

The City of Ann Arbor

Arbor Oaks Park Rain Gardens

INSITE

InSite Design Studio, Inc.

516 E. Washington St.
Ann Arbor, MI 48104
734-995-4194 Phone
734-668-2525 Fax

DRAWING LIST

- L-0 Cover Sheet
- C-1 Topographic Survey
- L-1 Site Preparation and Erosion Control
- L-2 Grading and Utilities
- L-3 Planting
- L-4 General Details
- C-2 Details: Rain Gardens

CONSULTANTS

Landscape Architect:

INSITE

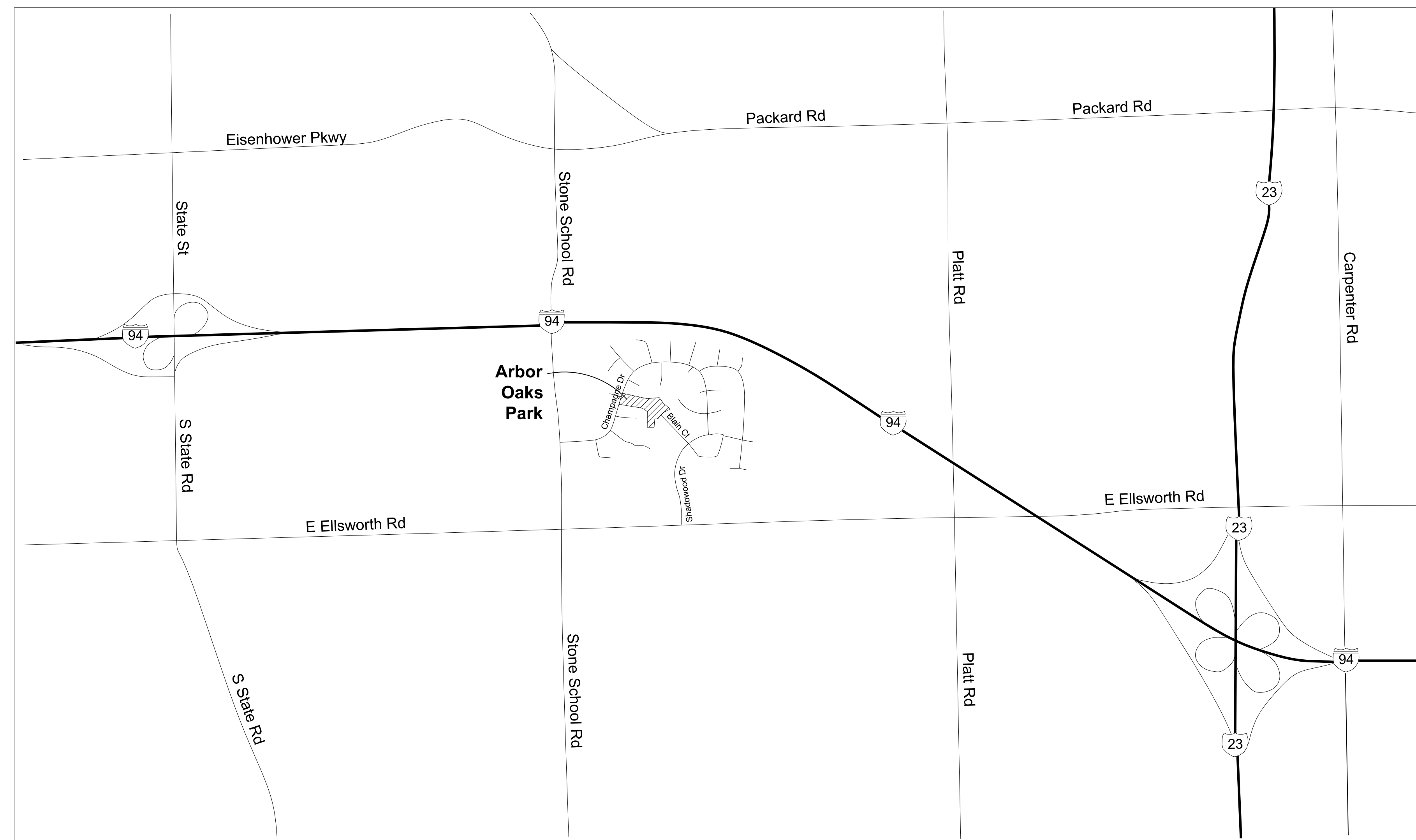
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e-mail: sgibb-randall@insite-studio.com

Civil Engineer:

Johnson & Anderson
4494 Elizabeth Lake Road
Waterford, MI 48328
phone: 248-681-7800
fax: 248-681-2660

GENERAL SITE MAP

Not to Scale



Project:

**Arbor Oaks Park
Rain Gardens**

Project Number:

Date	Issued For
December 19, 2012	DEQ Review Draft Plans and Specifications
January 24, 2013	Owner Review Draft Plans and Specifications
February 7, 2013	DEQ Review Draft Plans and Specifications
April 11, 2013	Bidding

Scale:
Drawn by: JCB, SGR

Title:

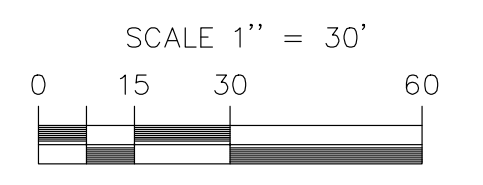
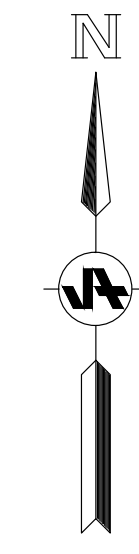
Cover

Sheet:

L-0



- LEGEND**
- EXISTING
- WATER MAIN
 - - - - SANITARY SEWER
 - - - - STORM SEWER
 - GAS MAIN
 - - - - UNDERGROUND ELECTRIC
 - - - - UNDERGROUND CABLE
 - - - - UNDERGROUND TELEPHONE/CONDUIT
 - LIGHT POLE
 - GUY ANCHOR
 - GUY POLE
 - POWER POLE
 - TELEPHONE POLE
 - TELEPHONE MANHOLE
 - U/G TELEPHONE BOX
 - U/G CABLE TV BOX
 - U/G ELECTRIC BOX
 - GAS METER
 - ELECTRIC METER
 - ELECTRIC MANHOLE
 - ELECTRIC OUTLET
 - MAILBOX
 - SIGN
 - POST
 - CONCRETE FILLED POST
 - GUARD POST
 - VALVE BOX
 - GATE VALVE IN WELL
 - SPRINKLER VALVE
 - SPRINKLER HEAD
 - FIRE HYDRANT
 - FIRE HYDRANT VALVE
 - STORM MANHOLE
 - CATCH BASIN
 - SANITARY MANHOLE
 - CLEAN OUT
 - FOUND IRON/RE-ROD/PIPE
 - FOUND MONUMENT
 - ELEVATION TAKEN HERE
 - ELECTRIC MARKER
 - GAS MARKER
 - DECIDUOUS TREE
 - CONIFEROUS TREE
 - BUSH



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811

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WARNING

UTILITY LOCATIONS ARE NOT CONFIRMED. THOSE SHOWN WERE OBTAINED FROM UTILITY OWNERS OR PLANS. THREE FULL WORKING DAYS PRIOR TO BEGINNING WORK THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS TO HAVE WORK AREA STAKED AND HE SHALL PROTECT OR HAVE RELOCATED, AS NOTED IN THE SPECIFICATIONS, ALL UTILITIES THAT MIGHT INTERFERE WITH CONSTRUCTION.

B.M. #1 ELEV. = 822.60 NAVD 1988
E BOLT OF LIGHT POLE SE EDGE OF
PLAYGROUND AREA E OF CHAMPAGNE DRIVE

B.M. #2 ELEV. = 821.14 NAVD 1988
W BOLT OF LIGHT POLE BASE @ END OF
BLAIN COURT

REVISIONS: MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE

DRAWN: JDM
DESIGN: -
CHECKED: -

MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE

Johnson & Anderson

4404 Elizabeth Lane Road
Waterford, Michigan 48328
tel (248) 681-7800 fax (248) 681-2680

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Muskegon, Michigan 49444
tel (231) 780-3100 fax (231) 780-3115

3910 Lapeer Road
Port Huron, Michigan 48060
tel (810) 987-7820 fax (810) 987-7895

City of Ann Arbor:
Impervious Area Disconnection and
Infiltration Project
734-794-6000

Existing Conditions Topographical Survey - Nov. 2012

ARBOR OAKS PARK
Rain Gardens

Arbor Oaks Park
Ann Arbor, Michigan

Job No. 17208
Date Issued 04/11/2013
Sheet No. C-1

Legend

See Survey Sheets for all survey symbol information

- Proposed Contour
- Proposed Half Contour
- Proposed Spot Elevation
- Proposed Tree Protection
- Proposed Silt Fence
- Proposed Inlet Filter
- Proposed Erosion Control Blanket
- Erosion Control Seed
- Proposed Augured Culvert
- Tree to be Transplanted
- Abandon Existing Culvert
- Proposed Anti-Tracking Pad
- Protect ex. Sidewalk



SOIL EROSION and SEDIMENTATION CONTROL SEQUENCE

In accordance with rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and in addition to the information in the project plans and specifications, the following general conditions apply to the earth change authorized by this document:

1. Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.
2. Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.
3. Temporary or permanent control measures shall be designed and installed to convey water around, through or from the earth change at a non-erosive velocity.
4. Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove temporary soil erosion and sedimentation control measures after permanent soil erosion measures are in place and the area is stabilized. ("Stabilized" means the establishment of vegetation or the proper placement, grading or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement.)
5. Complete permanent soil erosion control measure for the earth change within five (5) calendar days after final grading or upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized.
6. The contractor is responsible for sowing the erosion control seed matrix on all unstabilized earth and installing erosion control blanket as shown on this plan. The contractor will be responsible for maintaining stable earth through the winter and early spring and repairing eroded areas prior to planting May 15. The permanent SEESC measures will be maintained by the contractor through the Maintenance and Guarantee Period as defined in the specifications.

SOIL EROSION and SEDIMENTATION CONTROL MAINTENANCE NOTES

1. Install two anti-tracking pads: one at the east end of the site and one at the west end of the site. The anti-tracking pads should be constructed of geotextile fabric with limestone over it.
2. Silt fence and inlet filters shall be maintained throughout construction. If repair or replacement is necessary, it shall be performed according to the manufacturer's specifications. Maintenance includes the removing of built-up sediment accumulates to 1/2 the height of the fence. The Contractor shall remove, replace, re-trench, or re-backfill the fence if they fail. Additionally, the contractor shall reinstall any portion of the fencing damaged by construction machinery.
3. Place stockpiles and other spoil piles away from the drainage system to minimize sediment transport. If the stockpile and/or spoil pile must remain on-site overnight, or if the weather conditions indicate the chance for precipitation, A) cover the pile with water repellent material to prevent erosion and/or B) install silt fencing around the base of the pile to prevent transport of sediment to the storm water system, or apply other control methods appropriate to the site. Control measures to guard against wind erosion must also be employed, such as wetting or covering the stockpiles. Keep as few stockpiles as possible during the course of the project.
4. Throughout the construction period, all mud/silt tracked onto existing roads from the site due to construction shall be immediately removed by the contractor.
5. Construction operations shall be scheduled and performed so that preventative soil erosion control measures are in place prior to excavation in critical areas and temporary stabilization measures are in place immediately following backfilling operations.
6. Special precautions will be taken in the use of construction equipment to prevent situations that promote erosion.
7. Seeding or other stabilization shall be required immediately to areas which have been damaged by runoff.
8. The contractor shall maintain dust control on the site throughout the duration of the construction process.
9. The contractor shall be responsible for maintaining all temporary soil erosion control measures and removal of some upon authorized completion of the project. Completion of project will not be authorized until all site work, and utility construction is complete and all soils are stabilized.
10. The contractor shall not grade into adjacent properties. Silt fence shall be installed and maintained to prevent grading, erosion and sedimentation running into them.
11. Tree protection fencing must remain intact until restoration of the site is complete.
12. Weekly inspections by a City of Ann Arbor SEESC trained Certified Storm Water Management Operator as well as periodic inspections within 24 hours of any rainfall will be required. These inspections may result in recommendations for routine maintenance of the soil erosion control devices, as well as additional controls.

Project:
Arbor Oaks Park Rain Gardens

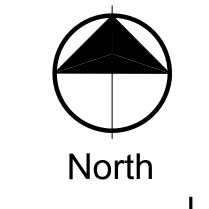
Project Number:
Date: December 19, 2012
January 24, 2013
February 7, 2013
April 11, 2013

Issued For:
DEC Review Draft Plans and Specifications
Owner Review Plans and Specifications
DEC Review Plans and Specifications
Bidding

Scale: 1"= 30'-0"
Drawn by: JCB, SGR

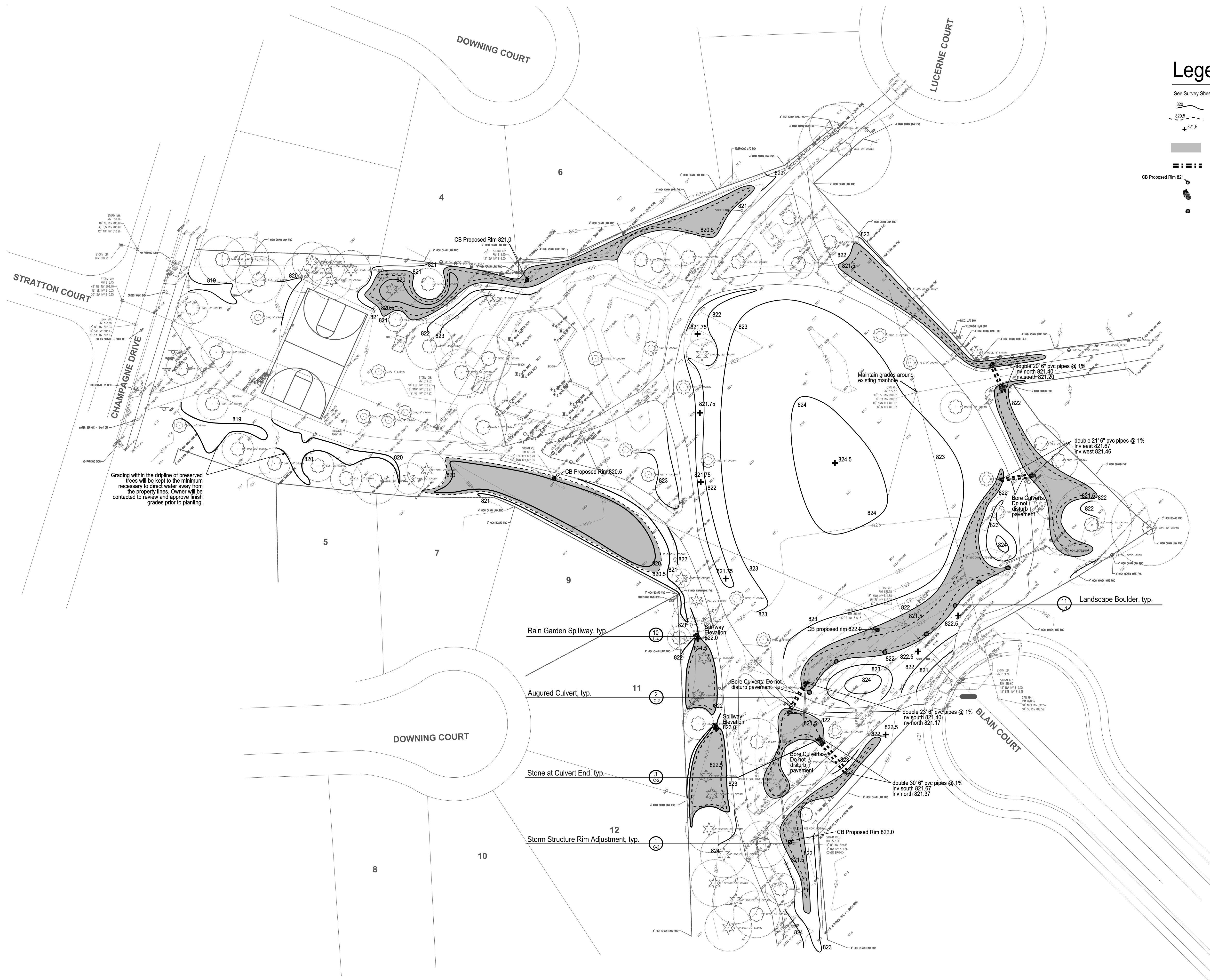
Title:
Site Preparation and Erosion Control

Sheet:
L-1



10 MINS
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CONTRACTOR is responsible to field verify location of all underground utilities prior to any work.



Legend

See Survey Sheets for all survey symbol information

- Proposed Contour
- Proposed Half Contour
- Proposed Spot Elevation
- Rain Garden Ponding Area
- Proposed Augured Culvert
- Proposed Storm Structure Rim Adjustment
- Proposed Stone at Culvert End
- Proposed Landscape Boulder

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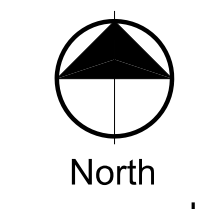
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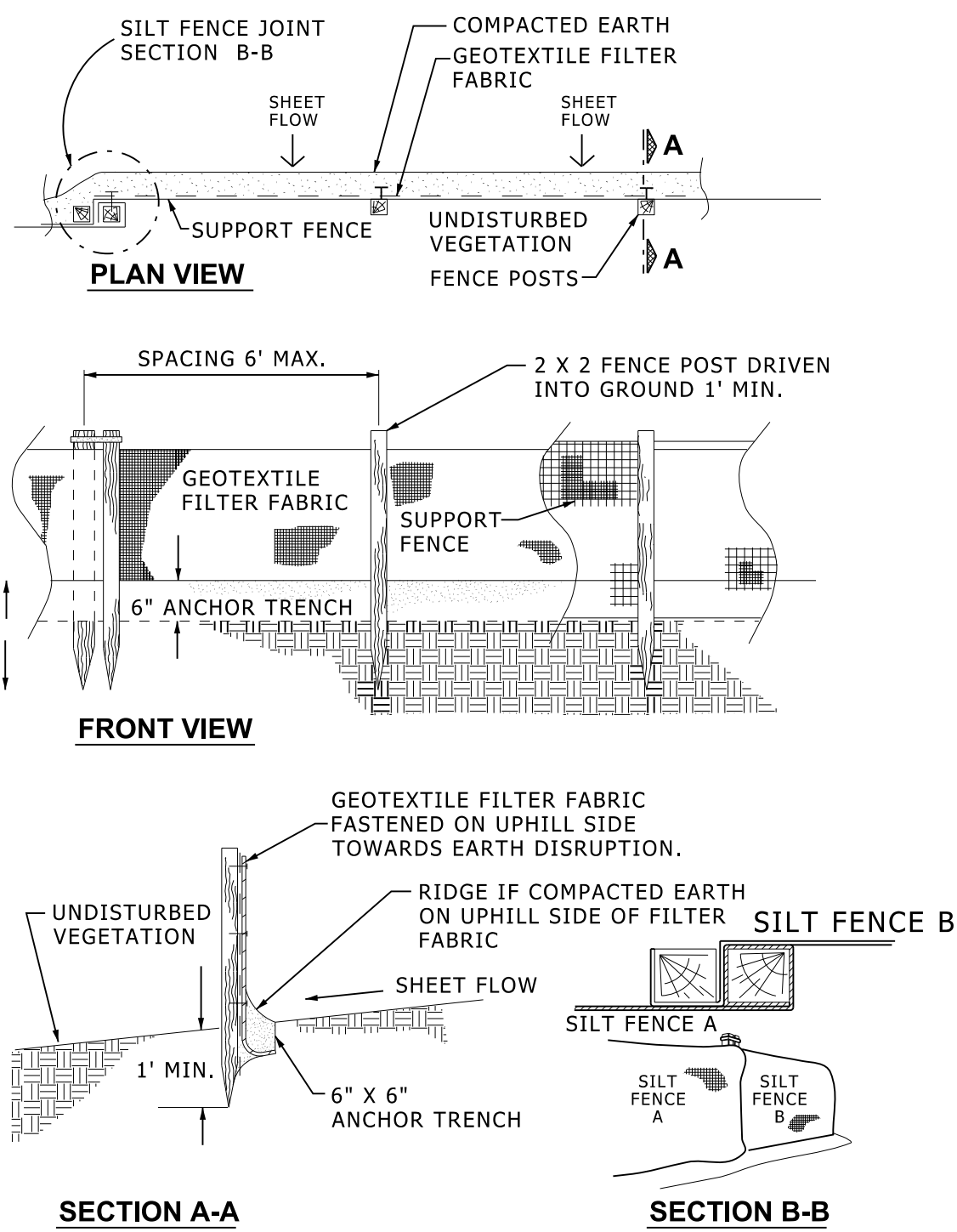
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Grading and Utilities

Sheet:
L-2



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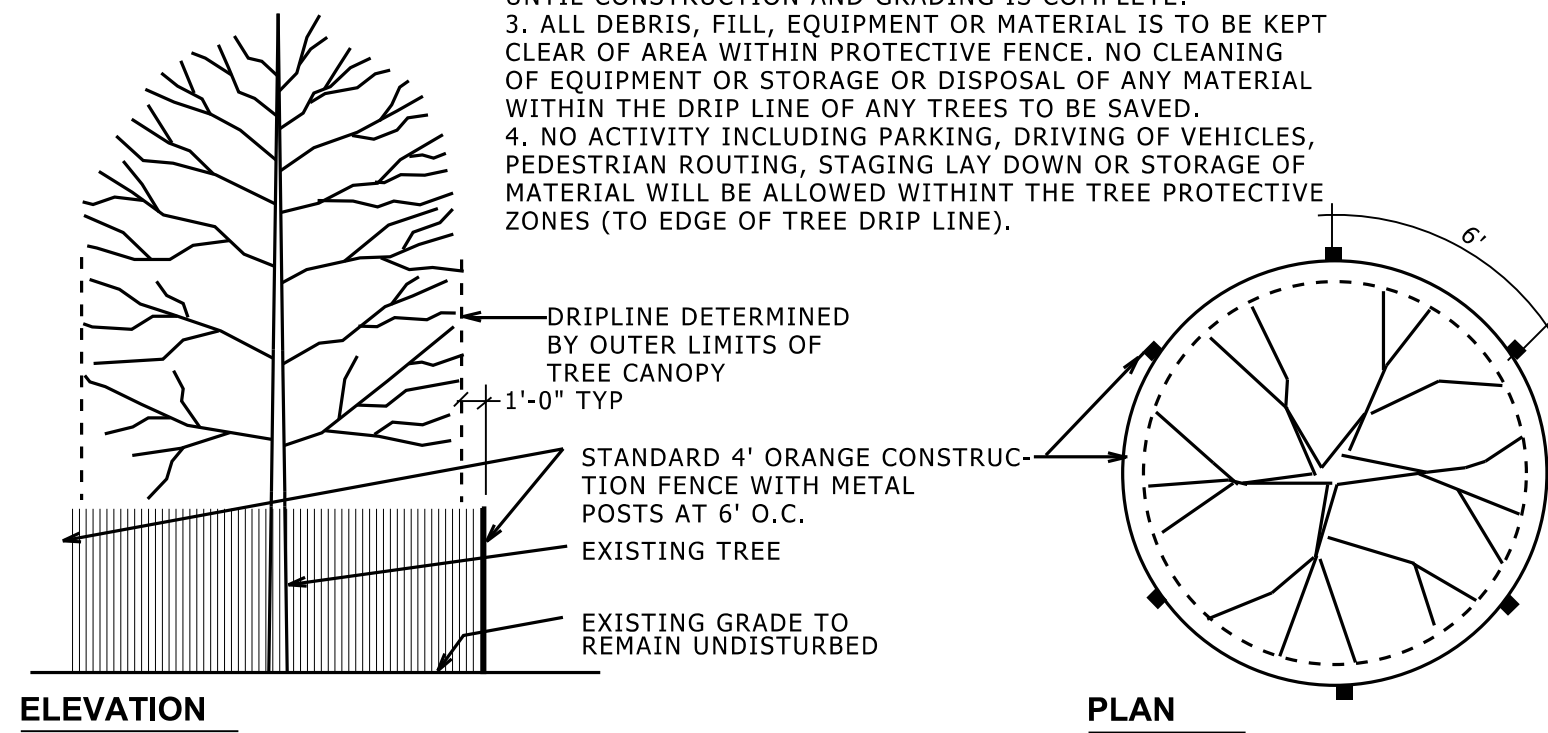
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1 Silt Fence

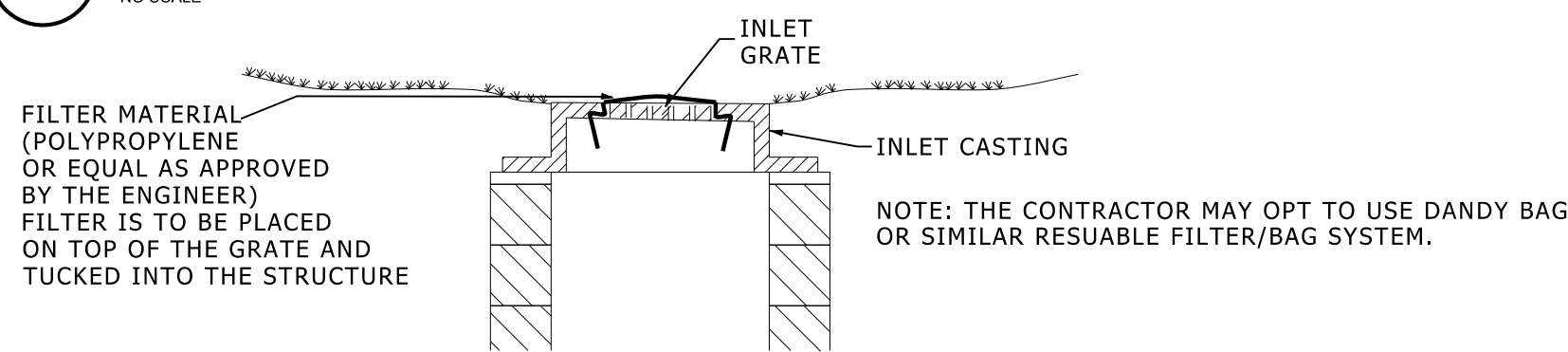
NO SCALE

- NOTES:
1. THE FENCE SHALL BE LOCATED A MIN. OF 1 FOOT OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED OR CLOSER ONLY AT THE DIRECTION OF THE CITY OF ANN ARBOR FORESTRY STAFF.
2. TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION AND GRADING IS COMPLETE.
3. ALL DEBRIS, FILL, EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP LINE OF ANY TREES TO BE SAVED.
4. NO ACTIVITY INCLUDING PARKING, DRIVING OF VEHICLES, PEDESTRIAN ROUTING, STAGING LAY DOWN OR STORAGE OF MATERIAL WILL BE ALLOWED WITHIN THE TREE PROTECTIVE ZONES (TO EDGE OF TREE DRIP LINE).



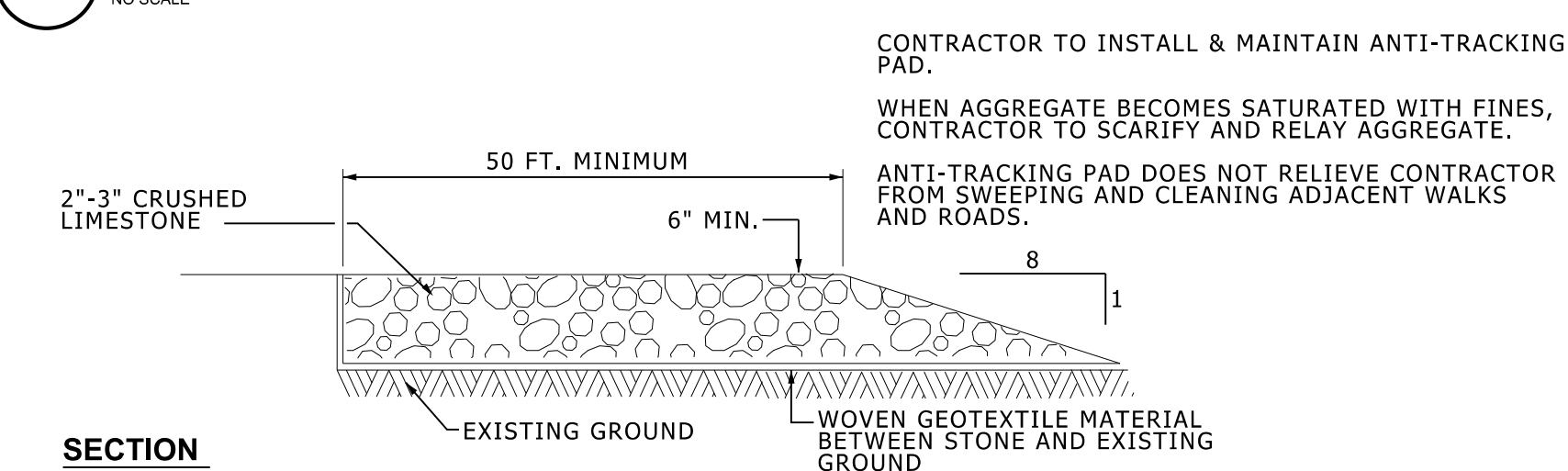
2 Tree Protection

NO SCALE



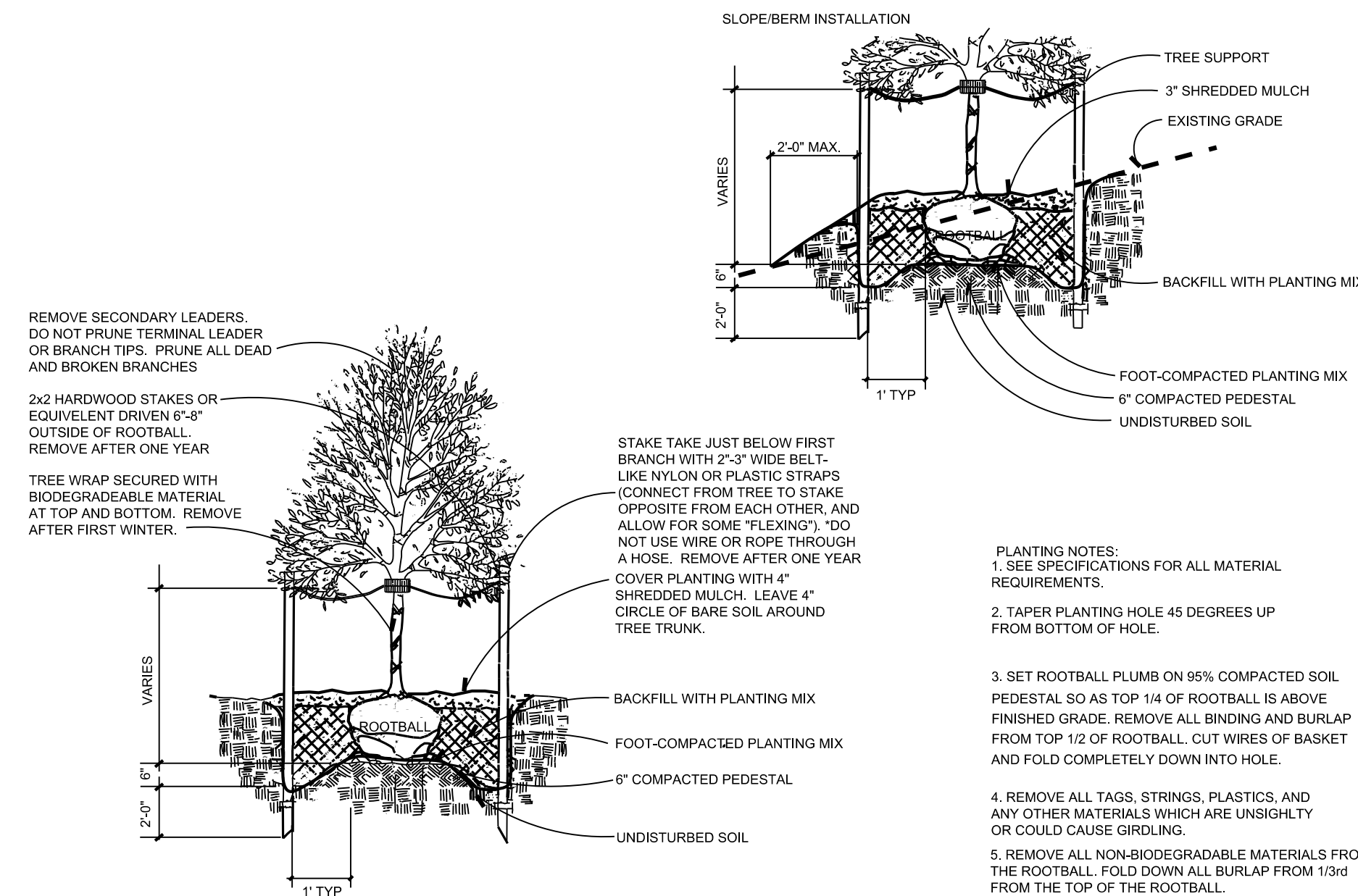
3 Inlet Filter

NO SCALE



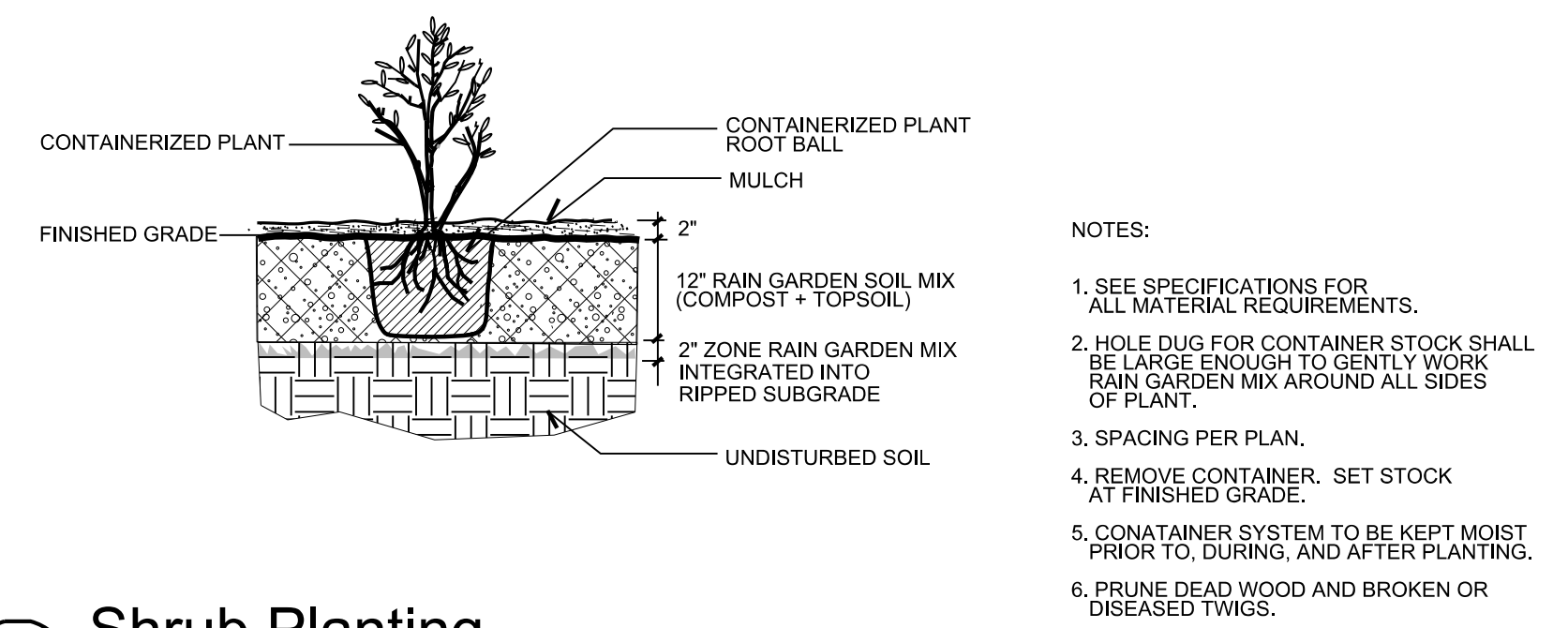
4 Anti-Tracking Pad Detail

NO SCALE



5 Deciduous Tree Planting

NO SCALE

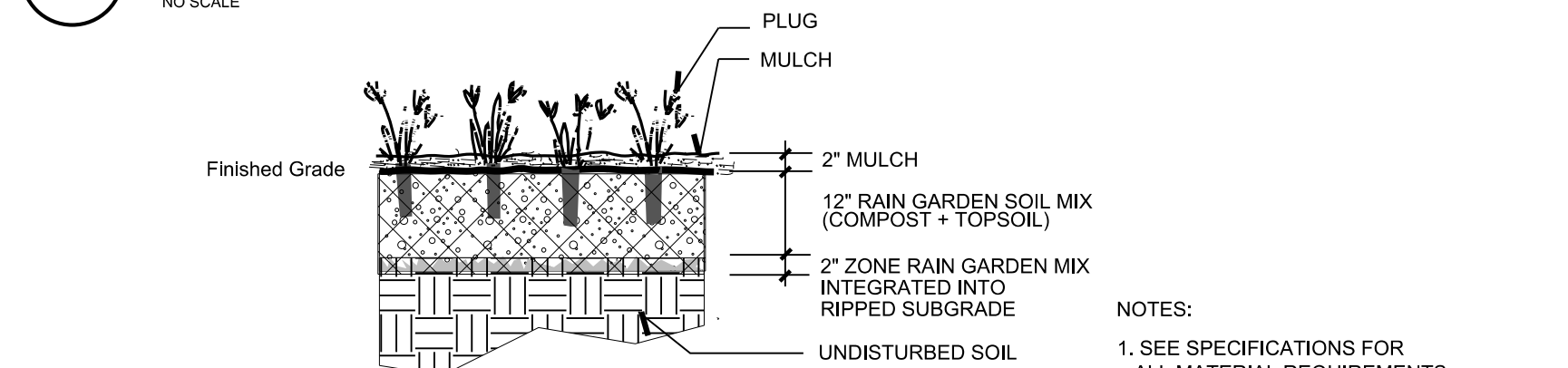


6 Shrub Planting

NO SCALE

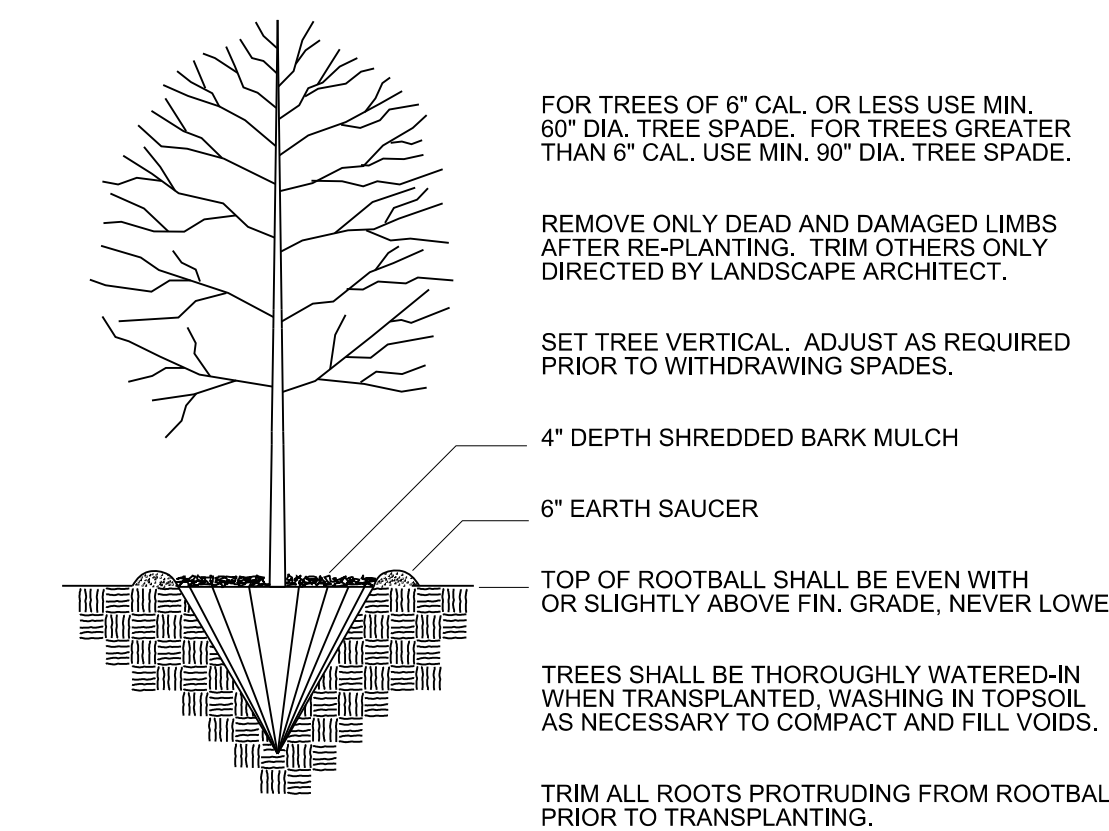
7 Typ. Rain Garden Section

NO SCALE



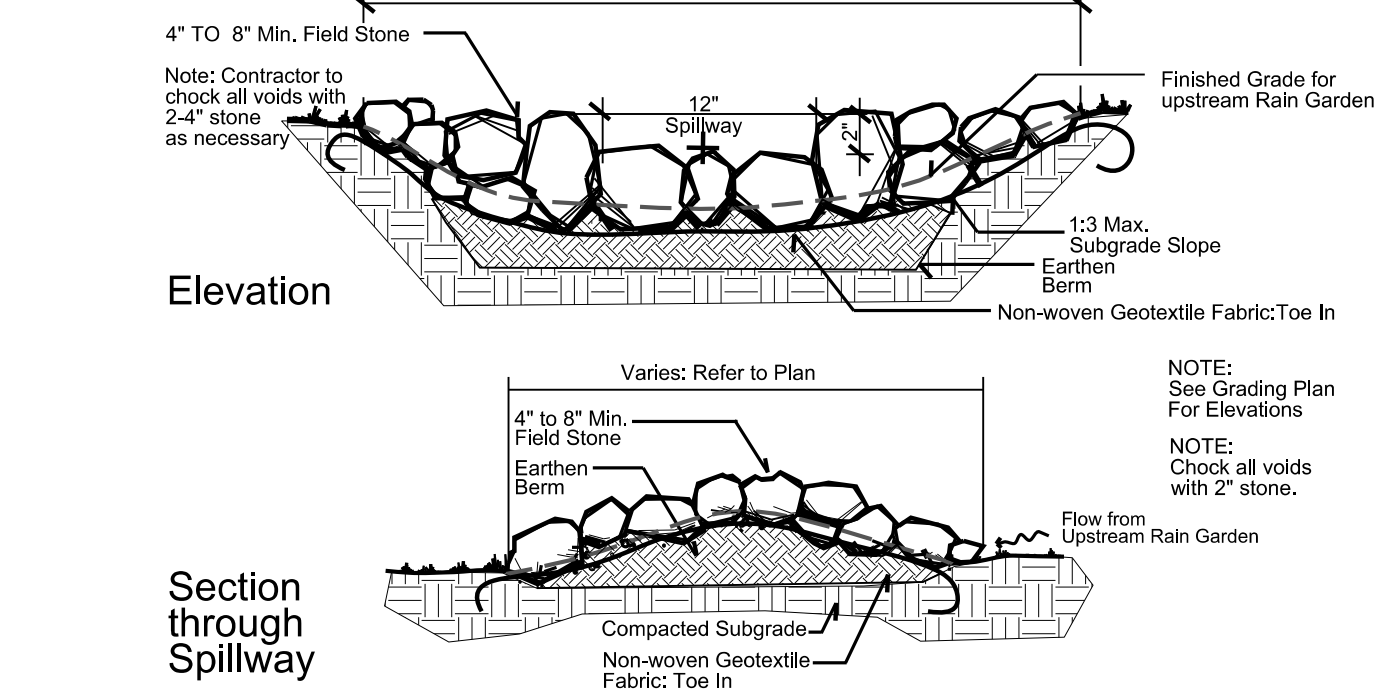
8 Native Plug Planting

NO SCALE



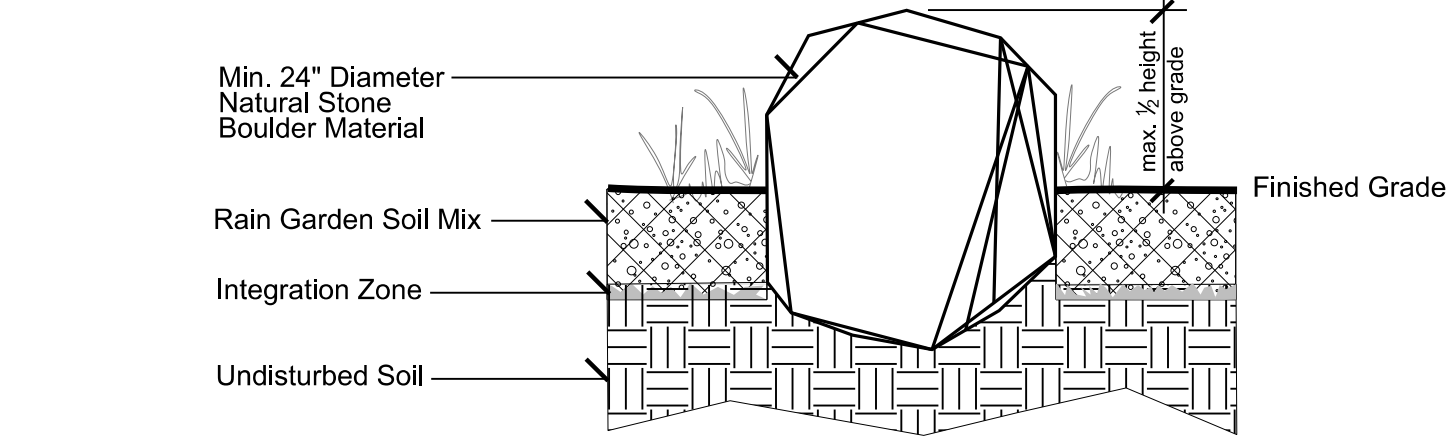
9 Tree Transplanting

NO SCALE



10 Rain Garden Spillway

NO SCALE



11 Landscape Boulder

NO SCALE

Project:
Arbor Oaks Park
Rain Gardens

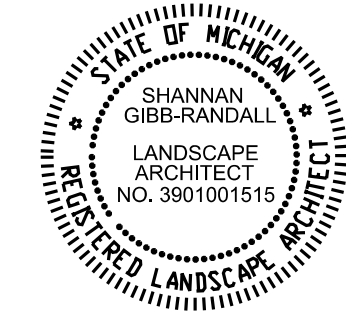
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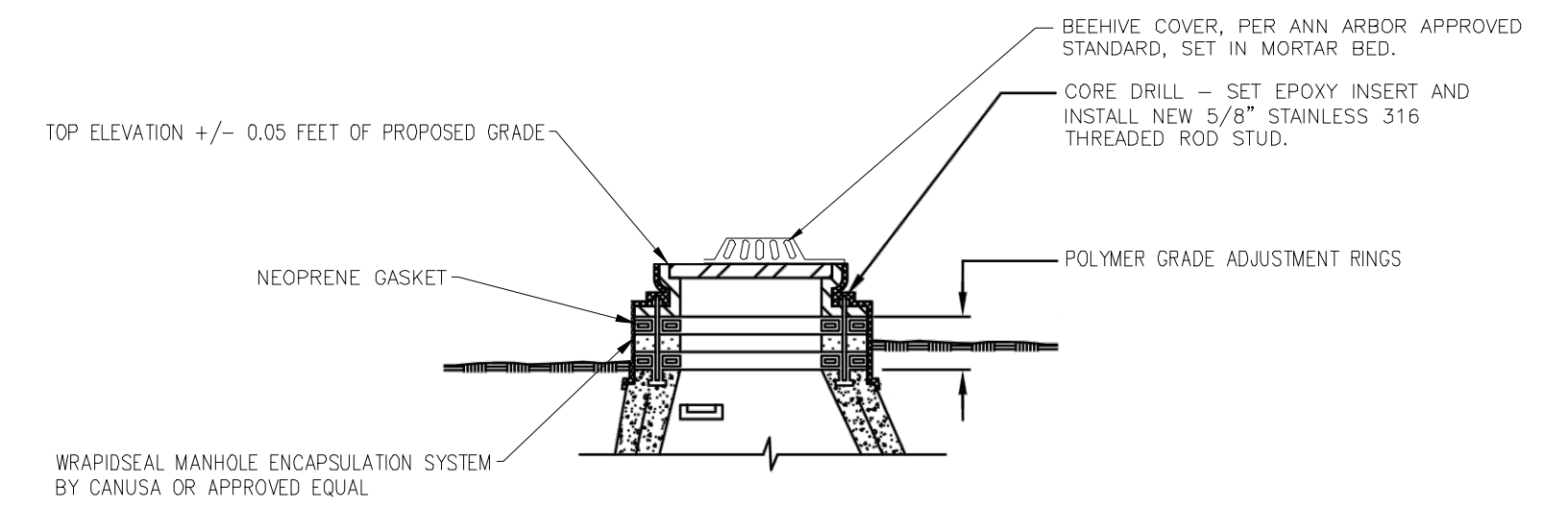
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Title:
General Details

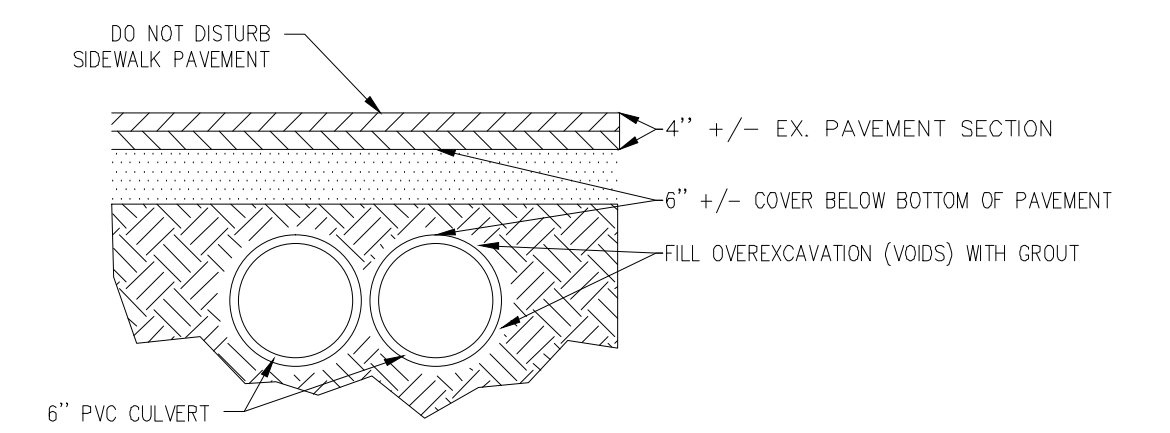
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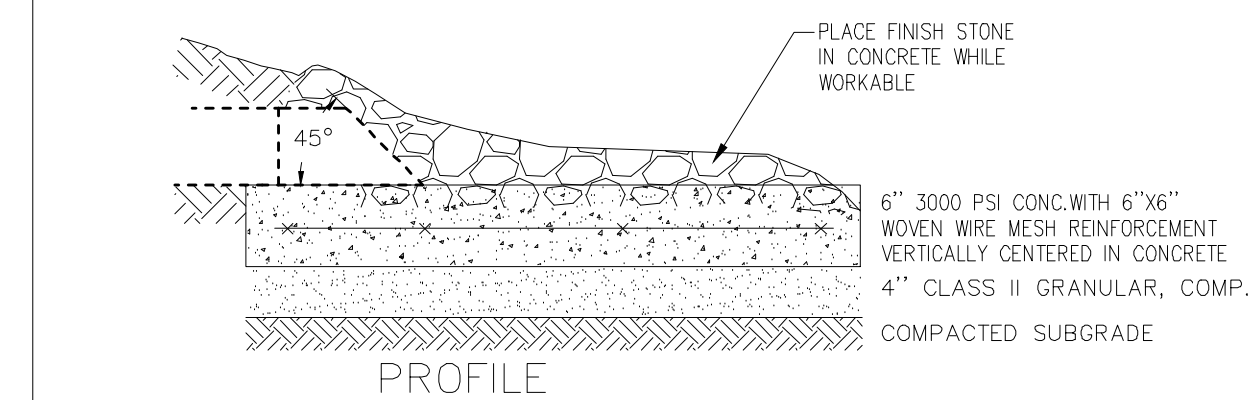
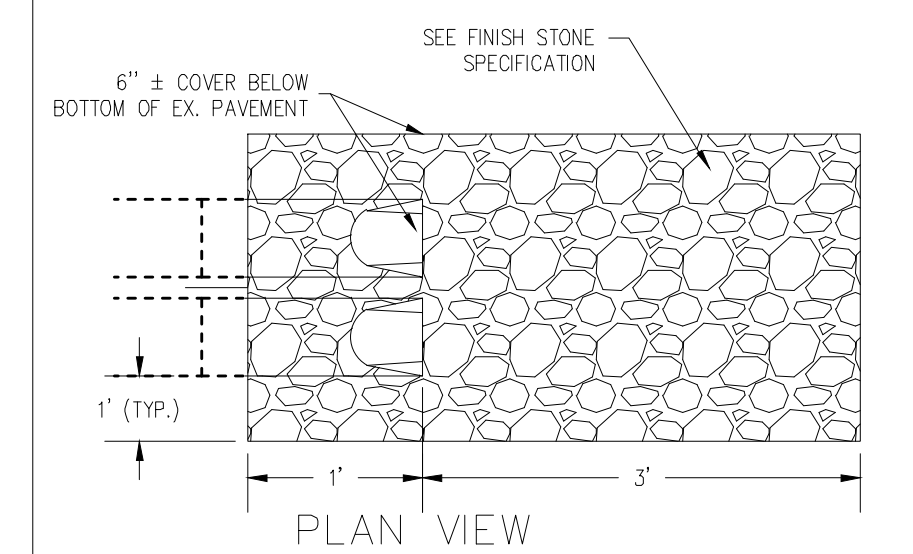
CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY WORK.



① STORM STRUCTURE RIM ADJUSTMENT



② AUGERED CULVERT DETAIL



③ STONE AT CULVERT END

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Apr 11, 2013 10:46 AM
 C:\Users\jdm\Documents\Projects\2013\17208\Drawings

DRAWN: JDM
 DESIGN: -
 CHECKED: -

REVISIONS	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE

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 4884 Elizabeth Lake Road Waterford, Michigan 48328 tel (248) 681-7800 fax (248) 681-2660
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 Impervious Area Disconnection and
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 734-794-6000



DETAILS
 Rain Gardens

SCALE: VERT. AS SHOWN
 HORZ. AS SHOWN

JOB NO. 17208
DATE ISSUED 04/11/2013
SHEET NO. C-2