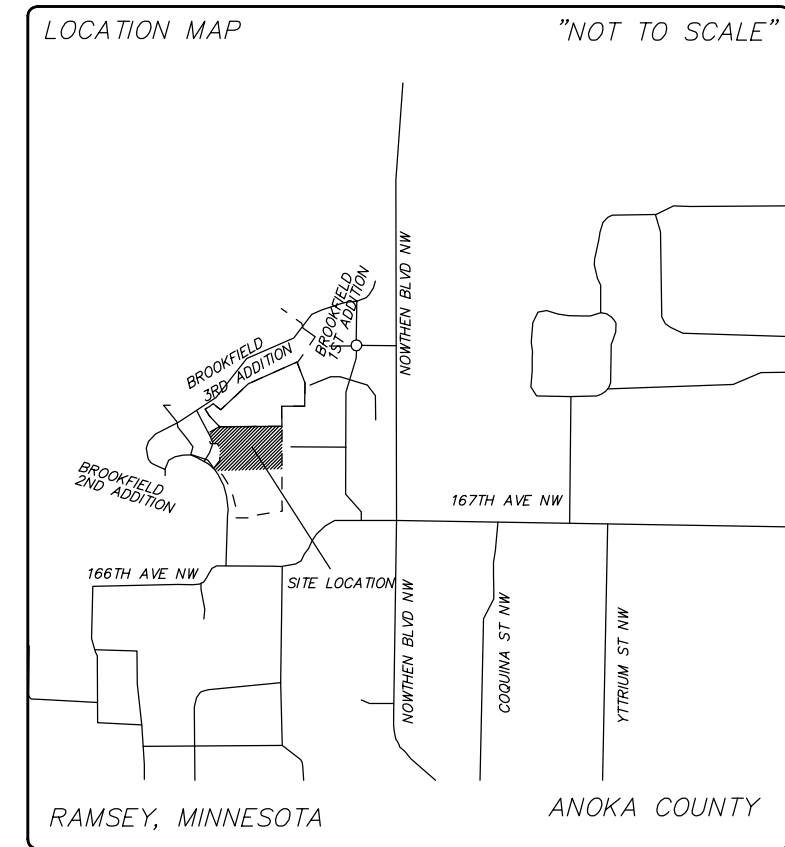
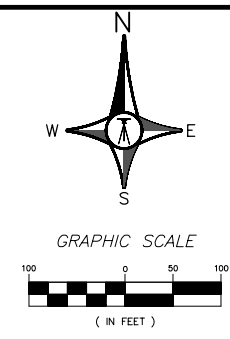


OWNER:
Brookfield LLC
 14015 Sunfish Lake Blvd
 Ramsey, Minnesota 55303
 Phone: (763) 450-1201

ENGINEER/SURVEYOR:
A.P.A., P.A.
 200 Third Ave NE, Ste 100
 Cambridge, Minnesota 55008
 PHONE: (763) 689-4042



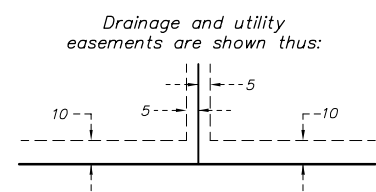
SHEET INDEX

- C1 COVER SHEET
- SANITARY SEWER AND WATERMAIN CONSTRUCTION
- C2 168TH AVE NW/167TH CROSSING
- STORM SEWER AND STREET CONSTRUCTION
- C3 168TH AVE NW/167TH CROSSING
- EROSION CONTROL, LANDSCAPING AND DETAILS
- G1 GRADING PLAN
- G2 GRADING DETAILS
- L1 OVERALL LANDSCAPING PLAN
- D1 DETAILS
- D2 DETAILS
- D3 DETAILS
- SW 1 STORMWATER POLLUTION PREVENTION PLAN
- SW 2 STORMWATER POLLUTION PREVENTION PLAN

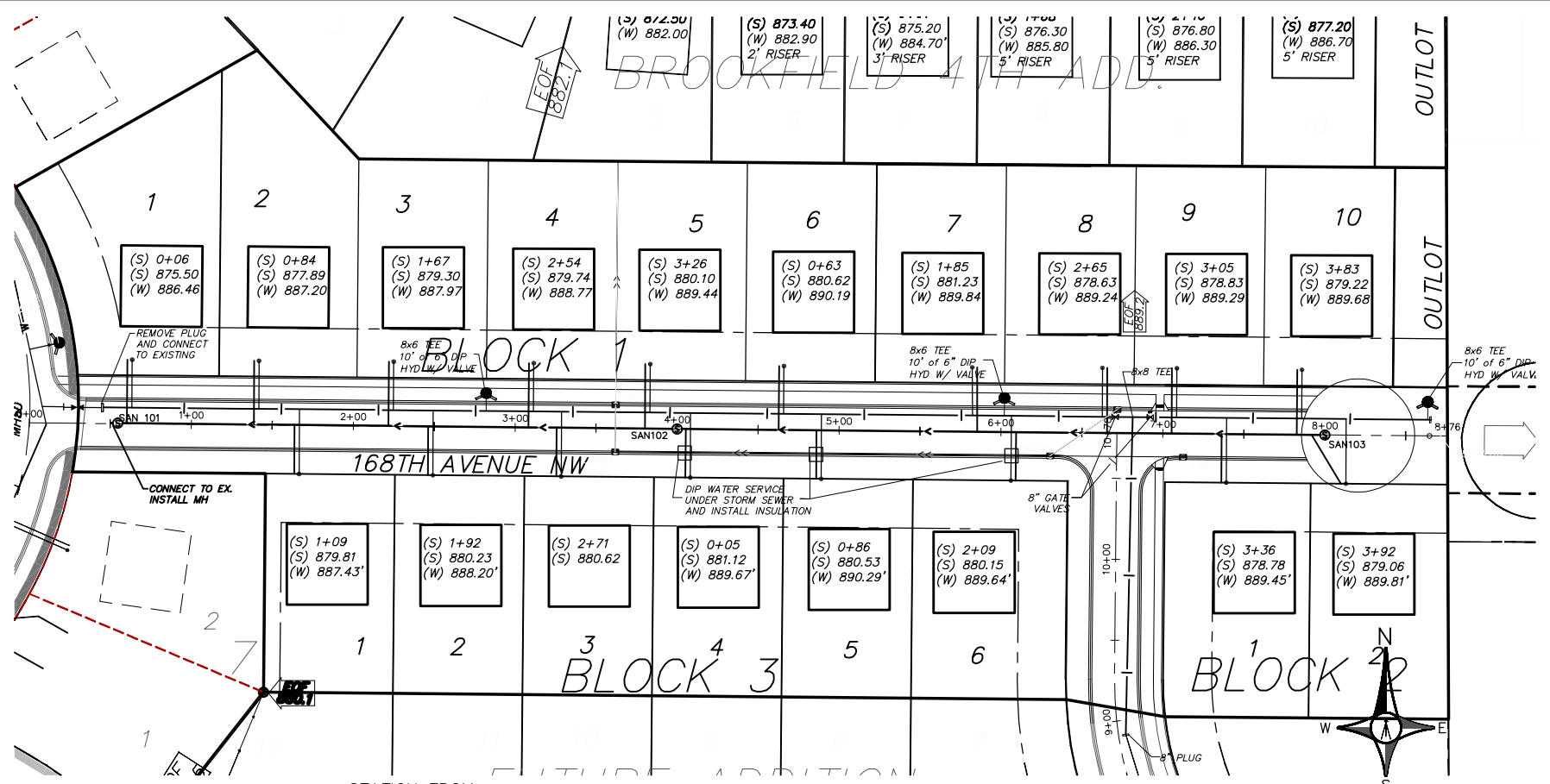
MINIMUM SETBACKS	
FRONT SETBACK (TYPICAL)	30 FT.
FRONT SETBACK (BLOCKS 3 AND 4)	25 FT.
HOUSE SIDE SETBACK	10 FT.
HOUSE SIDE (GARAGE)	6 FT.
CORNER SETBACK	30 FT.
REAR SETBACK	30 FT.
MINIMUM LOT FRONTAGE	80 FT.
MINIMUM LOT FRONTAGE (CORNER)	90 FT.

ZONING
 EXISTING ZONING R1
 PROPOSED ZONING R1

SITE DESCRIPTION
 TOTAL PROPOSED HOMES = 18
 MINIMUM LOT AREA = 10,800 SQ. FT.

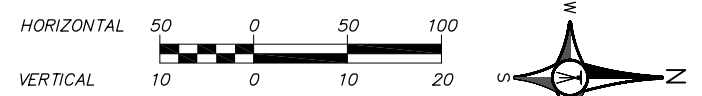
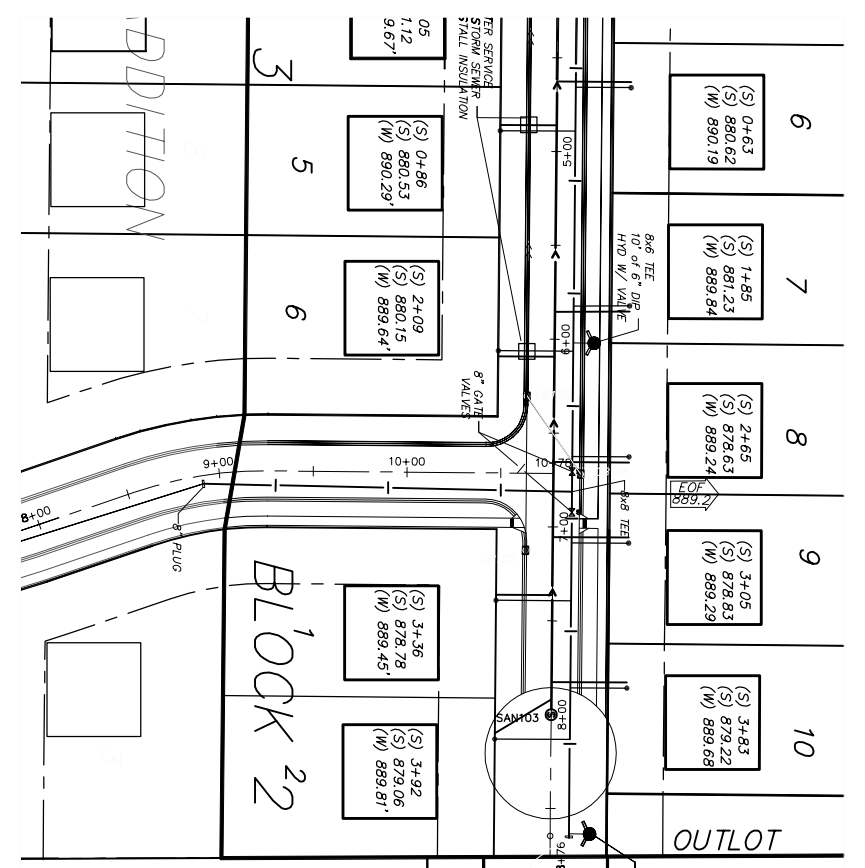
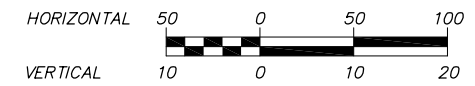


BY		REVISIONS		DATE		DATE		DATE	
BROOKFIELD 6TH ADDITION COVER SHEET RAMSEY, MINNESOTA									
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.									
DATE: 3-23-2015 REG. NO.: 24219 BRENT ROSNELL									
DRAWN	DATE	SCALE	PROJECT	CHECKED	BY	APPROVED	BY		
C1	3-13-2015	1"=100'	127-13	BRR	BRR				

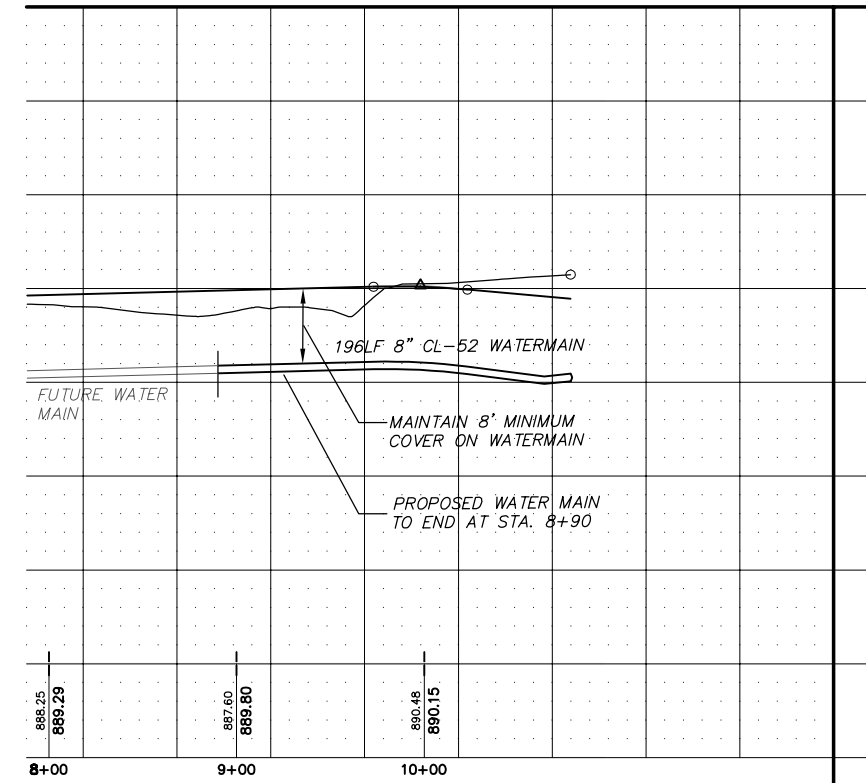
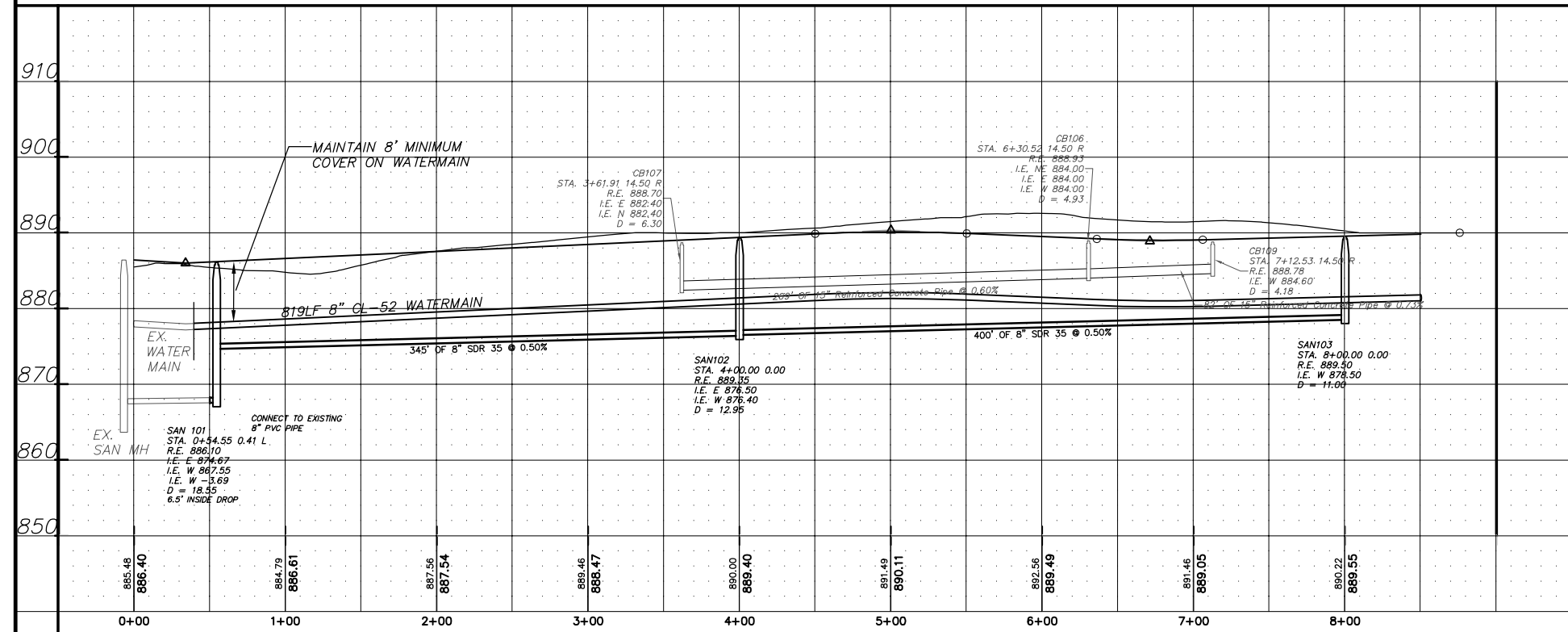


(S) X+XX STATION FROM DOWNSTREAM MANHOLE
 (S) XXX.XX ELEVATION @ END STUB
 (W) XXX.XX CURB STOP SURFACE ELEVATION

168TH AVE NW



167TH CROSSING



APA CONSULTING ENGINEERS & SURVEYORS
 200 3RD AVENUE, SUITE 100 - CAMBRIDGE, MN 55008
 763.689.4042 PH 763.689.6681 FAX

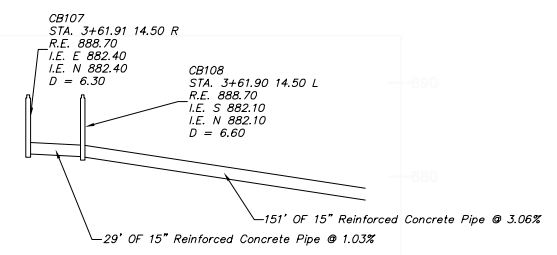
BROOKFIELD 6TH ADDITION
 SANITARY SEWER/WATERMAIN
 RAMSEY, MINNESOTA

I HEREBY CERTIFY THAT THIS IS AN ACCURATE AND COMPLETE REPRESENTATION OF THE WORK AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: 3-22-2015 REG. NO. 24018
 Brent Rosnell
 BRENT ROSELL

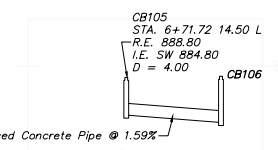
DRAWN: CAD DATE: 3-14-2015 SCALE: 1"=50' PROJECT: 127-13 CHECKED: BFR APPROVED: BFR

C2

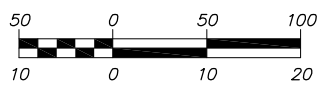
CB107 to EX. STM CB 9 PROFILE



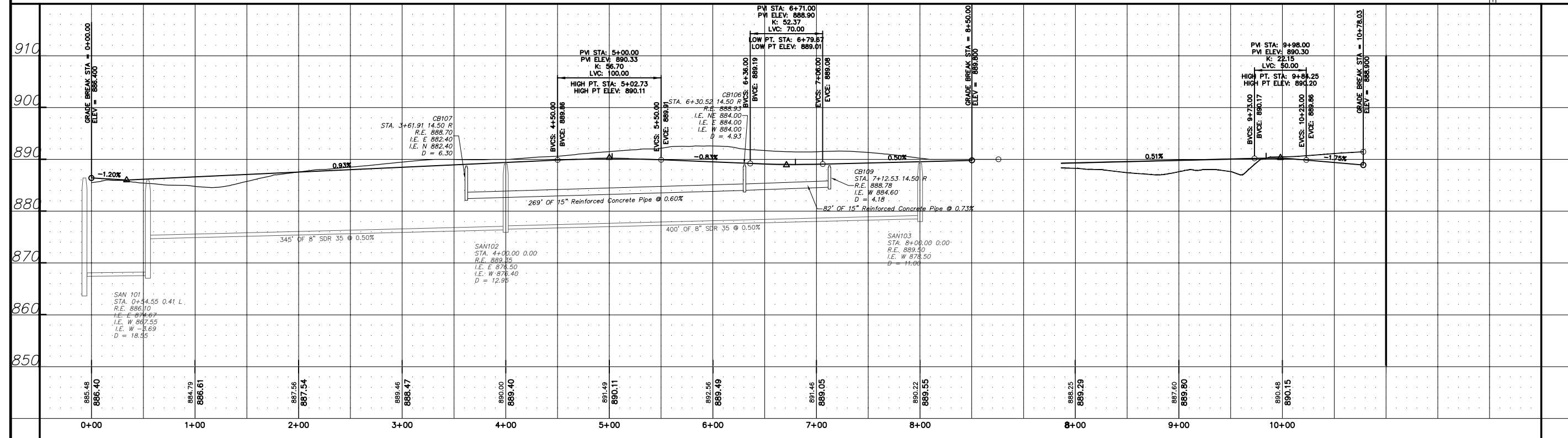
CB105 to CB106 PROFILE



- CB105 2X3 RECT. R-3501-V
- CB106 48" DIA R-3501-V
- CB107 48" DIA R-3501-V
- ST-8 2X3 RECT. R-3501-V HORIZONTAL
- CB108 48" DIA R-3501-V VERTICAL



168TH AVE NW



NO.	DATE	REVISIONS

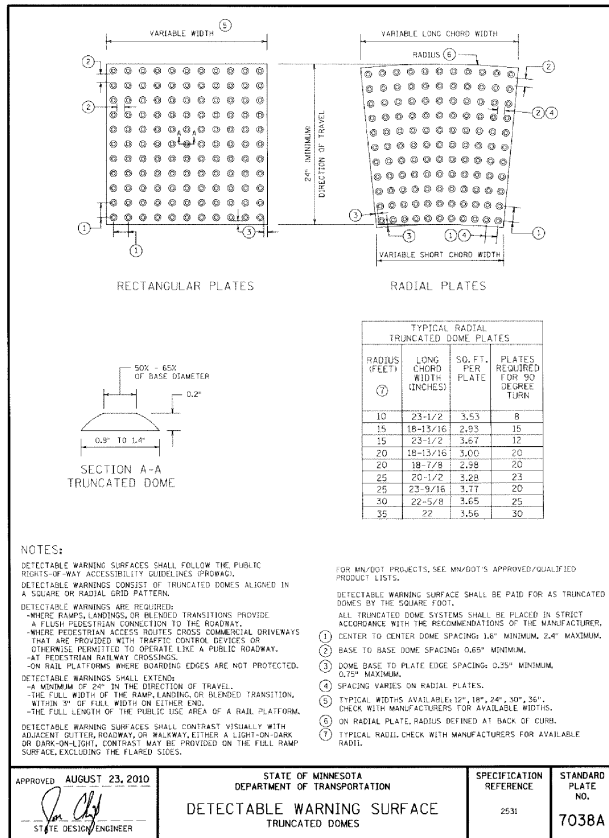
APA CONSULTING ENGINEERS & SURVEYORS
 200 3RD AVENUE, SUITE 100 - CAMBRIDGE, MN 55008
 763.689.4042 PH 763.689.6681 FAX

BROOKFIELD 6TH ADDITION
 STREET/STORM SEWER
 RAMSEY, MINNESOTA

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF THE ORIGINAL OR THAT THIS REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: 3-24-2015 REG. NO. 24018
 Brent Rosnell
 BRENT ROSNELL

DATE	3-11-2015
SCALE	1"=50'
PROJECT	127-13
CHECKED	BR
APPROVED	BR

C3



APPROVED AUGUST 23, 2010

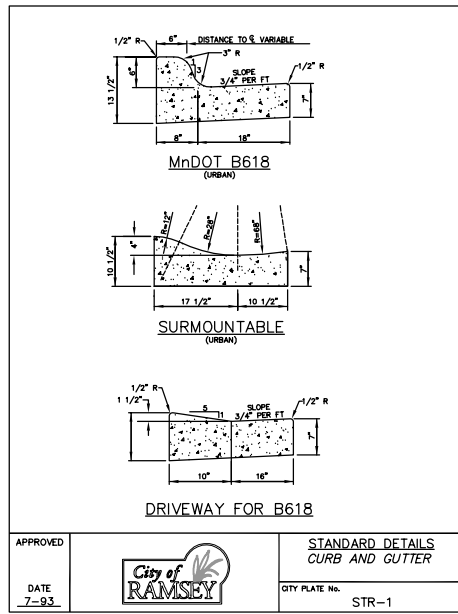
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

STATE ENGINEER

DETECTABLE WARNING SURFACE
TRUNCATED DOMES

SPECIFICATION REFERENCE: 2531

STANDARD PLATE NO.: 7038A

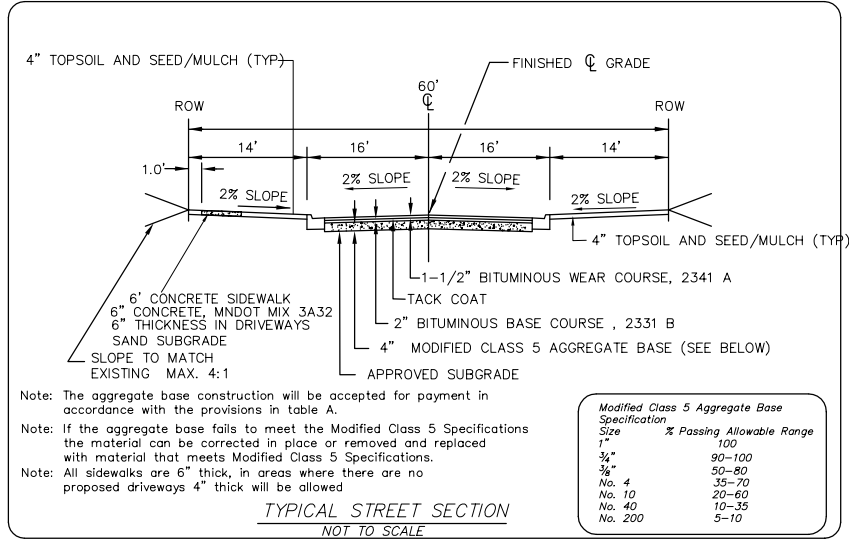
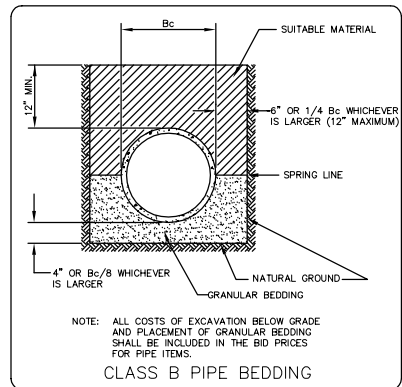


APPROVED DATE 7-93

CITY OF RAMSEY

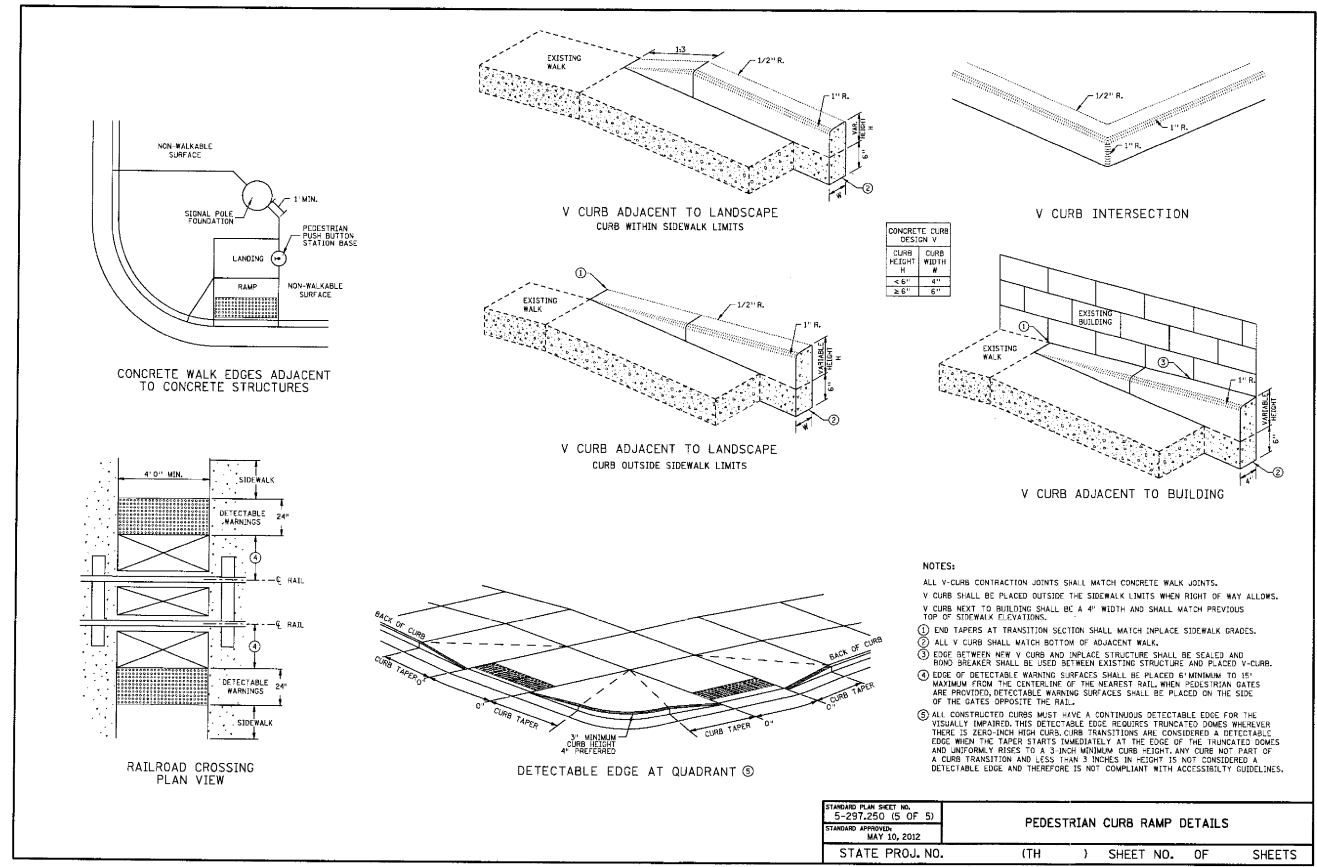
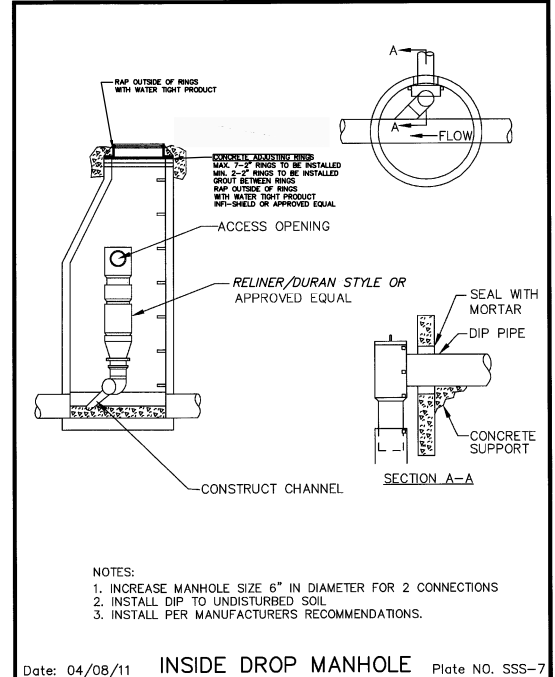
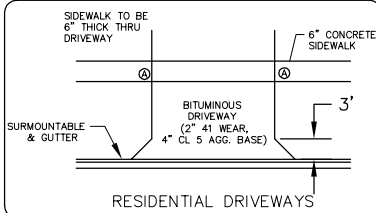
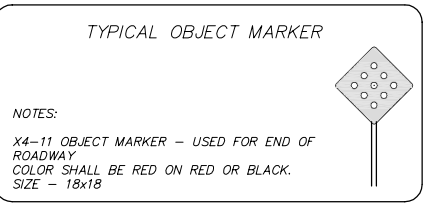
STANDARD DETAILS
CURB AND GUTTER

CITY PLATE NO. STR-1



Modified Class 5 Aggregate Base Specification

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



STANDARD PLAN SHEET NO. 5-297.250 (5 OF 5)

STANDARD APPROVED MAY 10, 2012

STATE PROJ. NO. () SHEET NO. OF SHEETS

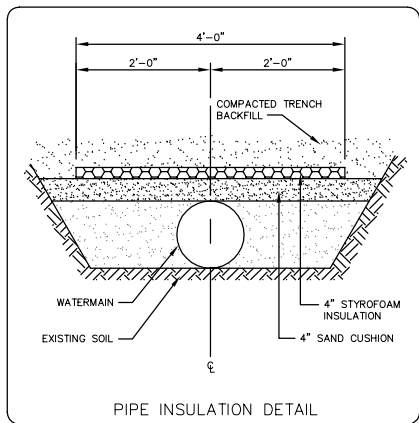


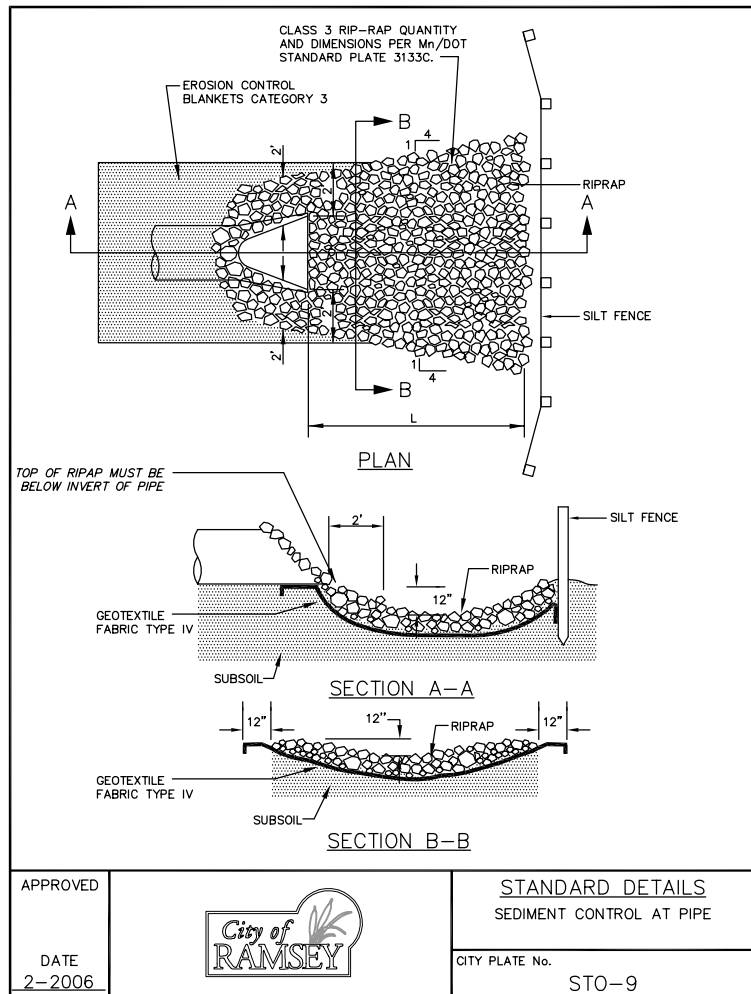
TABLE OF QUANTITIES
RIPRAP AT RCP OUTLETS

DIA. OF ROUND PIPE (IN.)	L (FT.)	CLASS II Ø50=6"		CLASS II Ø50=9"		CLASS II Ø50=12"	
		12" DEPTH RIPRAP (CU. YDS.)	6" DEPTH GRANULAR FILTER (CU. YDS.)	18" DEPTH RIPRAP (CU. YDS.)	9" DEPTH GRANULAR FILTER (CU. YDS.)	24" DEPTH RIPRAP (CU. YDS.)	12" DEPTH GRANULAR FILTER (CU. YDS.)
12	8	2.8	1.4	4.1	2.1	5.5	2.8
15	8	2.9	1.5	4.4	2.2	5.8	2.9
18	10	3.9	2.0	5.9	3.0	7.8	3.9
21	10	4.2	2.1	6.3	3.2	8.4	4.2
24	12	5.5	2.8	8.3	4.2	11.0	5.5
27	12	6.8	2.9	9.7	4.4	11.6	5.8
30	14	7.3	3.7	10.9	5.5	14.5	7.3
36	16	9.7	4.6	13.8	6.9	18.3	9.7
42	18	10.9	5.5	16.3	8.2	21.7	10.9
48	20	12.9	6.5	19.4	9.7	25.8	12.9

TABLE OF QUANTITIES
RIPRAP AT RCP-A OUTLETS
OR BOXES OF EQUIVALENT SPAN WIDTH

SPAN OF PIPE ARCH (IN.)	L (FT.)	CLASS II Ø50=6"		CLASS II Ø50=9"		CLASS II Ø50=12"	
		12" DEPTH RIPRAP (CU. YDS.)	6" DEPTH GRANULAR FILTER (CU. YDS.)	18" DEPTH RIPRAP (CU. YDS.)	9" DEPTH GRANULAR FILTER (CU. YDS.)	24" DEPTH RIPRAP (CU. YDS.)	12" DEPTH GRANULAR FILTER (CU. YDS.)
22	10	3.9	2.0	5.9	3.0	7.8	3.9
28	12	5.5	2.8	8.2	4.1	10.9	5.5
36	14	7.2	3.6	10.8	5.4	14.3	7.2
43	16	9.2	4.6	13.7	6.9	18.3	9.2
51	18	10.9	5.5	16.3	8.2	21.7	10.9
58	20	12.7	6.4	19.0	9.5	25.4	12.7

MNDOT PLATE 3133C QUANTITIES



APPROVED DATE 2-2006

CITY OF RAMSEY

STANDARD DETAILS
SEDIMENT CONTROL AT PIPE

CITY PLATE NO. STO-9

REVISIONS

DATE

BY

RECORD DRAWING

APA CONSULTING ENGINEERS & SURVEYORS

200 3RD AVE NE, SUITE 100 - CAMBRIDGE, MN 55008
763.689.4042 PH 763.689.6681 FAX

BROOKFIELD 6TH ADDITION

168TH AVE NW/167 CROSSING NW

RAMSEY, MINNESOTA

1. I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR PRELIMINARY REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

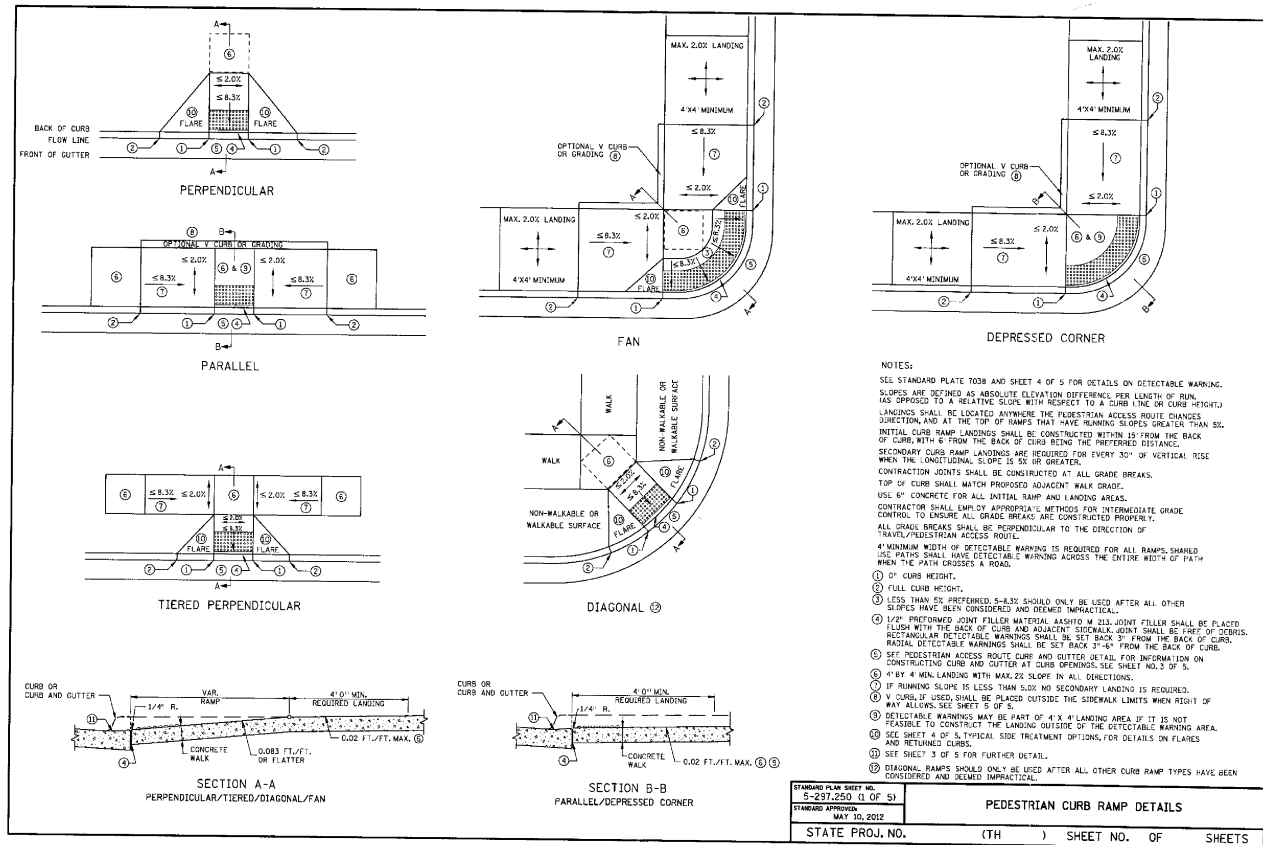
DATE 3-23-2013 REG. NO. 24219

Brent Rodwell

BRENT RODWELL

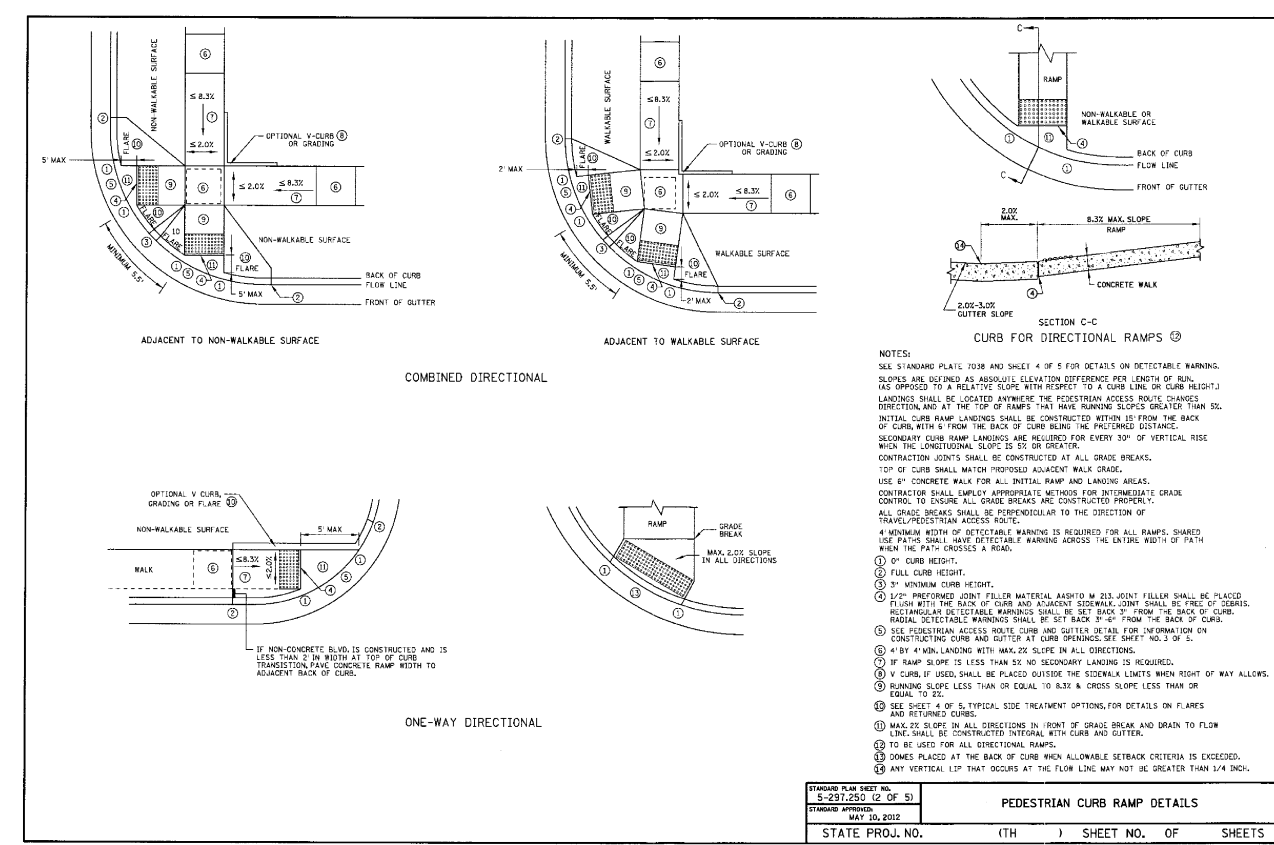
CAD DATE 3-12-2015 SCALE 1"=50' PROJECT 127-13 CHECKED BRR APPROVED BRR

D2



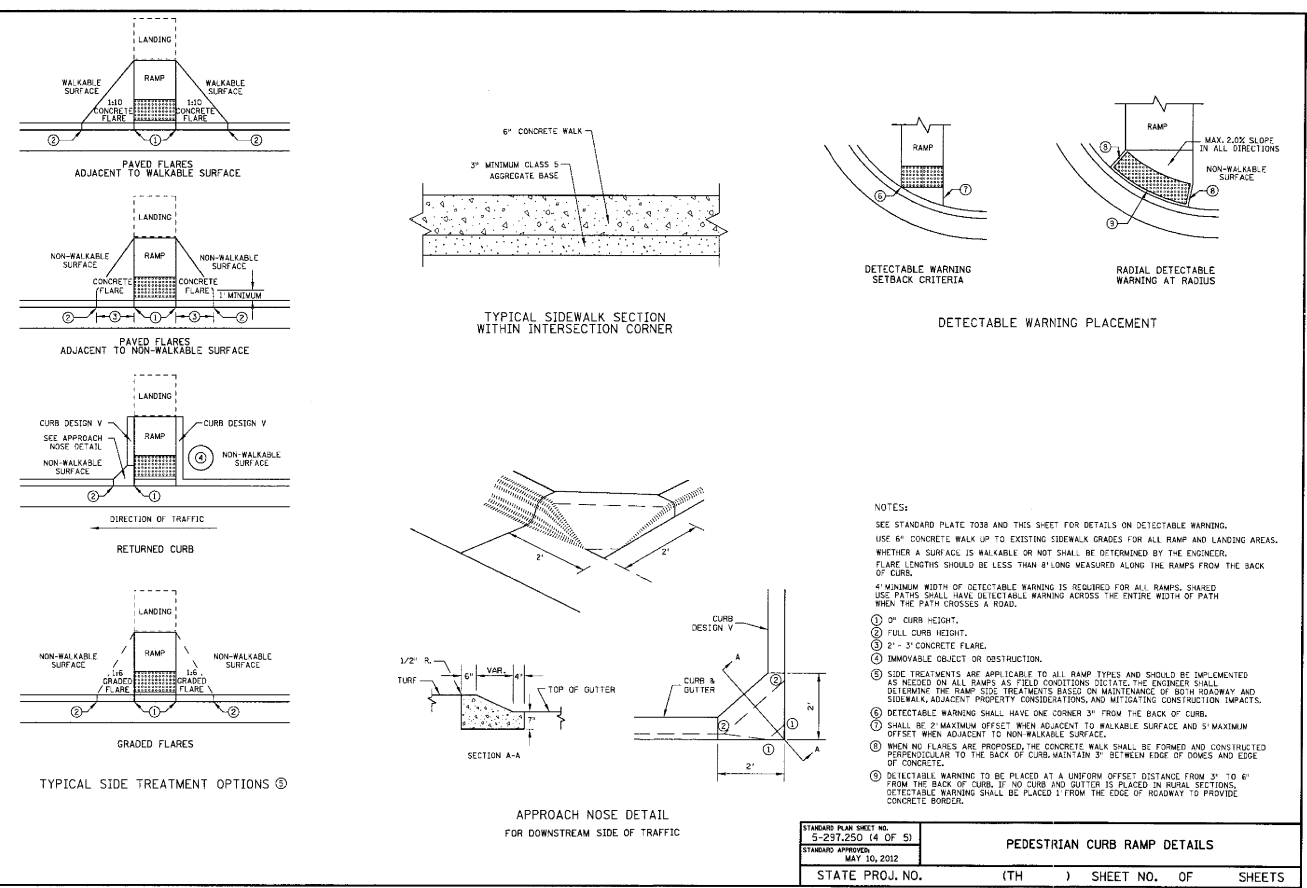
STANDARD PLAN SHEET NO. 5-297.250 (1 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED MAY 10, 2012	
STATE PROJ. NO. ()	(TH) SHEET NO. OF SHEETS

MAY 10, 2012 5-297.250 (1 OF 5)



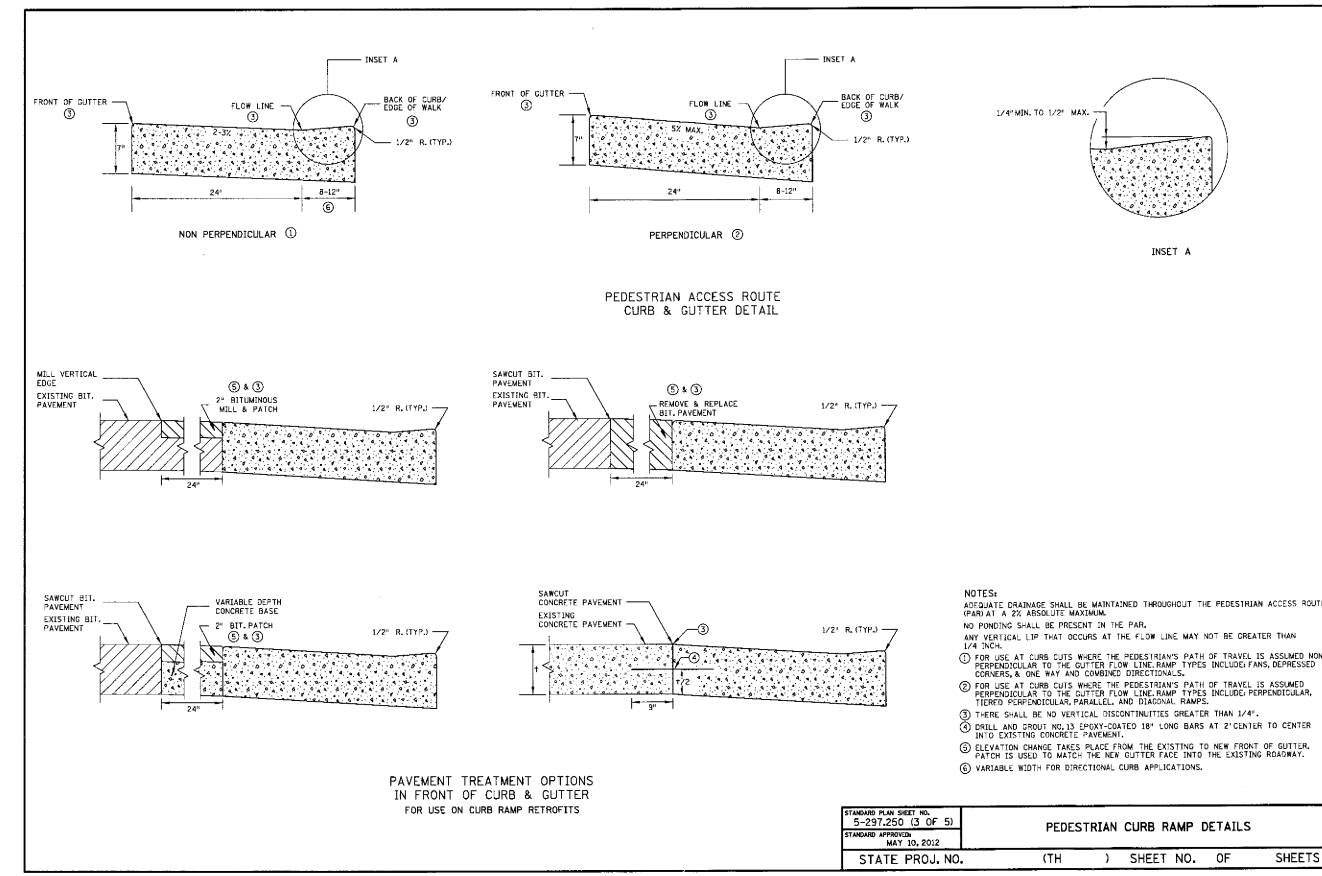
STANDARD PLAN SHEET NO. 5-297.250 (2 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED MAY 10, 2012	
STATE PROJ. NO. ()	(TH) SHEET NO. OF SHEETS

MAY 10, 2012 5-297.250 (2 OF 5)



STANDARD PLAN SHEET NO. 5-297.250 (4 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED MAY 10, 2012	
STATE PROJ. NO. ()	(TH) SHEET NO. OF SHEETS

MAY 10, 2012 5-297.250 (4 OF 5)



STANDARD PLAN SHEET NO. 5-297.250 (3 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED MAY 10, 2012	
STATE PROJ. NO. ()	(TH) SHEET NO. OF SHEETS

MAY 10, 2012 5-297.250 (3 OF 5)

DATE	REVISIONS	BY

CONSULTING ENGINEERS & SURVEYORS

APA

200 3RD AVE NE, SUITE 100 - CAMBRIDGE, MN 55008
763.689.4042 PH 763.689.6681 FAX

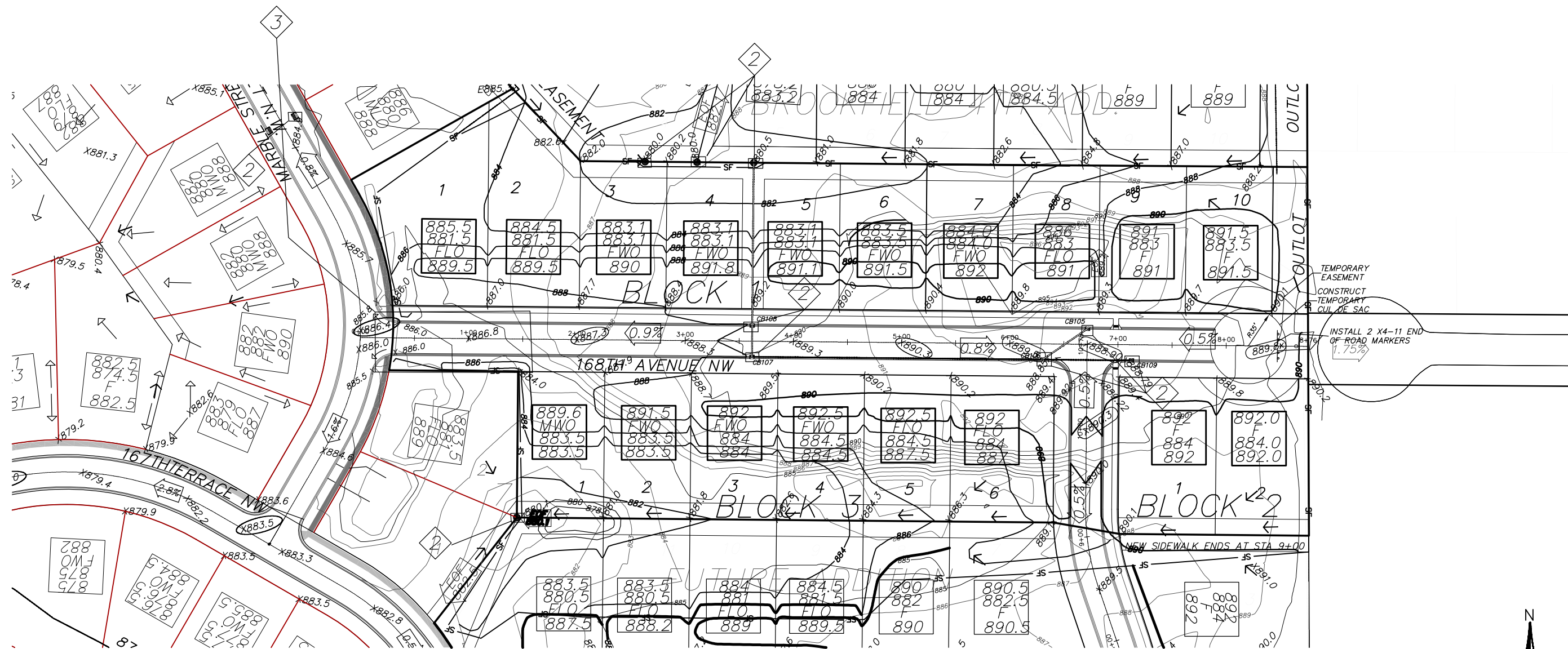
BROOKFIELD 5TH ADDITION

168TH AVE NW/167 CROSSING NW

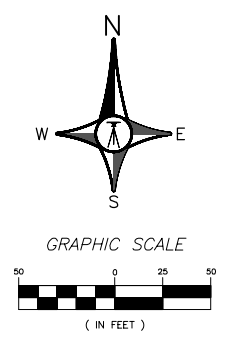
RAMSEY, MINNESOTA

DATE	3-23-2012	REG. NO.	24219
SCALE	1"=50'		
PROJECT	127-13		
CHECKED	BTR		
APPROVED	BTR		

D3



LINE TYPE LEGEND	
	SETBACK
	EASEMENT
	LOT LINE
	R/W
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SILT FENCE
	WETLAND EDGE
	TREE FENCE



- SILT FENCE 2575LF
- INLET PROTECTION 10 EACH
- GRAVEL CONSTRUCTION ENTRANCE

BY		REVISIONS		DATE		RECORD DRAWING	
DRAWN	DATE	SCALE	PROJECT	CHECKED	APPROVED		
CAD	3-12-2015	1"=50'	127-13	BTR	BTR		
				DATE	REG. NO.		
				3-23-2015	24219		
				 BRENT ROSNELL			
BROOKFIELD 6TH ADDITION GRADING, DRAINAGE, & SWPP PLAN RAMSEY, MINNESOTA							
 APA CONSULTING ENGINEERS & SURVEYORS				200 3RD AVE NE, SUITE 100 - CAMBRIDGE, MN 55008 763.689.4042 PH 763.689.6681 FAX			
G1							

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT SITE EVALUATION, ASSESSMENT, AND PLANNING

THIS NARRATIVE IS TO SERVE AS A GUIDANCE PLAN AND MUST BE AMENDED AND MODIFIED AS SITE CONDITIONS CHANGE DURING CONSTRUCTION.

PROJECT LOCATION/DESCRIPTION

PROJECT/SITE NAME: BROOKFIELD 5TH ADDITION
 PROJECT NUMBERS: 127-13
 PROJECT LOCATION: STREET: CASH 30 CITY/TOWNSHIP: RAMSEY COUNTY: ANOKA
STATE: MINNESOTA ZIP: 55303
LATITUDE/LONGITUDE: 45.2761/-93.4510 SECTION: 1 TOWNSHIP: 30N RANGE: 23W

CONTACT INFORMATION/RESPONSIBLE PARTIES

BROOKFIELD LLC OWNS THE LAND, ADJACENT ROADS, AND EASEMENT AREAS ASSOCIATED WITH THE PROJECT. BROOKFIELD LLC IS THE OWNER PERMITTEE APPLYING FOR PERMIT COVERAGE AND WILL BE RESPONSIBLE FOR DEVELOPING THIS SWPPP AND THE LONG-TERM MAINTENANCE PLAN OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM FOR THIS PROJECT (IF APPLICABLE). THE OWNER WILL ENSURE THAT THE DESCRIBED WORK IN THE SWPPP IS BEING COMPLETED BY THE OPERATOR PERMITTEE.

OWNER/PERMITTEE: BROOKFIELD LLC (BEN MINKS)
14015 SUNFISH LAKE BLVD
STE 400
RAMSEY, MN 55303
763-450-1201

THE PRIMARY CONTRACTOR WILL ENTER INTO A CONTRACT WITH THE BROOKFIELD LLC TO COMPLETE THE REQUIRED WORK FOR THIS PROJECT. THE PRIMARY CONTRACTOR WILL BECOME (UNDER CONTRACT) THE OPERATOR CO-PERMITTEE ON THE NPDES PERMIT (THROUGH EXECUTION OF A NPDES PERMIT MODIFICATION FORM), AND THEREBY AGREE TO IMPLEMENT THIS SWPPP IN COOPERATION WITH THE OWNER. THE OPERATOR IS RESPONSIBLE FOR DEVELOPING A CHAIN OF RESPONSIBILITY PRIOR TO STARTING CONSTRUCTION (REFER TO SWPPP AMENDMENT SECTION). THE NPDES PERMIT MODIFICATION FORM SHALL BE SUBMITTED TO THE MPCA AFTER THE PROJECT IS AWARDED TO THE PRIMARY CONTRACTOR, PRIOR TO LETTING THE PROJECT.

THE OPERATOR WILL INSURE THAT INDIVIDUALS OVERSEEING OR IMPLEMENTING THE SWPPP HAVE BEEN PROPERLY TRAINED AND THAT CERTIFICATIONS WILL BE MADE AVAILABLE UPON REQUEST. THIS INCLUDES ANY SUB-CONTRACTORS THAT THE OPERATOR EMPLOYS UNDER SEPARATE CONTRACT. THE OPERATOR WILL PROVIDE THE CONTACT INFORMATION FOR THE EROSION CONTROL SUPERVISOR, SITE SUPERINTENDENT/FOREMAN, AND BMP INSTALLERS. THE EROSION CONTROL SUPERVISOR SHALL BE A RESPONSIBLE EMPLOYEE OF THE PRIME CONTRACTOR AND/OR DULY AUTHORIZED BY THE PRIME CONTRACTOR TO REPRESENT THE PRIME CONTRACTOR ON ALL MATTERS PERTAINING TO THE NPDES CONSTRUCTION STORMWATER PERMIT COMPLIANCE. THE EROSION CONTROL SUPERVISOR SHALL HAVE AUTHORITY OVER ALL OPERATOR OPERATIONS WHICH INFLUENCE NPDES PERMIT COMPLIANCE, INCLUDING GRADING, EXCAVATION, BRIDGE CONSTRUCTION, CULVERT INSTALLATION, UTILITY WORK, CLEARING/GRUBBING, DEWATERING, AND ANY OTHER OPERATION THAT INCREASES THE EROSION POTENTIAL ON THE PROJECT.

THE OPERATOR WILL PERFORM A PRECONSTRUCTION SITE VISIT TO ADDRESS ANY AREAS OF CONCERN PERTAINING TO ENVIRONMENTAL COMPLIANCE. THE OPERATOR WILL IMPLEMENT AND MAINTAIN BMPs FOR THE DURATION OF CONSTRUCTION PROJECT. THE OPERATOR WILL COMPLETE THE REQUIRED SITE INSPECTIONS TO REMAIN IN COMPLIANCE WITH NPDES PERMIT REQUIREMENTS PART II.B, II.C, III.B-F, IV, V, AND APPLICABLE CONSTRUCTION ACTIVITY REQUIREMENTS FOUND IN APPENDIX A, PART C.

OPERATOR/PERMITTEE: (TO BE DETERMINED THROUGH TRANSFER OF NPDES-CSW PERMIT)

ANDERSON PASSE & ASSOCIATES HAS BEEN CONTRACTED BY THE OWNER TO DEVELOP THE SWPPP PLAN FOR THIS PROJECT. THIS SWPPP WAS PREPARED BY AN INDIVIDUAL THAT HAS BEEN PROPERLY TRAINED IN ACCORDANCE TO PART III.F OF THE NPDES PERMIT (CERTIFICATION CARDS ARE AVAILABLE UPON REQUEST). ANDERSON PASSE & ASSOCIATES WILL OFFER GUIDANCE FOR COMPLIANCE WITH THE NPDES PERMIT BEFORE, DURING, AND AFTER CONSTRUCTION OF THE PROJECT.

SWPPP DEVELOPER: ANDERSON PASSE & ASSOCIATES (BRENT ROSHELL)
200 THIRD AVENUE NE, SUITE 100
CAMBRIDGE, MN 55008
763-689-6681/BRENTR@APA-CES.COM

WATER RESOURCE ENGINEER: ANDERSON PASSE & ASSOCIATES (BRENT ROSHELL)
200 THIRD AVENUE NE, SUITE 100
CAMBRIDGE, MN 55008
763-689-6681/BRENTR@APA-CES.COM

AGENCY	PERMIT	NAME	PHONE NUMBER/E-MAIL
MPCA	N/A	STATE DUTY OFFICER	1-800-422-0798
MPCA	NPDES-CSW #XXXXXXX	SCOTT LUCAS	218-316-3874/SLUCAS@STATE.MN.US
ACOE	SECTION 404	LEO GRABOWSKI	218-829-8402/LEONARD.A.GRABOWSKI@USACE.ARMY.MIL
DNR	N/A	N/A	N/A
TODD SWCD	WCA	ED UHLENKAMP	320-732-2644/ED.UHLENKAMP@CO.TODD.MN.US
WATERSHED DISTRICT	N/A	N/A	N/A

PROJECT DESCRIPTION & SCHEDULE

BROOKFIELD 5TH ADDITION IS A RESIDENTIAL SUBDIVISION COMPRISED OF 18 LOTS TO BE CONSTRUCTED IN 1 PHASE. THE CONSTRUCTION ACTIVITIES WILL INCLUDE GRADING OPERATIONS OF STREETS, HOUSEPADS, SURFACE DRAINAGE, AND A LARGE INFILTRATION BASIN. UTILITY CONSTRUCTION, EXPOSED SOIL STABILIZATION, AND PAVING WILL OCCUR AFTER GRADING OPERATIONS. THIS IS THE LAST PHASE OF A LARGE DEVELOPMENT. PONDS WERE PREVIOUSLY CONSTRUCTED FOR THE DEVELOPMENT (2007).

TENTATIVE CONSTRUCTION SCHEDULE (OPERATOR SHOULD PROVIDE ESTIMATED CONSTRUCTION SCHEDULE TO THE ENGINEER)

CONSTRUCTION ACTIVITIES:	START DATE	END DATE
CLEARING & GRUBBING OPERATIONS, GRADING, TEMP. POND	????? - ?????	2015
BRIDGE	????? - ?????	2015
CULVERT REMOVAL AND REPLACEMENT	????? - ?????	2015
CURB & GUTTER/SIDEWALK	????? - ?????	2015
PAVING	????? - ?????	2015
INITIAL TURF, BRIDGE RAILING/LIGHTING	????? - ?????	2015
LANDSCAPING, FINAL TURF, MISC.	????? - ?????	2015

PRE-CONSTRUCTION IMPERVIOUS SURFACE AND DISTURBED AREA CALCULATIONS

TOTAL AREA TO BE DISTURBED - 6.28 ACRES
 IMPERVIOUS AREA: PRE-CONSTRUCTION - 2.17 ACRES

PERMANENT STORMWATER MANAGEMENT SYSTEMS

THE NPDES PERMANENT WATER QUALITY VOLUME (PART III.D) FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE XXXXXX. HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

LOCATION OF SWPPP COMPONENTS	TITLE	LOCATION
DESCRIPTION	STORM WATER POLLUTION PREVENTION PLAN NARRATIVE	SHEET XXX
SWPPP NARRATIVE	STORM WATER POLLUTION PREVENTION PLAN NARRATIVE	SHEET XXX
SITE CONDITIONS	SWPPP WATER RESOURCES & SOILS MAP, SWPPP NARRATIVE	SHEET XXX
POTENTIAL POLLUTANT GENERATING ACTIVITIES	SWPPP NARRATIVE	SHEET XXX
SITE MAP (SOILS, WATER RESOURCES, POTENTIAL POLLUTANT GENERATING ACTIVITIES)	SWPPP NARRATIVE	SHEET XXX
CONSTRUCTION PHASING/STAGING, BUFFERS & AREAS NOT TO BE DISTURBED	DRAINAGE PLAN	SHEET XXX
DIRECTION OF FLOW (PRE- & POST-CONSTRUCTION)	CONSTRUCTION PLAN & PROFILE	SHEET XXX
IMPERVIOUS SURFACES	TEMPORARY EROSION AND SEDIMENT CONTROL PLAN, SWPPP NARRATIVE	SHEET XXX
TEMPORARY EROSION & SEDIMENT CONTROL BMPs/STEEP SLOPES (3:1), DNR FISH EXCLUSION "WORK IN WATER RESTRICTIONS - REFER TO SWPPP", PERMANENT EROSION CONTROL BMPs	TURF ESTABLISHMENT PLAN, SWPPP NARRATIVE	SHEET XXX
STORM SEWER	DRAINAGE PLAN	SHEET XXX
GRADING	GRADING PLAN	SHEET XXX
ESTIMATED BMP QUANTITIES	ESTIMATED QUANTITIES	SHEET XXX
BMP DETAILS/SPECIFICATIONS	MISC. DETAILS, SWPPP NARRATIVE	SHEET XXX
HYDROLOGIC/WATER QUALITY MODELING	AVAILABLE UPON REQUEST	

EXISTING SITE CONDITIONS, SOILS, & WATER RESOURCES

SOILS AND NATIVE TOPSOIL: NATIVE TOPSOIL WILL BE STRIPPED AND STOCKPILED AND FINAL GRADING OPERATIONS, WHERE INDICATED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. METHODS AND EQUIPMENT TO MINIMIZE SOIL COMPACTION (IN PROPOSED INFILTRATION AREAS, DRIP LINE OF TREES TO BE PRESERVED, ETC.) SHALL BE DETERMINED BY THE OPERATOR'S SWPPP AMENDMENT. TRACKED VEHICLES ARE PREFERRED AND WHEELED VEHICLES ARE DISCOURAGED IN THESE AREAS.

DESCRIPTION OF RECEIVING WATERS (LOCATED WITHIN 1-MILE): STORMWATER FROM THIS PROJECT WILL BE CONVEYED INTO SEVERAL STORM SEWER PIPES AND STORMWATER PONDS. PROJECT DISCHARGE POINTS. THE NPDES PERMANENT WATER QUALITY VOLUME (PART III.D) FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE CONSTRUCTED PONDS. HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

DESCRIPTION OF IMPAIRED WATERS OR WATER SUBJECT TO TMDLS: A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE (<http://pca-gis02.pca.state.mn.us/csw/index.html>) ON 12/18/2014. BASED ON THIS REVIEW, THE FOLLOWING SPECIAL OR IMPAIRED WATERS (WITH CONSTRUCTION RELATED IMPAIRMENTS) ARE LOCATED WITHIN ONE MILE OF, AND DOWNSTREAM OF ANY PROJECT DISCHARGE POINTS: NONE

C.1.A EXPOSED SOILS: OPERATOR SHALL STABILIZE ALL EXPOSED SOIL AREAS WITH (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED (APPENDIX A.C.1.A).

C.1.B TEMPORARY BASIN: OPERATOR SHALL ADHERE TO THE REQUIREMENTS DESCRIBED IN PART III.C. 1-5 OF THE NPDES CONSTRUCTION PERMIT FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (10) OR MORE ACRES DISTURBED.

C.2 POST CONSTRUCTION: THE WATER QUALITY VOLUME THAT MUST BE TREATED BY THE PROJECT'S PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN PART III.D. SHALL BE ONE (1) INCH OF RUNOFF FROM THE NET NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT. WHERE SITE CONDITIONS ALLOW, AT LEAST ONE (1) INCH OF THE WATER QUALITY VOLUME MUST BE INFILTRATED. SEE PART III.D. FOR MORE INFORMATION ON INFILTRATION DESIGN AND APPROPRIATE SITE CONDITIONS. IF IT IS DETERMINED THAT SITE CONDITIONS ARE NOT APPROPRIATE FOR INFILTRATION (E.G. LACK OF 3 FT. OF SEPARATION TO SEASONALLY SATURATED GROUND WATER, PROXIMITY TO BEDROCK, CONTAMINATED SOILS) THE REASONS SHOULD BE DOCUMENTED IN THE SWPPP FOR THE PROJECT. INFILTRATION IS NOT REQUIRED IN HYDROLOGIC SOIL GROUP D SOILS.

C.3 BUFFER ZONE: AN UNDISTURBED BUFFER ZONE OF NOT LESS THAN 50 LINEAR FEET FROM THE SPECIAL WATER (NOT INCLUDING TRIBUTARIES) SHALL BE MAINTAINED AT ALL TIMES. EXCEPTIONS FROM THIS REQUIREMENT FOR AREAS, SUCH AS WATER CROSSINGS, LIMITED WATER ACCESS AND RESTORATION OF THE BUFFER ARE ALLOWED IF THE PERMITTEE FULLY DOCUMENTS IN THE SWPPP THE CIRCUMSTANCES AND REASONS THAT THE BUFFER ENCROACHMENT IS NECESSARY. REPLACEMENT OF EXISTING IMPERVIOUS SURFACE WITHIN THE BUFFER IS ALLOWED UNDER THIS PERMIT. ALL POTENTIAL WATER QUALITY, SCENIC AND OTHER ENVIRONMENTAL IMPACTS OF THESE EXCEPTIONS MUST BE MINIMIZED BY THE USE OF ADDITIONAL OR REDUNDANT BMPs AND DOCUMENTED IN THE SWPPP FOR THE PROJECT.

C.4 ENHANCED RUNOFF CONTROLS: THE PERMANENT STORMWATER MANAGEMENT SYSTEM MUST BE DESIGNED SUCH THAT THE PRE- AND POST-PROJECT RUNOFF RATE AND VOLUME FROM THE 1 AND 2-YEAR 24-HOUR PRECIPITATION EVENTS REMAIN THE SAME OR ARE REDUCED.

C.5 TEMPERATURE CONTROLS: THE PERMANENT STORMWATER MANAGEMENT SYSTEM MUST BE DESIGN SUCH THAT THE DISCHARGE FROM THE PROJECT WILL MINIMIZE ANY INCREASE IN THE TEMPERATURE OF TROUT STREAM RECEIVING WATERS RESULTING FROM THE 1-AND 2-YEAR 24-HOUR PRECIPITATION EVENTS. THIS INCLUDES ALL TRIBUTARIES OF DESIGNATED TROUT STREAMS WITHIN THE SECTION THAT THE TROUT STREAM IS LOCATED. PROJECTS THAT DISCHARGE TO TROUT STREAMS MUST MINIMIZE THE IMPACT USING ONE OR MORE OF THE FOLLOWING MEASURES, IN ORDER OF PREFERENCE:

- MINIMIZE NEW IMPERVIOUS SURFACES.
- MINIMIZE THE DISCHARGE FROM THE CONNECTED IMPERVIOUS SURFACES BY DISCHARGING TO VEGETATED AREAS, OR GRASS SWALES, AND THROUGH THE USE OF OTHER NON-STRUCTURAL CONTROLS.
- INFILTRATION OR EVAPO-TRANSPIRATION OF RUNOFF IN EXCESS OF PRE-PROJECT CONDITIONS (UP TO THE 2-YEAR 24-HOUR PRECIPITATION EVENT).

POTENTIAL FOR SEDIMENT AND/OR OTHER POLLUTANT(S) DISCHARGING FROM THE PROJECT SITE
 THE TEMPORARY EROSION AND SEDIMENT CONTROL BMPs IN THIS SWPPP HAVE BEEN DESIGNED TO MINIMIZE THE POTENTIAL OF SEDIMENTS DISCHARGING OFF-SITE FROM A 0.5 INCH RAINFALL WITHIN A 24-HOUR PERIOD. THE NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATE FOR THE PROJECT LOCATION WAS REVIEWED AND USED FOR ANTICIPATED INSPECTION FREQUENCY, BMP DESIGN, AND ESTIMATING CONSTRUCTION ACTIVITIES IN THIS SWPPP. ATLAS 14 RESULTS DO NOT NECESSARILY REFLECT ANY DESIGN CRITERIA IN THE PERMANENT STORMWATER MANAGEMENT SYSTEM.

ROUTINE INSPECTION AND BMP MAINTENANCE BY THE OPERATOR IS CRUCIAL IN ENSURING THE FUNCTIONALITY OF EACH BMP. STEEP SLOPES AND OTHER ENVIRONMENTALLY SENSITIVE AREAS THAT ARE AT A HIGHER RISK OF SEDIMENTATION ARE DEFINED IN THE SWPPP (IF APPLICABLE).

CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED

THE PRESERVED AREAS OF EXISTING VEGETATION WILL BE IDENTIFIED ON THE PLAN SHEETS AS "DO NOT DISTURB AREA". THE OPERATOR IS RESPONSIBLE FOR PRESERVING A 50 FOOT NATURAL BUFFER OR (IF INFEASIBLE) PROVIDE REDUNDANT SEDIMENT CONTROL BMPs, WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET AND RECEIVES DRAINAGE FROM THE PROJECT'S GRADING LIMITS. THIS REQUIREMENT DOES NOT APPLY TO ADJACENT ROAD SIDE DITCHES, JUDICIAL/COUNTY DITCHES, STORMWATER CONVEYANCES, STORM DRAIN INLETS, AND SEDIMENT BASINS.

THERE IS NO CONSTRUCTION PHASING OR STAGING DEFINED BY THE OWNER FOR THIS PROJECT. THE SCHEDULE FOR INSTALLING TEMPORARY BMPs SHALL BE INCORPORATED INTO THE OPERATOR'S WEEKLY SCHEDULE FOR EACH CONSTRUCTION STAGE AND PRESENTED TO THE OWNER'S REPRESENTATIVE 9PER MNDOT SPEC 1717.D).

ENVIRONMENTALLY SENSITIVE AREAS

STEEP SLOPES: EXISTING AND PROPOSED SLOPES 1 IN 3 (33.33% AND STEEPER) THAT ARE PROPOSED TO BE DISTURBED ARE ILLUSTRATED ON THE STEEP SLOPES MAYBE TEMPORARILY CREATED DURING GRADING OPERATIONS, AT WHICH TIME TEMPORARY BMPs MUST BE IMPLEMENTED BY THE OPERATOR (THROUGH AN APPROVED SWPPP AMENDMENT) WITHIN 14 DAYS OF NO LONGER WORKING THE STEEP SLOPE.

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE (<http://pca-gis02.pca.state.mn.us/wimn2/index.html>) WAS REVIEWED ON 12/22/14. THE RESULTS OF THIS REVIEW SHOW NO KNOWN CONTAMINATED PROPERTIES OR LEAK SOURCES LOCATED WITHIN AND ADJACENT TO THE PROJECT LIMITS. NO PRE-EXISTING HAZARDOUS MATERIALS OR WASTES ARE ANTICIPATED TO BE IMPACTED BY THE PROJECT.

STORMWATER POLLUTION MITIGATION MEASURES (AS IDENTIFIED FROM ENVIRONMENTAL REVIEW): NO FORMAL ENVIRONMENTAL REVIEW WAS REQUIRED FOR THIS PROJECT, THEREFORE, NO ADDITIONAL STORMWATER RELATED MITIGATION MEASURES APPLY.

KARST AREAS: THERE ARE NO KNOWN KARST AREAS WITHIN OR ADJACENT TO THE PROJECT LIMITS.

SITE PLAN REQUIRED AREAS: NO AREAS OF "HIGH ENVIRONMENTAL RISKS" ARE KNOWN TO BE LOCATED WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.

EACH SITE PLANS MUST DETAIL PROPOSED ACTIVITIES, CORRESPONDING SCHEDULING, STAGING, TEMPORARY EROSION AND SEDIMENT CONTROLS, AND BMP DETAILS PER SECTION 1717 OF THE MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. SITE PLANS MUST BE APPROVED BY PROJECT ENGINEER PRIOR TO INITIATING THE SPECIFIED WORK WITHIN EACH SITE PLAN AREA.

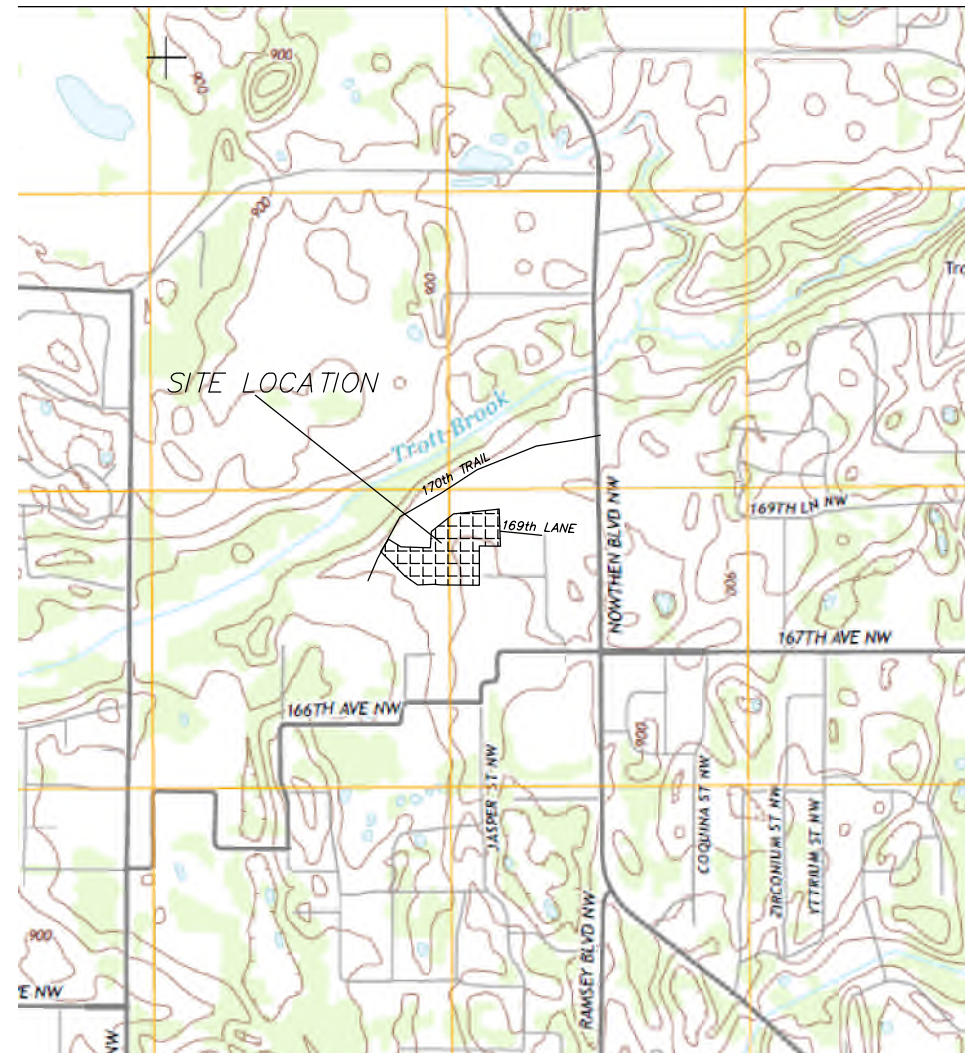
FLOOD CONTINGENCY PLAN: NO PROJECT ACTIVITIES ARE LOCATED WITHIN A 100-YEAR FLOODPLAIN OR FLOODWAY, THEREFORE, A FLOOD CONTINGENCY PLAN IS NOT REQUIRED. THE PROJECT ENGINEER (AT THEIR DISCRETION) MAY REQUIRE A PREVENTATIVE FLOOD CONTINGENCY PLAN FOR SPECIFIC PROJECT ACTIVITIES AND AREAS THAT ARE NOT LOCATED IN A 100-YEAR FLOODPLAIN OR FLOODWAY.

FISH EXCLUSION DATES: OPERATOR IS PROHIBITED FROM CONDUCTING IN-STREAM WORK DURING THE FISH SPAWNING AND MIGRATION DATES OF APRIL 15 TO JUNE 30 FOR NON-TROUT WATERS. IF WORK MUST BE CONDUCTING DURING THIS TIMEFRAME, CONTRACTOR SHALL CONTACT THE LOCAL DNR FISHERIES MANAGER FOR WRITTEN APPROVAL PRIOR TO CONDUCTING THE IN-STREAM WORK.

AQUATIC INVASIVE SPECIES: ALL IN-STREAM AND DEWATERING EQUIPMENT SHALL BE DECONTAMINATED OF ALL AQUATIC PLANTS AND PROHIBIT INVASIVE SPECIES PRIOR TO USING WITHIN SURFACE WATERS ON-SITE AND TRANSPORTING OFF-SITE. ALL DECONTAMINATION ACTIVITIES SHALL MEET THE CHAPTER 1 STANDARDS OF THE MINNESOTA DNR'S BEST PRACTICES MANUAL FOR MEETING DNR GENERAL PUBLIC WATERS WORK PERMIT GP 2004-001.

WETLANDS: IF ANY, WITHIN THE PROJECT AREA AND MUST BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.

APPLICABLE FEDERAL, TRIBAL, STATE OR LOCAL PROGRAMS
 THE PROJECT FALLS UNDER THE JURISDICTION OF SEVERAL ENTITIES, AS IDENTIFIED IN THE 'AGENCY CONTACTS' TABLE OF PAGE 1 OF THE SWPPP. THE MORE STRINGENT OF LOCAL VS. STATE VS. FEDERAL RULES SHALL APPLY WHERE THEY CONFLICT. INFORMATION PERTAINING TO THE STATE NPDES PERMIT CAN BE FOUND AT: (<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/construction-stormwater/index.html>). THE OPERATOR IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE PERMITS, MNDOT SPECIAL PROVISION, MNDOT SPEC BOOK (2014 EDITION), MNDOT SPECIFICATIONS 1717.



DRAWN	CAD	DATE	3-15-2015	SCALE	PROJECT	127-13	CHECKED	BTR	APPROVED	BTR
	DATE		3-22-2015			REG. NO.		04010		
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DATE: 3-22-2015 REG. NO. 04010 Brent Rosshell BRENT ROSHELL										
BROOKFIELD 5TH ADDITION STORM WATER POLLUTION PREVENTION PLAN RAMSEY, MINNESOTA										
APA CONSULTING ENGINEERS & SURVEYORS 200 3RD AVE NE, SUITE 100 - CAMBRIDGE, MN 55008 763.689.4042 PH 763.689.6681 FAX										
REVISIONS BY DATE										
RECORD DRAWING										

SW1

