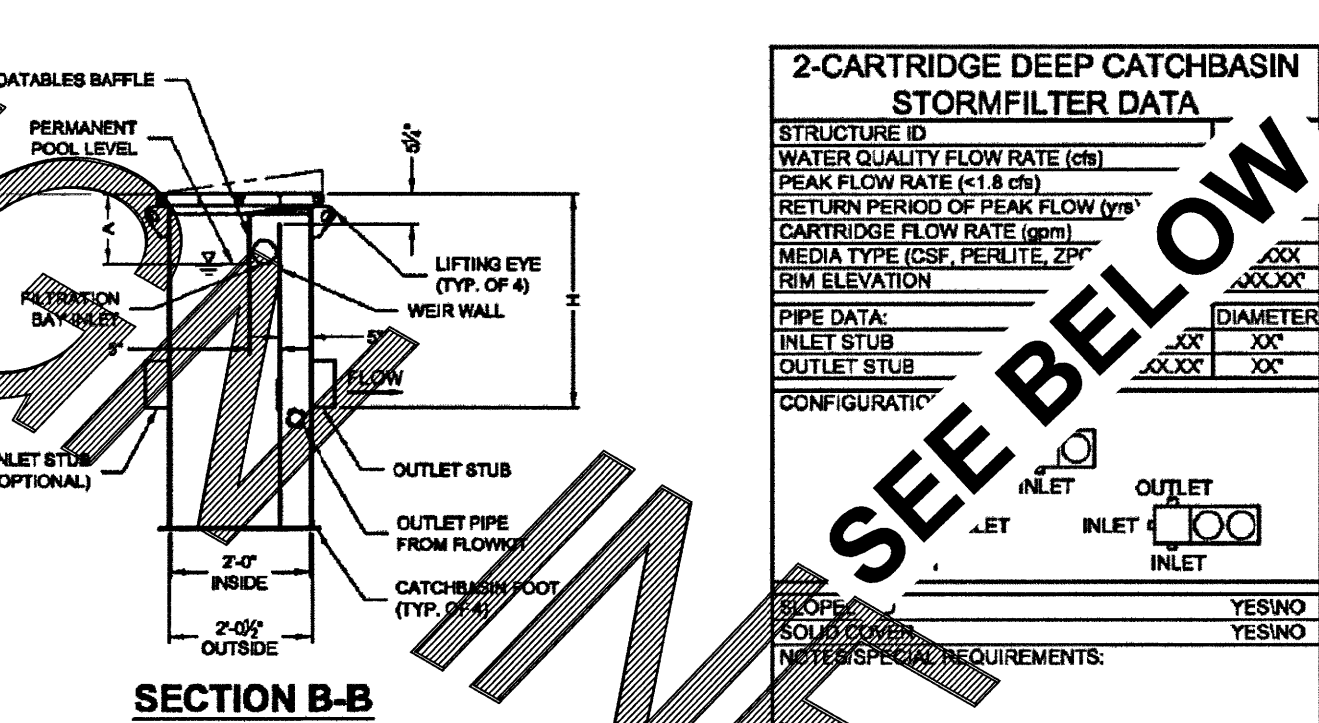
PLAN VIEW



SECTION A-A

STORMFILTER CATCHBASIN DESIGN NOTES					
STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 2" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 1" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.					
CARTRIDGE SELECTION	2"	1"	1"	1"	1"
CARTRIDGE HEIGHT	2"	1"	1"	1"	1"
MINIMUM HYDRAULIC DROP (ft)	2.00'	1.00'	1.00'	1.00'	1.00'
SPECIFIC FLOW RATE (gpm/ft²)	2.00	1.00	1.00	1.00	1.00
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	11.25	11.25	11.25
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.0	1.0	1.0
INLET PERMANENT POOL LEVEL (ft)	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
OVERALL STRUCTURE HEIGHT (ft)	4'-0"	3'-0"	3'-0"	3'-0"	3'-0"

- GENERAL NOTES:**
- CONTACT TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE, DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTRACTOR ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
  - STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 16 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
  - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET A307M LOAD RATING. TO MEET H200 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (Q) IN REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
  - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7 INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
  - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).



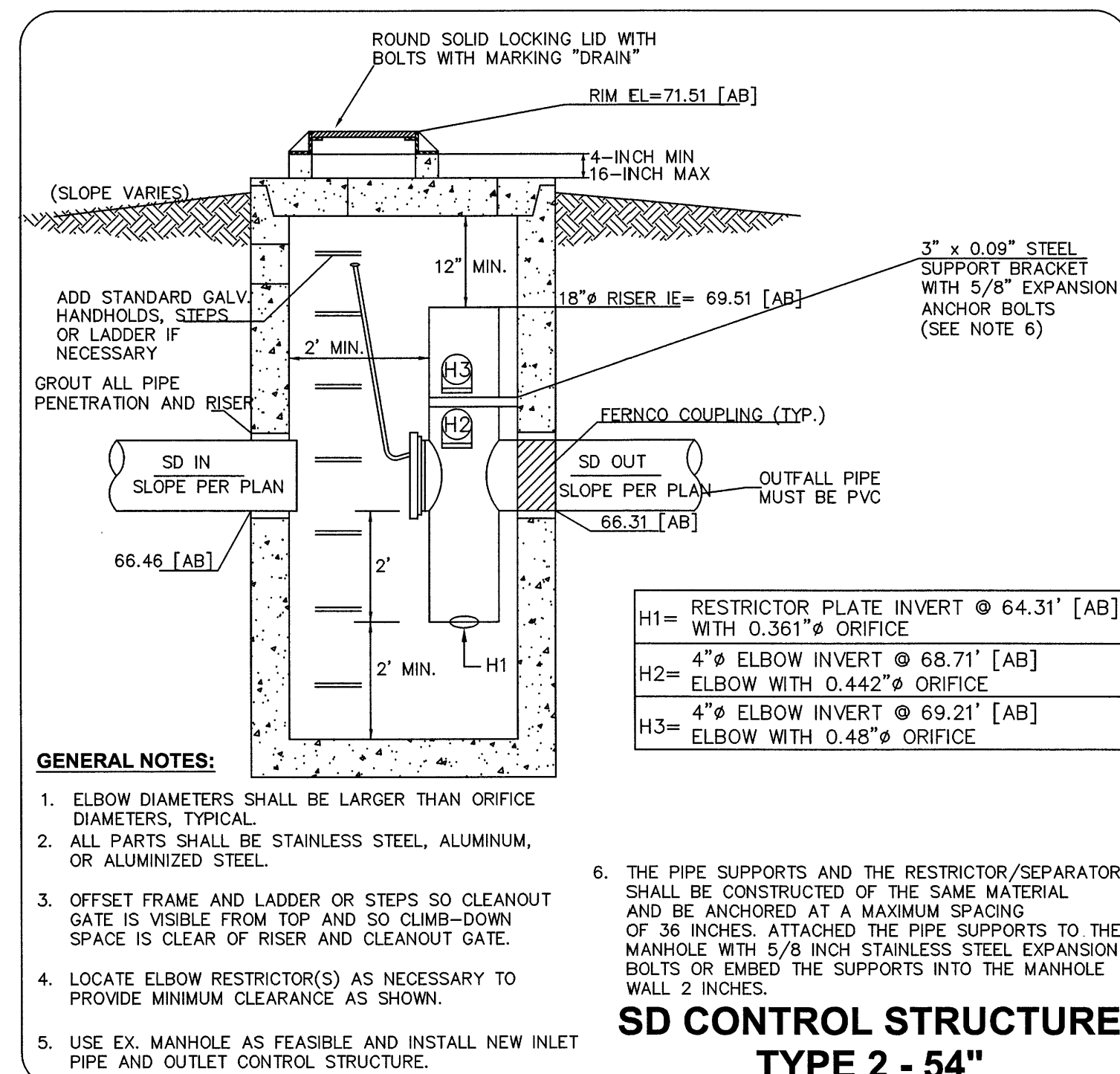
SECTION B-B

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
8005 Centre Pointe Dr., Suite 400, West Chester, OH 45386  
937-338-1122 937-338-7000 937-338-7000 FAX

**2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA**

2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA	
STRUCTURE ID	#2
WATER QUALITY FLOW RATE (cfs)	0.0177
PEAK FLOW RATE (<1.8 cfs)	0.0385
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE FLOW RATE (gpm)	7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	ZPG
RIM ELEVATION	71.30'
PIPE DATA:	I.E. DIAMETER
INLET STUB	69.00'
OUTLET STUB	8"
CONFIGURATIONS	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	NO
NOTES/SPECIAL REQUIREMENTS:	

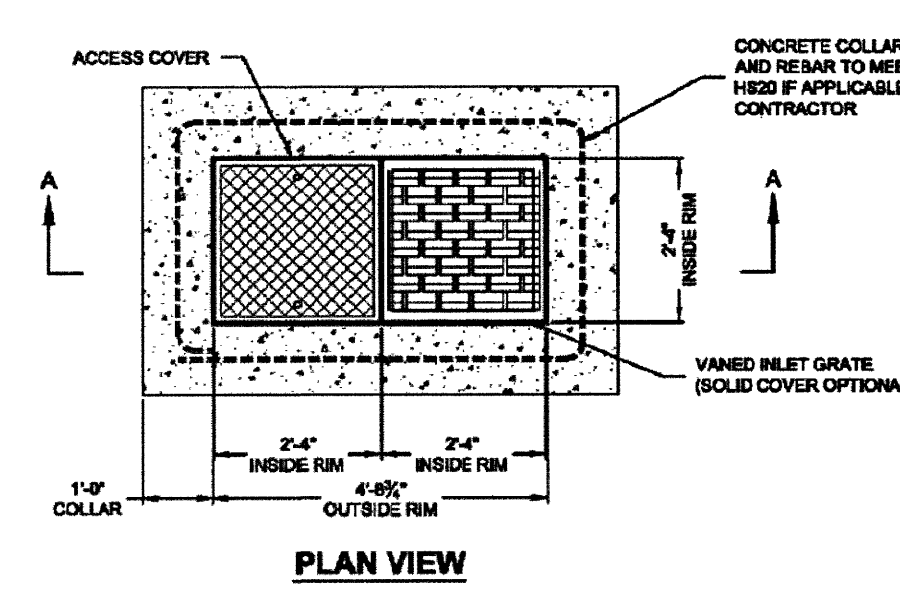
2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA	
STRUCTURE ID	#3
WATER QUALITY FLOW RATE (cfs)	0.0385
PEAK FLOW RATE (<1.8 cfs)	0.0861
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE FLOW RATE (gpm)	7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	ZPG
RIM ELEVATION	70.51'
PIPE DATA:	I.E. DIAMETER
INLET STUB	68.21'
OUTLET STUB	8"
CONFIGURATIONS	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	NO
NOTES/SPECIAL REQUIREMENTS:	



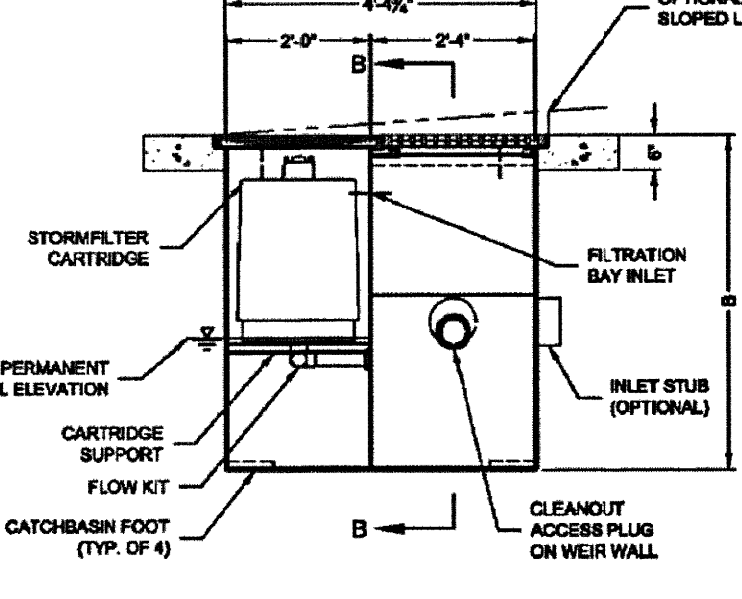
- GENERAL NOTES:**
- ELBOW DIAMETERS SHALL BE LARGER THAN ORIFICE DIAMETERS, TYPICAL.
  - ALL PARTS SHALL BE STAINLESS STEEL, ALUMINUM, OR ALUMINIZED STEEL.
  - OFFSET FRAME AND LADDER OR STEPS SO CLEANOUT GATE IS VISIBLE FROM TOP AND SO CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
  - LOCATE ELBOW RESTRICTOR(S) AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN.
  - USE EX. MANHOLE AS FEASIBLE AND INSTALL NEW INLET PIPE AND OUTLET CONTROL STRUCTURE.

**SD CONTROL STRUCTURE TYPE 2 - 54"**

## FILTERS 1



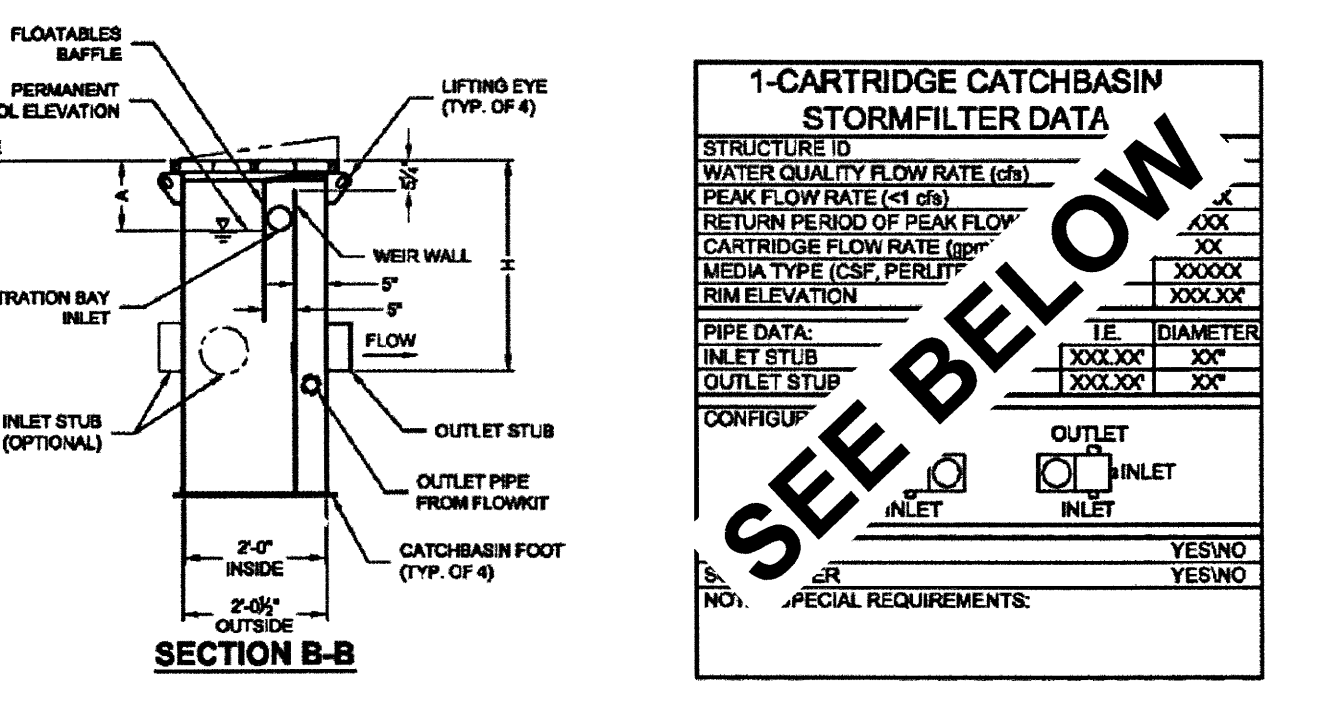
PLAN VIEW



SECTION A-A

STORMFILTER CATCHBASIN DESIGN NOTES					
STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 2" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 1" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.					
CARTRIDGE SELECTION	2"	1"	1"	1"	1"
CARTRIDGE HEIGHT	2"	1"	1"	1"	1"
MINIMUM HYDRAULIC DROP (ft)	2.00'	1.00'	1.00'	1.00'	1.00'
SPECIFIC FLOW RATE (gpm/ft²)	2.00	1.00	1.00	1.00	1.00
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	11.25	11.25	11.25
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.0	1.0	1.0
INLET PERMANENT POOL LEVEL (ft)	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
OVERALL STRUCTURE HEIGHT (ft)	4'-0"	3'-0"	3'-0"	3'-0"	3'-0"

- GENERAL NOTES:**
- CONTACT TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE, DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTRACTOR ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
  - STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 16 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
  - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET A307M LOAD RATING. TO MEET H200 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (Q) IN REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
  - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7 INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
  - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).



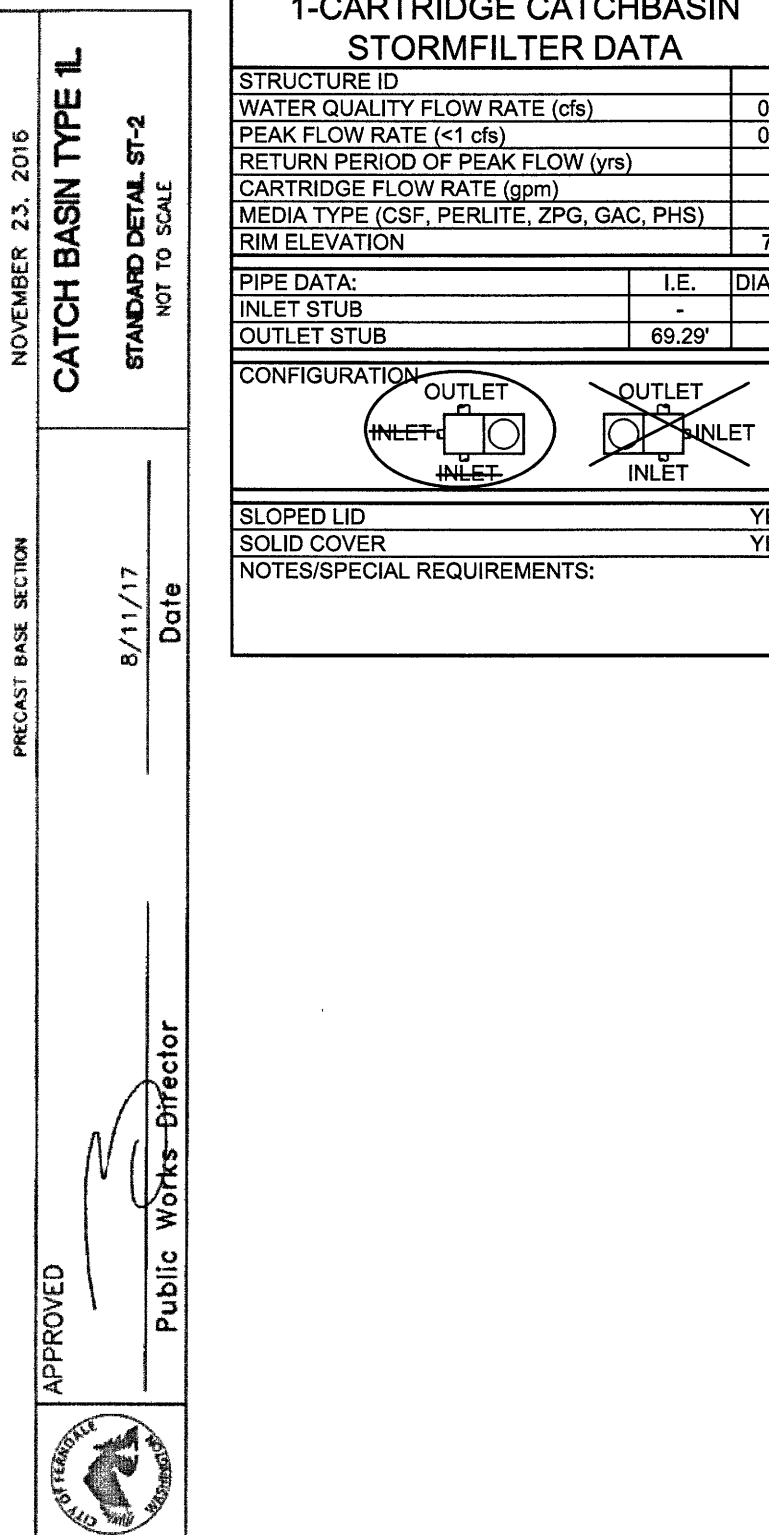
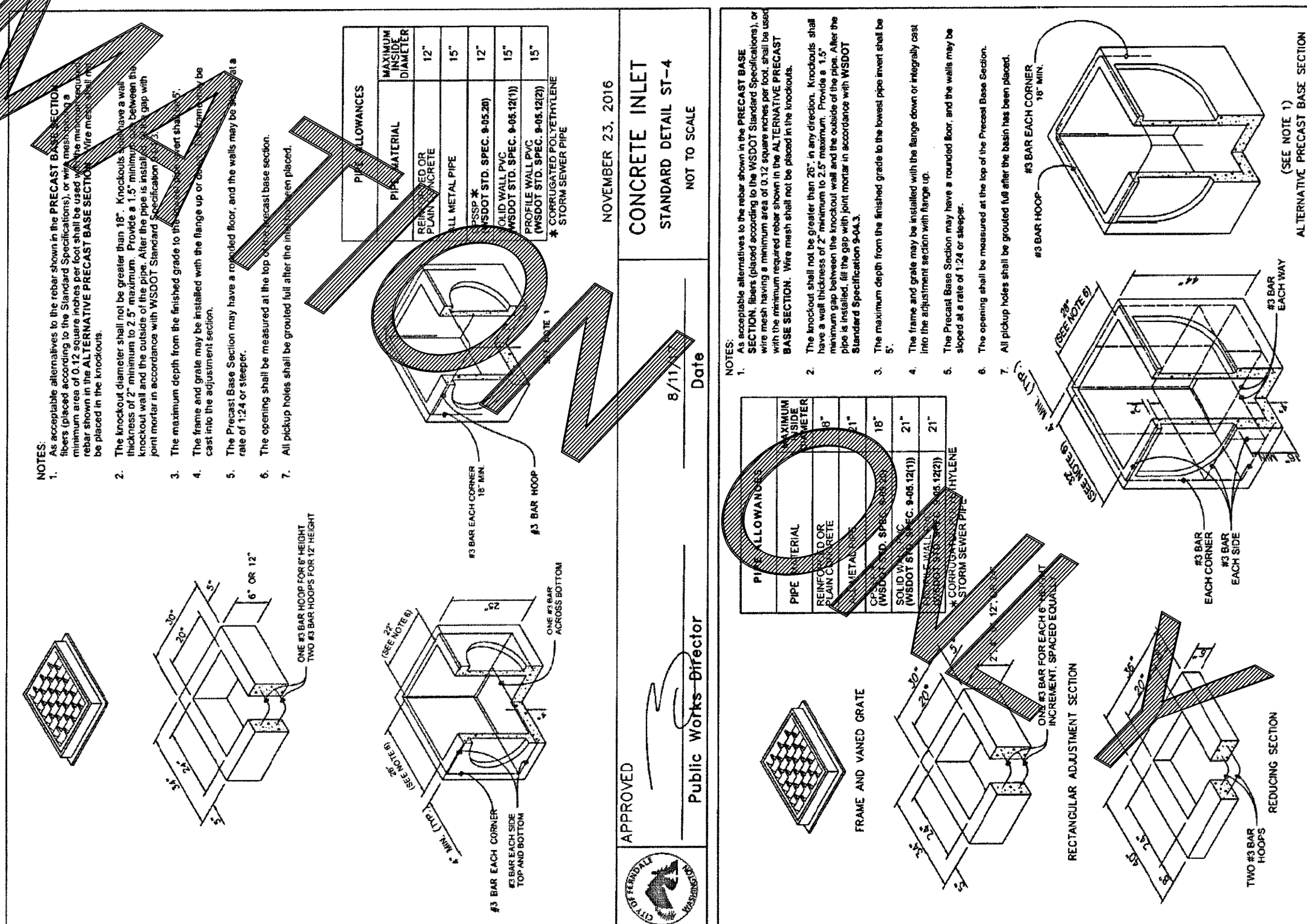
SECTION B-B

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
8005 Centre Pointe Dr., Suite 400, West Chester, OH 45386  
937-338-1122 937-338-7000 937-338-7000 FAX

**1-CARTRIDGE CATCHBASIN STORMFILTER DATA**

1-CARTRIDGE CATCHBASIN STORMFILTER DATA	
STRUCTURE ID	#1
WATER QUALITY FLOW RATE (cfs)	0.0081
PEAK FLOW RATE (<1.8 cfs)	0.0352
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE FLOW RATE (gpm)	7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	ZPG
RIM ELEVATION	71.59'
PIPE DATA:	I.E. DIAMETER
INLET STUB	69.29'
OUTLET STUB	8"
CONFIGURATIONS	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	

1-CARTRIDGE CATCHBASIN STORMFILTER DATA	
STRUCTURE ID	#1
WATER QUALITY FLOW RATE (cfs)	0.0081
PEAK FLOW RATE (<1.8 cfs)	0.0352
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE FLOW RATE (gpm)	7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	ZPG
RIM ELEVATION	71.59'
PIPE DATA:	I.E. DIAMETER
INLET STUB	69.29'
OUTLET STUB	8"
CONFIGURATIONS	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	



\\SERVER\Share\Common\Land Projects\2009\0919-L0T-14-15\0919-BASE-CNL-LOT-14-15.dwg PLOT DATE: 6/20/2019 4:11 PM

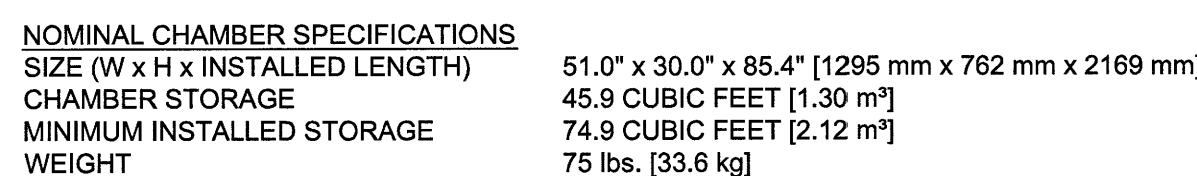
DRAWN BY SR DATE 10/11/2011 CHKD BY RL DATE 10/11/2011	PACIFIC INDUSTRIAL PARK LOT 3	APPROVED AUG 06 2019 BY CITY OF FERNDALE PUBLIC WORKS DEPARTMENT	LDES, INC. 5160 INDUSTRIAL PL #108 FERNDAL, WA 98248 PHONE 360-383-0620 FAX 360-383-0639	STORMFILTER & CONTROL STRUCTURE DETAILS	RECORD DRAWING CERTIFICATION: THESE DRAWINGS REFLECT THE WORK AS CONSTRUCTED AND ALL MODIFICATIONS MEET THE PERFORMANCE STANDARDS OF THE ORIGINAL DESIGN. DATE 06/20/19 DATE	REVISIONS - COMMENTS DC 06/20/19 AS-BUILT SUBMITTAL	SHEET 07 OF 10
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RECORD DRAWING

00672.007 08/20/19 KB



- ③ SC-740 NOTES



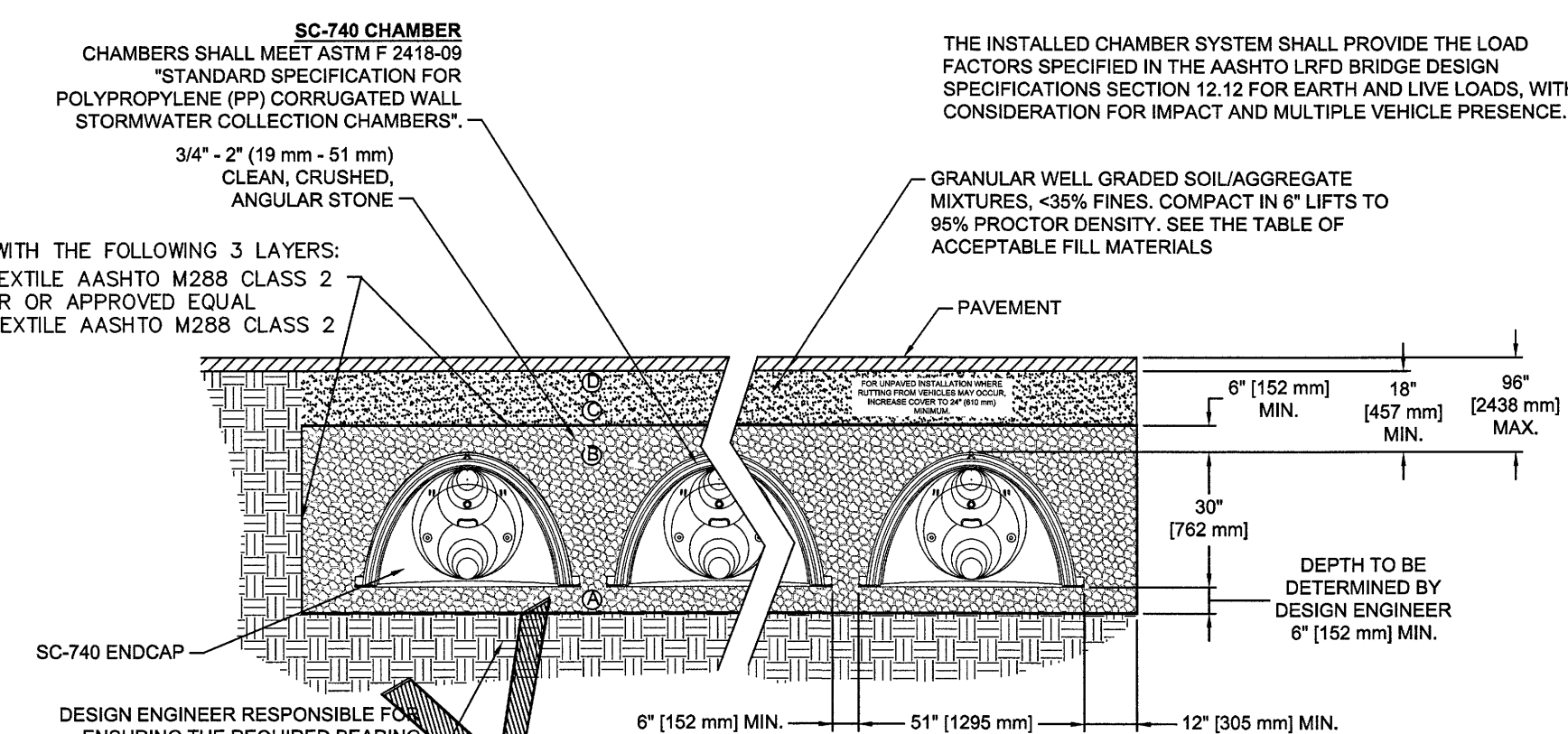
STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART#	STUB	A	B	C
SC740EPE06T	6" (150 mm)	10.90" (277 mm)	18.50" (470 mm)	N/A
SC740EPE06B	6" (150 mm)	10.90" (277 mm)	N/A	0.50" (13 mm)
SC740EPE08T	8" (200 mm)	12.20" (310 mm)	16.50" (419 mm)	N/A
SC740EPE08B	8" (200 mm)	12.20" (310 mm)	N/A	0.60" (15 mm)
SC740EPE10T	10" (250 mm)	13.40" (340 mm)	14.50" (368 mm)	N/A
SC740EPE10B	10" (250 mm)	13.40" (340 mm)	N/A	70" (18 mm)
SC740EPE12T	12" (300 mm)	14.70" (373 mm)	12.00" (318 mm)	N/A
SC740EPE12B	12" (300 mm)	14.70" (373 mm)	N/A	30" (30 mm)
SC740EPE15T	15" (375 mm)	18.40" (467 mm)	9.50" (241 mm)	N/A
SC740EPE15B	15" (375 mm)	18.40" (467 mm)	N/A	13" (33 mm)
SC740EPE18T	18" (450 mm)	19.70" (500 mm)	11.12" (282 mm)	N/A
SC740EPE18B	18" (450 mm)	19.70" (500 mm)	N/A	55" (41 mm)
*SC740EPE24B	24" (600 mm)	18.50" (470 mm)	N/A	0.50" (13 mm)

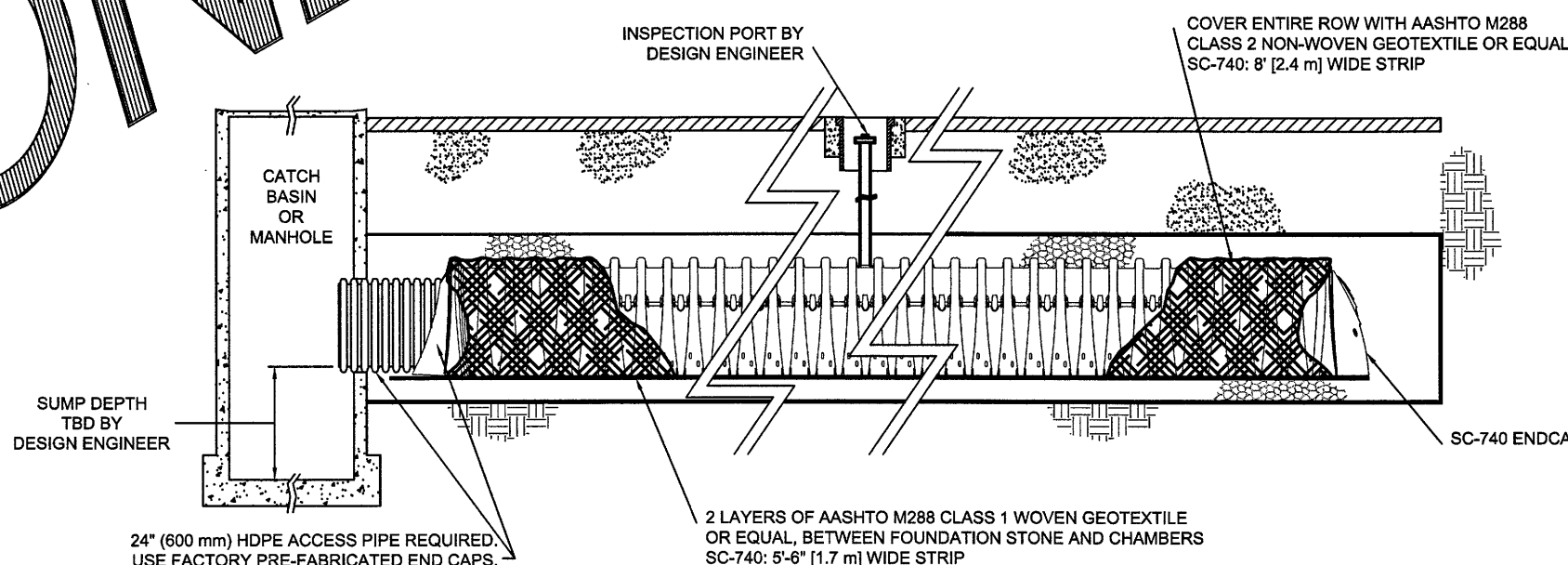
NOTE: ALL DIMENSIONS ARE NOMINAL

ALL STUBS, EXCEPT FOR THE SC740EP24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-832-2694.

\*FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE 12 STUB SO THAT THE FITTING IS AT LEVEL.



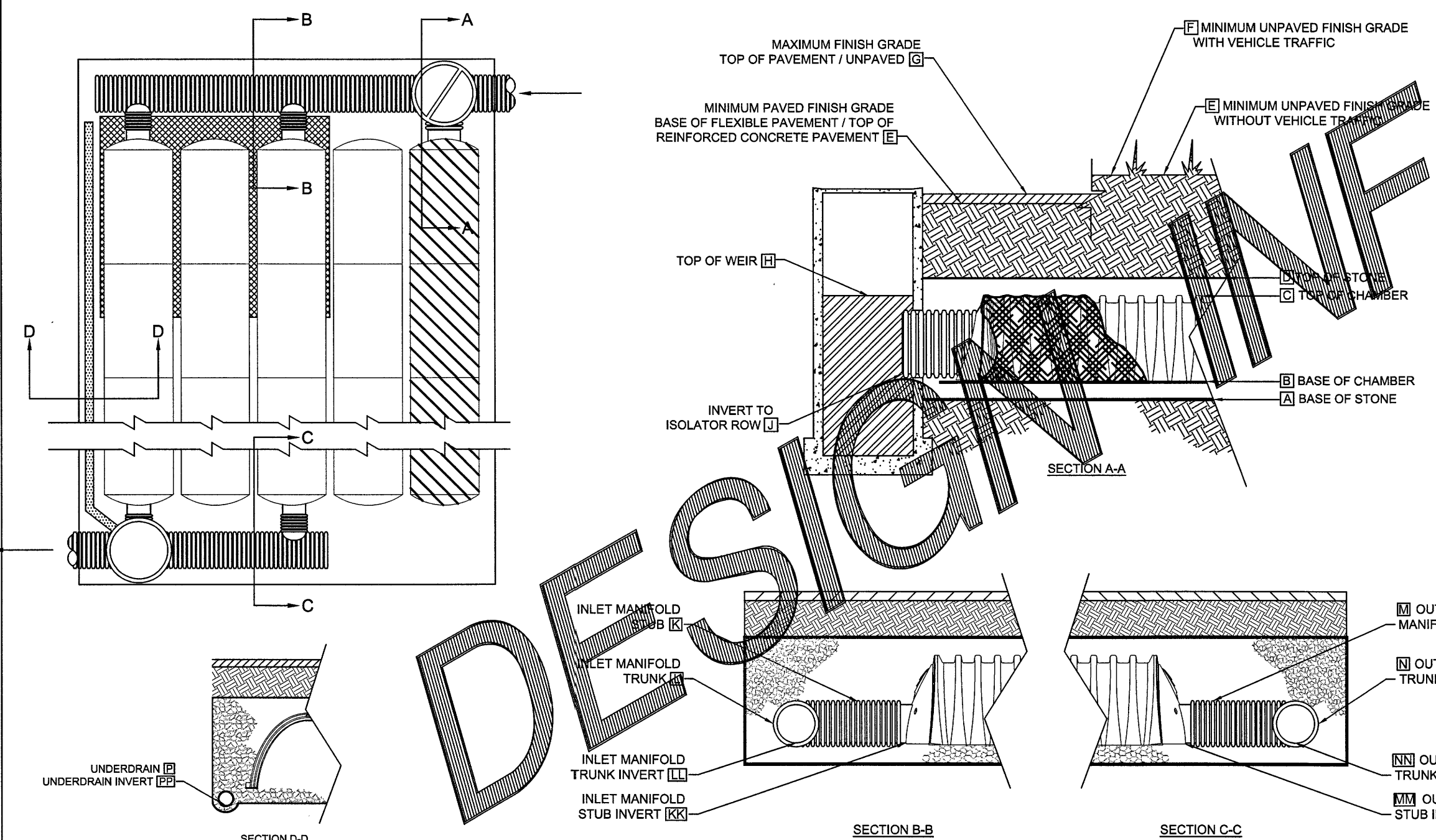
7 SC-740 STANDARD CROSS SECTION



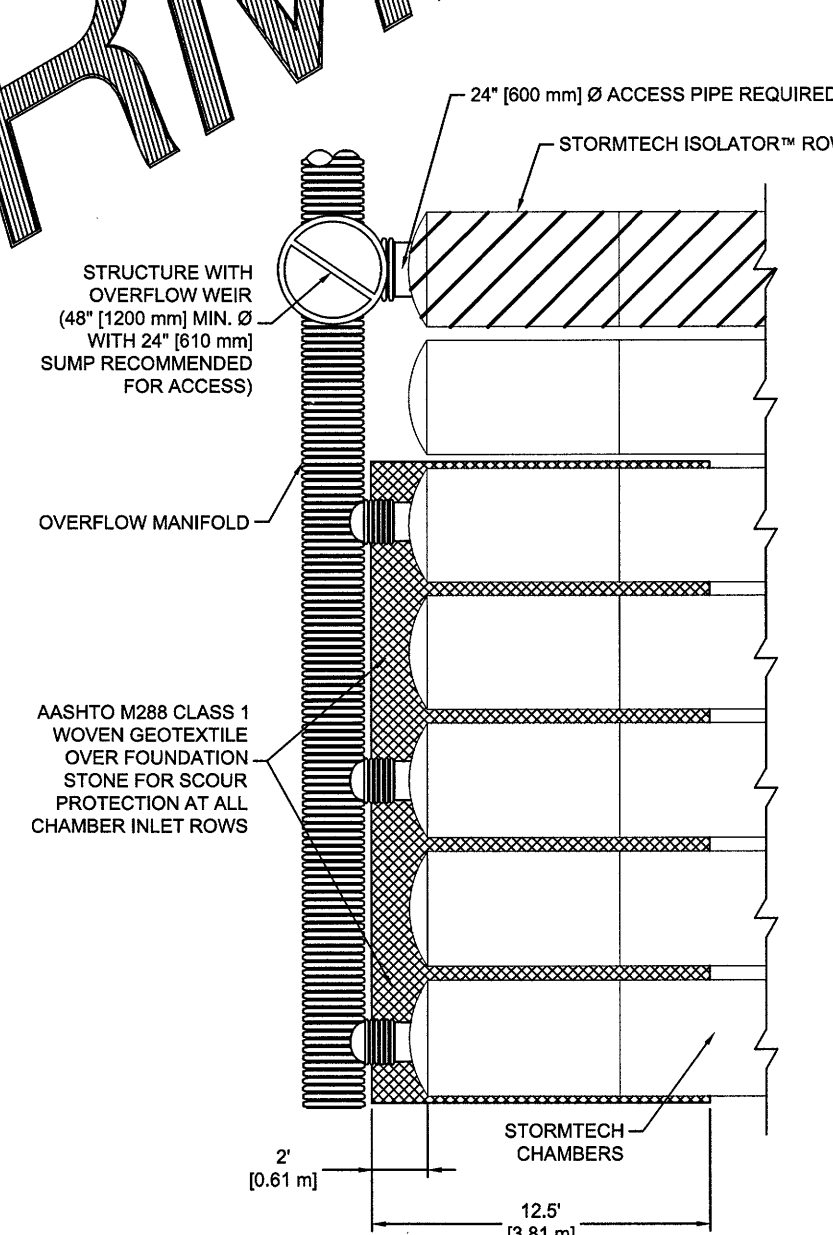
8 SC-740 ISOLATOR ROW DETAIL



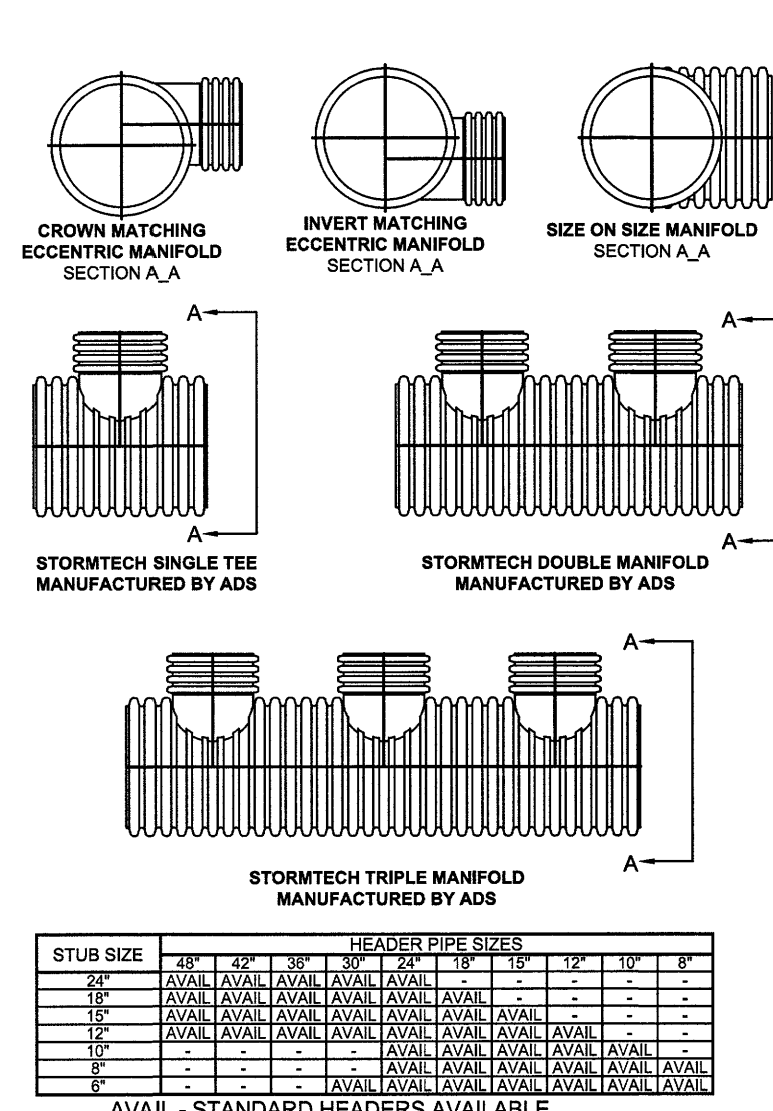
4 SC-740 TECHNICAL SPEC.



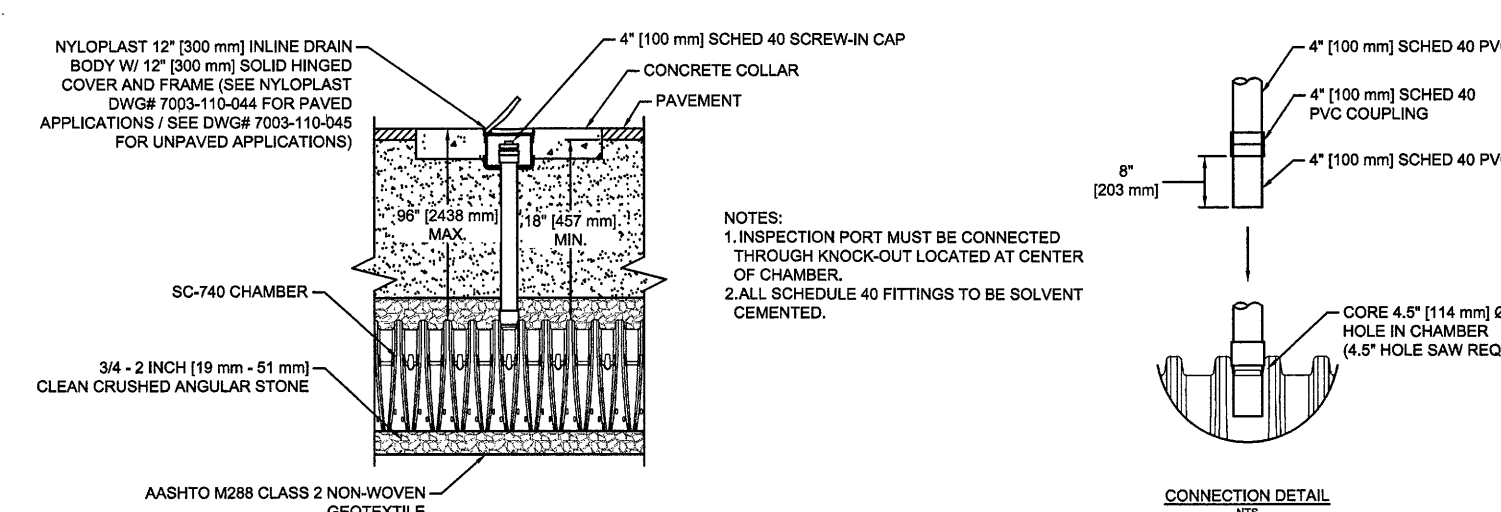
## ② SC-740 ELEVATIONS



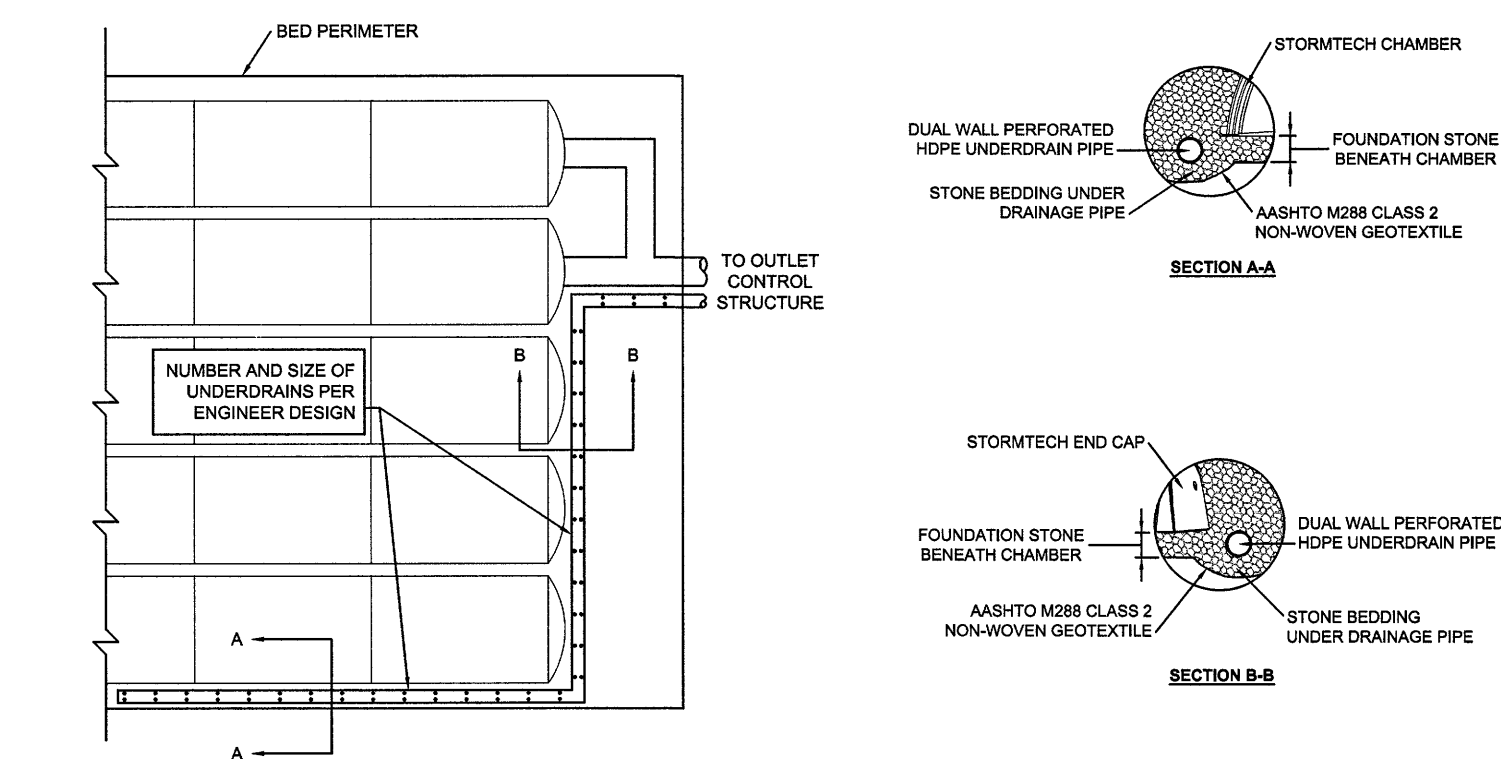
(5) SC-740 MANIFOLD DETAIL



11 MANIFOLDS



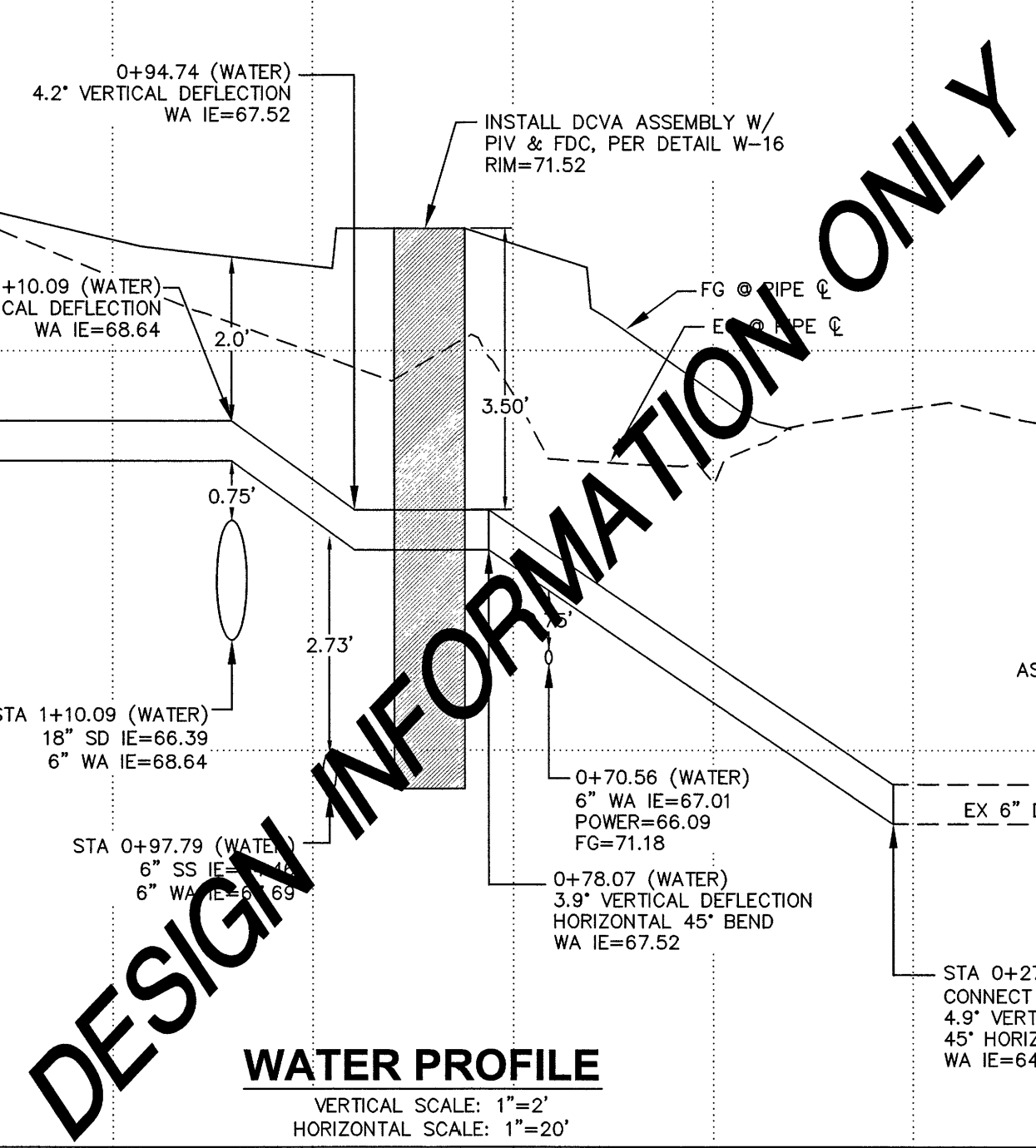
⑨ SC-740 INSPECTION PORT DETAIL



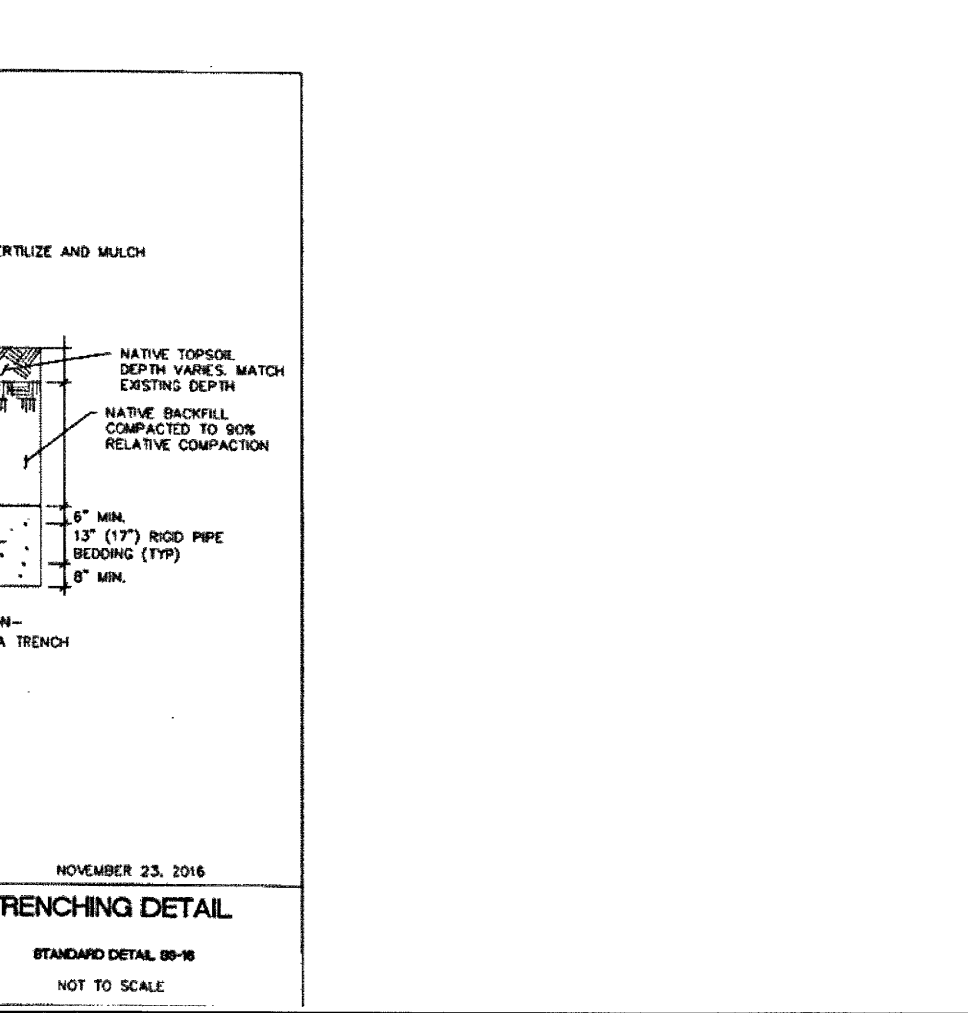
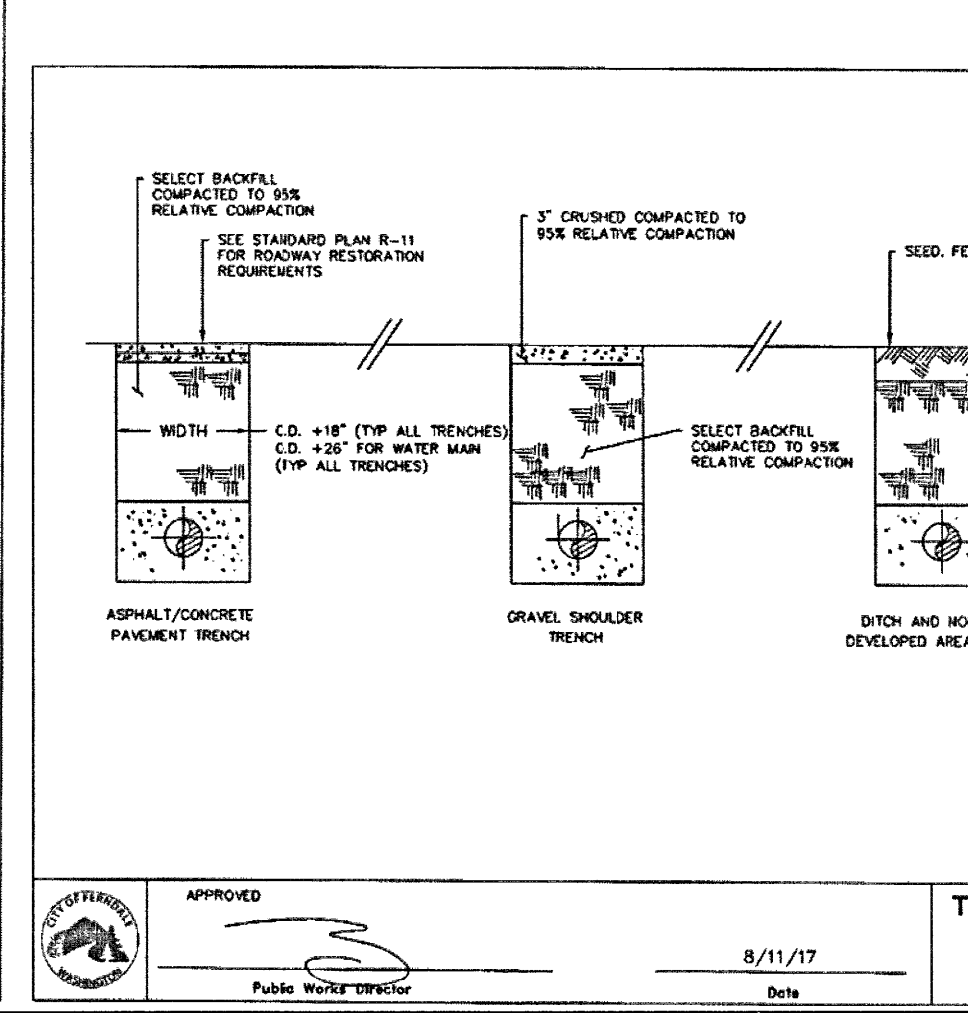
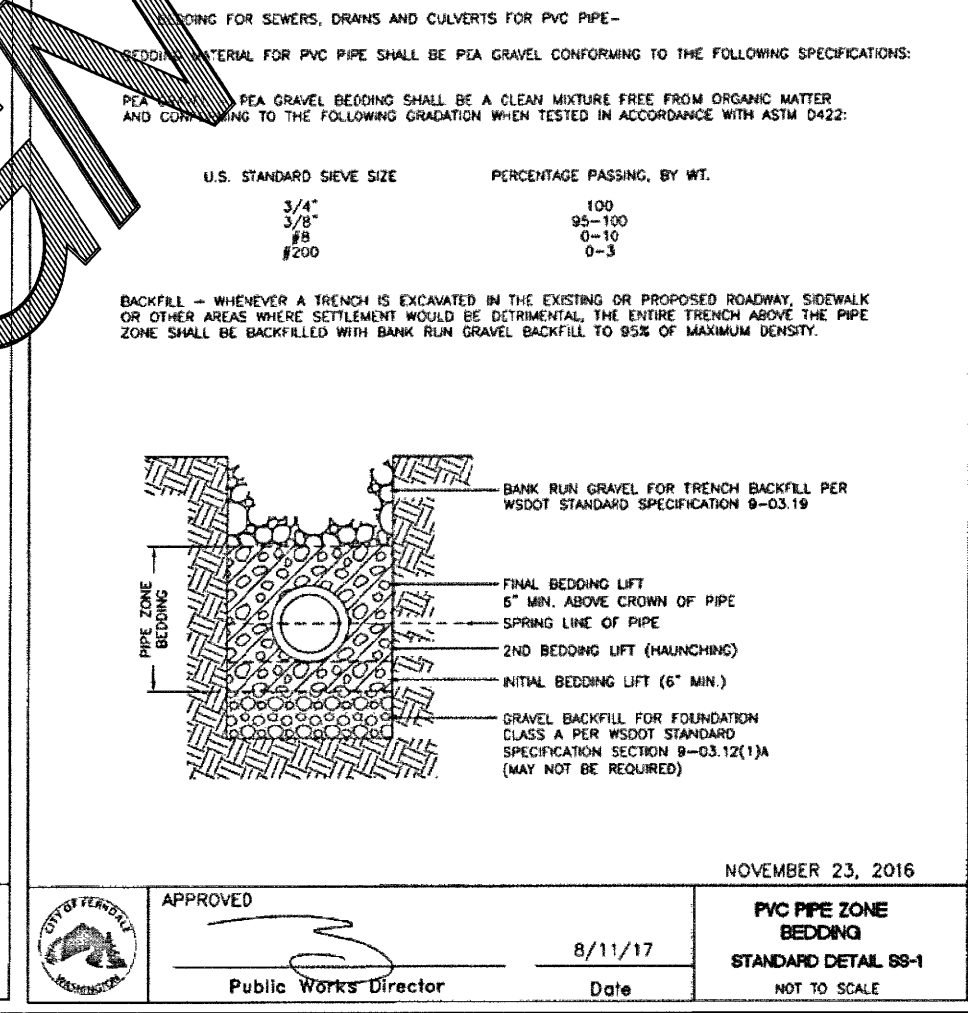
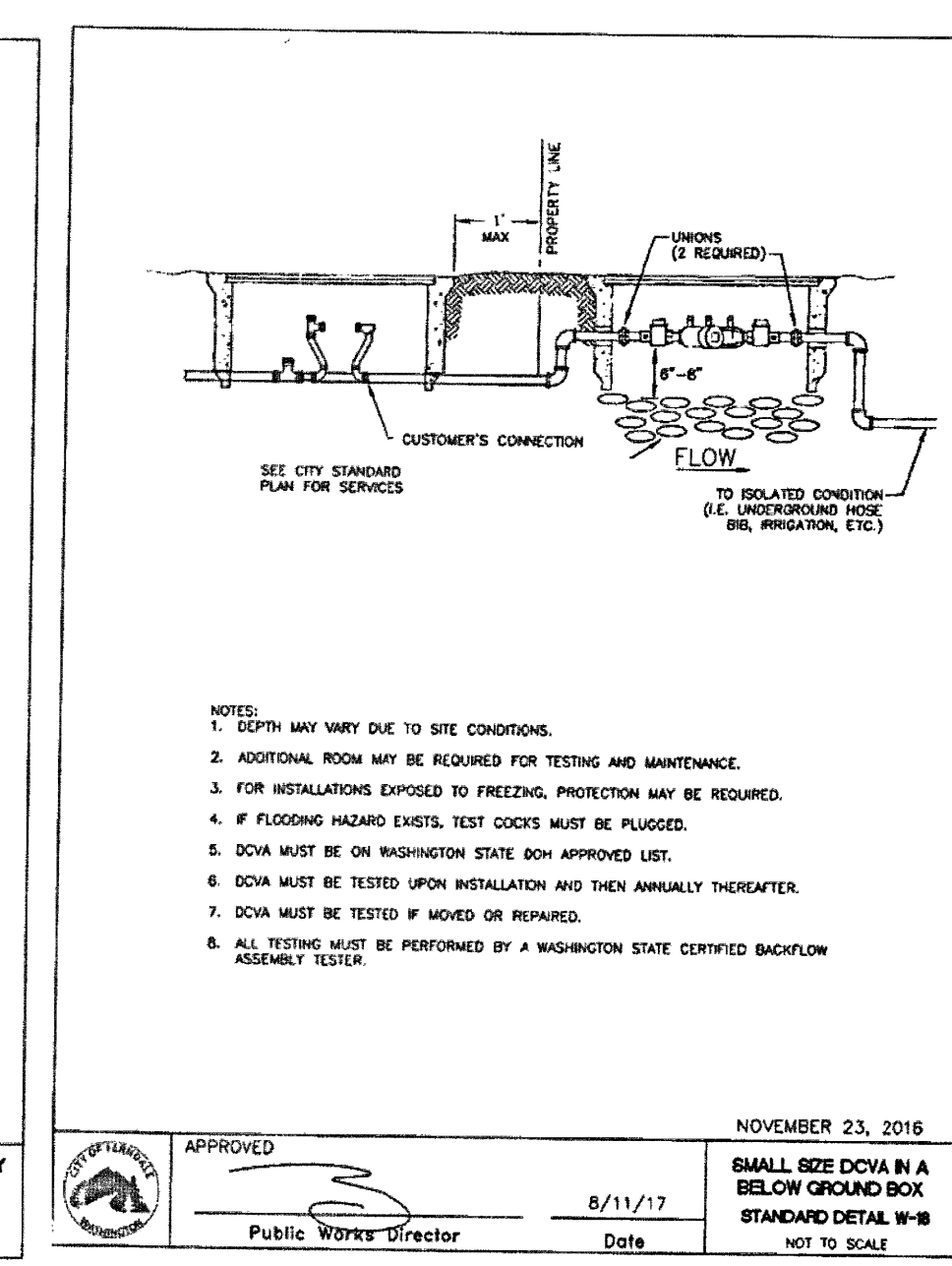
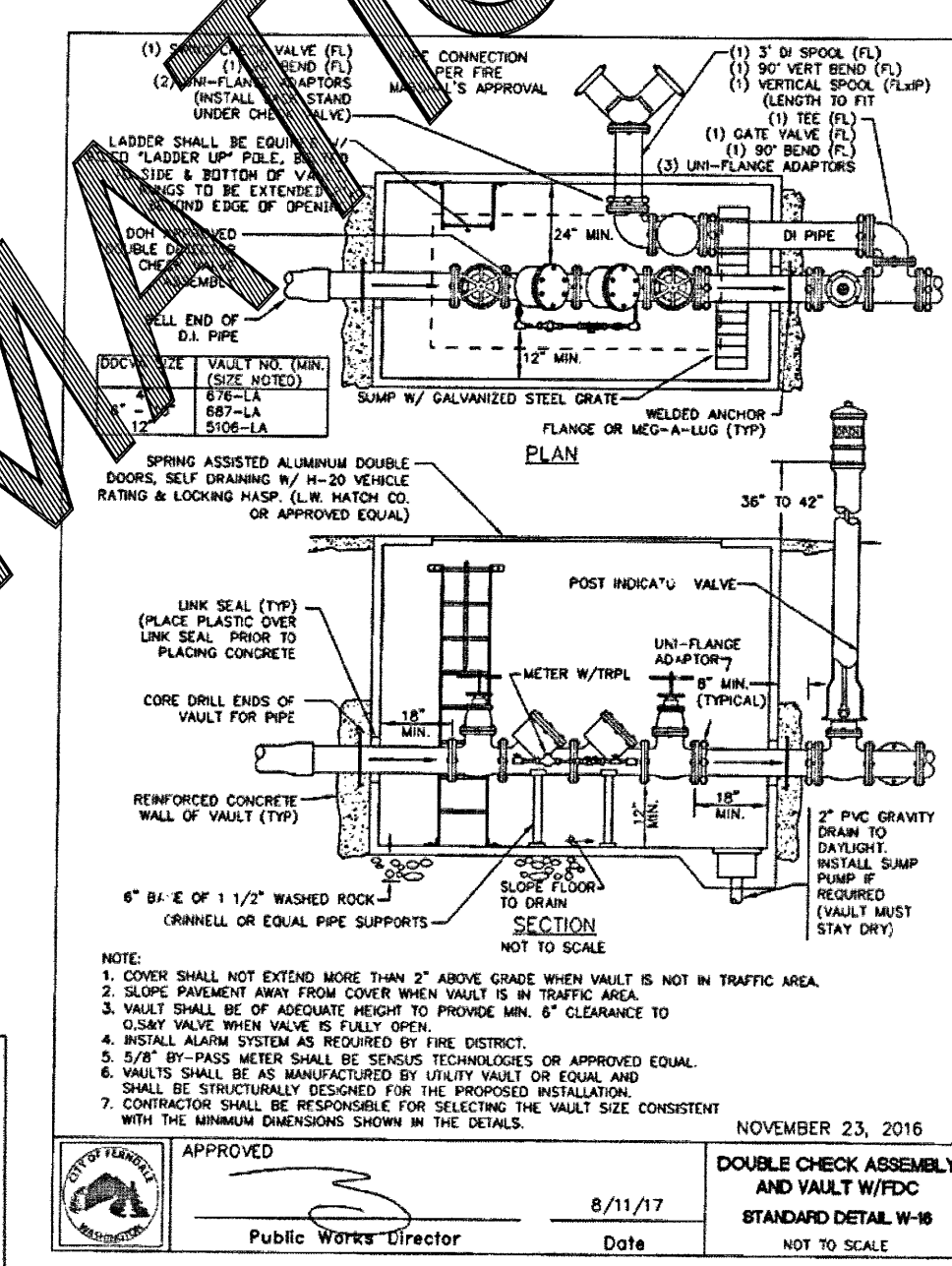
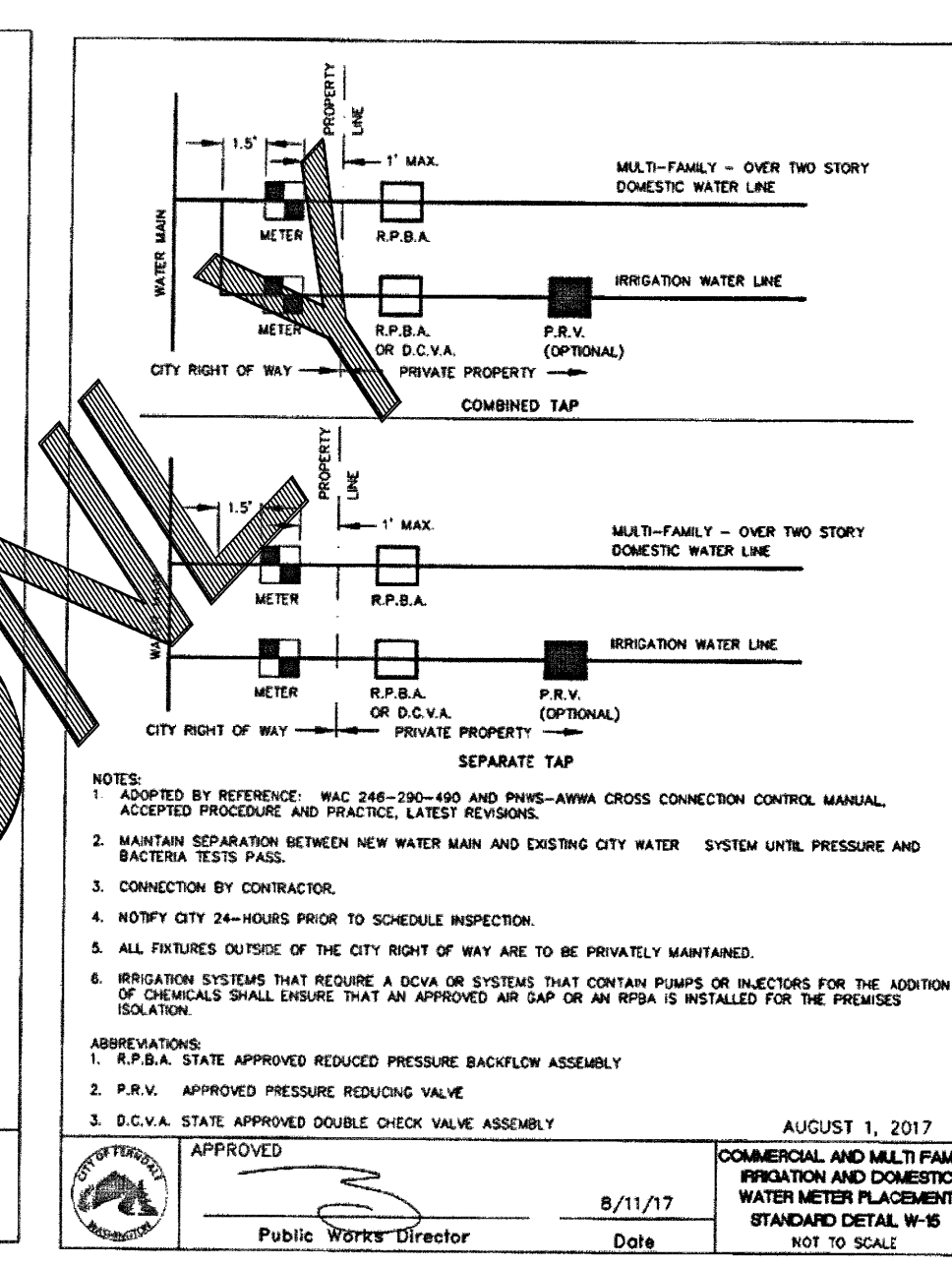
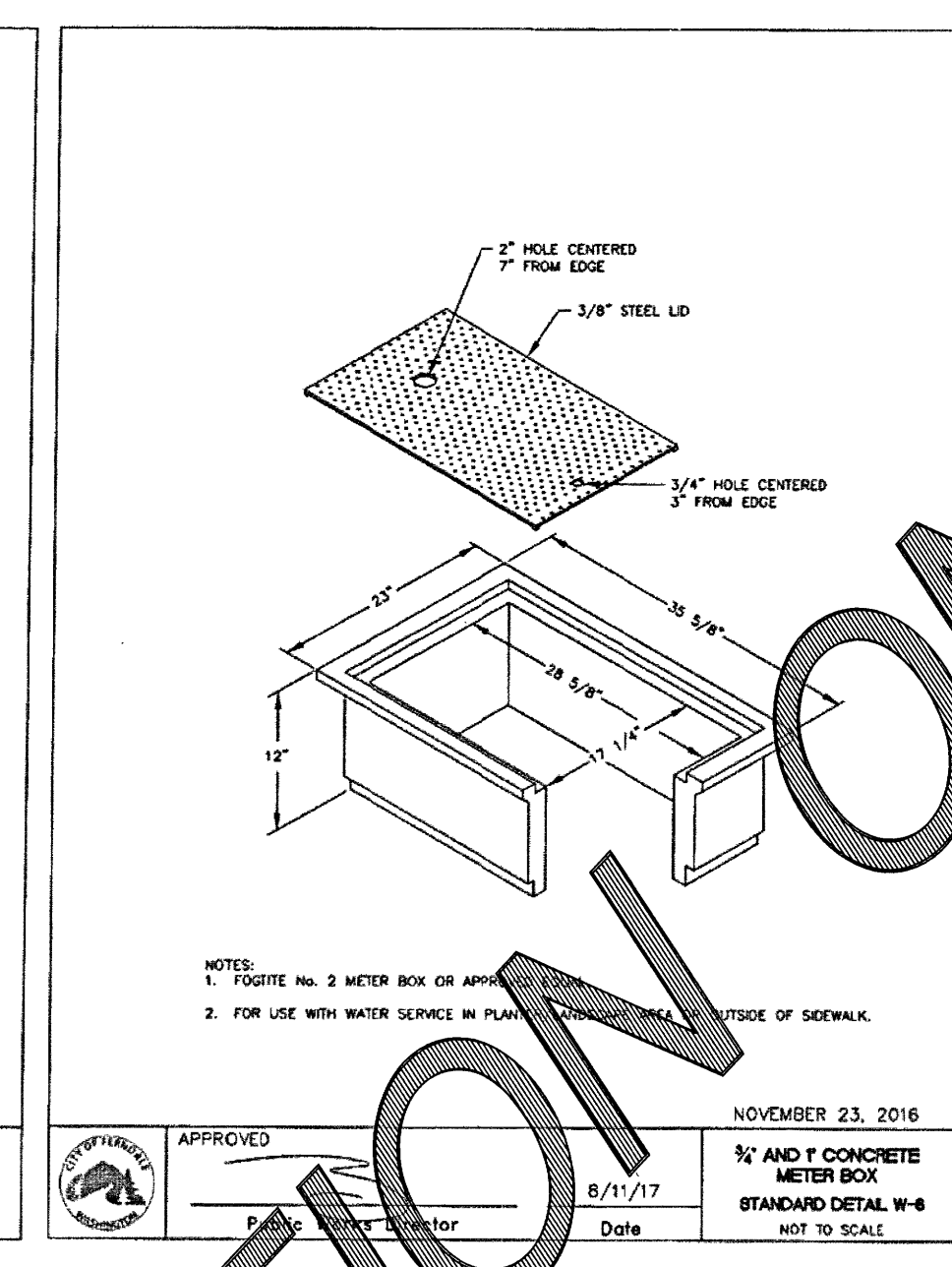
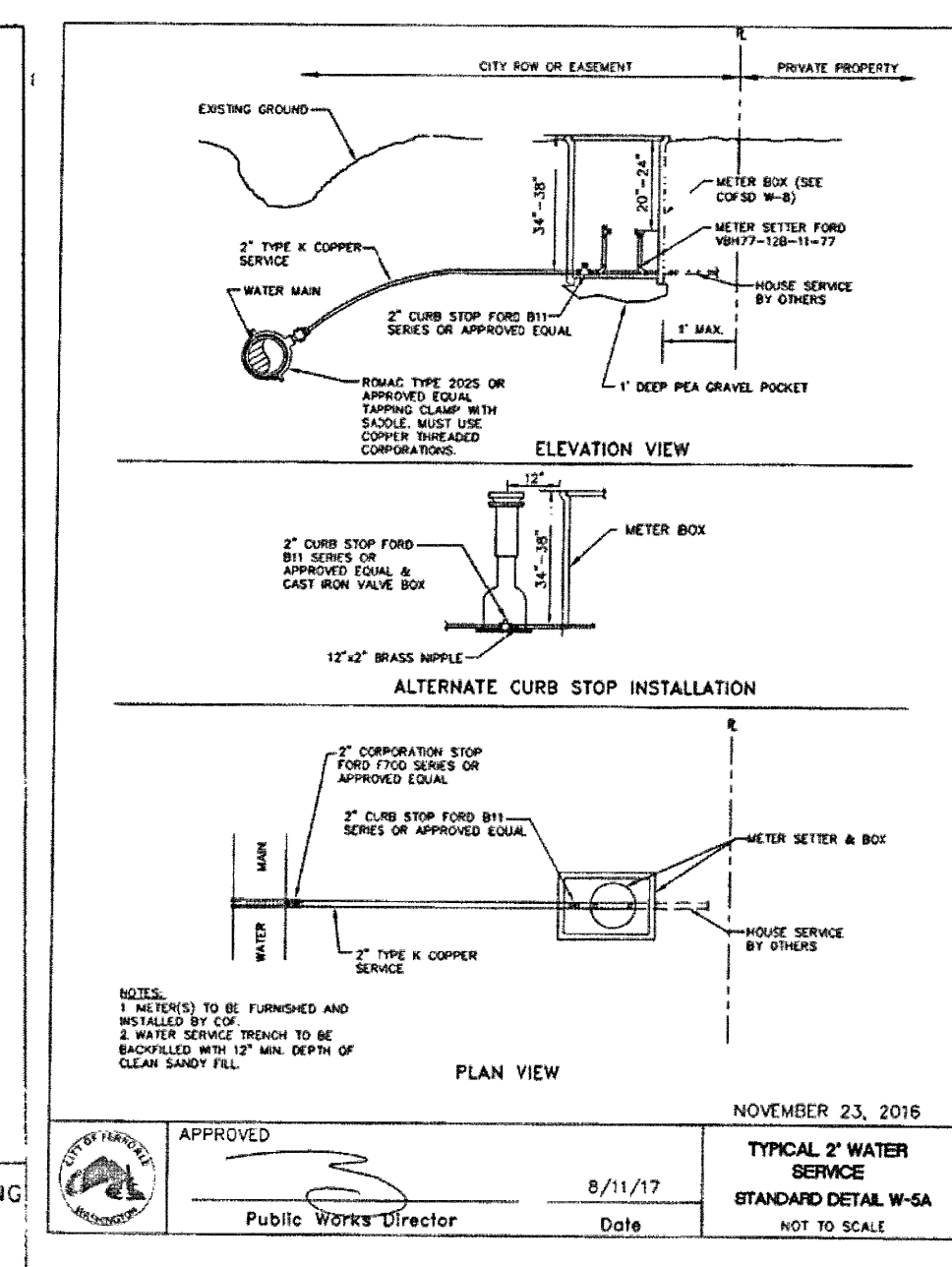
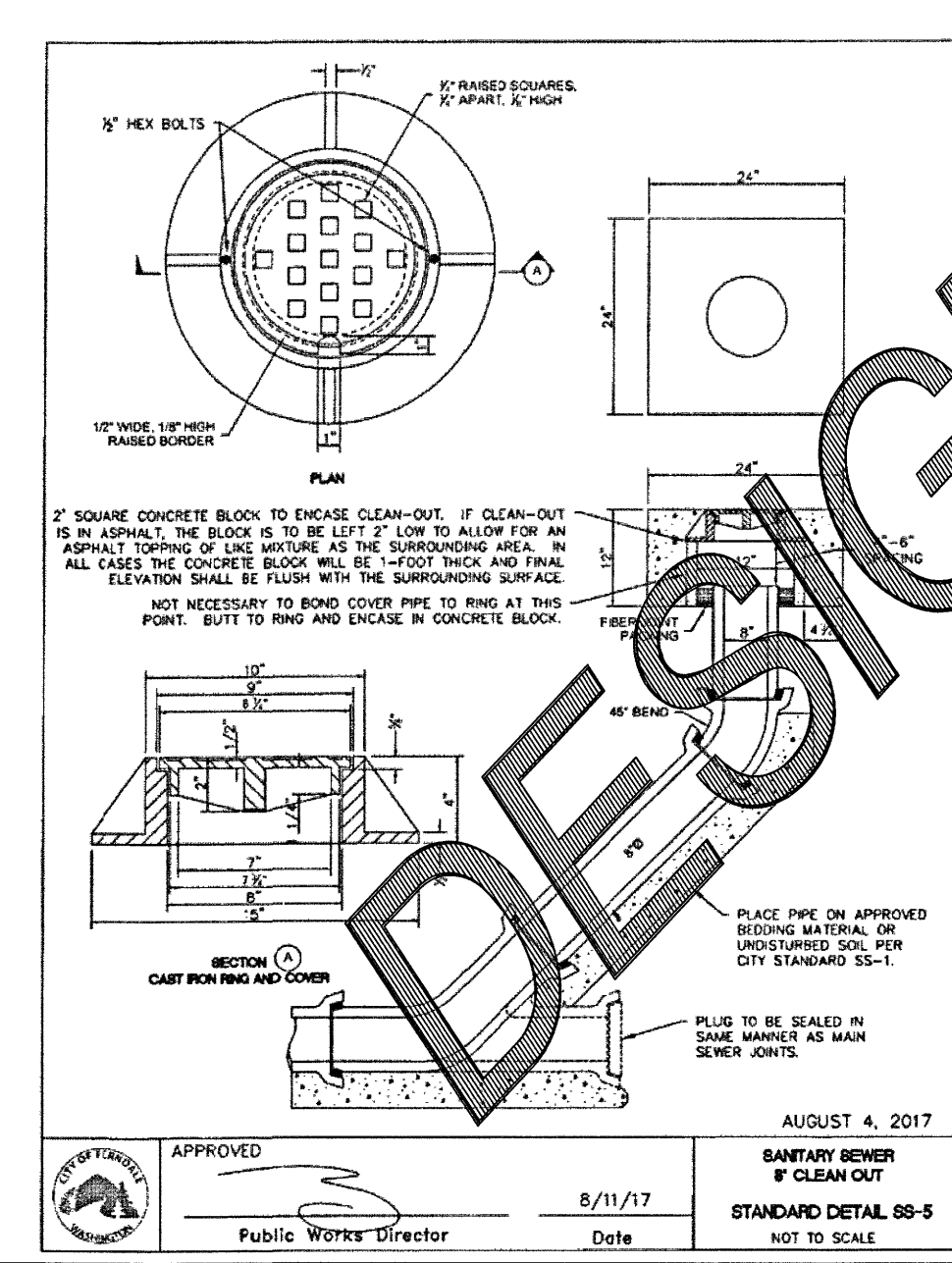
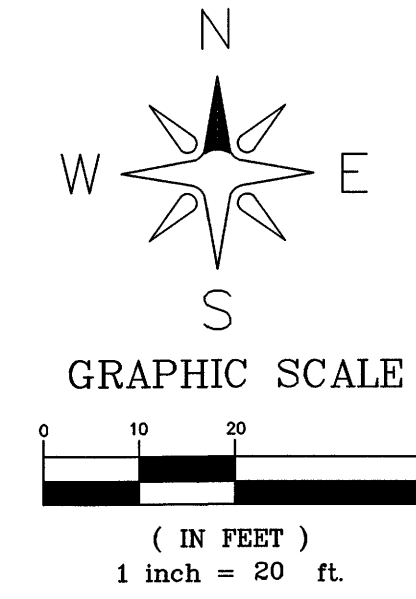
10 SC-740 UNDERDRAIN DETAIL

OF **10**





APPROVED <i>[Signature]</i> Works Director		CITY OF FERNDALE THRUST BLOCKING ELBOWS	NOT TO SCALE D
Date			





# DESIGN

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