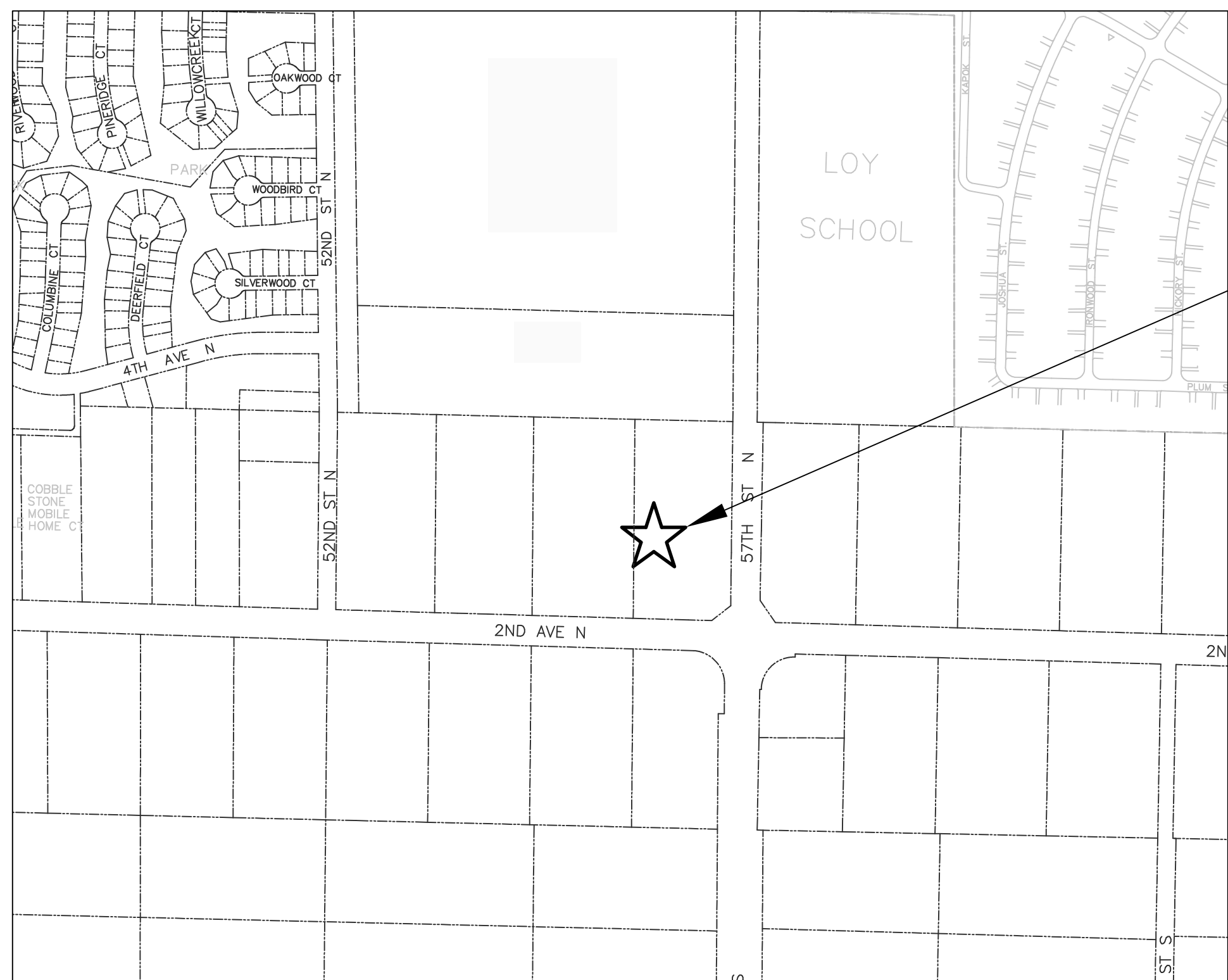


DAWAD COMMERCIAL DEVELOPMENT

5515 2ND AVE N
GREAT FALLS, MT
2022

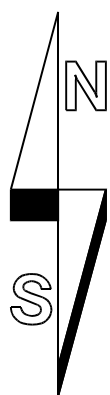


VICINITY MAP

PROJECT LOCATION

LEGEND

EXISTING	NEW	
— W —	— W —	WATER
⊕	⊕	FIRE HYDRANT
⊗	⊗	VALVE
•	•	CURB STOP
— S —	— S —	SANITARY SEWER
— SS —	— SS —	SEWER SERVICE
○	○	MANHOLE
	— FM —	FORCE MAIN
	— SD —	STORM DRAIN
	⊗	STORM INLET
— OE —		OVERHEAD ELECTRICAL
— E —		UNDERGROUND ELECTRICAL
— T —		TELEPHONE
⊙		TELEPHONE PEDESTAL
		POWER POLE
=====	=====	CURB AND GUTTER
=====	=====	CULVERT
	392.2	CONTOURS
	---	PROPERTY LINE
////	////	ASPHALTIC CONCRETE SURFACING
[Pattern]	[Pattern]	CONCRETE SURFACING
[Pattern]	[Pattern]	GRAVEL SURFACING
	[Pattern]	LANDSCAPING



SITE AERIAL

ABBREVIATIONS

AB	AGGREGATE BASE (GRAVEL)	MH	MANHOLE
AC	ASPHALTIC CONCRETE (PAVEMENT)	N.I.C.	NOT IN CONTRACT
B.C.	BACK OF CURB	PVC	POLYVINYL CHLORIDE (PIPE)
CL	CENTERLINE	RCP	REINFORCED CONCRETE PIPE
CO	CLEANOUT	SAN.	SANITARY SEWER
C.P.	CONTROL POINT	SD	STORM DRAIN
CY	CUBIC YARDS	SHT.	SHEET
DIP	DUCTILE IRON PIPE	SS	SEWER SERVICE
EA.	EACH	SW	SIDEWALK
EL./ELEV.	ELEVATION	S.Y.	SQUARE YARDS
EX./EXIST.	EXISTING	TBM	TEMPORARY BENCH MARK
F.F.	TOP OF FINISH FLOOR ELEVATION	TP	TOP OF PAVEMENT
G OR GAS	GAS (NATURAL)	TYP.	TYPICAL
FL OR FL.	FLOW LINE	W	WATER
I.E.	INVERT ELEVATION	WS	WATER SERVICE
L.F.	LINEAL FEET	W/	WITH
		XING	CROSSING

REVISION SUMMARY

1	4/27/22 - RESPONSE TO CITY COMMENTS 4/1/22
2	9/22/22 - RESPONSE TO MDT COMMENTS 9/14/22
3	12/5/22 - RESPONSE TO MDT COMMENTS 10/14/22 & 10/24/22
4	2/1/23 - RESPONSE TO MDT COMMENTS 12/7/22

SHEET INDEX

C1	- COVER
C2	- OVERALL SITE DEVELOPMENT PLAN
C3	- GRADING & DRAINAGE PLAN
C4	- SEWER MAIN PLAN & PROFILE
C5	- WATER MAIN PLAN & PROFILE
C6	- DETAILS
C7	- SWPPP PLAN
C8	- STORM DRAINAGE POND GRADING

GENERAL NOTES

THE ENGINEER HAS ATTEMPTED TO SHOW ON THE PLANS ALL KNOWN UNDERGROUND UTILITIES AND SERVICE LINES FOR THE PURPOSE OF IDENTIFYING POTENTIAL CONFLICTS. THE PRESENTATION OF EXISTING UTILITIES IS NOT WARRANTED TO BE EITHER COMPLETE OR EXACT IN HORIZONTAL POSITION OR ELEVATION. THE CONTRACTOR SHALL DETERMINE OR VERIFY VERTICAL AND HORIZONTAL UTILITY LOCATIONS PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DATA WITH EACH RESPECTIVE UTILITY OWNER PRIOR TO BIDDING AND/OR INITIATING CONSTRUCTION. THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF UTILITY LOCATION DATA PRESENTED ON THE DRAWINGS. VARIANCES FROM LOCATION SHOWN ON ANY UTILITY CROSSED SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING.

ALL WORK IN MDT RIGHT-OF-WAY, WATER SERVICE LINE(S), TRENCHES, SIDEWALKS, CURB & GUTTER, APPROACHES AND THE LIKE SHALL BE COMPLETED IN ACCORDANCE WITH MDT REQUIREMENTS. WORK IN CITY R/W SHALL BE COMPLETED IN ACORDANCE WITH CITY REQUIREMENTS.

REFER TO MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS AND CITY OF GREAT FALLS STANDARDS FOR DESIGN AND CONSTRUCTION FOR ADDITIONAL UTILITY DETAILS.

CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT FOR EXISTING SOIL TYPES AND SUBSURFACE CONDITIONS.

BEARING SOURCE = NAD 83
VERTICAL DATUM = NAVD 88

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(406)727-3656 FAX
www.bigskyce.com

PROFESSIONAL SEAL



BY: KJM
DATE: 3/15/22 REV 2/1/23

OWNER:

ND CARS, LLC

PROJECT NAME:

DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

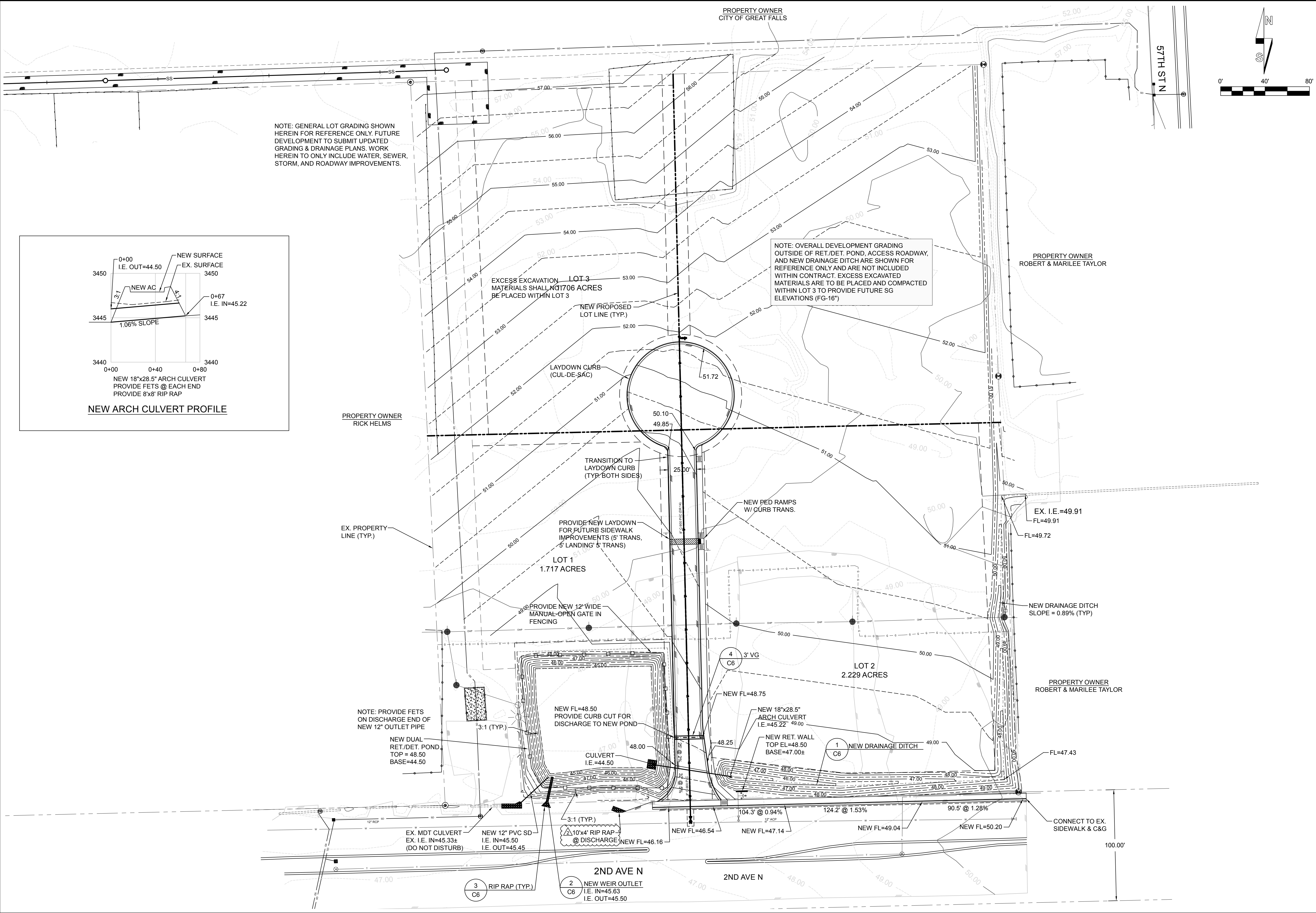
COVER

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CADD FILE NAME: 18CO-C1
ASSOCIATED PROJECTS: XXXX

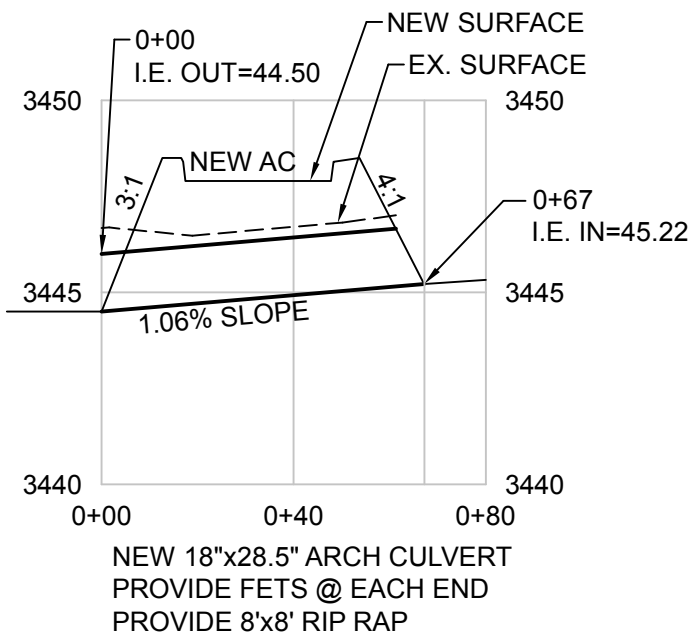
SHEET:

C1 OF C8



NOTE: GENERAL LOT GRADING SHOWN HEREIN FOR REFERENCE ONLY. FUTURE DEVELOPMENT TO SUBMIT UPDATED GRADING & DRAINAGE PLANS. WORK HEREIN TO ONLY INCLUDE WATER, SEWER, STORM, AND ROADWAY IMPROVEMENTS.

NOTE: OVERALL DEVELOPMENT GRADING OUTSIDE OF RET./DET. POND, ACCESS ROADWAY, AND NEW DRAINAGE DITCH ARE SHOWN FOR REFERENCE ONLY AND ARE NOT INCLUDED WITHIN CONTRACT. EXCESS EXCAVATED MATERIALS ARE TO BE PLACED AND COMPACTED WITHIN LOT 3 TO PROVIDE FUTURE SG ELEVATIONS (FG-16")



NEW ARCH CULVERT PROFILE

PROPERTY OWNER
RICK HELMS

EX. PROPERTY
LINE (TYP.)

LOT 1
1.717 ACRES

PROVIDE NEW 12" WIDE
MANUAL-OPEN GATE IN
FENCING

NOTE: PROVIDE FETS
ON DISCHARGE END OF
NEW 12" OUTLET PIPE

NEW DUAL
RET./DET. POND
TOP = 48.50
BASE=44.50

3:1 (TYP.)

NEW FL=48.50
PROVIDE CURB CUT FOR
DISCHARGE TO NEW POND

CULVERT
I.E.=44.50

EX. MDT CULVERT
EX. I.E. IN=45.33±
(DO NOT DISTURB)

NEW 12" PVC SD
I.E. IN=45.50
I.E. OUT=45.45

10'x4' RIP RAP
@ DISCHARGE

2ND AVE N

3 RIP RAP (TYP.)
C6

2 NEW WEIR OUTLET
C6
I.E. IN=45.63
I.E. OUT=45.50

2ND AVE N

NEW FL=48.75

NEW 18"x28.5"
ARCH CULVERT
I.E.=45.22 49.00

NEW RET. WALL
TOP EL=48.50
BASE=47.00±

1 C6

NEW DRAINAGE DITCH

NEW FL=46.54

NEW FL=47.14

NEW FL=49.04

NEW FL=50.20

PROPERTY OWNER
ROBERT & MARILEE TAYLOR

EX. I.E.=49.91
FL=49.91
FL=49.72

NEW DRAINAGE DITCH
SLOPE = 0.89% (TYP)

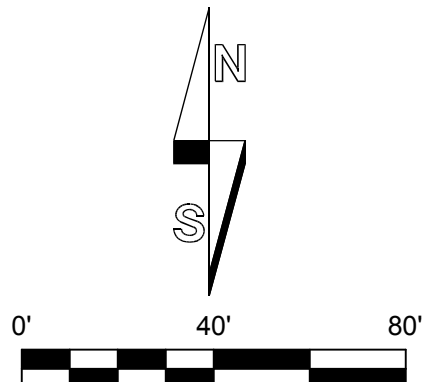
FL=47.43

CONNECT TO EX.
SIDEWALK & C&G

100.00'

PROPERTY OWNER
CITY OF GREAT FALLS

57TH ST N



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PROFESSIONAL SEAL



BY: KJM
DATE: 3/15/22 REV 2/1/23

OWNER:

ND CARS, LLC

PROJECT NAME:

DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

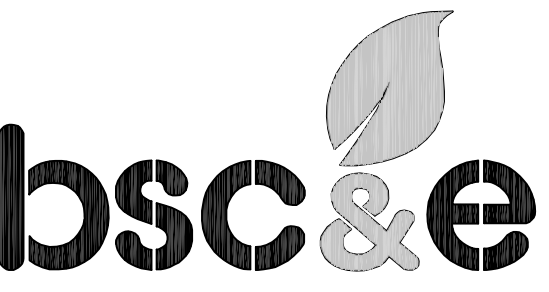
GRADING &
DRAINAGE PLAN

DRAWING INFORMATION:

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OWNER FILE NUMBER: XXXX
CADD FILE NAME: 18CO-C3-GRADING
ASSOCIATED PROJECTS: XXXX

SHEET:

C3 OF C8

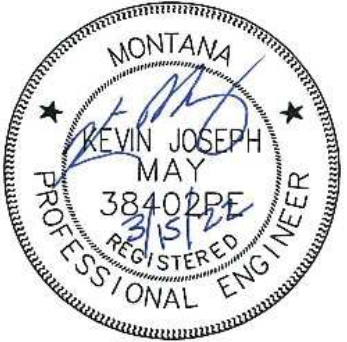


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PROFESSIONAL SEAL



BY: KJM

DATE: 3/15/22 REV 2/1/23

OWNER:

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PROJECT NAME:

DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

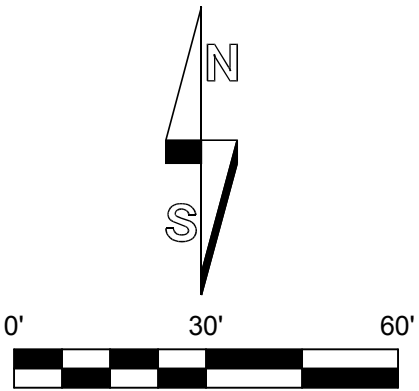
SANITARY
SEWER MAIN
PLAN & PROFILE

DRAWING INFORMATION:

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OWNER FILE NUMBER: XXXX
CADD FILE NAME: 18CO-C4
ASSOCIATED PROJECTS: XXXX

SHEET:

C4 OF C8



52ND ST. N.

PROPERTY OWNER
CITY OF GREAT FALLS

STA 0+00
EX. SS MH
RIM EL=56.89
INV EL=46.87
NEW I.E.=46.97
(SEE NOTE #3)

STA 0+49.4
NEW SS MH #1
RIM EL=58.17±
I.E. OUT=47.17
I.E. IN=47.37

STA 1+02.4
NEW SS MH #2
RIM EL=57.17±
I.E. OUT=47.58
I.E. IN=47.68

EX. 30' UTILITY
EASEMENT

STA 1+50.9
NEW SS MH #3
RIM EL=56.48±
I.E. OUT=47.87
I.E. IN=47.97

PROTECT/MAINTAIN
EX POWER POLES &
OHE LINES

NOTES:
1. CONTRACTOR SHALL UTILIZE FLOWABLE FILL BACKFILL W/IN 52ND ST. N.
2. CONTRACTOR SHALL PROVIDE CLEAN, STRAIGHT SAWCUT FOR NEW SEWER MAIN INSTALL.
3. PROVIDE KNOCKOUT IN EX. MH STRUCTURE & GROUT NEW PENETRATION. PROVIDE NEW
FLOW CHANNEL W/IN EX. MANHOLE AS NECESSARY FOR NEW CONNECTION.
4. NEW SS MH #5 SHALL BE CONSTRUCTED W/ LINER PER CITY OF GF STANDARDS. REFER TO
SPEC SECTION 02730 FOR ADDITIONAL INFORMATION.
5. AC PATCH IN 52ND ST. SHALL CONSIST OF 4" OF AC W/ MIN. 12" CBC GRAVEL.

NEW 12' WIDE GRAVEL ACCESS
ROAD. PROVIDE 8" GRAVEL
SECTION OVER PREPARED SG.

EX. 20' UTILITY
EASEMENT

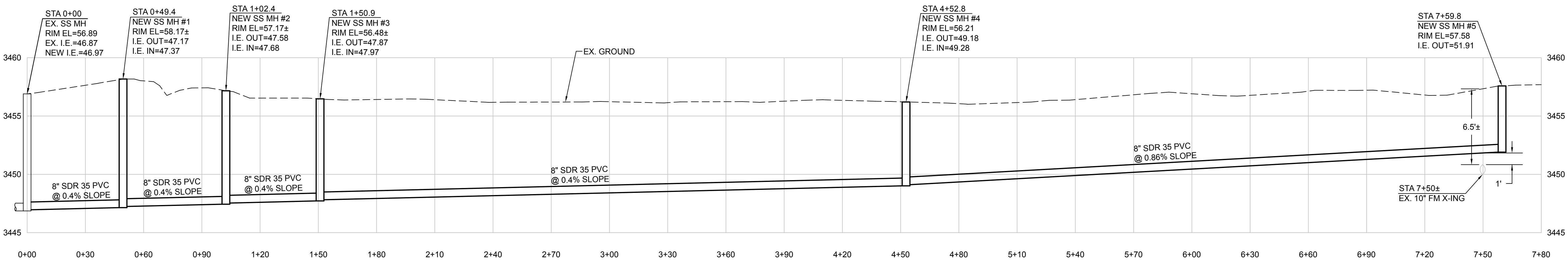
STA 4+52.8
NEW SS MH #4
RIM EL=56.21
I.E. OUT=49.18
I.E. IN=49.28

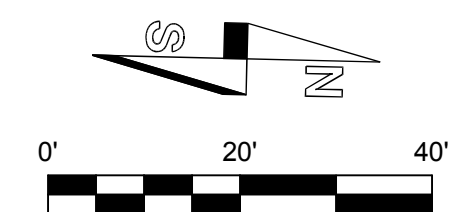
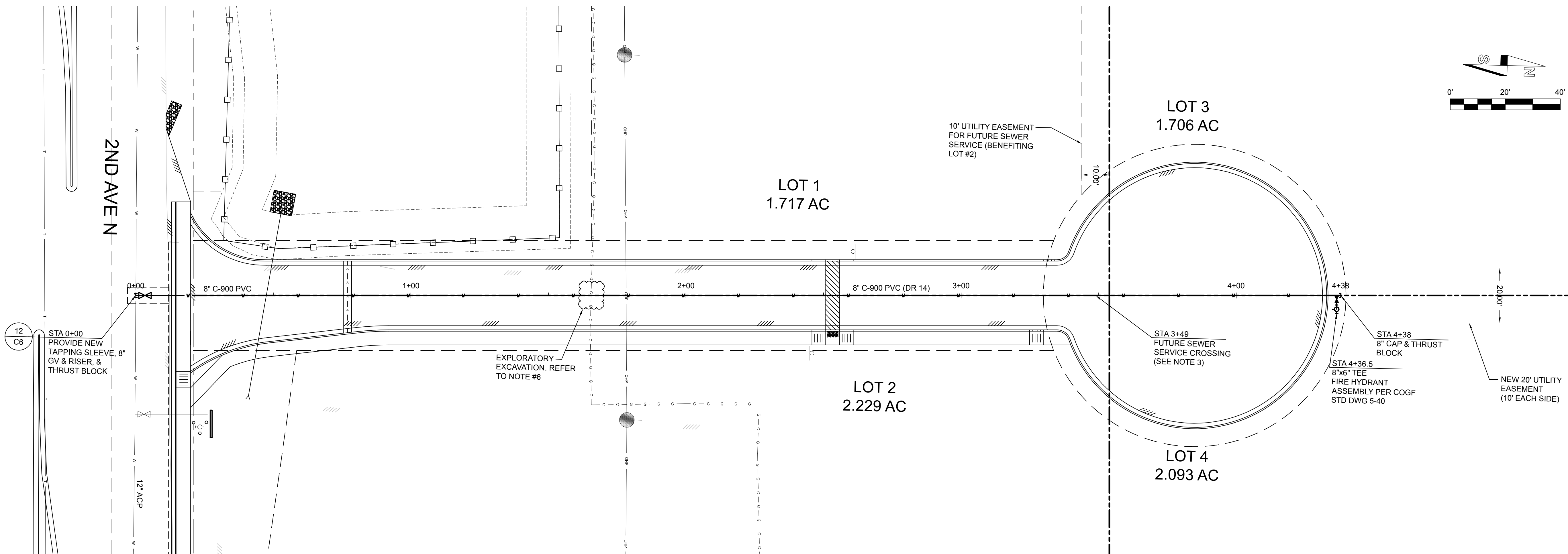
PROPERTY OWNER
CITY OF GREAT FALLS

PROVIDE EXPLOERATORY
EXCAVATION @ PROPOSED
STORM/SANITARY CROSSING
TO VERIFY EX. SD DEPTH.
EXPLOERATORY EX TO BE
COMPLETED PRIOR TO
ORDERING OF MANHOLES.
IMMEDIATELY REPORT
RESULTS TO ENGINEER.

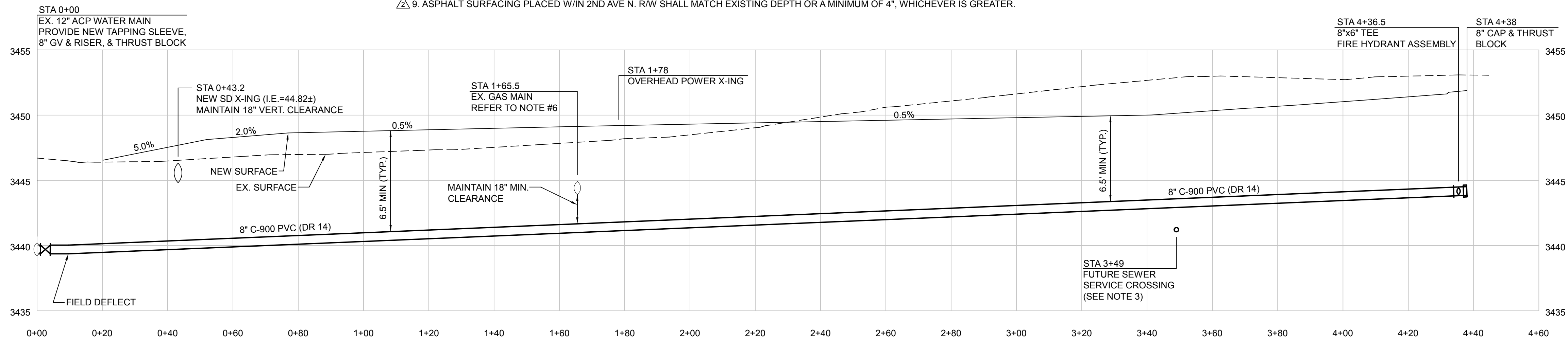
STA 7+59.8
NEW SS MH #5
RIM EL=57.58
I.E. OUT=50.51
(SEE NOTE #4)

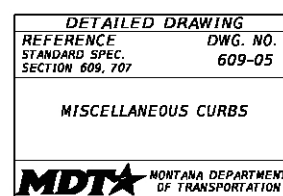
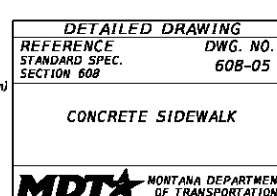
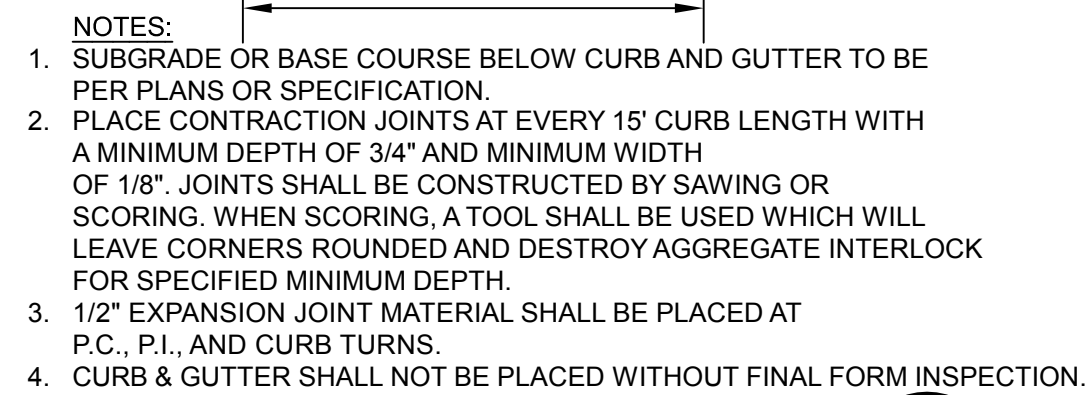
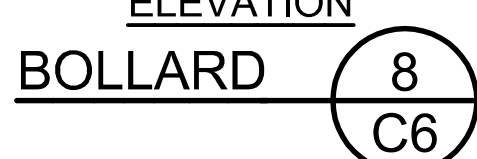
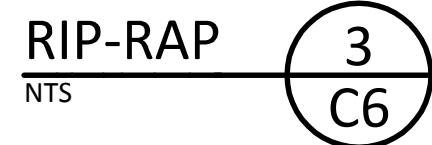
8" THICK GRAVEL
SURFACING (TYP.)





- NOTES:
1. CONTRACTOR SHALL UTILIZE FLOWABLE FILL BACKFILL W/IN 2ND AVE. N.
 2. CONTRACTOR SHALL PROVIDE CLEAN, STRAIGHT SAWCUT FOR NEW WATER MAIN INSTALL.
 3. MAINTAIN MIN. 18" VERTICAL & 10' HORIZONTAL SEPARATION FROM ALL SEWER AND STORM DRAIN LINES.
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TRACER WIRE WITH ALL NEW WATER MAIN PIPING PER CITY OF GF STANDARDS.
 5. WORK IN MDT R/W SHALL COMPLY W/ CURRENT MDT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, & REQUIREMENTS DETAILED W/IN MDT ENCROACHMENT, UTILITY OCCUPANCY, AND/OR APPROACH PERMITS.
 6. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION OF EX. GAS MAIN PRIOR TO INITIATING WORK. IMMEDIATELY REPORT RESULTS TO ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK ACTIVITIES NEAR GAS MAIN W/ ENERGY WEST. ENERGY WEST REPRESENTATIVES MAY BE REQUIRED TO BE ONSITE DURING EXCAVATION ACTIVITIES NEAR LINE. EXPLORATORY SHALL BE COMPLETED VIA SUCTION EXCAVATION TO MINIMIZE DISTURBANCE.
 7. PROVIDE THRUST BLOCKS PER MPWSS.
 8. PROVIDE TEST TAPS PER COGF REQUIREMENTS (W/IN 5' FROM ENDPOINTS & 400' SPACING)
 9. ASPHALT SURFACING PLACED W/IN 2ND AVE N. R/W SHALL MATCH EXISTING DEPTH OR A MINIMUM OF 4", WHICHEVER IS GREATER.





BY: KJM
DATE: 3/15/22 REV 2/1/23

OWNER:

ND CARS, LLC

PROJECT NAME:

DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

DETAILS

DRAWING INFORMATION:

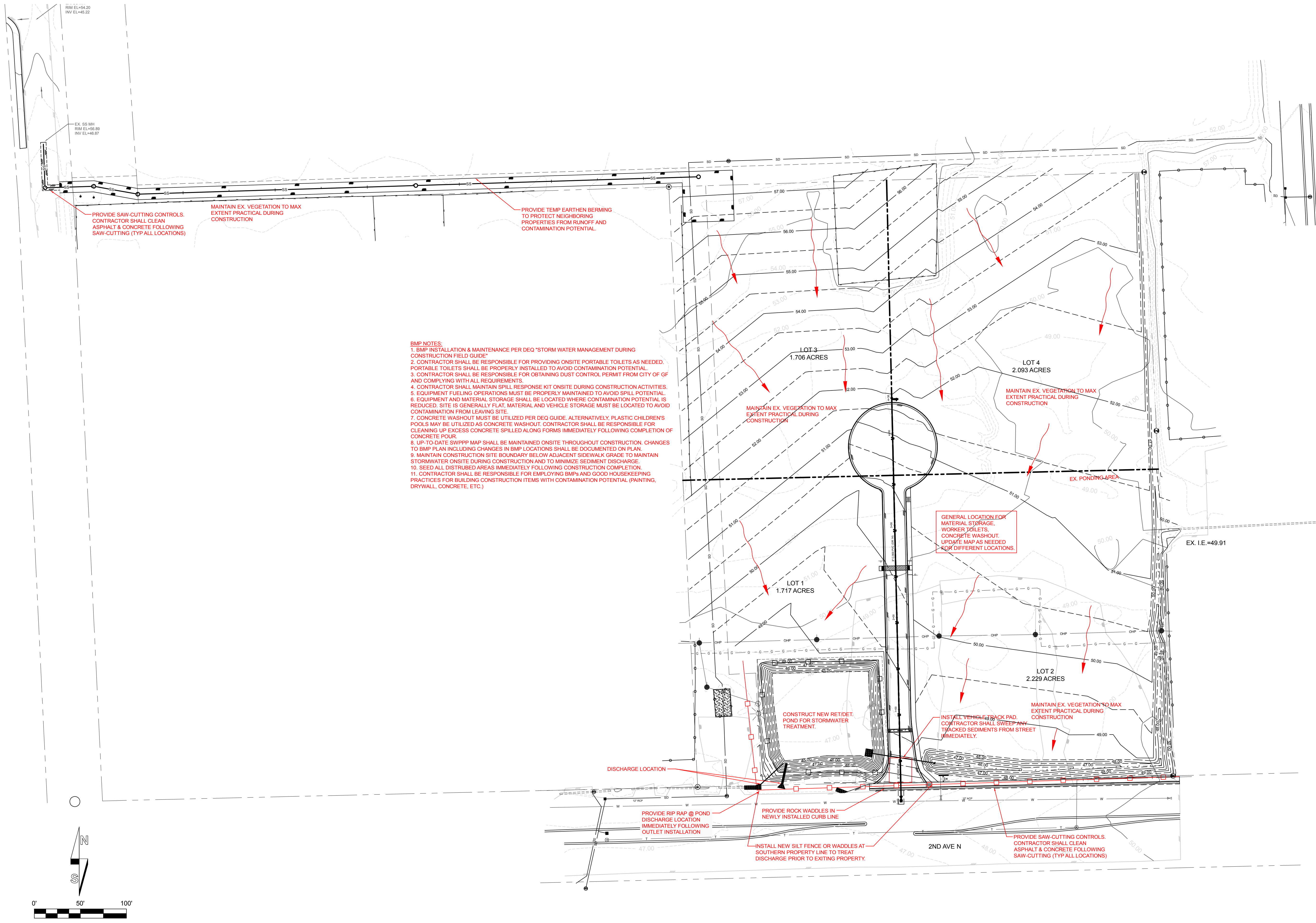
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OWNER FILE NUMBER: XXXX
CADD FILE NAME: 18CO-C6-DETAILS
ASSOCIATED PROJECTS: XXXX

SHEET:

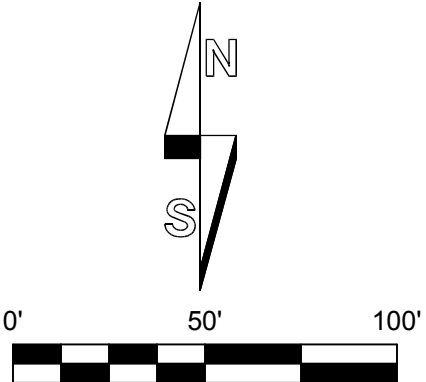
C6 OF C8

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- BMP NOTES:**
1. BMP INSTALLATION & MAINTENANCE PER DEQ "STORM WATER MANAGEMENT DURING CONSTRUCTION FIELD GUIDE"
 2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ONSITE PORTABLE TOILETS AS NEEDED. PORTABLE TOILETS SHALL BE PROPERLY INSTALLED TO AVOID CONTAMINATION POTENTIAL.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING DUST CONTROL PERMIT FROM CITY OF GF AND COMPLYING WITH ALL REQUIREMENTS.
 4. CONTRACTOR SHALL MAINTAIN SPILL RESPONSE KIT ONSITE DURING CONSTRUCTION ACTIVITIES.
 5. EQUIPMENT FUELING OPERATIONS MUST BE PROPERLY MAINTAINED TO AVOID SPILL POTENTIAL.
 6. EQUIPMENT AND MATERIAL STORAGE SHALL BE LOCATED WHERE CONTAMINATION POTENTIAL IS REDUCED. SITE IS GENERALLY FLAT, MATERIAL AND VEHICLE STORAGE MUST BE LOCATED TO AVOID CONTAMINATION FROM LEAVING SITE.
 7. CONCRETE WASHOUT MUST BE UTILIZED PER DEQ GUIDE. ALTERNATIVELY, PLASTIC CHILDREN'S POOLS MAY BE UTILIZED AS CONCRETE WASHOUT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP EXCESS CONCRETE SPILLED ALONG FORMS IMMEDIATELY FOLLOWING COMPLETION OF CONCRETE POUR.
 8. UP-TO-DATE SWPPP MAP SHALL BE MAINTAINED ONSITE THROUGHOUT CONSTRUCTION. CHANGES TO BMP PLAN INCLUDING CHANGES IN BMP LOCATIONS SHALL BE DOCUMENTED ON PLAN.
 9. MAINTAIN CONSTRUCTION SITE BOUNDARY BELOW ADJACENT SIDEWALK GRADE TO MAINTAIN STORMWATER ONSITE DURING CONSTRUCTION AND TO MINIMIZE SEDIMENT DISCHARGE.
 10. SEED ALL DISTURBED AREAS IMMEDIATELY FOLLOWING CONSTRUCTION COMPLETION.
 11. CONTRACTOR SHALL BE RESPONSIBLE FOR EMPLOYING BMPs AND GOOD HOUSEKEEPING PRACTICES FOR BUILDING CONSTRUCTION ITEMS WITH CONTAMINATION POTENTIAL (PAINTING, DRYWALL, CONCRETE, ETC.)



BY: KJM
DATE: 3/15/22 REV 2/1/23

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DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

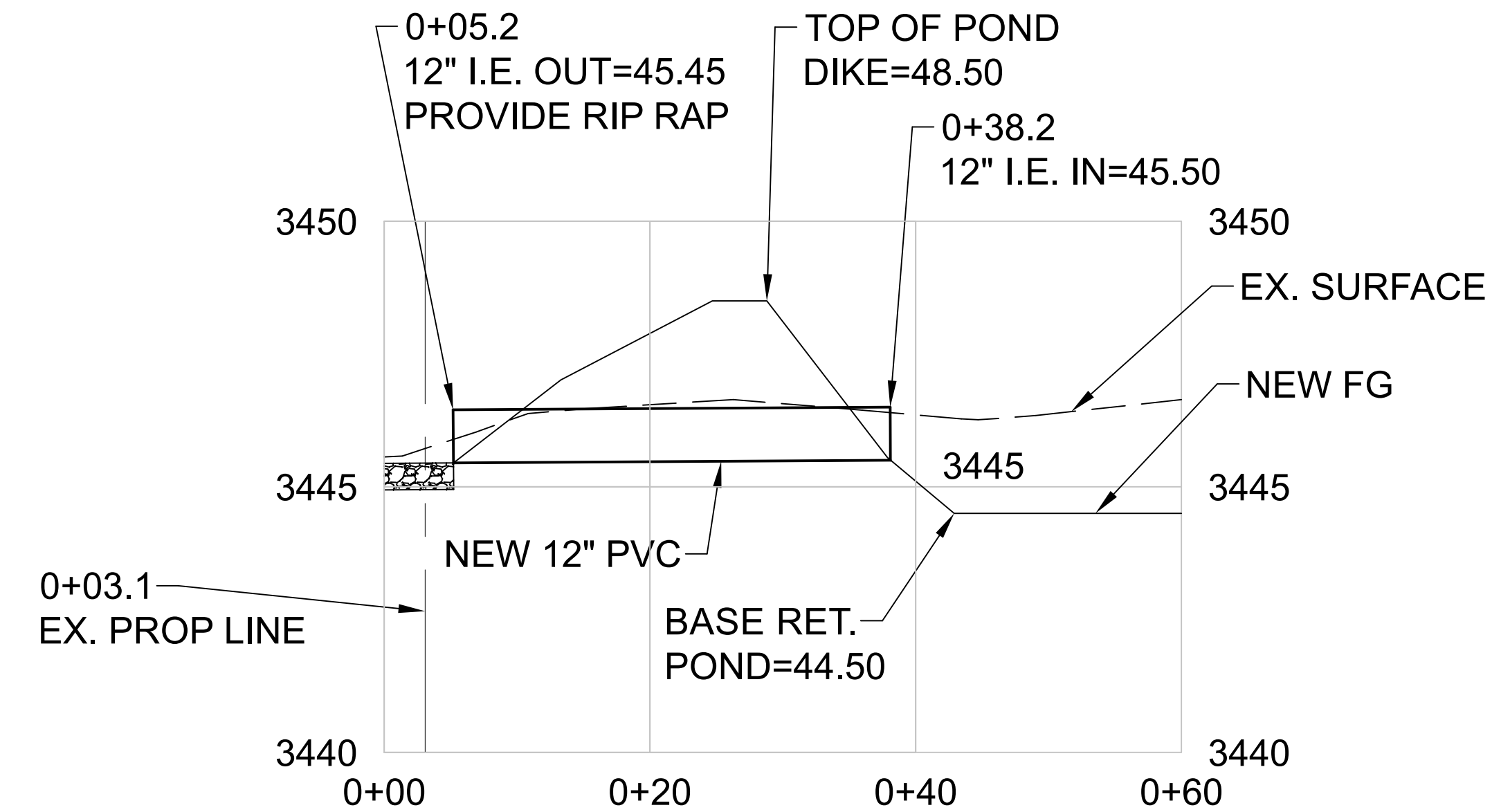
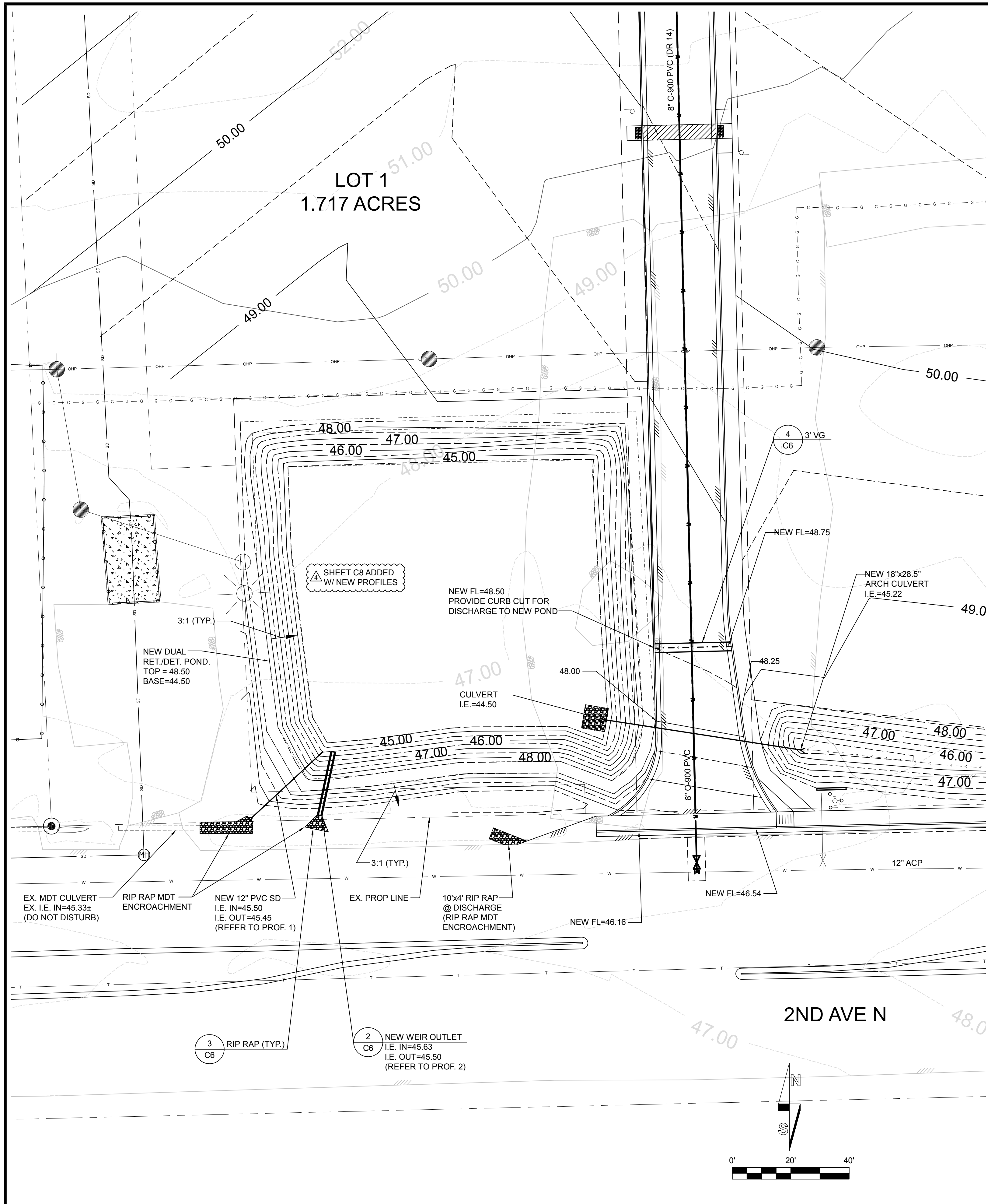
STORMWATER
POLLUTION
PREVENTION PLAN

DRAWING INFORMATION:

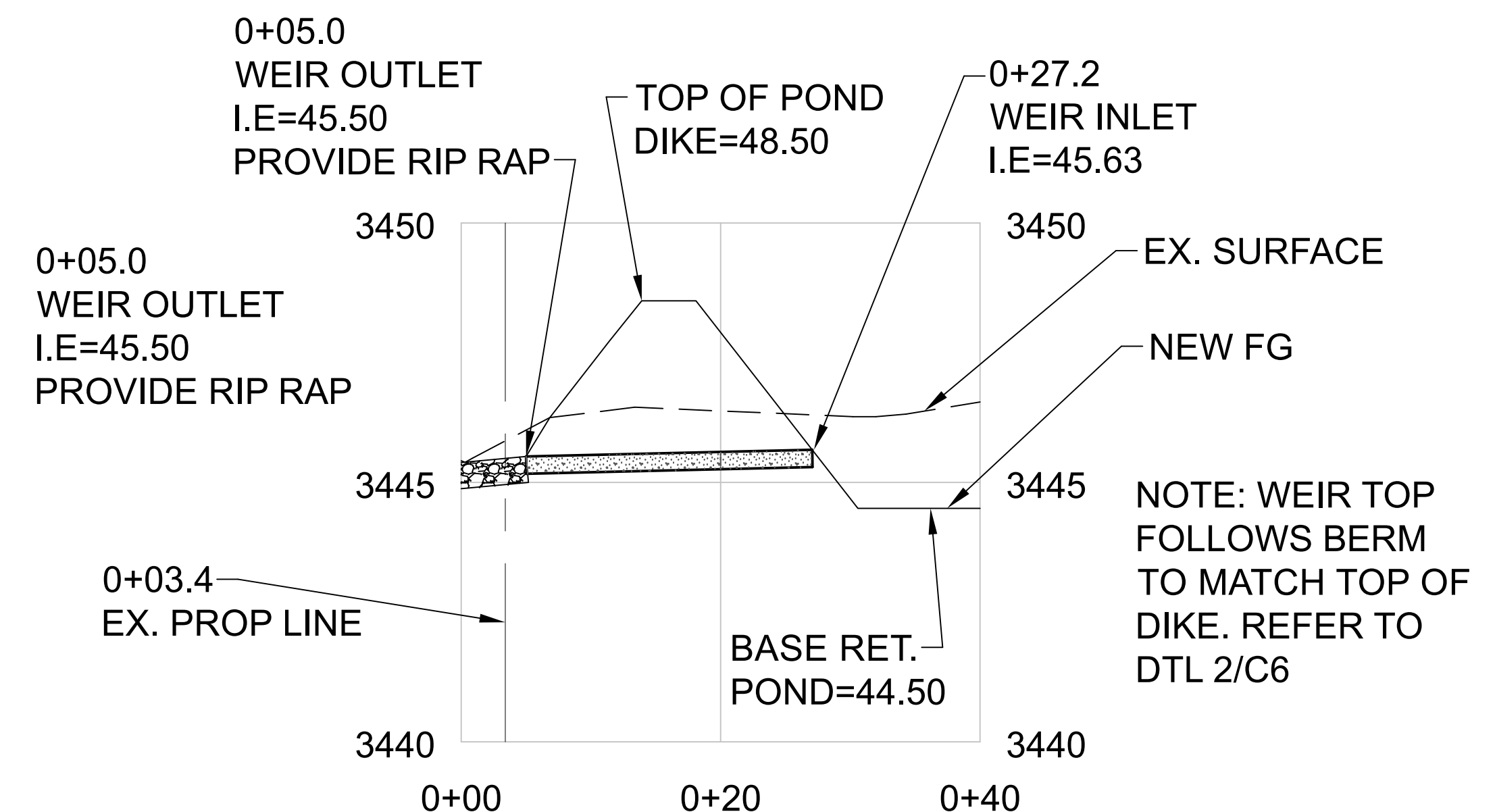
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ASSOCIATED PROJECTS: XXXX

SHEET:

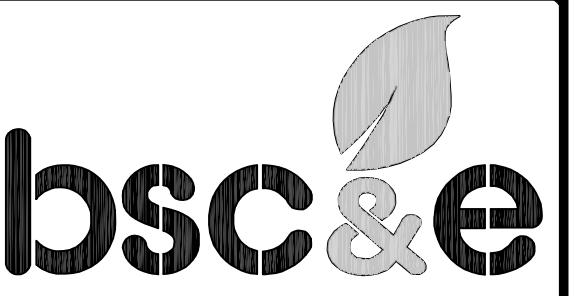
C7 OF C8



12" PVC POND OUTLET PROFILE



WEIR DISCHARGE PROFILE



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DAWAD
COMMERCIAL
DEVELOPMENT
(O.F. 1783.2)

SHEET TITLE:

STORM DRAINAGE
POND GRADING
PLAN

DRAWING INFORMATION:

BSCE PROJECT NUMBER: 18CO
OWNER FILE NUMBER: XXXX
CADD FILE NAME: 18CO-C3-GRADING
ASSOCIATED PROJECTS: XXXX

SHEET:

C8 OF C8