

# STANDARD DETAILS

## Engineering Department

Township of Lawrence Mercer County New Jersey

October 2013

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## TABLE OF CONTENTS

### Road Standards

R-1	Typical Road Section
R-2	Blank
R-3	Longitudinal Joint & Trench Repair
R-4	Pavement Butt Joint
R-5	Concrete Curb
R-6	Belgian Block Curb
R-7	Depressed Curb
R-8	Mountable Concrete Curb
R-9	Reinforced Concrete Apron
R-10	Concrete Sidewalk
R-11	Handicap Ramp
R-12	Road Box Installation
R-13	Sight Triangle Easement
R-14	Road Hum
R-15	Handicap Stall Marking

### Storm Sewer Standards

SS-1	Type "A" Inlet
SS-2	Type "B" Inlet
SS-3	Type "E" Inlet
SS-4	Special "B" Inlet
SS-5	Storm Sewer Manhole
SS-6	Flared End Section
SS-7	Roadway Trench Restoration
SS-8	Earth Trench Restoration
SS-9	Storm Drain Lateral Connection
SS-10	Low Flow Channel
SS-11	Sump Pump Drain Connection
SS-12	Infiltration Trench Detail
SS-13	Infiltration Chamber

### Landscape Standards

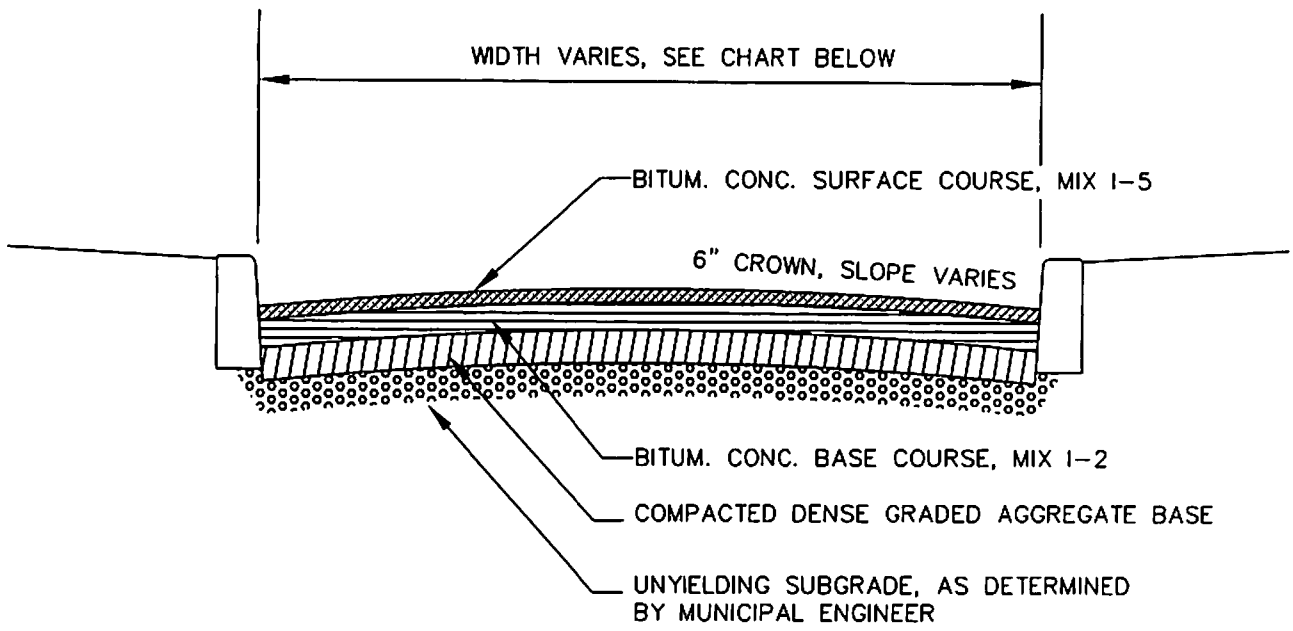
L-1	Tree Planting
L-2	Shrub Planting
L-3	Tree Well
L-4	Tree Protection
L-5	Vegetative Clearing
L-6	Greenway Paths
L-7	Porous Pavement Path
L-8	Bituminous Path
L-9	Planting Specifications

### Miscellaneous Standards

M-1	Dumpster Pad with Drain
M-2	Street Light
M-3	Construction Fence
M-4	Sign Installation
M-5	Handicap Parking Sign
M-6	Street Sign
M-7	Block Retaining Wall
M-8	Residential Recharge Chamber

### Soil Erosion Standards

SE-1	Stabilized Construction Entrance
SE-2	Silt Fence
SE-3	Soil Stockpile



	LOCAL	COLLECTOR	ARTERIAL
ROW WIDTH	50 FT.	66 FT.	88 FT.
ROAD WIDTH	30 FT.	46 FT.	50 FT.
BITUM. SURF. CRSE.	2 IN.	2 IN.	2 IN.
BITUM. BASE CRSE.	5 IN.	6 IN.	7 IN.
DGA BASE	6 IN.	6 IN.	6 IN.

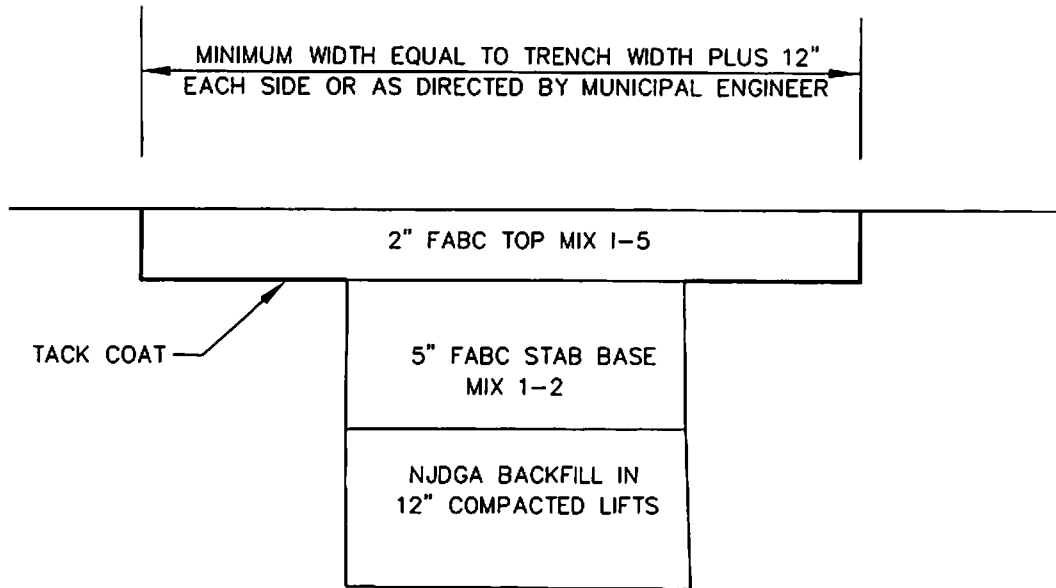
ANY NEW STREET SHALL BE CONSTRUCTED IN ACCORDANCE TO THE ABOVE SPECIFICATIONS UNLESS SUPERCEDED BY RSIS STANDARDS.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

TYPICAL ROAD SECTION

R-1

OCTOBER 2007



RESTORATION SHALL BE IN TWO PHASES.

PHASE ONE - RESTORE TRENCH WITH 7" OF STAB. BASE FOR WIDTH OF TRENCH. REMAIN FOR MINIMUM OF THREE MONTHS.

PHASE TWO - MILL TRENCH PLUS 12" EACH SIDE FOR 2" DEPTH. INSTALL 2" FABC TOP COURSE AND SEAL JOINTS.

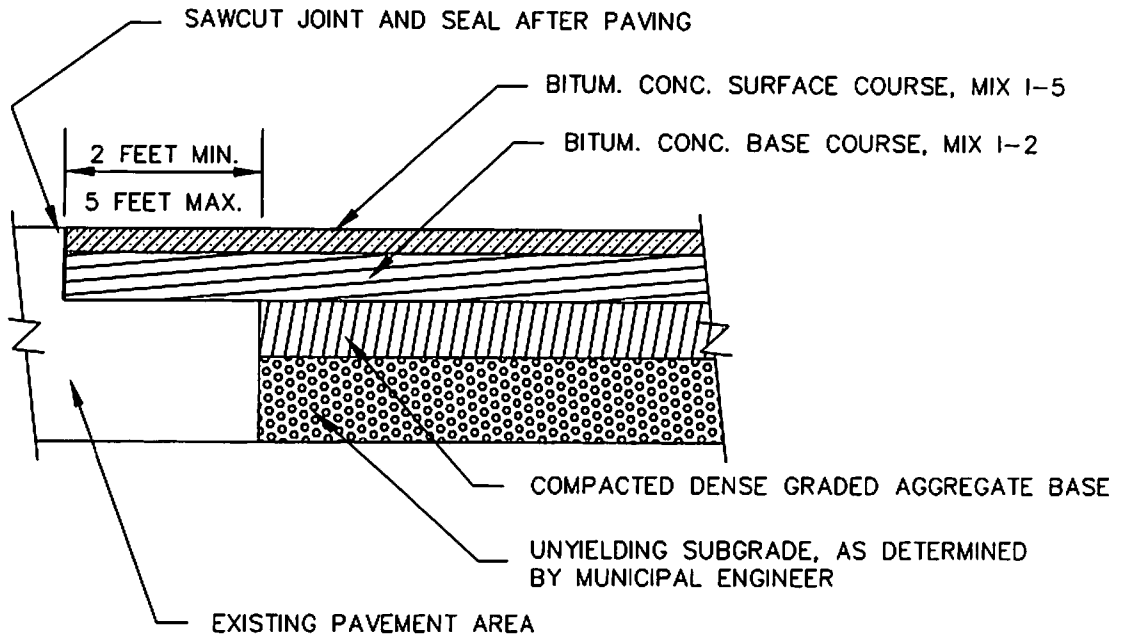
ALL WORK SHALL BE INSPECTED BY ENGINEERING DEPARTMENT.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

LONGITUDINAL JOINT  
& TRENCH REPAIR

R-3

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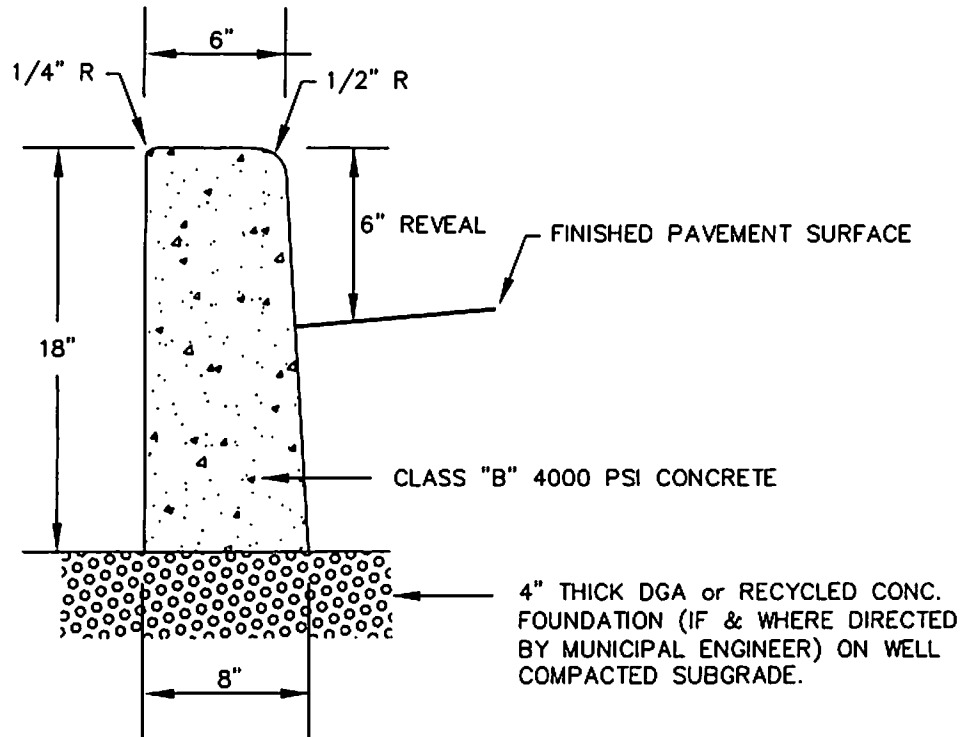
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

PAVEMENT BUTT JOINT

R-4

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BUTJOINT.dwg



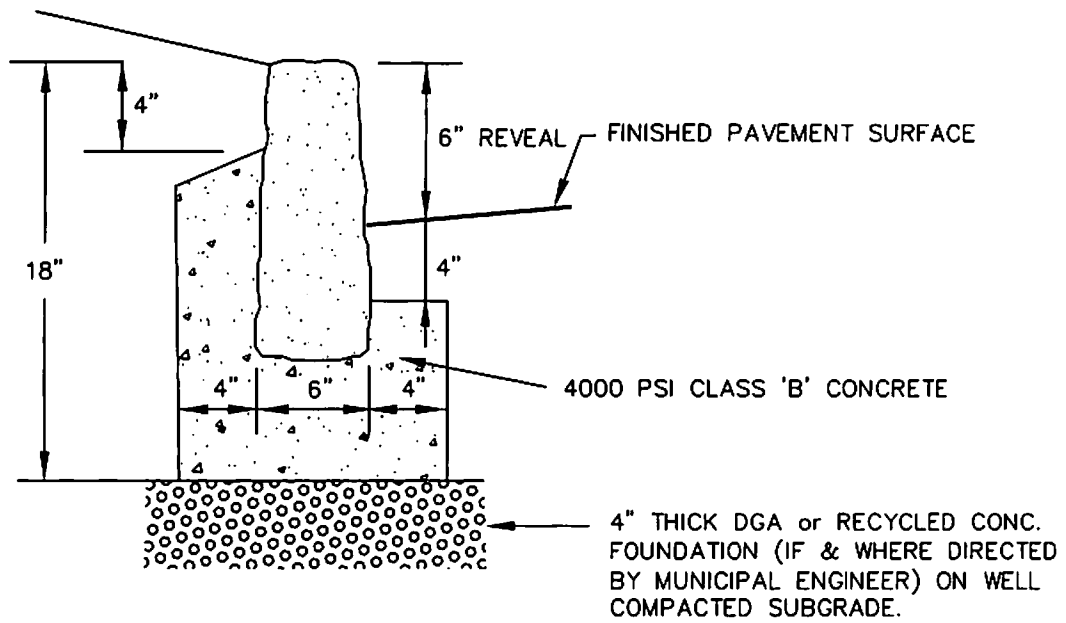
CURBS SHALL BE CONSTRUCTED IN TEN (10) FOOT SECTIONS. PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL (or equal) SHALL BE INSTALLED EVERY TWENTY (20) FEET AND CONTRACTION JOINTS INSTALLED EVERY TEN (10) FEET. JOINTS SHALL BE SEALED AS SPECIFIED BY THE MUNICIPAL ENGINEER.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

CONCRETE CURB

R-5

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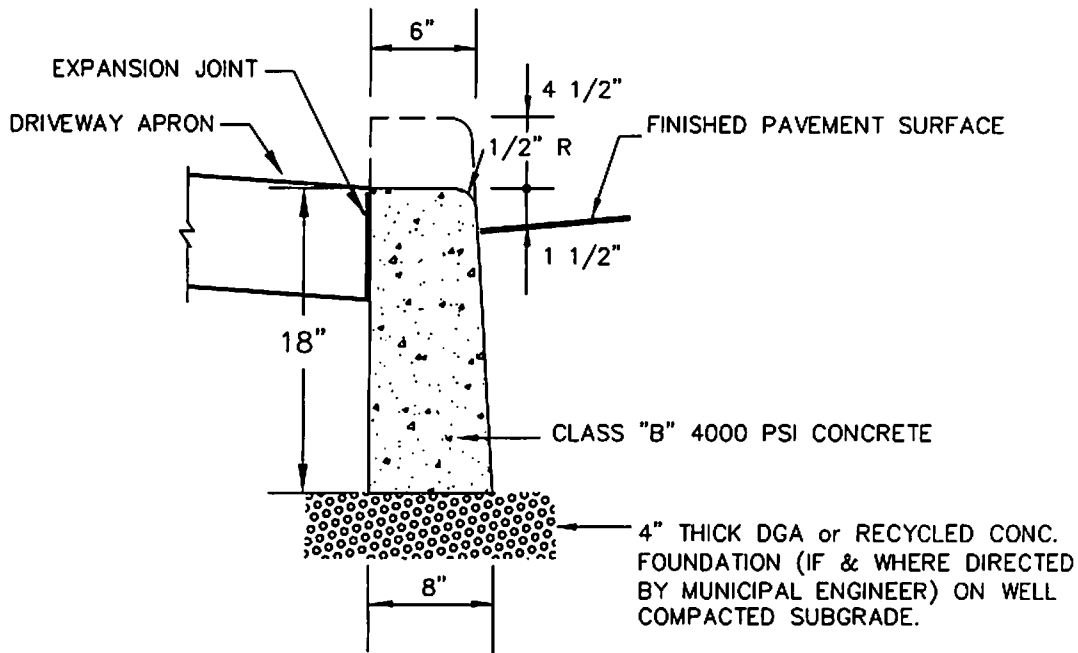
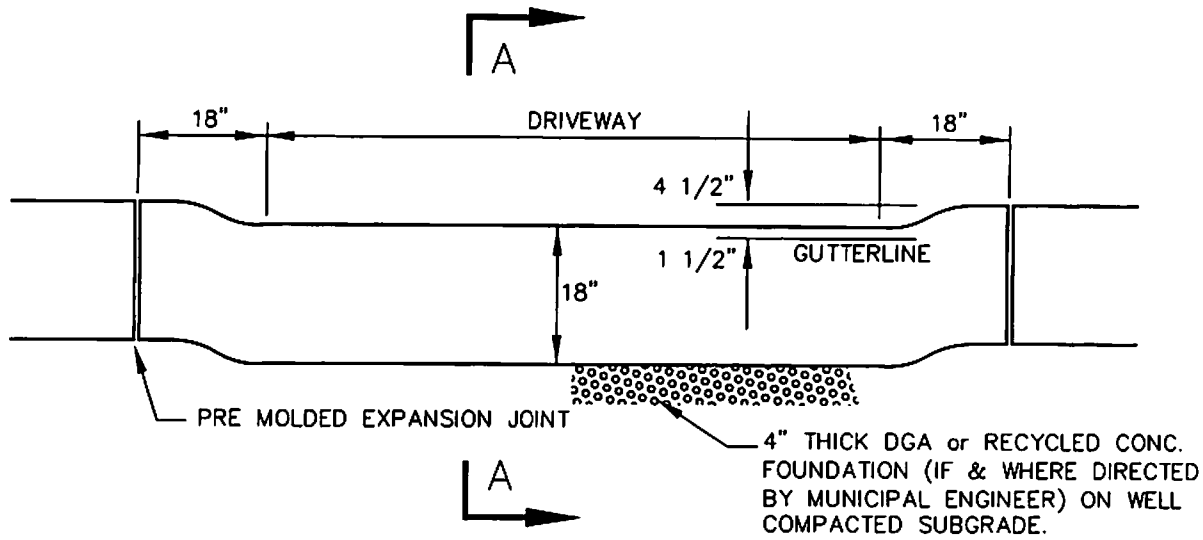
JOINTS SHALL BE 3/4" WIDE AND POINTED USING 1:2 CEMENT MORTAR MIX. 1/2" PRE MOLDED EXPANSION JOINTS INSTALLED FULL WIDTH AND HEIGHT EVERY 50 FEET.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

BELGIAN BLOCK CURB

R-6

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SECTION A-A

APRONS WIDER THAN 16 FEET REQUIRE PRE MOLDED EXPANSION JOINTS AT CENTER. DIMENSIONS ALSO APPLICABLE TO BELGIAN BLOCK DEPRESSED CURB.

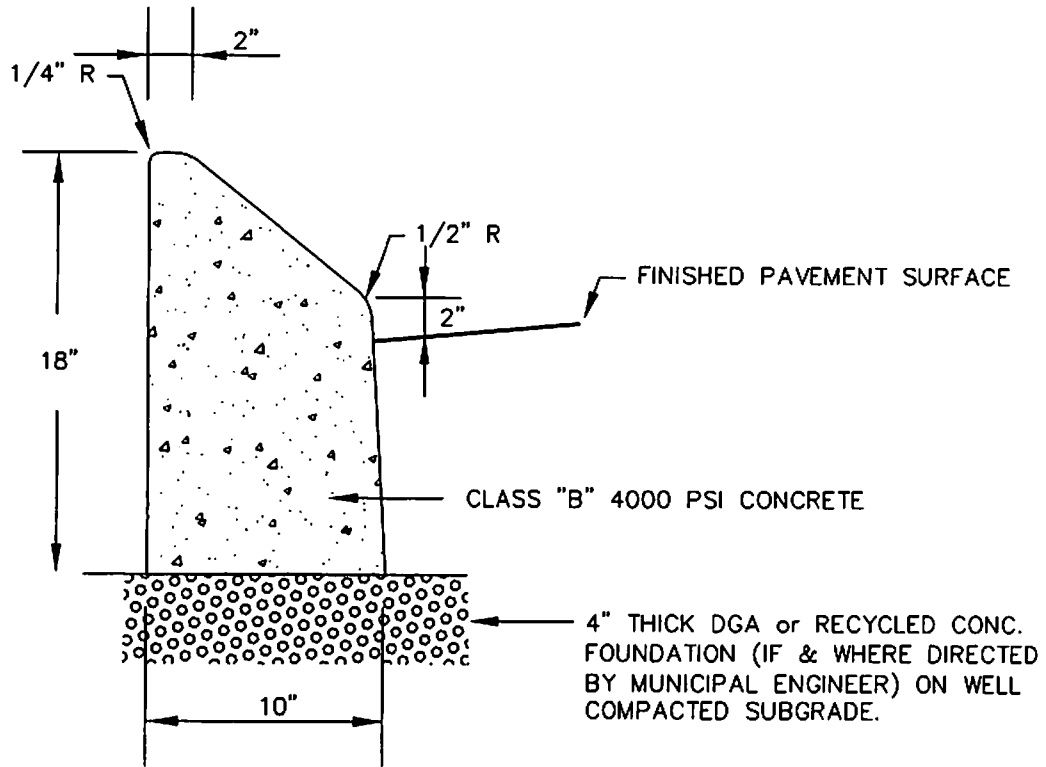
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

DEPRESSED CURB

R-7

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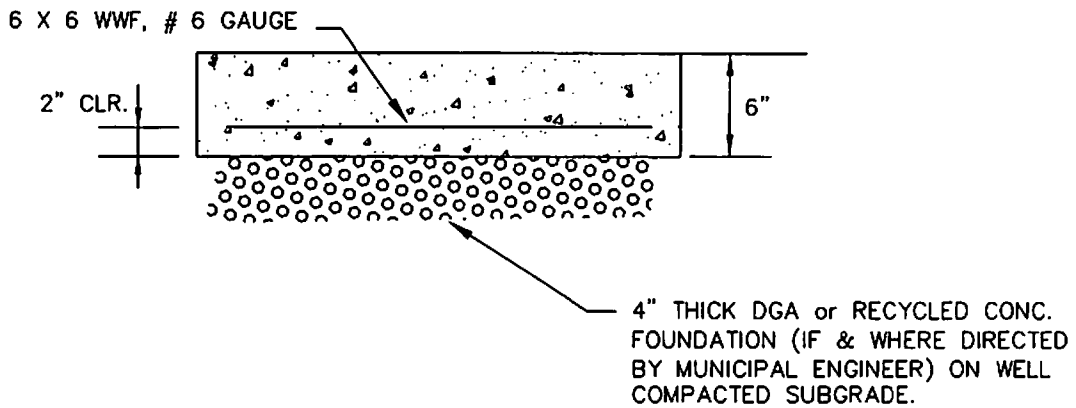
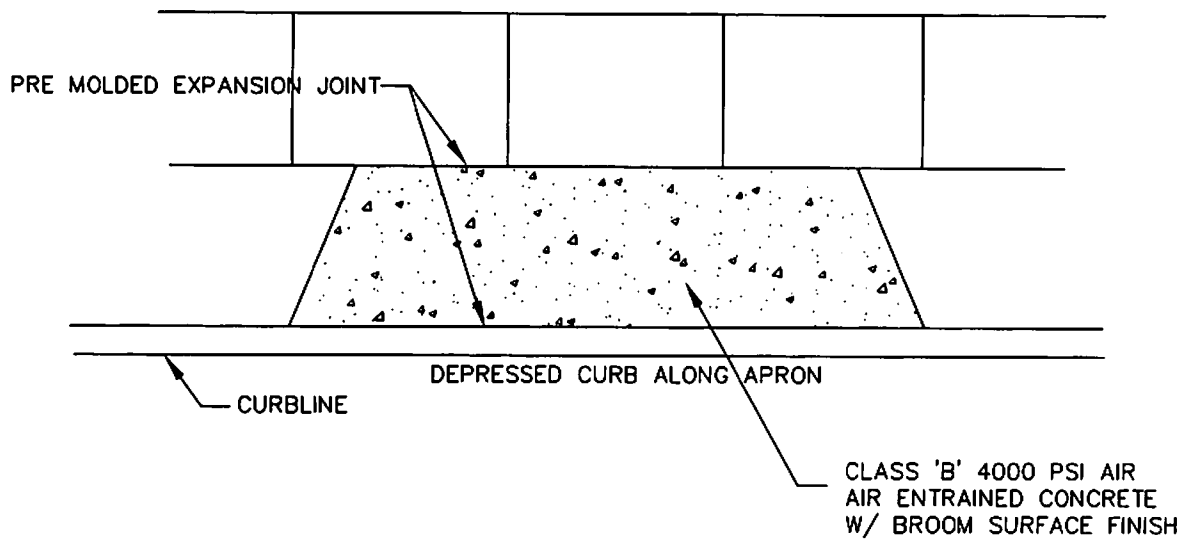
CURBS SHALL BE CONSTRUCTED IN TEN (10) FOOT SECTIONS. PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL (or equal) SHALL BE INSTALLED EVERY TWENTY (20) FEET AND CONTRACTION JOINTS INSTALLED EVERY TEN (10) FEET. JOINTS SHALL BE SEALED AS SPECIFIED BY THE MUNICIPAL ENGINEER.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

MOUNTABLE  
CONCRETE CURB

R-8

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APRON SECTION

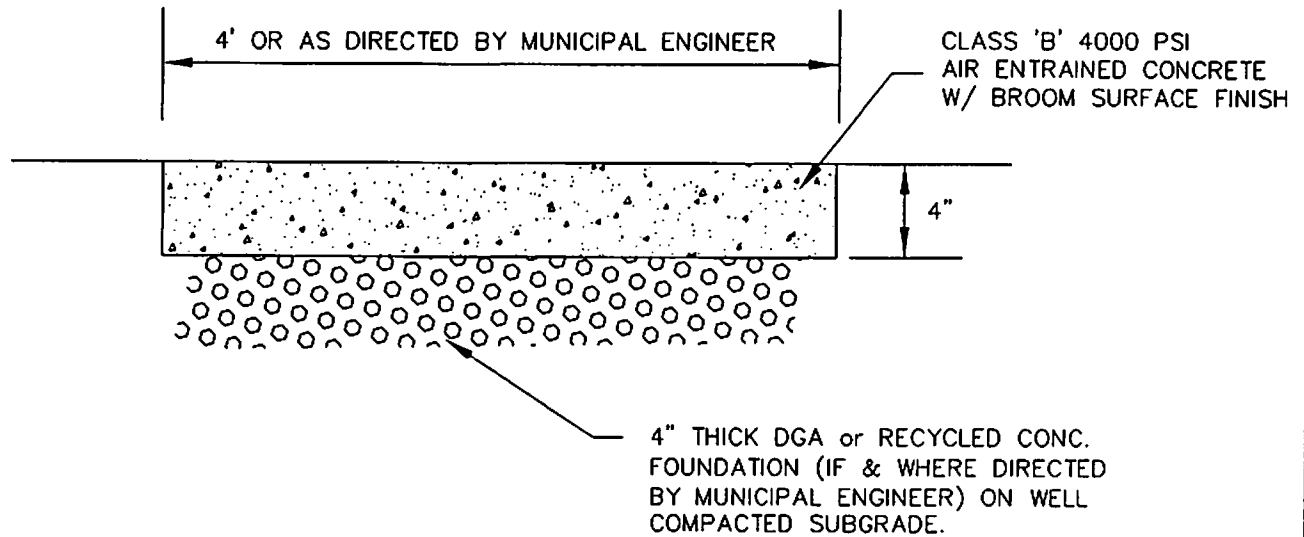
MONOLITHIC CURB AND APRON CONSTRUCTION IS PERMITTED. DIMENSIONS OF APRON AS DETERMINED IN FIELD. IF APRON EXCEEDS 16 FEET IN WIDTH, AN EXPANSION JOINT SHALL BE PLACED IN THE CENTER OF APRON.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

REINFORCED  
CONCRETE APRON

R-9

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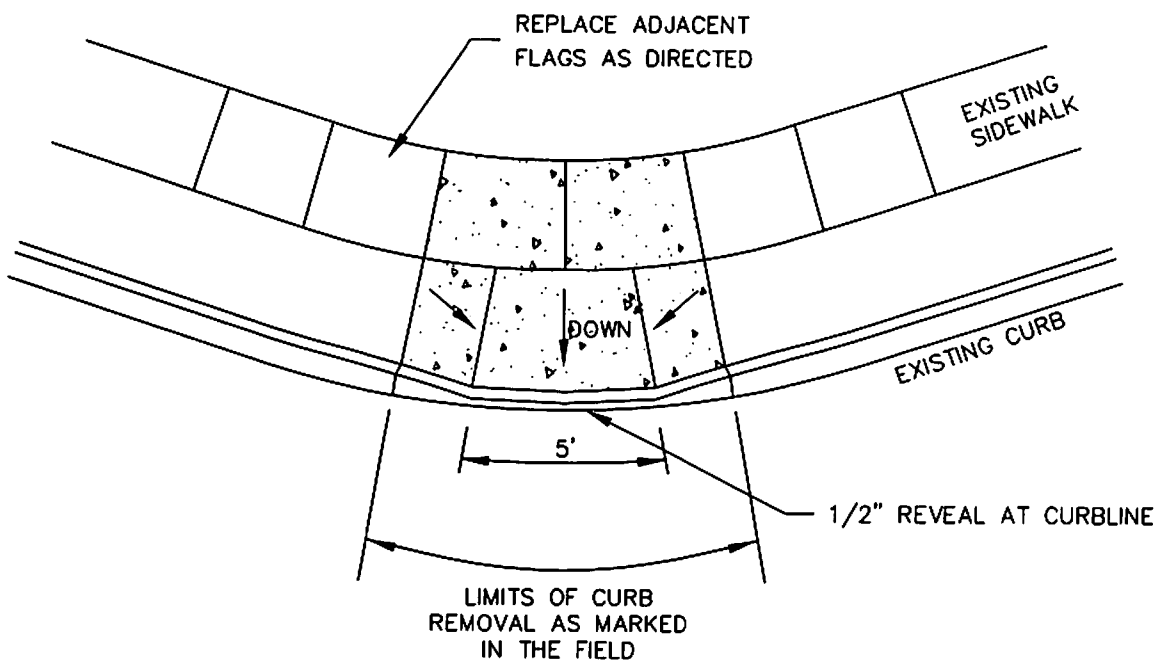
PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL  
(or equal) SHALL BE INSTALLED EVERY TWENTY (20)  
FEET AND CONTRACTION JOINTS INSTALLED EVERY  
FOUR (4) FEET.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

CONCRETE SIDEWALK

R-10

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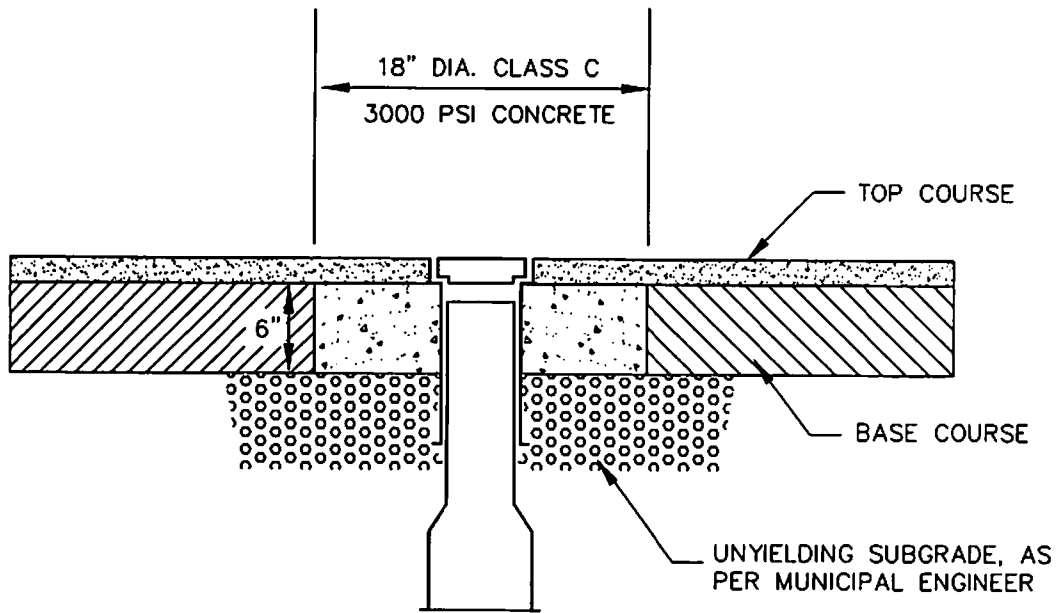
CONCRETE SIDEWALK AND CURB TO BE CONSTRUCTED  
IN ACCORDANCE WITH SPECIFICATIONS. RAMP SLOPE TO  
BE 1:12 MAXIMUM. EXPANSION JOINT LOCATIONS  
TO BE DETERMINED IN THE FIELD.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

HANDICAP RAMP

R-11

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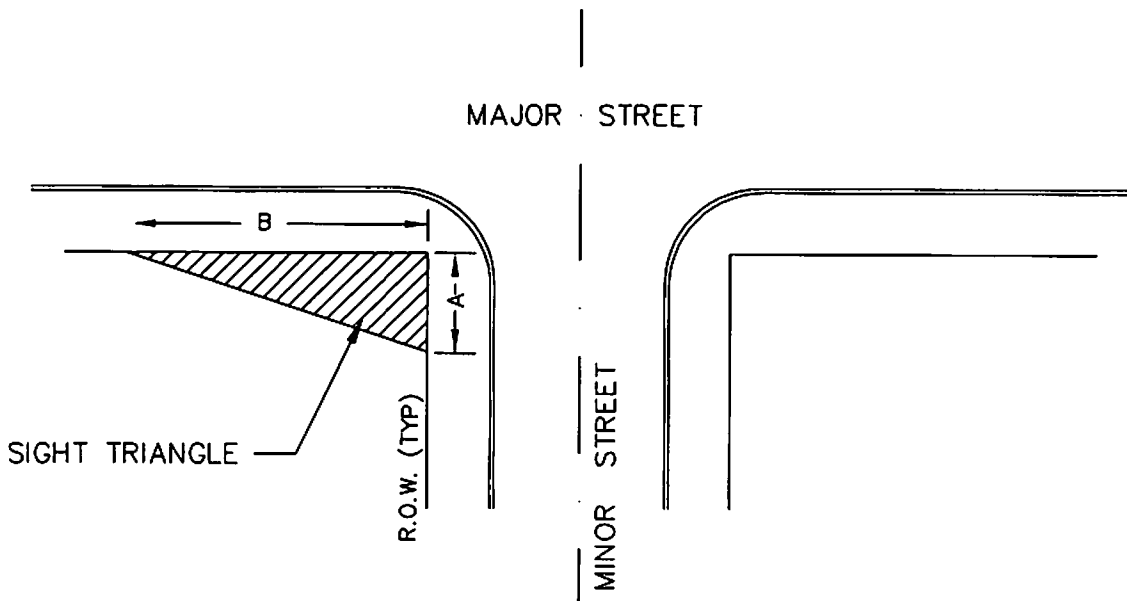


TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

ROAD BOX  
INSTALLATION

R-12

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MINOR STREET 'A'	
DRIVEWAY	10'
RESIDENTIAL STREET	20'

MAJOR STREET 'B'	
POSTED SPEED LIMIT	
25 MPH	150'
30 MPH	200'
35 MPH	250'
40 MPH	325'
45 MPH	400'
50 MPH	475'
55 MPH	550'

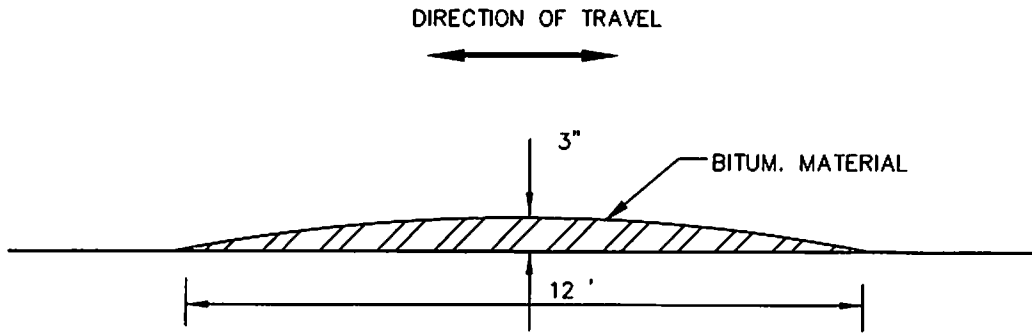
- 1) PERMITTED PLANTINGS WITHIN SIGHT TRIANGLES SHALL NOT BE LOCATED IN CLOSE PROXIMITY TO THE INTERSECTION SO AS TO BLOCK SAFE SIGHT DISTANCE. TREES SHALL BE LIMBED TO 10 FEET FROM GROUND AND BUSHES SHALL NOT EXCEED 30 INCHES IN HEIGHT.
- 2) DETERMINATION OF SIGHT TRIANGLE DIMENSIONS FOR COLLECTOR OR ARTERIAL ROADS SHALL BE DETERMINED WITH THE GOVERNING BODY HAVING JURISDICTION OF SAID ROAD.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

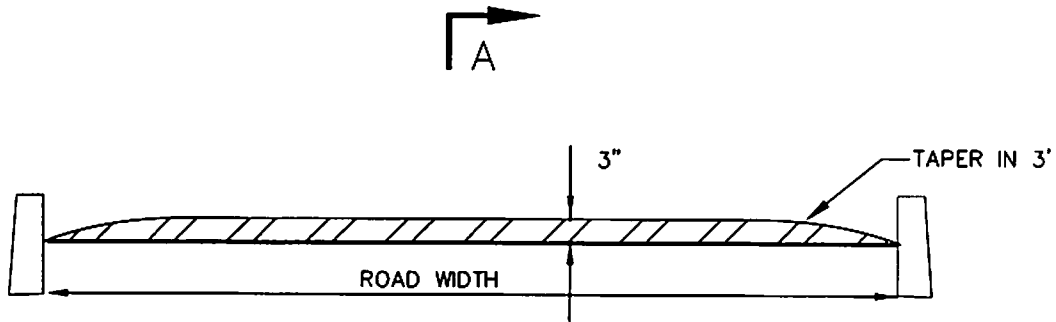
SIGHT TRIANGLE  
EASEMENT

R-13

OCTOBER 2007



SECTION A-A



CROSS SECTION

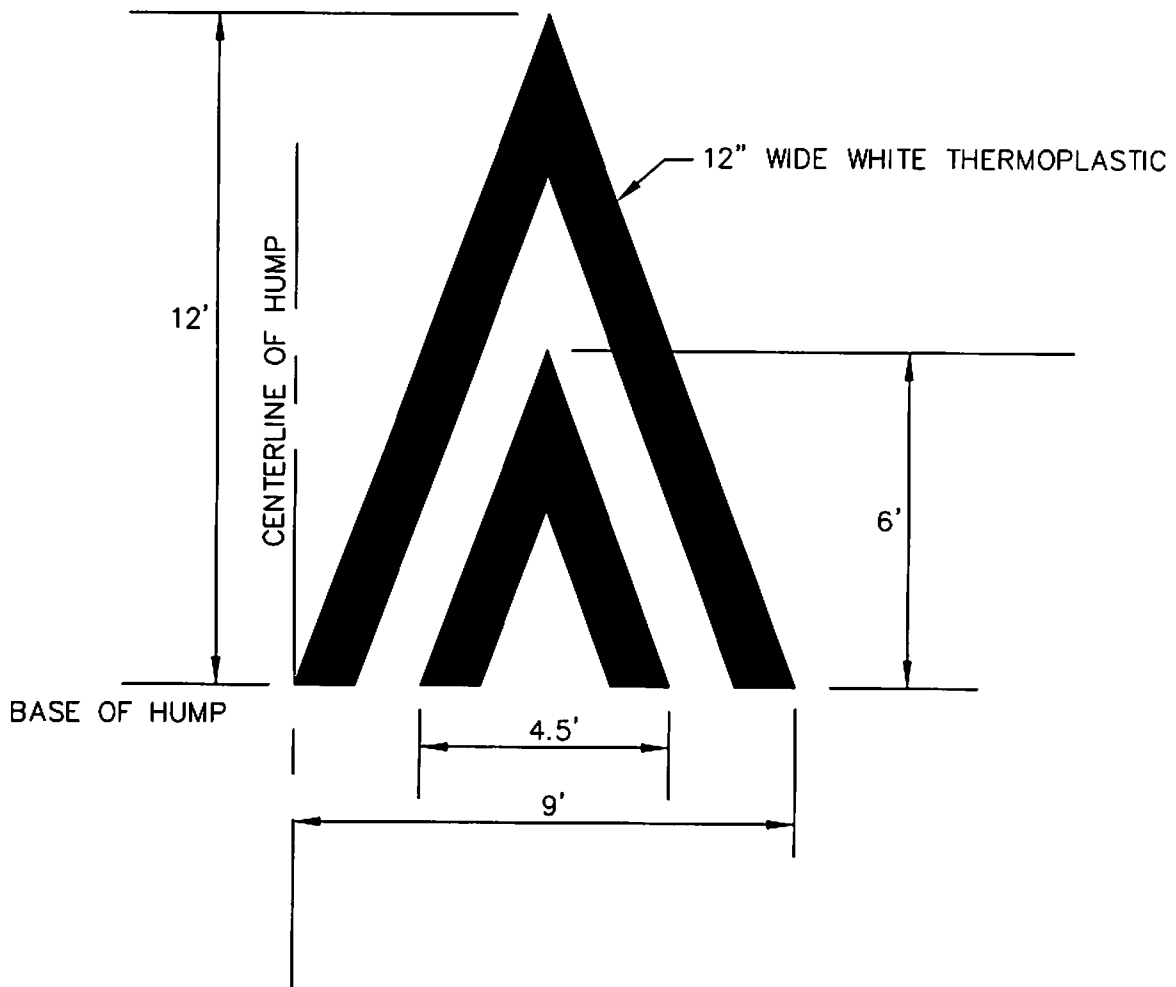
ROADHUMP.dwg

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

ROAD HUMP

R-14

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ROADDIAMOND.dwg

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

ROADWAY DIAMOND

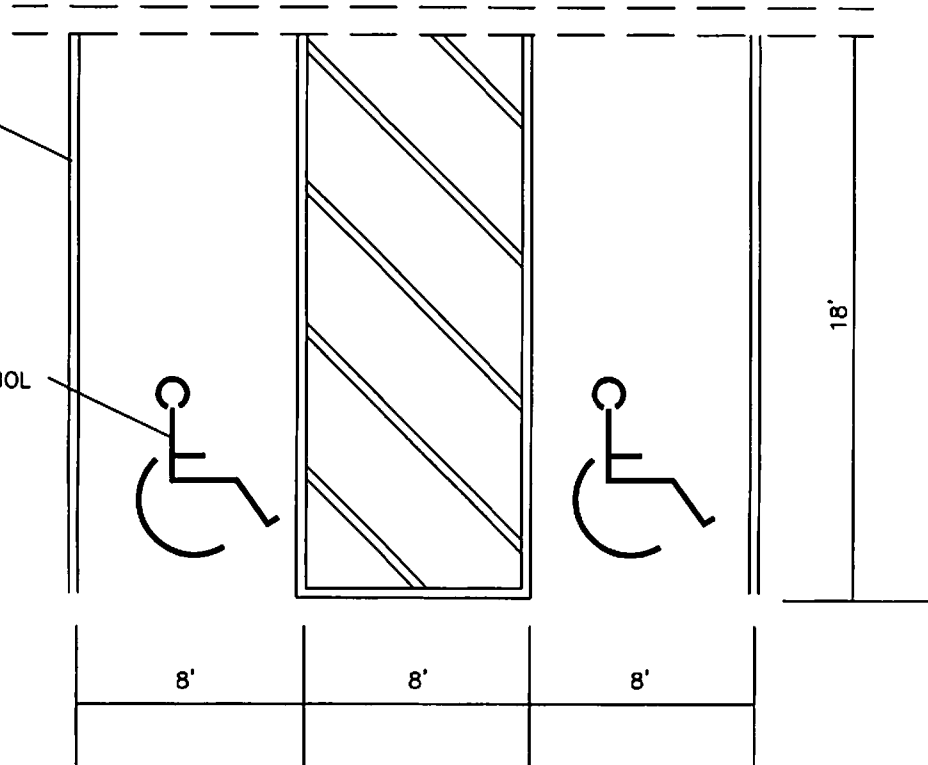
R-15

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4" AZURE BLUE  
STRIPING (TYP)

54"W x 60"H  
AZURE BLUE  
HANDICAP SYMBOL



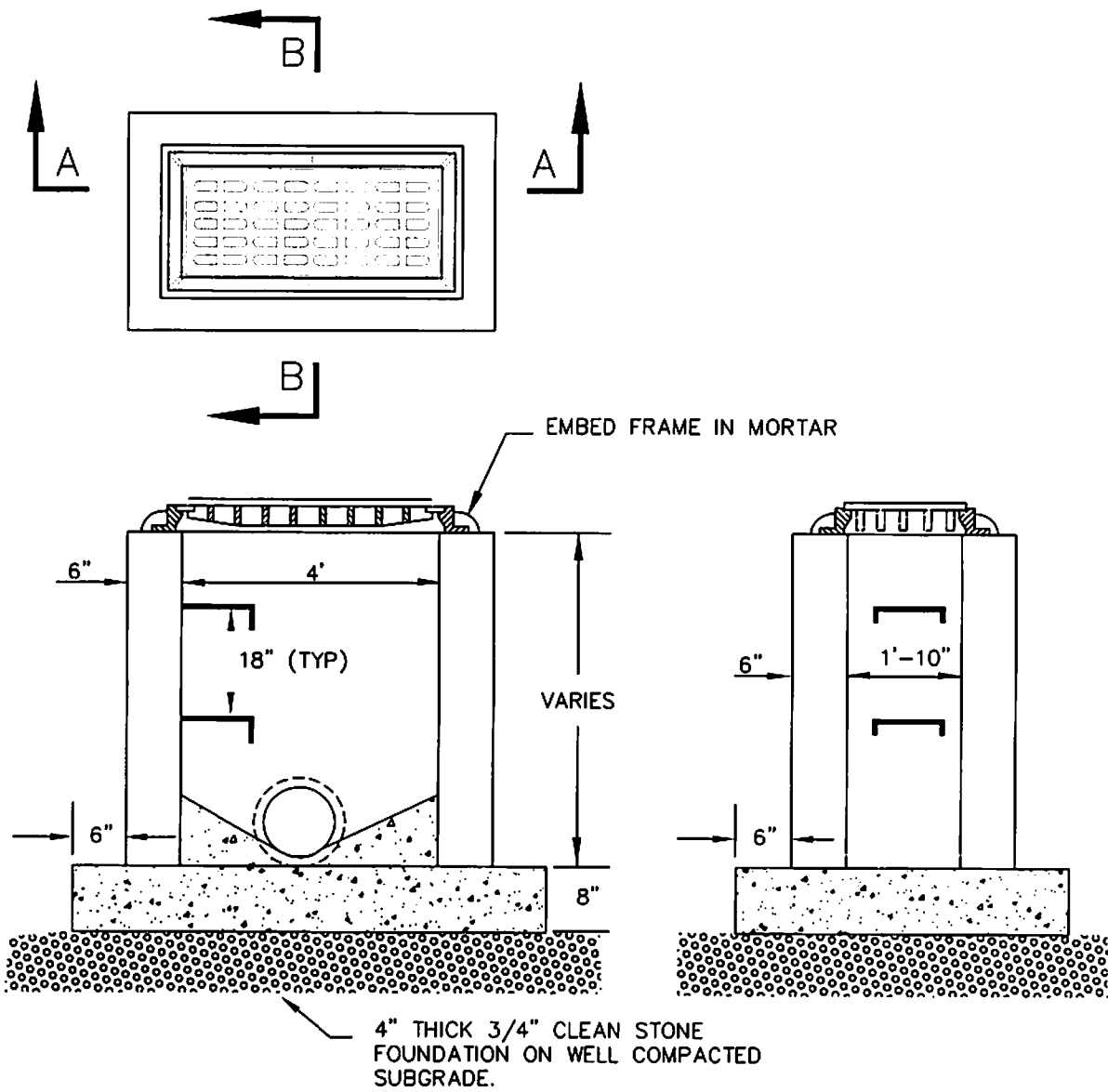
HC-STALL.dwg

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

HANDICAP STALL  
MARKING

R-16

OCTOBER 2007



SECTION A-A

SECTION B-B

FOOTING AND INVERT TO BE NJDOT CLASS "C" CONCRETE.  
 IF INLET IS NOT PRECAST, WALLS TO BE PLASTERED  
 INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT MORTAR.  
 CASTING TO INCLUDE BICYCLE SAFE GRATE,  
 BRIDGESTATE FOUNDRY #3405, OR APPROVED EQUAL.  
 LADDER RUNGS SHALL BE 3/4" DIA. GALV. STEEL,  
 OR APPROVED EQUAL, AT 18" O.C.  
 WHEN DEPTH OF INLET EXCEEDS 8' FROM GUTTER TO INVERT, WALLS  
 SHALL BE INCREASED TO 8" THICK, FOUNDATION INCREASED TO  
 12" THICK.

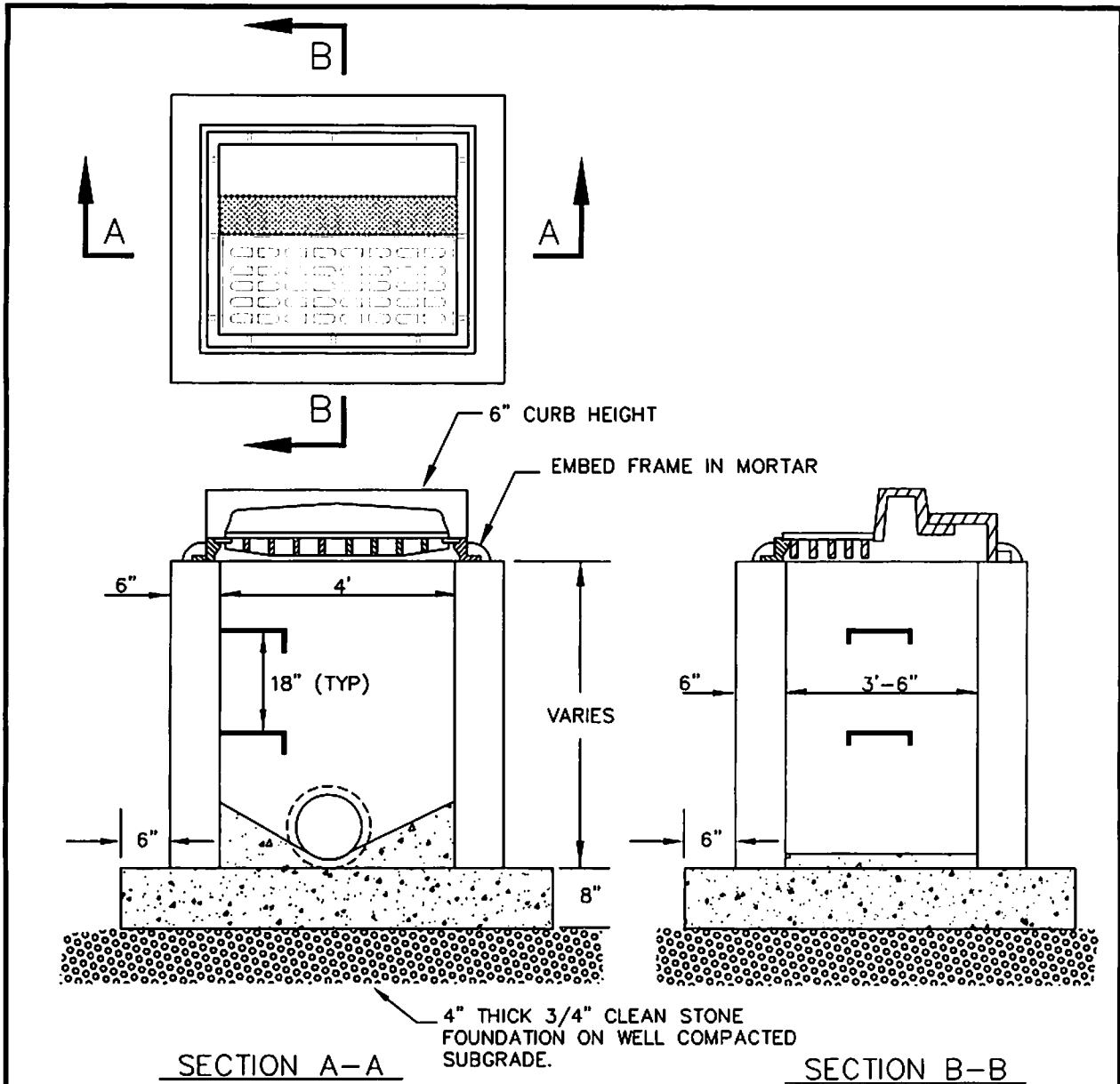
TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

TYPE "A" INLET

SS-1

OCTOBER 2007

TYPE-A.dwg



FOOTING AND INVERT TO BE NJDOT CLASS "C" CONCRETE.

IF INLET IS NOT PRECAST, WALLS TO BE PLASTERED INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT MORTAR.

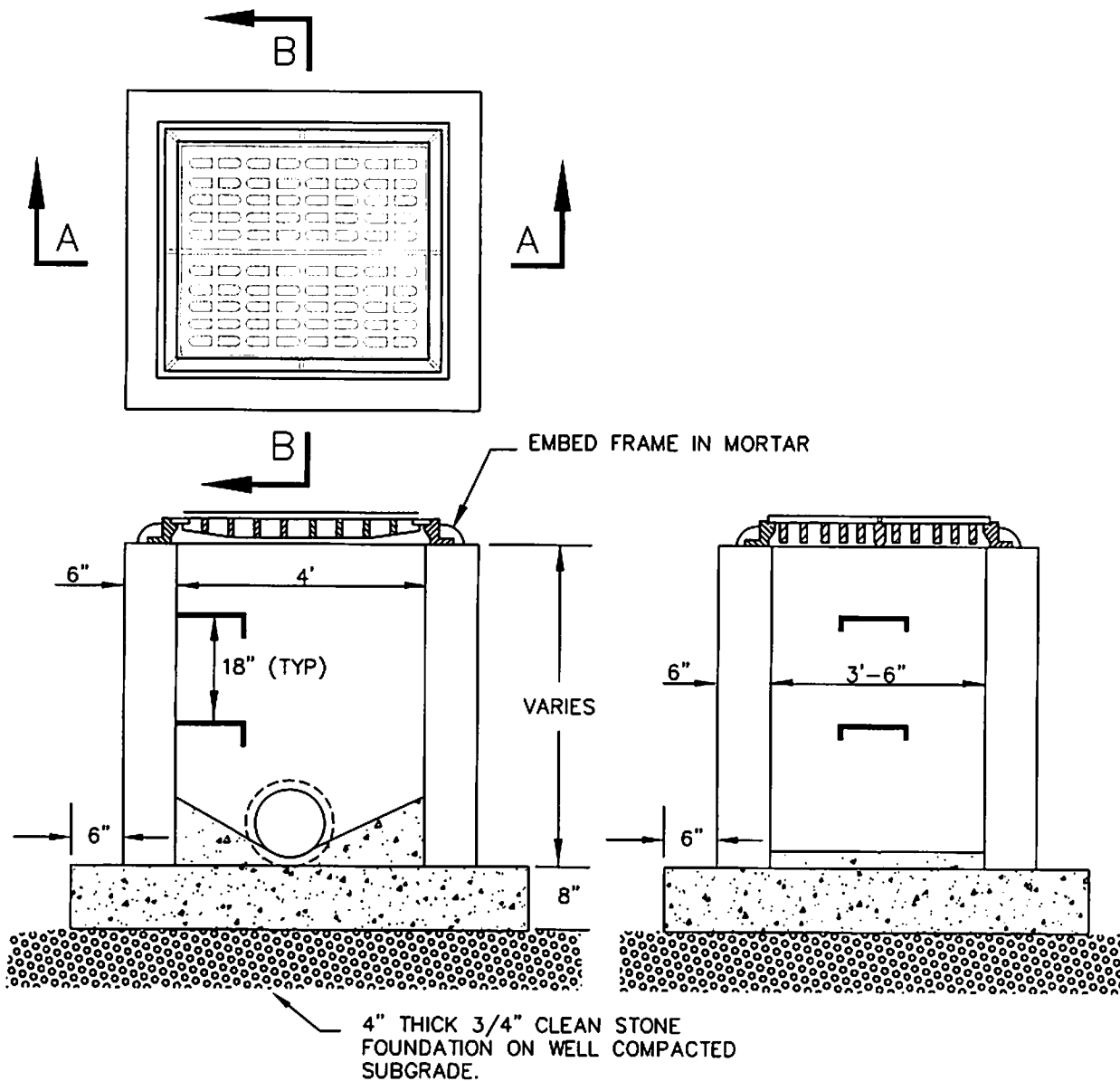
CASTING TO INCLUDE BICYCLE SAFE GRATE, BRIDGESTATE FOUNDRY #2618, OR APPROVED EQUAL.

LADDER RUNGS SHALL BE 3/4" DIA. GALV. STEEL, OR APPROVED EQUAL, AT 18" O.C.

WHEN DEPTH OF INLET EXCEEDS 8' FROM GUTTER TO INVERT, WALLS SHALL BE INCREASED TO 8" THICK, FOUNDATION INCREASED TO 12" THICK.

TYPE-B.dwg

TOWNSHIP OF LAWRENCE STANDARD DETAILS	TYPE "B" INLET	SS-2
		OCTOBER 2007



SECTION A-A

SECTION B-B

FOOTING AND INVERT TO BE NJDOT CLASS "C" CONCRETE.

IF INLET IS NOT PRECAST, WALLS TO BE PLASTERED INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT MORTAR.

CASTINGS TO INCLUDE BICYCLE SAFE GRATE, BRIDGESTATE FOUNDRY #3425, OR APPROVED EQUAL.

LADDER RUNGS SHALL BE 3/4" DIA. GALV. STEEL, OR APPROVED EQUAL, AT 18" O.C.

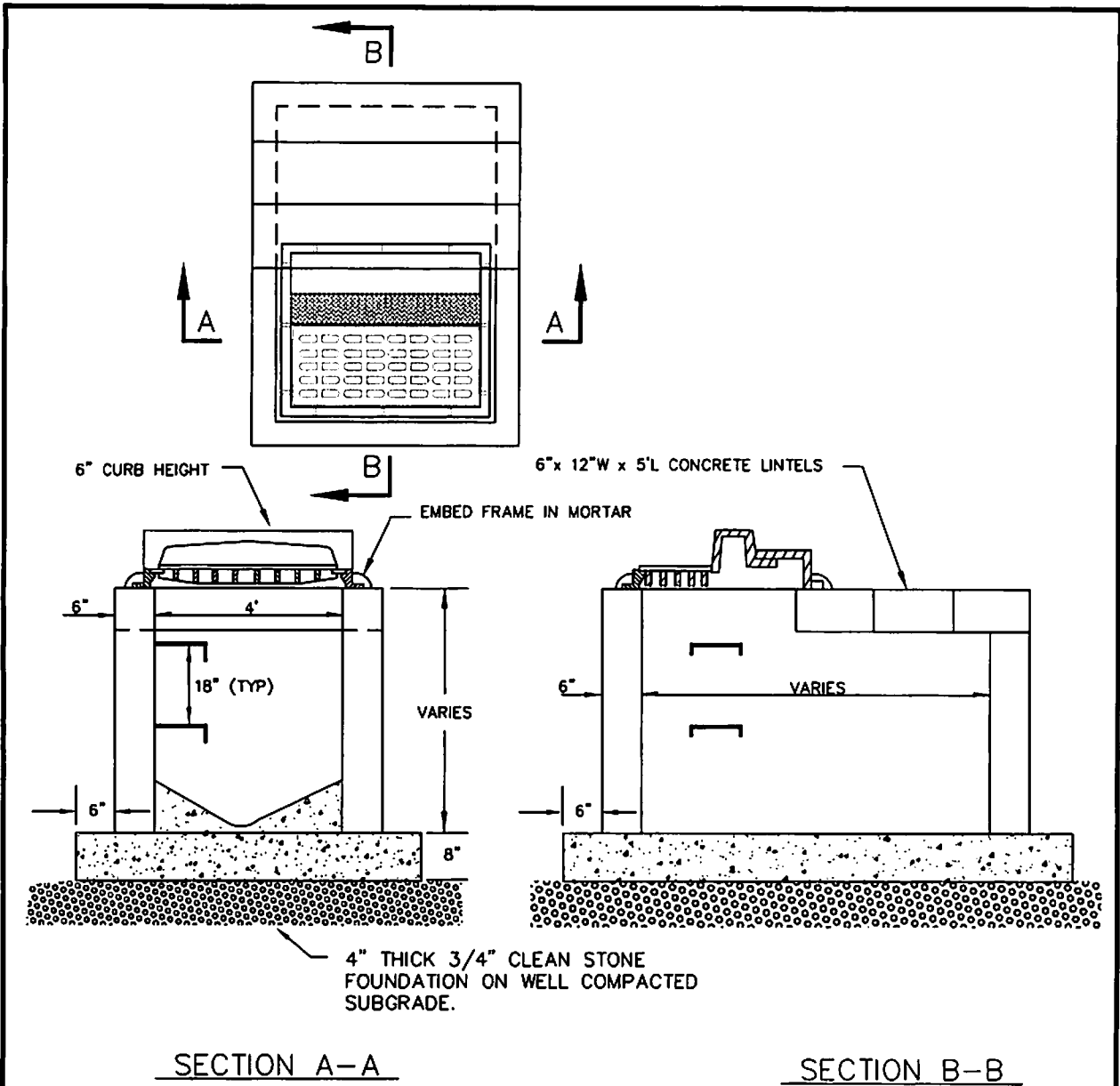
WHEN DEPTH OF INLET EXCEEDS 8' FROM GUTTER TO INVERT, WALLS SHALL BE INCREASED TO 8" THICK, FOUNDATION INCREASED TO 12" THICK.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

TYPE "E" INLET

SS-3

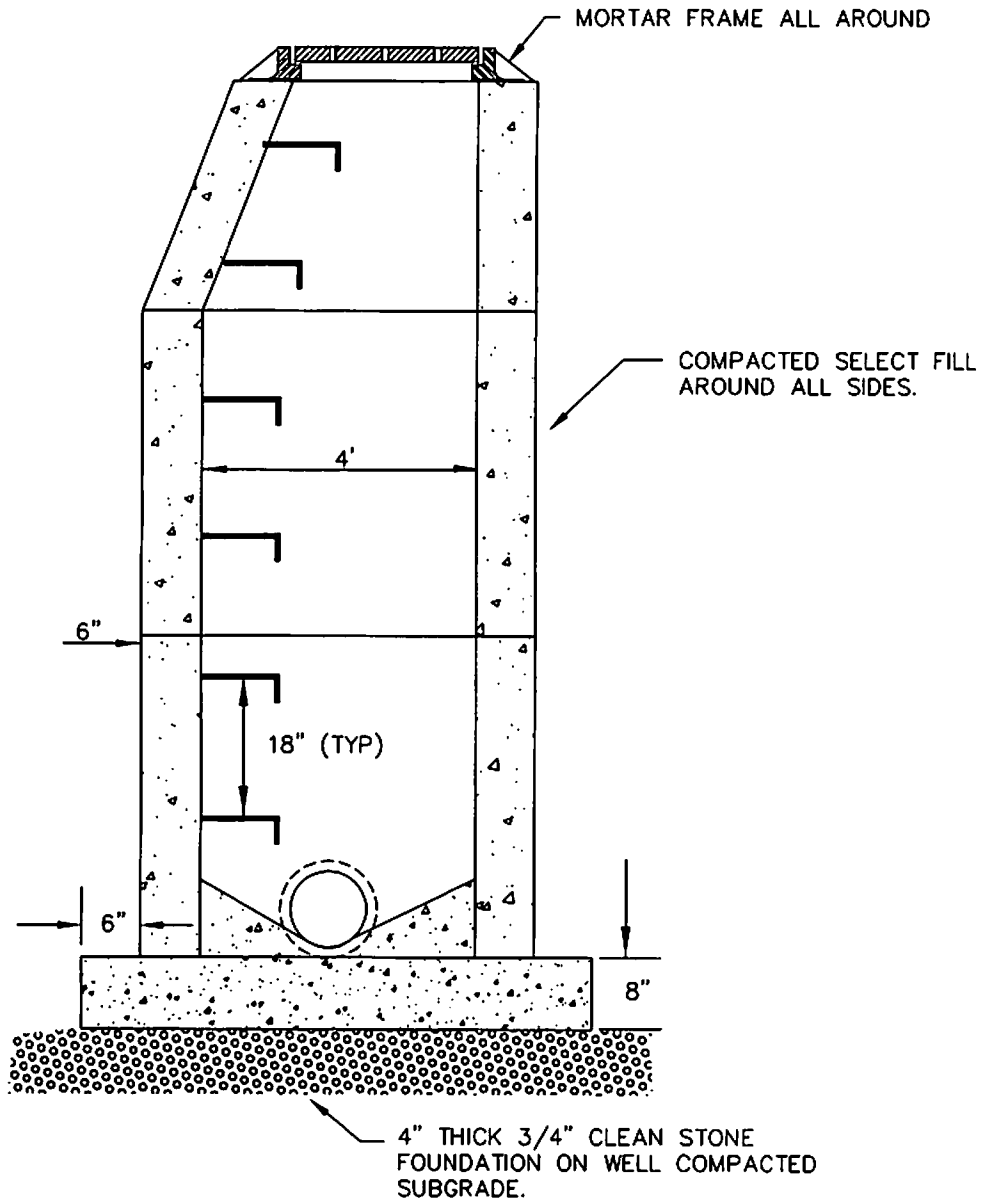
OCTOBER 2007



FOOTING AND INVERT TO BE NJDOT CLASS "C" CONCRETE.  
 WALLS TO BE PLASTERED INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT MORTAR.  
 CASTING TO INCLUDE BICYCLE SAFE GRATE, BRIDGESTATE FOUNDRY #2618, OR APPROVED EQUAL.  
 LADDER RUNGS SHALL BE 3/4" DIA. GALV. STEEL, OR APPROVED EQUAL, AT 18" O.C.

TOWNSHIP OF LAWRENCE STANDARD DETAILS	SPECIAL B INLET	SS-4
		OCTOBER 2007

TYPE-BSP.dwg



FOOTING AND INVERT TO BE NJDOT CLASS "C" CONCRETE.

IF MANHOLE IS NOT PRECAST, WALLS TO BE PLASTERED INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT MORTAR.

FRAME AND COVER TO BE CAMPBELL # 2204 OR EQUAL.

LADDER RUNGS SHALL BE 3/4" DIA. GALV. STEEL, OR APPROVED EQUAL, AT 18" O.C.

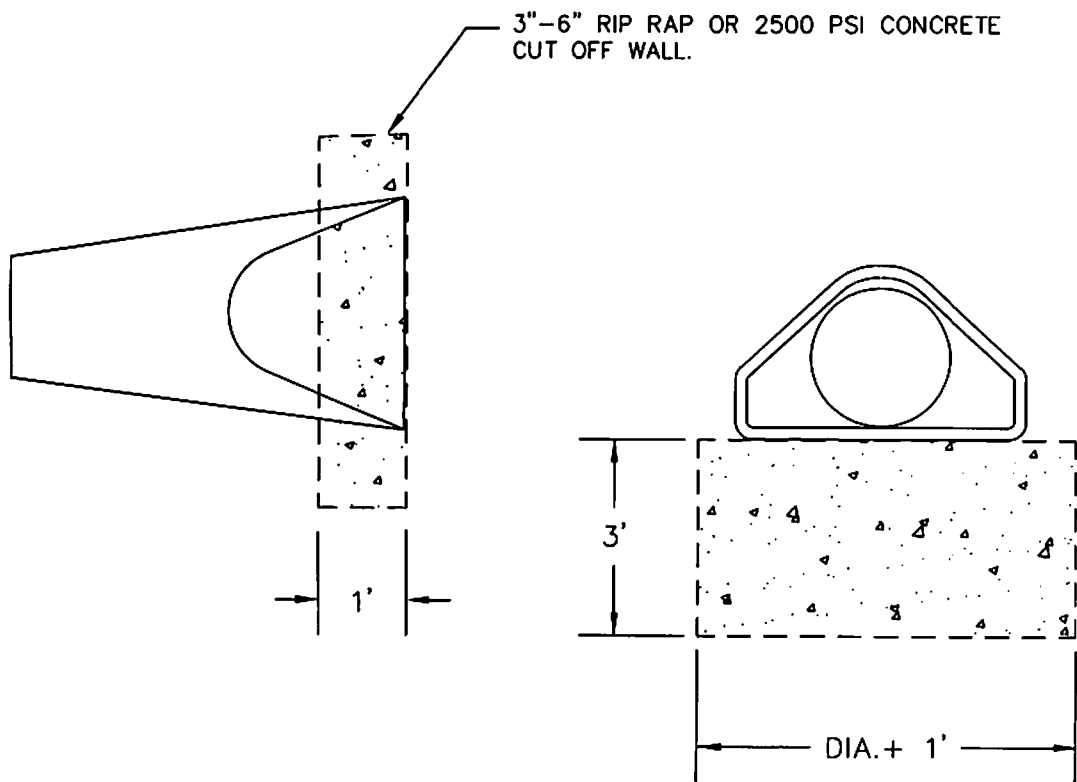
WHEN DEPTH OF MANHOLE EXCEEDS 8' FROM RIM TO INVERT, WALLS SHALL BE INCREASED TO 8" THICK, FOUNDATION INCREASED TO 12" THICK.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

STORM SEWER MANHOLE

SS-5

OCTOBER 2007

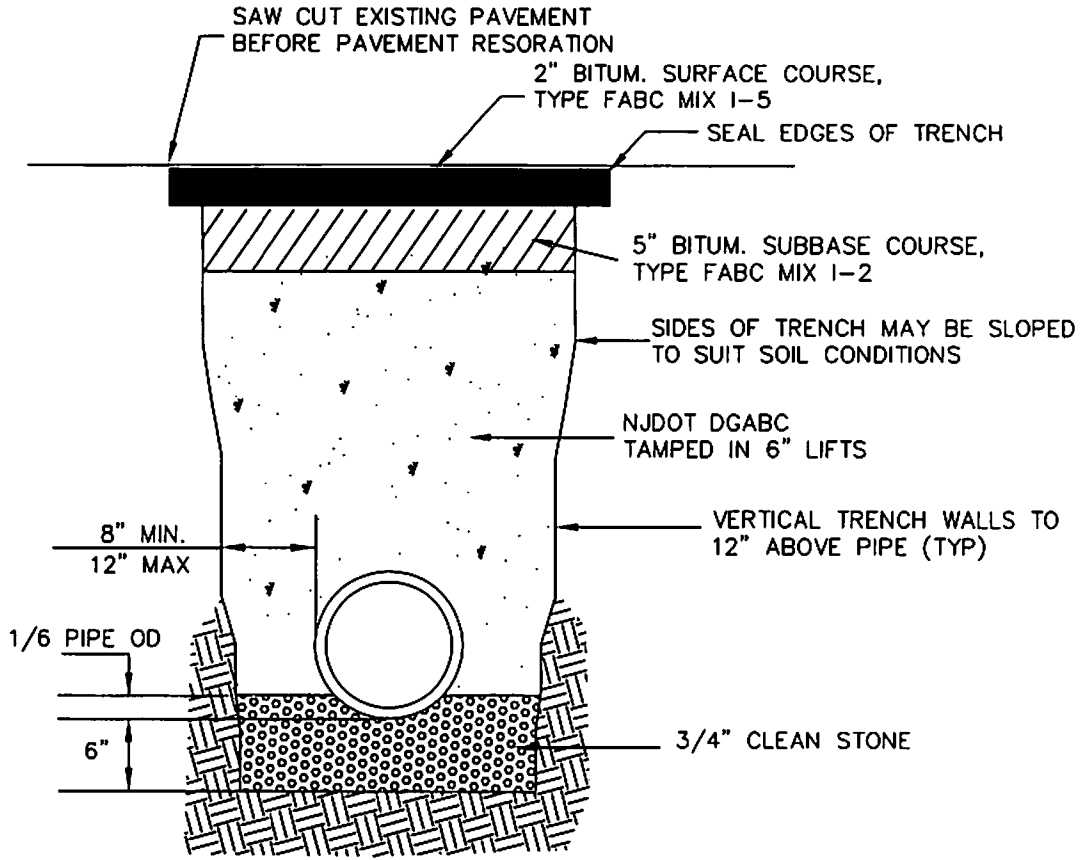


TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

FLARED END SECTION

SS-6

OCTOBER 2007



THICKNESS OF STABILIZED BASE COURSE WILL INCREASE DEPENDING ON ROAD CLASSIFICATION, AS DETERMINED BY MUNICIPAL ENGINEER.

INITIAL PAVEMENT RESTORATION SHALL INCLUDE PLACEMENT OF BASE COURSE FLUSH WITH ROAD SURFACE. TRENCH SHALL REMAIN FOR MINIMUM OF THREE MONTHS TO ALLOW SETTLING.

FINAL RESTORATION SHALL INCLUDE REMOVAL OF 2" ROAD SURFACE BY MILLING, 12" BEYOND TRENCH AREA ON ALL SIDES AND PLACEMENT OF 2" COMPACTED FABC SURFACE COURSE. IF ROAD OPENING WAS ON A STREET UNDER MORATORIUM, THE FINAL TRENCH RESTORATION SHALL ALSO INCLUDE HEATING THE SURROUNDING EXISTING ASPHALT BY INFRARED TECHNOLOGY (OR ALTERNATE ACCEPTABLE MEANS) AND BLENDING OF THE FABC TO MINIMIZE THE VISIBLE SEAM.

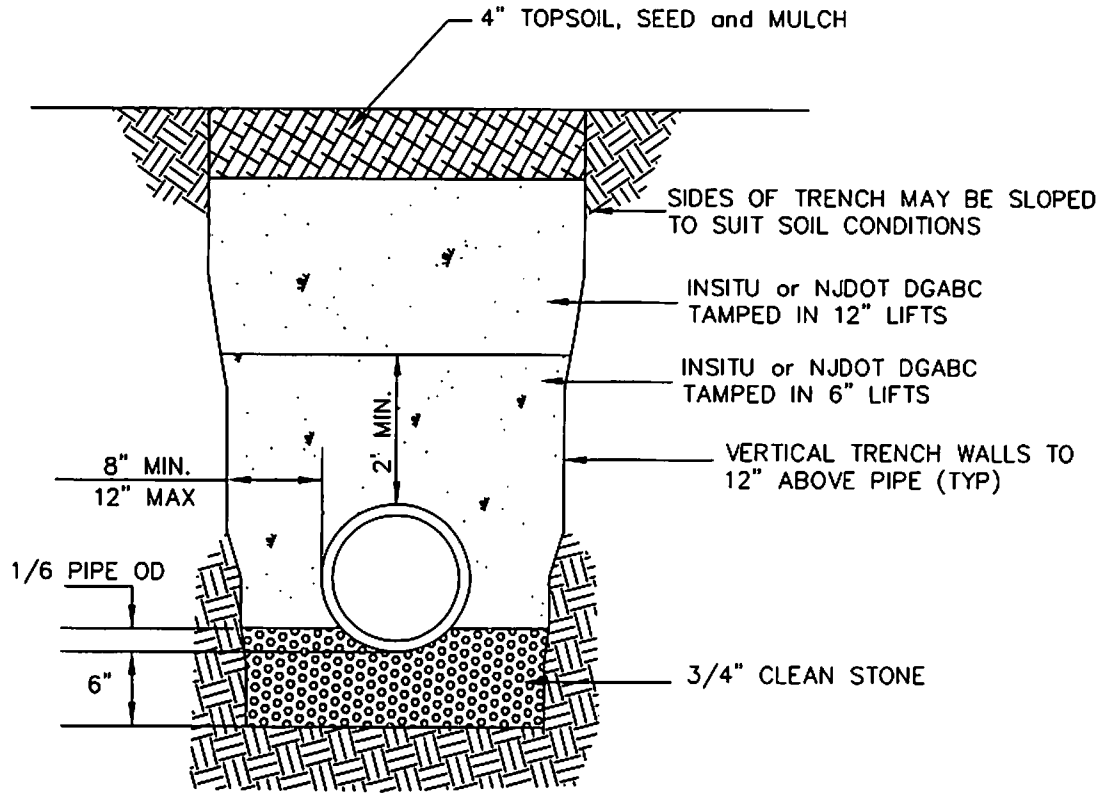
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

ROADWAY TRENCH  
RESTORATION

SS-7

OCTOBER 2007





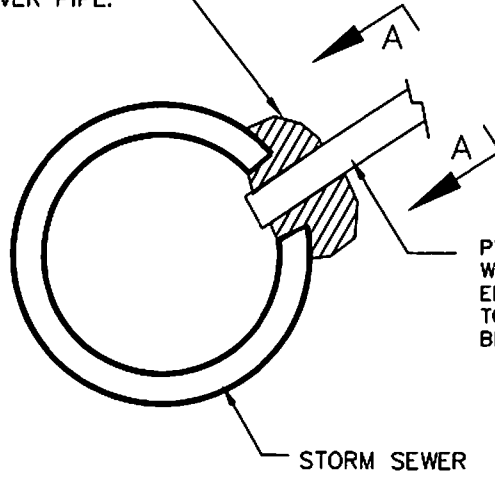
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

EARTH TRENCH  
RESTORATION

SS-8

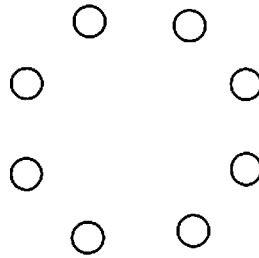
OCTOBER 2007

MORTAR HOLE , APPLY  
FILTER FABRIC BEFORE  
BACKFILLING OVER PIPE.



PVC LATERAL CUT FLUSH  
WITH INTERIOR OF PIPE.  
ENGINEERING DEPARTMENT  
TO INSPECT CONNECTION  
BEFORE MORTARING.

STORM SEWER



SECTION A-A

CORE HOLE PROCEDURE:

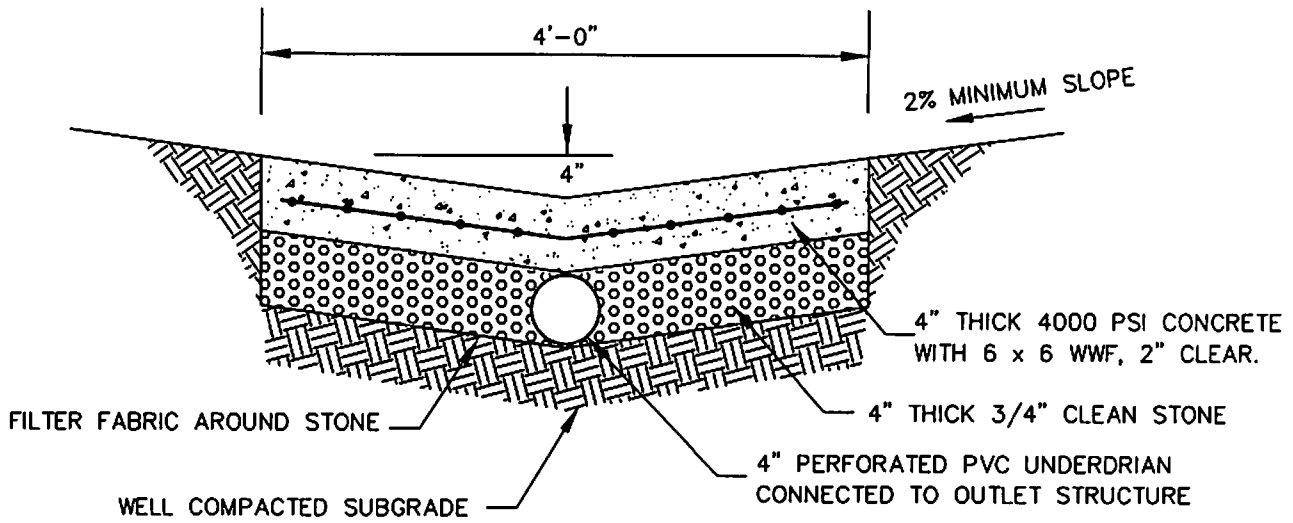
1. DRILL CIRCULAR SERIES OF HOLES.
2. BREAK OUT OPENING THRU PIPE.
3. CUT REINFORCING WIRE.
4. INSERT PVC AND MORTAR AS NOTED ABOVE.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

STORM DRAIN  
LATERAL CONNECTION

SS-9

OCTOBER 2007



PROVIDE CONTRACTION AND EXPANSION JOINTS EVERY 10' AND 30' RESPECTIVELY. EXPANSION JOINTS SHALL BE FILLED WITH PREFORMED JOINT MATERIAL.

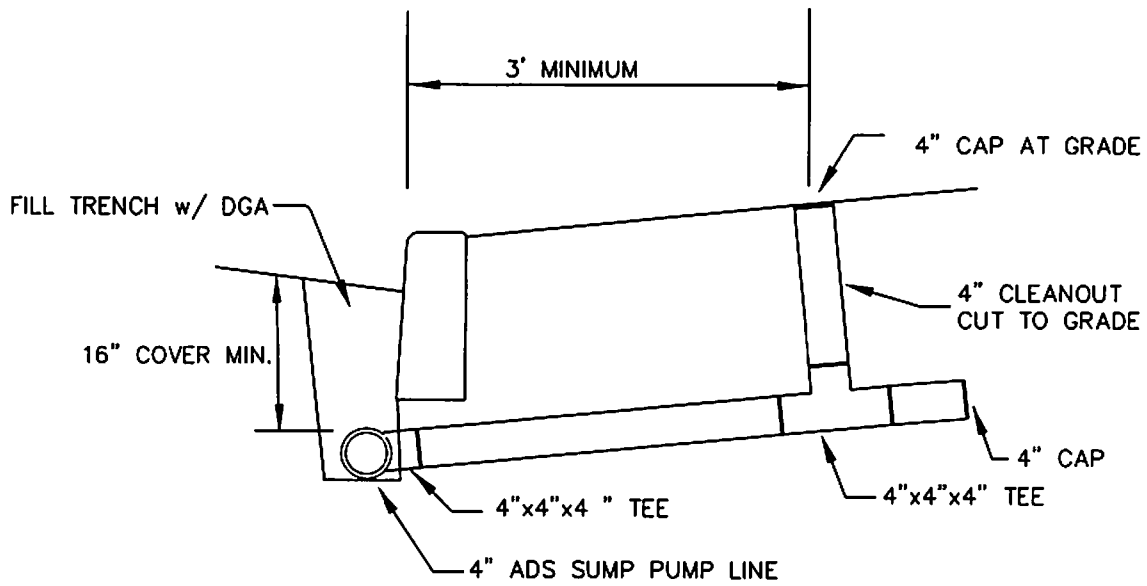
MINIMUM CHANNEL BOTTOM SLOPE TO BE 0.5%.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

LOW FLOW CHANNEL

SS-10

OCTOBER 2007



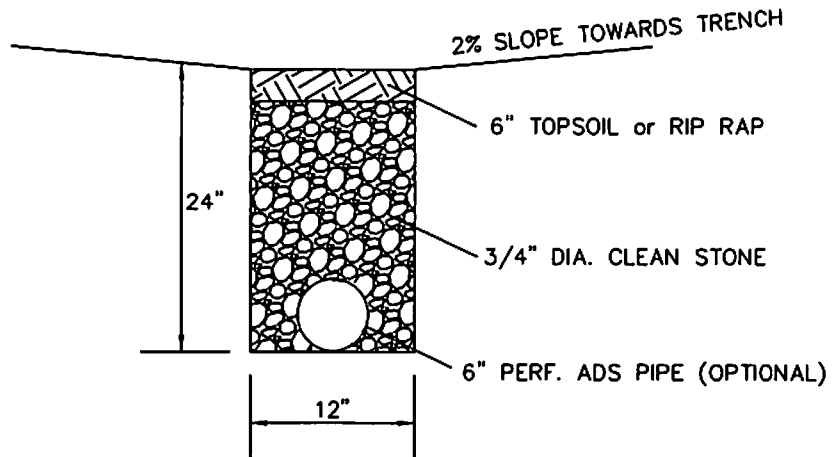
LOCATION OF SUMP PUMP LINE AND CLEANOUTS AS SHOWN ON CONSTRUCTION PLANS.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

SUMP PUMP  
DRAIN CONNECTION

SS-11

OCTOBER 2007



STONE TRENCH TO BE WRAPPED COMPLETELY IN FILTER FABRIC  
 INSTALLATION REQUIRES INSPECTION FROM THE ENGINEERING DEPT.

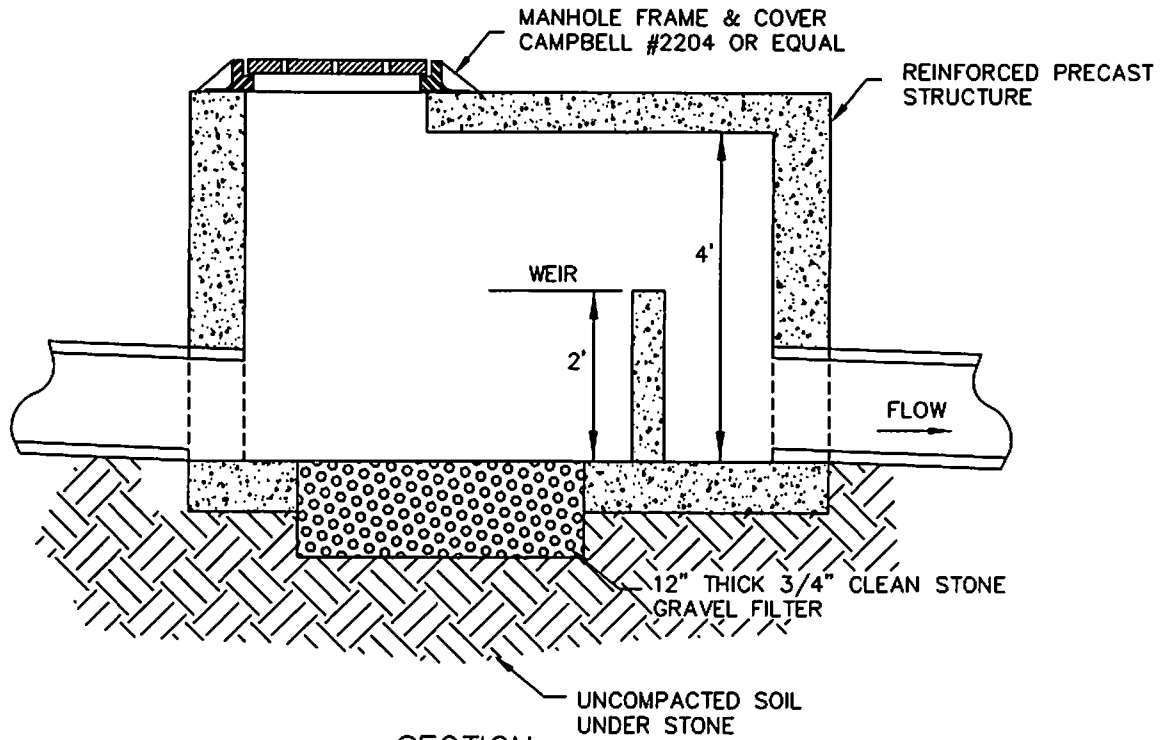
INF~TRENCH.dwg

TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

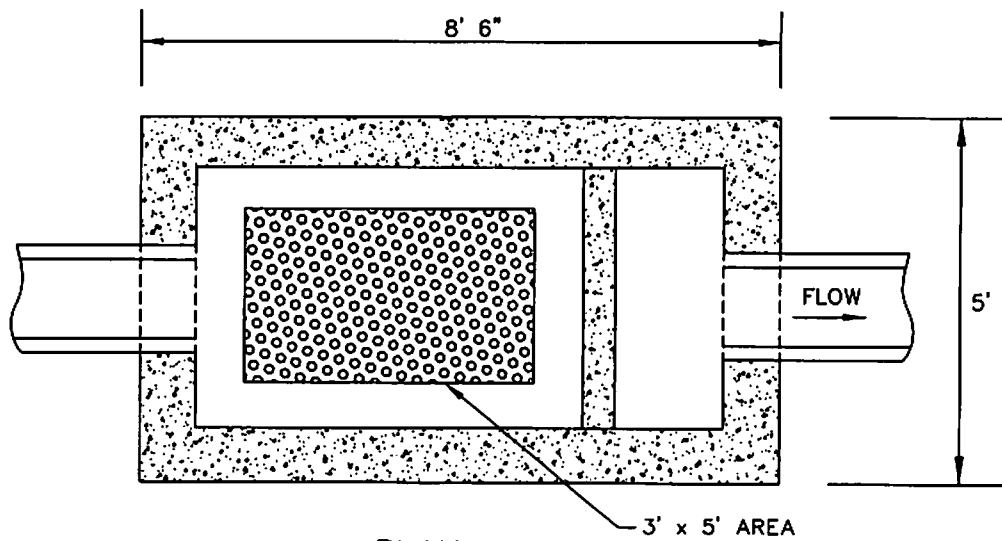
INFILTRATION TRENCH  
 DETAIL

SS-12

OCTOBER 2007



SECTION



PLAN

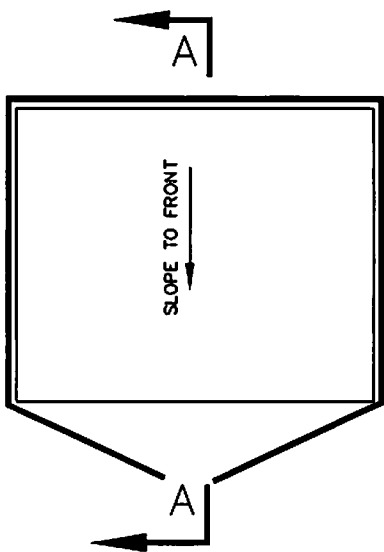
INFCHAMBER.DWG

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

INFILTRATION CHAMBER

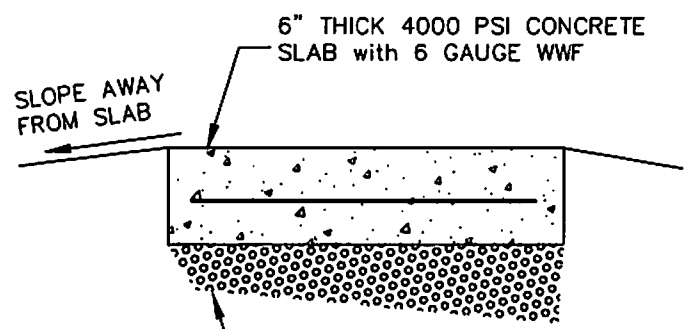
SS-13

OCTOBER 2007

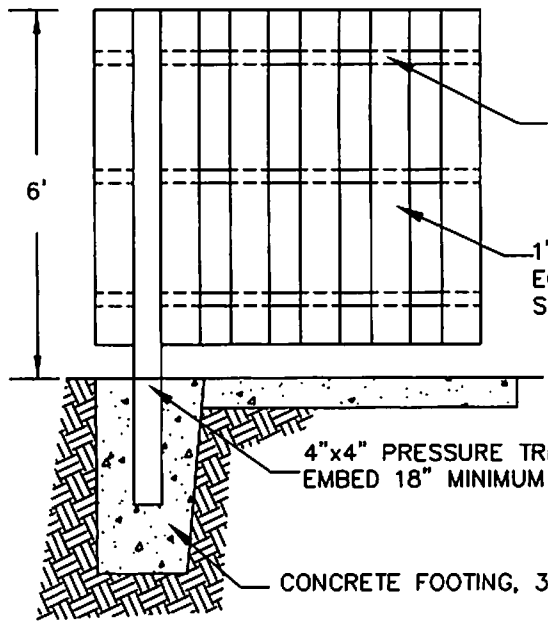


PLAN VIEW

WOODEN FENCE ENCLOSURE WITH GATE(S).



SECTION A - A

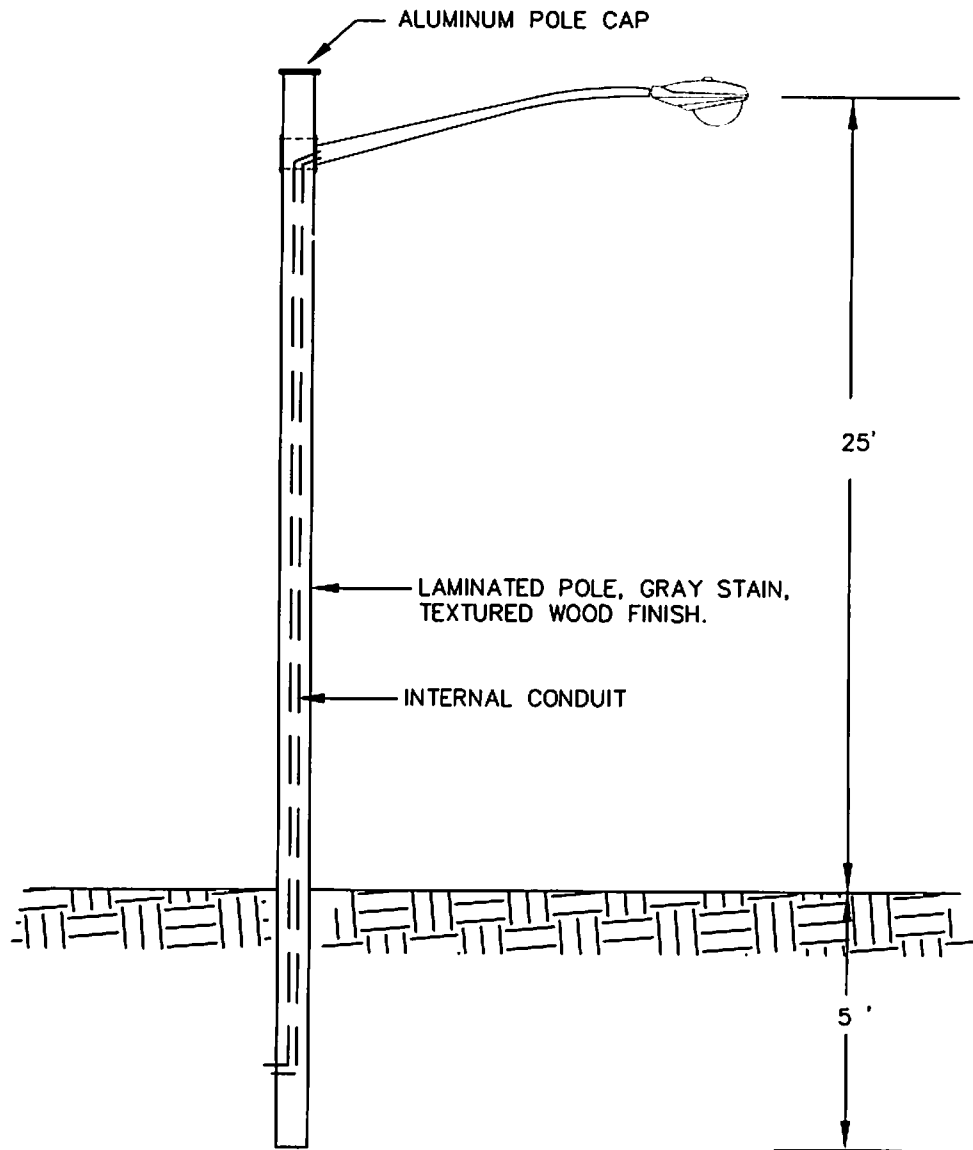


WOOD FENCE DETAIL

SEE APPROVED PLANS FOR SIZE OF DUMPSTER PAD REQUIRED.

DUMPSTER.dwg

TOWNSHIP OF LAWRENCE STANDARD DETAILS	DUMPSTER PAD	M-1
		OCTOBER 2007



PUBLIC SERVICE STYLE LUMINAIRE, 100 WATT HPS  
 AT ALL INTERSECTIONS AND 50 WATT HPS FOR  
 INTERMEDIATE FIXTURES.

TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

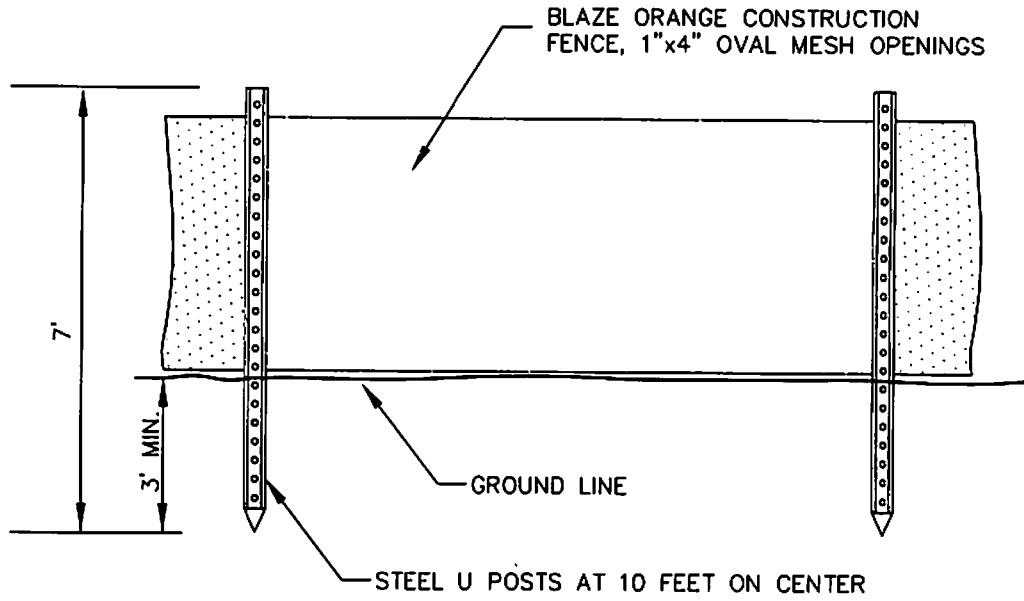
STREET LIGHT

M-2

OCTOBER 2007

COBRA.dwg





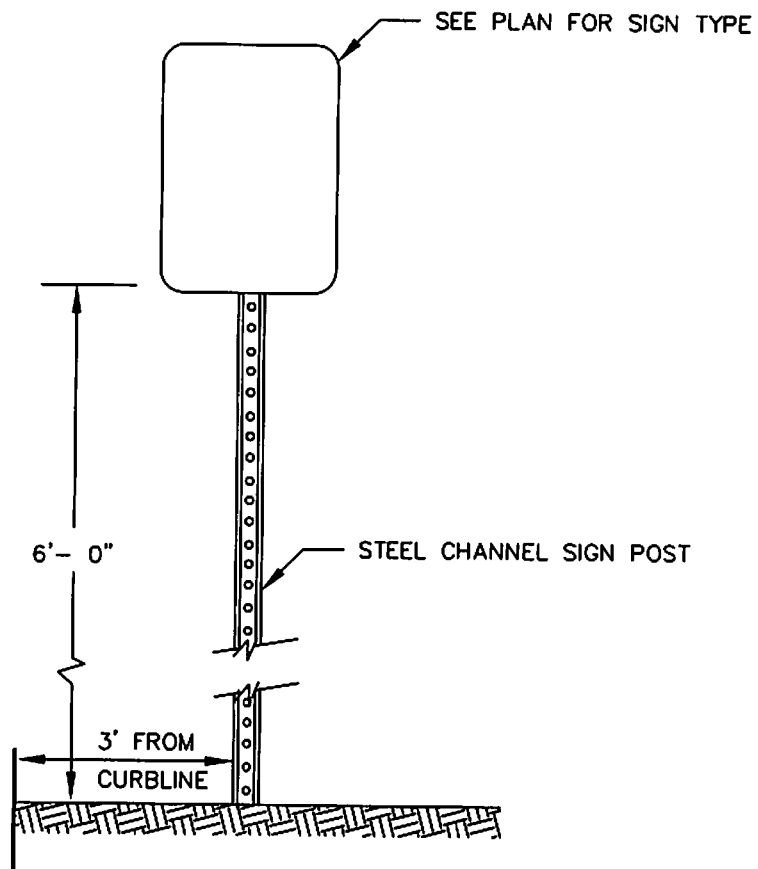
CONFENCE.dwg

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

CONSTRUCTION FENCE

M-3

OCTOBER 2007



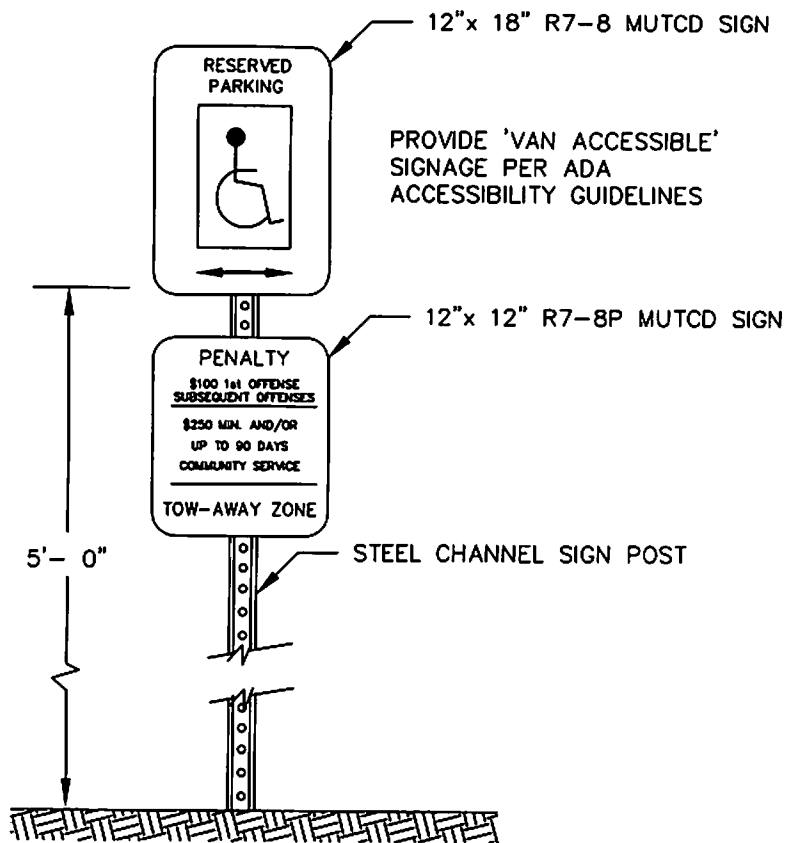
ALL SIGNS TO BE MOUNTED ON BREAKAWAY POSTS.  
 ALL SIGN POSTS IN CONCRETE TO BE INSTALLED IN 4" PVC SLEEVE.

TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

TYPICAL SIGN INSTALLATION

M-4

OCTOBER 2007



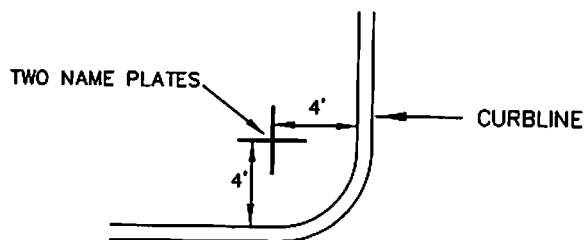
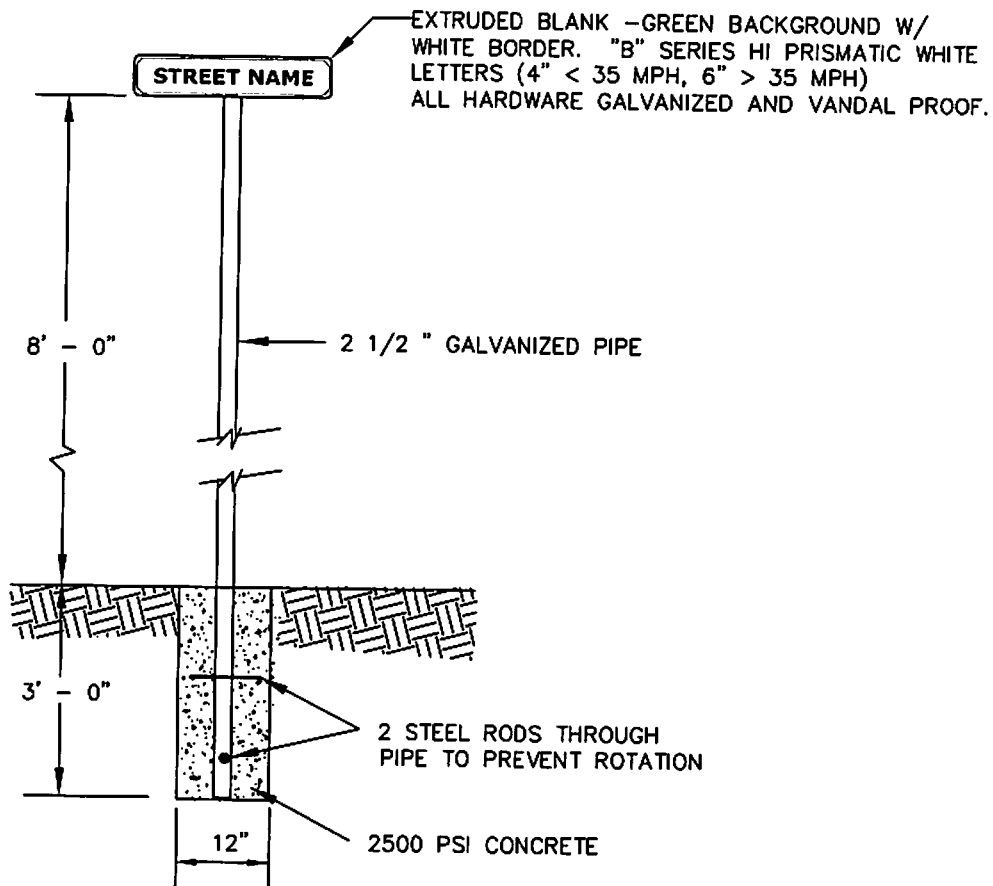
ALL STRIPING ASSOCIATED WITH HANDICAP SPACE SHALL BE BLUE EPOXY PAINT. STRIPING WIDTH AND LOCATION SHALL BE IN ACCORDANCE WITH APPROVED PLANS.

TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

HANDICAP PARKING SIGN

M-5

OCTOBER 2007

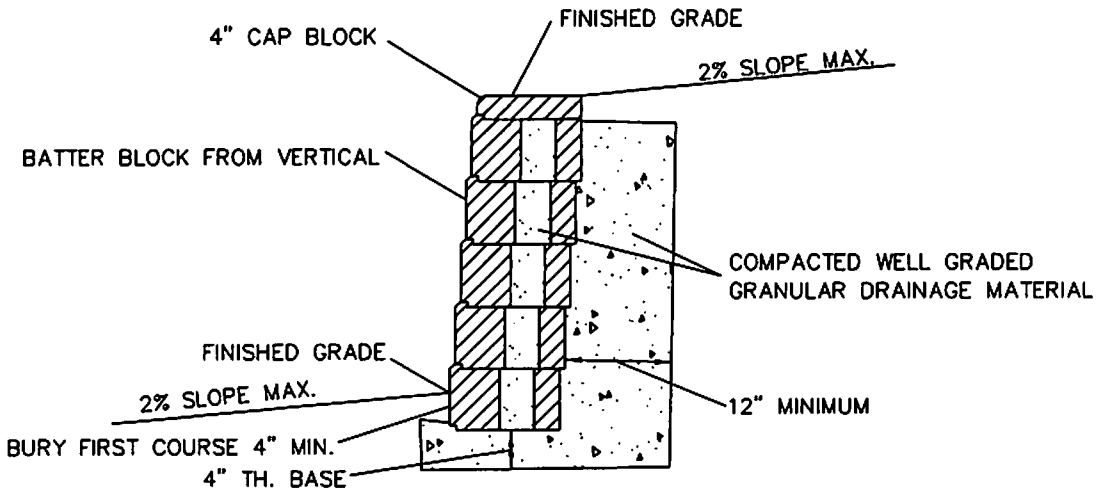


TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

STREET SIGN

M-6

OCTOBER 2007



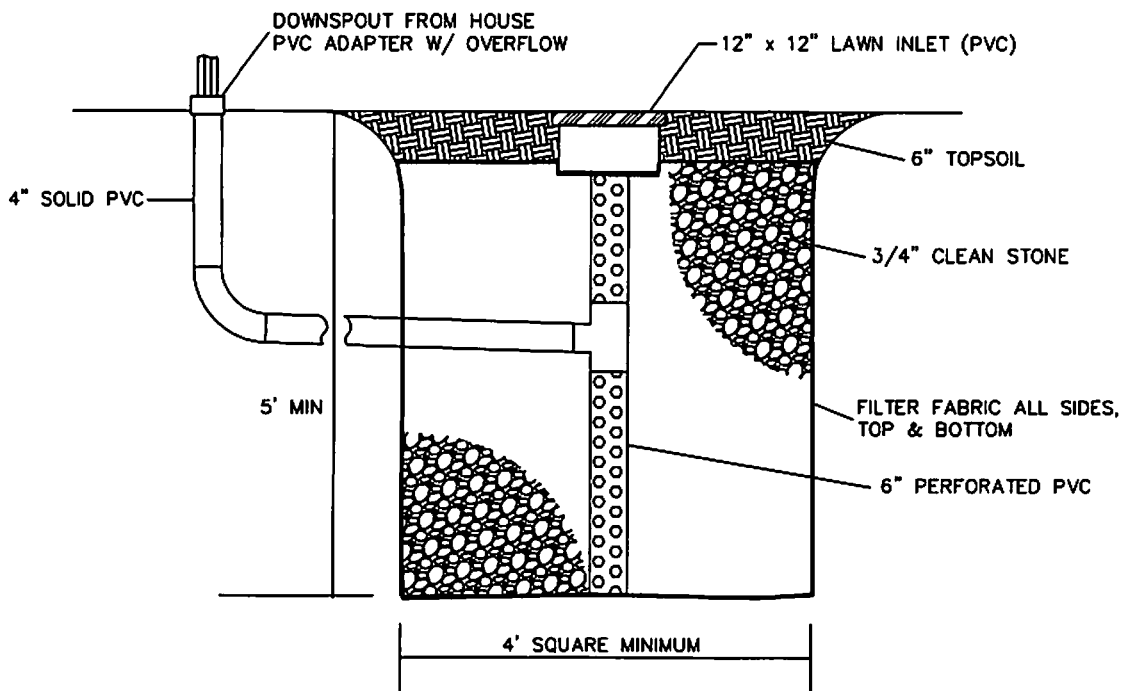
BLOCK SHALL BE "ALLAN BLOCK" OR APPROVED EQUAL.  
 ALL CONSTRUCTION SHALL CONFORM TO NJDOT SPECIFICATIONS, 2001

TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

BLOCK RETAINING WALL  
 TYPICAL SECTION

M-7

OCTOBER 2007



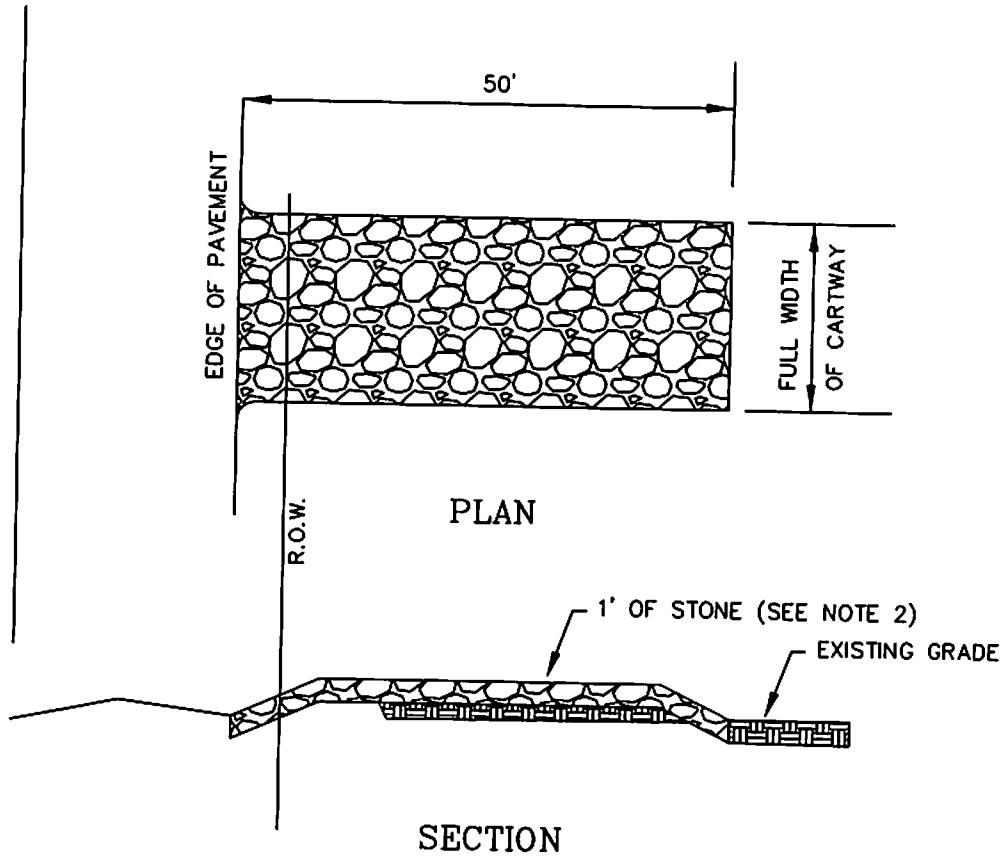
RESD--RECHARGE.DWG

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

RESIDENTIAL  
RECHARGE CHAMBER

M-8

OCTOBER 2007



NOTES:

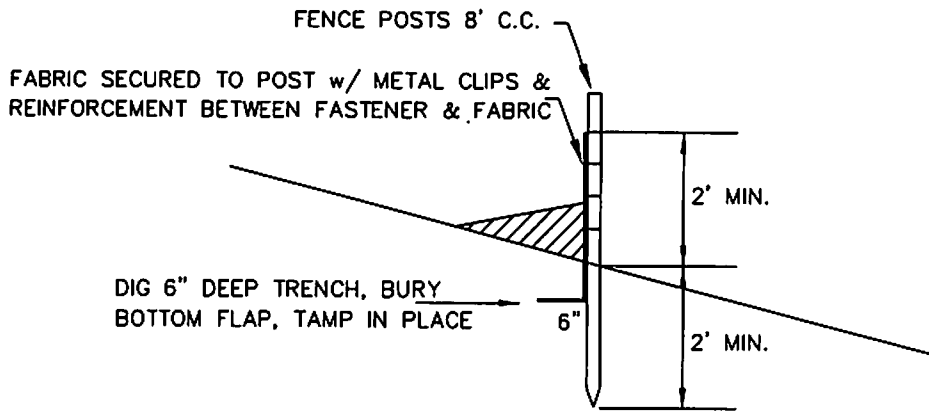
1. PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATIONS AS SHOWN ON THE SOIL EROSION & SEDIMENT CONTROL PLAN.
2. STONE SIZE SHALL BE 1-1/2" TO 2" CRUSHED STONE.
3. THE THICKNESS OF THE PAD SHALL BE ONE FOOT MINIMUM.
4. THE PAD SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE EXISTING ROADWAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE OR LENGTHENING OF THE PAD AS CONDITIONS WARRANT.
5. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO THE EXISTING ROADWAY MUST BE REMOVED ON A DAILY BASIS.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

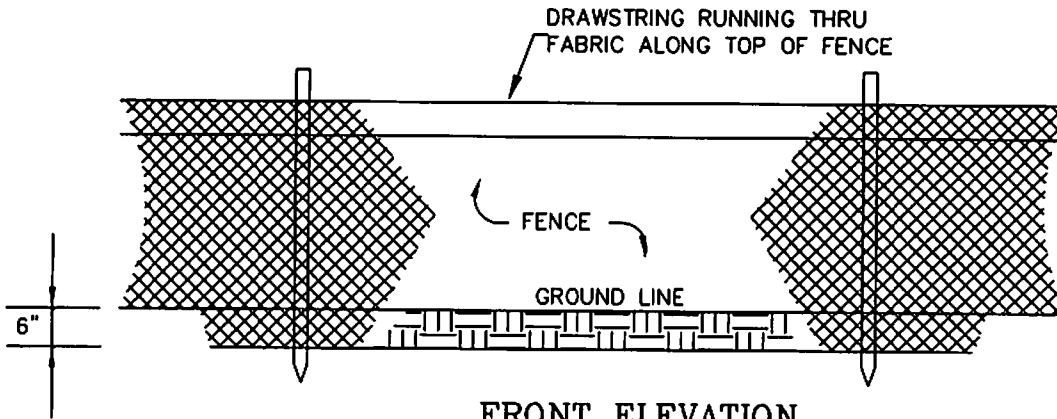
STABILIZED CONSTRUCTION  
ENTRANCE

SE-1

OCTOBER 2007



SIDE ELEVATION



FRONT ELEVATION

NOTES:

1. PLACE SILT FENCE AT LOCATIONS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS AROUND FENCE.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS CONDITIONS WARRANT.
4. SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE INSTRUCTED.

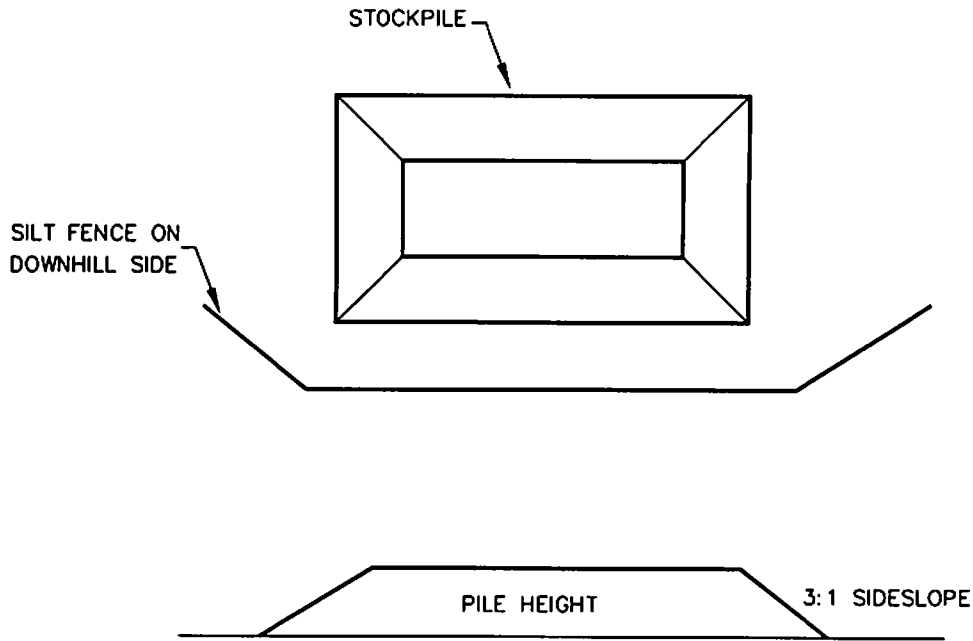
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

SILT FENCE

SE-2

OCTOBER 2007





NOTES:

1. MAXIMUM PILE HEIGHT AS APPROVED BY THE MUNICIPAL ENGINEER.

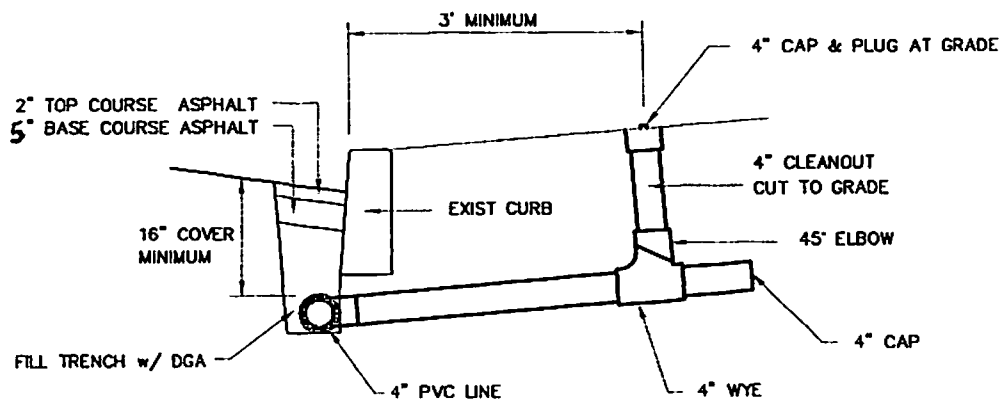
SoilStockpile.dwg

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

SOIL STOCKPILE

SE-3

OCTOBER 2007



## SUMP PUMP CONNECTION SYSTEM DRAIN CONNECTION

SCALE : NONE

Township of Lawrence  
**ENGINEERING DEPARTMENT**

TO: James F. Parvesse, Municipal Manager  
Brenda Kraemer, Assistant Municipal Engineer  
Brian Slaugh, Planning Consultant

SUBJECT: Standard Details

DATE: September 20, 2013

Attached for your use are the revised sheets for the Lawrence Township Standard Details as follows:

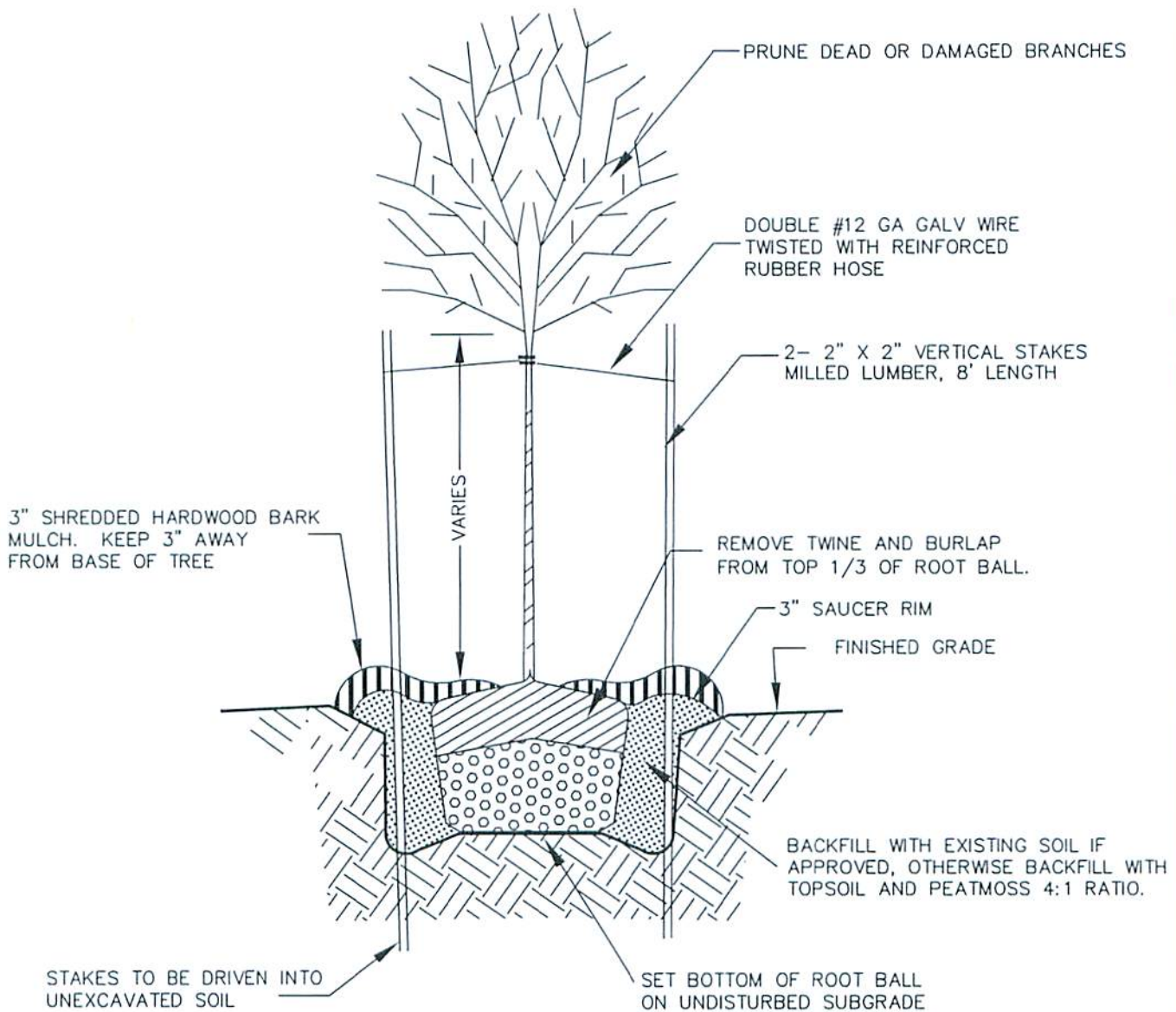
- Cover Sheet, dated October 2013
- Table of Contents
- L-9 Planting Specifications

Should you have any questions please contact this office.

SJS

g:\engineering office\standard details\distribution memo.doc

Attachment



NOTES:

- 1) CUT TWINE AWAY FROM TRUNK OF TREE. FOLD DOWN OR REMOVE TOP THIRD OF BURLAP. IF TREATED BURLAP, THEN REMOVE TOP THIRD. IF WIRE BASKET IS PRESENT, REMOVE TOP TWO RUGS OF BASKET (MINIMUM).
- 2) TREES SHALL BE POSITIONED 1" ABOVE THE GRADE AT WHICH THEY GREW IN THE NURSERY. NO SOIL SHALL BE PLACED AGAINST THE TRUNK FLARE.
- 3) STAKING & GUYING REQUIRED AT THE DISCRETION OF THE OWNER.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

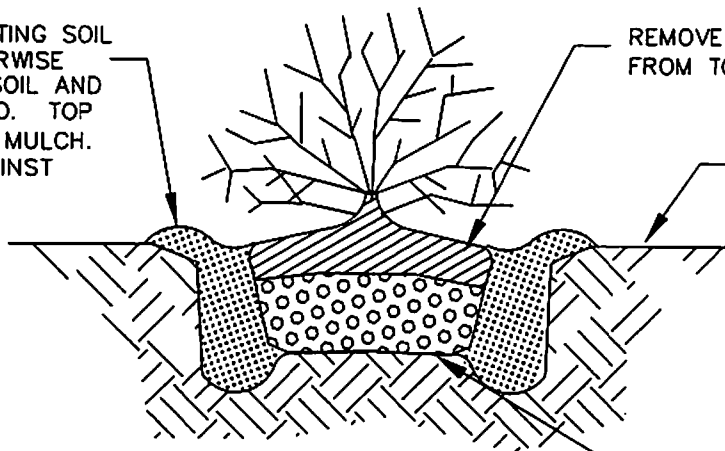
TREE PLANTING

L-1

OCTOBER 2007

*rev  
2013*

3" SAUCER RIM  
 BACKFILL WITH EXISTING SOIL  
 IF APPROVED, OTHERWISE  
 BACKFILL WITH TOPSOIL AND  
 PEATMOSS 4:1 RATIO. TOP  
 WITH 3" HARDWOOD MULCH.  
 DO NOT MULCH AGAINST  
 BASE OF SHRUB



REMOVE TWINE AND BURLAP  
 FROM TOP 1/3 OF ROOT BALL.

FINISHED GRADE

SET BOTTOM OF ROOT BALL  
 ON UNDISTURBED SUBGRADE

FLOOD WITH WATER TWICE WITHIN 24 HOURS AFTER  
 PLANTING. PRUNE DAMAGED BRANCHES  
 MAINTAINING PLANT SHAPE.

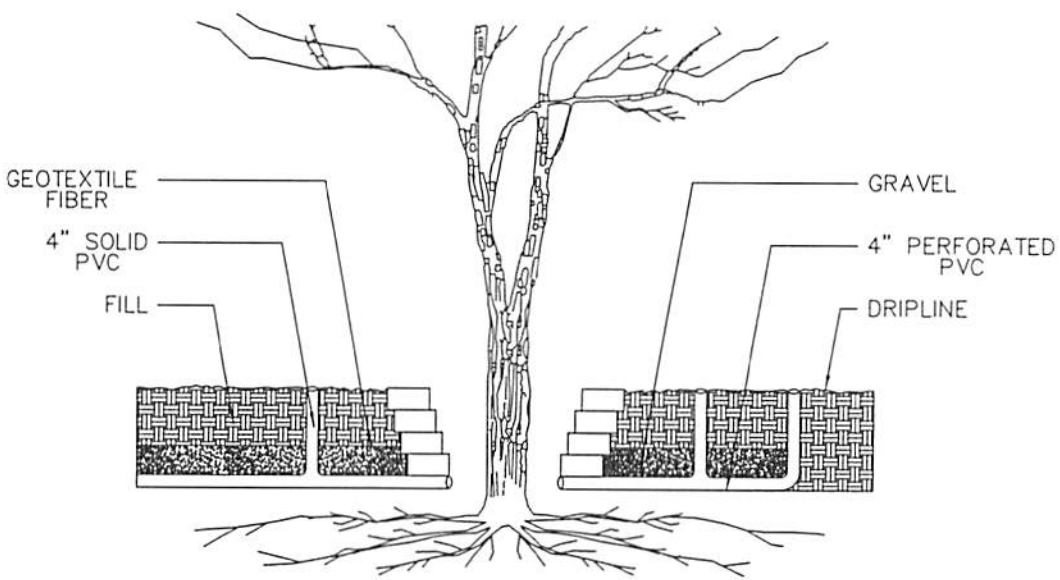
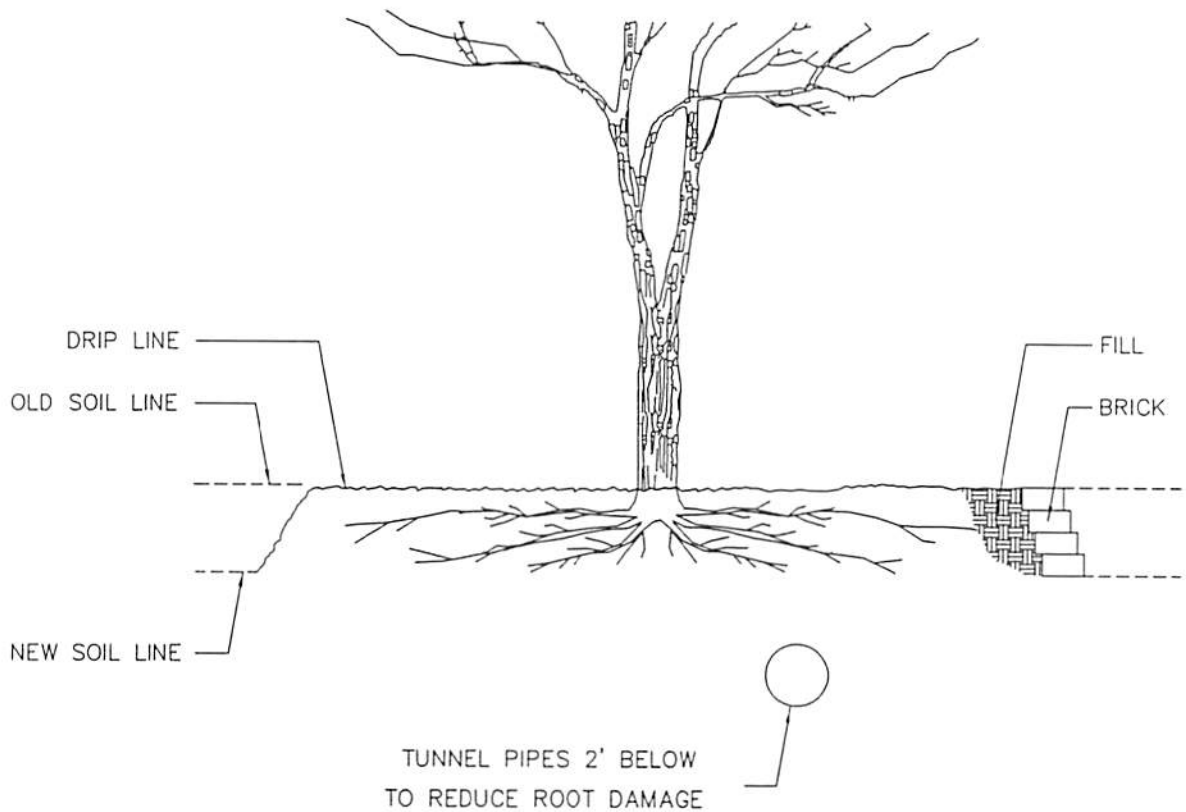
TOWNSHIP OF LAWRENCE  
 STANDARD DETAILS

SHRUB PLANTING

L-2

OCTOBER 2007

SHRUB.dwg



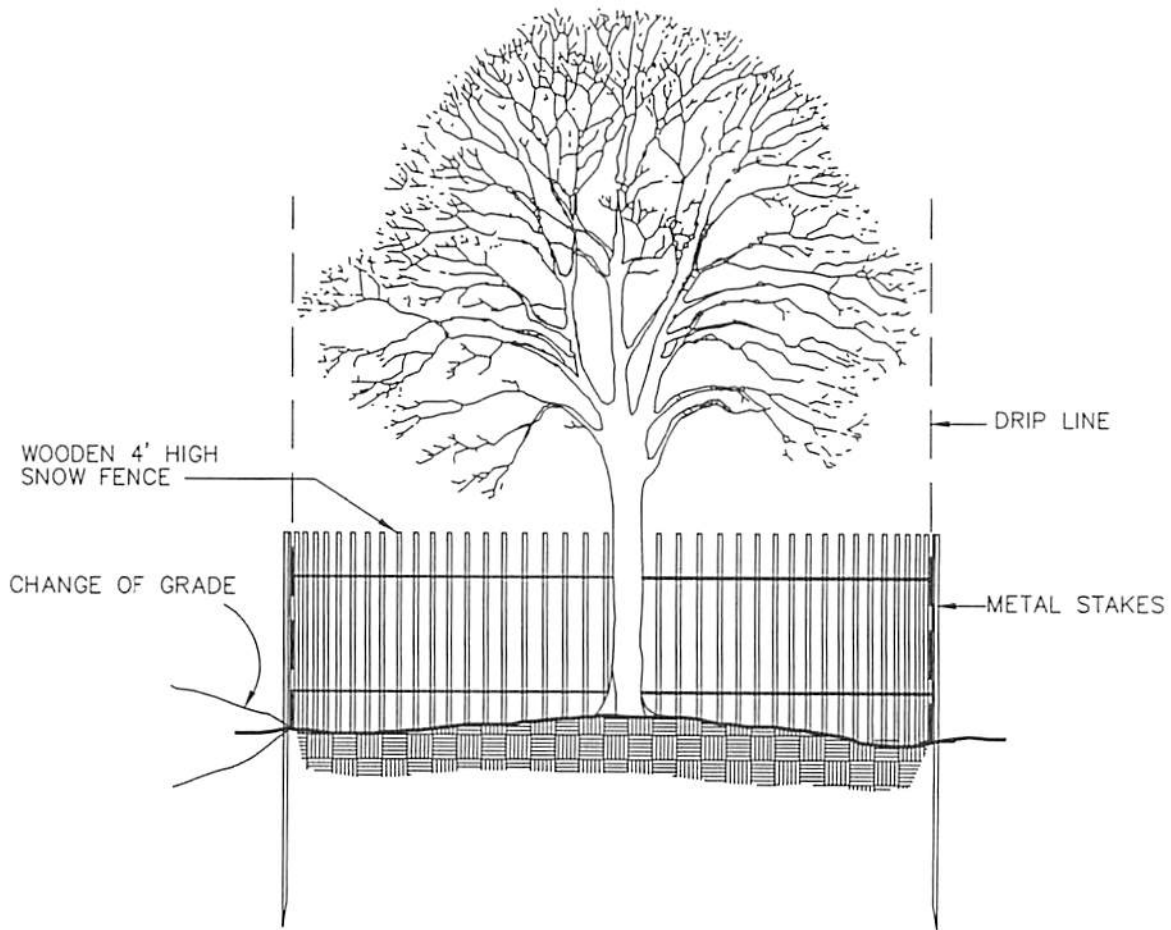
TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

TREE WELL

L-3

OCTOBER 2007

TREEWELL.dwg



EXISTING TREE PROTECTION  
DURING CONSTRUCTION

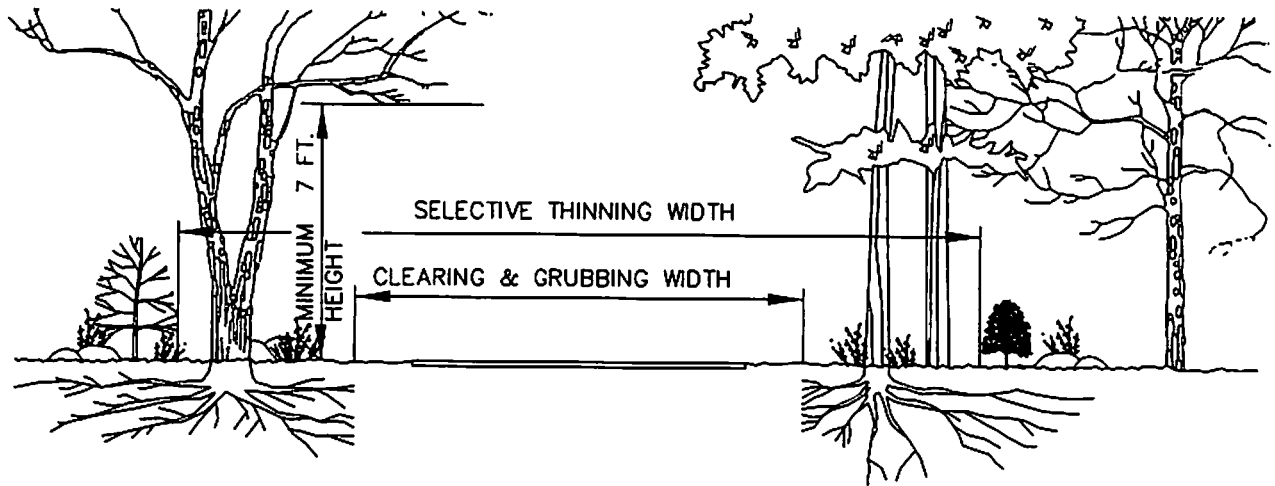
SNOW FENCE SHALL BE LOCATED BEYOND THE DRIP LINE OF EXISTING VEGETATION TO REMAIN. SNOW FENCING SHALL BE INSTALLED AT THE COMMENCEMENT OF CONSTRUCTION AND IS TO BE MAINTAINED THROUGHOUT THE DURATION.

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

TREE PROTECTION

L-4

OCTOBER 2007



TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

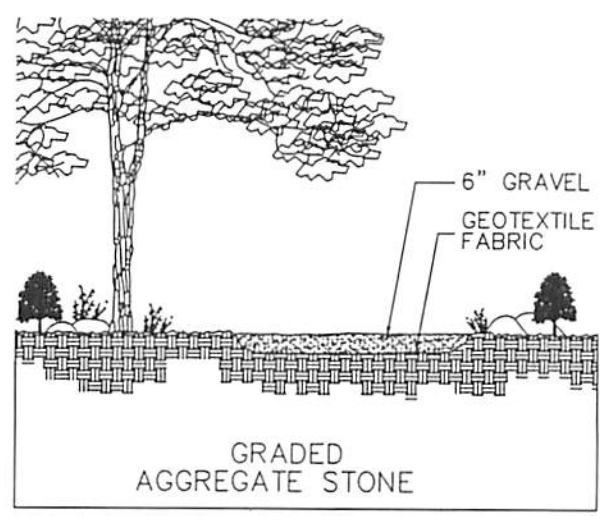
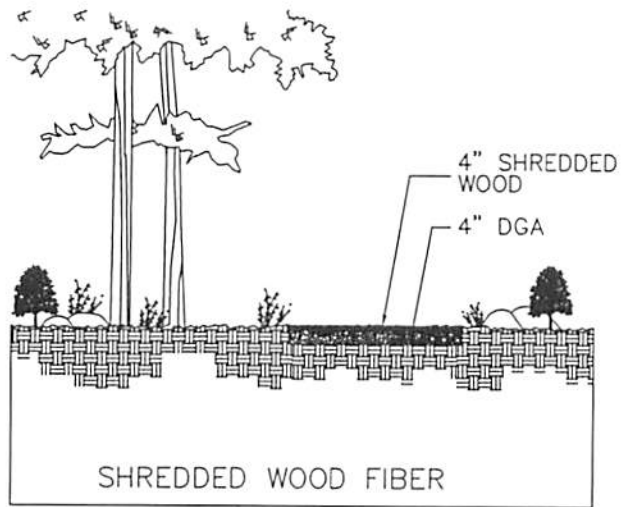
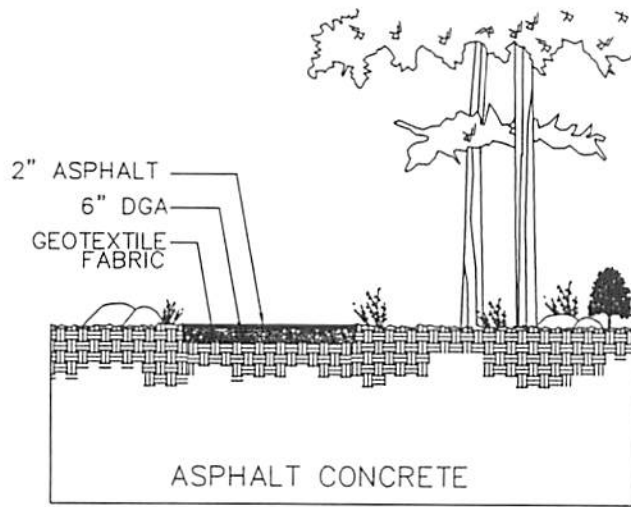
VEGETATIVE CLEARING

L-5

OCTOBER 2007

VEGCLEAR.dwg





TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

GREENWAY PATHS

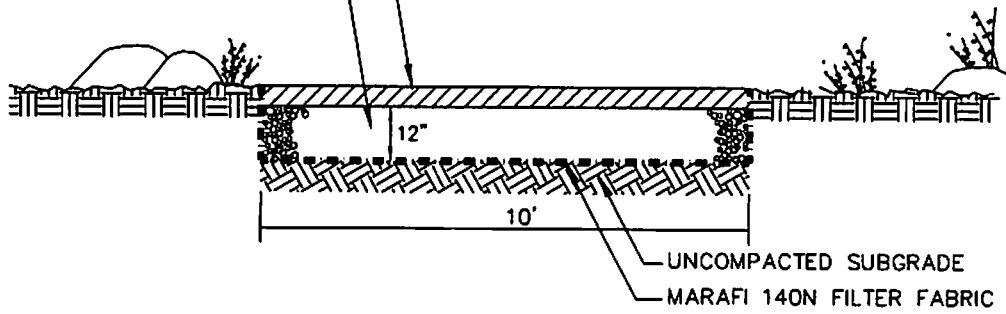
L-6

OCTOBER 2007

GREENWAY.dwg

3" COMP. POROUS BITUM. PAVEMENT

1-1/2" WASHED CLEAN CRUSHED  
STONE, CHOKED W/ 3/4"  
WASHED CLEAN CRUSHED STONE



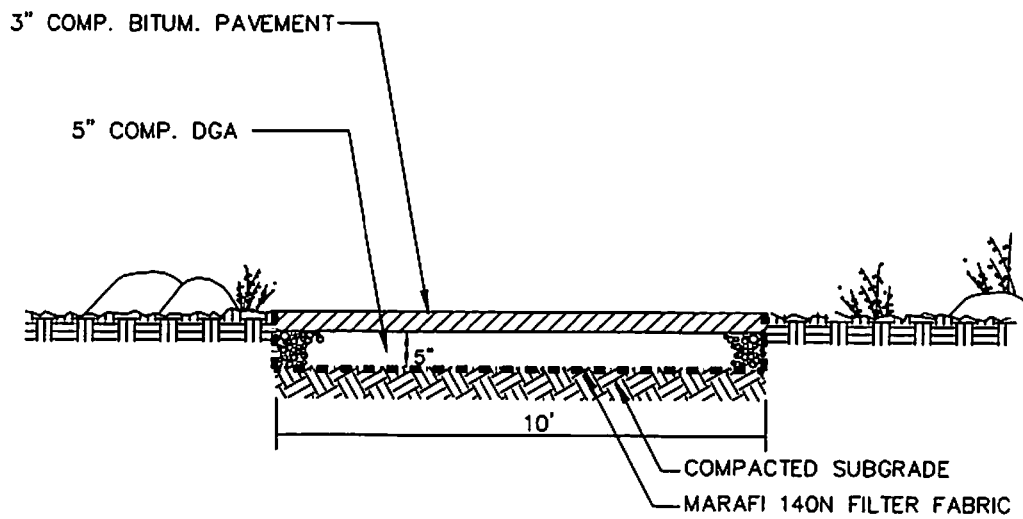
POROUSPA TH.DWG

TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

POROUS PAVEMENT  
PATH

L-7

OCTOBER 2007



TOWNSHIP OF LAWRENCE  
STANDARD DETAILS

BITUMINOUS PATH

L-8

OCTOBER 2007

BITUMPATH.DWG

## L-9 - Planting Specifications

1. Trees and shrubs shall be of nursery-grown stock and shall be insect and disease free. Plants should be well-formed and healthy nursery-grown stock. The root ball should be inspected to insure that it is undamaged and contains good quality soil and that it encompasses the entire root system.
2. The quality and size of plants, spread of roots, and size of balls shall be measured and determined in accordance with AANI Z60.1-1986 (or current addition) "American Standard for Nursery Stock" as published by the American Association of Nurserymen, Inc.
3. Trees and shrubs shall be planted according to the following recommended horticultural procedures:
  - a. Planting operations shall be performed during periods within the planting season when weather and soil conditions are suitable and in accordance with accepted local practices.
  - b. Deciduous and evergreen tree planting holes shall be a minimum of two (2) feet larger than the diameter of the root ball and dug to a depth that will place the trees in the same relation to finished grade as the tree bore to its pre-dug existing grade. The root ball shall sit on a convex mound of undisturbed sub-grade. Topsoil and subsoil shall be mixed thoroughly with sphagnum peat or humus before backfilling.
  - c. Shrub planting holes shall be a minimum of twelve (12) to eighteen (18) inches larger than the ball.
  - d. Plantings shall be set plumb and straight. The planting shall be set at such a level that, after settlement, a normal or natural relationship to the crown of the plant with the ground surface will be established. The plant shall be located in the center of the pit. Roots shall be spread evenly throughout the hole and soil added carefully.
  - e. The backfill soil shall be tamped in place and the hole filled to the top of the root ball. The added soil should be tamped gently, but not compacted, and an eight (8) inch soil saucer rim for the evergreen and deciduous trees and a three (3) inch saucer rim for the shrubs shall be created. A saucer rim shall not be needed when a shrub is planted in a mulched planting bed.
  - f. Plants shall be thoroughly watered according to an approved watering schedule.
  - g. Contractor shall report to the Township Engineer any soil or drainage conditions considered detrimental to the growth of the plant material.
  - h. Insofar as it is practical, plant material shall be planted on the day of delivery. In the event this is not possible, the contractor shall protect stock not planted and water it appropriately. Plants shall not remain unplanted for longer than a three (3) day period after delivery.

- i. Plants shall not be bound with wire or rope at any time so as to damage the bark or break branches. Plants shall be handled from the bottom of the ball only.
- j. Tree trunks shall be wrapped with tree wrap which shall be removed after one (1) growing season.
- k. In the case of balled and burlapped trees, the burlap and bindings shall be removed from the top of the root ball. If synthetic, non-biodegradable burlap and twine or wire mesh is used, complete removal of these materials shall be required after setting plant material in hole.
- l. All trees and shrubs shall be delivered to the site unpruned. Each tree and shrub shall be pruned in accordance with standard horticultural practices to preserve the natural character of the plant. One-third (1/3) of the leaf area should be removed by thinning the branches and reducing their length. The central leader of the tree shall not be cut.
- m. Trees shall be supported immediately after planting. All trees greater than six (6) inches shall be guyed to anchors. Smaller trees shall be staked with two (2) wood stakes. The stakes shall have a minimum two (2) inch nominal diameter. The support wires between the stakes and the tree shall be a double strand of galvanized wire, with a minimum of No. 15 gauge. To protect the tree from injury, the portion of the support wire in contact with the tree shall be encased in reinforced rubber hosing or equal. To increase the visibility for safety, surveyor's flags shall be tied to the support wires.
- n. All planting beds and tree saucers shall be dressed to a minimum depth of three (3) inches with shredded hardwood mulch.
- o. No plant, except ground covers, shall be planted less than two (2) feet from existing structures and sidewalks.
- p. No deciduous or evergreen trees shall be planted closer than ten (10) feet to a sanitary or utility easement.
- q. Underground irrigation systems shall be installed in all buffers greater than two (2) feet in height as measured from the toe of the slope to the top and other areas of mass planting.
- r. All plant material shall be guaranteed by the contractor to be in a vigorous growing condition. Provisions shall be made for a growth guarantee of at least two (2) years for trees and a minimum of two (2) growing seasons for shrubs. Replacement of dead or diseased material shall be made at the beginning of each planting season. All replacements shall have a guarantee equal to that stated above.