



LEGEND

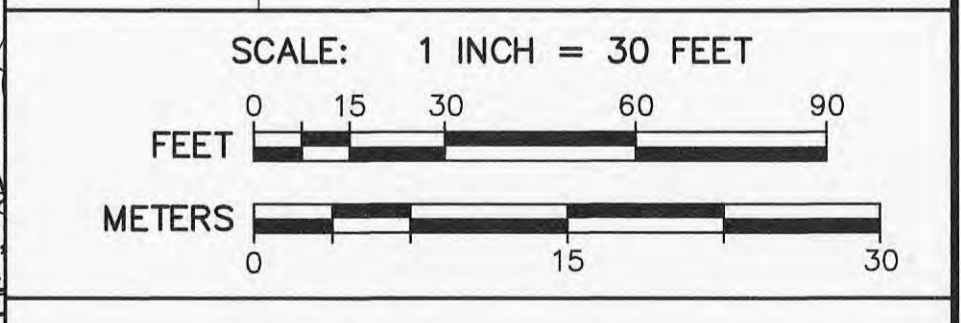
	WETLAND EDGE
	100' WETLAND BUFFER ZONE LIMIT
	2' CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	PROPOSED DRAIN MANHOLE
	PROPOSED DOUBLE GRATED CATCHBASIN
	PROPOSED SEWER MANHOLE
	PROPOSED UNDERGROUND DRAIN OR SEWER PIPE
	PROPOSED WATER LINE
	PROPOSED HYDRANT
	EXISTING EDGE OF PAVEMENT
	PROPOSED SLOPED GRANITE CURBING
	EXISTING UTILITY POLE
	OVERHEAD WIRES
	STONE WALL
	TREE
	PROPOSED TREELINE
	DEEP OBSERVATION HOLE
	PROPOSED WALKING TRAIL
	ETC
	PROPOSED ELECTRIC, TELEPHONE, CABLE CONDUIT
	PROPOSED STREET LIGHT
	PROPOSED INFILTRATION STRUCTURE TO RECEIVE CAPTURED RUNOFF
	PROPOSED EROSION CONTROL BARRIER
	PROPOSED STOP SIGN
	PROPOSED DIVERSION SWALE
	PROPOSED HANDICAPPED ACCESSIBLE PARKING SPACE
	PROPOSED TREES
	PROPOSED SHRUBS
	PROPOSED STONE FILLED SITE ENTRANCE MAT

AZIMUTH LAND DESIGN, LLC
 Professional Engineers & Erosion Control Specialists
 118 Turnpike Road, Suite 200, Southborough, MA 01772
 Telephone (508)-485-0137 james@azimuthlanddesign.co

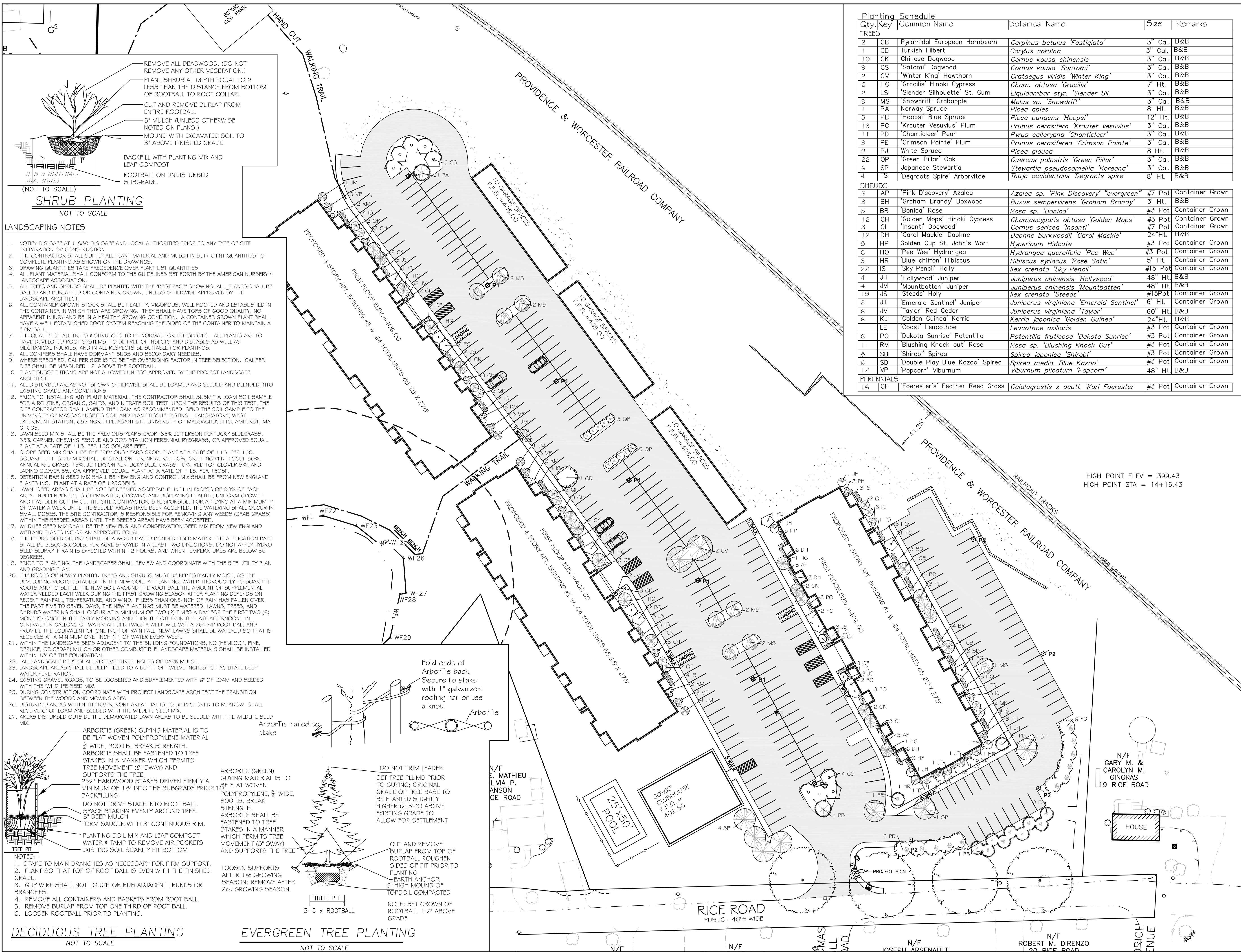
CLT. NO.	501	JOB NO.	224-501
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DATE:	OCTOBER 24, 2023	DWG. NO.	RICEROADMILLBURYCURRENT
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REVISIONS	
DATE:	DESCRIPTION



**RICE POND VILLAGE
 SITE PLAN OF LAND
 IN
 MILLBURY, MASSACHUSETTS**
 PREPARED FOR
SJV INVESTMENTS, LLC
 118 TURNPIKE ROAD, SUITE 200
 SOUTHBOROUGH, MA 01772

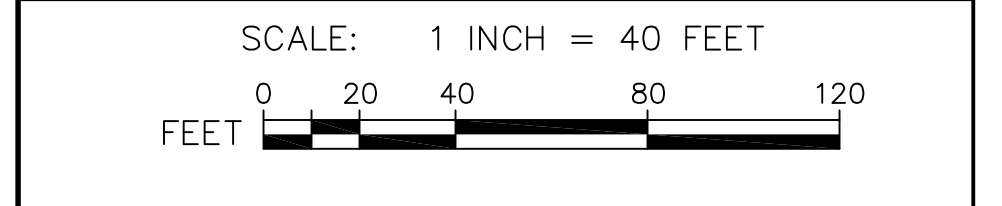


Qty	Key	Common Name	Botanical Name	Size	Remarks
TREES					
2	CB	Pyramidal European Hornbeam	<i>Carpinus betulus 'Fastigiata'</i>	3" Cal.	B&B
1	CD	Turkish Filbert	<i>Corylus corulna</i>	3" Cal.	B&B
10	CK	Chinese Dogwood	<i>Cornus kousa chinensis</i>	3" Cal.	B&B
9	CS	'Satomi' Dogwood	<i>Cornus kousa 'Satomi'</i>	3" Cal.	B&B
2	CV	'Winter King' Hawthorn	<i>Crataegus viridis 'Winter King'</i>	3" Cal.	B&B
6	HG	'Gracilis' Hinoki Cypress	<i>Cham. obtusa 'Gracilis'</i>	7' Ht.	B&B
2	LS	'Slender Silhouette' St. Gum	<i>Liquidambar styr. 'Slender Sil.'</i>	3" Cal.	B&B
9	MS	'Snowdrift' Crabapple	<i>Malus sp. 'Snowdrift'</i>	3" Cal.	B&B
1	PA	Norway Spruce	<i>Picea abies</i>	8' Ht.	B&B
3	PB	'Hoopsi' Blue Spruce	<i>Picea pungens 'Hoopsi'</i>	12' Ht.	B&B
13	PC	'Krauter Vesuvius' Plum	<i>Prunus cerasifera 'Krauter vesuvius'</i>	3" Cal.	B&B
11	PD	'Chanticleer' Pear	<i>Pyrus calleryana 'Chanticleer'</i>	3" Cal.	B&B
3	PE	'Crimson Pointe' Plum	<i>Prunus cerasifera 'Crimson Pointe'</i>	3" Cal.	B&B
9	PJ	White Spruce	<i>Picea glauca</i>	8' Ht.	B&B
22	QP	'Green Pillar' Oak	<i>Quercus palustris 'Green Pillar'</i>	3" Cal.	B&B
6	SP	Japanese Stewartia	<i>Stewartia pseudocamellia 'Koreana'</i>	3" Cal.	B&B
4	TS	'Degroots Spire' Arborvitae	<i>Thuja occidentalis 'Degroots spire'</i>	8' Ht.	B&B
SHRUBS					
6	AP	'Pink Discovery' Azalea	<i>Azalea sp. 'Pink Discovery' 'evergreen'</i>	#7 Pot	Container Grown
3	BH	'Graham Brandy' Boxwood	<i>Buxus sempervirens 'Graham Brandy'</i>	3" Ht.	B&B
8	BR	'Bonica' Rose	<i>Rosa sp. 'Bonica'</i>	#3 Pot	Container Grown
12	CH	'Golden Mops' Hinoki Cypress	<i>Chamaecyparis obtusa 'Golden Mops'</i>	#3 Pot	Container Grown
3	CI	'Insant' Dogwood	<i>Cornus sericea 'Insant'</i>	#7 Pot	Container Grown
12	DH	'Carol Mackie' Daphne	<i>Daphne burkwoodii 'Carol Mackie'</i>	24" Ht.	B&B
8	HP	Golden Cup St. John's Wort	<i>Hypericum Hidcole</i>	#3 Pot	Container Grown
6	HQ	'Pee Wee' Hydrangea	<i>Hydrangea quercifolia 'Pee Wee'</i>	#3 Pot	Container Grown
3	HR	'Blue chiffon' Hibiscus	<i>Hibiscus syriacus 'Rose Satin'</i>	5" Ht.	Container Grown
22	IS	'Sky Pencil' Holly	<i>Ilex crenata 'Sky Pencil'</i>	#15 Pot	Container Grown
4	JH	'Hollywood' Juniper	<i>Juniperus chinensis 'Hollywood'</i>	48" Ht.	B&B
4	JM	'Mountbatten' Juniper	<i>Juniperus chinensis 'Mountbatten'</i>	48" Ht.	B&B
19	JS	'Steads' Holly	<i>Ilex crenata 'Steads'</i>	#15 Pot	Container Grown
2	JT	'Emerald Sentinel' Juniper	<i>Juniperus virginiana 'Emerald Sentinel'</i>	6" Ht.	Container Grown
6	JV	'Taylor' Red Cedar	<i>Juniperus virginiana 'Taylor'</i>	60" Ht.	B&B
6	KJ	'Golden Guinea' Kerria	<i>Kerria japonica 'Golden Guinea'</i>	24" Ht.	B&B
1	LE	'Coast' Leucothoe	<i>Leucothoe axillaris</i>	#3 Pot	Container Grown
6	PO	'Dakota Sunrise' Potentilla	<i>Potentilla fruticosa 'Dakota Sunrise'</i>	#3 Pot	Container Grown
11	RM	'Blushing Knock out' Rose	<i>Rosa sp. 'Blushing Knock Out'</i>	#3 Pot	Container Grown
8	SB	'Shirobi' Spirea	<i>Spirea japonica 'Shirobi'</i>	#3 Pot	Container Grown
6	SD	'Double Play Blue Kazoo' Spirea	<i>Spirea media 'Blue Kazoo'</i>	#3 Pot	Container Grown
12	VP	'Popcorn' Viburnum	<i>Viburnum plicatum 'Popcorn'</i>	48" Ht.	B&B
PERENNIALS					
16	CF	'Foerester's Feather Reed Grass	<i>Calagrostis x acuti. 'Karl Foerester'</i>	#3 Pot	Container Grown

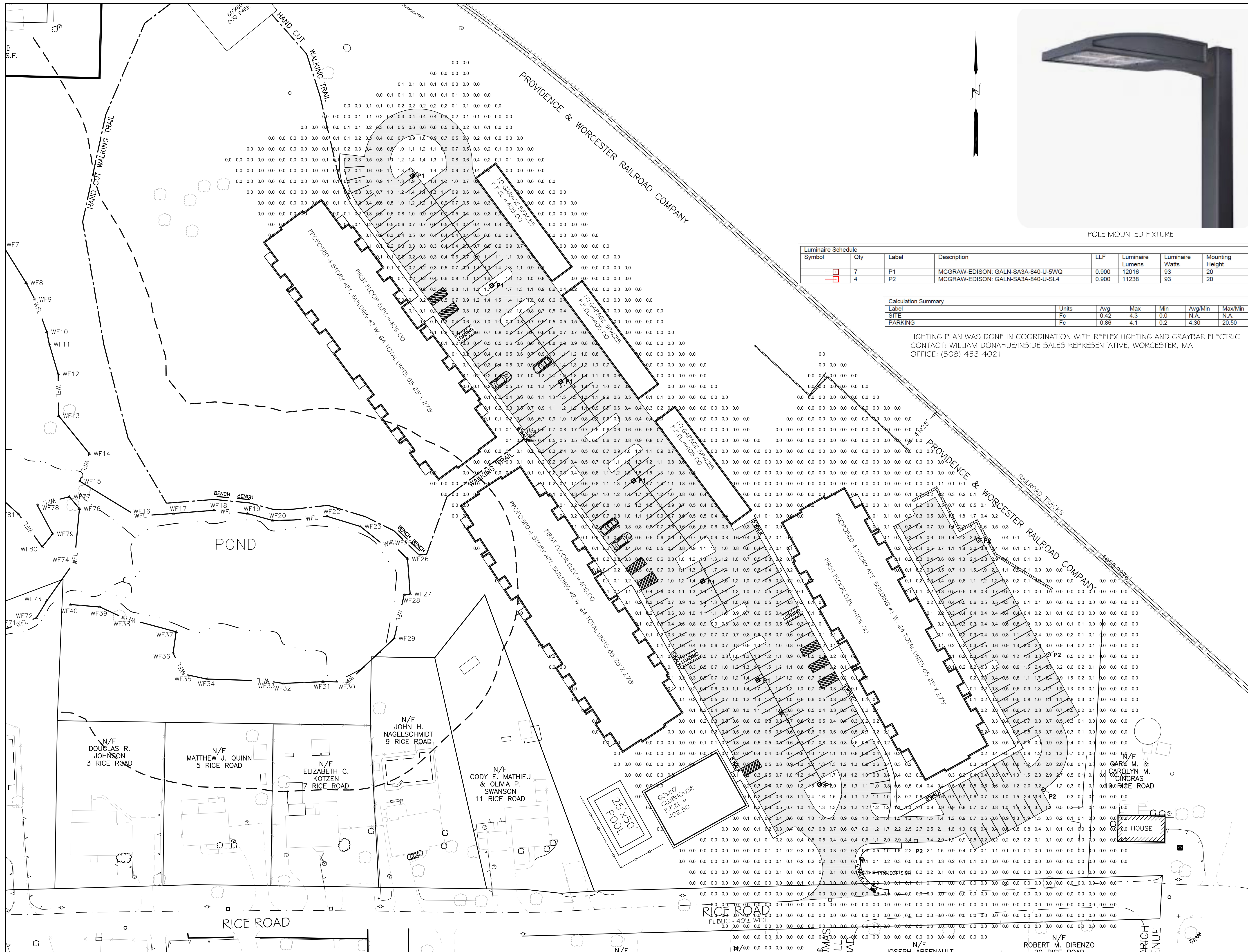


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CLT. NO.	3151	JOB NO.	186-3234
DATE:	OCTOBER 24-2023	DWG NO.	ANTAYACURRENT
REVISIONS			
DATE:		DESCRIPTION	



SITE PLAN OF LAND
 AT 15 RICE ROAD
 IN
 MILLBURY, MASSACHUSETTS
 PREPARED FOR APPLICANT
 SJV INVESTMENTS, LLC
 ONE GOLDEN COURT
 WESTBOROUGH, MA 01581



POLE MOUNTED FIXTURE

Symbol	Qty	Label	Description	LLF	Luminaire Lumens	Luminaire Watts	Mounting Height
[Symbol]	7	P1	MCGRAW-EDISON: GALN-SA3A-840-U-5WQ	0.900	12016	93	20
[Symbol]	4	P2	MCGRAW-EDISON: GALN-SA3A-840-U-SL4	0.900	11238	93	20

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Fc	0.42	4.3	0.0	N.A.	N.A.
PARKING	Fc	0.86	4.1	0.2	4.30	20.50

LIGHTING PLAN WAS DONE IN COORDINATION WITH REFLEX LIGHTING AND GRAYBAR ELECTRIC CONTACT: WILLIAM DONAHUE/INSIDE SALES REPRESENTATIVE, WORCESTER, MA OFFICE: (508)-453-4021

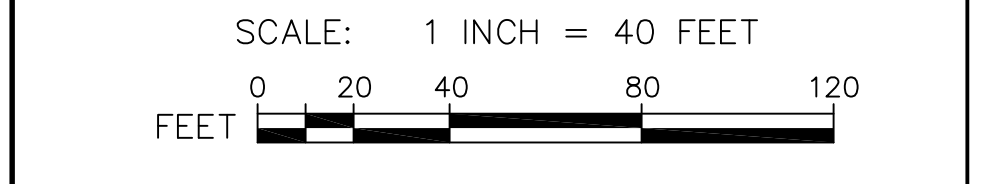
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SITE PLAN OF LAND AT 15 RICE ROAD
 IN MILLBURY, MASSACHUSETTS
 PREPARED FOR APPLICANT
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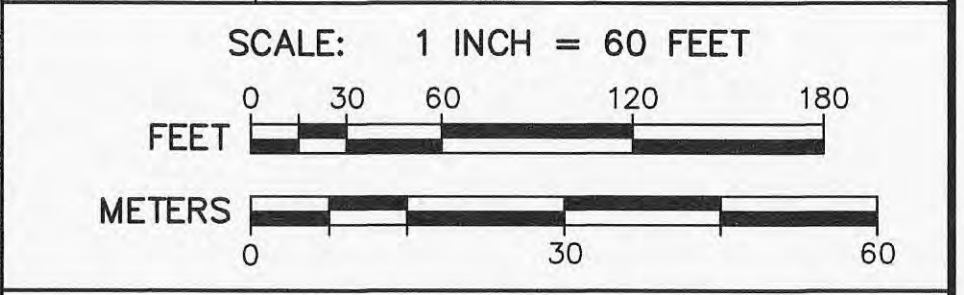


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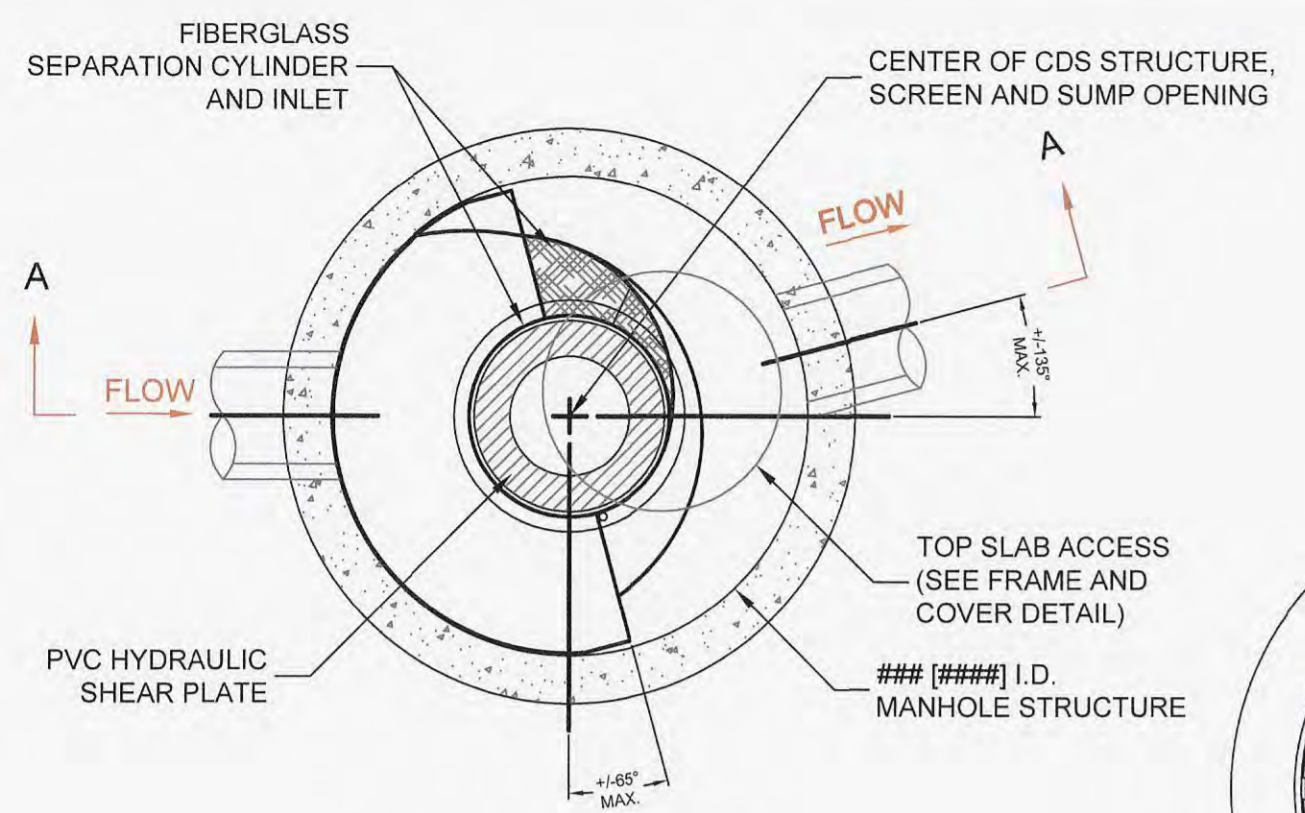
WFL	WETLAND EDGE
--- (dashed line)	100' WETLAND BUFFER ZONE LIMIT
- - - - - (dashed line)	2' CONTOUR
- - - - - (dashed line)	10' CONTOUR
x403.0	EXISTING SPOT GRADE
#6	EXISTING EDGE OF PAVEMENT
OHW	EXISTING UTILITY POLE
--- (dashed line)	OVERHEAD WIRES
--- (dashed line)	STONE WALL
(tree symbol)	TREE
--- (dashed line)	TREELINE
(square symbol)	DEEP OBSERVATION HOLE

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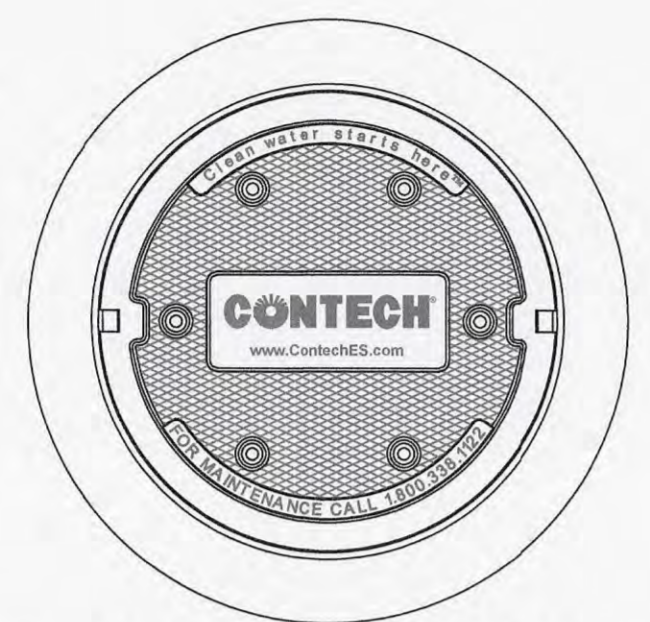
CLT. NO.	501	JOB NO.	224-501
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REVISIONS			
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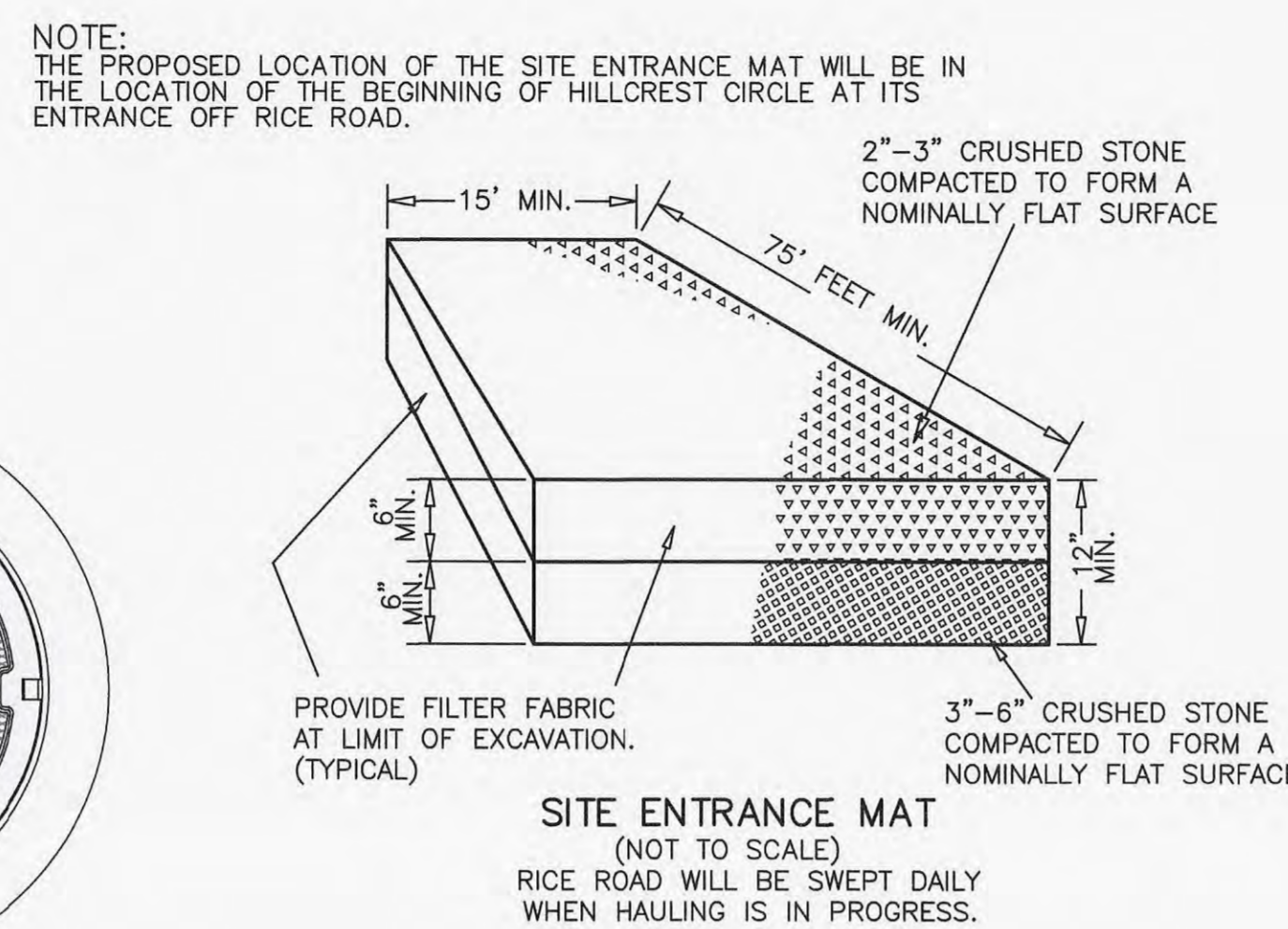
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 SITE PLAN OF LAND**
 IN
MILLBURY, MASSACHUSETTS
 PREPARED FOR
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 118 TURNPIKE ROAD, SUITE 200
 SOUTHBOROUGH, MA 01772



PLAN VIEW B-B
N.T.S.



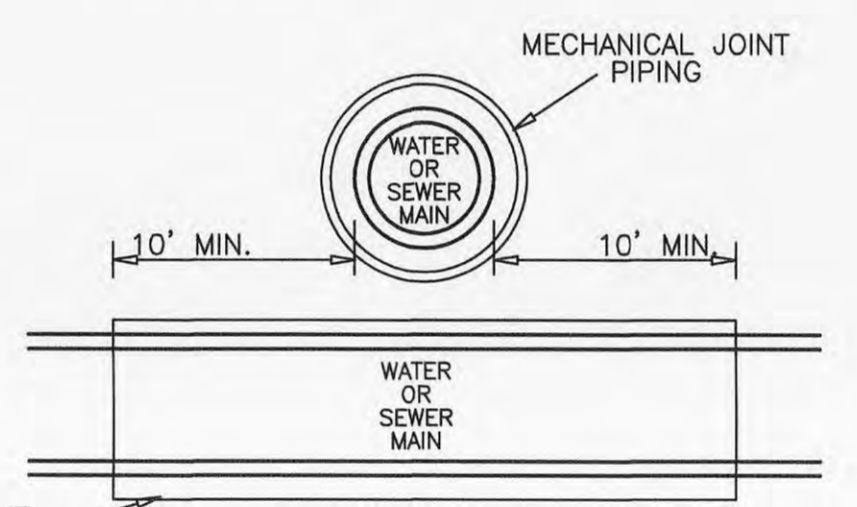
FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



SITE ENTRANCE MAT
(NOT TO SCALE)
RICE ROAD WILL BE SWEEPED DAILY WHEN HAULING IS IN PROGRESS.

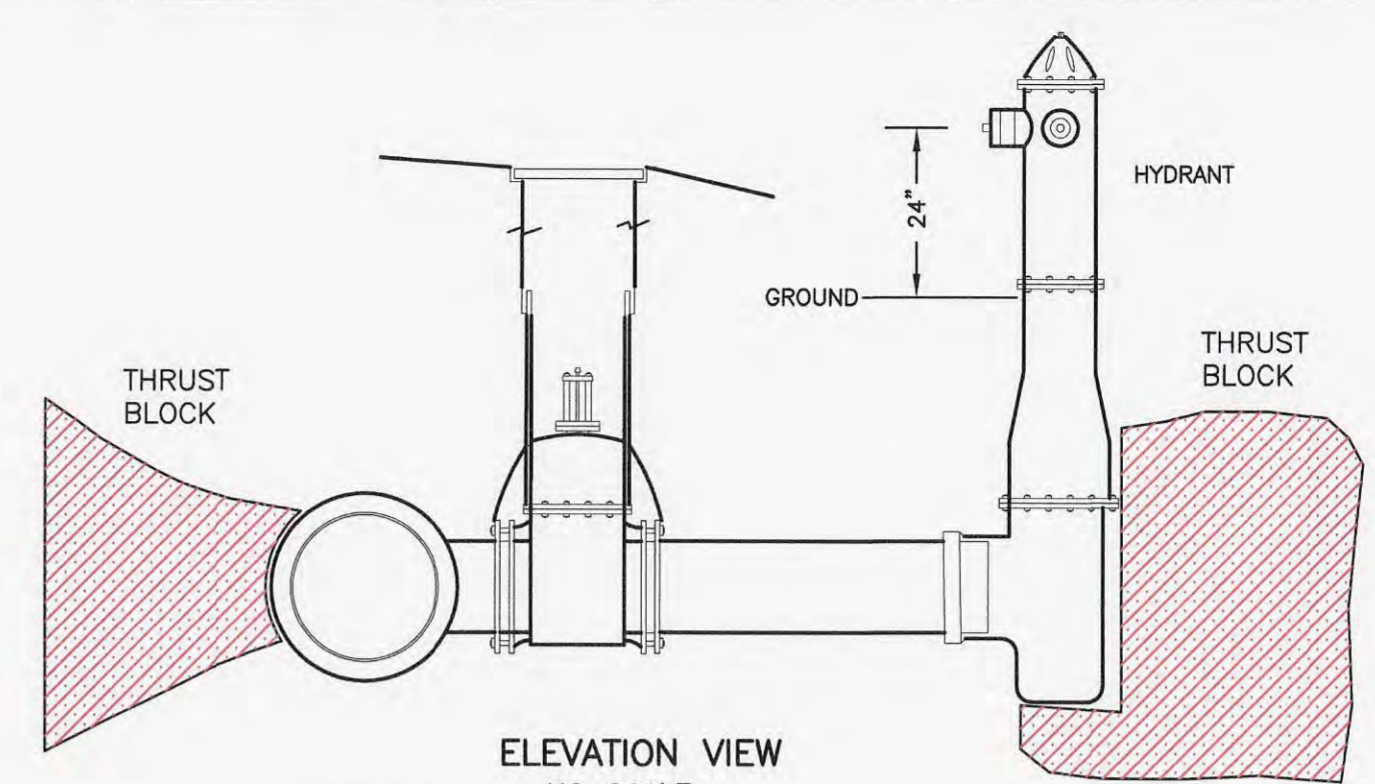
NOTE:
SANITARY SEWER SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL SEPARATION OF 10 FEET TO ALL WATER SUPPLY LINES. WHEN A 10 FOOT HORIZONTAL SEPARATION BETWEEN THE SEWER AND WATER CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE TRENCH ABOVE THE SEWER WITH AN 18 INCH VERTICAL SEPARATION BETWEEN THE CROWN OF THE SEWER AND THE INVERT OF THE WATER MAIN.

HOWEVER, WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHOULD BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SEE DETAIL.

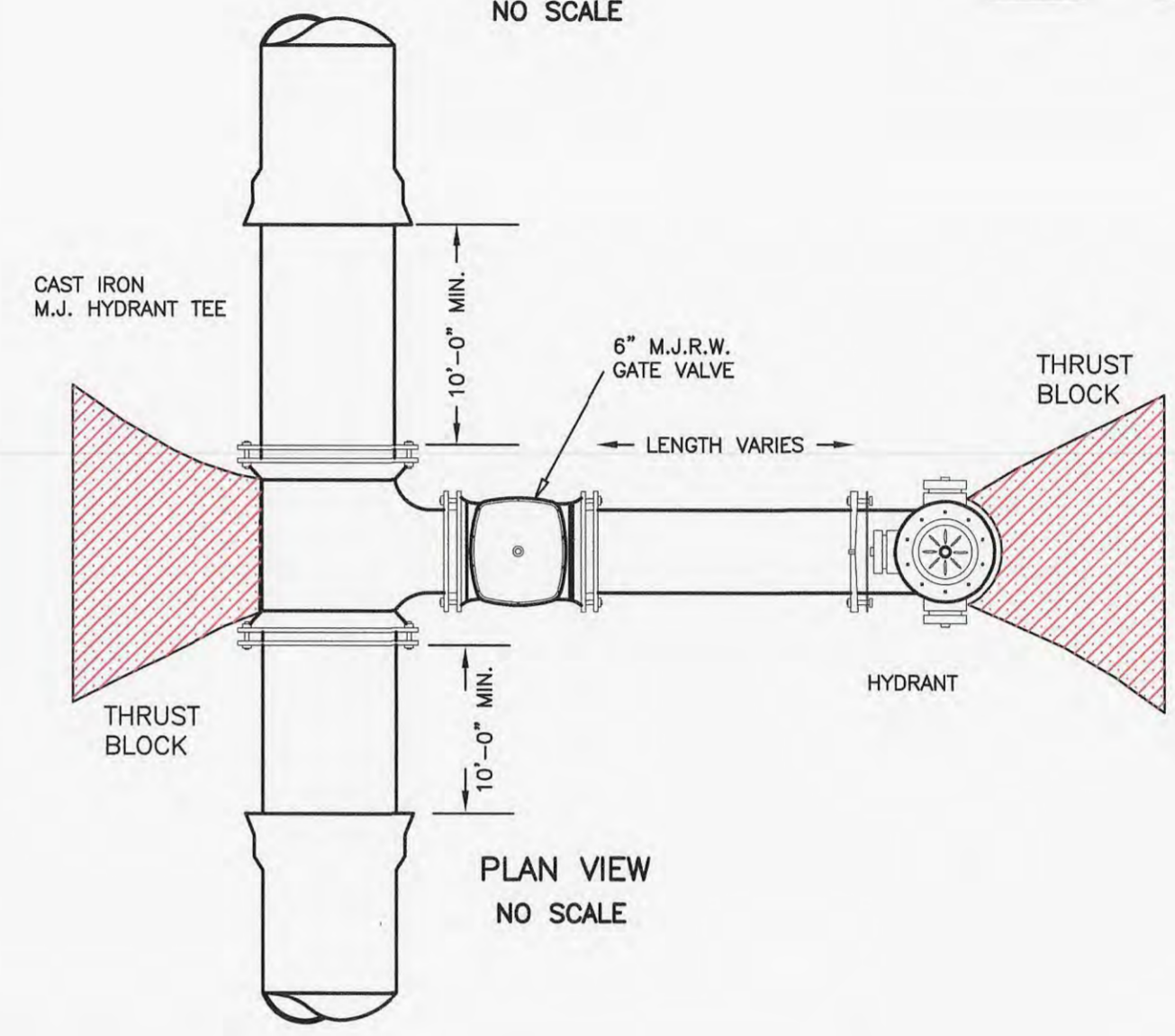


MECHANICAL JOINT PIPING
MECHANICAL JOINT PIPING OF BOTH WATER AND SEWER SHALL EXTEND FOR 10 FEET FROM THE INTERSECTION OF THE MAINS AND ALONG EACH MAIN. CENTER ONE FULL PIPE LENGTH OF BOTH WATER AND SEWER OVER THE INTERSECTION.

WATER MAIN/SEWER MAIN CROSSING
WHERE 18" VERTICAL CLEARANCE IS NOT PROVIDED
(NOT TO SCALE)

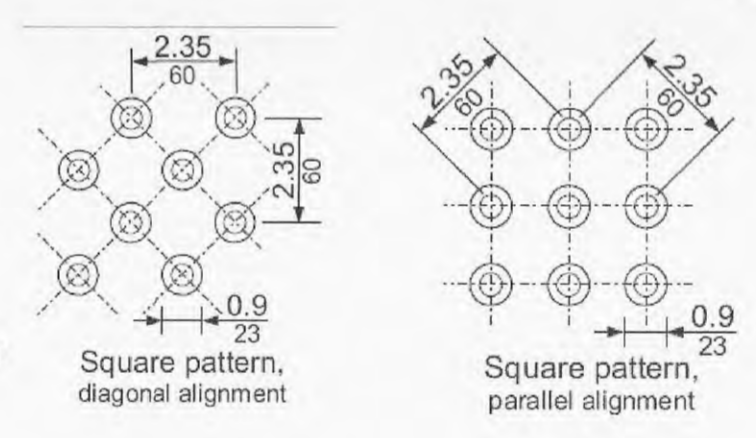


ELEVATION VIEW
NO SCALE



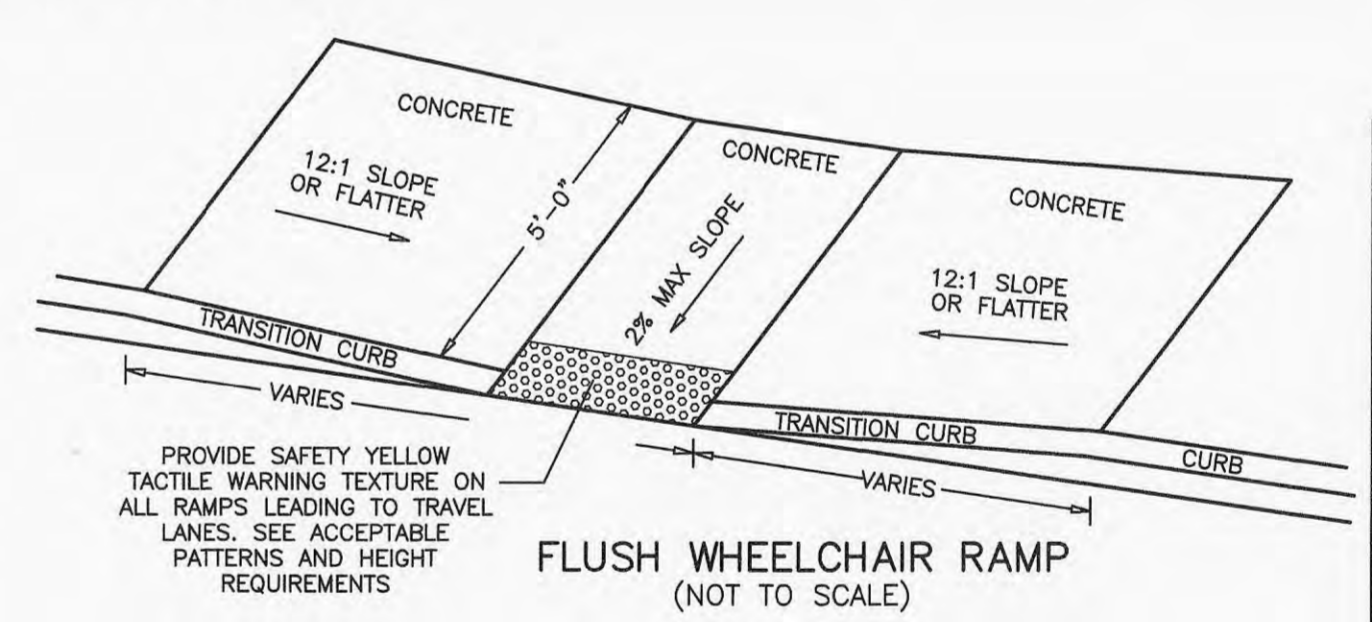
PLAN VIEW
NO SCALE

TYPICAL HYDRANT W/GATE
(NOT TO SCALE)

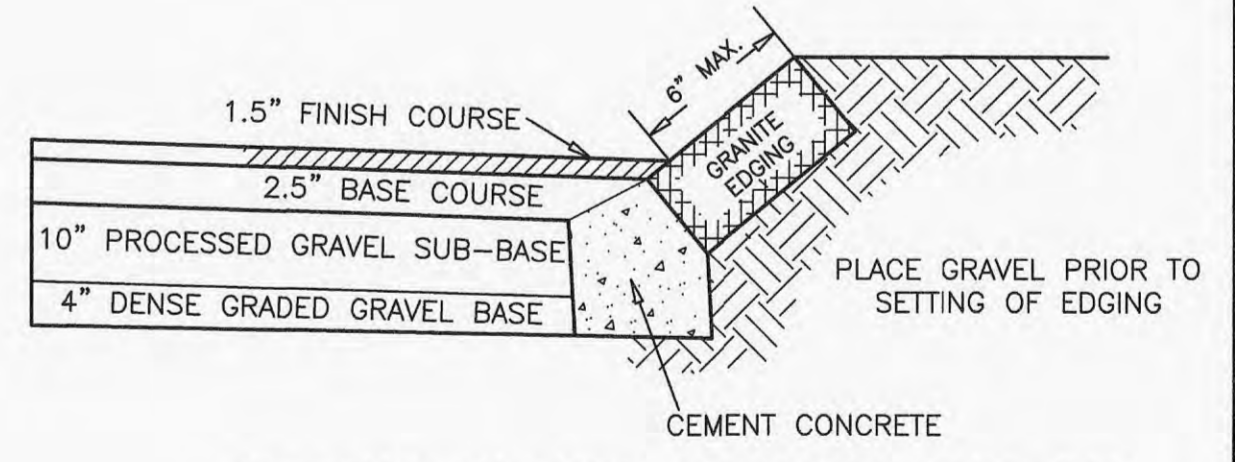


Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 in (23 mm), a height of nominal 0.2 in (5 mm) and a center-to-center spacing of nominal 2.35 in (60 mm) and shall contrast visually with adjoining surfaces, either light-on-dark or dark-on-light.

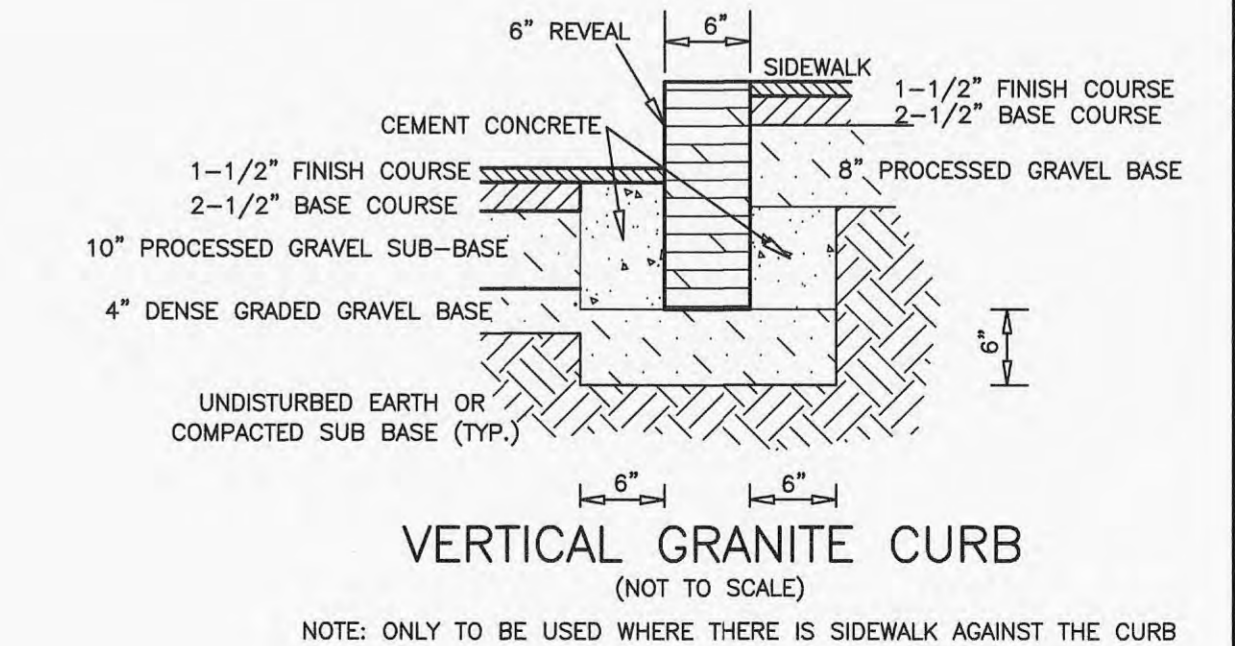
The material used to provide contrast shall be an integral part of the walking surface. Detectable warnings used on interior surfaces shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact. ADAAG 4.29.2



FLUSH WHEELCHAIR RAMP
(NOT TO SCALE)



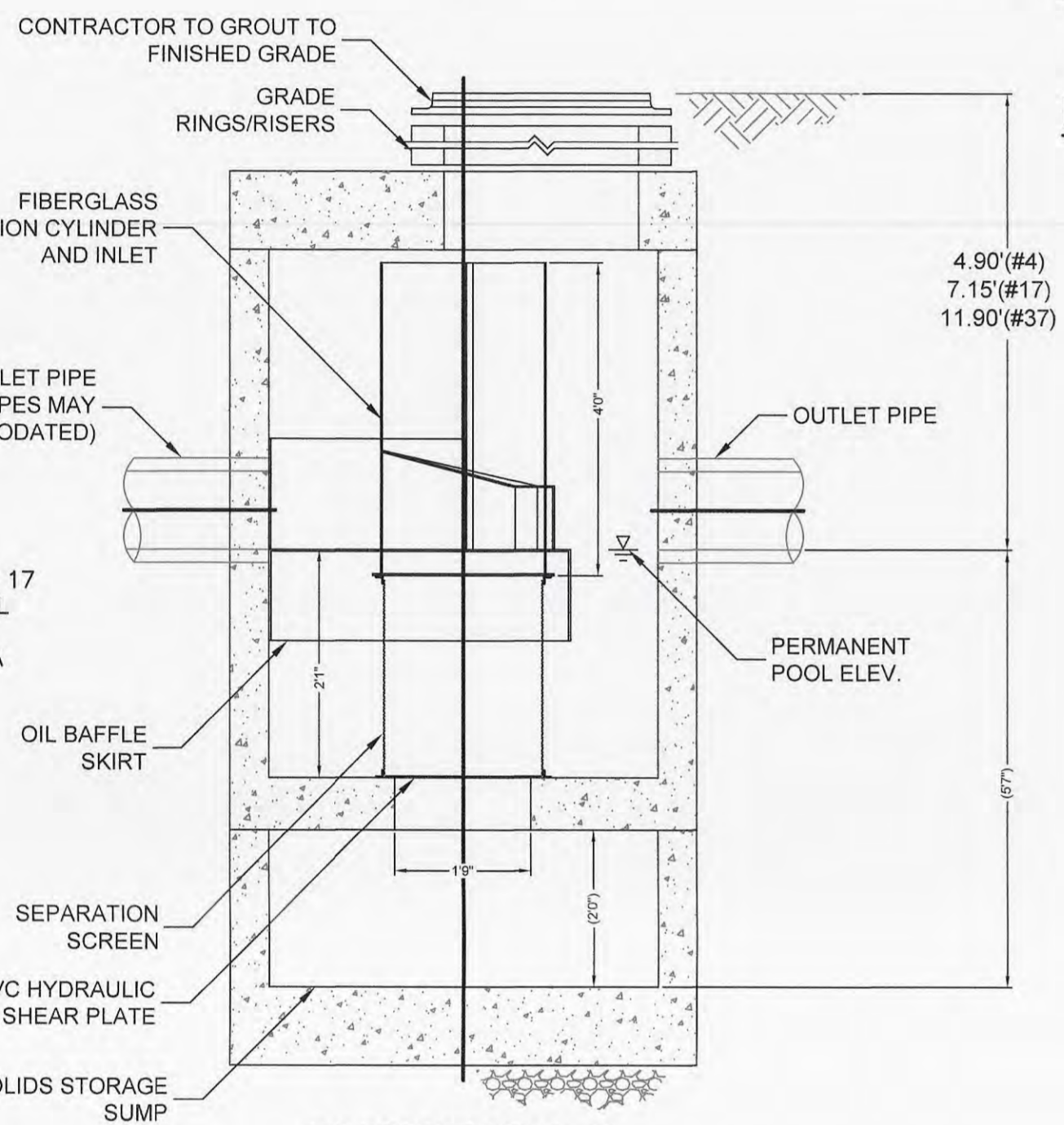
SETTING SLOPED GRANITE CURBING
(NOT TO SCALE)



VERTICAL GRANITE CURB
(NOT TO SCALE)

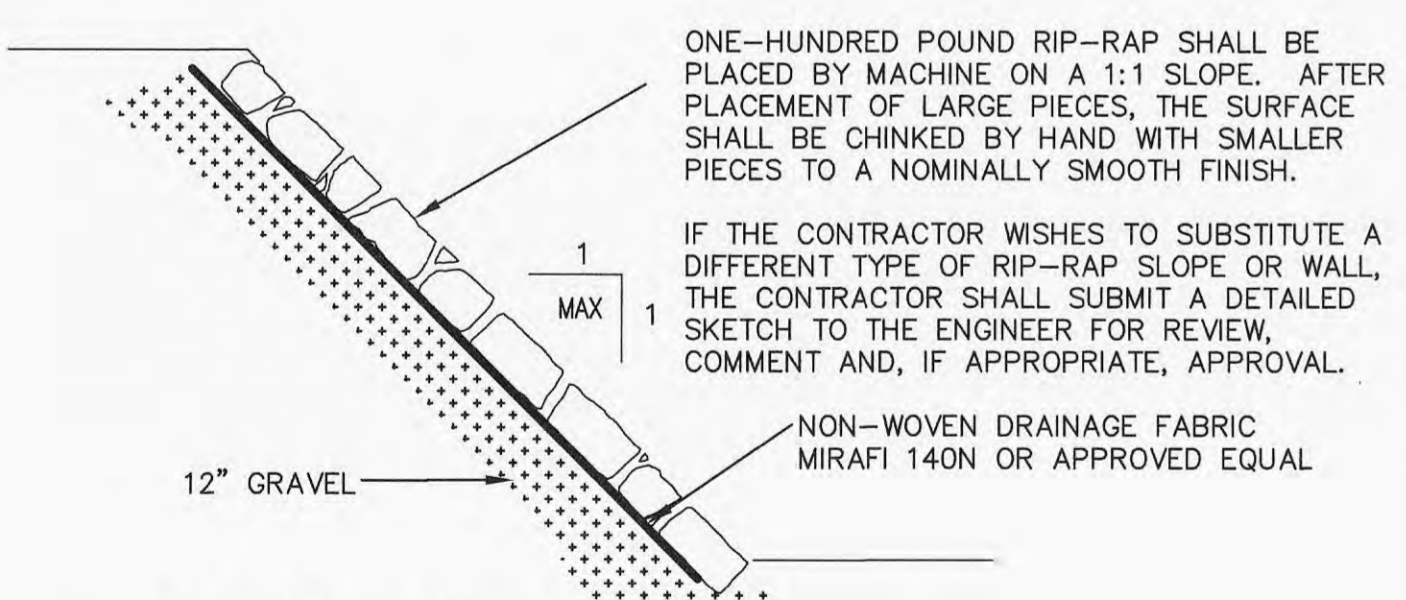
NOTE: ONLY TO BE USED WHERE THERE IS SIDEWALK AGAINST THE CURB

NOTE:
DRAINAGE STRUCTURES #S 17 & 37 SHALL BE CDS MODEL 2025 UNITS. DRAINAGE STRUCTURE #4 SHALL BE A MODEL 2015 UNIT.

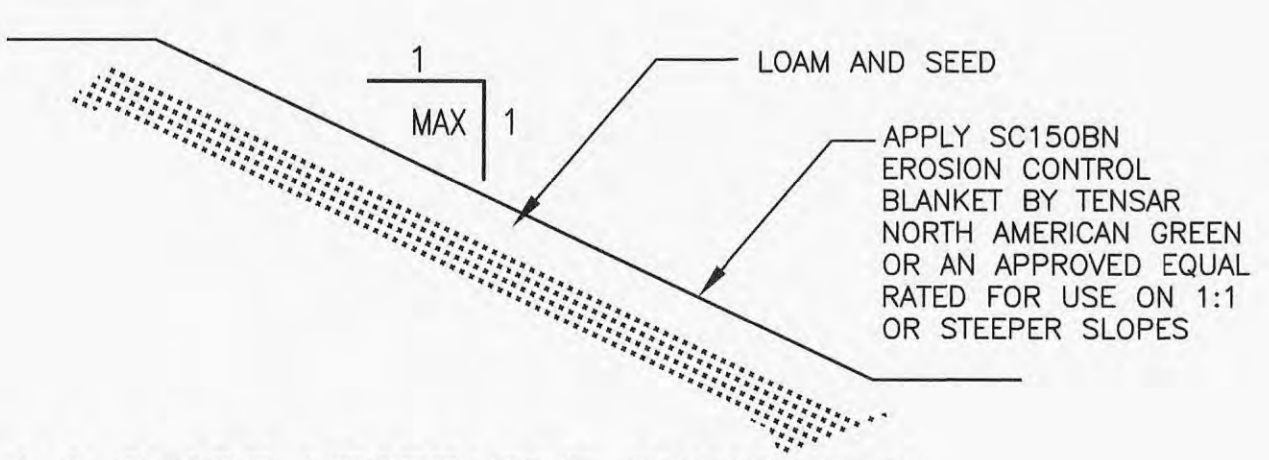


ELEVATION A-A
N.T.S.

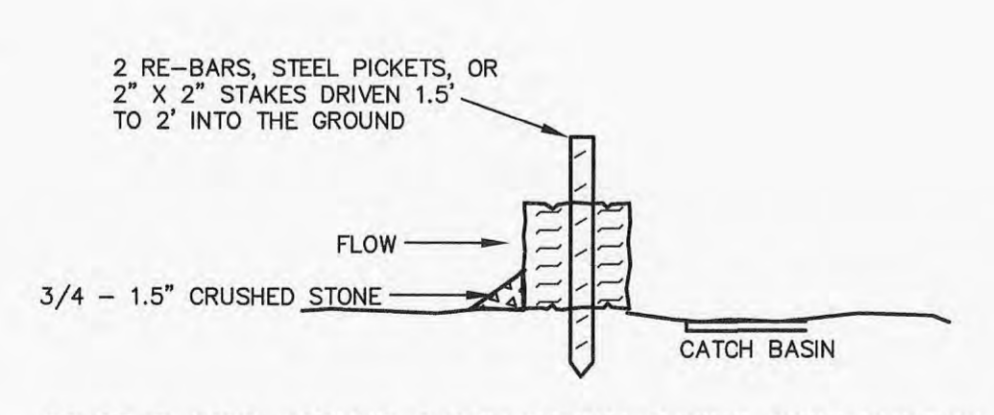
CONTECH CDS MODEL 2025
STORMWATER FILTRATION UNIT
(NOT TO SCALE)



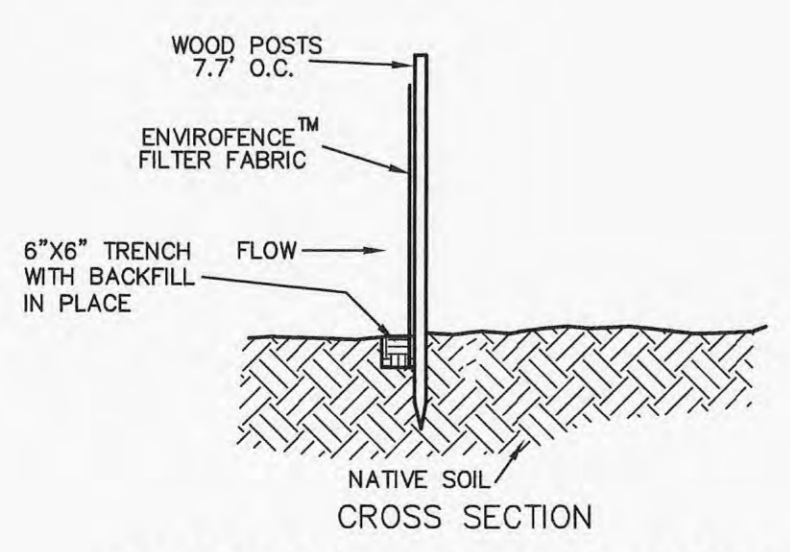
1:1 RIP-RAP SLOPE
(NOT TO SCALE)



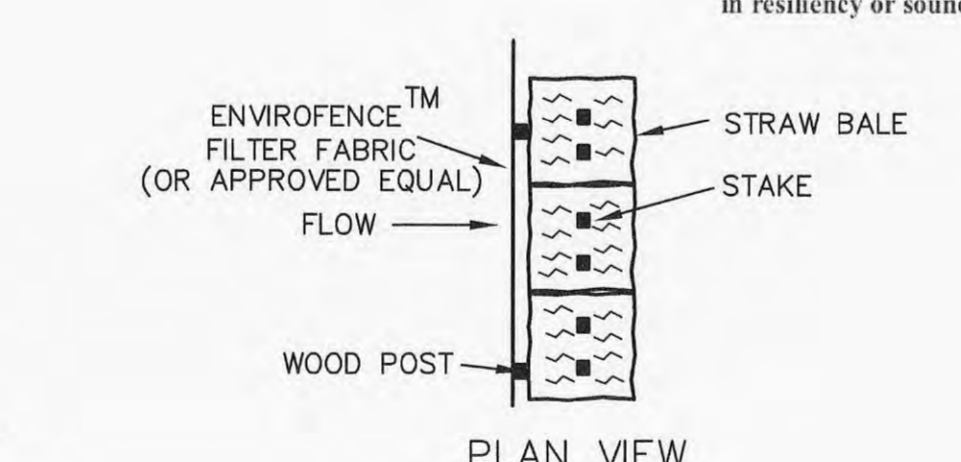
3:1 TO 1:1 SLOPE VEGETATIVE TREATMENT
(NOT TO SCALE)



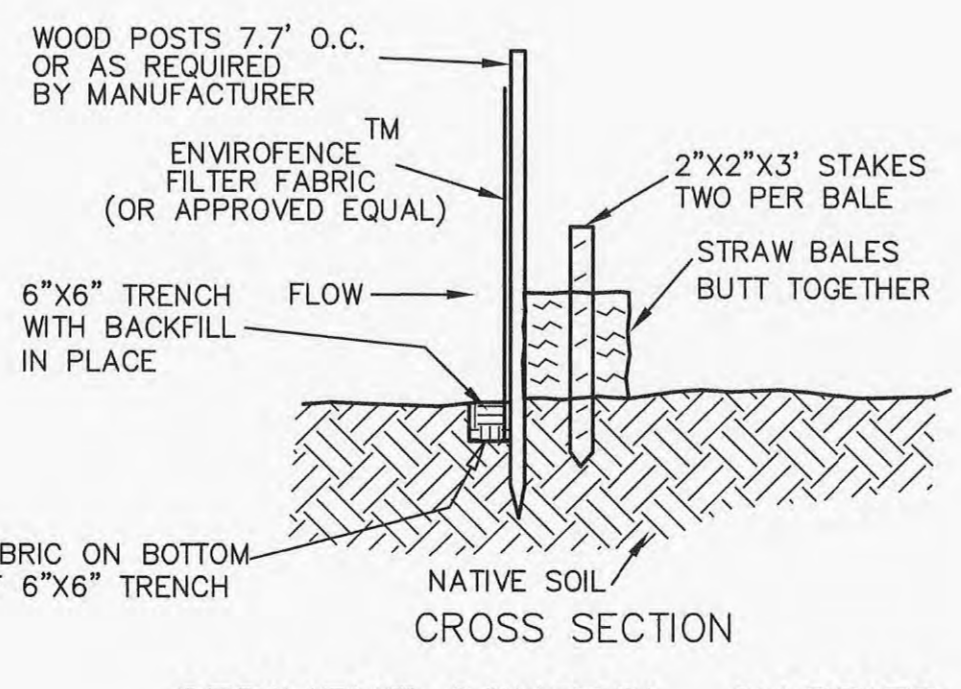
STRAW BALE DIKE
(NOT TO SCALE)



SEDIMENTATION CONTROL FENCING
(NOT TO SCALE)



PLAN VIEW



CROSS SECTION

SEDIMENT CONTROL BARRIER
(NOT TO SCALE)

GENERAL NOTES:

- 1) THERE ARE NO FEMA FLOOD ZONES ON THIS SITE.
- 2) ACCORDING TO THE MASS GIS OLIVER WEB SITE, THERE ARE NO ENDANGERED SPECIES HABITATS AND NO VERNAL POOLS ON OR ADJACENT TO THIS SITE.
- 3) THE PROJECT SITE IS COMPRISED OF PARCELS NUMBERS 75, 75A, 75B, 75C AND 144 ON ASSESSOR MAP 63.
- 4) TOTAL SITE ALTERATION IS EXPECTED TO BE 7.4 ACRES.
- 5) TOPSOIL WILL BE STOCKPILED IN THE AREA NORTHWEST OF THE EXISTING HOME AND IN FRONT OF BUILDING 1.

DIG SAFE:

EXCEPT FOR VISIBLE STRUCTURES (MANHOLES, GATES, POLES, ETC.) LOCATED BY THOMPSON-LISTON ASSOCIATES, INC., ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE DESIGNING, EXCAVATING, BLASTING OR INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION, OR REPAIRING.

ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE CONTACTED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN.

AZIMUTH LAND DESIGN, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. CALL "DIG SAFE" AT 811 OR 1-888-DIG-SAFE.



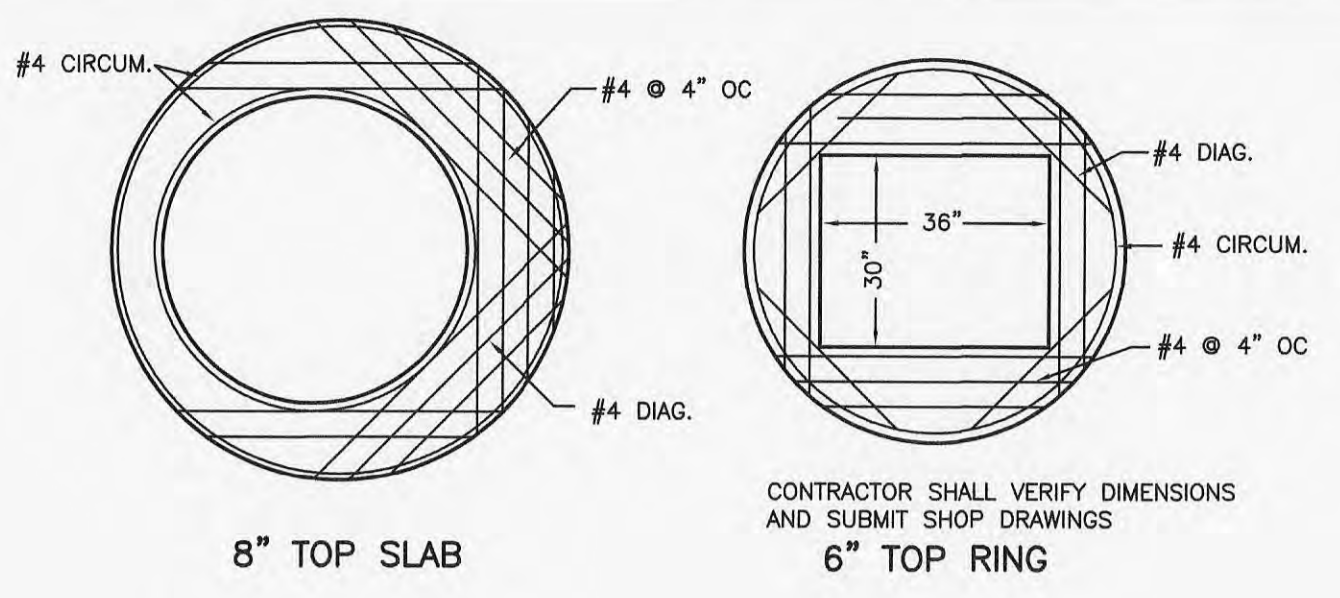
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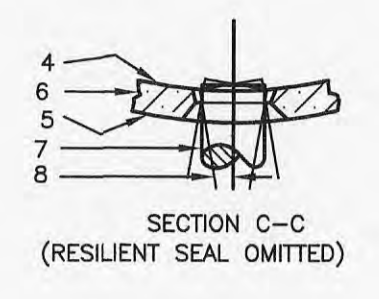
SCALE: AS NOTED

RICE POND VILLAGE
SITE PLAN OF LAND
IN
MILLBURY, MASSACHUSETTS

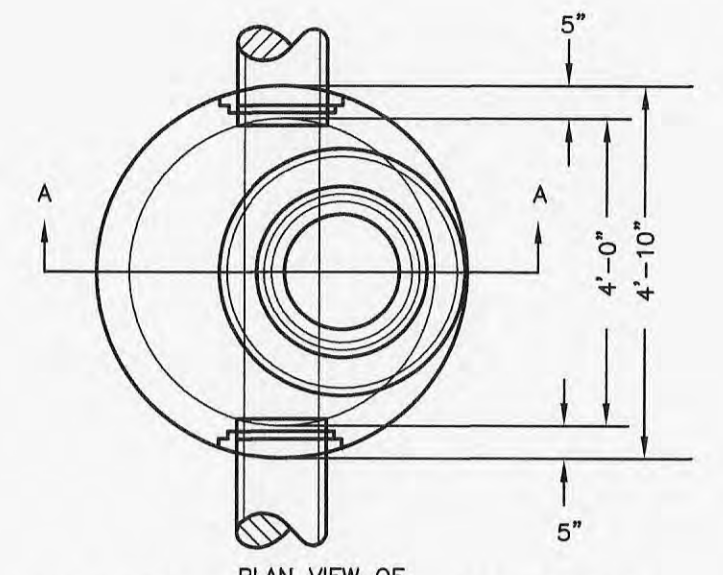
PREPARED FOR OWNER/APPLICANT
SVJ INVESTMENTS, LLC
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772



- KOR-N-SEAL RESILIENT CONNECTION - SIZED TO MEET CLASS AND TYPE OF PIPE
- PIPE SECTION
- BEVEL TO ALLOW FOR MISALIGNMENT
- INNER SURFACE OF PRECAST CONCRETE MANHOLE
- OUTER SURFACE OF PRECAST CONCRETE MANHOLE
- PRECAST CONCRETE MANHOLE (A.S.T.M. C478-88)
- P.V.C. CLAY, CAST IRON OR CONCRETE PIPE
- 9" ALLOWABLE MISALIGNMENT OFF CENTER IN ANY DIRECTION



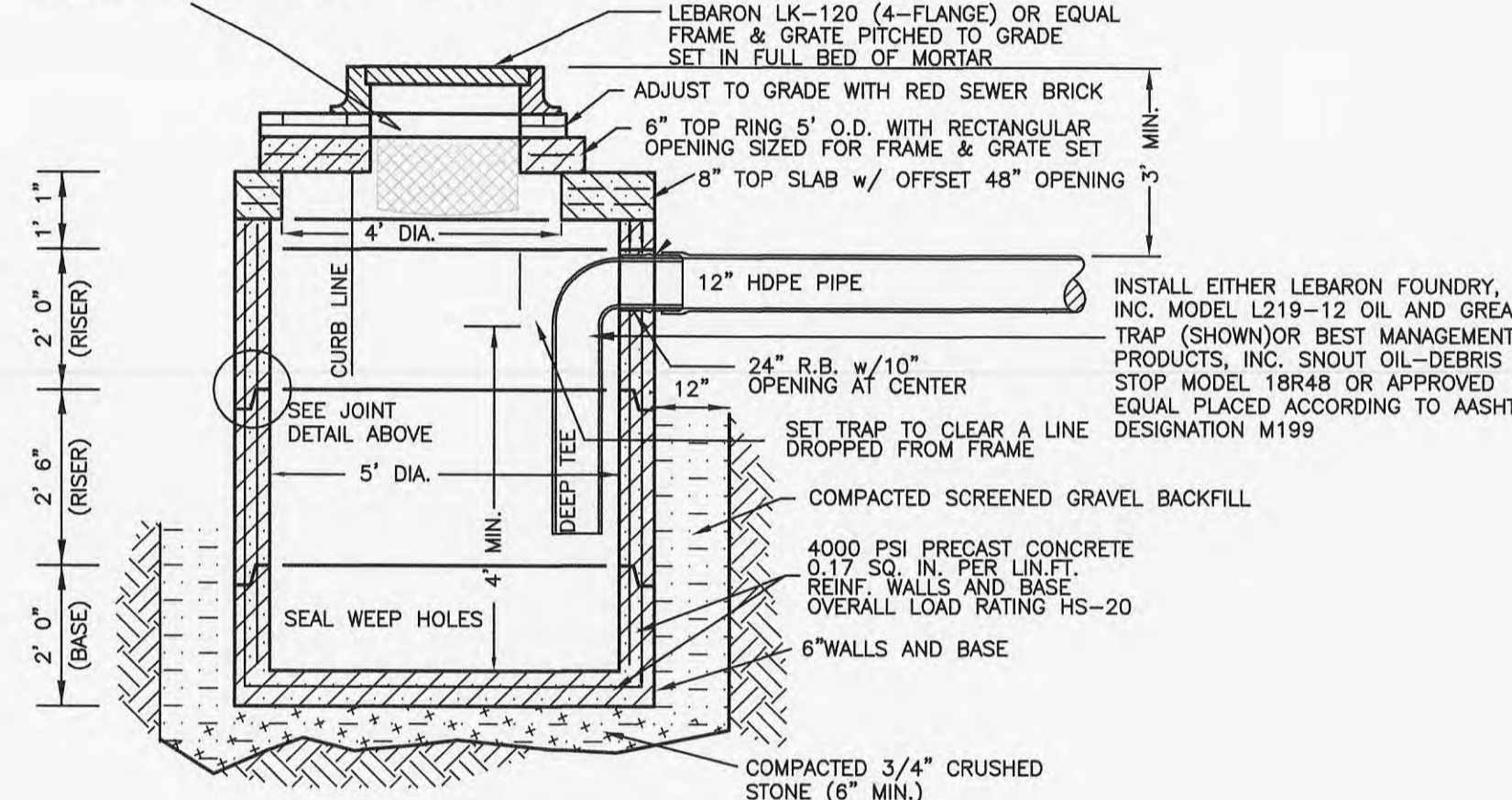
DETAILS
(NOT TO SCALE)
(SEE NOTES TO LEFT)



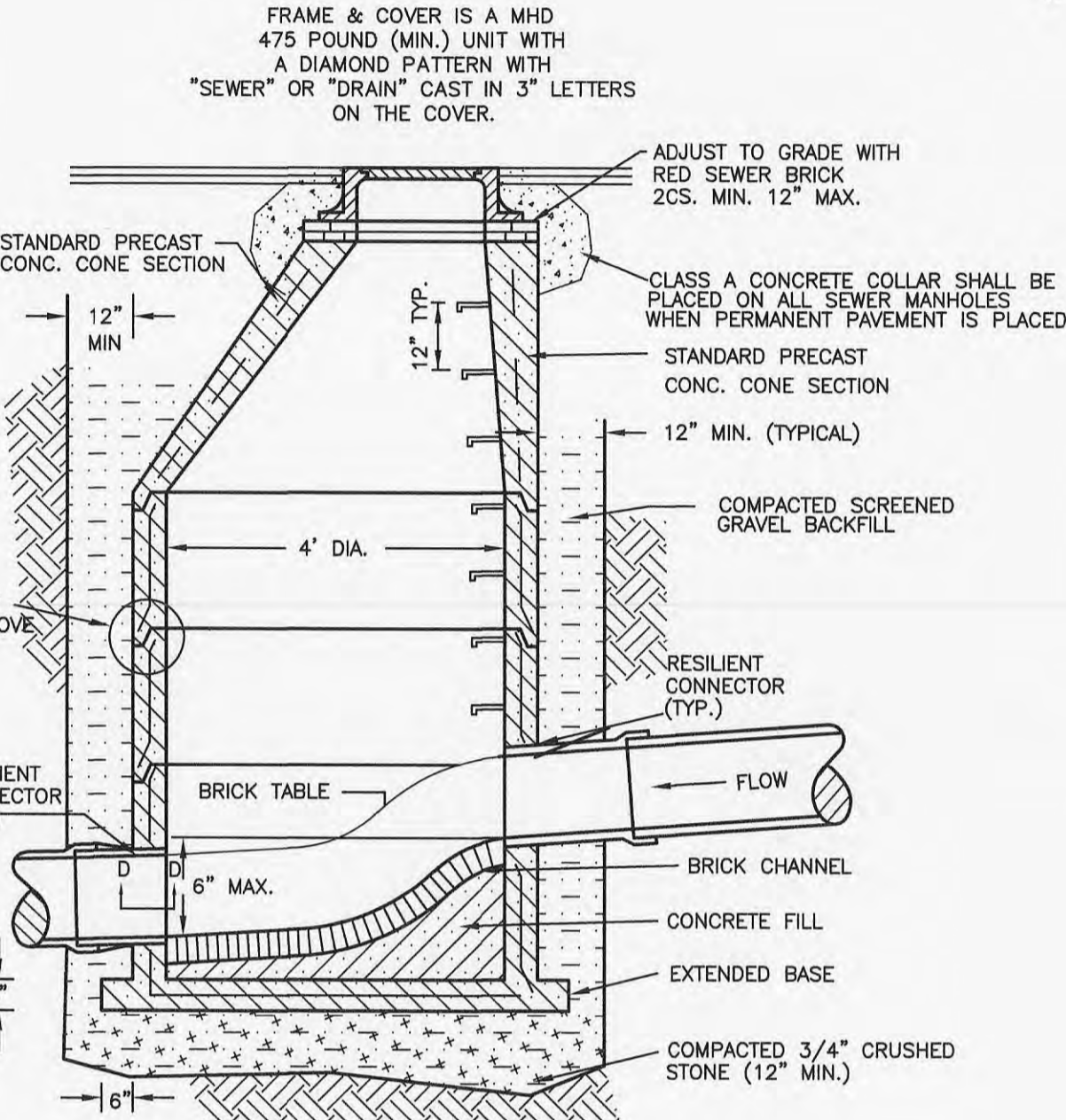
TYPICAL PRE-CAST MANHOLE
(NOT TO SCALE)

NOTE:
IF NECESSARY, PROVIDE "STREAMGUARD" OR "SILT SAC" FILTERS IN ALL PROPOSED CATCHBASINS DURING CONSTRUCTION. FILTERS SHALL BE INSPECTED DAILY AND CLEANED AND/OR REPAIRED AS NEEDED.

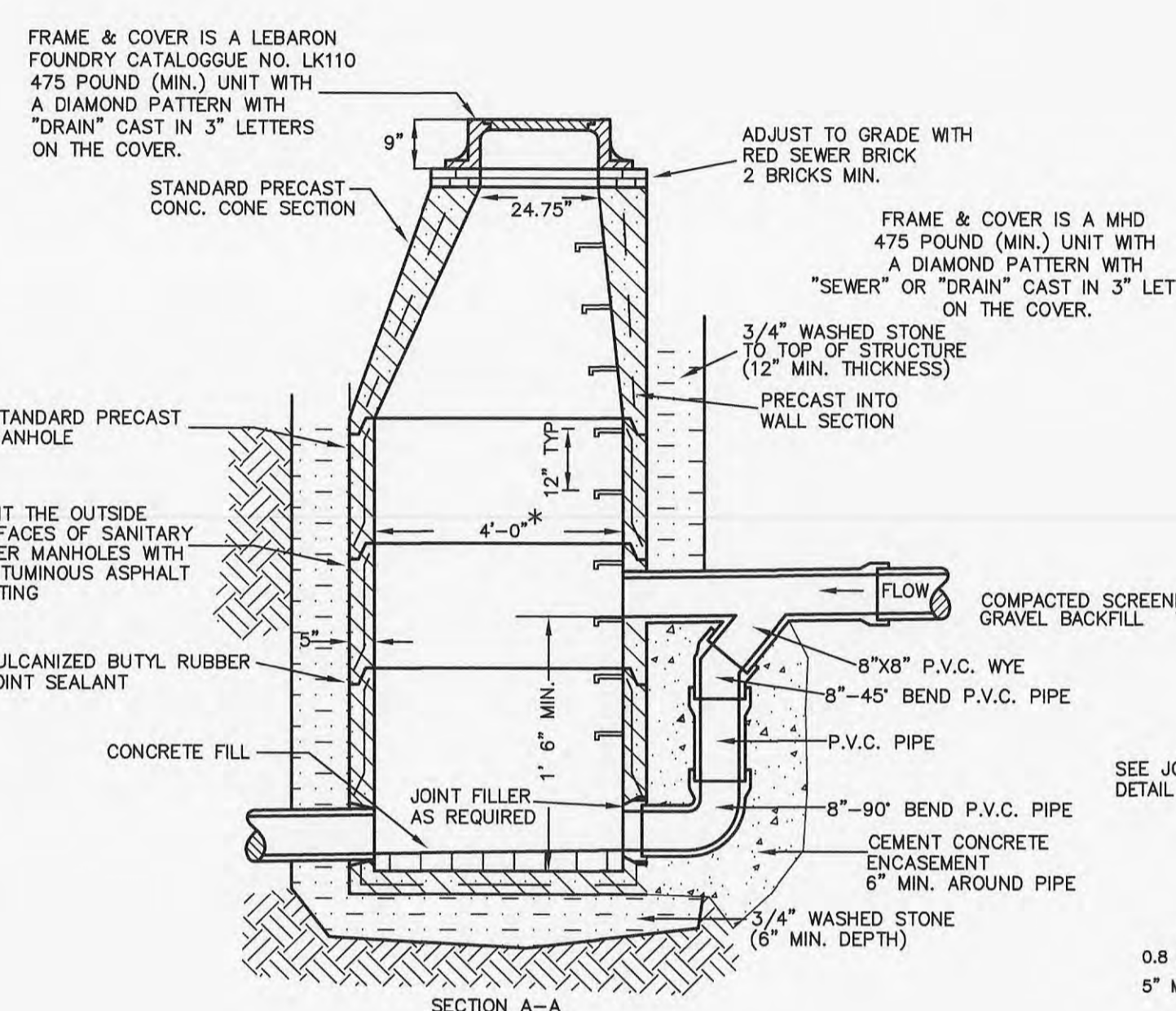
THIS TYPE OF CATCH BASIN IS TO BE USED ON THE RIGHT SIDE OF THE ROAD AT STATION 0+62, THE LEFT SIDE AT 6+77, AND ON THE LEFT SIDE AT STATION 10+95.



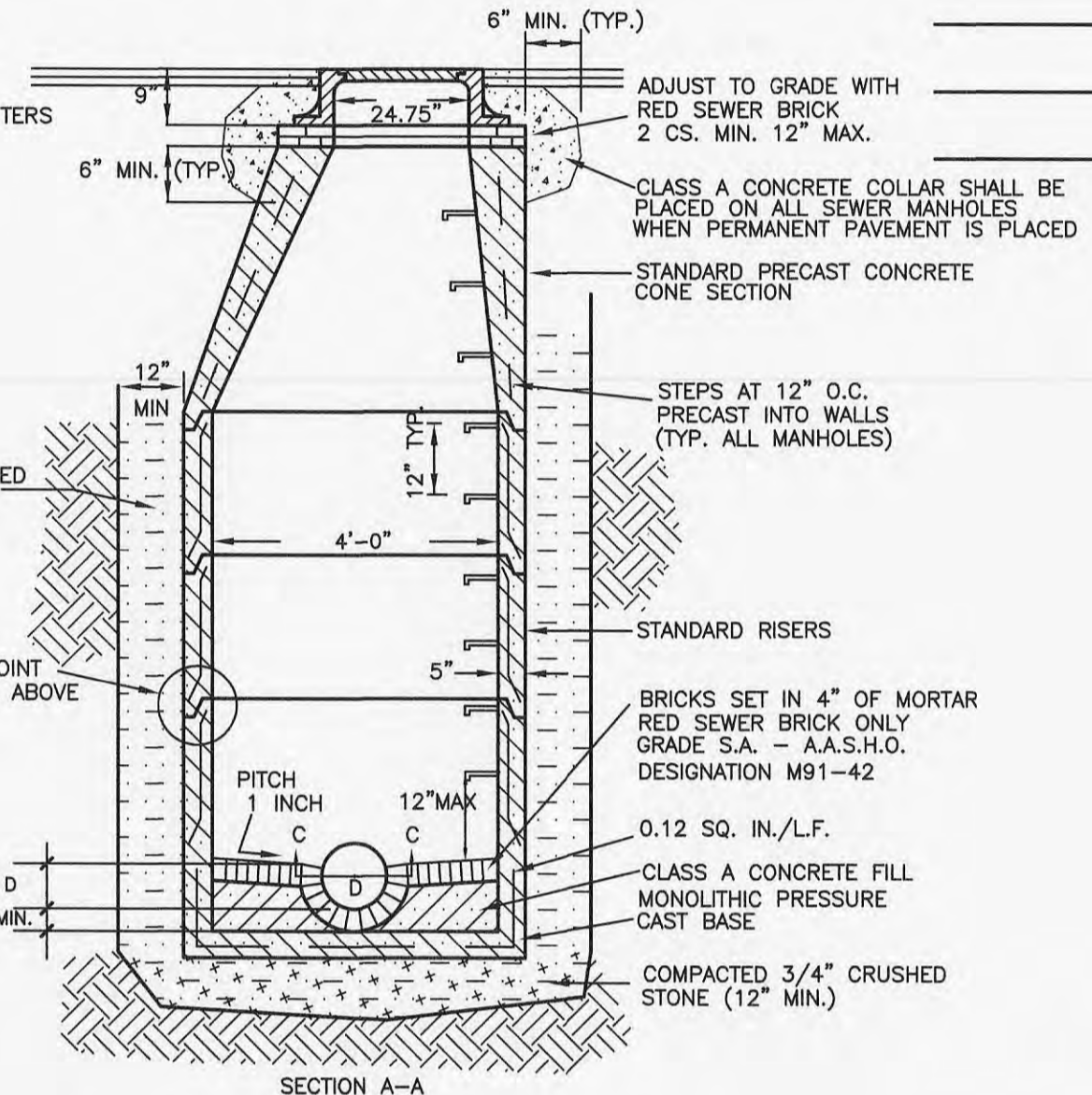
TYPICAL 4 FLANGE GRATE PRE-CAST CATCH BASIN
(NOT TO SCALE)



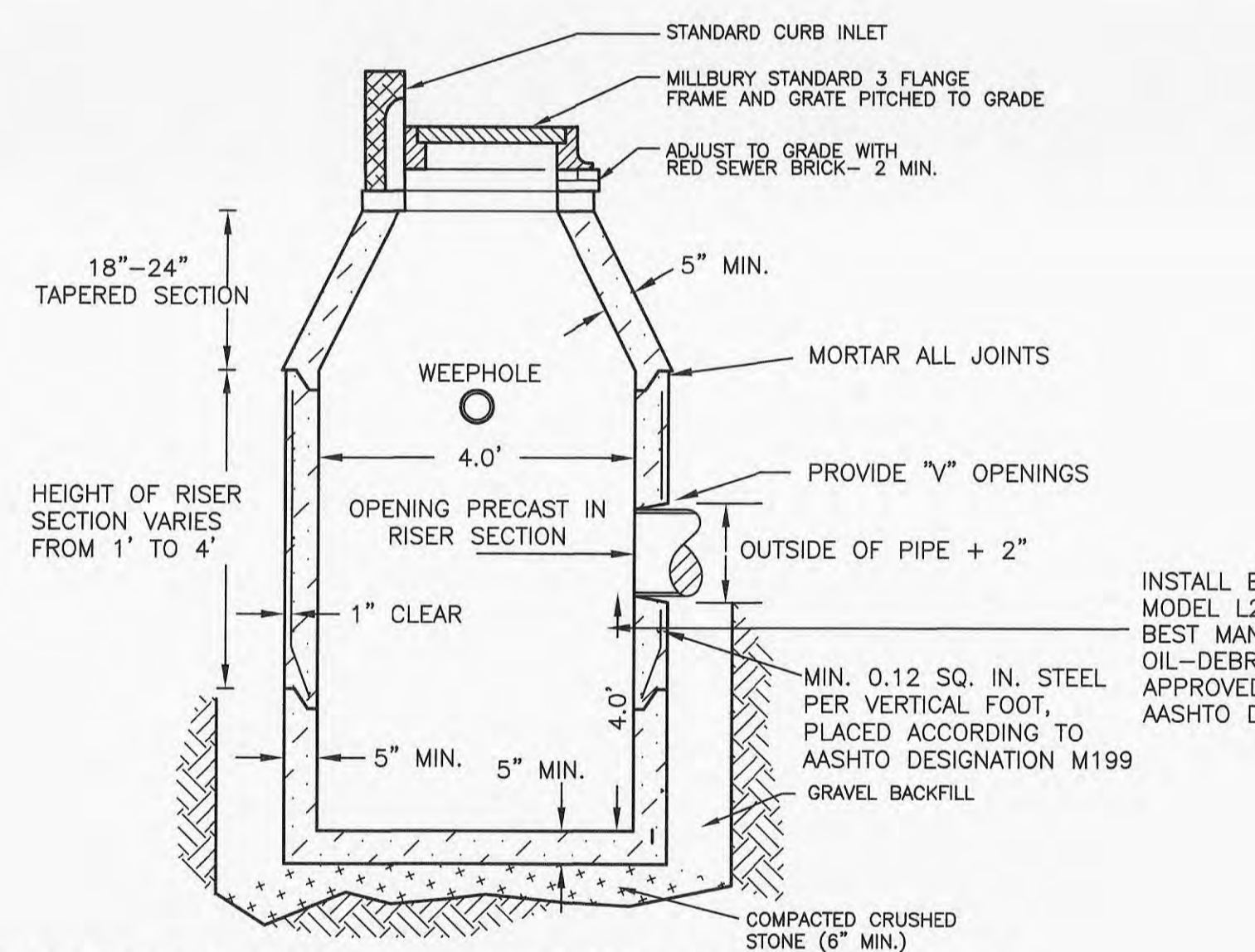
TYPICAL STEP DRAIN MANHOLE
(NOT TO SCALE)



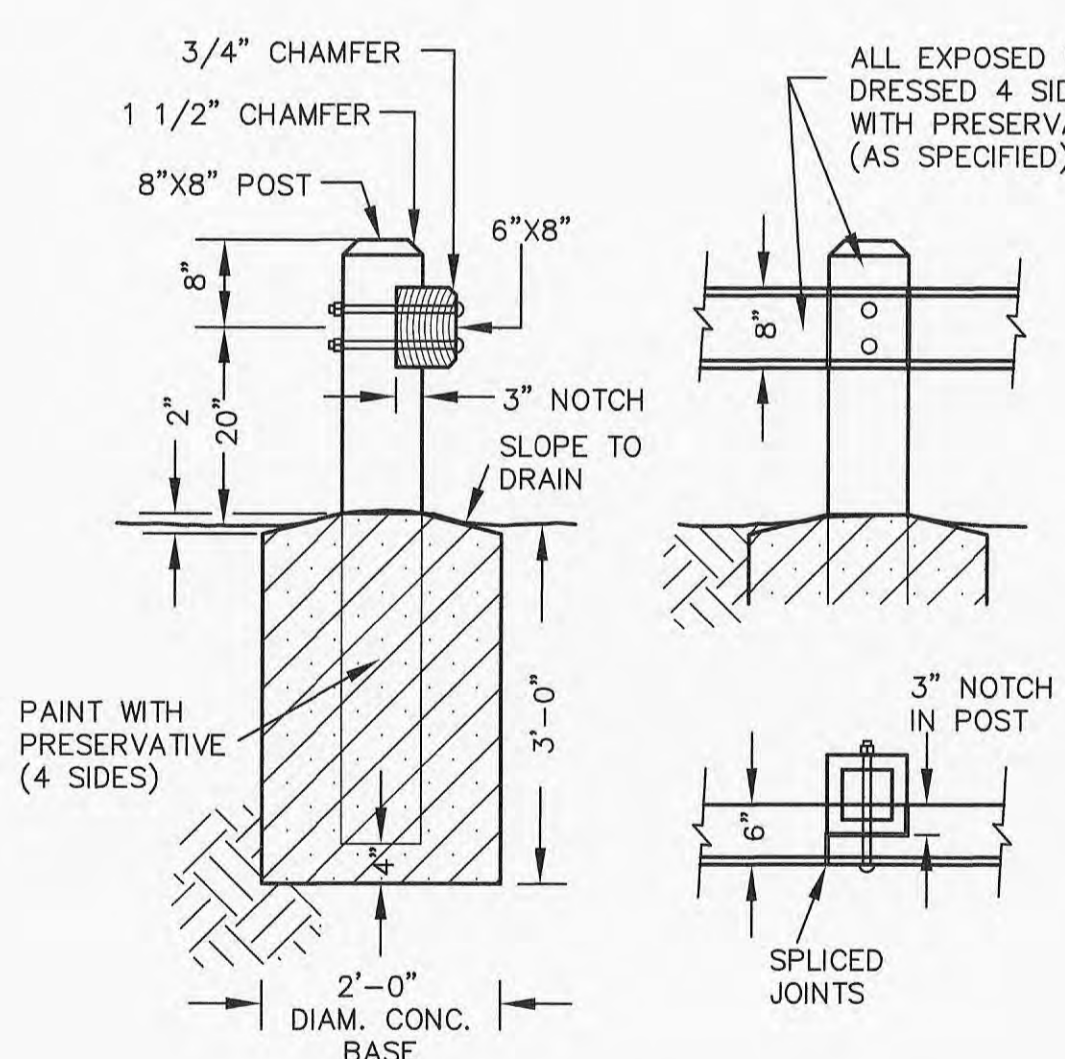
TYPICAL DROP MANHOLE
(NOT TO SCALE)



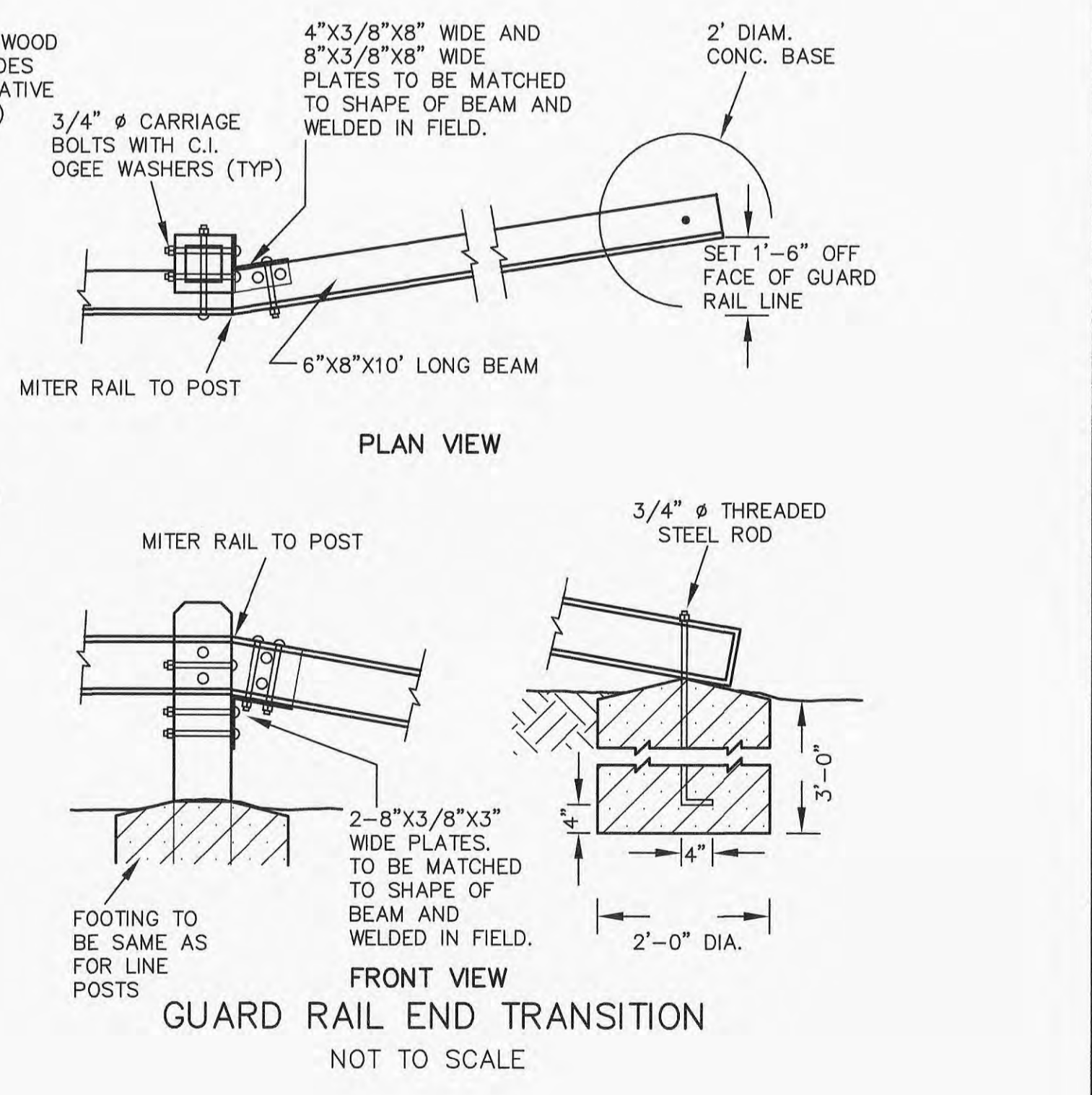
TYPICAL PRE-CAST MANHOLE
(NOT TO SCALE)



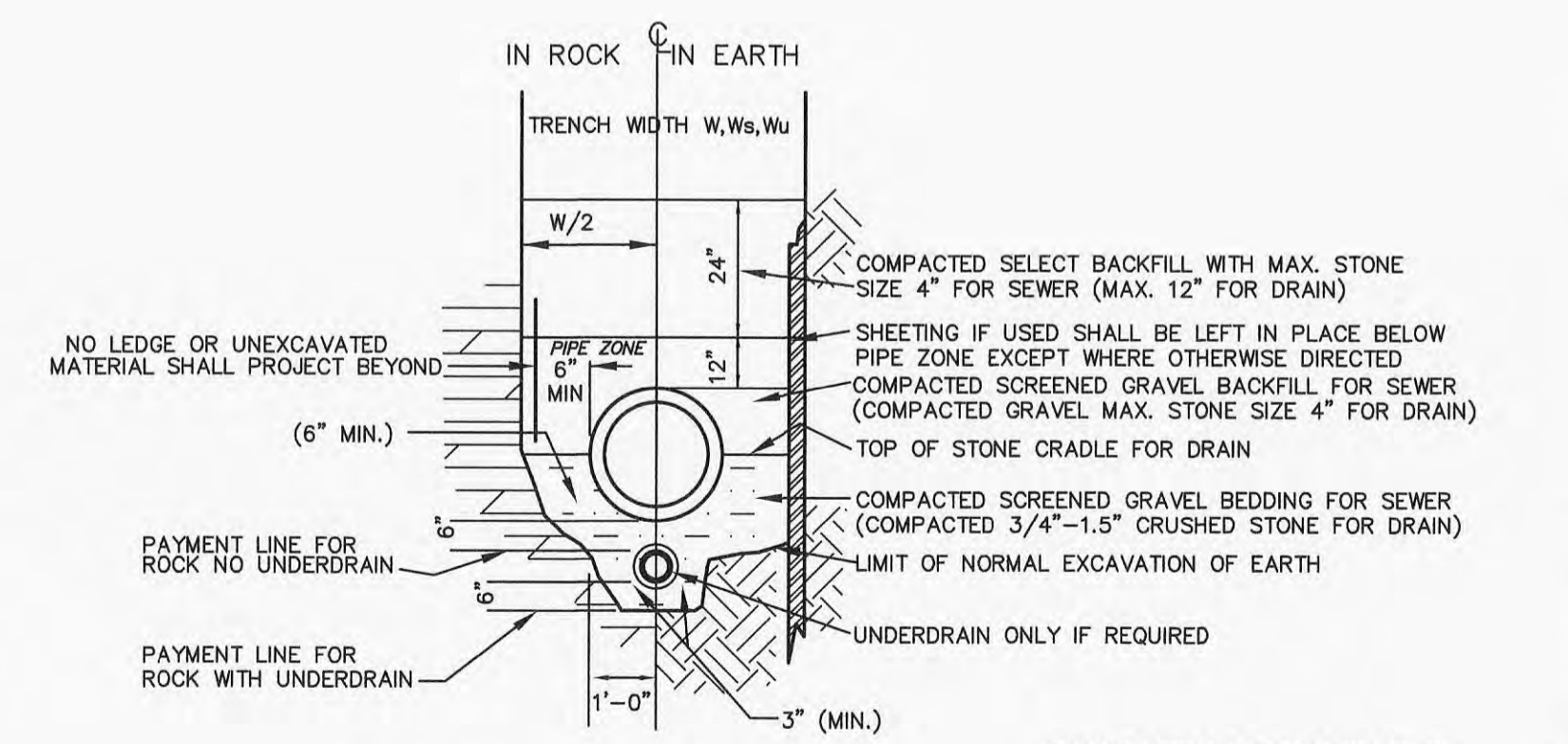
PRECAST CATCHBASIN W. GRANITE THROAT INLET
(NOT TO SCALE)



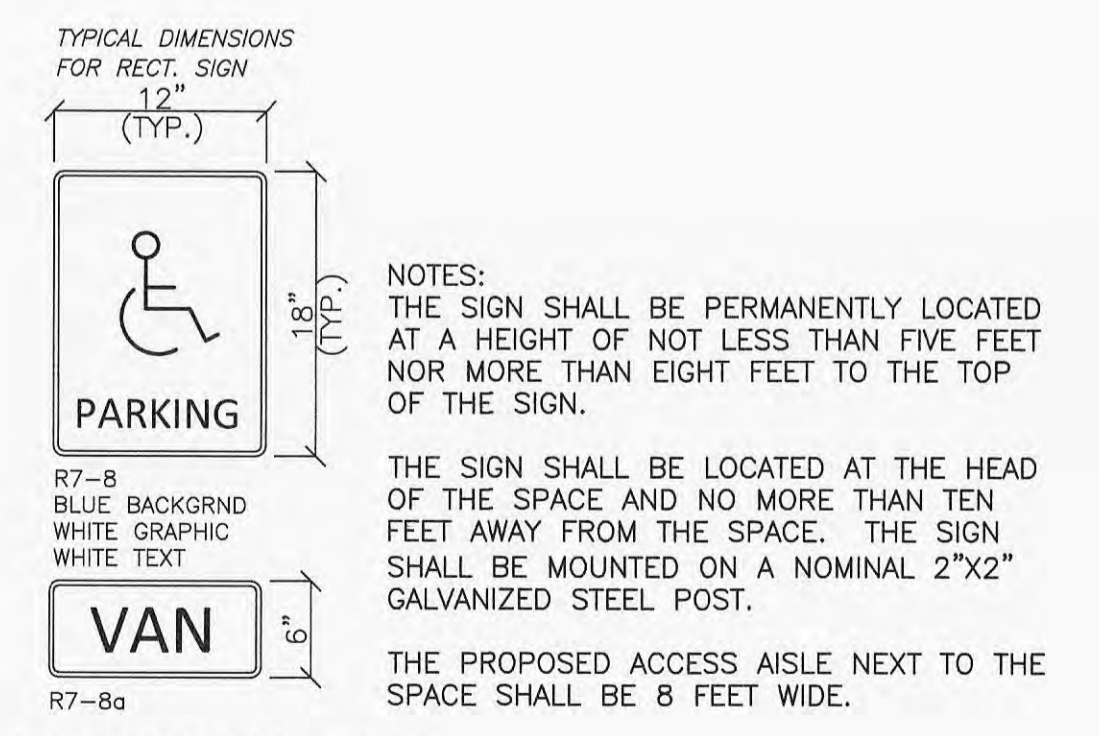
TIMBER GUARD RAIL
(NOT TO SCALE)



GUARD RAIL END TRANSITION
(NOT TO SCALE)



TYPICAL TRENCH SECTION
(NOT TO SCALE)



HC PARKING SIGN
(NOT TO SCALE)

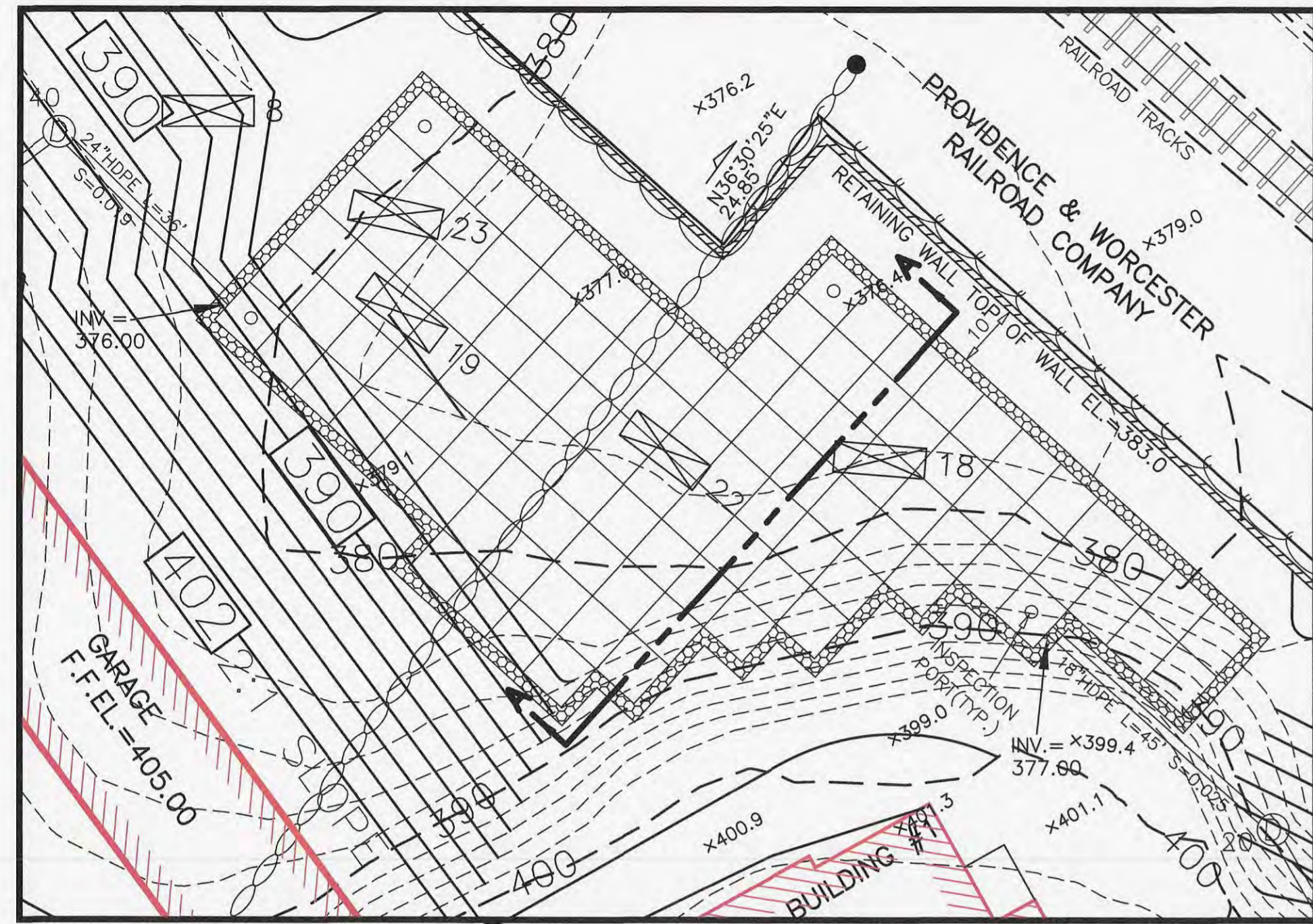
AZIMUTH LAND DESIGN, LLC
Professional Engineers & Erosion Control Specialists
118 Turnpike Road, 200, Southborough, MA 01772
Telephone (508)-485-0137 james@azimuthlanddesign.co

CLT. NO.	501	JOB NO.	224-501
DATE:	OCTOBER 24, 2023	DWG. NO.	RICEROADCURRENT

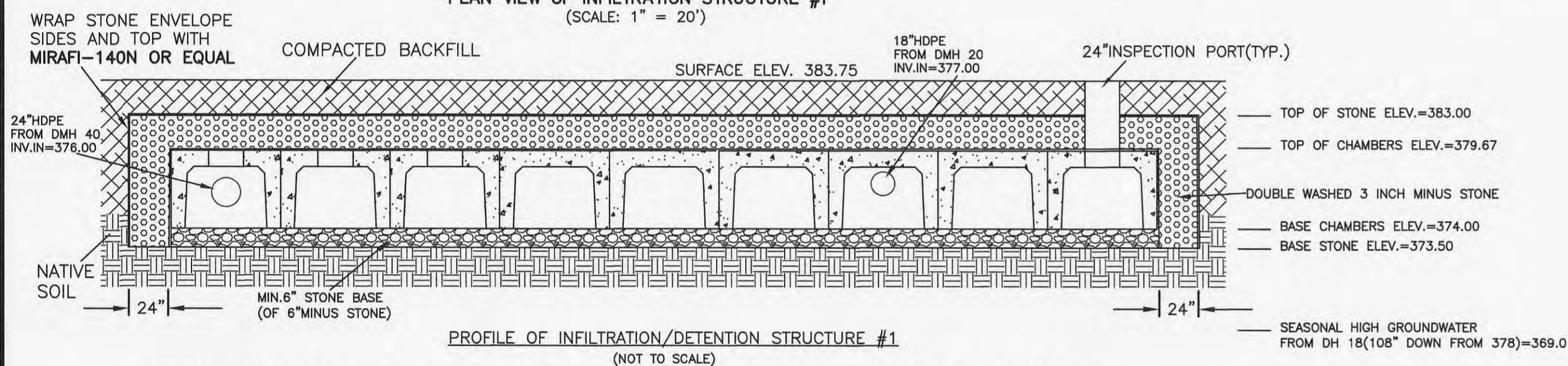
REVISIONS	
DATE:	DESCRIPTION

SCALE: AS NOTED

**RICE POND VILLAGE
SITE PLAN OF LAND**
IN
MILLBURY, MASSACHUSETTS
PREPARED FOR OWNER/APPLICANT
SVJ INVESTMENTS, LLC
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772



PLAN VIEW OF INFILTRATION STRUCTURE #1
(SCALE: 1" = 20')



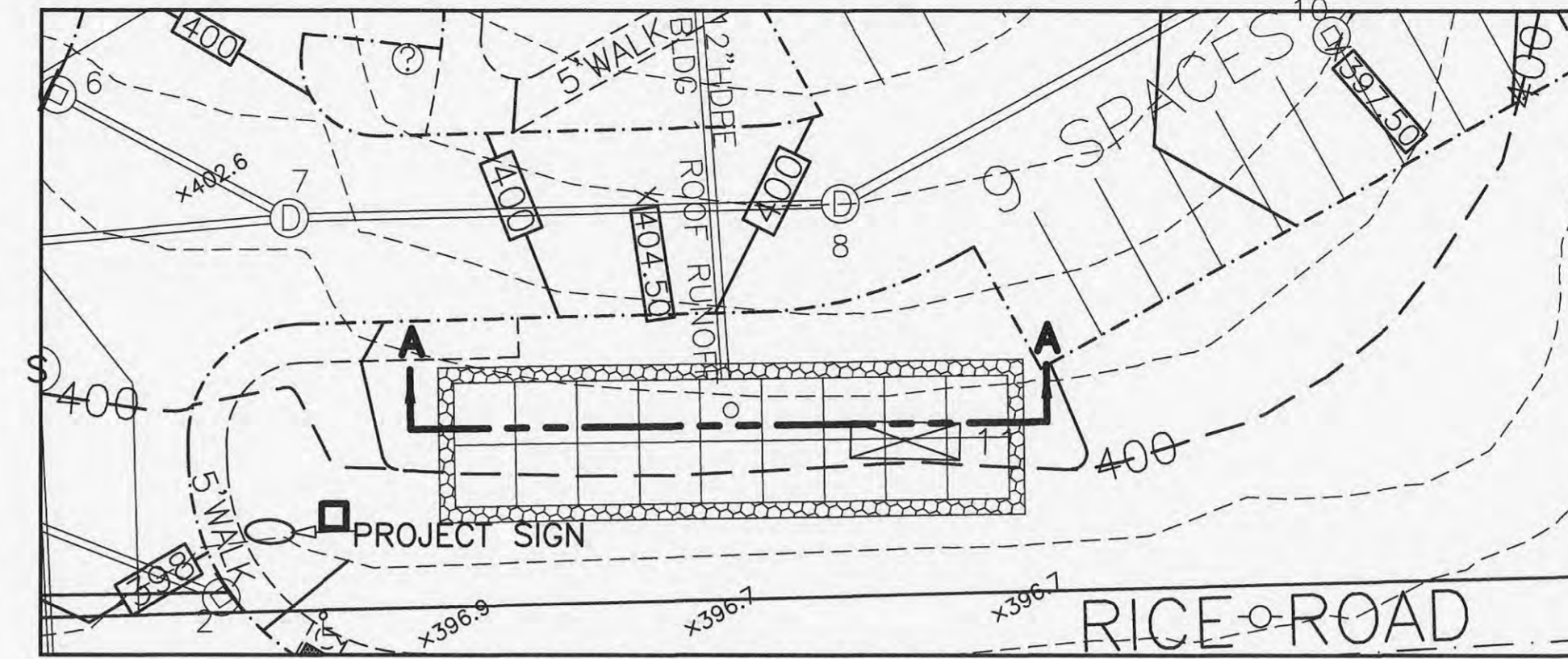
PROFILE OF INFILTRATION/RETENTION STRUCTURE #1
(NOT TO SCALE)

DETENTION/INFILTRATION STRUCTURE #1 SHALL CONSIST OF 108 8'x8'x4' HIGH RETAIN-IT CONCRETE MODULES (60" INSIDE HEIGHT, 68" TOP OF MODULE HEIGHT) WITHIN A STONE ENVELOPE 9.5 FEET HIGH AND HAVING A POLYGON SHAPED FOOTPRINT OF 7,856 SQUARE FEET.

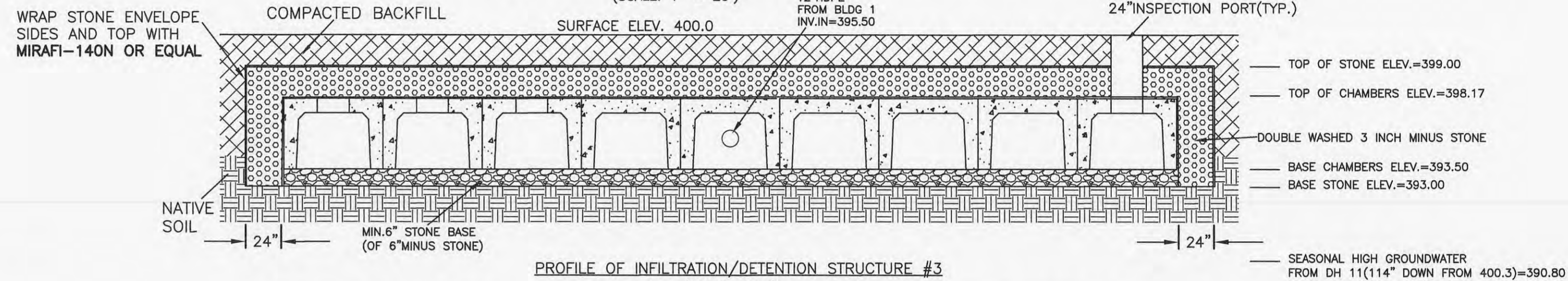
THE UNITS SHALL BE OPEN BOTTOMED EXCEPT FOR THE MODULES AT THE POINT WHERE FLOW IS DISCHARGED INTO THE STRUCTURE, WHICH SHALL HAVE A FLOOR TO ALLOW FOR POSSIBLE ADDITIONAL CLEANOUT. THERE SHALL BE 6 INCHES OF STONE BENEATH THE MODULES AND 24 INCHES OF STONE OUTSIDE OF THEM.

THIS STRUCTURE HAS NO OUTLET. IT IS DESIGNED TO INFILTRATE ALL THE RUNOFF FROM EVEN A 100 YEAR STORM EVENT.

ALL TOPSOIL ("A" HORIZON SOIL) AND SUBSOIL ("B" HORIZON SOIL) SHALL BE REMOVED FROM BENEATH THE STONE ENVELOPE AND ANY OTHER DELETERIOUS MATERIAL. ADDITIONAL STONE BASE SHALL BE PLACED BENEATH THE CHAMBERS TO REPLACE SUCH MATERIAL. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID COMPACTING THE SOIL WITHIN THE FOOTPRINT OF THE INFILTRATION STRUCTURE IN THE COURSE OF CONSTRUCTION.



PLAN VIEW OF INFILTRATION STRUCTURE #3
(SCALE: 1" = 20')



PROFILE OF INFILTRATION/RETENTION STRUCTURE #3
(NOT TO SCALE)

DETENTION/INFILTRATION STRUCTURE #3 SHALL CONSIST OF 18 8'x8'x4' HIGH RETAIN-IT CONCRETE MODULES (48" INSIDE HEIGHT, 56" TOP OF MODULE HEIGHT) WITHIN A STONE ENVELOPE 6 FEET HIGH AND HAVING A RECTANGULAR FOOTPRINT 20'x70' OR 1,520 SQUARE FEET.

THE UNITS SHALL BE OPEN BOTTOMED EXCEPT FOR THE MODULE AT THE POINT WHERE FLOW IS DISCHARGED INTO THE STRUCTURE, WHICH SHALL HAVE A FLOOR TO ALLOW FOR POSSIBLE ADDITIONAL CLEANOUT. THERE SHALL BE 6 INCHES OF STONE BENEATH THE MODULES AND 24 INCHES OF STONE OUTSIDE OF THEM.

THIS STRUCTURE HAS NO OUTLET. IT IS DESIGNED TO INFILTRATE ALL THE RUNOFF FROM EVEN A 100 YEAR STORM EVENT.

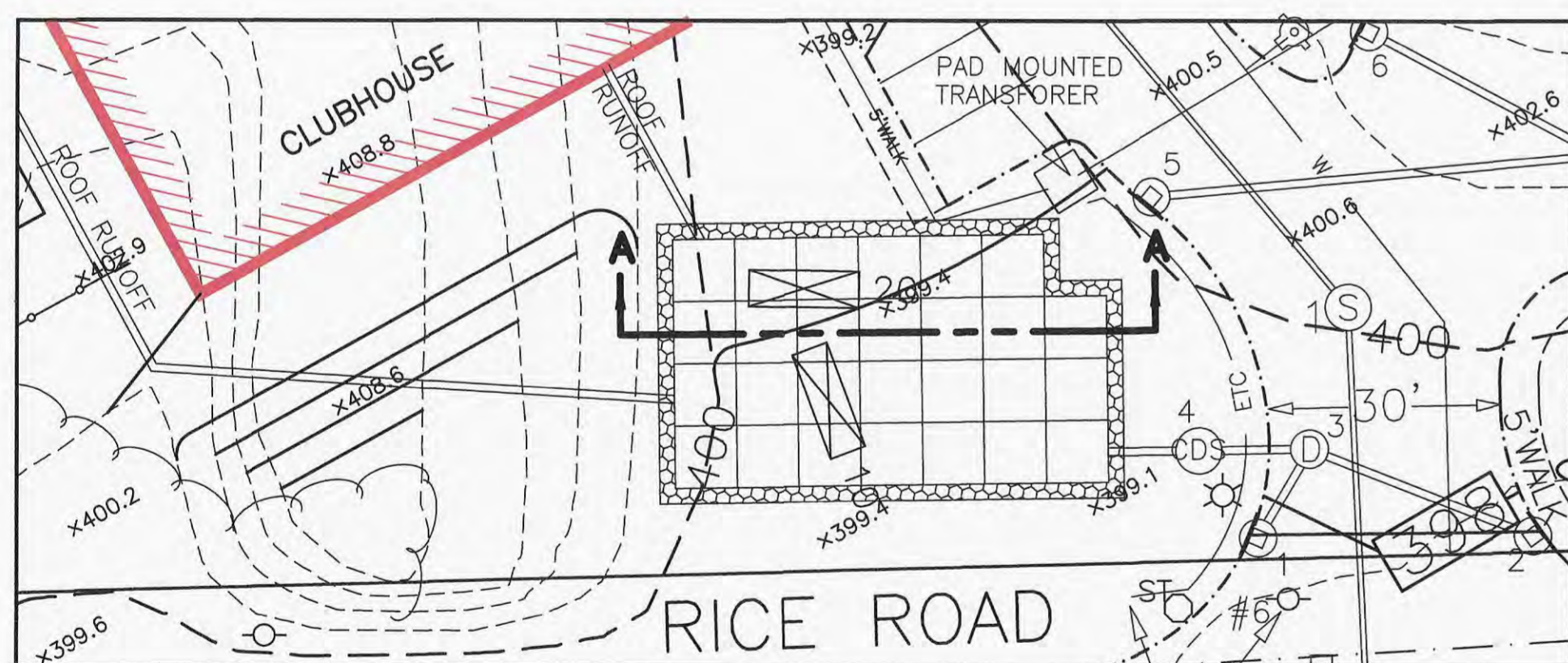
ALL TOPSOIL ("A" HORIZON SOIL) AND SUBSOIL ("B" HORIZON SOIL) SHALL BE REMOVED FROM BENEATH THE STONE ENVELOPE AND ANY OTHER DELETERIOUS MATERIAL. ADDITIONAL STONE BASE SHALL BE PLACED BENEATH THE CHAMBERS TO REPLACE SUCH MATERIAL. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID COMPACTING THE SOIL WITHIN THE FOOTPRINT OF THE INFILTRATION STRUCTURE IN THE COURSE OF CONSTRUCTION.

SANITARY SEWER PIPE AND INVERT TABLE

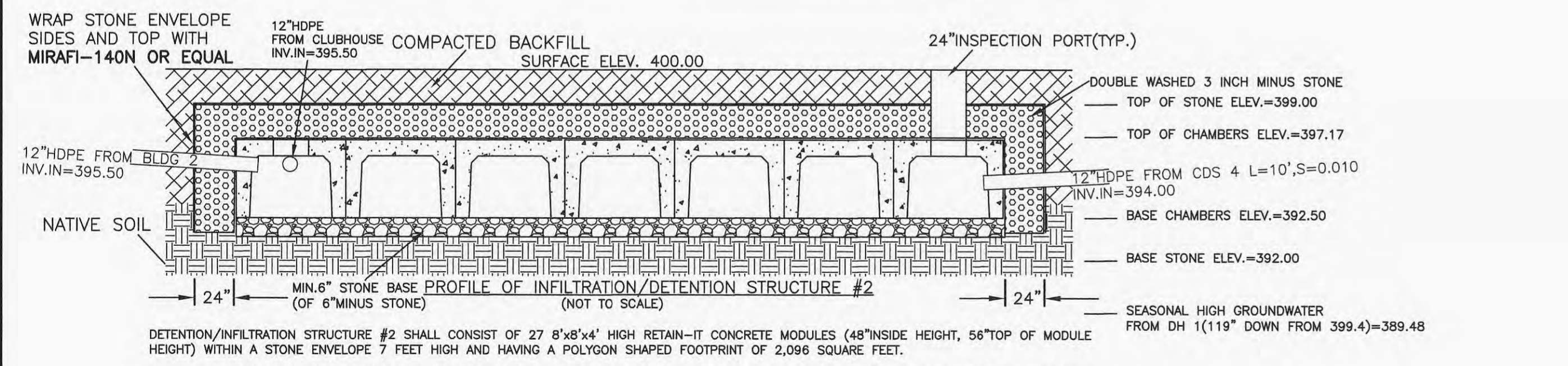
FROM STRUCTURE	RIM/GRATE	INVERT OUT	PIPE LENGTH (FT.)	SIZE (IN.)	SLOPE (FT/FT)	TYPE	TO STRUCTURE	INVERT IN
BUILDING 3	N/A	401.00	42'	8"	0.071	PVC	SMH 7	398.00
SMH 7	404.95	397.80	106'	8"	0.011	PVC	SMH 6	396.60
SMH 6	404.90	396.40	191'	8"	0.012	PVC	SMH 5	394.50
SMH 5	404.95	394.30	58'	8"	0.012	PVC	SMH 4	393.60
BUILDING 2	N/A	397.40	40'	8"	0.095	PVC	SMH 4	393.60
SMH 4	404.85	393.40	123'	8"	0.012	PVC	SMH 3	392.00
BUILDING 1	N/A	400.00	109'	8"	0.073	PVC	SMH 3	392.00
SMH 3	403.30	391.80	49'	8"	0.012	PVC	SMH 2	391.20
CLUBHOUSE	N/A	395.20	31'	8"	0.081	PVC	SMH 2	392.70
SMH 2	400.90	391.00	78'	8"	0.017	PVC	SMH 1	389.70
SMH 1	398.85	389.50	59'	8"	0.036	PVC	EXISTING SMH	387.40

DRAINAGE PIPE AND INVERT TABLE

FROM STRUCTURE	RIM/GRATE	INVERT OUT	PIPE LENGTH (FT.)	SIZE (IN.)	SLOPE (FT/FT)	TYPE	TO STRUCTURE	INVERT IN	
TO PROPOSED IN GROUND INFILTRATION AREA #2 WEST OF ENTRANCE									
CB 1	397.70	394.70	9'	8"	0.022	HDPE	DMH 3	394.50	
CB 2	397.70	394.70	27'	8"	0.007	HDPE	DMH 3	394.50	
DMH 3	398.25	394.25	10'	12"	0.015	HDPE	CDS2015	394.10	
CDS2015	399.00	393.00	10'	12"	0.010	HDPE	INFILTRATION 2	394.00	
CLUBHOUSE ROOF	N/A	N/A	N/A	12"	N/A	HDPE	INFILTRATION 2	395.50	
BUILDING 2 ROOF	N/A	N/A	N/A	12"	N/A	HDPE	INFILTRATION 2	395.50	
TO PROPOSED IN GROUND INFILTRATION AREA #3 EAST OF ENTRANCE									
BLDG 1 ROOF	N/A	N/A	N/A	12"	N/A	HDPE	INFILTRATION 3	395.50	
TO PROPOSED IN GROUND INFILTRATION AREA #1 BY RAILROAD									
CB 5	399.00	395.00	55'	8"	0.009	HDPE	DMH 7	394.50	
CB 6	399.20	395.20	30'	8"	0.023	HDPE	DMH 7	394.50	
DMH 7	399.30	394.20	68'	12"	0.010	HDPE	DMH 8	393.50	
DMH 8	399.85	393.50	90'	12"	0.010	HDPE	DMH 9	392.60	
CB 10	397.50	393.50	26'	8"	0.012	HDPE	DMH 9	393.20	
DMH 9	398.15	392.60	36'	15"	0.011	HDPE	DMH 11	392.20	
DMH 11	398.50	392.00	61'	15"	0.010	HDPE	DMH 12	391.40	
CB 13	397.30	393.30	10'	8"	0.020	HDPE	DMH 12	393.10	
DMH 12	397.75	392.90	143'	15"	0.010	HDPE	DMH 14	391.50	
CB 15	396.80	392.80	8'	8"	0.025	HDPE	DMH 14	392.60	
DMH 14	397.40	391.30	17'	18"	0.018	HDPE	DMH 16	391.00	
DMH 16	397.80	390.80	7'	8"	0.014	HDPE	DMH 17	390.70	
DMH 17	397.85	390.70	6'	8"	0.017	HDPE	DMH 19	390.60	
DMH 18	398.00	391.00	7'	18"	0.014	HDPE	DMH 19	390.90	
DMH 19	398.10	387.10	24'	18"	0.025	HDPE	DMH 20	386.50	
DMH 20	392.30	378.10	45'	18"	0.025	HDPE	INFILTRATION 1	377.00	
CB 28	402.80	398.80	49'	8"	0.010	HDPE	DMH 29	398.30	
CB 30	403.20	399.20	17'	8"	0.024	HDPE	DMH 29	398.80	
DMH 29	403.90	398.00	37'	12"	0.011	HDPE	DMH 31	397.60	
BLDG 3 ROOF	N/A	N/A	N/A	8"	N/A	HDPE	DMH 31	398.00	
DMH 31	404.20	397.20	90'	15"	0.013	HDPE	DMH 32	396.00	
CB 33	403.80	399.80	18'	8"	0.017	HDPE	DMH 32	399.50	
GARAGE ROOF	N/A	N/A	21'	8"	N/A	HDPE	DMH 32	399.50	
DMH 32	404.50	395.80	100'	15"	0.012	HDPE	DMH 34	394.60	
CB 35	403.90	399.80	20'	8"	0.015	HDPE	DMH 34	399.50	
BLDG 3 ROOF	N/A	N/A	104'	8"	N/A	HDPE	DMH 34	398.50	
GARAGE ROOF	N/A	N/A	21'	8"	N/A	HDPE	DMH 34	398.50	
DMH 34	404.50	394.40	58'	18"	0.010	HDPE	DMH 27	393.80	
CB 21	403.80	399.80	25'	8"	0.016	HDPE	DMH 22	399.40	
DMH 22	404.50	399.00	68'	12"	0.010	HDPE	DMH 23	398.30	
CB 24	403.80	399.80	17'	8"	0.018	HDPE	DMH 23	399.50	
DMH 23	404.40	398.00	97'	15"	0.010	HDPE	DMH 25	397.00	
CB 26	403.80	399.80	15'	8"	0.020	HDPE	DMH 25	399.50	
GARAGE ROOF	N/A	N/A	24'	8"	N/A	HDPE	DMH 25	399.50	
DMH 25	404.40	398.40	21'	18"	0.024	HDPE	DMH 27	395.80	
DMH 27	405.60	393.30	9'	24"	0.011	HDPE	DMH 36	393.20	
DMH 36	404.80	393.00	6'	8"	0.017	HDPE	CDS2025	37	392.90
CDS2025	37	404.80	392.90	6'	8"	0.017	HDPE	DMH 39	392.80
DMH 36	404.80	393.50	7'	24"	0.014	HDPE	DMH 38	393.40	
DMH 38	404.60	393.20	8'	24"	0.013	HDPE	DMH 39	393.10	
DMH 39	404.80	389.20	64'	24"	0.019	HDPE	DMH 40	388.00	
DMH 40	394.00	376.70	36'	24"	0.019	HDPE	INFILTRATION 1	376.00	



PLAN VIEW OF INFILTRATION STRUCTURE #2
(SCALE: 1" = 20')



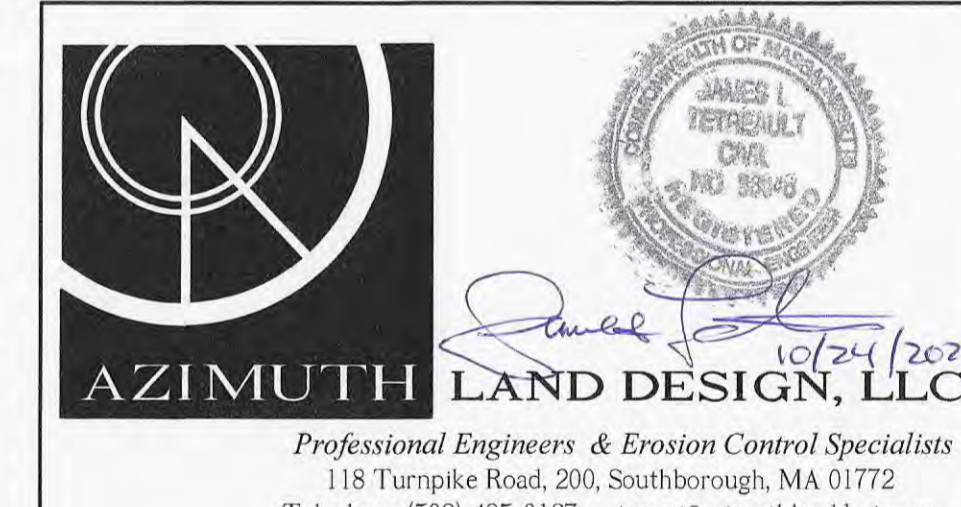
PROFILE OF INFILTRATION/RETENTION STRUCTURE #2
(NOT TO SCALE)

DETENTION/INFILTRATION STRUCTURE #2 SHALL CONSIST OF 27 8'x8'x4' HIGH RETAIN-IT CONCRETE MODULES (48" INSIDE HEIGHT, 56" TOP OF MODULE HEIGHT) WITHIN A STONE ENVELOPE 7 FEET HIGH AND HAVING A POLYGON SHAPED FOOTPRINT OF 2,096 SQUARE FEET.

THE UNITS SHALL BE OPEN BOTTOMED EXCEPT FOR THE MODULES AT THE POINTS WHERE FLOW IS DISCHARGED INTO THE STRUCTURE, WHICH SHALL HAVE A FLOOR TO ALLOW FOR POSSIBLE ADDITIONAL CLEANOUT. THERE SHALL BE 6 INCHES OF STONE BENEATH THE MODULES AND 24 INCHES OF STONE OUTSIDE OF THEM.

THIS STRUCTURE HAS NO OUTLET. IT IS DESIGNED TO INFILTRATE ALL THE RUNOFF FROM EVEN A 100 YEAR STORM EVENT.

ALL TOPSOIL ("A" HORIZON SOIL) AND SUBSOIL ("B" HORIZON SOIL) SHALL BE REMOVED FROM BENEATH THE STONE ENVELOPE AND ANY OTHER DELETERIOUS MATERIAL. ADDITIONAL STONE BASE SHALL BE PLACED BENEATH THE CHAMBERS TO REPLACE SUCH MATERIAL. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID COMPACTING THE SOIL WITHIN THE FOOTPRINT OF THE INFILTRATION STRUCTURE IN THE COURSE OF CONSTRUCTION.



Professional Engineers & Erosion Control Specialists
118 Turnpike Road, 200, Southborough, MA 01772
Telephone (508)-485-0137 james@azimuthlanddesign.co

CLT. NO.	501	JOB NO.	224-501
DATE:	OCTOBER 24, 2023	DWG NO.	RICEROADCURRENT
DATE:		REVISIONS DESCRIPTION	

SCALE: AS NOTED

RICE POND VILLAGE
SITE PLAN OF LAND
IN
MILLBURY, MASSACHUSETTS

PREPARED FOR OWNER/APPLICANT
SVJ INVESTMENTS, LLC
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772

DETAIL SHEET D3

**POLLUTION PREVENTION PLAN
FOR
RICE POND VILLAGE, MILLBURY, MA**

PROJECT DESCRIPTION

This is a proposal to develop this site, first demolishing the existing house and associated structures and then constructing three apartment buildings having 64 units each along with associated parking and driving aisles and necessary utility infrastructure on this 15.6 acre site.

Construction will take place in a single phase and is expected to last from the spring 2024 into the summer of 2026. Total site alteration will be approximately 7.4 acres almost 2 acres of which was previously altered.

Construction Process

Before construction begins, erosion control barriers consisting of silt fencing attached to posts and backed by staked straw bales will be placed at the limit of work as shown on the Erosion & Sediment Control Plans, Sheets ESC1-ESC3.

The first step of the construction process will be the demolition of the existing structures. The resulting debris will be disposed of at appropriate licensed facilities. The second step of the process will be the cutting of any trees within the limits of proposed development. After this has been accomplished in the demarcated areas, clearing and grubbing will take place and loam will be stockpiled. Then the existing pavement will be removed and also disposed of at an appropriate licensed facility.

The time of construction requiring the most attention and care occurs between the stripping of natural overburden and the stabilization of construction areas. Cut and fill areas create additional risk by increasing the possibility of stormwater runoff causing erosion.

The contractor will, to the extent possible, leave natural cover untouched at the edges of the property. The contractor will limit to the shortest time possible the time that areas are exposed. The landscaping will be completed as early as weather and building construction allow. During the times between clearing and landscaping, soils will be stabilized with a combination of stump grindings, wood chips, hay/straw mulch, temporary grass seeding and other measures as necessary to prevent any significant erosion of soils.

Soil stockpile areas will be kept out of the 100 foot buffer zone associated with the delineated wetland on site. Soil stockpiles shall be surrounded by staked silt fence placed at least 5 foot off the toe of slope of the stockpile. One suitable stockpile location is in the area northwest of the existing home and in front of proposed building #1.

In conjunction with the site grading process, a number of sedimentation control procedures will be followed. The object of the procedures is to prevent the erosion of soils and the transport of sediments to adjacent properties and eventually to wetland resource areas off site.

Stabilization

Temporary and permanent stabilization of disturbed surfaces is the most reliable method of preventing the erosion and transport of site soils. Toward that end, the areas that are disturbed will be provided temporary stabilization within two weeks after the last disturbance when:

- Work is not complete in that area,
- Work will remain incomplete for a period of three weeks or more, and
- The planting season has not been reached in areas which will be re-vegetated.

Permanent stabilization will take place when:

- Work is complete in that area and
- The planting season has been reached and areas can be revegetated.

Best Management Practices Employed

To guard against the transport of soils offsite several Best Management Practices (BMP's) may be employed. Sediment control barriers, sediment sumps, temporary settling basins, straw bale check dikes, swales, a site entrance mat, flocculants in both crystal and block forms, and organic media for capture of silt below flocculants may be used on this site as appropriate. All of these measures are temporary. The site's permanent protection against erosion and the deposition of sediment off site at resource areas is the permanent stabilization of formerly exposed surfaces with pavement, lawn and other landscaping.

Soils

According to the MassMapper web site the soils underlying this site are almost entirely Merrimac series soils which are categorized as hydrologic soil group A soils. However, unofficial soil tests at deep holes #s1-6 and 15-17 revealed soils with a sandy loam texture that were inconsistent with the expectation of sand textured Merrimac series soils. Sandy loam texture soils have much more risk of erosion than sand textured soils so there is more risk of erosion at this site than the MassMapper mapping would indicate.

Resource Areas

There is a pond, wetlands and intermittent streams on the southwest and west ends of the site.

SITE PLAN DEVELOPMENT

As part of the Site Plans submitted to the Town of Millbury, Azimuth Land Design, LLC has prepared this erosion and sediment control plan calling for permanent and temporary erosion control measures. The site has no existing drainage system and there will be no drainage system connection to the system in Rice Road.

PHASING

Construction of the project will take place in one phase. Total site alteration will be approximately 7.4 acres.

POLLUTION PREVENTION SITE PLAN

The Site Plans prepared by Thompson-Liston Associates, Inc. contain Erosion & Sediment Control Plans. Various Best Management Practices (BMP's) are described herein and/or shown on the Erosion & Sediment Control Plans or the Detail Sheets and will be used to prevent or to mitigate erosion and pollution.

INSPECTION AND MAINTENANCE OF EROSION CONTROLS

1. At all times, siltation fabric fencing, straw wattles or straw bales and stakes sufficient to construct an erosion control barrier a minimum 25 feet long will be stockpiled on the site in order to repair established barriers which may have been damaged or breached.
2. The Developer will designate as Inspector a person or entity other than the site supervisor. The Inspector must be accessible seven days a week and be responsible for inspecting and coordinating the maintenance and repair of all erosion control systems on the site.
3. An inspection of all erosion control measures shall be conducted by the Inspector at least once each week until the completion of construction of the subdivision. The Contractor shall inspect all erosion control systems daily and shall notify the Inspector of any breaches or failures. In case of any noted breach or failure, the Contractor shall immediately make appropriate repairs.
4. The Inspector shall inspect all erosion control systems on the site before, during and after any storm event reaching one of the following thresholds:
 - a. Any storm in which rain is predicted to last for 12 consecutive hours or more.
 - b. Any storm for which a flash flood watch or warning is issued.
 - c. Any single storm predicted to have a cumulative rainfall greater than 1/2 inch.
 - d. Any storm event not meeting the previous three thresholds but which would mark the third consecutive day of measurable rainfall.
5. The Inspector shall inspect erosion control measures at times of significant increase in runoff due to rapid thawing when the risk of failure of those measures is significant.
6. In such instances as remedial action is necessary, the Inspector shall cause to be repaired within seven days, any and all significant deficiencies in erosion control measures.
7. The Millbury Conservation Commission shall be notified of any significant failure of erosion control measures and shall be notified of any release of pollutants.

SOIL TEST RESULTS:

UNOFFICIAL SOIL TEST RESULTS

- DH1 - SANDY LOAM TO 84" NO REFUSAL
- DH2 - SANDY LOAM TO 72" NO REFUSAL
- DH3 - SANDY LOAM TO 100" NO REFUSAL
- DH4 - SANDY LOAM TO 88" NO REFUSAL
- DH5 - SANDY LOAM TO 113" NO REFUSAL
- DH6 - SANDY LOAM TO 84" NO REFUSAL
- DH7 - SAND TO 114" NO REFUSAL
- DH8 - SAND TO 114" REFUSAL AT THAT DEPTH
- DH9 - FILL TO 120"
- DH10 - FILL TO 57" THEN SAND TO 119"
- DH11 - FILL TO 50" THEN SAND TO 114"
- DH12 - SAND TO 108" NO REFUSAL
- DH 13 - SAND TO 144" NO REFUSAL
- DH 14 - SAND TO 144" NO REFUSAL
- DH 15 - SANDY LOAM, MOTTLING, WEEPING AT 36"
- DH 16 - SANDY LOAM, MOTTLING, WEEPING AT 30"
- DH 17 - SANDY LOAM TO 72" NO REFUSAL
- DH 18 - SAND TO 108" NO REFUSAL
- DH 19 - SAND TO 132" NO REFUSAL

PARKING

192 UNITS ARE PROPOSED, CONSISTING OF 102 ONE BEDROOM UNITS, 66 TWO BEDROOM UNITS AND 24 THREE BEDROOM UNITS. 319 PARKING SPACES ARE PROPOSED, A RATIO OF 1.66 PER UNIT.

EROSION CONTROL DEVICES OR PROCESSES

1. Sediment Control Barrier

The sediment control barrier will consist of an approved siltation fabric fencing installed on posts according to the manufacturer's instructions and backed by staked straw bales. The barriers will be placed in a manner that prevents the passage of soil materials under, around or over it. Sediment will be removed from against the barrier when the accumulated sediment has reached one third of the original installed height of the barrier.

2. Straw Bale Diversion Dike

Straw bales will be placed in other locations on the site in order to further prevent the flow of sediment from the site or reduce the velocity of runoff crossing open land or running off stockpile or fill areas. Straw bale diversion dikes will also be placed within developing rills to reduce surface runoff velocities and to shift the path of the water flow. The locations where straw bale diversion dikes are installed will be determined in the field at the Inspector's discretion.

3. Slope Stabilization

Slopes or surfaces that are created due to excavation or filling along the edge of the parking or loading areas will be temporarily stabilized with one or more of the following:

- Hay or straw mulch with tackifier
- Soft wood and hard wood chips or stump grindings.

Permanent stabilization of slopes and surfaces will employ one or more of the following:

- 6 inches of loam and grass
- Sod
- Riprap
- Erosion control blankets such as Tensar North American Green C125BN or approved equal and vegetation
- Mulch and landscaping plantings
- A combination of grasses, riprap and/or plants and shrubbery
- In areas that will be steeper than 2:1, after construction, the slope will be stabilized by the placement of heavy riprap or by the installation of erosion control matting specifically rated by the manufacturer for use on a 1:1 slope. The riprap slope will be formed by placing heavy stone on a one foot thick layer of gravel that is covered by an approved filter fabric.

4. Diversion Swale

Runoff diversion swales may be provided in order to intercept sheet and concentrated flows above areas of cut, above abutting properties or Rice Road. The swales will direct runoff to sediment sumps or temporary settling basins. The swales will be approximately 5 feet wide and one foot deep. Straw bale diversion dikes may be installed on the downhill side of the swales to assist in containing the water flow.

5. Sediment Sumps

Sediment sumps are excavated depressions of 10 foot diameter and 2 foot depth. The sumps will collect runoff from unfinished drives and slopes and will allow sediment to settle out before flow continues to a detention area or siltation control barrier. Sediment sumps will be cleaned whenever the accumulated sediment has reached one half of the original depth of the sump.

6. Temporary Settling Basins

Temporary settling basins (TSB's) are larger excavations made at locations that will receive significant stormwater runoff flow. They are used to capture and detain stormwater in the construction phase to settle out some eroded material and to lessen the rate of flow of stormwater from construction phase work areas. Temporary settling basins are larger than sediment sumps and shall have silt fence or straw bale dikes at their entrance and exit to control flow. They shall be sized according to the DEP Stormwater management standards which requires that they have sufficient capacity to hold 1 inch of runoff from the watershed contributing flow to them. For example, a TSB receiving flow from 1 acre of land should have a volume capacity of at least 3,630 square feet. TSB's should have flocculant blocks and at least three layers of jute mesh matting at their outlet. TSB's should be cleaned out whenever the accumulated sediment has reached more than 6 inches deep. No TSB shall be located where the proposed infiltration structures are proposed. Expected locations for TSB's are shown on the Erosion & Sediment Control Plans.

7. Flocculants

If the capture of flows in sediment sumps and temporary settling basins does not sufficiently reduce the turbidity of runoff before it leaves the site, flocculant blocks shall be installed at the outlet of any sediment sump, TSB or swale discharge flow to the site's drainage system. Immediately downstream of the flocculant blocks, a suitable organic media such as jute mesh matting shall be installed over stone for runoff that has contacted the flocculant blocks to flow. This will allow capture of silts.



In addition, crystal flocculants may be used to reduce turbidity of captured runoff in sediment sumps and temporary settling basins.

SEQUENCE OF INSTALLATION AND CONSTRUCTION

The following is a sequence for the construction of the project. The actual schedule may vary somewhat from that stated if site or weather conditions require.

An example of a logical change to the schedule would be deviating from the sequence below to allow the laying of berms prior to a freeze in order to better control the site drainage.

1. The Developer will hold a preconstruction meeting with representatives of the Town of Millbury in order to review permits, procedures and construction methods.
2. The Developer will hold a preconstruction meeting with the Engineer, Contractor's employees and the Inspector in order to review permits, procedures and construction methods.
3. Establish the construction entrance to the site off Rice Road.
4. Install the site entrance mat in the location of the proposed entrance off Rice Road. and erosion control barriers at the limit of work as shown on the Grading Plans.
5. Demolish the existing structures, removing any debris from the site and disposing of it in appropriate facilities according to applicable regulations.
6. Cut trees as necessary for the proposed development but no further. Chip wood and then remove existing pavement and dispose of it at an appropriate facility. Then, clear and grub where trees were cut. Grind stumps for use of the grindings as a temporary stabilization cover.
7. Stockpile and compact excavated loam in an area surrounded by staked straw bales or siltation fencing. We suggest the proposed location of units 35&36. Place the straw bales or fencing at least five feet from the base of the loam pile.
8. Begin earthwork to bring grades to the subgrade elevations for the proposed driving aisles and parking areas.
9. Begin construction of the three apartment buildings and install the utility connections to the proposed apartment buildings.
10. Install the new drainage system, new sanitary sewer, new water line services to the buildings and new electric connections and, when complete, lay the binder course of pavement.
11. Continue construction of the buildings.
12. Permanently stabilize exposed slopes with riprap, 6 inches of loam and grass, other vegetation and landscaping.
13. Finish interior construction of the proposed buildings and lay a finish course of pavement.
14. Remove accumulated sediment and temporary erosion control measures after all slopes have been permanently stabilized and the risk of erosion has passed.
15. Prepare and submit an as-built survey of the work to the Town of Millbury.

AZIMUTH LAND DESIGN, LLC

Professional Engineers & Erosion Control Specialists
118 Turnpike Road, 200, Southborough, MA 01772
Telephone (508)-465-0137 james@azimuthlanddesign.co

CLT. NO.	JOB NO.
501	224-501
DATE:	DWG NO.
OCTOBER 24, 2023	RICEROADCURRENT

REVISIONS	
DATE:	DESCRIPTION

SCALE: AS NOTED

**RICE POND VILLAGE
SITE PLAN OF LAND**

IN
MILLBURY, MASSACHUSETTS

PREPARED FOR OWNER/APPLICANT
SVJ INVESTMENTS, LLC
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772

DETAIL SHEET D4