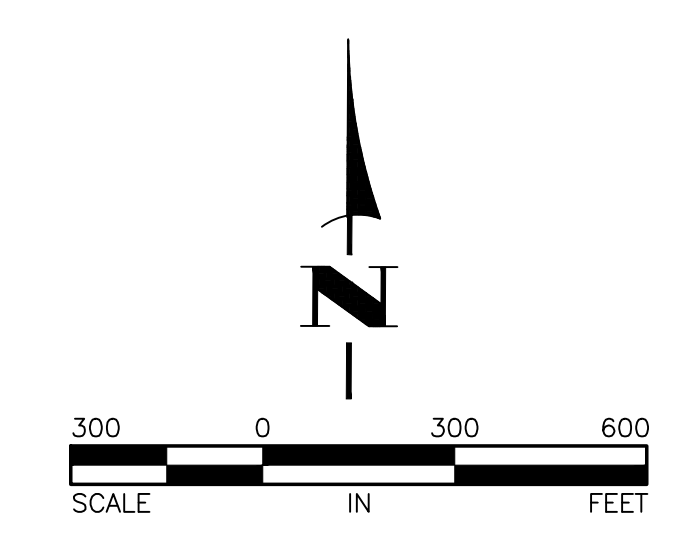
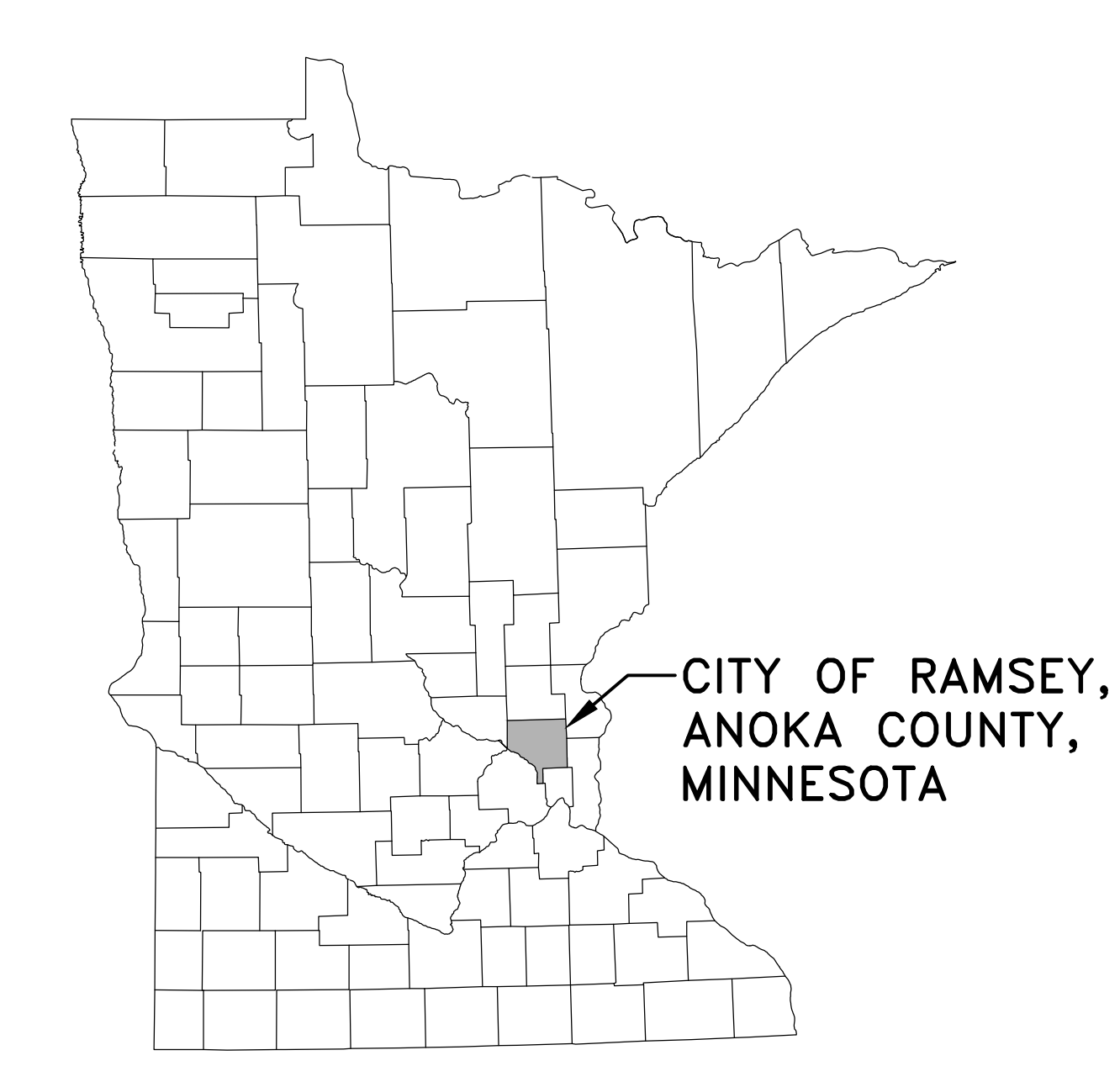
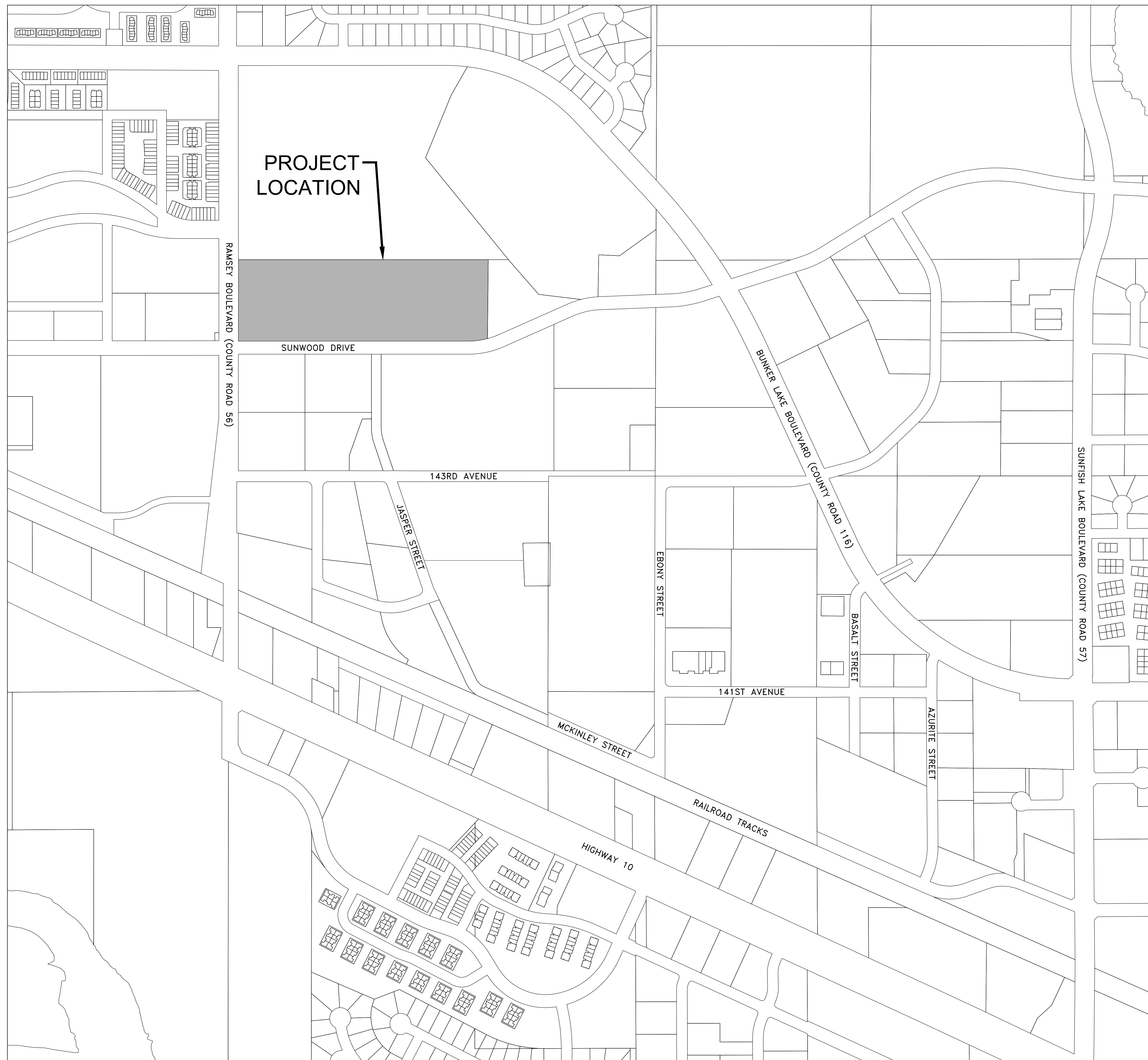


**LOT 1, BLOCK 1 - KNOLL PROPERTIES SECOND ADDITION**  
**CONSTRUCTION PLANS FOR SITE GRADING AND STORM SEWER, SANITARY SEWER, WATERMAIN,**  
**PARKING LOT AND MISCELLANEOUS CONSTRUCTION**  
**FOR KINGHORN CONSTRUCTION**  
**IN THE CITY OF RAMSEY**

**GOVERNING SPECIFICATIONS**  
 THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.  
 THE 2013 EDITION OF THE CITY ENGINEER'S ASSOCIATION OF MINNESOTA "STANDARD SPECIFICATIONS" SHALL GOVERN FOR SANITARY SEWER AND WATERMAIN WORK.  
 ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.  
 ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

**SHEET INDEX**  
 THIS PLAN CONTAINS 12 SHEETS

SHEET NO.	DESCRIPTION
C1	TITLE SHEET
C2	CONSTRUCTION NOTES AND DETAILS
C3-C4	DETAILS
C5	EXISTING TOPOGRAPHY AND REMOVALS PLAN
C6	SITE PLAN
C7	GRADING, DRAINAGE AND EROSION CONTROL PLAN
C8	STAKING PLAN
C9	UTILITY PLAN
C10	PAVING AND RESTORATION PLAN
L1	LANDSCAPE PLAN
L2	LANDSCAPE DETAILS & SPECIFICATIONS



**GENERAL CONTRACTOR**

KINGHORN CONSTRUCTION  
 21830 INDUSTRIAL COURT  
 ROGERS, MN 55374  
 GRADY KINGHORN  
 gkinghorn@kinghornco.com  
 JOHN KINGHORN  
 johnk@kinghornco.com  
 763-428-8088

**ENGINEER/SURVEYOR**

HAKANSON ANDERSON  
 3601 THURSTON AVENUE  
 ANOKA, MN 55303  
 TIMOTHY A. EGGERICH, P.E.  
 time@haa-inc.com  
 BRIAN PERSON, P.L.S.  
 briamp@haa-inc.com  
 763-427-5860  
 763-427-0520 (FAX)

**ARCHITECT**

HTG ARCHITECTS  
 9300 HENNEPIN TOWN ROAD  
 EDEN PRAIRIE, MN 55347  
 952-278-8880

I hereby certify that this plan, specification, or report 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.

*Tim Eggerich*  
 TIMOTHY A. EGGERICH, P.E. 43362 DATE 6/18/21  
 HAKANSON ANDERSON LIC. NO.

DATE	REVISION

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

- BENCHMARKS:**
1. TOP NUT OF HYDRANT IN THE NORTHEAST CORNER OF RAMSEY BOULEVARD AND SUNWOOD DRIVE. ELEVATION=871.18
  2. TOP NUT OF HYDRANT ON THE NORTH SIDE OF SUNWOOD DRIVE AT JASPAR STREET. ELEVATION=868.83

**Hakanson Anderson**  
 Civil Engineers and Land Surveyors  
 3601 Thurston Ave., Anoka, Minnesota 55303  
 763-427-5860 FAX 763-427-0520

**GENERAL CONSTRUCTION AND SOILS NOTES:**

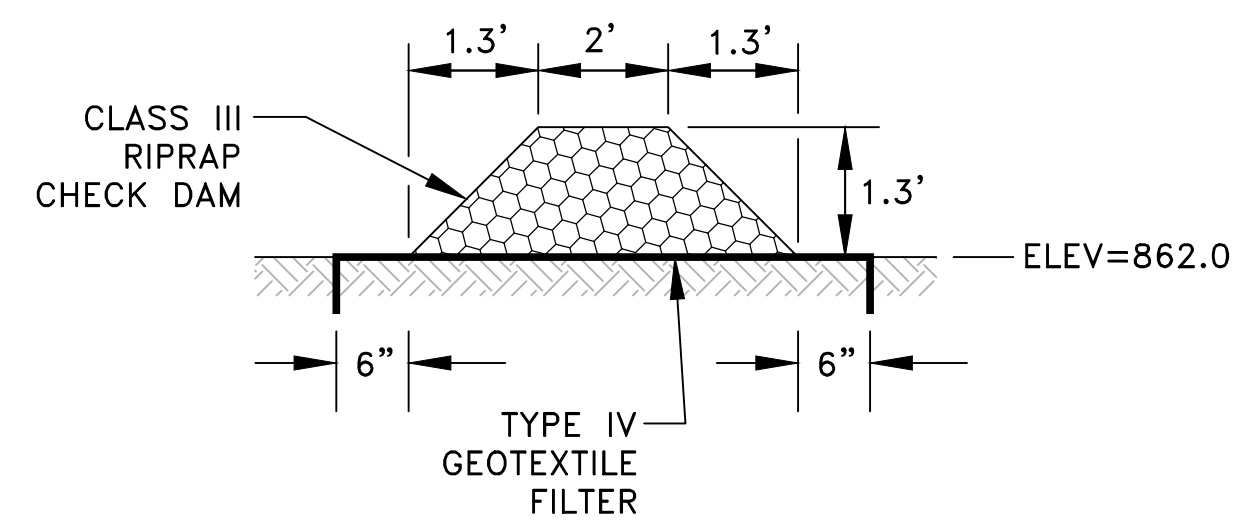
- STRIP ALL INPLACE TOPSOIL IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. IN AREAS OF PARKING LOT AND BUILDING CONSTRUCTION, THE EXPOSED SAND SHALL BE SURFACE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698, IN AT LEAST THE UPPER 3 FEET.
- UNLESS OTHERWISE RECOMMENDED IN THESE PLANS, THE GRADING SUBGRADE SHALL BE CONSTRUCTED OF SUITABLE GRADING MATERIAL. THE FILL SHALL BE PLACED IN 8" TO 10" LOOSE LIFTS, AND COMPACTED TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
- SUITABLE GRADING MATERIAL FOR THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, SILT, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.
- CONTRACTOR SHALL REVIEW THE REPORT OF GEOTECHNICAL EXPLORATION PREPARED BY AMERICAN ENGINEERING TESTING, INC. AND DATED APRIL 26, 2021 FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.
- PROVIDE A SAW CUT WHEN PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT AND AT TERMINI OF CONSTRUCTION TO ENSURE A UNIFORM JOINT.
- BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2104.
- USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.04 GAL/SY TO 0.06 GAL/SY BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS.
- THE BITUMINOUS MIXTURES SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS 2360 AND 3139.
- CONTRACTOR SHALL APPLY FOR A DEPARTMENT OF LABOR AND INDUSTRY PERMIT PRIOR TO CONSTRUCTING ANY UNDERGROUND UTILITIES SHOWN ON THESE PLANS. CONTRACTOR SHALL ADDRESS ALL THE COMMENTS FROM THE DEPARTMENT OF LABOR AND INDUSTRY AS PART OF THE PERMIT APPLICATION PROCESS.

**GENERAL EROSION CONTROL NOTES:**

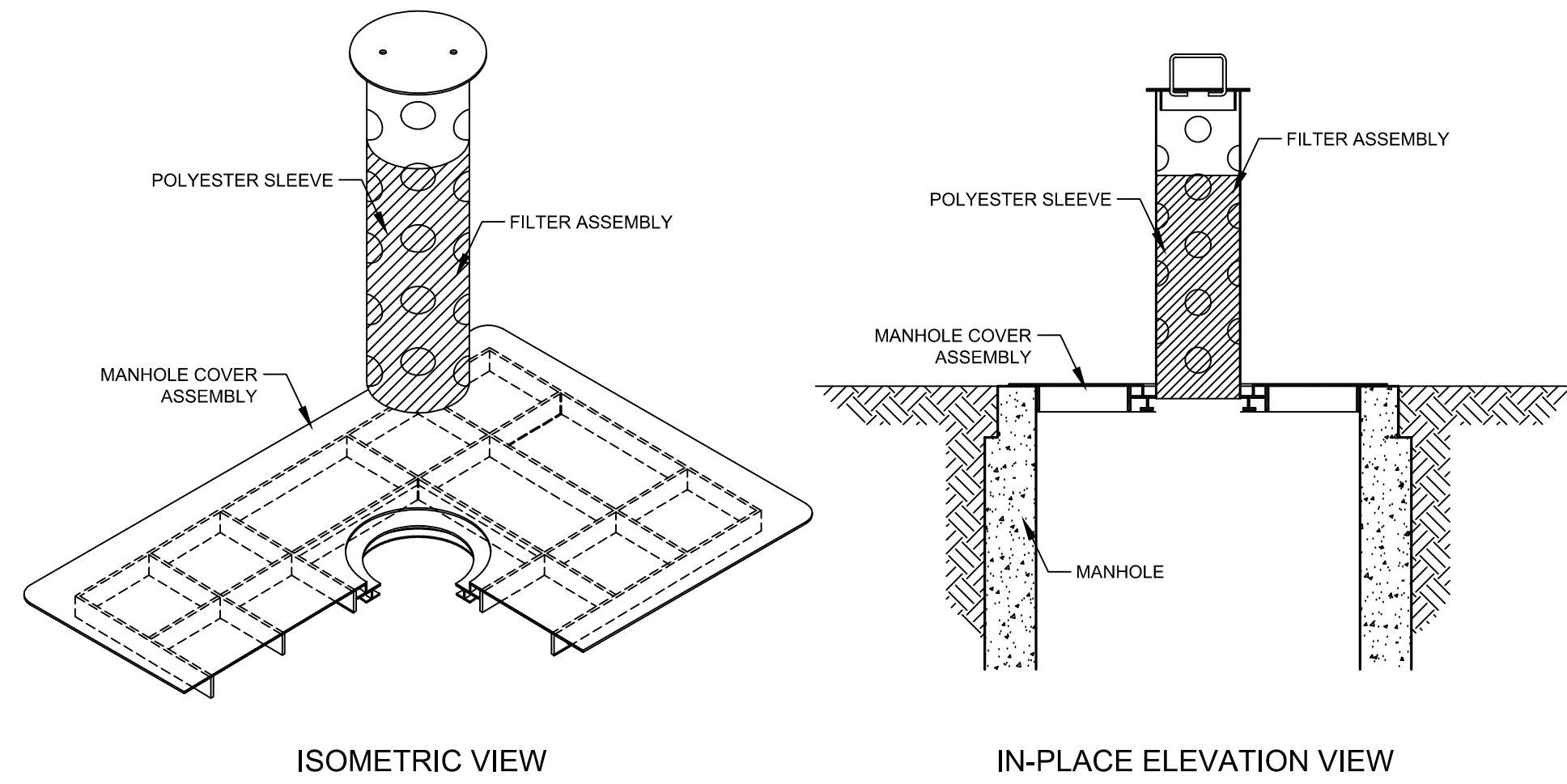
- EROSION CONTROL SHALL CONFORM TO THE MN/DOT EROSION CONTROL HANDBOOK.
- PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ACQUIRE THE MPCA NPDES CONSTRUCTION STORMWATER GENERAL PERMIT. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE CITY PRIOR TO THE PRECONSTRUCTION MEETING.
- THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) PRIOR TO GRADING AND REMOVAL ACTIVITIES. BMP'S SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES AND POTENTIAL FOR EROSION HAS PASSED.
- THE CONTRACTOR SHALL SCHEDULE HIS OPERATION TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY GIVEN TIME.
- BMP'S SHALL BE INSPECTED DAILY BY THE CONTRACTOR. OBSERVATIONS SHALL BE RECORDED IN AN INSPECTION LOG. WEEKLY INSPECTION LOGS AND INSPECTION LOGS AFTER EVERY 1/2" RAIN EVENT SHALL BE SUBMITTED TO THE CITY INSPECTOR.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION.
- THE CONTRACTOR SHALL FILE A NOTICE OF TERMINATION WITH THE MPCA AFTER FINAL STABILIZATION HAS BEEN APPROVED. THE CITY SHALL REVIEW AND APPROVE THE NOTICE OF TERMINATION PRIOR TO SUBMITTAL TO THE MPCA.

**REFERENCE NOTES:**

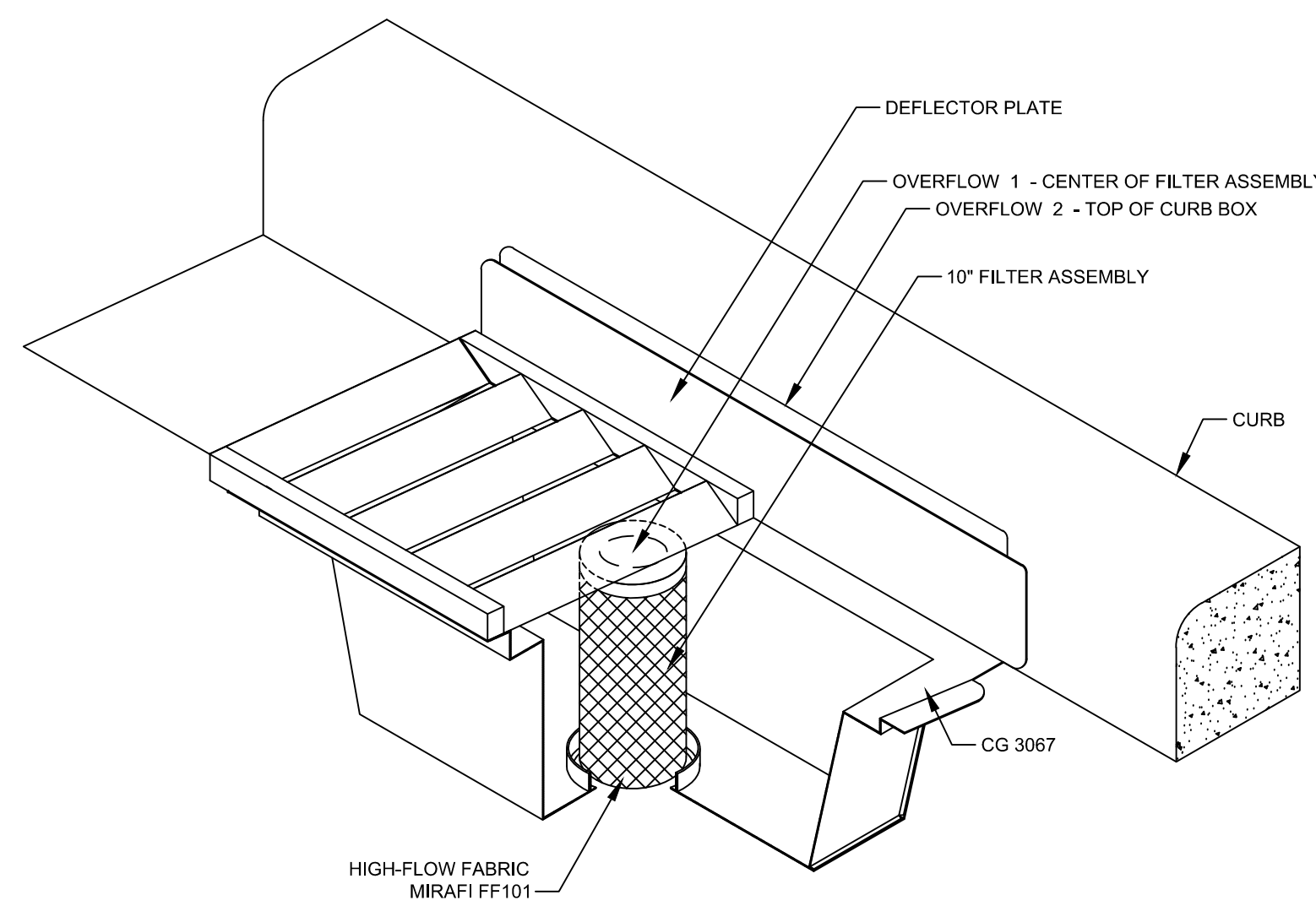
- TYPE 1 INLET PROTECTION SHALL BE INSTALLED AS NECESSARY TO MINIMIZE PONDING OF WATER DURING CONSTRUCTION. WIMCO MODEL RD 23 IS SHOWN.
- TYPE 2 INLET PROTECTION SHALL BE INSTALLED ON ALL CASTINGS RECEIVING RUNOFF FROM THE PROJECT AREA. INLET PROTECTION SHALL BE INSTALLED ON EXISTING, OFF SITE CASTINGS PRIOR TO THE START OF CONSTRUCTION. WIMCO MODEL CG 3067 IS SHOWN.
- TYPE 3 INLET PROTECTION SHALL BE INSTALLED AS NECESSARY TO MINIMIZE PONDING OF WATER DURING CONSTRUCTION. WIMCO MODEL RD 27 IS SHOWN.
- SEE CITY PLATE NO. STR-26 ON SHEET C3 FOR MODIFIED CLASS 5 AGGREGATE BASE SPECIFICATIONS.
- CONTRACTOR SHALL PROTECT THE INFILTRATION BASIN WITH 48" HIGH ORANGE SAFETY FENCE PRIOR TO THE START OF CONSTRUCTION.
- CONSTRUCTION EQUIPMENT SHALL BE MINIMIZED OVER THE FOOTPRINT OF THE BASIN. ONLY LOW PRESSURE, WIDE TRACKED EQUIPMENT SHALL BE USED FOR CONSTRUCTION.
- INFILTRATION BASINS SHALL NOT BE GRADED TO WITHIN THREE FEET OF THE FINAL GRADES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED OR RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS, SUCH AS DIVERSION BERMS, TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREAS HAVE BEEN PROVIDED.



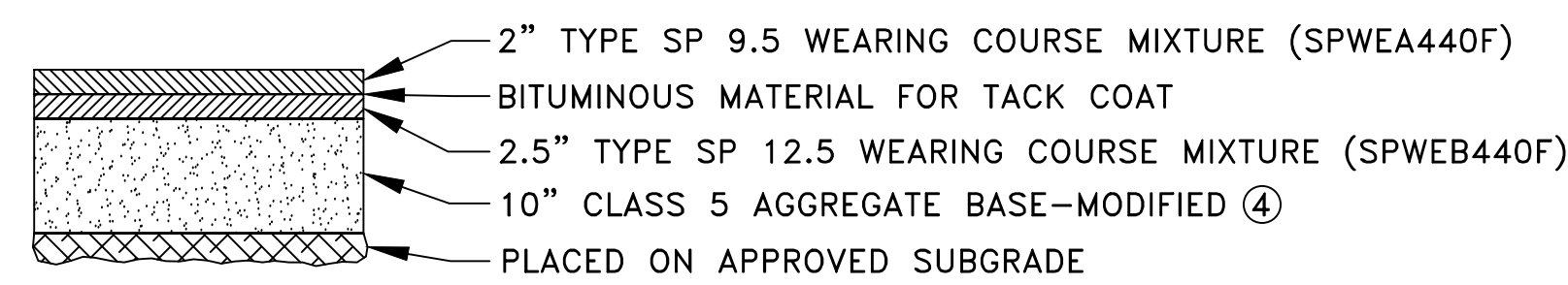
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C2 CHECK DAM DETAIL  
NO SCALE



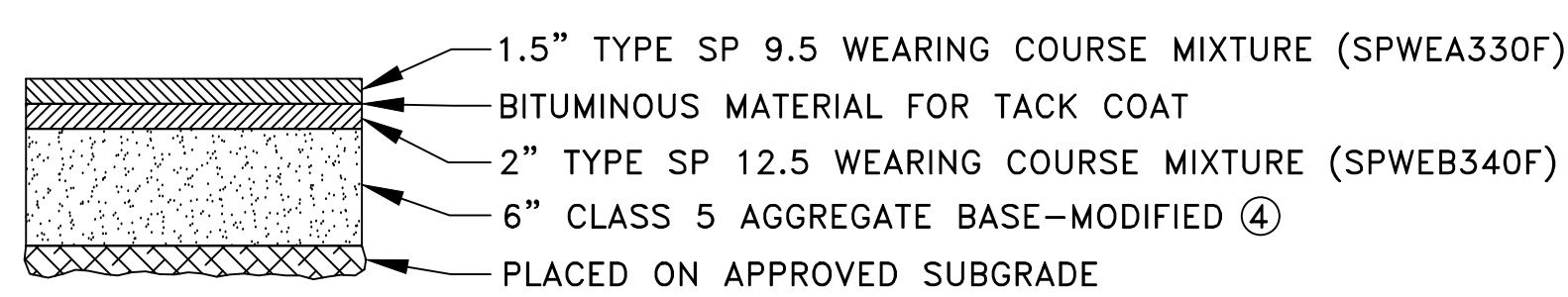
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C2 STORM DRAIN INLET PROTECTION TYPE 1  
PRE-CURB  
NO SCALE



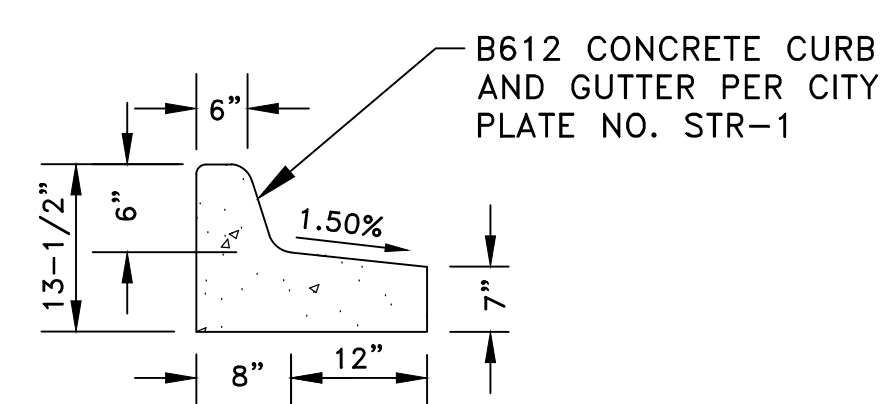
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POST-CURB  
NO SCALE



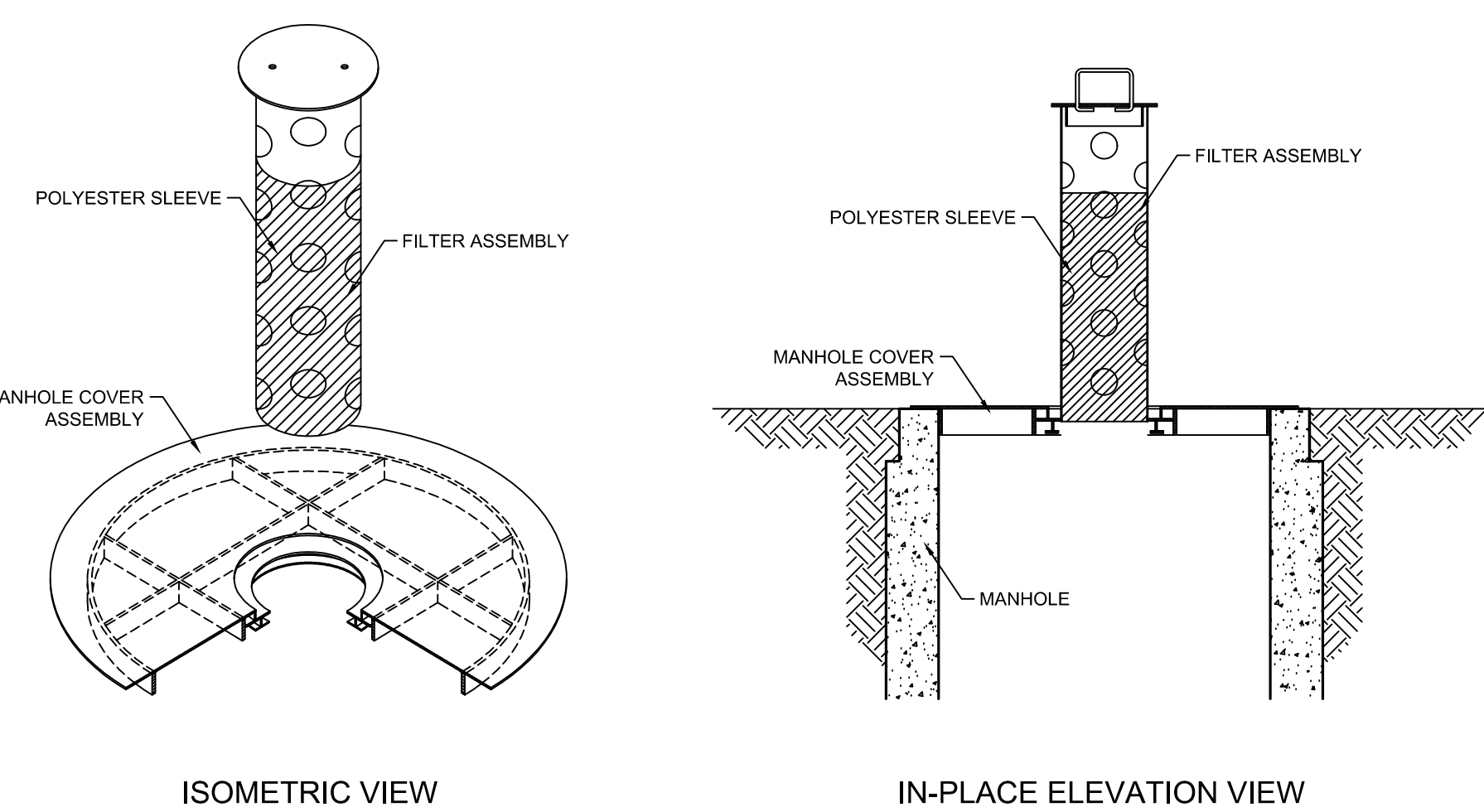
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C2 HEAVY DUTY BITUMINOUS PAVEMENT SECTION  
NO SCALE



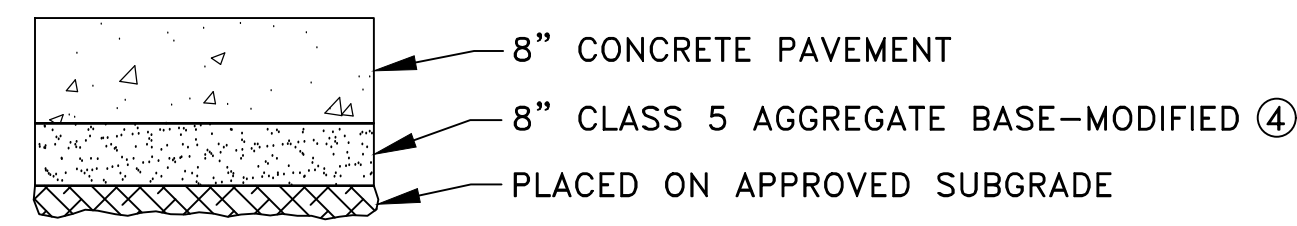
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C2 LIGHT DUTY BITUMINOUS PAVEMENT SECTION  
NO SCALE



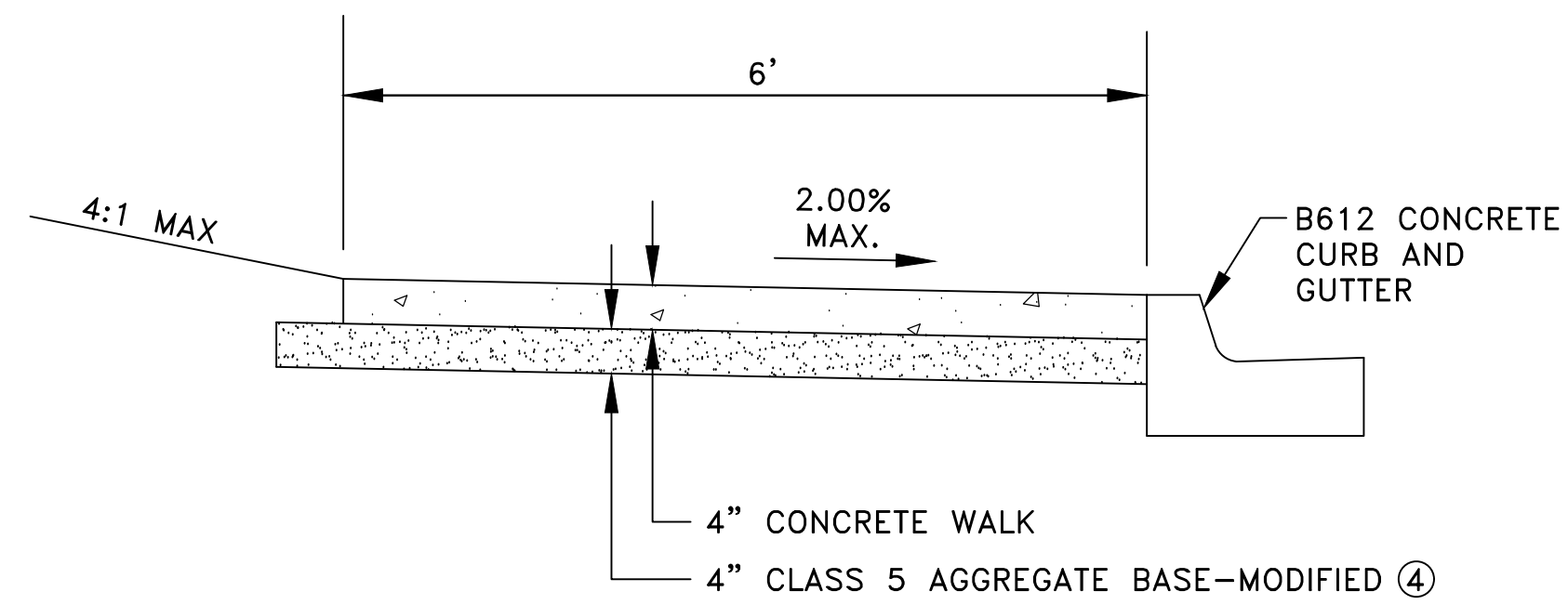
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C2 TIPOUT CURB DETAIL  
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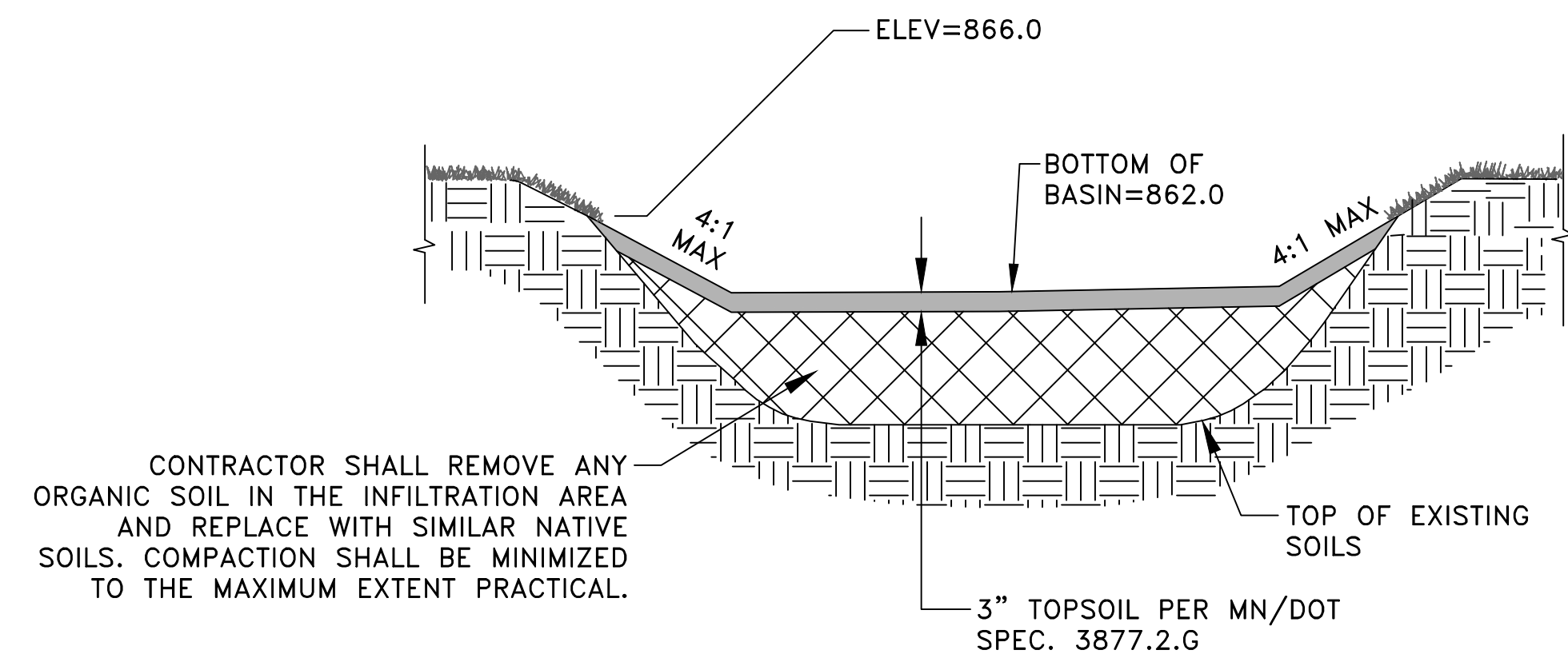
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C2 STORM DRAIN INLET PROTECTION TYPE 3  
NO SCALE



**8**  
C2 CONCRETE PAVEMENT SECTION  
NO SCALE

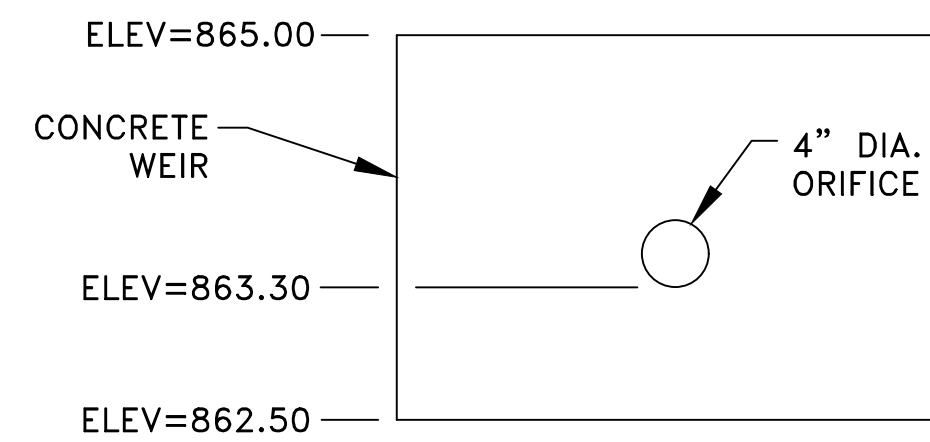


**9**  
C2 CONCRETE SIDEWALK  
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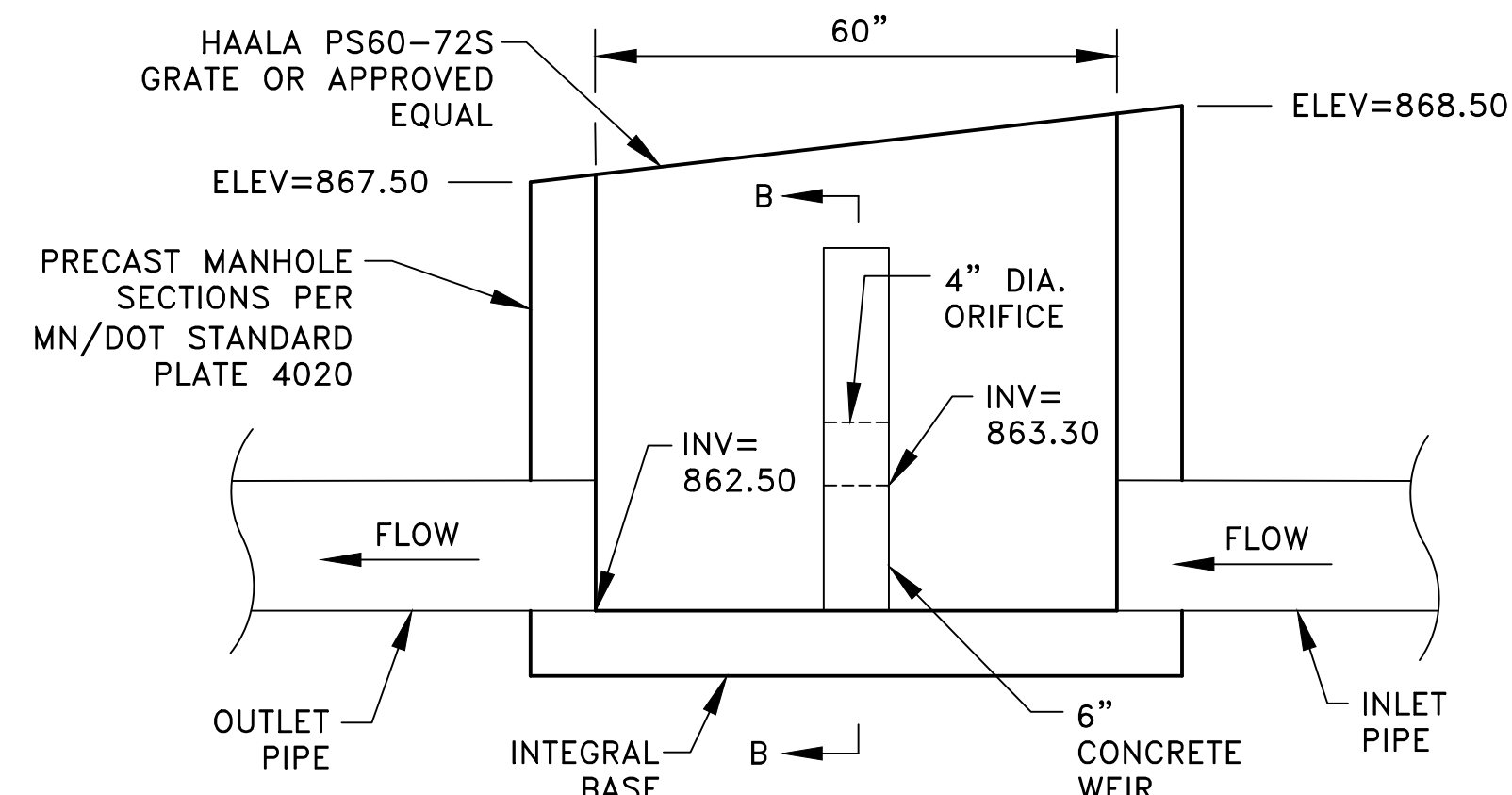


CONTRACTOR SHALL REMOVE ANY ORGANIC SOIL IN THE INFILTRATION AREA AND REPLACE WITH SIMILAR NATIVE SOILS. COMPACTION SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICAL.

**10**  
C2 INFILTRATION BASIN  
NO SCALE

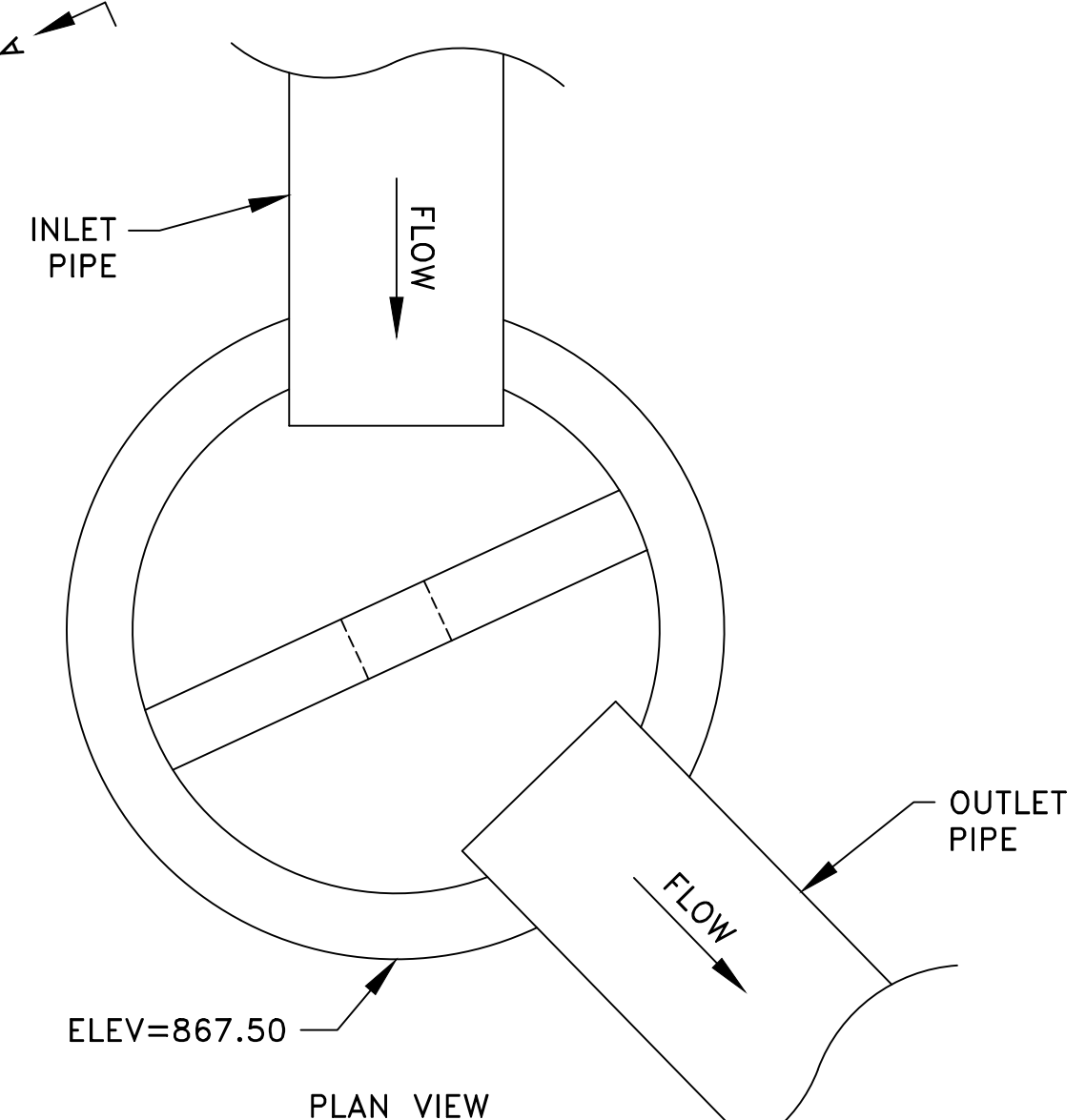


SECTION B-B



SECTION A-A

**11**  
C2 POND OUTLET STRUCTURE  
NO SCALE



PLAN VIEW

SIGNIFICANT TREE INVENTORY TABULATION				
Tree Number	Common Name	Scientific Name	Diameter (inches)	Action
713	American Elm	<i>Ulmus americana</i>	8	Protect
714	Siberian Elm *	<i>Ulmus pumila</i>	16	Clear & Grub - Pond
715	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Parking Lot
716	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Building
717	Cottonwood	<i>Populus deltoides</i>	16	Clear & Grub - Parking Lot
718	Eastern Red Cedar	<i>Juniperus virginiana</i>	4	Clear & Grub - Parking Lot
719	Eastern Red Cedar	<i>Juniperus virginiana</i>	5	Clear & Grub - Parking Lot
720	Siberian Elm *	<i>Ulmus pumila</i>	11	Clear & Grub - Pond
721	Eastern Red Cedar	<i>Juniperus virginiana</i>	5	Clear & Grub - Pond
722	Eastern Red Cedar	<i>Juniperus virginiana</i>	5	Clear & Grub - Building
723	Eastern Red Cedar	<i>Juniperus virginiana</i>	6	Clear & Grub - Building
725	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Building
726	Eastern Red Cedar	<i>Juniperus virginiana</i>	4	Clear & Grub - Building
727	Siberian Elm *	<i>Ulmus pumila</i>	10	Clear & Grub - Building
728	Siberian Elm *	<i>Ulmus pumila</i>	8	Clear & Grub - Parking Lot
729	Siberian Elm *	<i>Ulmus pumila</i>	14	Clear & Grub - Parking Lot
730	Siberian Elm *	<i>Ulmus pumila</i>	10	Clear & Grub - Building
731	Siberian Elm *	<i>Ulmus pumila</i>	10	Clear & Grub - Building
732	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Parking Lot
733	Siberian Elm *	<i>Ulmus pumila</i>	13	Clear & Grub - Building
734	Siberian Elm *	<i>Ulmus pumila</i>	18	Clear & Grub - Building
735	Siberian Elm *	<i>Ulmus pumila</i>	13	Clear & Grub - Building
736	Eastern Red Cedar	<i>Juniperus virginiana</i>	5	Clear & Grub - Building
737	Siberian Elm *	<i>Ulmus pumila</i>	10	Clear & Grub - Building
738	Sugar Maple	<i>Acer saccharum</i>	8	Protect
739	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Building
740	Siberian Elm *	<i>Ulmus pumila</i>	11	Clear & Grub - Building
741	Scotch Pine	<i>Pinus Sylvestris</i>	10	Clear & Grub - Building
742	Eastern Red Cedar	<i>Juniperus virginiana</i>	4	Clear & Grub - Building
743	Scotch Pine	<i>Pinus Sylvestris</i>	11	Clear & Grub - Building
744	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Building
745	Siberian Elm *	<i>Ulmus pumila</i>	17	Clear & Grub - Building
746	Cottonwood	<i>Populus deltoides</i>	17	Clear & Grub - Parking Lot
747	Siberian Elm *	<i>Ulmus pumila</i>	21	Clear & Grub - Parking Lot
748	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Parking Lot
749	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Parking Lot
750	Siberian Elm *	<i>Ulmus pumila</i>	14	Clear & Grub - Building
751	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Building
752	Siberian Elm *	<i>Ulmus pumila</i>	16	Clear & Grub - Building
753	Eastern Red Cedar	<i>Juniperus virginiana</i>	6	Clear & Grub - Building
754	Eastern Red Cedar	<i>Juniperus virginiana</i>	4	Clear & Grub - Building
755	Eastern Red Cedar	<i>Juniperus virginiana</i>	6	Clear & Grub - Building
756	Siberian Elm *	<i>Ulmus pumila</i>	16	Clear & Grub - Parking Lot
757	Siberian Elm *	<i>Ulmus pumila</i>	11	Clear & Grub - Parking Lot
758	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Parking Lot
759	Siberian Elm *	<i>Ulmus pumila</i>	12	Clear & Grub - Parking Lot
771	Siberian Elm *	<i>Ulmus pumila</i>	15	Clear & Grub - Parking Lot
772	Siberian Elm *	<i>Ulmus pumila</i>	14	Clear & Grub - Parking Lot
773	Eastern Red Cedar	<i>Juniperus virginiana</i>	7	Clear & Grub - Parking Lot
774	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Parking Lot
776	Siberian Elm *	<i>Ulmus pumila</i>	13	Clear & Grub - Parking Lot
777	Cottonwood	<i>Populus deltoides</i>	10	Clear & Grub - Parking Lot
778	Siberian Elm *	<i>Ulmus pumila</i>	14	Clear & Grub - Parking Lot
779	Siberian Elm *	<i>Ulmus pumila</i>	8	Clear & Grub - Parking Lot
780	Cottonwood	<i>Populus deltoides</i>	10	Clear & Grub - Parking Lot
781	Siberian Elm *	<i>Ulmus pumila</i>	9	Clear & Grub - Parking Lot

\* Invasive Species

**SIGNIFICANT TREE SUMMARY**

TOTAL SIGNIFICANT TREE DBH ON SITE:	589 INCHES
EXCLUDE (FOR POND, INVASIVES, ETC.):	470 INCHES
REQUIRED TO BE SAVED (30% X 119):	36 INCHES
PROPOSED TO BE SAVED:	16 INCHES

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 339012\_DETAILED.dwg

DATE	REVISION	DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Timothy A. Ebersole, P.E.*  
 TIMOTHY A. EBERSOLE, P.E.  
 Lic. No. 43362  
 Date 6/18/21

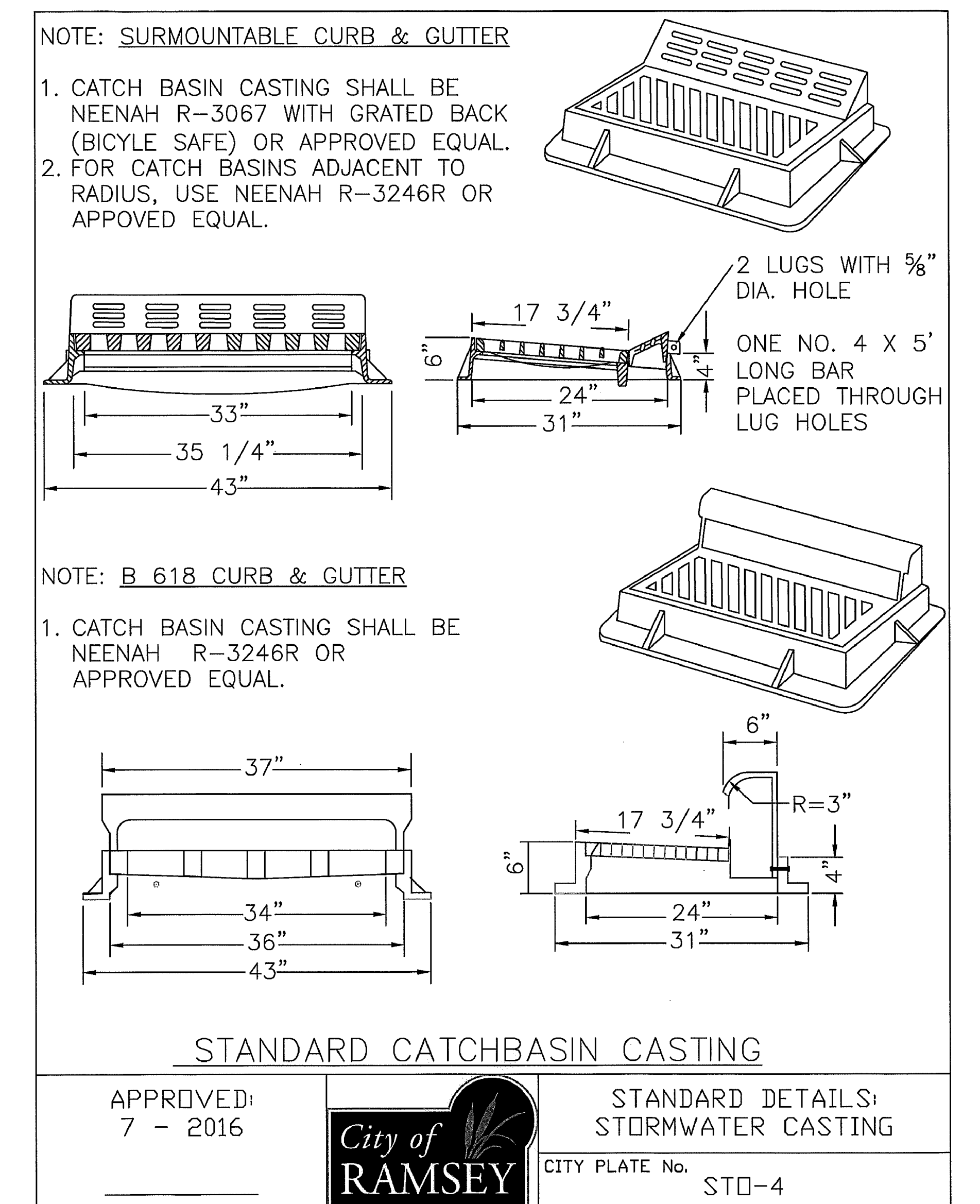
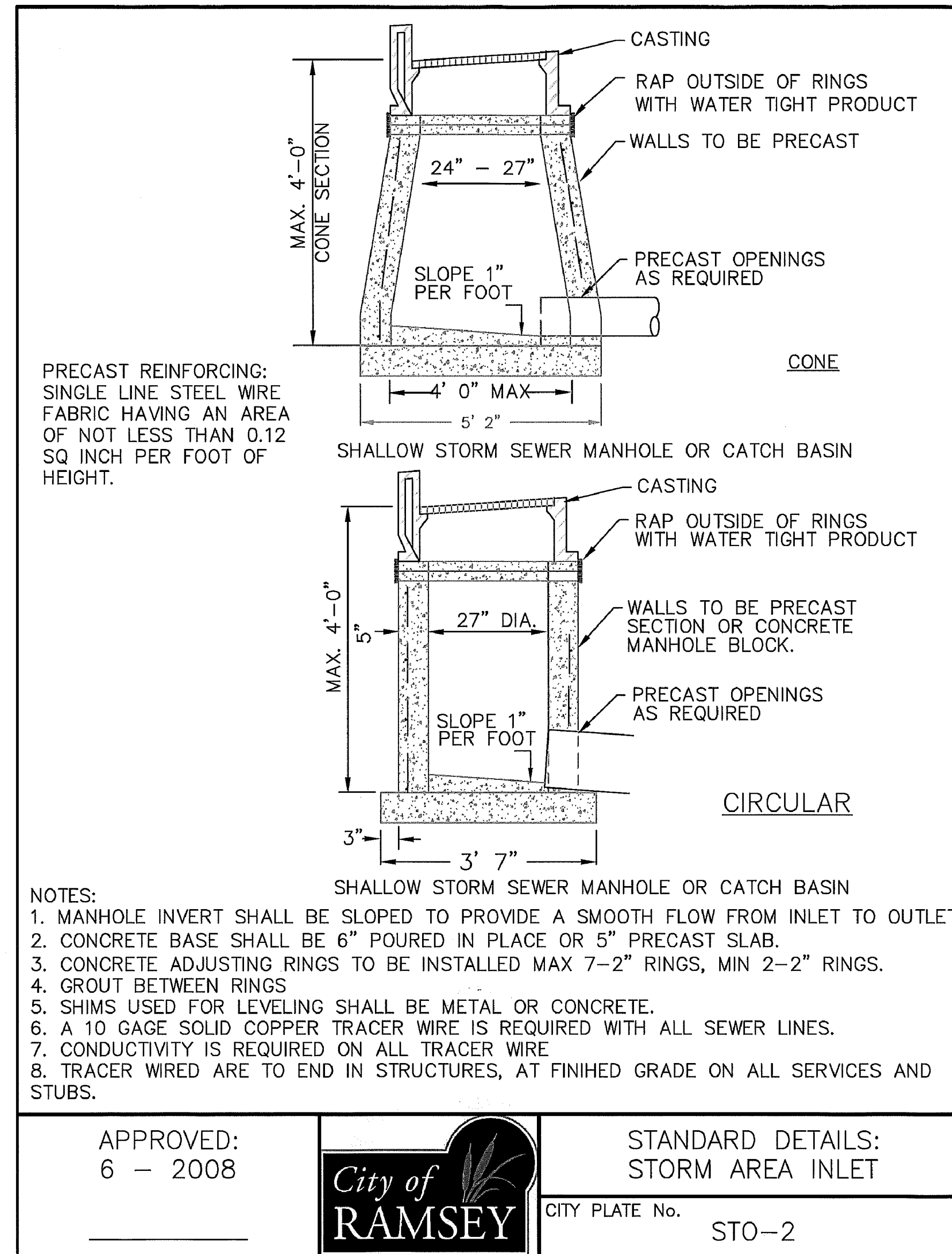
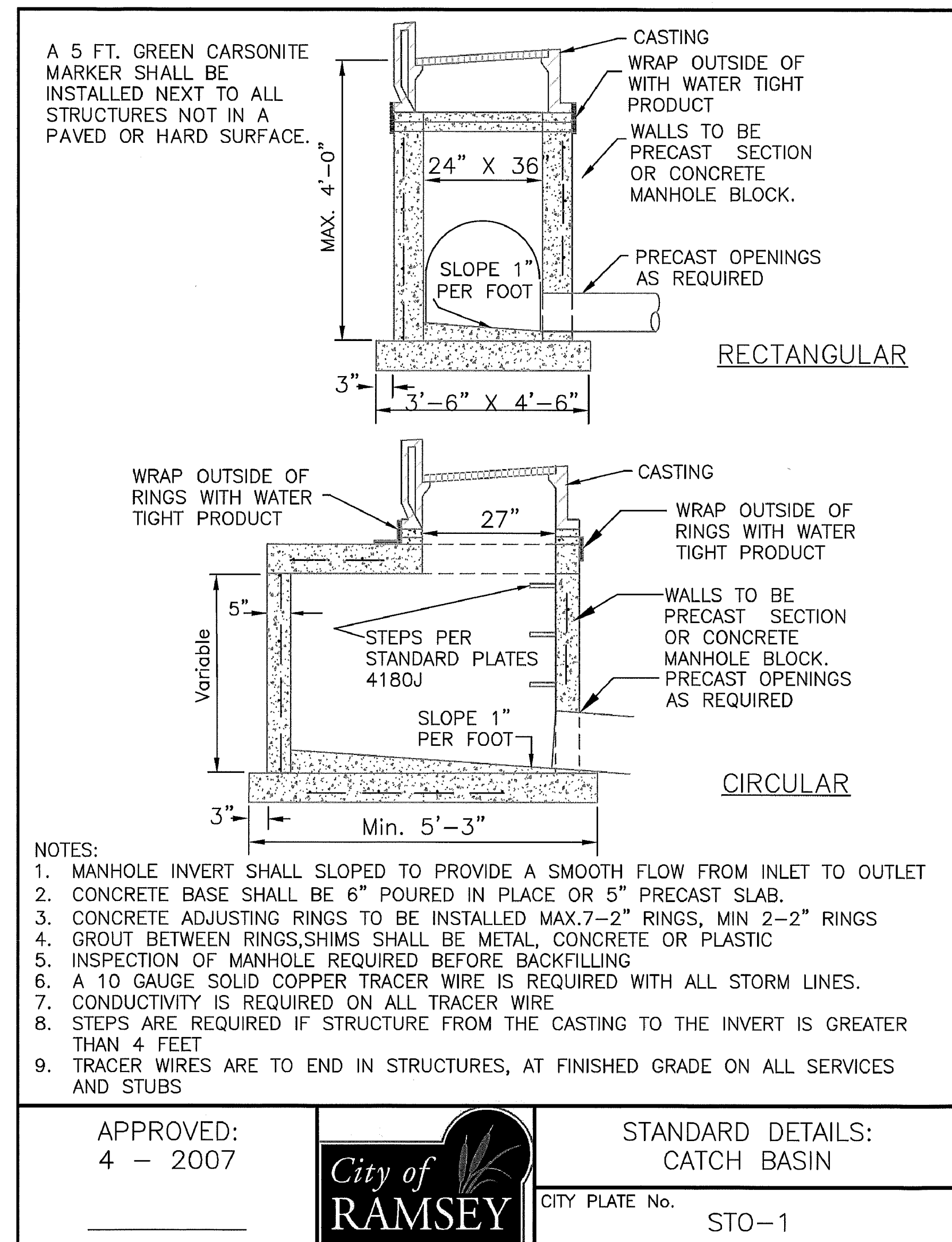
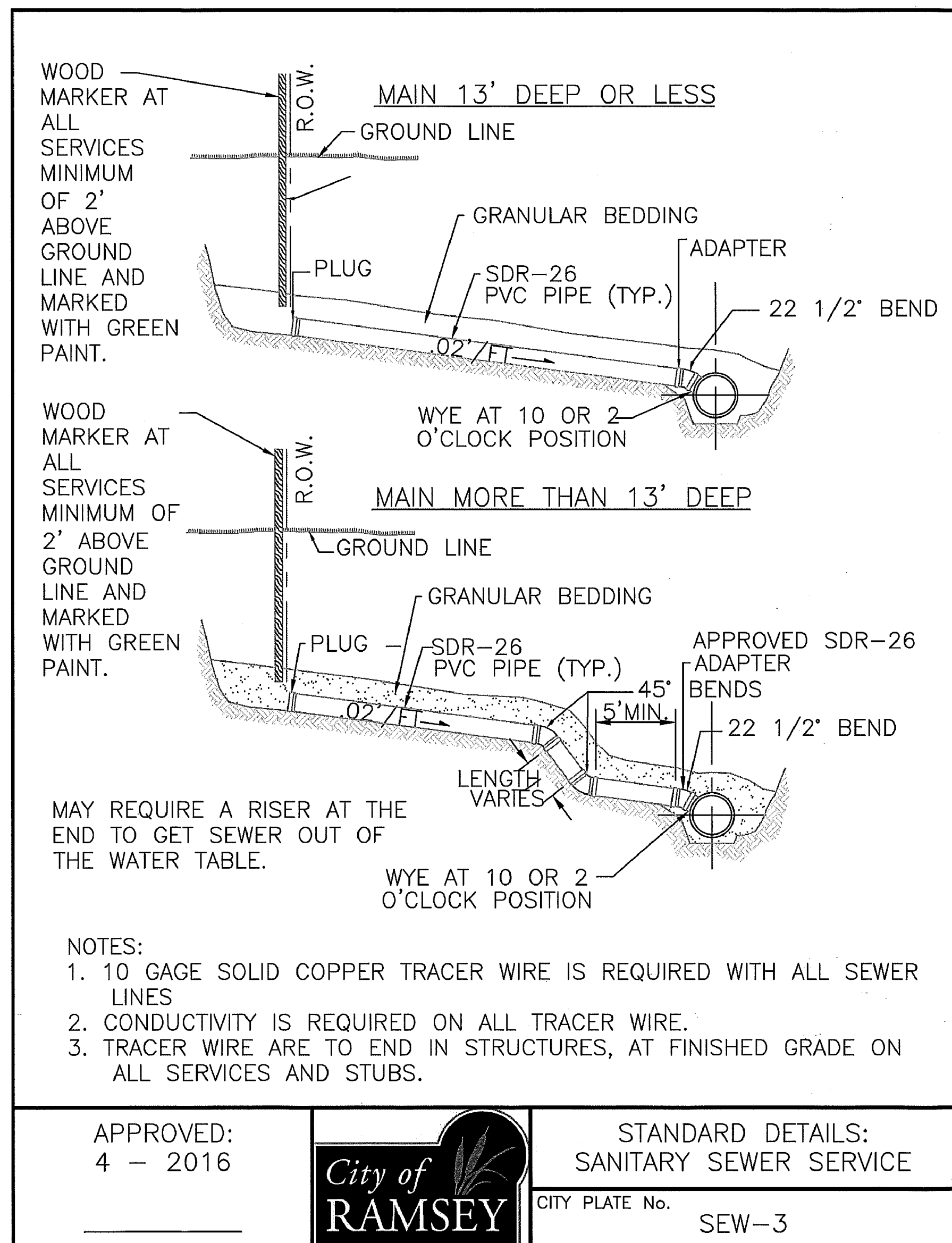
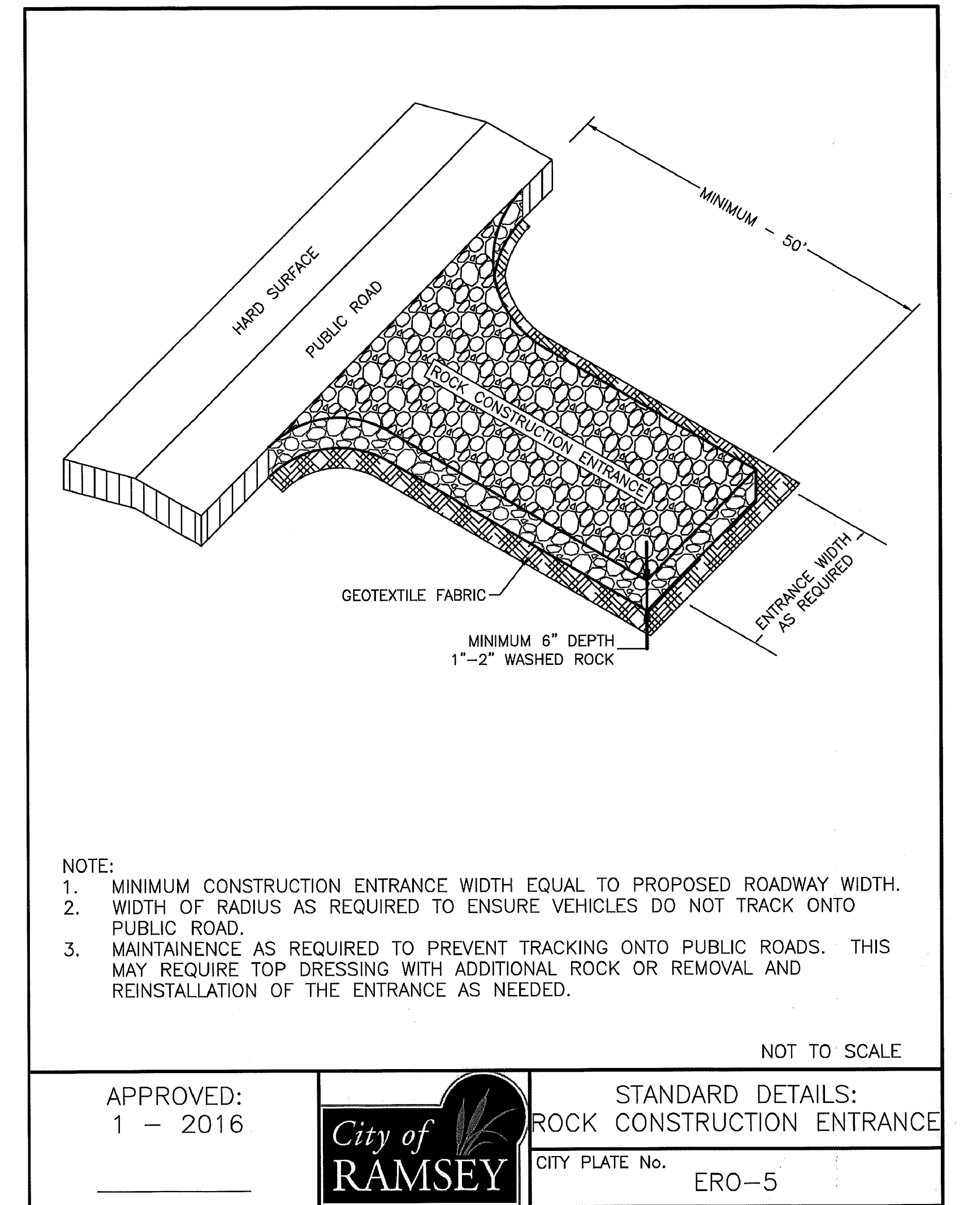
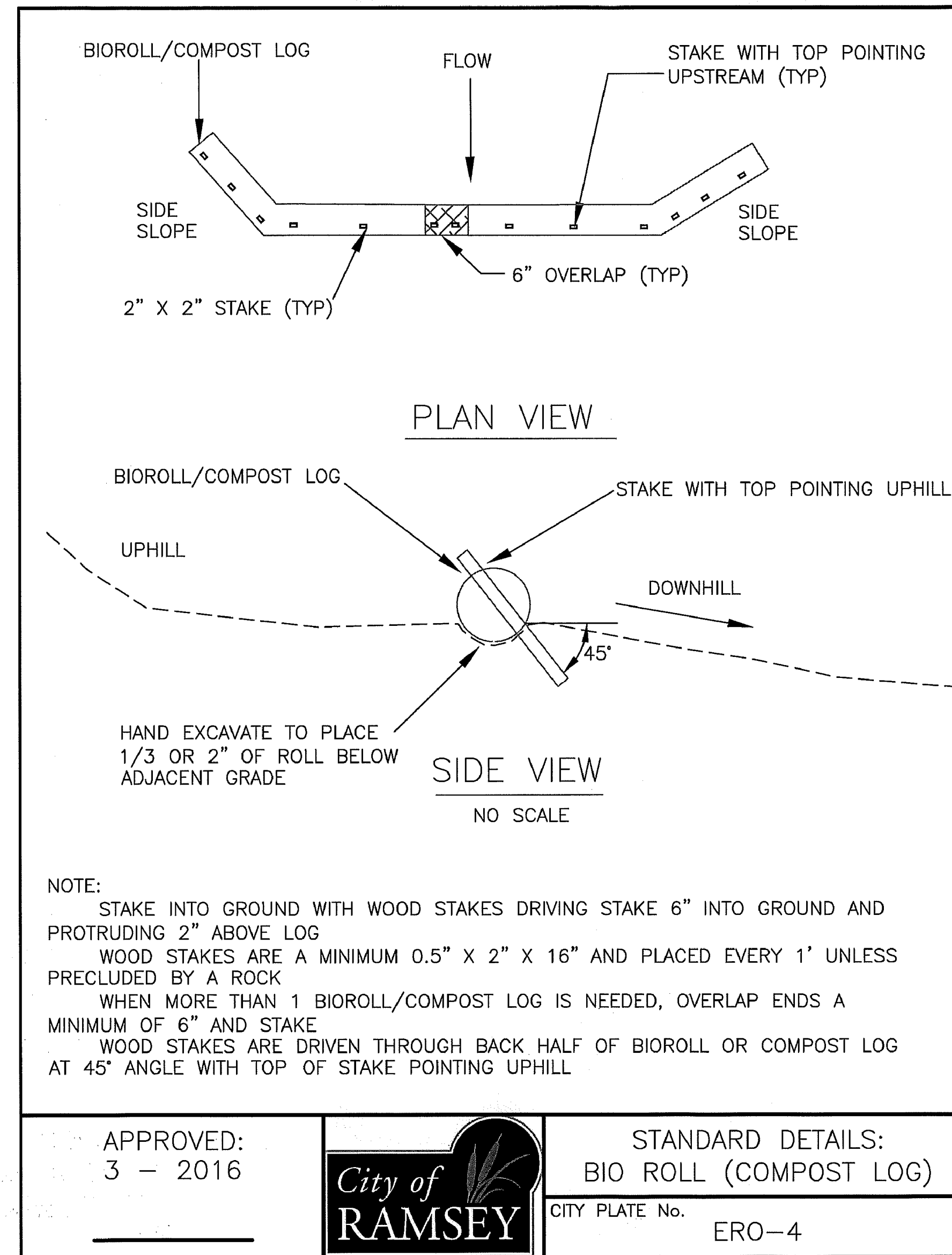
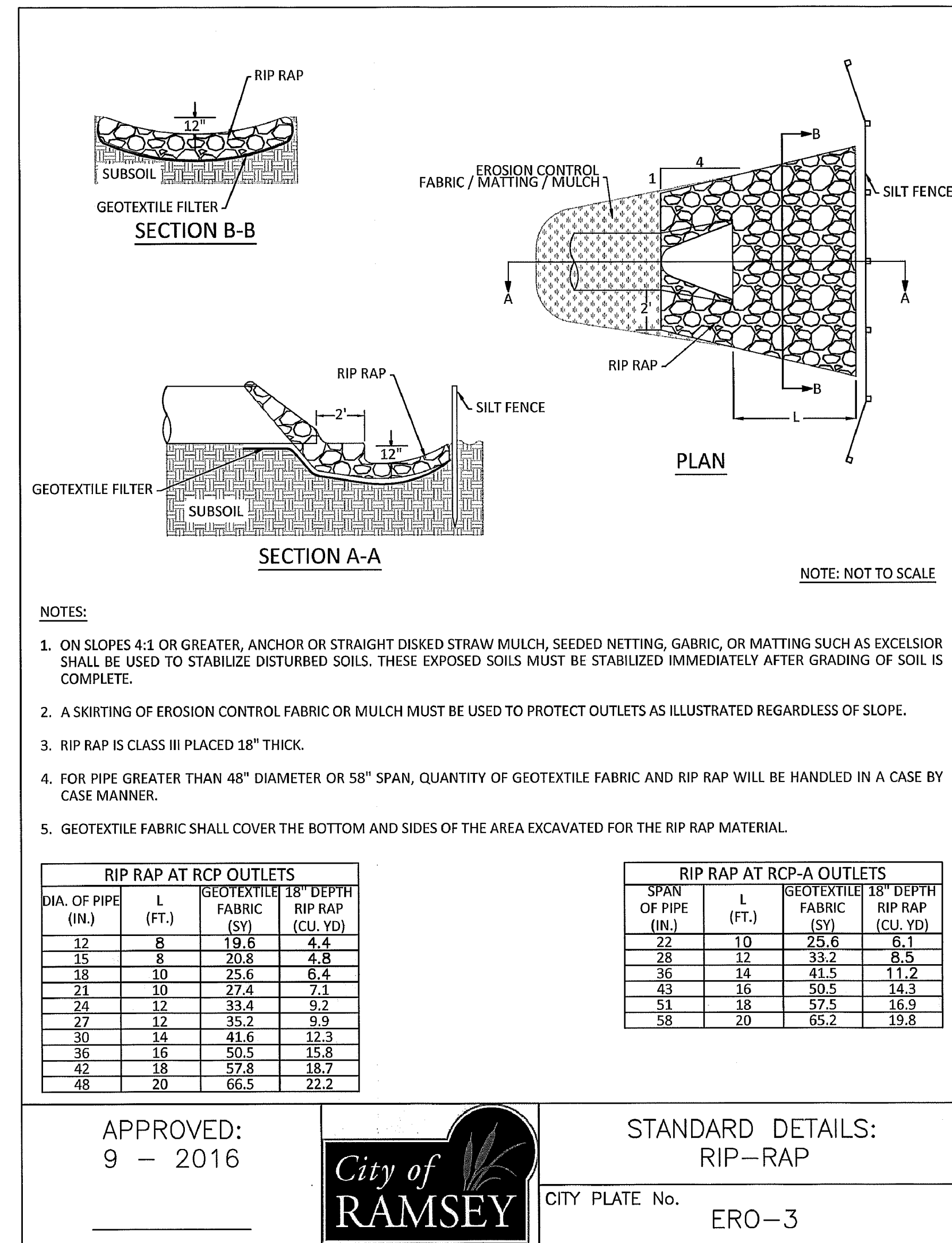
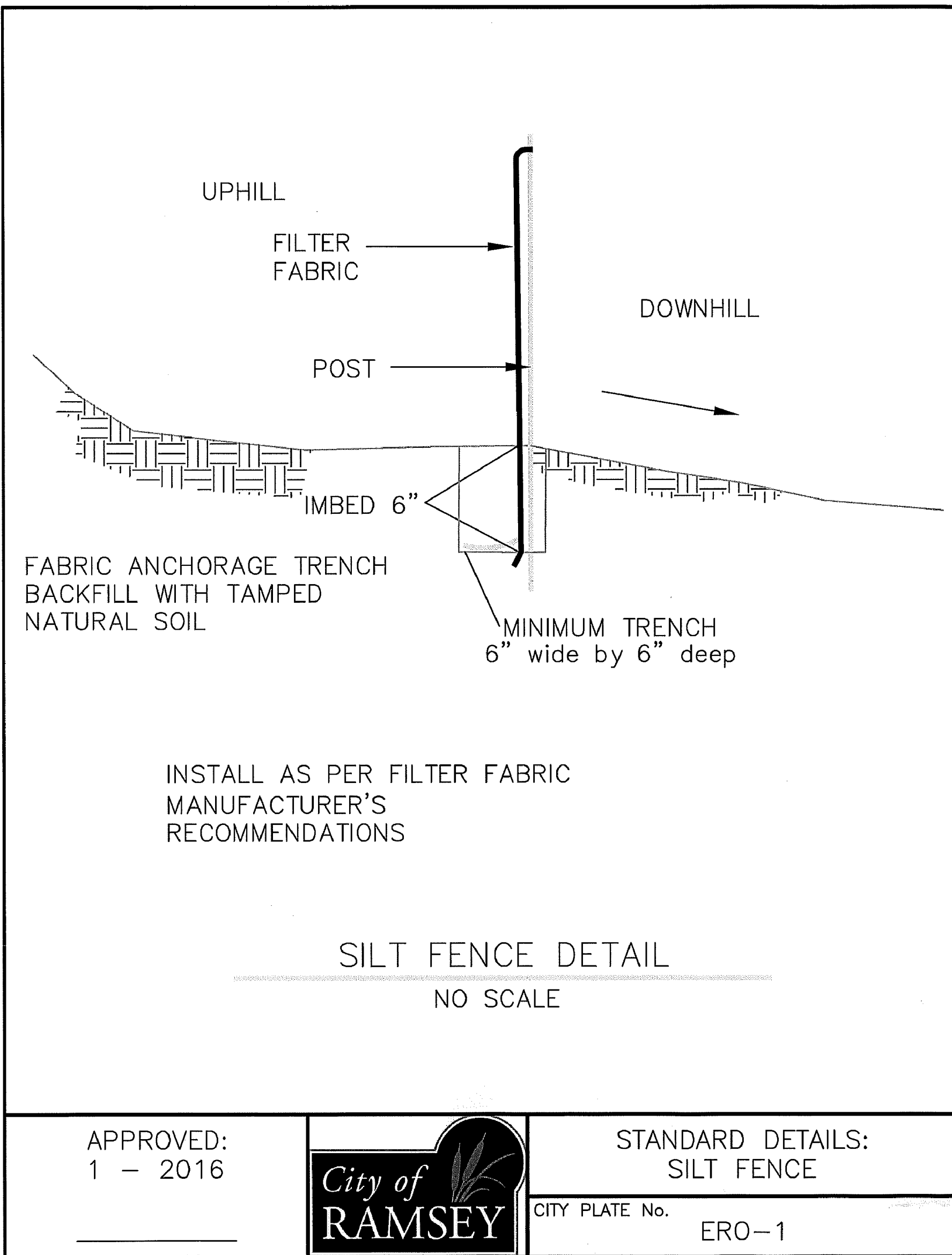
DESIGNED BY: TAE  
 DRAWN BY: TAE  
 CHECKED BY: CJJ

**Hakanson Anderson**  
 Civil Engineers and Land Surveyors  
 3601 Thurston Ave., Anoka, Minnesota 55303  
 763-427-5860 FAX 763-427-0520  
 www.hakanson-anderson.com

LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION  
 CITY OF RAMSEY, MINNESOTA

CONSTRUCTION NOTES AND DETAILS  
 CITY OF RAMSEY, MINNESOTA

SHEET  
**C2**  
 OF  
**C10**  
 SHEETS  
 3395.12



11/18/2011 10:58 AM  
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I hereby certify that this plan, specification, or report 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.

*Timothy A. Ebersole, P.E.*  
 Timothy A. Ebersole, P.E.  
 Date 6/18/21 Lic. No. 43362

DESIGNED BY: TAE  
 DRAWN BY: TAE  
 CHECKED BY: CJJ



**Hakanson Anderson**  
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LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

DETAILS  
 CITY OF RAMSEY, MINNESOTA

SHEET  
**C3**  
 OF  
 C10  
 SHEETS  
 3395.12

ROADWAY      STRUCTURE

DISTANCE TO FACE OF CURB  
THEN SUBTRACT -0.73' TO CL OF 48" STRUCTURE.  
\* SEE CHART FOR OTHER DIA MH'S

Ø MH	"X"
48"	0.73
54"	0.98
60"	1.23
66"	1.48
72"	1.73
78"	1.98
84"	2.23
90"	2.48
96"	2.73
102"	2.98
108"	3.23
120"	3.73
132"	4.23
144"	4.73
168"	5.73

\* BASED ON NEENAH NO 3246 CSTG  
\* SEE STD PLATE 4020 FOR CBMH DETAILS.  
\*\* PROVIDE 27" DIA OPENING FOR STORM MH WITH R-1733 CASTINGS.

TYPE \* PRECAST CONC. SLAB W/ OFFSET 2'x3' OPENING

APPROVED: 4 - 2005

**City of RAMSEY**

STANDARD DETAILS: SLAB TOP MANHOLE COVER  
CITY PLATE No. STO-5

NOTE: GUARDS MUST BE INCORPORATED ON ALL INSTALLATIONS EXCEPT WHERE SPECIFICALLY ALLOWED OTHERWISE BY THE CITY ENGINEER.

**IMPORTANT**

HINGED CONNECTIONS (TO BE FREE OF RIP RAP AND BACKFILL)

6" MAX.

ALL GUARDS TO HAVE (1) CROSS BAR - 60" AND UP TO HAVE (2) EQUALLY SPACED

PIPE SIZE	BOLT DIA.	BAR SIZE
12"-24"	5/8"	5/8"
27"-48"	3/4"	3/4"
54"-90"	1"	1"
22"-29"	5/8"	5/8"
36"-59"	3/4"	3/4"
65"-88"	1"	1"

NOTE: COATINGS ARE AS SPECIFIED ELSEWHERE

**IMPORTANT**

APPROVED: 2 - 2006

**City of RAMSEY**

STANDARD DETAILS: TRASH GUARD  
CITY PLATE No. STO-8

1/2" R      6" DISTANCE TO CL VARIABLE

13 1/2"      6"      3" R      3/4" PER FT      1/2" R

MnDOT B618 (URBAN)

DRIVEWAY FOR B618

1/2" R (URBAN)

9.5"      2"      5"      3/4" PER FT      1/2" R

10"      16"

1/2" R      6" DISTANCE TO CL VARIABLE

13 1/2"      6"      3" R      3/4" PER FT      1/2" R

MnDOT B612 (URBAN)

SURMOUNTABLE

10 1/2"      4"      R=12"      R=28"      R=68"

17 1/2"      10 1/2"      1 1/2"

NOTES:

- ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
- ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

APPROVED: 1 - 2016

**City of RAMSEY**

STANDARD DETAILS: CURB AND GUTTER  
CITY PLATE No. STR-1

REMOVE CROWN PER PLAN

CONCRETE CROSS GUTTER AREA

EXTEND REBAR MIN. 18" INTO DRIVEWAY FLARE

CONCRETE CROSS GUTTER AREA

EXPANSION JOINTS

CROSS GUTTER AREA INTEGRAL CAST WITH CURB

PLAN

SECTION A-A

3/4" PER FT.      3"      7"

#4 REBAR      18"      18"      3 1/2"

NOTE: NOT TO SCALE

NOTES:

- WITH REMOVAL OF EXISTING CURB AT A STREET, MILL BITUMINOUS TO A DEPTH OF 1.5" AND A WIDTH OF 18" IN EXISTING STREET.
- TO BE USED WHENEVER CROSS DRAINAGE IS < 2%.
- CONCRETE CURB AND GUTTER SHALL BE CAST INTEGRAL WITH CONCRETE CROSS GUTTER AREA.
- CONCRETE CURB AND GUTTER SHALL BE PAID SEPARATELY FROM CONCRETE CROSS GUTTER AREA.

APPROVED: 3 - 2017

**City of RAMSEY**

STANDARD DETAILS: CROSS GUTTER  
CITY PLATE No. STR-2

SAWCUT BITUMINOUS AND CURB AND REMOVE

MILL WEAR AFTER BASE PATCH INSTALLED

12" MIN.      18" MIN.

1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340B)

TACK COAT

2" TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330B)

4" MODIFIED CLASS 5 AGGREGATE BASE

APPROVED SUBGRADE

CURB REMOVED AND REPLACED

NOTES:

- BITUMINOUS SHALL BE SAWCUT AND REMOVED AFTER CURB IS REPLACED.
- CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHANICALLY COMPACTED.
- SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.

APPROVED: 6 - 2016

**City of RAMSEY**

STANDARD DETAILS: STREET PATCHING STANDARDS  
CITY PLATE No. STR-25

TABLE A  
MODIFIED CLASS 5  
SPECIFICATIONS

% PASSING

1"	100
3/4"	90 - 100
3/8"	50 - 80
No.4	35 - 70
No.10	20 - 60
No.40	10 - 35
No.200	5 - 10

NOTES:

- THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
- IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
- IN THE EVENT THAT RECYCLED MATERIAL IS USED IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED: 2 - 2003

**City of RAMSEY**

STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS  
CITY PLATE No. STR-26

4' RED FLEX MARKER

5' OR AS SHOWN ON PLANS

16" BREAK-OFF SECTION

0.35'

VALVE BOX

UNDISTURBED SOIL

2'-6"

MIN 7'-5"

EDGE OF MAT OR BACK OF CURB.

PLASTIC LAYER

18" MINIMUM SEPARATION FROM SANITARY SEWER TO WATERMAIN

CONCRETE BLOCKING

1 C.Y. OF COURSE GRAVEL

6" VALVE

6" D.I.P.

18"X18"X5" CONC. BASE

18" MINIMUM SEPARATION FROM SANITARY SEWER TO WATERMAIN

NOTES:

- HYDRANT SHALL BE 5-1/4" WB67 WATEROUS PACER OR APPROVED EQUAL.
- HYDRANTS TO BE ORDERED FOR 8'-0" BURY. IN AREAS OF EXTRA DEPTH ON THE WATERMAIN, HYDRANTS EXTENSIONS MAY BE REQUIRED.
- HYDRANTS SHALL BE BLOCKED OR TIED TO THE TEE AT MAIN WITH 2-3/4" DIAMETER TIE RODS. ALL TIE RODS TO BE COAL TAR COATED AFTER INSTALLATION. RESTRAINED JOINT PIPE AND RETAINING GLANDS MAY BE USED.
- TOP NUT OF HYDRANT 2.5' ABOVE TOP BACK OF CURB OR BITUMINOUS SURFACE.
- HYDRANTS BURIED BELOW WATER TABLE, DRAIN HOLES NEED TO BE PLUGGED AND HYDRANT MARKED BY PAINTING 5" CAP YELLOW.
- BRUSH PAINT ALL HYDRANTS AFTER INSTALLATION IS COMPLETE.
- PUMPER NOZZLE .5.75" O.D. X 4 T.P.I, HOSE NOZZLE 3.06" O.D. X 7 T.P.I.

APPROVED: 6 - 2017

**City of RAMSEY**

STANDARD DETAILS: HYDRANT  
CITY PLATE No. WAT-1

7" LONG COPPER JUMPER TRIP SIZED TO CARRY 600 AMPS

2 - SILICON BRONZE 5/16"x3/4" HEX HEAD BOLT & NUT

3 1/4" LONG PIPE STRIP WELD TO PIPE

WELD TO PIPE

BELL END

PUSH ON JOINT

NOTE: DO NOT PASS CURRENT THROUGH PIPE UNLESS PIPE IS FULL OF WATER.

ALTERNATE METHOD BY AMERICAN CAST -IRON USING 4 COPPER CONTACT STRIPS IS AN APPROVED EQUAL TO ABOVE

10" LONG COPPER JUMPER STRIP SIZED TO CARRY 600 AMPS

LOOSE GLAND

CONNECT TO BOLT HEAD

3 1/4" LONG PIPE STRIP, WELD TO PIPE

LEAD TIP GASKET

BELL END

TEE HEAD BOLTS

MECHANICAL JOINT

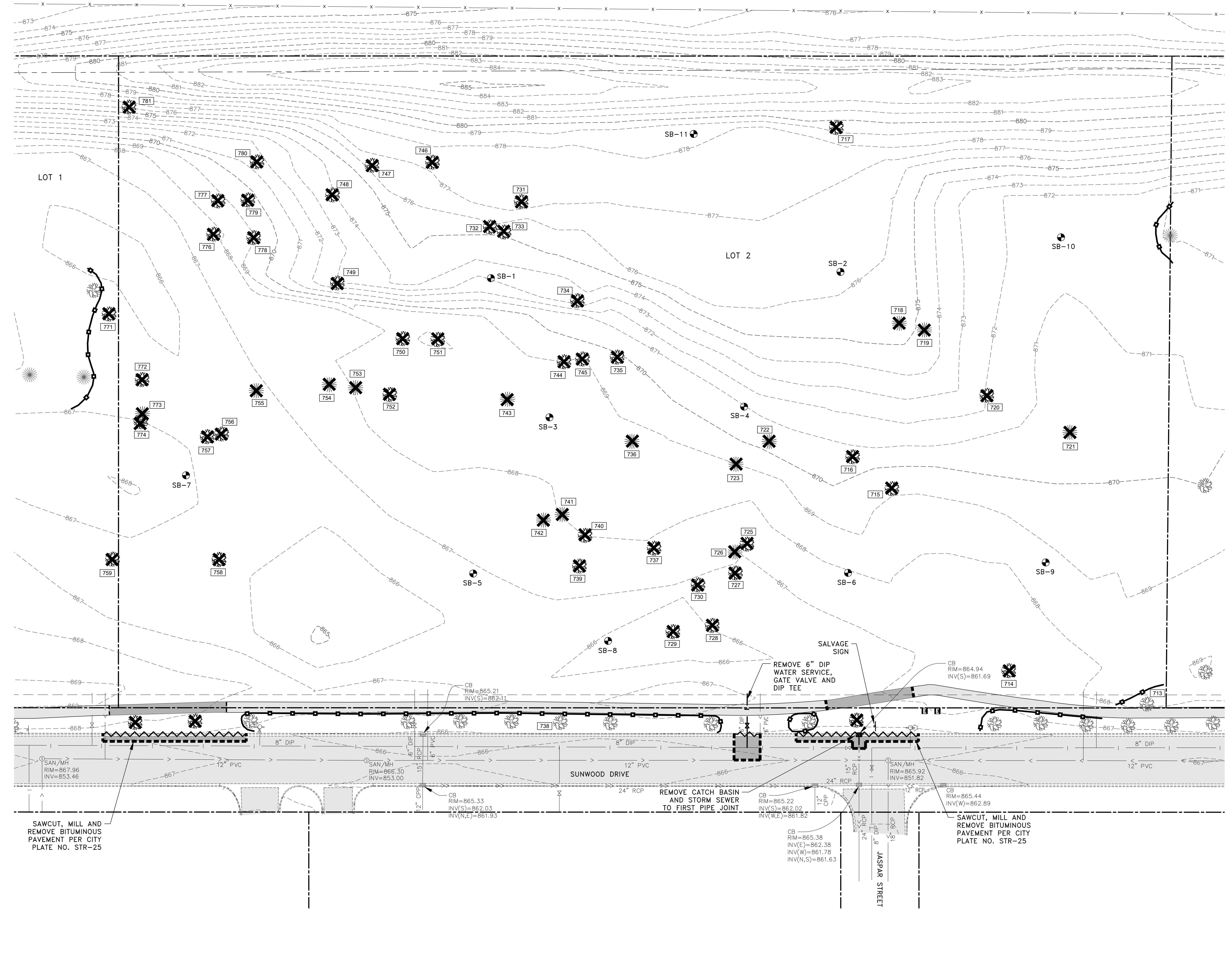
APPROVED: 1 - 2016

**City of RAMSEY**

STANDARD DETAILS: JOINT CONNECTION  
CITY PLATE No. WAT-4

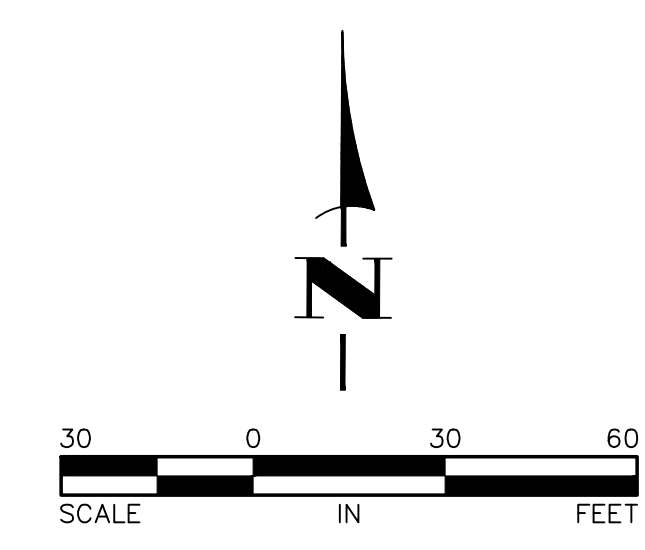
- GENERAL NOTES:
1. SILT FENCE/TREE PROTECTION FENCE SHALL BE IN PLACE PRIOR TO THE START OF ANY REMOVAL ACTIVITIES. SEE THE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR SILT FENCE LOCATIONS.
  2. CLEARING OF ANY OAK TREES SHALL NOT OCCUR PRIOR TO JULY 15TH. IF OAK TREE CLEARING IS NECESSARY PRIOR TO JULY 15TH, AN OAK WILT MANAGEMENT PLAN MUST BE PREPARED AND SUBMITTED TO THE CITY FOR REVIEW TO ENSURE ADEQUATE MEASURES ARE IMPLEMENTED TO PROTECT FROM THE INTRODUCTION OF OAK WILT.
  3. CLEAR AND GRUB BRUSH, SHRUBS AND SMALL TREES WITHIN THE CONSTRUCTION LIMITS (NOT SHOWN).
  4. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR THE WORK IN SUNWOOD DRIVE. PLAN SHALL BE SUBMITTED TO THE CITY OF RAMSEY A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.

- REFERENCE NOTES:
- ① FENCE MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 2572.2.B. FENCE SHALL BE INSTALLED PER MN/DOT SPEC. 2572.3.A.1.
  - ② ONLY THE SIGNIFICANT TREES, AS DEFINED BY THE CITY OF RAMSEY, ARE NUMBERED. SEE SHEET C2 FOR THE SIGNIFICANT TREE INVENTORY TABULATION.



**LEGEND**

- PROPERTY LINE
- EASEMENT LINE
- SECTION LINE
- XXX EXISTING CONTOUR
- EXISTING CONCRETE CURB
- G GAS MAIN
- P-BUR BURIED ELECTRIC LINE
- T-BUR BURIED TELEPHONE LINE
- TV-BUR BURIED TELEVISION LINE
- FO-BUR BURIED FIBER OPTIC LINE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- FENCE
- ⊙ EXISTING SANITARY SEWER MANHOLE
- ⊙ EXISTING STORM SEWER MANHOLE
- ⊙ EXISTING CATCH BASIN
- ⊙ EXISTING WATERMAIN VALVE
- ⊙ EXISTING HYDRANT
- ⊙ LIGHT POLE
- ⊙ SIGN
- ⊙ DECIDUOUS AND CONIFEROUS TREES
- ⊙ SB-X APPROXIMATE SOIL BORING LOCATION
- █ EXISTING BITUMINOUS PAVEMENT
- █ REMOVE BITUMINOUS PAVEMENT
- ✂ CLEAR AND GRUB TREES
- REMOVE CONCRETE CURB
- SAWCUT BITUMINOUS PAVEMENT
- TREE PROTECTION FENCE ①
- XXX TREE NUMBER ②



DATE	REVISION	DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Timothy A. Ebersole*  
**TIMOTHY A. EBERSOLE, P.E.**  
 Lic. No. 43362

Date 6/18/21

DESIGNED BY: TAE  
 DRAWN BY: TAE  
 CHECKED BY: CJJ

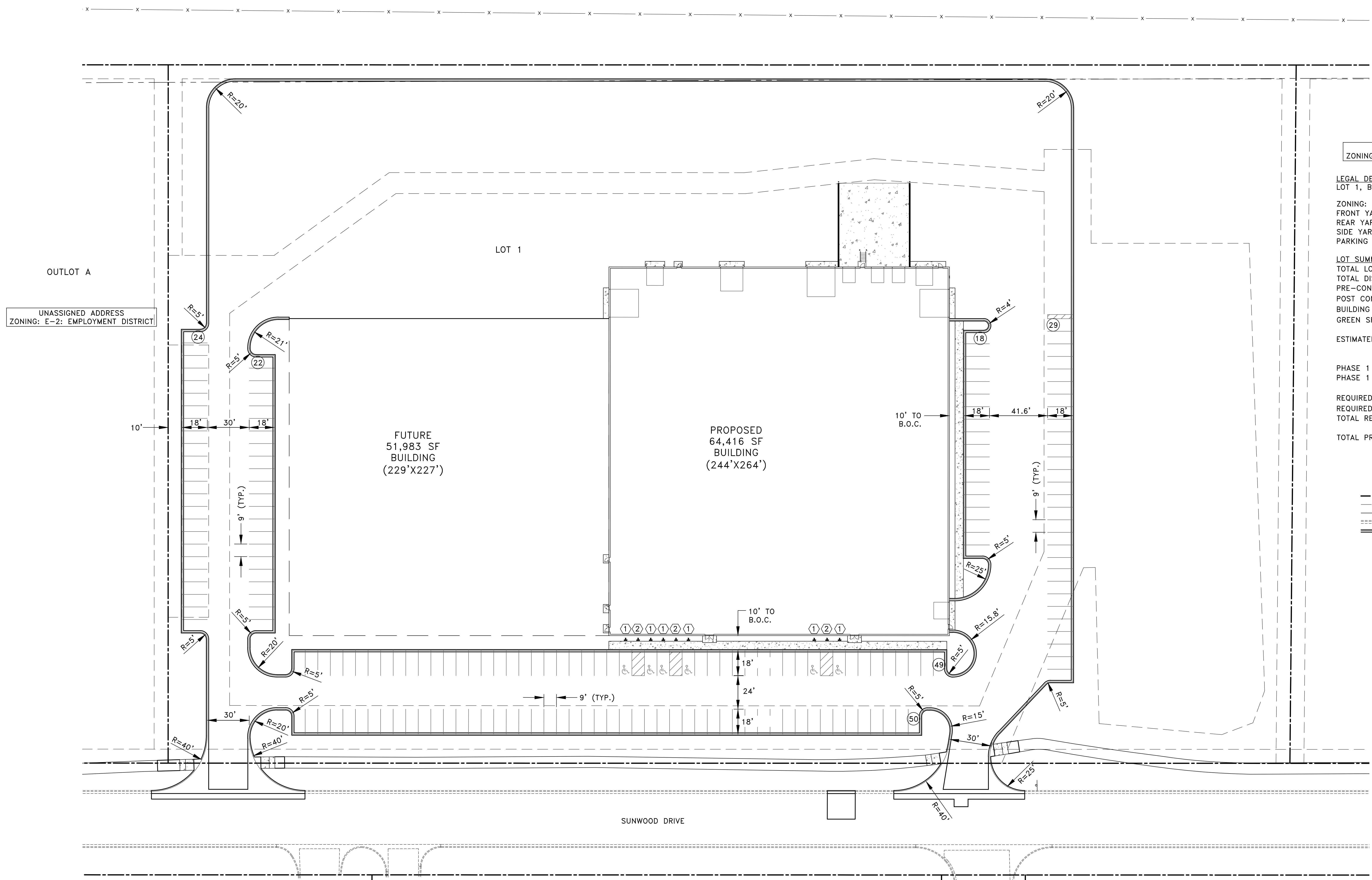
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 www.hakanson-anderson.com

LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

EXISTING TOPOGRAPHY  
 AND REMOVALS PLAN  
 CITY OF RAMSEY, MINNESOTA

SHEET  
**C5**  
 OF  
**C10**  
 SHEETS

14601 RAMSEY BOULEVARD NW  
ZONING: E-2: EMPLOYMENT DISTRICT



OUTLOT B  
UNASSIGNED ADDRESS  
ZONING: E-2: EMPLOYMENT DISTRICT

LEGAL DESCRIPTION  
LOT 1, BLOCK 1-KNOLL PROPERTIES SECOND ADDITION

ZONING: E-2: EMPLOYMENT DISTRICT  
FRONT YARD SETBACK: 35'  
REAR YARD SETBACK: 25'  
SIDE YARD SETBACK: 25'  
PARKING SETBACK FROM RIGHT-OF-WAY: 20'

LOT SUMMARY

TOTAL LOT AREA=	402,943 SF
TOTAL DISTURBED AREA=	401,159 SF
PRE-CONSTRUCTION IMPERVIOUS AREA=	3,547 SF
POST CONSTRUCTION IMPERVIOUS AREA=	292,632 SF (73%)
BUILDING COVERAGE AREA (PHASES 1 & 2)	116,399 SF (29%)
GREEN SPACE AREA	110,311 SF (27%)

ESTIMATED NUMBER OF EMPLOYEES-PHASE 1= 10 OFFICE EMPLOYEES  
45 INDUSTRIAL EMPLOYEES

PHASE 1 OFFICE SPACE= 12,922 SF  
PHASE 1 WAREHOUSE SPACE= 51,972 SF

REQUIRED PARKING STALLS (OFFICE=1 STALL/300 SF)= 43 STALLS  
REQUIRED PARKING STALLS (WAREHOUSE=1 STALL/1000 SF)= 52 STALLS  
TOTAL REQUIRED PARKING STALLS-PHASE 1= 95 STALLS

TOTAL PROPOSED PARKING STALLS= 192 STALLS

LEGEND

- PROPERTY LINE
- - - EASEMENT LINE
- - - SECTION LINE
- EXISTING CONCRETE CURB
- PROPOSED CONCRETE CURB
- (XX) PARKING STALL QUANTITY

SIGN LEGEND

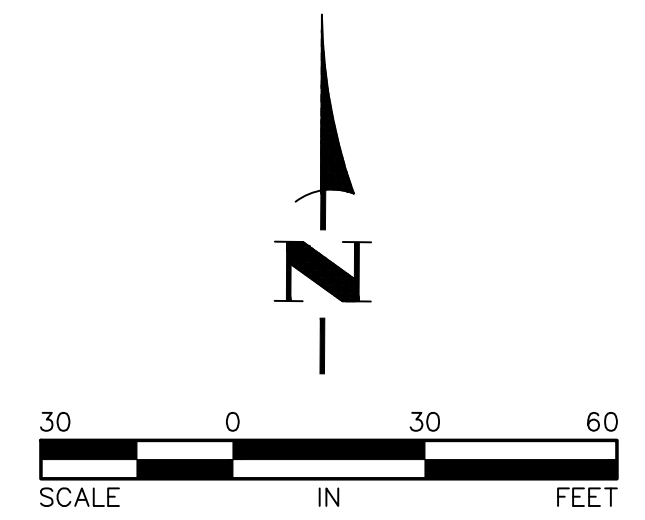
① R7-8m 12"x18"

② 12"x18"

7180 SUNWOOD DRIVE NW  
ZONING: E-2: EMPLOYMENT DISTRICT

7100 SUNWOOD DRIVE NW  
ZONING: E-2: EMPLOYMENT DISTRICT

7000 SUNWOOD DRIVE NW  
ZONING: E-2: EMPLOYMENT DISTRICT



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*Timothy A. Eberschke*  
TIMOTHY A. EBERSCHKE, P.E.  
Date 6/18/21 Lic. No. 43362

DESIGNED BY: TAE  
DRAWN BY: TAE  
CHECKED BY: CJJ

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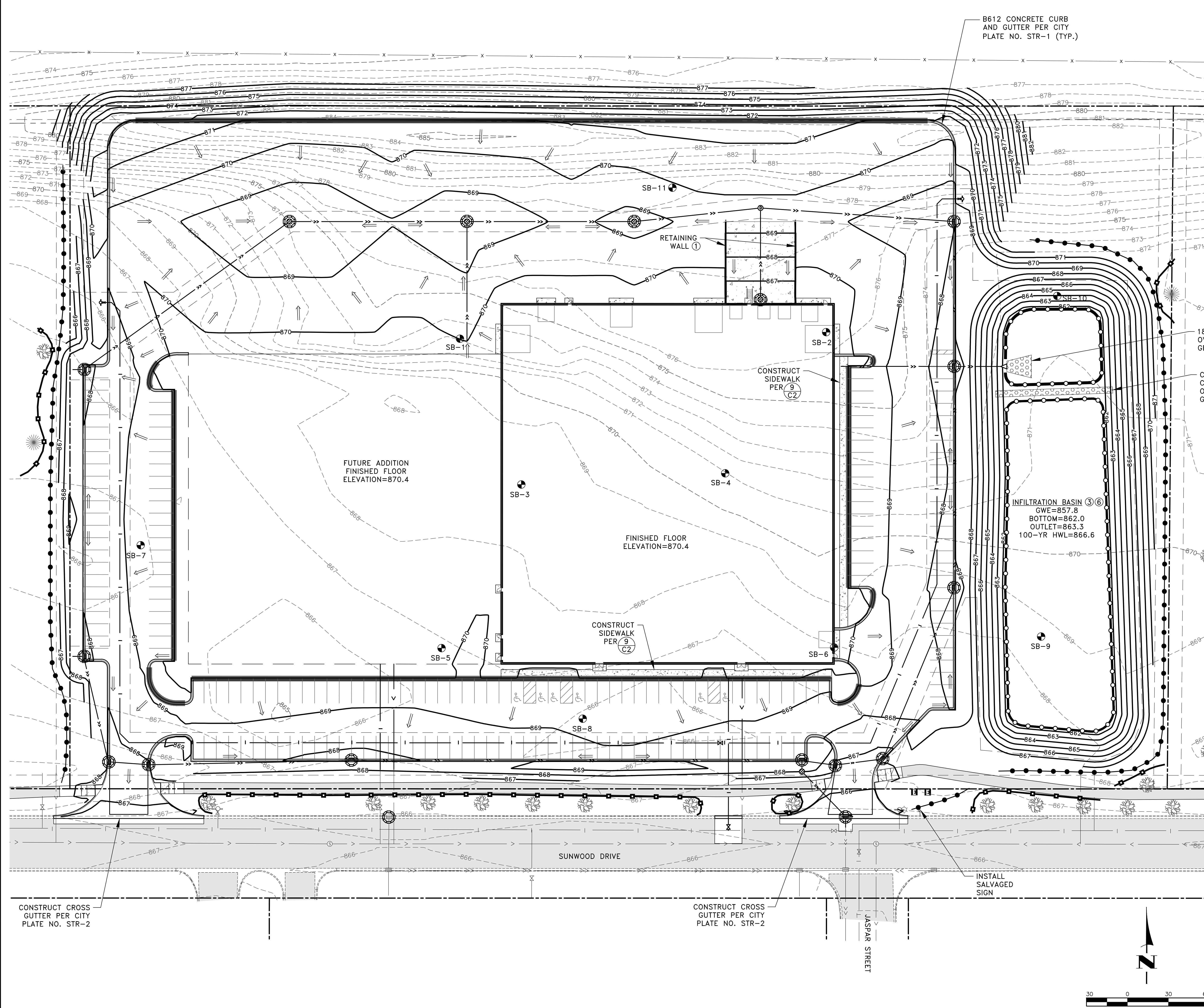
LOT 1, BLOCK 1  
KNOLL PROPERTIES SECOND ADDITION

SITE PLAN  
CITY OF RAMSEY, MINNESOTA

SHEET C6 OF C10 SHEETS

- GENERAL NOTES:
1. PRIOR TO IMPORTING OR EXPORTING MATERIAL FROM THE SITE, CONTRACTOR SHALL CONSTRUCT A ROCK CONSTRUCTION ENTRANCE PER CITY PLATE NO. ERO-5.
  2. VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
  3. SEE SHEET C9 FOR THE UTILITY PLAN.
  4. PERVIOUS AREAS SHALL BE STABILIZED WITHIN 7 DAYS OF ROUGH GRADING.
  5. CONTRACTOR SHALL DETERMINE A LOCATION FOR CONCRETE AND OTHER WASHOUT WASTE. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY THAT REQUIRES SITE PERSONNEL TO UTILIZE THE PROPER FACILITIES FOR DISPOSAL OF CONCRETE AND OTHER WASTES.
  6. STREET SWEEPING MUST BE PERFORMED DAILY IF SEDIMENT IS TRACKED OUTSIDE THE CONSTRUCTION LIMITS OR ONTO ANY CITY STREETS.
  7. PER THE ANOKA COUNTY SOIL SURVEY, THE SITE CONSISTS OF HUBBARD LOAMY SANDS. SEE THE REPORT OF GEOTECHNICAL EXPLORATION PREPARED BY AMERICAN ENGINEERING TESTING, INC. FOR ADDITIONAL INFORMATION.
  8. MAXIMUM FINISHED GRADES SLOPES SHALL BE 4:1.
  9. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR THE WORK IN SUNWOOD DRIVE. PLAN SHALL BE SUBMITTED TO THE CITY OF RAMSEY A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.

- REFERENCE NOTES:
- ① RETAINING WALL SHALL BE DESIGNED BY A LICENSED ENGINEER. SEE SHEET C8 FOR RETAINING WALL GRADES.
  - ② PLACE RIPRAP PER CITY PLATE NO. ERO-3.
  - ③ CONSTRUCT INFILTRATION BASIN PER (C2).
  - ④ PLACE SEDIMENT CONTROL LOG AFTER COMPLETION OF GRADING.
  - ⑤ PLACE RIPRAP PER (C2).
  - ⑥ CONTRACTOR SHALL NOT EXCAVATE THE INFILTRATION BASIN TO FINAL GRADE, OR WITHIN THREE FEET OF FINAL GRADE, UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED UNLESS RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION BASIN ARE PROVIDED.



**LEGEND**

- PROPERTY LINE
- EASEMENT LINE
- SECTION LINE
- XXX --- EXISTING CONTOUR
- EXISTING CONCRETE CURB
- GAS MAIN
- BURIED ELECTRIC LINE
- BURIED TELEPHONE LINE
- BURIED TELEVISION LINE
- BURIED FIBER OPTIC LINE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- FENCE
- ⊙ EXISTING SANITARY SEWER MANHOLE
- ⊙ EXISTING STORM SEWER MANHOLE
- ⊙ EXISTING CATCH BASIN
- ⊙ EXISTING WATERMAIN VALVE
- ⊙ EXISTING HYDRANT
- ⊙ LIGHT POLE
- ⊙ SIGN
- ⊙ DECIDUOUS AND CONIFEROUS TREES
- ⊙ SB-X APPROXIMATE SOIL BORING LOCATION
- ⊙ EXISTING BITUMINOUS PAVEMENT
- ⊙ PROPOSED RIPRAP
- ⊙ PROPOSED CONCRETE CURB AND GUTTER
- ⊙ PROPOSED WATERMAIN
- ⊙ PROPOSED SANITARY SEWER
- ⊙ PROPOSED STORM SEWER
- ⊙ PROPOSED STORM SEWER MANHOLE
- ⊙ PROPOSED CATCH BASIN/POND OUTLET STRUCTURE
- ⊙ PROPOSED STORM SEWER APRON
- ⊙ PROPOSED HYDRANT
- ⊙ PROPOSED WATERMAIN VALVE
- ⊙ TREE PROTECTION FENCE
- ⊙ STORM DRAIN INLET PROTECTION DEVICE PER (C2), (C6) AND (C7)
- ⊙ PROPOSED TIPOUT CURB PER (C2)
- ⊙ SILT FENCE PER CITY PLATE NO. ERO-1
- ⊙ SEDIMENT CONTROL LOG PER CITY PLATE NO. ERO-4 (4)
- ⇒ DRAINAGE ARROW
- ⊙ DETAIL NUMBER
- ⊙ SHEET NUMBER

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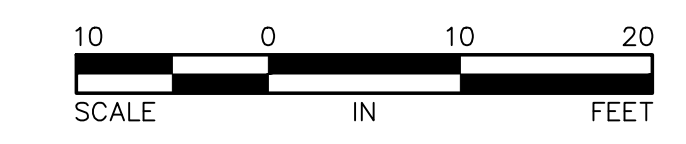
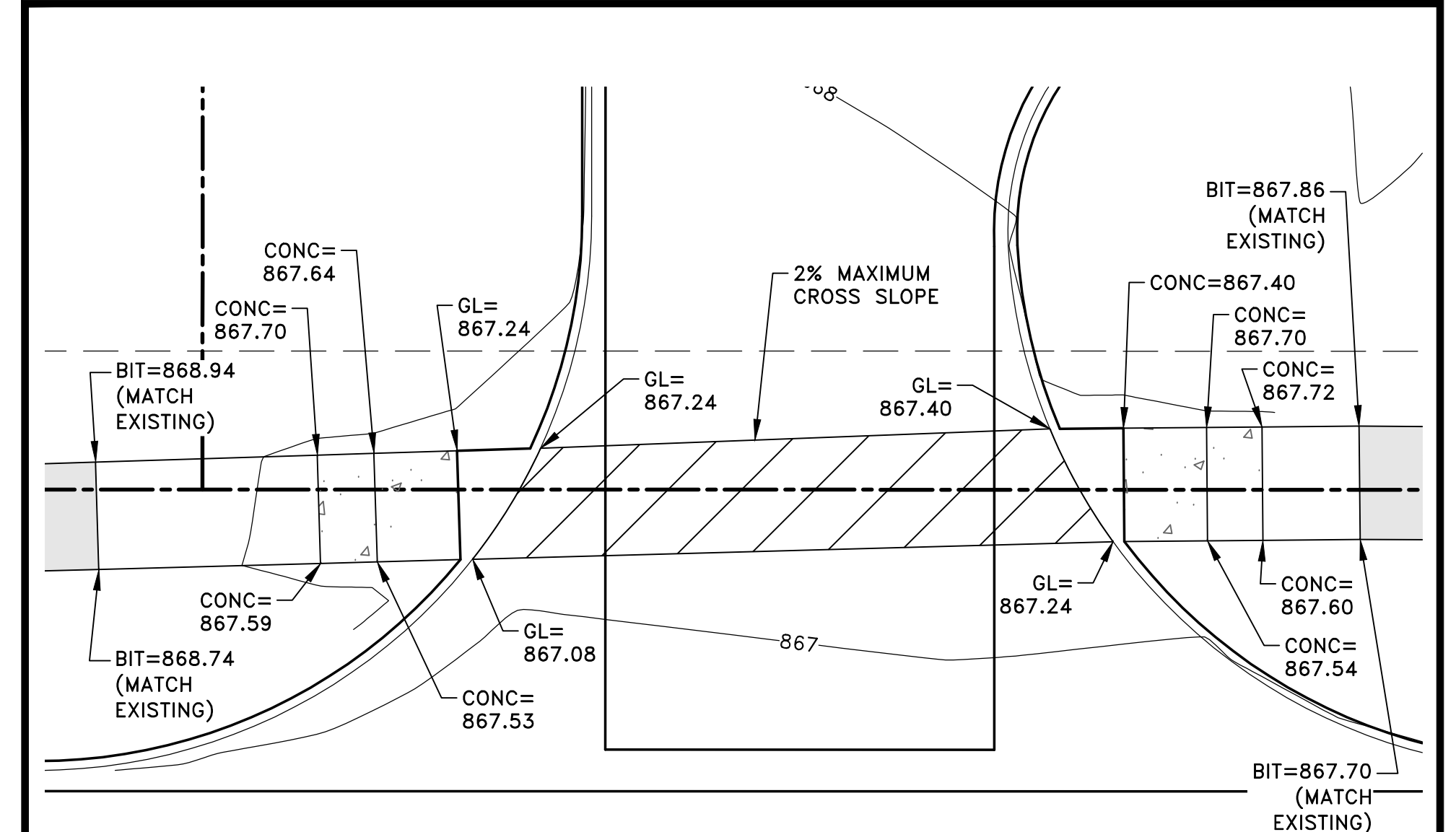
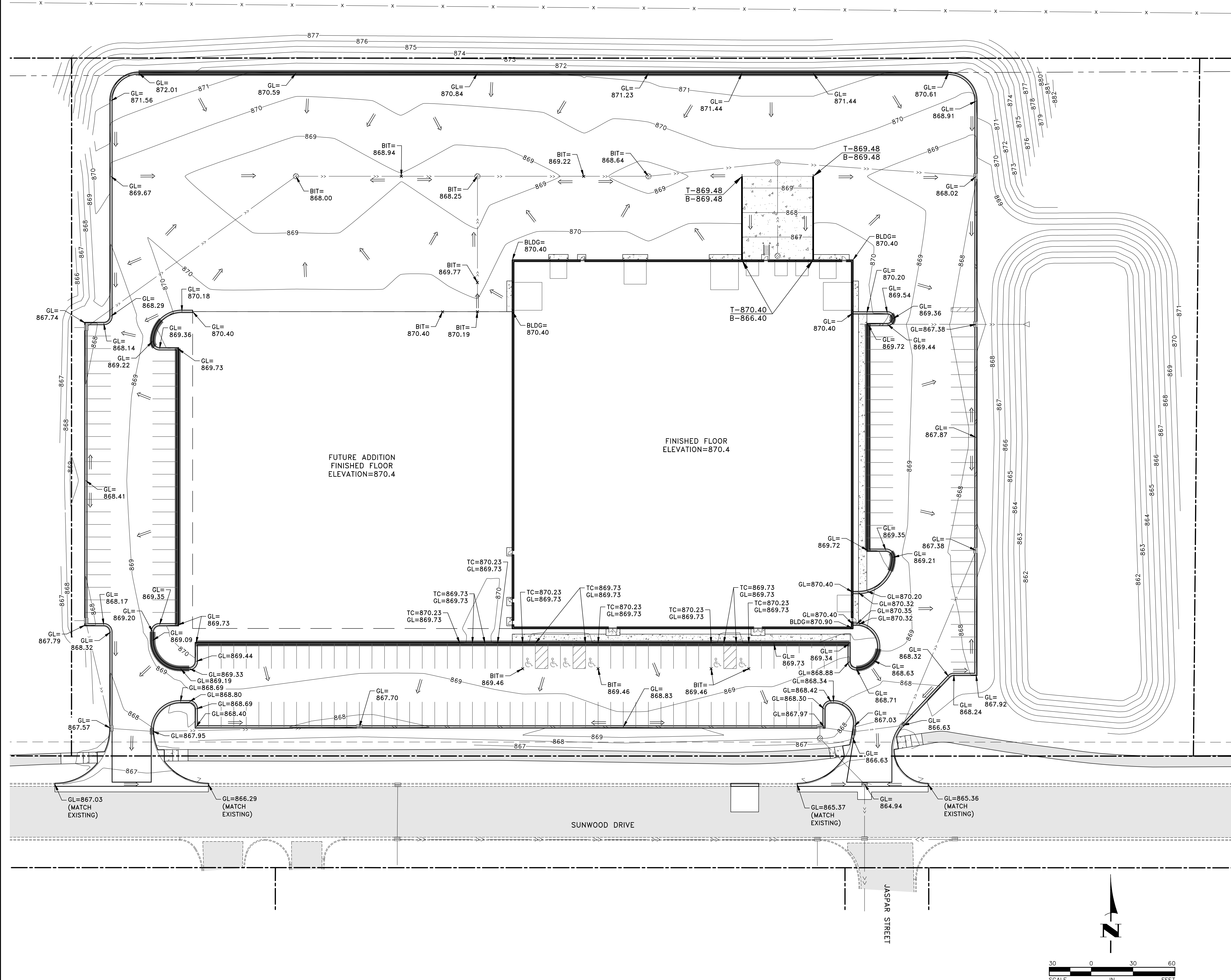
LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

GRADING, DRAINAGE AND EROSION CONTROL PLAN  
 CITY OF RAMSEY, MINNESOTA

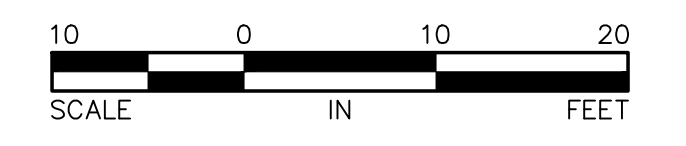
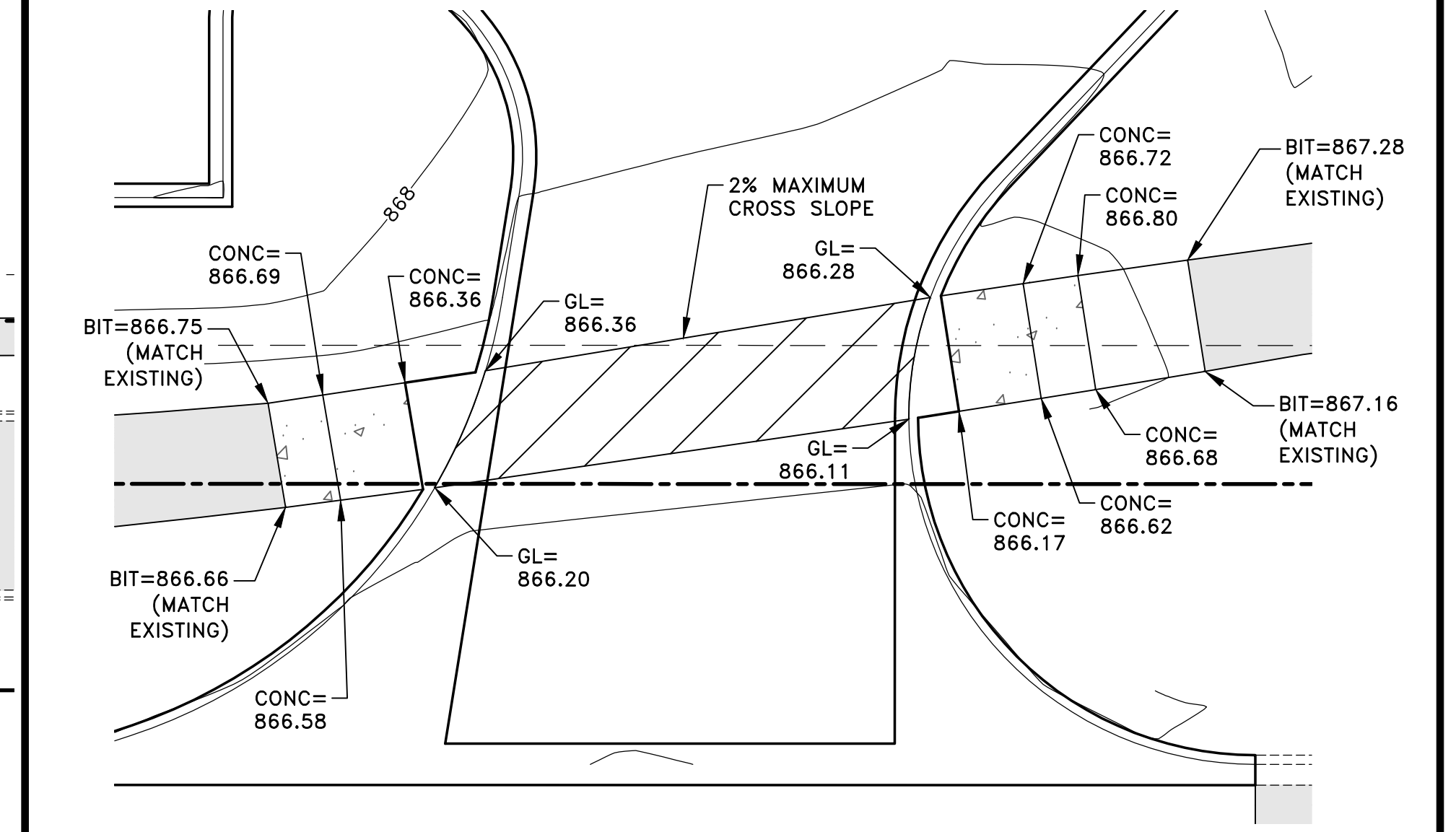
SHEET C7 OF C10 SHEETS

LEGEND

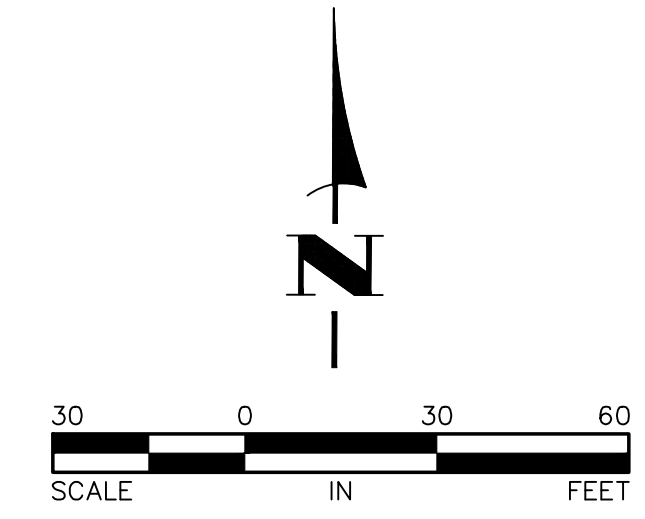
- PROPOSED TIPOUT CURB PER 3 C2
- DRAINAGE ARROW
- T-XXX.XX TOP OF RETAINING WALL ELEVATION
- B-XXX.XX GROUND ELEVATION AT BASE OF RETAINING WALL
- GL=XXX.XX PROPOSED GUTTER LINE ELEVATION
- TC=XXX.XX PROPOSED TOP OF CURB ELEVATION
- BIT=XXX.XX PROPOSED SPOT ELEVATION (BITUMINOUS)
- CONC=XXX.XX PROPOSED SPOT ELEVATION (CONCRETE)
- BLDG=XXX.XX PROPOSED GROUND ELEVATION AT BUILDING



1 WEST PEDESTRIAN CURB RAMPS  
C8 NO SCALE



2 EAST PEDESTRIAN CURB RAMPS  
C8 NO SCALE



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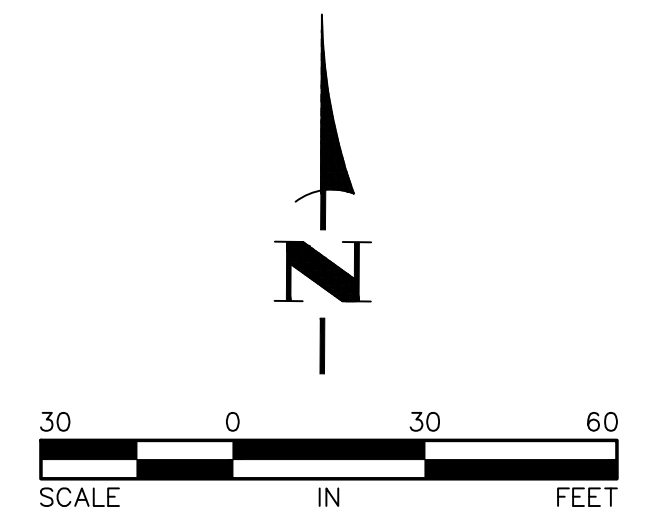
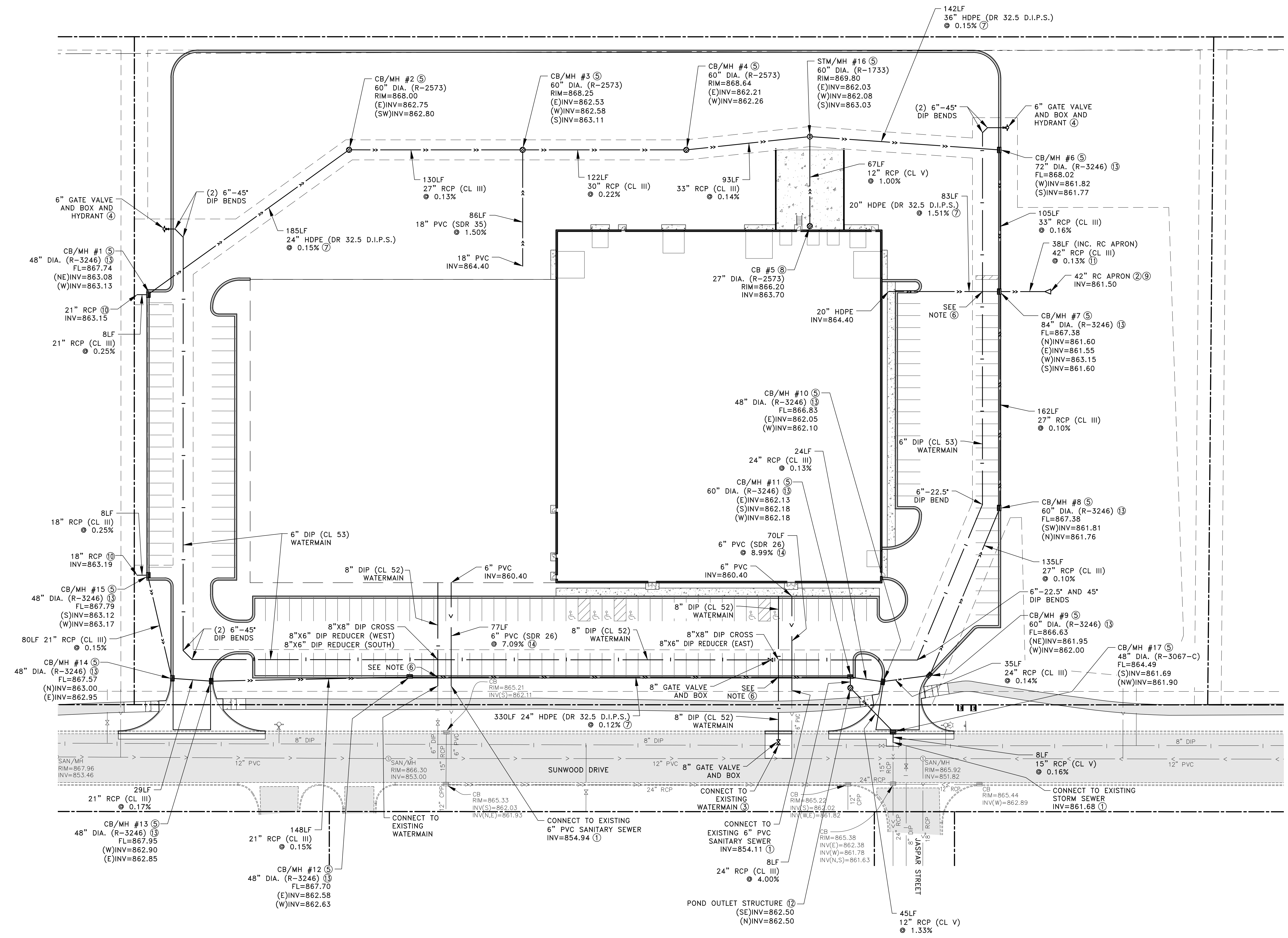
LOT 1, BLOCK 1  
KNOLL PROPERTIES SECOND ADDITION

STAKING PLAN  
CITY OF RAMSEY, MINNESOTA

SHEET  
C8 OF  
C10  
SHEETS  
3395.12

- GENERAL NOTES:
- CONTRACTOR SHALL APPLY FOR A DEPARTMENT OF LABOR AND INDUSTRY PERMIT PRIOR TO CONSTRUCTING ANY UNDERGROUND UTILITIES SHOWN ON THESE PLANS. CONTRACTOR SHALL ADDRESS ALL THE COMMENTS FROM THE DEPARTMENT OF LABOR AND INDUSTRY AS PART OF THE PERMIT APPLICATION PROCESS.
  - MANHOLE COVERS WITH A 2'X3' OPENING SHALL BE PER CITY PLATE NO. ST0-5.
  - MAINTAIN A MINIMUM OF 7.5' OF COVER OVER WATERMAIN.
  - WATERMAIN JOINT CONSTRUCTION SHALL BE PER CITY PLATE NO. WAT-4.
  - CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR THE WORK IN SUNWOOD DRIVE. PLAN SHALL BE SUBMITTED TO THE CITY OF RAMSEY A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.

- REFERENCE NOTES:
- LOCATION AND INVERT OF EXISTING SANITARY SEWER AND STORM SEWER STUBS SHALL BE VERIFIED PRIOR TO CONSTRUCTION.
  - PLACE A TEMPORARY PLUG IN THE STORM SEWER UNTIL THE CONTRIBUTING DRAINAGE AREA AND THE INFILTRATION BASIN HAVE PERMANENT COVER.
  - WATER SERVICE CONNECTION SHALL INCLUDE CUTTING IN AN 8"X8" DIP TEE AND CONNECTING TO THE EXISTING WATERMAIN WITH 8" DIP SLEEVES. CONTRACTOR SHALL NOTIFY THE CITY OF RAMSEY AND AFFECTED BUSINESSES A MINIMUM OF 3 DAYS PRIOR TO SHUTTING THE WATER OFF TO ANY PROPERTIES.
  - CONSTRUCT HYDRANT AND VALVE PER CITY PLATE NO. WAT-1.
  - CONSTRUCT STRUCTURE PER CITY PLATE NO. ST0-1.
  - CONSTRUCT WATERMAIN SUCH THAT THERE ARE NO PIPE JOINTS WITHIN 10 FEET OF THE STORM SEWER CROSSING.
  - HDPE PIPE SHALL MEET THE REQUIREMENTS OF ASTM F 714.
  - CONSTRUCT STRUCTURE PER CITY PLATE NO. ST0-2.
  - CONCRETE APRON SHALL INCLUDE A TRASH GUARD PER CITY PLATE NO. ST0-8.
  - BULKHEAD PIPE WITH A GASKETED CONCRETE PLUG.
  - TIE ALL PIPE JOINTS.
  - CONSTRUCT STRUCTURE PER (1) (C2).
  - CATCH BASIN CASTING DETAILS ARE SHOWN ON CITY PLATE NO. ST0-4.
  - CONSTRUCT SEWER SERVICE PER CITY PLATE NO. SEW-3.



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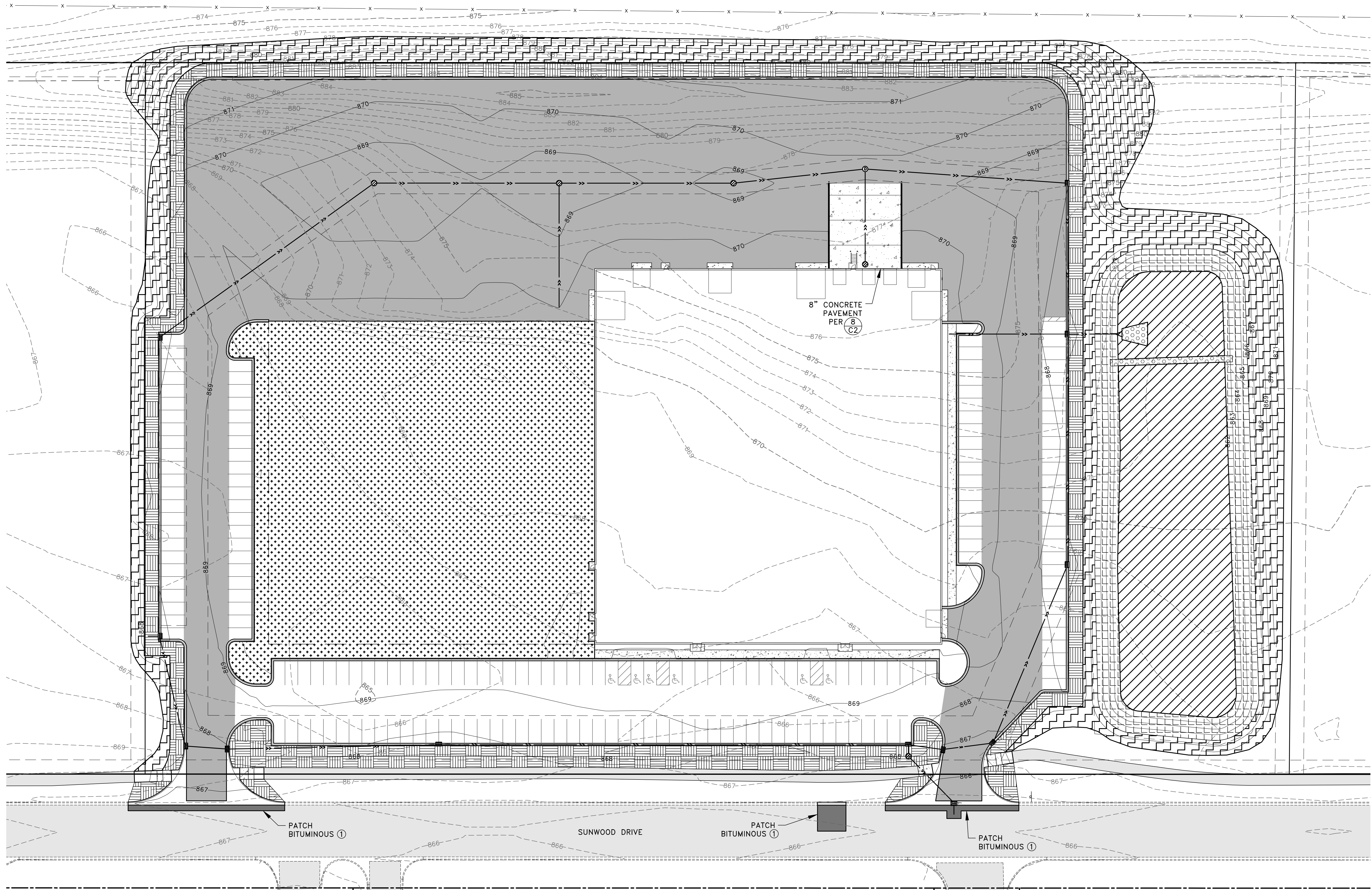
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LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

UTILITY PLAN  
 CITY OF RAMSEY, MINNESOTA

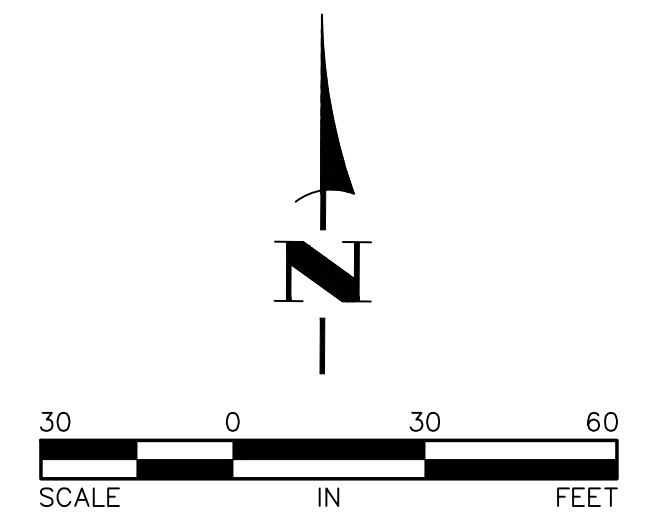
SHEET  
 C9  
 OF  
 C10  
 SHEETS



**LEGEND**

	PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT PER (1) C2
	SEED MIX 25-131 (220 POUNDS/ACRE) CATEGORY 0 EROSION CONTROL BLANKET TYPE 1 FERTILIZER (300 POUNDS/ACRE)
	SEED MIX 25-131 (220 POUNDS/ACRE) HYDRAULIC MULCH MATRIX (2500 POUNDS/ACRE) TYPE 1 FERTILIZER (300 POUNDS/ACRE)
	SEED MIX 33-261 (35 POUNDS/ACRE) CATEGORY 0 EROSION CONTROL BLANKET TYPE 1 FERTILIZER (300 POUNDS/ACRE)
	SEED MIX 33-261 (35 POUNDS/ACRE) HYDRAULIC MULCH MATRIX (2500 POUNDS/ACRE) TYPE 1 FERTILIZER (300 POUNDS/ACRE)
	SOD TYPE 1 FERTILIZER (300 POUNDS/ACRE)

- GENERAL NOTES:**
- UNLESS NOTED, ALL BITUMINOUS PAVEMENT SHALL BE LIGHT DUTY PER (2) C2
  - PLACE A MINIMUM OF 4" OF TOPSOIL OVER ALL DISTURBED AREAS OUTSIDE THE PROPOSED PARKING LOT AND INFILTRATION AREA. TOPSOIL SHALL NOT CONTAIN MORE THAN 35% SAND CONTENT. SEE (1) C2 FOR INFILTRATION BASIN
- TOPSOIL REQUIREMENTS.**
- REFERENCE NOTES:**
- BITUMINOUS PATCHING SECTION SHALL MATCH THE EXISTING SECTION ON SUNWOOD DRIVE. BASED ON THE RECORD PLANS FOR SUNWOOD DRIVE, THE EXISTING PAVEMENT SECTION IS 1.5" BITUMINOUS WEAR COURSE, 2" BITUMINOUS NON WEAR COURSE AND 5" AGGREGATE BASE.



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DATE	REVISION	DATE	REVISION

I hereby certify that this plan, specification, or report 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.

*Timothy A. Ebersole*  
 TIMOTHY A. EBERSOLE, P.E.  
 Date 6/18/21 Lic. No. 43362

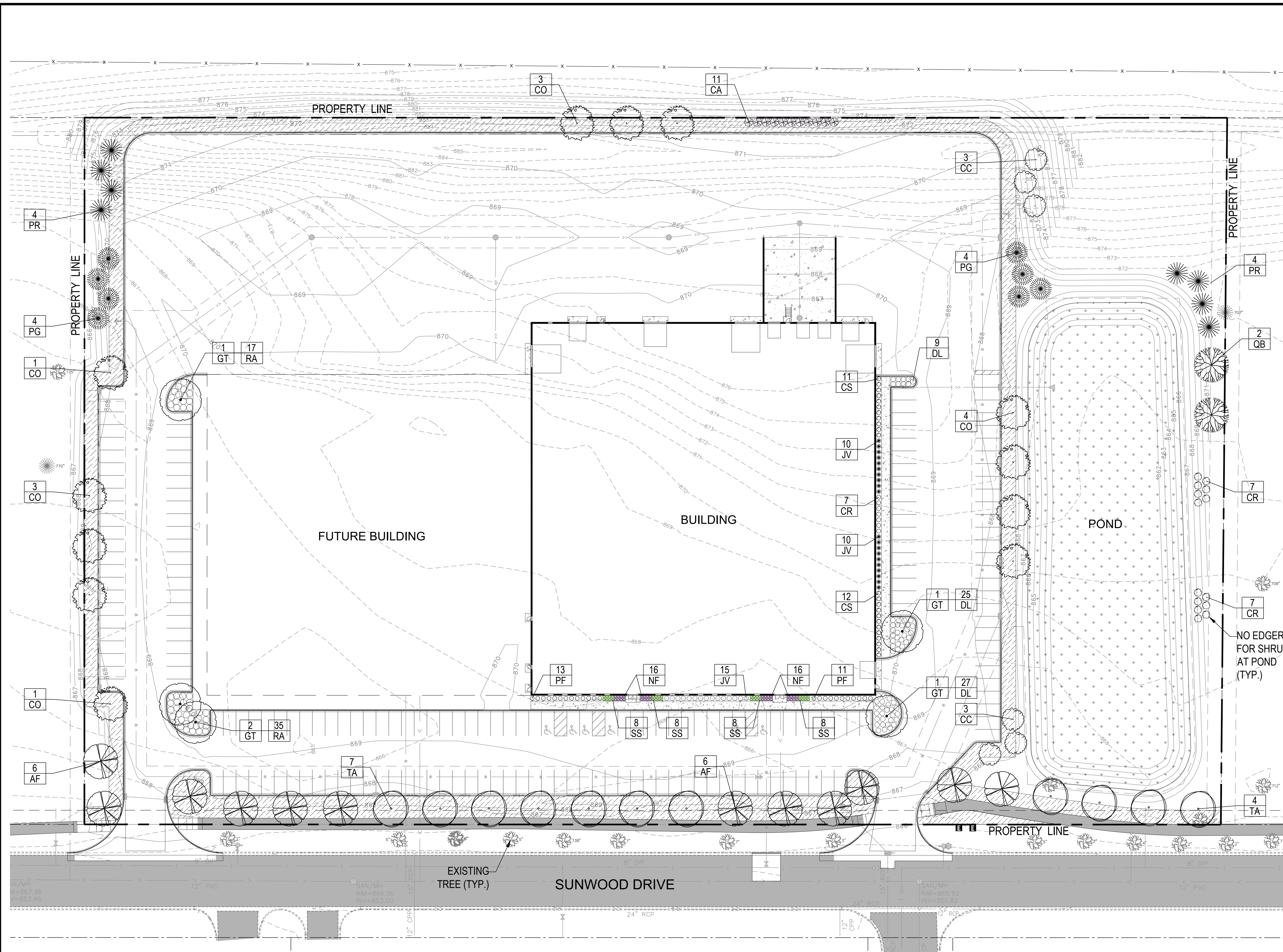
DESIGNED BY: TAE  
 DRAWN BY: TAE  
 CHECKED BY: CJJ

**Hakanson Anderson**  
 Civil Engineers and Land Surveyors  
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 763-427-5860 FAX 763-427-0520  
 www.hakanson-anderson.com

LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

PAVING AND RESTORATION PLAN  
 CITY OF RAMSEY, MINNESOTA

SHEET  
**C10**  
 OF  
**C10**  
 SHEETS  
 3395.12



### LANDSCAPE REQUIREMENTS

**DETERMINING NUMBER OF PLANTS**  
 LOT PERIMETER: 2612 LF/50 LF = 52 TREES  
 BUILDING FOOTPRINT: 64,414 SF/1,000 SF = 64 TREES  
 E-2 EMPLOYMENT DISTRICT

PLANTS BASED ON 64,000 SF BUILDING FOOTPRINT	REQUIRED	ON THIS PLAN
DECIDUOUS/CONIFEROUS TREES PER 1,000 SF (INCLUDES 23 EXISTING OVERSTORY TREES)	64	64
SHRUBS PER 300 SF	215	227
<b>TREE DISTRIBUTION</b>	<b>REQUIRED</b>	
OVERSTORY TREES ≥ 25%	≥ 16	43
CONIFER TREES ≥ 25%	≥ 16	16
ORNAMENTAL TREES ≤ 25%	≤ 16	6
OVERSTORY TREES ADJACENT TO PUBLIC R.O.W.	REQUIRED	
PUBLIC R.O.W. 804 LF/35 LF	23	23
<b>PARKING LOT LANDSCAPING - 192 STALLS</b>	<b>REQUIRED</b>	
1 TREE PER 10 STALLS	19	29

- NOTES:**
- SEE SHEET L2 FOR PLANT SCHEDULE, PLANTING DETAILS & LANDSCAPE SPECIFICATIONS.
  - ALL LANDSCAPE AREAS TO RECEIVE 4" OF TOPSOIL.
  - RESTORE ALL DISTURBED AREAS WITH MNDOT LOW MAINTENANCE TURF MIX 25-131 UNLESS OTHERWISE NOTED.

**LEGEND**

	SOD 10' STRIP BEHIND ALL CURBS
	MNDOT NATIVE SEED MIX 33-262 POND AREAS

### PLANT SCHEDULE

QTY	CODE	SCIENTIFIC NAME/COMMON NAME	SIZE	ROOT	REMARKS
<b>OVERSTORY TREES</b>					
12	AF	Acer x freemanii 'Jeffersred'	2.5' cal.	BB	space 35' o.c.
		Autumn Blaze maple	2.5' cal.	BB	space 35' o.c.
12	CO	Celtis occidentalis Hackberry	2.5' cal.	BB	space 35' o.c.
5	GT	Gleditsia triacanthos inermis 'Skycole'	2.5' cal.	BB	see plan for spacing
		Skyline honeylocust	2.5' cal.	BB	straight trunk, single leader
11	TA	Tilia americana 'McKsentry'	2.5' cal.	BB	space 35' o.c.
		American Sentry linden	2.5' cal.	BB	straight trunk, single leader
2	QB	Quercus bicolor Swamp white oak	2.5' cal.	BB	space 35' o.c.
		Swamp white oak	2.5' cal.	BB	straight trunk, single leader
<b>ORNAMENTAL TREES</b>					
6	CC	Crataegus crusgallis inermis Thornless hawthorne	2' cal.	BB	space 16' o.c.
		Thornless hawthorne	2' cal.	BB	straight trunk, single leader
<b>EVERGREEN TREES</b>					
8	PG	Picea glauca densata Black Hills Spruce	6' ht.	BB	space 16' o.c.
		Black Hills Spruce	6' ht.	BB	space 16' o.c.
8	PR	Pinus resinosa Red pine	6' ht.	BB	space 16' o.c.
		Red pine	6' ht.	BB	straight trunk, single leader
<b>SHRUBS (24" MIN. SHRUB SIZE AT TIME OF INSTALLATION)</b>					
11	CA	Corylus americana American hazelnut	#5	cont.	space 6' o.c.
14	CR	Cornus racemosa Gray dogwood	#5	cont.	space 6' o.c.
30	CS	Cornus sericea 'Alleman's Compact'	#5	cont.	space 4' o.c.
61	DL	Diervillea ionica Alleman's compact redtwig dogwood	#5	cont.	space 3.5' o.c.
35	JV	Juniperus virginiana 'Grey Owl'	#5	cont.	space 4' o.c.
		Grey Owl juniper	#5	cont.	space 4' o.c.
24	PO	Potentilla fruticosa 'Goldfinger'	#5	cont.	space 4' o.c.
		Goldfinger potentilla	#5	cont.	space 4' o.c.
52	RA	Rhus aromatica 'Gro-Low'	#5	cont.	space 4.5' o.c.
		Gro-Low fragrant sumac	#5	cont.	space 4.5' o.c.
<b>PERENNIALS</b>					
32	NF	Nepeta faassenii 'Walker's Low'	#1	cont.	space 2' o.c.
		Walker's Low catmint	#1	cont.	space 2' o.c.
32	SS	Schizachyrium scoparium Little bluestem	#1	cont.	space 2' o.c.

DATE \_\_\_\_\_ REVISION \_\_\_\_\_

EXISTING TREE (TYP.)

SUNWOOD DRIVE

DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota. Name: Carmen Simonet  
 Signature: *Carmen Simonet*  
 License # 24236 Date: 06.18.2021

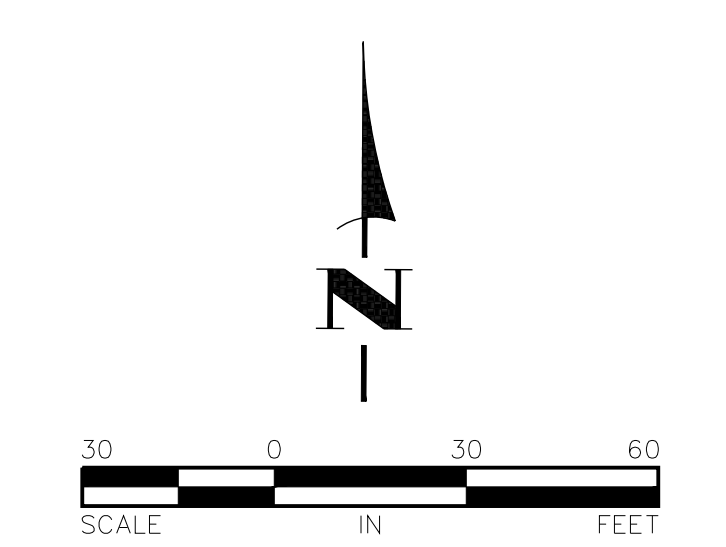
**LANDSCAPE ARCHITECT:**  
 Carmen Simonet Design LLC  
 354 Stonebridge Blvd., St. Paul, MN 55105  
 (651) 695-0273 carmen@simonetdesign.com  
 www.simonetdesign.com

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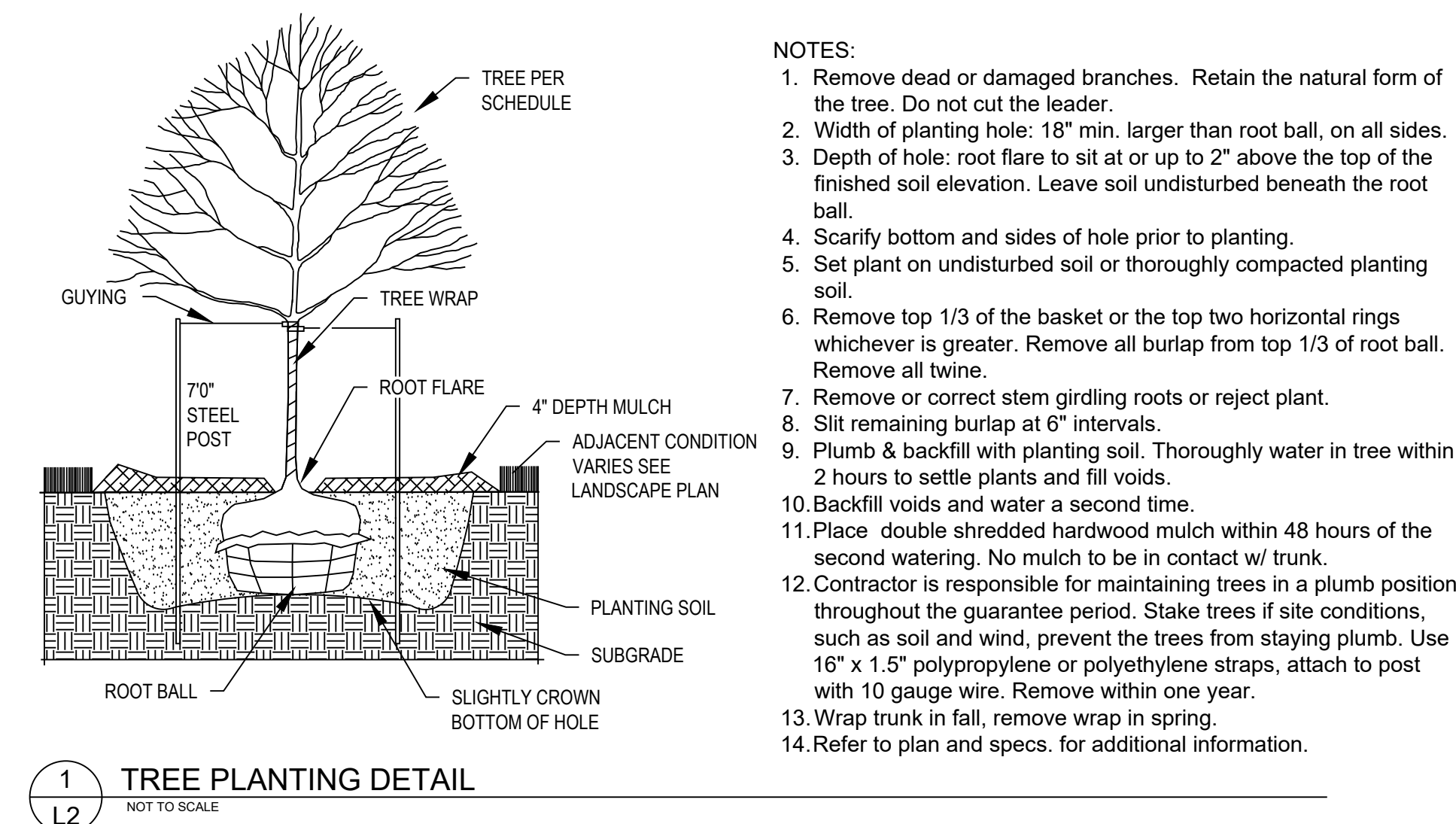
LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

LANDSCAPE PLAN  
 CITY OF RAMSEY, MINNESOTA

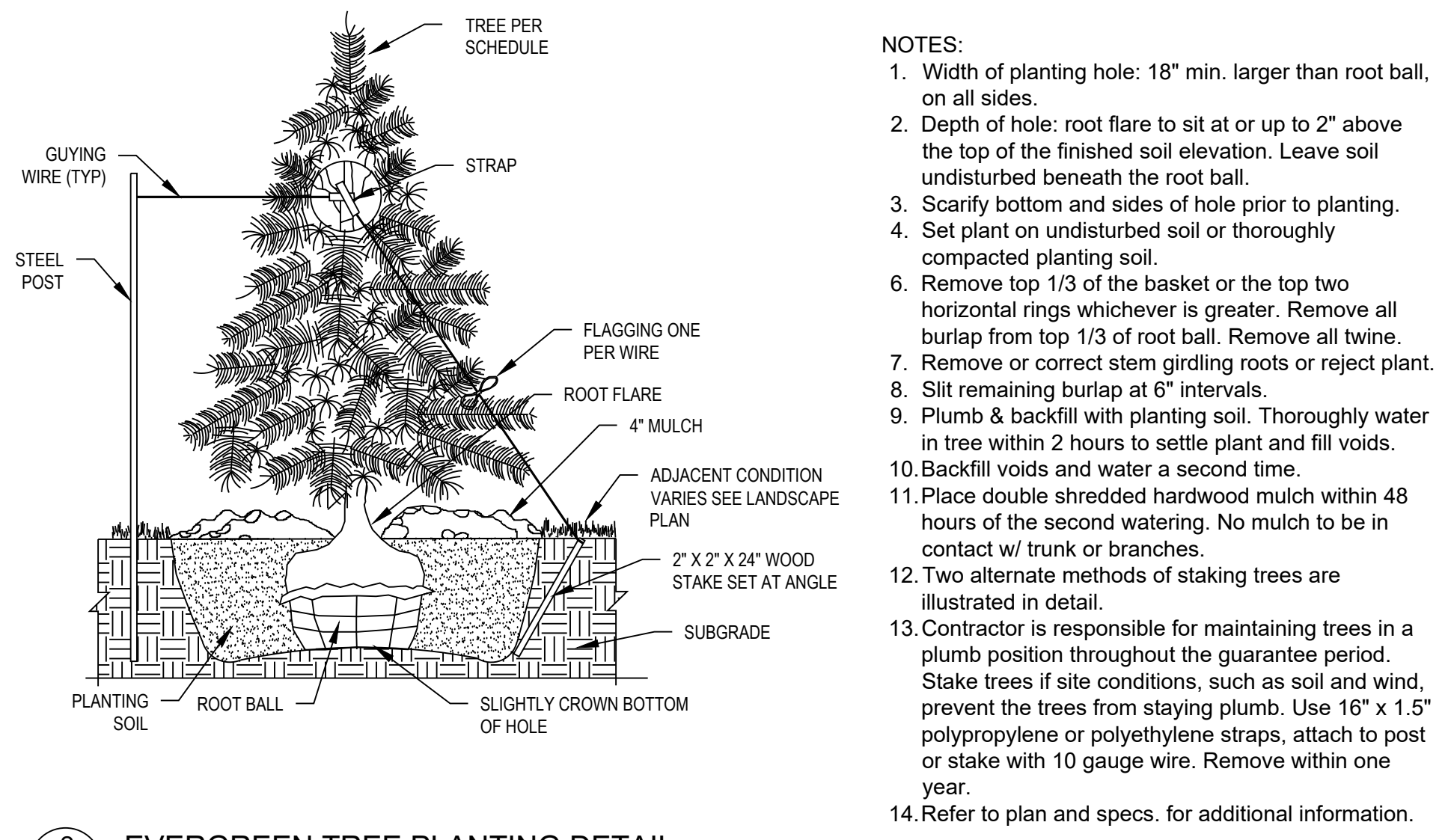
SHEET L1 OF L2 SHEETS



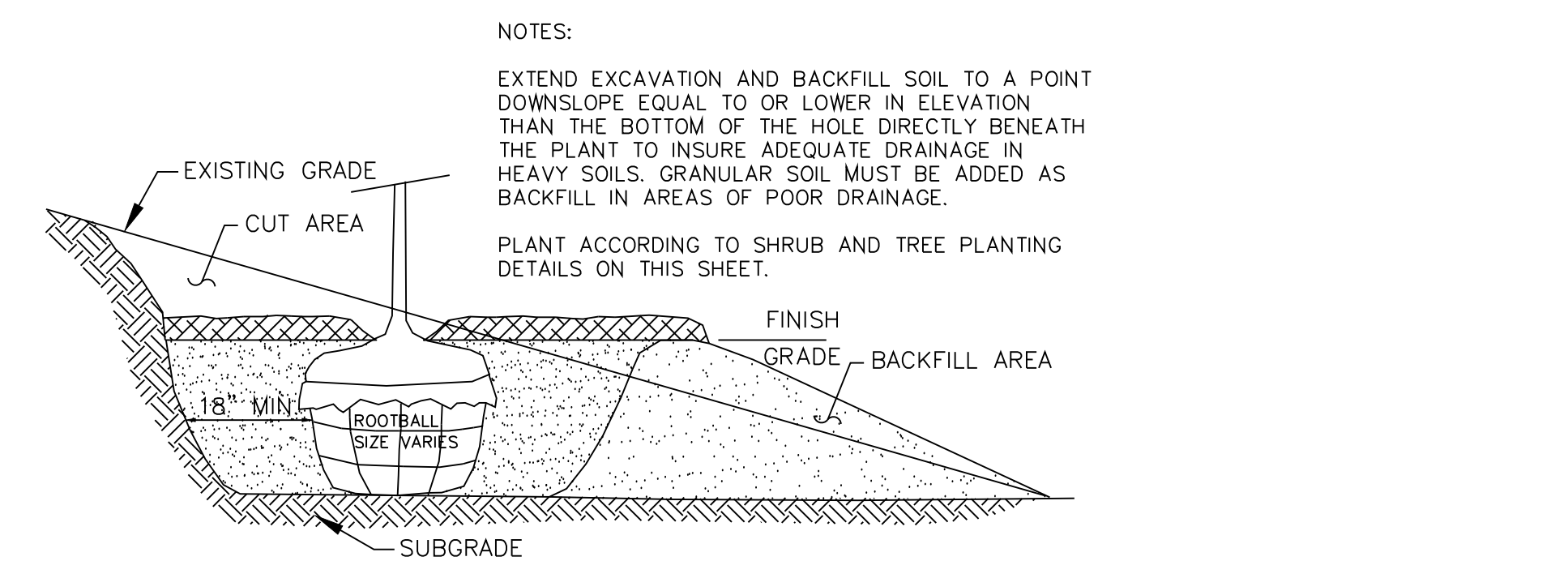
# PLANTING DETAILS



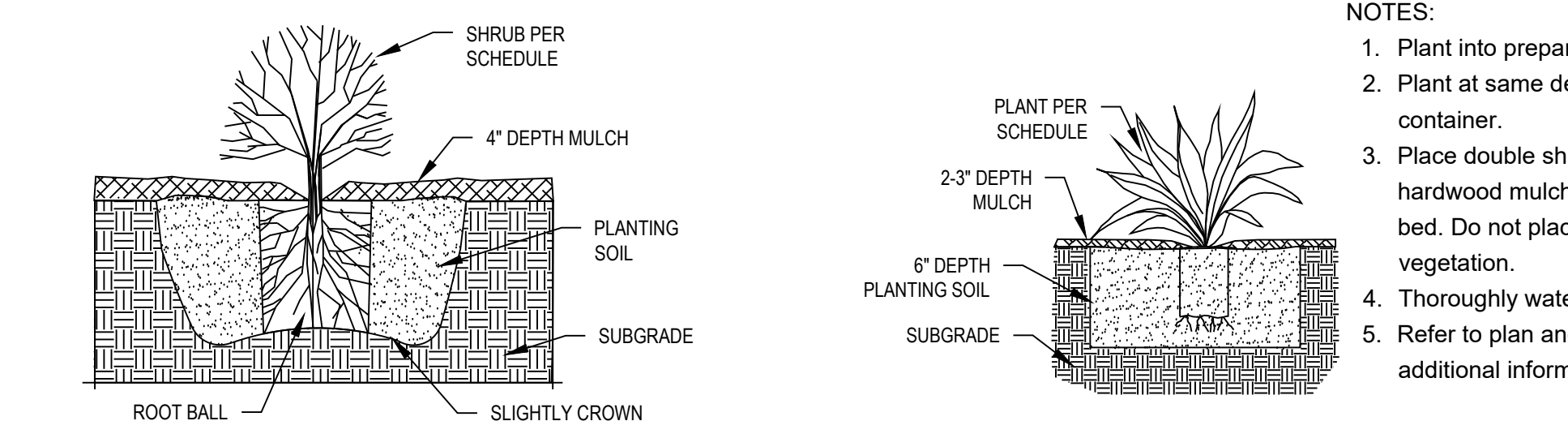
- NOTES:**
- Remove dead or damaged branches. Retain the natural form of the tree. Do not cut the leader.
  - Width of planting hole: 18" min. larger than root ball, on all sides.
  - Depth of hole: root flare to sit at or up to 2" above the top of the finished soil elevation. Leave soil undisturbed beneath the root ball.
  - Scarify bottom and sides of hole prior to planting.
  - Set plant on undisturbed soil or thoroughly compacted planting soil.
  - Remove top 1/3 of the basket or the top two horizontal rings whichever is greater. Remove all burlap from top 1/3 of root ball. Remove all twine.
  - Remove or correct stem girdling roots or reject plant.
  - Slit remaining burlap at 6" intervals.
  - Plumb & backfill with planting soil. Thoroughly water in tree within 2 hours to settle plants and fill voids.
  - Backfill voids and water a second time.
  - Place double shredded hardwood mulch within 48 hours of the second watering. No mulch to be in contact w/ trunk.
  - Contractor is responsible for maintaining trees in a plumb position throughout the guarantee period. Stake trees if site conditions, such as soil and wind, prevent the trees from staying plumb. Use 16" x 1.5" polypropylene or polyethylene straps, attach to post with 10 gauge wire. Remove within one year.
  - Wrap trunk in fall, remove wrap in spring.
  - Refer to plan and specs. for additional information.



- NOTES:**
- Width of planting hole: 18" min. larger than root ball, on all sides.
  - Depth of hole: root flare to sit at or up to 2" above the top of the finished soil elevation. Leave soil undisturbed beneath the root ball.
  - Scarify bottom and sides of hole prior to planting.
  - Set plant on undisturbed soil or thoroughly compacted planting soil.
  - Remove top 1/3 of the basket or the top two horizontal rings whichever is greater. Remove all burlap from top 1/3 of root ball. Remove all twine.
  - Remove or correct stem girdling roots or reject plant.
  - Slit remaining burlap at 6" intervals.
  - Plumb & backfill with planting soil. Thoroughly water in tree within 2 hours to settle plant and fill voids.
  - Backfill voids and water a second time.
  - Place double shredded hardwood mulch within 48 hours of the second watering. No mulch to be in contact w/ trunk or branches.
  - Two alternate methods of staking trees are illustrated in detail.
  - Contractor is responsible for maintaining trees in a plumb position throughout the guarantee period. Stake trees if site conditions, such as soil and wind, prevent the trees from staying plumb. Use 16" x 1.5" polypropylene or polyethylene straps, attach to post or stake with 10 gauge wire. Remove within one year.
  - Refer to plan and specs. for additional information.



- NOTES:**
- Extend excavation and backfill soil to a point downslope equal to or lower in elevation than the bottom of the hole directly beneath the plant to insure adequate drainage in heavy soils. Granular soil must be added as backfill in areas of poor drainage.
  - Plant according to shrub and tree planting details on this sheet.



- NOTES:**
- Dig shrub hole 12" min. larger than container size, all sides.
  - Scarify bottom and sides of hole prior to planting.
  - Remove dead or damaged branches. Retain the natural form of the shrub.
  - Hand loosen roots of containerized material. Score outside of soil mass to redirect circling fibrous roots.
  - Set shrub on undisturbed soil or on thoroughly compacted planting soil. Install plant so the top of the root flare is at or up to 2" above the finished grade.
  - Plumb and backfill with planting soil. Thoroughly water in shrub prior to placing mulch.
  - Place double shredded hardwood mulch. Do not place any mulch on vegetation or in contact with trunk/stems.
  - Refer to plan and specs. for additional information.



- NOTES:**
- Plant into prepared planting bed.
  - Plant at same depth as in container.
  - Place double shredded hardwood mulch over perennial bed. Do not place any mulch on vegetation.
  - Thoroughly water in plants.
  - Refer to plan and specs. for additional information.

# LANDSCAPE SPECIFICATIONS

## TREES, SHRUBS, AND PERENNIALS

- REFERENCES**
  - Mn/DOT - Minnesota Department of Transportation, Standard Specifications for Construction, 2018 Edition.
  - American Standard for Nursery Stock, ANSI Z60.1-2014.
  - ASTM, American Society for Testing and Materials.
- QUALITY ASSURANCE**
  - Work shall be performed by a landscape contractor with extensive horticulture knowledge, and a min. of 3 years experience.
  - Handle plants in such a way as to protect from damage either physical or by exposure to sun and wind. Mishandled plants are subject to rejection by Landscape Architect.
  - Plants used on this project shall meet the grading standards recommended by the ANSI Z60.1-2014.
- PRODUCTS**
  - Plants: Provide as specified on Plant Schedule. All shrubs shall be a minimum of 24" height or width at time of installation.
  - Edging: Steel edging: 3/16" x 4" w/ 15" stakes, black color, Sure-loc or equal.
  - Mulch: Double shredded hardwood mulch.
  - Water: Contractor to provide.
  - Planting Soil: rich friable, loam topsoil, free of debris and seeds, conforming to Mn/DOT 3877.2, loam topsoil borrow, 3877-2 amended as follows: no more than 35% sand.
  - Compost: Conforming to Mn/DOT 3890.2, Grade 2.
  - Tree Wrap: Two-ply weather resistant paper product.
- PLANTING DATES:** Spring Planting: Apr. 1 - June 15. These dates may be extended if daytime temps. remain below 80 degrees. Fall: Sept. 30 - Oct. 30th. Daytime temps. need to drop below 80 degrees before planting begins, and may continue until freeze up. Coniferous trees Aug. 15 - Oct. 1st. Plant under favorable weather conditions, do not plant during days of extreme heat.

- EXECUTION**
  - Prior to digging, Contractor to have utilities located.
  - Contractor to notify Landscape Architect 3 days in advance of when planting work will occur.
  - Plant into prepared planting beds.
  - Install trees, shrubs, and perennials per planting details, adjust location if in conflict with utilities. Verify new location with Landscape Architect prior to planting.
  - Separate all shrub and perennial beds from sod areas with edger, unless otherwise noted.
  - Clean-up entire site following planting operations.
- ACCEPTANCE OF PLANTING WORK**
  - Contractor to notify Owner when planting work is complete for review and punch list.
  - Contractor to water and maintain the trees, shrubs and perennials until Owner Acceptance.
  - Owner will give Acceptance of Work following satisfactory correction of punch list items.
  - Watering and regular landscape maintenance of trees, shrubs and perennials will be Owners responsibility following owner acceptance of work.
- GUARANTEE PERIOD**
  - Contractor to warranty trees, shrubs and perennials for **two years** following acceptance of Work by Owner.
  - Contractor to maintain the trees in a plumb position throughout the guarantee period.
  - Contractor to remove all staking/wiring/ straps and plant tags from trees at the end of the guarantee period.
  - Replacements: At the end of the guarantee period, all plants which are unhealthy, dead, not having a normal density, size, shape or color shall be replaced. Replacements shall match caliper and/or height of the other plants at time of replacement. Selection of replacement material and installation practices shall follow the requirements of the Drawings and Specifications.

## TURF ESTABLISHMENT

- GENERAL**
  - Description: Sod areas identified on the plan and install turf seed over all disturbed soils not called out for other plant material.
  - References:
    - MnDOT - Minnesota Department of Transportation Standard Specifications for Construction, 2018 Edition.
    - MnDOT Seeding Manual 2014 Edition.
  - Quality Assurance
    - Contractor to have a minimum of 3 years of experience in sod and turf seed establishment. All crews to be under the supervision of a foreman with sod and turf seeding establishment.
- PRODUCTS**
  - Sod: Drought tolerant, strongly rooted sod, machine cut to pad thickness of 1", excluding top growth and thatch. Sod to be at least 2 years old, free of weeds, disease, or other material detrimental to the development of the sod. Sod to be moist when cut and maintained in moist condition during transportation and storage at the site. Do not use sod that shows signs of visible heating on this project.
  - Turf Seed mix: MnDOT 25-131, conforming to MnDOT 3876.2 requirements.
  - Delivery and Storage of Seed: Contractor shall protect seed from weather or other conditions which would damage or impair the product.
  - Topsoil shall be free from noxious weeds, stones, lime, concrete, ashes, slag, or other deleterious matter and shall be well drained, conforming to MnDOT 3877.2, A, Common Topsoil Borrow, table 3877-1 amended as follows: no more than 35% sand.
  - Fertilizer: Slow release 5-10-5 starter fertilizer.
  - Mulch: Straw Mulch: MnDOT 3882.2, Type 1.
  - Erosion Control Blanket: MnDOT 3885.2, table 3885-1, Excelsior blanket OS.
  - Water: Contractor to provide.

- SOIL PREPARATIONS**
  - Cover all areas to be sodded and seeded with a uniform 4 inches of topsoil. Install in 2 lifts, mixing the first layer with the subsoil.
  - Areas to be sodded to be brought to within thickness of sod at finished grade, with allowance for settlement of the fill.
  - Immediately prior to sodding and seeding, loosen topsoil to minimum depth of 3"
  - On slopes operate cultivating equipment at right angles to the direction of surface drainage.
  - Contractor to work all areas to receive sod and seed until the soil is smooth and an even grade is established. Fill all holes, depressions and rivulets to ensure an even grade and that proper elevation is established. Fill material shall be compacted sufficiently to provide uniform density and to resist erosion. Remove all rubble, sticks, branches, stones and other extraneous material over 1/2" in diameter on the surface prior to sodding and seeding.
  - For all areas to be sodded and seeded work in dry, free flowing slow release starter fertilizer into the top 1 inches of soil.
- SODDING**
  - Conduct work under favorable weather conditions. Contractor shall not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form or that clods will not break readily. Do not work soil when muddy or frozen.
  - Install sod under favorable weather conditions, do not sod if ground is frozen or sod is dormant.
  - Lay sod with tightly fitting joints, no overlapping joints, and stagger rows to offset joints. Anchor sod on slopes to prevent slippage.
  - Thoroughly water sod immediately after installing. Continue watering at frequency necessary to initiate rooting, and until the work is accepted by Owner.
  - Stake sod placed on slopes greater than 3:1.
- TURF SEEDING**
  - Conduct seeding operations under favorable weather conditions. Dates may be adjusted depending on prevailing weather conditions:
    - Spring seeding to occur between April 1 to June 1
    - Fall seeding to occur between July 20 to Sept. 20
  - Mechanically sow seed at a PLS rate of 220 lbs/ac with a uniform distribution over all disturbed soils not called out on plan for other plant material.
  - Firm the seedbed immediately following seeding and prior to mulching using a roller or cultipacker.
  - Mechanically spread mulch over all exposed soil to provide a 90% uniform soil coverage. Follow mulching with disk anchoring.
  - Install erosion control blanket in drainage swales and on slopes 3:1 or greater, conforming to MnDOT 2575.3.G.2.
  - Keep vehicle and equipment off seeded and mulched areas. Keep foot traffic to a minimum.
  - Provide water at a rate and frequency as necessary to initiate rooting, and until the work is accepted by Owner.

- MAINTENANCE AND ESTABLISHMENT OF SOD**
  - Contractor to notify Owner when sod work is complete. Contractor to maintain all sod areas in a healthy, growing condition by watering, mowing, and any other maintenance necessary to establish the sod, for a minimum of 30 days after installation. During the maintenance period, replace sod that is dried, dead, damaged, displaced, weakened, or infested with 50% or more weeds.
  - Any sod that does not show definite growth and establishment 30 days after installation shall be replaced and established by the Contractor at no additional expense to Owner.
- MAINTENANCE AND ESTABLISHMENT OF TURF SEED**
  - Contractor to notify Owner when seed work is complete. The Contractor is responsible for maintaining all seeded areas by watering, weeding, etc. for 45 days or until it is evident that the seed has germinated and has established an adequate protective cover.
  - Contractor to reseed and establish any turf seed areas that have not adequately established, including areas that are dead, weakened, or infested with 50% weeds, at no additional expense to Owner.
- CLEAN UP**
  - Remove all debris resulting from sodding and seeding activities and dispose of properly. Restore all areas disturbed by sodding and seeding operations to their original condition.

## TALLGRASS SEED ESTABLISHMENT

- GENERAL**
  - Description of Work: Seeding and establishment of tallgrass groundcover in the pond areas.
  - References:
    - MnDOT - Minnesota Department of Transportation Standard Specifications for Construction, 2018 Edition.
    - MnDOT Seeding Manual 2014 Edition.
  - Quality Assurance
    - Contractor to have a minimum of 3 years of experience in sod and turf seed establishment. All crews to be under the supervision of a foreman with prairie seed establishment and have extensive plant knowledge.
    - Pre-qualified contractors:
      - Minnesota Native Landscapes, Foley, MN
      - Prairie Restoration, Princeton, MN
      - Natural Shore Technologies, Maple Plain, MN
- PRODUCTS**
  - Topsoil: Provide friable topsoil, free from weeds, stones, lime, concrete, ashes, slag, or other deleterious matter, conforming to MnDOT 3877.2, A, Common Topsoil Borrow, table 3877-1 amended as follows: no more than 35% sand.
  - Compost: Shall meet the requirements of MnDOT 3890.2, Grade 2.
  - Native Seed Mix: MnDOT seed mix 33-262, conforming to MnDOT 3876.2 requirements.
  - Delivery and Storage of Seed: Contractor shall protect seed from weather or other conditions which would damage or impair the product.
  - Mulch: MnDOT 3882.2, Type 3 straw mulch.
  - Erosion Control Blanket: MnDOT 3885.2, table 3885-1, Excelsior blanket OS.
  - Water: Contractor to provide.

- TIME OF PLANTING**
  - Planting operations are to be conducted under favorable weather conditions. Season of planting can be extended based on current weather patterns.
  - Native plant seeding: May 15 to July 15.
- SITE PREPARATION**
  - Verify finished grade is complete and ready for seeding work.
  - Prior to cultivation, Contractor shall examine site and verify that all vegetation is brown.
  - If unwanted vegetation exists, Contractor to remove it, using a broad spectrum, non-persistent herbicide such as glyphosate.
  - Spray in proper weather conditions. Reapply initial spray if it does not take.
  - Contractor shall disk topsoil as required to achieve compaction of less than five pounds per square inch and smooth-drag as needed for planting purposes.
  - Contractor shall not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Apply water if necessary, to bring soil to an optimum moisture content for tilling. Do not work soil when muddy or frozen.
  - Contractor shall use equipment of appropriate size and low ground pressure equipment to achieve a relatively smooth soil surface free of high areas, depressions and tracks, and to minimize soil compaction.
- SEEDING**
  - Mechanically seed the areas as identified on the Drawings, at a PLS rate of 44 lbs/ac, with a uniform distribution, conforming to MnDOT 2575.3, B3.
  - Install erosion control blanket over the newly seeded areas, conforming to MnDOT 2575.3, G2.
- CLEAN-UP**
  - Contractor shall clean up and remove deleterious materials and debris from the entire work area prior to final completion.
- REVIEW AND PRELIMINARY ACCEPTANCE**
  - Contractor to notify Owner when work is complete to request a review and punch list by Landscape Architect.
  - Owner to give Preliminary Acceptance of the work following satisfactory correction of punch list items.
  - The 60 day Establishment Period will commence upon the date given for Preliminary Acceptance.
- MAINTENANCE - 60 DAY ESTABLISHMENT PERIOD**
  - Native Seed Area:
    - Water: Keep topsoil moist for the first 6 weeks to ensure good germination.
    - Mow to 6" height when annual weed growth reaches 1' height.
    - Weed: Spot spray thistles and other invasive species, and reseed.
    - Reseed bare areas that are 9 square feet or larger.
- REVIEW AND FINAL ACCEPTANCE**
  - At the end of the 60 day establishment period, Contractor to contact Owner to request a review by the Landscape Architect.
  - Landscape Architect will recommend Owner accept the work when the project meets the following establishment standards:
    - Native Seed Areas: Seedlings of 3 dominant prairie grasses (species with highest seeding rates) and 3 forbs are found widely dispersed throughout seeded area.
    - Native seed area is free of bare spots larger than 9 square feet.
    - Plantings that do not show definite growth and establishment during the 60 days from time of acceptance, shall be replaced and established at the proper season by the Contractor at Contractor's expense.
    - Seeded areas not meeting the coverage standards during the 60 day establishment period, to be reseeded and maintained following the specifications.
  - Following Final Acceptance of Work, Owner will take over on-going maintenance of newly established tallgrass seeded areas.

## IRRIGATION

- DESCRIPTION**
  - Work includes: design, furnish, and install complete, fully automatic and programmable underground irrigation system, capable of alternate date watering for all landscape areas excluding the native tallgrass areas. The system shall provide full coverage with uniform levels of total precipitation throughout all irrigated areas.
  - The system is to include water efficient technologies including: a WaterSense labeled controller, a flow meter, soil moisture and/or evapotranspiration (ET) sensors, a rain sensor, and be calibrated to meet all applicable City Codes.
  - Dripline to be used in beds adjacent to building and in parking lot islands.
  - The system is to meet state department of health standards and have a backflow preventer.
  - Materials, equipment, and methods of design and installation shall comply with, but not be limited to, the following codes and standards:
    - All local and state laws and ordinances, and with all the established codes applicable thereto.
    - National Electrical Code.
    - American Society for Testing and Materials (ASTM).
    - National Sanitation Foundation (NSF).
    - The best management practices developed by the Irrigation Association.
  - The designer shall provide balanced pressure and flow and optimum operating efficiency.
  - The contractor is responsible for obtaining all permits and licenses required for installation of irrigation system.
- QUALITY ASSURANCE**
  - The irrigation system shall be designed and installed by a contractor specializing in irrigation work, and will have a minimum of 5 years of experience designing and installing systems of similar scope and size.
  - The contractor shall maintain a skilled foreman on site during the installation of all work and the foreman will have a Minnesota Power Limited Technician License.
- SUBMITTALS**
  - Shop Drawings: submit irrigation plan, product schedule, and specifications for review and acceptance.
  - Operation and Maintenance Manual: following completion of work, provide the Owner with an operation and maintenance manual of the complete system in a digital pdf file format and one hard copy.
  - As-Built Plan: Following completion of work, contractor to furnish Owner a scaled as-built irrigation map, with dimensions as needed, on durable paper or laminated to be mounted on wall with the main control panel and a digital file in pdf format. The map shall indicate the zones, location of all controls, piping and depths, heads (including type), drip-lines, valves, connection to water service, and other related components.
- PRODUCTS**
  - Select products suitable to the landscape areas.
  - All products and materials used in the system shall be new and professional grade.
  - Provide sprinkler heads, driplines, electric valves, and automatic controller from one manufacturer: Toro, Rainbird, Hunter Industries, or equal.
- EXECUTION**
  - Prior to digging, contractor to have utilities located.
  - Water Coverage: Provide uniform water coverage over turf areas and planting beds.
  - Turf: Turf areas to be irrigated with spray heads. Locate heads to avoid overspray onto sidewalks, parking areas, signs and buildings.
  - Planting Beds: All continuous shrubs, trees, perennial beds to be irrigated with a drip system and spray heads where drip lines are impractical.
  - Winterization: System to accommodate winterization by blowing system dry with compressed air.
  - Install the irrigation system per contractor's plan and specifications.
  - Instructions: Contractor to instruct the Owner in proper operation and maintenance of the system.
  - Cleanup: Replace landscaping disturbed by operations. Cleanup all debris and restore site to original condition.
- REVIEW AND ACCEPTANCE**
  - Contractor to test system to a hydrostatic pressure of not less than 100 psi. Remove and replace any components that do not pass test.
  - Contractor to contact Owner and perform operational test after system is fully in place and demonstrate to the Owner that the irrigation system meets coverage requirements and that automatic controls function properly. Any corrective work identified shall be completed within two weeks of receipt of comments.
  - Owner to accept work following: satisfactory completion of any corrective work, receiving hands-on instructions for operation, and receiving as-built plan and operation and maintenance manual submittals.
- MAINTENANCE**
  - Contractor to drain and winterize irrigation system in the fall, following first year of operation, and shall put the system back in service the following spring as part of the work of this contract at no additional cost to the Owner.
- GUARANTEE**
  - Warranty irrigation system materials and labor for **one year** following acceptance of work by Owner. Contractor to promptly furnish and install, at no cost to Owner, any parts that prove defective in material or workmanship.

DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota. Name: Carmen Simonet  
 Signature: *Carmen Simonet*  
 License # 24236 Date: 05.18.2021

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LOT 1, BLOCK 1  
 KNOLL PROPERTIES SECOND ADDITION

LANDSCAPE DETAILS & SPECIFICATIONS  
 CITY OF RAMSEY, MINNESOTA