

CITY OF GRAND RAPIDS, MINNESOTA

CONSTRUCTION PLANS FOR HAWKINSON COMMERCIAL DEVELOPMENT

SITE DEVELOPMENT, SITE GRADING, WATERMAIN EXTENSION, STORM & SANITARY SEWER

GOVERNING SPECIFICATIONS
THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT
AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES 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 NO.	DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP
3	CONSTRUCTION NOTES
4	STRUCTURE SCHEDULES
5-8	CONSTRUCTION DETAILS
9	TYPICAL SECTIONS
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17-18	PROJECT PLAN & PROFILES
19-21	EROSION CONTROL & TURF ESTABLISHMENT PLAN
22-24	SWPPP
25-30	CROSS SECTIONS

THIS PLAN CONTAINS 30 SHEETS.

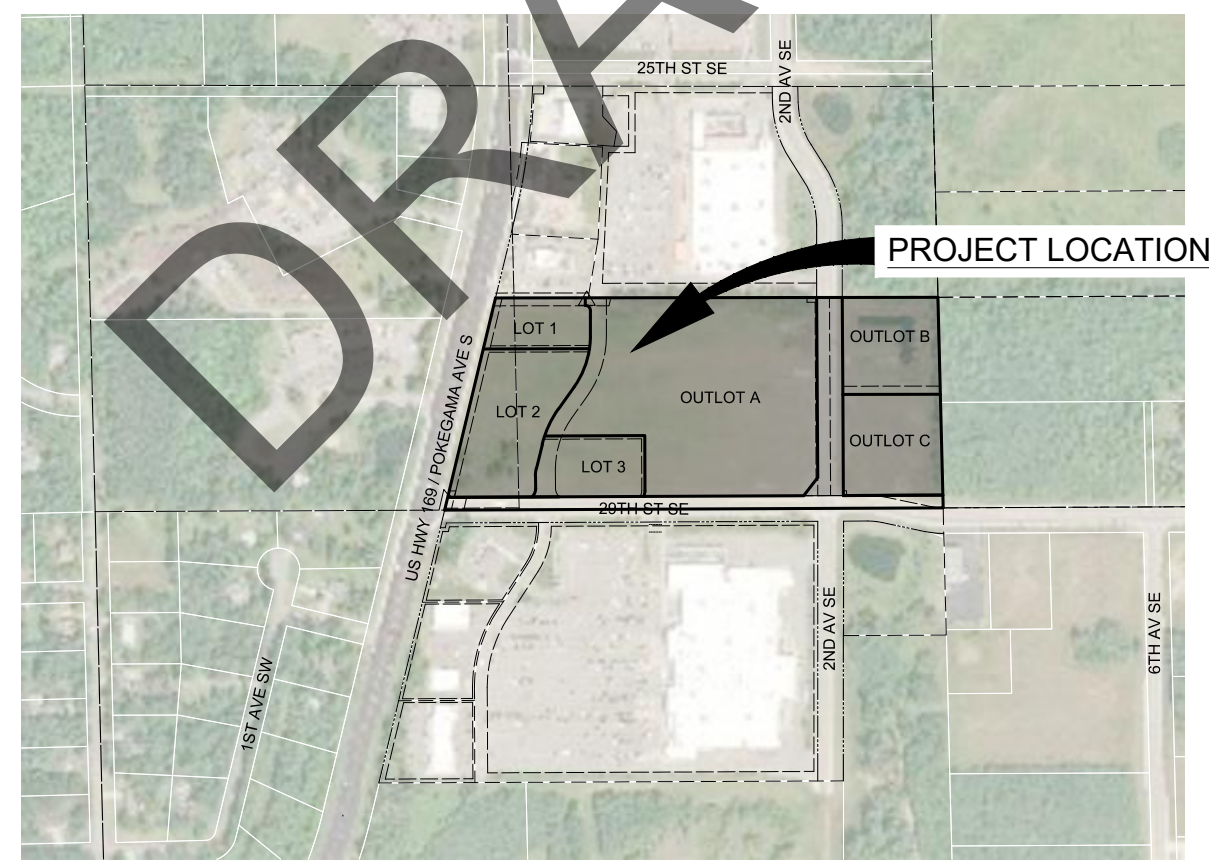
- EXISTING**

 - RIGHT OF WAY
 - PERMANENT EASEMENT
 - PROPERTY LINE
 - △^{XX} HORIZONTAL CONTROL POINT
 - ⊗^{BM} BENCHMARK
 - [#] SURVEY MARKER
 - ⊕ SOIL BORING
 - SANITARY SEWER AND MANHOLE
 - ^{LIFT} FORCE MAIN AND LIFT STATION
 - ^{CO} SANITARY SEWER SERVICE & CLEANOUT
 - WATER MAIN, HYDRANT, VALVE AND MANHOLE
 - WATER SERVICE AND CURB STOP BOX
 - [■] STORM SEWER, MANHOLE AND CATCH BASIN
 - ^G CULVERT AND APRON ENDWALL
 - ^{HH} GAS MAIN, VALVE, VENT AND METER
 - HANDHOLE
 - BURIED FIBER OPTIC CABLE AND MANHOLE
 - BURIED PHONE CABLE, PEDESTAL AND MANHOLE
 - BURIED TV CABLE, PEDESTAL AND MANHOLE
 - BURIED ELECTRIC CABLE, PEDESTAL, MANHOLE, TRANSFORMER AND METER
 - OVERHEAD WIRE, POLE AND GUY WIRE
 - LIGHT POLE
 - TRAFFIC SIGNAL
 - STREET NAME SIGN
 - SIGN (NON STREET NAME)
 - RAILROAD TRACKS
 - ^{6"} DECIDUOUS AND CONIFEROUS TREE
 - ^{6"} BUSH / SHRUB AND STUMP
 - EDGE OF WOODED AREA
 - WETLAND
 - BUILDING
 - FENCE (UNIDENTIFIED)
 - BARBED WIRE FENCE
 - CHAIN LINK FENCE
 - ELECTRIC WIRE FENCE
 - WOOD FENCE
 - WOVEN WIRE FENCE
 - PLATE BEAM GUARDRAIL
 - CABLE GUARDRAIL
 - ^P POST / BOLLARD
 - RETAINING WALL

PROPOSED

 - 6+00 STREET CENTERLINE
 - RIGHT-OF-WAY
 - PERMANENT EASEMENT
 - TEMPORARY EASEMENT
 - CONSTRUCTION LIMITS
 - SANITARY SEWER, BULKHEAD AND MANHOLE
 - FORCE MAIN
 - SANITARY SERVICE AND CLEANOUT
 - WATER MAIN, TEE, HYDRANT, BULKHEAD AND VALVE
 - WATER VALVE MANHOLE, REDUCER, BEND AND CROSS
 - WATER SERVICE AND CURB STOP BOX
 - STORM SEWER, MANHOLE AND CATCH BASIN
 - CULVERT AND APRON ENDWALL
 - DRAIN TILE
 - DITCH / SWALE
 - RIPRAP
 - STREET NAME SIGN
 - SIGN (NON STREET NAME)
 - RETAINING WALL

6+00



NOTE:
THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D.
THIS UTILITY 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."

THE CONTRACTOR SHALL CALL THE ONE CALL SYSTEM AT
811 BEFORE COMMENCING EXCAVATION.



APPROVED:

CITY ENGINEER OF GRAND RAPIDS, MN

DATE

SEH

PHONE: 218.322.4500
1200 SE 4th Avenue, Suite 200
GRAND RAPIDS, MN 55744
www.sehinc.com

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Signature

Date: _____ Lic. No. _____ LICENSED NAME

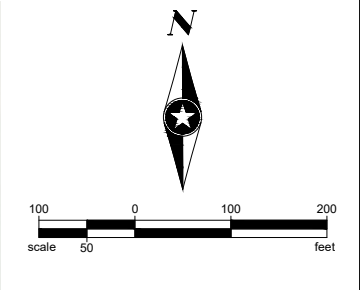
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LICENSE SIGN DATE LICENSE NO.

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HAWKINSON
COMMERCIAL DEVELOPMENT
 GRAND RAPIDS, MN

LOCATION MAP

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.
2. CONSTRUCTION LIMITS ARE THE RIGHT OF WAY UNLESS NOTED OTHERWISE. (INCLUDES CITY OWNED PROPERTY IN PLATTED AREA)
3. ALL SEWER INVERTS, ELEVATIONS & GRADES ARE COMPUTED CENTER-TO CENTER OF STRUCTURES OR END OF APRONS. PIPES THAT INCLUDED APRONS DISPLAY THE TOTAL PIPE AND APRON LENGTH ON THE PLAN, HOWEVER QUANTITY WILL REFLECT ACTUAL PIPE LENGTH (MINUS APRON)
4. ALL TREES AND SHUBS SHALL BE CLEARED AND GRUBBED WITHIN THE LIMITS SHOWN ON THE PLANS DESIGNATED BY 
5. THE LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED IN THE FIELD BEFORE DIGGING. THERE WILL BE NO ADDITIONAL COMPENSATION TO THE CONTRACTOR FOR WORKING AROUND EXISTING UTILITIES.
6. CONTRACTOR TO CONTACT UTILITY COMPANIES TO RELOCATE UTILITIES AS REQUIRED.
7. TRAFFIC CONTROL SHALL COMPLY WITH MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. SEE FIELD MANUAL LATEST VERSION.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OFF-SITE ALL TREES, STUMPS, BRUSH OR OTHER DEBRIS THAT EXISTS WITHIN THE CONSTRUCTION AREAS. NO BURNING IS PERMITTED.
9. CONSTRUCT ALL RADII AS PER PLANS. RADII SHOWN ARE TO GUTTER LINE/FACE OF CURB FOR CURB AREAS.
10. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
11. SAW-CUT BITUMINOUS AS DIRECTED BY THE ENGINEER PRIOR TO REMOVAL. THE CONTRACTOR SHALL SAWCUT PAVEMENT AS INDICATED ON THE PLANS TO SEPARATE THE EXISTING MATERIAL TO BE REMOVED BY MEANS OF AN APPROVED SAW. SUITABLE GUIDELINES OR DEVICES SHALL BE USED TO ASSURE CUTTING A NEAT, STRAIGHT LINE AS SHOWN ON THE PLANS. CARE SHALL BE TAKEN BY THE CONTRACTOR SO AS NOT TO DAMAGE THE REMAINING MATERIALS DIRECTLY ADJACENT TO THE MATERIALS TO BE REMOVED. ANY DAMAGE TO THE EXISTING MATERIAL RESULTING FROM THE MATERIAL REMOVAL OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL FOLLOW FEDERAL REQUIREMENTS FOR DUST CONTROL.
12. CONTRACTOR SHALL STRIP ALL TOPSOIL AND REUSE ON SITE WHERE NEEDED, EXCEPT WHERE NOTED. STRIPPING AND PLACEMENT IS INCIDENTAL TO COMMON EXCAVATION. TOPSOIL SALVAGED FROM THE SCHOOL SITE MASS GRADING SHALL STAY AND BE STOCKPILED ON THE PLATTED SCHOOL PROPERTY FOR FUTURE USE BY OTHERS.
13. CONTRACTOR SHALL VERIFY INVERTS ON EXISTING UTILITIES PRIOR TO INSTALLATION OF STRUCTURES OR PIPES.
14. MAINTENANCE OF HAUL ROADS SHALL BE INCIDENTAL TO CONSTRUCTION.
15. CONTRACTOR SHALL VERIFY WIDTH OF PROPOSED DRIVEWAYS AND LOCATION OF DRIVEWAY CURB OPENINGS WITH ENGINEER IN THE FIELD PRIOR TO CONSTRUCTION.
16. REMOVE AND RECONSTRUCT DRIVEWAY SURFACES AS SHOWN ON PLANS UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER OR THEIR REPRESENTATIVE.
17. WHEN EVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN SET, IT SHALL MEAN NO DIRECT COMPENSATION WILL BE MADE.
18. CONTRACTOR SHALL PROVIDE ACCESS TO ALL PROPERTIES, UNLESS ALTERNATE PROVISIONS ARE APPROVED BY THE PROPERTY OWNER AND THE ENGINEER.
19. CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS A MINIMUM OF 48 HRS IN ADVANCE OF DISRUPTION TO SERVICE.
20. CONTRACTOR SHALL SUPPLY A TRASH CONTAINER ON SITE FOR CONSTRUCTION DEBRIS/TRASH. ABSOLUTELY NO TRASH TO BE DISCARDED IN EXCAVATIONS. CONTRACTOR SHALL ENSURE TRASH IS COLLECTED FROM WORK ACTIVITIES AND DISCARDED IN APPROPRIATE TRASH CONTAINERS DAILY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND REPAIRING ALL EXISTING AREAS, PAVEMENTS, STRUCTURES, OR OTHER FACILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITIONS.
22. TRACER WIRE SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
23. ANY TRIMMING OF BRANCHES / TREES REQUIRED FOR CONSTRUCTION SHALL BE INCIDENTAL TO CLEARING AND GRUBBING. THIS WILL INCLUDE ANY DEAD BRANCHES AFTER SUBSTANTIAL COMPLETION.
24. CONTRACTOR SHALL TAKE CARE TO MINIMIZE REMOVAL OF TREES. IF EXISTING TREE CAN BE MAINTAINED IT SHALL NOT BE REMOVED.
25. CONTRACTOR SHALL FOLLOW ALL ADA REQUIREMENTS.
26. CONTRACTOR SHALL REVIEW ALL GRADES FOR DRAINAGE ISSUES. THIS INCLUDES BUT IS NOT LIMITED TO TURF, CONCRETE CURB PAN, ADA RAMPS, CONCRETE CURB, AND BITUMINOUS PAVEMENT.

TURF ESTABLISHMENT NOTES:

1. CONTRACTOR SHALL TAKE CARE TO MINIMIZE PROJECT DISTURBANCE AND KEEP THE SEEDING AREA PER THE PLAN.
2. IF THE ENGINEER DETERMINES THAT EXCESS TURF ESTABLISHMENT AREAS WERE NOT NECESSARY FOR CONSTRUCTION, TURF ESTABLISHMENT IN THESE AREAS WILL BE THE CONTRACTOR'S RESPONSIBILITY.

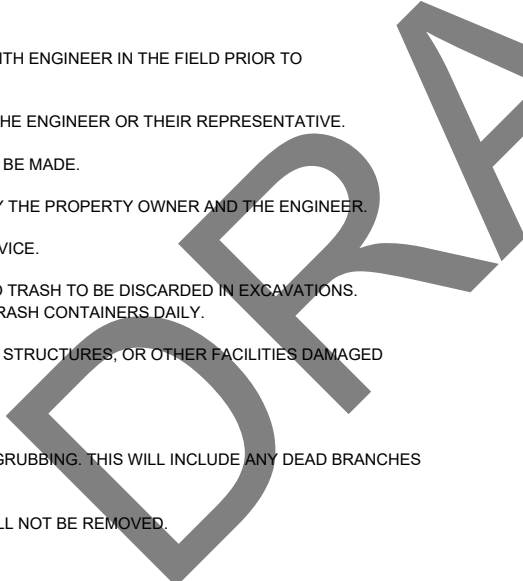
EROSION CONTROL NOTES:

1. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL EROSION CONTROL MEASURES AS SHOWN OR NOT SHOWN ON THESE PLANS AND SPECIFICATIONS AND IMPLEMENT ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY IN ORDER TO PROTECT ADJACENT PROPERTY. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR MAINTENANCE AND IMPLEMENTATION OF STORM WATER EROSION CONTROL ITEMS TO COMPLY WITH THE NPDS PERMIT REQUIREMENTS. THIS INCLUDES GEOTEXTILE FABRIC ON SLOPES/ RUNOFF FOR ROADWAYS SUSCEPTIBLE TO EROSION. ADDITIONAL ITEMS REQUESTED BY THE MPCA AND ANY OTHER ITEMS REQUESTED BY THE ENGINEER DURING CONSTRUCTION. ALL WORK THAT IS NOT INCLUDED IN PAY ITEMS SHALL BE DEEMED INCIDENTAL TO CONSTRUCTION. ANY PENALTIES IMPOSED ON THE COUNTY OR THE CONTRACTOR AS A RESULT OF STORMWATER ISSUES WILL BE PAID COMPLETELY BY THE CONTRACTOR.
2. WATER FOR ON SITE DUST CONTROL SHALL BE INCIDENTAL TO CONSTRUCTION. WHEN A WATER TRUCK IS REQUESTED BY THE ENGINEER, THE CONTRACTOR SHALL RESPOND WITHIN 4 HOURS. IF THE CONTRACTOR DOES NOT COMPLY, A \$250 PENALTY WILL BE ASSESSED PER INCIDENT.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS. THE CONTRACTOR SHALL OBTAIN THE CITY OF GRAND RAPIDS STORMWATER POLLUTION PREVENTION PERMIT. THE MPCA NPDES PERMIT IS PAID FOR BY THE CITY. THE CONTRACTOR SHALL BE A CO-PERMITTEE.
4. WHEN STREET SWEEPING IS REQUESTED BY THE OWNER/ENGINEER, THE CONTRACTOR SHALL RESPOND WITHIN 4 HOURS. IF THE CONTRACTOR DOES NOT COMPLY, A \$250 PENALTY WILL BE ASSESSED PER INCIDENT.
5. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN STABILIZED CONSTRUCTION EXITS AT ALL LOCATION WHERE TRAFFIC LEAVES THE CONSTRUCTION SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE STABILIZED CONSTRUCTION EXITS MAINTENANCE AND REPAIR ARE INCLUDED IN THE BID ITEM.
6. INLET PROTECTION IS PAID PER EXISTING OR PROPOSED STRUCTURE (EACH). EXISTING STRUCTURES, ON OR ADJACENT TO THE PROJECT, RECEIVE A DROP IN FILTER BAG. NEW STRUCTURES INITIALLY RECEIVE A SILT FENCE BOX. ONCE THE CASTING IS SET ON A NEW STRUCTURE, IT SHALL RECEIVE A DROP IN FILTER BAG. MAINTENANCE OF ALL INLET PROTECTION DEVICES INCLUDES CLEANING AND MAINTENANCE.

TRAFFIC CONTROL NOTES:

1. CONTRACTOR SHALL SUPPLY A TRAFFIC CONTROL PLAN FOR ALL WORK.
2. TRAFFIC CONTROL PLANS SHALL BE SUBMITTED AT THE PRE-CONSTRUCTION MEETING, OR AT LEAST 2 WEEKS IN ADVANCE OF CONSTRUCTION ACTIVITIES COMMENCING. ENGINEER SHALL REVIEW AND APPROVE ALL TRAFFIC CONTROL PLANS.
3. ACCESS MUST BE PROVIDED AT ALL TIMES TO RESIDENTS.

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CONSTRUCTION NOTES

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PROPOSED STORM SEWER SCHEDULE


STRUCTURE	ALIGNMENT	STATION	OFFSET	CONNECT STRUC.	T.C. ELEV.	INVERT ELV.	STRUCTURE DESIGN	STRUCTURE HEIGHT	CASTING
X103	Alignment Storm	208+63.66	-25.08		1328.82	1324.02	48 -4020 CB	4.80'	EXISTING
BH1	Alignment Roadway	107+07.98	-25.00	105		1327.34	BULKHEAD		
BH2	Alignment Roadway	105+35.00	-25.00	106		1327.93	BULKHEAD		
BH3	Alignment Roadway	103+55.69	-25.00	107		1328.54	BULKHEAD		
BH4	Alignment Roadway	102+15.00	25.00	109		1329.21	BULKHEAD		
101	Alignment Storm	208+64.25	0.07	102	1329.97	1324.47 1324.37	48 -4020 MH	5.61'	700/721
102	Alignment Storm	207+14.46	0.00	101 103	1327.38	1325.00 1324.90	DESIGN H MH	2.47'	FRAME AND 731
103	Alignment Storm	204+46.15	0.00	102 104	1328.52	1325.88 1325.78	DESIGN H MH	2.74'	FRAME & 731
104A	Alignment Roadway	107+33.00	15.00	104	1333.69	1327.10	DESIGN G	6.59'	805/814A
104	Alignment Roadway	107+07.98	15.00	103 105 104A	1333.95	1327.12 1327.03 1327.03	48 -4020 CB	6.92'	805/814A/823A
105	Alignment Roadway	107+08.00	-15.00	104 BH1 106	1333.95	1327.31 1327.21 1327.31	48 -4020 CB	6.74'	805/814A/823A
106	Alignment Roadway	105+35.00	-15.00	105 BH2 107	1334.91	1327.90 1327.80 1327.90	48 -4020 CB	7.11'	805/814A/823A
107	Alignment Roadway	103+55.65	-15.00	106 BH3 108	1331.83	1328.51 1328.41 1328.51	48 -4020 CB	3.42'	805/814A/823A
108	Alignment Roadway	103+55.65	15.00	107 109	1331.83	1328.59 1328.70	48 -4020 CB	3.23'	805/814A/823A
109	Alignment Roadway	102+15.00	15.00	BH4 108	1333.36	1329.08 1329.18	48 -4020 CB	4.28'	805/814A/823A

NOTE : ALL STORM CATCH BASIN CASTINGS SHALL BE FULL FLANGED

PROPOSED SANITARY SEWER SCHEDULE

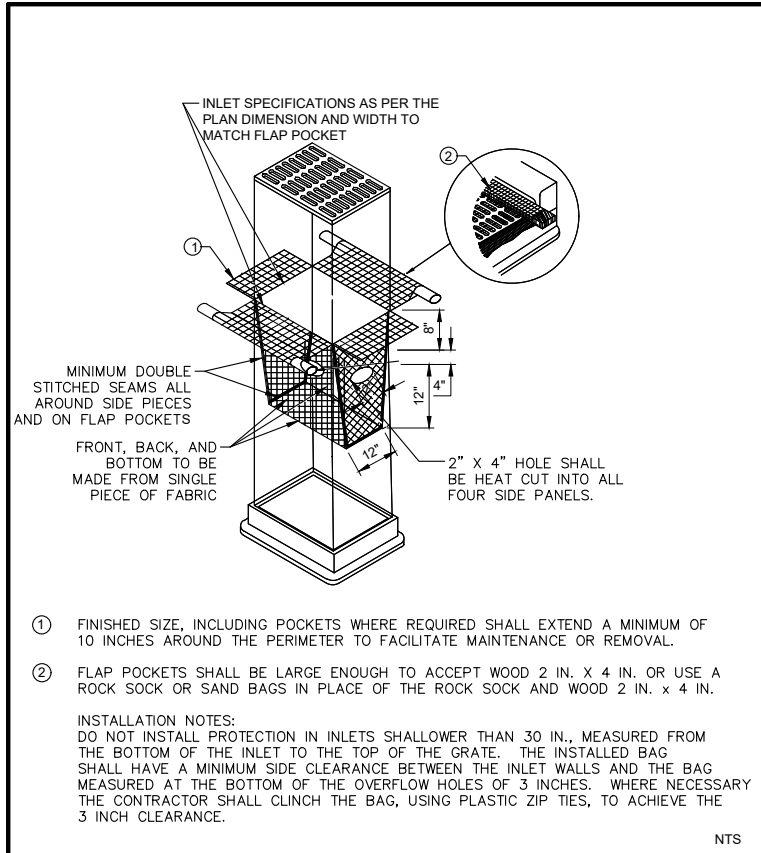
STRUCTURE	ALIGN.	STATION	OFFSET	TYPE	CASTING ASSEMBLY	T.C. ELEV	INVERT ELEV	STRUCTURE DEPTH
X1	Alignment Roadway	107+71.09	0.33 L	48 IN MH	STANDARD	1333.71	1313.99 1313.99 1314.01	19.72
C4	Alignment Roadway	102+49.83	25.00 R	8 IN CLEANOUT	STANDARD	1333.98	1321.35	12.63
C3	Alignment Roadway	102+49.83	25.00 L	8 IN CLEANOUT	STANDARD	1333.98	1321.35	12.63
PLUG	Alignment Roadway	105+21.17	25.00 R	8 IN CLEANOUT	STANDARD	1334.73	1320.65	14.08
C2	Alignment Roadway	105+21.17	25.00 L	8 IN CLEANOUT	STANDARD	1334.75	1320.65	14.09
WYE	Alignment Roadway	106+70.00	4.84 L	8 IN CLEANOUT	STANDARD	1334.89	1319.73 1319.73 1319.73	15.16
C1	Alignment Roadway	106+71.06	25.02 L	8 IN CLEANOUT	STANDARD	1334.97	1320.13	14.99
1	Alignment Roadway	107+20.00	0.00	48 IN MH	STANDARD	1334.18	1319.62 1314.25	19.92
2	Alignment Roadway	105+21.04	0.00	48 IN MH	STANDARD	1335.08	1320.15 1320.05 1320.15 1320.15	15.03
3	Alignment Roadway	102+50.00	0.00	48 IN MH	STANDARD	1333.24	1320.85 1321.23 1320.85	12.39

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HAWKINSON
COMMERCIAL DEVELOPMENT
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CONSTRUCTION NOTES

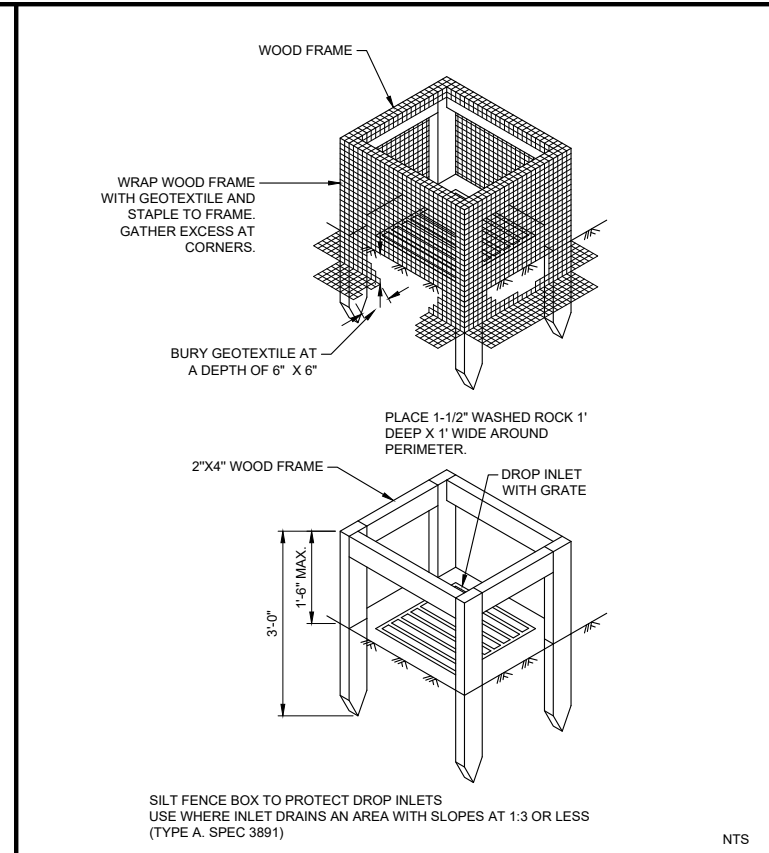


① FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 IN. X 4 IN. OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE ROCK SOCK AND WOOD 2 IN. X 4 IN.

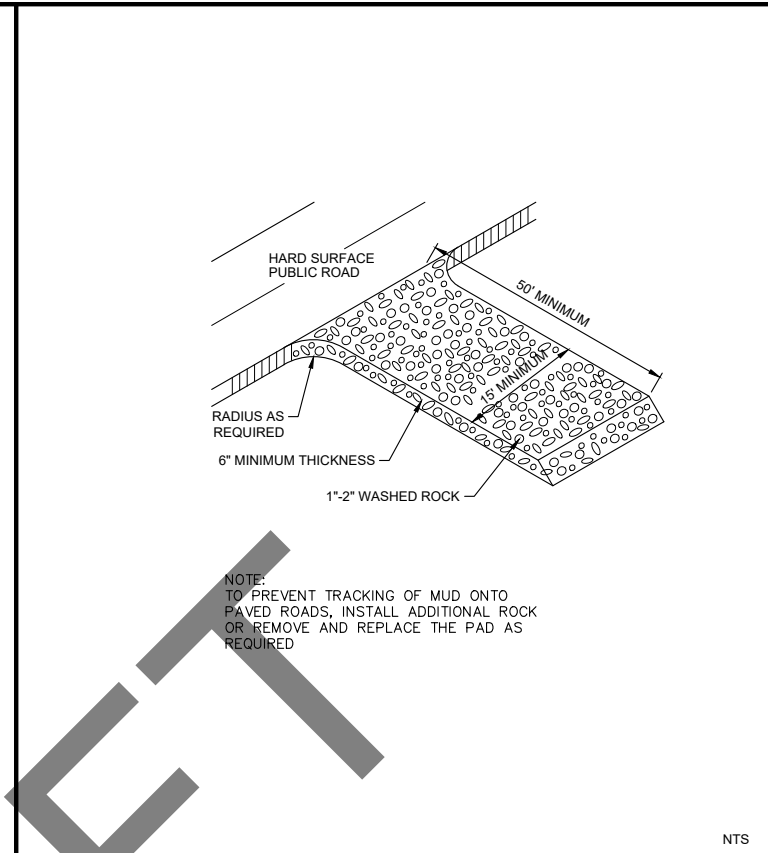
INSTALLATION NOTES:
DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30 IN., MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES OF 3 INCHES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH CLEARANCE.

NTS



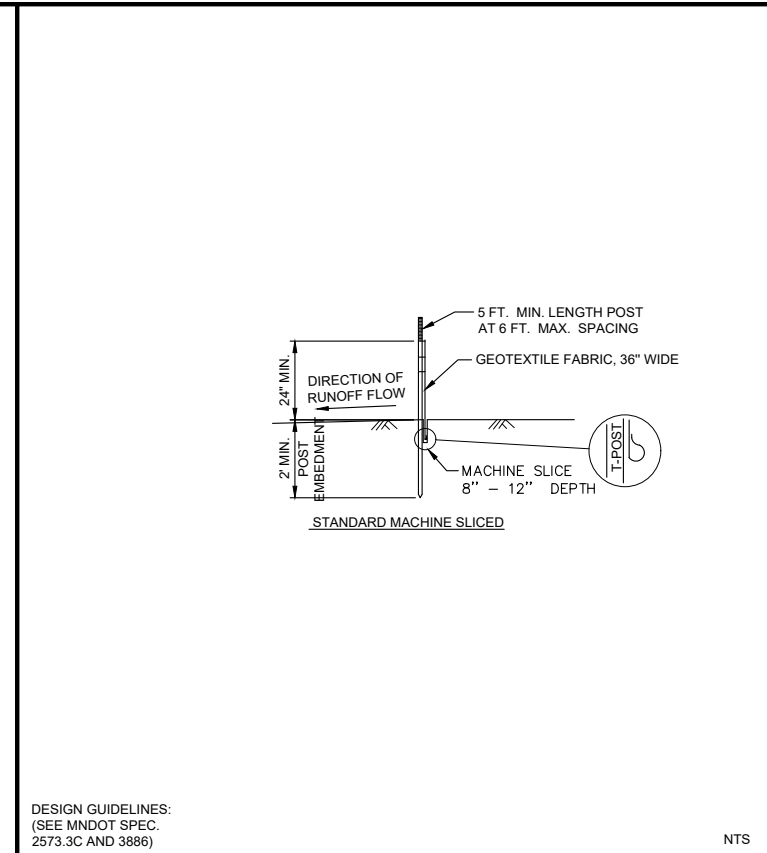
SILT FENCE BOX TO PROTECT DROP INLETS
USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS (TYPE A, SPEC 3891)

NTS



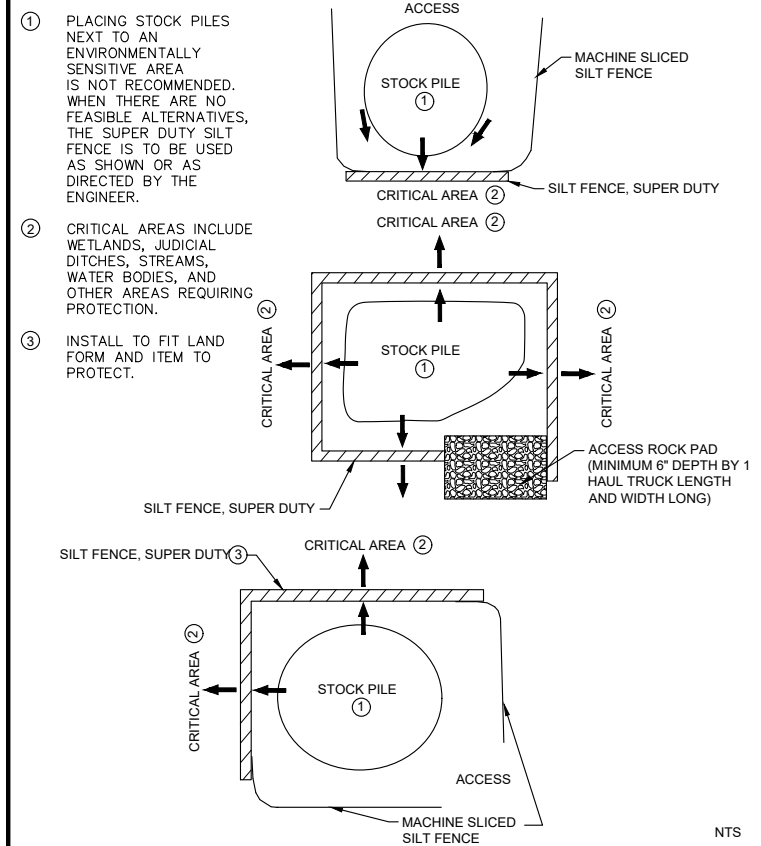
NOTE:
TO PREVENT TRACKING OF MUD ONTO PAVED ROADS, INSTALL ADDITIONAL ROCK OR REMOVE AND REPLACE THE PAD AS REQUIRED

NTS



DESIGN GUIDELINES:
(SEE MNDOT SPEC. 2573.3C AND 3886)

NTS

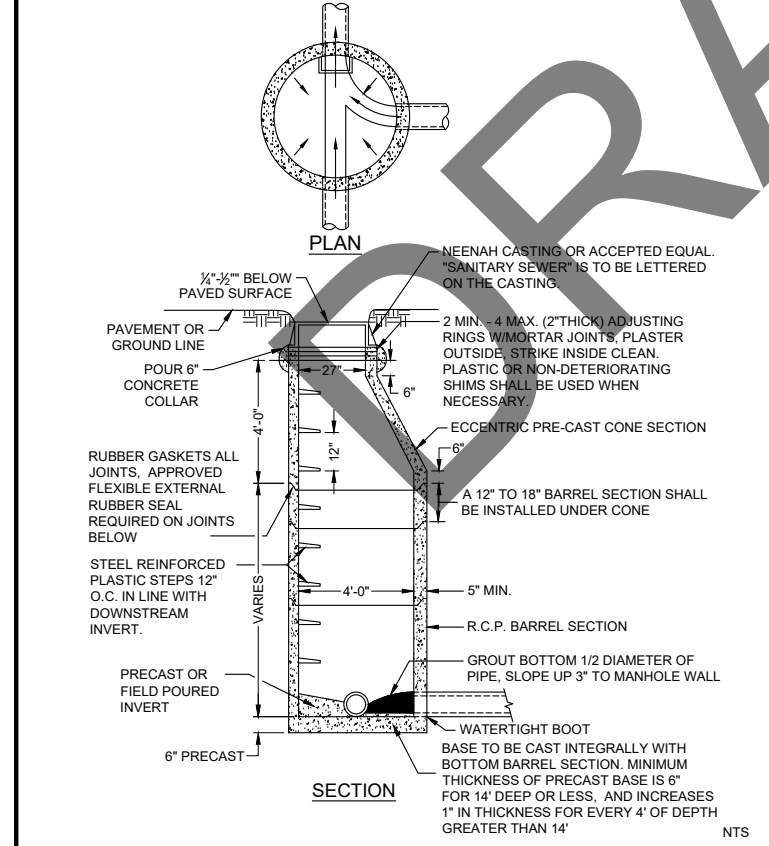


① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, THE SUPER DUTY SILT FENCE IS TO BE USED AS SHOWN OR AS DIRECTED BY THE ENGINEER.

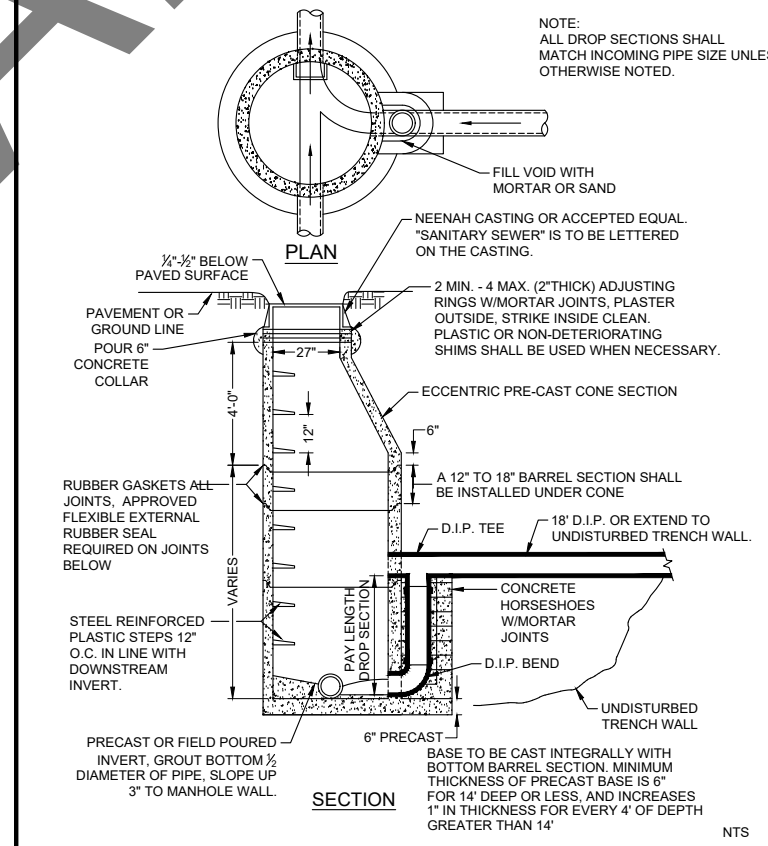
② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

③ INSTALL TO FIT LAND FORM AND ITEM TO PROTECT.

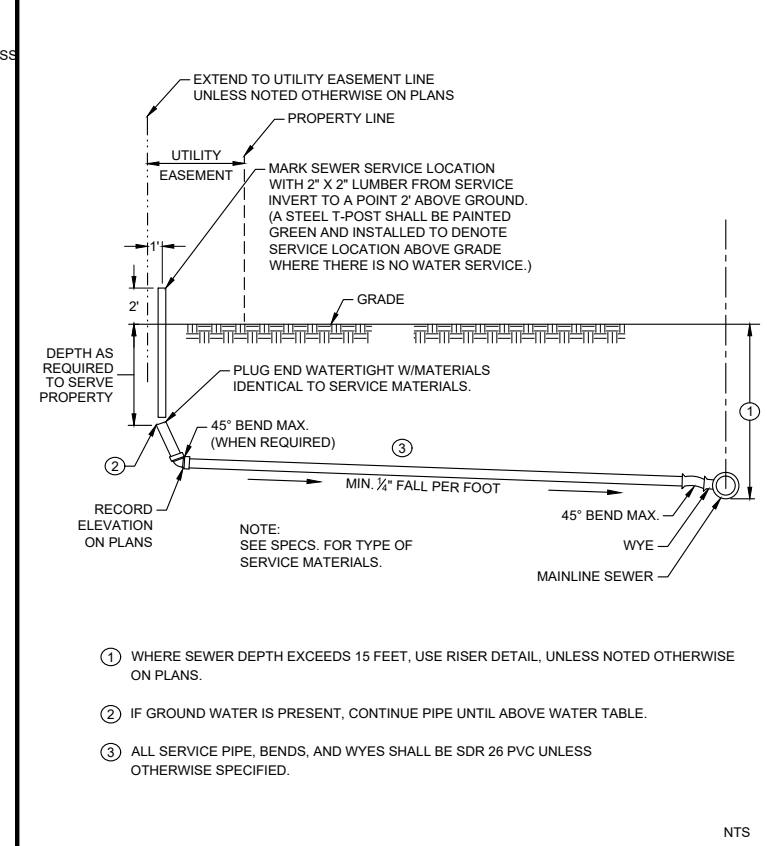
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① WHERE SEWER DEPTH EXCEEDS 15 FEET, USE RISER DETAIL, UNLESS NOTED OTHERWISE ON PLANS.

② IF GROUND WATER IS PRESENT, CONTINUE PIPE UNTIL ABOVE WATER TABLE.

③ ALL SERVICE PIPE, BENDS, AND WYES SHALL BE SDR 26 PVC UNLESS OTHERWISE SPECIFIED.

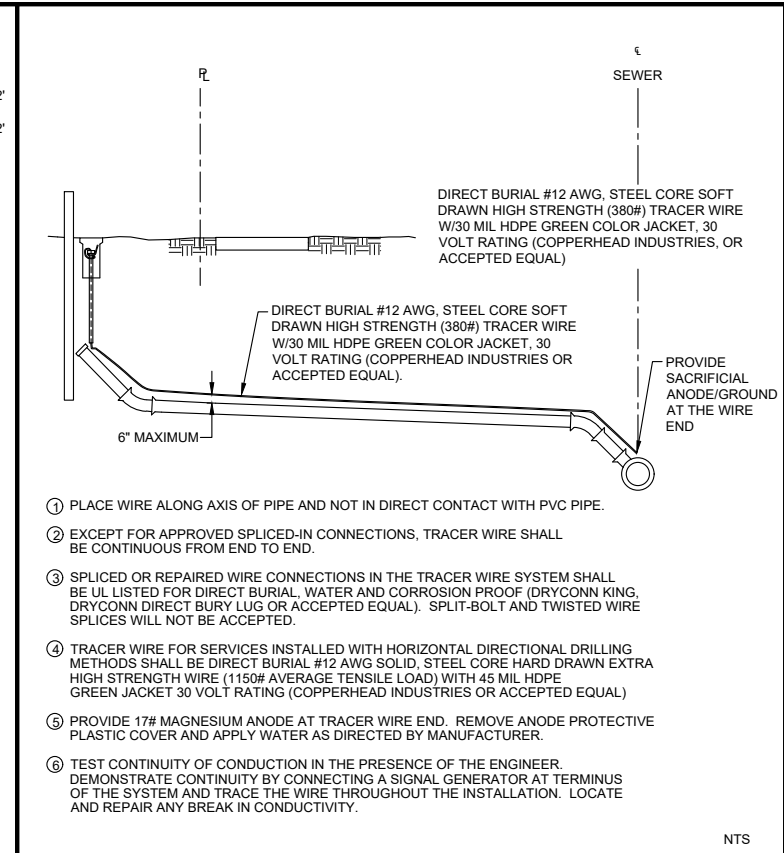
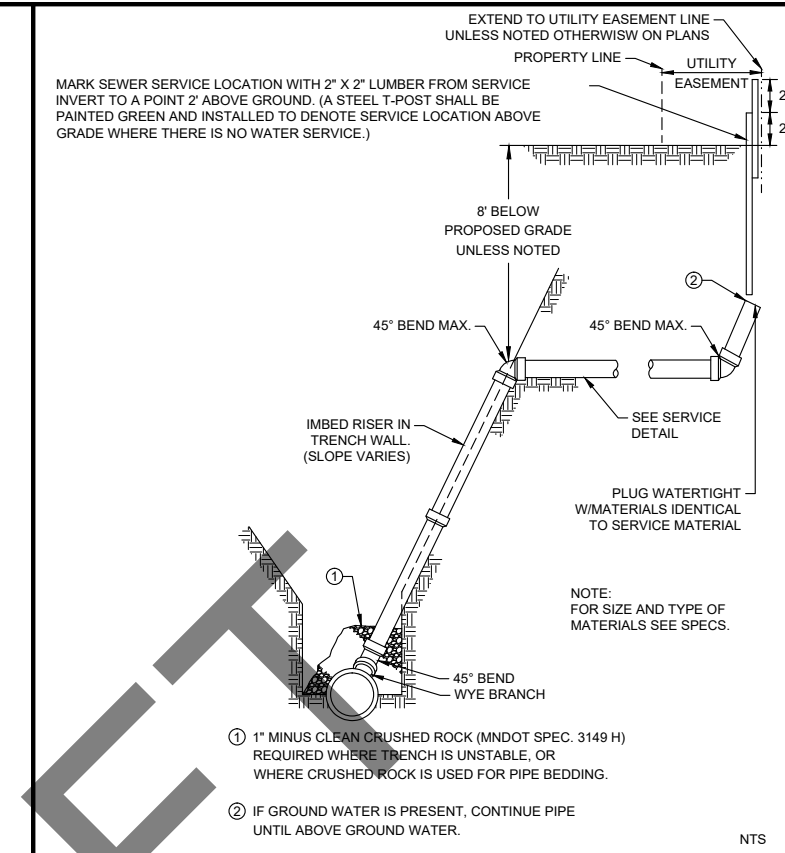
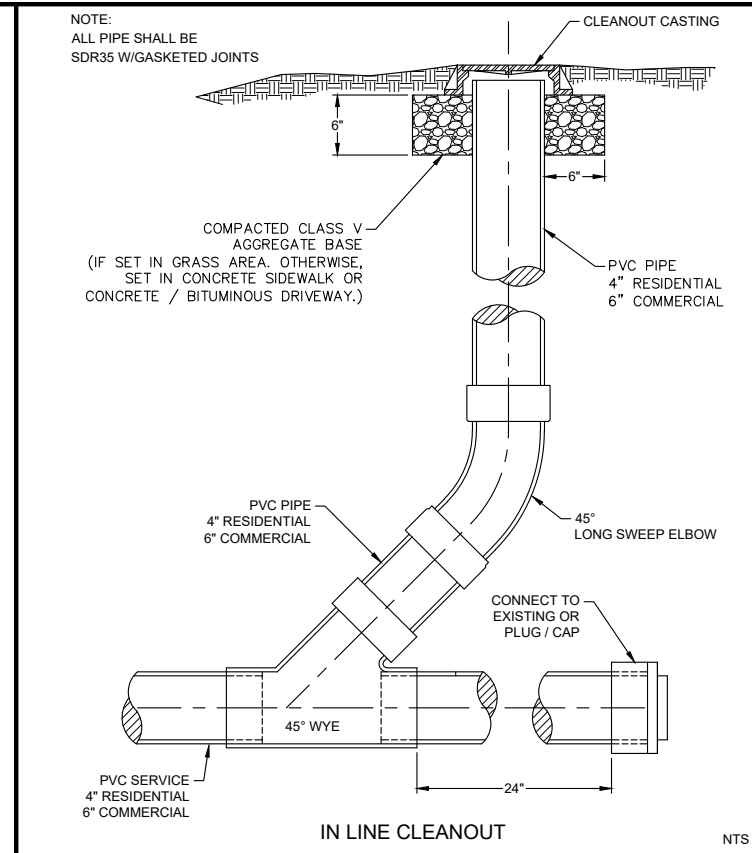
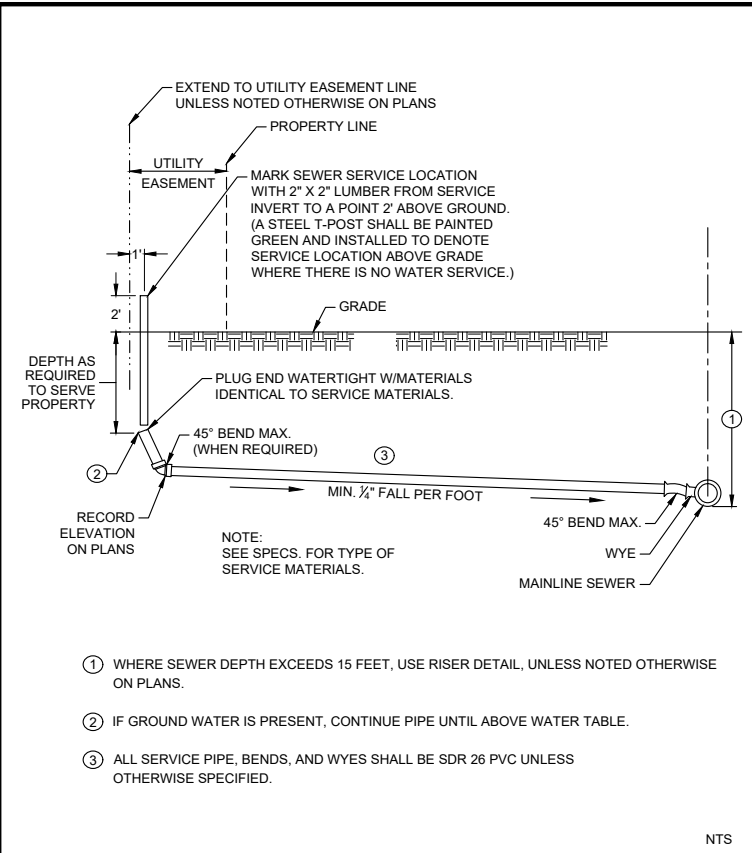
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SANITARY SEWER SERVICE

Revised: Oct. 2011
SEH Plate No. SAN-11

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SANITARY SEWER SERVICE CLEANOUT (PLATE 1 OF 2)

Revised: Oct. 2011
SEH Plate No. SAN-17

SEH

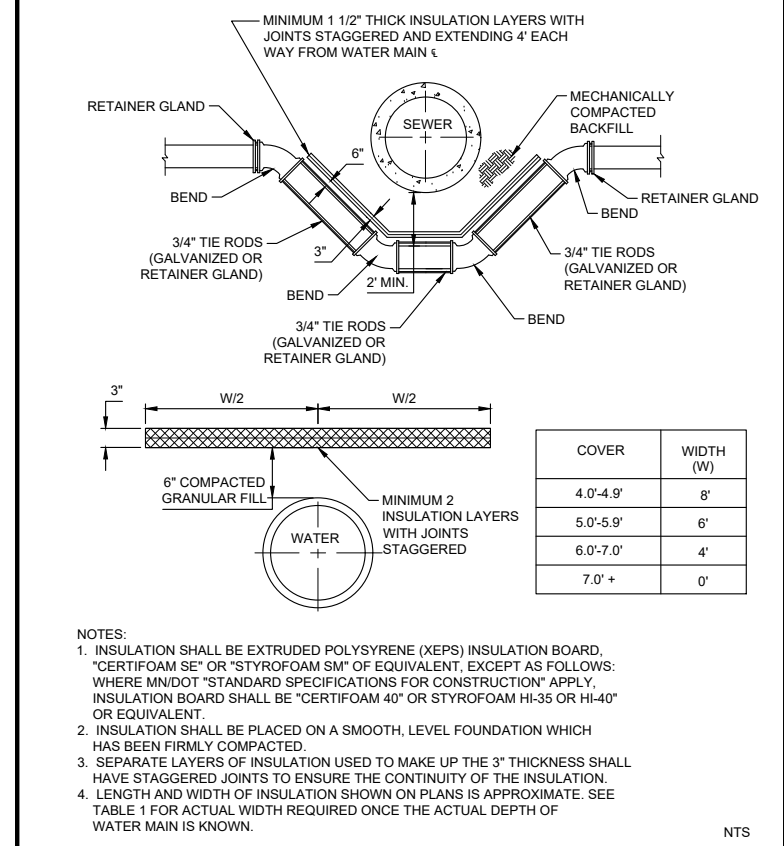
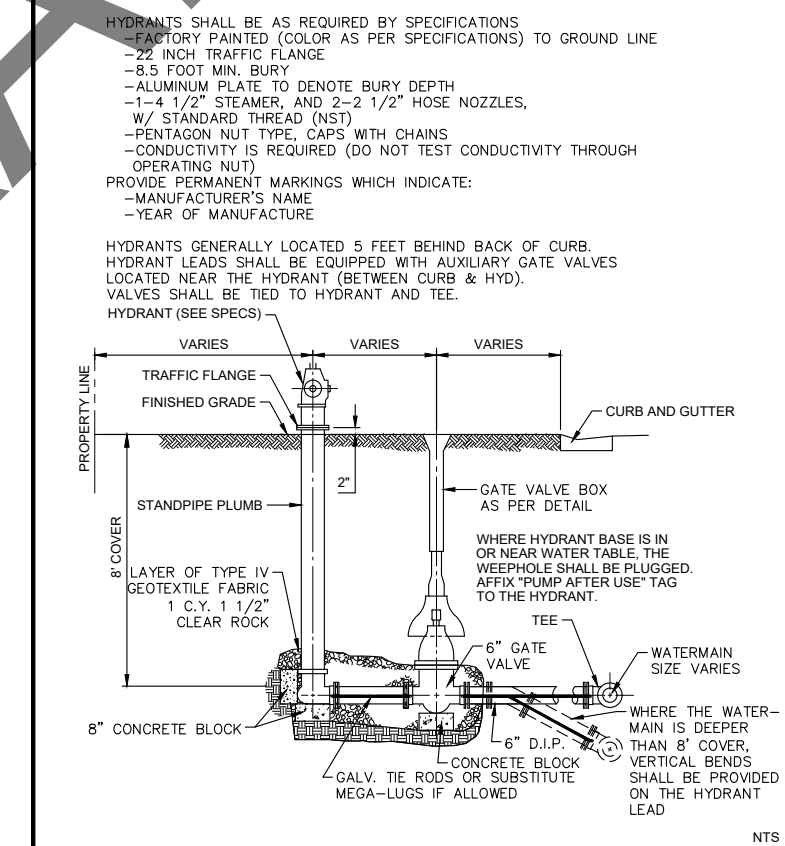
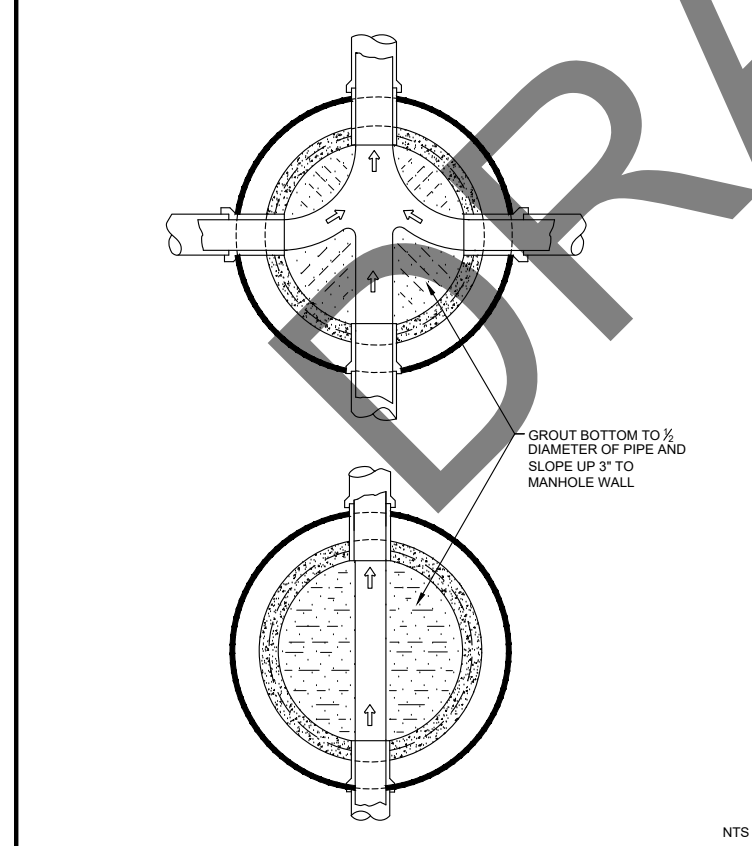
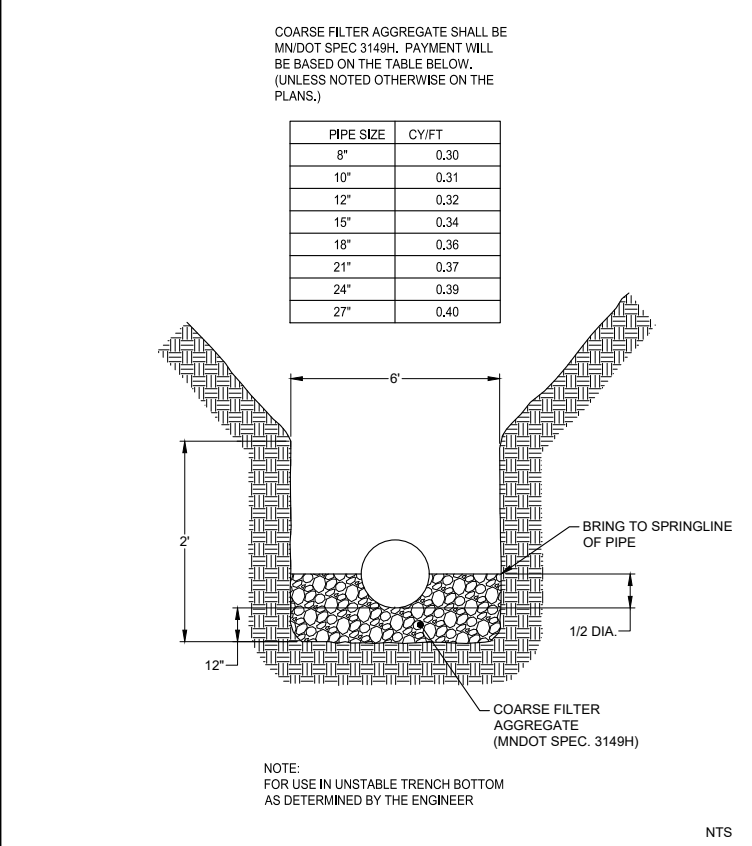
SANITARY SEWER SERVICE RISER (PVC MAIN)

Revised: Oct. 2011
SEH Plate No. SAN-12

SEH

SANITARY SEWER SERVICE TRACER WIRE (PLATE 1 OF 2)

Revised: Oct. 2011
SEH Plate No. SAN-09



SEH

TRENCH BEDDING AND FOUNDATION

Revised: Oct. 2016
SEH Plate No. SAN-15

SEH

TYPICAL INVERT DETAILS

Revised: Oct. 2011
SEH Plate No. SAN-10

SEH

HYDRANT AND GATE VALVE INSTALLATION WATEROUS PACER WB67

Revised: Oct. 2016
SEH Plate No. WAT-02

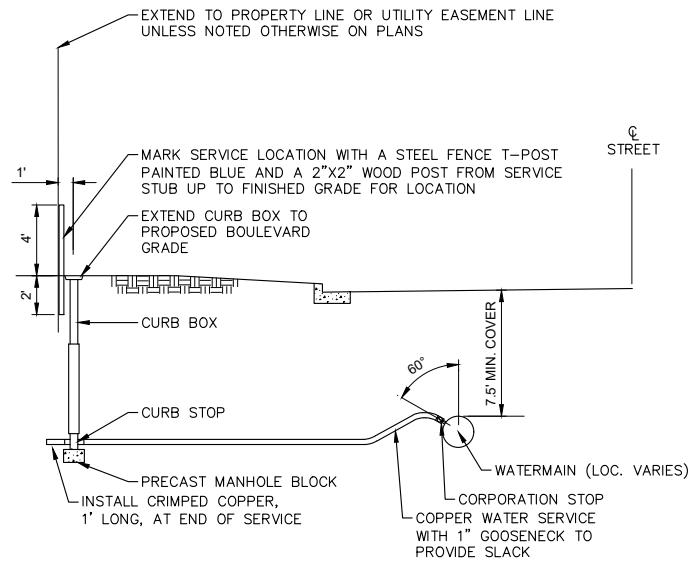
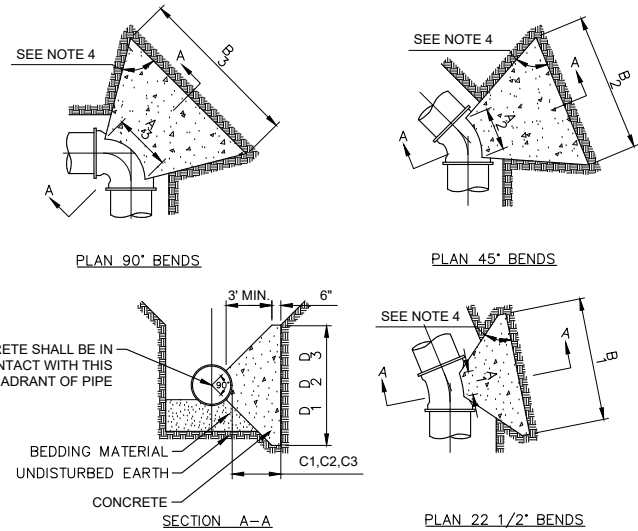
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WATER MAIN INSULATION

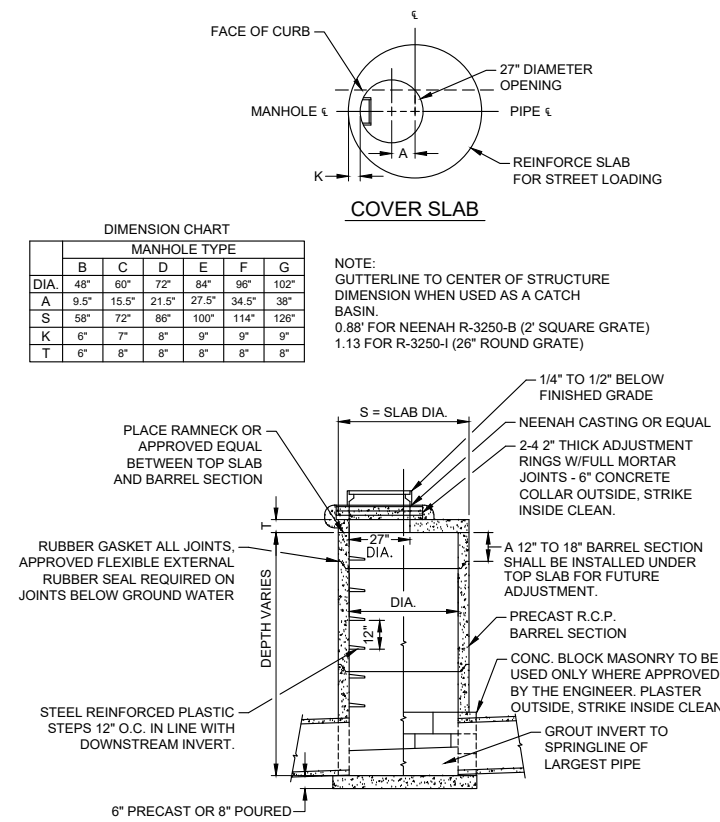
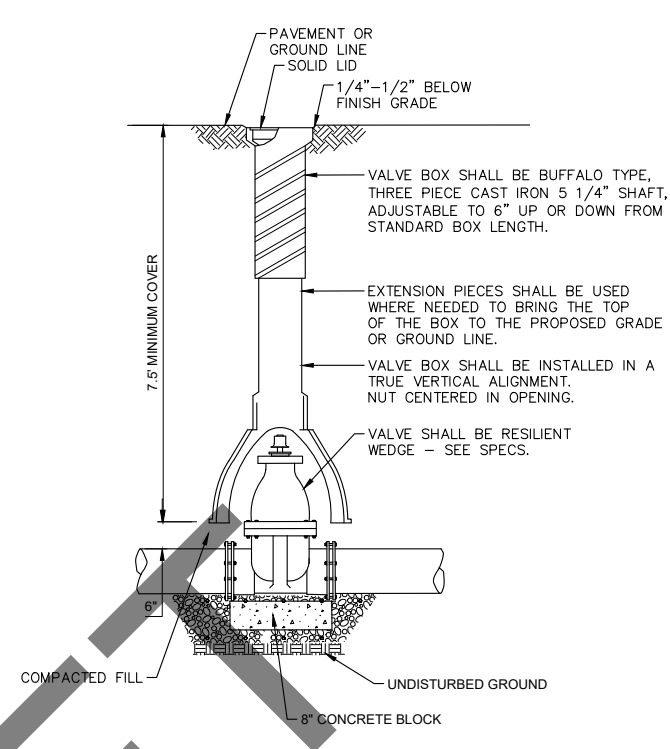
Revised: Oct. 2011
SEH Plate No. WAT-17

- NOTES:
 1. SHAPE OF BACK BUTTRESS MAY VARY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
 2. DIMENSION C1,C2,C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°.
 3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
 4. 45° MINIMUM.
 5. PLACE POLYETHYLENE BETWEEN CONCRETE AND PIPE.

PIPE SIZE	BUTTRESS DIMENSIONS					
	22 1/2° BEND		45° BEND		90° BEND	
	B ₁	D ₁	B ₂	D ₂	B ₃	D ₃
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-6"
8"	1'-5"	1'-5"	2'-1"	1'-6"	2'-8"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-8"	5'-6"	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	-	-	9'-3"	6'-0"	17'-0"	6'-0"



- NOTES:
 1. SEE SPECS FOR SIZE & TYPE OF MATERIALS
 2. MAINTAIN 18" VERTICAL & 24" HORIZONTAL SEPARATION BETWEEN SEWER & WATER SERVICE LINES.
 3. PROVIDE CURB BOXES THAT ARE IN CONCRETE OR BITUMINOUS DRIVEWAYS WITH A SHORT TOP SECTION OF A STANDARD GATE VALVE BOX WITH A LID MARKED "WATER".
 4. WHERE WATER MAIN IS HDPE: USE ELECTROFUSION CORPORATIONS SADDLES TO CONNECT TO WATER MAIN.



SEH

Revised: Feb. 2011

SEH Plate No. WAT-13

CONCRETE THRUST BLOCKING

SEH

Revised: Oct. 2011

SEH Plate No. WAT-14

COPPER WATER SERVICE CONNECTION

SEH

Revised: Oct. 2011

SEH Plate No. WAT-04

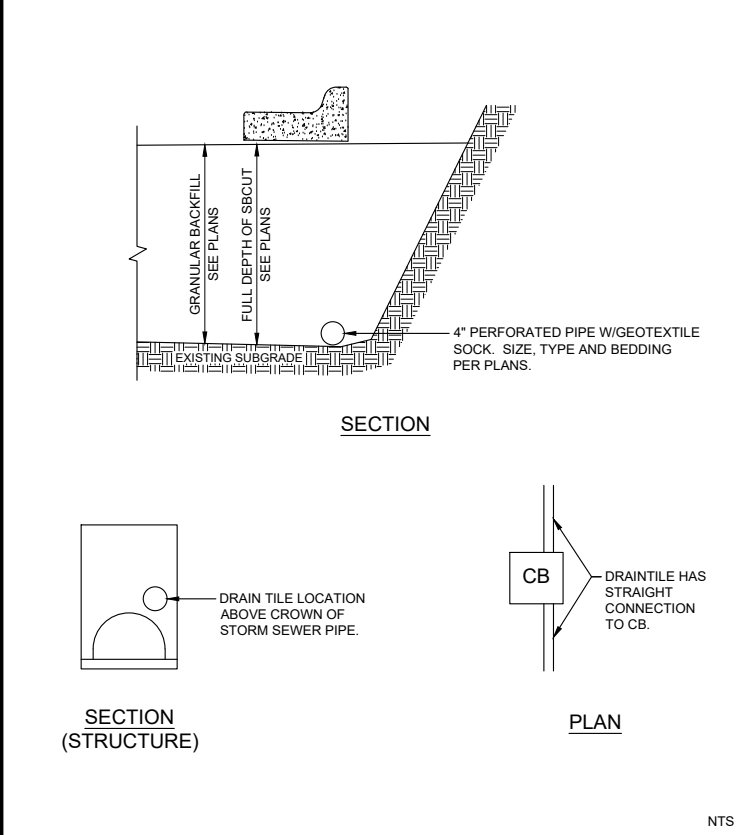
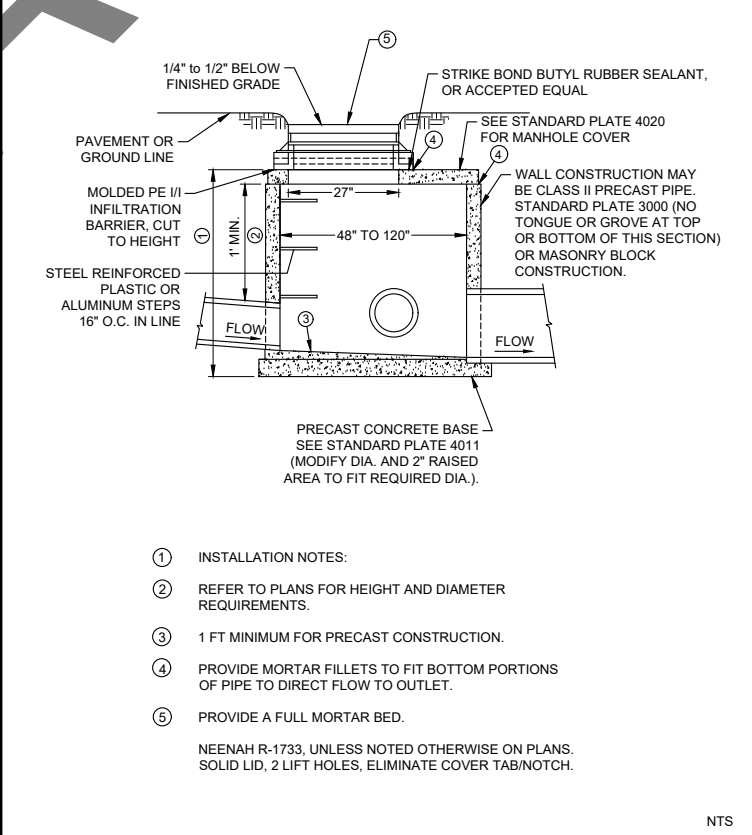
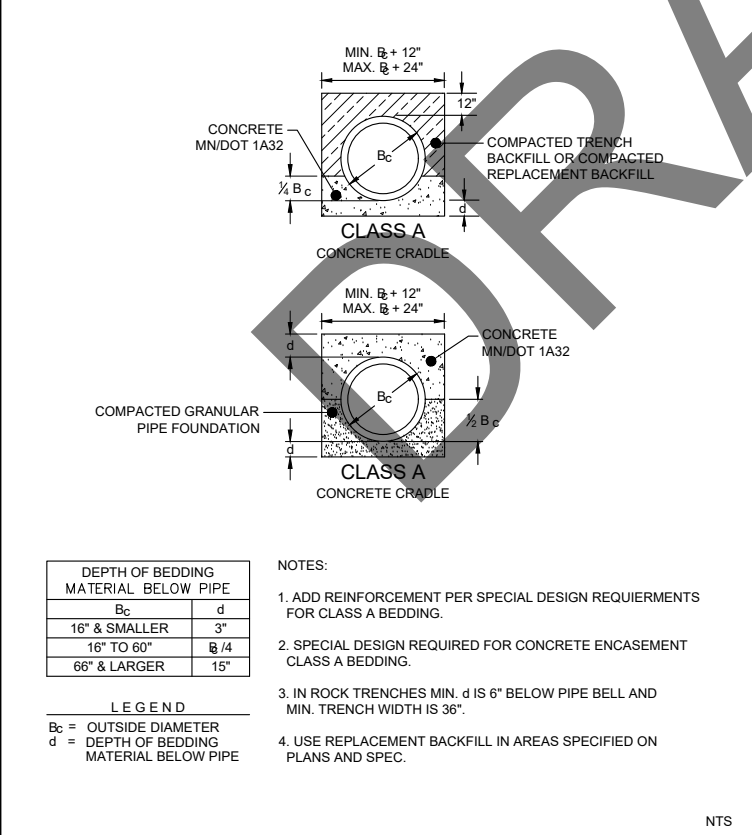
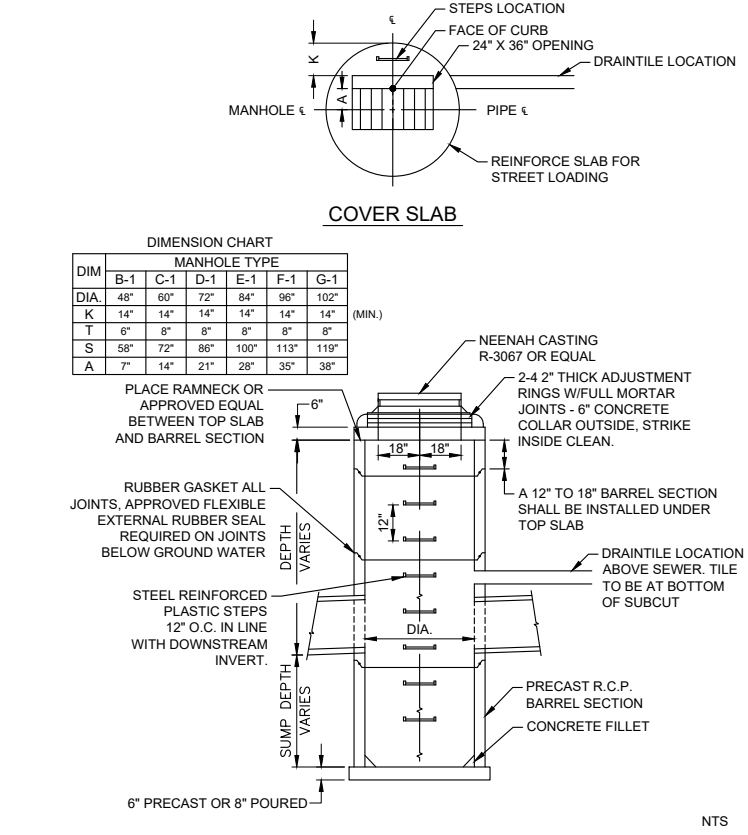
GATE VALVE AND BOX

SEH

Revised: Oct. 2011

SEH Plate No. STM-01

CATCH BASIN/MANHOLE (27" DIA. OPENING)



SEH

Revised: Oct. 2011

SEH Plate No. STM-03

CATCH BASIN/MANHOLE (WITH SUMP)

SEH

Revised: Oct. 2011

SEH Plate No. STM-22

CLASS A TRENCH BEDDING FOR REINFORCED CONCRETE PIPE

SEH

Revised: Oct. 2011

SEH Plate No. STM-20

DRAINAGE STRUCTURE - DESIGN 4020

SEH

Revised: Oct. 2011

SEH Plate No. STM-10

PERFORATED PIPE DRAINTILE IN SUBCUT AREAS

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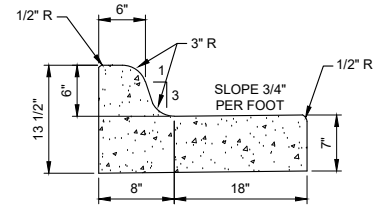
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LICENSE NO. _____

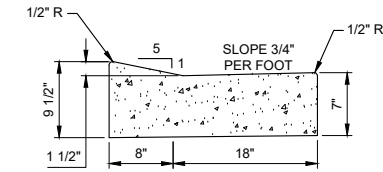
HAWKINSON
 COMMERCIAL DEVELOPMENT
 GRAND RAPIDS, MN

CONSTRUCTION DETAILS

7
 of 30

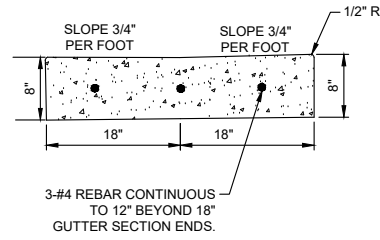


B618



DRIVEWAY AT B618

NTS



SECTION
B618 VALLEY GUTTER

NTS



CURB AND GUTTER

Revised:
Oct. 2011
SEH Plate No.
STR-19



8" CONCRETE VALLEY GUTTER

Revised:
Jan. 2013
SEH Plate No.
STR-21

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DRRAFT

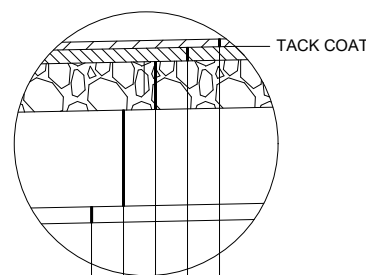
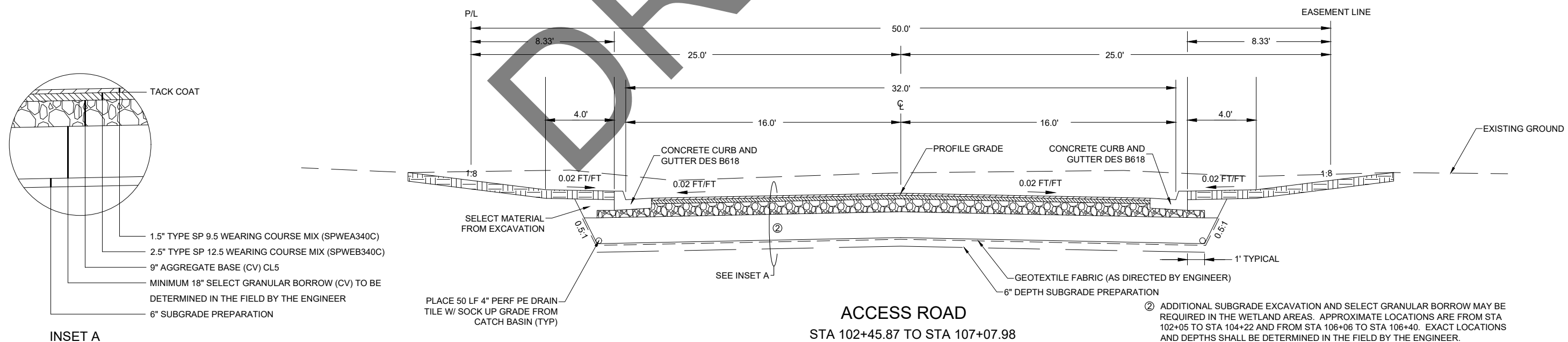
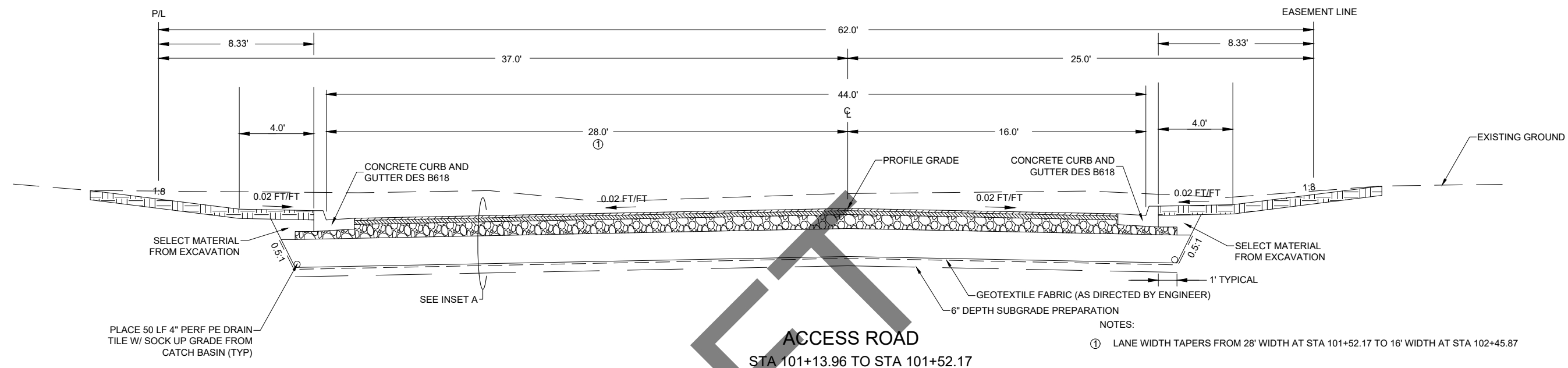
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GRAND RAPIDS, MN

CONSTRUCTION DETAILS



- INSET A**
- TACK COAT
 - 1.5" TYPE SP 9.5 WEARING COURSE MIX (SPWEA340C)
 - 2.5" TYPE SP 12.5 WEARING COURSE MIX (SPWEB340C)
 - 9" AGGREGATE BASE (CV) CL5
 - MINIMUM 18" SELECT GRANULAR BORROW (CV) TO BE DETERMINED IN THE FIELD BY THE ENGINEER
 - 6" SUBGRADE PREPARATION

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Designed By		.			.		
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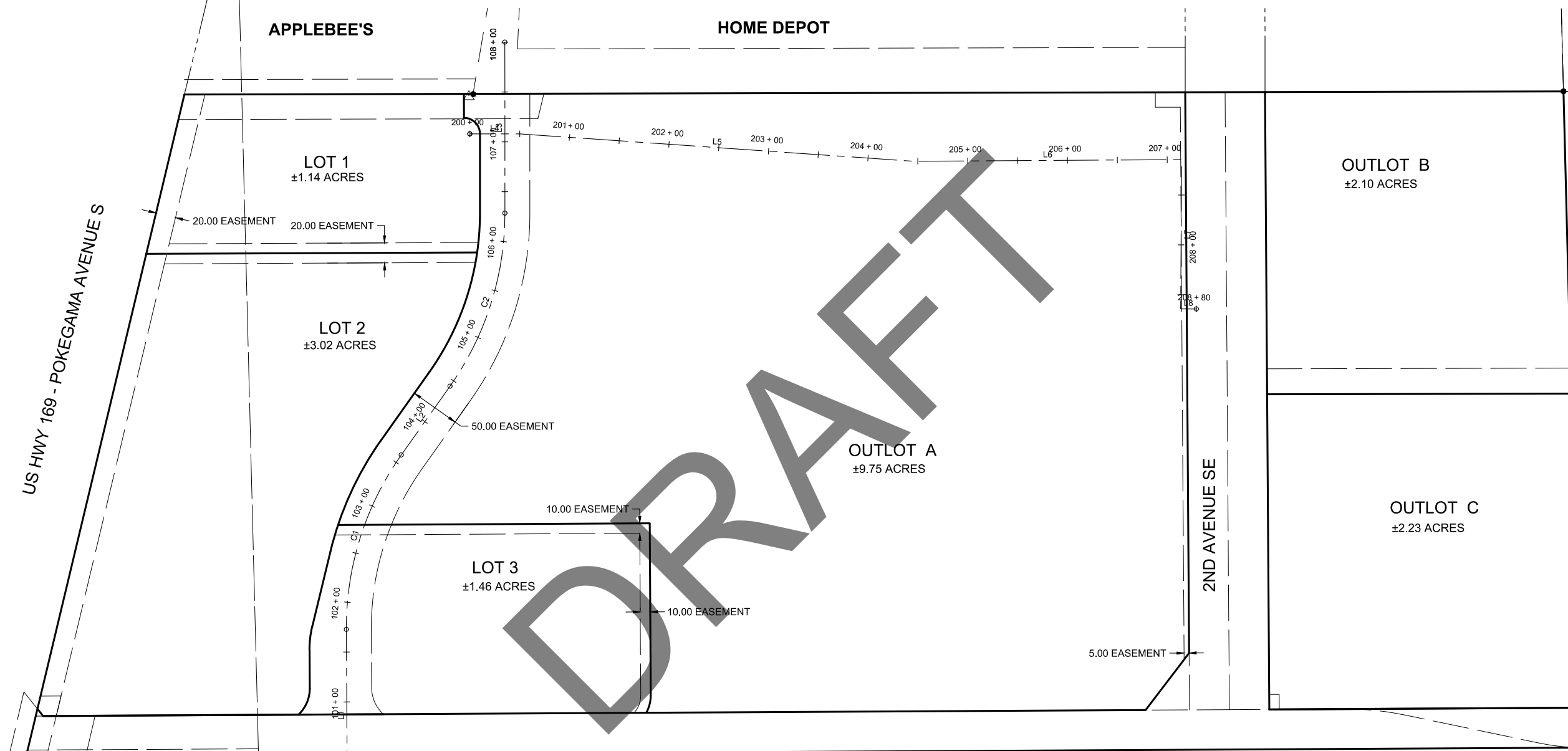
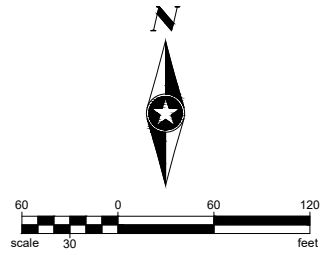
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COMMERCIAL DEVELOPMENT
GRAND RAPIDS, MN

TYPICAL SECTIONS

ALIGNMENT TABULATION - ALIGNMENT ROADWAY															
POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING
L1		100+00.00				172.72	164440.8298	550983.9980	N 00° 15' 53" W	100+00.00	101+72.72	164440.8298	550983.9980	164613.5481	550983.1997
C1		101+72.72	035° 35' 30"	300.00	96.30	186.36	164613.5481	550983.1997		101+72.72	103+59.08	164613.5481	550983.1997	164788.4072	551038.4368
L2		103+59.08				84.53	164788.4072	551038.4368	N 35° 19' 37" E	103+59.08	104+43.61	164788.4072	551038.4368	164857.3743	551087.3170
C2		104+43.61	035° 18' 32"	300.00	95.48	184.88	164857.3743	551087.3170		104+43.61	106+28.49	164857.3743	551087.3170	165030.7528	551142.5573
L3		106+28.49				171.51	165030.7528	551142.5573	N 00° 01' 05" E	106+28.49	108+00.00	165030.7528	551142.5573	165202.2650	551142.6110



ALIGNMENT TABULATION - ALIGNMENT STORM															
POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING
L4		200+00.00				50.13	165110.3051	551107.4565	S 89° 55' 36" E	200+00.00	200+50.13	165110.3051	551107.4565	165110.2411	551157.5822
L5		200+50.13				396.02	165110.2411	551157.5822	S 85° 58' 13" E	200+50.13	204+46.15	165110.2411	551157.5822	165082.4115	551552.6239
L6		204+46.15				268.31	165082.4115	551552.6239	N 89° 41' 17" E	204+46.15	207+14.46	165082.4115	551552.6239	165083.8729	551820.9309
L7		207+14.46				149.73	165083.8729	551820.9309	S 00° 25' 48" W	207+14.46	208+64.18	165083.8729	551820.9309	164934.1507	551819.8073
L8		208+64.18				15.81	164934.1507	551819.8073	S 89° 34' 12" E	208+64.18	208+80.00	164934.1507	551819.8073	164934.0321	551835.6206

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Checked By		.			.		

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 GRAND RAPIDS, MN

ALIGNMENT PLAN

10
of 30

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DEERWOOD BANK

US HWY 169



140 SY - REMOVE BITUMINOUS PAVEMENT (NOT SHOWN ON SHEET)

9 LF - SAWING CONCRETE PAVEMENT (FULL DEPTH)
102 SY - REMOVE CONCRETE PAVEMENT

APPLEBEE'S

156 LF - SAWING BITUMINOUS PAVEMENT (FULL DEPTH)

152 LF - REMOVE CURB & GUTTER

3 LF - SAWING CONCRETE PAVEMENT

73 LF - SAWING BITUMINOUS PAVEMENT (FULL DEPTH)

36 SY - REMOVE BITUMINOUS PAVEMENT

9 LF - SAWING CONCRETE PAVEMENT (FULL DEPTH)

96 SY - REMOVE BITUMINOUS PAVEMENT

29TH STREET SE

DRAFT

0.05 AC - CLEARING & GRUBBING

3 LF - SAWING CONCRETE PAVEMENT

86 LF - REMOVE CURB & GUTTER

WALMART

HOME DEPOT

SIGNING REMOVAL NOTES:

- OR EXISTING SIGN
- ① DENOTES REMOVE EXISTING SIGN (ALL TYPES)
- ② DENOTES SALVAGE EXISTING SIGN (ALL TYPES)
- ③ DENOTES DO NOT DISTURB EXISTING SIGN

REMOVAL LEGEND

	SAWCUT BITUMINOUS PAVEMENT		REMOVE BITUMINOUS PAVEMENT
	SAWCUT CONCRETE PAVEMENT		REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE CURB AND GUTTER		CLEARING AND GRUBBING, BY TREE
			CLEAR AND GRUB TREE LINE

SEH Project	161740	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
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Designed By							
Checked By							



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GRAND RAPIDS, MN

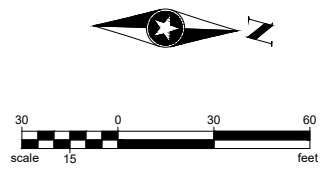
REMOVAL PLAN

SIGNING REMOVAL NOTES:

- ▽ OR ⊕ EXISTING SIGN
- ① DENOTES REMOVE EXISTING SIGN (ALL TYPES)
- ② DENOTES SALVAGE EXISTING SIGN (ALL TYPES)
- ③ DENOTES DO NOT DISTURB EXISTING SIGN

REMOVAL LEGEND

- SAWCUT BITUMINOUS PAVEMENT
- ~~~~ SAWCUT CONCRETE PAVEMENT
- === REMOVE CONCRETE CURB AND GUTTER
- ◻ REMOVE BITUMINOUS PAVEMENT
- ◼ REMOVE CONCRETE PAVEMENT
- *OR⊗ CLEARING AND GRUBBING, BY TREE
- ~~~~~ CLEAR AND GRUB TREE LINE



WALMART

29TH STREET SE

HOME DEPOT

DRAFT

0.18 AC - CLEARING & GRUBBING

16 LF - REMOVE SEWER PIPE (STORM)

SALVAGE RIP RAP AT APRON OUTLET
(NOT SHOWN ON PLAN SHEET)

2ND AVENUE SE

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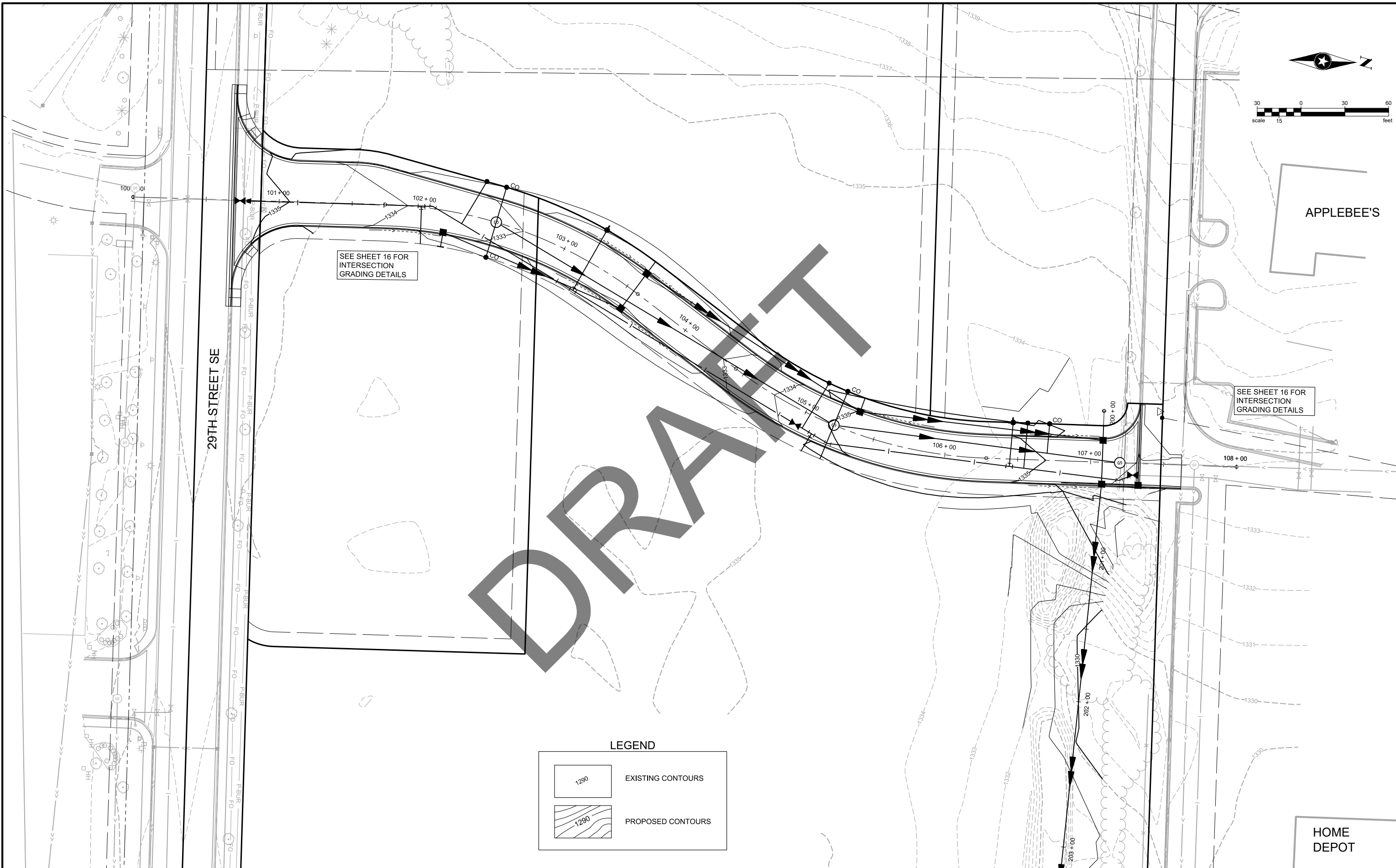
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REMOVAL PLAN

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LEGEND

	EXISTING CONTOURS
	PROPOSED CONTOURS

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Drawn By							
Designed By							
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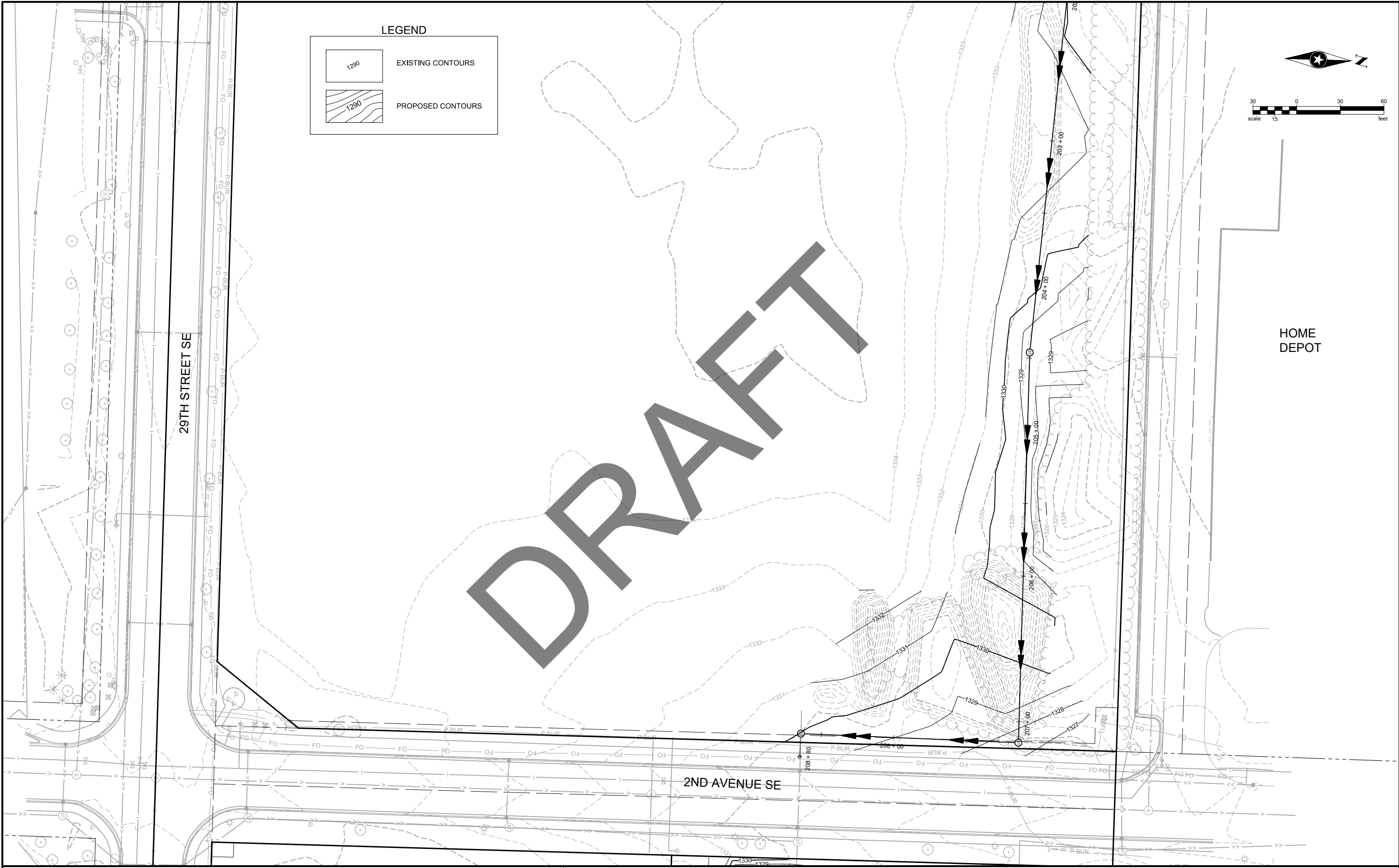
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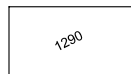

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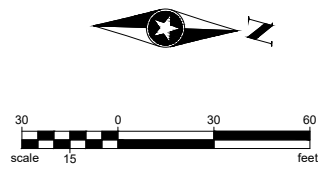
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 GRAND RAPIDS, MN

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LEGEND

	EXISTING CONTOURS
	PROPOSED CONTOURS



DRAFT

29TH STREET SE

2ND AVENUE SE

HOME DEPOT

SEH Project	161740	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
Drawn By							
Designed By							
Checked By							



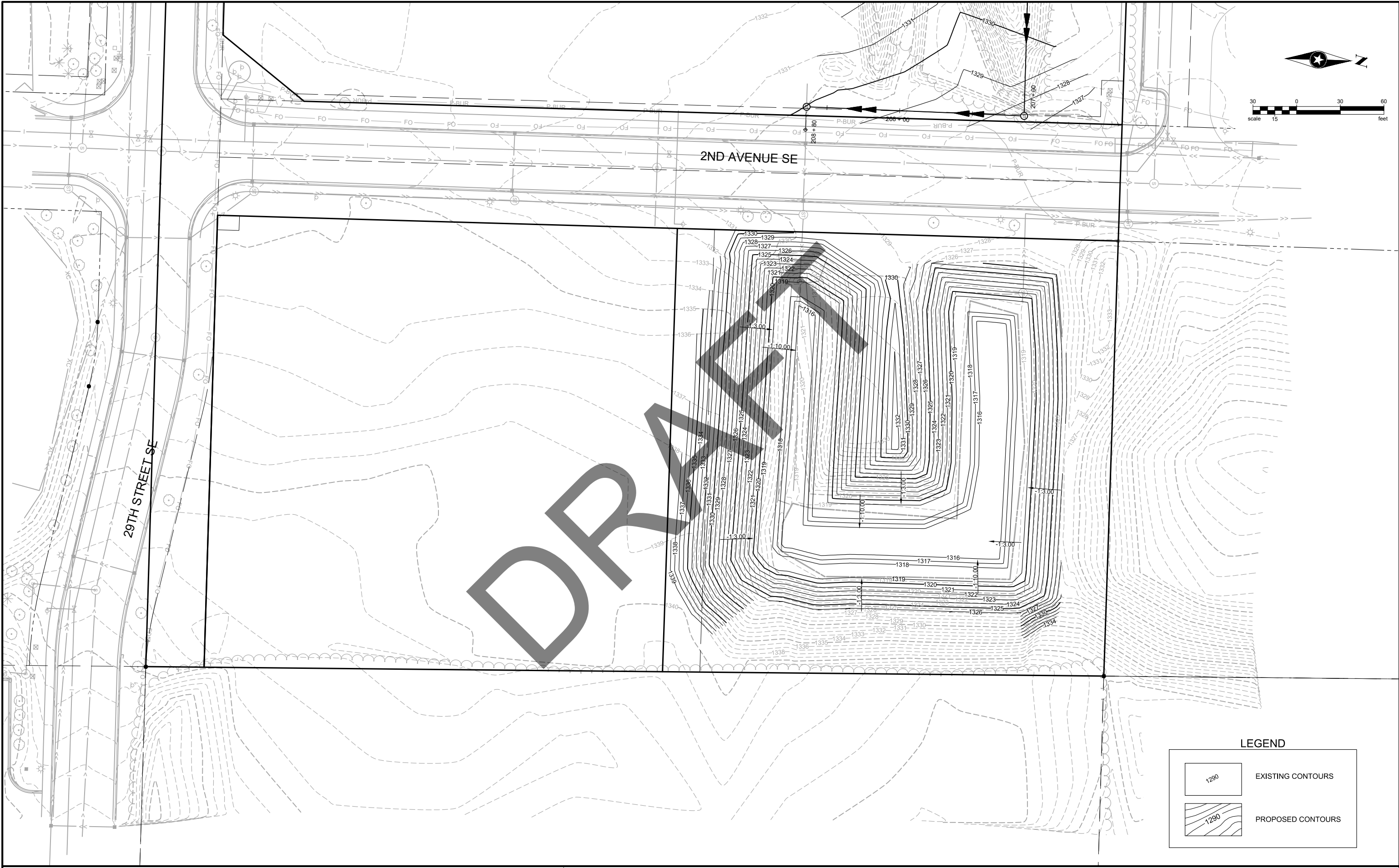
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 GRAND RAPIDS, MN

GRADING PLAN

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LEGEND

	EXISTING CONTOURS
	PROPOSED CONTOURS

SEH Project	161740	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date
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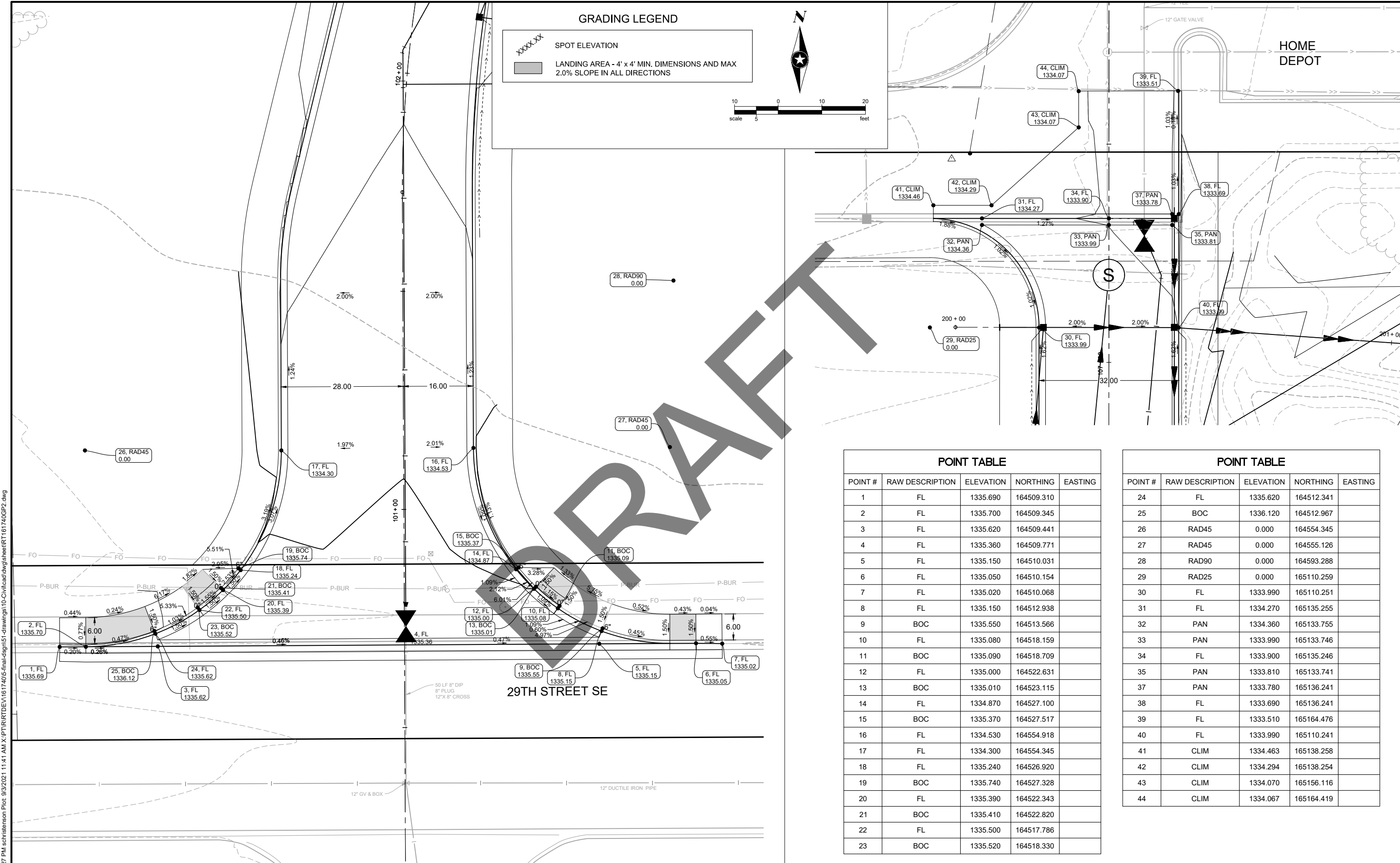


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COMMERCIAL DEVELOPMENT
 GRAND RAPIDS, MN

GRADING PLAN



POINT TABLE

POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
1	FL	1335.690	164509.310	
2	FL	1335.700	164509.345	
3	FL	1335.620	164509.441	
4	FL	1335.360	164509.771	
5	FL	1335.150	164510.031	
6	FL	1335.050	164510.154	
7	FL	1335.020	164510.068	
8	FL	1335.150	164512.938	
9	BOC	1335.550	164513.566	
10	FL	1335.080	164518.159	
11	BOC	1335.090	164518.709	
12	FL	1335.000	164522.631	
13	BOC	1335.010	164523.115	
14	FL	1334.870	164527.100	
15	BOC	1335.370	164527.517	
16	FL	1334.530	164554.918	
17	FL	1334.300	164554.345	
18	FL	1335.240	164526.920	
19	BOC	1335.740	164527.328	
20	FL	1335.390	164522.343	
21	BOC	1335.410	164522.820	
22	FL	1335.500	164517.786	
23	BOC	1335.520	164518.330	

POINT TABLE

POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
24	FL	1335.620	164512.341	
25	BOC	1336.120	164512.967	
26	RAD45	0.000	164554.345	
27	RAD45	0.000	164555.126	
28	RAD90	0.000	164593.288	
29	RAD25	0.000	165110.259	
30	FL	1333.990	165110.251	
31	FL	1334.270	165135.255	
32	PAN	1334.360	165133.755	
33	PAN	1333.990	165133.746	
34	FL	1333.900	165135.246	
35	PAN	1333.810	165133.741	
37	PAN	1333.780	165136.241	
38	FL	1333.690	165136.241	
39	FL	1333.510	165164.476	
40	FL	1333.990	165110.241	
41	CLIM	1334.463	165138.258	
42	CLIM	1334.294	165138.254	
43	CLIM	1334.070	165156.116	
44	CLIM	1334.067	165164.419	

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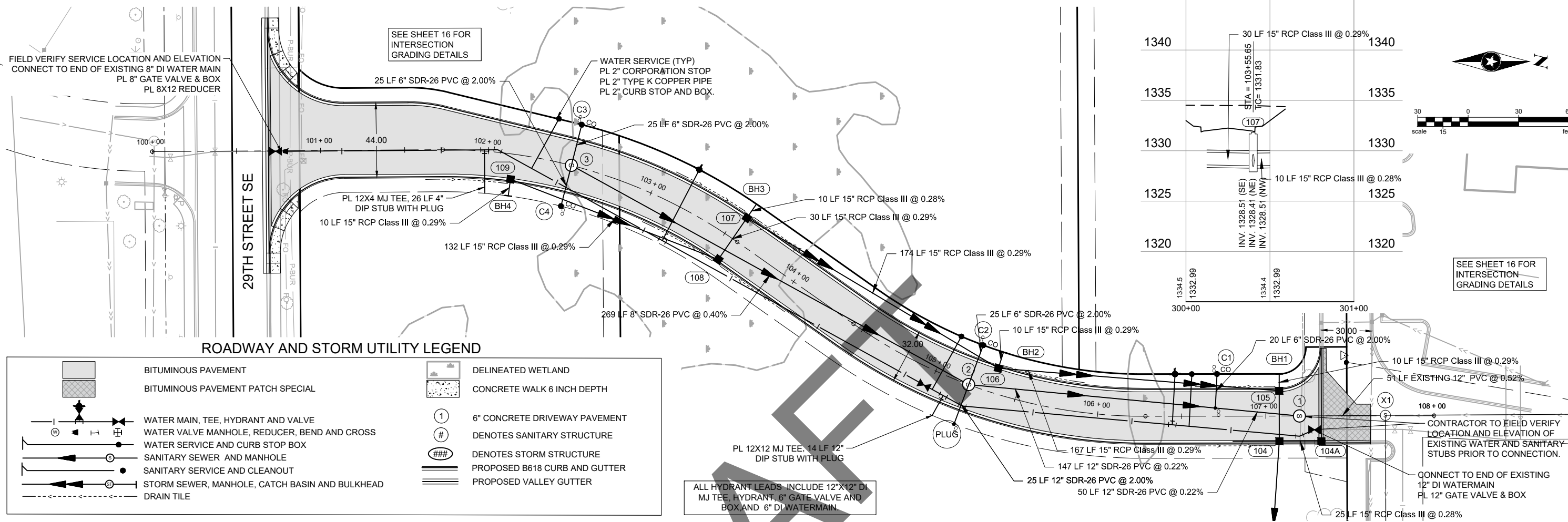


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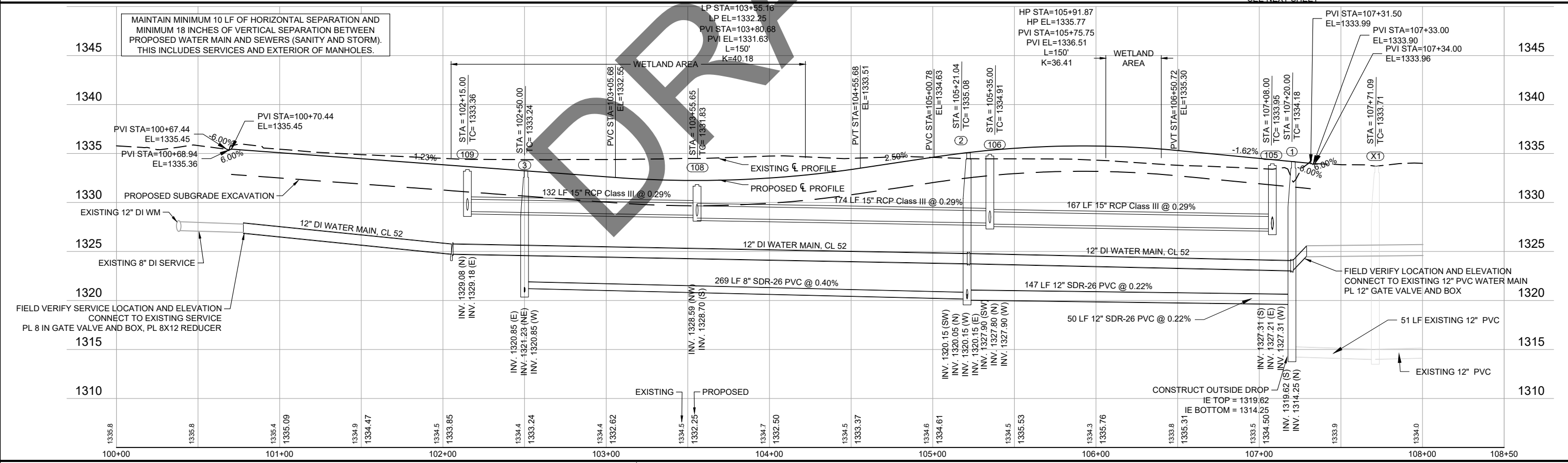
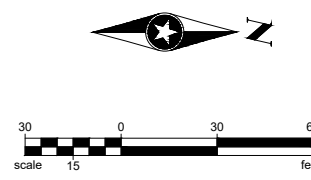
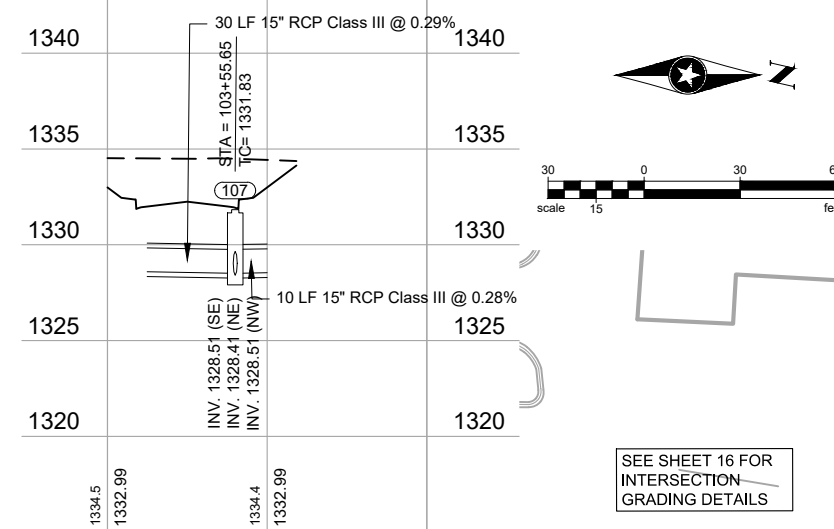
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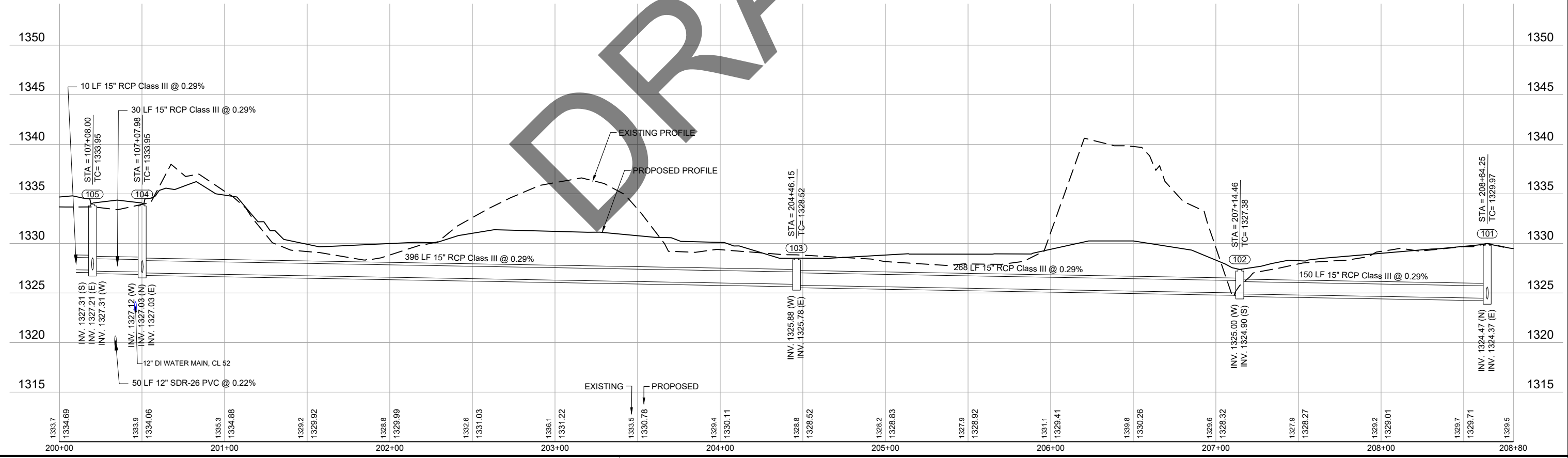
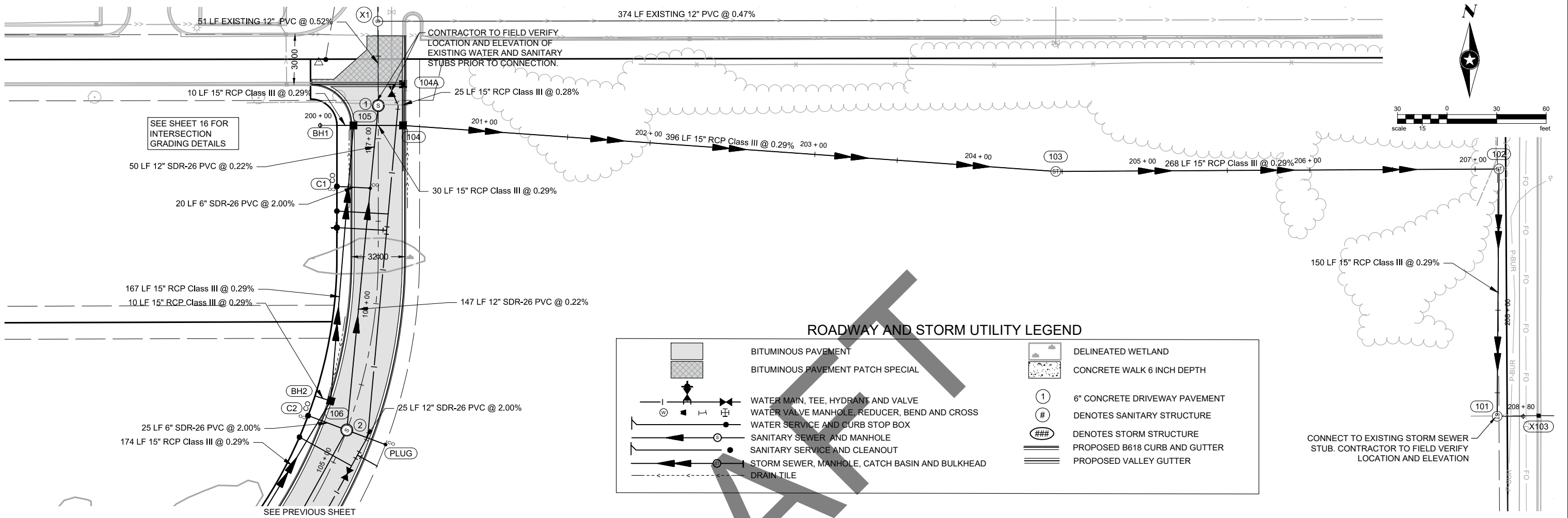
GRADING DETAILS



ROADWAY AND STORM UTILITY LEGEND

	BITUMINOUS PAVEMENT		DELINEATED WETLAND
	BITUMINOUS PAVEMENT PATCH SPECIAL		CONCRETE WALK 6 INCH DEPTH
	WATER MAIN, TEE, HYDRANT AND VALVE		
	WATER SERVICE AND CURB STOP BOX		DENOTES SANITARY STRUCTURE
	SANITARY SEWER AND MANHOLE		DENOTES STORM STRUCTURE
	SANITARY SERVICE AND CLEANOUT		PROPOSED B618 CURB AND GUTTER
	STORM SEWER, MANHOLE, CATCH BASIN AND BULKHEAD		PROPOSED VALLEY GUTTER
	DRAIN TILE		





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Designed By	SLC						
Checked By	RJB						

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DATE: LICENSE SIGN DATE:

LICENSED NAME: LICENSE NO.:

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DEERWOOD BANK

LOT 2 TO HAVE TOPSOIL STRIPPED AS DIRECTED BY OWNER
CONTRACTOR SHALL STABILIZED STOCKPILE LOCATIONS



US HWY 169

APPLEBEE'S

29TH STREET SE

WALMART

HOME DEPOT

EROSION CONTROL LEGEND

	6" TOPSOIL BORROW / SALVAGED TOPSOIL, SEED, FERTILIZER AND ROLLED EROSION PREVENTION CATEGORY 25
	SILT FENCE TYPE MS
	STORM DRAIN INLET PROTECTION
	DRAINAGE ARROWS

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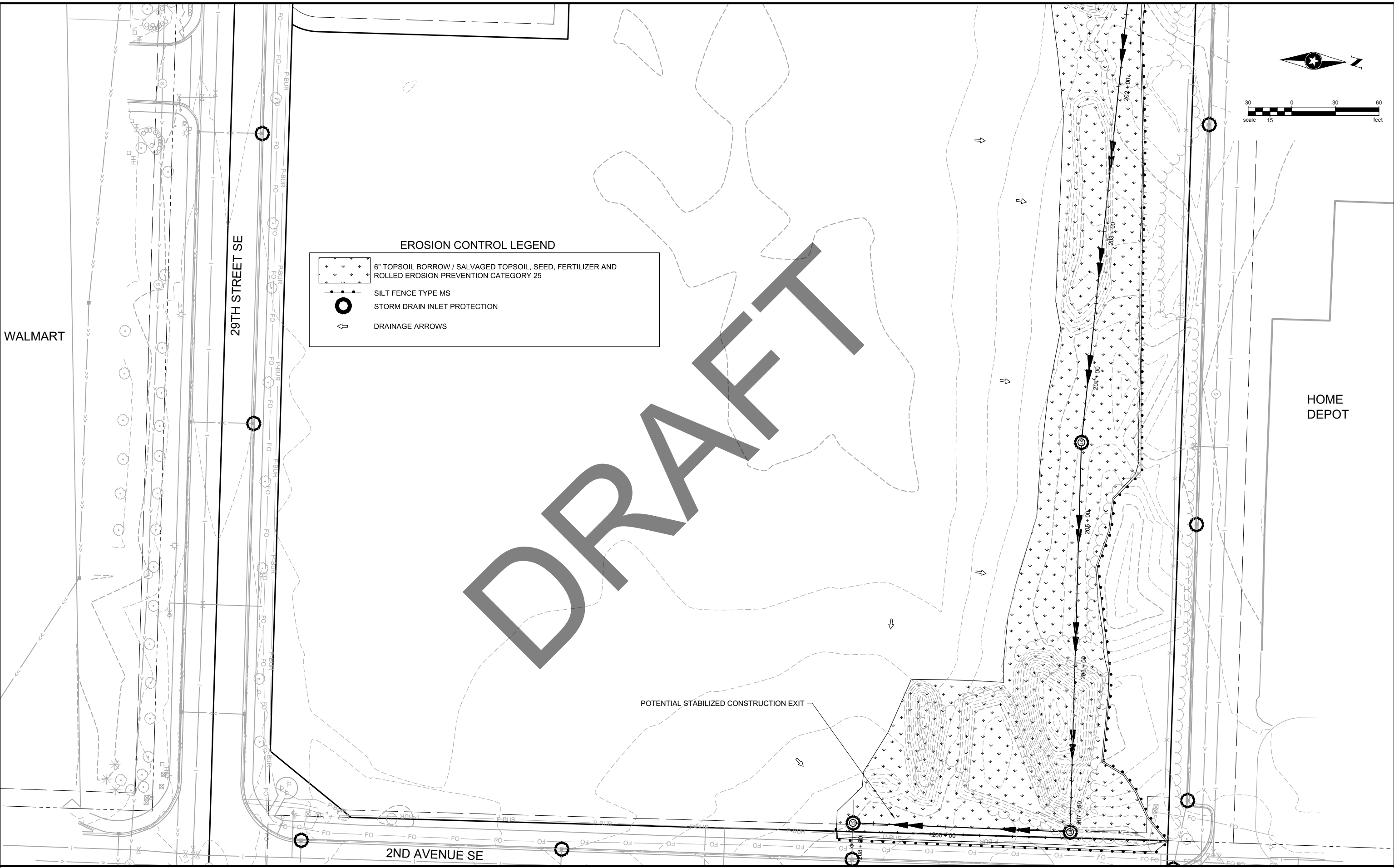


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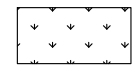
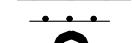


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EROSION CONTROL & TURF
ESTABLISHMENT PLAN

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EROSION CONTROL LEGEND

-  6" TOPSOIL BORROW / SALVAGED TOPSOIL, SEED, FERTILIZER AND ROLLED EROSION PREVENTION CATEGORY 25
-  SILT FENCE TYPE MS
-  STORM DRAIN INLET PROTECTION
-  DRAINAGE ARROWS

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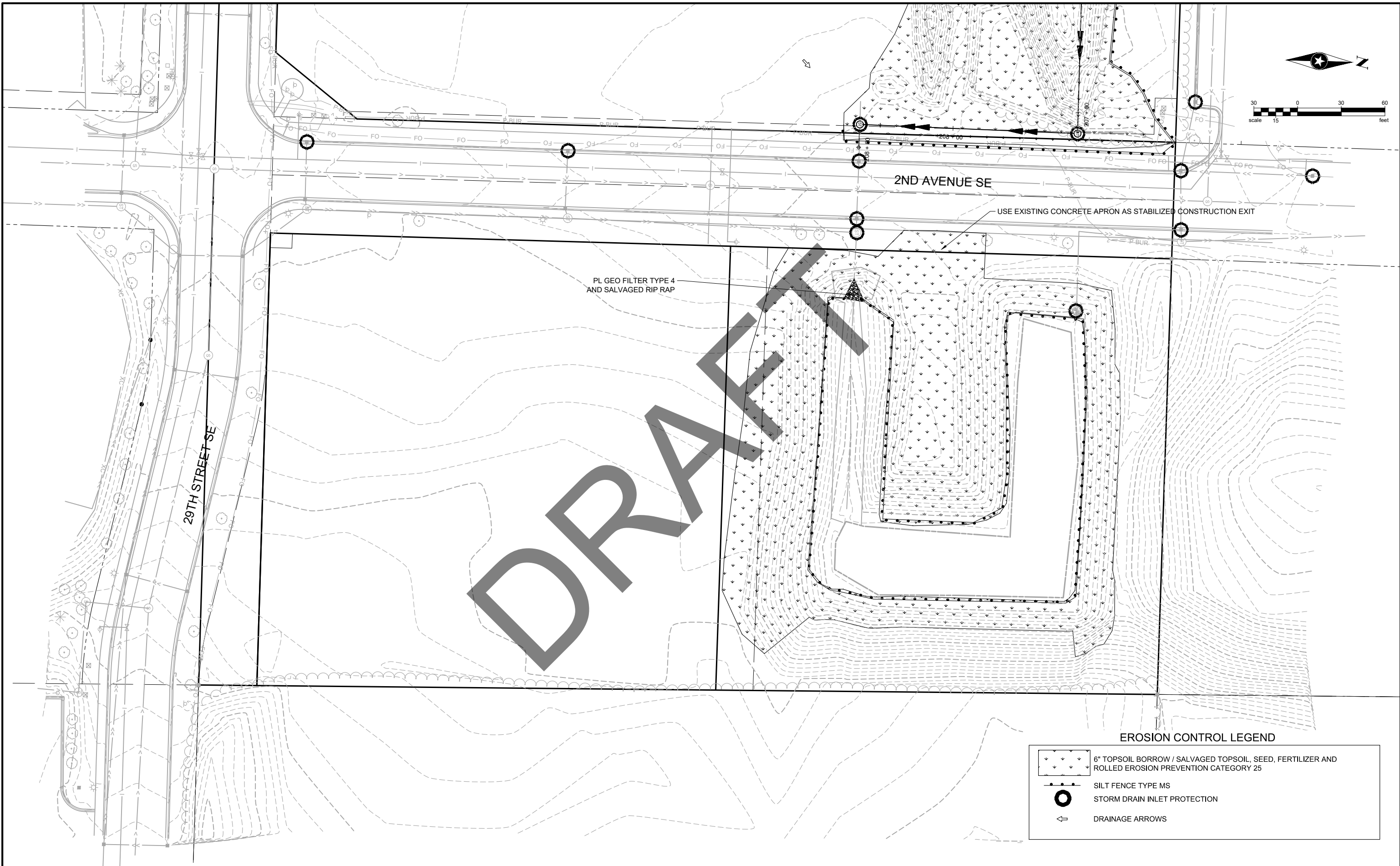
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EROSION CONTROL & TURF ESTABLISHMENT PLAN PLAN

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EROSION CONTROL LEGEND

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-  SILT FENCE TYPE MS
-  STORM DRAIN INLET PROTECTION
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EROSION CONTROL & TURF ESTABLISHMENT PLAN PLAN

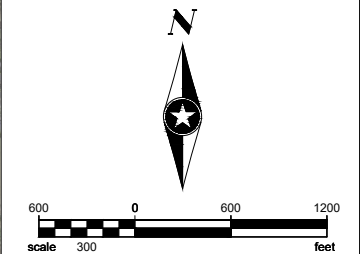
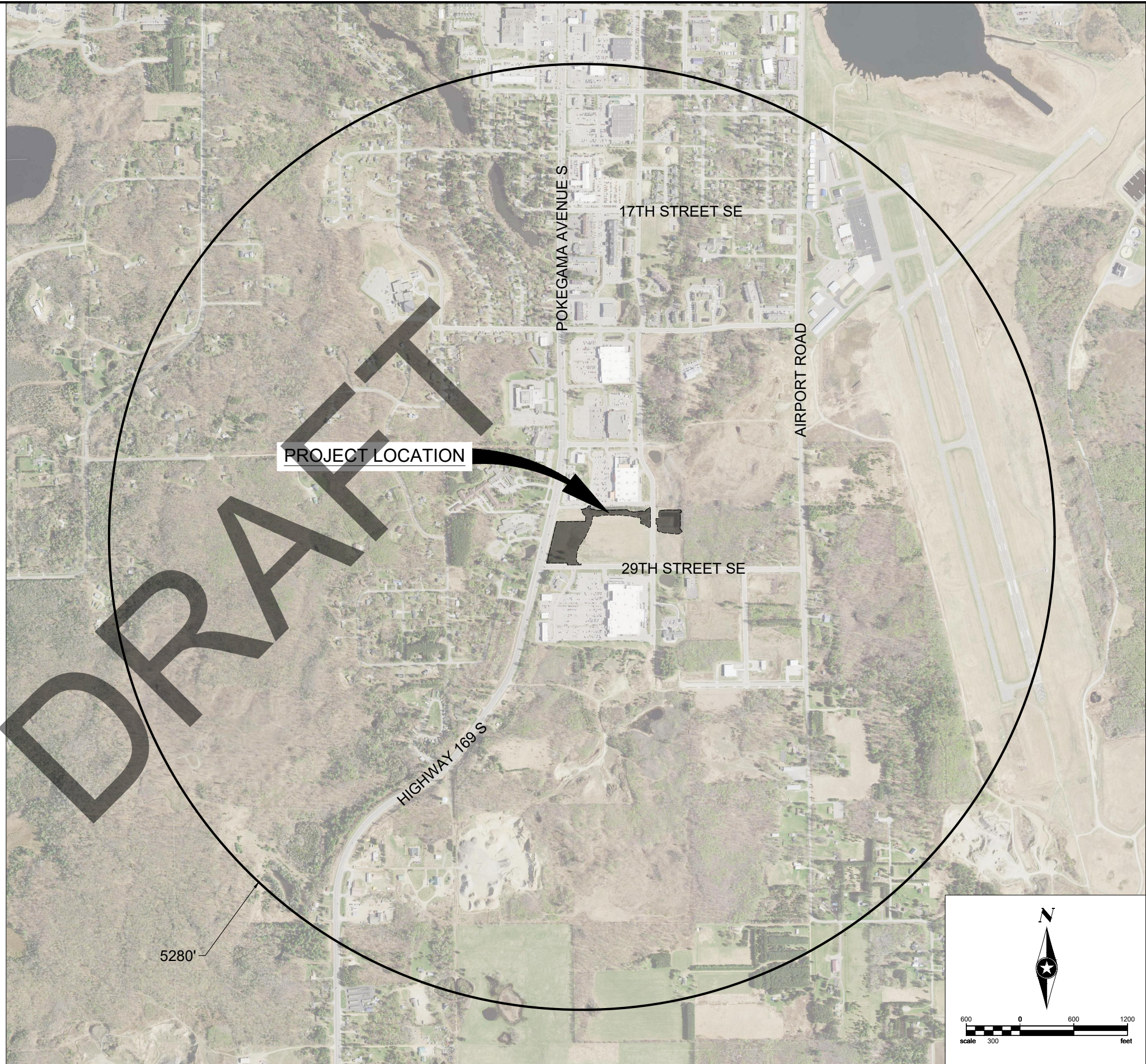
CONTAMINATION SCREENING CHECKLIST

This checklist addresses mobilization of contaminants by stormwater infiltration. See Part III.D of the Construction Stormwater permit for additional prohibitions.

If the site being investigated receives discharges from vehicle fueling or maintenance facilities, STOP - Infiltration is prohibited under the CSW permit

Box	Question	Criteria or check box
1	Is the project located in a well head protection area	
2	Is the project located in a Drinking Water Supply Management Area (DWSMA)	
3	Is the project located in a Karst area	
4	If any of the above are checked, what measures will be implemented to ensure protection of drinking water supply	
Assess the site and proposed location of the BMP		
1	Is the site contaminated or does it have a history of soil or groundwater contamination at levels of concern? If Yes, proceed to Box 2; if No, proceed to Box 3.	
2	If the answer to Box 1 is yes, has the contaminated soil or groundwater been remediated to acceptable levels? NOTE: closure letters sent by the MPCA do not assure that a site is not contaminated. Click on the link in Cell E8 for more information. If yes, proceed to Box 3.	If no or unknown, Stop. There is sufficient information to suggest that contaminants may be mobilized by infiltration. For Construction Stormwater permittees, infiltration is prohibited when the infiltration system will be constructed in areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater. SEE FOOTNOTE
3	For Boxes 4 through 12, check each box in which the item occurs on the site with the proposed BMP?	
4	Underground storage tank vent(s) or fill port(s)	
5	Monitoring well(s)	
6	Soil pile(s) covered with plastic sheeting or tarp(s)	
7	Staining of soil(s) and/or dead vegetation	
8	Unusual odor(s)	
9	Mismanaged drum(s) or chemical container(s)	
10	Excavation(s) that is/are not backfilled with clean material	
11	Presence of debris that may indicate presence of structure(s) or activity(ies) that could result in contamination	
12	Site is a confirmed stormwater hotspot	
13	Are there any potential sources identified (checked) in Boxes 4 through 12? If Yes, proceed to Box 14; if no proceed to Box 15.	
14	For all potential sources identified (checked) in Boxes 5 through 13, can adequate separation be achieved? If yes, proceed to Box 16.	If no, Stop. There is sufficient information to suggest that contaminants may be mobilized by infiltration. For Construction Stormwater permittees, infiltration is prohibited when the infiltration system will be constructed in areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater. SEE FOOTNOTE
Assessing adjacent properties		
15	For Boxes 16 through 25, check each box in which the item occurs within the influence zone of the site property. See Influence zone worksheet (click on tab at bottom of this spreadsheet).	
16	Known groundwater or soil contamination on adjacent property	
17	Underground storage tank vents or fill ports	
18	Monitoring wells	
19	Soil piles covered with plastic sheeting or tarps	
20	Staining of soils and/or dead vegetation	
21	Unusual odors	
22	Mismanaged drums or chemical containers	
23	Excavations that are not backfilled with clean material	
24	Presence of debris that may indicate presence of structures or activities that could result in contamination	
25	Site is a confirmed stormwater hotspot	
26	Are any potential sources identified (checked) in Boxes 16 through 25? If yes, proceed to Box 27	If no, Stop - Infiltration is appropriate
27	For all potential sources identified (checked) in Boxes 16 through 25, can adequate separation be achieved? If no, proceed to Box 28.	If yes, Stop - Infiltration is appropriate
28	If Box 27 is no, Stop. There is sufficient information to suggest that contaminants may be mobilized by infiltration. For Construction Stormwater permittees, infiltration is prohibited when the infiltration system will be constructed in areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater. SEE FOOTNOTE	

FOOTNOTE: If infiltration is pursued, additional investigation, such as a Phase 1 or Phase 2 Environmental Site Assessment, is highly recommended. For more information, see Stormwater management guidelines for sites with on-site contamination or Stormwater management guidelines for sites with off-site contamination at http://stormwater.pca.state.mn.us/index.php/Stormwater_infiltration_and_contaminated_soils_and_groundwater.



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 DATE _____ LICENSE NO. _____

HAWKINSON
COMMERCIAL DEVELOPMENT
 GRAND RAPIDS, MN

CONSTRUCTION DETAILS

SWPPP SUMMARY/OVERVIEW:

THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO ADDRESS THE REQUIREMENTS OF NPDES PERMIT MN R100001. THIS SWPPP INCLUDES A COMBINATION OF NARRATIVE AND PLAN SHEETS THAT DESCRIBE THE TEMPORARY AND PERMANENT STORM WATER MANAGEMENT PLAN FOR THE PROJECT.

PROJECT INFORMATION:

LOCATION:	POKEGAMA AVE S / 29TH STREET SE
LATITUDE/LONGITUDE:	47.204015, -93.528530
PROJECT DESCRIPTION:	ACCESS ROAD AND UTILITIES
SOIL DISTURBING ACTIVITIES:	UTILITY INSTALLATION AND ROAD BUILDING

CONTACTS:

OWNER:	ROUND 2 DEVELOPMENT
CONTACT:	MARK HAWKINSON
ADDRESS:	P.O. BOX 246 GRAND RAPIDS, MINNESOTA 55744
PHONE:	218.244.2409
EMAIL:	MARK@HAWKINSONCONSTRUCTION.COM

ENGINEER:	SHORT ELLIOTT HENDRICKSON, INC. (SEH)
CONTACT:	SARA CHRISTENSON, PE
PHONE:	218.322.4513
EMAIL:	SCHRISTENSON@SEHINC.COM
PROJECT NO.:	RTDEV 161740

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY

THE CONTRACTOR SHALL IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs WHO WILL COORDINATE WITH ALL CONTRACTORS, SUBCONTRACTORS, AND OPERATORS ON-SITE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP.

CONTRACTOR	TO BE DETERMINED
CONTACT	TO BE DETERMINED
PHONE	TO BE DETERMINED
EMAIL	TO BE DETERMINED

THE CONTRACTOR SHALL ESTABLISH A CHAIN OF RESPONSIBILITY FOR ALL CONTRACTORS AND SUB-CONTRACTORS ON SITE TO ENSURE THE SWPPP IS BEING PROPERLY IMPLEMENTED AND MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE CHAIN OF RESPONSIBILITY TO THE OWNER AND ATTACH TO THE SWPPP PRIOR TO ANY CONSTRUCTION ACTIVITY.

GENERAL SWPPP RESPONSIBILITIES:

THE CONTRACTOR SHALL KEEP THE SWPPP, INCLUDING ALL AMENDMENTS AND INSPECTION AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION.

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR AS REQUIRED BY PROVISIONS OF THE PERMIT. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPs AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER. AMENDMENTS WILL BE APPROVED BY BOTH THE OWNER AND CONTRACTOR AND WILL BE ATTACHED OR OTHERWISE INCLUDED WITH THE SWPPP DOCUMENTS. THE SWPPP AMENDMENTS SHALL BE INITIATED, FACILITATED, AND PROCESSED BY THE CONTRACTOR.

ALL SWPPP CHANGES MUST BE DONE BY AN INDIVIDUAL TRAINED IN ACCORDANCE WITH SECTION 21.4 OR 21.5. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

BOTH THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION AND/OR TRANSFER OF THE PERMIT.

LONG TERM OPERATION AND MAINTENANCE

THE OWNER WILL BE RESPONSIBLE OR WILL OTHERWISE IDENTIFY WHO WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM(S).

THE OWNER WILL PREPARE AND IMPLEMENT A PERMANENT STORMWATER TREATMENT SYSTEM(S) MAINTENANCE PLAN.

IMPLEMENTATION SEQUENCE:

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING SEQUENCE. THE ENGINEER MAY APPROVE ADJUSTMENTS TO THE SEQUENCE AS NEEDED.

1.	INSTALL ROCK CONSTRUCTION ENTRANCE(S)
2.	INSTALL PERIMETER CONTROL AND STABILIZE DOWN GRADIENT BOUNDARIES
3.	INSTALL INLET PROTECTION ON EXISTING CATCH BASINS
4.	COMPLETE SITE GRADING
5.	INSTALL UTILITIES, STORM SEWER, INLET PROTECTION, CURB & GUTTER, PAVING
6.	COMPLETE FINAL GRADING AND STABILIZE DISTURBED AREAS
7.	AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ACCUMULATED SEDIMENT, REMOVE BMPs, AND RE-STABILIZE ANY AREAS DISTURBED BY THEIR REMOVAL.

TRAINING DOCUMENTATION:

PREPARER/DESIGNER OF SWPPP:	MICHAEL HUDEC, CIVIL TECHNICIAN
EMPLOYER:	SHORT ELLIOTT HENDRICKSON, INC. (SEH)
DATE OBTAINED / REFRESHED	09/10/2019
INSTRUCTOR(S)/ENTITY PROVIDING TRAINING:	JOHN CHAPMAN, REBECCA FORMAN - U OF M

CONTENT OF TRAINING AVAILABLE UPON REQUEST.

THE CONTRACTOR (OPERATOR) SHALL ADD TO THE SWPPP TRAINING RECORDS FOR THE FOLLOWING PERSONNEL:

- INDIVIDUALS OVERSEEING THE IMPLEMENTATION OF, REVISING, AND AMENDING THE SWPPP
- INDIVIDUALS PERFORMING INSPECTIONS
- INDIVIDUALS PERFORMING OR SUPERVISING THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPs

TRAINING MUST RELATE TO THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES AND SHALL INCLUDE:

- 1) DATES OF TRAINING
- 2) NAME OF INSTRUCTORS
- 3) CONTENT AND ENTITY PROVIDING TRAINING

THE CONTRACTOR SHALL ENSURE THAT THE INDIVIDUALS ARE TRAINED BY LOCAL, STATE, FEDERAL AGENCIES, PROFESSIONAL ORGANIZATIONS, OR OTHER ENTITIES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, PERMANENT STORMWATER MANAGEMENT AND THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER PERMIT.

PROJECT SUMMARY:

TOTAL DISTURBED AREA:	6.76 AC
PRE-CONSTRUCTION IMPERVIOUS AREA:	0.06 AC
POST-CONSTRUCTION IMPERVIOUS AREA:	0.61 AC
IMPERVIOUS AREA ADDED:	0.55 AC

RECEIVING WATER(S) WITHIN ONE MILE FROM PROJECT BOUNDARIES:
(<http://pca-gis02.pca.state.mn.us/CSW/index.html>)

ID	NAME	TYPE	SPECIAL WATER?	IMPAIRED WATER?	CONSTRUCTION RELATED IMPAIRMENT OR SPECIAL WATER CLASSIFICATION	TMDL
N/A	N/A	N/A	N/A	N/A	N/A	N/A
ADDITIONAL BMPs AND/OR ACTIONS REQUIRED: SEE SECTION 23 OF THE PERMIT AND APPLICABLE TMDL WLA'S						

WATERBODY	NO WORK DURING
LAKES	APRIL 1 - JUNE 30
NON-TROUT STREAMS	MARCH 15 - JUNE 15
TROUT STREAMS	SEPTEMBER 1 - APRIL 1

SEE DNR PERMIT FOR MORE INFORMATION

SITE SOIL INFORMATION: (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)
(SOIL INFORMATION PROVIDED IS FOR NPDES PERMIT INFORMATION ONLY. SOIL INFORMATION WAS OBTAINED FROM THE USGS WEBSITE. THE CONTRACTOR SHALL NOT RELY ON THIS SOIL INFORMATION FOR CONSTRUCTION PURPOSES.)

SOIL NAME:	HYDROLOGIC CLASSIFICATION:
MENAHGA-ITASCA COMPLEX, 1-10%	A
MENAHGA-ITASCA COMPLEX, 10-25%	A
ANTICIPATED RANGE OF PARTICLE SIZES	COARSE

RELATED REVIEWS & PERMITS:

ENVIRONMENTAL WETLAND, ENDANGERED OR THREATENED SPECIES, ARCHEOLOGICAL, LOCAL, STATE, AND/OR FEDERAL REVIEWS/PERMITS:

AGENCY:	TYPE OF PERMIT:
U.S. ARMY CORPS OF ENGINEERS	404 WETLAND PERMIT
USACE, MN BOARD OF WATER AND SOIL RESOURCES	WETLAND CONSERVATION ACT PERMIT

PROJECT SPECIFIC NOTES:

CITY OF GRAND RAPIDS CITY STORM WATER PERMIT AND ZONING PERMIT TO BE FILED BY THE CONTRACTOR. SEE CITY STORM WATER MEMO FOR PRE AND POST DRAINAGE AREAS.

THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE SWPPP:

- PLAN AND PROFILE PLAN SHEETS:
- EROSION AND SEDIMENT CONTROL PLAN SHEETS:
- TURF ESTABLISHMENT PLAN SHEETS:
- STORM SEWER PLAN & PROFILE PLAN SHEETS:
- GRADING PLAN SHEETS:
- DETAIL PLAN SHEETS:
- SWPPP NOTE AND DETAIL SHEETS:
- PROJECT SPECIFICATIONS:
- PROJECT BID FORM:

TEMPORARY BMP DESIGN FACTORS:

EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE DESIGNED TO ACCOUNT FOR:

THE EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION

THE NATURE OF STORMWATER RUNOFF AND RON-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES

THE STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS

THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

TEMPORARY SEDIMENT BASINS:

THE CONTRACTOR SHALL INSTALL TEMPORARY SEDIMENT BASIN(S) INDICATED ON PLANS AND REQUIRED BY THE NPDES CONSTRUCTION PERMIT.

THE TEMPORARY BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A TWO (2)-YEAR, 24-HOUR STORM FROM EACH ACRE DRAINED TO THE BASIN OR 1,800 CUBIC FEET OF LIVE STORAGE PER ACRE DRAINED, WHICHEVER IS GREATER.

TEMPORARY SEDIMENT BASIN OUTLETS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING AND PREVENT THE DISCHARGE OF FLOATING DEBRIS.

OUTLET STRUCTURES MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

BASINS MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW, WITHDRAW WATER FROM THE SURFACE, AND PROVIDE ENERGY DISSIPATION AT THE OUTLET.

TEMPORARY SEDIMENT BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION AT ANY BASIN OUTLET TO PREVENT SOIL EROSION.

SEDIMENT BASINS MUST BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONES, AND MUST BE DESIGNED TO AVOID THE DRAINING WATER FROM WETLANDS.

PERMANENT STORMWATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT SYSTEM IS DESIGNED TO MEET THE REQUIREMENTS OF NPDES GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY.

REQUIRED WATER QUALITY VOLUME (WQV):	0.06 AF	
PERMANENT MANAGEMENT SYSTEM:	WQV INFILTRATED	WQV TREATED (NOT INFILTRATED)
REGIONAL WET POND	0 AF	0.80 AF
TOTAL WQV INFILTRATED/TREATED	0.80 AF	
REVIEW AND COMPLETE CONTAMINATION SCREENING CHECKLIST TO DETERMINE FEASIBILITY OF INFILTRATION.		

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GRAND RAPIDS, MN

CONSTRUCTION DETAILS

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SEDIMENT CONTROL MEASURES AND TIMING:
THE CONTRACTOR IS RESPONSIBLE FOR ALL SEDIMENT CONTROL MEASURES FOR THE PROJECT.

SEDIMENT CONTROL MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL SEDIMENT CONTROL MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL MEASURES ARE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY IS COMPLETE, PERMITTEE(S) MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER.

THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL PRACTICES REMOVED OR ADJUSTED FOR SHORT-TERM ACTIVITIES BE RE-INSTALLED IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY HAS BEEN COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE REINSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.

THE CONTRACTOR SHALL ENSURE STORM DRAIN INLETS ARE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.

THE CONTRACTOR SHALL PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROL AT THE BASE OF THE STOCKPILES.

THE CONTRACTOR SHALL INSTALL PERIMETER CONTROL AROUND ALL STAGING AREAS, BORROW PITS, AND AREAS CONSIDERED ENVIRONMENTALLY SENSITIVE.

THE CONTRACTOR SHALL ENSURE VEHICLE TRACKING BE MINIMIZED WITH EFFECTIVE BMPS. WHERE THE BMPS FAIL TO PREVENT SEDIMENT FROM TRACKING ONTO STREETS THE CONTRACTOR SHALL CONDUCT STREET SWEEPING TO REMOVE ALL TRACKED SEDIMENT.

THE CONTRACTOR SHALL IMPLEMENT CONSTRUCTION PRACTICES TO MINIMIZE SOIL COMPACTION.

THE CONTRACTOR SHALL ENSURE ALL CONSTRUCTION ACTIVITY REMAIN WITHIN PROJECT LIMITS AND THAT ALL IDENTIFIED RECEIVING WATER BUFFERS ARE MAINTAINED.

WET SEDIMENT BASIN DESIGN PARAMETERS:

AREA DRAINING TO BASIN:	21.99 AC
REQUIRED DEAD STORAGE:	39415 CF
PROVIDED DEAD STORAGE:	41190 CF
WQV DISCHARGE:	5.65 CFS/AC

WHERE FULL VOLUME REDUCTION REQUIREMENTS CANNOT BE MET ON-SITE, DOCUMENT REASON(S) FOR INFEASIBILITY: AN EXISTING REGIONAL WET BASIN WAS CONSTRUCTED IN 2005 WITH THE INTENT TO EXPAND THE BASIN IN THE FUTURE. MORE INFORMATION MAY BE FOUND IN THE STORMWATER MEMO.

THE WET SEDIMENTATION BASIN MUST PROVIDE LIVE STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM 1 INCH OF WATER OVER THE DRAINAGE AREA.

WET SEDIMENTATION BASIN OUTLETS SHALL BE CONSTRUCTED TO PREVENT SHORT-CIRCUITING AND PREVENT THE DISCHARGE OF FLOATING DEBRIS.

OUTLET STRUCTURES MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

BASINS MUST INCLUDE A STABILIZED EMERGENCY OVERFLOW AND PROVIDE ENERGY DISSIPATION AT THE OUTLET.

TEMPORARY WET SEDIMENTATION BASINS SHALL BE PROVIDED WITH ENERGY DISSIPATION AT ANY BASIN OUTLET TO PREVENT SOIL EROSION.

WET SEDIMENTATION BASINS MUST BE SITUATED OUTSIDE OF SURFACE WATERS AND ANY BUFFER ZONES, AND MUST BE DESIGNED TO AVOID THE DRAINING WATER FROM WETLANDS.

EROSION PREVENTION MEASURES AND TIMING:

THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION PREVENTION MEASURES FOR THE PROJECT.

EROSION PREVENTION MEASURES SHOWN ON PLANS ARE THE ABSOLUTE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL EROSION PREVENTION MEASURES AS NECESSARY TO PROPERLY MANAGE THE PROJECT AREA.

THE CONTRACTOR SHALL PLAN AND IMPLEMENT APPROPRIATE CONSTRUCTION PRACTICES AND CONSTRUCTION PHASING TO MINIMIZE EROSION AND RETAIN VEGETATION WHENEVER POSSIBLE.

THE PERMITTEE SHALL DELINEATE AREAS NOT TO BE DISTURBED. PERMITTEE(S) MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES.

THE CONTRACTOR SHALL STABILIZE OF ALL EXPOSED SOILS IMMEDIATELY TO LIMIT SOIL EROSION. IN NO CASE SHALL ANY EXPOSED AREAS, INCLUDING STOCK PILES, HAVE EXPOSED SOILS FOR MORE THAN 14 DAYS WITHOUT PROVIDING TEMPORARY OR PERMANENT STABILIZATION. STABILIZATION MUST BE COMPLETED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT CLAY, SILT, OR ORGANIC COMPONENTS DO NOT REQUIRE STABILIZATION.

DRAINAGE PATHS, DITCHES, AND/OR SWALES SHALL HAVE TEMPORARY OR PERMANENT STABILIZATION WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER OR 24 HOURS AFTER CONSTRUCTION ACTIVITY IN THE DITCH/SWALE HAS TEMPORARILY OR PERMANENTLY CEASED.

THE CONTRACTOR SHALL COMPLETE THE STABILIZATION OF ALL EXPOSED SOILS WITHIN 24 HOURS THAT LIE WITHIN 200 FEET OF PUBLIC WATERS PROMULGATED "WORK IN WATER RESTRICTIONS" BY THE MN DNR DURING SPECIFIED FISH SPAWNING TIMES.

THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL BMPS AND VELOCITY DISSIPATION DEVICES ALONG CONSTRUCTED STORMWATER CONVEYANCE CHANNELS AND OUTLETS.

THE CONTRACTOR SHALL STABILIZE TEMPORARY AND/OR PERMANENT DRAINAGE DITCHES OR SWALES WITHIN 200 LINEAL FEET FROM PROPERTY EDGE, OR DISCHARGE POINT(S) WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE.

TEMPORARY OR PERMANENT DITCHES OR SWALES USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

THE CONTRACTOR SHALL NOT UTILIZE HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES AS A FORM OF STABILIZATION FOR TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.

THE CONTRACTOR SHALL ENSURE PIPE OUTLETS HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITH IN 24 HOURS OF CONNECTION TO A SURFACE WATER.

THE CONTRACTOR SHALL DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION. VELOCITY DISSIPATION DEVICES MUST BE USED TO PREVENT EROSION WHEN DIRECTING STORMWATER TO VEGETATED AREAS.

RECEIVING WATER	NATURAL BUFFER	IS THE BUFFER BEING ENCRACHED ON?	REASON FOR BUFFER ENCRACHMENT
N/A	N/A	N/A	N/A

A 50 FOOT NATURAL BUFFER MUST BE PRESERVED OR PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS IF NATURAL BUFFER IS INFEASIBLE.

THE CONTRACTOR SHALL NOT UTILIZE SEDIMENT CONTROL CHEMICALS ON SITE.

INSPECTION AND MAINTENANCE:

ALL INSPECTIONS, MAINTENANCE, REPAIRS, REPLACEMENTS, AND REMOVAL OF BMPS IS TO BE CONSIDERED INCIDENTAL TO THE BMP BID ITEMS.

THE PERMITTEE(S) IS RESPONSIBLE FOR COMPLETING SITE INSPECTIONS, AND BMP MAINTENANCE TO ENSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS.

THE PERMITTEE(S) SHALL INSPECT THE CONSTRUCTION SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

THE PERMITTEE(S) SHALL DOCUMENT A WRITTEN SUMMARY OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES CONDUCTED WITHIN 24 HOURS OF OCCURRENCE. RECORDS OF EACH ACTIVITY SHALL INCLUDE THE FOLLOWING:

- DATE AND TIME OF INSPECTIONS;
- NAME OF PERSON(S) CONDUCTING INSPECTION;
- FINDINGS AND RECOMMENDATIONS FOR CORRECTIVE ACTIONS IF NECESSARY;
- CORRECTIVE ACTIONS TAKEN;
- DATE AND AMOUNT OF RAINFALL EVENTS;
- POINTS OF DISCHARGE OBSERVED DURING INSPECTION AND DESCRIPTION OF THE DISCHARGE
- AMENDMENTS MADE TO THE SWPPP.

THE PERMITTEE(S) SHALL SUBMIT A COPY OF THE WRITTEN INSPECTIONS TO THE ENGINEER AND OWNER ON A MONTHLY BASIS. IF MONTHLY INSPECTION REPORTS ARE NOT SUBMITTED, MONTHLY PAYMENTS MAY BE HELD.

THE CONTRACTOR SHALL DOCUMENT AMENDMENTS TO THE SWPPP AS A RESULT OF INSPECTION(S) WITHIN 7 DAYS.

THE CONTRACTOR SHALL KEEP THE SWPPP, ALL INSPECTION REPORTS, AND AMENDMENTS ONSITE. THE CONTRACTOR SHALL DESIGNATE A SPECIFIC ONSITE LOCATION TO KEEP THE RECORDS

THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY BMP'S, AS WELL AS EROSION AND SEDIMENT CONTROL BMP'S.

THE CONTRACTOR SHALL INSPECT EROSION PREVENTION AND SEDIMENTATION CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMPS SHALL BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS OF FINDING. THE CONTRACTOR SHALL INVESTIGATE AND COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS:

PERIMETER CONTROL DEVICES, INCLUDING SILT FENCE SHALL BE REPAIRED, OR REPLACED, WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE DEVICE HEIGHT. THESE REPAIRS SHALL BE MADE WITHIN 24 HOURS OF DISCOVERY.

TEMPORARY AND PERMANENT SEDIMENT BASINS SHALL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.

SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE CONTRACTOR SHALL REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. THE CONTRACTOR SHALL RE-STABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN 7 DAYS OF DISCOVERY, UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL CONSTRAINTS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND OBTAIN ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.

CONSTRUCTION SITE VEHICLE EXIT LOCATIONS SHALL BE INSPECTED DAILY FOR EVIDENCE OF SEDIMENT TRACKING ONTO PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES WITHIN 24 HOURS OF DISCOVERY.

IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANOR AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.

EROSION PREVENTION BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEET AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF EROSION PREVENTION BMPS.

SEDIMENT CONTROL BMP SUMMARY:
SEE EROSION AND SEDIMENT CONTROL PLAN SHEETS AND BID FORM FOR TYPE, LOCATION, AND QUANTITY OF SEDIMENT CONTROL BMPS.

DEWATERING AND BASIN DRAINING ACTIVITIES:
THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL DEWATERING AND SURFACE DRAINAGE REGULATIONS.

WATER FROM DEWATERING ACTIVITIES SHALL DISCHARGE TO A TEMPORARY AND/OR PERMANENT SEDIMENT BASIN.

IF WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN, IT SHALL BE TREATED WITH OTHER APPROPRIATE BMPS, TO EFFECTIVELY REMOVE SEDIMENT.

DISCHARGE THAT CONTAINS OIL OR GREASE MUST BE TREATED WITH AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE PRIOR TO DISCHARGE.

WATER FROM DEWATERING SHALL BE DISCHARGED IN A MANNER THAN DOES NOT CAUSE NUISANCE CONDITIONS, EROSION, OR INUNDATION OF WETLANDS.

BACKWASH WATER USED FOR FILTERING SHALL BE HAULED AWAY FOR DISPOSAL, RETURNED TO THE BEGINNING OF TREATMENT PROCESS, OR INCORPORATED INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. THE CONTRACTOR SHALL REPLACE AND CLEAN FILTER MEDIAS USED IN DEWATERING DEVICES WHEN REQUIRED TO MAINTAIN ADEQUATE FUNCTION.

POLLUTION PREVENTION MANAGEMENT MEASURES:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POLLUTION PREVENTION MANAGEMENT MEASURES.

ALL POLLUTION PREVENTION MEASURES ARE CONSIDERED INCIDENTAL TO THE MOBILIZATION BID ITEM, UNLESS OTHERWISE NOTED.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL, IN COMPLIANCE WITH MPCA DISPOSAL REQUIREMENTS, OF ALL HAZARDOUS MATERIALS, SOLID WASTE, AND PRODUCTS ON-SITE.

THE CONTRACTOR SHALL ENSURE BUILDING PRODUCTS THAT HAVE THE POTENTIAL TO LEAK POLLUTANTS ARE KEPT UNDER COVER TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS ARE COVERED TO PREVENT THE DISCHARGE OF POLLUTANTS.

THE CONTRACTOR SHALL ENSURE HAZARDOUS MATERIALS AND TOXIC WASTE IS PROPERLY STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE OR HAZARDOUS MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.

THE CONTRACTOR SHALL ENSURE ASPHALT SUBSTANCES USED ON-SITE SHALL ARE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

THE CONTRACTOR SHALL ENSURE PAINT CONTAINERS AND CURING COMPOUNDS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT AND/OR CURING COMPOUNDS SHALL NOT BE DISCHARGED INTO THE STORM SEWER SYSTEM AND SHALL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURE'S INSTRUCTION.

THE CONTRACTOR SHALL ENSURE SOLID WASTE BE STORED, COLLECTED AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINN. R. CH. 7035.

THE CONTRACTOR SHALL ENSURE POTABLE TOILETS ARE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R. CH. 7041.

THE CONTRACTOR SHALL MONITOR ALL VEHICLES ON-SITE FOR LEAKS AND RECEIVE REGULAR PREVENTION MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.

THE CONTRACTOR SHALL ENSURE WASHOUT WASTE MUST CONTACT THE GROUND AND BE PROPERLY DISPOSED OF IN COMPLIANCE WITH MPCA RULES.

THE CONTRACTOR SHALL INCLUDE SPILL KITS WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

THE CONTRACTOR SHALL ENSURE SPILLS ARE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM WATER CONVEYANCE SYSTEM SHALL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1.800.422.0798.

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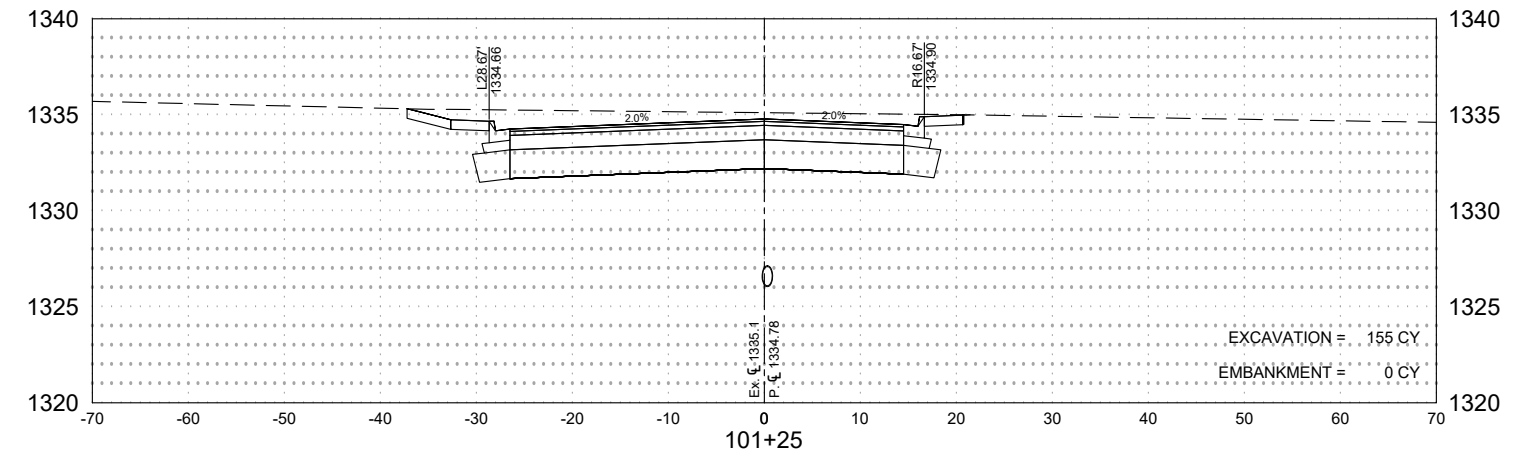
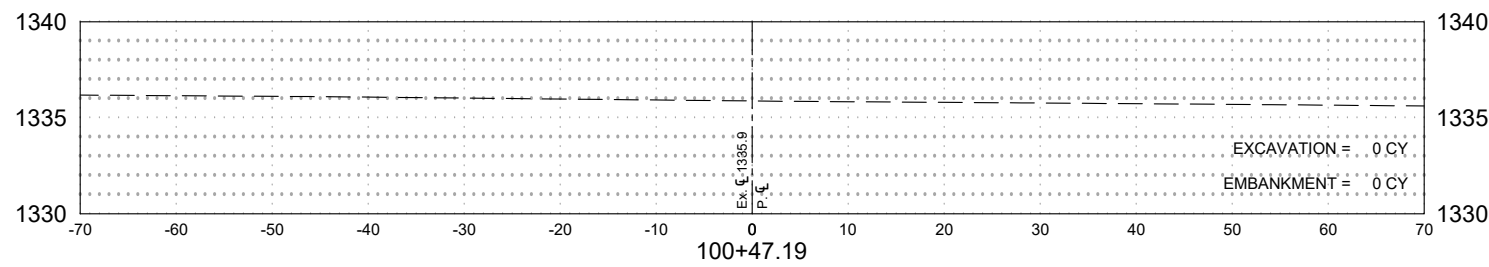
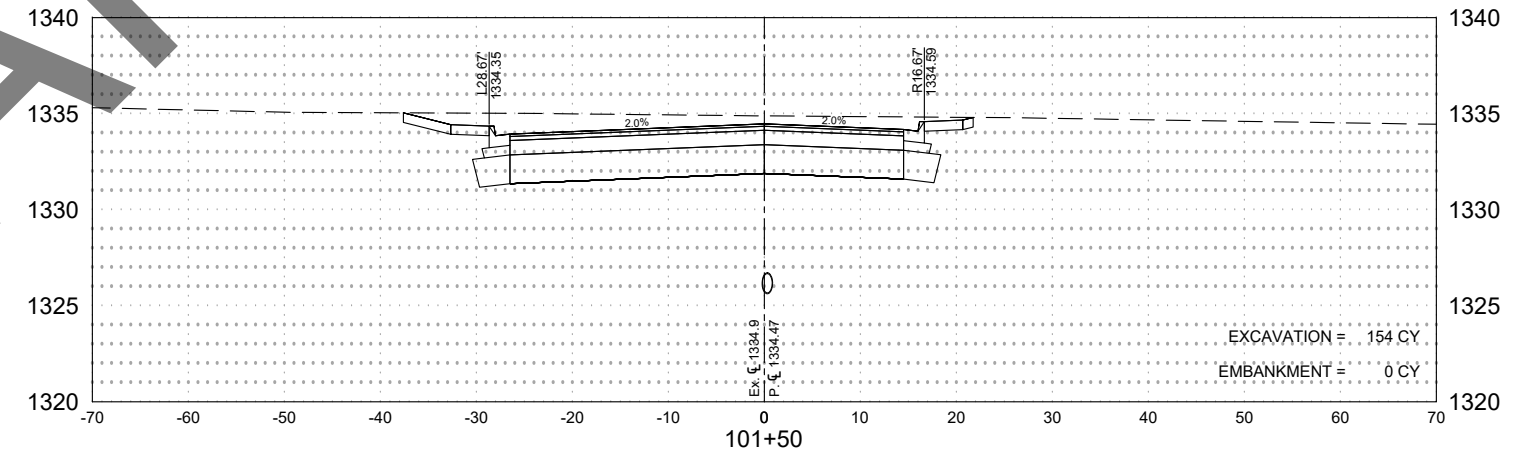
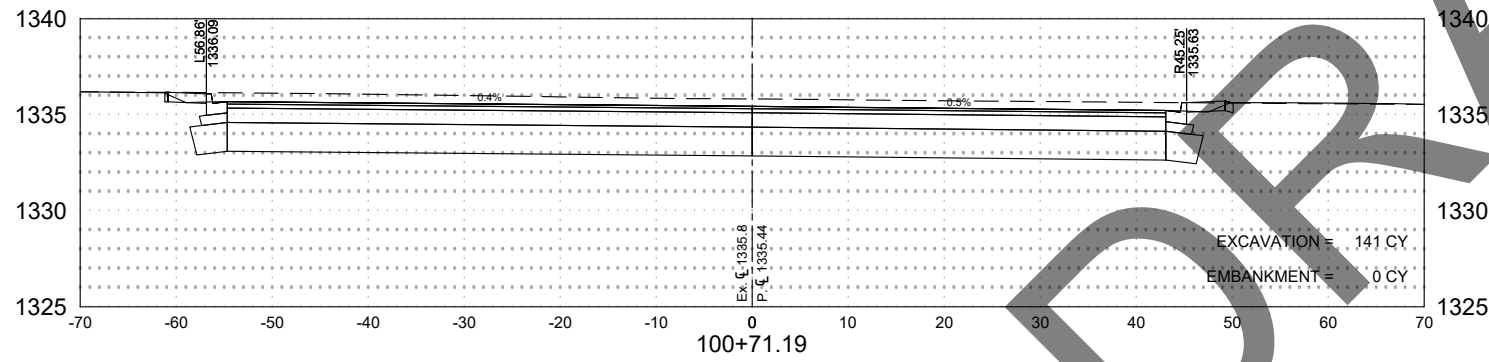
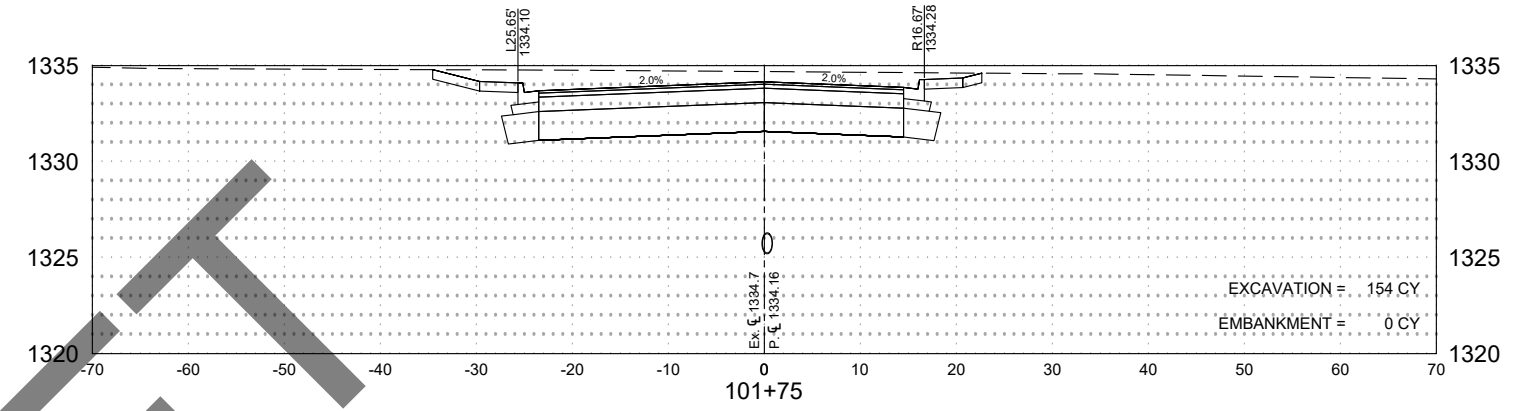
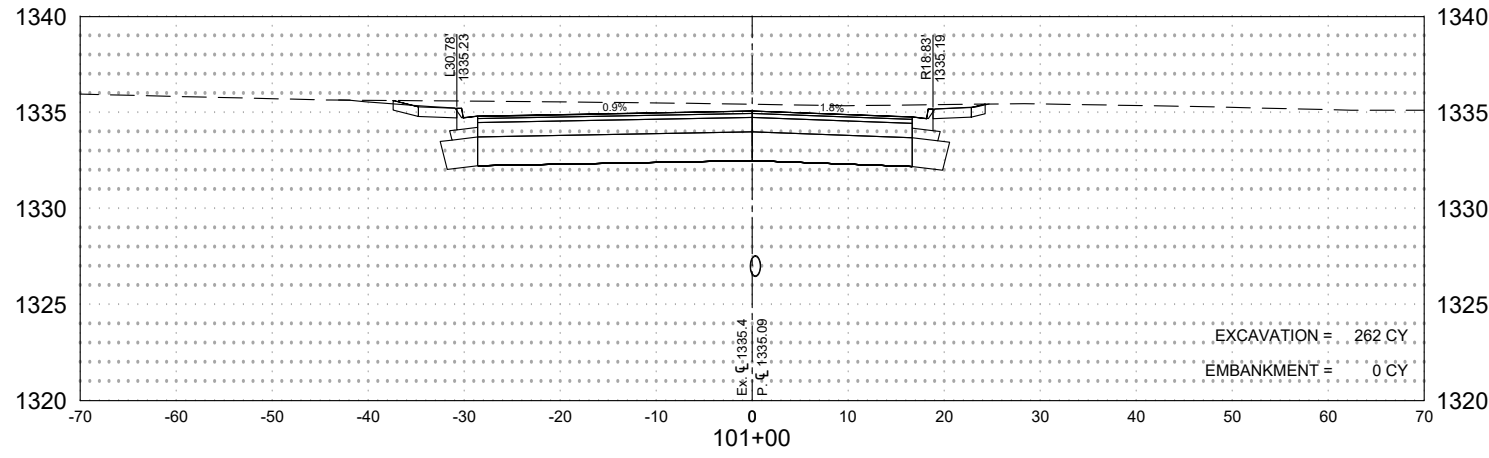
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DATE _____ LICENSE NO. _____

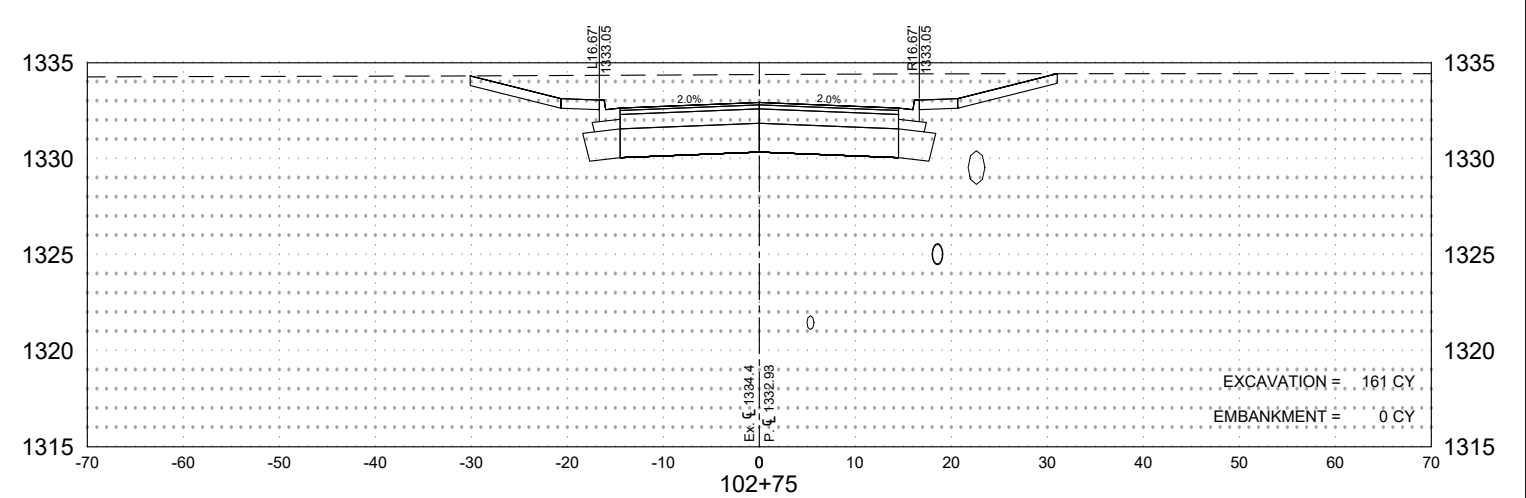
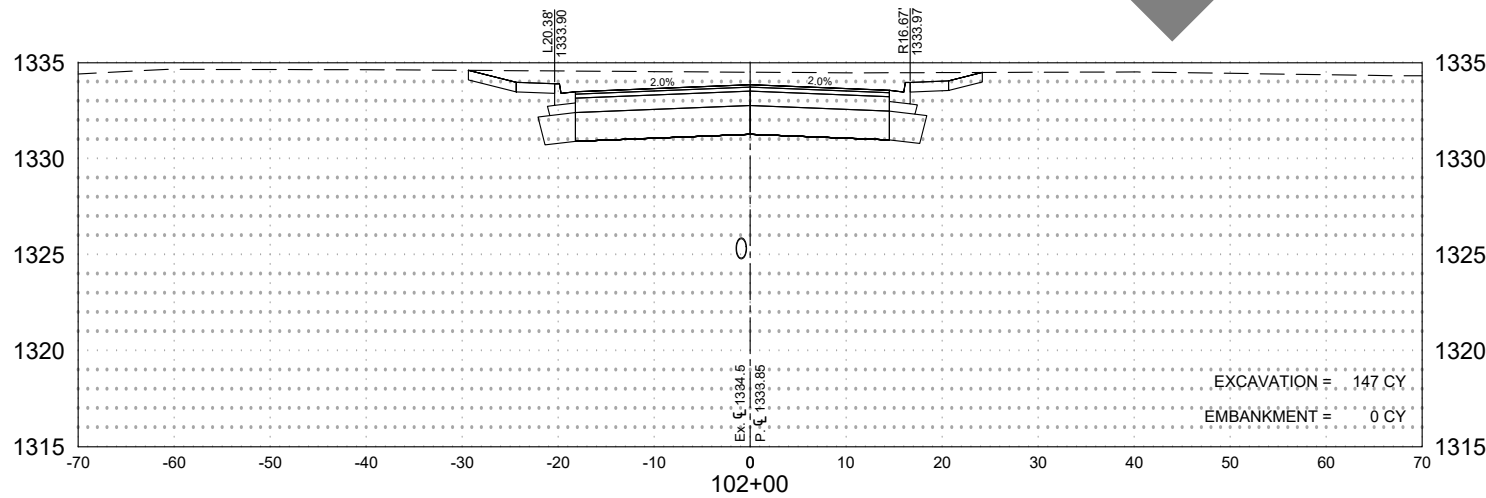
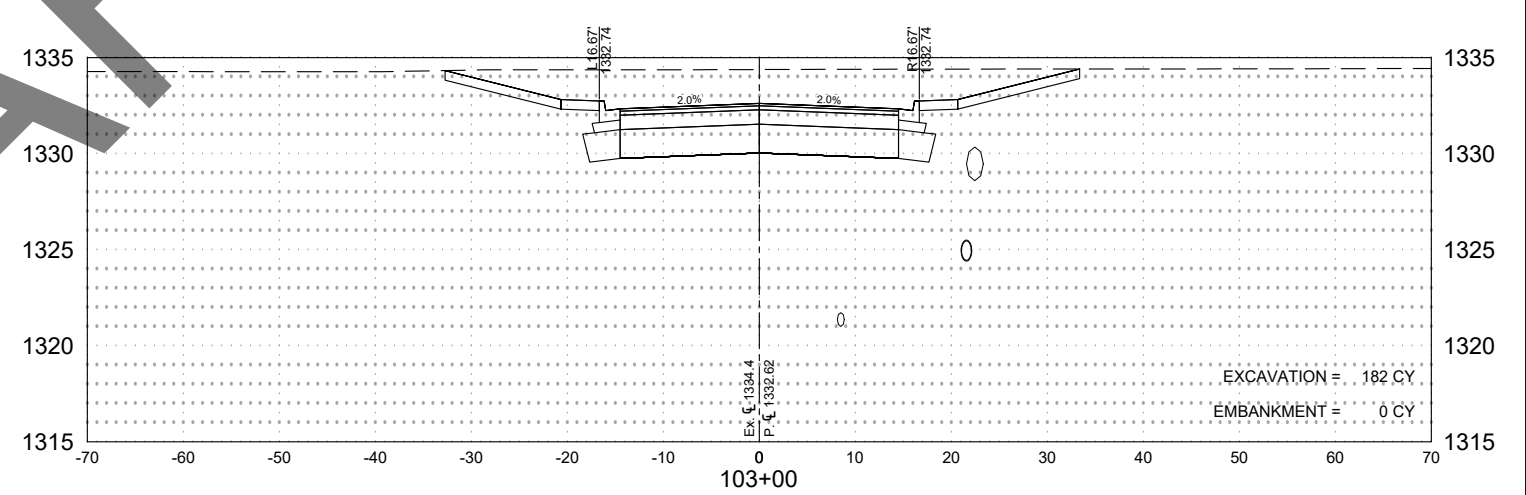
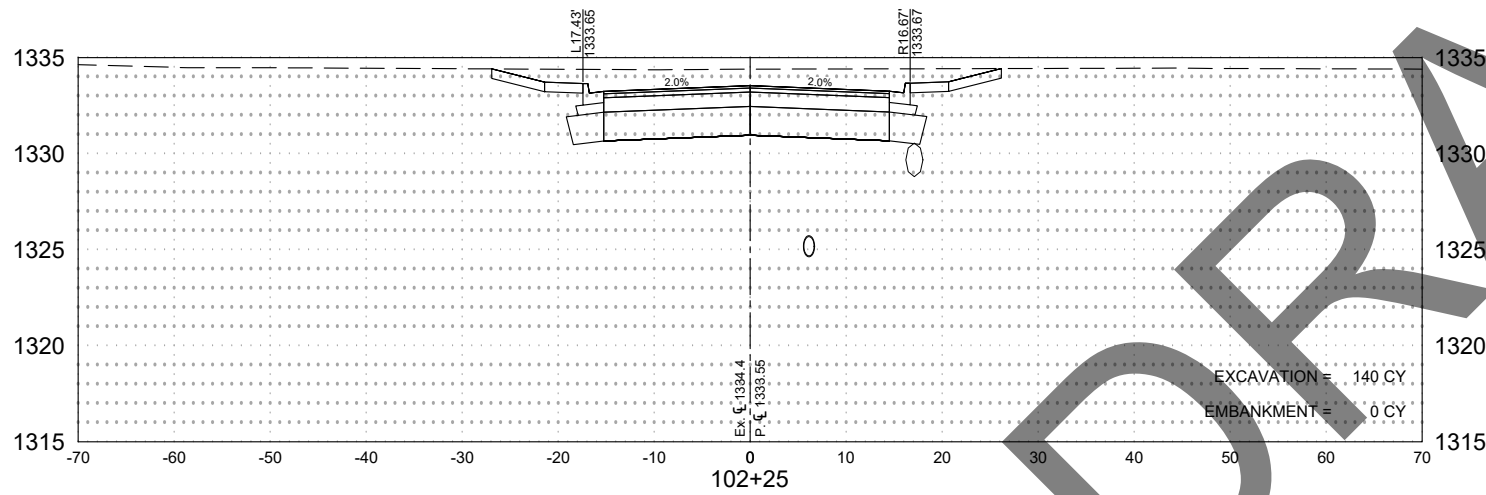
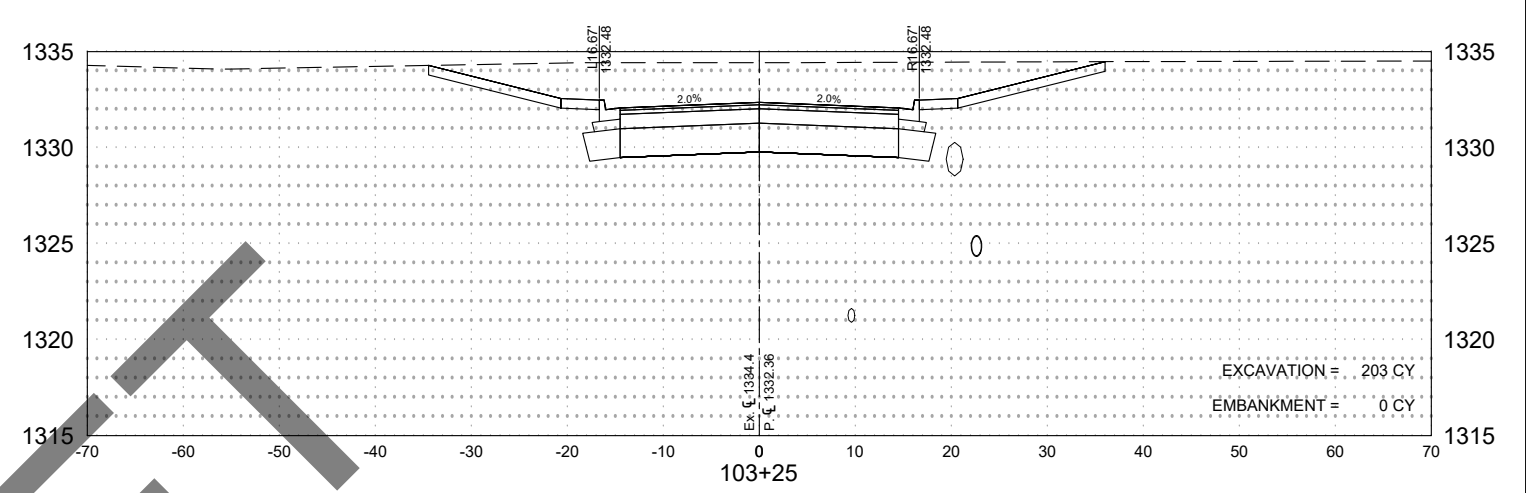
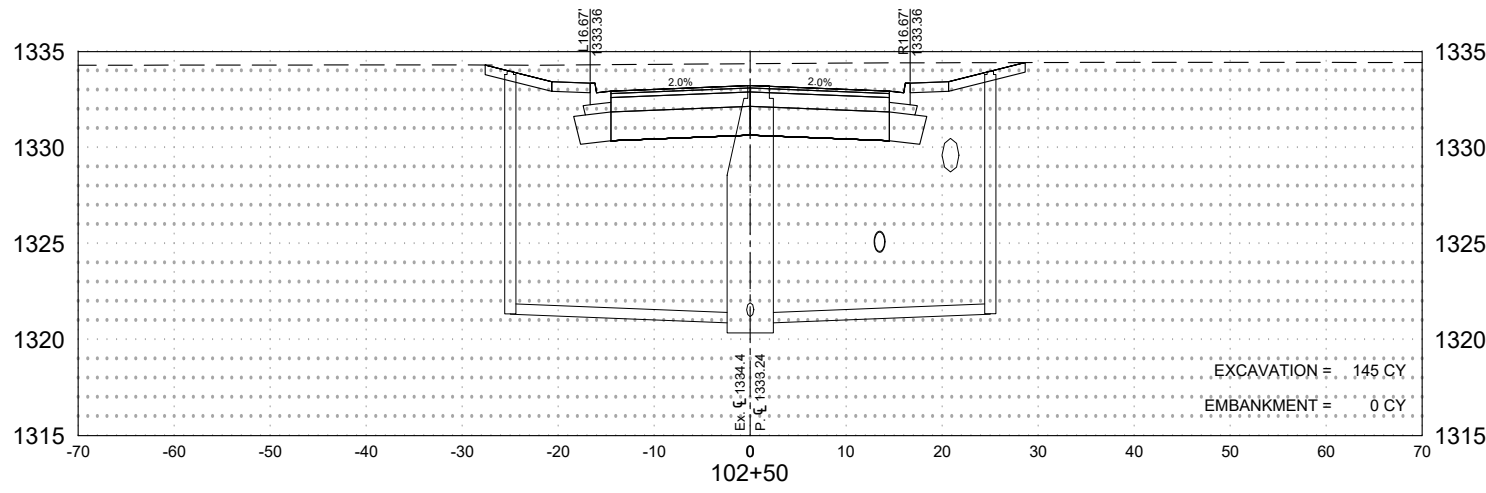
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CONSTRUCTION DETAILS

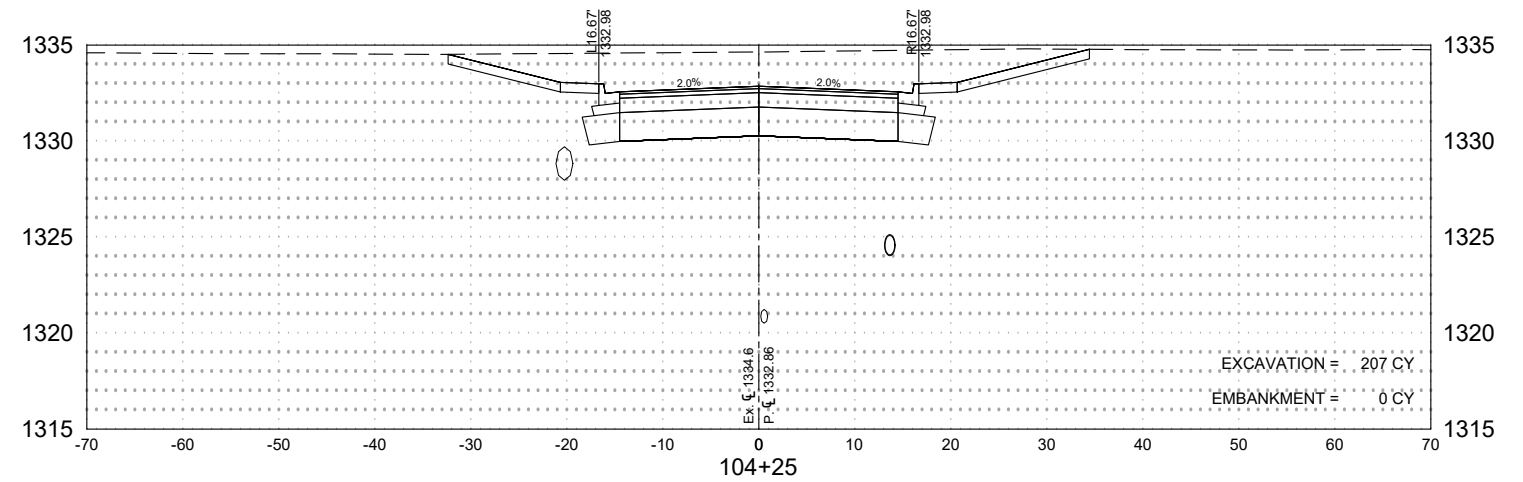
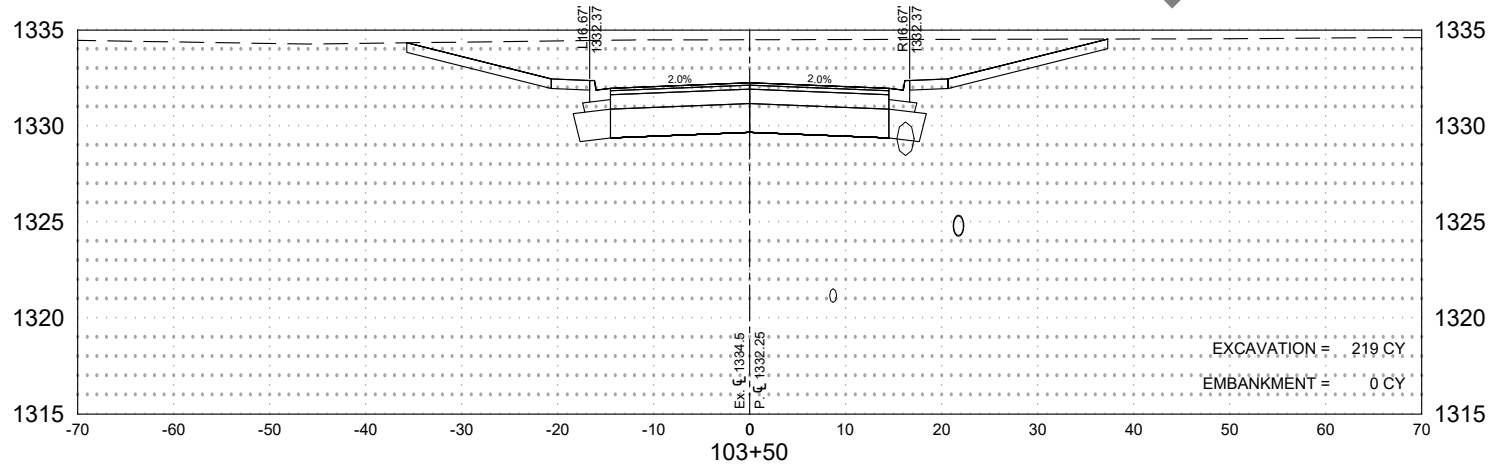
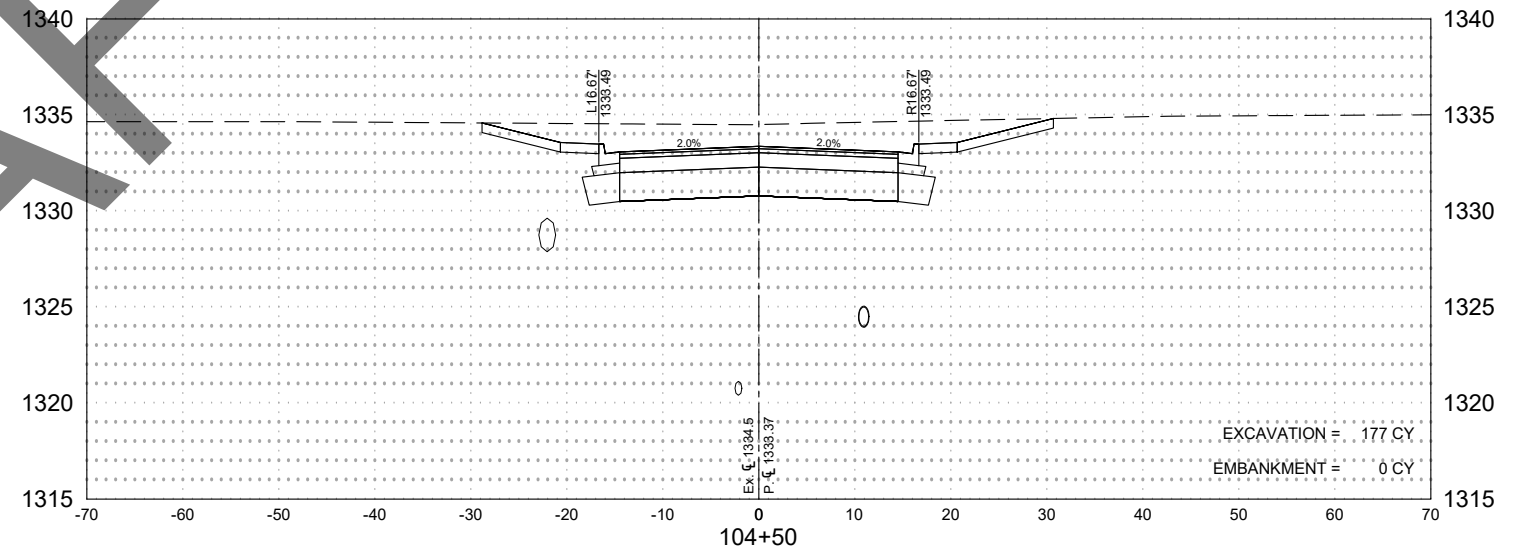
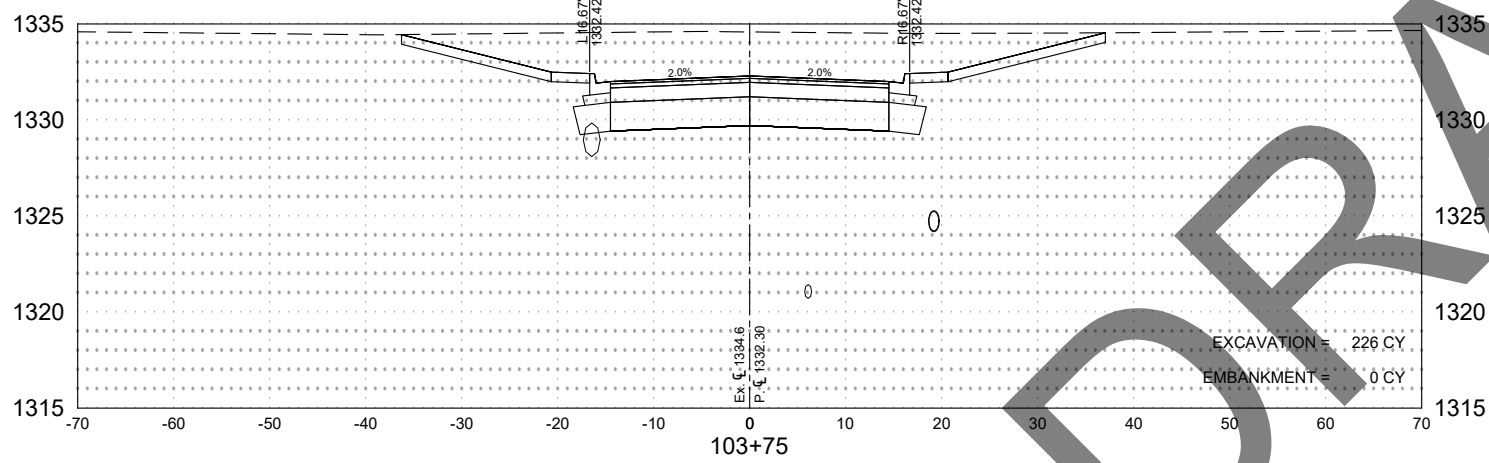
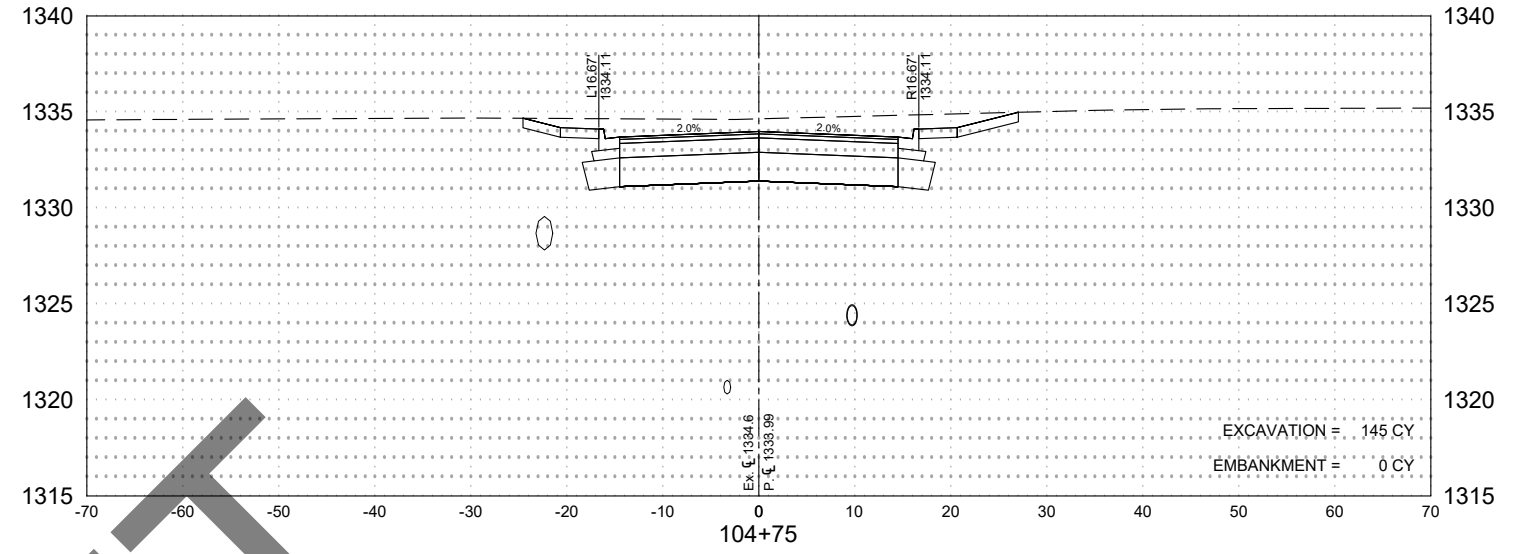
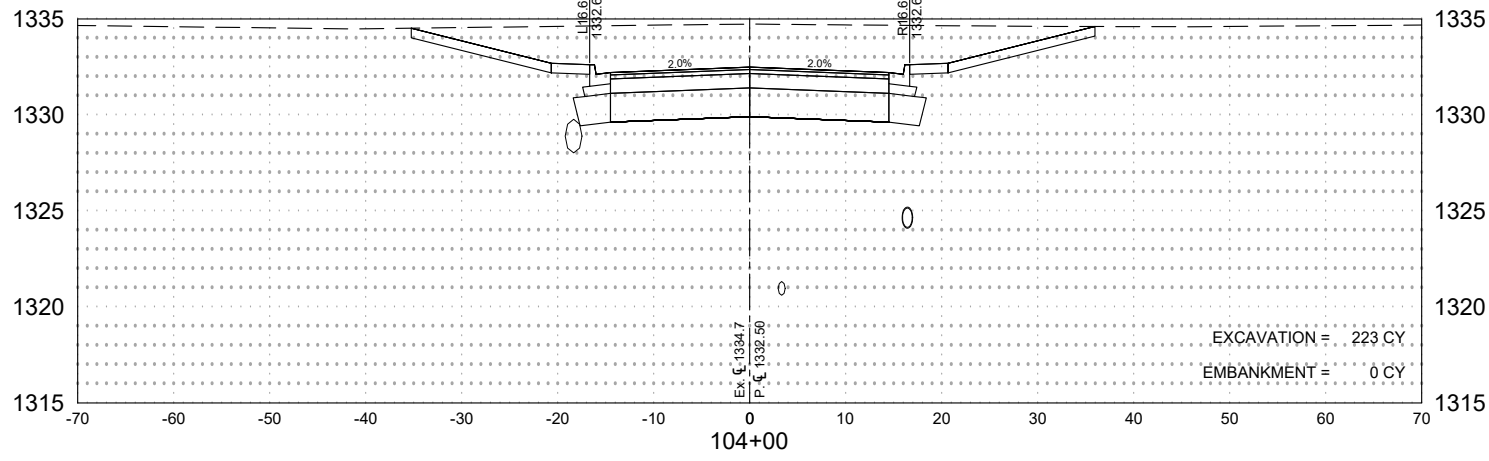
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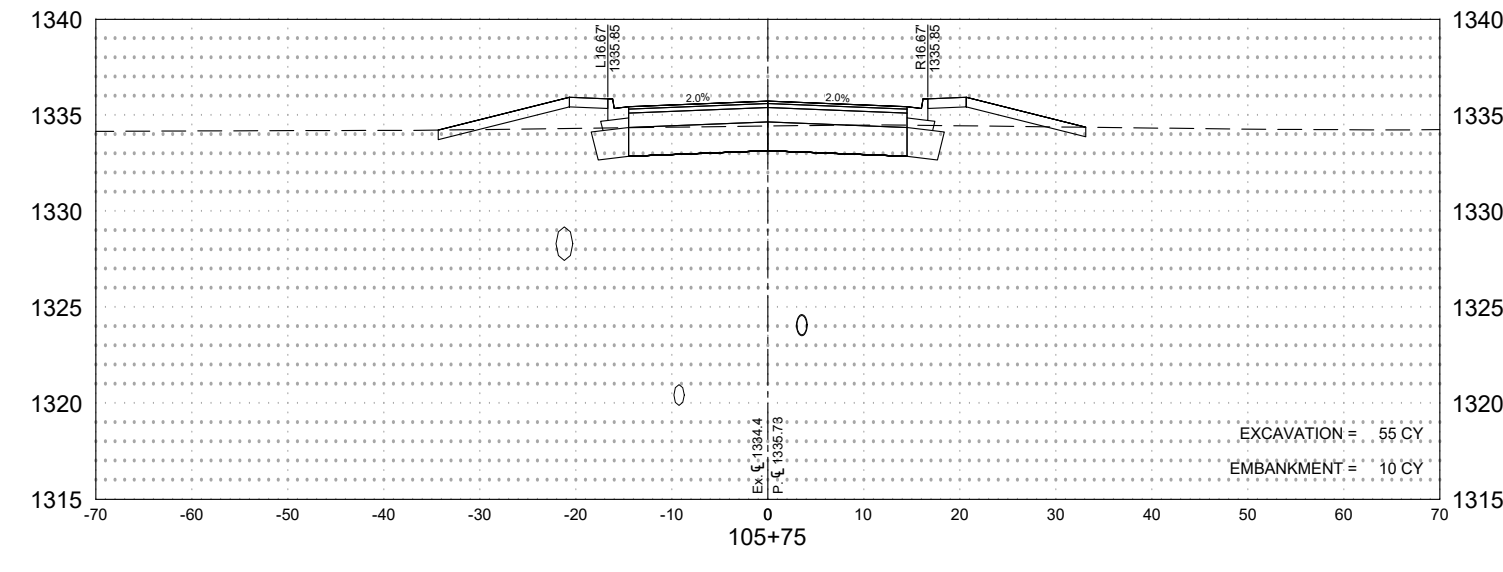
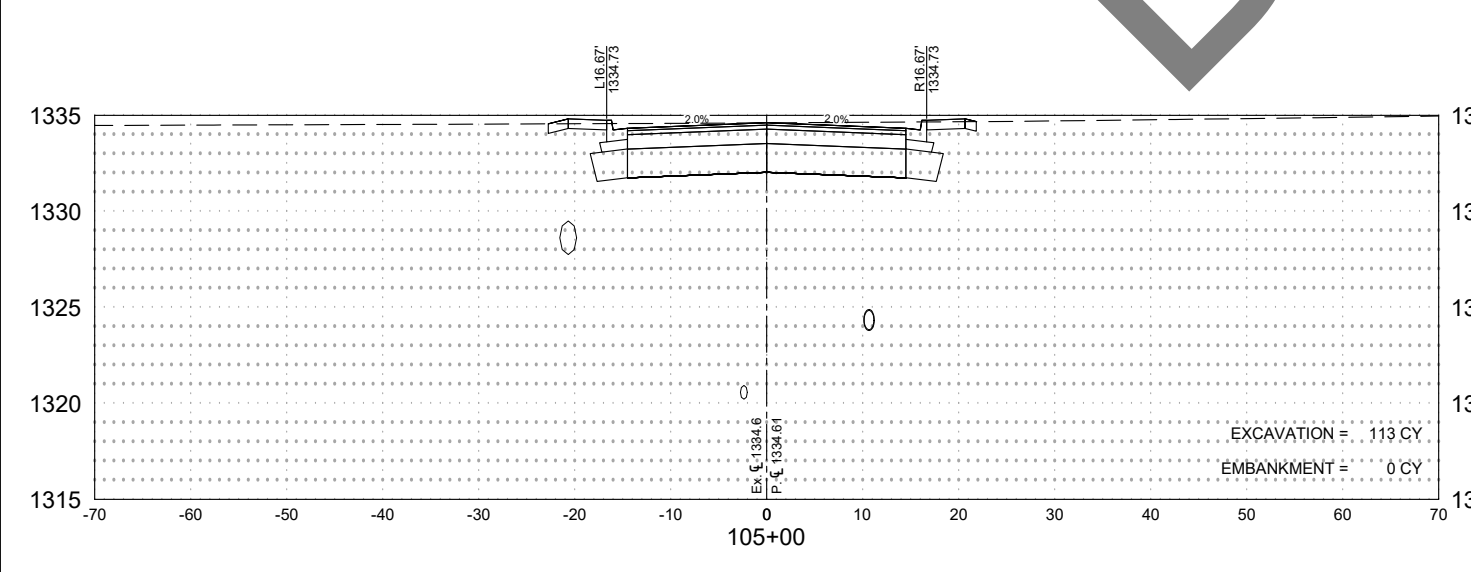
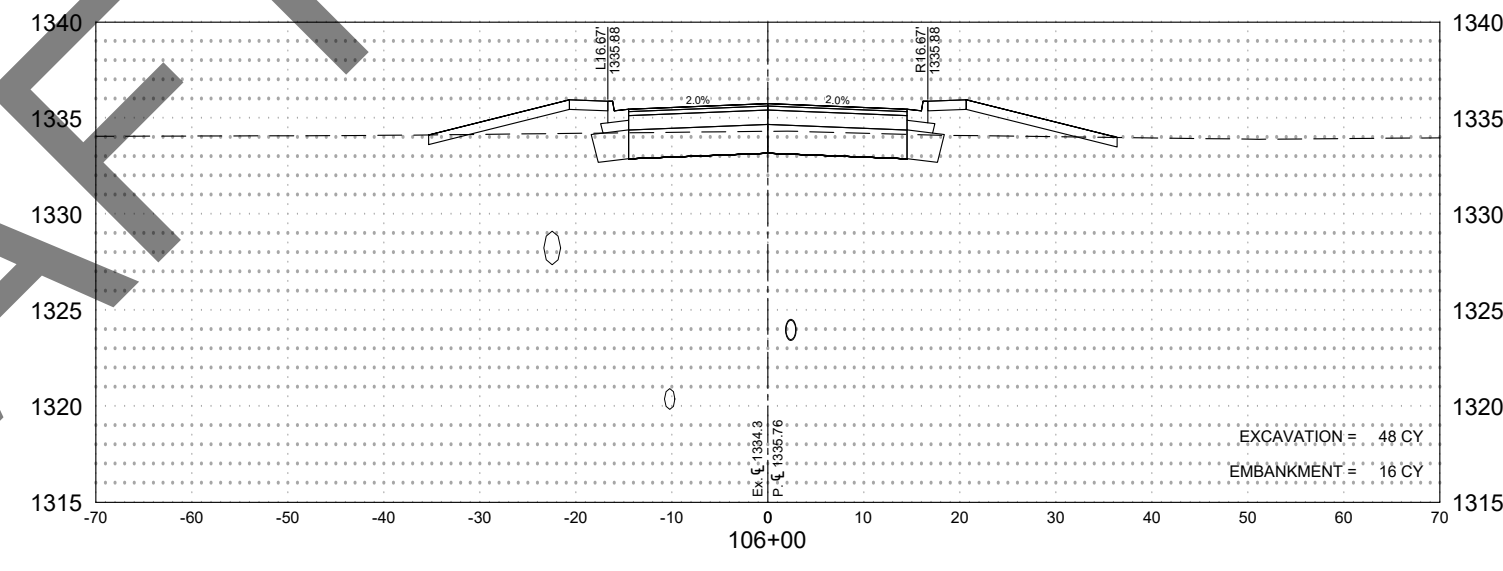
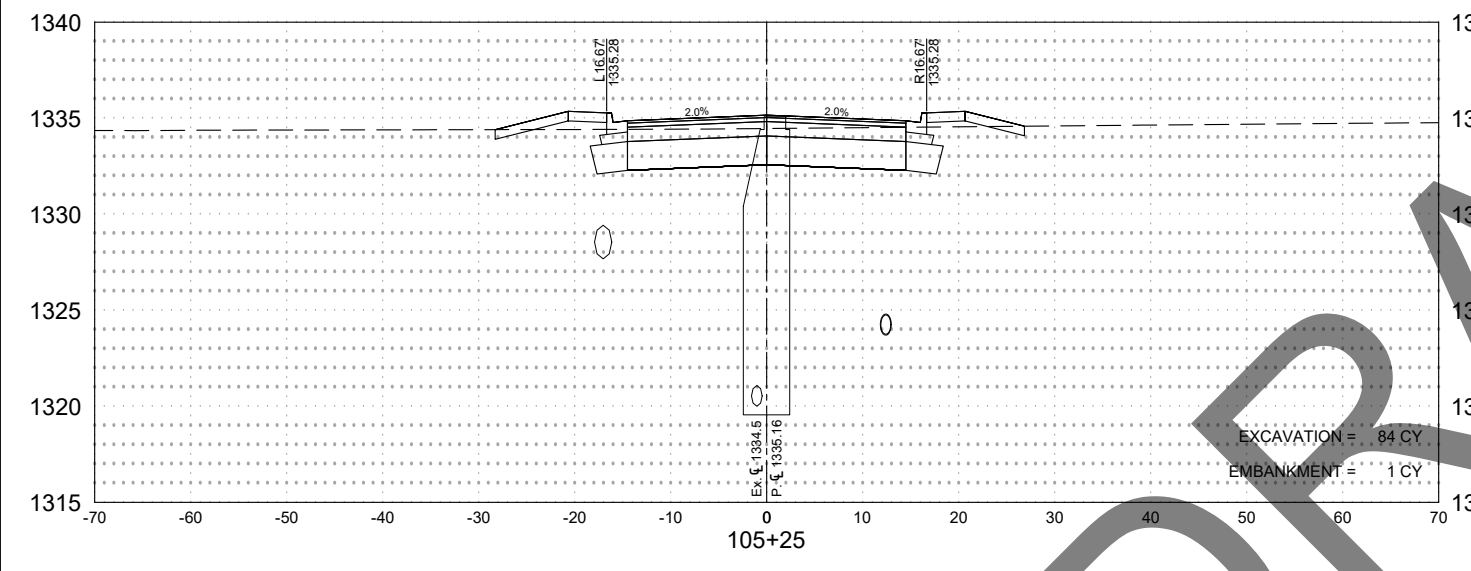
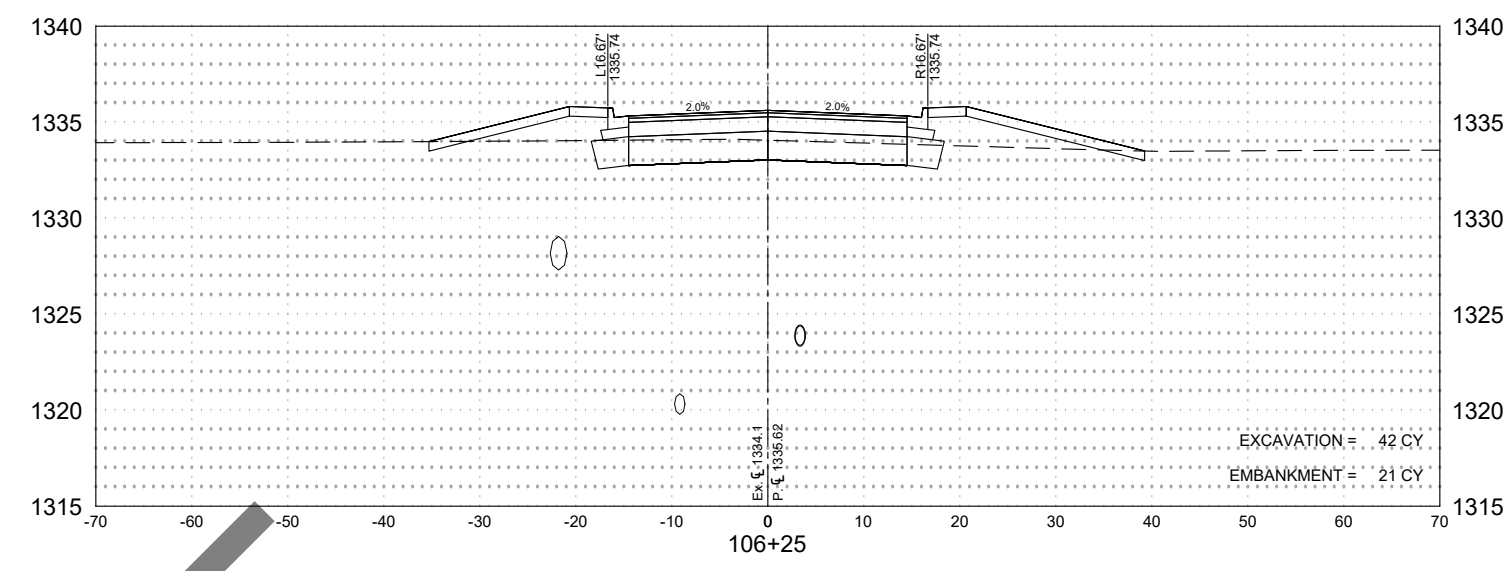
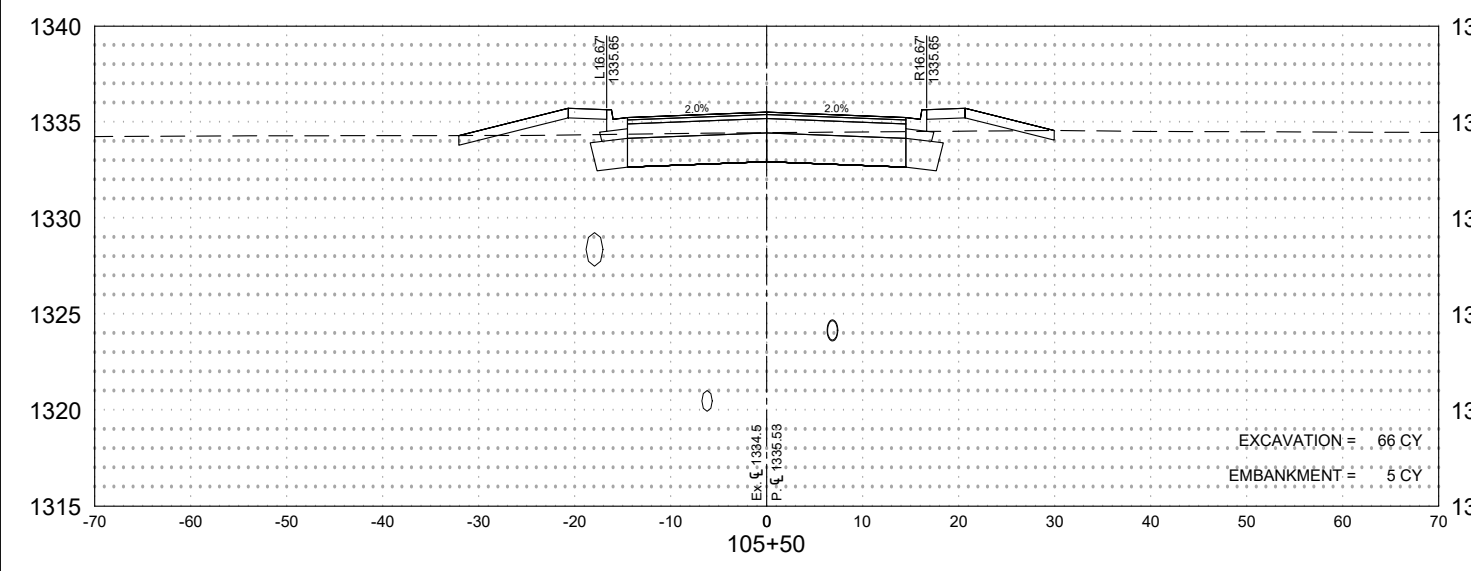
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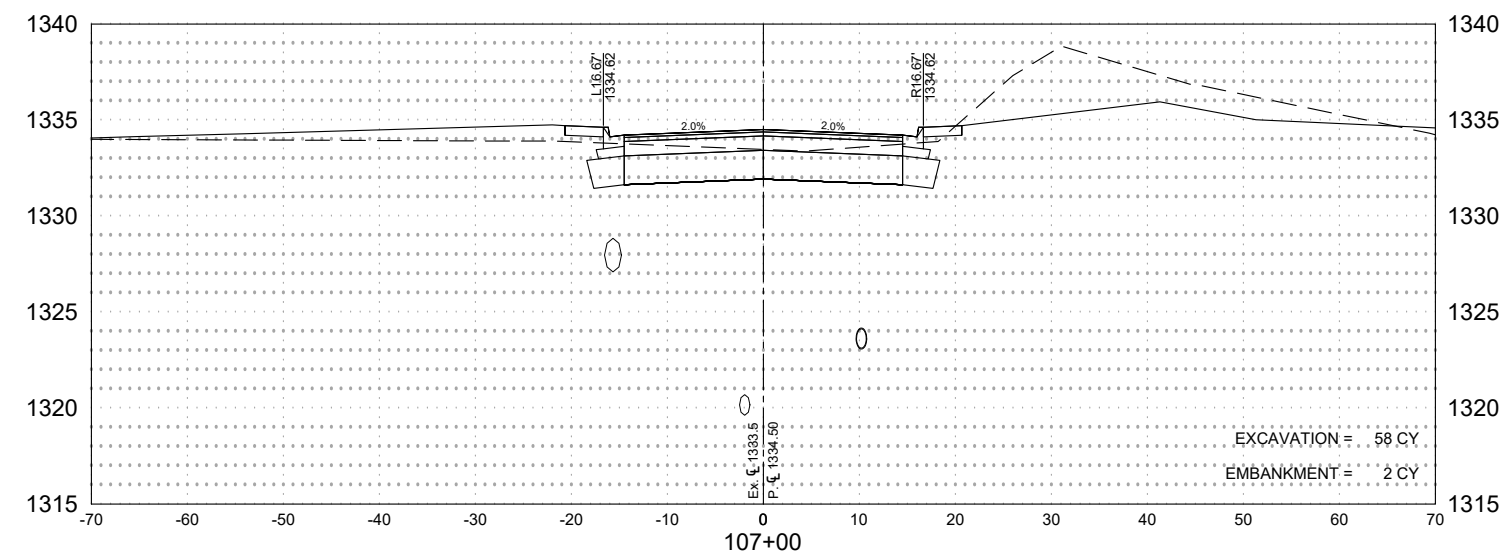
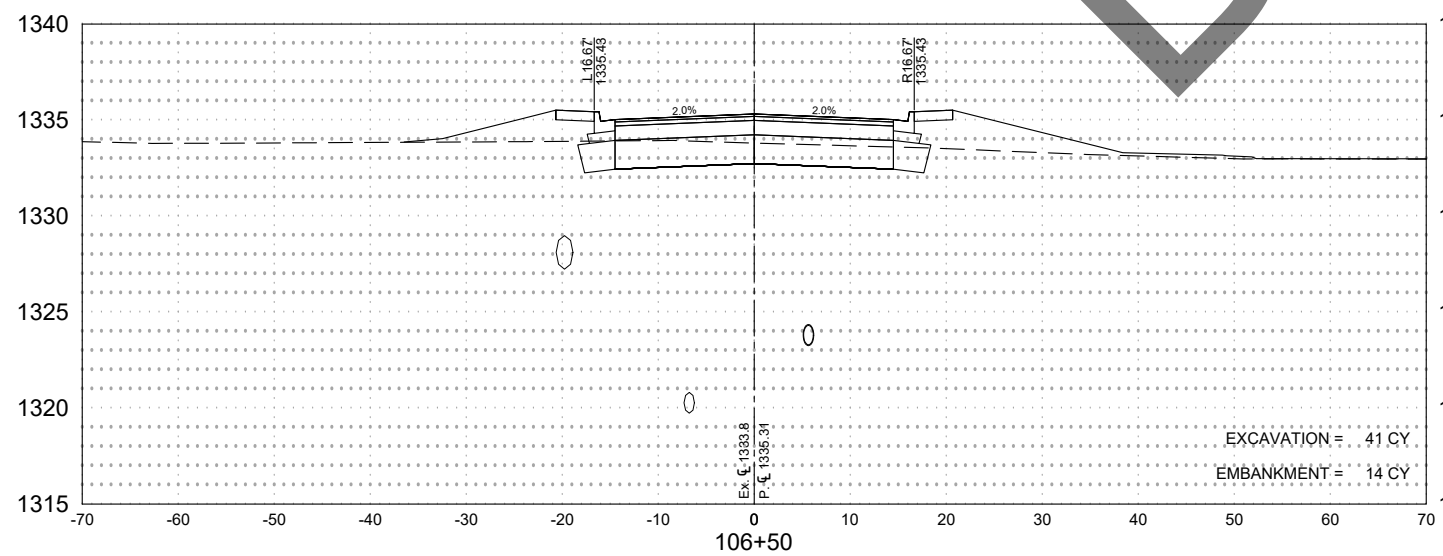
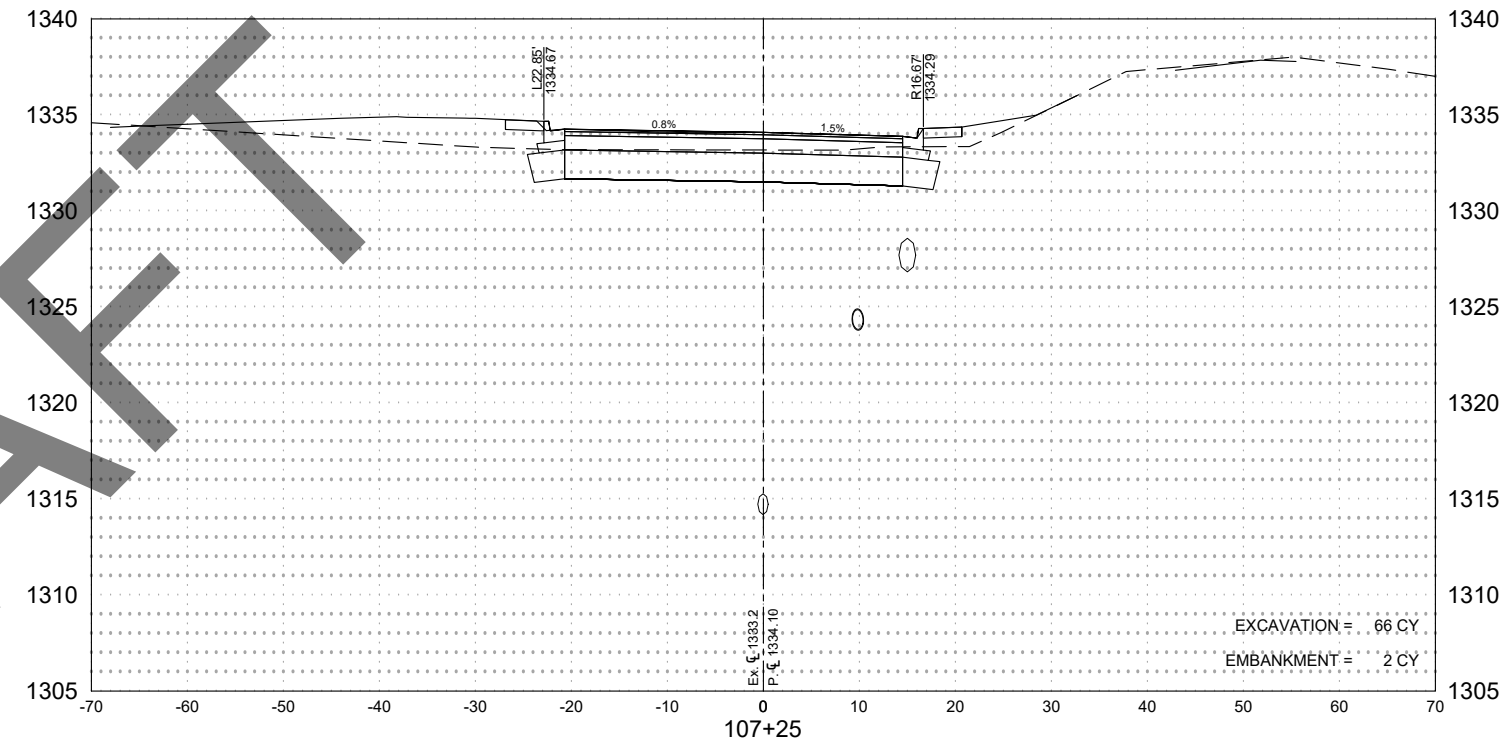
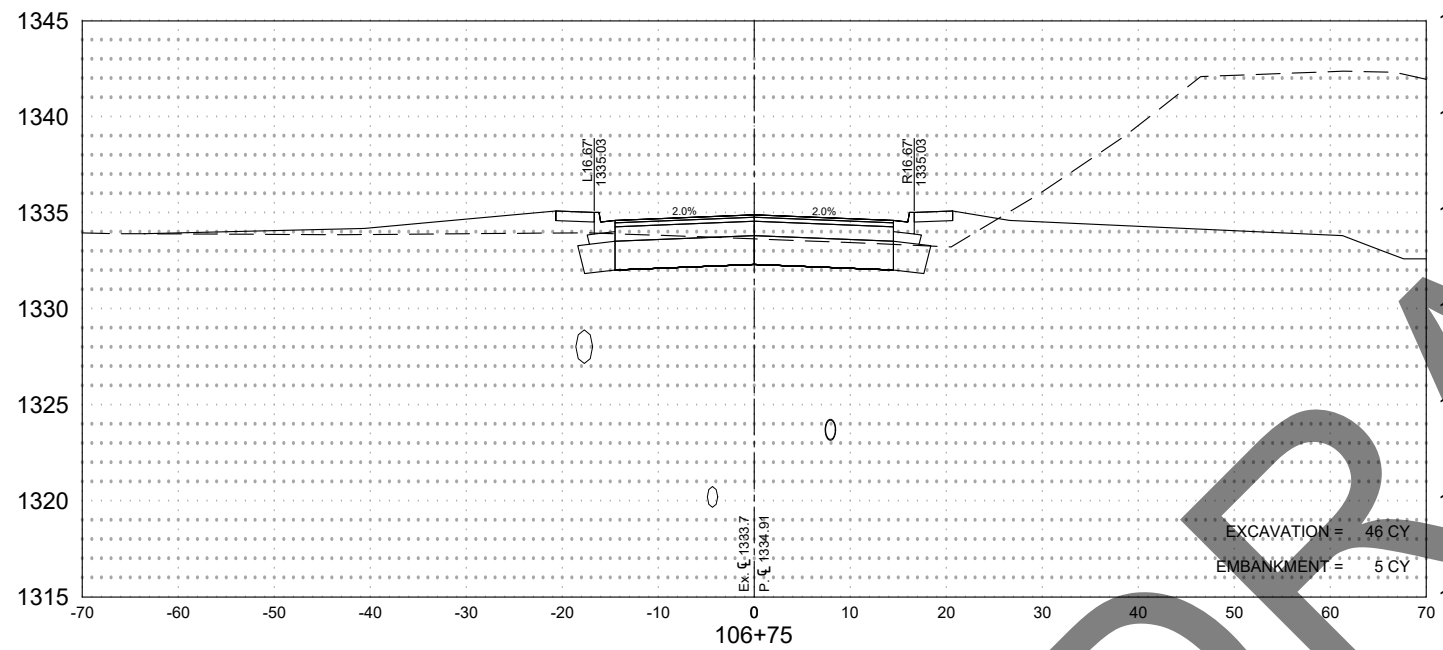


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