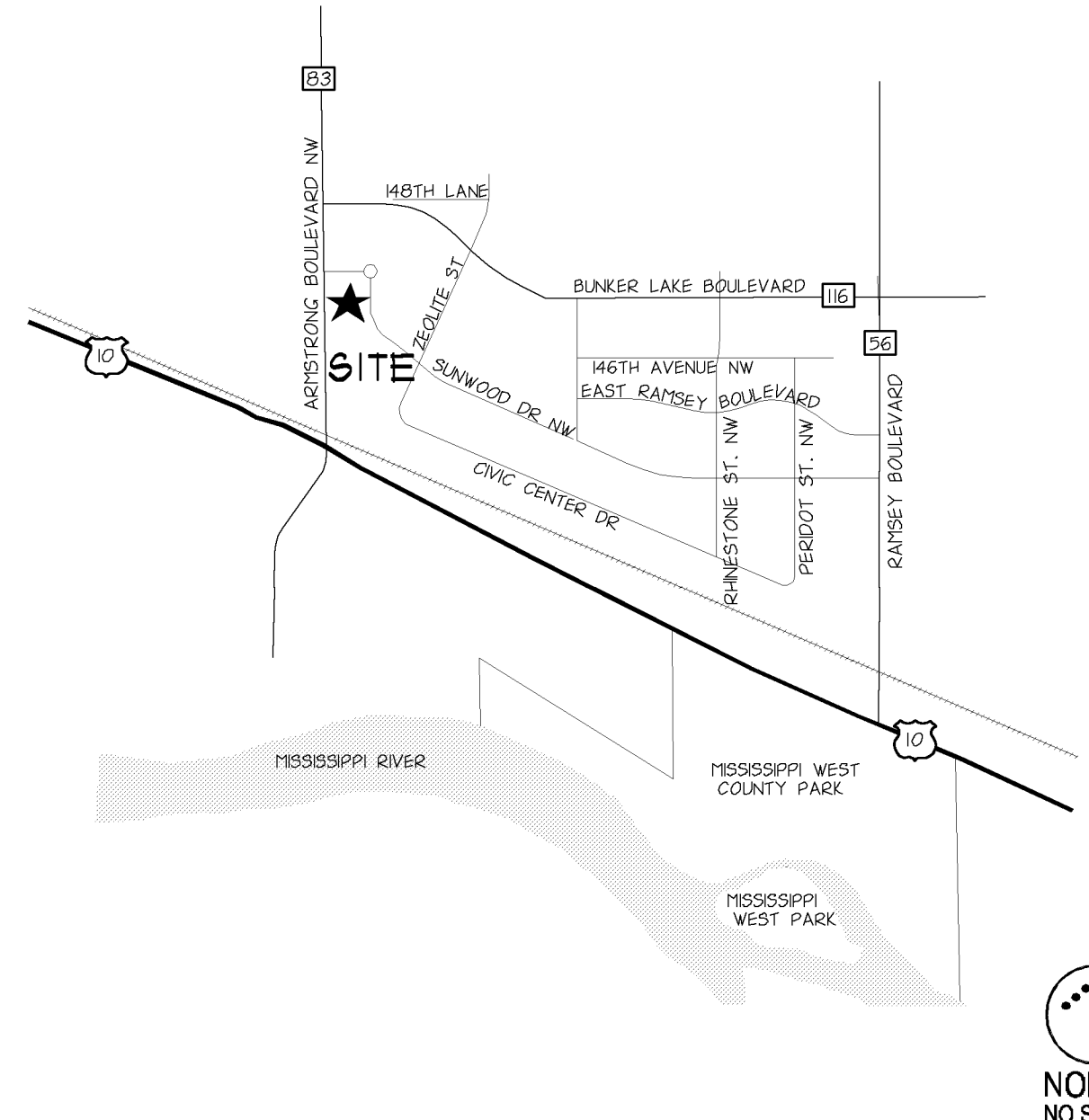


RAMSEY, MN

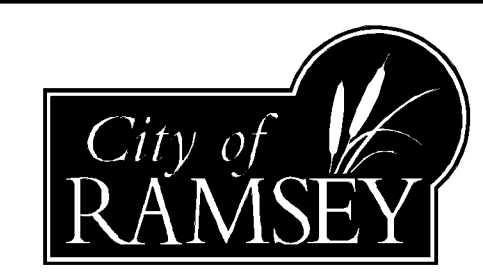


SUNWOOD RETAIL INITIAL IMPROVEMENTS RAMSEY, MN

DEVELOPER

RAMSEY HRA
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
TEL: (763) 427-1410 - FAX: (763) 427-5543

MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

SHEET INDEX

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ABBREVIATIONS

D	Angle	JT.	Joint
&	And	L.F.	Linear Feet
100 YR.	100 Year Flood Elevation	L.P.	Low Point / Liquid Petroleum
A.B.	Anchor Bolt	L.B.	Pound
A.D.	Area Drain	L.G.U.	Local Government Unit
A/C	Ar Conditioning Unit	L.O.N.G.	Longitudinal
ADD.	Addendum	MAINT.	Maintenance
ADDL.	Additional	MAS.	Masonry
ADJ.	Adjacent / Adjust	MATL.	Material
AHU	Air Handling Unit	MAX.	Maximum
ALT.	Alternate	MECH.	Mechanical
ALUM.	Aluminum	MED.	Medical
ANOD.	Anodized	MFR.	Manufacturer
APPROX.	Approximate	MH	Manhole
ARCH.	Architect / Architectural	MN	Minnesota / Mouse
AUTO.	Automatic	MISC.	Miscellaneous
AVG.	Average	MNDOT	Minnesota Department of Transportation
B.C.	Back of Curb	MOD.	Module / Modular
B.M.	Benchmark	MUL.	Mulch
B/W	Bottom of Wall	N.	North
BFE	Basement Floor Elevation	N.C.	Not in Contract
BIT	Bituminous (Asphalt)	NO, OR #	Number
BLDC	Building	NTS	Not to Scale
BSMT.	Basement	NWE	Normal Water Elevation
C.F.	Cubic Feet	NWL	Normal Water Level
C.F.S.	Cubic Feet Per Second	O.C.	On Center
C.G.	Corner Guard	O.D.	Outside Dimension
C.J.	Control Joint	O.E.	Overhead Electric
C.L.	Centerline	O.H.	Overhead
C.M.U.	Concrete Masonry Unit	O.H.W.	Ordinary High Water Level
C.O.	Cleanout	OPNG.	Opening
C.O.E.	U.S. Army Corps Of Engineers	ORIG.	Original
C.Y.	Cubic Yards	P.C.	Point of Curvature
CB	Catch Basin	P.I.	Point of Intersection
CBM	Catch Basin Manhole	P.I.V.	Point Indicator Valve
CEM.	Cement	P.L. OR P/L	Property Law
CF	Cast Iron Pipe	P.O.B.	Point of Beginning
CMP	Corrugated Metal Pipe	P.S.F.	Pounds Per Square Foot
CONC.	Concrete (Portland)	P.S.I.	Pounds Per Square Inch
CONN.	Connection	P.T.	Point of Tangency
CONST.	Construction	P.V.C.	Point of Vertical Curvature
CONT.	Continuous	P.V.I.	Point of Vertical Intersection
CONTR.	Contractor	P.V.T.	Point of Vertical Tangency
COV.	Cover	PE	Polyethylene
CU.	Cubic	PEP.	Pedestal / Pedestrian
C.S.	Down Spout	PERF.	Perforated
DEC.	Degree	PROP.	Proposed
DEMO.	Demolition / Demolish	PROJ.	Project
DEPT.	Department	PROP.	Proposed
DET.	Detail	PVC	Poly-Vinyl-Chloride (Ppva)
DIA.	Diameter	PVT.	Pavement
DIGN.	Dissolved	QTR.	Quarter
DM-	Demason	QUAN.	Quantity
DP	Ductile Iron Pipe	R.	Radius
DN	Down	RAD.	Radius
DWG.	Drawings	R.D.	Roof Drain
E.	East	R.E.	Remove Existing
E.J.	Expansion Joint	R.O.P.	Rough Opening
E.O.S.	Emergency Overflow Slope	R.P.	Rebar Pans
E.W.	Each Way	RCP	Reinforced Concrete Pipe
EA.	Each	R.S.	Rebar Slab
ELEV.	Elevation	RE.	Rebaring
ELEC.	Electrical	REIN.	Reinforced
ELEV.	Elevation	REQD.	Required
EMER.	Emergency	REV.	Revision / Revised
ENGR.	Engineer	RGU	Regulatory Government Unit
ENTR.	Entrance	ROW OR R/W	Right of Way
EQ.	Equal	S.	Sheet
EQUIP.	Equipment	S.F.	Square Feet
EQUIV.	Equivalent	SAN.	Sanitary Sewer
EXST.	Existing	SECT.	Section
EXP.	Expansion	SE	Side Exit
F & I	Furnish and Install	SEW/O	Side Exit Walk Out
F.B.O.	Furnished by Others	SH-	Sheet
F.C.	Face of Curb	SH-	Sheet
F.D.	Floor Drain	SHT.	Sheet
F.D.C.	Fire Department Connection	SHT.	Sheet
F.V.	Field Ventril	SHT.	Sheet
FB	Full Basement	SHT.	Sheet
FB/O	Full Basement Walk Out	SHT.	Sheet
FBLO	Full Basement Lock Out	SHT.	Sheet
FDN.	Foundation	SHT.	Sheet
FES	Flared End Section	SHT.	Sheet
FEE	Finished Floor Elevation	SHT.	Sheet
FIB.	Fiber	SHT.	Sheet
FT. OR ()	Foot	SHT.	Sheet
FUT.	Future	SHT.	Sheet
G.B.	Grade Break	SHT.	Sheet
G.C.	General Contractor	SHT.	Sheet
G.C.V.	Galvanized	SHT.	Sheet
G.F.E.	Garage Floor Elevation	SHT.	Sheet
GL.	Class	SHT.	Sheet
GR.	Grade	SHT.	Sheet
H.	Height	SHT.	Sheet
H.D.P.E.P.	High Density Polyethylene Pipe	SHT.	Sheet
HCT.	Height	SHT.	Sheet
HORIZ.	Horizontal	SHT.	Sheet
HVAC	Heating, Ventilation, Air Conditioning	SHT.	Sheet
HYD	Hydrant	SHT.	Sheet
I.D.	Inside Dimension	SHT.	Sheet
IN. OR (")	Inches	SHT.	Sheet
INFO.	Information	SHT.	Sheet
INS.	Insulation	SHT.	Sheet
INSUL.	Insulation	SHT.	Sheet
INV.	Invert Elevation	SHT.	Sheet
		SHT.	Sheet

SYMBOLS

EXISTING	DESCRIPTION	NEW	DESCRIPTION
[Symbol]	CONTOUR	[Symbol]	CONTOUR
[Symbol]	SPOT ELEVATION	[Symbol]	SPOT ELEVATION
[Symbol]	BUILDING	[Symbol]	BUILDING
[Symbol]	CANOPY / OVERHANG	[Symbol]	UNDERGROUND STRUCTURE
[Symbol]	CONCRETE	[Symbol]	RAILROAD
[Symbol]	CONCRETE CURB	[Symbol]	CONCRETE
[Symbol]	EDGE OF PAVEMENT	[Symbol]	CONCRETE CURB
[Symbol]	FENCING	[Symbol]	EDGE OF PAVEMENT
[Symbol]	GUARD RAIL	[Symbol]	FENCING
[Symbol]	CONCRETE RETAINING WALL	[Symbol]	GUARD RAIL
[Symbol]	FIELDSTONE RETAINING WALL	[Symbol]	CONCRETE RETAINING WALL
[Symbol]	MODULAR RETAINING WALL	[Symbol]	FIELDSTONE RETAINING WALL
[Symbol]	SOL BORING	[Symbol]	MODULAR RETAINING WALL
[Symbol]	LIGHT POLE	[Symbol]	DOORWAY
[Symbol]	TREES	[Symbol]	LIGHT STANDARD
[Symbol]	DENOTES TREE LIMITS	[Symbol]	POWER POLE
[Symbol]	MANHOLE	[Symbol]	SLOPE, DIRECTION OF FLOW
[Symbol]	CATCH BASIN	[Symbol]	BOLLARD
[Symbol]	FIRE HYDRANT	[Symbol]	STORM SEWER
[Symbol]	WATER VALVE	[Symbol]	SANITARY SEWER-WASTE
[Symbol]	FLARED END SECTION	[Symbol]	FORCE MAN
[Symbol]	IRON MONUMENT FOUND	[Symbol]	ROOF DRAIN COLLECTOR
[Symbol]	IRON PIPE MONUMENT SET	[Symbol]	WATER MAIN
[Symbol]	P.K. NAL	[Symbol]	FIRE LINE (IF SEPARATE)
[Symbol]	POWERPOLE	[Symbol]	FIRE DEPARTMENT CONNECTION
[Symbol]	GUARD POST	[Symbol]	DOMESTIC WATER SERVICE
[Symbol]	UTILITY BOX (TV, TEL, ELEC)	[Symbol]	CULVERT & END SECTION
[Symbol]	TRAFFIC BOX	[Symbol]	GAS LINE
[Symbol]	GAS METER	[Symbol]	SOL SUBORAN
[Symbol]	TRAFFIC SIGN	[Symbol]	ELECTRIC-OVERHEAD
[Symbol]	REGISTRAR OF TITLES	[Symbol]	UNDERGROUND TELEPHONE
[Symbol]	COUNTY RECORDER	[Symbol]	UNDERGROUND ELECTRIC
[Symbol]	STORM SEWER LINE	[Symbol]	UNDERGROUND TELEPHONE
[Symbol]	SANITARY SEWER LINE	[Symbol]	UNDERGROUND ELECTRIC
[Symbol]	WATER MAIN	[Symbol]	UNDERGROUND CABLE T.V.
[Symbol]	UNDERGROUND GAS	[Symbol]	OVERHEAD CABLE T.V.
[Symbol]	OVERHEAD TELEPHONE	[Symbol]	WELL
[Symbol]	UNDERGROUND TELEPHONE	[Symbol]	RESTRICTED ACCESS
[Symbol]	UNDERGROUND ELECTRIC	[Symbol]	NOTE NUMBER
[Symbol]	UNDERGROUND TELEPHONE	[Symbol]	DENOTES BITUMINOUS SURFACE
[Symbol]	UNDERGROUND ELECTRIC		
[Symbol]	UNDERGROUND CABLE T.V.		
[Symbol]	OVERHEAD CABLE T.V.		
[Symbol]	WELL		
[Symbol]	RESTRICTED ACCESS		
[Symbol]	NOTE NUMBER		
[Symbol]	DENOTES BITUMINOUS SURFACE		

EROSION CONTROL SYMBOLS

SYMBOL	DESCRIPTION
[Symbol]	SILT FENCE
[Symbol]	CONSTRUCTION LIMITS
[Symbol]	INLET PROTECTION

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
[Symbol]	NOTE REFERENCE
[Symbol]	PARKING STALL COUNT
[Symbol]	LARGE SHEET DETAIL
[Symbol]	COORDINATE POINT
[Symbol]	REVISION - ADDENDUM, BULLETIN, ETC.
[Symbol]	REVS'D AREA (THIS ISSUE)

BENCHMARKS

PROJECT BENCHMARKS:
COR CONTROL POINT: "HYATT"
CONTROL POINT LOCATED AT S.E. ANGLE POINT OF ZEOLITE STREET & CIVIC CENTER DRIVE
ELEVATION = 878.61 (NGVD 29)

TOP NUT OR HYDRANT
LOCATED ON SOUTH SIDE OF BUNKER LAKE BLVD APPROX. 600 FT FROM ARMSTRONG BLVD
ELEVATION = 869.96 (NGVD 29)

CITY NOTES

- SITE GRADING, LANDSCAPING AND UTILITY INSTALLATIONS MUST BE COMPLETED AS SHOWN WITHOUT ALTERATION. DEVIATIONS FROM PLANS MUST BE CHECKED AND APPROVED BY THE ENGINEERING DEPARTMENT AND/OR THE PLANNING COMMISSION PRIOR TO S.A.D. CHANGE.
- REQUIRED EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS AS SHOWN.
- MAIN JOB-SITE ENTRANCE MUST BE POSTED WITH THE PROJECT ADDRESS SO THAT IT IS CLEARLY VISIBLE FROM THE STREET. JOB-SITE ADDRESS SIGN MUST BE INSTALLED IN PLACE UNTIL FINAL OCCUPANCY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND MARK ALL EXISTING UTILITIES 48 HOURS BEFORE CONSTRUCTION STARTS. THE ENGINEER, ARCHITECT, OR OWNER DOES NOT GUARANTEE THAT ALL UTILITIES ARE MAPPED OR R-MAPPED, ARE SHOWN CORRECTLY. CONTACT ONE CALL AT 811 FOR FIELD LOCATING EXISTING UTILITIES. CONTACT UTILITY OWNER IF DAMAGE OCCURS DUE TO CONSTRUCTION.

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L2.2	IRRIGATION PLAN

SITE & UTILITY CONTACTS

WATER CITY OF RAMSEY 7550 SUNWOOD DRIVE NW RAMSEY, MN 55303 GRANT REIPER, SUPERINTENDENT TEL: 763.433.9863 FAX:	SANITARY CITY OF RAMSEY 7550 SUNWOOD DRIVE NW RAMSEY, MN 55303 GRANT REIPER, SUPERINTENDENT TEL: 763.433.9863 FAX:
BUILDING DEPARTMENT CITY OF RAMSEY 7550 SUNWOOD DRIVE NW RAMSEY, MN 55303 LEE GLADITSCH, BUILDING OFFICIAL TEL: 763.433.9849 FAX:	RAMSEY FIRE DEPARTMENT CITY OF RAMSEY FIRE DEPARTMENT 7550 SUNWOOD DRIVE RAMSEY, MN 55303 TEL: 763.427.4452 FAX:

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CNC

PROJECT MANAGER REVIEW

BY: DATE: 04/03/13

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

IF THE SIGNATURE SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED (BY YOU) WITHOUT READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REORDER ADDITIONAL COPIES.

DATE: 04/03/13

BID DOCUMENTS
APRIL 03, 2013

LANDFORM
From Site to Finish

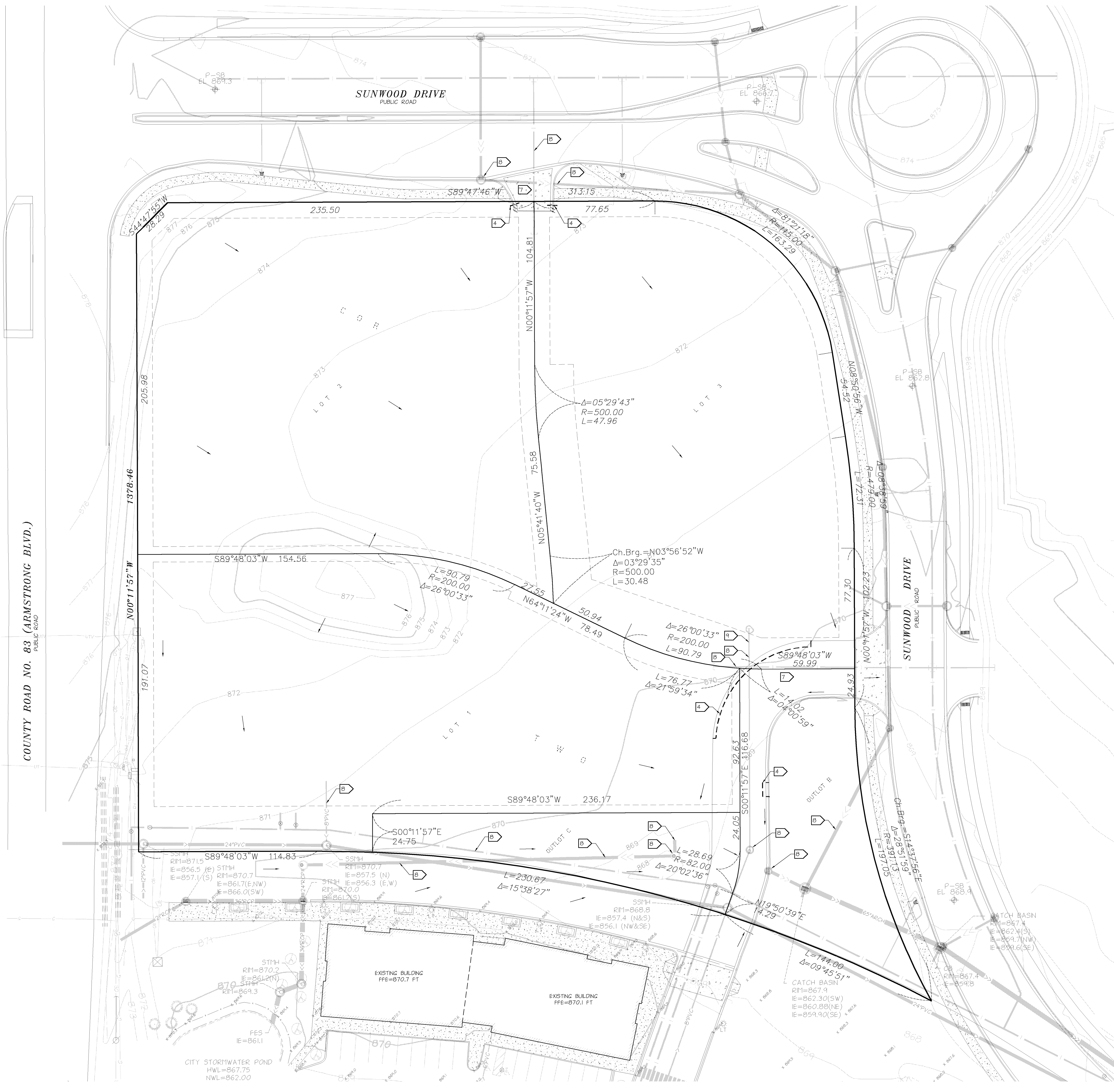
105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net



Know what's Below.
Call before you dig.

CIVIL TITLE SHEET

C0.1



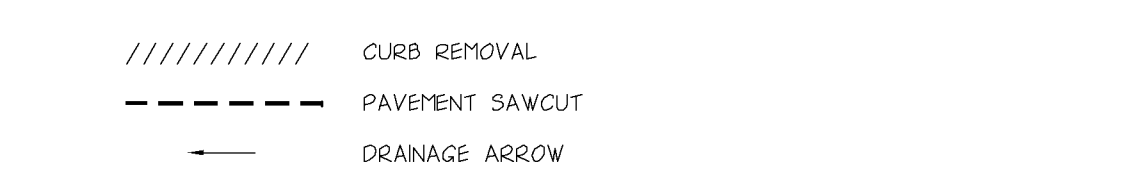
EXISTING CONDITIONS

1. BACKGROUND INFORMATION SHOWN IS FROM SURVEY BY LANDFORM, MINNEAPOLIS, MN, EXPRESSLY FOR THIS PROJECT; CITY OF RAMSEY, MN RECORD DRAWINGS; AND UTILITY SERVICE PROVIDERS. LANDFORM OFFERS NO WARRANTY, EXPRESSED OR WRITTEN, FOR INFORMATION PROVIDED BY OTHERS. EXISTING PROJECT CONDITIONS SHALL BE VERIFIED PRIOR TO BEGINNING CONSTRUCTION. ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ENGINEER.

DEMOLITION AND CLEARING NOTES

- OBTAIN PERMITS FOR DEMOLITION, CLEARING, AND DISPOSAL PRIOR TO BEGINNING.
- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING DEMOLITION AND CLEARING.
- DIMENSIONS SHOWN FOR REMOVAL ARE APPROXIMATE. COORDINATE WITH NEW CONSTRUCTION TO ENSURE APPROPRIATE REMOVAL OF EXISTING FACILITIES.
- SAWCUT EXISTING PAVEMENT. REMOVE CONCRETE WALKS AND CURBING TO THE NEAREST EXISTING JOINT BEYOND CONSTRUCTION LIMITS.
- SEE SHEET C3.1 FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT MUST BE IN PLACE PRIOR TO DISTURBANCES TO SITE.
- COMPLETE DEMOLITION WITH MINIMAL DISRUPTION OF TRAFFIC. COORDINATE LANE CLOSURES WITH THE REGULATORY AUTHORITY AND PROVIDE ADVANCE NOTIFICATION TO AFFECTED EMERGENCY RESPONSE PROVIDERS.
- PROVIDE BARRICADES, LIGHTS, SIGNS, TRAFFIC CONTROL, AND OTHER MEASURES NECESSARY FOR PROTECTION AND SAFETY OF THE PUBLIC AND MAINTAIN THROUGHOUT CONSTRUCTION. THE CITY REQUIRES TRAFFIC CONTROL MEASURES TO BE IN PLACE DURING UTILITY INSTALLATION, EXISTING BUILDING DEMOLITION, DRIVEWAY INSTALLATION, SIDEWALK INSTALLATION AND FINAL RESTORATION WITHIN THE RIGHT-OF-WAY.
- PROTECT STRUCTURES, UTILITIES, TREES, PLANT MATERIAL, SOIL, AND ADJACENT PROPERTY FROM DAMAGE DURING CONSTRUCTION UNLESS NOTED FOR REMOVAL. DAMAGE SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST.
- REMOVE EXISTING SITE FEATURES INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, PAVING, CURBING, WALKWAYS, FENCING, RETAINING WALLS, SCREEN WALLS, ARBORS, LIGHTING, RELATED FOUNDATIONS, SIGNAGE, BOLLARDS, LANDSCAPING, AND STARWAYS WITHIN THE CONSTRUCTION LIMITS UNLESS NOTED OTHERWISE.
- COORDINATE REMOVAL, RELOCATION, TERMINATION, AND RE-USE OF EXISTING PRIVATE UTILITY SERVICES AND APPURTENANCES WITH THE UTILITY COMPANIES. RESTORE ELECTRIC HANDHOLES, PULLBOXES, POWERPOLES, GUYLINES, AND STRUCTURES DISTURBED BY CONSTRUCTION IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS.
- EXISTING PIPING AND CONDUITS MAY BE ABANDONED IN-PLACE IF FILLED WITH SAND AND IF NOT IN LOCATION OF PROPOSED BUILDING OR IN CONFLICT WITH PROPOSED UTILITIES OR STRUCTURES. TERMINATE EXISTING SERVICES AT THE SUPPLY SIDE IN CONFORMANCE WITH PROVIDER'S STANDARDS.
- HAUL DEMOLITION DEBRIS OFF-SITE TO A FACILITY APPROVED BY REGULATORY AUTHORITIES FOR THE HANDLING OF DEMOLITION DEBRIS.

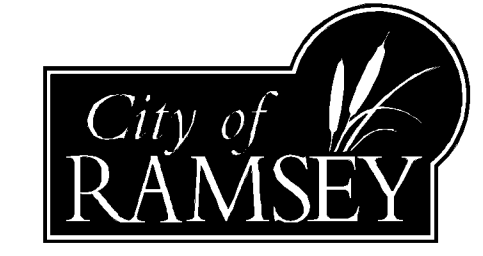
DEMOLITION LEGEND



DEVELOPER

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MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

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C73	CIVIL CONSTRUCTION DETAILS
L21	LANDSCAPE PLAN
L22	IRIGATION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

PROJECT MANAGER REVIEW

BY/RS	DATE
	04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

NOT FOR CONSTRUCTION

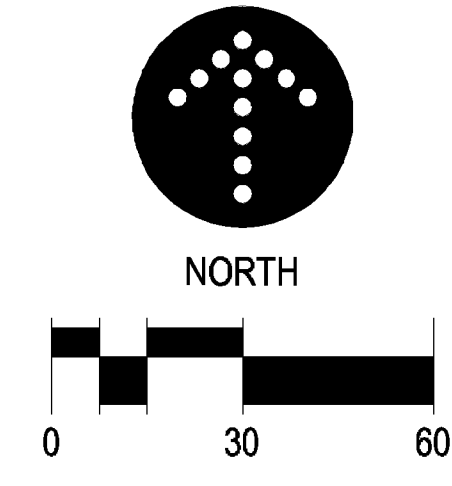
**BID DOCUMENTS
APRIL 03, 2013**

LANDFORM
From Site to Finish

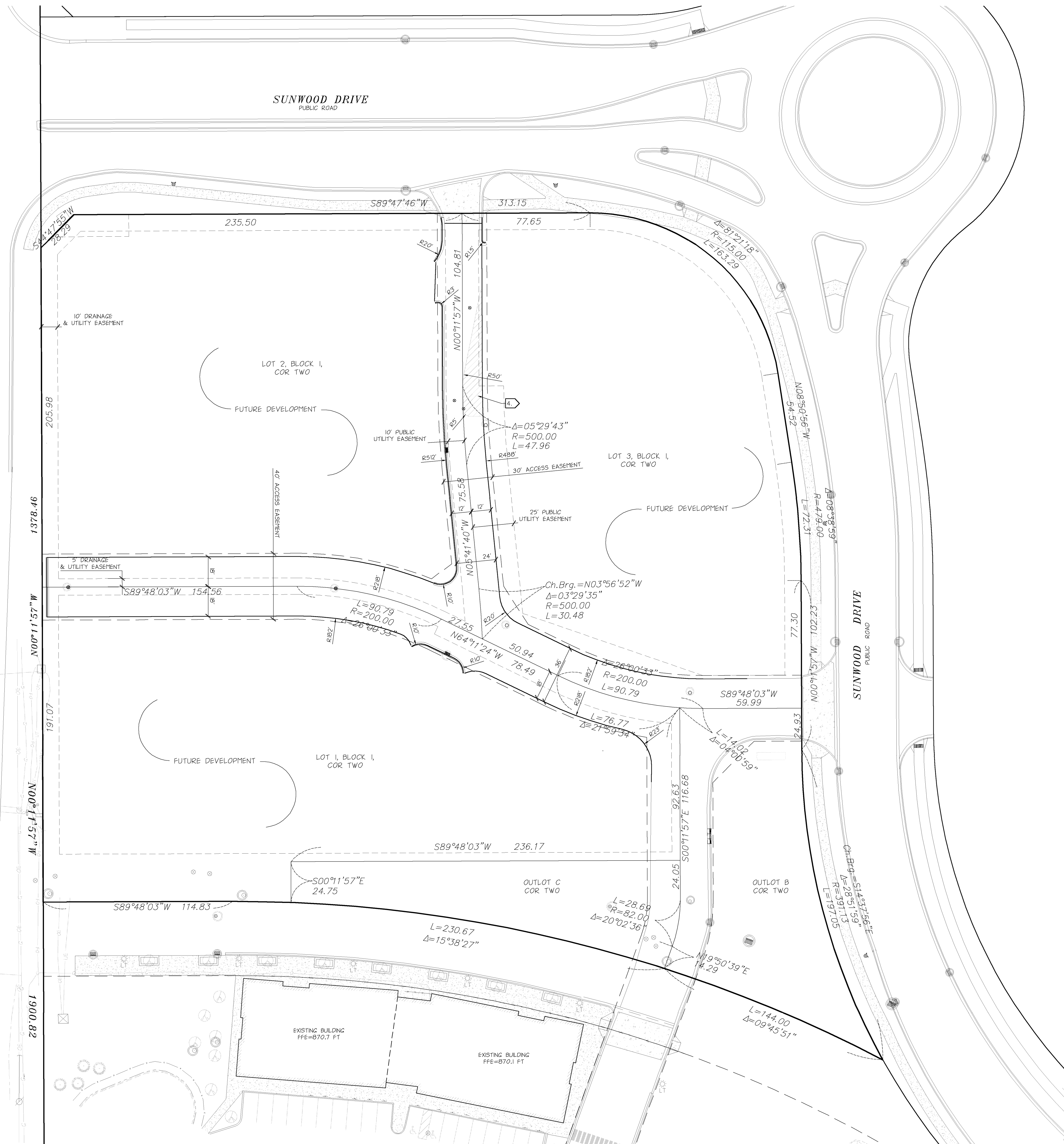
105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME C:\01RAMQ25.DWG
PROJECT NO. RAM12025

**EXISTING CONDITIONS
& DEMOLITION
C1.1**



COUNTY ROAD NO. 83 (ARMSTRONG BLVD.)
PUBLIC ROAD



SITE PLAN NOTES

- OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN OR USE OF, PUBLIC RIGHT-OF-WAY.
- THE DIGITAL FILE, WHICH CAN BE OBTAINED FROM THE ENGINEER, SHALL BE USED FOR STAKING. DISCREPANCIES BETWEEN THE DRAWINGS AND THE DIGITAL FILE SHALL BE REPORTED TO THE ENGINEER. THE BUILDING FOOTPRINT, AS SHOWN ON THESE DRAWINGS, AND THE DIGITAL FILE, SHALL BE COMPARED TO THE STRUCTURAL DRAWINGS PRIOR TO STAKING.
- DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- DELINEATE PAVEMENT STRIPING WITH 4-INCH WIDE WHITE PAINTED STRIPES 18 INCHES ON CENTER AND AT 45 DEGREE ANGLE TO DIRECTION OF TRAVEL.

AREA SUMMARY

EXISTING:	PERVIOUS	189,965 S.F.	46.0%
	IMPERVIOUS	7,971 S.F.	4.0%
	TOTAL (4.54 Ac)	197,936 S.F.	100.0%
PROPOSED:	PERVIOUS	169,710 S.F.	85.7%
	IMPERVIOUS	28,226 S.F.	14.3%
	TOTAL (4.54 Ac)	197,936 S.F.	100.0%

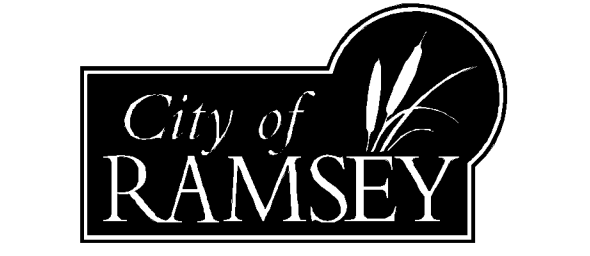
ZONING AND PARKING SUMMARY

THE PROPERTY IS ZONED COR2, COMMERCIAL
BUILDING SETBACK INFORMATION IS AS FOLLOWS:
FRONT YARD = 0-15 FT.
REAR = 0 FT.
SIDE = 0 FT.
LOT COVERAGE INFORMATION IS AS FOLLOWS:
LOT AREA MINIMUM = NONE
LOT WIDTH MINIMUM = 50 FT.

DEVELOPER

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RAMSEY, MN 55303
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MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

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REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

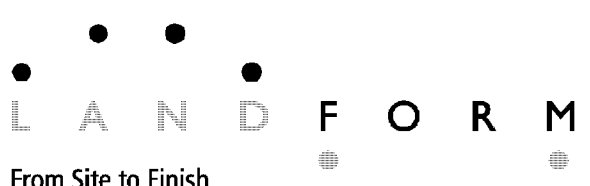
PROJECT MANAGER REVIEW

BY: [Signature] DATE: 04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
SITE: [Blank] DATE: [Blank]
Registration No: 47165

**BID DOCUMENTS
APRIL 03, 2013**

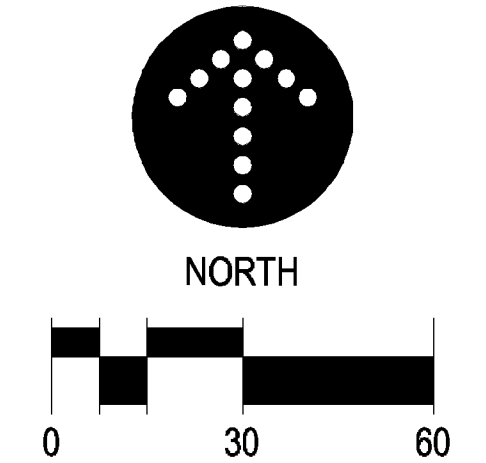
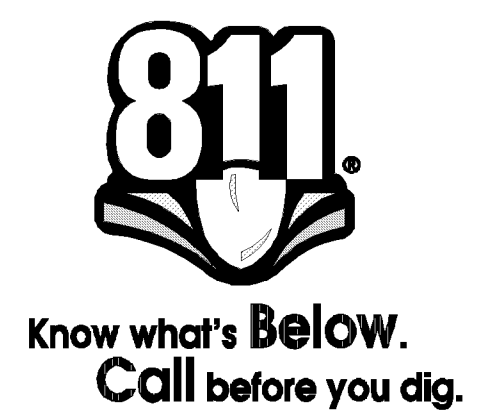


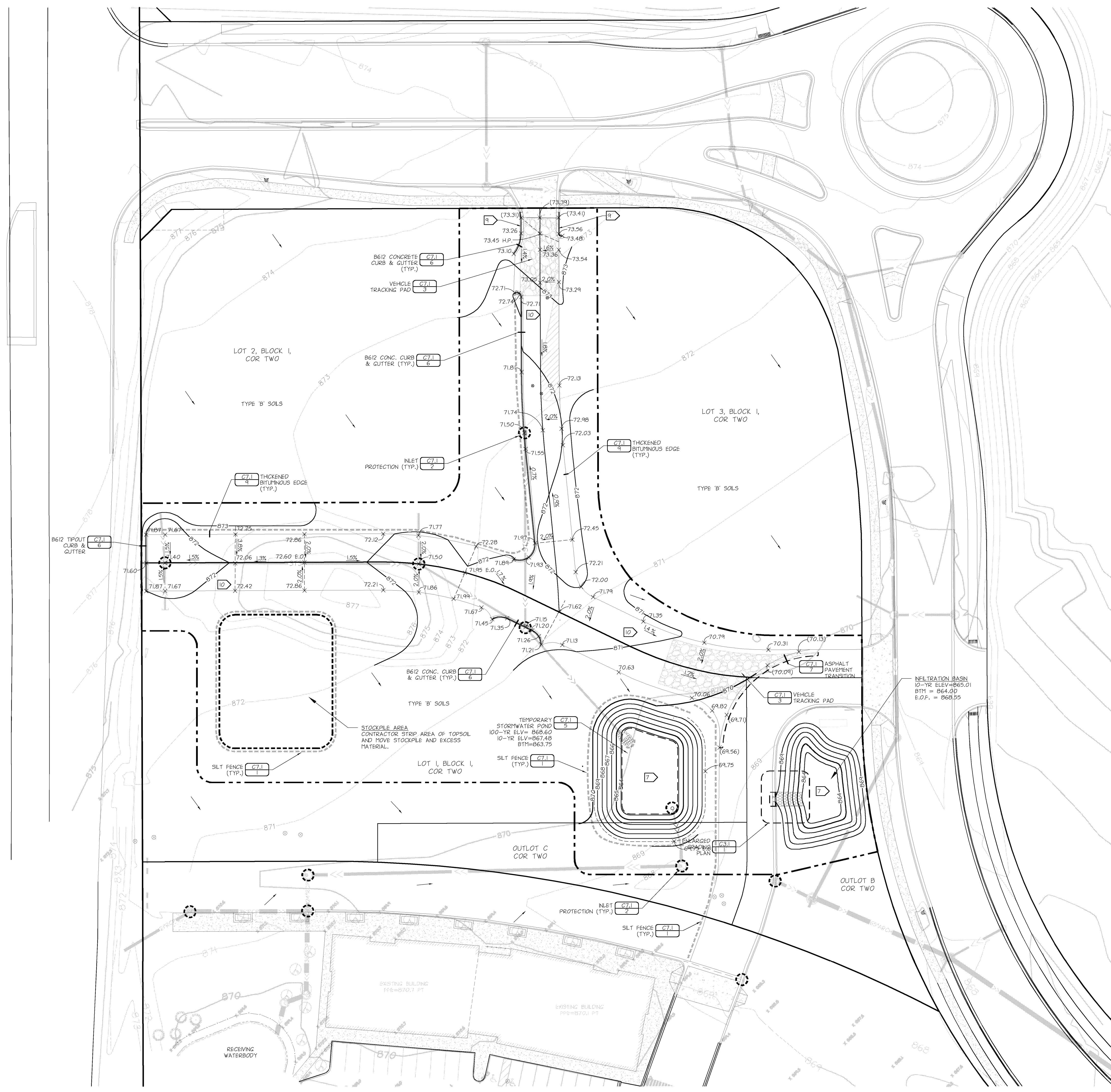
105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME: C201RAM025.DWG
PROJECT NO.: RAM12025

SITE PLAN

C2.1





GRADING NOTES

- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING GRADING.
- REMOVE TOPSOIL FROM GRADING AREAS AND STOCKPILE SUFFICIENT QUANTITY FOR REUSE. REMOVE EXCESS TOPSOIL FROM SITE AND STOCKPILE AT THE LOCATION DETERMINED BY THE CITY.
- REMOVE SURFACE AND GROUND WATER FROM EXCAVATIONS. PROVIDE INITIAL LIFTS OF STABLE FOUNDATION MATERIAL IF EXPOSED SOILS ARE WET AND UNSTABLE.
- AN INDEPENDENT TESTING FIRM SHALL VERIFY THE REMOVAL OF ORGANIC AND UNSUITABLE SOILS, SOIL CORRECTION, AND COMPACTION AND PROVIDE PERIODIC REPORTS TO THE OWNER.
- PLACE AND COMPACT FILL USING LIFT THICKNESSES MATCHED TO SOIL TYPE AND COMPACTION EQUIPMENT TO OBTAIN SPECIFIED COMPACTION THROUGHOUT THE LIFT.
- COMPACT MATERIAL IN PAVED AREAS TO 95% OF MAXIMUM DRY DENSITY, STANDARD PROCTOR (ASTM D698) EXCEPT THE TOP 3 FEET WHICH SHALL BE COMPACTED TO 100%. COMPACT TO 98% DENSITY WHERE FILL DEPTH EXCEEDS 10 FEET.
- COMPACTION OF THE NATIVE SOIL BELOW THE INFILTRATION SYSTEM IS TO BE AVOIDED. EXCAVATION AND BACKFILL OF THE SYSTEM MUST BE PERFORMED FROM OUTSIDE THE INFILTRATION SYSTEM FOOTPRINT AS POSSIBLE, WITH ONLY TRACKED LOW GROUND PRESSURE EQUIPMENT OPERATING WITHIN THE INFILTRATION SYSTEM FOOTPRINT AS NECESSARY.

PAVING NOTES

- SPOT ELEVATIONS AT CURBLINES INDICATE FLOWLINES UNLESS NOTED OTHERWISE. SEE SHEET C41 FOR RIM ELEVATIONS OF CATCH BASINS.
- 10' TRANSITION FROM PROPOSED B612 CURB & GUTTER TO MATCH EXISTING B618 CURB & GUTTER. MEET AND MATCH EXISTING CURB AND GUTTER.
- PAVING SECTIONS

ITEM	DESCRIPTION
BITUMINOUS PAVING (HEAVY DUTY)	
1.5-INCH WEAR	
TACK COAT	
2.5-INCH BASE	
6-INCH AGGREGATE BASE (MNDOT 313B, CLASS 5)	
COMPACTED SUBSOIL	

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

- INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUN OFF ARE PERMANENTLY STABILIZED AND DISPOSE OF OFF SITE.
- LIMIT SOIL DISTURBANCE TO THE GRADING LIMITS SHOWN. SCHEDULE OPERATIONS TO MINIMIZE LENGTH OF EXPOSURE OF DISTURBED AREAS.
- MANAGEMENT PRACTICES SHOWN ARE THE MINIMUM REQUIREMENT. INSTALL AND MAINTAIN ADDITIONAL CONTROLS AS WORK PROCEEDS TO PREVENT EROSION AND CONTROL SEDIMENT CARRIED BY WIND OR WATER.
- EXCAVATE PONDS EARLY IN THE CONSTRUCTION SEQUENCE. REMOVE SEDIMENT FROM PONDS PERIODICALLY AND AFTER AREAS CONTRIBUTING RUN OFF ARE PERMANENTLY STABILIZED.
- RESTORE DISTURBED OPEN AREAS WITH TEMPORARY SEED OR SOD WITHIN 72 HOURS OF COMPLETING GRADING IN EACH AREA.
- SEED, SOD, MULCH AND FERTILIZER SHALL MEET THE FOLLOWING SPECIFICATIONS, AS MODIFIED.

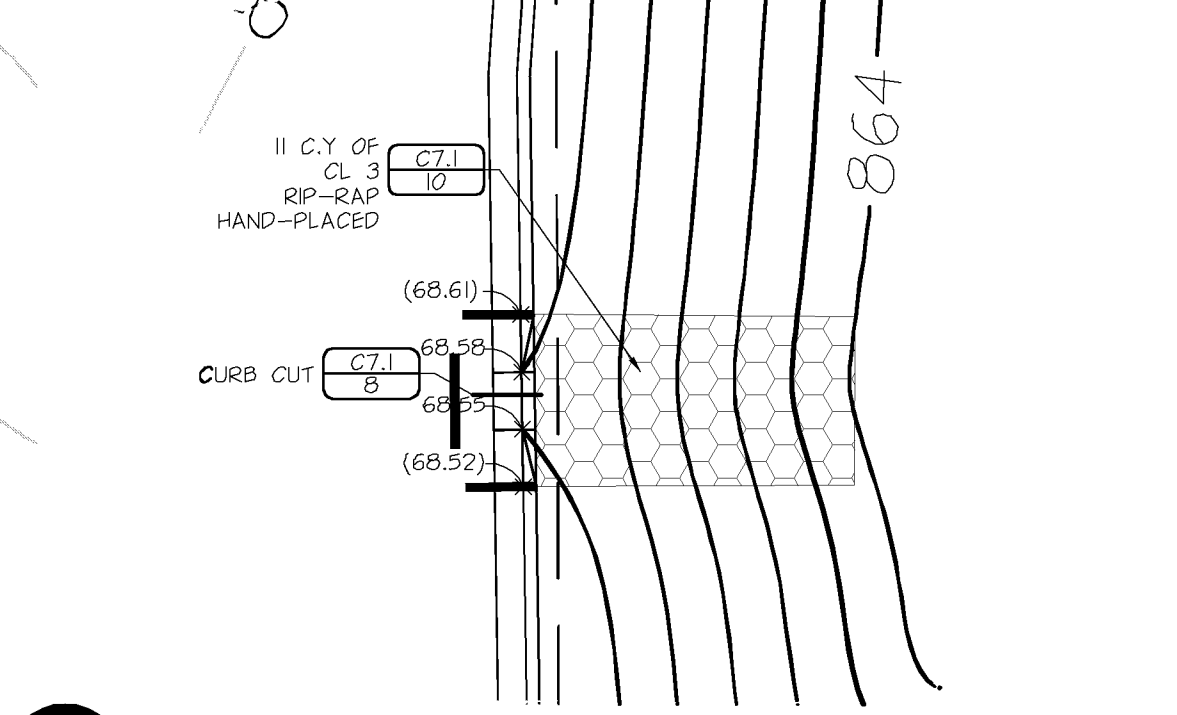
ITEM	SPECIFICATION NUMBER
SOD	MNDOT 3876
SEED	MNDOT 3876
TYPE 190 @ 60 LB/AC - TEMPORARY	
TYPE 240 @ 75 LB/AC - PERMANENT	
MULCH (TYPE I, DISC ANCHORED)	MNDOT 3882
FERTILIZER	MNDOT 3881
GENERAL PLACEMENT	MNDOT 2979
- SEE LANDSCAPING SHEETS FOR PERMANENT TURF ESTABLISHMENT.
- SWEEP ADJACENT STREETS CLEAN DAILY.

LEGEND

SYMBOL	DESCRIPTION	INITIAL QUANTITY:
---	CONSTRUCTION LIMITS	
○	SILT FENCE	1,302 FEET
○	INLET PROTECTION	11 EACH
---	GRADE BREAK	
---	PAVEMENT SAWCUT	
▨	VEHICLE TRACKING PAD	2 EACH
→	DRAINAGE ARROW	

NPDES AREA SUMMARY

	EXISTING	PROPOSED	ULTIMATE
PERVIOUS	4.361 ACRES	3.896 ACRES	3.896 ACRES
IMPERVIOUS	0.183 ACRES	0.648 ACRES	0.648 ACRES
TOTAL	4.544 ACRES	4.544 ACRES	4.544 ACRES



1 ENLARGED GRADING PLAN
10 SCALE

811
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Minneapolis, MN 55401

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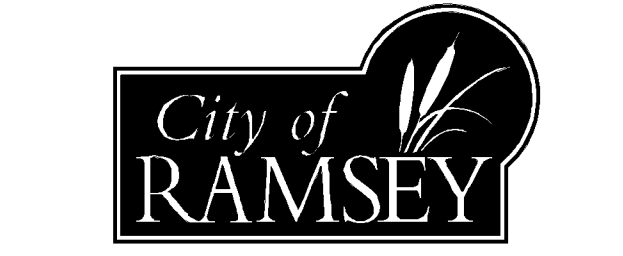
FILE NAME: C301RAM025 DWG
PROJECT NO.: RAM12025

GRADING, DRAINAGE, PAVING & EROSION CONTROL PLAN
C3.1

DEVELOPER

RAMSEY HRA
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MUNICIPALITY



PROJECT

SUNWOOD RETAIL INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA

SHEET INDEX

SHEET	TITLE
C01	TITLE SHEET
C11	EXISTING CONDITIONS & DEMOLITION
C21	SITE PLAN
C31	GRADING, DRAINAGE, PAVING, & EROSION CONTROL
C32	SWPPP NOTES
C33	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C41	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C42	UTILITIES - SANITARY SEWER & WATERMAIN
C43	UTILITIES - STORM SEWER - SD ALTERNATE
C71	CIVIL CONSTRUCTION DETAILS
C72	CIVIL CONSTRUCTION DETAILS
C73	CIVIL CONSTRUCTION DETAILS
L21	LANDSCAPE PLAN
L22	EROSION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

PROJECT MANAGER REVIEW

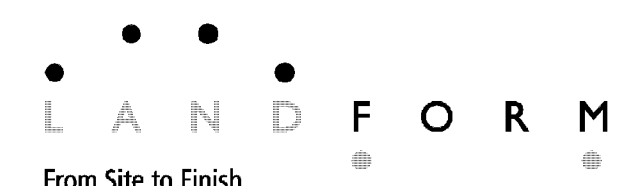
BY/SES	DATE
	04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: _____ DATE: _____
Registration No. 47165

BID DOCUMENTS
APRIL 03, 2013

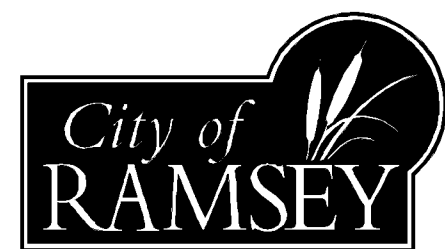


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FILE NAME: C301RAM025 DWG
PROJECT NO.: RAM12025

GRADING, DRAINAGE, PAVING & EROSION CONTROL PLAN
C3.1



SUNWOOD RETAIL INITIAL IMPROVEMENTS RAMSEY, MINNESOTA

SHEET	TITLE
C01	TITLE SHEET
C11	EXISTING CONDITIONS & DEMOLITION
C21	GRAVING, DRAINAGE, PAVING, & EROSION CONTROL
C32	SWPPP NOTES
C33	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C34	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C41	UTILITIES - STORM SEWER
C42	UTILITIES - STORM SEWER
C43	UTILITIES - STORM SEWER
C71	CIVIL CONSTRUCTION DETAILS
C72	CIVIL CONSTRUCTION DETAILS
C73	CIVIL CONSTRUCTION DETAILS
C81	LANDSCAPE DETAILS
L22	IRRIGATION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CNC

PROJECT MANAGER REVIEW

BY/ISS	DATE 04-02-2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

STEVEN J. HANSEN
Professional Engineer No. 4765 DATE:

IF THE SIGNATURE, SEAL OR FOLDING LINE DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND REPRODUCTION READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL COPIES.

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FILE NAME C302RAM025.DWG

PROJECT NO. RAM12025

SWPPP NOTES

C3.2



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SITE EVALUATION/ASSESSMENT/PLANNING

1. CONTACT INFORMATION/RESPONSIBLE PARTIES

- THE OPERATOR SHALL HAVE PRIMARY RESPONSIBILITY AND SIGNIFICANT AUTHORITY FOR THE DEVELOPMENT, IMPLEMENTATION, MAINTENANCE, INSPECTION AND AMENDMENTS TO THE APPROVED SWPPP. DUTIES INCLUDE BUT ARE NOT LIMITED TO:
- ENSURING FULL COMPLIANCE WITH THE SWPPP AND THE PERMIT
 - IMPLEMENTING ALL ELEMENTS OF THE SWPPP INCLUDING BUT NOT LIMITED TO:
 - IMPLEMENTING PROMPT AND EFFECTIVE EROSION AND SEDIMENT CONTROL MEASURES
 - IMPLEMENTING ALL NON-STORM WATER MANAGEMENT, AND GOOD HOUSEKEEPING BMP'S ENSURING THAT NO MATERIALS OTHER THAN STORM WATER ARE DISCHARGED IN QUANTITIES, WHICH WILL HAVE AN ADVERSE EFFECT ON RECEIVING WATERS OR STORM DRAIN SYSTEMS, ETC.
 - CONDUCTING ROUTINE INSPECTIONS AND MAINTENANCE
 - ENSURING ELIMINATION OF ALL UNAUTHORIZED DISCHARGES
 - COORDINATING TO ASSURE ALL OF THE NECESSARY CORRECTIONS/REPAIRS ARE MADE IMMEDIATELY, AND THAT THE PROJECT COMPLIES WITH THE SWPPP, THE PERMIT, AND APPROVED PLANS AT ALL TIMES.

POLLUTION PREVENTION MANAGEMENT MEASURES

- OWNER/OPERATOR MUST DEVELOP POLLUTION PREVENTION MANAGEMENT MEASURES, IMPLEMENT GOOD HOUSEKEEPING BMP'S, MUST FOLLOW ALL APPLICABLE FEDERAL, STATE, AND LOCAL BUILDING CODES, OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), AND THE GENERAL CONDITIONS AND GENERAL REQUIREMENTS OF THE CONSTRUCTION CONTRACT.
- OPERATOR TO TRACK PROGRESS OF THE FOLLOWING ITEMS ON SITE MAPS:
 - PORTABLE TOILETS
 - MATERIAL STORAGE AREAS
 - VEHICLE AND EQUIPMENT FUELING AND MAINTENANCE AREAS
 - CONCRETE WASHOUTS
 - PAINT AND STUCCO WASHOUTS
 - DUMPSTERS OR OTHER TRASH AND DEBRIS CONTAINERS
 - SPILL KITS
 - STOCKPILES
 - ANY OTHER NON-STRUCTURAL NON-STORM WATER MANAGEMENT BMP'S
 - ANY TEMPORARILY REMOVED STRUCTURAL BMP'S
 - ANY CHANGES TO THE STRUCTURAL BMP'S
- SOLID WASTE: COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH NPCA DISPOSAL REQUIREMENTS.
- HAZARDOUS WASTE: OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH NPCA REGULATIONS.
- CONCRETE WASHOUT: ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH NPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
- EXTERNAL VEHICLE WASHING: EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.

POST CONSTRUCTION BMP'S

- SEE GRADING AND DRAINAGE, UTILITY, AND LANDSCAPE SHEETS FOR POST CONSTRUCTION BMP'S.

EROSION PREVENTION AND SEDIMENT CONTROL

- SEE EROSION PREVENTION AND SEDIMENT CONTROL SHEET FOR THE LOCATION AND TYPE OF TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. SEE GRADING AND DRAINAGE, UTILITY, PLANTING, AND SEEDING LAYOUT SHEETS FOR THE LOCATION AND TYPE OF PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S.
- MINIMIZE DISTURBED AREAS AND PROTECT NATURAL FEATURES AND SOIL.**
APPROPRIATE CONSTRUCTION PRACTICES (E.G. CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING) SHALL BE USED TO MINIMIZE EROSION AREAS NOT TO BE DISTURBED WILL BE DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE ETC.) BEFORE WORK BEGINS.

PHASE CONSTRUCTION ACTIVITY

SEDIMENT CONTROL PRACTICES SHALL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH THE PERMIT.

THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL PRACTICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

3. CONTROL STORM WATER FLOWING ONTO AND THROUGH THE PROJECT

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, SHALL BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER.

STABILIZATION OF THE LAST 200 LINEAL FEET SHALL BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES SHALL BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS SHALL BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

4. STABILIZE SOILS

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G. CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT.

TEMPORARY SOIL STOCKPILES SHALL HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORM WATER CONVEYANCES SUCH AS CULBS AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORM WATER.

WHEN THE SITE HAS A DISCHARGE POINT WITHIN ONE MILE OF, AND FLOWS TO, A SPECIAL OR IMPAIRED WATERS, ALL EXPOSED SOIL AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

5. PROTECT SLOPES

SLOPES WITH A GRADE OF 3:1 OR STEEPER WITH A SLOPE LENGTH OF GREATER THAN 75 FEET REQUIRE SLOPE BREAKS (E.G. CHECK DAMS) TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES.

6. PROTECT STORM DRAIN INLETS

ALL STORM DRAIN INLETS SHALL BE PROTECTED BY APPROPRIATE BMP'S DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED IF A SPECIFIC SAFETY CONCERN HAS BEEN IDENTIFIED AND DOCUMENTATION HAS BEEN PROVIDED MEETING THE PERMIT REQUIREMENTS.

7. ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS

8. RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES

DEWATERING OR BASIN DRAINING OF TURBID OR SEDIMENT LADEN WATER RELATED TO CONSTRUCTION ACTIVITIES SHALL BE DISCHARGED TO TEMPORARY OR PERMANENT SEDIMENTATION BASIN OR TREATED WITH THE APPROPRIATE BMP PRIOR TO ENTERING THE SURFACE WATER.

DISCHARGE SHALL NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS, ADVERSELY AFFECT RECEIVING WATER OR IMPACT WETLANDS, OR DOWNSTREAM PROPERTIES. DISCHARGE POINTS SHALL BE ADEQUATELY PROTECTED FROM EROSION AND SCOUR BY ACCEPTED ENERGY DISSIPATION MEASURES.

A TEMPORARY (OR PERMANENT) SEDIMENT BASIN SHALL BE PROVIDED PRIOR TO THE RUNOFF LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS WHERE TEN (10) OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION.

WHEN THE SITE HAS A DISCHARGE POINT WITHIN ONE MILE OF, AND FLOWS TO, A SPECIAL OR IMPAIRED WATERS, TEMPORARY SEDIMENT BASIN REQUIREMENTS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.

TEMPORARY BASINS SHALL PROVIDE STORAGE BELOW THE OUTLET PIPE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2) YEAR, 24 HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN AND IN NO CASE SHALL THE BASIN PROVIDE LESS THAN 1800 CUBIC FEET OF STORAGE BELOW THE OUTLET PIPE FROM EACH ACRE DRAINED TO THE BASIN.

WHERE NO SUCH CALCULATION HAS BEEN PERFORMED, A TEMPORARY (OR PERMANENT) SEDIMENT BASIN PROVIDING 3,600 CUBIC FEET OF STORAGE BELOW THE OUTLET PIPE PER ACRE DRAINED TO THE BASIN, SHALL BE PROVIDED WHERE ATTAINABLE UNTIL PERMANENT COVER IS ESTABLISHED FOR THE ENTIRE DRAINAGE AREA OF THE TEMPORARY BASIN.

THE BASINS SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO THE FOLLOWING REQUIREMENTS:

- TEMPORARY BASIN OUTLETS SHALL BE DESIGNED TO PREVENT SHORT-CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS. THE BASIN SHALL BE DESIGNED WITH THE ABILITY TO ALLOW COMPLETE BASIN DRAWDOWN (E.G., PERFORATED RISER PIPE WRAPPED WITH FILTER FABRIC AND COVERED WITH CRUSHED GRAVEL, PUMPS OR OTHER MEANS). PROVIDE A STABILIZED EMERGENCY OVERFLOW TO PREVENT FAILURE OF POND INTEGRITY. ENERGY DISSIPATION SHALL BE PROVIDED FOR THE BASIN OUTLET WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.
- THE TEMPORARY (OR PERMANENT) BASINS SHALL BE CONSTRUCTED AND MADE OPERATIONAL CONCURRENT WITH THE START OF SOIL DISTURBANCE THAT IS UPGRADIENT OF THE AREA AND CONTRIBUTES RUNOFF TO THE POND.
- WHERE THE TEMPORARY SEDIMENT BASIN IS NOT ATTAINABLE DUE TO SITE LIMITATIONS, EQUIVALENT SEDIMENT CONTROLS SUCH AS SMALLER SEDIMENT BASINS, AND/OR SEDIMENT TRAPS, SILT FENCES, VEGETATIVE BUFFER STRIPS, OR ANY APPROPRIATE COMBINATION OF MEASURES ARE REQUIRED FOR ALL DOWN SLOPE BOUNDARIES OF THE CONSTRUCTION AREA AND FOR THOSE SIDE SLOPE BOUNDARIES DEEMED APPROPRIATE AS DICTATED BY INDIVIDUAL SITE CONDITIONS. IN DETERMINING WHETHER INSTALLING A SEDIMENT BASIN IS ATTAINABLE, THE OWNER/OPERATOR MUST CONSIDER PUBLIC SAFETY AND MAY CONSIDER FACTORS SUCH AS SITE SOILS, SLOPE, AND AVAILABLE AREA ON SITE. THIS DETERMINATION MUST BE DOCUMENTED IN THE SWPPP.

9. ESTABLISH STABILIZED CONSTRUCTION EXITS

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) SHALL BE MINIMIZED BY BMP'S SUCH AS STONE PADS, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEMS. STREET SWEEPING SHALL BE USED IF SUCH BMP'S ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET.

INSPECTIONS AND MAINTENANCE

- INSPECTIONS OF THE CONSTRUCTION SITE SHALL BE CONDUCTED ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS, AND WITHIN SEVEN (7) DAYS AFTER THAT.
- INSPECTIONS SHALL INCLUDE STABILIZED AREAS, EROSION PREVENTION AND SEDIMENT CONTROL BMP'S, AND INFILTRATION AREAS.
- STABILIZED AREAS WITH PERMANENT COVER SHALL BE INSPECTED ONCE PER MONTH, WHERE CONSTRUCTION SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AREAS AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, THE SITE SHALL BE INSPECTED FOR A PERIOD OF TWELVE (12) MONTHS. (THE INSPECTIONS MAY BE CEASED DURING FROZEN CONDITIONS). FOLLOWING THE TWELFTH MONTH OF PERMANENT COVER AND NO CONSTRUCTION ACTIVITY, INSPECTIONS MAY BE TERMINATED UNTIL CONSTRUCTION ACTIVITY IS ONCE AGAIN INITIATED OR SOONER IF NOTIFIED IN WRITING BY THE NPCA. WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE REQUIRED INSPECTIONS AND MAINTENANCE SCHEDULE MUST BEGIN WITHIN 24 HOURS AFTER RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
- ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE INSPECTED TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMP'S MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONS WITHIN 24 HOURS AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS UNLESS ANOTHER TIME FRAME IS SPECIFIED WITHIN THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S SECTION.
- ALL INFILTRATION AREAS MUST BE INSPECTED TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITY IS REACHING THE INFILTRATION AREA AND THESE AREAS ARE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT DRIVING ACROSS THE INFILTRATION AREA.
- ALL SILT FENCES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE FENCE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
- TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE DESIGN DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
- CONSTRUCTION SITE VEHICLE EXIT LOCATIONS MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES, WITHIN 24 HOURS OF DISCOVERY, OR IF APPLICABLE, WITHIN A SHORTER TIME.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G. FUGITIVE SEDIMENT ON STREETS SHOULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS).
- BMP MAINTENANCE:
 - FOLLOW THE DESIGNERS OR MANUFACTURER'S RECOMMENDED MAINTENANCE PROCEDURES FOR ALL BMP'S.
 - REMOVE SEDIMENT FROM BMP'S AS APPROPRIATE AND PROPERLY DISPOSE OF SEDIMENT INTO CONTROLLED AREAS TO PREVENT SOIL FROM RETURNING TO THE BMP DURING SUBSEQUENT RAIN EVENTS.
 - REMOVE SEDIMENT FROM PAVED ROADWAYS AND FROM AROUND BMP'S PROTECTING STORM DRAIN INLETS.
 - ENSURE THAT CONSTRUCTION SUPPORT ACTIVITIES, INCLUDING BORROW AREAS, WASTE AREAS, CONTRACTOR WORK AREAS, AND MATERIAL STORAGE AREAS AND DEDICATED CONCRETE AND ASPHALT BATCH PLANTS ARE CLEANED AND MAINTAINED.
 - REPLACE DAMAGED BMP'S, SUCH AS SILT FENCES, THAT NO LONGER OPERATE EFFECTIVELY.

RECORDKEEPING/RECORD RETENTION

- THE SWPPP (ORIGINAL OR COPIES) INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS SHALL BE KEPT AT THE SITE DURING CONSTRUCTION BY THE OWNER/OPERATOR WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.
- ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION (NOT). THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.
- THE FOLLOWING IS A LIST OF RECORDS THAT SHALL BE KEPT AT THE PROJECT SITE AVAILABLE FOR INSPECTORS TO REVIEW:
 - COPY OF THE SWPPP, WITH ANY MODIFICATIONS
 - INSPECTION AND MAINTENANCE RECORDS
 - PERMANENT OPERATION AND MAINTENANCE AGREEMENTS
 - CALCULATIONS FOR THE DESIGN OF TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS
 - ANY OTHER PERMITS REQUIRED FOR THE PROJECT
 - RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION

- ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
- ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS.

LOG OF CHANGES TO THE SWPPP/AMENDMENTS

- THE OWNER/OPERATOR(S) MUST ATTEND THE SWPPP AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS, SUCH AS ADDITIONAL OR MODIFIED BMP'S, DESIGNED TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER:
 - THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR UNDERGROUND WATERS;
 - INSPECTIONS OR INVESTIGATIONS BY SITE OPERATORS, LOCAL, STATE OR FEDERAL OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR UNDERGROUND WATERS OR THAT THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES; OR
 - THE SWPPP IS NOT ACHIEVING THE GENERAL OBJECTIVES OF MINIMIZING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY, OR THE SWPPP IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE PERMIT.
 - AT ANY TIME AFTER PERMIT COVERAGE IS EFFECTIVE, THE NPCA MAY DETERMINE THAT THE PROJECT'S STORM WATER DISCHARGES MAY CAUSE, HAVE REASONABLE POTENTIAL TO CAUSE, OR CONTRIBUTE TO NON-ATTAINMENT OF ANY APPLICABLE WATER QUALITY STANDARD, OR THAT THE SWPPP DOES NOT INCORPORATE THE APPLICABLE REQUIREMENTS IN THE PERMIT FOR DISCHARGES TO IMPAIRED WATERS AND THOIS. IF NPCA MAKES SUCH DETERMINATION(S) OR ANY OF THE DETERMINATIONS NOTED ABOVE, NPCA WILL NOTIFY THE OWNER/OPERATOR(S) IN WRITING. IN RESPONSE, THE OWNER/OPERATOR(S) MUST DEVELOP A SUPPLEMENTAL BMP ACTION PLAN OR APPROPRIATE SWPPP AMENDMENTS DESCRIBING SWPPP MODIFICATIONS TO ADDRESS THE IDENTIFIED CONCERNS AND SUBMIT INFORMATION REQUESTED BY NPCA, WHICH MAY INCLUDE AN INDIVIDUAL PERMIT APPLICATION. IF NPCA'S WRITTEN NOTIFICATION REQUIRES A RESPONSE, FAILURE TO RESPOND WITHIN THE SPECIFIED TIMEFRAME CONSTITUTES A PERMIT VIOLATION.

FINAL STABILIZATION

1. THE OWNER/OPERATOR(S) MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION REQUIRES ALL OF THE FOLLOWING:

- FINAL STABILIZATION REQUIRES THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS MUST BE STABILIZED BY A UNIFORM PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSION CONDITIONS.
 - THE OWNER/OPERATOR(S) MUST ENSURE THAT THE PERMANENT STORM WATER TREATMENT SYSTEM MEETS ALL REQUIREMENTS OF THE PERMIT. THIS INCLUDES BUT IS NOT LIMITED TO: A FINAL CLEAN OUT OF TEMPORARY OR PERMANENT SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS AND FINAL CONSTRUCTION OR MAINTENANCE OF INFILTRATION BASINS. ALL SEDIMENT MUST BE REMOVED FROM CONVEYANCE SYSTEMS AND DITCHES MUST BE STABILIZED WITH PERMANENT COVER.
 - PRIOR TO SUBMISSION OF THE NOT, ALL TEMPORARY SYNTHETIC AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S (SUCH AS SILT FENCE) MUST BE REMOVED ON THE PORTIONS OF THE SITE FOR WHICH THE OWNER/OPERATOR IS RESPONSIBLE. BMP'S DESIGNED TO DECOMPOSE ON SITE (SUCH AS SOME COMPOST LOGS) MAY BE LEFT IN PLACE.
 - FOR RESIDENTIAL CONSTRUCTION ONLY, INDIVIDUAL LOTS ARE CONSIDERED FINALLY STABILIZED IF THE STRUCTURE(S) ARE FINISHED & TEMPORARY EROSION PROTECTION AND DOWNGRADIENT PERIMETER CONTROL HAS BEEN COMPLETED AND THE RESIDENCE HAS BEEN SOLD TO THE HOMEOWNER. ADDITIONALLY, THE OWNER/OPERATOR MUST DISTRIBUTE THE NPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER TO INFORM THE HOMEOWNER OF THE NEED FOR, AND BENEFITS OF, PERMANENT COVER.
 - FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP OR RANGE LAND) FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE.
- OR
- OWNER/OPERATOR MAY TERMINATE PERMIT COVERAGE PRIOR TO COMPLETION OF ALL CONSTRUCTION ACTIVITY IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
 - THE OWNER/OPERATOR(S) MUST ENSURE THAT THE PERMANENT STORM WATER TREATMENT SYSTEM MEETS ALL REQUIREMENTS OF THE PERMIT. THIS INCLUDES BUT IS NOT LIMITED TO, A FINAL CLEAN OUT OF TEMPORARY OR PERMANENT SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS AND FINAL CONSTRUCTION OR MAINTENANCE OF INFILTRATION BASINS. ALL SEDIMENT MUST BE REMOVED FROM CONVEYANCE SYSTEMS AND DITCHES MUST BE STABILIZED WITH PERMANENT COVER.
 - PRIOR TO SUBMISSION OF THE NOT, ALL TEMPORARY SYNTHETIC AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S (SUCH AS SILT FENCE) MUST BE REMOVED ON THE PORTIONS OF THE SITE FOR WHICH THE OWNER/OPERATOR IS RESPONSIBLE. BMP'S DESIGNED TO DECOMPOSE ON SITE (SUCH AS SOME COMPOST LOGS) MAY BE LEFT IN PLACE.
 - CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 90 DAYS.
 - AT LEAST 90% (BY AREA) OF ALL ORIGINALLY PROPOSED CONSTRUCTION ACTIVITY HAS BEEN COMPLETED AND PERMANENT COVER ESTABLISHED ON THOSE AREAS.
 - ON AREAS WHERE CONSTRUCTION ACTIVITY IS NOT COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED.

AND WHERE APPLICABLE:

- FOR RESIDENTIAL CONSTRUCTION ONLY, INDIVIDUAL LOTS ARE CONSIDERED FINALLY STABILIZED IF THE STRUCTURE(S) ARE FINISHED & TEMPORARY EROSION PROTECTION AND DOWNGRADIENT PERIMETER CONTROL HAS BEEN COMPLETED AND THE RESIDENCE HAS BEEN SOLD TO THE HOMEOWNER. ADDITIONALLY, THE OWNER/OPERATOR MUST DISTRIBUTE THE NPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER TO INFORM THE HOMEOWNER OF THE NEED FOR, AND BENEFITS OF, PERMANENT COVER.
- FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP OR RANGE LAND) FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE.

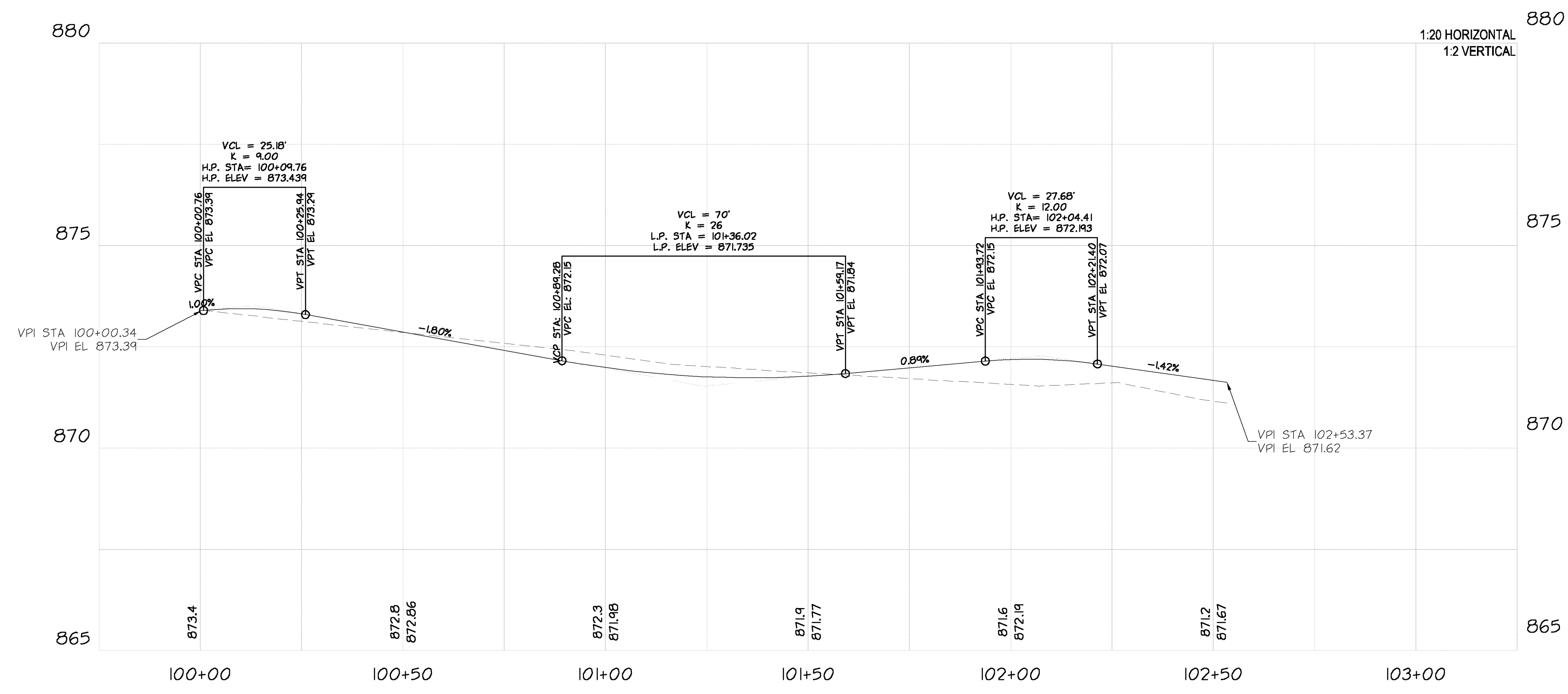
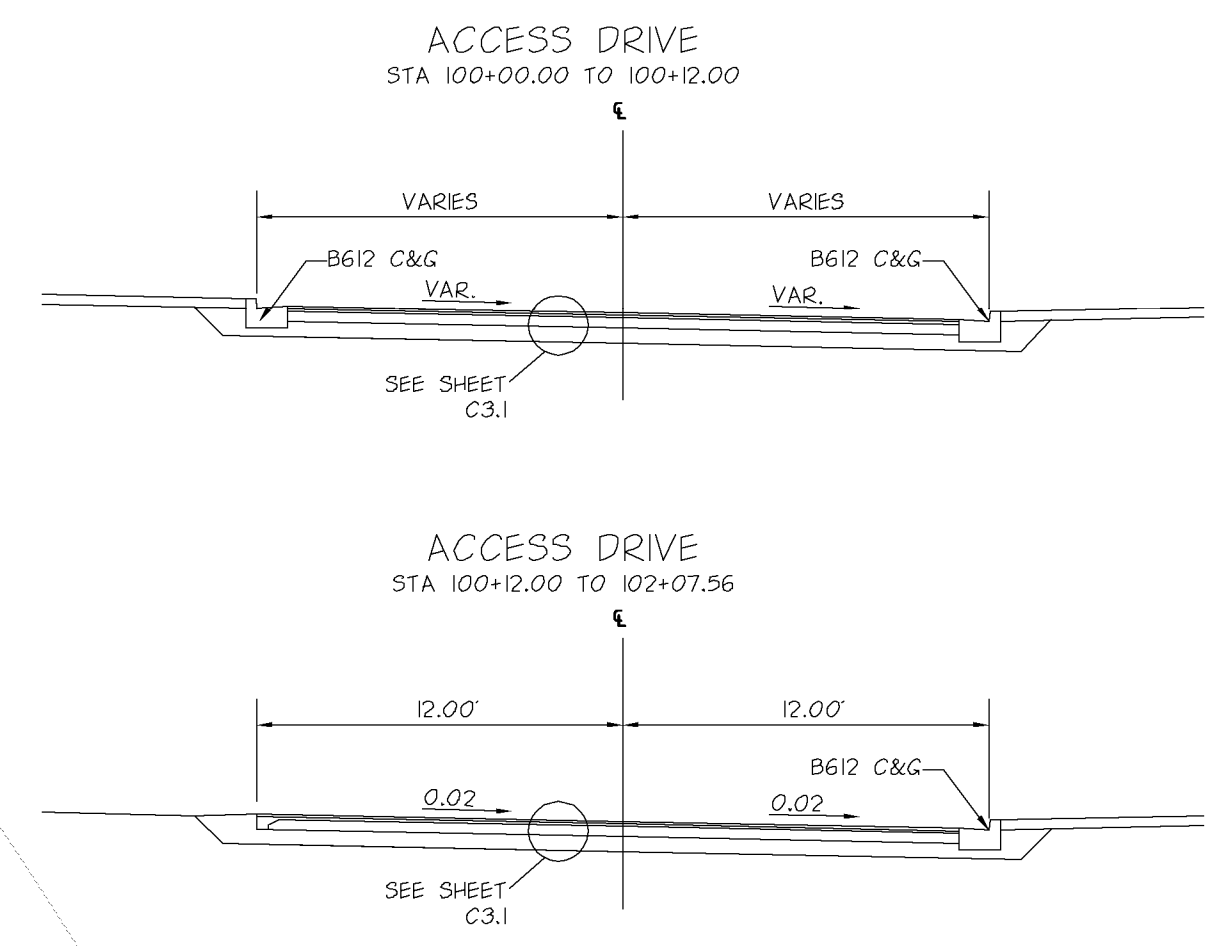
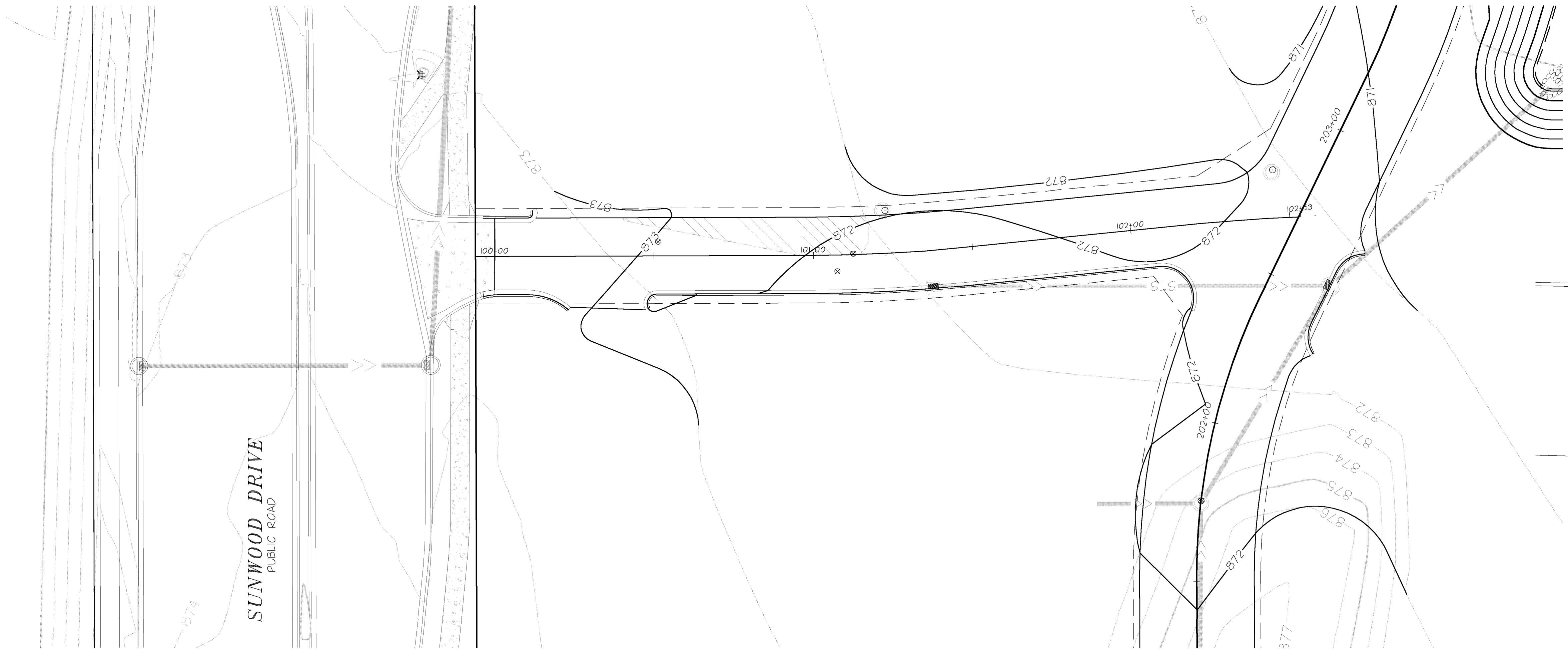
TERMINATION OF COVERAGE

- OWNER/OPERATOR(S) WISHING TO TERMINATE COVERAGE UNDER THIS PERMIT MUST SUBMIT A NOTICE OF TERMINATION (NOT) TO THE NPCA IN COMPLIANCE WITH THE PERMIT IS REQUIRED UNTIL A NOT IS SUBMITTED, THE OWNER/OPERATOR(S) COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE POSTMARK DATE OF THE NOT, OR ON THE DATE AN ONLINE NOT IS SUBMITTED TO THE NPCA.
- TERMINATION OF COVERAGE FOR THE ENTIRE PROJECT
ALL OWNER/OPERATOR(S) MUST SUBMIT A NOT WITHIN 30 DAYS AFTER FINAL STABILIZATION OF THE SITE HAS BEEN COMPLETED AND ALL PORTIONS OF WHICH THE OWNER/OPERATOR IS RESPONSIBLE AND ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED. IF THE SITE INCLUDES PERMANENT STORM WATER MANAGEMENT SYSTEMS, THE REQUIREMENTS FOR FINAL CLEANOUT/MAINTENANCE MUST BE PERFORMED AS REQUIRED IN FINAL STABILIZATION.
OWNER/OPERATOR(S) MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING THE ENTIRE SITE INCLUDING ROADS AND STORM WATER INFRASTRUCTURE, AND COVERAGE IS TRANSFERRED TO ANOTHER OWNER AS DESCRIBED IN CHANGE OF COVERAGE.
- TERMINATION OF COVERAGE FOR A PORTION OF THE ENTIRE PROJECT
ALL OWNER/OPERATOR(S) MUST SUBMIT A NOT WITHIN SEVEN (7) DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING PORTIONS OF THE SITE TO ANOTHER PARTY AND THEY ARE NO LONGER THE OWNER OR OPERATOR. THE PORTIONS OF THE SITE BEING SOLD TO ANOTHER PARTY MUST BE IN COMPLIANCE WITH THE PERMIT (E.G. ALL TEMPORARY EROSION PROTECTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE). THE FORM MUST INCLUDE SIGNATURES FROM THE ORIGINAL OWNER/OPERATOR(S) AND CONTACT INFORMATION FOR THE NEW OWNER OF THE PROPERTY.
- TERMINATION OF COVERAGE OBTAINED USING A SUBDIVISION REGISTRATION
IF PERMIT COVERAGE WAS OBTAINED USING THE SUBDIVISION REGISTRATION PROCESS, OWNER/OPERATOR(S) ARE REQUIRED TO SUBMIT A NOT WITHIN 30 DAYS AFTER ACHIEVING FINAL STABILIZATION.
- ALTERNATIVE METHODS—PERMANENT STORM WATER MANAGEMENT
OWNER/OPERATOR(S) THAT USE AN ALTERNATIVE METHOD FOR THE PERMANENT STORM WATER MANAGEMENT SYSTEM AS DESCRIBED IN THE PERMIT ARE PROHIBITED FROM TERMINATING THIS PERMIT UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED ON SITE AND EITHER:
 - THE TWO YEARS OF MONITORING DATA REQUIRED IN THE PERMIT HAS BEEN SUBMITTED TO THE NPCA AND THE NPCA HAS DETERMINED THAT THE REQUIRED TREATMENT HAS BEEN ACHIEVED. THE OWNER/OPERATOR WILL BE NOTIFIED IN WRITING WITHIN 30 DAYS AFTER THE MONITORING DATA HAS BEEN SUBMITTED. IF THE OWNER/OPERATOR HAS NOT HEARD FROM THE NPCA WITHIN 30 DAYS AFTER SUBMITTING THE REQUIRED DATA, THE OWNER/OPERATOR CAN SUBMIT A NOT.
 - THE OWNER/OPERATOR CAN SUBMIT A NOT, EVEN IF THE TIMEFRAME IS LESS THAN TWO YEARS, IF THE NPCA DETERMINES THAT THE ALTERNATIVE METHOD IS ACHIEVING THE REQUIRED TREATMENT.

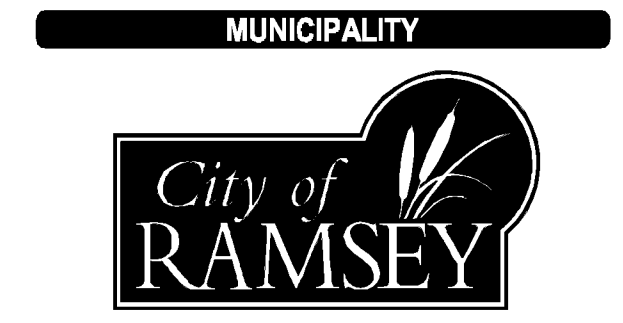
DURING THE MONITORING AND EVALUATION OF THE ALTERNATIVE METHOD, THE OWNER/OPERATOR IS NOT RESPONSIBLE FOR OTHER PERMIT REQUIREMENTS THAT HAVE BEEN TRANSFERRED AS DESCRIBED IN CHANGE OF COVERAGE.

- THE OWNER/OPERATOR CAN SUBMIT A NOT, EVEN IF THE TIMEFRAME IS LESS THAN TWO YEARS, IF THE NPCA DETERMINES THAT THE ALTERNATIVE METHOD IS ACHIEVING THE REQUIRED TREATMENT.

DURING THE MONITORING AND EVALUATION OF THE ALTERNATIVE METHOD, THE OWNER/OPERATOR IS NOT RESPONSIBLE FOR OTHER PERMIT REQUIREMENTS THAT HAVE BEEN TRANSFERRED AS DESCRIBED IN CHANGE OF COVERAGE.



DEVELOPER
RAMSEY HRA
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 TEL (763) 427-1410 - FAX (763) 427-5543



PROJECT
**SUNWOOD RETAIL
 INITIAL IMPROVEMENTS
 RAMSEY, MINNESOTA**

SHEET INDEX

SHEET	TITLE
C0.1	TITLE SHEET
C1.1	EXISTING CONDITIONS & DEMOLITION
C2.1	SITE PLAN
C3.1	ROADWAY, DRAINAGE, PAVING, & EROSION CONTROL
C3.2	SWPPP NOTES
C3.3	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C3.4	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C4.1	UTILITIES - SANITARY SEWER & WATERMAIN
C4.2	UTILITIES - STORM SEWER
C4.3	UTILITIES - STORM SEWER - BID ALTERNATE
C7.1	CIVIL CONSTRUCTION DETAILS
C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
L2.1	LANDSCAPE PLAN
L2.2	IRRIGATION PLAN

REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CJC

PROJECT MANAGER REVIEW

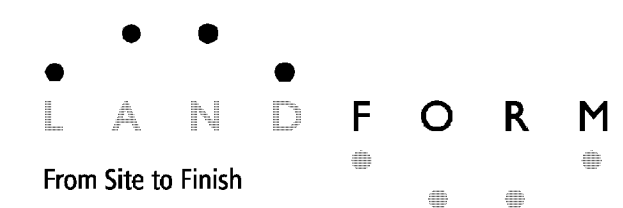
BY: [] DATE: 04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

DATE: 04/03/2013

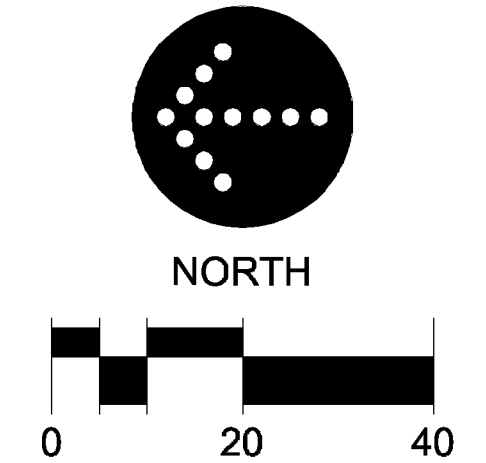
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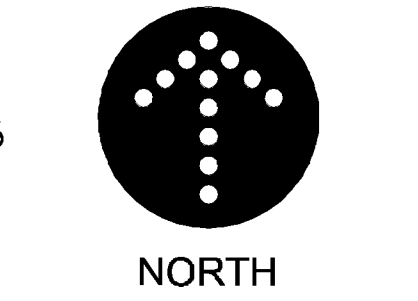
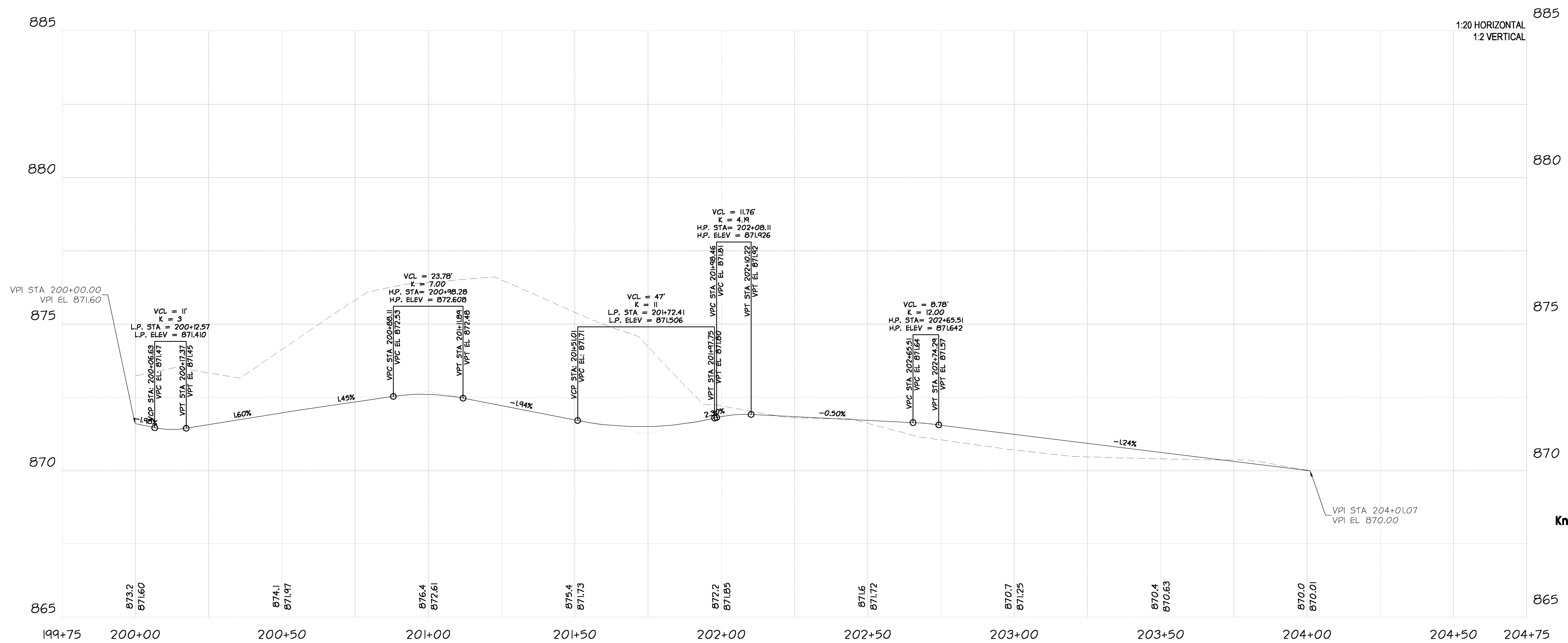
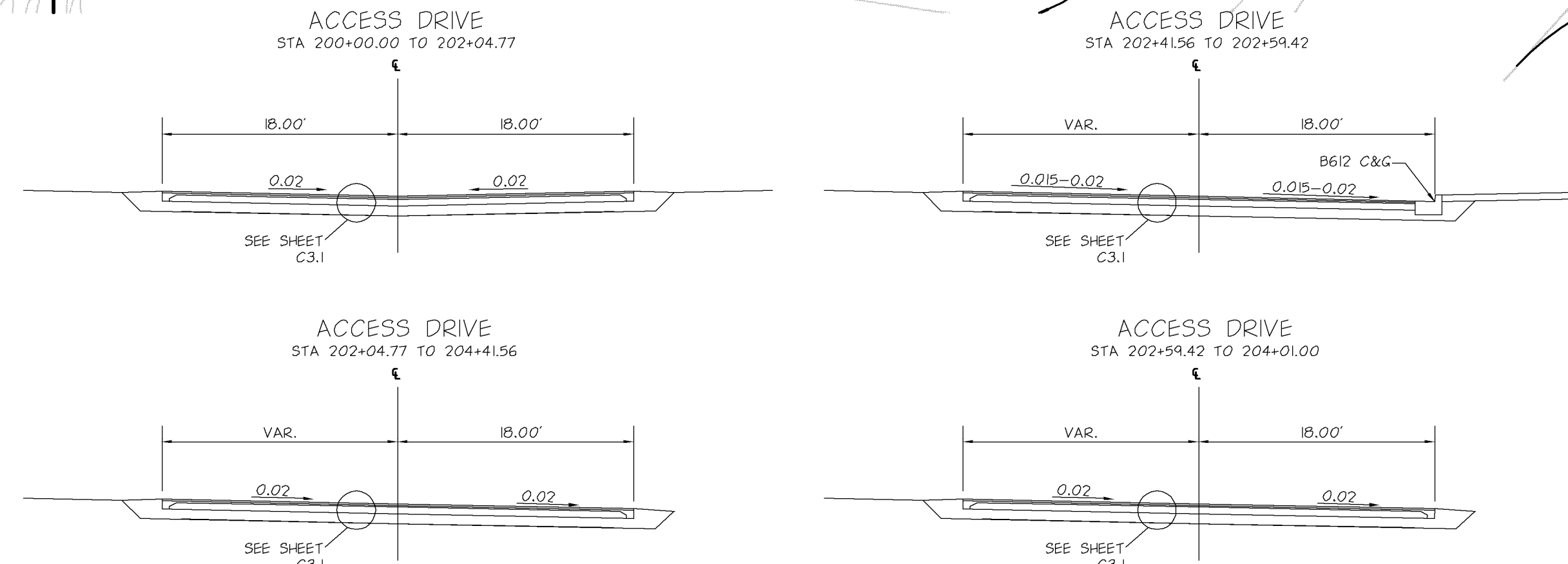
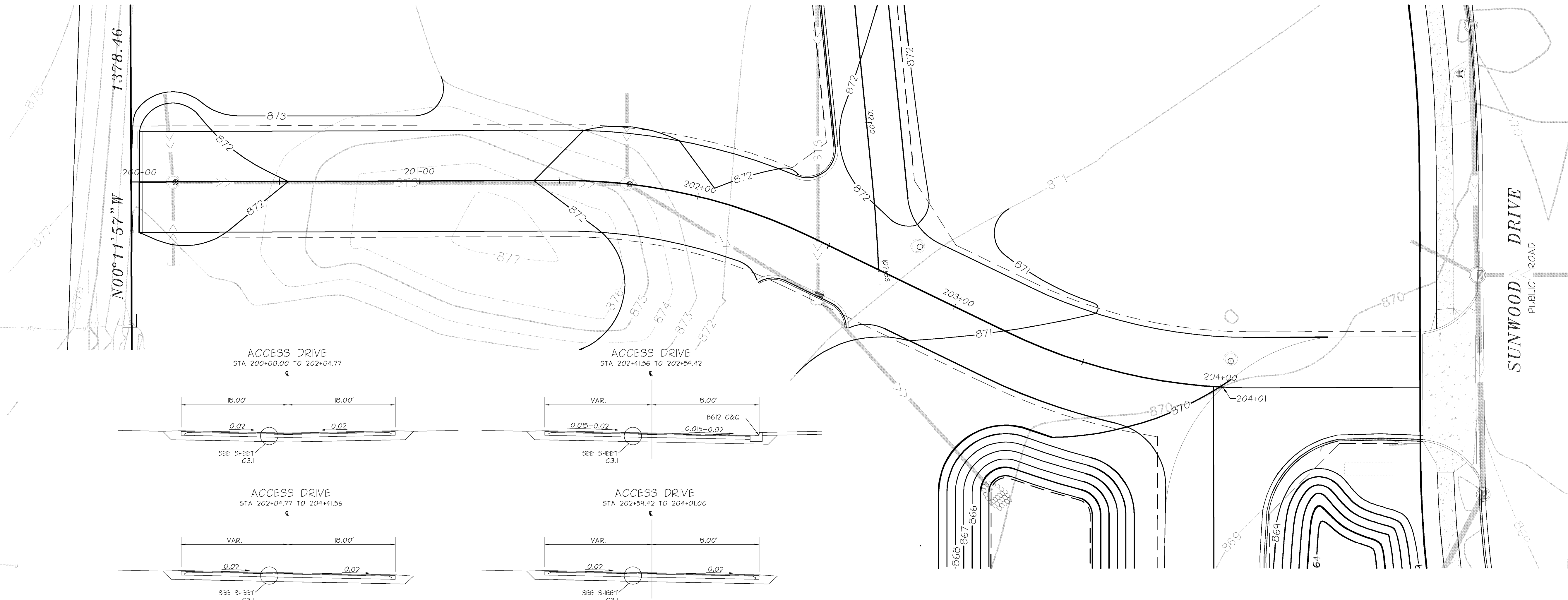
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 Suite 513 Fax: 612-252-9077
 Minneapolis, MN 55401 Web: landform.net

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 PROJECT NO.: RAM12025

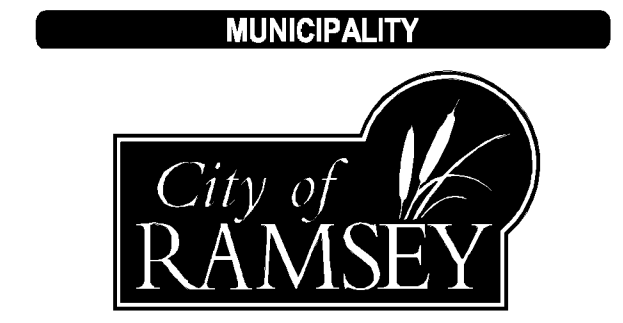
ACCESS DRIVE PROFILE
 NORTH/SOUTH DRIVE
C3.3



COUNTY ROAD NO. 83 (ARMSTRONG BLVD.)
PUBLIC ROAD



DEVELOPER
RAMSEY HRA
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
TEL (763) 427-1410 - FAX (763) 427-5543



PROJECT
**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
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C0.1	TITLE SHEET
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C3.4	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C4.1	UTILITIES - SANITARY SEWER & WATERMAIN
C4.2	UTILITIES - STORM SEWER - BD ALTERNATE
C4.3	UTILITIES - STORM SEWER - SD ALTERNATE
C7.1	CIVIL CONSTRUCTION DETAILS
C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
L2.1	LANDSCAPE PLAN
L2.2	IRREGULAR PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

PROJECT MANAGER REVIEW

BY/SES	DATE
	04-03-2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

DATE: 4/3/13

BID DOCUMENTS
APRIL 03, 2013

LANDFORM
From Site to Finish

105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME: C304RAM025.DWG
PROJECT NO.: RAM12025

ACCESS DRIVE PROFILE
EAST/WEST DRIVE
C3.4

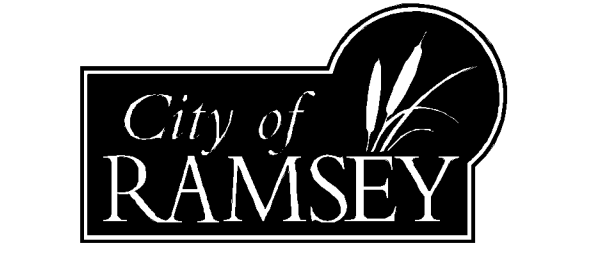
UTILITY NOTES

- PIPE MATERIALS
WATERMAIN: D/P CLASS 52
SANITARY SEWER: PVC SDR 35
STORM SEWER: RCP CLASS 5
PVC SCHEDULE 40
- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
- COORDINATE WITH PRIVATE UTILITIES TO PROVIDE ELECTRIC, NATURAL GAS, AND COMMUNICATIONS SERVICES TO BUILDING.
- PROVIDE MEANS AND MEASURES TO PROTECT ADJACENT PROPERTY FROM DAMAGE DURING UTILITY INSTALLATION.
- PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
- ADJUST STRUCTURES TO FINAL GRADE WHERE DISTURBED. COMPLY WITH REQUIREMENTS OF UTILITY. MEET REQUIREMENTS FOR TRAFFIC LOADING IN PAVED AREAS.
- INSTALL TRACER WIRE WITH UTILITIES WITHIN THE PUBLIC RIGHT-OF-WAY OR EASEMENTS.
- CONNECT TO CITY UTILITIES IN ACCORDANCE WITH CITY OF RAMSEY STANDARDS.
- CONTACT CITY OF RAMSEY FOR WET TAP INSPECTION.
- MAINTAIN 7.5 FEET OF COVER ON WATER.
- DEFLECT WATER TO MAINTAIN 18-INCH MINIMUM OUTSIDE SEPARATION AT SEWER CROSSINGS. CENTER PIPE LENGTHS TO PROVIDE GREATEST SEPARATION BETWEEN JOINTS.
- CONTACT CITY OF RAMSEY BUILDING DEPARTMENT, FOR FLUSHING AND PRESSURE TEST INSPECTIONS.
- THE CONTRACTOR IS REQUIRED TO OBTAIN THE APPROPRIATE PERMIT FOR THE MN DNR IF DEWATERING IS REQUIRED TO COMPLETE ANY WORK. THE CITY NEEDS TO REVIEW EACH PERMIT PRIOR TO IMPLEMENTATION.

DEVELOPER

RAMSEY HRA
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
TEL (763) 427-1410 - FAX (763) 427-5543

MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

SHEET INDEX

SHEET	TITLE
C01	TITLE SHEET
C11	EXISTING CONDITIONS & DEMOLITION
C21	SITE PLAN
C31	GRADING, DRAINAGE, PAVING, & EROSION CONTROL
C32	SWPPP NOTES
C33	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C34	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C41	UTILITIES - SANITARY SEWER & WATERMAIN
C42	UTILITIES - STORM SEWER - BID ALTERNATE
C43	UTILITIES - STORM SEWER - BID ALTERNATE
C71	CIVIL CONSTRUCTION DETAILS
C72	CIVIL CONSTRUCTION DETAILS
C73	CIVIL CONSTRUCTION DETAILS
L21	LANDSCAPE PLAN
L22	IRRIGATION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CNC

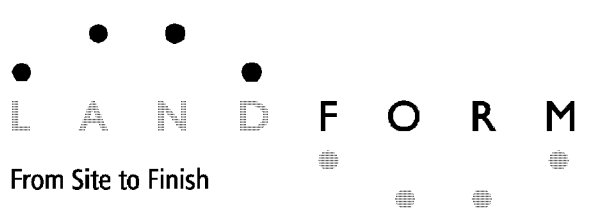
PROJECT MANAGER REVIEW

BY/REV	DATE
	04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Signature: _____ Date: _____
 Registration No: 47165

**BID DOCUMENTS
APRIL 03, 2013**



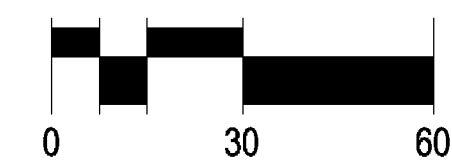
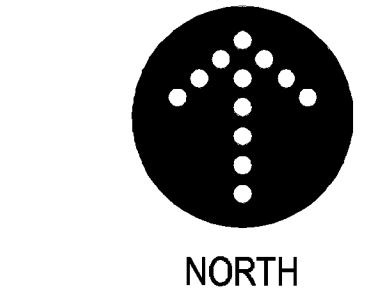
105 South Fifth Avenue Tel: 612-252-9070
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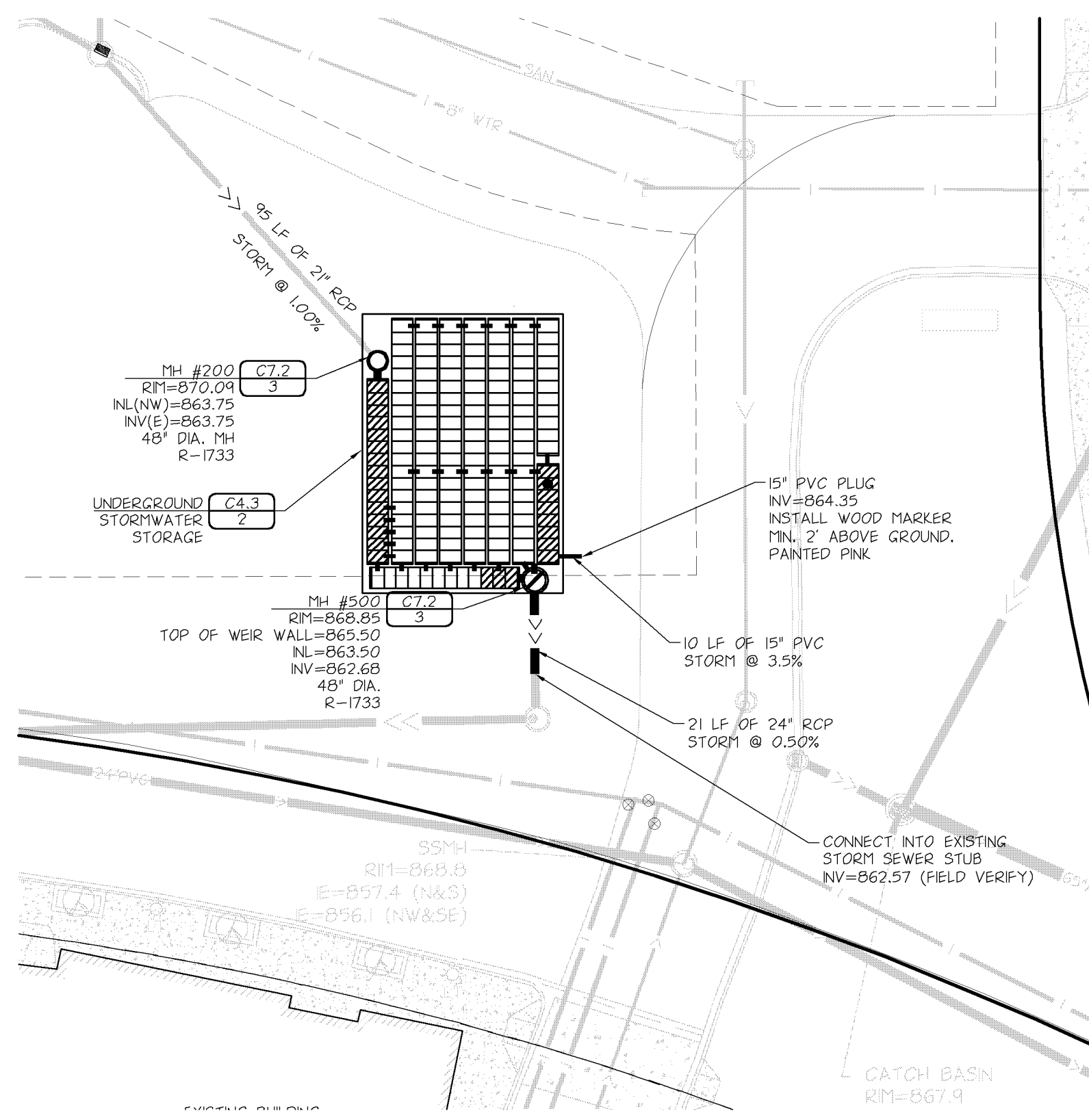
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PROJECT NO.: RAM12025

**UTILITIES
STORM SEWER
C4.2**

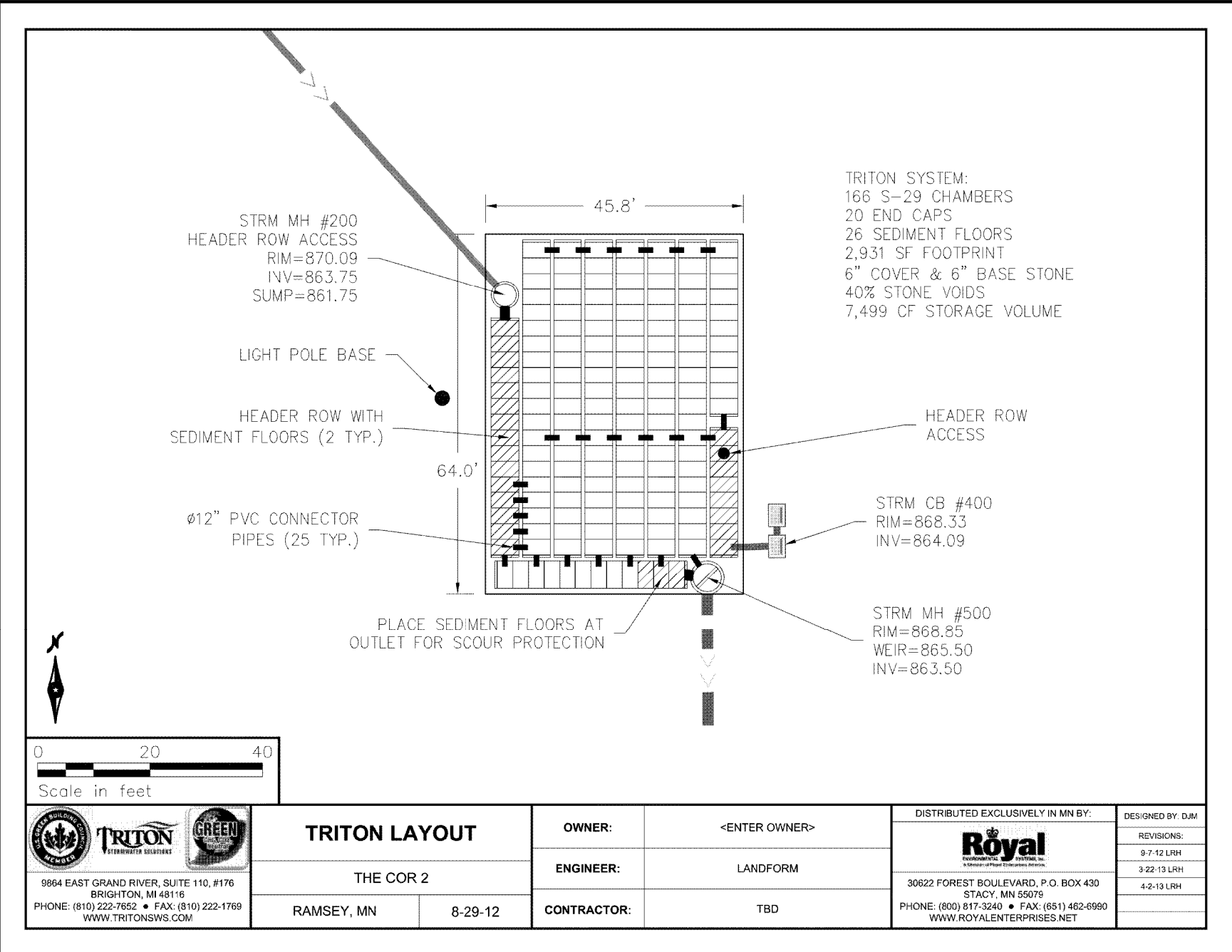


Know what's Below.
Call before you dig.

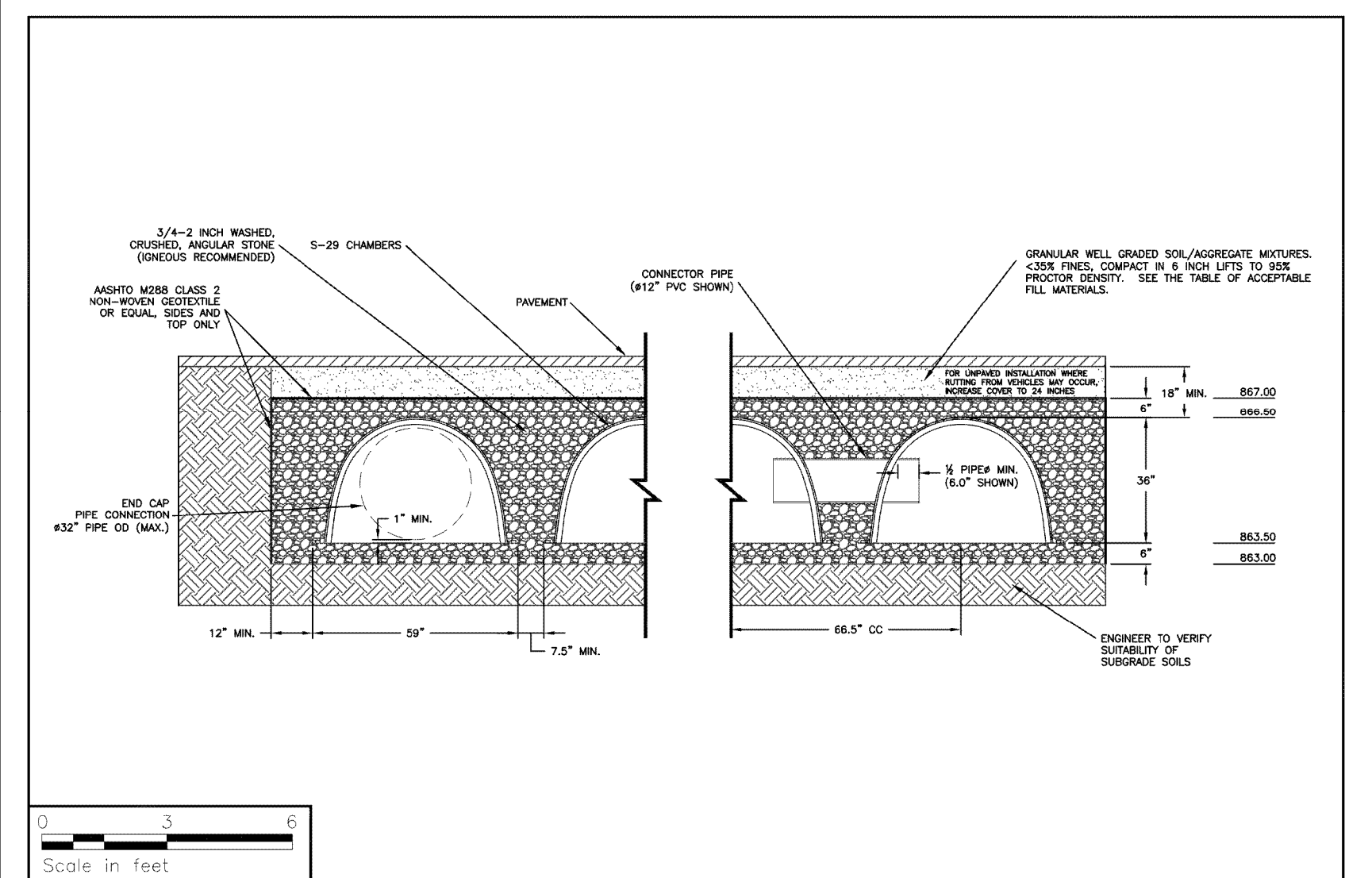




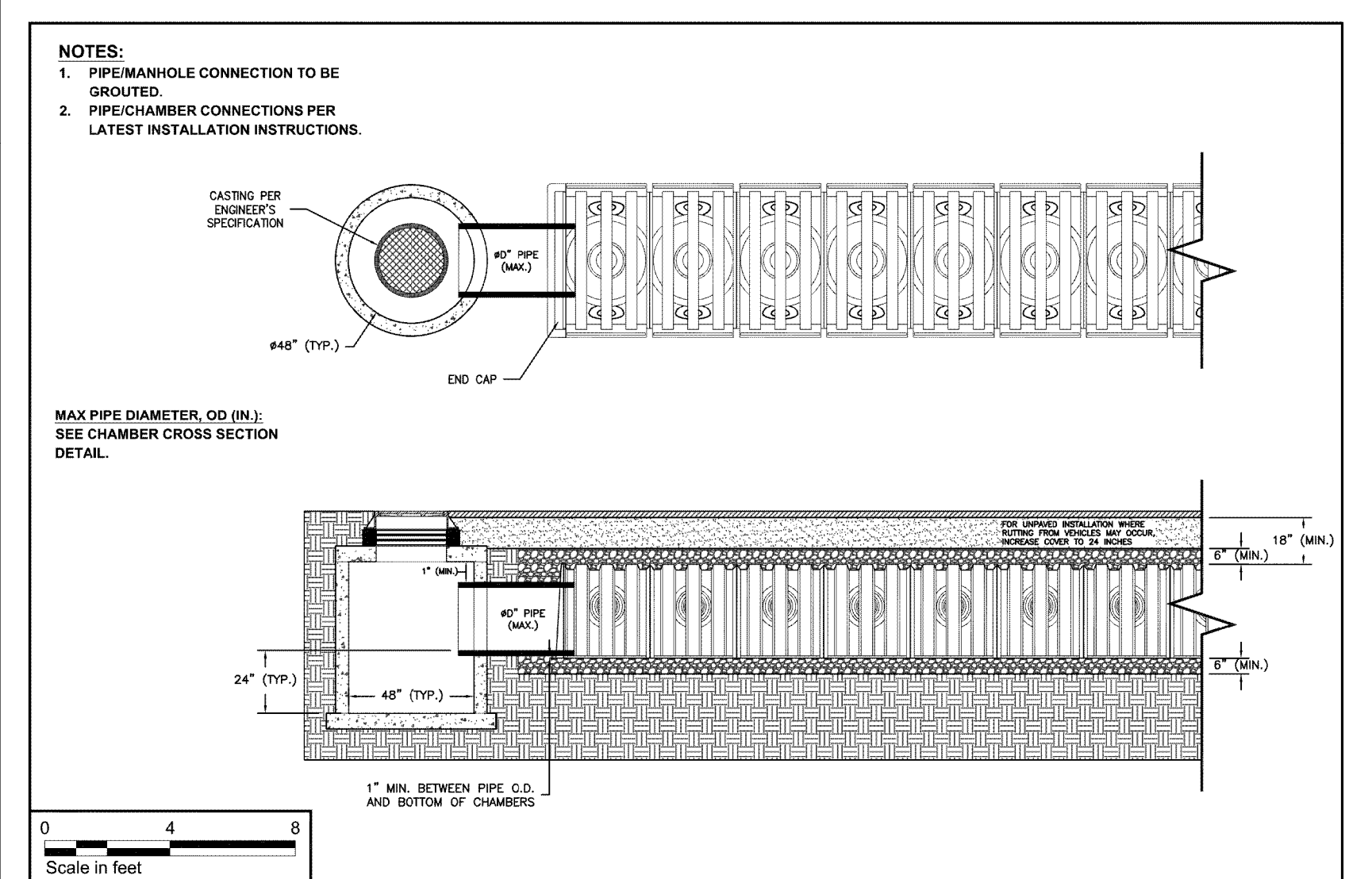
1 UNDERGROUND STORMWATER STORAGE PLAN
BID ALTERNATE 1"=30'



TRITON LAYOUT		OWNER: <ENTER OWNER>	DISTRIBUTED EXCLUSIVELY IN MN BY: Royal
THE COR 2		ENGINEER: LANDFORM	REVISED: 5-21-12 LRM
RAMSEY, MN	8-29-12	CONTRACTOR: TBD	3022 FOREST BOULEVARD, P.O. BOX 430 STACY, MN 55078 PHONE: (800) 871-5245 • FAX: (851) 462-6993 WWW.ROYALENTERPRISES.NET

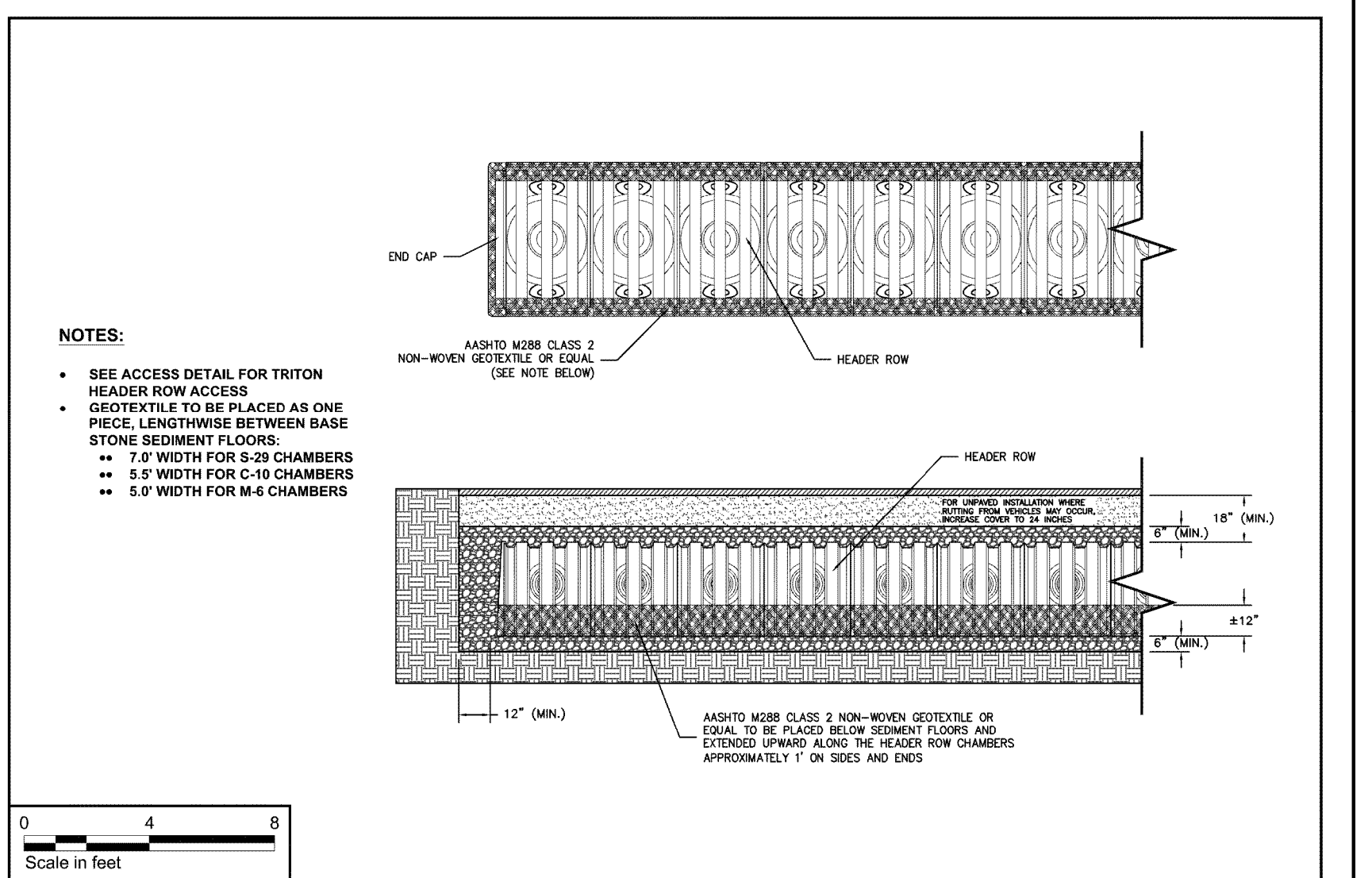


TRITON CROSS SECTION		OWNER: <ENTER OWNER>	DISTRIBUTED EXCLUSIVELY IN MN BY: Royal
THE COR 2		ENGINEER: LANDFORM	REVISED: 5-21-12 LRM
RAMSEY, MN	8-29-12	CONTRACTOR: TBD	3022 FOREST BOULEVARD, P.O. BOX 430 STACY, MN 55078 PHONE: (800) 871-5245 • FAX: (851) 462-6993 WWW.ROYALENTERPRISES.NET

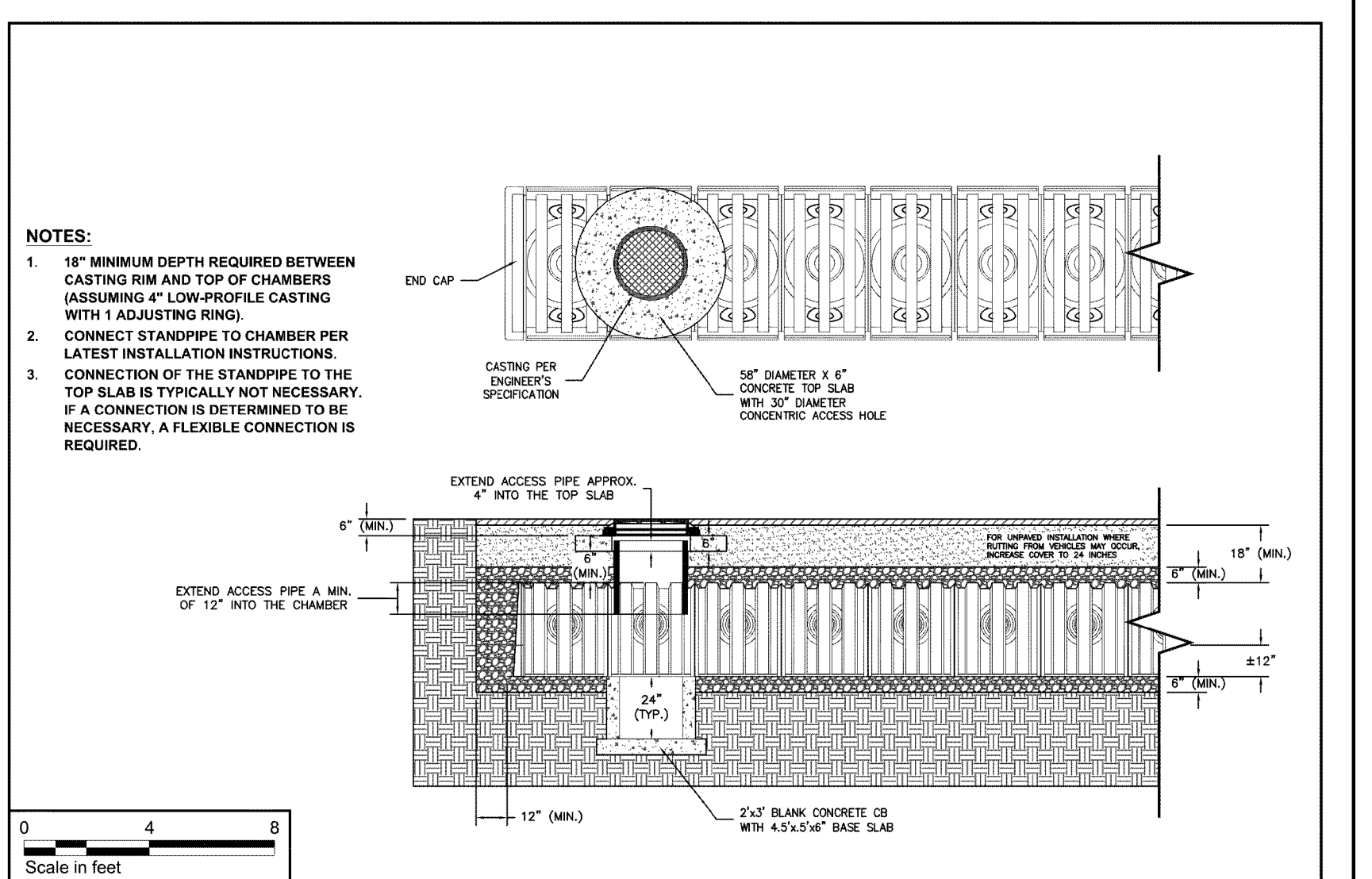


TRITON ACCESS MANHOLE CONNECTION		OWNER: <ENTER OWNER>	DISTRIBUTED EXCLUSIVELY IN MN BY: Royal
TRITON - STANDARD DETAILS		ENGINEER: LANDFORM	REVISED: 1-24-12 LRM
RAMSEY, MN	8-29-12	CONTRACTOR: TBD	3022 FOREST BOULEVARD, P.O. BOX 430 STACY, MN 55078 PHONE: (800) 871-5245 • FAX: (851) 462-6993 WWW.ROYALENTERPRISES.NET

- UTILITY NOTES**
- PIPE MATERIALS: WATERMAN DP CLASS 52, SANITARY SEWER PVC SDR 35, STORM SEWER RCP CLASS 5, GREASE TRAP SERVICE PVC SCHEDULE 40.
 - CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
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 - PROVIDE MEANS AND MEASURES TO PROTECT ADJACENT PROPERTY FROM DAMAGE DURING UTILITY INSTALLATION.
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 - MAINTAIN 7.5 FEET OF COVER ON WATER.
 - DEFLECT WATER TO MAINTAIN 18-INCH MINIMUM OUTSIDE SEPARATION AT SEWER CROSSINGS. CENTER PIPE LENGTHS TO PROVIDE GREATEST SEPARATION BETWEEN JOINTS.
 - CONTACT CITY OF RAMSEY BUILDING DEPARTMENT, FOR FLUSHING AND PRESSURE TEST INSPECTIONS.
 - THE CONTRACTOR IS REQUIRED TO OBTAIN THE APPROPRIATE PERMIT FOR THE MN DNR IF DOWNGRADING IS REQUIRED TO COMPLETE ANY WORK. THE CITY NEEDS TO REVIEW EACH PERMIT PRIOR TO IMPLEMENTATION.



TRITON HEADER ROW WITH SEDIMENT FLOORS		OWNER: <ENTER OWNER>	DISTRIBUTED EXCLUSIVELY IN MN BY: Royal
TRITON - STANDARD DETAILS		ENGINEER: LANDFORM	REVISED: 5-21-12 LRM
RAMSEY, MN	8-29-12	CONTRACTOR: TBD	3022 FOREST BOULEVARD, P.O. BOX 430 STACY, MN 55078 PHONE: (800) 871-5245 • FAX: (851) 462-6993 WWW.ROYALENTERPRISES.NET



TRITON ACCESS DIRECT CHAMBER CONNECTION		OWNER: <ENTER OWNER>	DISTRIBUTED EXCLUSIVELY IN MN BY: Royal
TRITON - STANDARD DETAILS		ENGINEER: LANDFORM	REVISED: 5-21-12 LRM
RAMSEY, MN	8-29-12	CONTRACTOR: TBD	3022 FOREST BOULEVARD, P.O. BOX 430 STACY, MN 55078 PHONE: (800) 871-5245 • FAX: (851) 462-6993 WWW.ROYALENTERPRISES.NET

DEVELOPER
RAMSEY HRA
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 TEL (763) 427-1410 • FAX (763) 427-5543

MUNICIPALITY
City of RAMSEY

PROJECT
SUNWOOD RETAIL INITIAL IMPROVEMENTS
 RAMSEY, MINNESOTA

SHEET INDEX

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C04	EXISTING DRAINAGE, PAVING, & EROSION CONTROL
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C06	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C07	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
C08	UTILITIES - SANITARY SEWER & WATERMAIN
C09	UTILITIES - STORM SEWER - BID ALTERNATE
C10	CIVIL CONSTRUCTION DETAILS
C11	CIVIL CONSTRUCTION DETAILS
C12	CIVIL CONSTRUCTION DETAILS
C13	LANDSCAPE PLAN
C14	REGULATION PLAN

REVISION HISTORY

DATE	REVISION	BY
03 APR 2013	ISSUED FOR BID	CNC

PROJECT MANAGER REVIEW

DATE	DATE
BY: EES	DATE: 04-03-2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

DATE: 4/7/65

BID DOCUMENTS
 APRIL 03, 2013

LANDFORM

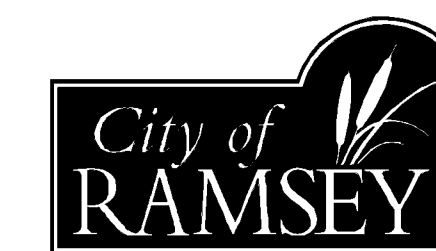
From Site to Finish

105 South Fifth Avenue
 Suite 513
 Minneapolis, MN 55401

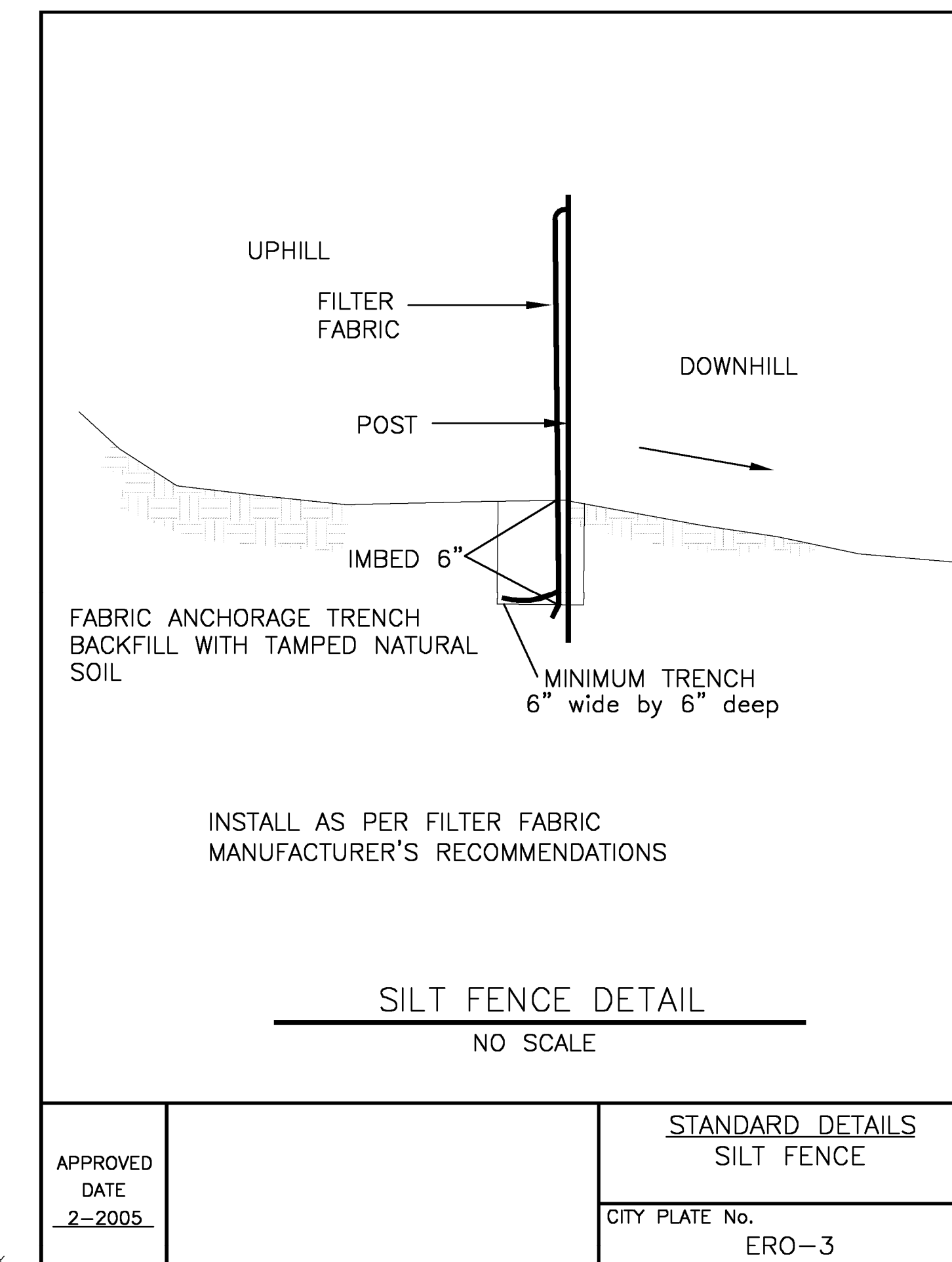
Tel: 612-252-9070
 Fax: 612-252-9077
 Web: landform.net

FILE NAME: C403RAM025.DWG
 PROJECT NO.: RAM12025

UTILITIES
STORM SEWER - BID ALTERNATE
C4.3

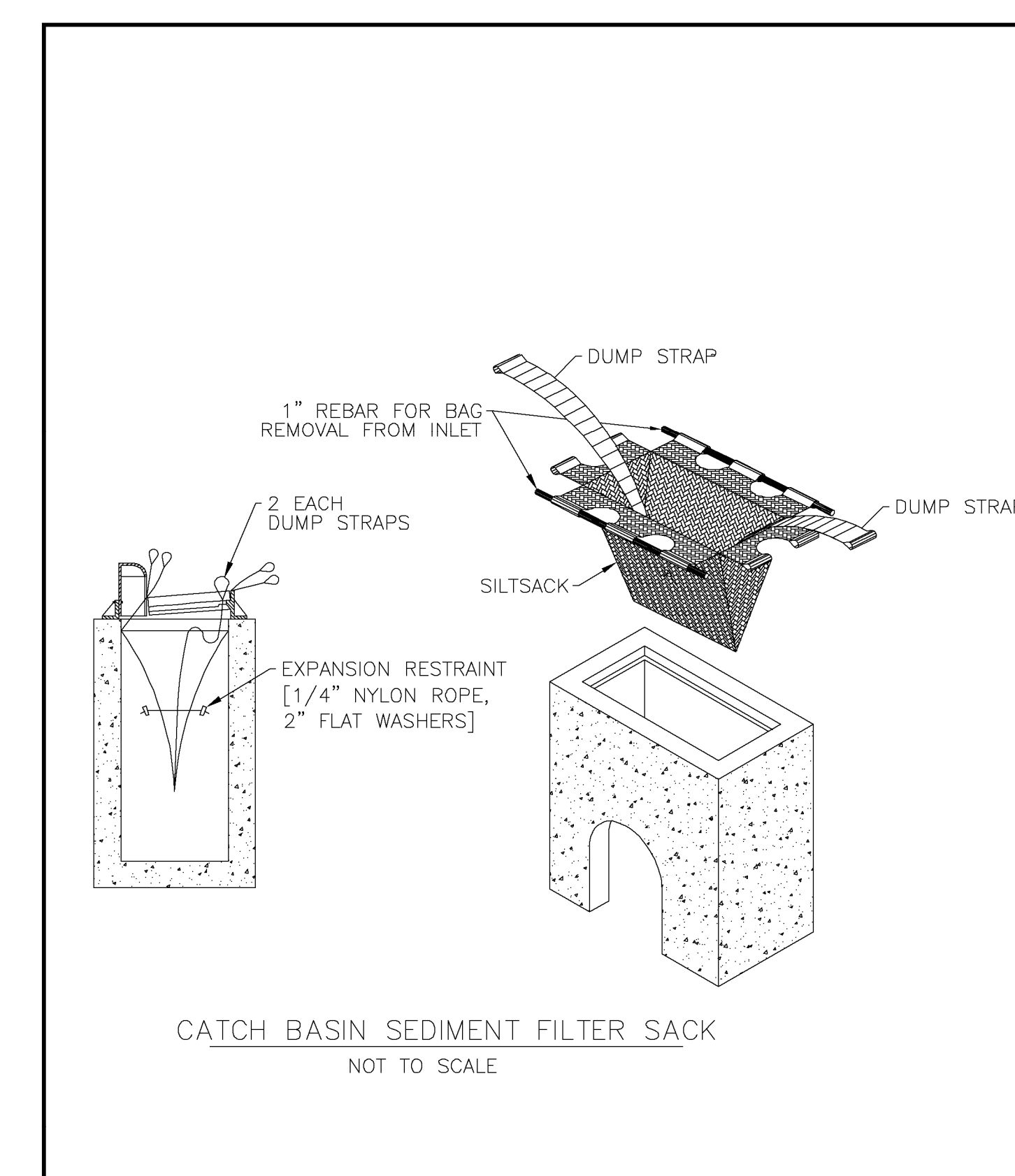


SHEET	TITLE
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C3.1	GRADING, DRAINAGE, PAVING, & EROSION CONTROL
C3.2	SWPPP NOTES
C3.3	ACCESS DRIVE PROFILE - NORTH/SOUTH DRIVE
C3.4	ACCESS DRIVE PROFILE - WEST/EAST DRIVE
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C4.3	UTILITIES - STORM SEWER - BID ALTERNATE
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C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
L2.1	LANDSCAPE PLAN
L2.2	REGULATION PLAN



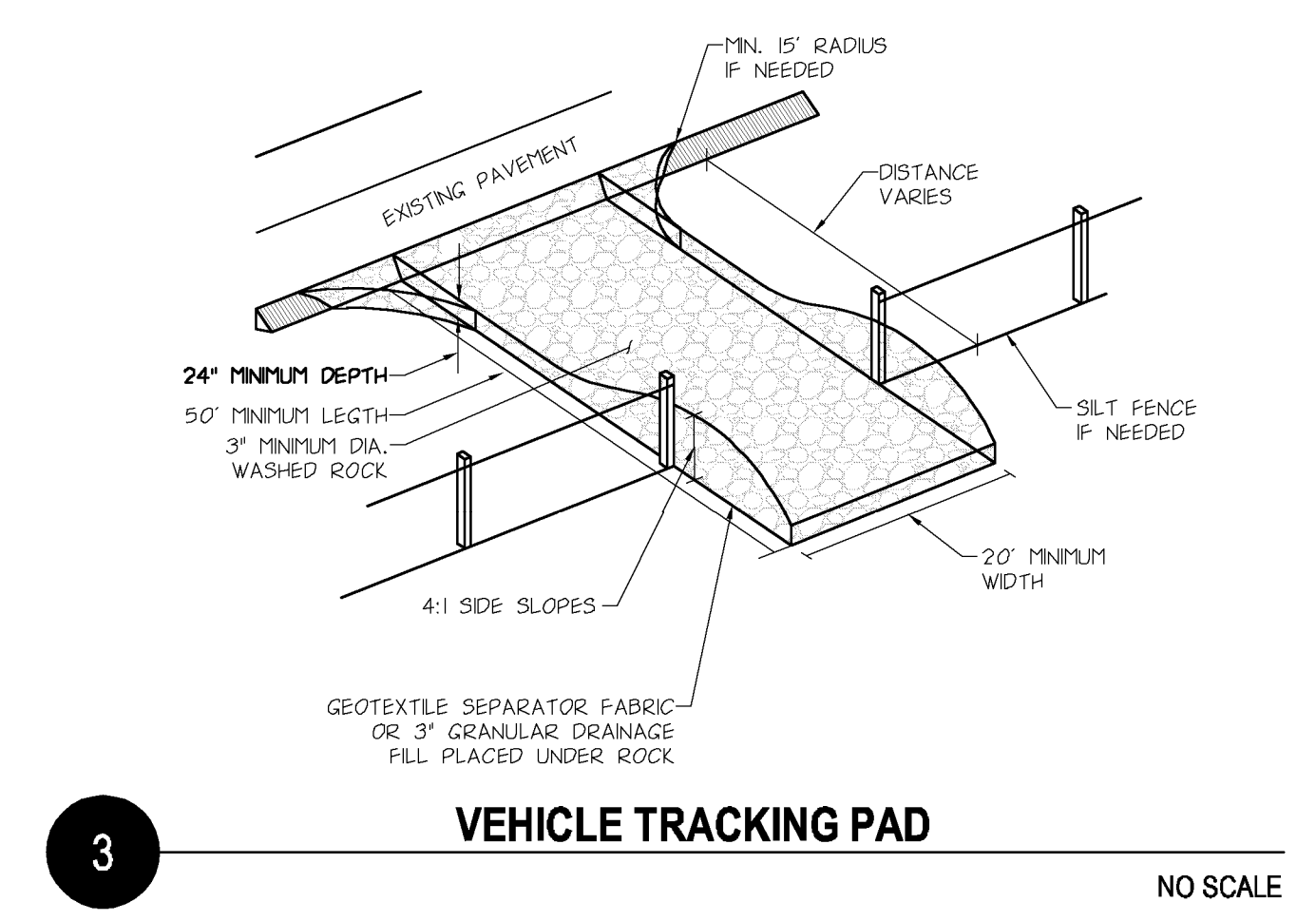
APPROVED DATE 2-2005	STANDARD DETAILS SILT FENCE
	CITY PLATE No. ERO-3

1 **SILT FENCE** NO SCALE

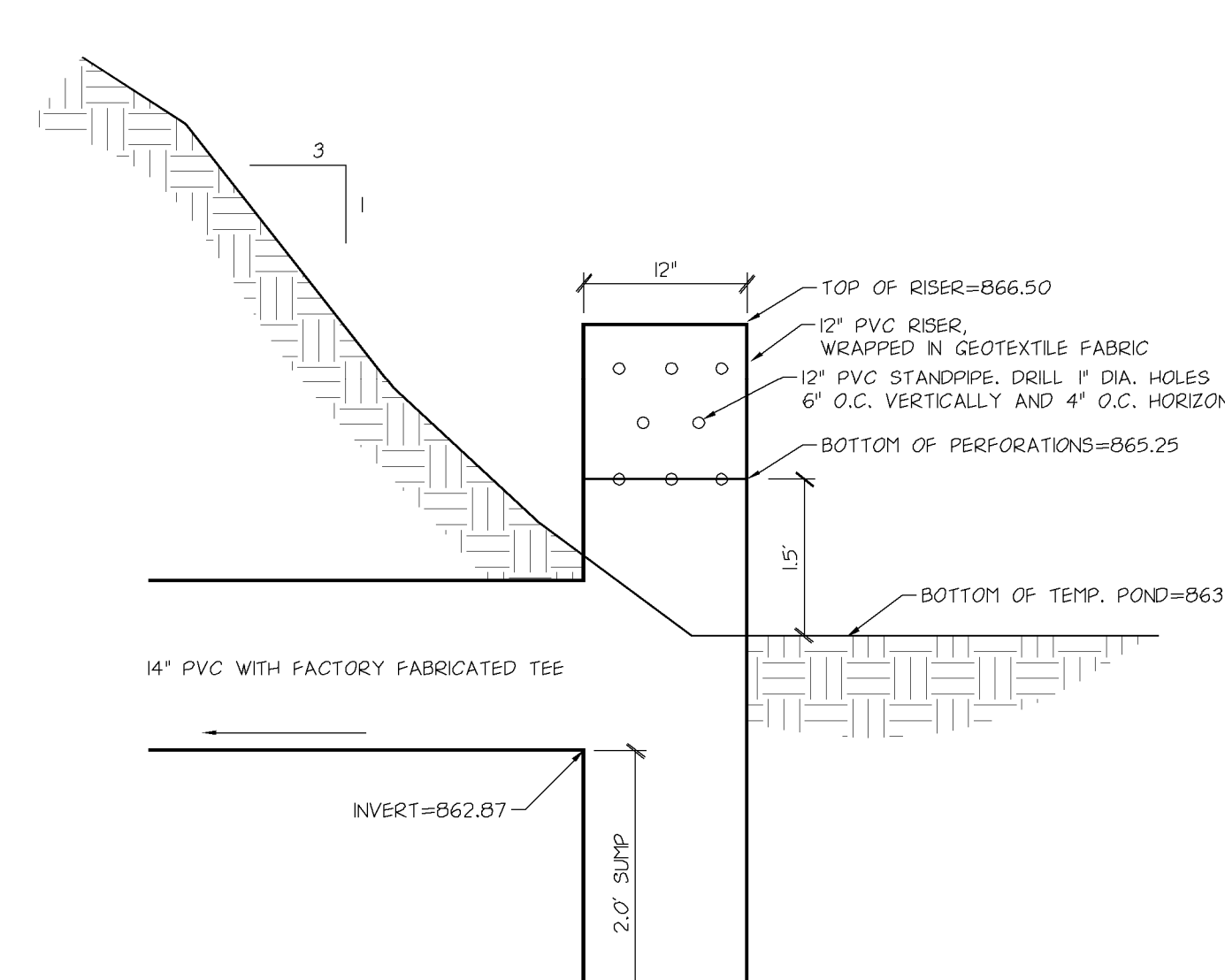


APPROVED DATE 7-2011	STANDARD DETAILS CB SEDIMENT FILTER SACK
	CITY PLATE No. STO 11

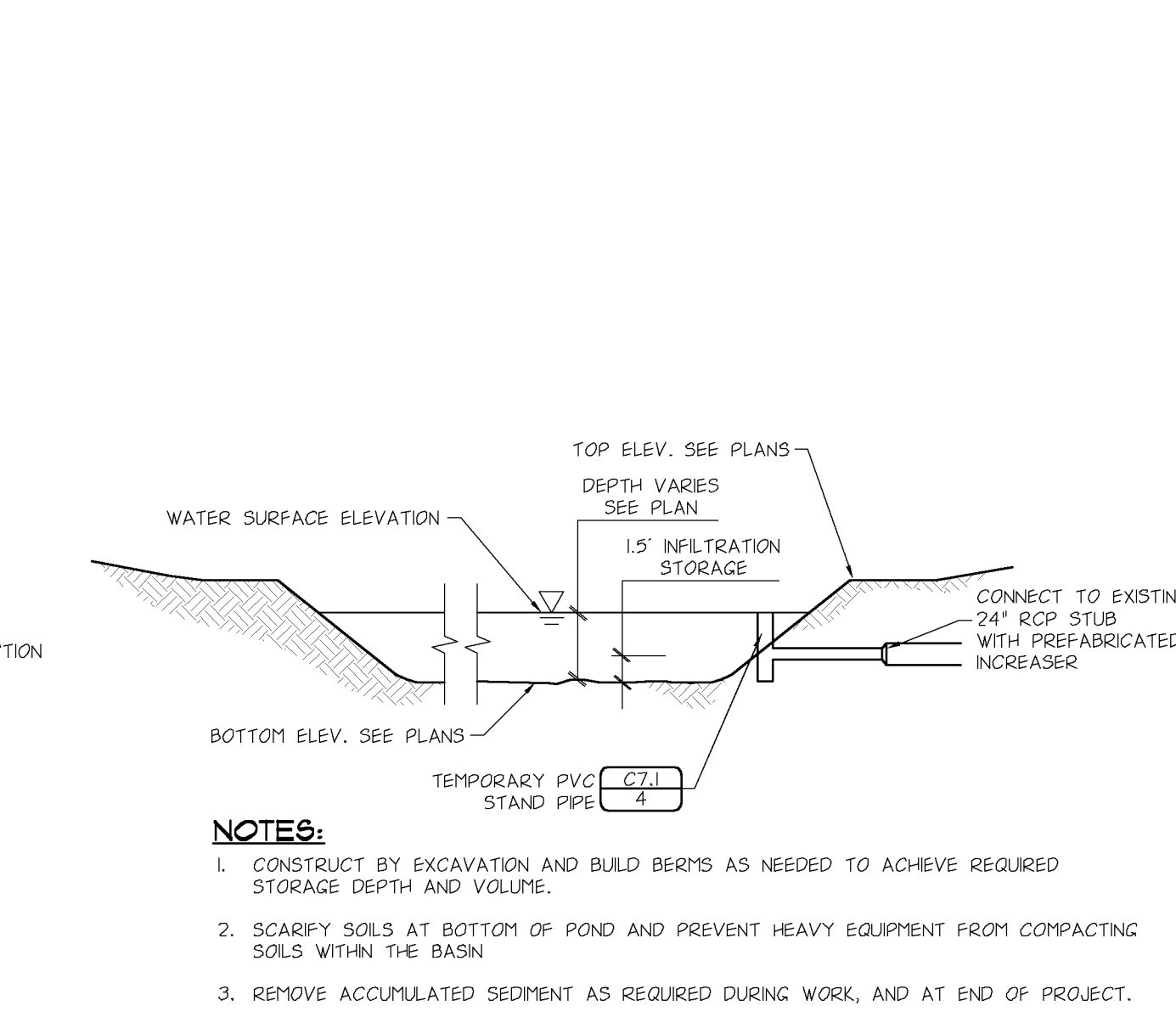
2 **INLET PROTECTION** NO SCALE



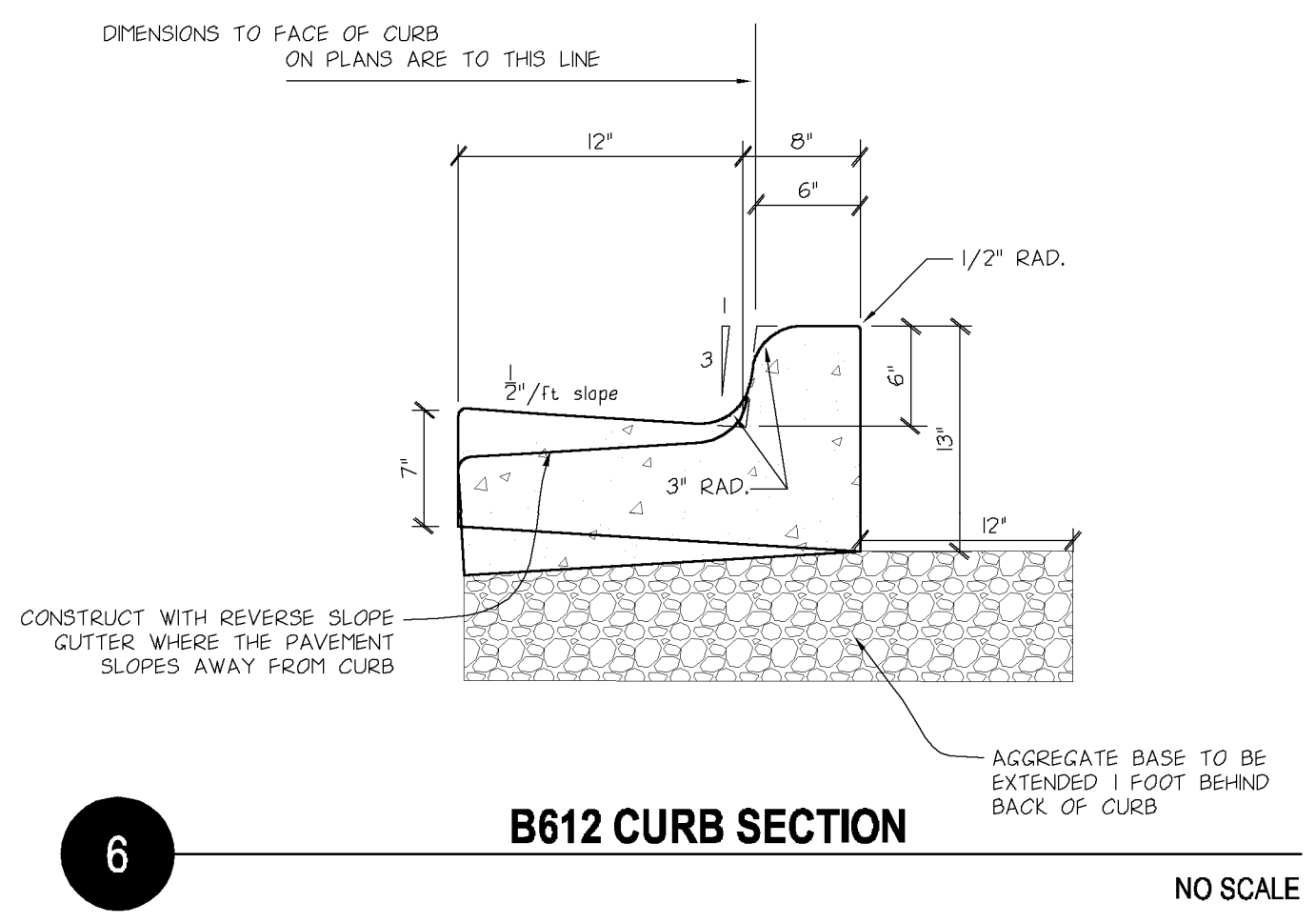
3 **VEHICLE TRACKING PAD** NO SCALE



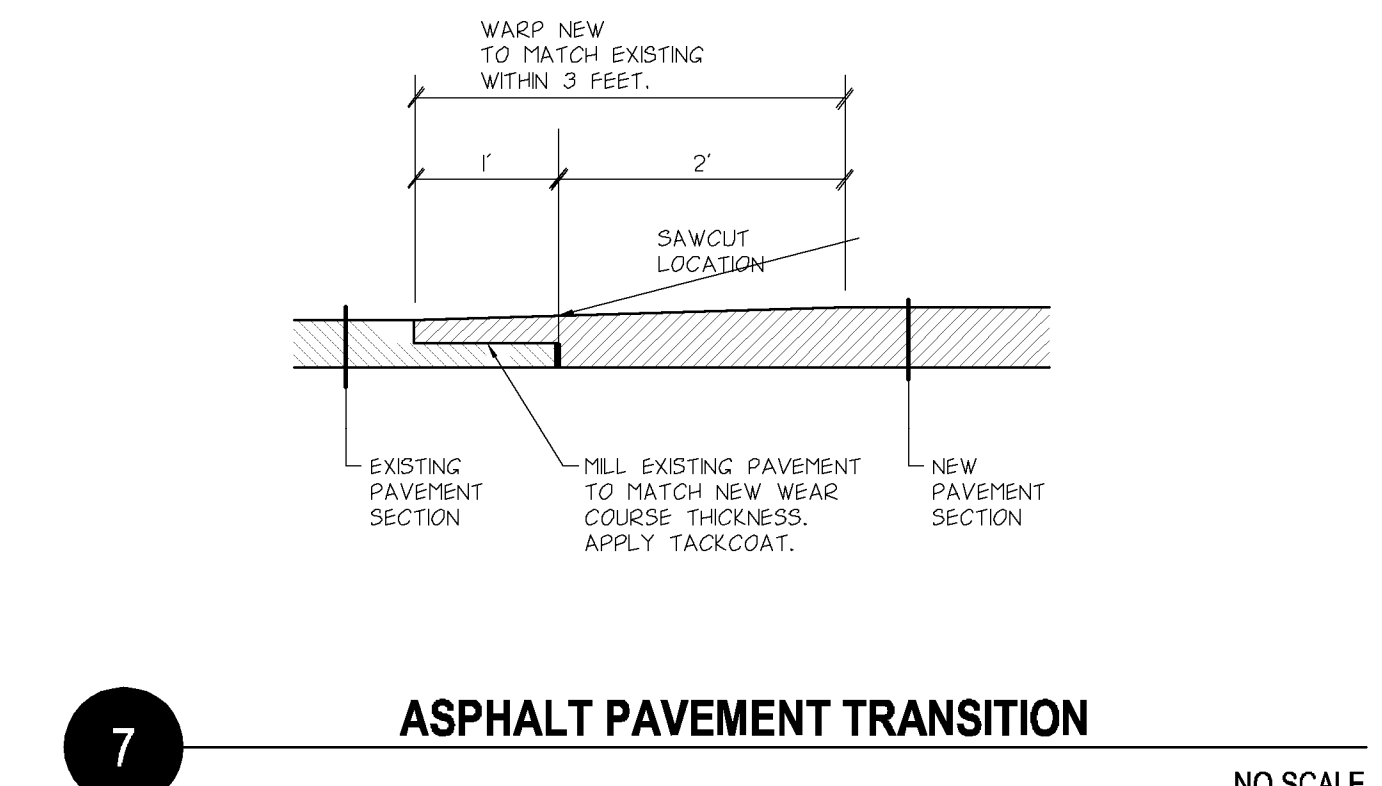
4 **TEMPORARY PVC STAND PIPE** NO SCALE



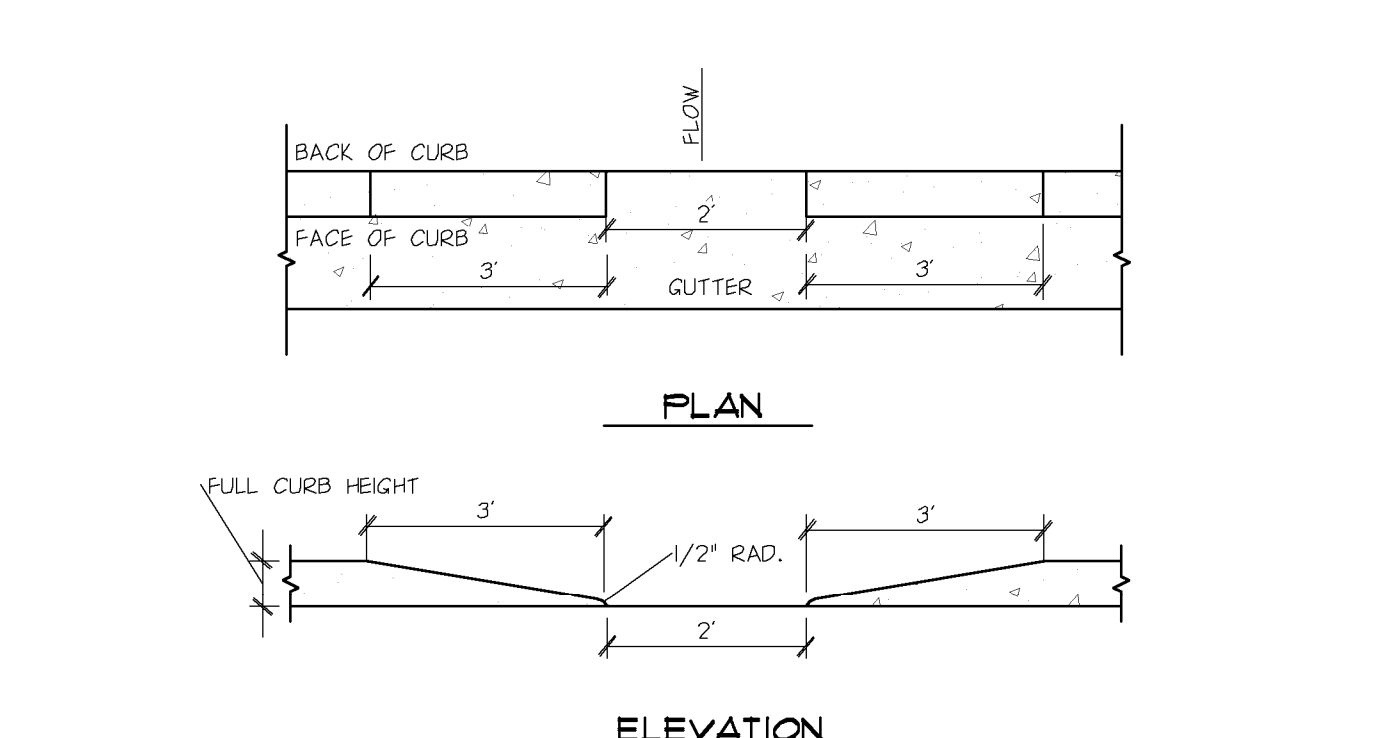
5 **TEMPORARY STORMWATER BASIN** NO SCALE



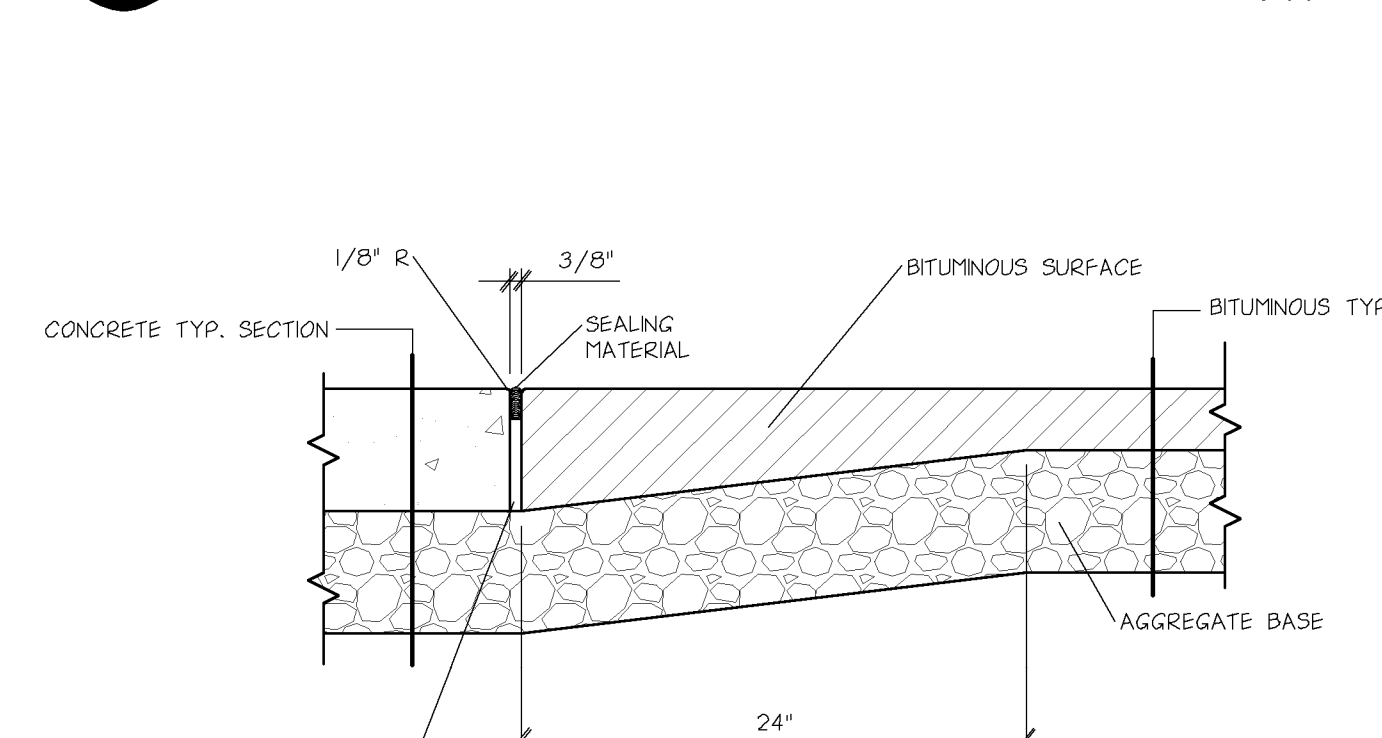
6 **B612 CURB SECTION** NO SCALE



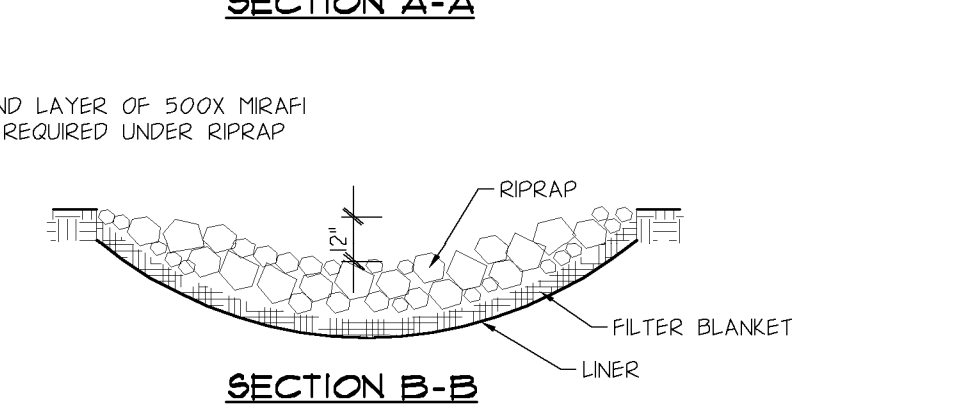
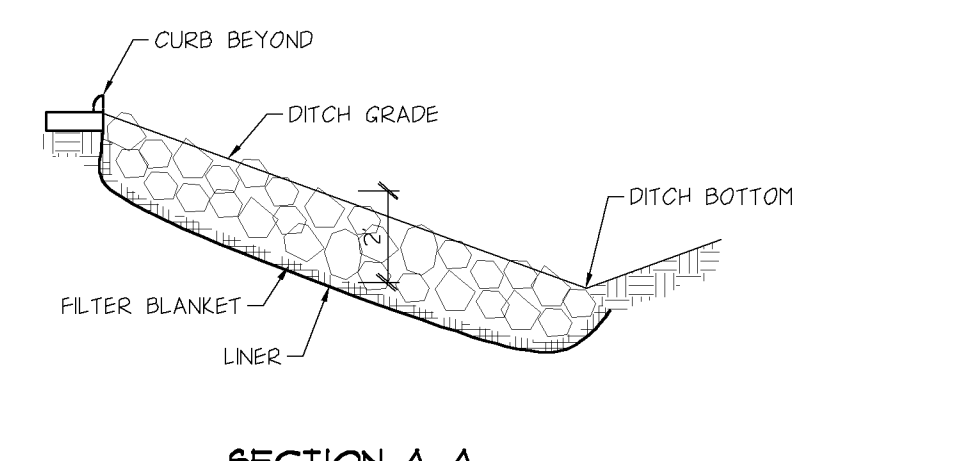
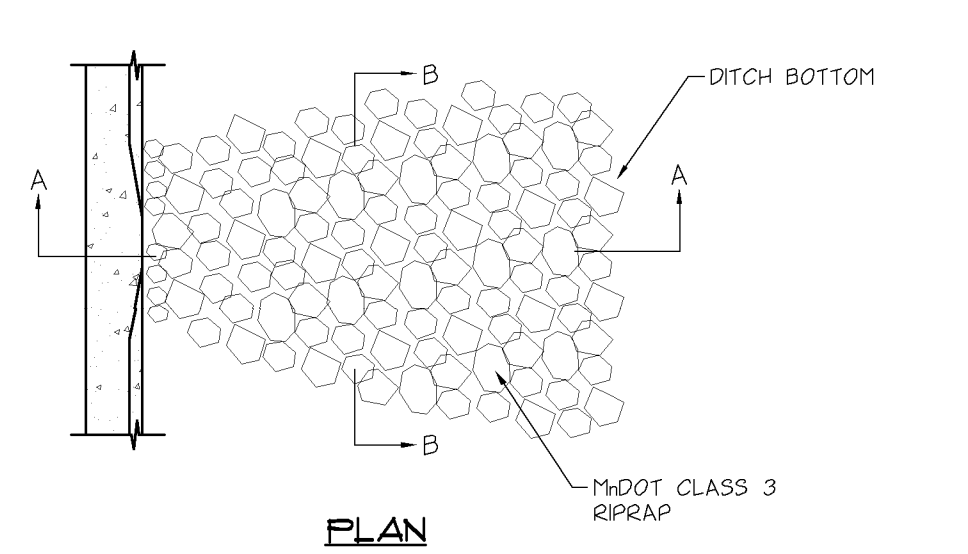
7 **ASPHALT PAVEMENT TRANSITION** NO SCALE



8 **CURB OUTLET** NO SCALE



9 **THICKENED BITUMINOUS EDGE AND CONCRETE SURFACE** NO SCALE



10 **RIPRAP AT CURB OPENING** NO SCALE

NOTE
FILTER BLANKET AND LAYER OF 500X MRAFI FABRIC OR EQUAL REQUIRED UNDER RIPRAP

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CNC

PROJECT MANAGER REVIEW

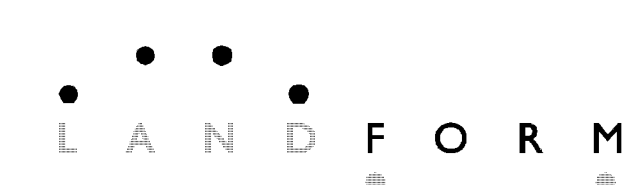
BY: [Signature] DATE: 04/03/13

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
STATION: [Blank] DATE: [Blank]
Registration No. 47165

BID DOCUMENTS

APRIL 03, 2013



From Site to Finish

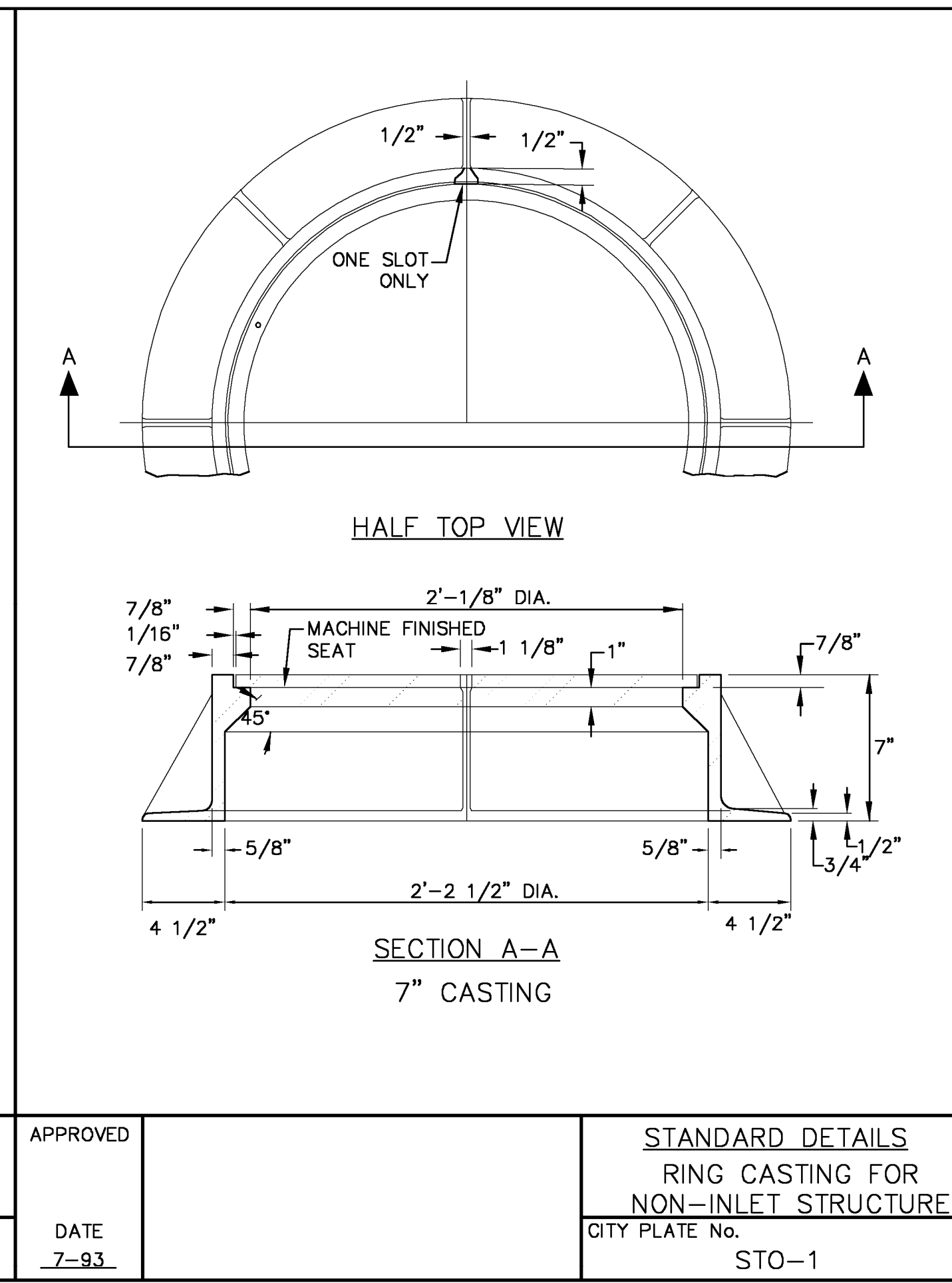
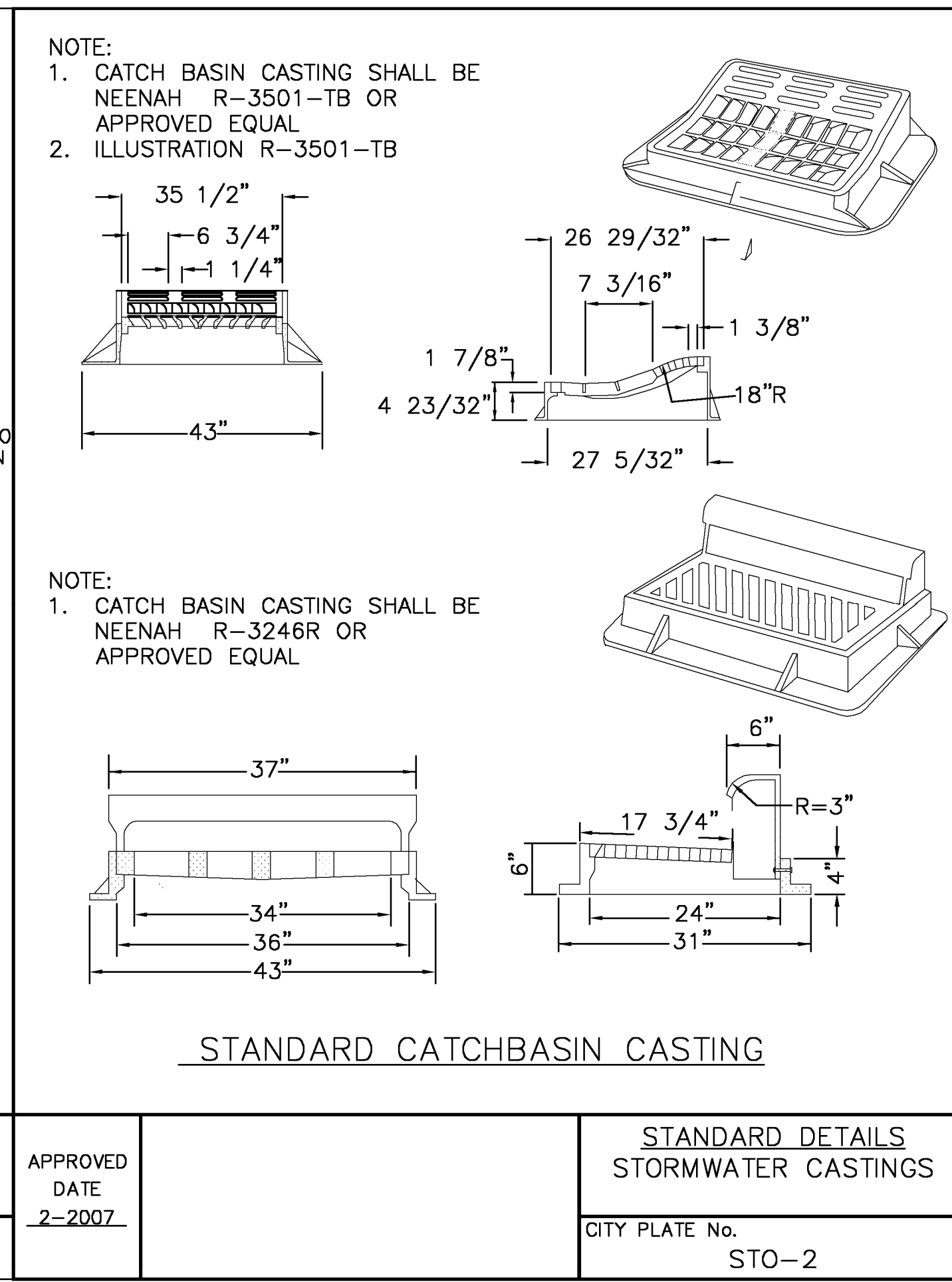
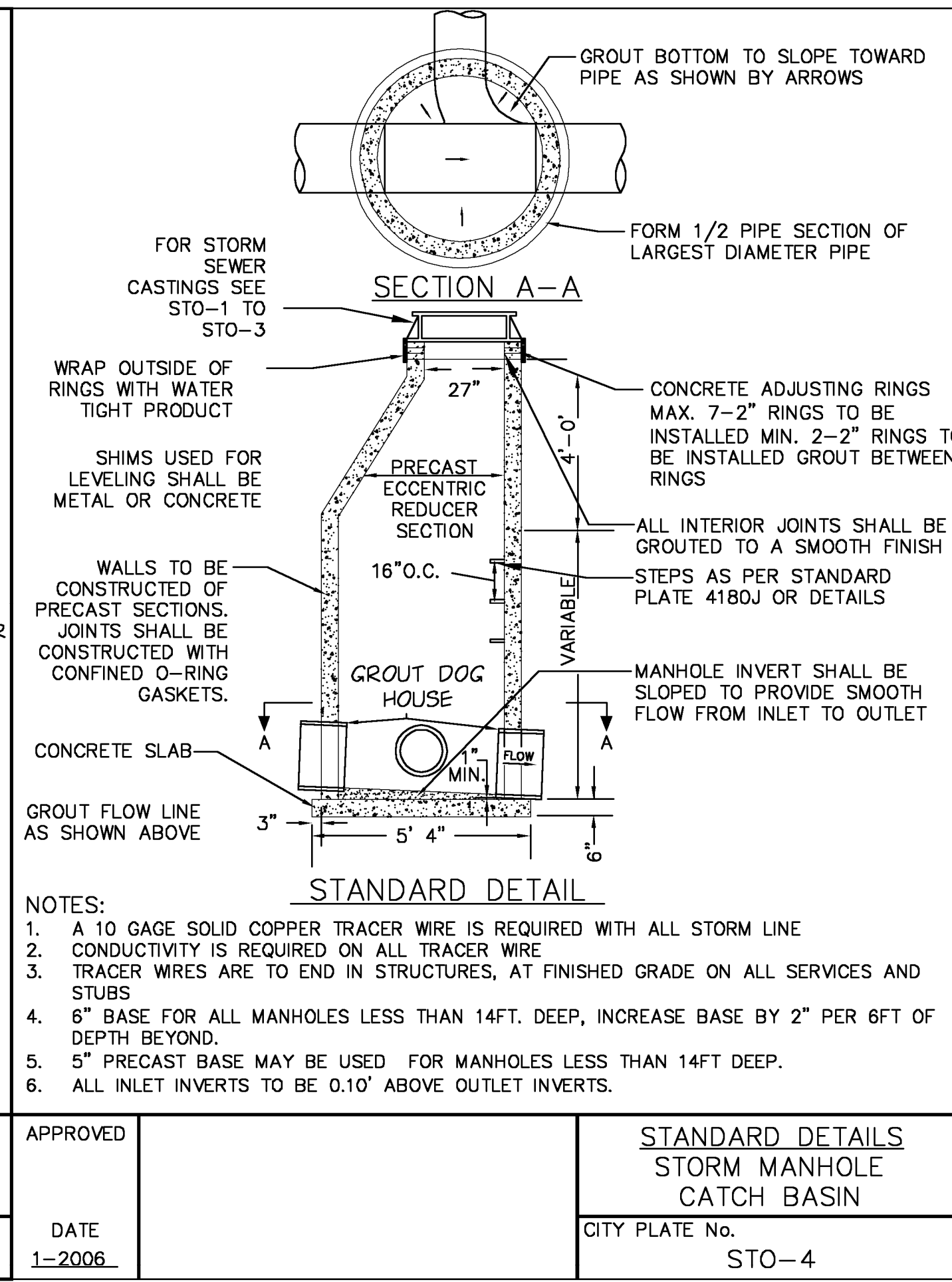
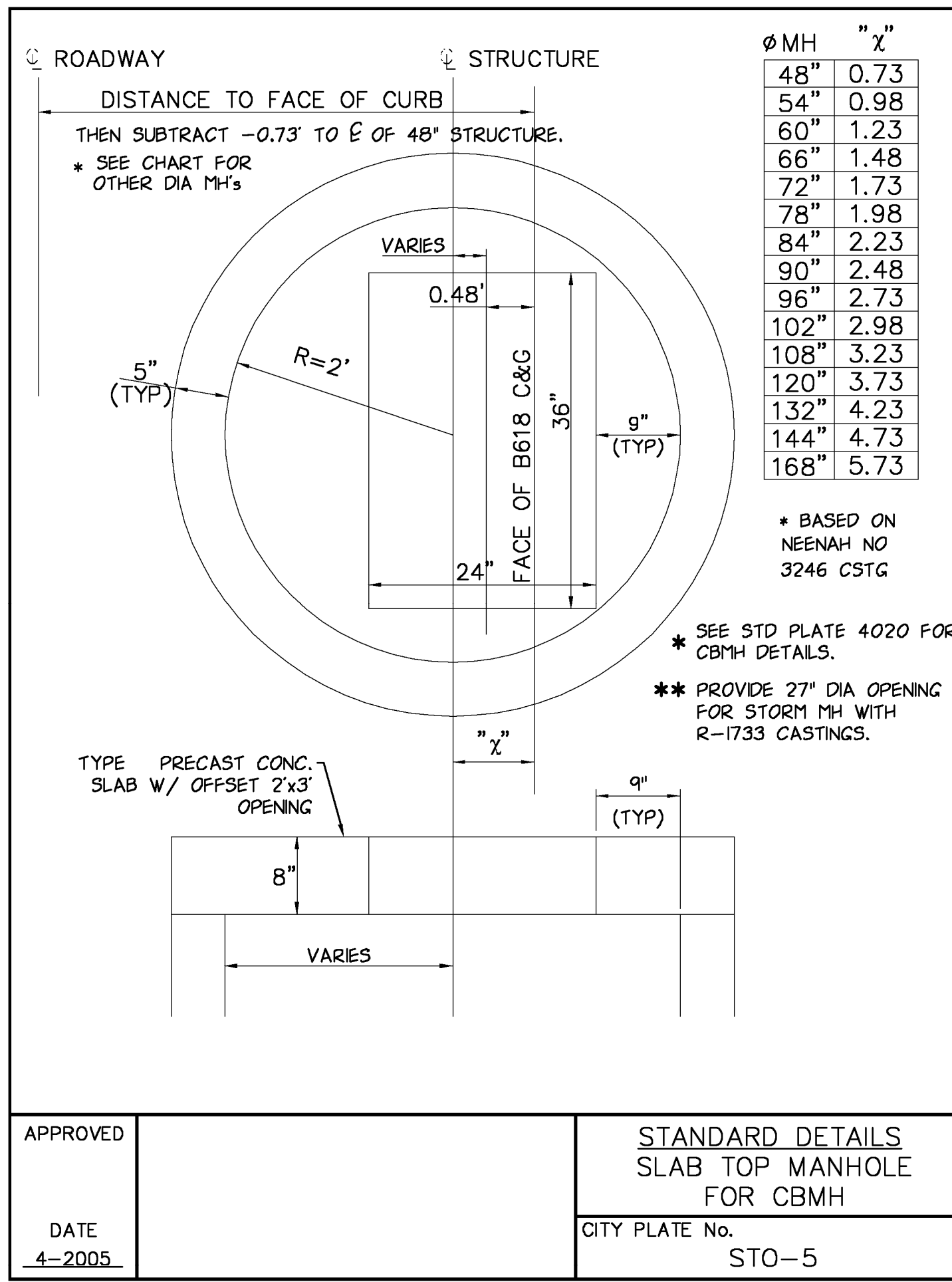
105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME: C701RAM025.DWG

PROJECT NO.: RAM12025

CIVIL CONSTRUCTION DETAILS

C7.1

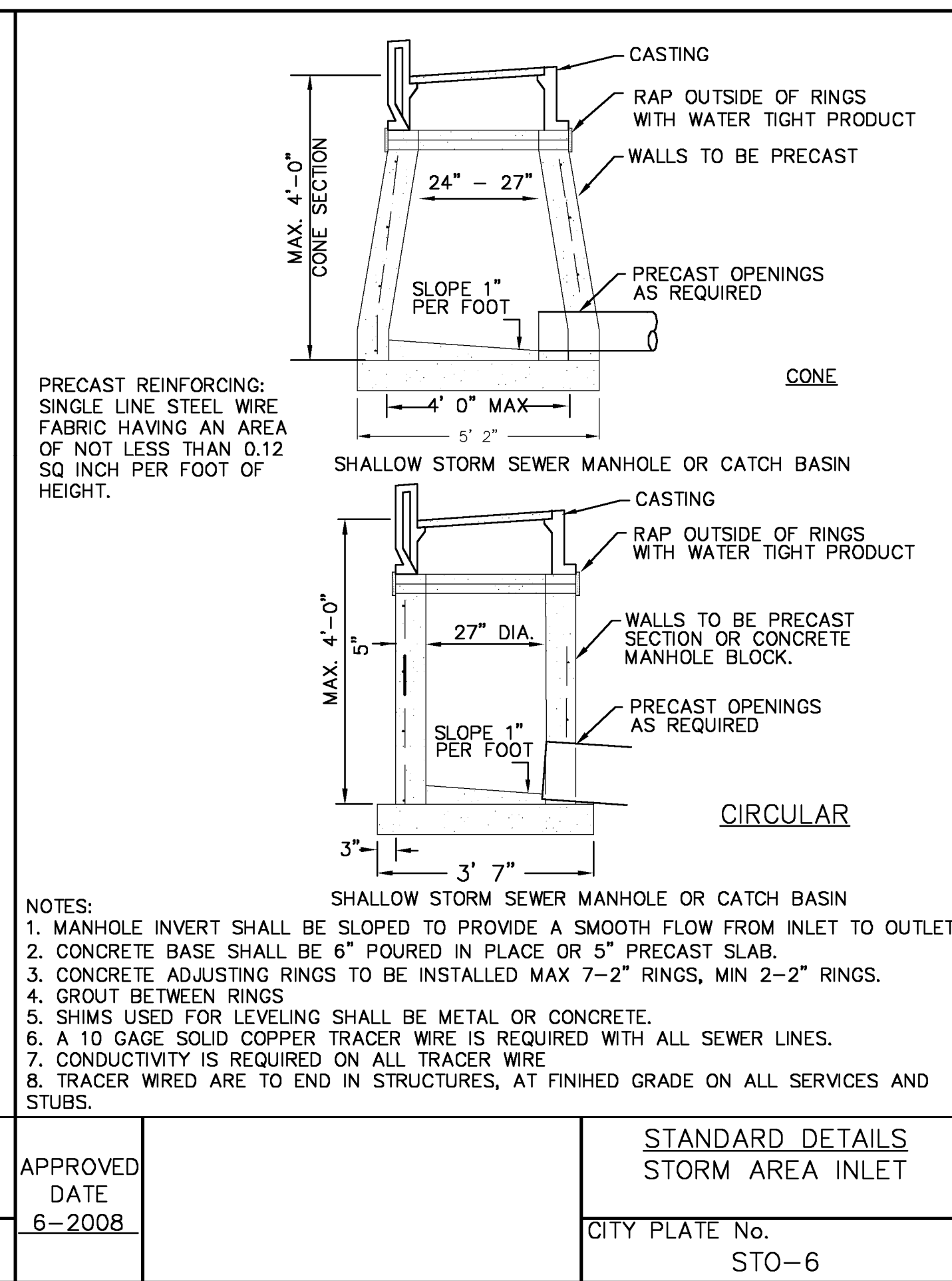
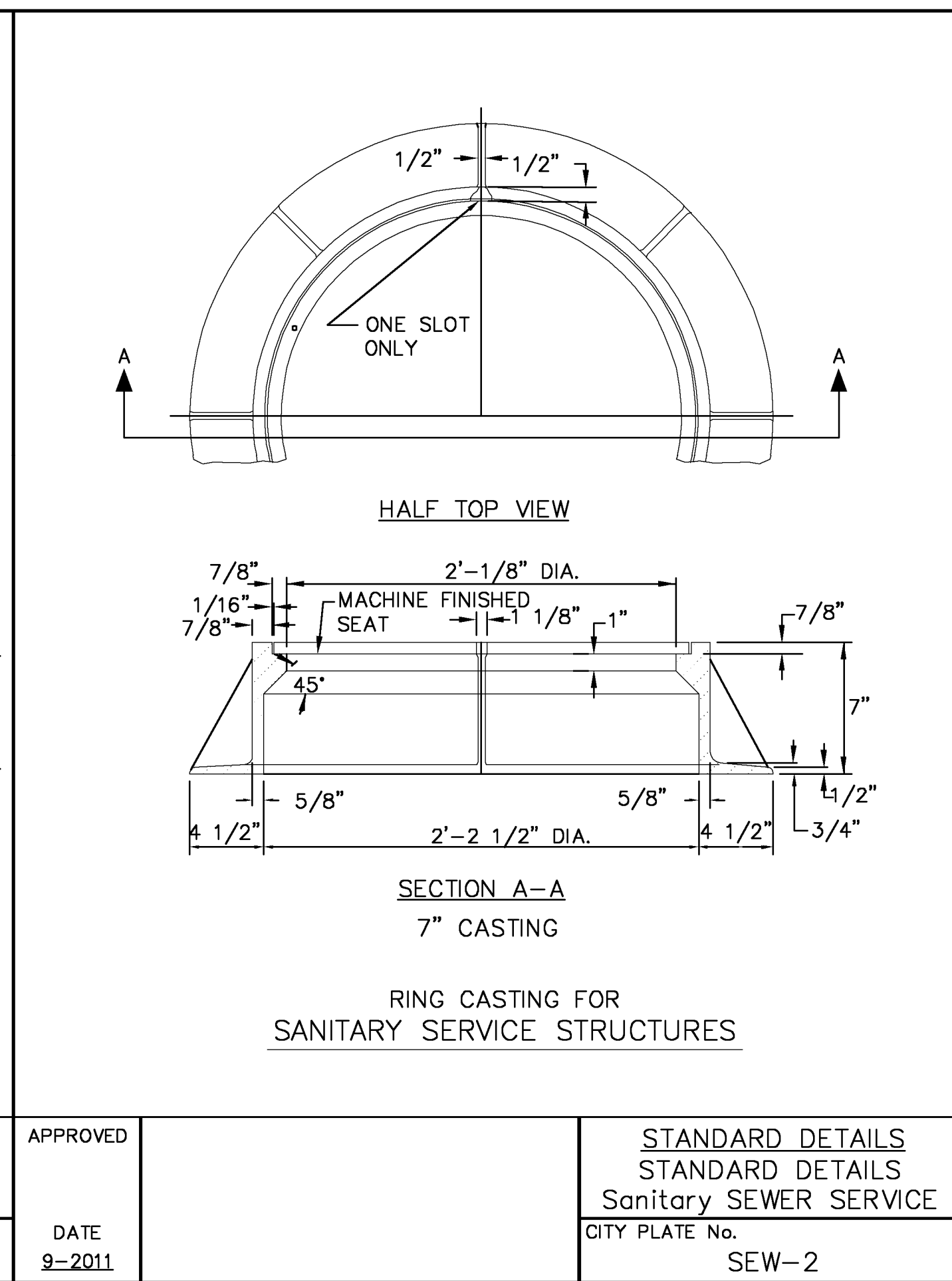
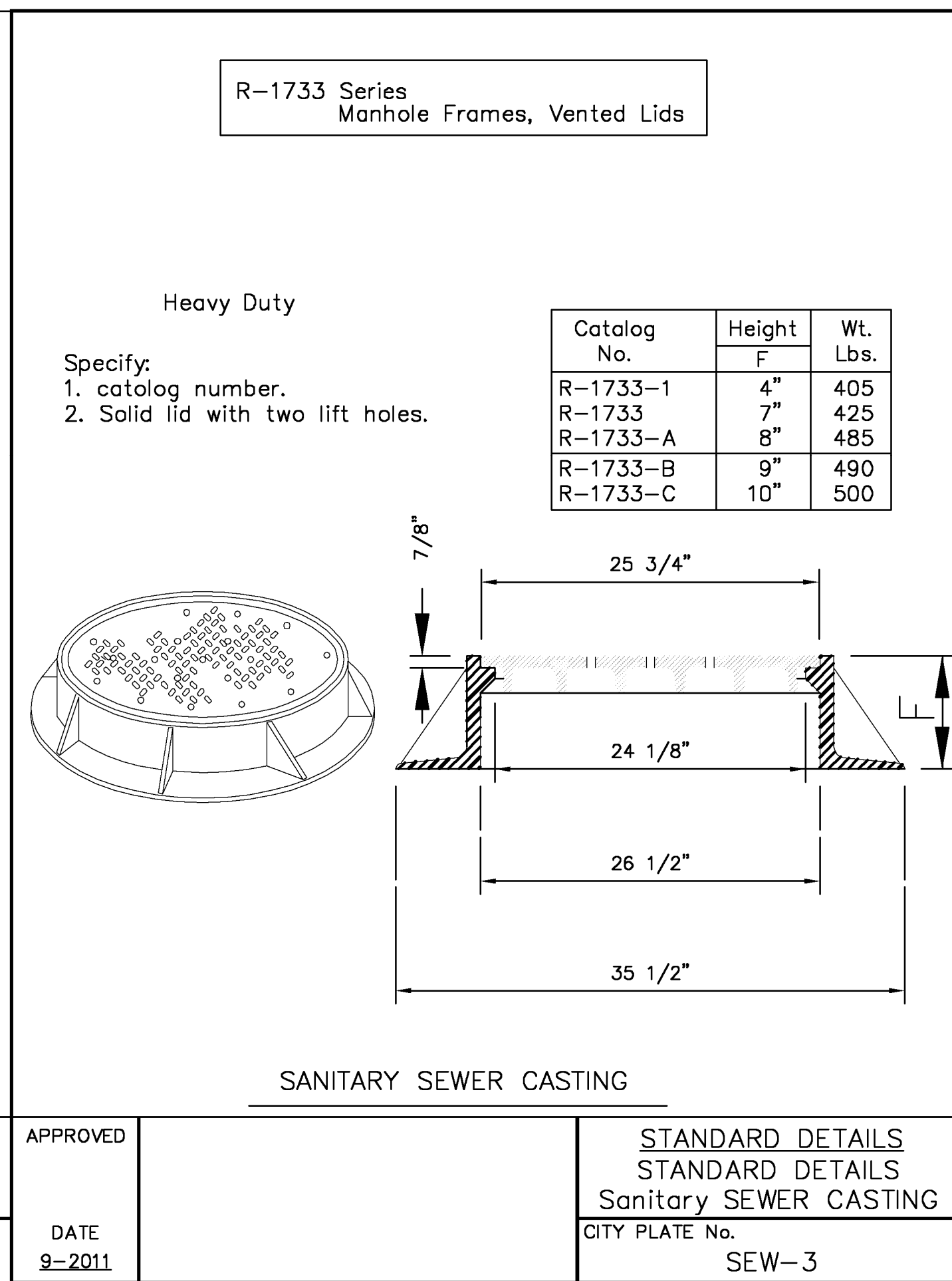
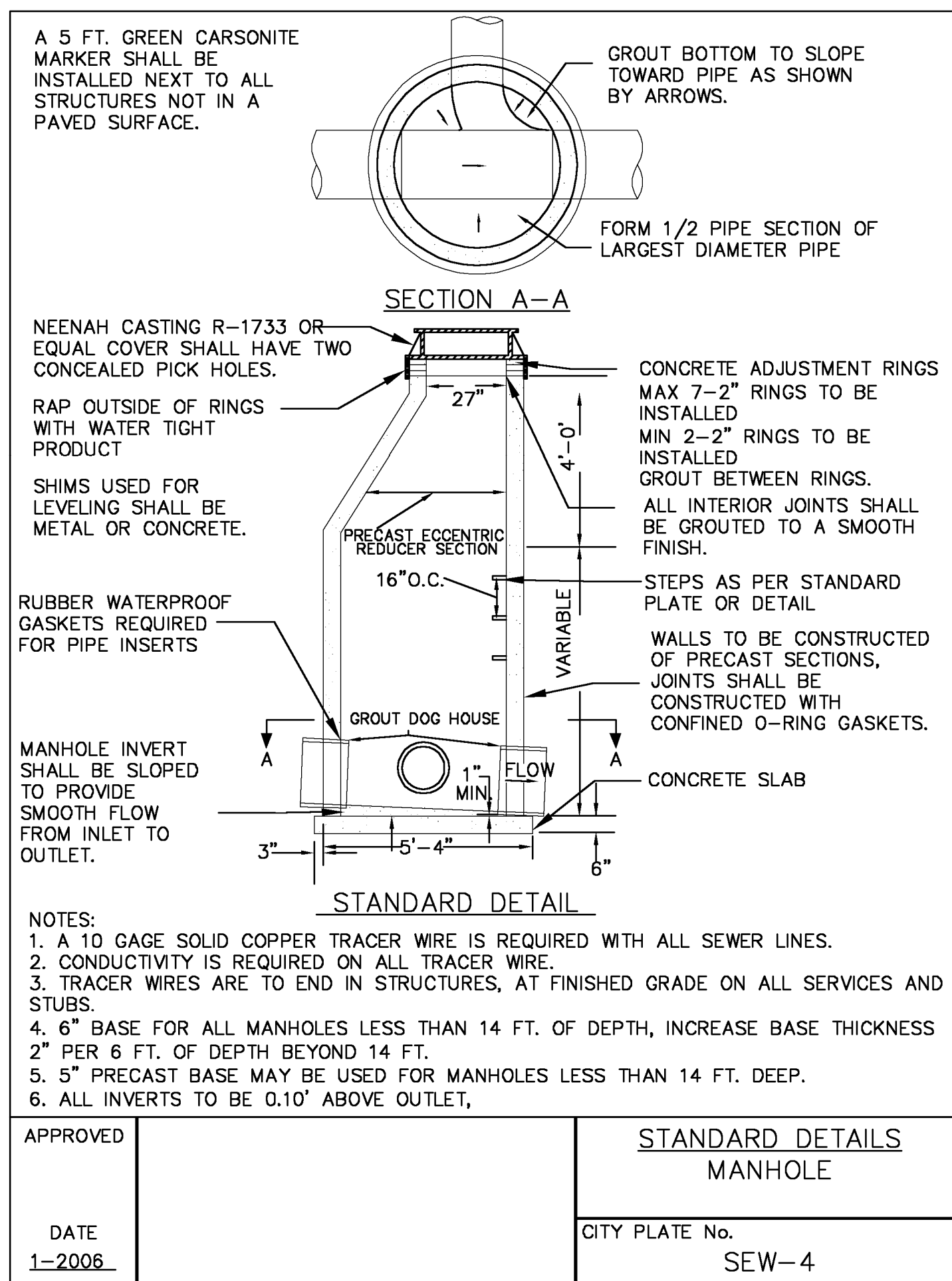


4 STORM SEWER CATCH BASIN TOP SLAB CITY OF RAMSEY NO SCALE

3 STORM SEWER CATCH BASIN CITY OF RAMSEY NO SCALE

2 STORM SEWER CATCH BASIN CASTING CITY OF RAMSEY NO SCALE

1 STORM SEWER MANHOLE RING CASTING CITY OF RAMSEY NO SCALE



8 SANITARY SEWER MANHOLE CITY OF RAMSEY NO SCALE

7 SANITARY SEWER CASTING CITY OF RAMSEY NO SCALE

6 SANITARY SEWER RING CASTING CITY OF RAMSEY NO SCALE

5 STORM SEWER SHALLOW CATCHBASIN CITY OF RAMSEY NO SCALE

DEVELOPER
RAMSEY HRA
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
TEL (763) 427-1410 - FAX (763) 427-5543

MUNICIPALITY
City of RAMSEY

PROJECT
SUNWOOD RETAIL INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA

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C72	CIVIL CONSTRUCTION DETAILS
C73	CIVIL CONSTRUCTION DETAILS
L21	LANDSCAPE PLAN
L22	IRRIGATION PLAN

REVISION HISTORY

DATE	REVISION	BY	CHK
03 APR 2013	ISSUED FOR BID		

PROJECT MANAGER REVIEW

DATE: 04/03/13

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

NOT FOR CONSTRUCTION

DATE: 4/16/13

BID DOCUMENTS
APRIL 03, 2013

LANDFORM

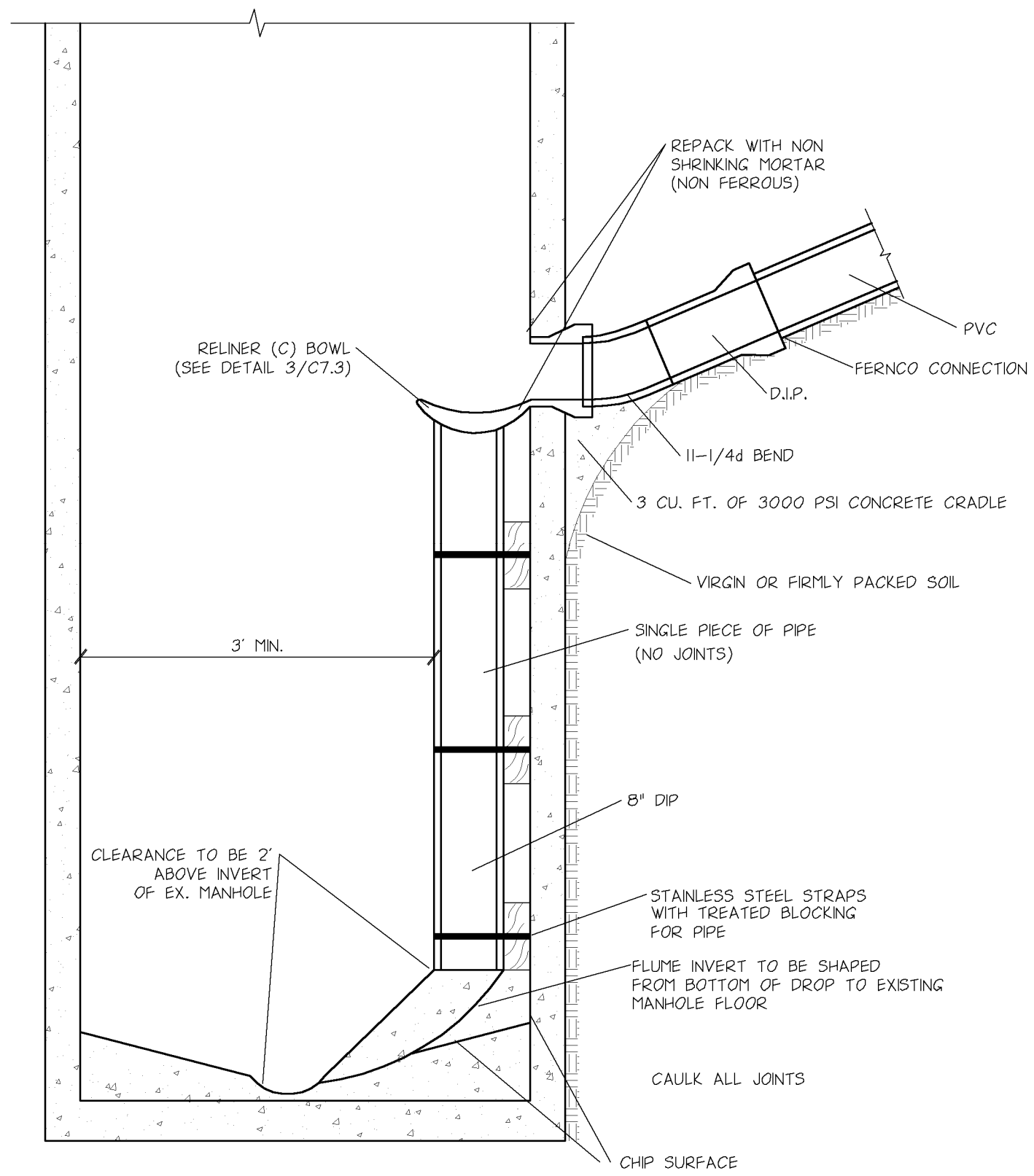
From Site to Finish

105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

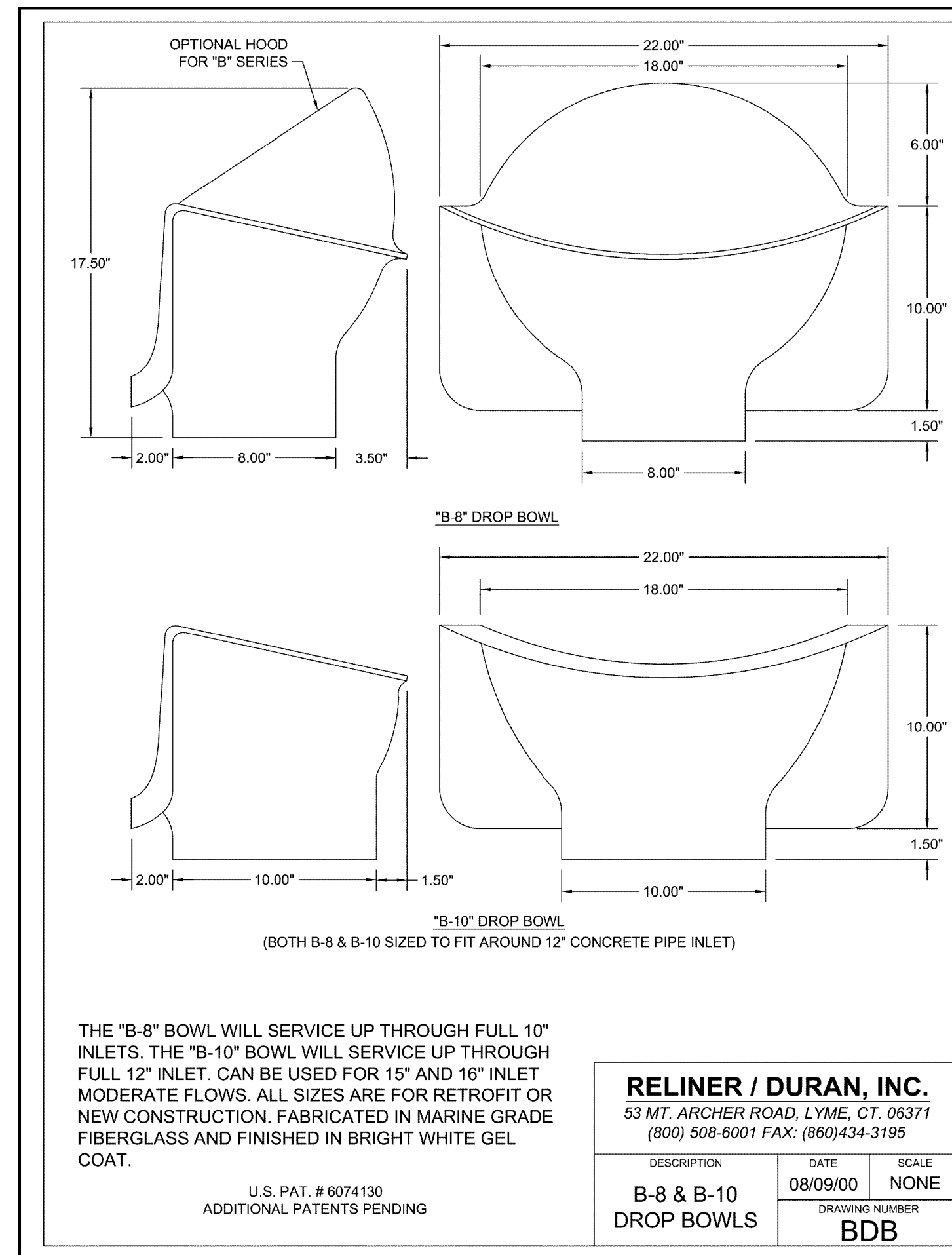
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PROJECT NO.: RAM12025

CIVIL CONSTRUCTION DETAILS
C7.2

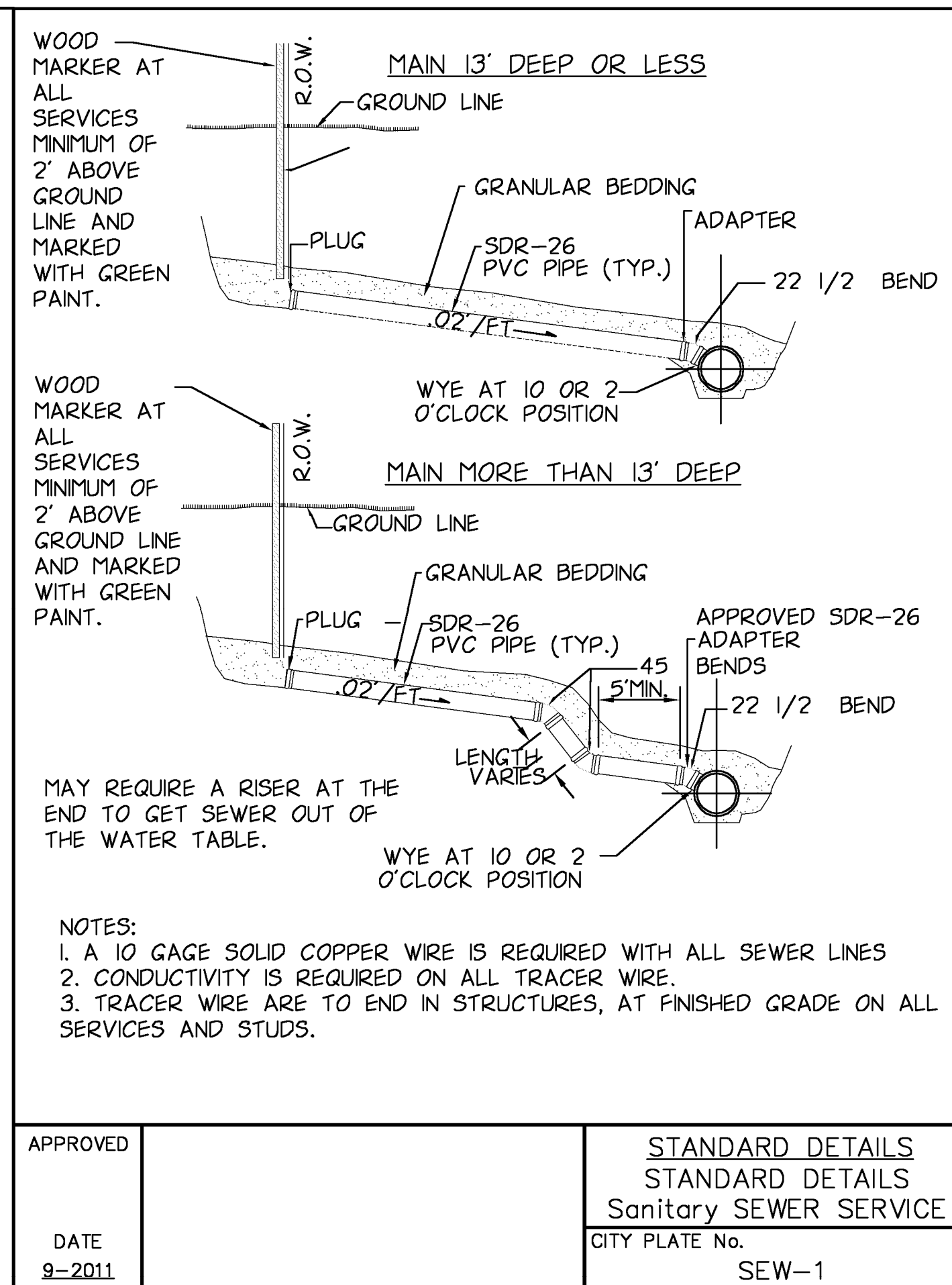
Landform and Site to Finish are service marks of Landform Professional Services, LLC.



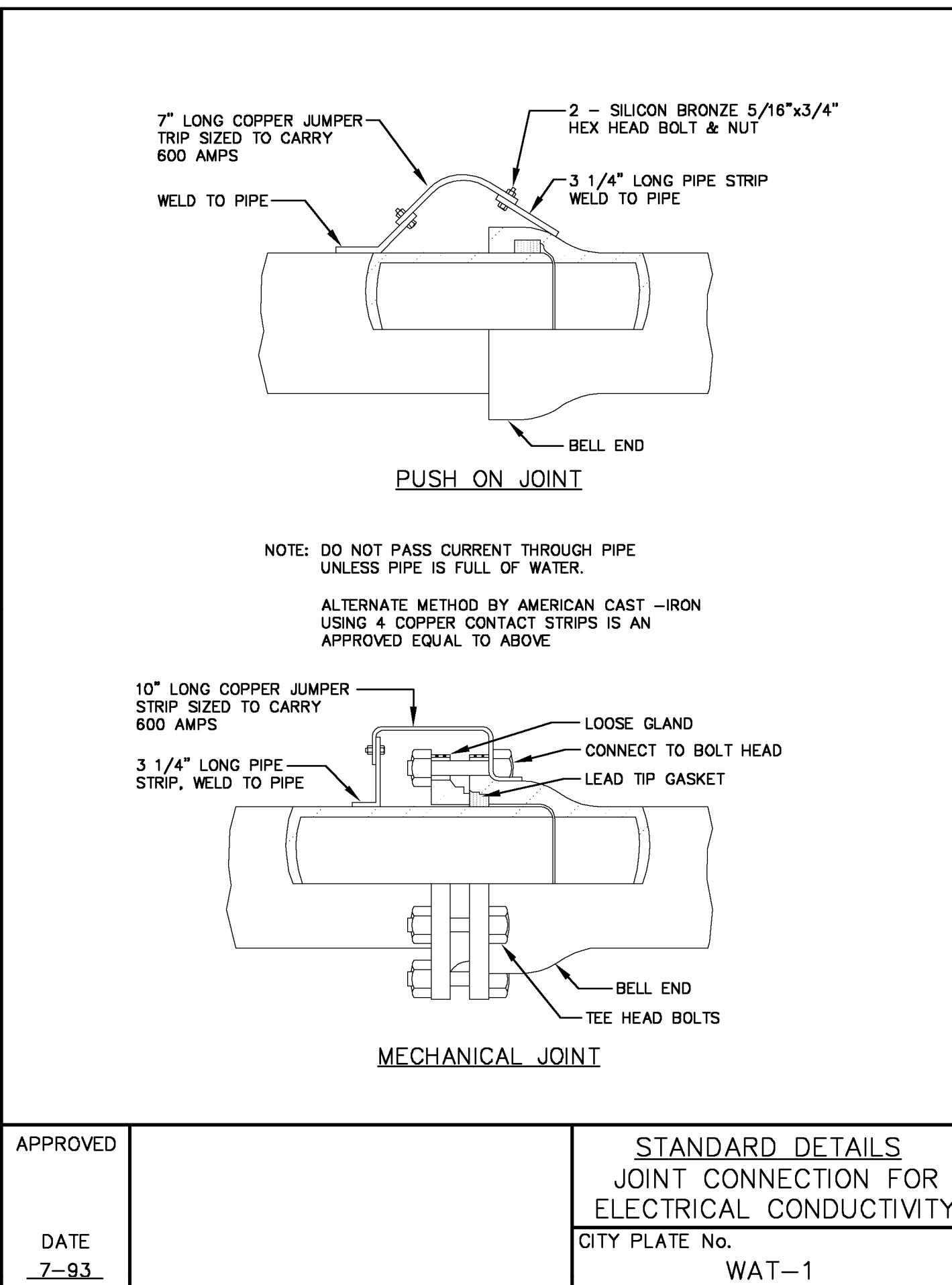
4 **INSIDE DROP MANHOLE** NO SCALE



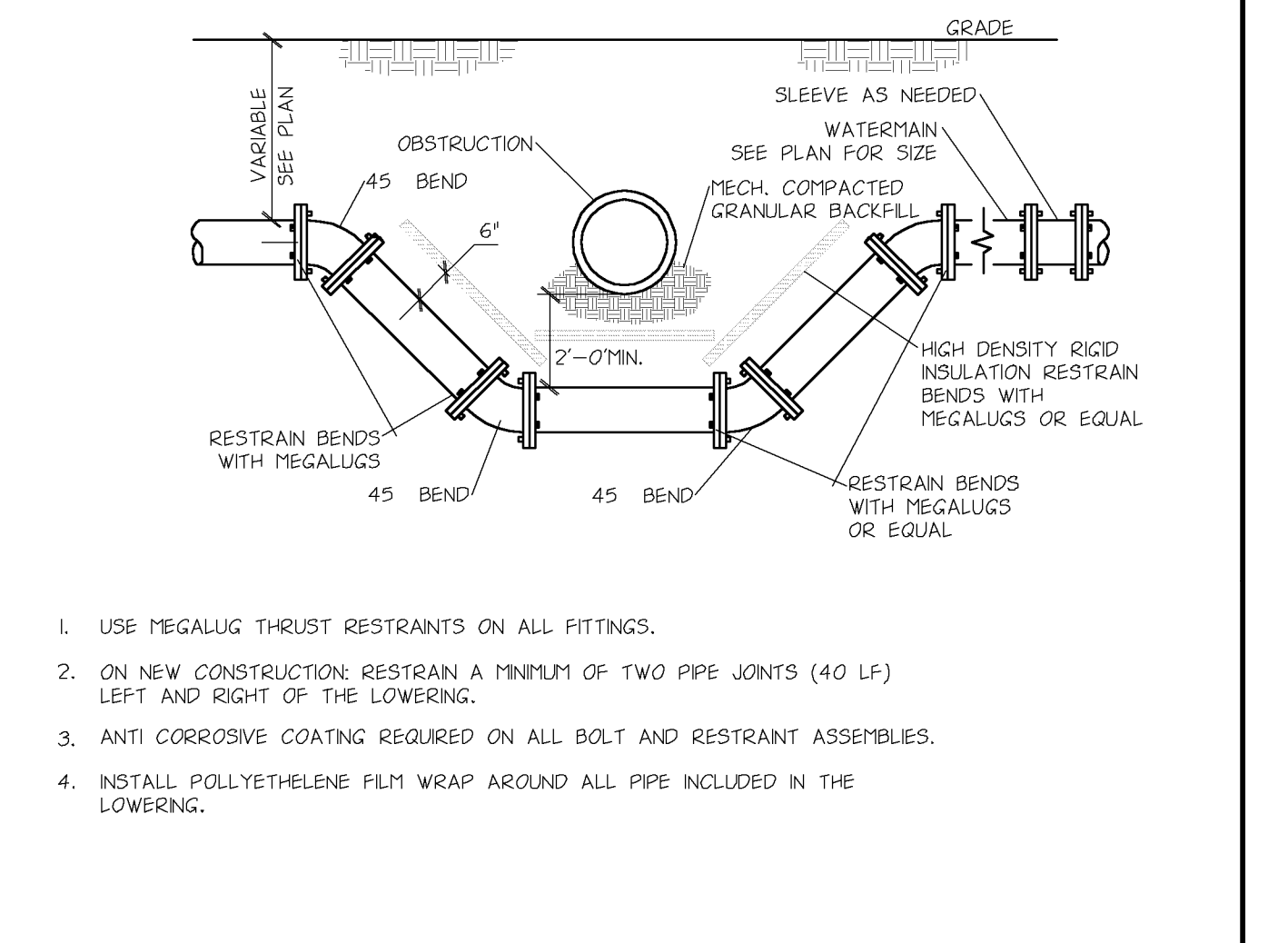
3 **SANITARY SEWER INSIDE DROP BOWL** NO SCALE



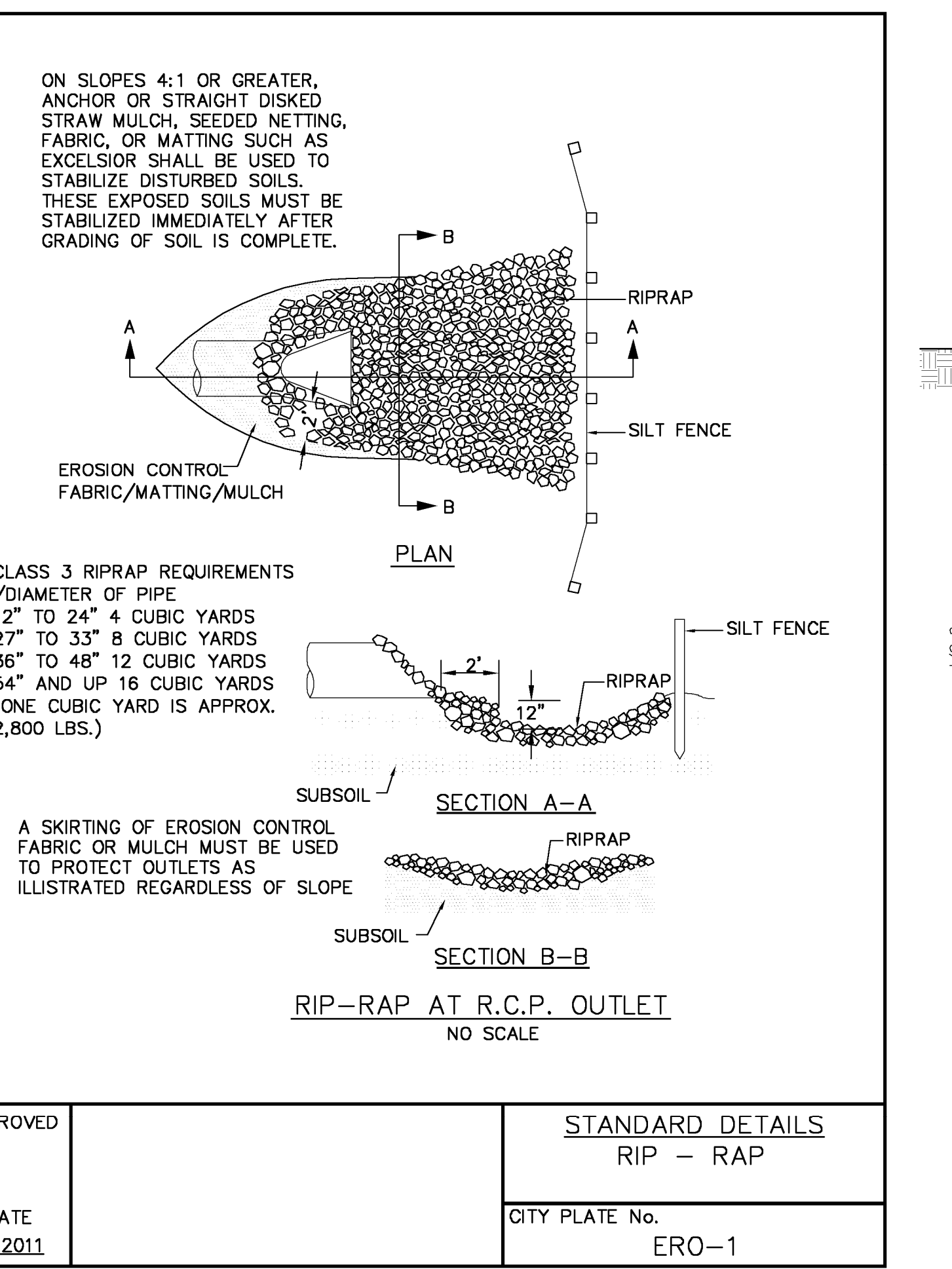
2 **SANITARY SEWER SERVICE** NO SCALE



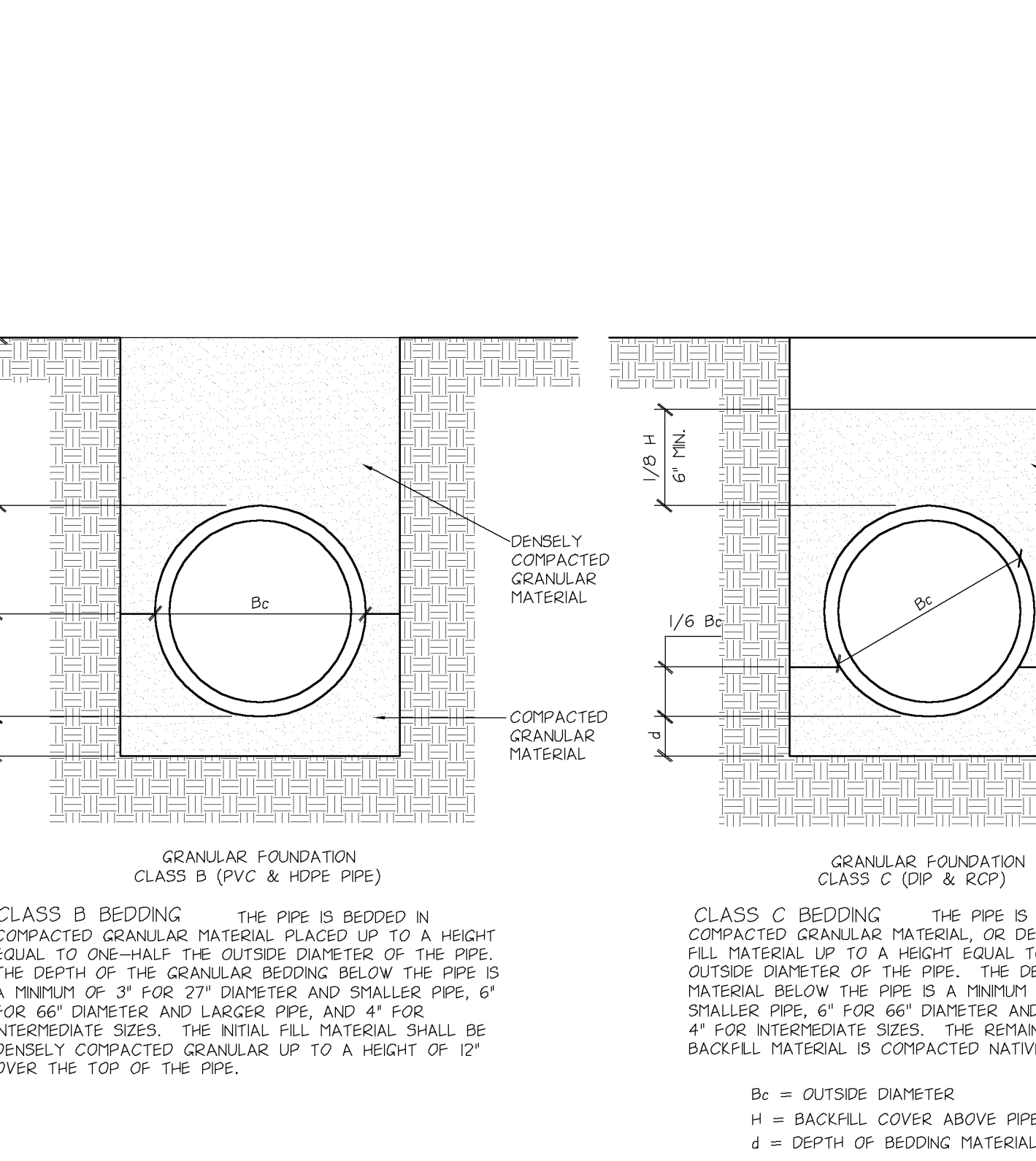
1 **WATERMAIN JOINT CONNECTION FOR CONDUCTIVITY** NO SCALE



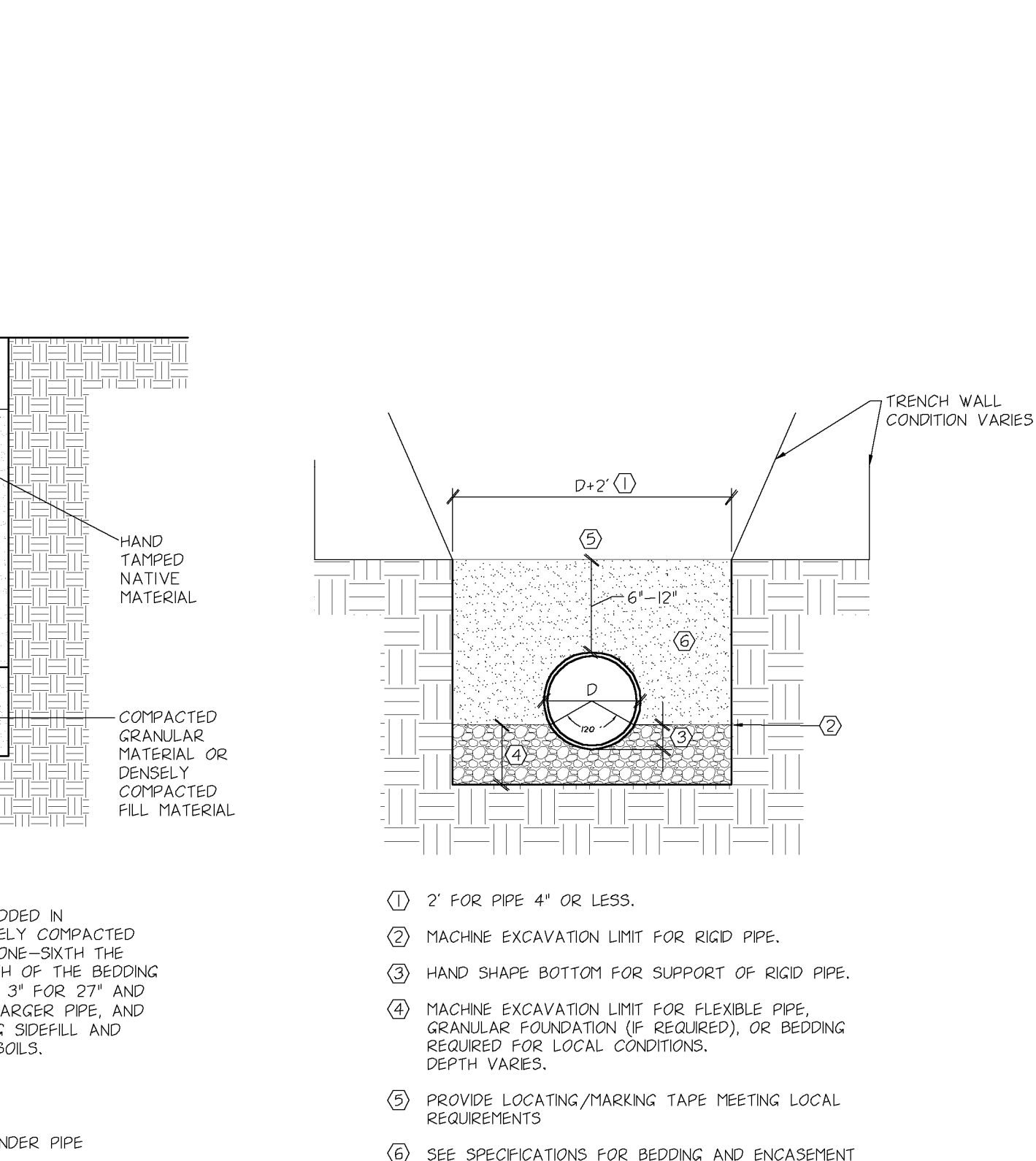
8 **WATERMAIN LOWERING W/ INSULATION** NO SCALE



7 **RIP-RAP** NO SCALE



6 **PIPE BEDDING** NO SCALE



5 **SITE UTILITY TRENCHING** NO SCALE

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C7.2	CIVIL CONSTRUCTION DETAILS
C7.3	CIVIL CONSTRUCTION DETAILS
L2.1	LANDSCAPE PLAN
L2.2	IRRIGATION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CNC

PROJECT MANAGER REVIEW

BY/REV	DATE	DATE 04-03-2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

NOT FOR CONSTRUCTION

STATION: _____ DATE: _____
Revision No. 47165

BID DOCUMENTS
APRIL 03, 2013

LANDFORM
From Site to Finish

105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME C703RAM025.DWG
PROJECT NO. RAM12025

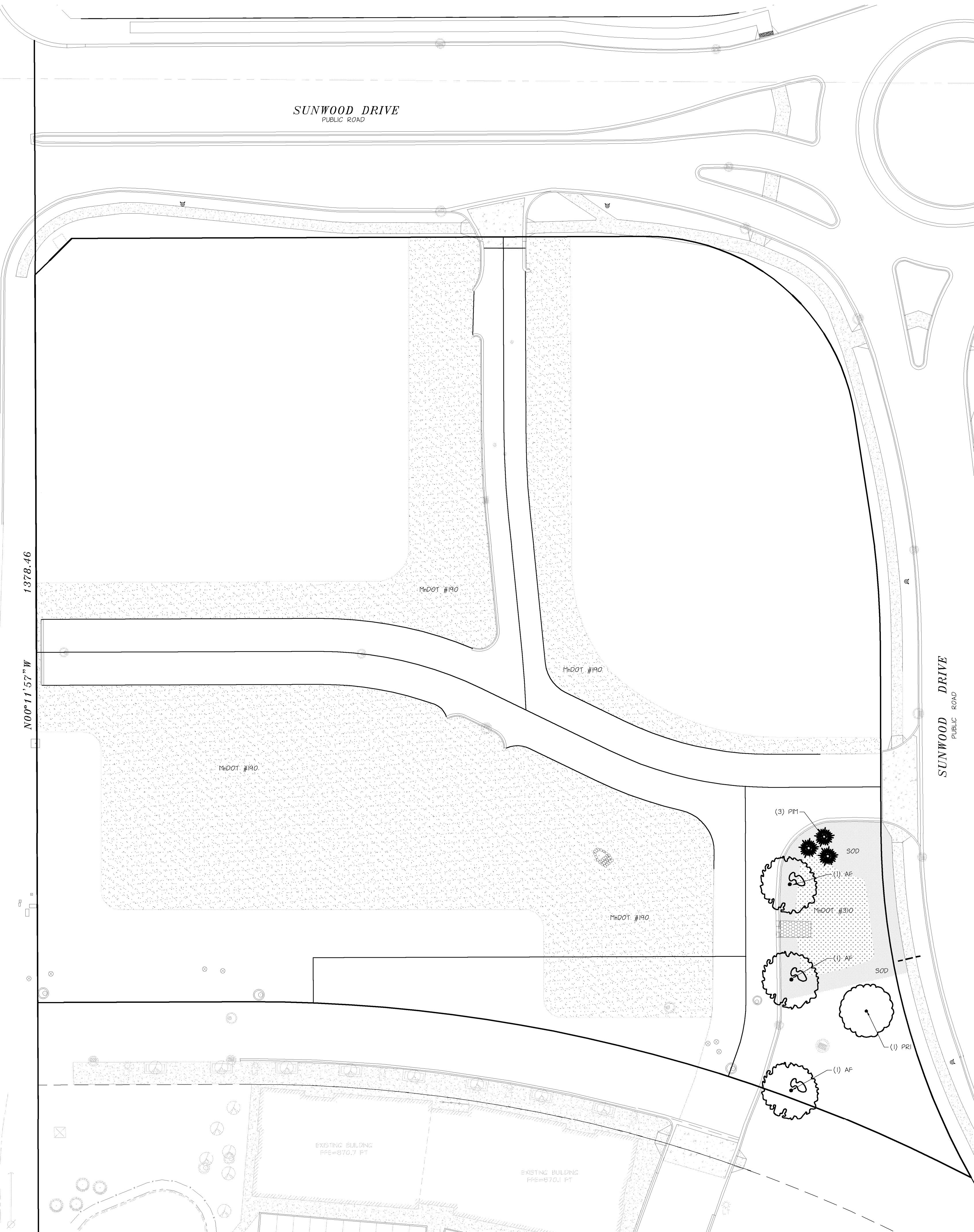
CIVIL CONSTRUCTION DETAILS
C7.3

COUNTY ROAD NO. 83 (ARMSTRONG BLVD.)
PUBLIC ROAD

1378.46
N00°11'57"W

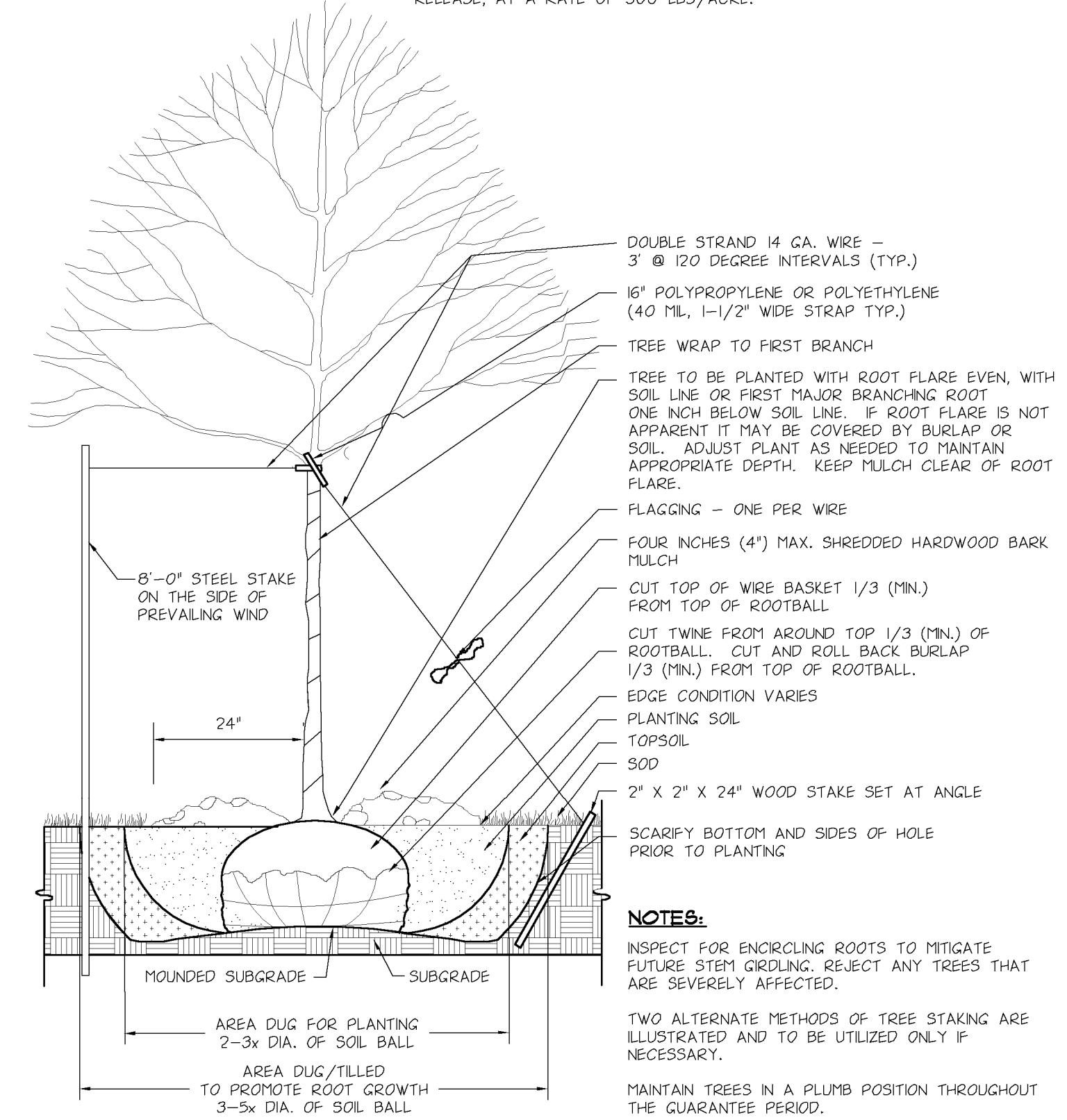
SUNWOOD DRIVE
PUBLIC ROAD

SUNWOOD DRIVE
PUBLIC ROAD



LANDSCAPE NOTES

- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
- COORDINATE INSTALLATION WITH CONTRACTORS PERFORMING RELATED WORK.
- PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND BE OF HARDY STOCK, FREE FROM DISEASE, INFESTATION, DAMAGE, AND DISFIGURATION. FOR DISCREPANCY BETWEEN THE NUMBER OF PLANTS ON THE SCHEDULE AND THE NUMBER SHOWN ON THE DRAWING, THE DRAWING SHALL GOVERN.
- PLANTING SOL SHALL CONSIST OF 4 PARTS TOPSOIL TO 1 PART PEAT HUMUS, WITH 3 POUNDS OF COMMERCIAL FERTILIZER ADDED PER CUBIC YARD.
- ON ALL AREA'S DELINEATED TO RECEIVE SOD, SPREAD A MINIMUM OF 6 INCHES OF TOPSOIL AND FINE GRADE AREAS PRIOR TO PLACING SOD.
- PLACE PLANTS ACCORDING TO LAYOUT WITH PROPER NOMINAL SPACING.
- SEE DETAILS FOR DEPTH OF PLANTING SOL.
- INSTALL A 4-FOOT DIAMETER SHREDDED HARDWOOD BARK MULCH DISH AROUND TREES NOT PLACED WITHIN A SHRUB OR PERENNIAL PLANTING BED, UNLESS NOTED OTHERWISE.
- TOPSOIL, SOD AND SEED MIX TO INCLUDE COMMERCIAL GRADE FERTILIZER. TURF AREA'S INCLUDING ALL M:DOT #190 MIX SHALL INCLUDE M:DOT FERTILIZER TYPE 1, AREAS OF M:DOT #310 MIX SHALL INCLUDE M:DOT FERTILIZER TYPE 3, (10-20-20) SLOW RELEASE, AT A RATE OF 300 LBS/ACRE.



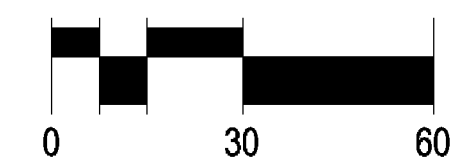
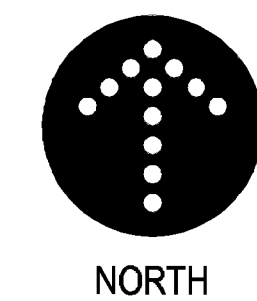
1 DECIDUOUS TREE PLANTING

NO SCALE

PRELIMINARY PLANT SCHEDULE

SYMBOL	QUANTITY	KEY	COMMON NAME	SCIENTIFIC NAME	PLANTING SIZE	ROOT COND.	MATURE SIZE
DECIDUOUS TREES							
	1	PR1	PRINCETON ELM	ULMUS AMERICANA 'PRINCETON'	2.5" CAL.	B&B	80'H X 60'W
	3	AF	AUTUMN BLAZE MAPLE	ACER X FREMANII 'JEFFERESD'	2.5" CAL.	B&B	50'H X 40'W
CONIFEROUS TREES							
	3	PM	BLACK SPRUCE	PICEA MARIANA	6' HT.	B&B	50'H X 20'W

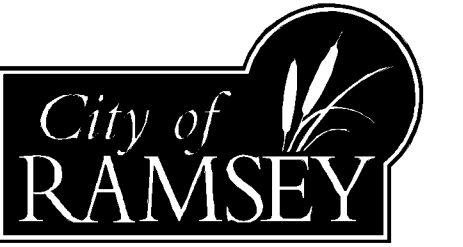
- SOD
- M:DOT NATIVE PRAIRIE SEED MIX #310 @ RATE OF 82 LBS/ACRE
- M:DOT SEED MIX 190 @ RATE OF 60 LBS/ACRE



DEVELOPER

RAMSEY HRA
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
TEL (763) 427-1410 - FAX (763) 427-5543

MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

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C73	CIVIL CONSTRUCTION DETAILS
L21	LANDSCAPE PLAN
L22	IRIGATION PLAN

REVISION HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

PROJECT MANAGER REVIEW

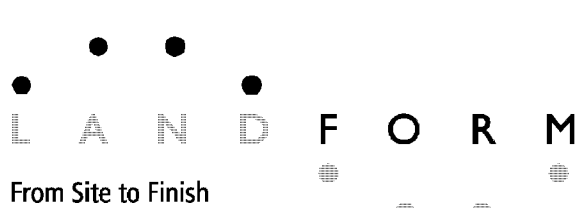
BY: [Signature] DATE: 04/03/2013

CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Registration No: 47165 DATE: _____

IF THE SIGNATURE, SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND PERMITTED READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL COPIES.

**BID DOCUMENTS
APRIL 03, 2013**



105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

FILE NAME L201RAM025.DWG

PROJECT NO. RAM12025

LANDSCAPE PLAN

L2.1



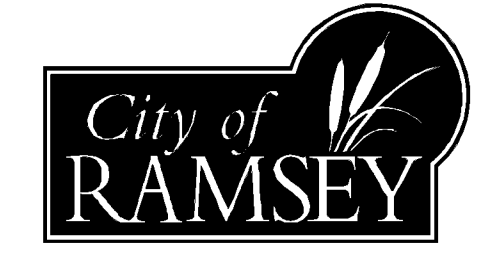
IRRIGATION NOTES

1. REVIEW AND COORDINATE WITH EXISTING SUNWOOD IRRIGATION SYSTEM. COORDINATE WITH CITY IRRIGATION STAFF ON LOCATION, CONTROLS AND SIZES. CONNECT INTO EXISTING CITY SYSTEM UNTIL OUTLOT B IS DEVELOPED.
2. HUNTER ROOT WATERING SYSTEM IS TO BE INSTALLED NEAR THE ROOTBALL OF THE TREE. THE ROOT WATERING SYSTEM IS TO INCLUDE THE BASIC ROOT WATERING SYSTEM WITH 1/2" SWING ARM, GRATE, SAND SOCK, AND MODIFICATION OF THE BUBBLER TO DRIP. MODIFICATION OF BUBBLER INCLUDES: REMOVING BUBBLER, RETROFIT A DRIP CONNECTION, MICRO VALVES (CONTROL WATER), MICROTUBING, AND DRIP EMITTERS. DRIP EMITTERS TO WATER ROOTBALL OF TREE. PLACE THREE DRIP EMITTERS IN TRIANGULAR SPACING. DRIP EMITTER FLOW TO BE GREATER THAN DRIFLINE AND IDENTIFIED AND APPROVED IN THE FIELD. INTENT OF SYSTEM IS TO PROVIDE WATER CONTROL OF THE TREE SEPARATE FROM THE DRIFLINE, WITH THE ABILITY TO SHUT OFF TREE EMITTERS WITHOUT IMPACTING DRIFLINE OPERATION. THE BASIC ROOT WATERING SYSTEM AND GRATE IS TO SERVE AS AN AIR RELIEF PIPE, THAT WILL ALLOW OBSERVATION OF THE WATER TABLE WITHIN THE PLANTING BED.
3. IRRIGATION SYSTEM IS DIAGNOSTIC. CONTRACTOR TO VERIFY AND DESIGN PER ACTUAL PRESSURE, PER LOCAL CODES, AND PER SITE REQUIREMENTS. FIELD VERIFY LOCATION OF COMPONENTS WITH ACTUAL CONDITIONS PRIOR TO INSTALLATION, ADJUST AS NEEDED FOR COMPLETE COVERAGE. SYSTEM TO INCLUDE ALL PLUMBING AND ELECTRICAL, INCLUDING CONDUIT, SLEEVING, AND WEATHER-PROOF ENCLOSURES. SYSTEM SHALL BE COMPLETE. CONTRACTOR TO PROVIDE SHOP DRAWINGS, DESIGN PRESSURE DESIGN CALCULATIONS, AND RELATED PRODUCT SHEETS FOR OWNER OR LANDSCAPE ARCHITECT APPROVAL. CONTRACTOR TO PROVIDE TWO "AS-BUILT" DRAWINGS OF IRRIGATION SYSTEM AT THE COMPLETION OF THE PROJECT. IRRIGATION PER PLANS ARE PART OF A LARGER SYSTEM, SEE PLANS FOR FURTHER INFORMATION. COORDINATE AND MODIFY IRRIGATION AS NEEDED TO INTEGRATE INTO PRIMARY SYSTEM.
4. ALL PIPE 1/2" OR GREATER SHALL BE SDR 26 CLASS 200 FOR MAINLINE AND CLASS 150 FOR LATERAL LINE PVC PIPE (DO NOT EXCEED 35 GPM FOR 1/2" AND 50 GPM FOR 3/4"). ALL PIPE 1/2" OR 1" SHALL BE 100 POLY PIPE AS INDICATED (DO NOT EXCEED 13 GPM FOR 1" AND 22 GPM FOR 1.25"). PIPE SIZE TO BE IDENTIFIED BY CONTRACTOR PER ZONE REQUIREMENTS. LOCATE IRRIGATION PIPE AWAY FROM PLANT MATERIAL.
5. ALL WIRING, BACKFLOW PREVENTOR, AND PLUMBING AS PER LOCAL CODE. WATER CONNECTION BY MECHANICAL AND UTILITY CONTRACTOR. VERIFY AND ADD BOOSTER PUMP AS REQUIRED.
6. ALL VALVES AND QUICK COUPLERS SHALL BE LOCATED IN VALVE BOXES SIZED FOR NORMAL MAINTENANCE, FLUSH WITH FINAL GRADE. PROVIDE (2) QUICK COUPLER KEYS AND HOSE SWIVELS.
7. THE IRRIGATION SYSTEM SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATION.
8. FIRST YEAR WINTERIZATION AND SPRING START UP OF SYSTEM SHALL BE PERFORMED BY IRRIGATION CONTRACTOR.
9. MINIMUM 4" PVC SCHEDULE 40 SLEEVING SHALL BE REQUIRED UNDER ALL WALKS AND ROADWAYS. PROVIDE 12" LENGTH OF #3 REBAR AT EACH TEMPORARILY SEALED END FOR FUTURE LOCATION. EXTEND SLEEVING AT LEAST 2 FEET BEYOND EDGE OF PAVEMENT. PROVIDE PVC STAND PIPE FOR LOCATING ENDS OF SLEEVING. PROVIDE TWO SIZES LARGER THAN PIPE SIZE. PROVIDE ADDITIONAL SLEEVING FOR WIRING, AS NEEDED.
10. BIDDING CONTRACTORS SHOULD BECOME THOROUGHLY FAMILIAR WITH ALL FACETS OF THE PROPOSED IRRIGATION SYSTEM. FAILURE TO CLARIFY MISUNDERSTANDINGS, OR INTENT OF THESE DRAWINGS AND SPECIFICATIONS BEFORE SUBMITTAL OF BID SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE IRRIGATION CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES AND SHALL TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB UTILITIES OR EXISTING CONDITIONS. CONTRACTOR SHALL REPAIR/RESTORE ANY DAMAGE INVOLVING IRRIGATION INSTALLATION.
12. SOME AREAS MAY REQUIRE RISER EXTENSIONS FOR SPRINKLERS OR A FIXED RISER WITH A SHRUB HEAD OR SHRUB ADAPTOR TO OBTAIN PROPER COVERAGE. LARGE ROTOR NOZZLES = #4-FULL, #3-3/4, #2-1/2, #1-1/4. SMALL ROTOR NOZZLES = #3-FULL, #2-3/4, #1-1/2, #075-1/4. ADJUST AS NEEDED. SPRAY HEADS IN TURF AREAS TO BE 6" POP-UPS AND IN LANDSCAPE BEDS TO BE 12" POP-UPS.
13. ALL DRIP VALVES, FILTERS, AND PRESSURE REGULATORS SHALL BE IN A VALVE BOX. DRIP LINE SHALL BE LOOPED WITH CROSS CONNECTORS (25' MAXIMUM SPACING), NO DEAD ENDS. LOCATE PER PLANT MATERIAL. PLACE EMITTERS AT EACH PLANT AND ON HIGH SIDE IN SLOPED CONDITIONS. USE BLANK TUBING IN SLEEVES OR IN AREAS WHERE THERE IS NO PLANT MATERIAL. PLACE AIR RELIEF VALVES AT HIGH POINT AND FLUSH VALVES AT ENDS OF ZONE. PROVIDE 3/4" VALVE FOR DRIP ZONES OF 13 GPM OR LESS. USE 1" VALVE FOR DRIP ZONES GREATER THAN 13 GPM. EACH DRIP ZONE SHALL HAVE AN OPERATION INDICATOR, LOCATED WITHIN THE PLANT MATERIAL FOR FILTERED VISIBILITY. VERIFY LOCATION WITH OWNER.
14. PROVIDE 1" VALVES FOR SPRAY AND ROTAR ZONES FOR 25 GPM OR LESS, AND 1.5" VALVE FOR ZONES GREATER THAN 26 GPM.
15. CONTRACTOR TO SCHEDULE AND PROGRAM CONTROLLER AND VALVES FOR APPROPRIATE LANDSCAPE WATER REQUIREMENTS. VERIFY WITH CITY AS TO TIME AND SPECIFIC REQUIREMENTS.

DEVELOPER

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MUNICIPALITY



PROJECT

**SUNWOOD RETAIL
INITIAL IMPROVEMENTS
RAMSEY, MINNESOTA**

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REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	REVISION	REVIEW
03 APR 2013	ISSUED FOR BID	CDC

PROJECT MANAGER REVIEW

BY REF	DATE
	04/03/2013

CERTIFICATION

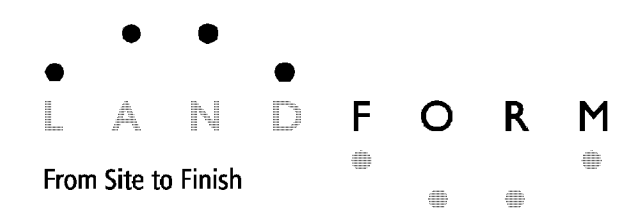
I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

NOT FOR CONSTRUCTION

DATE: 4/3/2013

IF THE SIGNATURE SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND PERMITTED READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL COPIES.

**BID DOCUMENTS
APRIL 03, 2013**



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FILE NAME L202RAM025.DWG
PROJECT NO. RAM12025

IRRIGATION PLAN

L2.2

