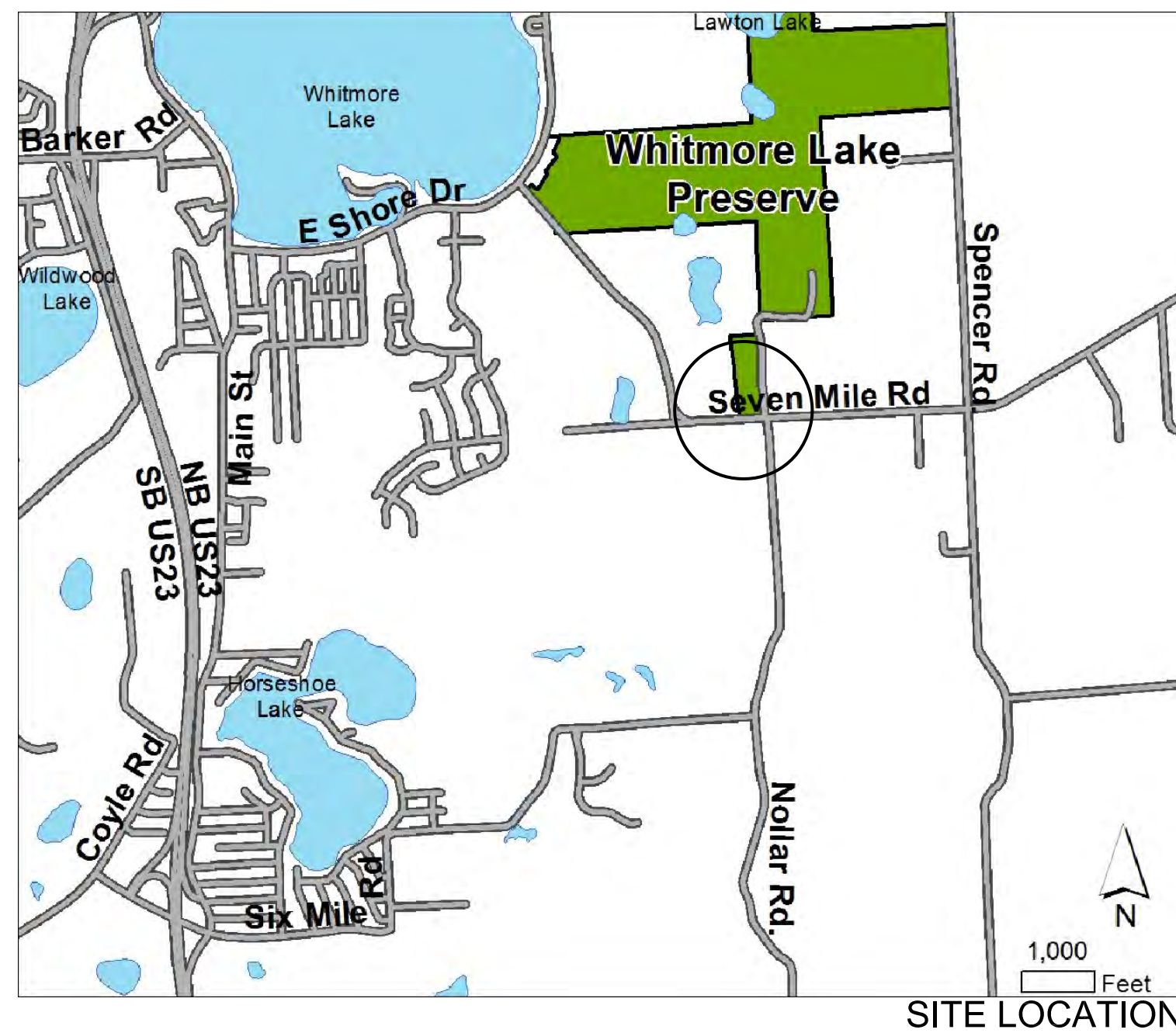


WHITMORE LAKE PRESERVE ENTRANCE AND PARKING - 2015

NORTHFIELD TOWNSHIP, MICHIGAN
WASHTENAW COUNTY PARKS AND RECREATION COMMISSION



SITE LOCATION



PROJECT LOCATION

PARCEL INFORMATION

PARCEL NUMBER & ADDRESS:
B -02-09-200-001
No Address, Seven Mile Road
Whitmore Lake, MI 48189

OWNER NAME & ADDRESS:
Washtenaw County Parks & Recreation Commission
PO Box 8645, 2230 Platt Road
Ann Arbor, MI, 48107

STAFF CONTACT:
Peter Sanderson, Park Planner
PO Box 8645, 2230 Platt Road
Ann Arbor, MI 48107
(734) 971-6337 X-332

PARCEL LEGAL DESCRIPTION:
*OLD SID - B 02-009-029-00 NO 9-2D COM AT NW COR OF SEC, TH ELY1184.6 FT IN N LN OF SEC, THS 15-15-30 E 506.85 FT, TH S 4-43 E 811.56 FT, TH S 87-16-30 E 842.5 FT TO POB, TH N 1117.37 FT, TH S 87-34-20E345 FT, TH N TO A PT 51 FT NOF N LN SEC 9 TH S 87-34-20E60 FT TH S 51.03 FT TO N1/4POST SEC 9, TH S TO C/L RD TH W'LY ALONG C/L TO POB PT OF SW 1/4 SEC 4 & NW 1/4 SEC 9 T1S R6E 10.66 AC.

SITE DATA

ZONEING:
PROPOSED: RC - RECREATION CONSERVATION
EXISTING: LC - LOCAL COMMERCIAL (PROJECT AREA)
AR - AGRICULTURE
RC - RECREATION CONSERVATION

PROJECT AREA:
TOTAL SITE: 434 ACRES
LIMITS OF WORK: 9,900 SF (0.23 AC.)

SOILS:
MoB/MoC: Morley Loam, 2-12% slopes

SHEET INDEX

SHEET NO.	DESCRIPTION
00	TITLE SHEET
C-01	EXISTING CONDITIONS, PREPARATION & SESC
C-02	SITE LAYOUT, GRADING, RESTORATION & PLANTING
D-01	SITE DETAILS

SUBMITTALS


DATE	DESCRIPTION
08/31/2015	ISSUED FOR PERMITTING
11/24/2015	ISSUED FOR SITE PLAN REVIEW

'MISS DIG' NOTES

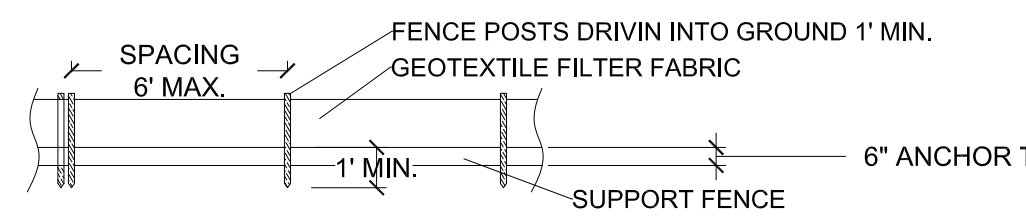
FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS (EXCLUDING SATURDAY, SUNDAYS & HOLIDAYS) PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. THE 'MISS DIG' ALERT SYSTEM MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE 'MISS DIG' ALERT SYSTEM.



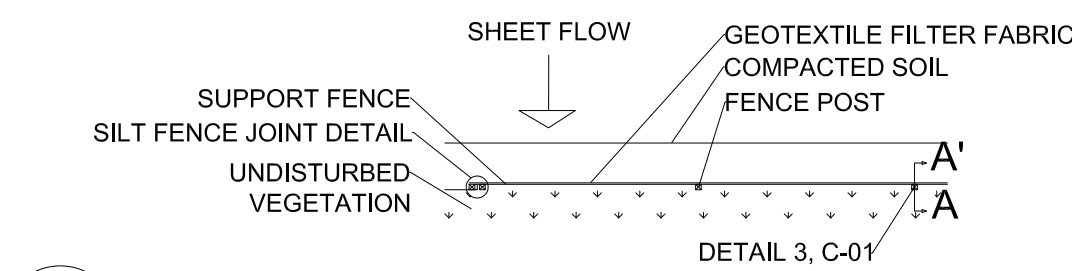
Know what's below.
Call before you dig.

PREPARED BY:	001616 REGISTRATION NUMBER	
PETER SANDERSON, PLA NAME	08/31/2015 DATE	
REVISIONS		DATE
PROJECT NUMBER		RFP # 6XXX

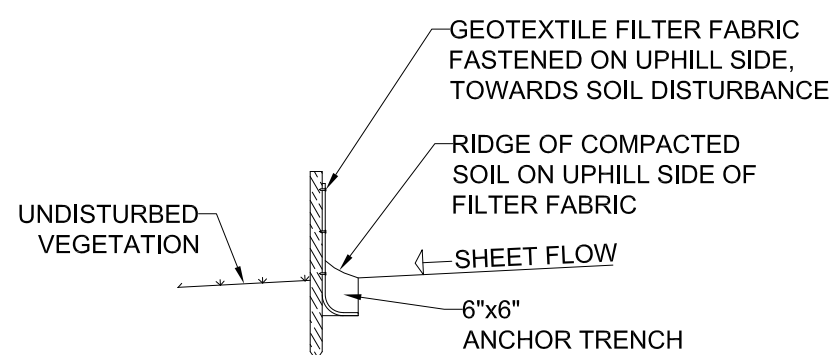
2230 PLATT ROAD, P.O. BOX 8645
ANN ARBOR, MICHIGAN 48107
PHONE: 734-971-6337
FAX: 734-971-6386
parks@ewashtenaw.org



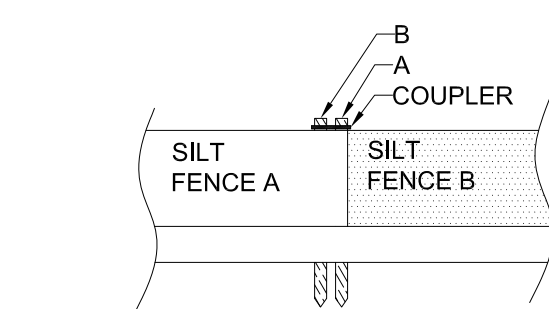
1 SILT FENCE
C-01 NO SCALE - PARTIAL FRONT ELEVATION



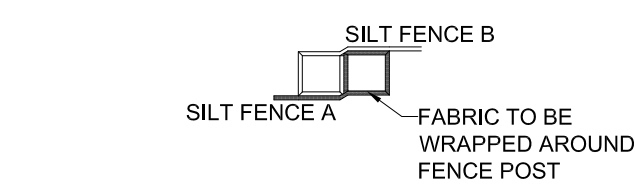
2 SILT FENCE
C-01 NO SCALE - PARTIAL PLAN VIEW



3 SILT FENCE
C-01 NO SCALE - SECTION



4 SILT FENCE JOINT DETAIL
C-01 NO SCALE - PARTIAL SECTION



5 SILT FENCE JOINT DETAIL
C-01 NO SCALE - PARTIAL PLAN VIEW

SESC SEQUENCE:

MAY 2016	INSTALL TEMPORARY SESC MEASURES
MAY 2016	INITIATE LAND CLEARING
JUNE 2016	FINAL SITE GRADING
JUNE 2016	INSTALL TEMPORARY SESC COVER CROP
OCTOBER 2016	INSTALL PERMANENT SESC MEASURES (NATIVE SEED MIX)
SPRING 2017	REMOVE SILT FENCES

PERMANENT SESC MEASURES:

- ALL AREAS WITHIN THE LIMITS OF WORK SHALL BE STABILIZED WITH A NATIVE SEED MIX AND COVER CROP (SEE SHEET C-02). REMAINING SITE AREA WILL REMAIN AS ACTIVE AGRICULTURE.
- A STORMWATER BASIN SHALL CAPTURE RUNOFF GENERATED FROM IMPERVIOUS SURFACES AS OUTLINED BY THE RULES OF THE WASHTENAW COUNTY WATER RESOURCES COMMISSIONER'S OFFICE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INITIAL ESTABLISHMENT OF SEED AND COVER CROP FOR THE MAINTENANCE PERIOD AS OUTLINED IN THE BID DOCUMENTS.
- WASHTENAW COUNTY PARKS STAFF SHALL BE RESPONSIBLE FOR THE LONG TERM, REGULAR MAINTENANCE OF ALL SEEDED AREAS AND STORMWATER STRUCTURES.

STONE TRACKING MAT:

STONE TRACKING MAT IS NOT INCLUDED AS PART OF THIS PROJECT BECAUSE THERE IS AN EXISTING GRAVEL DRIVEWAY IN PLACE THAT WILL SERVE THE SAME PURPOSE. ADDITIONALLY, ALL EXCAVATED MATERIALS WILL BE SPOILED ON-SITE. THE CONTRACTOR SHALL MAINTAIN THE ROADWAY IN GOOD TRAVELING CONDITION FOR ALL VEHICLES AND SHALL REMOVE ANY CONSTRUCTION DEBRIS GENERATED AS A PART OF THIS PROJECT.

TREE PROTECTION AND PRESERVATION

*TREE PROTECTION METHODS SHALL COMPLY WITH THE FOLLOWING PRACTICES WITHIN THE DRIPLINE OF A TREE'S CRITICAL ROOT ZONE AREA: NO GRADE CHANGES, NO STORAGE OF EQUIPMENT, TOOLS, MATERIALS SOIL OR DEBRIS OF ANY KIND. AVOID ANY ROOT ZONE SOIL COMPACTION AND ADDITION OF SOIL OVER THE TREE ROOT ZONE.

*ALL VEGETATION THAT IS NOT DESIGNATED ON THE PLANS TO BE REMOVED SHALL BE PROTECTED FROM DAMAGE. TREES THAT ARE DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

*TREE ROOTS SCARRED BY EQUIPMENT SHALL BE CUT CLEANLY AND COVERED WITH TOPSOIL.

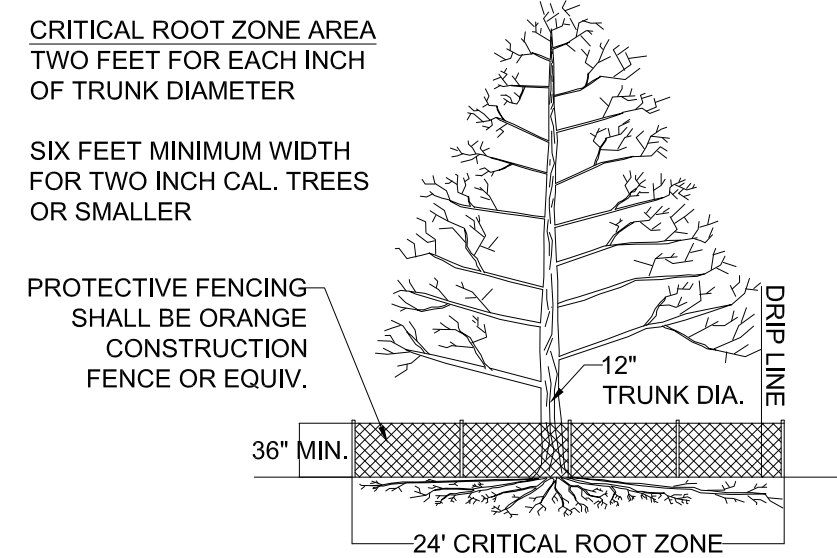
*ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 2 INCHES IS PERMITTED ON THE ROOT FLARE OF ANY TREE.

*TREE PROTECTION MEASURES SHALL BE INSTALLED AT THE CRITICAL ROOT ZONE OR BEYOND PRIOR TO THE START OF CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY.

*A TEMPORARY TREE PROTECTION BARRIER SHALL BE INSTALLED AT THE PERIMETER OF THE CRITICAL ROOT ZONE OF REGULATED TREES THAT ARE LOCATED WITHIN A DISTURBANCE AREA. IF ENCROACHMENT MAY INCUR INTO THE CRITICAL ROOT ZONE AREA THE TREE PROTECTION MUST BE A MINIMUM OF 10' FROM THE TRUNK.

*NO GRUBBING SHALL OCCUR WITHIN THE DRIPLINE OF TREES TO BE PRESERVED. DEAD TREES, SCRUB OR UNDERGROWTH SHALL BE CUT FLUSH WITH GRADE, KILLED WITH ROUNDUP (OR SIMILAR HERBICIDE) AND REMOVED FROM SITE.

*NO GRADING SHALL OCCUR WITHIN THE DRIPLINE OF TREES TO BE SAVED. CONTOURS SHOWN FOR NEW GRADING SHALL BE FIELD VERIFIED AGAINST EXISTING CONTOURS. NEW CONTOURS ARE TO BE BLENDED WITH EXISTING CONTOURS, STARTING AT THE DRIP LINE OF THE TREES, AS SHOWN ON THE DRAWINGS. TRANSITION GRADES LESS THAN OR EQUAL TO TWENTY PERCENT ARE ACCEPTABLE. GRADES GREATER THAN TWENTY PERCENT SLOPE SHALL REQUIRE A RETAINING WALL.



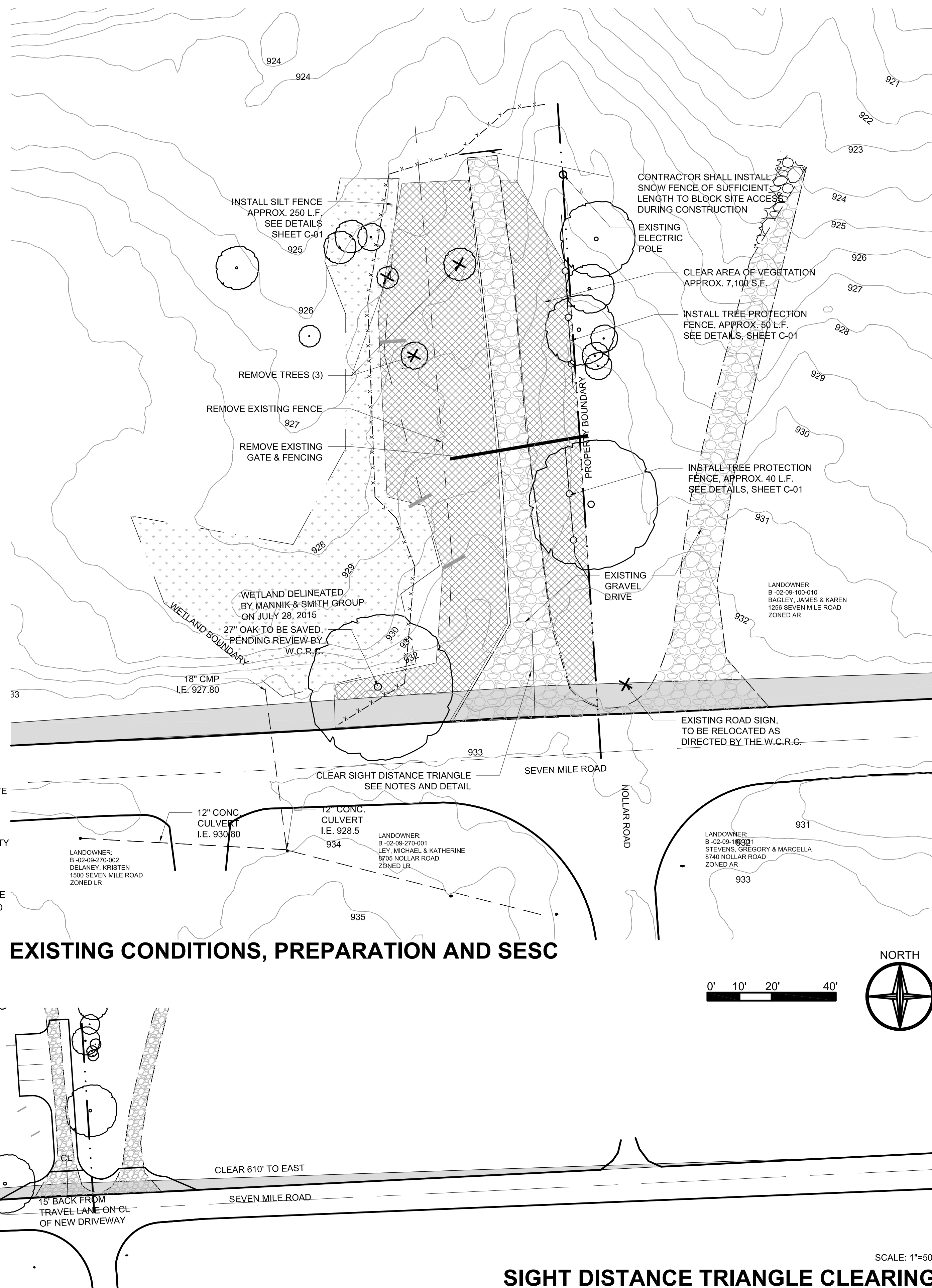
6 TREE PROTECTION FENCING
C-01 NO SCALE - SECTION

TEMPORARY CONSTRUCTION SIGNS:

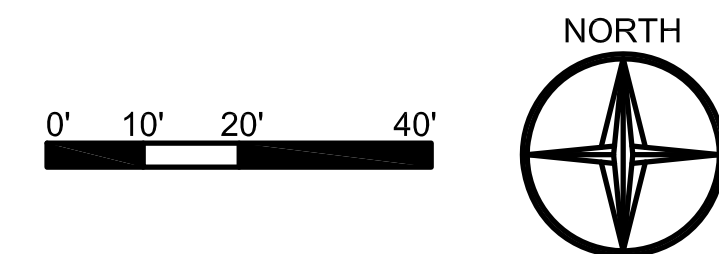
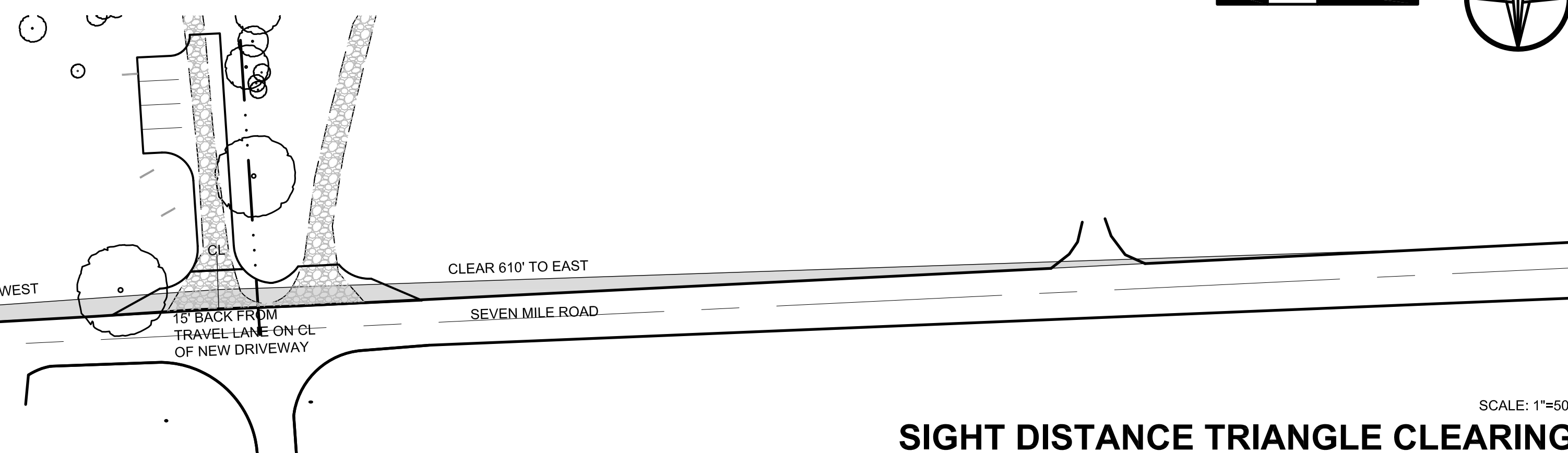
- SEE TEMPORARY CONSTRUCTION SIGN LAYOUT PLAN (SHEET D-01)
- TEMPORARY CONSTRUCTION SIGNS MUST BE INSTALLED PRIOR TO COMMENCING OTHER SITE WORK AND MUST BE MAINTAINED IN GOOD CONDITION UNTIL NOTICE OF SUBSTANTIAL COMPLETION IS GIVEN BY OWNER.
- ALL SIGNS MUST COMPLY WITH THE MOST RECENT VERSION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUCTD) AND SHALL MEET AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) QUALITY STANDARDS.
- ALL CONSTRUCTION WARNING SIGNS SHALL BE SUPPLEMENTED WITH TWO FLUORESCENT ORANGE WARNING FLAGS POSITIONED ABOVE THE SIGN. THOSE USED IN DARKNESS SHALL ALSO INCLUDE PRISMATIC SHEETING. PLASTIC DRUMS AND TYPE III BARRICADES SHALL HAVE ONE AND THREE TYPE C STEADY-BURNING WARNING LIGHTS ATTACHED, RESPECTIVELY, AND INCLUDE PRISMATIC SHEETING.

SIGHT DISTANCE TRIANGLE

ALL AREAS WITHIN THE SIGHT DISTANCE TRIANGLE MUST BE FREE OF OBSTRUCTIONS THAT MIGHT BLOCK AN APPROACHING OR STOPPED DRIVER'S VIEW (TREES, BRUSH, EMBANKMENT, ETC). TRIANGLE IS MEASURED ALONG THE CENTERLINE OF THE NEW DRIVEWAY, 10 FEET BACK FROM THE TRAVELED PORTION OF THE ROAD 610 FEET TO THE WEST AND 530 FEET TO THE EAST. DRIVER'S EYE IS MEASURED AT 3.5 FEET ABOVE THE DRIVEWAY SURFACE. THE OBJECT TO BE SEEN IS 2 FEET ABOVE THE ROAD SURFACE.



EXISTING CONDITIONS, PREPARATION AND SESC



SIGHT DISTANCE TRIANGLE CLEARING

SCALE: 1"=50'



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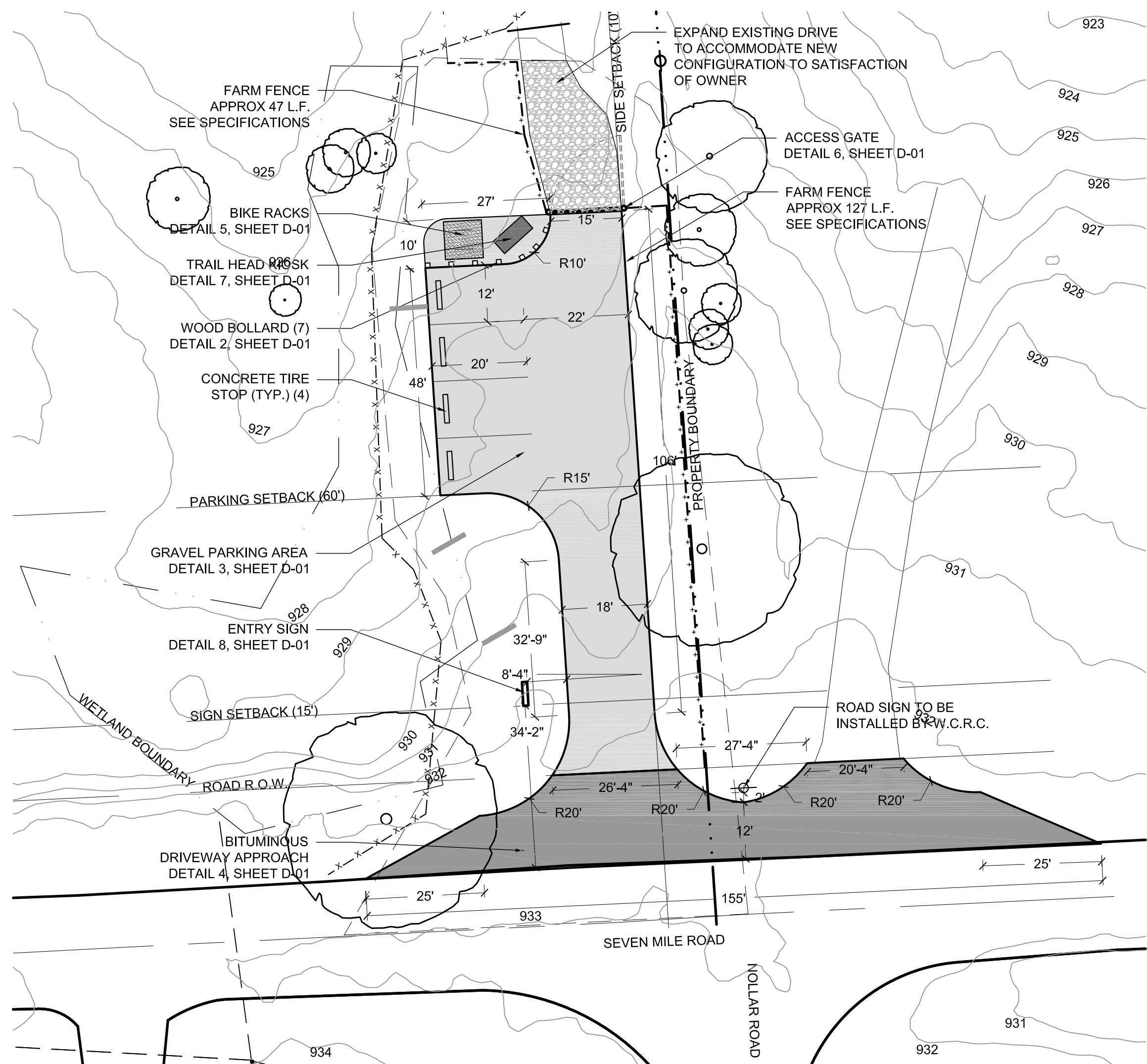
PROJECT NAME
WHITMORE LAKE PRESERVE ENTRANCE AND PARKING

SHEET TITLE
EX. CONDITIONS, SITE PREPARATION & SESC

PWS	8/31/2015
DESIGN BY	DATE
PWS	8/31/2015
DRAWN BY	APPROVED
JHD	8/31/2015
CHECKED BY	APPROVED

REVISIONS	DATE
STORMWATER & WCRC	11/24/2015

SHEET NUMBER
C-01



SITE LAYOUT NOTES:

1. DRIVEWAY SHALL BE PERPENDICULAR TO SEVEN MILE ROAD
2. CONCRETE TIRE STOPS SHALL BE STANDARD DIMENSIONS (8 FEET IN LENGTH, 5 INCHES HIGH, AND 9 INCHES WIDE). TIRE STOPS SHALL BE REINFORCED WITH STEEL REINFORCING ROD. TIRE STOPS SHALL BE ANCHORED BY 2 PIECES OF #5 REBAR MIN. 36" LENGTH EACH.
3. WORK WITHIN THE ROAD R.O.W. MAY REQUIRE FIELD REVIEW BY THE WASHTENAW COUNTY ROAD COMMISSION PRIOR TO FINALIZING INSTALLATION (PAVING BASE DEPTH, SIGN INSTALLATION, ETC.). CONTRACTOR SHALL APPROPRIATELY COORDINATE WORK AND REVIEWS WITH THE ROAD COMMISSION.
4. DRIVEWAY TAPERS AND APPROACHES SHALL BE A CONTINUATION OF THE CROSS SLOPE OF THE EXISTING ROAD PAVEMENT.

SITE PLANTING NOTES:

1. SEED SUPPLIERS (OTHER SOURCES AND SEED MIXES MUST BE APPROVED BY OWNER):
 - 1.1. NATIVE SEED: Cardno JFNew, (574) 586-2412, www.cardnonativeplantnursery.com
 - 1.2. TURF GRASS: Rhino Seed, (810) 632-5640, www.rhinoseed.com
2. SEE SPECIFICATIONS FOR ADDITIONAL DETAILS, PLANTING INFORMATION, REPLACEMENT, AND MAINTENANCE REQUIREMENTS

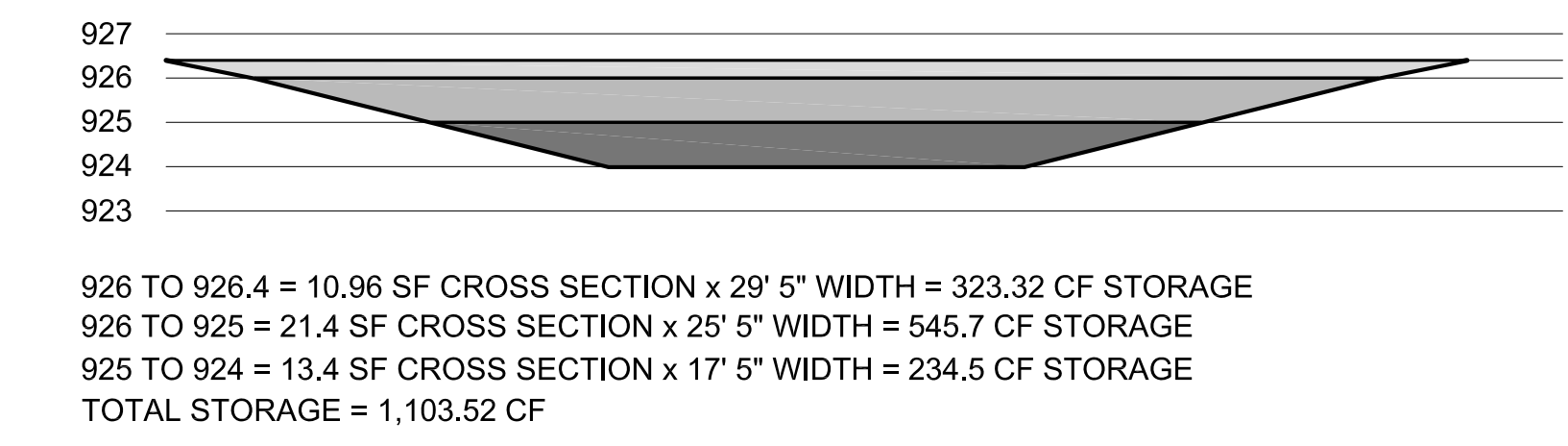
PLANT & SEED LIST:

ID	Botanical Name	Common Name	Qty	Size & Condition	Notes
SWO	Quercus bicolor	Swamp White Oak	3	2-2.5" Cal., B&B	

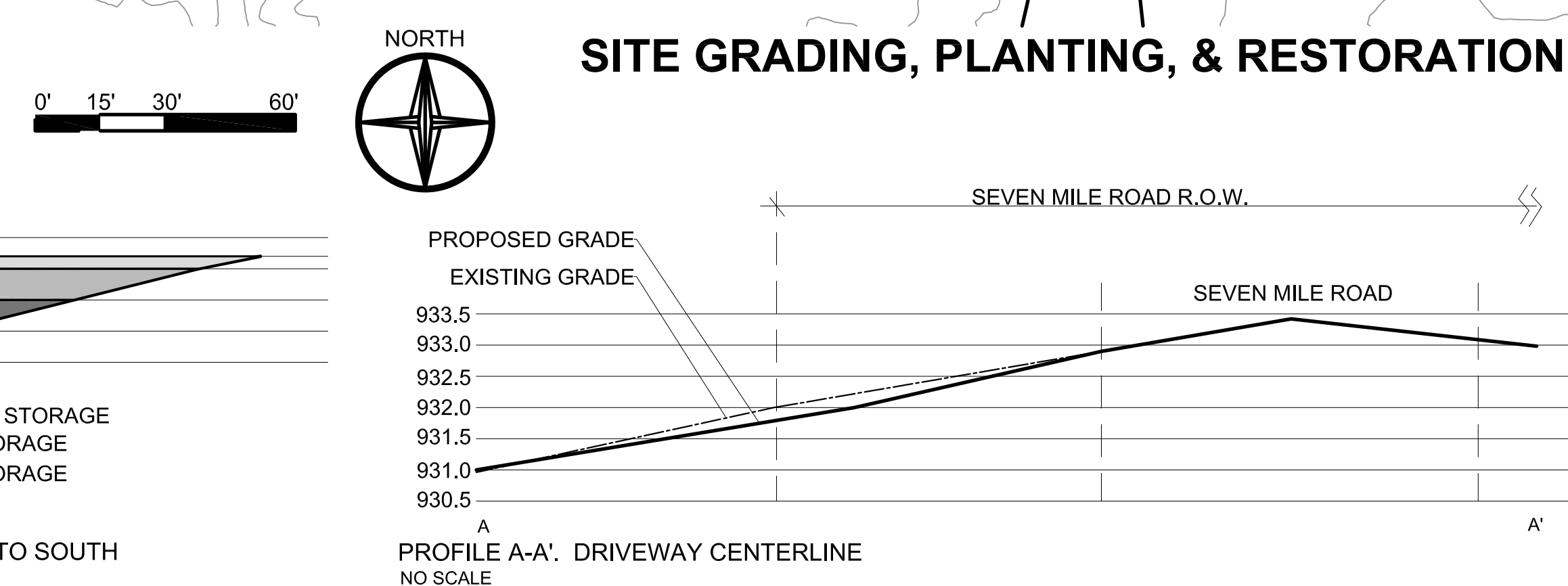
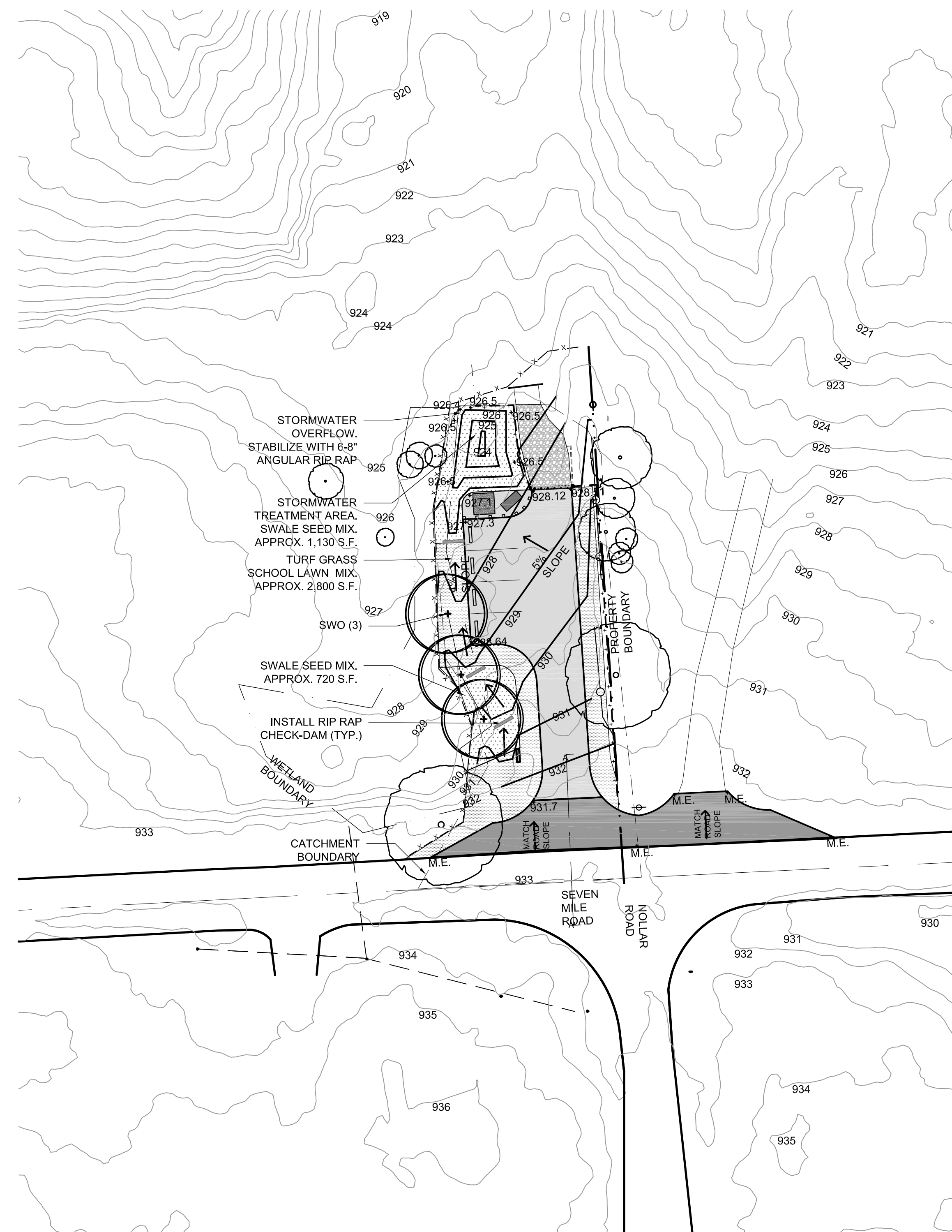
Seed Mix Name	Area for Coverage	Seed Rate
Swale	0.02 acres (930 s.f.)	32.30 PLS/Acre
School Lawn Mix	0.05 acres (2,300 s.f.)	6 LBS/1,000 SF

SITE GRADING NOTES:

1. MINIMIZE CONSTRUCTION TRAFFIC AND SOIL COMPACTION IN FUTURE STORMWATER TREATMENT AREA.
2. ALL FILL SHALL BE CLEAN AND FREE OF ORGANIC MATERIAL. FILL SHALL BE COMPACTED IN 6-12" LIFTS TO 90% MAX DENSITY.
3. DRIVEWAY TAPERS AND APPROACHES SHALL BE A CONTINUATION OF THE CROSS SLOPE OF THE EXISTING ROAD PAVEMENT. NEW PAVING MUST MATCH THE EXISTING ROADWAY'S GRADE AT EDGES.
4. CHECK DAMS SHALL BE CONSTRUCTED FROM 6-8" ANGULAR RIP-RAP AND SHALL BE A MINIMUM OF 2' WIDE ALONG THE DIRECTION OF WATER FLOW



FIRST FLUSH CAPTURE BASIN: CENTERLINE PROFILE NORTH TO SOUTH
NO SCALE



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PROJECT NAME
WHITMORE LAKE PRESERVE ENTRANCE AND PARKING

SHEET TITLE
SITE LAYOUT, GRADING, PLANTING, & RESTORATION

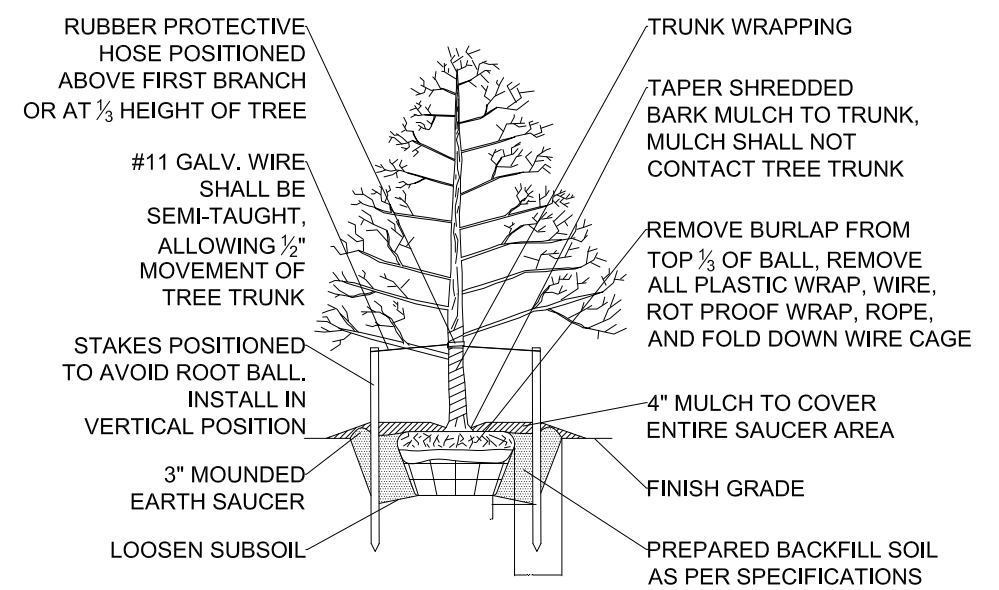
DESIGN BY DATE
PWS 8/31/2015

DRAWN BY APPROVED
JHD 8/31/2015

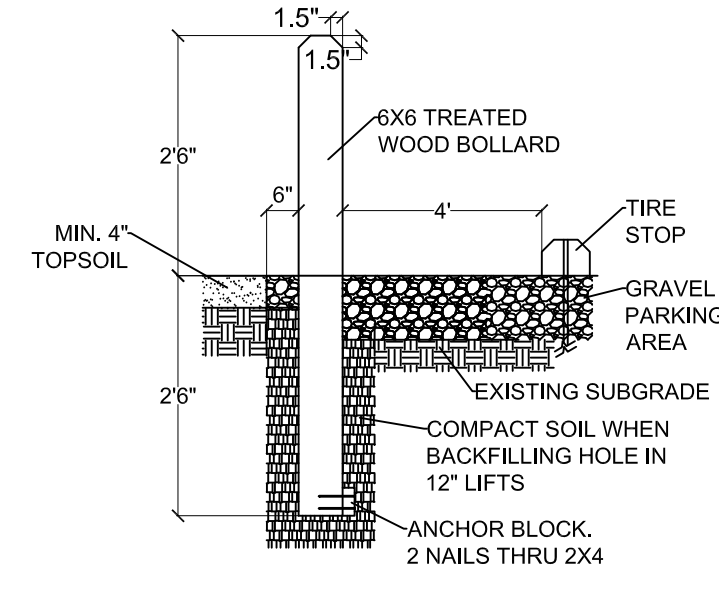
CHECKED BY APPROVED

REVISIONS DATE
STORMWATER & WCRC 11/24/2015

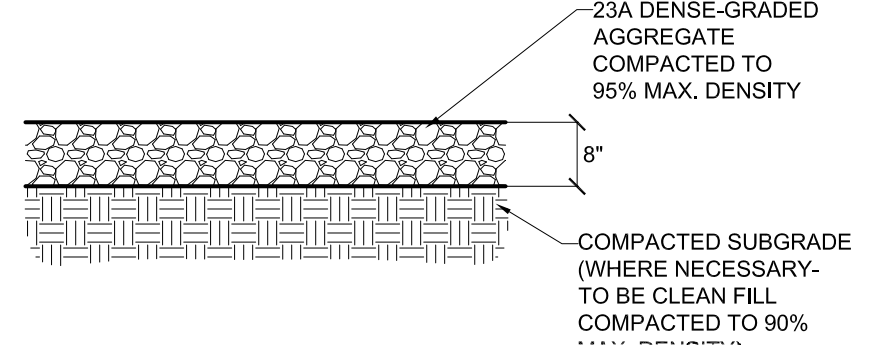
SHEET NUMBER
C-02



- NOTES:**
1. STAKES SHALL BE INSTALLED AT DISCRETION OF CONTRACTOR.
 2. STAKES TO EXTEND MIN. 18" INTO UNDISTURBED SOIL. SET STAKES VERTICAL AND AT EQUAL HEIGHT.
 3. NOTCH STAKES TO HOLD WIRE IN PLACE.
 4. TOP OF ROOT BALL SHOULD BE SET AT OR SLIGHTLY HIGHER THAN THE SURROUNDING GRADE.
 5. PROVIDE 5' DIAMETER MULCH RING AROUND ALL PROPOSED TREES.



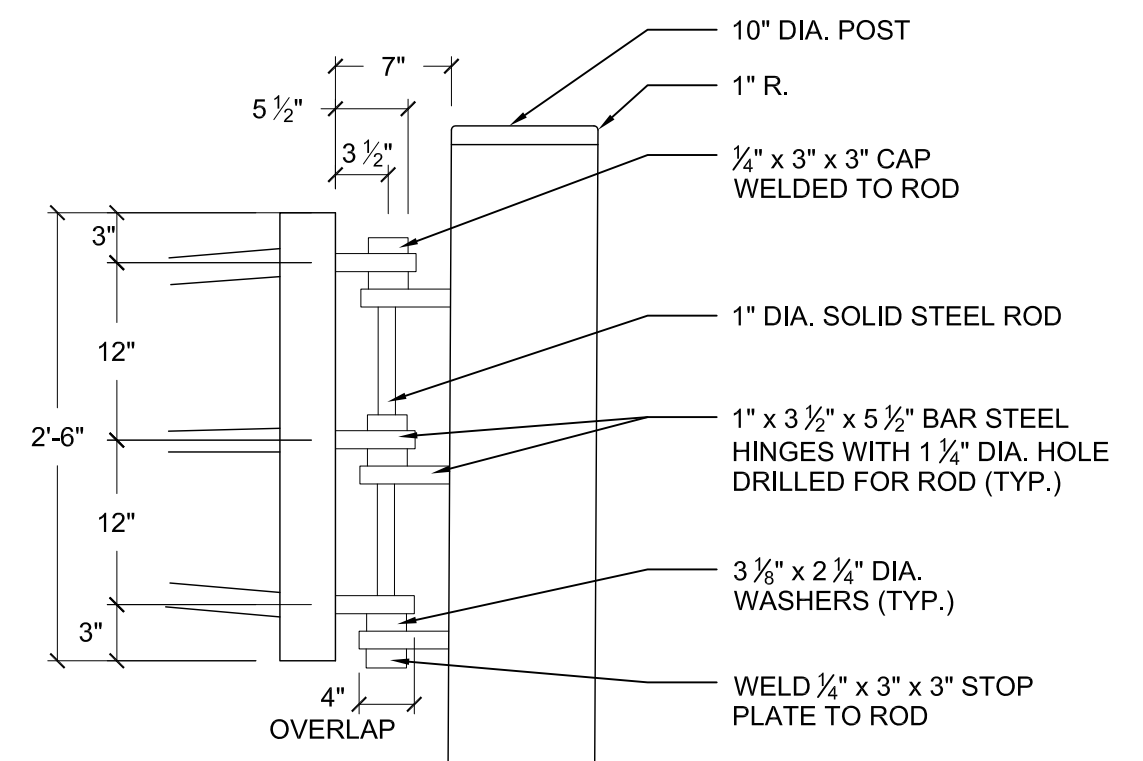
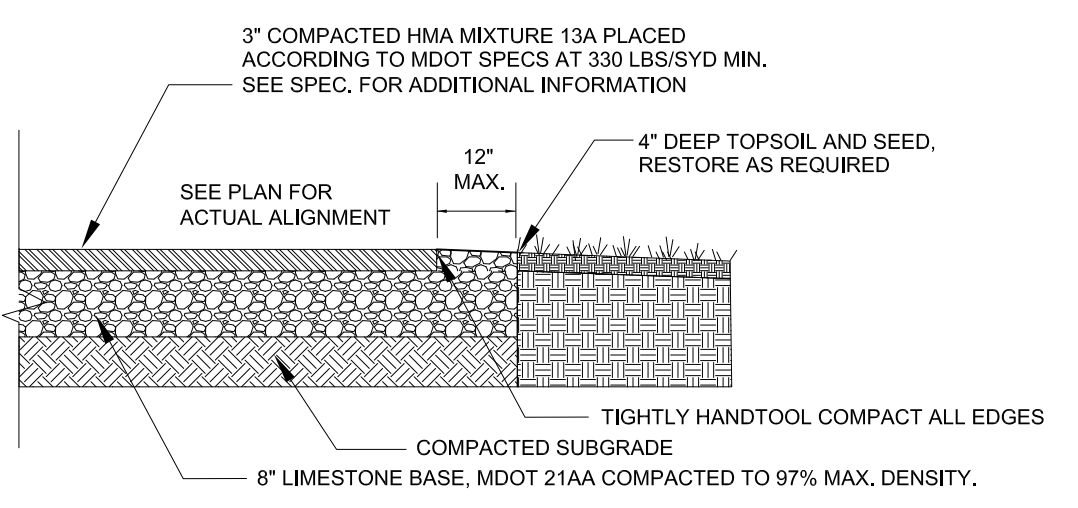
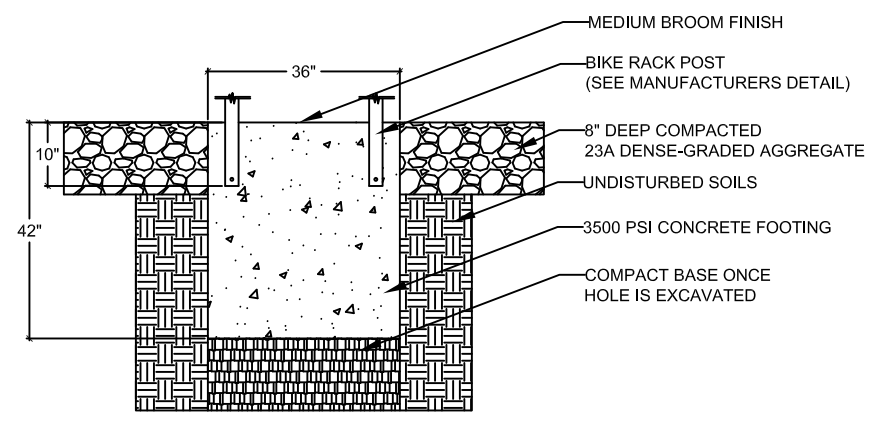
- GRAVEL DRIVEWAY NOTES:**
1. CONTRACTOR SHALL INSTALL WOVEN GEOTEXTILE (CSI GEOTURF H2400 OR APPROVED EQUAL) UNDER ALL PROPOSED GRAVEL PARKING AND DRIVEWAY SURFACES. INSTALL PER MANUFACTURER SPECIFICATIONS.
 2. CONTRACTOR SHALL NOT PLACE GEOTEXTILE UNDER BOLLARDS.



1 TREE PLANTING
D-01 NO SCALE - ELEVATION

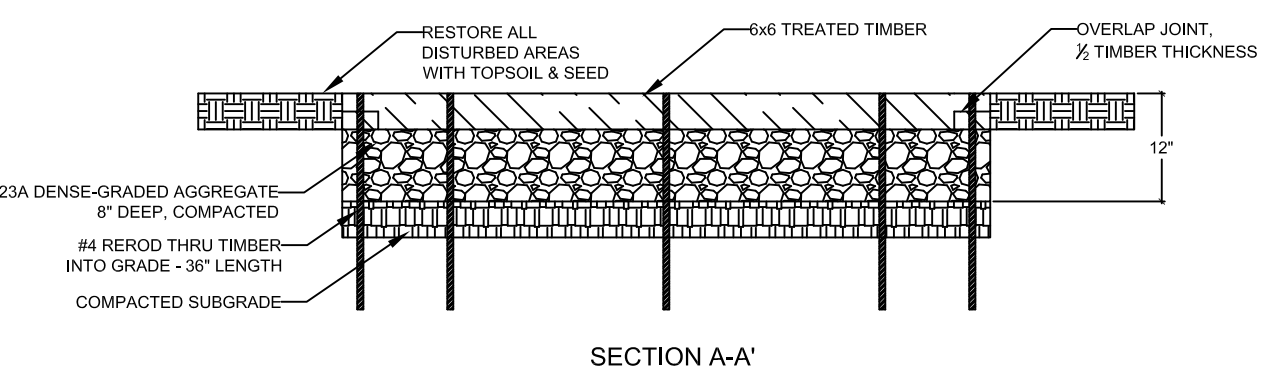
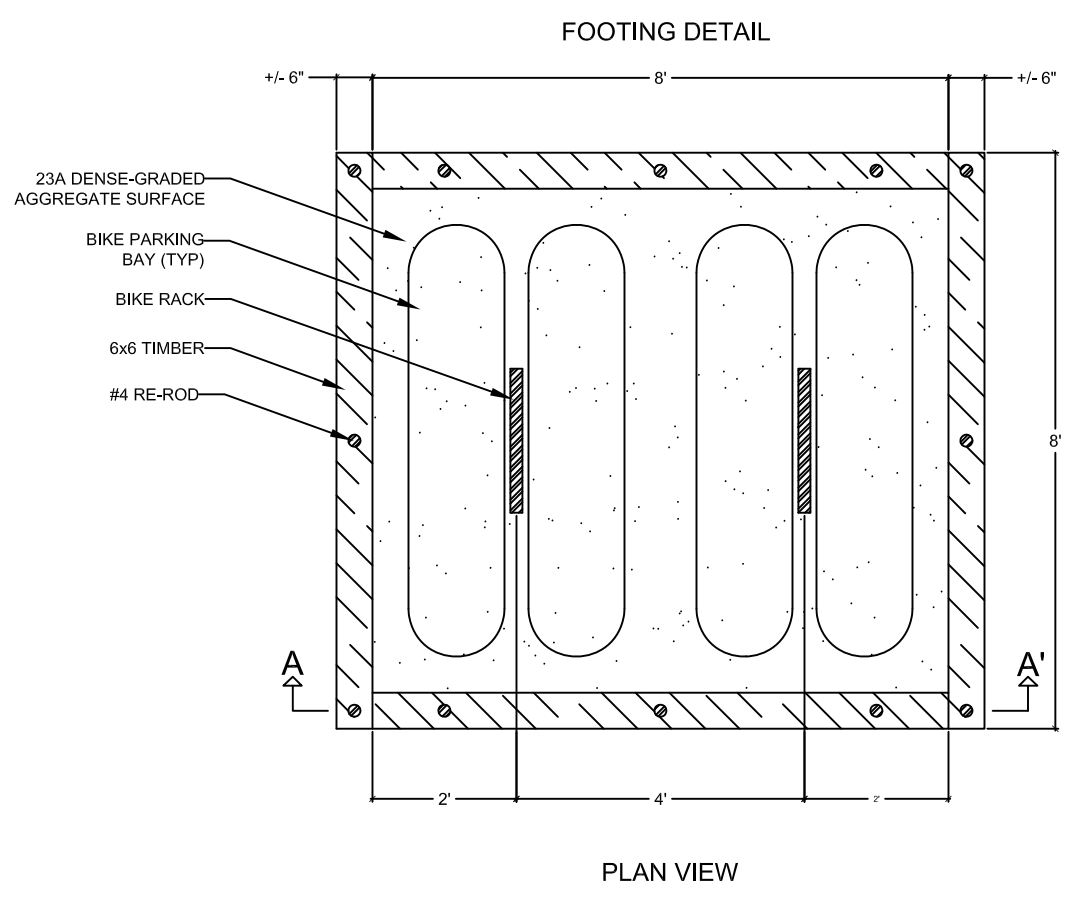
2 WOOD BOLLARD
D-01 NO SCALE - SECTION

3 GRAVEL PARKING AREA
D-01 NO SCALE - PARTIAL SECTION



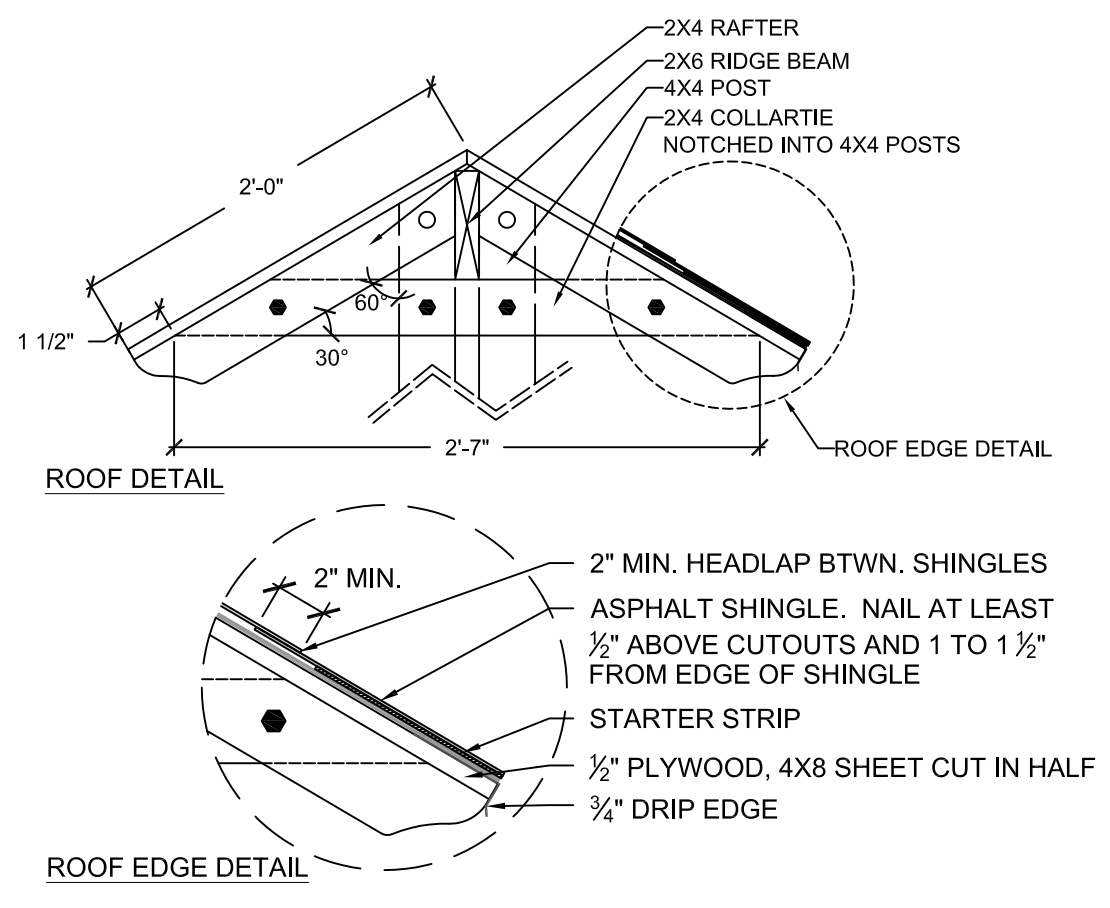
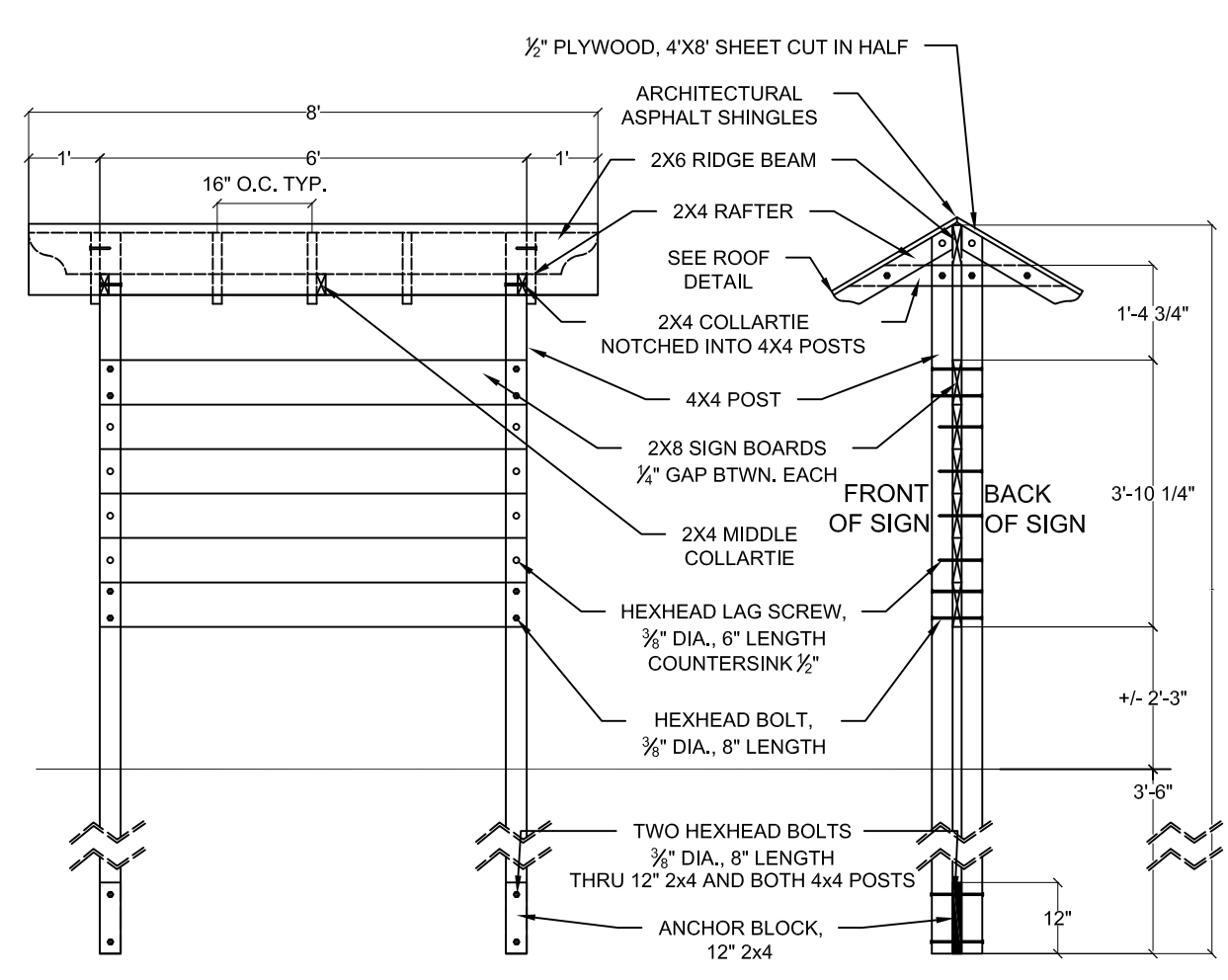
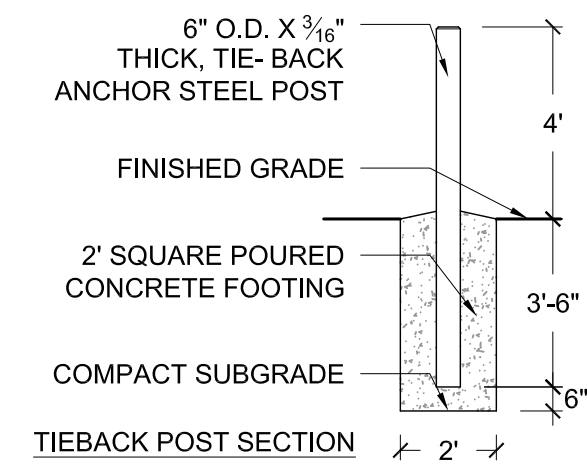
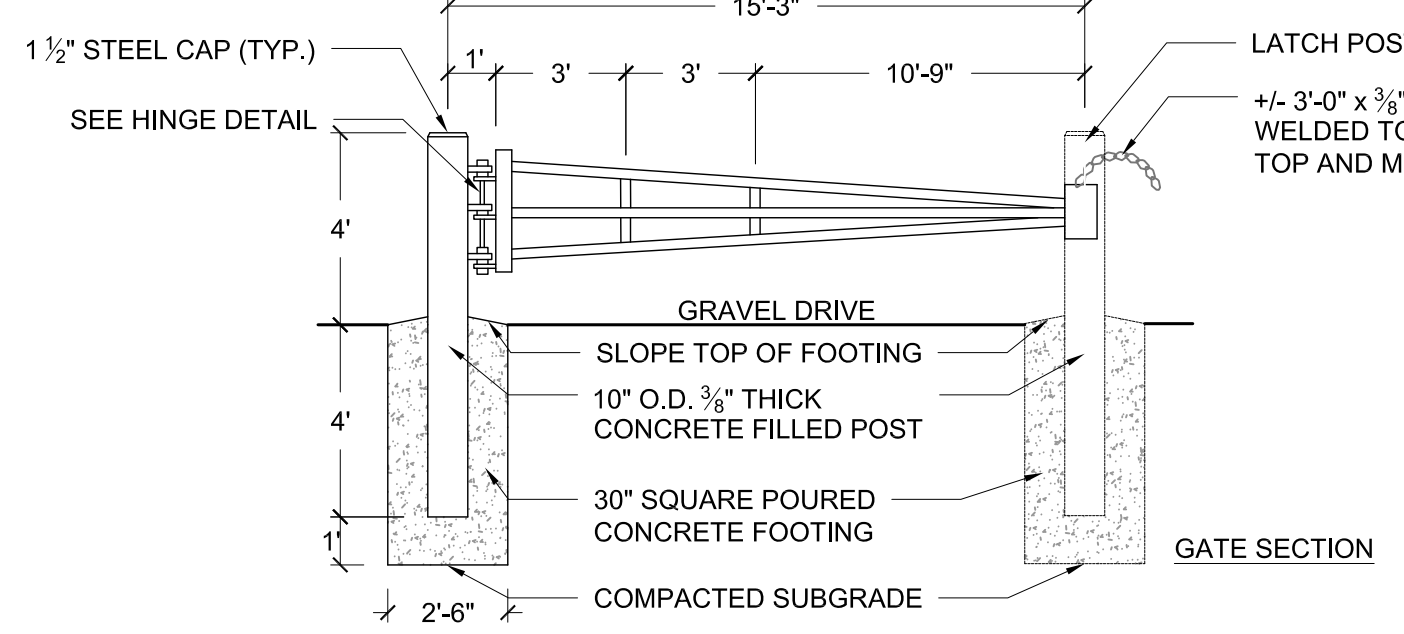
4 BITUMINOUS DRIVEWAY APPROACH
D-01 NO SCALE - PARTIAL SECTION

1. ALL POSTS, RAILS, SUPPORTS, ETC. SHALL BE SCHEDULE 40 PIPE, NON-GALVANIZED STEEL
2. ENTIRE FABRICATION SHALL BE PAINTED OR POWDER COATED WITH EXTERIOR GRADE BLACK GLOSS COLOR. CONTRACTOR SHALL SUBMIT PAINT OR POWDER COAT SPECIFICATIONS TO OWNER FOR APPROVAL PRIOR TO FABRICATION OF GATE.



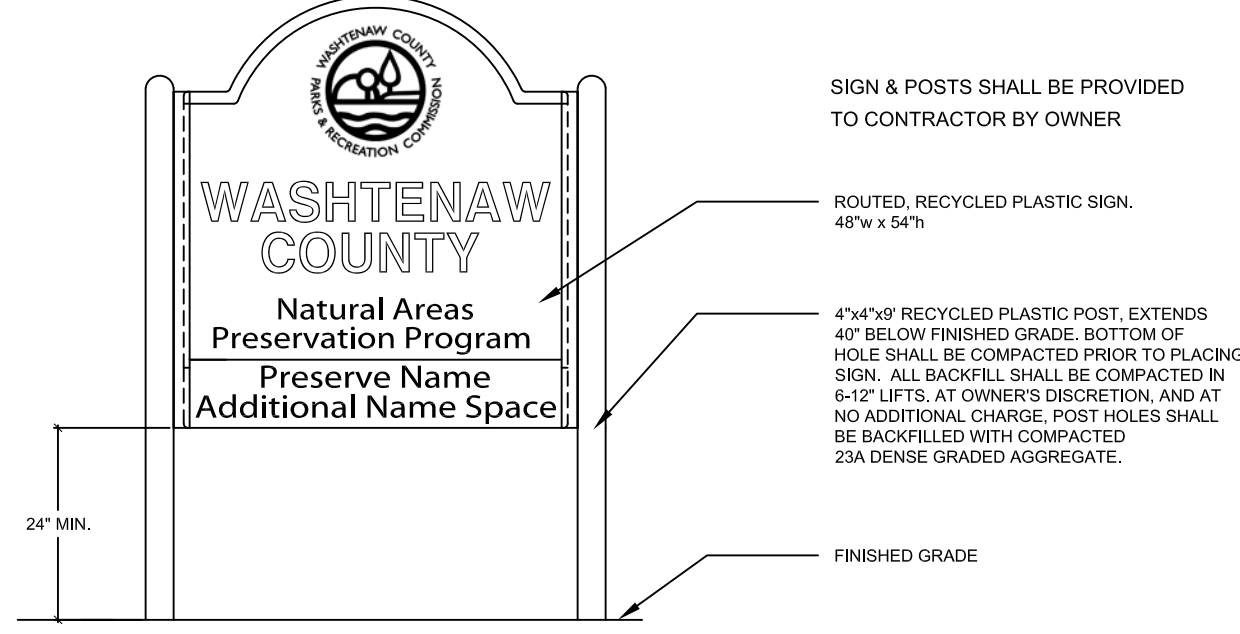
5 BIKE RACK
D-01 NO SCALE

6 ACCESS GATE
D-01 NO SCALE



- GENERAL NOTES:**
- AT OWNER'S DISCRETION, BACKFILL AROUND POSTS WITH GRAVEL, 21AA, 23A OR APPROVED EQUAL, WHILE BACKFILLING POST HOLES, COMPACT BACKFILL MATERIAL IN 6"-8" LIFTS.
- LUMBER AND HARDWARE NOTES:**
- HEXHEAD BOLT
 - HEXHEAD LAG SCREW
1. ALL WOOD IS TO BE TREATED
 2. ALL HARDWARE SHALL BE COMPATIBLE WITH TREATED LUMBER

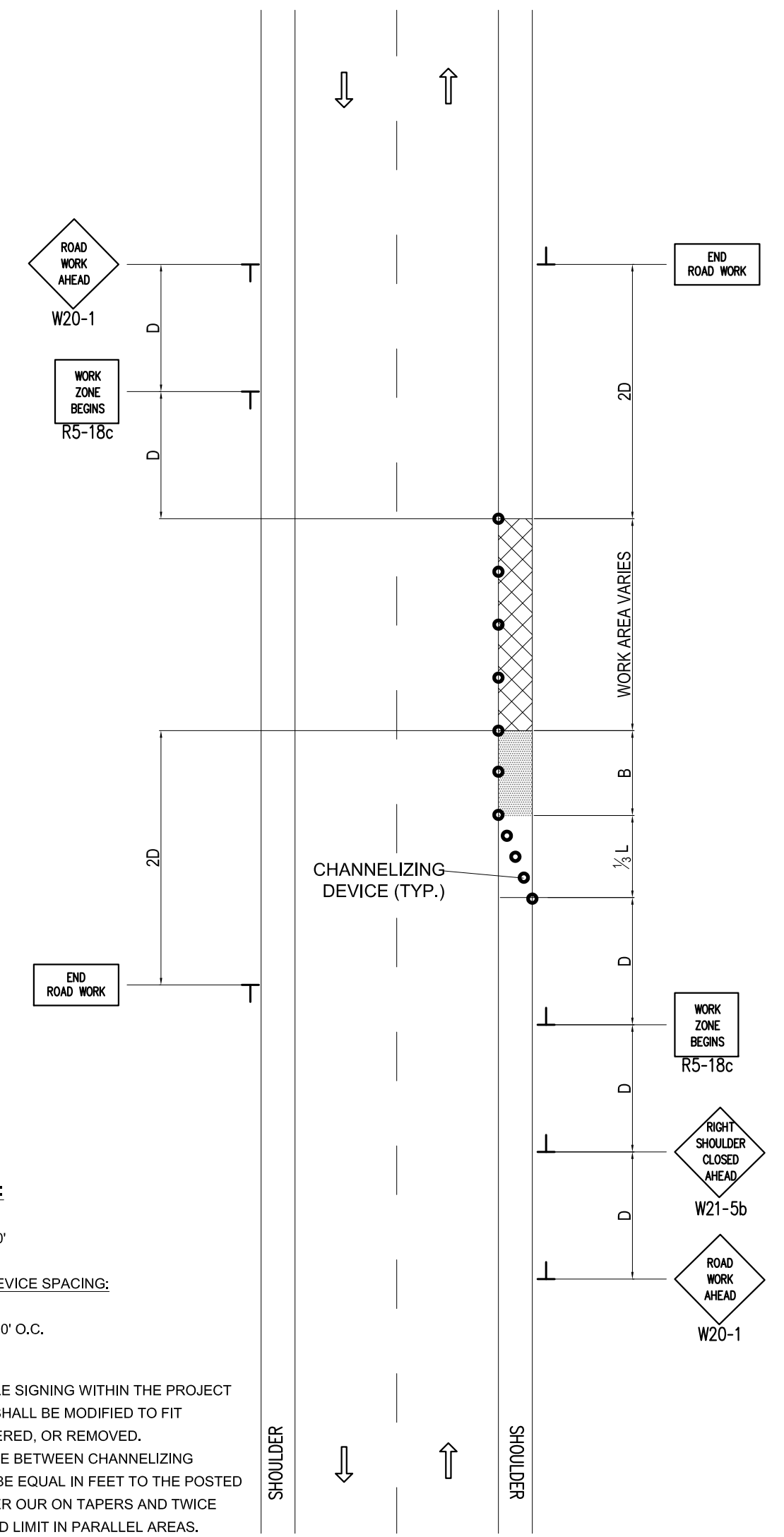
7 TRAIL HEAD KIOSK
D-01 NO SCALE - ELEVATION



8 NAPP ENTRY SIGN
D-01 NO SCALE - PARTIAL ELEVATION

- SIGN & POSTS SHALL BE PROVIDED TO CONTRACTOR BY OWNER
- SIGN VARIABLES:**
- L=220' 1/2L=73'
D=550' 2D=1100'
B=329'
- MAX. CHANNELIZING DEVICE SPACING:
TAPER: 55' O.C.
PARALLEL TO ROAD: 110' O.C.
- SIGN NOTES:**
- ALL NON-APPLICABLE SIGNING WITHIN THE PROJECT INFLUENCE AREA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED, OR REMOVED.
 - MAXIMUM DISTANCE BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPERS AND TWICE THE POSTED SPEED LIMIT IN PARALLEL AREAS.

9 TEMPORARY CONSTRUCTION SIGN LAYOUT
D-01 NO SCALE - PLAN VIEW



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PROJECT NAME
WHITMORE LAKE PRESERVE ENTRANCE AND PARKING

SHEET TITLE
SITE DETAILS

PWS DESIGN BY	8/31/2015
PWS DATE	8/31/2015
JHD DRAWN BY	APPROVED
JHD CHECKED BY	APPROVED

REVISIONS	DATE
STORMWATER & WCRC	11/24/2015

SHEET NUMBER
D-01