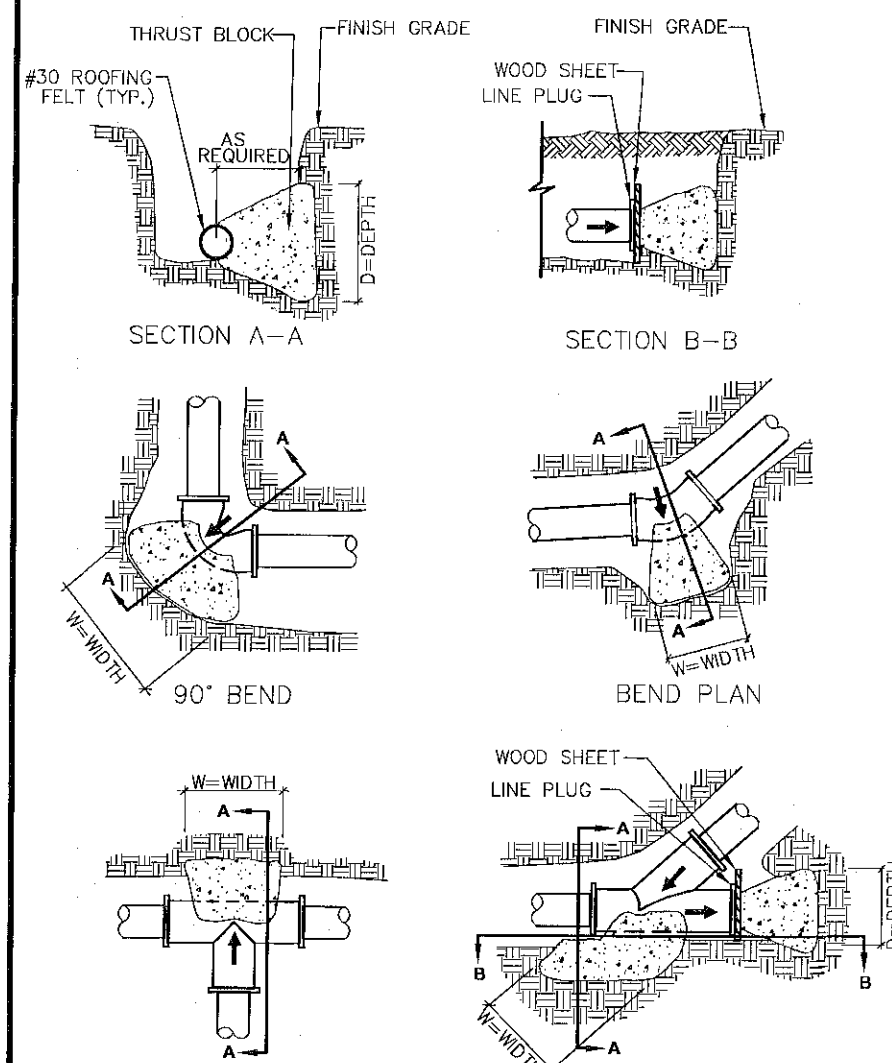


- NOTES:
1. WHEN INSTALLED PARALLEL, ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM SEPARATION OF 10' EDGE TO EDGE, IF MINIMUM CANNOT BE MAINTAINED, WATER MAIN SHALL BE IN SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF TO ONE SIDE OF SEWER WITH BOTTOM OF WATER MAIN 18" MINIMUM ABOVE TOP OF SEWER PIPE.
 2. WHEN INSTALLED CROSSING, MAINS SHALL HAVE 18" MINIMUM VERTICAL SEPARATION BETWEEN PIPES OUTSIDE TO OUTSIDE. WHERE WATER MAIN IS UNDERNEATH SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO WATER MAIN. WHEN IT IS IMPOSSIBLE TO PROVIDE THE ABOVE MINIMUM, THE SEWER SHALL BE CONSTRUCTED WITH PRESSURE RATED WATER PIPE AND SHALL BE PRESSURE TESTED TO ENSURE WATER TIGHTNESS PRIOR TO BACKFILLING. CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TEN STATES STANDARDS, LATEST EDITION.

WATERMAIN CROSSING STORM OR SANITARY SEWER

SCALE: NOT TO SCALE



TYPICAL THRUST BLOCKS

SCALE: NOT TO SCALE

TABLE 1
SAFE BEARING LOADS OF SOILS & MULTIPLICATION
FACTORS FOR MODIFICATION OF THRUST BLK. AREAS

SOIL TYPE	SAFE BEARING STRENGTHS (LBS./SQ. FT.)	FACTOR
MUCK	0	0
SOFT CLAY	1,000	3.00
SILT	1,500	2.00
SANDY SILT	3,000	1.00
SAND	4,000	0.75
SANDY CLAY	6,000	0.50
HARD CLAY	9,000	0.33

TABLE 2
REQUIRED BEARING AREAS & DIMENSIONS FOR
CONCRETE THRUST BLOCKS

PIPE SIZE (IN.)	TEE / DEAD END AREA Sq. Ft.	90°(1/4) BEND Dimensions Sq. Ft.	45°(1/8) BEND Dimensions Sq. Ft.	22-1/2°(1/16) BEND Dimensions Sq. Ft.	11-1/4°(1/32) BEND Dimensions Sq. Ft.
4	1.81 1.0' x 1.81'	2.56 1.0' x 2.56'	1.39 1.0' x 1.39'	.705 1.0' x 1.0'	.355 1.0' x 1.0'
6	3.74 1.0' x 3.74'	5.28 1.25' x 4.23'	2.86 1.25' x 2.29'	1.46 1.0' x 1.5'	.733 1.0' x 1.0'
8	6.43 1.5' x 4.29'	9.10 1.5' x 6.07'	4.92 1.5' x 3.28'	2.51 1.5' x 1.67'	1.26 1.0' x 1.26'
10	7.68 2.0' x 4.84'	13.69 2.0' x 6.85'	7.41 2.0' x 3.70'	3.78 1.5' x 2.52'	1.90 1.5' x 1.27'
12	13.69 2.25' x 6.08'	19.45 2.5' x 7.74'	10.47 2.5' x 4.19'	5.34 2.0' x 2.67'	2.68 1.5' x 1.78'
14	18.34 2.25' x 7.35'	26.00 3.0' x 8.67'	14.07 3.0' x 4.69'	7.17 2.0' x 3.58'	3.60 1.5' x 2.43'
16	23.76 3.0' x 7.90'	33.63 3.5' x 9.60'	18.20 3.5' x 5.28'	9.28 2.5' x 3.77'	4.86 2.0' x 2.35'
18	29.87 3.5' x 8.53'	42.24 4.5' x 9.38'	22.86 4.5' x 5.20'	11.65 3.0' x 3.98'	5.86 2.0' x 2.72'
20	36.84 4.0' x 9.19'	51.82 5.0' x 10.36'	28.05 5.0' x 5.61'	14.30 3.0' x 4.77'	7.18 2.0' x 3.60'
24	62.28 4.5' x 11.61'	73.93 5.25' x 14.08'	40.01 5.25' x 7.62'	20.40 4.0' x 5.1'	10.25 2.5' x 4.10'

NOTE: FOR POLYETHYLENE WRAPPED PIPE, MULTIPLY VALUES IN TABLE BY 1.45

OPTION: A ONE FOOT LAYER OF RIPRAP OF N.Y.S. DOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP IN PLACE OF THE EMBEDDED FILTER CLOTH.

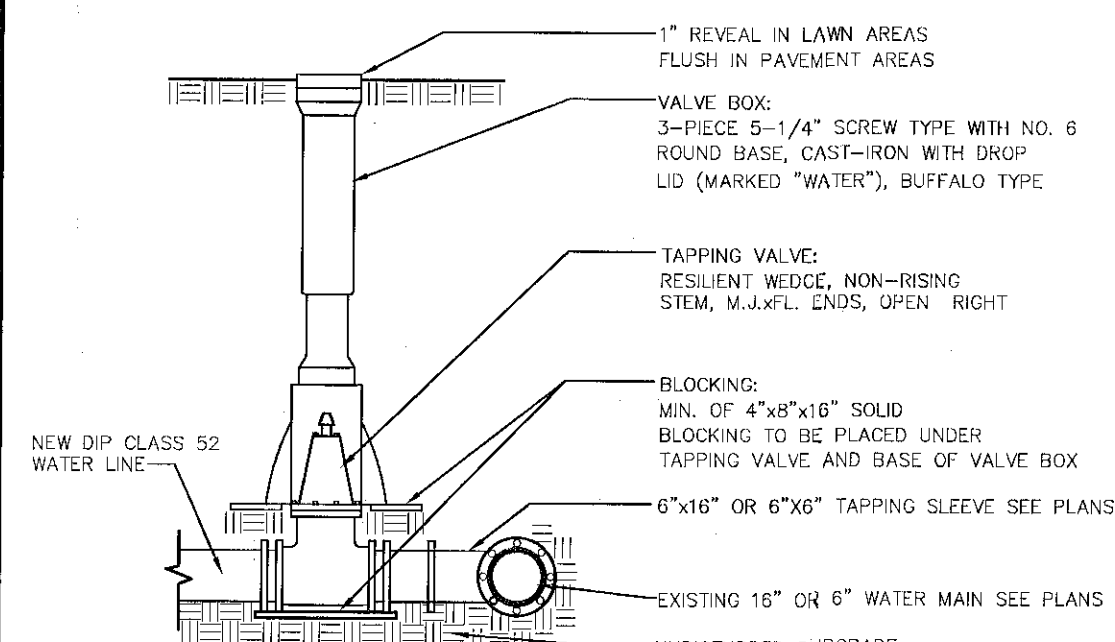
NOTES:

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, CRUSHED AND STRIPPED OF ANY VEGETATION AND ROOTS. THE FILL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBSCURABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVELING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OF EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAXIMUM DRAINAGE AREA 5 ACRES

STONE OUTLET SEDIMENT TRAP

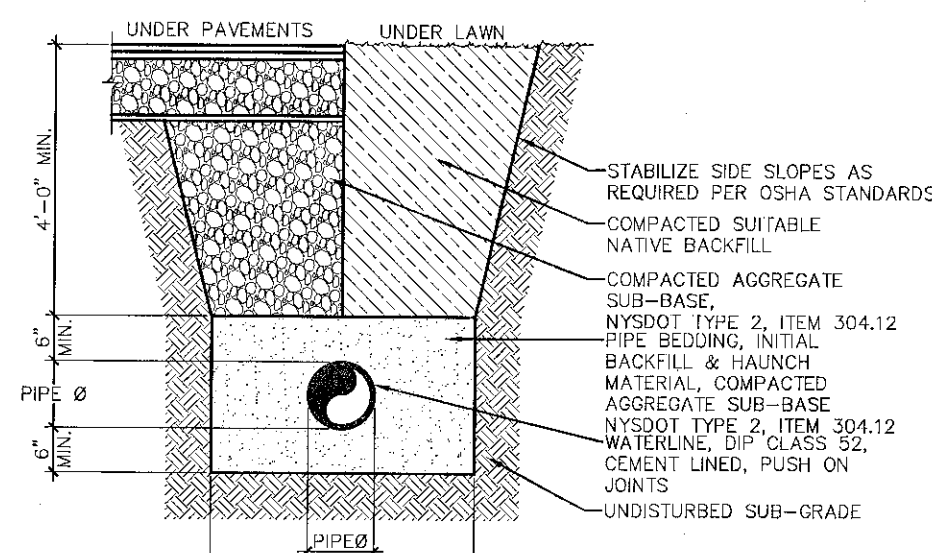
SCALE: NOT TO SCALE



NOTE: TAPPING SLEEVE AND VALVE AS LISTED IN TOWN STANDARD SPECIFICATIONS

TAPPING VALVE AND SLEEVE

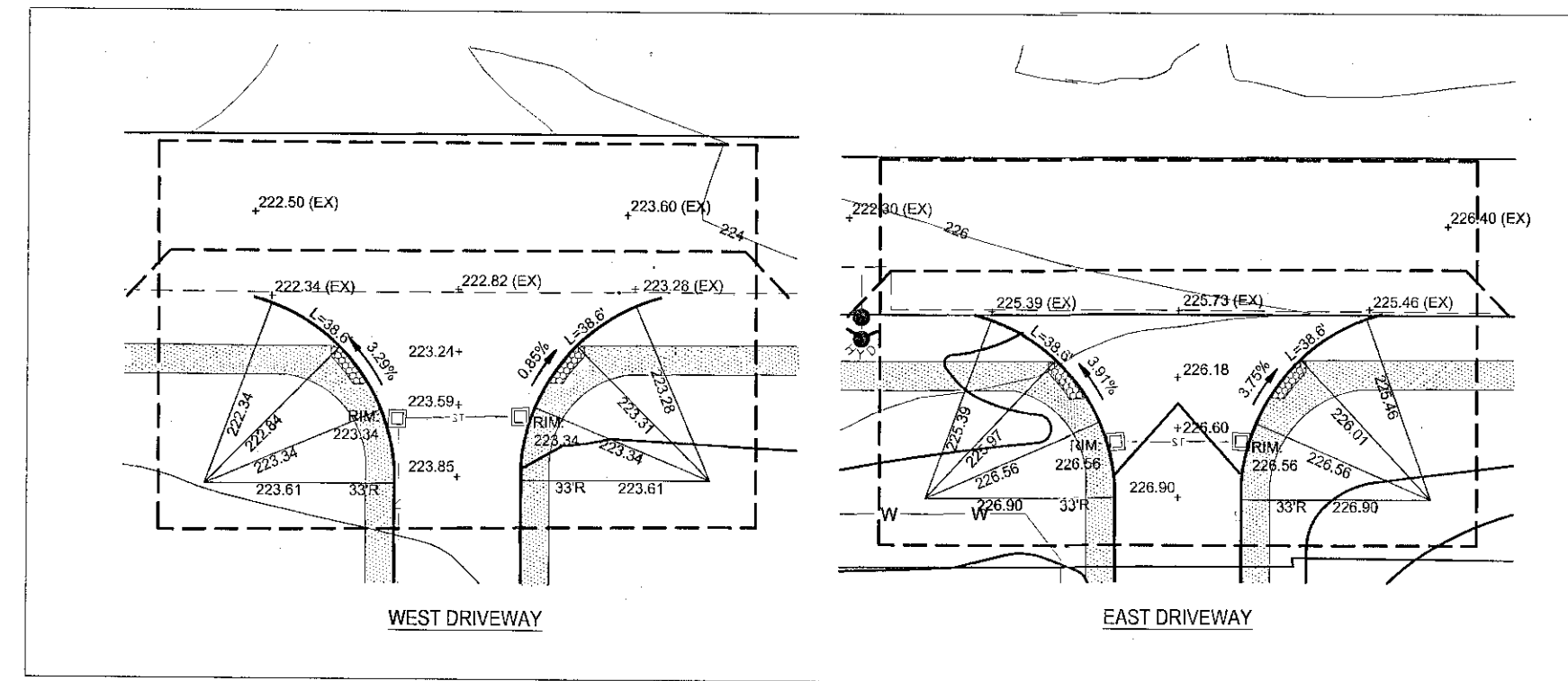
SCALE: NOT TO SCALE



NOTE: BACKFILL SHALL BE COMPACTED IN 6\"/>

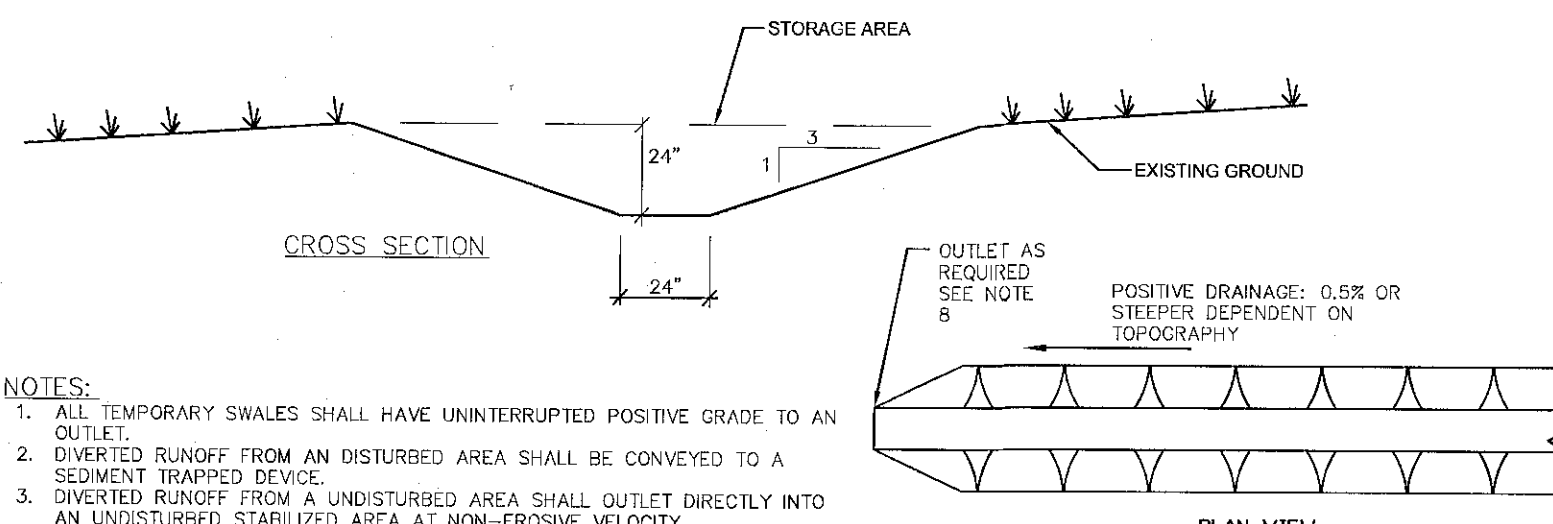
WATER SERVICE TRENCH

SCALE: NOT TO SCALE



DRIVEWAY ENTRANCE DETAILS

SCALE: 1"=30'

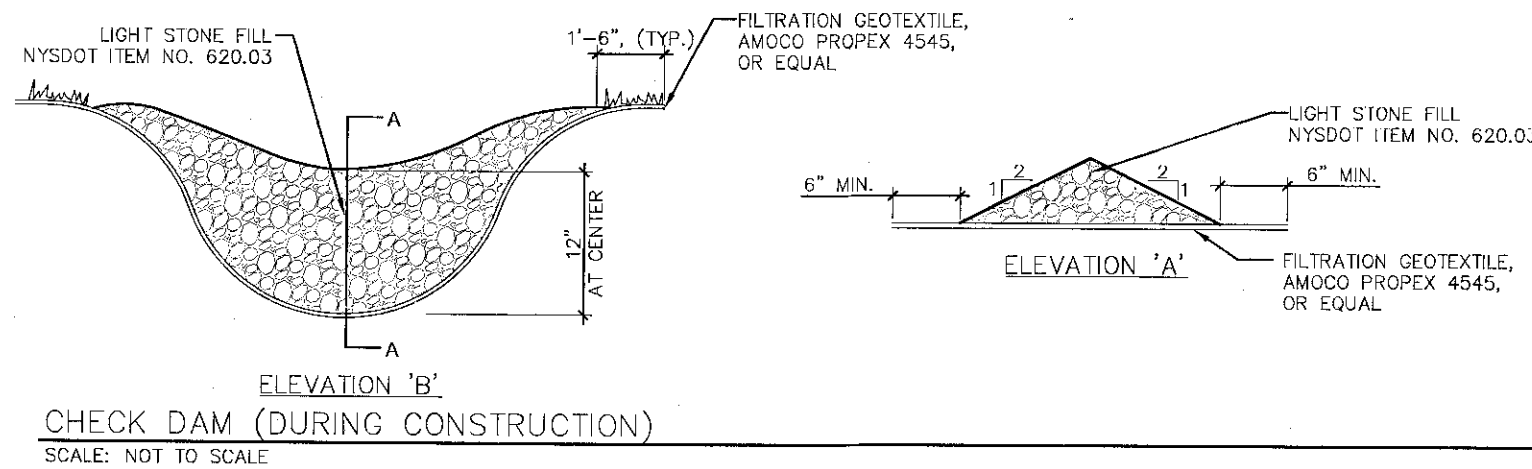


NOTES:

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPED DRIVEWAY.
3. DIVERTED RUNOFF FROM A UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED, STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBSCURABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHARED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART.
9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

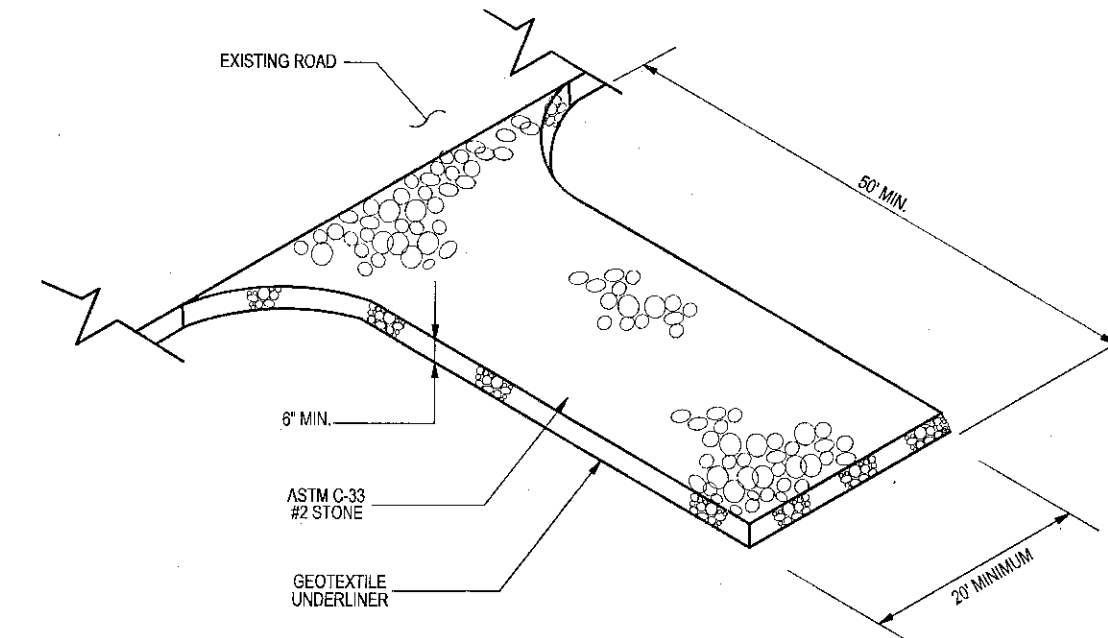
TEMPORARY DIVERSION SWALE

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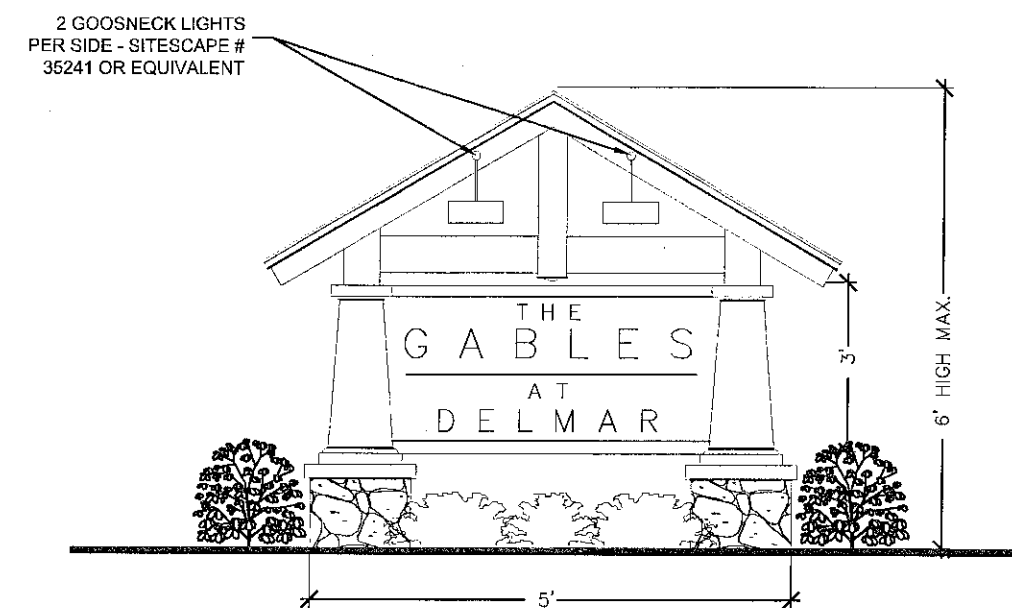
CHECK DAM (DURING CONSTRUCTION)

SCALE: NOT TO SCALE



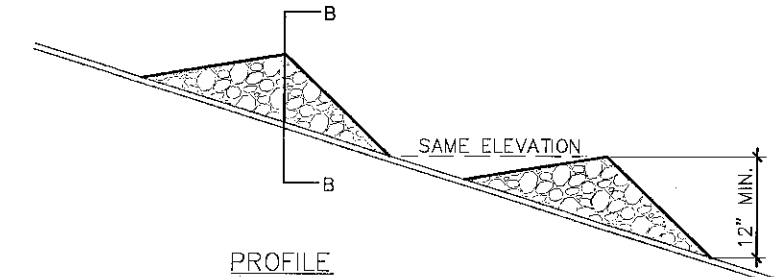
DRIVEWAY ENTRANCE DETAILS

SCALE: NOT TO SCALE



FRONT SIGN DETAIL

SCALE: NOT TO SCALE

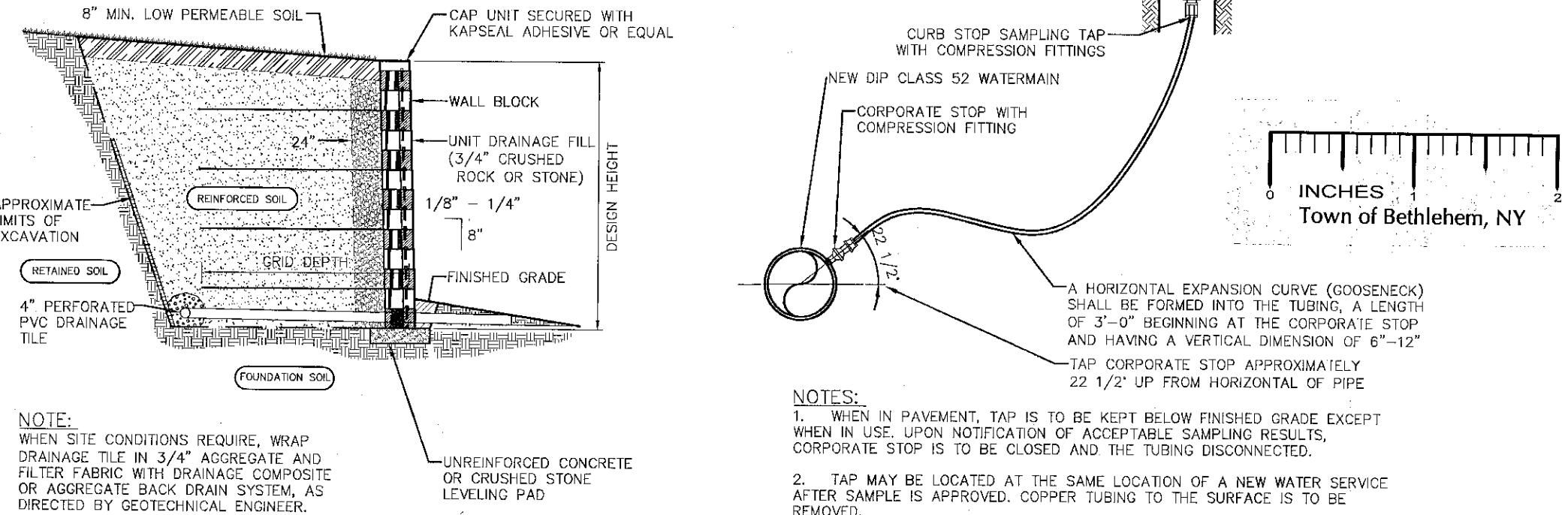
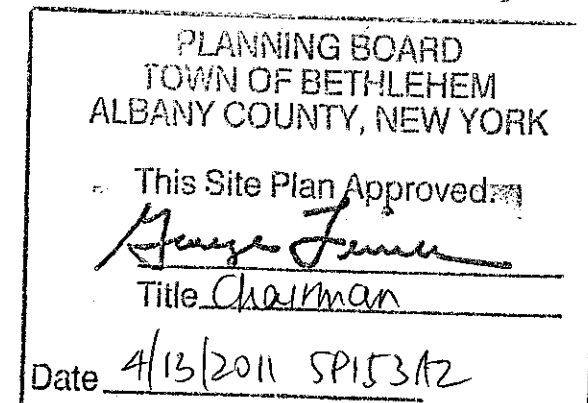


PROFILE

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APR 7 2011

Town of Bethlehem
Planning Board

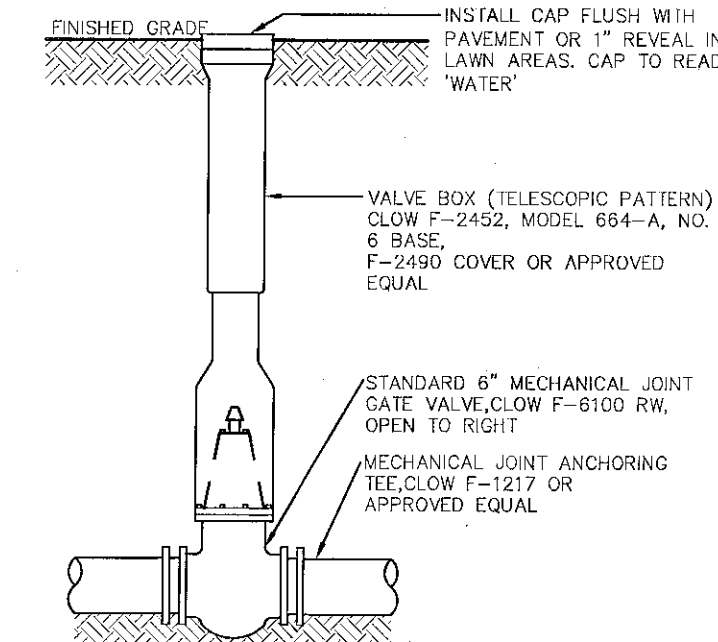


NOTE:

1. WHEN IN PAVEMENT, TAP IS TO BE KEPT BELOW FINISHED GRADE EXCEPT WHEN IN USE. UPON NOTIFICATION OF ACCEPTABLE SAMPLING RESULTS, CORPORATE STOP IS TO BE CLOSED AND THE TUBING DISCONNECTED.
2. TAP MAY BE LOCATED AT THE SAME LOCATION OF A NEW WATER SERVICE AFTER SAMPLE IS APPROVED. COPPER TUBING TO THE SURFACE IS TO BE REMOVED.
3. APPROXIMATE LOCATIONS FOR TAPS ARE SHOWN ON THE PLANS. FINAL TAP LOCATIONS ARE SUBJECT TO PRIOR APPROVAL FROM THE ENGINEER.

DISINFECTING & SAMPLING TAP

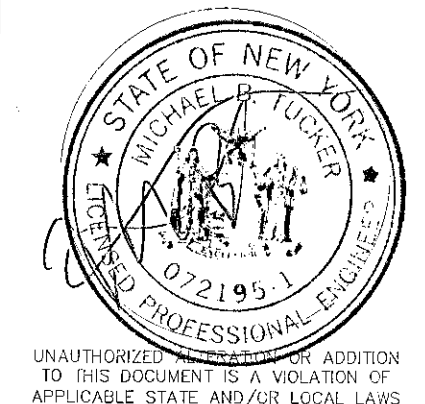
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VALVE BOX (3) PIECE 5 1/4\"/>

VALVE BOX

SCALE: NOT TO SCALE



No.	Submital / Revision	App'd	Date
1	TOWN COMMENTS	MBT	3/11
2	TOWN COMMENTS	MBT	1/11
3	TOWN COMMENTS	MBT	12/10
4	TOWN COMMENTS	MBT	12/10

Drawn: MJB Date: 10/10

Designed: MBT Date: 10/10

Checked: MBT Date: 10/10

Project Number 182-122

Project Title

The Gables
at Delmar

Delaware Avenue
Delmar, NY 12054

Prepared For

Keystone
Builders Inc.

Drawing Title

Site & Utility
Details

Drawing Scale:

1" = 40'

Date:

3/18/2011

Issued For

SITE PLAN
APPROVAL

Drawing Number

C-17