



SOUTH WASHINGTON
WATERSHED DISTRICT

INFORMATION AND QUOTE PACKET

SOUTH WASHINGTON
WATERSHED DISTRICT
2016 WOODBURY ROADWAYS BMPs - RESIDENTIAL
RAINGARDENS CONSTRUCTION

MULTIPLE LOCATIONS - WOODBURY, MN



SOUTH WASHINGTON WATERSHED DISTRICT

April 25, 2016

**Subject: 2016 WOODBURY ROADWAYS BMPs - RESIDENTIAL RAINGARDENS
CONSTRUCTION**

Dear Contractor:

The SWWD invites you to submit a quote for the 2016 Woodbury Roadways BMPs – Residential Raingardens Construction project. Quotes are due no later than 3 pm Friday April 17th, 2015. Details necessary to prepare your quote are included in this document and attached, including:

- Exhibit A: Special Provisions
- Exhibit B: Quote Tab
- Exhibit C: Example Forms
- Exhibit D: Planset
- If you have any questions or need additional information, please contact me at 651-714-3717 or aschilling@ci.woodbury.mn.us

Sincerely,

South Washington Watershed District

Andy Schilling
Watershed Restoration Specialist

INFORMATION FOR QUOTERS

QUOTE PROCEDURE

Each Contractor has been furnished the quote form and special provisions. In submitting a quote, the Contractor shall quote on the separate quote form.

TO BE CONSIDERED, A QUOTE MUST BE RECEIVED PRIOR TO 3:00 P.M. TUESDAY, MAY 10TH, 2016 VIA EMAIL (ASCHILLING@CI.WOODBURY.MN.US) OR AT THE SOUTH WASHINGTON WATERSHED DISTRICT, 2302 TOWER DRIVE, WOODBURY, MINNESOTA, 55125.

ANY QUESTIONS REGARDING THE QUOTING PROCEDURE SHALL BE DIRECTED TO ANDY SCHILLING, SWWD WATERSHED RESTORATION SPECIALIST, AT 651-714-3717.

EXHIBIT A:

SPECIAL PROVISIONS

A. SCOPE OF WORK

The contractor is expected to construct residential streetside raingardens at locations disclosed in the planset (Exhibit D) in accordance with plans prepared by the South Washington Watershed District and supplied in Exhibit D. This work will include, but is not limited to:

1. On-site location of underground utilities and coordination with City of Woodbury-led effort to coordinate with utility companies having utilities in conflict with raingarden locations
2. General excavation of raingarden basins
3. On-site location and relocation of underground irrigation systems, including coordination with landowner as necessary
4. Disposal of excavated soils
5. Soil amendments
6. Basin underdrain installation including connection to existing catch basin, gate valve installation, and cleanout riser installation
7. Pipe connection to inlet structure (installed by City of Woodbury roadway contractor)
8. Boulder retaining wall installation
9. Edging installation
10. Delivery and installation of mulch
11. Installation of geojute fabric cover over mulch
12. Installation of Plants
13. Temporary and permanent erosion control as needed
14. Final grading and site restoration, including turf restoration

THE WORK REQUIRED UNDER THIS SECTION OF THE SPECIFICATION INCLUDES FURNISHING OF ALL LABOR, MATERIALS, PERMITS, EQUIPMENT AND SERVICES NECESSARY FOR, OR REASONABLY INCIDENTAL TO, THE CONSTRUCTION OF THE RAINGARDENS AS SPECIFIED IN THE SUPPLIED PLANSET. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS, OR AS STATED IN THIS SPECIFICATION.

B. GENERAL

1. The contractor shall provide adequate erosion and sediment control to prevent erosion on site and/or tracking from the site and provide adequate control to prevent sediment discharge from the site.
2. The Contractor shall locate utilities prior to beginning to work through Minnesota's Gopher State One Call.
3. The Contractor shall coordinate with City of Woodbury-directed contact in the City of Woodbury-led effort to move utilities in conflict with raingarden construction locations.

4. The Contractor shall repair all damage to public and private property.

C. COMPLETION

The Contractor shall have all required paperwork done, i.e., contract signed, certificate of insurance provided, all federal, state and local permits, etc., and commence work within thirty (30) calendar days after notification of award from the South Washington Watershed District.

The Contractor shall complete performance of the work on or before **Monday, October 31st, 2016**, after notification of award from the South Washington Watershed District. If construction timeline does not allow for plant installation, the Contractor shall complete performance of plant installation (only) by **Thursday, June 1st, 2017**.

The completion date will be strictly enforced, with the exception that reasonable accommodation shall be made for inclement weather conditions or delays due to work by others.

Failure to complete construction to specifications within said completion date—except as noted above—will result in a penalty of \$250 per day.

The anticipated project timeline for this project is as follows:

- Quotes due to SWWD May 10, 2016
- Quote Selection May 10, 2016
- Begin Construction *August – October, 2016

*Coordinate with City of Woodbury-directed contact to install work without conflict to City of Woodbury's Roadway Rehabilitation construction activities.

D. WORK BY OTHERS

Completion of this project, as specified in the supplied planset, will be coordinated with the City of Woodbury's Roadway Rehabilitation project. All constructed raingardens will be connected to at least one new stormsewer catch basin structure which will be installed as part of the City of Woodbury's project prior to raingarden construction.

The contractor's work will be considered complete when the raingarden is constructed, mulched planted, edged, planted, turf restored, and all street work completed according to the planset provided by the South Washington Watershed District.

E. CONTRACT DRAWINGS

All work must be completed in accordance with the plans prepared by the South Washington Watershed District and provided in Exhibit D.

F. INSURANCE

The Contractor must provide the following insurance:

1. General Liability Limits: \$1,500,000
2. Automobile Liability Limits: \$1,500,000
3. Umbrella-Excess Liability: \$2,000,000
4. Workers Compensation: Statutory

SWWD and the City of Woodbury (as an additional insured) must be insured.

G. PREMISE DETAILS

PAY ITEM NOTES

Pay Item Number	Pay Item Description	Information/Details
1	Estimated soil removal (including turf)	Includes excavation and any match grading specified in plan set
2	Underdrain Core drilling (4")	Connect to existing stormwater infrastructure
3	Doghouse pipe connection - grout ring gasket (6")	Create connection using watertight non-shrink grout, Inlet structure has 6" diameter opening pre-cast
4	Doghouse pipe connection - grout ring gasket (4")	Create connection using watertight non-shrink grout
5	Raingarden inlet pipe (6" PVC)	Solid SCH 40 pipe
6	Underdrain Valve Assembly	See detail on sheet 16 of planset - includes 8"diameter housing with threaded cap, 4" pvc knife gate valve, sand bedding)
7	Atrium grate (4")	Agridrain Bar Guard, Standard, 4"
8	PVC Perforated Underdrain with/Circular Knit Sock (4")	4" diameter, Perforated SCH 40 pipe with circular knit type sock
9	PVC Solid Pipe - SCH 40 (4")	Riser pipe (3.5 LF per raingarden) and underdrain section outside of raingarden basin (length varies)
10	PVC Elbow - 90 deg (4")	PVC Elbow - 90 deg (4")
11	PVC Elbow - 45 deg (4")	PVC Elbow - 45 deg (4")
12	PVC Coupling (4")	PVC Coupling (4")
13	PVC Elbow - 45 deg (6")	PVC Elbow - 45 deg (6")
14	Choker Course Igneous Rock (1/4" - 3/8" diameter)	Choker Course Igneous Rock (1/4" - 3/8" diameter)
15	Drainage Rock, Igneous (3/4" diameter, angular)	Drainage Rock, Igneous (3/4" diameter, angular)

16	Engineered Soil -Bioretention Mix B	Bioretention Mix B - Enhanced Filtration Blend; 75% Sand (coarse, washed), 25% organic matter (MnDOT Grade 2 compost - must meet Phosphorus index (see sheet 19 of planset)
17	MnDOT Grade 2 compost	Raingarden Side slopes and behind wall, 2" depth
18	River rock (2" - 8" diameter)	River rock , washed (2" - 8" diameter)
19	Double shredded hardwood mulch	Double Shredded Hardwood Mulch (3" depth)
20	Subsoil decompaction	Scarify subsoils with toothed bucket below each raingarden (bottom of basin only)
21	Jute Blanket (9 oz/sy), Eco-Jute or approved equal, Includes stapling	Jute Blanket (9 oz/sy), Eco-Jute or approved equal, Includes basin and area equivalent to 1 vertical feet above basin, Includes perimeter stapling and stapling at vertex of basin and side slope, staple every 4'
22	Geotextile fabric (under dry creek bed)	Applies to sheet 5 project, assume 1/2 qty as woven, 1/2 qty nonwoven
23	Boulder retaining wall (including all associated material listed in detail on Sheet 16 of planset)	Includes glacial fieldstone boulders (15" - 30"), 6" depth MnDOT Class 5 aggregate, plate compacted, angular crush rock fill, nonwoven geotextile fabric
24	Turf Restoration - Sod	Prepare surface and install sod to match existing turf for all raingardens, staple
25	Edging (steel - 4"x3/16"x16')	Black Painted Steel - 4"x3/16"x16'), includes metal stakes
26	Edging (Concrete Bullet Edger - 4" x 4" x 12 1/4")	Interloc or approved equal, includes bedding sand
27	Irrigation system restoration	locate, move, reinstallation of landowner irrigation in conflict with raingarden
28	Plants - 4" pot	All native plants - must be of local ecotype
29	Plants - #1 pot	Cultivars shrubs, perennials and grasses
30	Plants - #2 pot	Cultivar shrub
31	Plants - #5 pot	Cultivar shrub
32	Plants - #15 pot	Cultivar tree
33	Staking and Guying	see detail and specs on sheet 18 of planset
34	Minor limbing of existing tree	Applies to sheet 5 project, a couple small branches of adjacent river birch must be trimmed (less than 6" diameter and less than 10' high)

H. EXAMINATION OF SITE WORK

It is required and expected that each Contractor, before submitting a bid for work required under this specification, shall visit the site, make a thorough examination of conditions, and take all

necessary measurements to be thoroughly familiar with all conditions and all of the limitations pertaining to the work herein contemplated.

No extras will be allowed because of the Contractor's misunderstanding as to the amount of work involved or lack of knowledge of any of the conditions pertaining to the work based on neglect or failure to visit or make examination of the site.

It is also expected that in the event that any of this specification is not clear, or in the event there are any discrepancies, these will be brought to the attention of the SWWD Watershed Restoration Specialist, Andy Schilling and a decision will be rendered as soon as possible.

I. QUOTE

The quote price shall include all labor, materials, permits, and services necessary for, or reasonably incidental to, the complete work as stated in this specification. All quotes shall be submitted using the Quote tab provided in Exhibit B. Quotes shall be submitted, electronically or by mail, to the South Washington Watershed District, 2302 Tower Drive, Woodbury, MN, 55125 no later than **3:00 pm Tuesday, May 10th, 2016** and include the following:

1. Completed Quote template (Exhibit B),
2. Certificate of Liability Insurance,
3. Names of any subcontractors to be utilized on the project.

Official awarding and work authorization will occur at SWWD's May Board Meeting on May 10th, 2016.

The South Washington Watershed District reserves the right to reject any or all quotes.

Without limiting the generality of the foregoing, any quote which is incomplete, obscure or irregular may be rejected.

J. STANDARDS

The Contractor shall be required to apply and pay for all permits or approvals required for the work listed herein and he/she shall comply with all federal, state and local codes and ordinances affecting this work. This includes all necessary permits for performing work within City of Woodbury Right of Way. If local codes are more restrictive than these specifications, then the local codes take precedence.

K. PREVAILING WAGE

Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Minnesota Rules 5200.1000 to 5200.1120, the contract for this work is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties.

A Prevailing Wage supplement is included in Exhibit C.

Questions about the application of prevailing wage rates should be directed to the State Department of Labor and Industry at 651-284-5091.

L. NOTIFICATION PRIOR TO START OF WORK

Immediately prior to the start of the first day of work, the Contractor shall notify the Watershed Restoration Specialist, Andy Schilling, South Washington Watershed District, 2302 Tower Drive, Woodbury, Minnesota 55125, (651) 714-3717, of the work schedule.

M. PUBLIC AND PRIVATE UTILITIES, IRRIGATION

The Contractor shall take care of all public and private utilities encountered during the progress of the work.

The Contract shall locate, repair and move existing irrigation lines and heads in the work area.

N. PROTECTION OF PRIVATE AND PUBLIC PROPERTY

The Contractor shall use extreme care in operating all equipment around or near trees adjacent to the construction areas. Trees are not to be damaged or destroyed.

The Contractor shall repair all damage to private and public property, including roadway surfaces, curbs, utilities, stormsewer structures, sod, and existing landscaping.

O. EXCAVATING, GRADING AND SITE WORK

The contractor shall be responsible for all any damage to the roadway surface and curb.

The Contractor will take all measures necessary to ensure that no sediment leaves the project sites during construction. Final stabilization shall consist of placement of 3" layer of double shredded hardwood mulch over the garden surface and restoration of surrounding turf using sod rolls.

P. METHOD OF PAYMENT

In the case of a unit price construction contract, upon completion and acceptance of the work or any part thereof, the Contractor may submit a partial estimate in duplicate. Said estimate shall be presented to the Watershed Restoration Specialist on or before the end of the third week and payment for his estimated work will be accomplished by the end of the second week of the following month.

A partial payment request form will be provided by SWWD.

Ten percent (10%) of the contract price will be retained by the South Washington Watershed District until the work is substantially completed after which the retained percentage shall be reduced to an amount adequate to pay for minor corrections, adjustments and for any uncompleted work.

The work shall be considered substantially completed when all work has been completed, except minor corrections and adjustments.

No payment will be made for materials delivered to the site and not incorporated in the work.

Q. EXTENSION OF TIME

No extension of time will be given for the completion of the work except for delays authorized by the Watershed Restoration Specialist. Extension of time will only be granted upon a written request from the Contractor to the Watershed Restoration Specialist. The Watershed Restoration Specialist shall designate the length of the extension, if, in his opinion, such an extension is required. The Watershed Restoration Specialist will give the extension, in writing, to the Contractor.

R. SAFETY

The Contractor shall use every precaution to protect the public from personal harm. Work will largely be within a street Right Of Way - The Contractor shall erect suitable barriers as determined necessary following standards set by the Minnesota Manual on Uniform Traffic Control Devices and by the Administrator to prevent people and vehicles safe from construction equipment, construction activities, and from falling into holes or depressions.

S. MISCELLANEOUS

None.

- END OF SPECIAL PROVISIONS -

EXHIBIT B: QUOTE TAB

**2016 Woodbury Roadways BMPs – Residential Raingardens
Construction, Multiple Locations - Woodbury**

South Washington Watershed District
2302 Tower Drive
Woodbury, Minnesota 55125

The undersigned, being familiar with your local conditions, having made the field inspections and investigations deemed necessary, having studied the plans and specifications for work and being familiar with all factors and other conditions affecting the work and cost thereof, hereby proposes to furnish all labor, tools, materials, skills, equipment, permits and all else necessary for the construction of residential raingardens at multiple locations in Woodbury as per Special Provisions on file with the South Washington Watershed District, 2302 Tower Drive, Woodbury, Minnesota 55125.

QUOTE FOR RESIDENTIAL RAINGARDENS CONSTRUCTION

Total Quote – Residential Raingardens Construction \$ _____

A contract will be awarded to the contractor who submits the lowest responsible quote for construction.

In submitting this quote, it is understood that the South Washington Watershed District retains the right to reject any and all quotes and to waive irregularities and informalities therein and to award the contract to the best interests of the South Washington Watershed District.

It is understood that quotes may not be withdrawn for a period of thirty (30) days after the quote date of May 10, 2016.

Respectfully submitted,

(A Corporation)

(An Individual)

(Name of Contractor)

(A Partnership)

By:

(Authorized Representative)

(Printed Name)

(Title)

(Address)

(City, State & Zip Code)

(Telephone Number)

SWWD - 2016 Woodbury Roadways BMPs -
Rain Garden Construction Quote
Tab

Rain Garden Construction; Summary--all sites

Pay Item Number	Pay Item Description	Quantity	Unit	Unit Cost	Total
1	Estimated soil removal (including turf)	246.0	CY		
2	Underdrain Core drilling (4")	6.0	EA		
3	Doghouse pipe connection - grout ring gasket (6")	6.0	EA		
4	Doghouse pipe connection - grout ring gasket (4")	6.0	EA		
5	Raingarden inlet pipe (6" PVC)	76.0	LF		
6	Underdrain Valve Assembly	6.0	EA		
7	Atrium grate (4")	6.0	EA		
8	PVC Perforated Underdrain with/Circular Knit Sock	108.0	LF		
9	PVC Solid Pipe - SCH 40 (4")	143.0	LF		
10	PVC Elbow - 90 deg (4")	6.0	EA		
11	PVC Elbow - 45 deg (4")	16.0	EA		
12	PVC Coupling (4")	6.0	EA		
13	PVC Elbow - 45 deg (6")	3.0	EA		
14	Choker Course Igneous Rock (1/4" - 3/8" diameter)	5.2	CY		
15	Drainage Rock, Igneous (3/4" diameter, angular)	19.1	CY		
16	Engineered Soil -Bioretention Mix B	48.0	CY		
17	MnDOT Grade 2 compost	19.7	CY		
18	River rock (2" - 8" diameter)	2.0	CY		
19	Double shredded hardwood mulch	26.0	CY		
20	Subsoil decompaction	6.0	LS		
21	Jute Blanket (9 oz/sy), Eco-Jute or approved equal. Includes stapling	1000.0	SF		
22	Geotextile fabric (under dry creek bed)	20.0	SF		
23	Boulder retaining wall (including all associated material listed in detail on Sheet 16 of planset)	327.0	SF		
24	Turf Restoration - Sod	135.0	SY		
25	Edging (steel - 4"x3/16"x16')	9.0	EA		
26	Edging (Concrete Bullet Edger - 4" x 4" x 12 1/4")	330.0	EA		
27	Irrigation system restoration	4.0	LS		
28	Plants - 4" pot	382.0	EA		
29	Plants - #1 pot	302.0	EA		
30	Plants - #2 pot	45.0	EA		
31	Plants - #5 pot	6.0	EA		
32	Plants - #15 pot	9.0	EA		
33	Staking and Guying	9.0	EA		
34	Minor limbing of existing tree	1.0	LS		
				Total	

EXHIBIT C: EXAMPLE FORMS

**CONTRACT BETWEEN SOUTH WASHINGTON
WATERSHED DISTRICT AND CONTRACTOR**

FOR CONSTRUCTION SERVICES

SOUTH WASHINGTON	
WATERSHED DISTRICT	
CONTRACT NO.	2016 Woodbury Roadways BMPs – Residential Raingardens
TERM	05/10/2016 – 06/01/2017

I. PARTIES

This Agreement is made and entered into by and between South Washington Watershed District, hereinafter referred to as "SWWD", and Contractor herein referred to as "Contractor", said project to be known as the 2016 Woodbury Roadways BMPs – Residential Raingardens.

II. PURPOSE

WHEREAS, the SWWD needs to construct 6 residential raingardens and plant 1 public raingarden (already finished graded and stabilized);

WHEREAS, the Contractor is an experienced, qualified Contractor capable of performing these duties;

NOW, THEREFORE, the parties agree as follows below:

III. TERM OF CONTRACT

The term of this contract shall be from 05/10/2016 to 6/1/2017 the date of signature of the parties notwithstanding, unless earlier terminated as provided herein.

A penalty, as specified in the Scope of Services, will apply if the project – less plantings is not complete by 10/31/2016 and plantings completed by 6/1/2017.

IV. SCOPE OF SERVICES

Contractor will provide services as specified in the SOUTH WASHINGTON WATERSHED DISTRICT, 2016 WOODBURY ROADWAYS BMPS – RESIDENTIAL RAINGARDENS information and quote packet that are hereby made part of this agreement [Exhibit A].

V. CONTRACTOR'S PROPOSAL

The professional services as proposed by the Contractor are hereto attached and hereby made a part of this agreement as Exhibit B. Said services are to be performed in accordance with the quotation provisions of the Request for Proposal and are hereby made a part of this agreement [Exhibit A].

VI. Prevailing Wage

Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Minnesota Rules 5200.1000 to 5200.1120, this contract is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established

prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties.

The Contractor and subcontractor(s) are required to furnish payroll information to SWWD. The Contractor and subcontractor(s) must furnish, via email, the Prevailing Wage Payroll Information Form in Microsoft Office Excel format and the Statement of Compliance in Adobe PDF format. These forms must be furnished not more than 14 days after the end of each pay period. No other payroll forms will be accepted to meet this requirement. Copies of the Prevailing Wage Payroll Form and the Statement of Compliance Form are available at the MMD website at www.mmd.admin.state.mn.us/mn02000.htm#prevwage.

VII. PAYMENT

The total amount of this contract shall not exceed ~~\$xxxxx~~. The Contractor will provide a detailed monthly invoice, based on values on the quote tabulation, which will list specifically the work performed

Upon completion and acceptance of the work or any part thereof, the Contractor may submit a partial estimate in duplicate. Said estimate shall be presented to the Watershed Restoration Specialist on or before the end of the third week and payment for his estimated work will be accomplished by the end of the second week of the following month.

A partial payment request form will be provided by SWWD.

Ten percent (10%) of the contract price will be retained by the South Washington Watershed District until the work is substantially completed after which the retained percentage shall be reduced to an amount adequate to pay for minor corrections, adjustments and for any uncompleted work.

The work shall be considered substantially completed when all work has been completed, except minor corrections and adjustments. No payment will be made for materials delivered to the site and not incorporated in the work.

VIII. DOCUMENT FORMAT

All word processing documents shall be done and provided to the SWWD in Microsoft Word format, and not converted from other formats. Data files shall be provided in Microsoft Excel format.

IX. STANDARDS

The Contractor shall comply with all applicable Federal law, State statutes, Federal and State regulations, and local ordinances now in effect or hereafter adopted.

Failure to meet the requirements of the above shall be a substantial breach of the agreement and will be cause for cancellation of this contract.

X. POSSESSION OF FIREARMS ON SWWD PREMISES.

Unless specifically required by the terms of this contract, no provider of services pursuant to this contract, including but not limited to employees, agents or subcontractors of the Contractor shall carry or possess a firearm on SWWD premises or while acting on behalf of the SWWD pursuant to the terms of this agreement. Violation of this provision shall be considered a substantial breach of the Agreement; and, in addition to any other remedy available to the SWWD under law or equity. Violation of this provision is grounds for immediate suspension or termination of this contract.

XI. SUBCONTRACTING AND ASSIGNMENT.

The Contractor shall not enter into any subcontract for performance of any services contemplated under this agreement, nor notate or assign any interest in the agreement, without the prior written approval of the SWWD. Any assignment or novation may be made subject to such conditions and provisions as the SWWD may impose.

If the contractor subcontracts the obligations under this agreement, the contractor shall be responsible for the performance of all obligations by the subcontractors.

XII. DATA PRACTICES.

All data collected, created, received, maintained, or disseminated for any purposes by the activities of the contractor, because of this agreement, is governed by the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, as amended, the Minnesota Rules implementing such Act now in force or as adopted, as well as federal regulations on data privacy.

XIII. AUDITS, REPORTS, RECORDS AND MONITORING PROCEDURES/RECORDS AVAILABILITY & RETENTION.

Pursuant to Minn. Stat. section 16C.05 subd. 5, the Contractor/Contractor will:

- A. Maintain records which reflect all revenues, costs incurred and services provided in the performance of this Agreement.
- B. Agree that the SWWD, the State Auditor, or legislative authority, or any of their duly authorized representatives at any time during normal business hours, and as often as they may deem reasonably necessary, shall have access to and the right to examine, audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices and involve transactions relating to this agreement. The Contractor agrees to maintain these records for a period of six (6) years from the date of the termination of this agreement.

XIV. NONDISCRIMINATION.

The Contractor agrees to comply with the nondiscrimination provision set forth in Minnesota Statute 181.59. The Contractors failure to comply with section 181.59 may result in cancellation or termination of the agreement, and all money due or to

become due under the contract may be forfeited for a second or any subsequent violation of the terms or conditions of this contract.

XV. JURISDICTION & VENUE.

This contract, amendments and supplements thereto, shall be governed by the laws of the State of Minnesota. All actions brought under this agreement shall be brought exclusively in Minnesota State Courts of competent jurisdiction with venue in Washington County.

XVI. INSURANCE REQUIREMENTS

The Contractor agrees that in order to protect itself, as well as the SWWD, under the indemnity provisions set forth above, it will at all times during the term of this Agreement, keep in force the following insurance protection in the limits specified:

- A. Commercial Liability Limits: \$1,500,000
- B. Automobile Liability Limits: \$1,500,000
- C. Umbrella-Excess Liability: \$2,000,000
- D. Workers Compensation: Statutory

Prior to the effective date of this Agreement, the Contractor will furnish the SWWD, with certificates of insurance as proof of insurance. This provision shall be set as a condition subsequent; failure to abide by this provision shall be deemed a substantial breach of contract.

Any policy obtained and maintained under this clause shall provide that it shall not be cancelled, materially changed, or not renewed without thirty days notice thereof to the SWWD.

XVII. INDEPENDENT CONTRACTOR

It will be agreed that nothing within the contract is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties or as constituting the Contractor as the agent, representative, or employee of the SWWD, for any purpose or in any manner whatsoever. The Contractor is to be and shall remain an independent Contractor with respect to all services performed under this agreement.

The Contractor will secure, at its own expense, all personnel required in performing services under the agreement. Any and all personnel of the Contractor or other persons, while engaged in the performance of any work or services required by the Contractor under this agreement shall have no contractual relationship with the SWWD, and shall not be considered employees of the SWWD.

XVIII. MODIFICATIONS

Any material alteration, modification, or variation shall be reduced to writing as an amendment and signed by the parties. Any alterations, modifications, or variations deemed not to be material by agreement of the SWWD and the Contractor shall not require written approval.

XIX. MERGER

It is understood and agreed that the entire agreement of the parties is contained here and that this contract supersedes all oral agreements and negotiations between the parties relating to this subject matter. All items referred to in this contract are incorporated or attached and deemed to be part of the contract.

XX. NOTICES

Whenever it shall be required or permitted by this Agreement that notice or demand be given or served by either party to or on the other party, such notice or demand shall be delivered personally or mailed by United States mail to the addresses hereinafter set forth by certified mail. Such notice or demand shall be deemed timely given when delivered personally or when deposited in the mail in accordance with the above. The addresses of the parties hereto for such mail purposes are as follows, until written notice of such address has been given:

Administrator

SWWD
2302 Tower Drive
Woodbury, MN 55125

Contractor

Contractor

XXI. CANCELLATION

The SWWD may cancel this Agreement at any time upon giving fifteen (15) days written notice sent to the Contractor at the address above, or as set forth in Section IV.

XXII. SERVICES BEYOND THE SCOPE OF THIS CONTRACT

Any additional tasks added to this project must be by written amendment to this Contract signed by both parties.

**SOUTH WASHINGTON WATERSHED
DISTRICT**

CONTRACTOR

Denny Hanna

Date

Contractor

Date

SWWD Vice President

President

**MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE
FUNDED CONSTRUCTION PROJECTS**



THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE

Construction Type: Highway and Heavy

Region Number: 09

Counties within region:

- ANOKA-02
- CARVER-10
- CHISAGO-13
- DAKOTA-19
- HENNEPIN-27
- RAMSEY-62
- SCOTT-70
- WASHINGTON-82

Effective: 2014-10-20 Revised: 2014-11-04

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Transportation
Office of Construction
Transportation Building MS650
John Ireland Blvd
St. Paul, MN 55155
(651) 366-4209

Refer questions concerning the prevailing wage rates to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155
(651) 284-5091
DLI.PrevWage@state.mn.us

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
<i>LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)</i>				
101 LABORER, COMMON (GENERAL LABOR WORK)	2014-10-20	27.77	16.52	44.29
	2015-05-01	28.94	16.89	45.83
102 LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2014-10-20	27.77	16.52	44.29
	2015-05-01	28.94	16.89	45.83
103 LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2014-10-20	18.75	13.24	31.99
	2015-05-01	19.96	13.59	33.55
104 FLAG PERSON	2014-10-20	27.77	16.52	44.29
	2015-05-01	28.94	16.89	45.83
105 WATCH PERSON	2014-10-20	24.37	15.97	40.34
	2015-05-01	25.54	16.34	41.88
106 BLASTER	2014-10-20	22.08	6.87	28.95
107 PIPELAYER (WATER, SEWER AND GAS)	2014-10-20	30.27	16.52	46.79
	2015-05-01	31.44	16.89	48.33
108 TUNNEL MINER	2014-10-20	28.47	16.52	44.99
	2015-05-01	29.64	16.89	46.53
109 UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2014-10-20	28.47	16.52	44.99
	2015-05-01	29.64	16.89	46.53
110 SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND	2014-10-20	27.77	16.52	44.29

IDENTIFICATION OF MARKERS OR MONUMENTS;
 PERFORM AND CHECK CALCULATIONS; REVIEW AND
 UNDERSTAND CONSTRUCTION PLANS AND LAND
 SURVEY MATERIALS). THIS CLASSIFICATION DOES
 NOT APPLY TO THE WORK PERFORMED ON A
 PREVAILING WAGE PROJECT BY A LAND SURVEYOR
 WHO IS LICENSED PURSUANT TO MINNESOTA
 STATUTES, SECTIONS 326.02 TO 326.15.

2015-05-01 28.94 16.89 45.83

111 TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE) 2014-10-20 27.77 16.52 44.29
 2015-05-01 28.94 16.89 45.83

112 QUALITY CONTROL TESTER (FIELD AND COVERED
 OFF-SITE FACILITIES; TESTING OF AGGREGATE,
 ASPHALT, AND CONCRETE MATERIALS); LIMITED TO
 MN DOT HIGHWAY AND HEAVY CONSTRUCTION
 PROJECTS WHERE THE MN DOT HAS RETAINED
 QUALITY ASSURANCE PROFESSIONALS TO REVIEW
 AND INTERPRET THE RESULTS OF QUALITY
 CONTROL TESTERS. SERVICES PROVIDED BY THE
 CONTRACTOR. 2014-10-20 16.28 4.07 20.35

SPECIAL EQUIPMENT (201 - 204)

201 ARTICULATED HAULER 2014-10-20 32.07 17.20 49.27
 2015-05-01 32.93 17.90 50.83

202 BOOM TRUCK 2014-10-20 32.07 17.20 49.27
 2015-05-01 32.93 17.90 50.83

203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO
 SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR
 WITH ATTACHMENT SPECIFICALLY SEEDING,
 SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT
 (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER
 LOADERS), NO EARTHWORK OR GRADING FOR
 ELEVATIONS 2014-10-20 27.82 17.20 45.02
 2015-05-01 28.68 17.90 46.58

204 OFF-ROAD TRUCK 2014-10-20 32.07 17.20 49.27
 2015-05-01 32.93 17.90 50.83

205 PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2014-10-20	31.45	17.95	49.40
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HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR

GROUP 2	2014-10-20	32.92	17.20	50.12
	2015-05-01	33.78	17.90	51.68

- 302 HELICOPTER PILOT (HIGHWAY AND HEAVY ONLY)
- 303 CONCRETE PUMP (HIGHWAY AND HEAVY ONLY)
- 304 ALL CRANES WITH OVER 135-FOOT BOOM, EXCLUDING JIB (HIGHWAY AND HEAVY ONLY)
- 305 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR OTHER SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS THREE CUBIC YARDS AND OVER MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)
- 306 GRADER OR MOTOR PATROL
- 307 PILE DRIVING (HIGHWAY AND HEAVY ONLY)
- 308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)

GROUP 3	2014-10-20	32.37	17.20	49.57
	2015-05-01	33.23	17.90	51.13

- 309 ASPHALT BITUMINOUS STABILIZER PLANT
- 310 CABLEWAY
- 311 CONCRETE MIXER, STATIONARY PLANT (HIGHWAY AND HEAVY ONLY)
- 312 DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)
- 313 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS, UP TO THREE CUBIC YARDS MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS (HIGHWAY AND HEAVY ONLY)
- 314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER
- 315 FRONT END LOADER, FIVE CUBIC YARDS AND OVER INCLUDING ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)
- 316 LOCOMOTIVE CRANE OPERATOR
- 317 MIXER (PAVING) CONCRETE PAVING, ROAD MOLE, INCLUDING MUCKING OPERATIONS, CONWAY OR SIMILAR TYPE

- 318 MECHANIC . WELDER ON POWER EQUIPMENT (HIGHWAY AND HEAVY ONLY)
- 319 TRACTOR . BOOM TYPE (HIGHWAY AND HEAVY ONLY)
- 320 TANDEM SCRAPER
- 321 TRUCK CRANE . CRAWLER CRANE (HIGHWAY AND HEAVY ONLY)
- 322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

GROUP 4	2014-10-20	32.07	17.20	49.27
	2015-05-01	32.93	17.90	50.83

- 323 AIR TRACK ROCK DRILL
- 324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)
- 325 BACKFILLER OPERATOR
- 326 CONCRETE BATCH PLANT OPERATOR (HIGHWAY AND HEAVY ONLY)
- 327 BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)
- 328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)
- 329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS
- 330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS
- 331 CHIP HARVESTER AND TREE CUTTER
- 332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE
- 333 CONCRETE MIXER ON JOBSITE (HIGHWAY AND HEAVY ONLY)
- 334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)
- 335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT
- 336 CURB MACHINE
- 337 DIRECTIONAL BORING MACHINE
- 338 DOPE MACHINE (PIPELINE)
- 339 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL (HIGHWAY AND HEAVY ONLY)
- 340 DUAL TRACTOR
- 341 ELEVATING GRADER
- 342 FORK LIFT OR STRADDLE CARRIER (HIGHWAY AND HEAVY ONLY)
- 343 FORK LIFT OR LUMBER STACKER (HIGHWAY AND HEAVY ONLY)
- 344 FRONT END, SKID STEER OVER 1 TO 5 C YD
- 345 GPS REMOTE OPERATING OF EQUIPMENT
- 346 HOIST ENGINEER (POWER) (HIGHWAY AND HEAVY ONLY)
- 347 HYDRAULIC TREE PLANTER

- 348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)
- 349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)
- 350 MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE
- 351 MULTIPLE MACHINES, SUCH AS AIR COMPRESSORS, WELDING MACHINES, GENERATORS, PUMPS (HIGHWAY AND HEAVY ONLY)
- 352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE
- 353 PICKUP SWEEPER, ONE CUBIC YARD AND OVER HOPPER CAPACITY(HIGHWAY AND HEAVY ONLY)
- 354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE
- 355 POWER PLANT ENGINEER, 100 KWH AND OVER (HIGHWAY AND HEAVY ONLY)
- 356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES
- 357 PUGMILL
- 358 PUMPCRETE (HIGHWAY AND HEAVY ONLY)
- 359 RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)
- 360 SCRAPER
- 361 SELF-PROPELLED SOIL STABILIZER
- 362 SLIP FORM (POWER DRIVEN) (PAVING)
- 363 TIE TAMPER AND BALLAST MACHINE
- 364 TRACTOR, BULLDOZER (HIGHWAY AND HEAVY ONLY)
- 365 TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)
- 366 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER (HIGHWAY AND HEAVY ONLY)
- 367 TUB GRINDER, MORBARK, OR SIMILAR TYPE
- 368 WELL POINT DISMANTLING OR INSTALLATION (HIGHWAY AND HEAVY ONLY)

GROUP 5	2014-10-20	29.03	17.20	46.23
	2015-05-01	29.89	17.90	47.79

- 369 AIR COMPRESSOR, 600 CFM OR OVER (HIGHWAY AND HEAVY ONLY)
- 370 BITUMINOUS ROLLER (UNDER EIGHT TONS)
- 371 CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)
- 372 FORM TRENCH DIGGER (POWER)
- 373 FRONT END, SKID STEER UP TO 1C YD
- 374 GUNITE GUNALL (HIGHWAY AND HEAVY ONLY)
- 375 HYDRAULIC LOG SPLITTER
- 376 LOADER (BARBER GREENE OR SIMILAR TYPE)

- 377 POST HOLE DRIVING MACHINE/POST HOLE AUGER
- 378 POWER ACTUATED AUGER AND BORING MACHINE
- 379 POWER ACTUATED JACK
- 380 PUMP (HIGHWAY AND HEAVY ONLY)
- 381 SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)
- 382 SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER
- 383 SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER
- 384 STUMP CHIPPER AND TREE CHIPPER
- 385 TREE FARMER (MACHINE)

GROUP 6	2014-10-20	27.82	17.20	45.02
	2015-05-01	28.68	17.90	46.58

- 387 CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER
- 388 CONVEYOR (HIGHWAY AND HEAVY ONLY)
- 389 DREDGE DECK HAND
- 390 FIRE PERSON OR TANK CAR HEATER (HIGHWAY AND HEAVY ONLY)
- 391 GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)
- 392 GREASER (TRACTOR) (HIGHWAY AND HEAVY ONLY)
- 393 LEVER PERSON
- 394 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS, AND MILLING MACHINES, OR OTHER SIMILAR HEAVY EQUIPMENT) (HIGHWAY AND HEAVY ONLY)
- 395 POWER SWEEPER
- 396 SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS
- 397 TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING

TRUCK DRIVERS

GROUP 1	2014-10-20	28.10	14.80	42.90
	2015-05-01	29.50	14.80	44.30

- 601 MECHANIC . WELDER
- 602 TRACTOR TRAILER DRIVER
- 603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)

GROUP 2	2014-10-20	27.55	14.80	42.35
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	2015-05-01	28.95	14.80	43.75
604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
GROUP 3	2014-10-20	27.45	14.80	42.25
	2015-05-01	28.85	14.80	43.65
605 BITUMINOUS DISTRIBUTOR DRIVER				
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607 THREE AXLE UNITS				
GROUP 4	2014-10-20	27.20	14.80	42.00
	2015-05-01	28.60	14.80	43.40
608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609 DUMP PERSON				
610 GREASER				
611 PILOT CAR DRIVER				
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613 TWO AXLE UNIT				
614 SLURRY OPERATOR				
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616 TRACTOR OPERATOR, UNDER 50 H.P.				
<i>SPECIAL CRAFTS</i>				
701 HEATING AND FROST INSULATORS	2014-10-20	41.30	19.83	61.13
702 BOILERMAKERS	2014-10-20	32.70	26.42	59.12
	2015-01-01	34.10	26.42	60.52
703 BRICKLAYERS	2014-10-20	32.80	19.73	52.53
704 CARPENTERS	2014-10-20	34.79	17.28	52.07
	2015-05-01	36.35	17.28	53.63
705 CARPET LAYERS (LINOLEUM)	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVMWAGE@STATE.MN.US			

706 CEMENT MASONS	2014-10-20	29.35	20.70	50.05
707 ELECTRICIANS	2014-10-20	37.28	25.33	62.61
711 GROUND PERSON	2014-10-20	26.64	12.71	39.35
	2015-03-30	27.44	13.28	40.72
712 IRONWORKERS	2014-10-20	34.55	22.85	57.40
	2015-05-01	36.05	22.85	58.90
713 LINEMAN	2014-10-20	39.76	16.38	56.14
	2015-03-30	40.95	17.07	58.02
714 MILLWRIGHT	2014-10-20	32.95	19.83	52.78
	2015-05-01	34.35	19.83	54.18
715 PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2014-10-20	32.88	18.56	51.44
	2015-05-01	34.13	18.56	52.69
716 PILEDRIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2014-10-20	34.79	17.28	52.07
	2015-05-01	36.35	17.28	53.63
717 PIPEFITTERS . STEAMFITTERS	2014-10-20	41.96	23.43	65.39
719 PLUMBERS	2014-10-20	41.71	20.24	61.95
721 SHEET METAL WORKERS	2014-10-20	40.00	22.48	62.48
	2015-05-01	41.70	22.48	64.18
723 TERRAZZO WORKERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
724 TILE SETTERS	2014-10-20	28.28	20.61	48.89

725 TILE FINISHERS

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVWAGE@STATE.MN.US

727 WIRING SYSTEM TECHNICIAN

2014-10-20 35.24 14.03 49.27

728 WIRING SYSTEMS INSTALLER

2014-10-20 24.67 11.78 36.45

729 ASBESTOS ABATEMENT WORKER

2014-10-20 28.12 15.59 43.71

2015-01-01 29.13 15.96 45.09

730 SIGN ERECTOR

FOR RATE CALL 651-284-5091 OR
EMAIL
DLI.PREVVWAGE@STATE.MN.US

EXHIBIT D: PLANSET

1

2

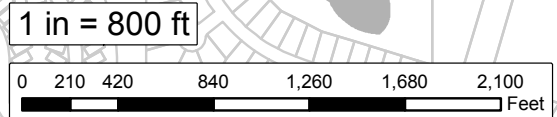
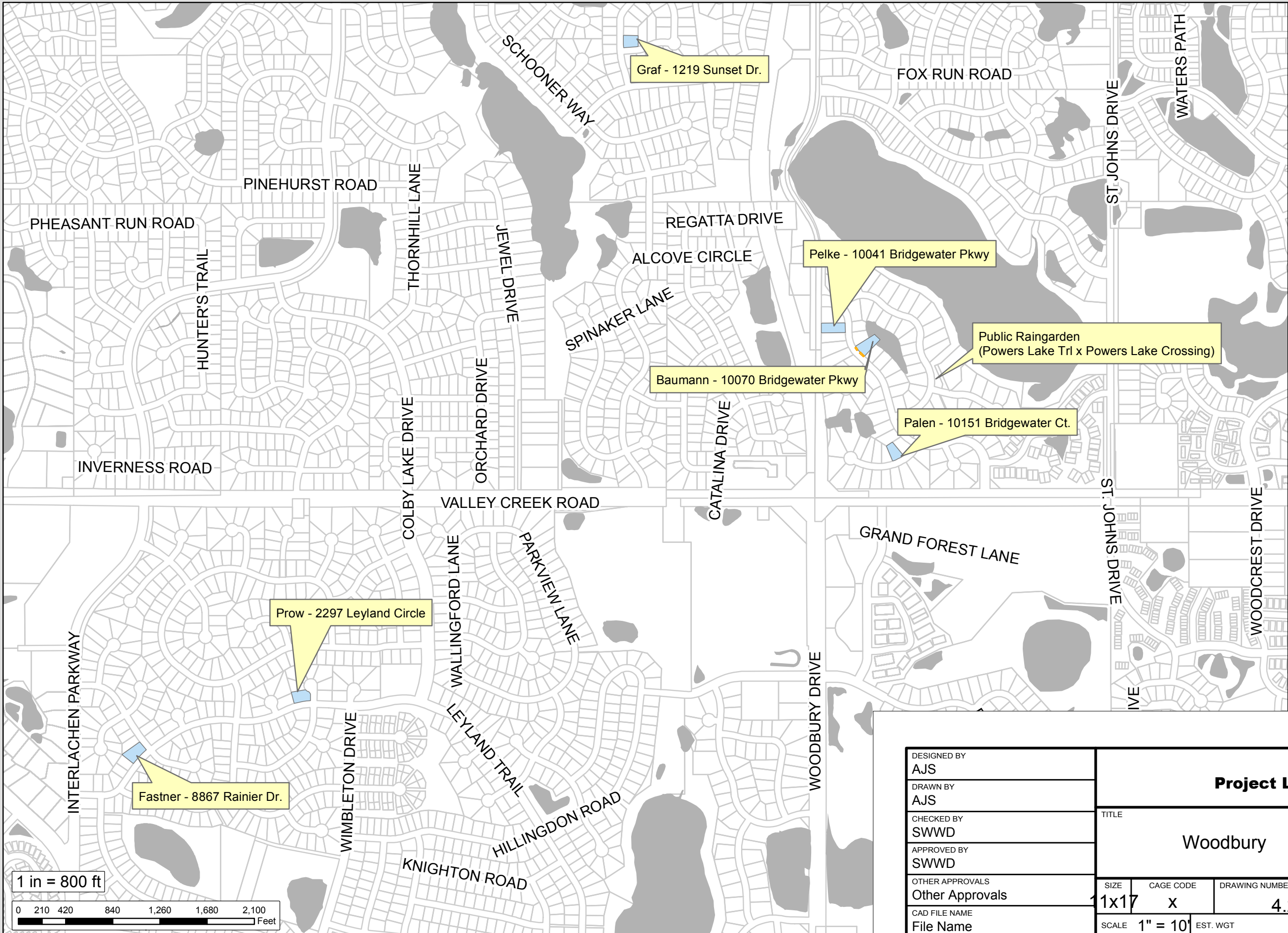
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DESIGNED BY	AJS
DRAWN BY	AJS
CHECKED BY	SWWD
APPROVED BY	SWWD
OTHER APPROVALS	Other Approvals
CAD FILE NAME	File Name

Project Locations			
TITLE Woodbury Roadways BMPs			
SIZE	CAGE CODE	DRAWING NUMBER	REV
11x17	X	4.25.16	
SCALE	1" = 10'	EST. WGT	SHEET 1 OF 19

1

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R/E

1

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PALEN RESIDENCE

DRIVEWAY

PROPERTY LINE

Retaining Wall
(TW 101.5')
(BW 99.5')

Raingarden
Edging/Planting Extent

Utility Box

Raingarden Basin
(99.3')

Underdrain (Outlet)

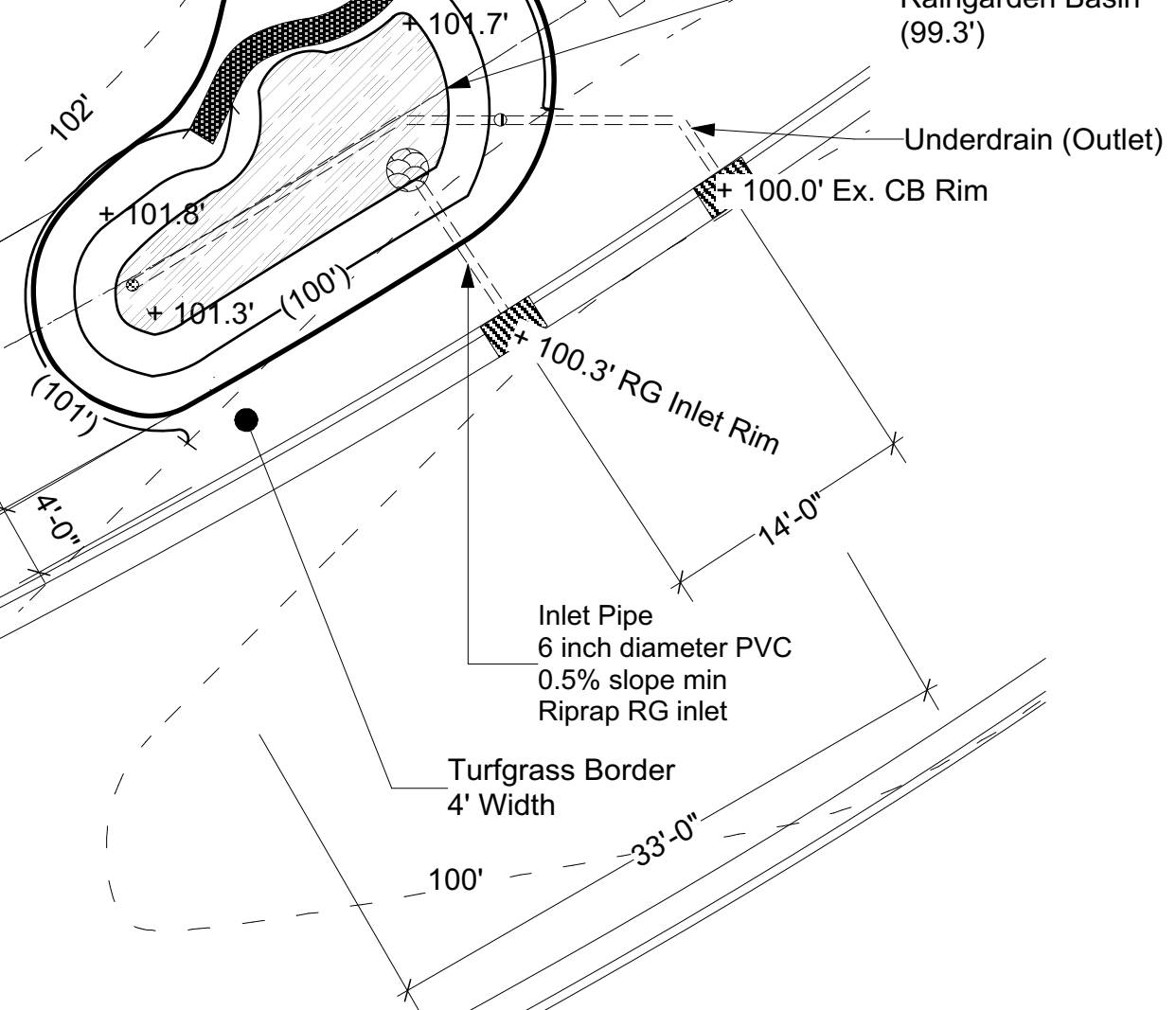
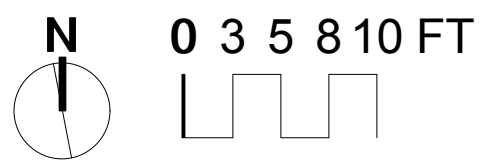
+ 100.0' Ex. CB Rim

+ 100.3' RG Inlet Rim

Inlet Pipe
6 inch diameter PVC
0.5% slope min
Riprap RG inlet

Turfgrass Border
4' Width

- Notes**
1. MARK UTILITIES PRIOR TO ANY EXCAVATION
 2. GRADE INFILTRATION FEATURE TO CONTOURS SHOWN
 3. CONSTRUCT AMENDED SOILS AND UNDERDRAIN PER DETAILS SHOWN ON SHEETS 16 AND 19
 4. CONNECT 6" PVC STORM SEWER FROM NEW CB TO FEATURE
 5. RESTORE DISTURBED AREA WITH 3" TOPSOIL/COMPOST MIXTURE AND SOD
 6. DETERMINE INLET CATCH BASIN LOCATION IN FIELD



DESIGNED BY AJS	Palen Residence - 10151 Bridgewater Ct		
DRAWN BY AJS	TITLE		
CHECKED BY SWWD	Woodbury Roadways BMPs - Grading Plan		
APPROVED BY SWWD	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	REV
CAD FILE NAME File Name	SHEET 3 OF 19		

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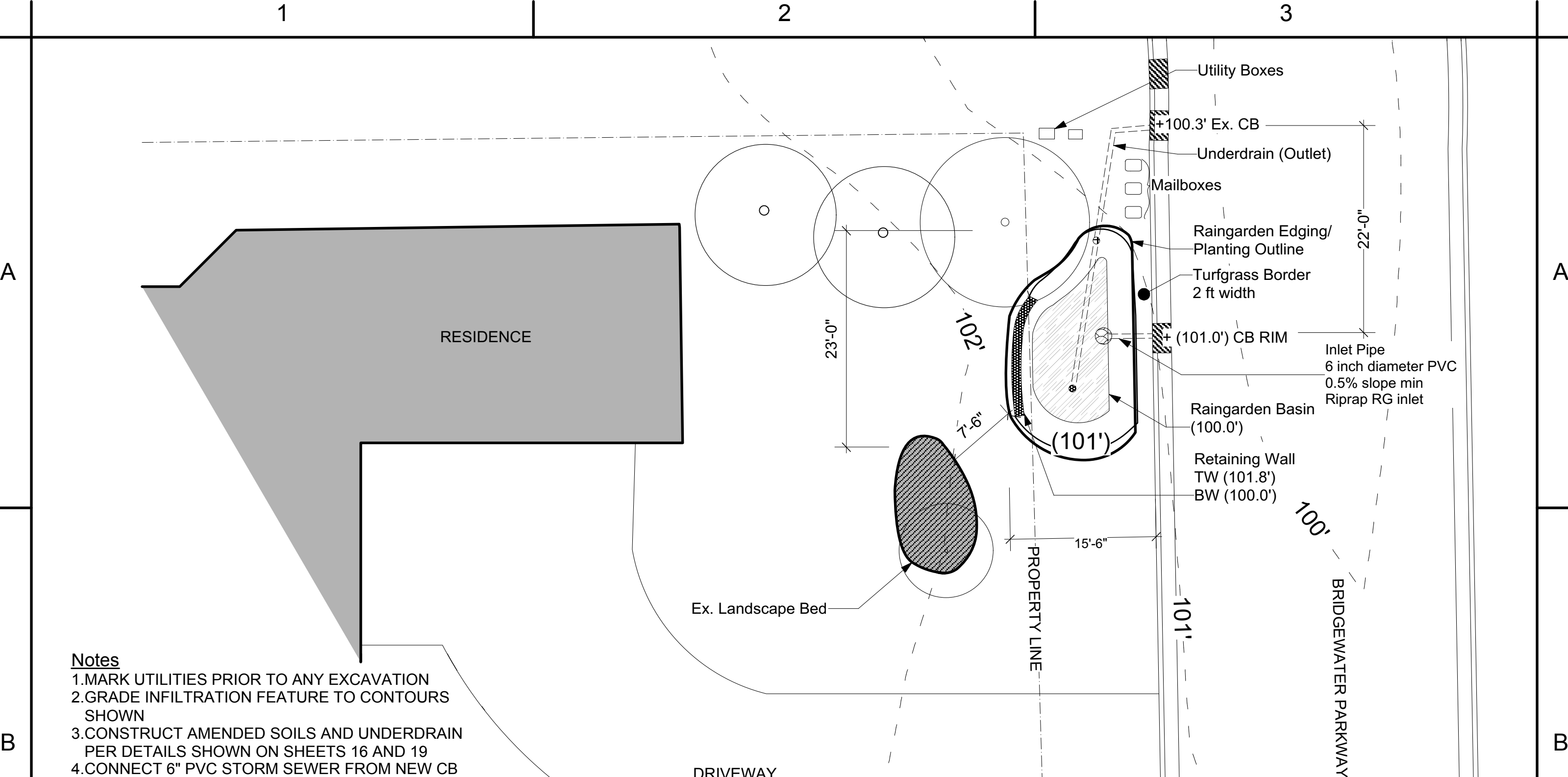
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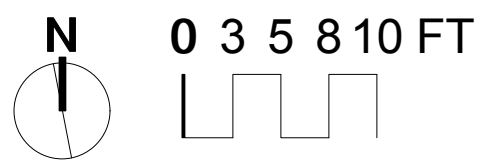
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Notes

1. MARK UTILITIES PRIOR TO ANY EXCAVATION
2. GRADE INFILTRATION FEATURE TO CONTOURS SHOWN
3. CONSTRUCT AMENDED SOILS AND UNDERDRAIN PER DETAILS SHOWN ON SHEETS 16 AND 19
4. CONNECT 6" PVC STORM SEWER FROM NEW CB TO FEATURE
5. RESTORE DISTURBED AREA WITH 3" TOPSOIL/COMPOST MIXTURE AND SOD
6. DETERMINE INLET CATCH BASIN LOCATION IN FIELD



DESIGNED BY AJS	Pelke Residence - 10041 Bridgewater Pkwy		
DRAWN BY AJS	TITLE		
CHECKED BY SWWD	Woodbury Roadways BMPs - Grading Plan		
APPROVED BY SWWD	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	REV
CAD FILE NAME File Name	SHEET 4 OF 19		

RESIDENCE

Dry Creek Bed
 Match existing alignment at raingarden outline
 Continue with 2-8 inch diameter river
 rock/fieldstone over boulder wall into raingarden
 basin
 line dry creek bed above/on wall with woven
 geotextile fabric
 line dry creek bed at base of wall with nonwoven
 geotextile fabric

Retaining Wall
 (TW - See Spot
 Elevations)
 (BW - 99.4')

LEYLAND CIRCLE

Ex. Retaining Wall

Underdrain to Existing
 CB (Outlet)

EXISTING DRY CREEK BED

PROPERTY LINE

22'-0"

6'-0"

Raingarden Basin
 (99.4')

Raingarden
 Edging/Planting Outline

Turfgrass Border
 6 ft width

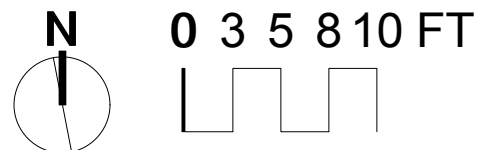
Inlet Pipe
 6 inch diameter PVC
 0.5% slope min
 Riprap RG inlet

LEYLAND DRIVE

103'
 102'
 101.5' TW
 101.7' BW
 101.0' TW
 101'
 100'
 101.5' TW
 101'
 100.4' RG Inlet Rim
 100.0' Existing CB Rim

Notes

1. MARK UTILITIES PRIOR TO ANY EXCAVATION
2. GRADE INFILTRATION FEATURE TO CONTOURS SHOWN
3. CONSTRUCT AMENDED SOILS AND UNDERDRAIN PER DETAILS SHOWN ON SHEETS 16 AND 19
4. CONNECT 6" PVC STORM SEWER FROM NEW CB TO FEATURE
5. RESTORE DISTURBED AREA WITH 3" TOPSOIL/COMPOST MIXTURE AND SOD
6. DETERMINE INLET CATCH BASIN LOCATION IN FIELD



DESIGNED BY AJS	Prow Residence - 2297 Leyland Circle			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs - Grading Plan			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'		EST. WGT	SHEET 5 OF 19
CAD FILE NAME File Name				

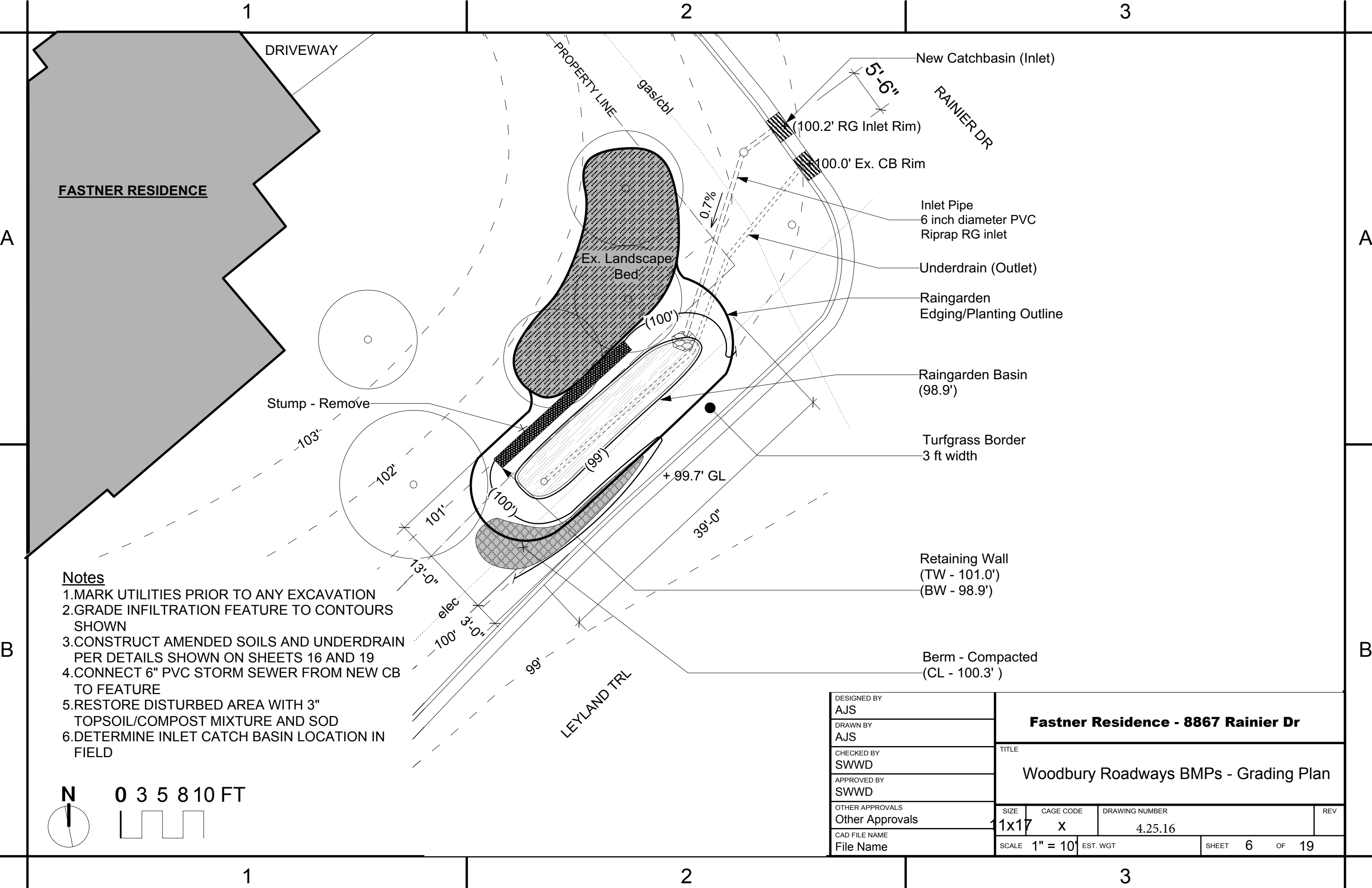
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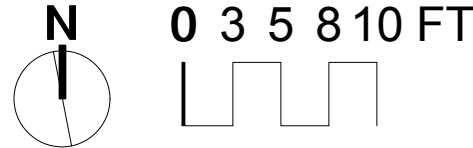
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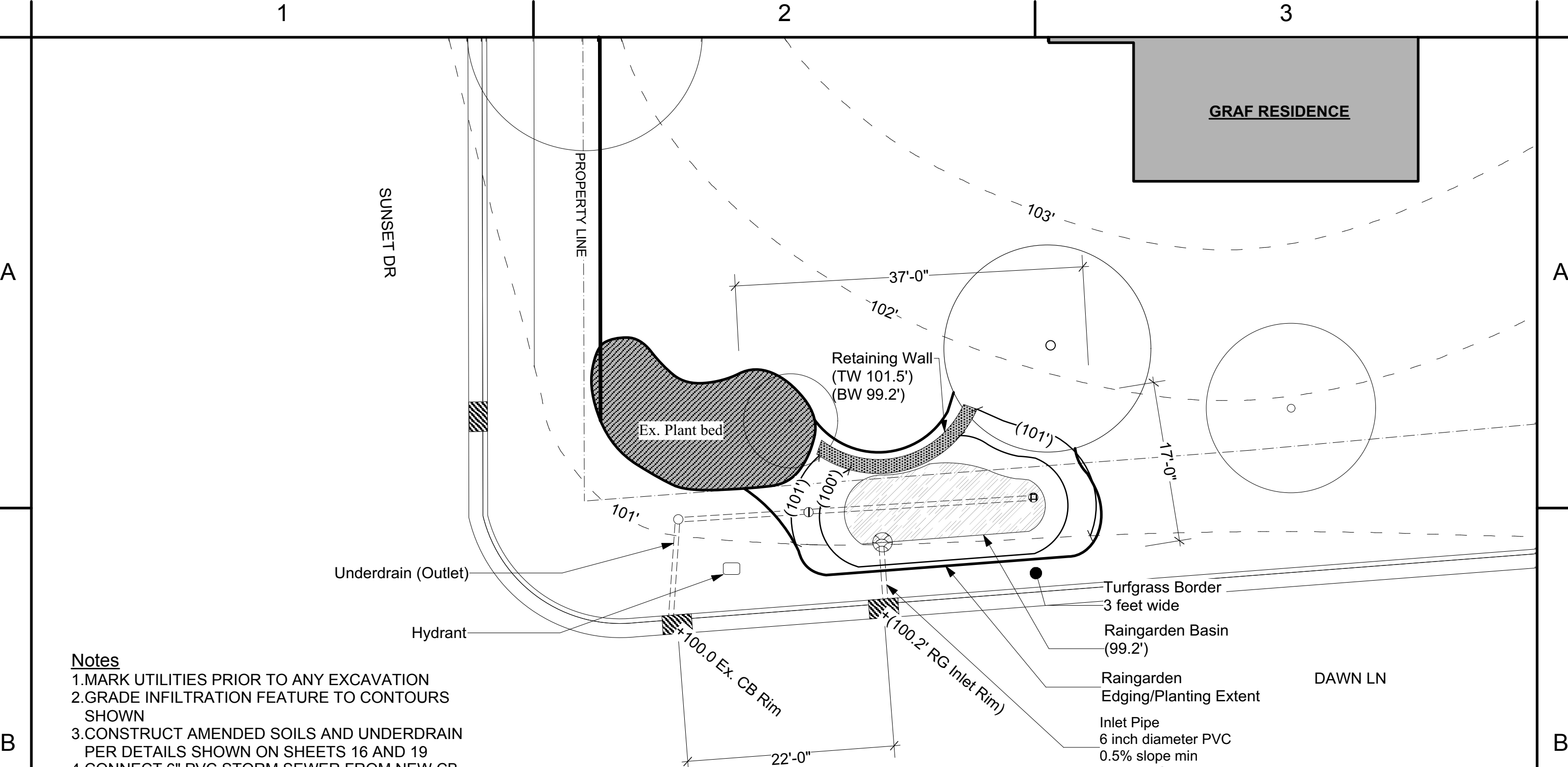


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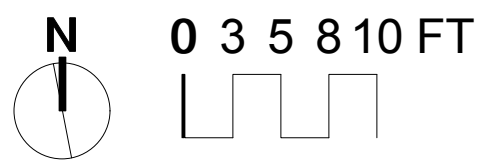
1. MARK UTILITIES PRIOR TO ANY EXCAVATION
2. GRADE INFILTRATION FEATURE TO CONTOURS SHOWN
3. CONSTRUCT AMENDED SOILS AND UNDERDRAIN PER DETAILS SHOWN ON SHEETS 16 AND 19
4. CONNECT 6" PVC STORM SEWER FROM NEW CB TO FEATURE
5. RESTORE DISTURBED AREA WITH 3" TOPSOIL/COMPOST MIXTURE AND SOD
6. DETERMINE INLET CATCH BASIN LOCATION IN FIELD



DESIGNED BY AJS	Fastner Residence - 8867 Rainier Dr			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs - Grading Plan			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'		EST. WGT	SHEET 6 OF 19
CAD FILE NAME File Name				



- Notes**
1. MARK UTILITIES PRIOR TO ANY EXCAVATION
 2. GRADE INFILTRATION FEATURE TO CONTOURS SHOWN
 3. CONSTRUCT AMENDED SOILS AND UNDERDRAIN PER DETAILS SHOWN ON SHEETS 16 AND 19
 4. CONNECT 6" PVC STORM SEWER FROM NEW CB TO FEATURE
 5. RESTORE DISTURBED AREA WITH 3" TOPSOIL/COMPOST MIXTURE AND SOD
 6. DETERMINE INLET CATCH BASIN LOCATION IN FIELD



DESIGNED BY AJS	Graf Residence - 1219 Sunset Drive			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs - Grading Plan			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'		EST. WGT	SHEET 7 OF 19
CAD FILE NAME File Name				

Plant Schedule - All Locations					
ID	Qty	Latin Name	Common Name	Scheduled Size	Spacing
AnPD	54	Aster novae angliae 'purple dome'	Purple Dome Aster	#1	24"
At	51	Asclepias tuberosa	Butterfly Milkweed	4" pot	24"
BpW	9	Betula platyphylla 'Whitespire'	Whitespire Birch	#15 - TF	96"
Cb	58	Carex bebbi	Bebb's Sedge	4" pot	24"
Cg	34	Chelone glabra	Turtlehead	4" pot	24"
CsAF-1	22	Cornus sericea 'Arctic Fire'	Arctic Fire Dogwood	#2	48"
CSC	20	Cornus sericea 'Cardinali'	Cardinal Red-Osier Dogwood	#2	72-84"
CvM	7	Coreopsis verticillata 'Moonbeam'	Moonbeam Coreopsis	#1	24"
Ep	55	Echinacea purpurea	Purple Coneflower	4" pot	24"
ET	70	Calamagrostis x acutifolia	Karl Foerster Grass	#1	24"
Gt	56	Rudbeckia fulgida 'Goldsturm'	Goldsturm Black Eyed Susan	#1	24"
Gtr	10	Geum triflorum	Prairie Smoke	4" pot	18"
iv	80	Iris versicolor	Blue Flag Iris	4" pot	24"
Je	94	Juncus effusus	Soft Rush	4" pot	24"
MS 02	43	Diervilla lonicera	Dwarf Bush Honeysuckle	#1	36"
Pa	24	Perovski atriplicifolia	Russian Sage	#1	30"
PsCB	48	Phlox subulata 'Crimson Beauty'	Creeping Phlox	#1	24"
Sh	63	Sporobolus heterolepis	Prairie Dropseed	4" pot	24"
ToB	3	Thuja occidentalis 'Bobozam'	Mr. Bowling Ball Arborvitae	#2	36"
VTRW	5	Viburnum trilobum 'Red Wing'	Red Wing Cranberry Bush Viburnum	#5	72"-84"

DESIGNED BY AJS	PLANT SCHEDULE			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs			
APPROVED BY SWWD				
OTHER APPROVALS Other Approvals	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16	REV
CAD FILE NAME File Name	SCALE 1" = 10'		EST. WGT	SHEET 8 OF 19

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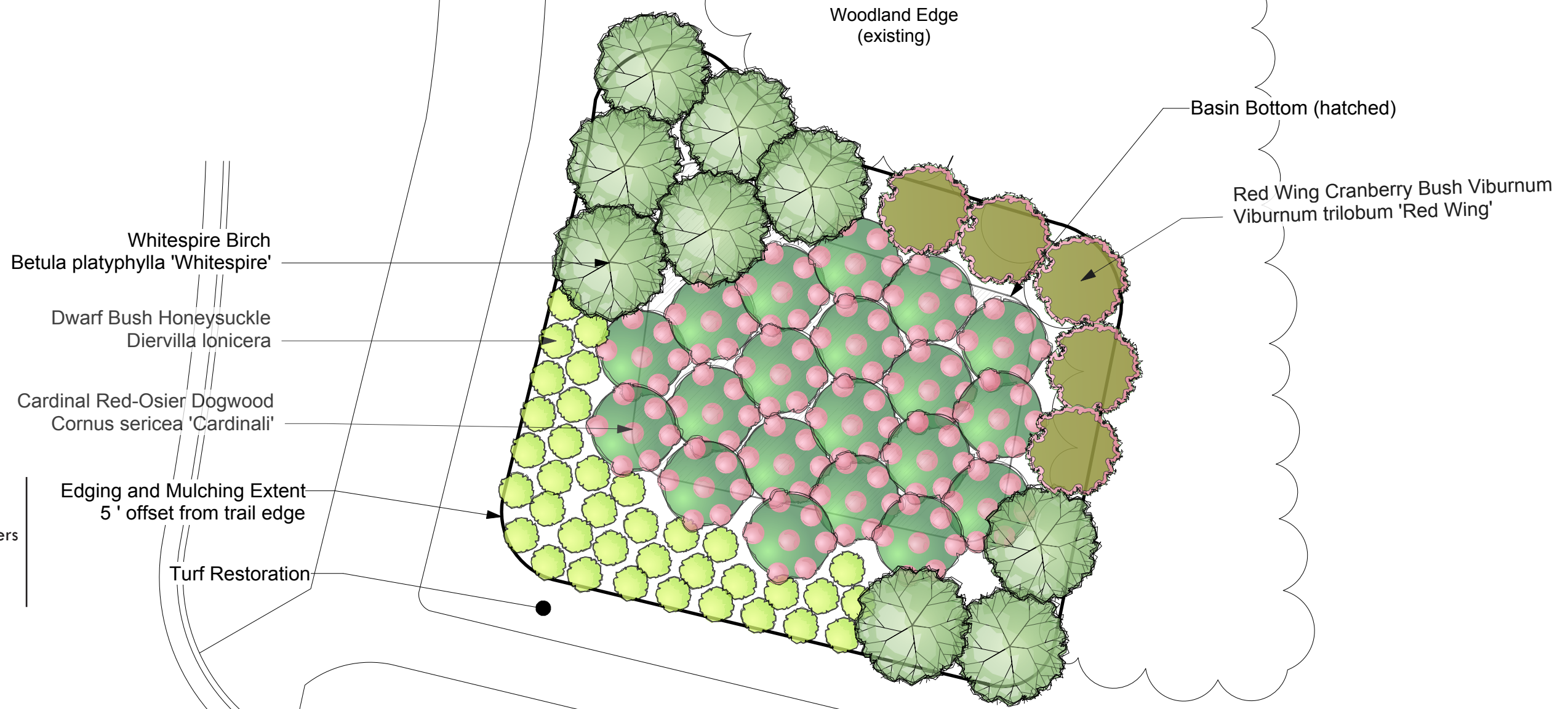
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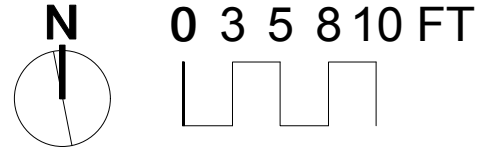
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Notes

- 1. Install Plants according to details and specifications on sheets 17-19
- 2. Water in plants at time of installation
- 3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Powers Lake Trail Bioretention Basin -Planting Plan Only -			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE			
APPROVED BY SWWD	Woodbury Roadways BMPs - Planting Plan			
OTHER APPROVALS Other Approvals	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16	REV
CAD FILE NAME File Name	SCALE 1" = 10'	EST. WGT	SHEET 9	OF 19

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Bebb's Sedge
Carex bebbii

Arctic Fire Dogwood
Cornus sericea 'Arctic Fire'

Soft Rush
Juncus effusus

Butterfly Milkweed
Asclepias tuberosa

Blue Flag Iris
Iris versicolor

Turtlehead
Chelone glabra

Moonbeam Coreopsis
Coreopsis verticillata 'Moonbeam'

Prairie Dropseed
Sporobolus heterolepis

Prairie Smoke
Geum triflorum

Russian Sage
Perovskia atriplicifolia

Creeping Phlox
Phlox subulata 'Crimson Beauty'

Karl Foerster Grass
Calamagrostis x acutifolia

Purple Coneflower
Echinacea purpurea

Purple Dome Aster
Aster novae angliae 'purple dome'

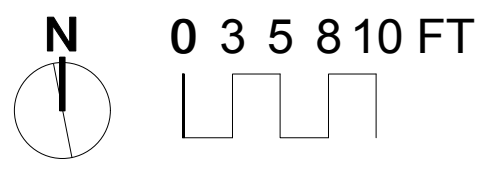
BAUMANN RESIDENCE

DRIVEWAY

PROPERTY LINE

BRIDGEWATER PKWY

- Notes**
1. Install Plants according to details and specifications on sheets 17-19
 2. Water in plants at time of installation
 3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Baumann Residence - 10070 Bridgewater Parkway			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE			
APPROVED BY SWWD	Woodbury Roadways BMPs - Planting Plan			
OTHER APPROVALS Other Approvals	SIZE 11x17	CAGE CODE X	DRAWING NUMBER 4.25.16	REV
CAD FILE NAME File Name	SCALE 1" = 10'	EST. WGT	SHEET 10 OF 19	

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PALEN RESIDENCE

DRIVEWAY

PROPERTY LINE

Canopy Tree TBD
#25 pot | Purchased by Landowner

Creeping Phlox
Phlox subulata 'Crimson Beauty'

Arctic Fire Dogwood
Cornus sericea 'Arctic Fire'

Goldsturm Black Eyed Susan
Rudbeckia fulgida 'Goldsturm'

Soft Rush
Juncus effusus

Bebb's Sedge
Carex bebbi

Blue Flag Iris
Iris versicolor

Russian Sage
Perovskia atriplicifolia

Butterfly Milkweed
Asclepias tuberosa

Karl Foerster Grass
Calamagrostis x acutifolia

Turtlehead
Chelone glabra

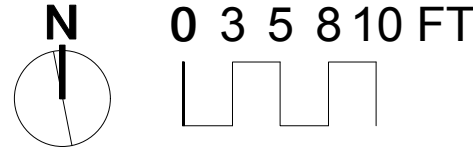
Purple Dome Aster
Aster novae angliae 'purple dome'

Purple Coneflower
Echinacea purpurea

Prairie Dropseed
Sporobolus heterolepis

Notes

- 1. Install Plants according to details and specifications on sheets 17-19
- 2. Water in plants at time of installation
- 3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Palen Residence - 10151 Bridgewater Court		
DRAWN BY AJS	TITLE		
CHECKED BY SWWD	Woodbury Roadways BMPs - Planting Plan		
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	REV
CAD FILE NAME File Name	SHEET 11 OF 19		

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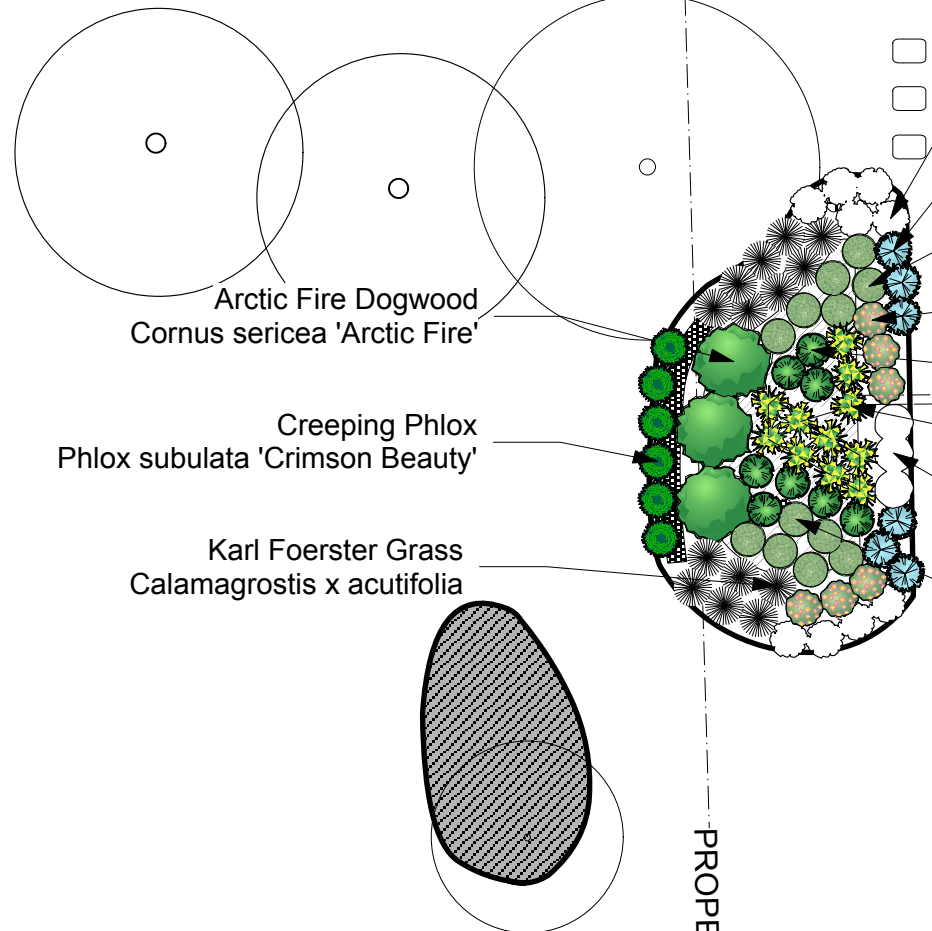
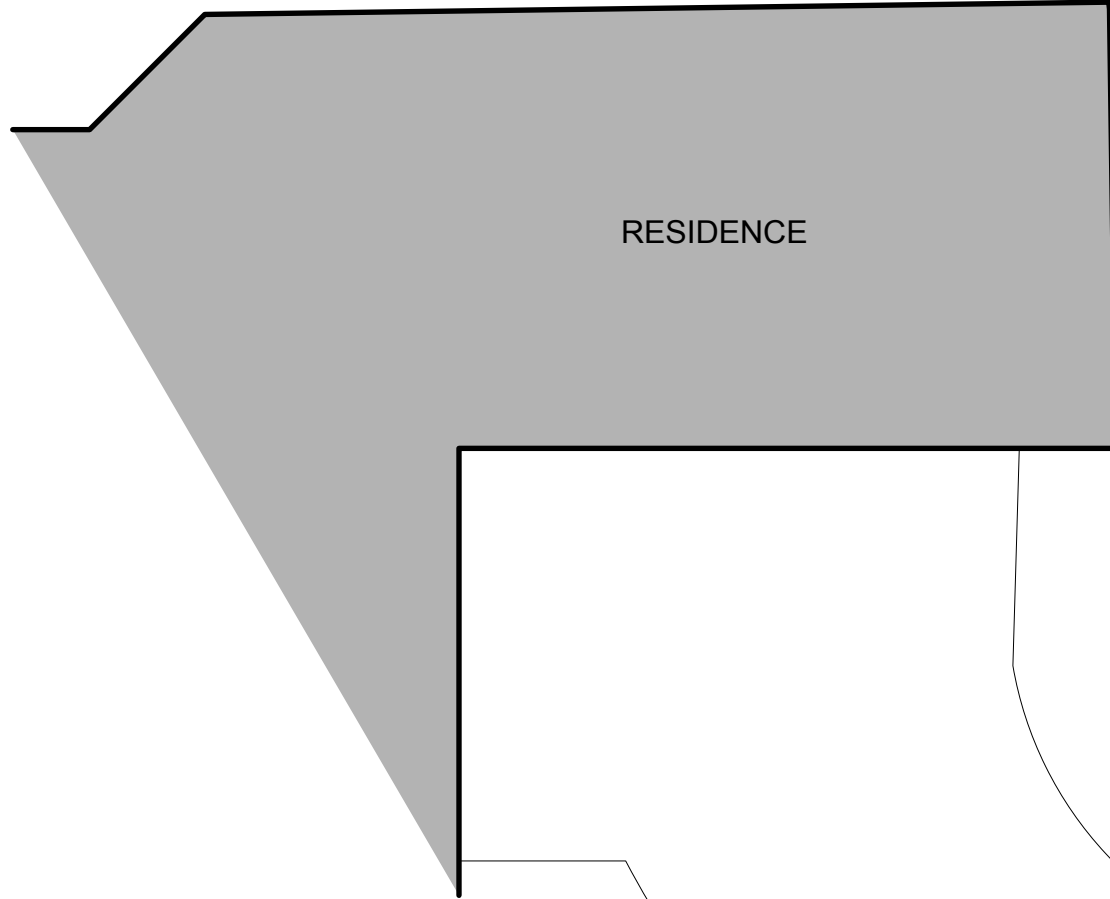
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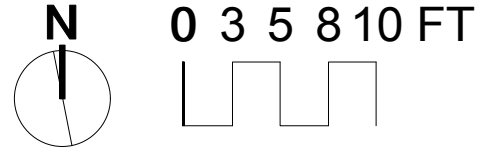
B

B



- Goldsturm Black Eyed Susan
Rudbeckia fulgida 'Goldsturm'
- Purple Dome Aster
Aster novae angliae 'purple dome'
- Blue Flag Iris
Iris versicolor
- Purple Coneflower
Echinacea purpurea
- Turtlehead
Chelone glabra
- Soft Rush
Juncus effusus
- Butterfly Milkweed
Asclepias tuberosa
- Blue Flag Iris
Iris versicolor

- Notes**
1. Install Plants according to details and specifications on sheets 17-19
 2. Water in plants at time of installation
 3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Pelke Residence - 10041 Bridgewater Parkway		
DRAWN BY AJS	TITLE Woodbury Roadways BMPs - Planting Plan		
CHECKED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16
APPROVED BY SWWD	SCALE 1" = 10'		REV
OTHER APPROVALS Other Approvals	EST. WGT		SHEET 12 OF 19
CAD FILE NAME File Name			

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RESIDENCE

Arctic Fire Dogwood
Cornus sericea 'Arctic Fire'

Soft Rush
Juncus effusus

Dwarf Bush Honeysuckle
Diervilla lonicera

Purple Dome Aster
Aster novae angliae 'purple dome'

Purple Coneflower
Echinacea purpurea

Blue Flag Iris
Iris versicolor

Karl Foerster Grass
Calamagrostis x acutifolia

Mr. Bowling Ball Arborvitae

Butterfly Milkweed
Asclepias tuberosa

Goldsturm Black Eyed Susan
Rudbeckia fulgida 'Goldsturm'

102'

101'

Prairie Dropseed
Sporobolus heterolepis

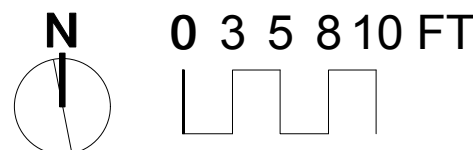
Turtlehead
Chelone glabra

LEYLAND CIRCLE

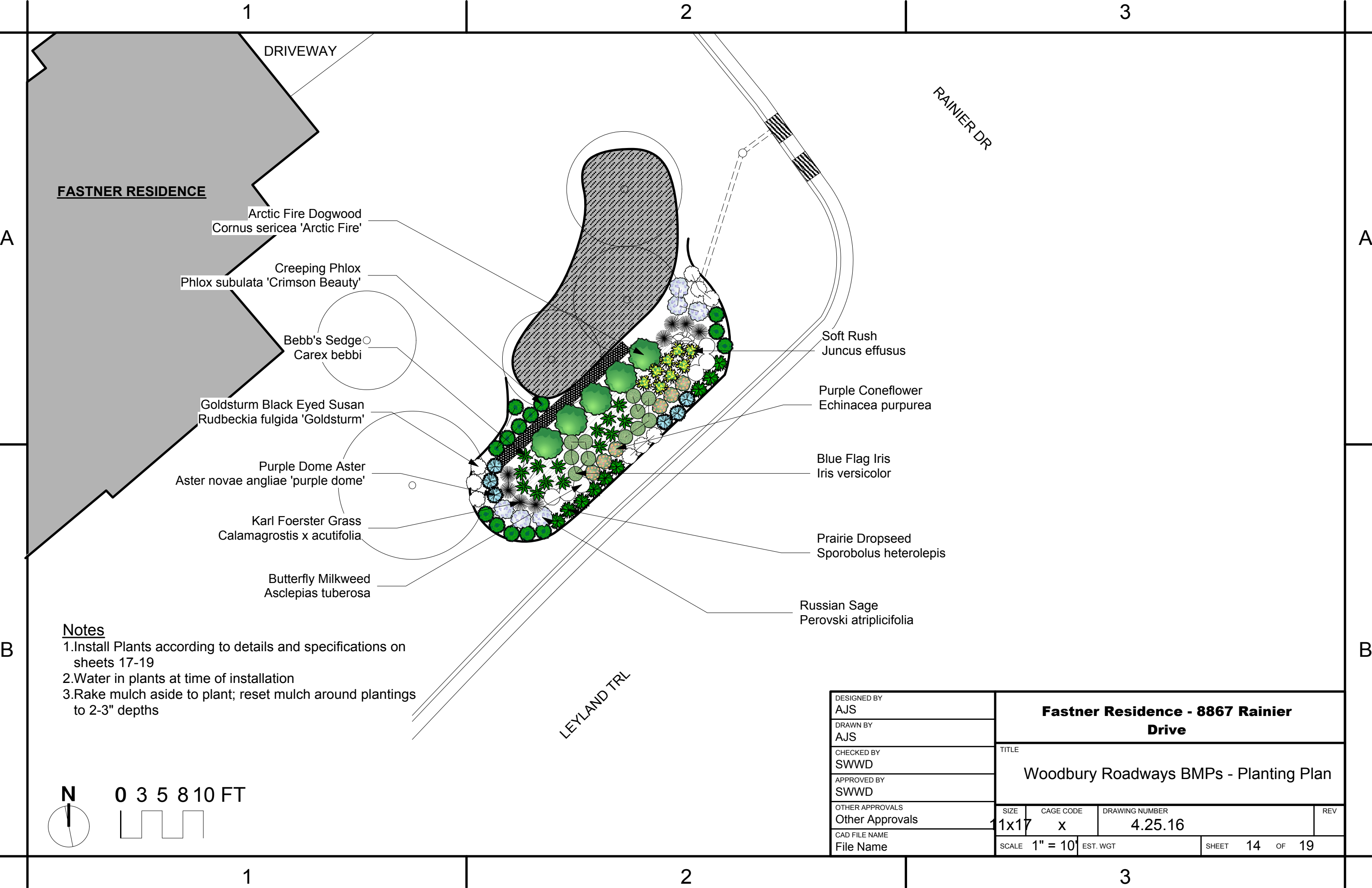
LEYLAND DRIVE

Notes

1. Install Plants according to details and specifications on sheets 17-19
2. Water in plants at time of installation
3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Prow Residence - 2297 Leyland Circle			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs - Planting Plan			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'		EST. WGT	SHEET 13 OF 19
CAD FILE NAME File Name				



FASTNER RESIDENCE

DRIVEWAY

RAINIER DR

LEYLAND TRL

Arctic Fire Dogwood
Cornus sericea 'Arctic Fire'

Creeping Phlox
Phlox subulata 'Crimson Beauty'

Bebb's Sedge
Carex bebbi

Goldsturm Black Eyed Susan
Rudbeckia fulgida 'Goldsturm'

Purple Dome Aster
Aster novae angliae 'purple dome'

Karl Foerster Grass
Calamagrostis x acutifolia

Butterfly Milkweed
Asclepias tuberosa

Soft Rush
Juncus effusus

Purple Coneflower
Echinacea purpurea

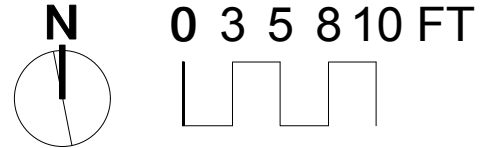
Blue Flag Iris
Iris versicolor

Prairie Dropseed
Sporobolus heterolepis

Russian Sage
Perovskia atriplicifolia

Notes

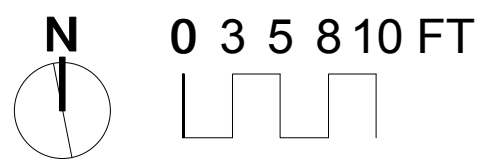
1. Install Plants according to details and specifications on sheets 17-19
2. Water in plants at time of installation
3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Fastner Residence - 8867 Rainier Drive		
DRAWN BY AJS	TITLE Woodbury Roadways BMPs - Planting Plan		
CHECKED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16
APPROVED BY SWWD	SCALE 1" = 10'		REV
OTHER APPROVALS Other Approvals	EST. WGT		SHEET 14 OF 19
CAD FILE NAME File Name			



- Notes**
1. Install Plants according to details and specifications on sheets 17-19
 2. Water in plants at time of installation
 3. Rake mulch aside to plant; reset mulch around plantings to 2-3" depths



DESIGNED BY AJS	Graf Residence - 1219 Sunset Drive		
DRAWN BY AJS	TITLE		
CHECKED BY SWWD	Woodbury Roadways BMPs - Planting Plan		
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	REV
CAD FILE NAME File Name	SHEET 15 OF 19		

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Size to Project Requirements

Retaining Wall - 15"- 30" diameter boulders; 6" depth compacted class V base at 6" wider than base boulder on raingarden side; Set bottom of base boulder 6" below raingarden basin finish grade; angular crush rock fill around boulders; nonwoven geotextile fabric separation between wall and in-situ soils

Edging (place min 6" upslope from 3:1 transition)

Batter

Turf surround (6% slope max)

Overflow (PVC) with Intake Bar Guard
Bioretention Plants

Gate Valve

Watertight Connection (at inlet and outlet pipe/structure junctions)

Existing Catch Basin

Max 3H:1L Side Slope, typ. (Mix in 2" of MnDot Grade 2 Compost)

Solid Pipe (PVC) with 0.5% min slope

4" PVC Perforated Pipe w/Circular Knit Sock w/ 0.5% min slope

2" Clearance

Non-Compacted Subgrade, See Stormwater Manual for Subgrade Preparation

12" Max Ponding Depth

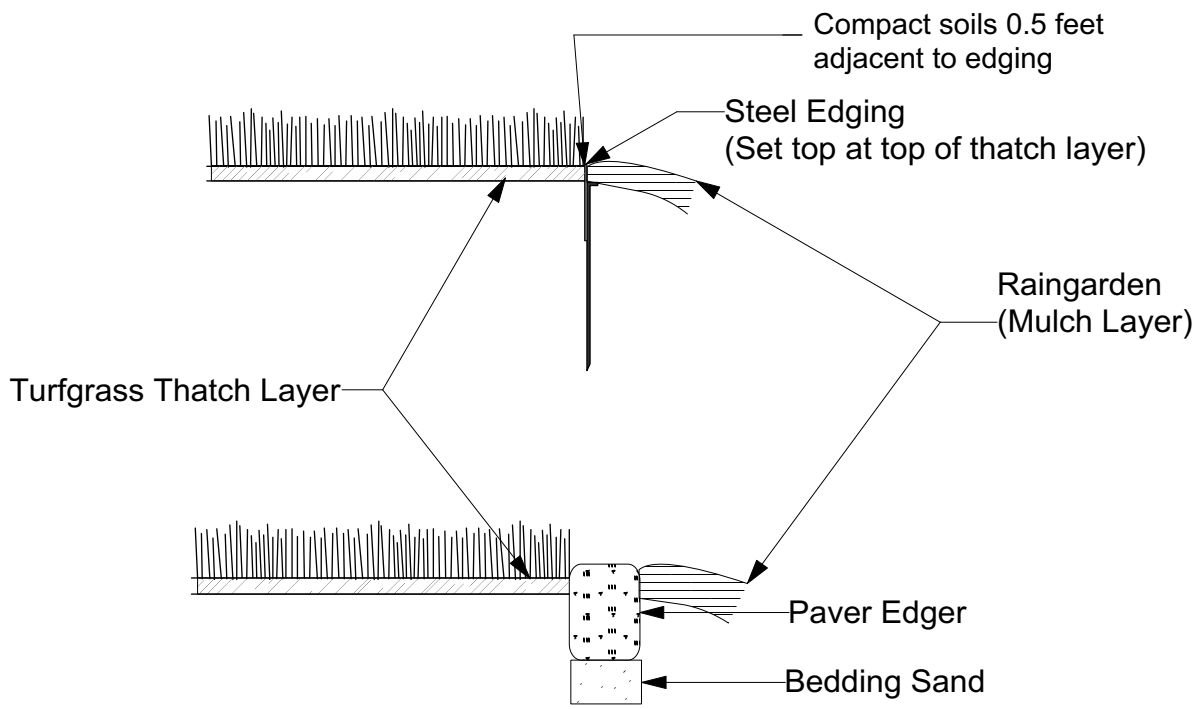
Jute Blanket

3" Mulch

20" Bioretention Mix B (Meet P Credit Requirements)

2" Rock Choker Course

8" Drainage Rock - Set Pipe in Center of Profile



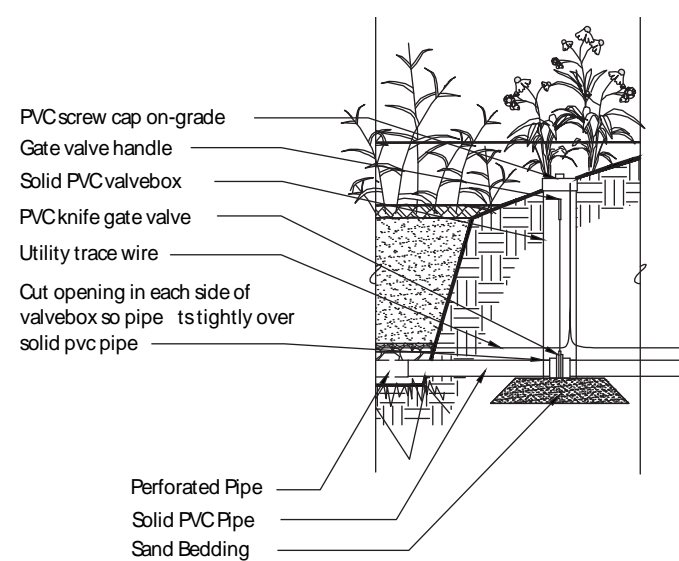
Edging Configuration

not to scale

Biofiltration with Underdrain

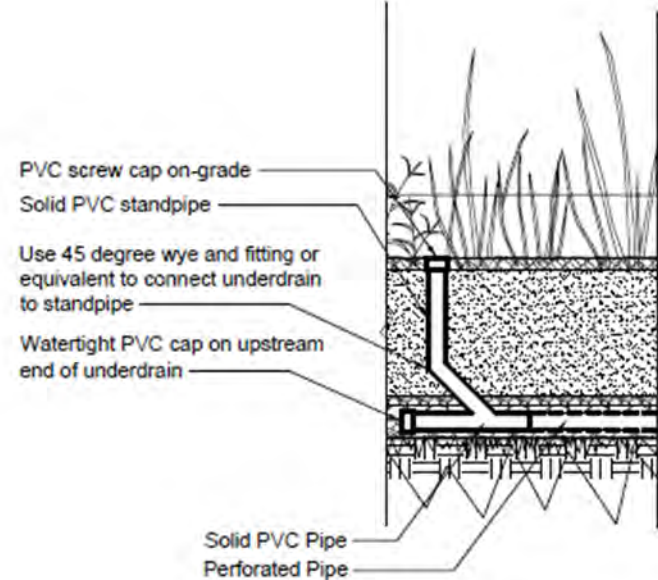
Cross Section Typical

Not to Scale



Underdrain Valve

not to scale



Cleanout

not to scale

DESIGNED BY AJS	Raingarden Details 1			
DRAWN BY AJS	TITLE			
CHECKED BY SMMW	Woodbury Roadways BMPs			
APPROVED BY SMMW	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	SHEET 16 OF 19	
CAD FILENAME File Name				

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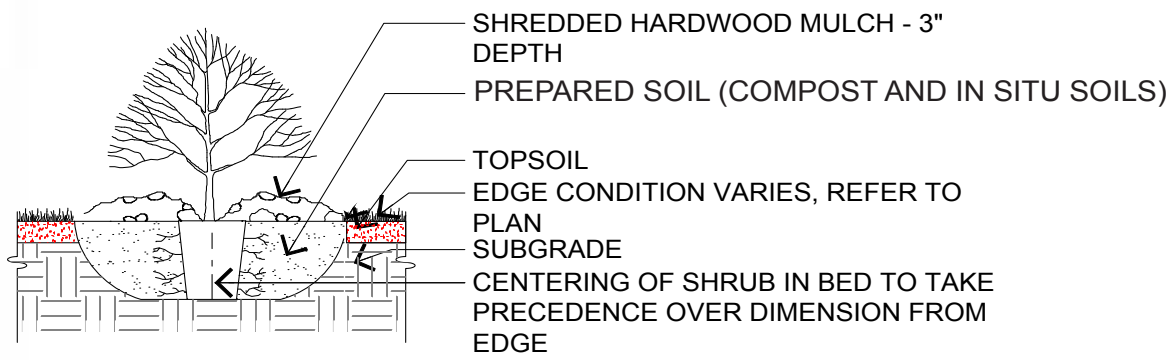
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HAND LOOSEN ROOTS OF CONTAINERIZED MATERIAL, TYP. SCARIFY BOTTOM AND SIDES OF PLANTING PIT PRIOR TO INSTALLATION



NOTE: HAND LOOSEN ROOTS OF CONTAINERIZED MATERIAL (TYP.)

TREE PLANTING - TREES SHOULD SIT PLUMB

SHRUB PLANTING - SHRUBS SHOULD SIT PLUMB

KEEP MULCH AWAY FROM BASE OF SHRUB AND TREE STEMS

SCHREDDED HARDWOOD MULCH - 3" DEPTH

ENGINEERED RAIN GARDEN SOIL

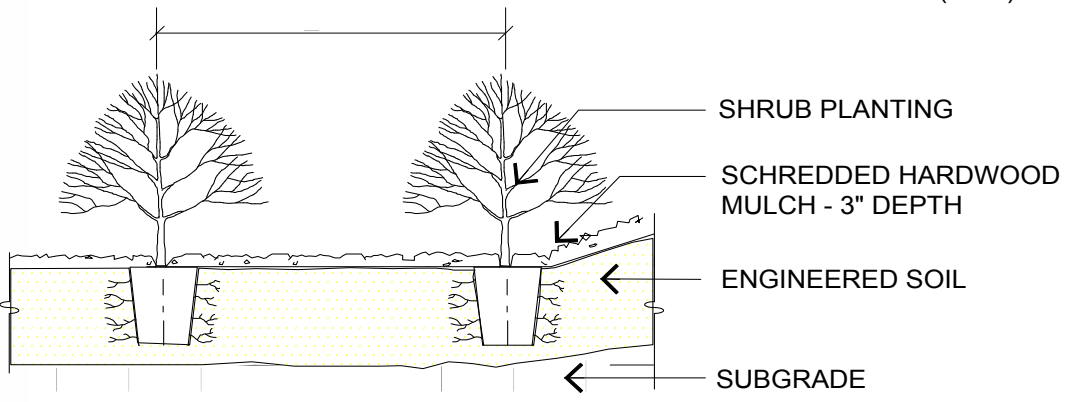
SUBGRADE

SIDE SLOPES - 3 FEET HORIZONTAL: 1 FOOT VERTICAL

1 SHRUB PLANTING DETAIL

05 n.t.s.

NOTE: HAND LOOSEN ROOTS OF CONTAINERIZED MATERIAL (TYP.)

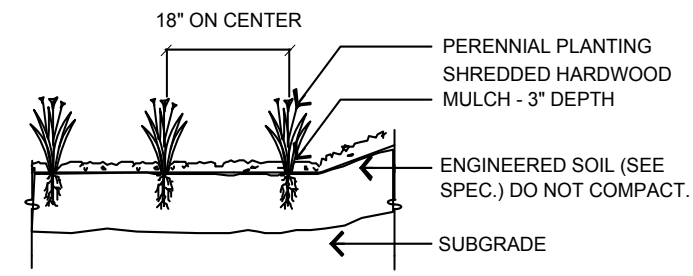
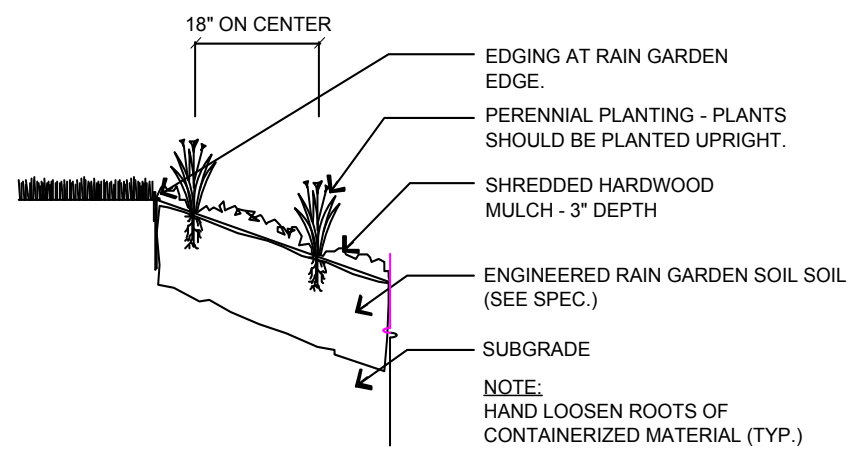


2 SHRUB PLANTING IN BASIN

05 n.t.s.

3 SHRUB & TREE PLANTING ON SIDE SLOPES

05 n.t.s.



4 PERENNIAL PLANTING IN BASIN

05

5 PERENNIAL PLANTING ON SIDE SLOPES

05

DESIGNED BY AJS	Planting Details 1			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'		EST. WGT	SHEET 17 OF 19
CAD FILE NAME File Name				

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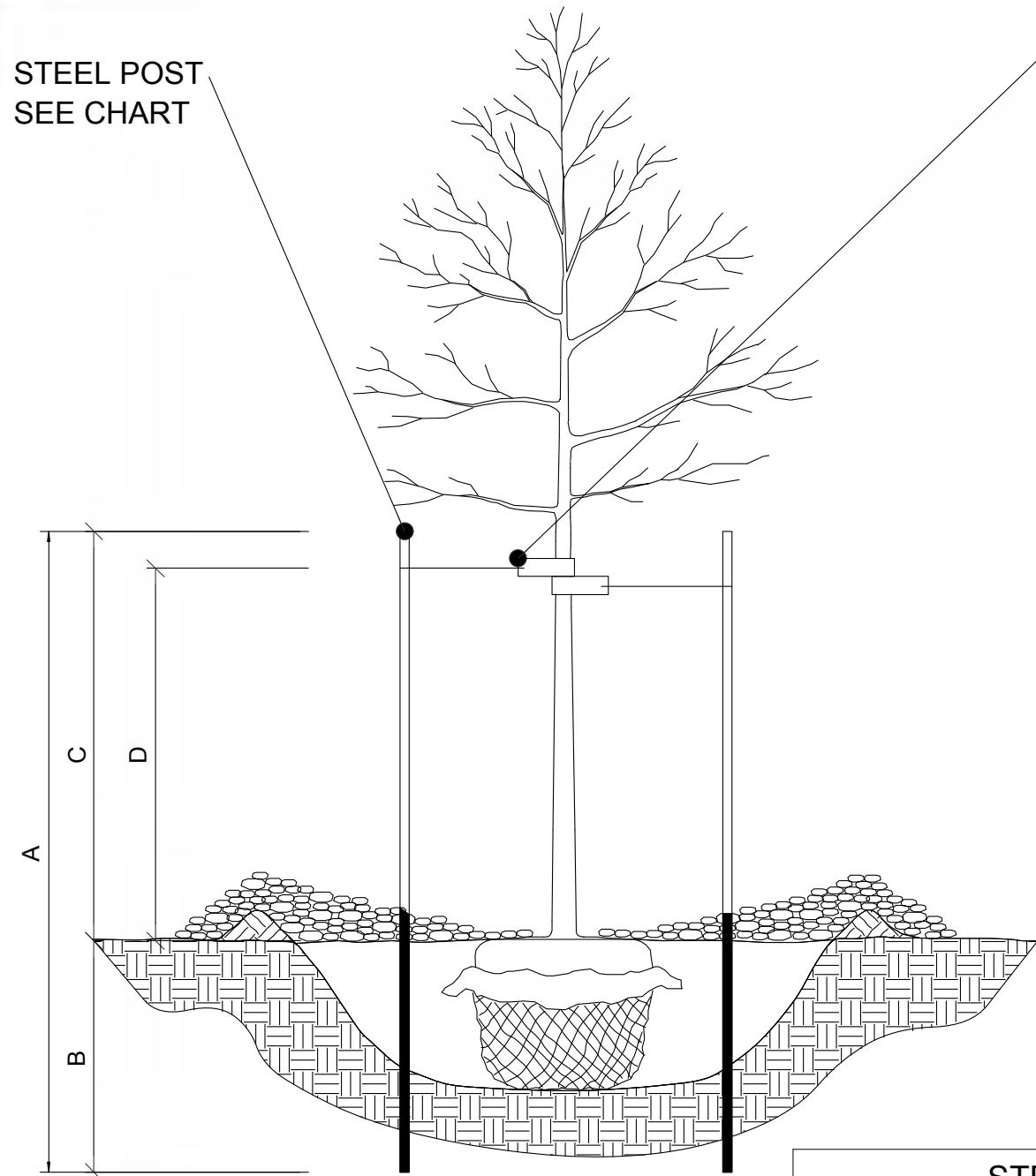
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STEEL POST
SEE CHART

16" LONG
POLYPROPYLENE OR
POLYETHYLENE, 40 MIL.
THICK AND 1.5" WIDE
STRAPS. ATTACH WITH
10 ga WIRE.

1.**STEEL POSTS TO BE NOTCHED
OR DRILLED TO RETAIN GUY
WIRES. PLACE OUTSIDE OF
ROOT BALL. DRIVE PLUMB
REGARDLESS OF GROUND
SLOPE.

2.**REQUESTS TO SUBSTITUTE
RUBBER HOSE AND WIRE
GUYING SYSTEMS WILL NOT
BE APPROVED.

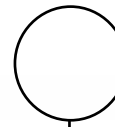
3.**TREE STAKING IS NOT
REQUIRED UNLESS SPECIFIED
OR NECESSARY TO MAINTAIN
TREES IN A PLUMB CONDITION
WHERE VANDALISM, SOIL, OR
WIND CONDITIONS ARE A
PROBLEM, OR AS REQUESTED
BY THE ENGINEER.

4.**REMOVE WITHIN ONE YEAR.

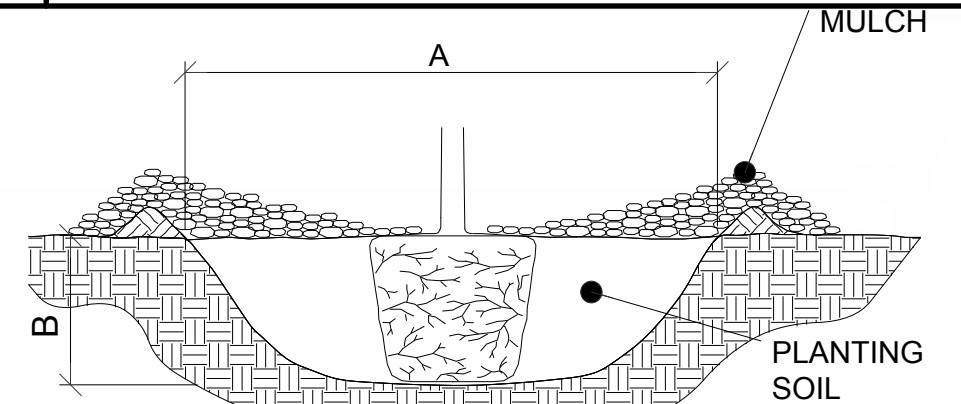
STEEL POST SIZING

CALIPER	STEEL POST TYPE	A	B	C	D
LESS THEN 4 INCHES	ROLLED STEEL FENCE POST (Mn/DOT 3403) OR APPROVED EQUAL.	7'-0"	3'-0" MIN.	4'-0"	3'-0"
GREATER THEN 4 INCHES	10', 2.2 LB. FLANGED CHANNEL STEEL SIGN POST (Mn/DOT 3401) OR APPROVED EQUAL.	10'-0"	4'-0" MIN.	6'-0"	5'-0"

(Mn/DOT 2571.311)



CONTAINER STOCK PLANTING GUIDELINES



CONTAINER STOCK

- 1.**SCARIFY SIDES AND BOTTOM OF HOLE.
- 2.**PROCEED WITH CORRECTIVE PRUNING OF TOP AND ROOT.
- 3.**REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT AND PREVENT CIRCLING FIBROUS ROOTS. REMOVE OR CORRECT STEM GIRDLING ROOTS.
- 4.**SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE TOP OF THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE.
- 5.**PLUMB AND BACKFILL WITH PLANTING SOIL.
- 6.**WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
- 7.**BACK FILL VOIDS AND WATER SECOND TIME.
- 8.**PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

PLANTING HOLE DIMENSIONS

HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH(2)
CONTAINER GROWN PLANTS	CELLPACKS / PLUGS	(6")	(2.5")
	(2.25") CONT.	(7")	(3")
	(3.5") CONT.	(10")	(3")
	(4") CONT.	(11")	(4")
	(4.5") CONT.	(13")	(4")
	(6" / 1 QT.) CONT.	(15")	(5.5")
	(#1) CONT.	(18")	(6")
	(#2) CONT.	(23")	(7.5")
	(#3) CONT.	(29")	(8.5")
	(#5) CONT.	(30")	(11")
	(#7) CONT.	(37")	(11")
	(#15) CONT.	(44")	(14")
	(#10) CONT.	(45")	(15")
(#20) CONT.	(60")	(16")	
(#25) CONT.	(72")	(17")	

1
06 STAKING AND GUYING

DESIGNED BY AJS	PLANTING DETAILS 2			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE			
APPROVED BY SWWD	Woodbury Roadways BMPs			
OTHER APPROVALS	SIZE	CAGE CODE	DRAWING NUMBER	REV
Other Approvals	11x17	x	4.25.16	
CAD FILE NAME File Name	SCALE 1" = 10'		EST. WGT	SHEET 18 OF 19

Bioretention Installation Notes

- 1) The South Washington Watershed District (SWWD) is providing quality control and field verifications of the bioretention installations. Call the SWWD at (651) 714-3717 to schedule field verifications prior to burying any work and/or installing any concrete, mulch and/or plant materials.
- 2) The project area must be staked off and marked to keep all construction traffic, equipment and material stockpiles out of the proposed bioretention areas.
- 3) Bioretention practices shall not be excavated until the contributing drainage areas with exposed soils have been fully stabilized. Divert upland drainage areas to prevent runoff from entering the excavated cell or into the work area. Do not use bioretention cells as temporary sediment basins or allow construction runoff into the cell.
- 4) Deliver sample materials onsite for SWWD prior approval. Prior to beginning the installation, sufficient material quantities shall be onsite to complete the installation and stabilize exposed soil areas without delay.
- 5) Care must be taken to avoid contamination of engineered soils with sediment, in-situ or topsoil during and after installation. Materials must be segregated.
- 6) Installation with dry soil conditions is critical to prevent smearing and compaction. Schedule work for periods of dry weather. Do not work if soil conditions are wet. Excavation, soil placement and rapid stabilization of perimeter slopes with must be completed before the next precipitation event.
- 7) Do not leave infiltration areas and/or perimeter slopes exposed overnight. Secure the site from risk of precipitation damages at the end of every work day. In the event of rain, take action to divert stormwater away from the work area and temporarily cover of all exposed soils with filter fabric or impermeable sheeting.
- 8) SWWD field observation of excavation and soil placement is required. Notify SWWD prior to digging. Use backhoe with tooth bucket for cell excavation to avoid compacting or smearing of soils. (Do not use skid steer for excavation within the cell) Use tooth bucket to scarify (rip) underlying soils 9" deep to remove compaction. Gently mix the first lift of engineered soils with the loosened underlying soils to avoid stratification and promote permeability. Use excavator bucket to loosely place materials. (Do not use skid steer to place or spread materials within the cell). Leveling and final grading within the cell must be completed by hand.
- 9) The sand / compost mixture shall be Minnesota Stormwater Manual 4.1.2 Mix B: Enhanced Filtration Blend Modified to be a well-blended mixture of 75% ASTM C-33 Coarse Washed Sand (MnDot 3126) and 25% MnDot 3890 Grade 2 Leaf Litter Compost AND/OR a mixture of MnDot 3890 Grade 2 Leaf Litter Compost and Sphagnum Peat mix meeting phosphorus index requirements described below.

The material supplier shall provide documentation that the compost/compost peat mix has been sampled and tested as required by the Seal of Testing Assurance (STA) Program of the United States Composting Council (USCC); provide a soil mixture with a phosphorus index of between 10 and 30 millegrams per kilogram (using Mehlich-3 or equivalent test); and provide a gradation sieve analysis for the washed sand. Prior to placement, the SWWD will field test the saturated hydraulic conductivity (Ksat) of the sand / compost/compost peat mixture. Acceptable Ksat values must be at least 20 inches per hour or greater. THE ENGINEERED SOIL SHALL NOT CONTAIN ANY TOPSOIL OR FILTER AGGREGATE WITH FINES.
- 10) Perforated under-drains shall be slotted PVC with circular knit sock. (MnDot 3733 Type I sewn seam non-woven fabric shall NOT be used.)
- 11) Notify the SWWD prior to placing any mulch or installing any plantings. The SWWD shall field check elevations, soil compaction and permeability. Note: Depending on conditions observed, compaction removal by hand may be needed prior to placing mulch and/or after plantings.
- 12) Keep bioretention systems off-line by restricting stormwater inflow until vegetation is well established in the cell and all up gradient areas have been stabilized.

Planting Notes

- 1. All plants shall be typical of their species or variety and shall have a normal habit of growth. They shall be sound, healthy, vigorous, well branched, and densely foliated when in leaf. They shall be free of disease and insect pests, eggs or larvae. They shall have healthy, well developed root systems.
- 2. Upon Contract award, the CONTRACTOR shall provide written indication of the name and address of all source nurseries from which plant stock is supplied.
- 3. Plant materials shall have clearly marked labels stating botanical and common plant name and size.

Plant Care and Handling:

- 4. Container Plants shall be adequately protected at all times from sun, drying winds and frost.
- 5. All plants which cannot be planted on the day of delivery shall be placed on unpaved ground (in shade, if possible) and shall have their root zones completely covered with continuously moist soil, mulch or other acceptable material.
- 6. Handle plants with extreme care using machinery and equipment specifically intended for that purpose. Do not drop plants. Do not pick up balled plants by stems or trunks. Plants with a cracked or broken ball of earth shall not be used. Potted plants shall be tight in their container.
- 7. Plants are to be protected from wind and direct sunlight during transport.

Plant Installation:

- 8. Planting pits shall be excavated with vertical side slopes and according to the hole dimension chart shown in the Plans (Exhibit B, sheet 6)
- 9. Excess soil from crown of plants root ball shall be removed to reveal proper planting depth.
- 10. Plants shall be set in center of pits, plumb and straight, and at such a level that (after settlement) the crown of the plant will be equal to or one (1) inch higher than the surrounding finished grade.
- 11. Planting mixture around the roots or balls shall be hand tamped and watered while being cautious not to over-compact. Watering-in of the plants means water has reached all rooting parts of the plant and has saturated a 6" diameter surrounding the rootball.
- 12. Remove excess soil and any debris from site and dispose of properly.
- 13. Immediately after planting operations are completed, all tree pits and shrub beds shall be covered with a three (3) inch layer of wood mulch (unless otherwise noted in the Plans). The limit of this mulch for trees shall be the area of the pit.

DESIGNED BY AJS	RAINGARDEN AND PLANTING SPECIFICATIONS			
DRAWN BY AJS				
CHECKED BY SWWD	TITLE Woodbury Roadways BMPs			
APPROVED BY SWWD	SIZE 11x17	CAGE CODE x	DRAWING NUMBER 4.25.16	REV
OTHER APPROVALS Other Approvals	SCALE 1" = 10'	EST. WGT	SHEET 19 OF 19	
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