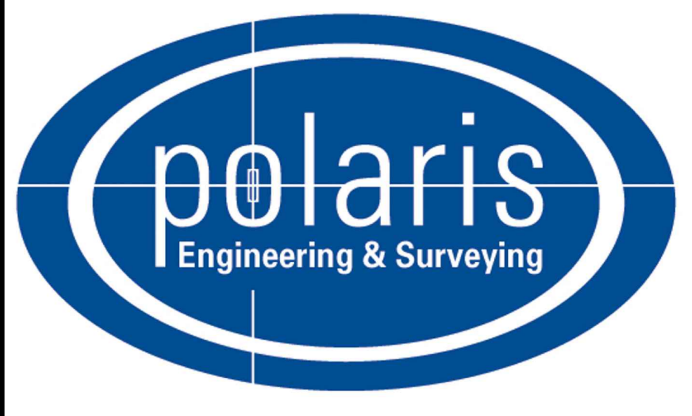


IMPROVEMENT PLANS
FOR
PRESERVE OF HUDSON
TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

OCTOBER, 2024

DESIGNED BY:



POLARIS ENGINEERING & SURVEYING, INC.

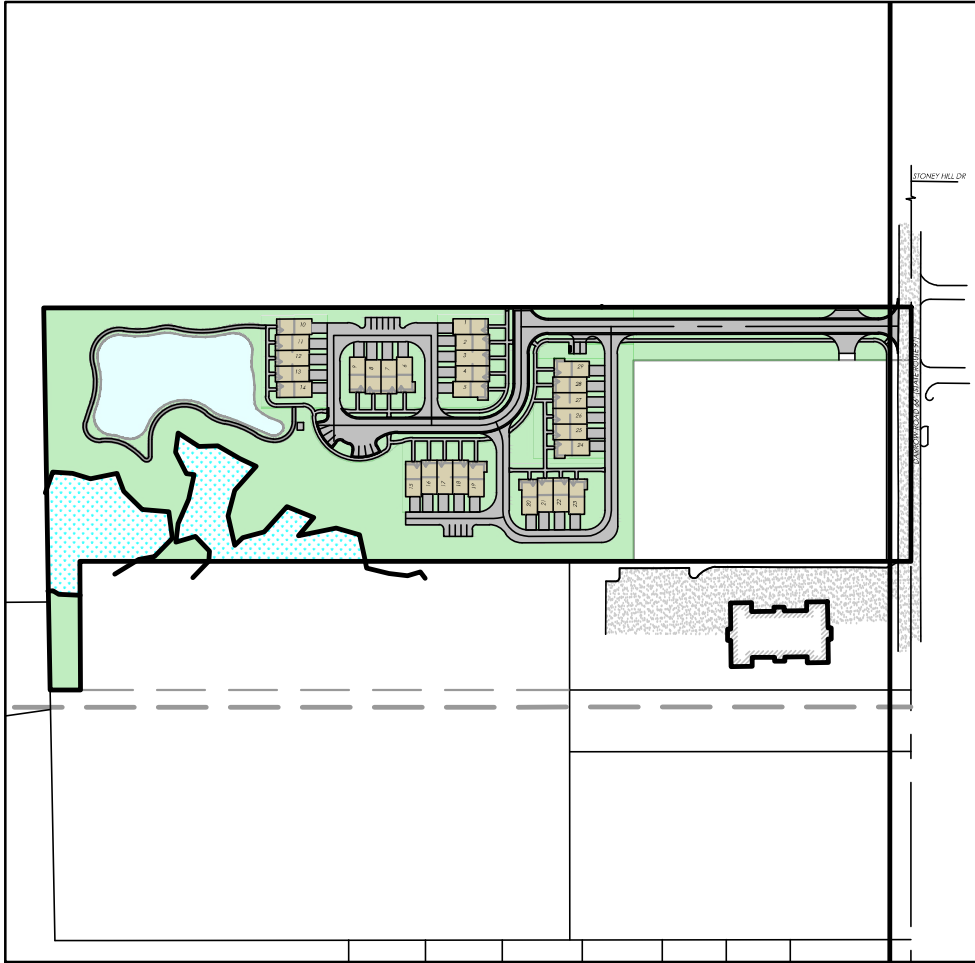
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433 (440) 944-3722 (Fax)
www.polaris-es.com

DEVELOPED BY:

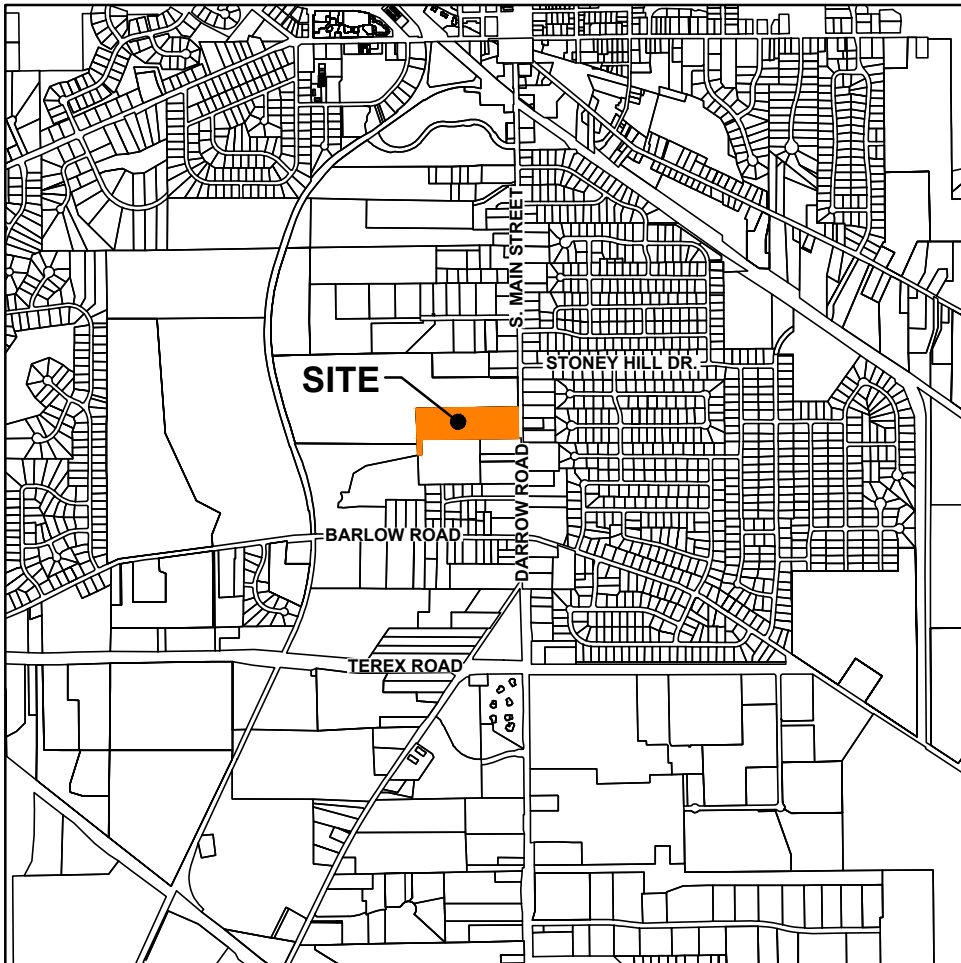
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

DRAWING INDEX

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SITE MAP
N.T.S.



VICINITY MAP
N.T.S.

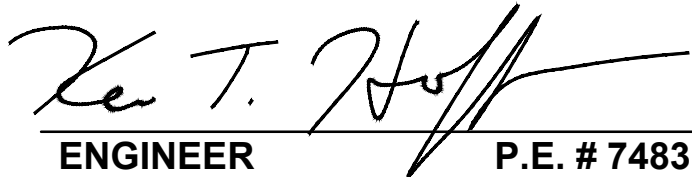
APPROVALS

SEWER APPROVED BY O.E.P.A. BY LETTER DATED: _____, 20__.

WATER APPROVED BY O.E.P.A. BY LETTER DATED: _____, 20__.

APPROVED BY THE CITY OF HUDSON, OHIO:

BY _____ DATE: _____
CITY OF HUDSON ENGINEER


ENGINEER
P.E. # 74831
10/21/24



TITLE SHEET

CONTRACT No.	
24189	
SHEET	OF
01	20

GENERAL CONSTRUCTION NOTES

1. CONSTRUCTION OF THE SITE WORK AND UTILITIES SHALL BE GOVERNED BY THE CITY OF HUDSON'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR THE PROJECT.
3. THE CONTRACTOR MUST ALERT THE OHIO UTILITY PROTECTION SERVICES AT LEAST 48 HOURS BEFORE ANY EXCAVATION IS TO BEGIN.
4. ALL EXISTING APPURTENANCES (UTILITY POLES, VALVES, HYDRANTS, MANHOLES, ETC) ARE TO BE MAINTAINED BY THE CONTRACTOR UNLESS OTHERWISE SHOWN ON THE PLANS.
5. THE DESIGN ENGINEER CERTIFIES THAT ALL UTILITIES ARE SHOWN AS THEY APPEAR ON EXISTING RECORDS OR FIELD LOCATED.
6. ALL KNOWN ABOVE AND UNDERGROUND SERVICES HAVE BEEN NOTED ON THE DRAWINGS. THE CONTRACTOR ACCEPTS FULL RESPONSIBILITY FOR ANY SERVICES DAMAGED DURING THE CONSTRUCTION OF THE PROJECT WHETHER SHOWN OR NOT ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SERVICE AS SOON AS POSSIBLE AT THE CONTRACTOR'S OWN EXPENSE.
7. VIDEO RECORDING OF PROJECT SHALL BE DELIVERED AND ACCEPTED BY THE CITY OF HUDSON ENGINEERING DEPARTMENT A MINIMUM OF 7 CALENDAR DAYS PRIOR TO START OF CONSTRUCTION ACTIVITIES.
8. NOTIFY THE CITY OF HUDSON ENGINEERING DEPARTMENT A MINIMUM OF FORTY- EIGHT HOURS (2 WORKING DAYS) PRIOR TO THE START OF CONSTRUCTION.
9. A PRECONSTRUCTION MEETING SHALL BE SCHEDULED A MINIMUM OF 48 HOURS (2 WORKING DAYS) AFTER SUBMISSION OF A MINIMUM OF 6 APPROVED SETS OF PLANS AND ALL SHOP DRAWINGS APPLICABLE TO THE PROPOSED IMPROVEMENTS. A PRECONSTRUCTION MEETING MUST BE HELD PRIOR TO START OF ANY CONSTRUCTION.
10. THE LIMITS OF CLEARING AND GRADING SHALL BE FIELD STAKED AND LINED WITH ORANGE CONSTRUCTION FENCING 48 HOURS (2 WORKING DAYS) PRIOR TO THE PRECONSTRUCTION MEETING. AREAS BEYOND THE LIMITS OF CLEARING AND GRADING SHALL NOT BE DISTURBED INCLUDING THE STOCKPILE OF ANY MATERIALS OR CONSTRUCTION TRAFFIC.
11. ALL ROAD SURFACES, EASEMENTS, OR RIGHT-OF-WAY DISTURBED BY THE CONSTRUCTION OF ANY PART OF THESE IMPROVEMENTS ARE TO BE RESTORED ACCORDING TO THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION" AS DIRECTED BY THE CITY OF HUDSON AND/OR ITS ENGINEER.
12. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY OF HUDSON OR ITS REPRESENTATIVE IF SUSPECTED HAZARDOUS MATERIAL OR ANY OTHER MATERIAL THAT MAY CREATE A HEALTH RISK IS DISCOVERED ON SITE.
13. ALL DISTURBED STORM SEWERS AND/OR APPURTENANCES, SIGNS, GUARD RAILING, MAIL AND/OR PAPER BOXES, DRIVE CULVERTS, FENCES, TREES, LANDSCAPING, OR OTHER ITEMS DISTURBED BY THE CONSTRUCTION SHALL BE RESTORED OR REPAIRED TO AT LEAST THE BEFORE-CONSTRUCTION CONDITION.
14. ANY DEFECTS DISCOVERED IN NEW CONSTRUCTION, WORKMANSHIP, EQUIPMENT OR MATERIALS SHALL BE REPAIRED, OR CORRECTED BY APPROVED METHODS AS DIRECTED BY THE CITY OF HUDSON.
15. NUCLEAR COMPACTION TESTING SHALL BE REQUIRED FOR ALL FILL AREAS OVER TWO FEET (2') IN DEPTH, AT 6" LIFTS PER ASTM A-1557, 95% MODIFIED.
16. APPROVAL BY THE CITY OF HUDSON ENGINEER CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
17. DURING TAPPING OF EXISTING UTILITIES, ANY TRAFFIC CONTROL REQUESTED OR REQUIRED BY THE CITY OF HUDSON WILL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY.
18. COMPLIANCE WITH THE OCCUPATIONAL AND SAFETY ACT OF 1970 IS REQUIRED BY ALL CONTRACTORS ON THIS PROJECT.
19. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
20. ALL DISTURBED AREAS SHALL RECEIVE 4" OF TOPSOIL AND BE SEEDED AND MULCHED AS PER SECTION 9 - LANDSCAPING AND STREET TREES OF THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
21. IF MUD, SOIL, OR OTHER DEBRIS IS DEPOSITED ON ADJACENT STREETS, ROADS, OR OTHER PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF SUCH AS DIRECTED BY THE CITY OF HUDSON OR ITS ENGINEER AT THE END OF EACH WORK DAY, OR AS REQUIRED DURING THE WORK DAY.
22. ALL PROPOSED SLOPES 3:1 OR STEEPER AND ALL EARTHEN DRAINAGE WAYS SHALL RECEIVE JUTE OR EXCELSIOR MATTING AS PER ODOT 671.
23. ALL STORM SEWERS WITHIN PUBLIC RIGHTS-OF-WAY AND CITY OF HUDSON EASEMENTS SHALL BE PER SECTION 4 - STORM COLLECTION OF THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
24. ALL PIPES SHALL BE PLACED OVER 4" OF BEDDING. BEDDING MATERIAL SHALL BE AS SPECIFIED IN CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION, FOR THE TYPE OF PIPE.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROTECTING THE FLOW OF VEHICULAR AND PEDESTRIAN TRAFFIC AROUND THE JOB SITE. TRAFFIC CONTROL SHALL BE COORDINATED WITH THE CITY OF HUDSON POLICE DEPARTMENT.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PLANT TICKETS FOR ALL MATERIALS DELIVERED TO THE SITE. PLANT TICKETS MUST SHOW NET QUANTITY OF DELIVERED MATERIAL. MATERIAL DELIVERED OR PLACED WITHOUT PLANT TICKETS SHALL BE REMOVED AND PROPERLY DISPOSED AT THE EXPENSE OF THE CONTRACTOR.
27. ALL DELIVERED MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF HUDSON OR OTHER APPLICABLE AGENCIES. THE CITY OF HUDSON, OR ITS REPRESENTATIVE, RESERVES THE RIGHT TO REJECT ANY DELIVERED MATERIAL WHICH DOES NOT CONFORM TO THE APPLICABLE STANDARDS AND SPECIFICATIONS.
28. THE CITY OF HUDSON OR ITS REPRESENTATIVE, RESERVES, THE RIGHT TO HALT ALL CONSTRUCTION ACTIVITY FOR NONCONFORMANCE OF PLANS, SPECIFICATIONS AND OTHER APPLICABLE STANDARDS OR REGULATIONS.
29. ALL CHANGES TO APPROVED DRAWINGS AND/OR SPECIFICATIONS MUST BE REAPPROVED BY THE CITY OF HUDSON PRIOR TO CONSTRUCTION.

30. ALL PAVING MATERIAL MUST BE PROVIDED BY ODOT CERTIFIED SUPPLIER. WRITTEN PROOF SHALL BE REQUIRED UPON DELIVERY OF MATERIALS. THE CERTIFIED MIX DESIGN MUST BE SUBMITTED TO, AND APPROVED BY, THE CITY OF HUDSON PRIOR TO SCHEDULING A PRECONSTRUCTION MEETING.
31. CONTRACTOR/DEVELOPER SHALL PROVIDE ALL REQUIRED ROADWAY SIGNAGE AS PER ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES INCLUDING STREET IDENTIFICATION SIGNAGE PER CITY STANDARDS FOR ALL ASPECTS OF THE IMPROVEMENT.
32. ALL BONDS AND OR LETTERS OF CREDIT SHALL NOT BE RELEASED OR REDUCED AND NO WATER OR SANITARY SEWER CUSTOMERS CAN BE CONNECTED UNTIL ALL RECORD DRAWINGS HAVE BEEN SUBMITTED, REVIEWED AND APPROVED BY THE CITY OF HUDSON.
33. ALL WORK, EXCEPT SIDEWALKS, STREET TREES AND STREET LIGHTS, AS PART OF THESE PLANS SHALL BE COMPLETED, INCLUDING PUNCH LIST ITEMS AND DEFICIENCY WORK WITHIN 1 YEAR OF THE DATE OF APPROVAL BY THE CITY ENGINEER. SIDEWALKS, STREET TREES AND STREET LIGHTS SHALL BE COMPLETED WITHIN TWO YEARS OF THE DATE OF APPROVAL BY THE CITY ENGINEER.
34. FAILURE TO COMPLETE THE PROJECT IN ITS ENTIRETY AS APPROVED BY THE PLANNING COMMISSION, INCLUDING PUNCH LIST ITEMS, WILL RESULT IN THE CITY OF HUDSON HOLDING ALL FUTURE ZONING CERTIFICATES UNTIL ALL WORK HAS BEEN COMPLETED AND APPROVED.
35. MANUFACTURERS OR SUPPLIERS AFFIDAVIT FOR ALL CONSTRUCTION MATERIALS SHALL BE PROVIDED AS PER THE CITY'S "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION PRIOR TO THE START OF CONSTRUCTION.
36. THE CONSTRUCTION OF SANITARY SEWERS, WATER MAINS, LIFT STATIONS AND APPURTENANCES IS PROHIBITED UNTIL ALL PLANS HAVE BEEN APPROVED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY.
37. ALL SANITARY SEWERS SHALL COMPLY WITH THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES.
38. SHOP DRAWINGS FOR THE PROPOSED LIGHT FIXTURES SHALL BE ATTACHED TO THE APPROVED LIGHTING PLAN AND SUBMITTED WITH THE SIX SETS OF PLANS AS REQUIRED IN NOTE 8. THE LIGHT FIXTURES SHALL HAVE A RECESSED LAMP, FLAT LENSES AND OPTIONAL HOUSE SHIELDING AVAILABLE. THE CITY MAY REQUIRE HOUSE SHIELDS TO BE ADDED AND OTHER MODIFICATIONS AFTER CONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR.
39. THE OWNER SHALL SUBMIT A NOTICE OF INTENT (N.O.I) APPLICATION TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY (E.P.A) AND OBTAIN AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (N.P.D.E.S) OR THE LATEST FEDERAL, STATE AND/OR LOCAL REGULATIONS. THE OWNER SHALL SUBMIT A COPY OF THE N.P.D.E.S. PERMIT TO THE CITY OF HUDSON 48 HOURS (2 WORKING DAYS) PRIOR TO SCHEDULING A PRECONSTRUCTION MEETING.
40. ALL EXCESS EXCAVATED MATERIAL WHICH HAS BEEN STOCKPILED AT THE WORK SITE, AND WHICH WILL NOT BE USED FOR BACKFILL OR OTHER FILL PURPOSES, SHALL BE REMOVED FROM THE PROJECT AREA WITHIN 48 HOURS OF THE EXCAVATION IN ACCORDANCE WITH SECTION 1.20 OF THE ENGINEERING STANDARDS.
41. ACTIVITIES AND LAND ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM WITHOUT PRIOR APPROVAL OF THE ENGINEER. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.
42. THERE SHALL BE NO WORK ON PRIVATE PROPERTY WITHOUT WRITTEN CONSENT FROM THE CITY AND THE PRIVATE PROPERTY OWNER.

WATERWORK NOTES

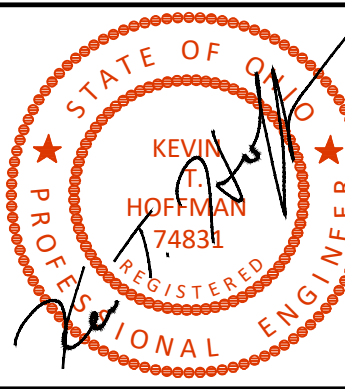
CITY OF HUDSON WATER SERVICE AREA

NOTE: THESE WATER WORK NOTES APPLY TO AREAS OF HUDSON THAT ARE TO BE SERVED WITH CITY OF HUDSON WATER.

1. ALL WATER MAINS AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION", LATEST EDITION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY AND ALL AREAS ALONG THE ROUTE OF THE WATER MAIN. THIS WILL INCLUDE LAWNS, DRIVES, DITCHES, CULVERTS, LANDSCAPING, ETC, AND ANY OTHER AREAS DISTURBED DURING THE CONSTRUCTION PROCESS.
3. ALL TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF HUDSON "ENGINEERING STANDARDS FOR INFRASTRUCTURE CONSTRUCTION" AND BE COORDINATED WITH THE CITY OF HUDSON. AWWA C-600 PRESSURE TESTING AND C-651 DISINFECTION BY CHLORINATION OF THE WATER MAIN WILL BE REQUIRED.
4. ALL PROPOSED TRENCHES LOCATED UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE FILLED WITH LOW STRENGTH MORTAR. THE METHOD OF BACKFILLING AS DIRECTED BY THE ENGINEER, SHALL CONFORM TO ODOT 613 TYPE 1. SLAG OR FLY ASH IS NOT PERMITTED IN MIX. PAVEMENT INCLUDES, BUT IS NOT LIMITED TO, ROADWAY SURFACES, SIDEWALKS, BIKE WAYS, DRIVEWAYS, SHOULDERS, ETC. THE LIMITS OF THE LOW STRENGTH MORTAR SHALL INCLUDE 45° ANGLE OF REPOSE FROM ALL EDGES OF PAVEMENT.
5. FIELD STAKING AND RECORD DRAWINGS SHALL BE PROVIDED TO THE CITY BY THE CONTRACTOR, AS SUPERVISED AND STAMPED BY A LICENSED PROFESSIONAL SURVEYOR. RECORD DRAWINGS (AS BUILT'S) IN BOTH REPRODUCIBLE AND DIGITAL FORMAT COMPATIBLE WITH THE CITY OF HUDSON STANDARDS TO BE SUBMITTED TO AND APPROVED BY THE CITY OF HUDSON PRIOR TO UTILITY SERVICE CONNECTIONS BEING MADE.
6. A 4" MINIMUM HORIZONTAL CLEARANCE AND A 12" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF THE WATER MAIN PIPE TO THE EDGE OF THE STORM SEWER PIPE.
7. A 10" MINIMUM HORIZONTAL CLEARANCE AND AN 18" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE EDGE OF THE WATER MAIN PIPE TO THE EDGE OF ALL SANITARY SEWERS AND/OR FORCE MAIN PIPE.
8. ALL VALVES, FITTINGS, BENDS, TEES, ETC. SHALL HAVE MEGALUG JOINT RESTRAINTS BY EBBA IRON, INC.
9. ALL WATER MAINS WITHIN LOW STRENGTH MORTAR BACKFILL SHALL BE WRAPPED IN POLYETHYLENE AS PER AWWA C-105. OTHER AREAS TO BE WRAPPED IN POLYETHYLENE SHALL BE AS SHOWN ON THE DRAWINGS, AS DETERMINED FROM DIPRA REPORT OR AS REQUIRED BY THE CITY.
10. WHERE WATER MAINS CROSS SEWER TRENCHES, THE TRENCH IS TO BE BACKFILLED WITH ODOT 304 CRUSHED LIMESTONE.

11. TAPPING SLEEVES SHALL BE ROMAC TYPE, WRAP AROUND STAINLESS STEEL WITH # 316 STAINLESS STEEL BOLTS AND NUTS.
12. MANUFACTURER'S AFFIDAVIT: THE MANUFACTURER SHALL FURNISH AN AFFIDAVIT INDICATING THAT ALL PIPE, FITTINGS, VALVES, FIRE HYDRANTS, AND APPURTENANCES HAVE BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE REFERENCED STANDARDS. A COPY OF EACH AFFIDAVIT, INDICATING THE PROJECT ON WHICH THE MATERIAL IS TO BE USED SHALL BE FORWARDED TO THE CITY OF HUDSON PRIOR TO THE PRECONSTRUCTION MEETING BEING SCHEDULED.
13. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE CITY MAY GRANT SPECIAL PERMISSION FOR BUILDINGS FOUR STORIES AND HIGHER WITH A FIRE SUPPRESSION SYSTEM.
14. PROPOSED FACILITIES SHALL BE DESIGNED TO MAINTAIN A MINIMUM OF 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
15. ALL WATER MAINS GREATER THAN 12 INCH DIAMETER SHALL BE LAID TO GRADE WITH HIGH POINTS AND LOW POINTS HAVING ADEQUATE BLOW-OFFS VIA USE OF HYDRANTS.
16. FOR ALL NON-RESIDENTIAL WATER SERVICE, A BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED PER CITY OF HUDSON AND OEPA STANDARDS AND REQUIREMENTS. FOR RESIDENTIAL WATER SERVICE A BACKFLOW PREVENTION DEVICE MAY BE REQUIRED FOR SWIMMING POOLS, IRRIGATION SYSTEMS, ETC. CONTACT THE CITY SERVICE/WATER DISTRIBUTION DEPARTMENT FOR THE REQUIREMENTS AND STANDARDS FOR BACKFLOW PREVENTION, THERMAL EXPANSION CONTROL, ETC.
17. ALL WATER METER SETTINGS MUST BE APPROVED BY THE CITY OF HUDSON. METERS SHALL BE MAGNETIC DRIVE, WITH A SCANCODE REMOTE READ, MUST READ IN CUBIC FEET, SET WITH VALVES BEFORE AND AFTER THE METER. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO PROVIDE AND RUN A REMOTE WATER METER WIRE FROM THE PROPOSED WATER METER LOCATION TO THE VICINITY OF THE PROPOSED ELECTRIC METER LOCATION. CONTACT THE CITY SERVICE/WATER DISTRIBUTION DEPARTMENT FOR THE COMPLETE STANDARDS AND REQUIREMENTS FOR WATER METERS, PRESSURE REGULATORS, ETC.
18. FOR NEW WATER MAIN CONSTRUCTION THE DRAWINGS SHALL HAVE BEEN REVIEWED BY THE OHIO EPA AND WRITTEN APPROVAL RECEIVED PRIOR TO THE START OF CONSTRUCTION.
19. ALL WATER SHUT DOWNS SHALL BE PLANNED FOR MONDAY THROUGH WEDNESDAY ONLY.

REV. No.		DATE	BY		DATE: 10/21/24. DRAWN: NMO SCALE: HOR. 1"=00' VERT. 1"=00' FOLDER: DWG/Proj. Engineering FILENAME: 24189 T.N.D TAB: XX BNDY. CHK: N/A BASE. CHK: N/A



SYMBOL LEGEND											
⊗	Ex. Clean Out	⊙	Ex. Sanitary Manhole	°C	Ex. Gas Marker	☎	Ex. Telephone Box	⌚	Ex. Yard Light	🌳	Ex. Tree
■	Ex. Catch Basin	●	Prop. Sanitary Manhole	⚙️	Ex. Water Valve	⚡	Ex. Electrical Box	→	Ex. Guy Wire	🌲	Ex. Pine Tree
■	Prop. Catch Basin	▬	Prop. Curb Inlet	⊗	Ex. Water Meter	📺	Ex. Power Transformer	⌚	Ex. Light Pole	🌳	Ex. Bush
⦿	Ex. Yard Drain	▬	Ex. Curb Inlet	🔥	Ex. Fire Hydrant	📺	Cable TV Box	☀️	Prop. Light Pole	🌳	Ex. Stump
○	Ex. Manhole	⊗	Ex. Storm Inlet MH	🔥	Prop. Hydrant	⚡	Ex. Power Pole	📶	Traffic Signal Pole	📧	Ex. Mailbox
○	Ex. Storm Manhole	⊗	Ex. Gas Meter	⊗	Prop. WL Valve	⚡	Ex. Light Power Pole	📶	Traffic Signal Box	🔍	Test Bore
●	Prop. Storm Manhole	⊗	Ex. Gas Valve	⚡	Well			⌚	Ex. Sign	🚧	Guard Post



O.U.P.S. REFERENCE

2 WORKING DAYS BEFORE YOU DIG CALL 8-1-1
OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS
MUST BE CALLED DIRECT

EXISTING UNDERGROUND UTILITIES NOTE:
THE SIZE AND LOCATION, BOTH HORIZONTAL AND VERTICAL OF THE UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED HEREON. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED. WHERE PRACTICAL, HOWEVER, POLARIS ENGINEERING & SURVEYING, INC. DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

NOTE: THIS SURVEY SUBJECT TO CHANGE UPON RECEIPT OF ANY ADDITIONAL AVAILABLE UNDERGROUND UTILITY INFORMATION.

PRESERVE OF HUDSON TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
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WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433 (440) 944-3722 (Fax)
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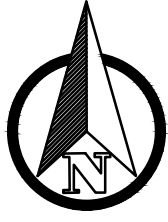
GENERAL NOTES

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

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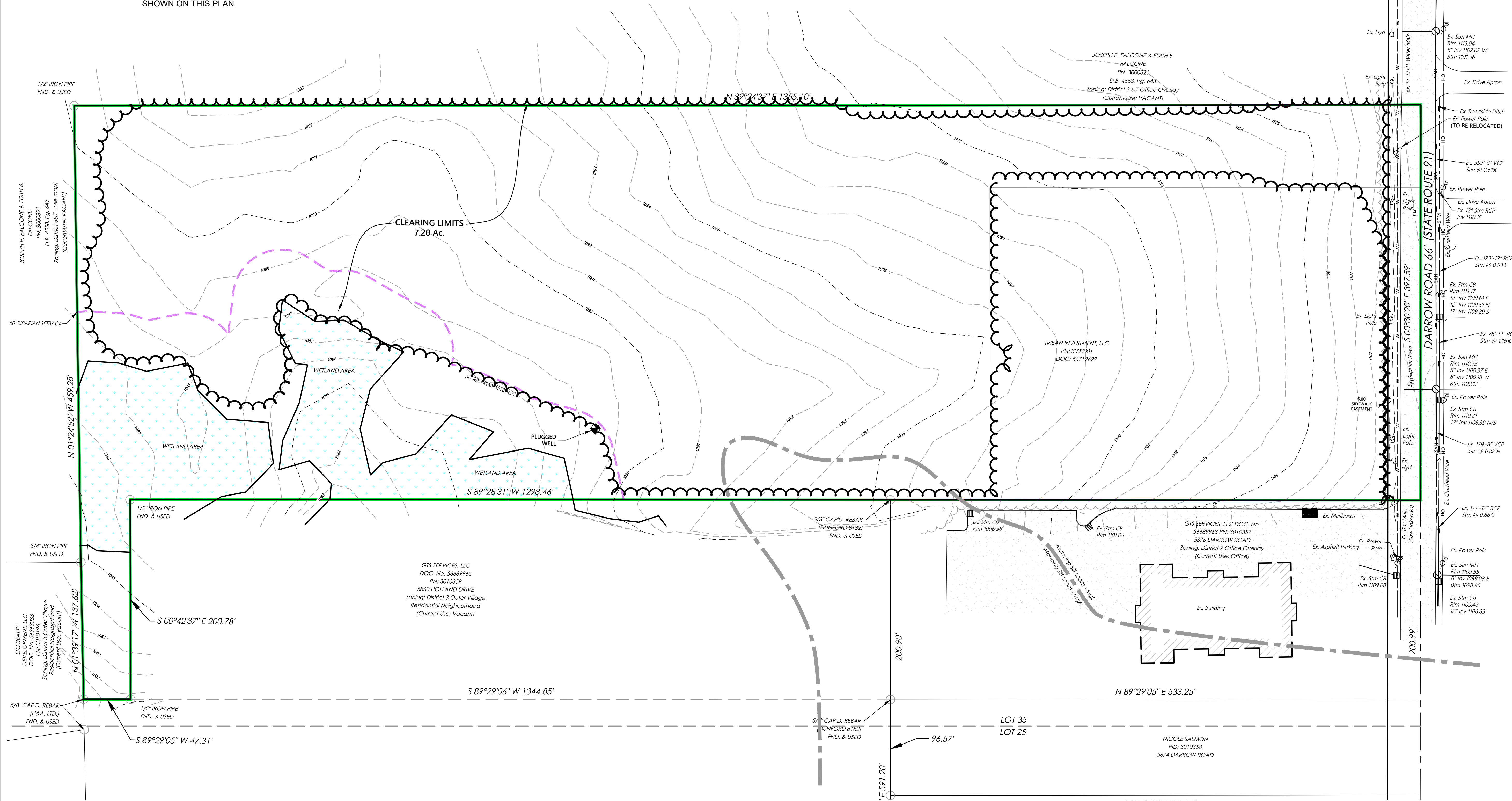


SURVEY NOTE:
BOUNDARY SURVEY INFORMATION SHOWN ON THIS PLAN IS FROM A SURVEY PERFORMED BY: GBC DESIGN, INC.
DATED: 07/31/24

TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THIS PLAN IS FROM A SURVEY PERFORMED BY: CAMPBELL & ASSOCIATES, INC.
DATED: 04/09/24

POLARIS ENGINEERING AND SURVEYING, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN.

WETLAND NOTE:
WETLANDS SHOWN PER DELINEATION PREPARED BY: HZW ENVIRONMENTAL CONSULTANTS, INC.
DATED: 08/05/24



REV. No.		DATE	BY

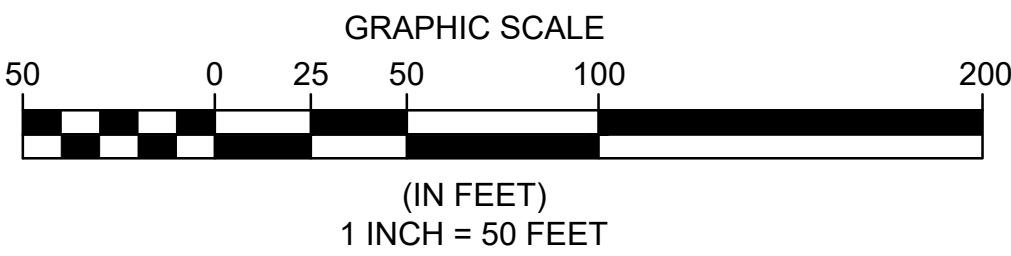
STATE OF OHIO

PROFESSIONAL ENGINEER

KEVIN HOFFMAN

74831

DATE: 10/21/24 DRAWN: NMO
SCALE: HOR. 1"=50' VERT. 1"=00'
FOLDER: DWG/Proj. Engineering
FILENAME: 24189 Improvements Plans
TAB: 03-Existing Conditions
BNDY. BY: GBC
BASE. BY: NMO



Ex. Clean Out	Ex. Sanitary Manhole	Ex. Gas Marker	Ex. Telephone Box	Ex. Tree	Ex. Monument Box
Ex. Catch Basin	Prop. Sanitary Manhole	Ex. Water Valve	Ex. Electrical Box	Ex. Pine Tree	Irrigation Valve
Prop. Catch Basin	Prop. Curb Inlet	Ex. Water Meter	Ex. Power Transformer	Ex. Bush	Sprinkler Control Box
Ex. Yard Drain	Ex. Curb Inlet	Ex. Fire Hydrant	Cable TV Box	Ex. Stump	Sprinkler Head
Ex. Manhole	Ex. Storm Inlet MH	Prop. Hydrant	Ex. Power Pole	Ex. Mailbox	Test Bore
Ex. Storm Manhole	Ex. Gas Meter	Prop. W/L Valve	Ex. Light Power Pole	Ex. Sign	Guard Post
Prop. Storm Manhole	Ex. Gas Valve			Electrical Outlet	

**PRESERVE OF HUDSON
TOWNHOMES**

CITY OF HUDSON - SUMMIT COUNTY - OHIO

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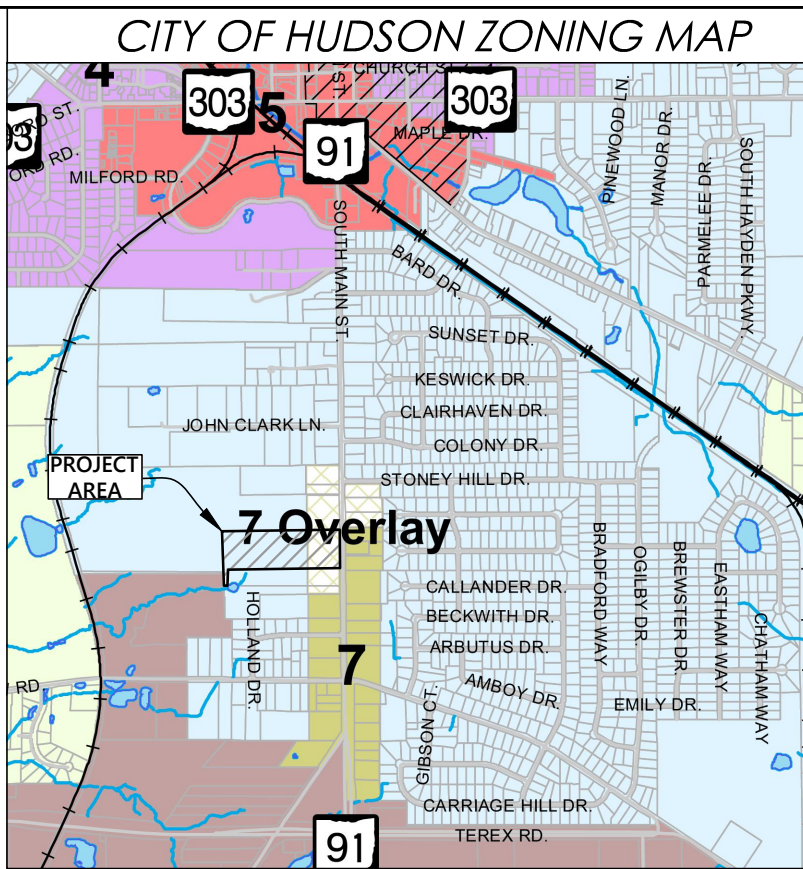
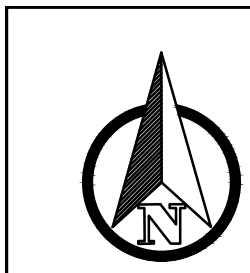
EXISTING CONDITIONS

PREPARED FOR:
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7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

SHEET	OF
03	20



- Legend**
- Railroads
 - Lakes & Ponds
 - Historic District
 - Rivers & Streams
 - Parcels
 - Hudson Boundary
- Districts**
- 1-Suburban Residential Nhd.
 - 2-Rural Residential Conservation
 - 3-Outer Village Residential Nhd.
 - 4-Historic Residential Nhd.
 - 5-Village Core District
 - 6-Western Hudson Gateway
 - 7-Outer Village Commercial Corridor
 - District 7 Office Overlay
 - 8-Industrial/Business Park
 - District 8 HB Senior Housing Overlay
 - 9-Darrowsville Commercial Corridor
 - 10-Ravenna Road Corridor

SITE AREA SUMMARY

TOTAL PARCEL AREA: 12.542 AC. (PIN3003001)
PRESERVE OF HUDSON: 9.353 AC.
FUTURE DEVELOPMENT: 2.888 AC.
AREA IN DARROW R/W: 0.301 AC.

PERVIOUS CALCULATION AREA: 6.570 AC. (See Open Space Summary)

IMPERVIOUS CALCULATION:

BUILDINGS 38,616 S.F. (0.887 AC.)
ROAD 46,990 S.F. (1.079 AC.)
WALKS/DRIVES 23,204 S.F. (0.533 AC.)
TOTAL IMPERVIOUS 108,810 S.F. (2.50 AC) (29%) < 40% MAX - OK

FLOOR AREA TO LOT RATIO - 0.887 AC./9.353 AC. = 9.5%

OPEN SPACE SUMMARY

GREENSPACE	S.W.M.	WETLANDS	TOTAL
4.690 AC.	0.740 AC.	1.14 AC.	6.570 AC.

STORM WATER MANAGEMENT

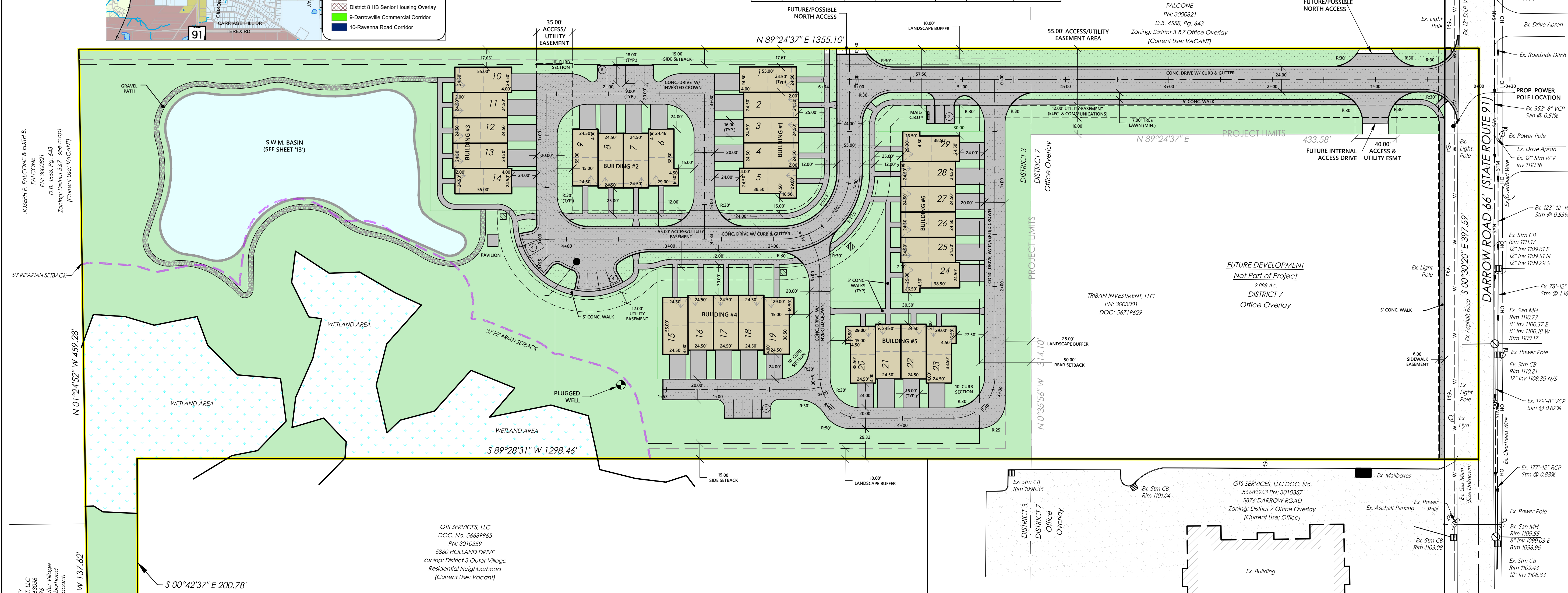
WETLANDS

DISTRICT 3 (DENSITY CALCULATION)

AREAS (Acres)					DENSITY	
GROSS LAND TO R/W	IN DIST. 7	IN DIST. 3	IN WET-LAND	IN EASEMENTS RIGHT-OF-WAY & PUBLIC OPEN SPACE	NET LAND DIST. 3	ALLOWABLE PROPOSED
9.353	0.763	8.590	1.14	0	7.450	29

Project Narrative

This Project Consists of a 29 Townhome Development on 9.35 Acres of Land which is zoned both District 3 and District 7 (400' depth fronting on Darrow Road). The remaining 2.888 Acres of the parcel will not be part of the project and will be reserved for future office development. Townhomes are permitted as a conditional use in District 3. The townhome units will be platted as condominium units in a condominium development. The adjacent property to the North & West is Zoned Similarly and is currently undeveloped (vacant/woods). The abutting property to the southwest is zoned District 3 and is also undeveloped. An existing office complex is located to the southeast property on lands located in the District 7 Office Overlay area. The Property on the opposite side of Darrow Road is zoned Outer Village Commercial Corridor and includes Retail & Automotive Uses.



BUILDING SUMMARY TABLES
(The use of All Buildings is "Townhomes")

Building #1	Lot Area (sf)	1st Floor Area (sf)	2nd Floor Area (sf)	Garage Floor Area (sf)	Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 1	3039	700	1183	489	2372	2	35	1100.17	Slab
SL 2	2524	700	1183	489	2372	2	35	1100.17	Slab
SL 3	2524	700	1183	489	2372	2	35	1100.17	Slab
SL 4	2524	700	1183	489	2372	2	35	1100.17	Slab
SL 5	3902	700	1183	489	2372	2	35	1100.17	Slab
Totals	14513	3500	5915	2445	11860				

Building #2	Lot Area (sf)	1st Floor Area (SF)	2nd Floor Area (SF)		Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 6	4319	700	1183	489	2372	2	35	1099.17	Slab
SL 7	2524	700	1183	489	2372	2	35	1099.17	Slab
SL 8	2524	700	1183	489	2372	2	35	1097.67	Slab
SL 9	3856	700	1183	489	2372	2	35	1097.67	Slab
Totals	13223	2800	4732	1956	9488				

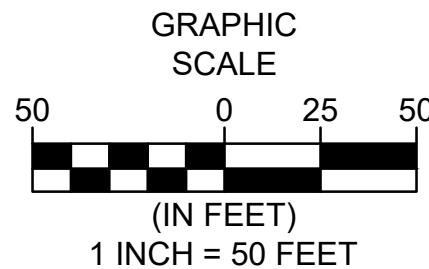
Building #3	Lot Area (sf)	1st Floor Area (sf)	2nd Floor Area (sf)	Garage Floor Area (sf)	Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 10	3038	700	1183	489	2372	2	35	1096.67	Slab
SL 11	2524	700	1183	489	2372	2	35	1096.67	Slab
SL 12	2524	700	1183	489	2372	2	35	1096.67	Slab
SL 13	2524	700	1183	489	2372	2	35	1096.67	Slab
SL 14	4223	700	1183	489	2372	2	35	1096.67	Slab
Totals	14833	3500	5915	2445	11860				

Building #4	Lot Area (sf)	1st Floor Area (sf)	2nd Floor Area (sf)	Garage Floor Area (sf)	Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 15	3182	700	1183	489	2372	2	35	1097.67	Slab
SL 16	2645	700	1183	489	2372	2	35	1097.67	Slab
SL 17	2646	700	1183	489	2372	2	35	1097.67	Slab
SL 18	2646	700	1183	489	2372	2	35	1097.67	Slab
SL 19	4556	700	1183	489	2372	2	35	1097.67	Slab
Totals	15675	3500	5915	2445	11860				

Building #5	Lot Area (sf)	1st Floor Area (sf)	2nd Floor Area (sf)	Garage Floor Area (sf)	Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 20	4341	700	1183	489	2372	2	35	1098.67	Slab
SL 21	2523	700	1183	489	2372	2	35	1098.67	Slab
SL 22	2523	700	1183	489	2372	2	35	1098.67	Slab
SL 23	4544	700	1183	489	2372	2	35	1098.67	Slab
Totals	13931	2800	4732	1956	9488				

Building #6	Lot Area (sf)	1st Floor Area (sf)	2nd Floor Area (sf)	Garage Floor Area (sf)	Gross Floor Area (sf)	Stories	Height (ft)	1st FinFlr.	Foundation Type
SL 24	3127	700	1183	489	2372	2	35	1098.67	Slab
SL 25	2597	700	1183	489	2372	2	35	1098.67	Slab
SL 26	2597	700	1183	489	2372	2	35	1100.67	Slab
SL 27	2597	700	1183	489	2372	2	35	1100.67	Slab
SL 28	2529	700	1183	489	2372	2	35	1100.67	Slab
SL 29	2987	700	1183	489	2372	2	35	1100.67	Slab
Totals	10918	2800	4732	1956	9488				

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			FOLDER: DWG/Proj. Engineering
			FILENAME: 24189 Improvement Plans
			TAB: 04-Development Plan
			BNDRY. BY: GBC
			BASE. BY: NMO



PRESERVE OF HUDSON TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
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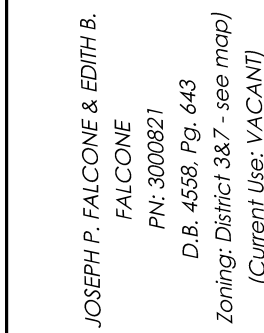
DEVELOPMENT PLAN

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

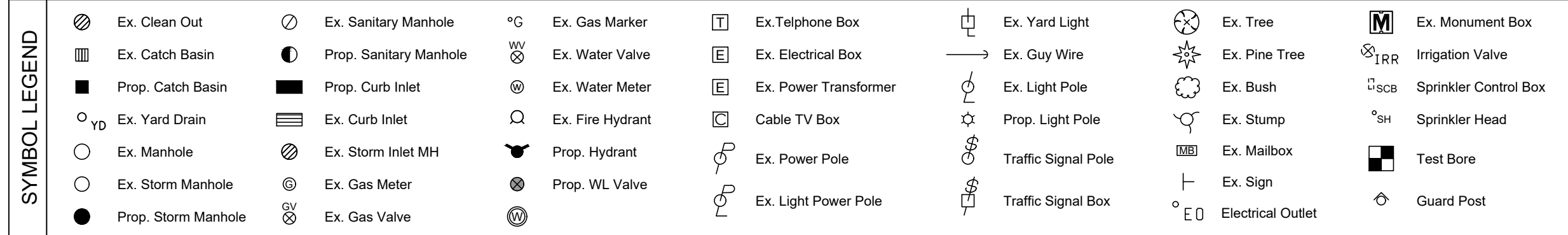
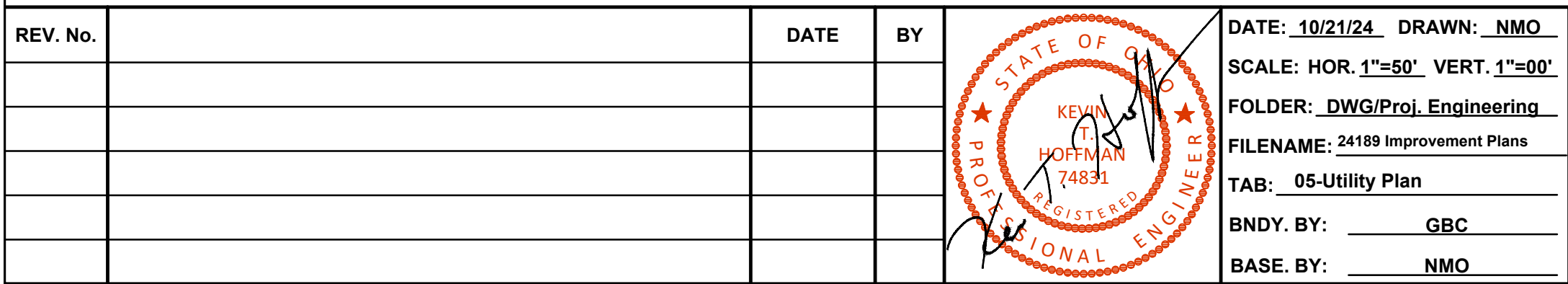
24189

SHEET	OF
04	20



JOSEPH P. FALCONE & EDITH B.
FALCONE
PN: 3000821
D.B. 4558, Pg. 643
Zoning: District 3&7 - see map)
(Current Use: VACANT)

LTC REALTY
DEVELOPMENT, LLC
DOC. No. 56363038
PN: 3010196

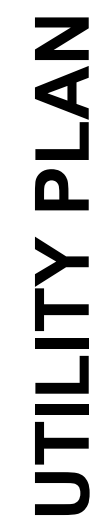


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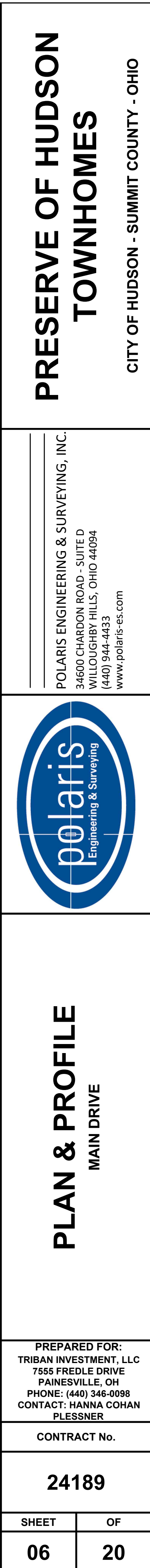
PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

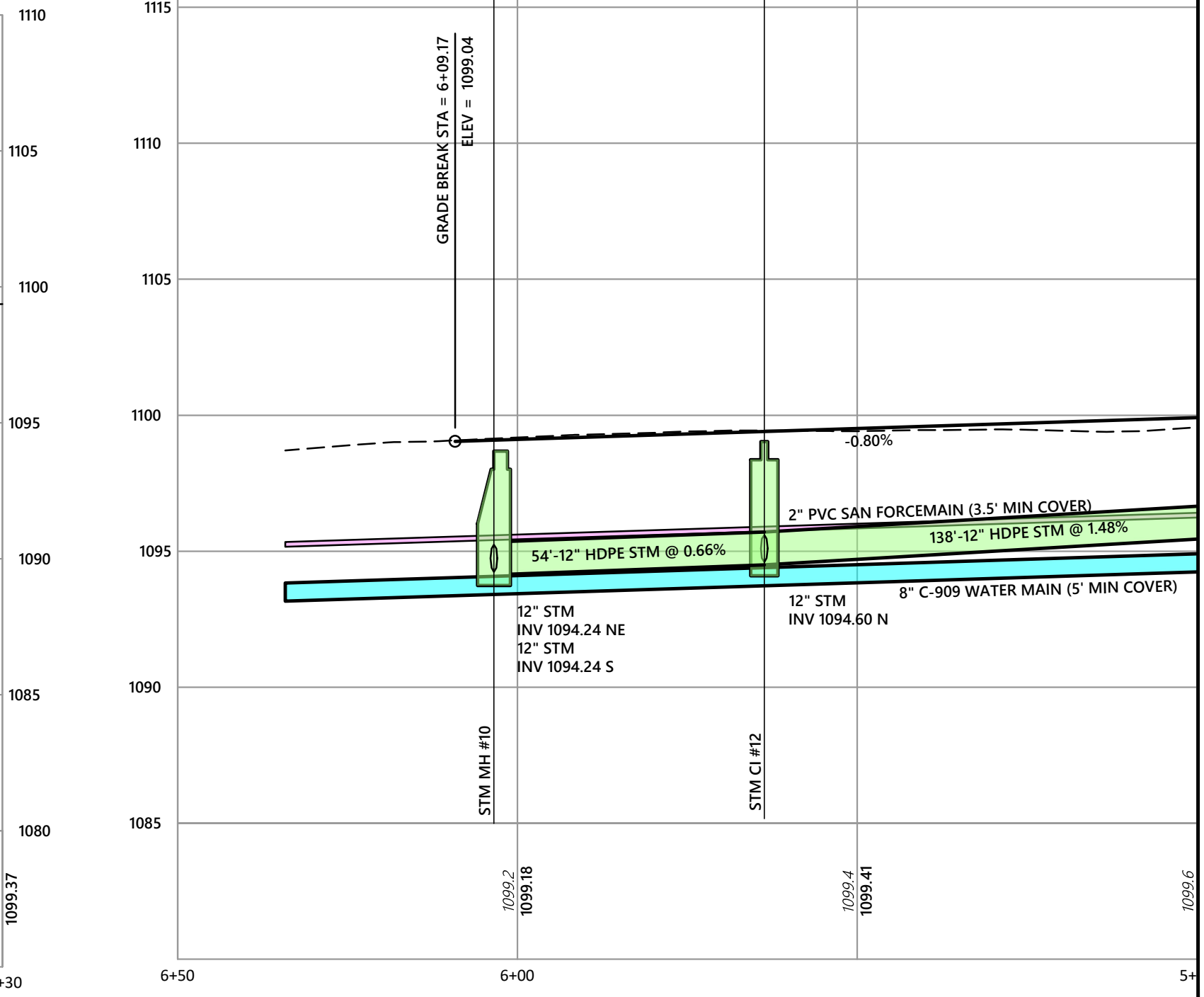
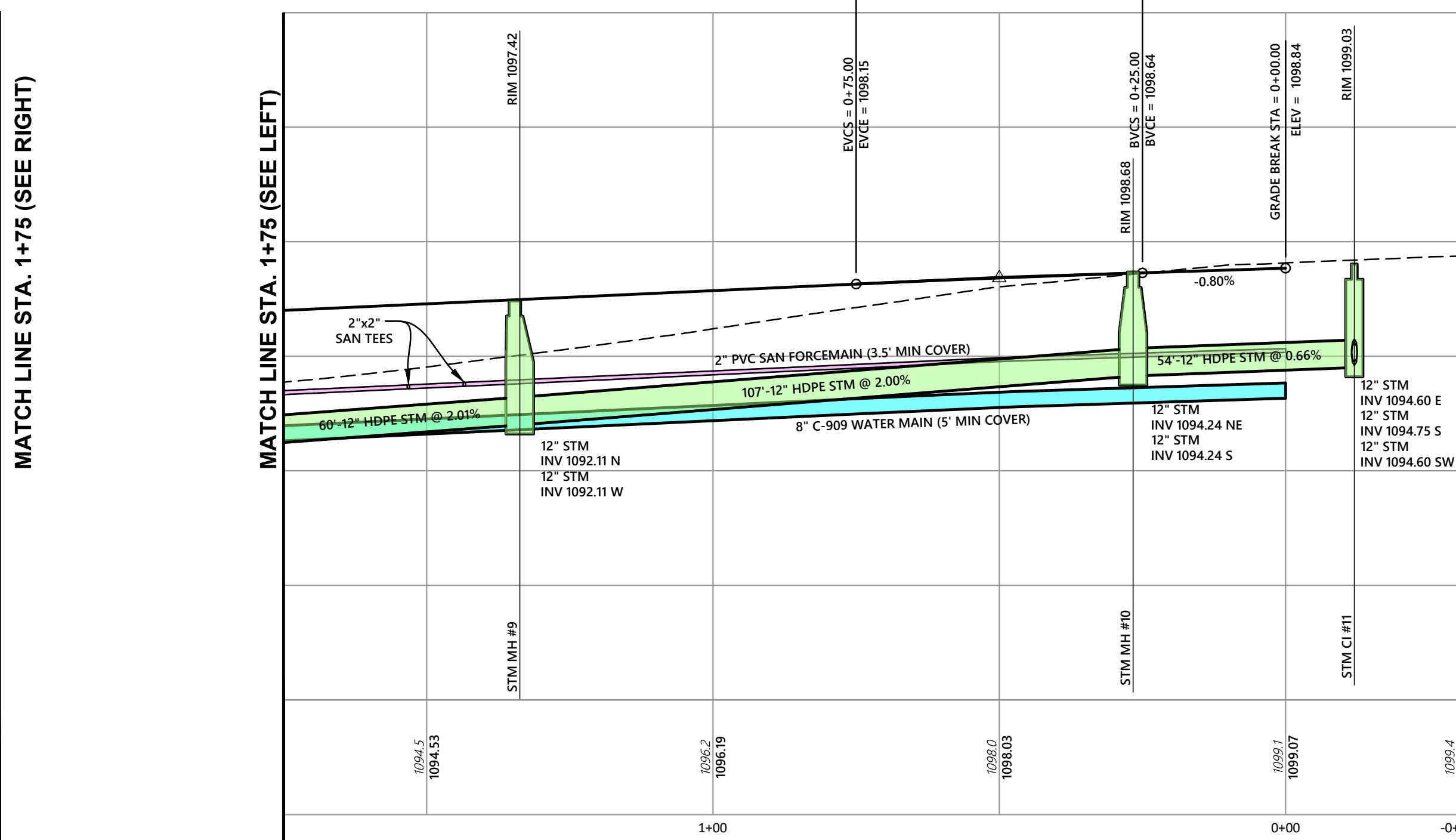
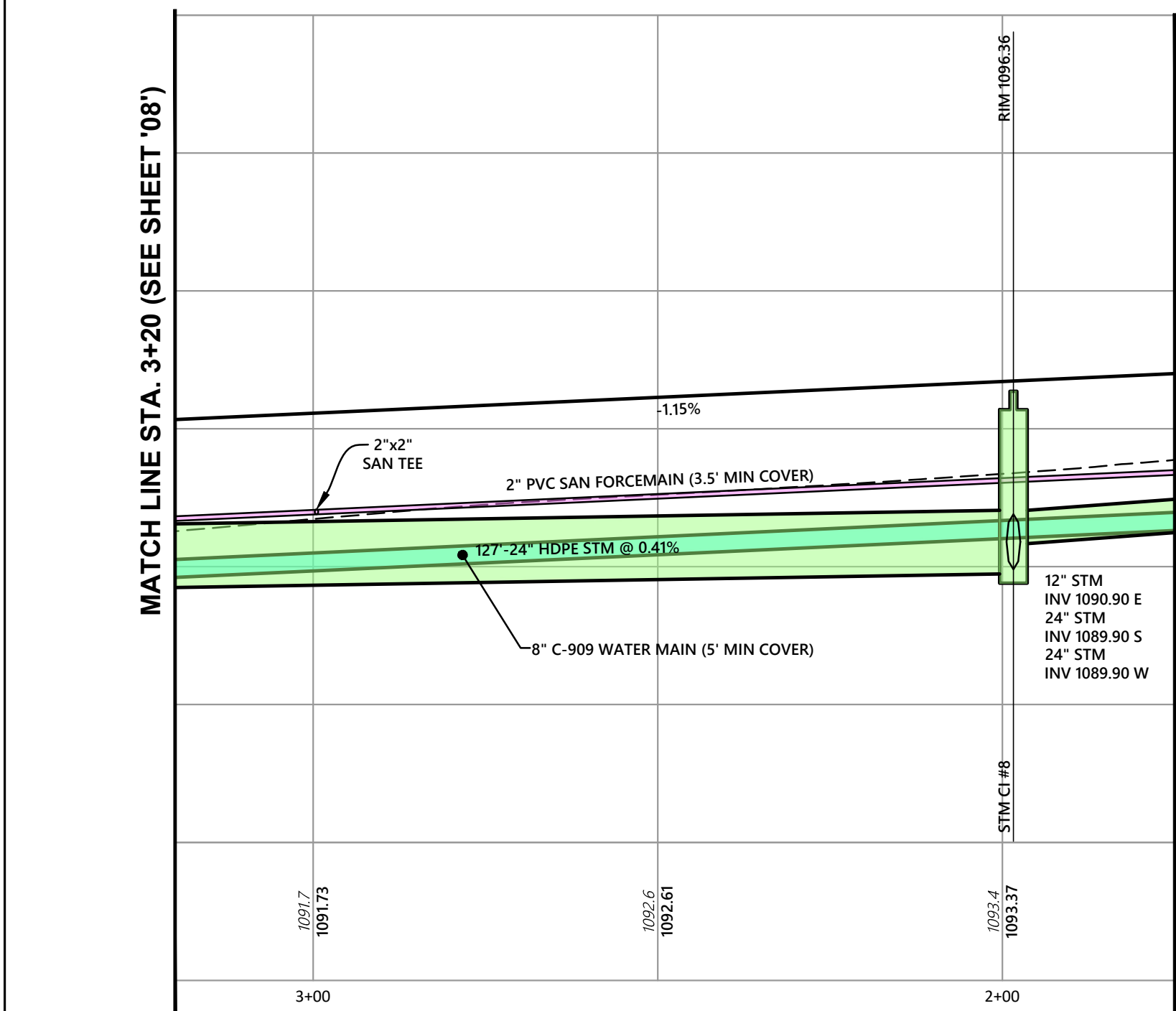
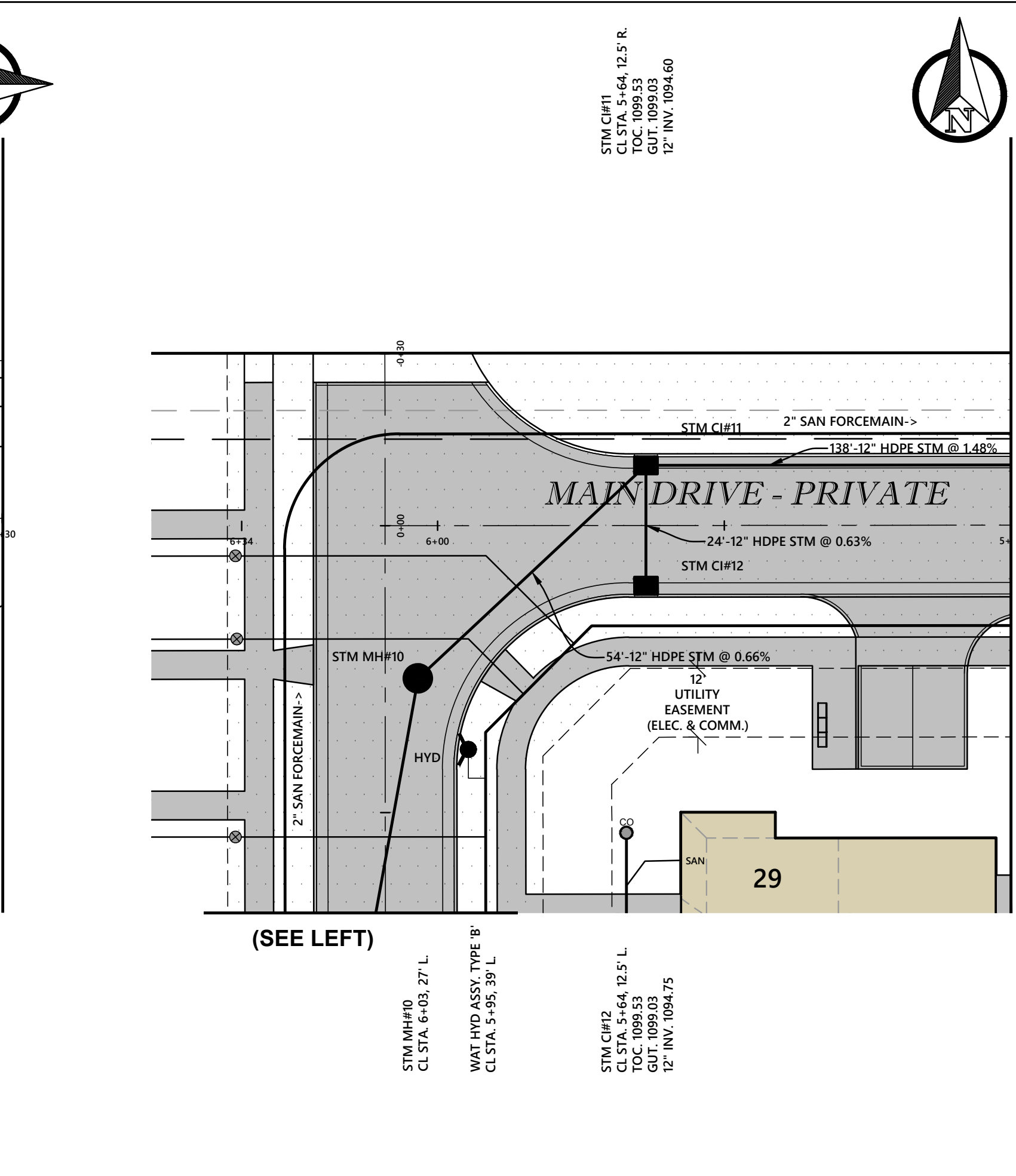
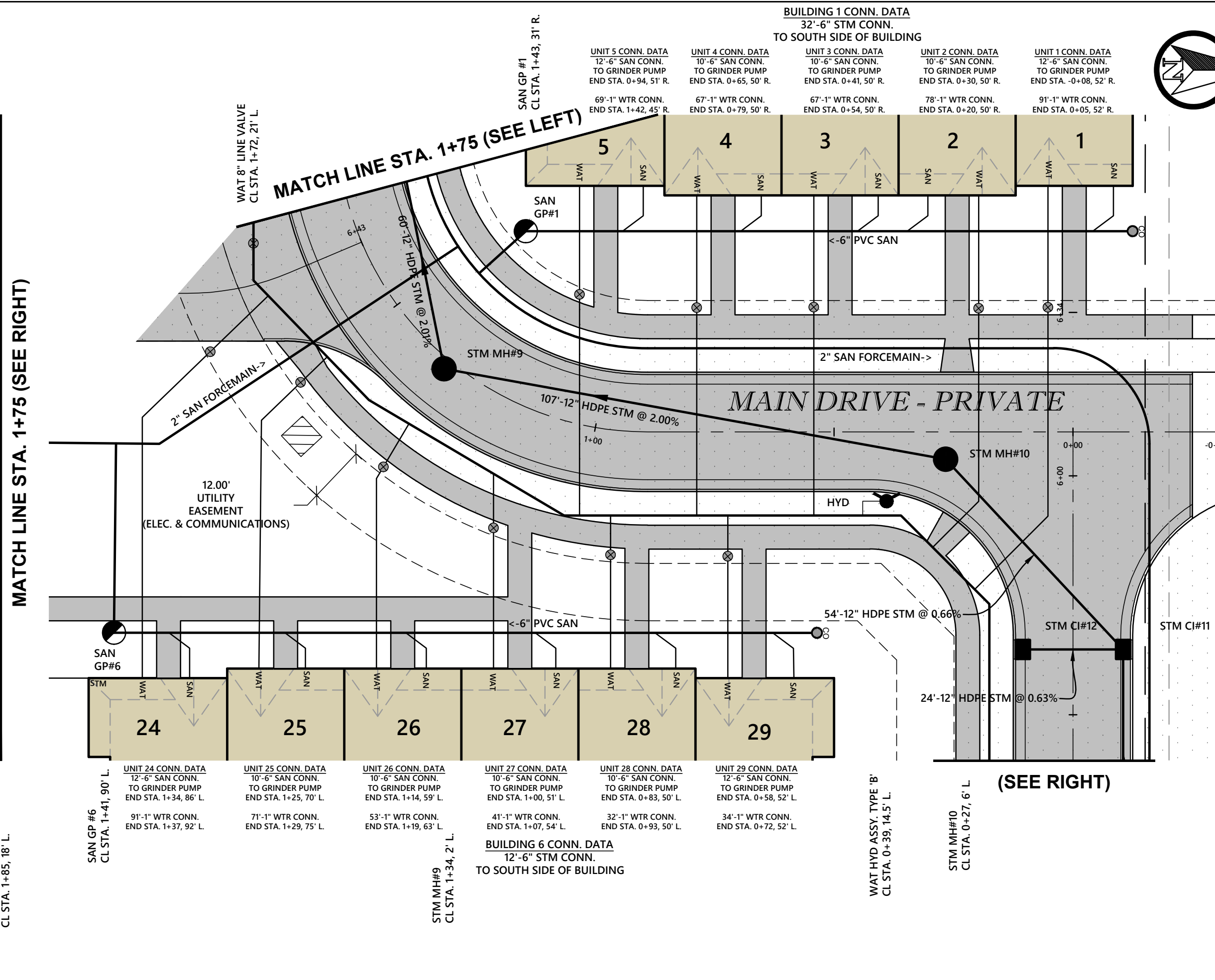
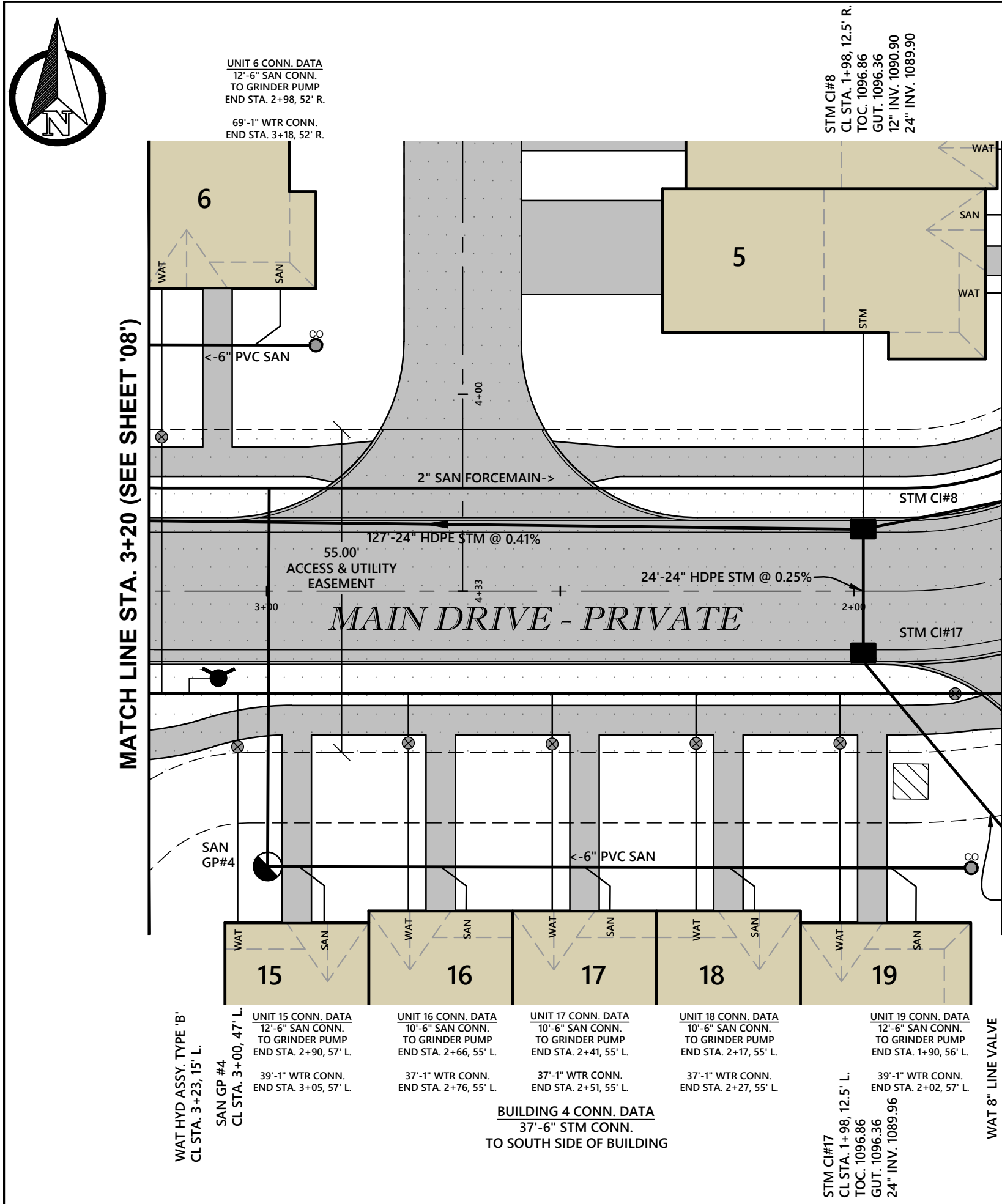
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					FILENAME: <u>24189 Improvement Plans</u>
					TAB: <u>06-Plan & Profile</u>
					BNDY. BY: <u>GBC</u> BASE. BY: <u>NMO</u>



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DATE: 10/21/24. DRAWN: NMO

SCALE: HOR. 1"=50' VERT. 1"=20'

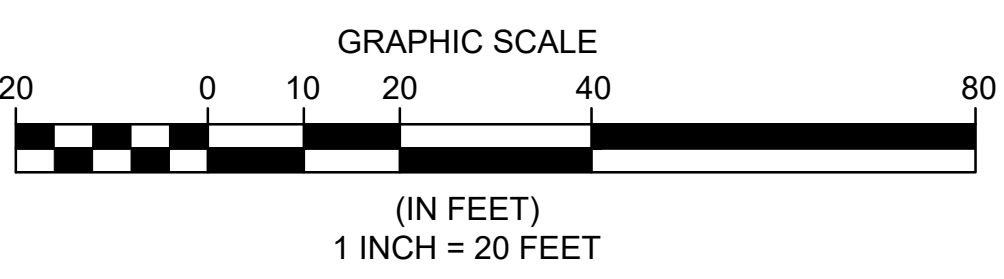
FOLDER: DWG/Proj. Engineering

FILENAME: 24189 Improvement Plans

TAB: 07-Plan & Profile

BNDRY. BY: GBC

BASE. BY: NMO



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CITY OF HUDSON - SUMMIT COUNTY - OHIO

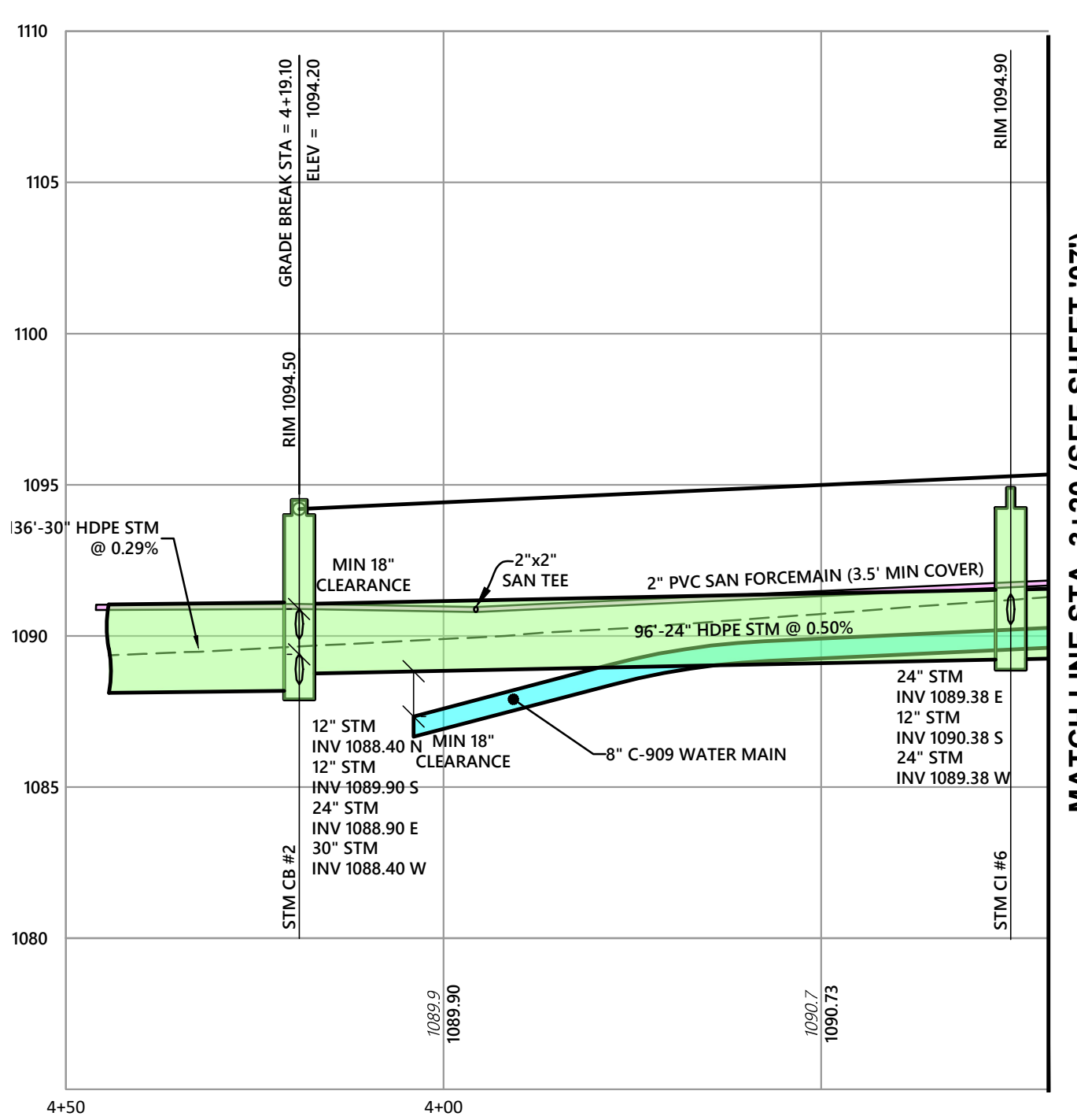
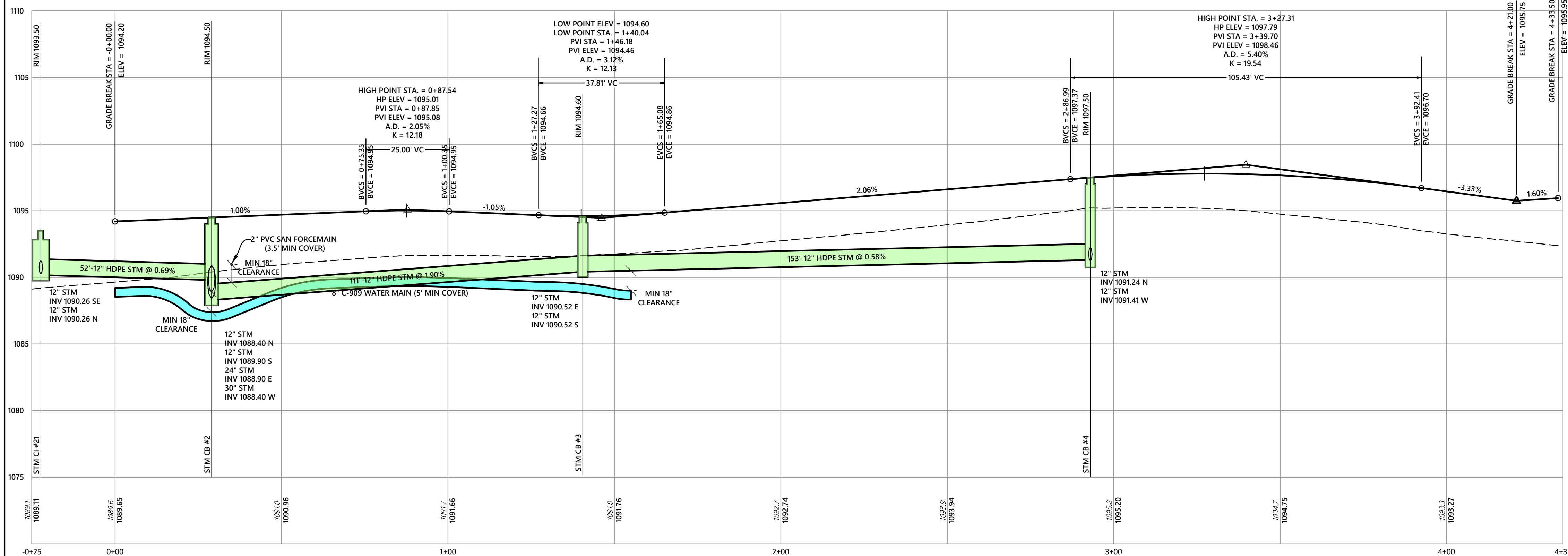
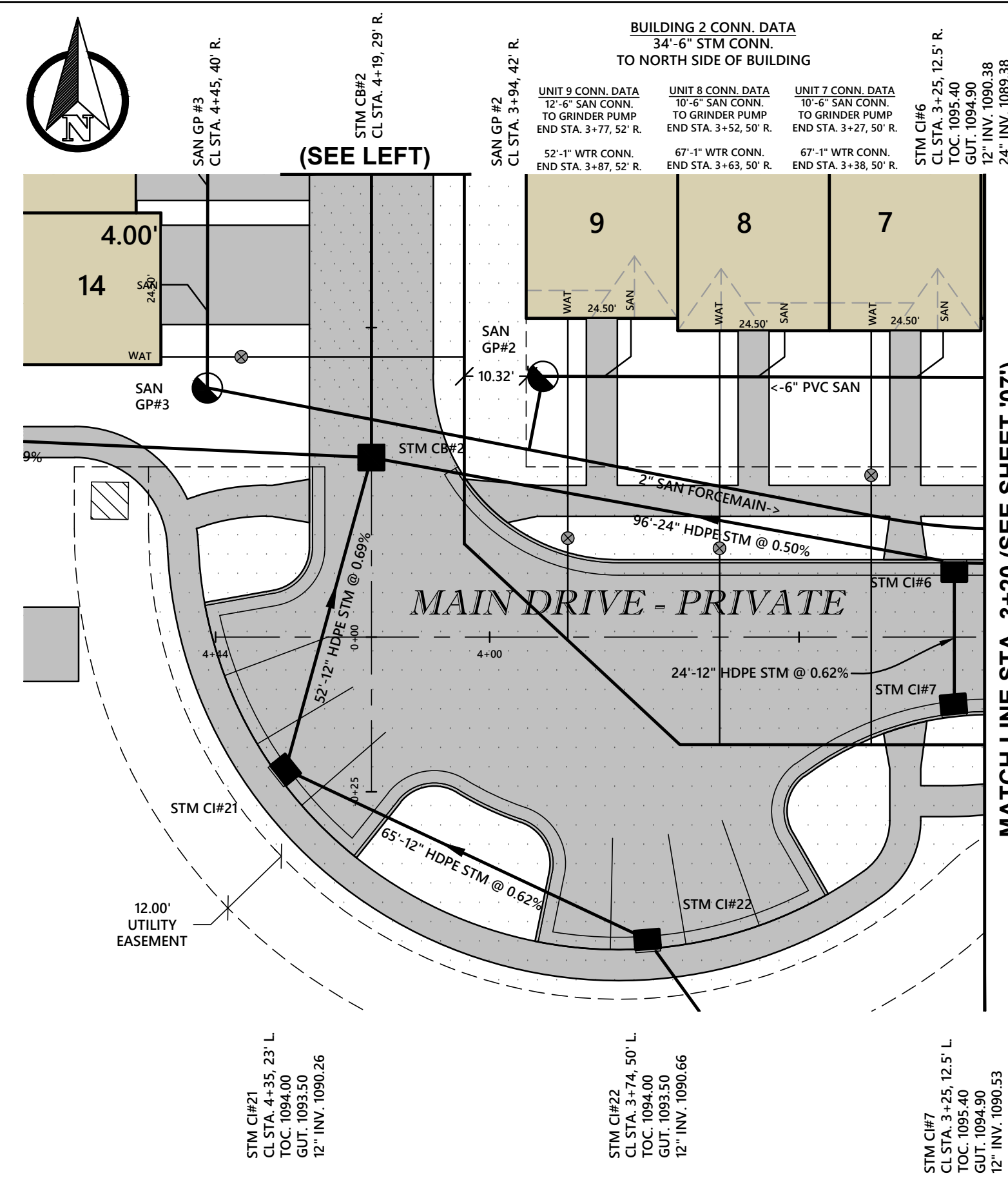
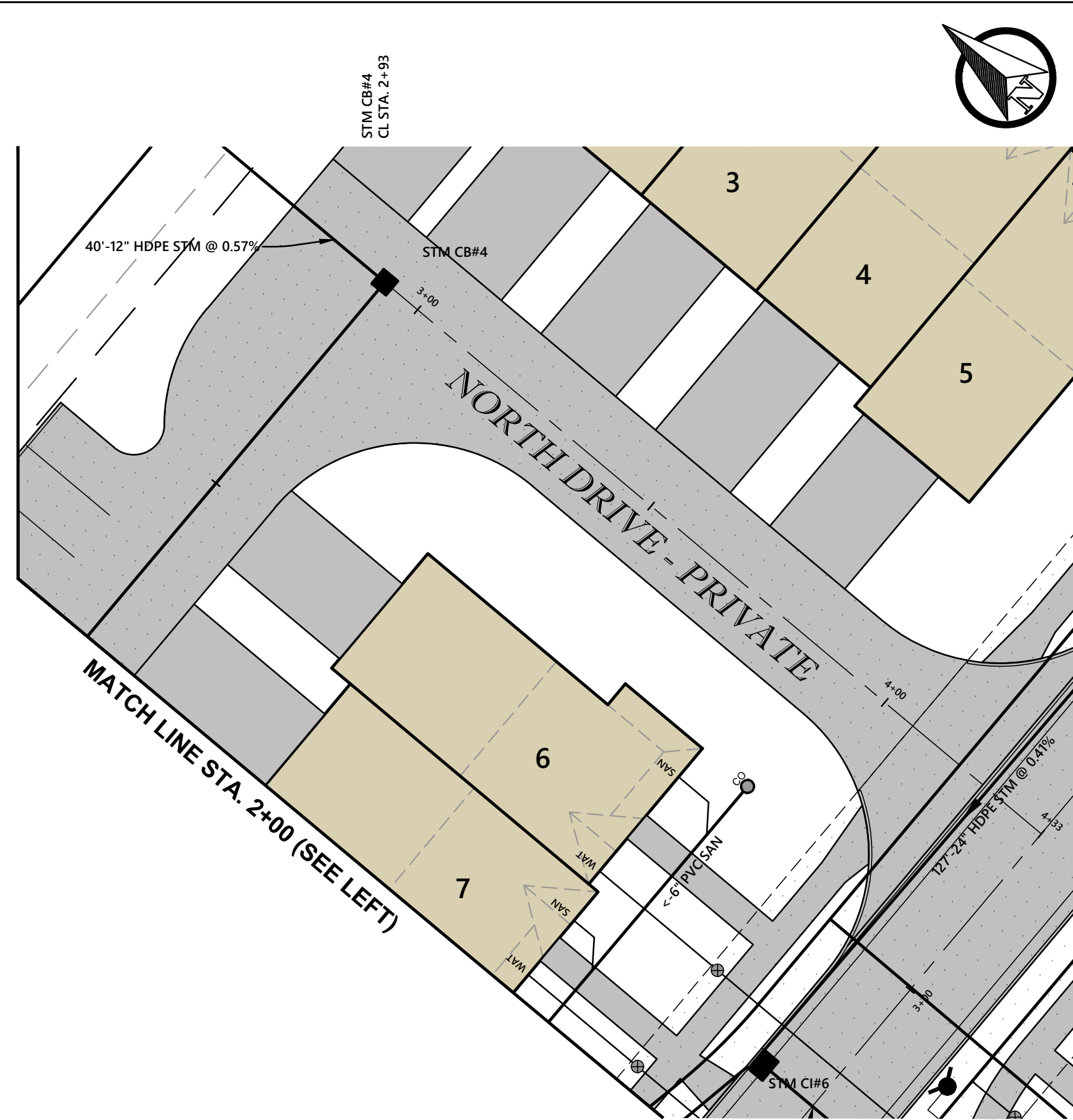
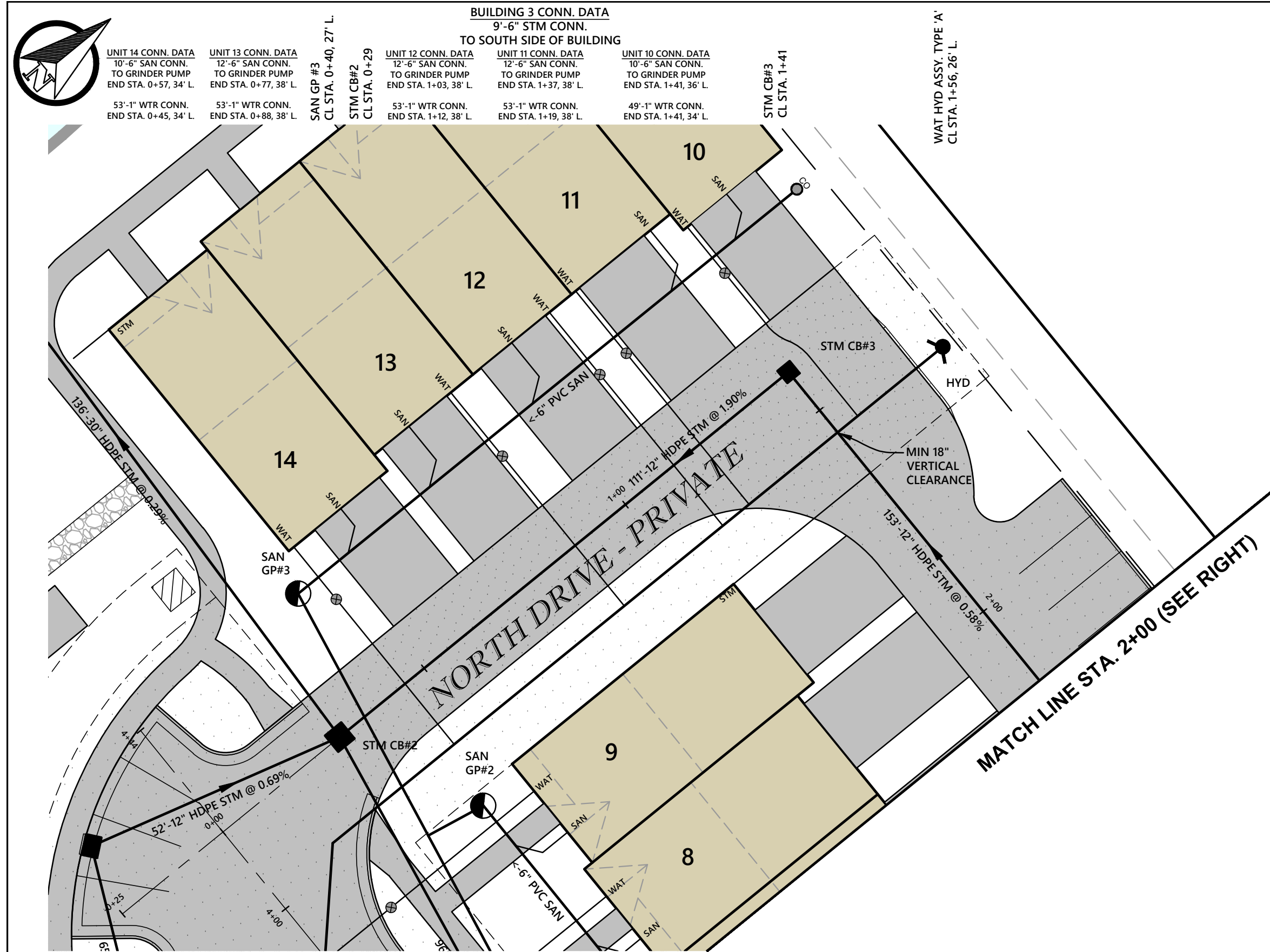
POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com

PLAN & PROFILE

MAIN DRIVE

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

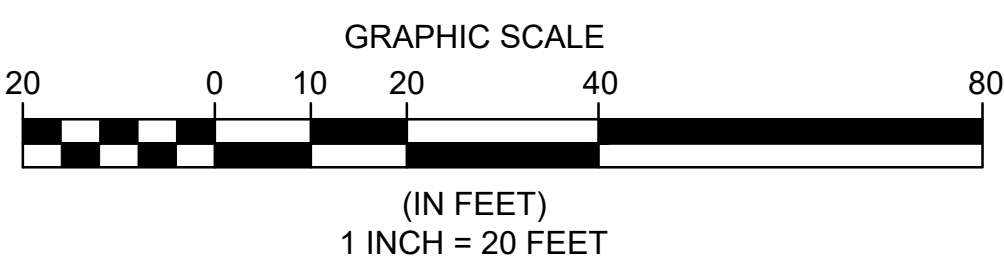
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24189	
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07	20



REV. No.	DATE	BY



DATE: 10/21/24. DRAWN: NMO
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 FOLDER: DWG/Proj. Engineering
 FILENAME: 24189 Improvement Plans
 TAB: 08-Plan & Profile
 BNDY. BY: GBC
 BASE. BY: NMO



PRESERVE OF HUDSON TOWNHOMES
 CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
 34600 CHARDON ROAD - SUITE D
 WILLOUGHBY HILLS, OHIO 44094
 (440) 944-4443
 www.polaris-es.com



PLAN & PROFILE
 MAIN & NORTH DRIVE

PREPARED FOR:
 TRIBAN INVESTMENT, LLC
 7555 FREDLE DRIVE
 PAINESVILLE, OH
 PHONE: (440) 346-0098
 CONTACT: HANNA COHAN
 PLESSNER

CONTRACT No.

24189

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08	20

REV. No.	DATE	BY	DESCRIPTION

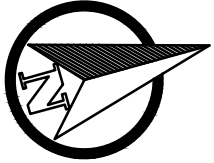
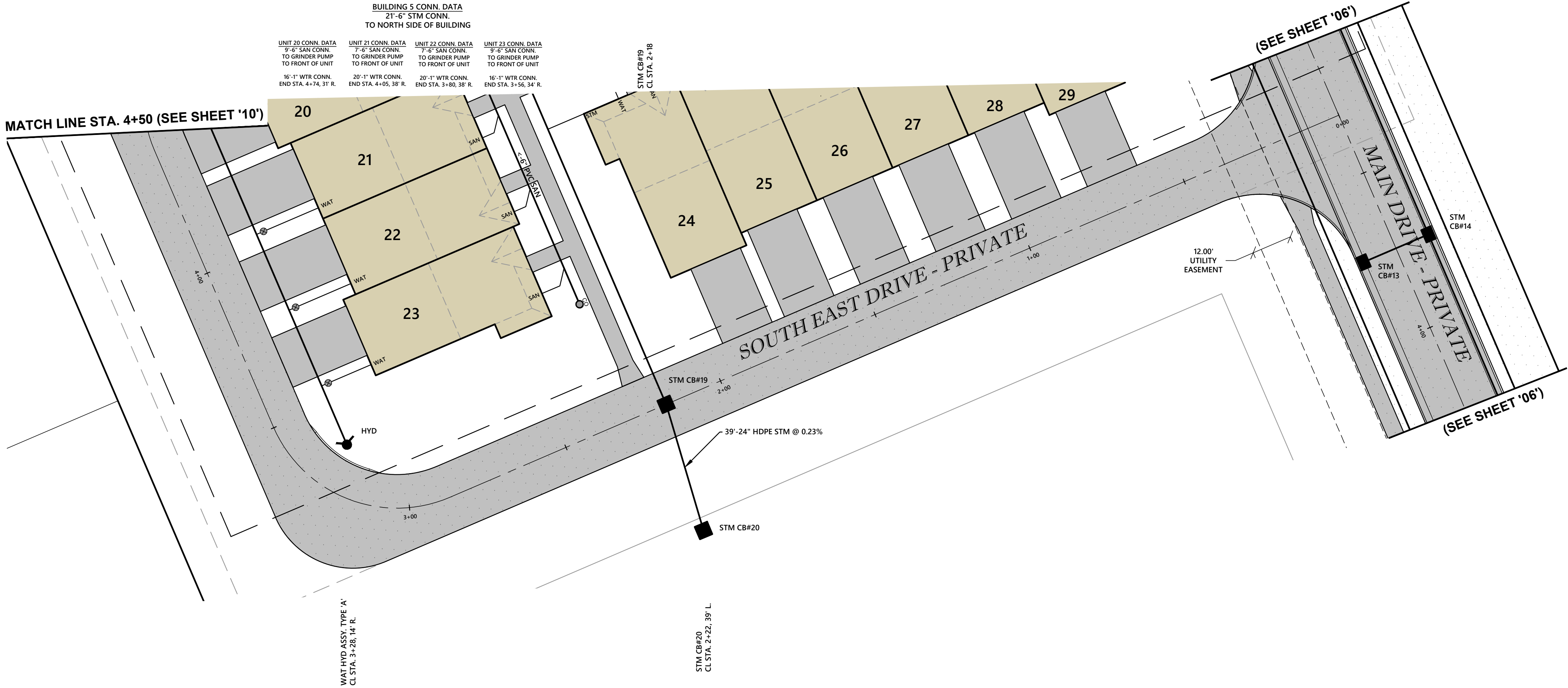
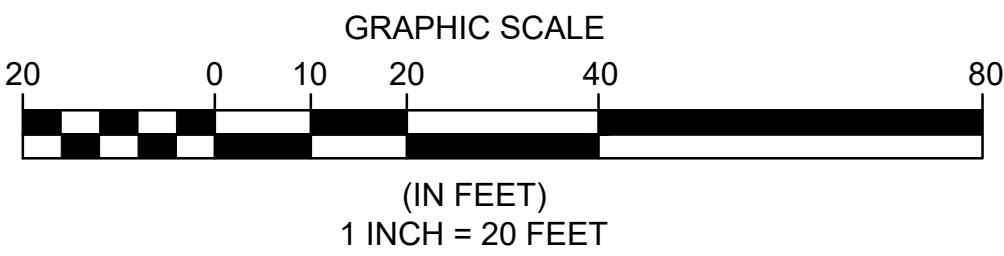
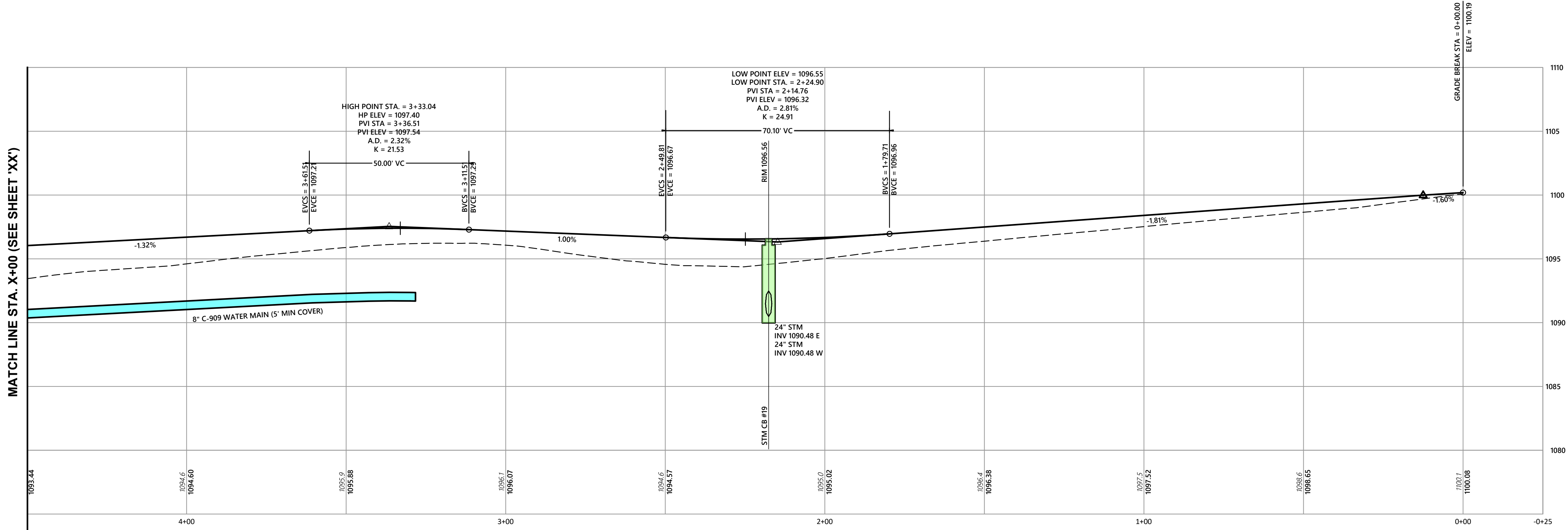
STATE OF OHIO

KEVIN HOFFMAN

REGISTERED PROFESSIONAL ENGINEER

74831

DATE: 10/21/24 DRAWN: NMO
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FOLDER: DWG/Proj. Engineering
FILENAME: 24189 Improvement Plans
TAB: 09-Plan & Profile
BNDRY. BY: GBC
BASE. BY: NMO



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(440) 944-4433
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PLAN & PROFILE
SOUTH EAST DRIVE

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

SHEET	OF
09	20

REV. No.		DATE	BY

DATE: 10/21/24, DRAWN: NMO

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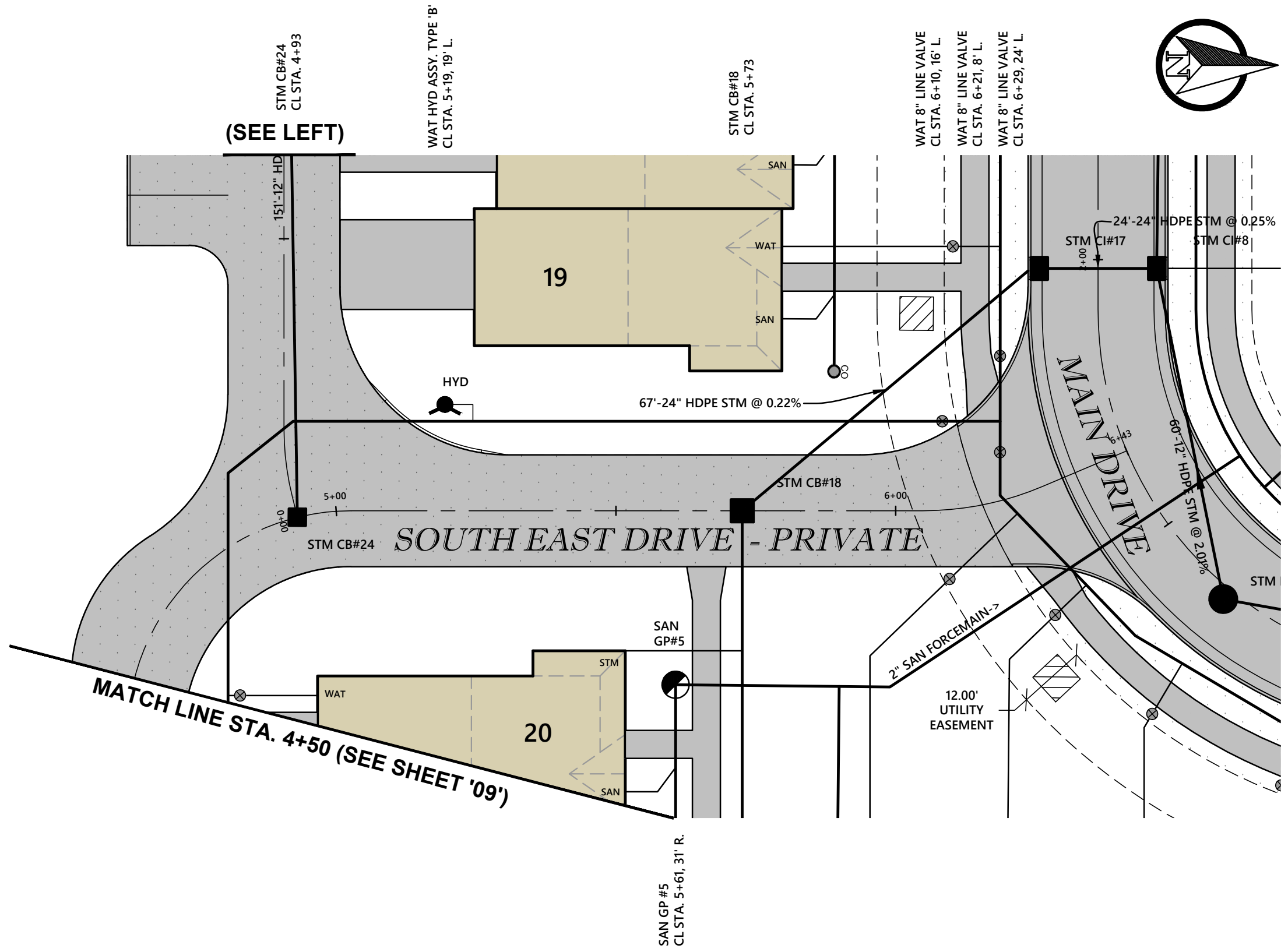
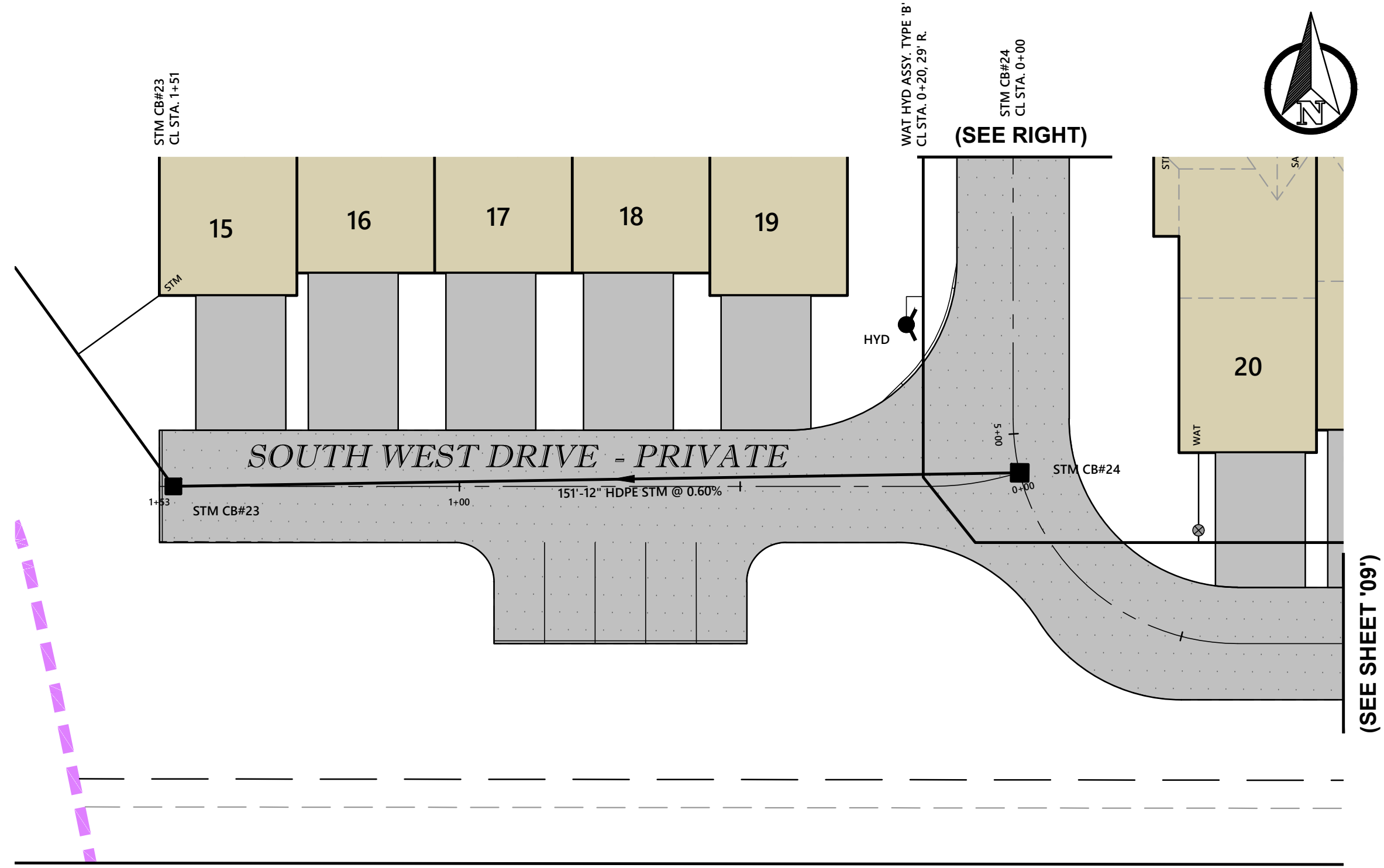
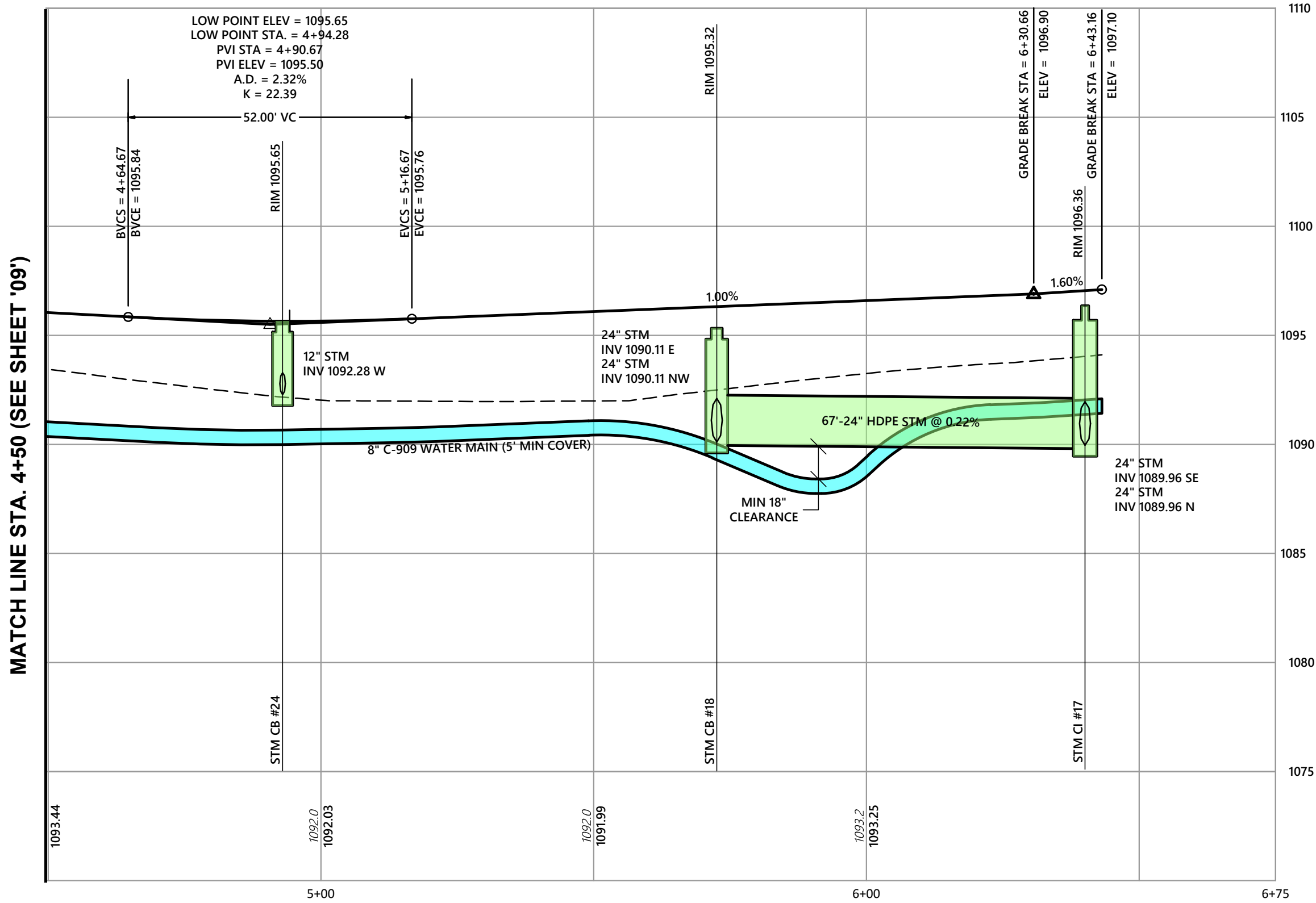
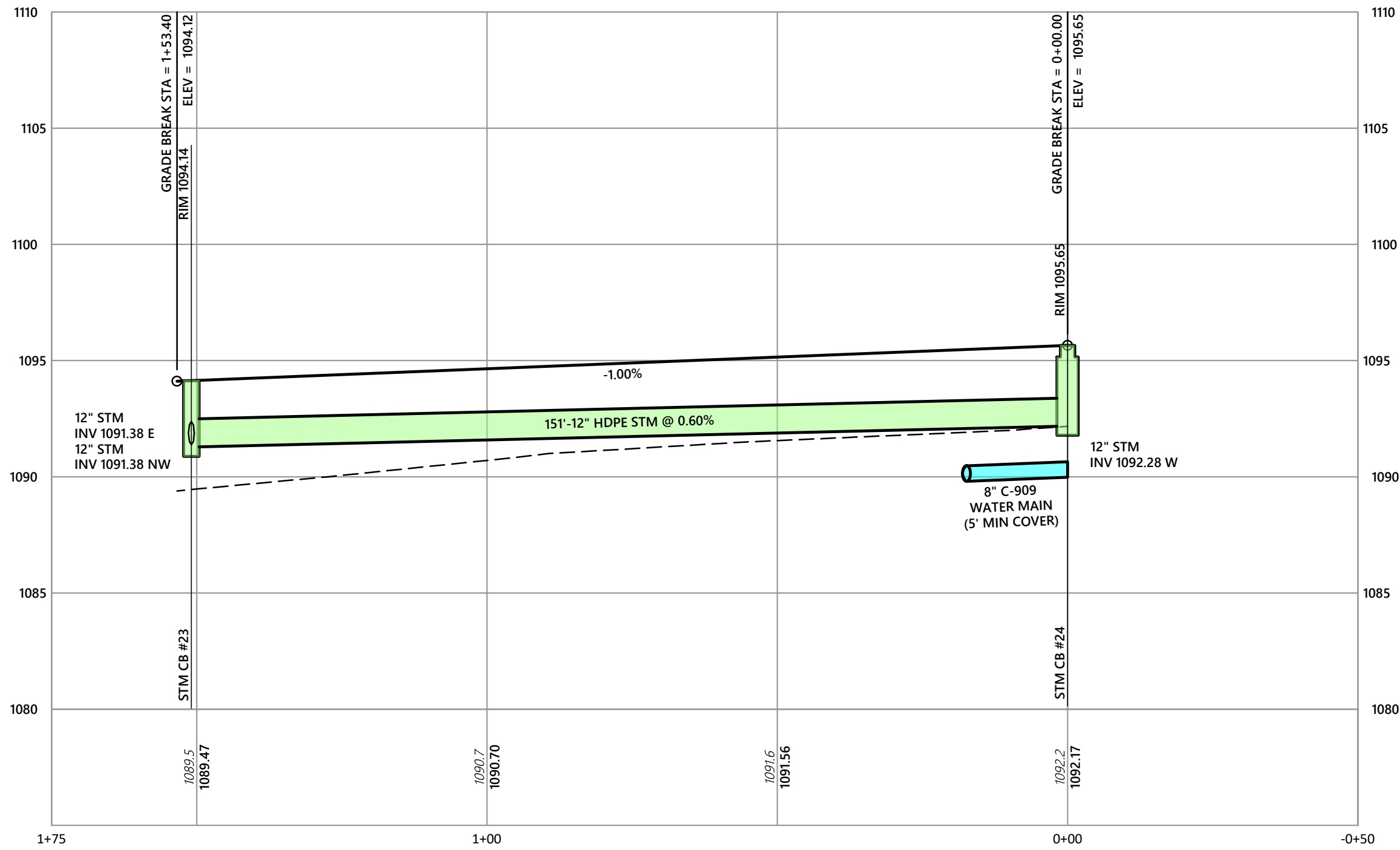
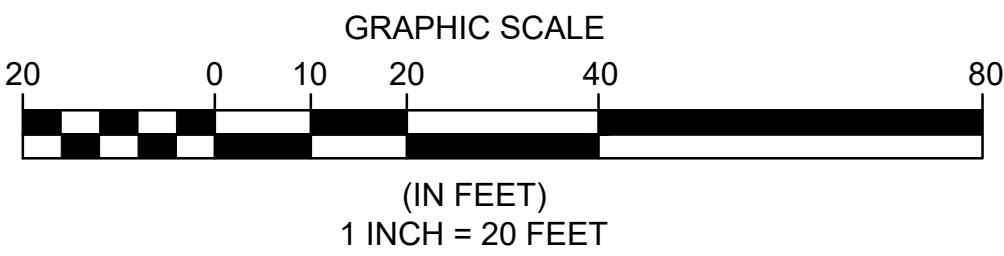
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FILENAME: 24189 Improvement Plans

TAB: 10-Plan & Profile

BNDY. BY: GBC

BASE. BY: NMO



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(440) 944-4443
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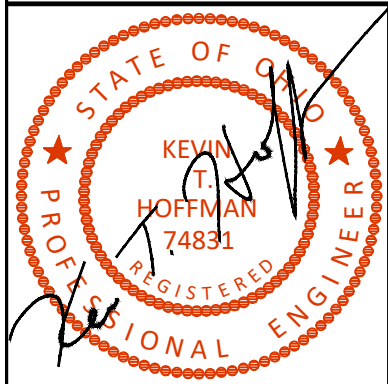
PLAN & PROFILE SOUTH EAST & SOUTH WEST DRIVE

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

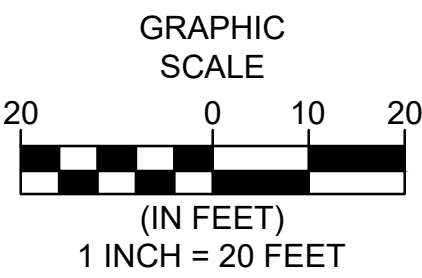
CONTRACT No.

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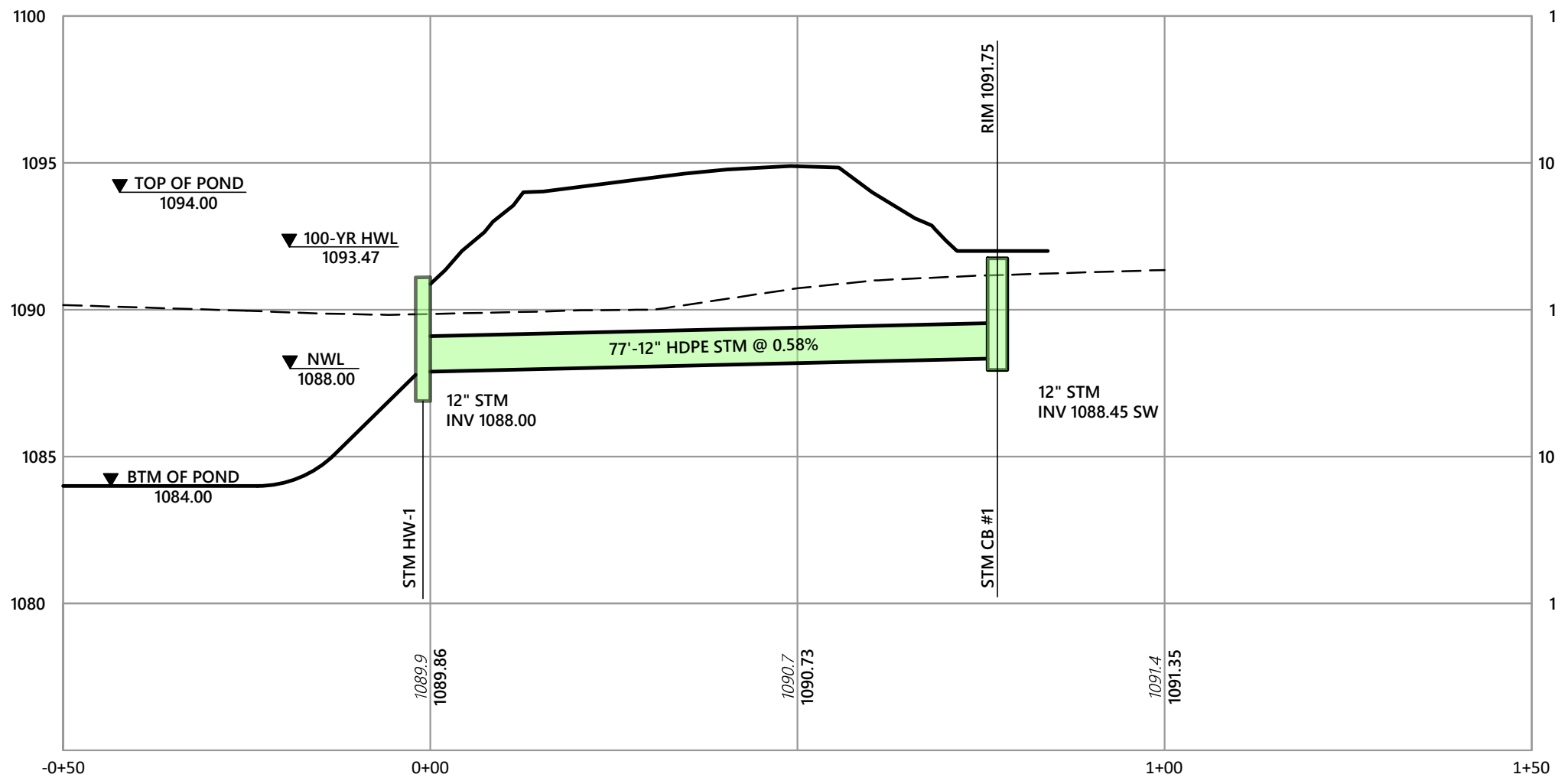


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BASE. BY: NMO

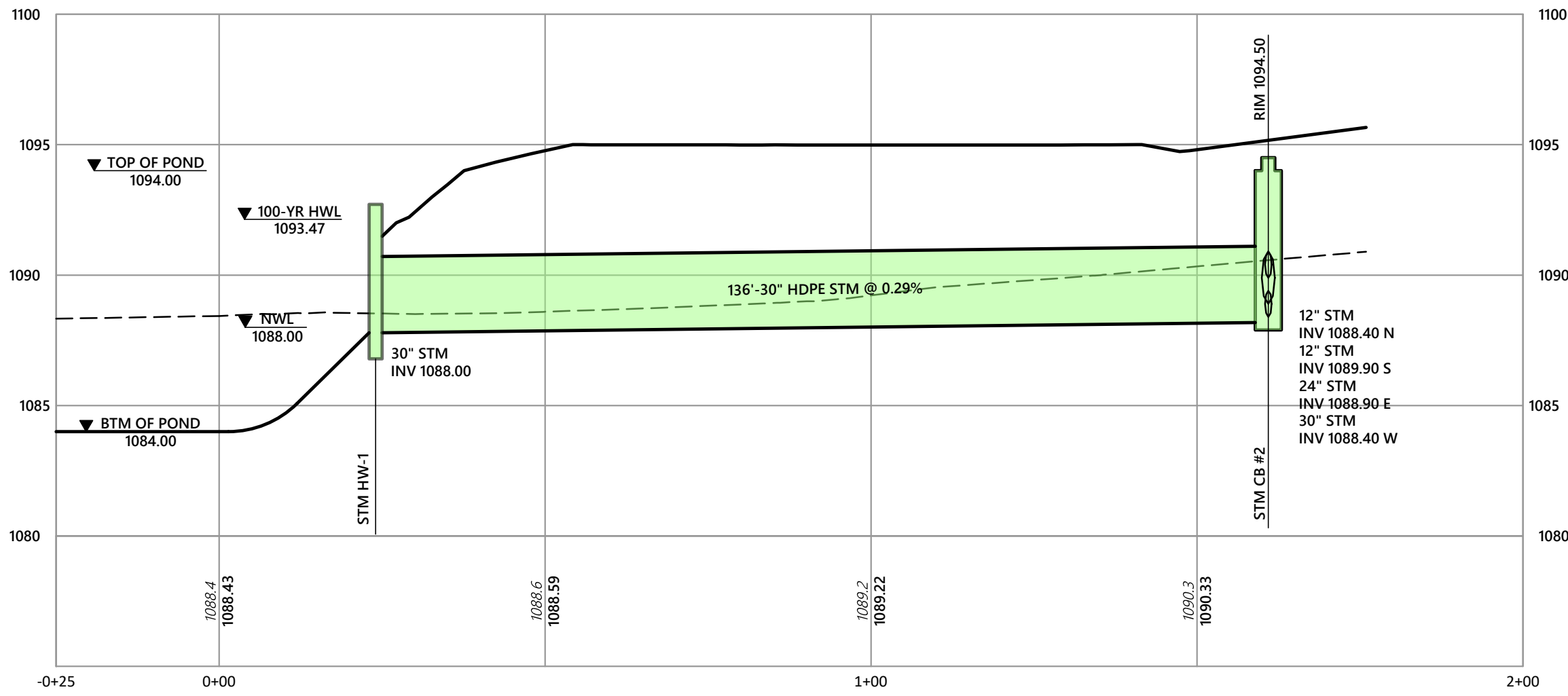


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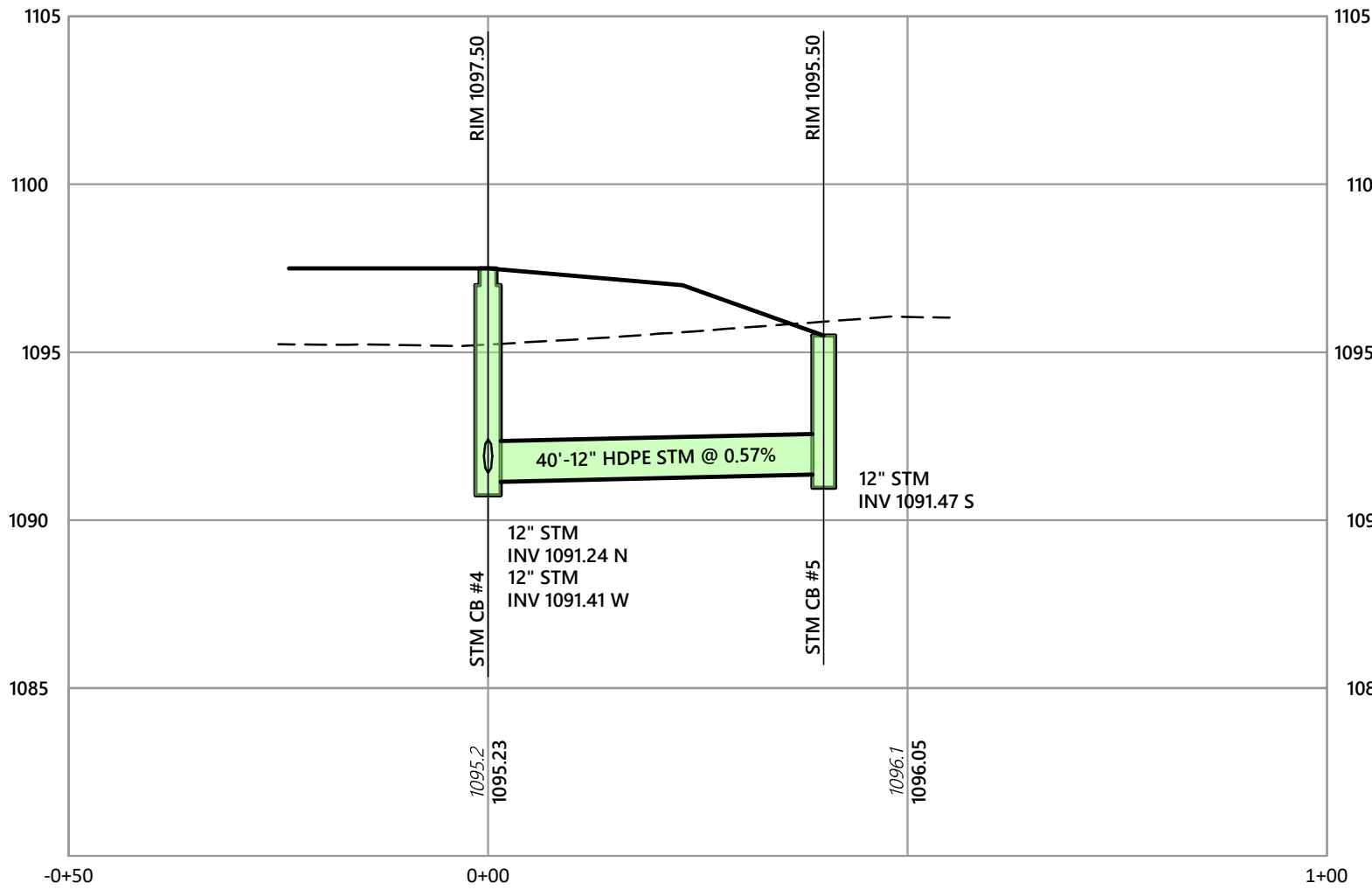
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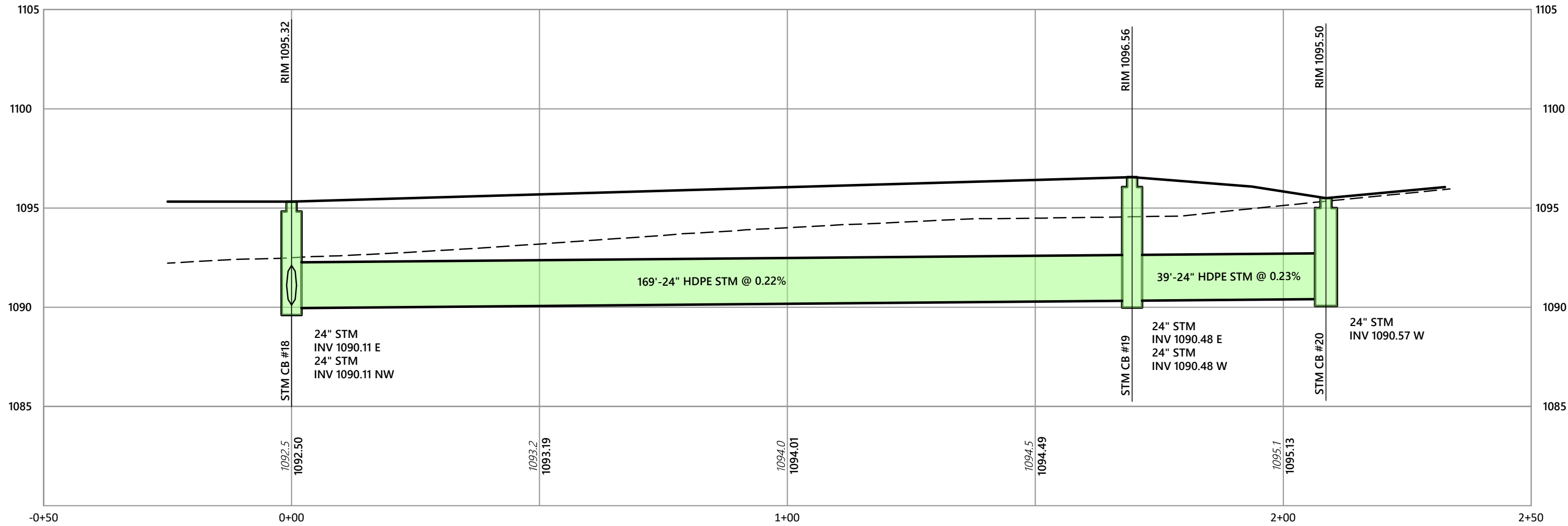
STORM SEWER PROFILE - CB#2



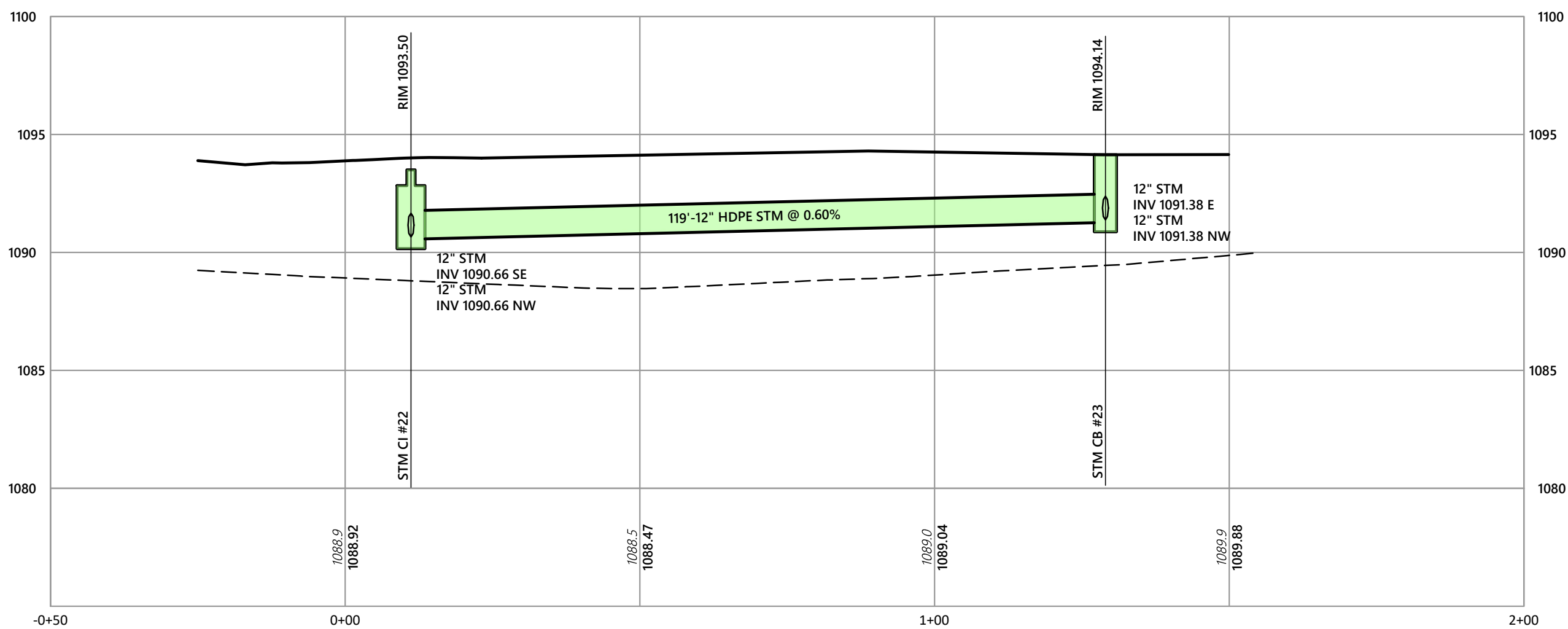
STORM SEWER PROFILE - CB#5



STORM SEWER PROFILE - CB#18 TO CB#20



STORM SEWER PROFILE - CB#22 TO CB#23



PRESERVE OF HUDSON
TOWNHOMES
CITY OF HUDSON - SUMMIT COUNTY - OHIO

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WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



UTILITY PROFILES

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

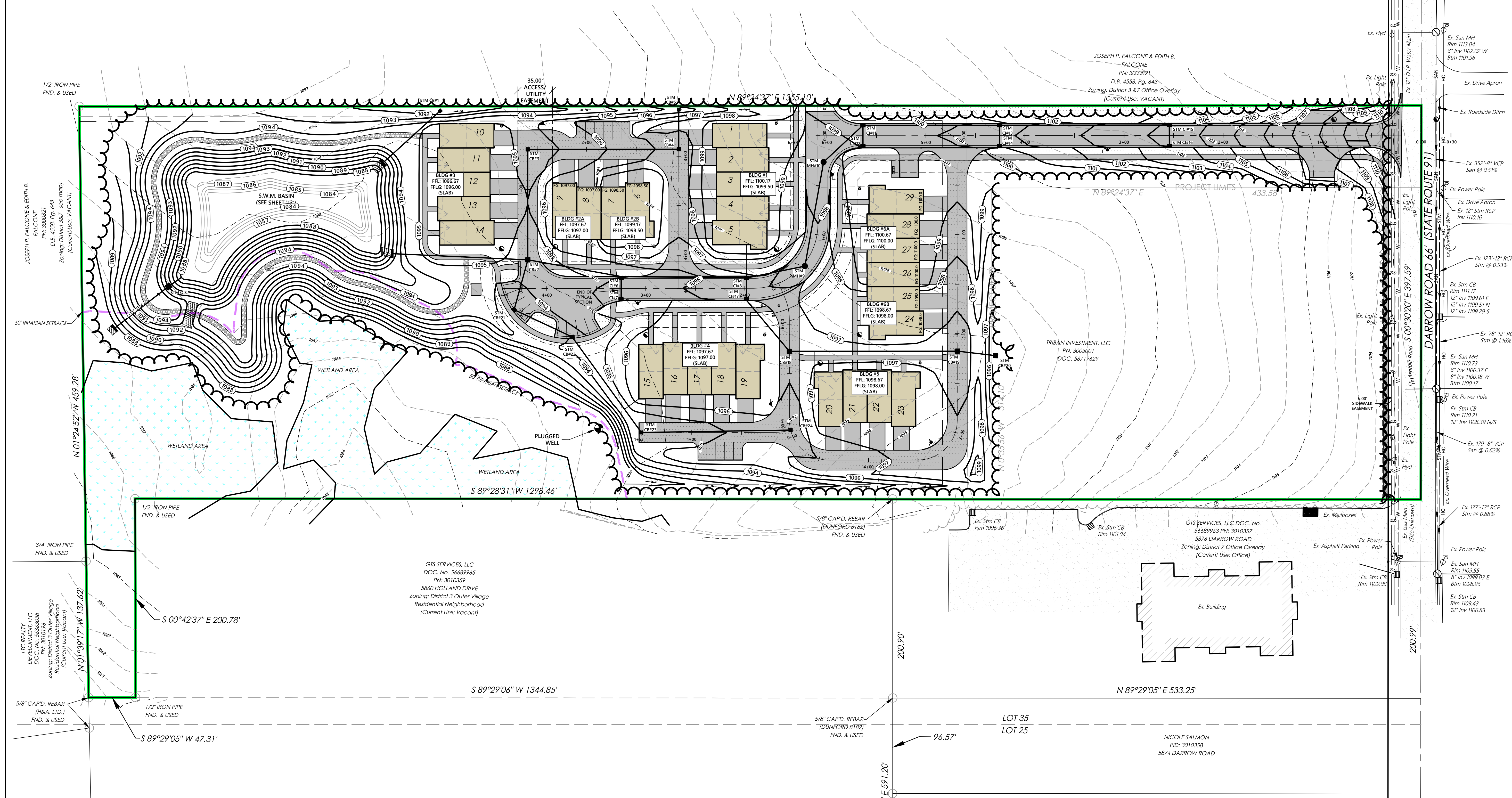
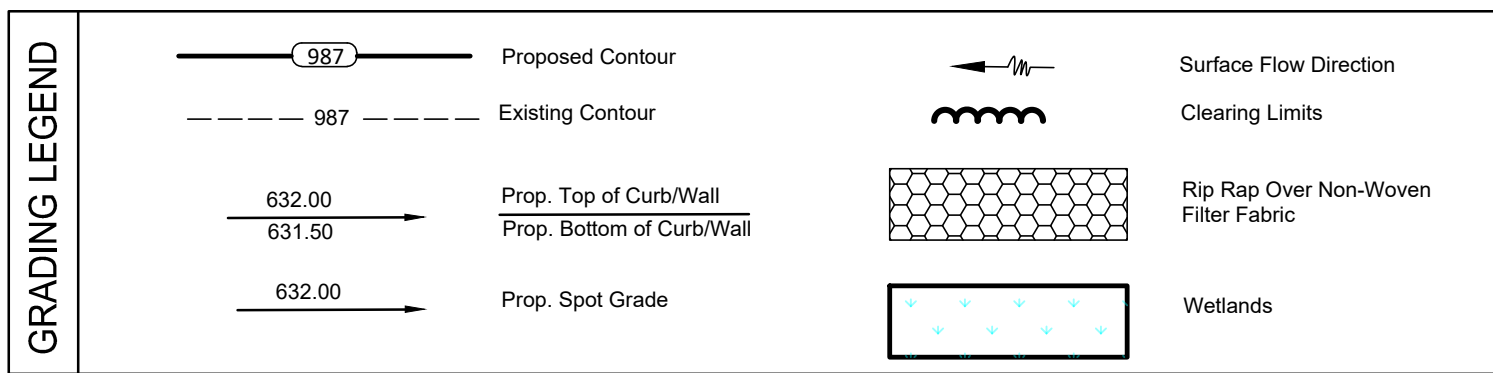
24189

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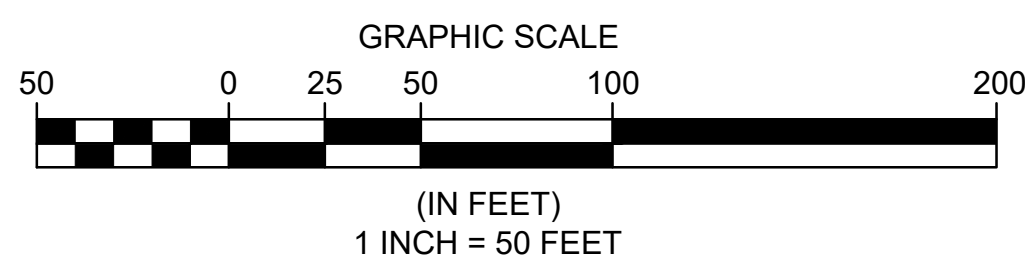
11

OF

20



REV. No.		DATE	BY		DATE: 10/21/24 DRAWN: NMO
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					FILENAME: 24189 Improvement Plans
					TAB: 12-Final Grading Plan
					BNDY. BY: GBC BASE. BY: NMO



SYMBOL LEGEND													
	Ex. Clean Out		Ex. Sanitary Manhole		Ex. Gas Marker		Ex. Telephone Box		Ex. Yard Light		Ex. Tree		Ex. Monument Box
	Ex. Catch Basin		Prop. Sanitary Manhole		Ex. Water Valve		Ex. Electrical Box		Ex. Guy Wire		Ex. Pine Tree		Irrigation Valve
	Prop. Catch Basin		Prop. Curb Inlet		Ex. Water Meter		Ex. Power Transformer		Ex. Light Pole		Ex. Stump		Sprinkler Control Box
	Ex. Yard Drain		Ex. Curb Inlet		Ex. Fire Hydrant		Cable TV Box		Prop. Light Pole		Ex. Stump		Sprinkler Head
	Ex. Manhole		Ex. Storm Inlet MH		Prop. Hydrant		Ex. Power Pole		Traffic Signal Pole		Ex. Mailbox		Test Bore
	Ex. Storm Manhole		Ex. Gas Meter		Prop. W/L Valve		Ex. Light Power Pole		Traffic Signal Box		Ex. Sign		Guard Post
	Prop. Storm Manhole		Ex. Gas Valve								Electrical Outlet		

**PRESERVE OF HUDSON
TOWNHOMES**

CITY OF HUDSON - SUMMIT COUNTY - OHIO

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34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



FINAL GRADING PLAN

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

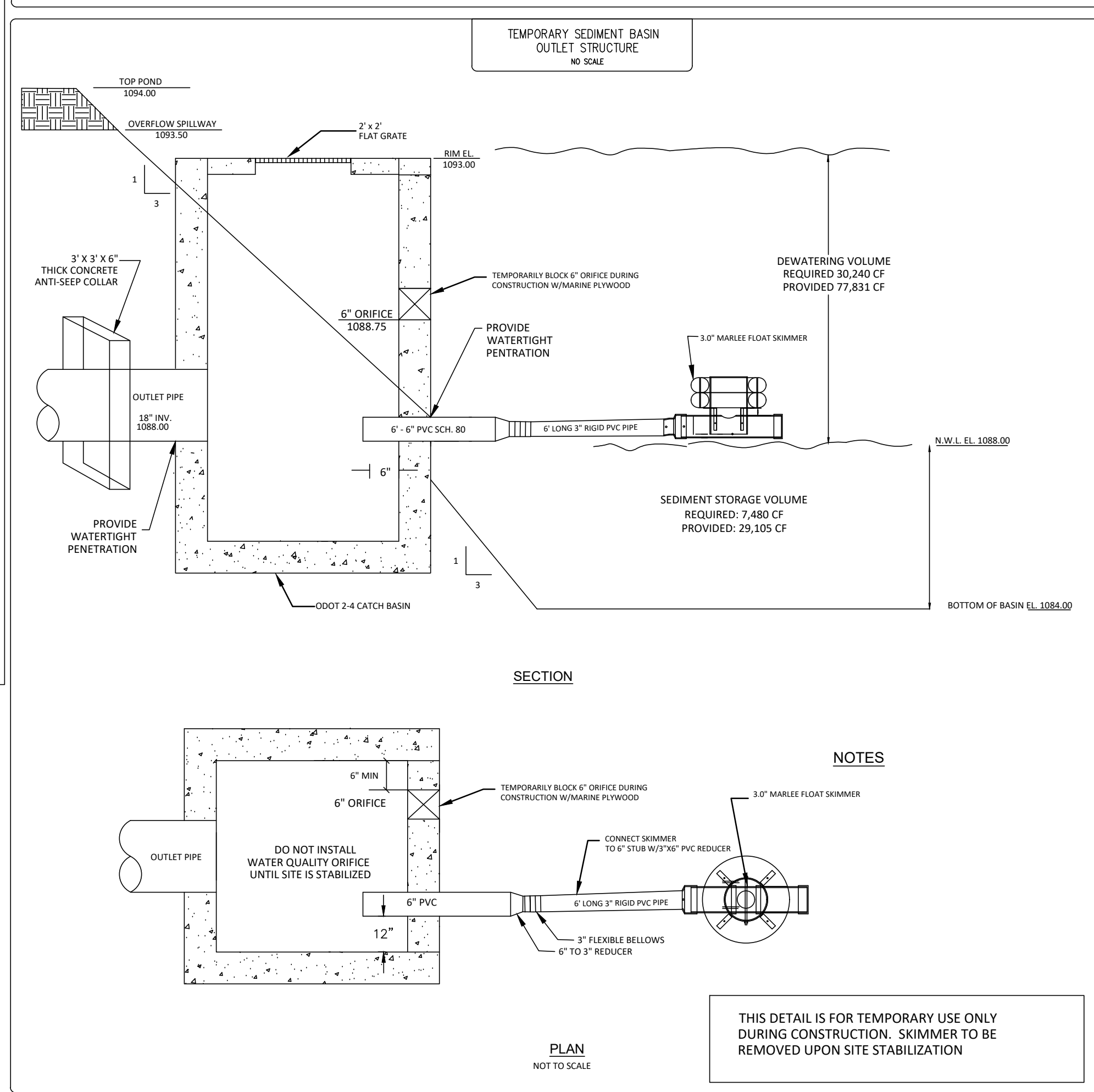
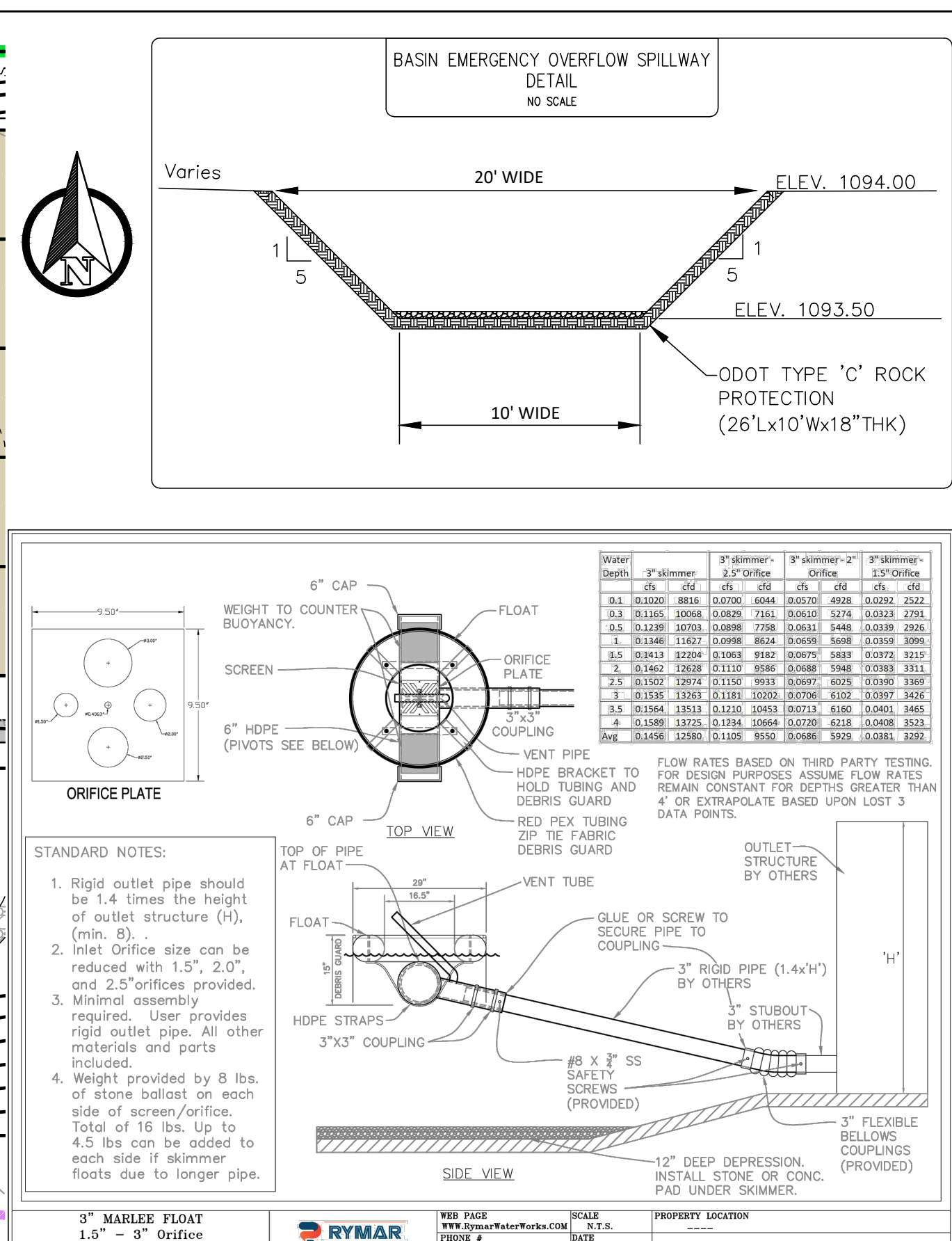
CONTRACT No.

24189

SHEET

12

OF
20



Step 4 - Outlet Elevations and Storage Volumes

WQ Orifice Invert Elevation =	1088.00	
Elevation of Top of EDV =	1088.74	
Secondary Outlet Invert Elevation =	1088.75	
WQ Treatment Volume Provided, $V_{\text{treatment}}$ =	11,387	ft^3
Treatment Vol Provided Relative to EDV, $V_{\text{treatment}}/\text{EDV}$ =	1.02	= 102% OKAY
Permanent Pool Volume Provided, PPV =	29,108	ft^3
Ratio PPV Volume Provided to PPV Required =	2.16	= 216% OKAY

Step 5 - Outlet (Orifice) Sizing

Maximum Hydraulic Head, H_{max} =	0.74	ft	
Orifice Coefficient, C =	0.6		
Target (Minimum) Draw-down Time, T_d =	24	hr	
Target Average Discharge, Q_{avg} =	0.13	cfs	
Average Hydraulic Head, H_{avg} =	0.37	ft	
Estimated Orifice Area, A_{orifice} =	6.38	in^2	= 0.044 ft^2
Estimated Orifice Diameter, D_{orifice} =	2.85	in	= 0.24 ft
Design Orifice Diameter, D_{orifice} =	3.00	in	= 0.25 ft
Design Orifice Area, A_{orifice} =	7.02	in^2	= 0.049 ft^2
Time to Completely Drain EDV, T_d =	38	hr	must be ≥ 24 hr OKAY
Volume Drained in First 8 hr =	4,630	ft^3	
% of EDV =	41.3	%	must be $\leq 50\%$ OKAY

Wet Basin - EDV Draindown vs Time

The drawdown curve must be to the right of the markers (*): to (1) meet a minimum drain time of 24 hours; and (2) show the outlet is draining no more than 0.5*EDV in the first 8 hr.

PHIC
ALE

15 30

FEET)

30 FEET

GRAPHIC SCALE

30 0 15 30

(IN FEET)

1 INCH = 30 FEET



SWP3 Site Description

Previous Land Use:
Development Type:
Total Site Acreage
Total Site Disturbance:

Pre-Developed Impervious Area:
Pre-Developed Pervious Area:
Pre-Developed Curve Number:
Post-Developed Impervious Area:
Post-Developed Curve Number:
Predominant Soil Hydraulic Group(s):

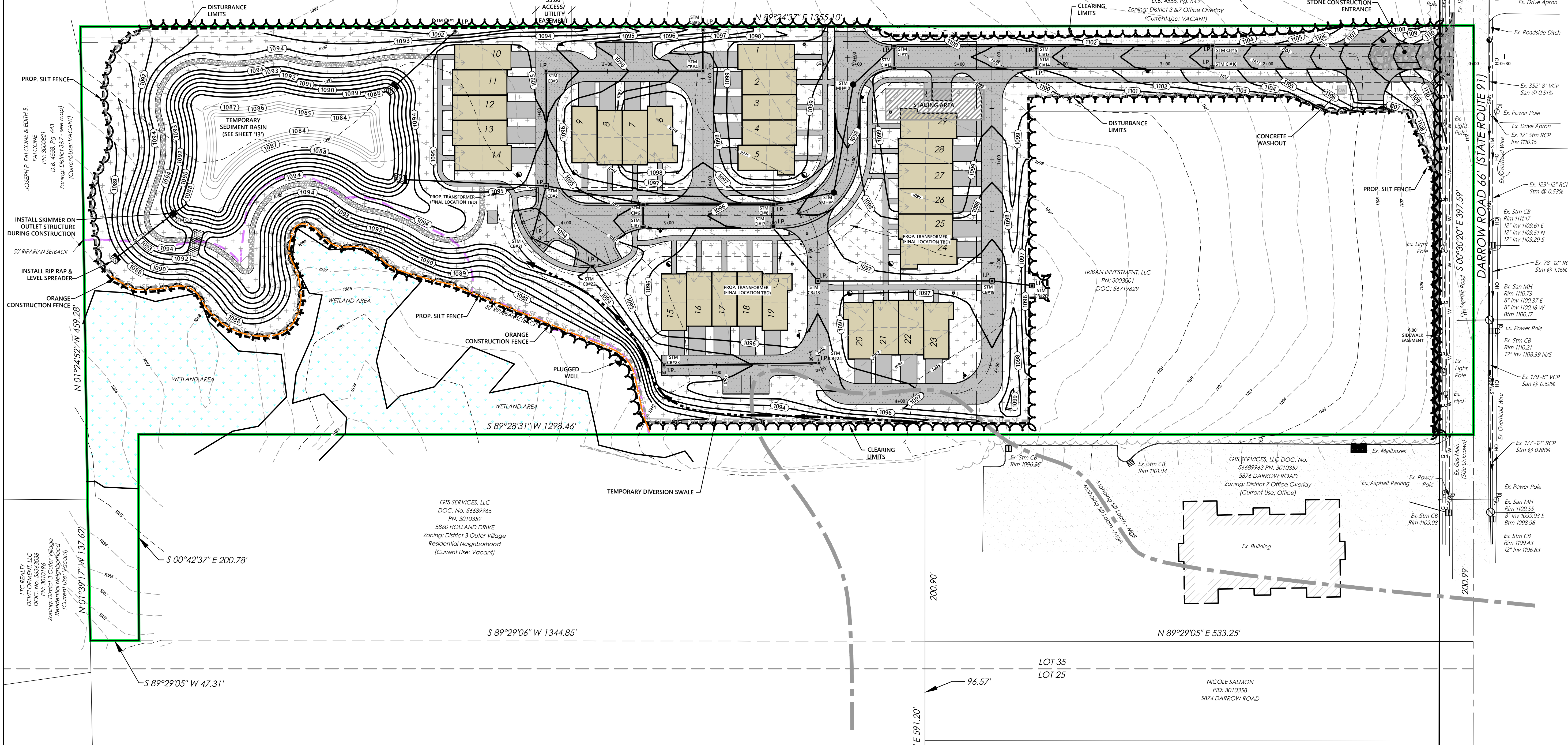
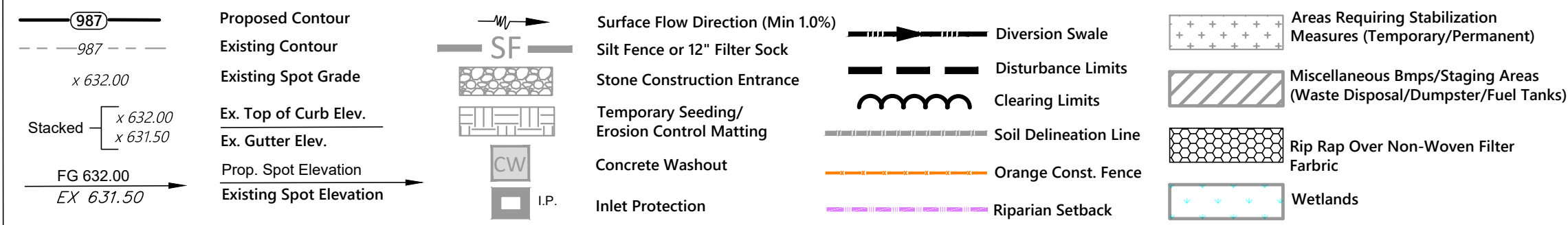
First Receiving Water Body:
Subsequent Receiving Water Body:
Water Resources w/in 200' of Site:
Offsite Borrow/Spill Areas:

Vacant
Residential
12.54 Ac. (100%)
7.48 Ac. (Shown)

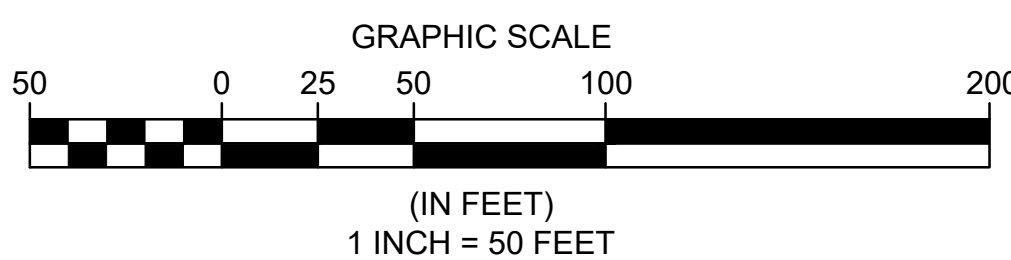
0.00 Ac. (0%)
12.54 Ac. (100%)
79.0
2.88 Ac. (23%)
9.66 Ac. (77%)
83.8
MgA - Mahoning Silt Loam - HSG D
MgB - Mahoning Silt Loam - HSG D

Nearby Wetland
Mud Brook (Cuyahoga River)
Wetlands as shown
None

SWP3 LEGEND



REV. No.	DATE	BY	DATE: 10/21/24, DRAWN: NMO
			SCALE: HOR. 1"=50' VERT. 1"=00'
			FOLDER: DWG/Proj. Engineering
			FILENAME: 24189 Improvement Plans
			TAB: 14-SWP3 Plan
			BDNY. BY: GBC
			BASE. BY: NMO



Ex. Clean Out	Ex. Sanitary Manhole	Ex. Gas Marker	Ex. Telephone Box	Ex. Tree	Ex. Monument Box
Ex. Catch Basin	Prop. Sanitary Manhole	Ex. Water Valve	Ex. Electrical Box	Ex. Pine Tree	Irrigation Valve
Prop. Catch Basin	Prop. Curb Inlet	Ex. Water Meter	Ex. Power Transformer	Ex. Bush	Sprinkler Control Box
Ex. Yard Drain	Ex. Curb Inlet	Ex. Fire Hydrant	Cable TV Box	Ex. Stump	Sprinkler Head
Ex. Manhole	Ex. Storm Inlet MH	Prop. Hydrant	Ex. Power Pole	Ex. Mailbox	Test Bore
Ex. Storm Manhole	Ex. Gas Meter	Prop. W/L Valve	Ex. Light Power Pole	Ex. Sign	Guard Post
Prop. Storm Manhole	Ex. Gas Valve			Electrical Outlet	

PRESERVE OF HUDSON
TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



MASS GRADING
& SWP3 PLAN

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

SHEET	OF
14	20

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT INFORMATION

NPDES PERMIT (0HC000006)

PERMITEE (DEVELOPER) _____

CO-PERMITEE (CONTRACTOR) _____

GENERAL EROSION AND SEDIMENT CONTROL NOTES

EROSION CONTROL SHALL CONSIST OF TEMPORARY CONTROL MEASURES AS DETAILED ON THE PLANS OR ORDERED BY THE GOVERNING AGENCY DURING THE LIFE OF THE CONTRACT TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH USE OF EROSION CONTROL PERMANENT BEST MANAGEMENT PRACTICES (BMP'S).

ADDITIONAL EROSION CONTROL BMP'S MAY BE MANDATED BY THE GOVERNING AGENCY AT ANY TIME DURING THIS PROJECT AS UNFORESEEN SITUATIONS MAY ARISE THAT WARRANT FURTHER EROSION AND SEDIMENT CONTROL PRACTICES.

TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS, THE LOCATION AND SIZE OF WHICH ARE DETAILED ON THE PLANS, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORK OPERATIONS. CONDITIONS THAT REQUIRE ADDITIONAL OR MODIFIED TEMPORARY OR PERMANENT BMP'S SHALL BE APPROVED BY THE DESIGN ENGINEER AND REFLECTED ON THE REVISED STORM WATER POLLUTION PREVENTION PLAN (SWP3).

SEDIMENT BASINS, SEDIMENT TRAPS, AND PERIMETER SEDIMENT CONTROLS, SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL DISTURBED AREAS ARE REESTABLISHED WITH TEMPORARY VEGETATION. NO SEDIMENT CONTROLS SHALL BE PLACED IN A STREAM.

TRENCH DEWATERING OR GROUND WATER, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING BASIN OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO SUMP PIT, FILTER BAG OR EXISTING VEGATED UPSLOPE AREA. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO STREAMS OR THE STORM SEWER SYSTEM.

THE SWP3, NOTES, DETAILED DRAWINGS AND ANY ADDENDUMS ARE INTENDED TO SERVE AS BASIC GUIDELINES. ALL EROSION CONTROL PRACTICES SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) RAINWATER AND LAND DEVELOPMENT MANUAL AND THE NPDES STORM WATER DISCHARGE PERMIT.

ALL CAST-IRON CATCH BASINS, GRATES AND INLET COVERS SHALL HAVE THE MESSAGE "DUMP NO WASTE, DRAINS TO WATERWAYS".

STORMWATER QUALITY MAINTENANCE NOTES

ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP-SLOPE AREAS THEY CONTROL ARE PERMANENTLY STABILIZED. THE CONTRACTOR SHALL COMPLY WITH THE INSPECTION AND MAINTENANCE SCHEDULE INCLUDED WITH THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN RECORD DOCUMENTING THE RESULTS OF THESE INSPECTIONS MUST BE OBTAINED BY THE CONTRACTOR AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

PROPERTY OWNER SHALL BE RESPONSIBLE FOR OVERSEEING MAINTENANCE OF ALL EROSION CONTROL AND WATER QUALITY PRACTICES. OWNER SHALL MAINTAIN PROPER OPERATION. IF PROPERTY SHOULD TRANSFER OWNER NEW OWNER WILL ASSUME RESPONSIBILITY FOR ALL INSPECTIONS, ANY REQUIRED MAINTENANCE AND/OR REPAIRS.

SEE "OEPA CONSTRUCTION SITE INSPECTION CHECKLIST" FOR INSPECTIONS OCCURRING DURING THE CONSTRUCTION PROCESS. SEE "OPERATION AND MAINTENANCE INSPECTION REPORT FOR STORMWATER MANAGEMENT PONDS" FOR INSPECTIONS OCCURRING AFTER SITE STABILIZATION. INSPECTION REPORTS CAN BE OBTAINED BY CONTACTING THE DESIGN ENGINEER.

INSPECTIONS AND REQUIRED MAINTENANCE OCCURRING DURING THE CONSTRUCTION PROCESS ARE THE RESPONSIBILITY OF THE SITE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ATTRIBUTED TO REPAIRS DURING CONSTRUCTION ACTIVITIES.

INSPECTIONS AND REQUIRED MAINTENANCE OCCURRING AFTER THE SITE IS STABILIZED ARE THE RESPONSIBILITY OF THE OWNER OR A QUALIFIED AGENT OF THE OWNER. THE OWNER SHALL BE RESPONSIBLE FOR ANY COSTS ATTRIBUTED TO REPAIRS AFTER SITE STABILIZATION.

SEE "OPERATION AND MAINTENANCE INSPECTION REPORT FOR STORMWATER MANAGEMENT PONDS" FOR TIMING ON INSPECTION FREQUENCY. NOTE THAT ADDITIONAL INSPECTIONS MAY BE REQUIRED IN THE FIRST YEAR TO ENSURE PROPER OPERATION OF STORM WATER MANAGEMENT FACILITIES.

PERPETUAL MAINTENANCE INSPECTION REPORTS ARE TO BE SUBMITTED TO THE COMMUNITY BY MAY 1ST OF EACH AND EVERY YEAR AFTER THE BEST MANAGEMENT PRACTICE (BMP) HAS BEEN COMPLETED.

INSPECTION (DURING CONSTRUCTION)

ALL STORMWATER CONTROLS ON THE SITE ARE TO BE INSPECTED AT LEAST EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD BY A QUALIFIED INSPECTION PERSONNEL. A WRITTEN RECORD DOCUMENTING THE RESULTS OF THESE INSPECTIONS MUST BE CREATED AND MAINTAINED WITH THE SWP3 AND THE INSPECTION SHEETS ARE TO BE SIGNED BY THE QUALIFIED INSPECTION PERSONNEL THAT PERFORM THE INSPECTIONS. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR POLLUTANTS ENTERING THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THOSE ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING. ALL INSPECTION RECORDS ARE TO BE KEPT FOR 3 YEARS AFTER THE TERMINATION OF CONSTRUCTION ACTIVITIES.

I. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN THREE DAYS OF INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.

II. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE SWP3, MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF INSPECTION.

III. WHEN PRACTICES DELETED ON THE SWP3 ARE NOT INSTALLED IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN IMPLEMENTED IN ACCORDANCE WITH THE SWP3. THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.

NON SEDIMENT SITE POLLUTION CONTROLS

NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORMWATER RUNOFF. ALL NECESSARY BMP'S MUST BE IMPLEMENTED TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORMWATER TO WASTE MATERIALS IS RECOMMENDED.

HANDLING OF TOXIC AND HAZARDOUS WASTES

DO: PREVENTS SPILLS, USE PRODUCTS UP - FOLLOW-UP LABEL DIRECTIONS FOR DISPOSAL - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH - RECYCLE WASTES WHENEVER POSSIBLE. DON'T: POUR INTO WATERWAYS, STORM DRAINS, ONTO GROUND - POUR INTO SINKS, FLOOR DRAIN OR SEPTIC TANKS - BURY CHEMICALS OR CONTAINERS - BURN CHEMICALS OR CONTAINERS - MIX CHEMICALS TOGETHER.

WASTE DISPOSAL

CONTAINERS (E.G., DUMPSTERS, DRUMS) SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.

CLEAN HARD FILL

BRICKS, HARDENING CONCRETE, AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.

CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY, SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.

FUEL/LIQUID TANK STORAGE

ALL FUEL/LIQUID TANKS AND DRUMS SHALL BE STORED IN A MARKED STORAGE AREA. A DIKE SHALL BE CONSTRUCTED AROUND THIS STORAGE AREA WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF ALL CONTAINERS IN THE STORAGE AREA.

CONSTRUCTION & DEMOLITION DEBRIS

ALL CONSTRUCTION & DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3746. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSED IN A OHIO EPA APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS (SEE OHIO ADMINISTRATIVE CODE (OAC) 3745-20).

CONSTRUCTION CHEMICAL COMPOUNDS

AREA SHALL BE DESIGNATED FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.

EQUIPMENT FUELING & MAINTENANCE

EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY. THESE AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR ANOTHER STORM WATER DRAINAGE AREAS.

CONCRETE WASH WATER

CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.

CONTAMINATED SOILS

ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSDFs).

SPILL PREVENTION CONTROL & COUNTERMEASURES

A SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE TANK OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS, OR BELOW-GROUND STORAGE OF 42,000 GALLONS OF FUEL.

NOTE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP THE SPCC PLAN IF HIS ON-SITE STORAGE TANKS WILL BE ABOVE THESE LIMITS.

SPILL REPORTING REQUIREMENTS

THE CONTRACTOR SHALL CONTACT THE OHIO EPA AT 800-282-9378, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN. ON PROJECTS NORTH OF ROUTE 2 THE COAST GUARD MUST BE NOTIFIED AT (216) 937-0171. SPILLS OF PETROLEUM WASTE LESS THAN 25 GALLONS ON PAVEMENT SHALL BE ABSORBED WITH SAND/ST. KITTY LITTER OR OTHER ABSORBENT MATERIAL AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING.

TRENCH AND GROUND WATER CONTROL

THERE SHALL BE NO SEDIMENT LADEN OR TURBID DISCHARGES TO WATER RESOURCES OR WETLANDS RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT-SETTLING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE, ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTLING IN PLACE OR BY DEWATERING INTO A SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN REQUIRED OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

OPEN BURNING

OPEN BURNING IS NOT PERMITTED.

DUST CONTROLS/SUPPRESSANTS

USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT. NO DUST SUPPRESSANT SHALL BE APPLIED NEAR CATCH BASINS, STORM SEWERS OR OTHER DRAINAGE WAYS.

AIR PERMITTING REQUIREMENTS

CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS. ACTIVITIES INCLUDING BUT NOT LIMITED TO MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC, WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY AND ALL REQUIRED AIR PERMITS.

PROCESS WASTE WATER/LEACHATE MANAGEMENT

DISCHARGES INCLUDING BUT NOT LIMITED TO VEHICLE AND/OR EQUIPMENT WASHING, LEACHATE ASSOCIATED WITH ON-SITE WASTE DISPOSAL, CONCRETE WASHOUTS, ETC. ARE A PROCESS WASTEWATER AND ARE NOT AUTHORIZED FOR DISCHARGE UNDER 0HC000005. ALL PROCESS WASTE WATER MUST BE COLLECTED AND PROPERLY DISPOSED OF AT AN APPROVED DISPOSAL FACILITY.

TEMPORARY RUN-OFF CONTROLS

DIVERSION SWALES

STORMWATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHERE PRACTICAL. DIVERSIONS SHOULD BE USED IN LOCATIONS WHERE THE DRAINAGE AREA EXCEEDS THE CAPACITY OF THE SILT FENCE. IN SUCH CASES, THE RUNOFF SHOULD BE DIVERTED INTO A SEDIMENT BASIN OR SEDIMENT TRAP. DIVERSION SWALES, DIKES OR BERMS, MAY RECEIVE FROM AREAS UP TO 10 ACRES.

SOIL STABILIZATION CONTROLS

CLEARING & GRUBBING

LIMITS OF CLEARING AND GRADING SHALL BE CLEARLY MARKED ON THE SITE WITH SIGNAGE, FLAGGING AND/OR CONSTRUCTION FENCING.

THE CONTRACTOR SHALL LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY EXCAVATION, BORROW, AND FILL OPERATIONS AND PROVIDE IMMEDIATE PERMANENT OR TEMPORARY CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, WETLANDS OR OTHER AREAS OF WATER IMPDMENT.

CONSTRUCTION ENTRANCE

A STONED CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR ALL INGRESS & EGRESS TO THE SITE. THE MINIMUM DIMENSIONS OF THE DRIVE SHALL BE 20 FT. WIDE AND 50 FT. LONG. THE STONE SHALL BE 12 INCHES DEEP WITH AN UNDERLAIN GEOTEXTILE FABRIC. THE DRIVE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. SEDIMENTS SHALL BE REMOVED FROM ROADWAYS DAILY.

STABILIZATION

PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE OEPA AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM OHIO EPA PERMIT NO. 0H000006 DISTURBED AREAS MUST BE STABILIZED AS SPECIFIED IN THE FOLLOWING TABLES BELOW:

TEMPORARY SEEDING

SEEDING AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 70% COVER SHALL BE RESEED AS NECESSARY BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH MULCH WHEN CONDITIONS PROHIBIT SEEDING.

STRAW MULCHING SHALL BE APPLIED AT A RATE 2-3 STANDARD 45 LB. BALES PER 1000 SQ.FT. OF DISTURBED AREA OR 2 TONS PER ACRE. ALL HYDROSEEDING MUST BE STRAW MULCHED ACCORDING TO THE ABOVE SPECIFICATIONS UNLESS IT IS WATERED WEEKLY.

ALL DETENTION PONDS, RETENTION PONDS, WATER QUALITY STRUCTURES, SEDIMENT PONDS, SEDIMENT TRAPS, EARTHEN DIVERSIONS OR EMBANKMENTS SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS OF COMPLETED CONSTRUCTION.

PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY AREA THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREA WITHIN 50 FT. OF A STREAM AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

PERMANENT SEEDING SPECIFICATIONS			
Seed Mix	lb./ac.	lb. / 1000sqft	Notes:
General Use			
Creeping Red Fescue	20-40	1/2-1	
Domestic Ryegrass	10-20	1/4-1/2	
Kentucky Bluegrass	10-20	1/4-1/2	
Tall Fescue	40	1	
Dwarf Fescue	40	1	
Steep Banks or Cut Slopes			
Tall Fescue	40	1	
Crown Vetch	10	1/4	Do not seed later than August.
Tall Fescue	20	1/2	
Flat Pea	20	1/2	Do not seed later than August.
Tall Fescue	20	1/2	
Road Ditches and Swales			
Tall Fescue	40	1	
Dwarf Fescue	90	2 1/4	
Kentucky Bluegrass	5		
Lawns			
Kentucky Bluegrass	60	1 1/2	
Perennial Ryegrass	60	1 1/2	
Kentucky Bluegrass	60	1 1/2	For Shaded areas.
Creeping Red Fescue	60	1 1/2	

Note: other approved seed species may be substituted.

PERMANENT STABILIZATION OF CONVEYANCE CHANNELS

OPERATORS SHALL UNDERTAKE SPECIAL MEASURES TO STABILIZE CHANNELS AND OUTFALLS AND PREVENT EROSION FLOWS. MEASURES MAY INCLUDE SEEDING, DORMANT SEEDING (AS DEFINED IN THE LATEST EDITION OF ODNR RAINWATER AND LAND DEVELOPMENT MANUAL), MULCHING, EROSION CONTROL MATTING, SODDING, RIPRAP NATURAL CHANNEL DESIGN WITH BIO ENGINEERING TECHNIQUES OR ROCK CHECK DAMS.

TEMPORARY SEDIMENT CONTROLS

SILT FENCE

SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCES SHALL BE PLACED ON A LEVEL CONTOUR. THE EPA PERMIT NO. 0HC000006 DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF. SILT FENCE IS NOT PERMITTED TO BE USED FOR CONTROLLING CONCENTRATED SURFACEWATER FLOW (ONLY SHEET FLOW).

THE SIZE OF THE DRAINAGE AREA THAT CAN BE TREATED BY SILT FENCE VARIES WITH TOPOGRAPHY. THE FOLLOWING TABLE IS TO BE USED TO DETERMINE THE MAXIMUM UPSTREAM DISTANCE THAT IS ALLOWABLE TO BE TREATED BY THE SILT FENCE IN ORDER TO FUNCTION PROPERLY:

SLOPE		SLOPE LENGTH (FT)
0-2%	FLATTER THAN 50:1	250
2-10%	50:1-10:1	125
10%-20%	10:1-5:1	100
20%-33%	5:1-3:1	75
33%-50%	3:1-2:1	50
>50%	>2:1	25

INLET PROTECTION

INLET EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

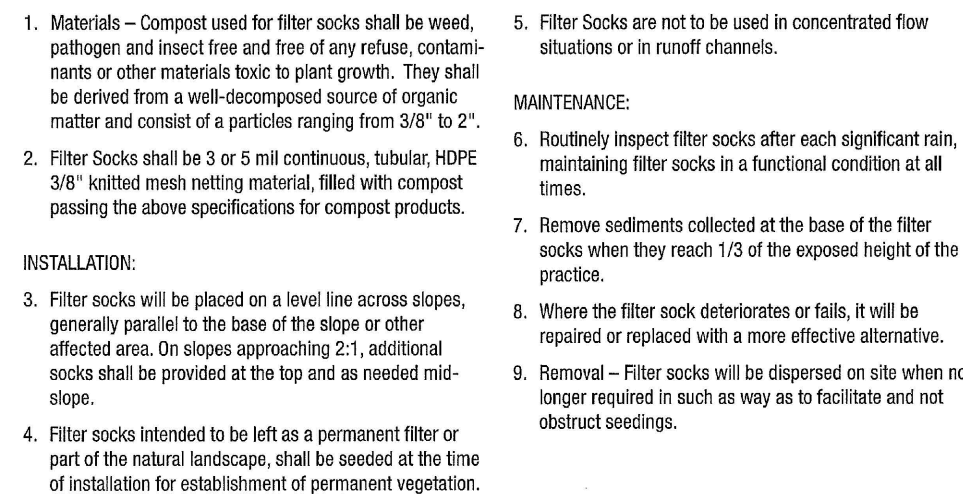
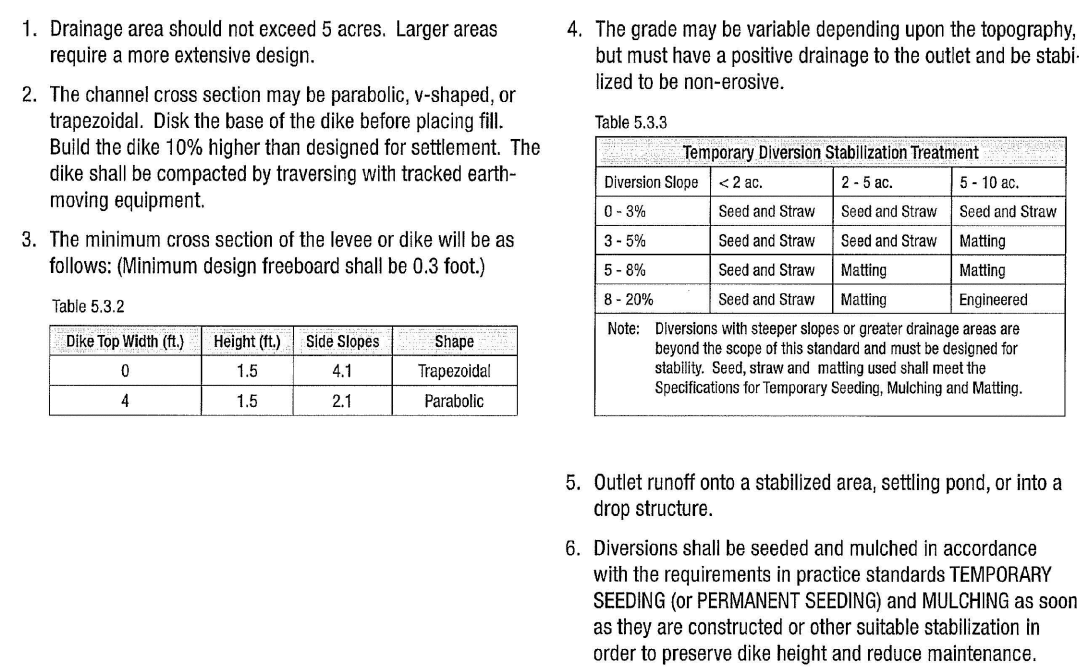
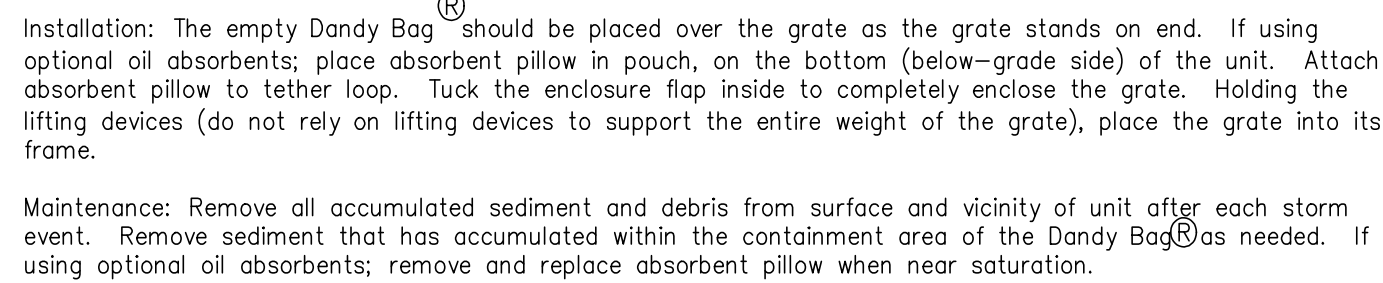
TEMPORARY STABILIZATION	
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY DISTURBED AREAS WITHIN 50 FT. OF A STREAM AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FT. OF STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO ONSET OF WINTER WEATHER (NOV.1) STRAW MULCH 2 TO 3 BALES PER 1000 SQ.FT. AND OR 2 TONS PER ACRE.

TEMPORARY SEEDING SPECIFICATIONS			
SEEDING DATES	SPECIES	LB. / 1000SQFT	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	1	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	WHEAT	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING. NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.			

CONSTRUCTION SEQUENCE NARRATIVE

- PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL AS SPECIFIED BY THE APPROVED SWP3 PLANS AND NARRATIVE. CONTRACTOR MUST REVIEW THE SWP3 AND NARRATIVE.
- CONTRACTOR SHALL COMPLETE AND SUBMIT THE OEPA CO-PERMITEE NOTICE OF INTENT (N.O.I.) APPLICATION. ALL OPERATORS AT THE CONSTRUCTION SITE ARE REQUIRED TO BECOME CO-PERMITEES. INSTRUCTIONS AND FORMS CAN BE OBTAINED AT THE OEPA WEBSITE: http://www.epa.state.gov/Portals/33/storm/StormWater_Co-Permittee NOI.docx
- TEMPORARY STONE CONSTRUCTION ENTRANCE TO BE INSTALLED FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
- DELIVER CONSTRUCTION TRAILER TO SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE.
- ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- STAKEOUT LIMITS OF DISTURBANCE AND INSTALL ORANGE BARRIER FENCE TO CLEARLY DEMONSTRATE THE BOUNDARY OF THE RIPARIAN AND/OR WETLAND SETBACKS AS REQUIRED.
- INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS. FILTER FABRIC FENCE SHALL BE INSTALLED AS PER PLAN DESIGNATION.
- BEGIN CLEARING AND GRUBBING.
- REMOVE TOPSOIL FROM AREAS AS NECESSARY. REMOVE FROM SITE PER OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA) STANDARDS OR TEMPORARILY STOCKPILE MATERIAL IN DESIGNATED AREAS.
- BEGIN EARTHWORK OPERATIONS WITHIN THE SEDIMENT BASIN(S)/TRAP(S) LIMITS. THE TEMPORARY SEDIMENT BASIN(S) OUTLET STRUCTURE AND RELATED OUTLET PIPE AND EMERGENCY OVERFLOW SPILLWAY INCLUDING ALL OUTLET PROTECTION SHALL BE INSTALLED ONCE GRADES ARE ESTABLISHED. TEMPORARY BASIN(S)/TRAP(S) SHALL BE INSTALLED WITHIN SEVEN DAYS OF GRUBBING AND AS THE FIRST STEP IN SITE GRADING.

IF SEDIMENT BASIN(S)/TRAP(S) CANNOT BE INSTALLED AS THE FIRST STEP IN GRADING OPERATIONS DUE TO SITE CONSTRAINTS (I.E. TOPSOIL STRIPPING, CONSTRUCTION SEQUENCING, ETC.) THEN SILT FENCE SHALL BE INSTALLED ALONG THE WESTERN EDGE OF THE SITE TO CONTROL SEDIMENT UNTIL THE BASIN CAN BE INSTALLED. PER TABLE 6.3.1 OF THE ODNR RAINWATER MANUAL, SILT FENCE CAN CONTROL A MAXIMUM OF 250' OF SLOPE LENGTH AT 0-2% SLOPES. SITE GRADINGS SHALL BE SEQUENCED IN SUCH A WAY THAT THE SLOPE LENGTH DRAINING TOWARD THE SILT FENCE WILL NOT EXCEED 250'
- INSTALL TEMPORARY DIVERSION SWALES, DIRECTING RUN-OFF TO THE SEDIMENT BASIN(S)/TRAP(S). THE BASIN AREA AND TEMPORARY SWALE SHALL BE SEEDED AND MULCHED UPON COMPLETION AS PER THE TEMPORARY SEEDING SPECIFICATIONS.
- AT A MINIMUM ALL CONTROLS ARE INSPECTED AT LEAST EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH PER 24 HOUR PERIOD. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF THE INSPECTION.
- TEMPORARILY STORE MATERIAL EXCAVATED FOR CONSTRUCTION AT DESIGNATED AREAS. MATERIAL TO BE MAINTAINED FOR DUST CONTROL BY USE OF A COVER OR OTHER METHODS APPROVED BY OHIO EPA.
- IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SWALE. REMOVE TOPSOIL FROM BASIN(S)/TRAP(S) AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: EXCESS SOIL, MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL. IF WASTE MATERIAL IS REMOVED FROM THE PROJECT SITE, THE CONTRACTOR MUST PROVIDE AN EROSION AND SEDIMENTATION CONTROL PLAN TO THE REGULATORY COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE PROJECT SITE AS WELL AS THE COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE DISPOSAL AREA.
- BEGIN EARTHMOVING AND SITE GRADING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF ACATION AND EROSION SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL.
- TEMPORARY STABILIZATION PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES WHICH ARE QUICK GROWING ARE SEEDD AND USUALLY STRAW MULCHED TO PROVIDE PROMPT TEMPORARY SOIL STABILIZATION. TEMPORARY STABILIZATION IS REQUIRED BY OHIO EPA'S GENERAL CONSTRUCTION PERMIT TO BE APPLIED ON DISTURBED SOIL AREAS WITHIN 7 DAYS IF THE AREA IS INTENDED TO BE DORMANT FOR GREATER THAN 14 DAYS, OR WITHIN 2 DAYS IF THE AREA IS WITHIN 50 FEET OF SURFACE WATER OF THE STATE (OR WETLAND).
- BEGIN UTILITY INSTALLATION. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY.
- REPAIR/STABILIZE ALL AREAS DESIGNATED FOR TEMPORARY SEEDING AND MULCHING. INCLUDING AREAS WHERE SLOPE IS 3:1 OR GREATER, WHICH REQUIRE A MULCH NETTING. ANY AREAS AT FINAL GRADE OR THAT WILL LIE DORMANT FOR ONE YEAR OR MORE REQUIRE PERMANENT SEEDING WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE REFER TO OHIO'S RAINWATER AND LAND DEVELOPMENT MANUAL. IN ADDITION, ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE REQUIRE EROSION CONTROLS WITHIN 2 DAYS OF REACHING FINAL GRADE. NOTE THAT A 70% VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION.
- MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK. SEDIMENT BASINS & TRAPS SHOULD BE CLEANED OUT WHEN SILT OCCUPIES 40 PERCENT OF THE POND DEPTH.
- INSTALL CONCRETE CURBS(WHERE APPLICABLE) AND PAVEMENT SUBBASE. BEGIN BITUMINOUS OR CONCRETE PAVING, REMOVING STONE CONSTRUCTION ENTRANCE ONLY WHEN NECESSARY.
- STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING IMMEDIATELY UPON REACHING FINAL GRADE.
- ALL REMAINING TEMPORARY SEDIMENT CONTROL PRACTICES (INLET PROTECT, SILT FENCE, ETC.) SHALL BE REMOVED UPON SITE STABILIZATION. NOTE 70% VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION. SILT FENCE SHALL REMAIN ALONG THE RIPARIAN SETBACK LIMITS UNTIL THE CONSTRUCTION AND SITE LANDSCAPING ACTIVITIES ARE COMPLETE. THE SILT FENCE SHALL BE REMOVED FROM THE SITE WITHOUT USING ANY EARTH DISTURBING PRACTICES.
- PRIOR TO CONVERSION, PUMP ALL STANDING WATER FROM WITHIN THE TEMPORARY BASIN(S) /TRAP(S) TO A FILTERING SYSTEM IN A WELL-VEGETATED AREA AND REMOVE AND DISPOSE OF ALL UNSUITABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE BASIN PRIOR TO FINAL GRADING OF THE DETENTION BASIN. IF THE BASIN WILL SERVE AS A DRY WATER QUALITY AND DETENTION BASIN, RE-GRADE THE BASIN AS NEEDED TO MEET THE PROPOSED FINAL GRADES SHOWN ON THE PLANS. IF THE BASIN WILL SERVE AS A WET WATER QUALITY AND DETENTION BASIN, THE BASIN SHOULD BE EXCAVATED TO THE PROPOSED DEPTH SHOWN ON THE FINAL GRADING PLAN. THE TEMPORARY SEDIMENT BASIN OUTLET STRUCTURE SHOULD BE REMOVED (OR RETROFITTED) AND REPLACED WITH THE PERMANENT OUTLET STRUCTURE.
- PERMANENT SEEDING AND LANDSCAPING SHOULD BE APPLIED WITHIN THE WATER QUALITY AND



1. Silt fence shall be constructed before uplope land disturbance begins.
2. All silt fence shall be placed close to erosion but must be placed so that surface water will not concentrate at low points in the fence and so that small waves or depressions that may develop in the silt fence due to the silt fence are disrupted along its length.
3. Ends of all silt fences shall be brought uplength slightly so that the silt fence will be prevented from flowing around the end of the installation.
4. Silt fence shall be placed on the flattest areas available.
5. Where possible, vegetation shall be preserved for at least 30 days after the silt fence is installed. If the silt fence is placed in an area where no vegetation is present, it shall be reestablished within 12 months from the installation of the silt fence.
6. The height of the silt fence shall be a minimum of 18 inches.
7. The silt fence shall be placed in an excavated or silted area shall be a minimum of 6 inches deep. The trench shall be made with a trencher, cable layer, auger, backhoe, excavator, or other suitable device that will ensure an adequate depth of excavation.
8. The silt fence shall be placed with the status on the downslope side of the geyser(s). A minimum of 8 inches of geotextile must be below the ground surface. Excavations shall be made to the bottom of the trench. The trench shall be backfilled and compacted on both sides of the trench.
9. Seams between sections of silt fence shall be spliced together only at a support post with a minimum 6-inch diameter. Seams shall be made on the uplength side only.
10. Maintenance—Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff occurs in a concentrated flow, the silt fence shall be replaced. If the silt fence, or in any other way allows a concentrated flow discharge, one of the following shall be performed: a) the silt fence shall be replaced with a new silt fence; b) changes, 2) accumulated sediment shall be removed, or c) the silt fence shall be replaced.
11. Sediment deposits shall be routinely removed when the deposit reaches approximately one-half the height of the silt fence.
12. Silt fences shall be inspected after each rainfall and at least daily during a prolonged rainfall. The location of existing silt fence shall be reviewed daily to ensure the effectiveness of the silt fence. If necessary, the silt fence shall be repaired immediately.

Criteria for silt fence materials

1. Fence post: The length shall be a minimum of 32 inches and shall be made of a material with a nominal diameter of 1 1/2 inches. The silt fence shall be free of knots, splits, or other defects that would compromise the strength of the post. The minimum spacing between posts shall be 10 ft. Posts shall be driven a minimum of 16 inches into the ground. Posts shall be driven into the ground sufficiently securely to prevent overturning of the fence in the event of a high wind.
2. Silt fence fabric—See Chart below.

FABRIC PROPERTIES	VALUES	TEST METHOD
Minimum Tensile Strength	120 lbs (535 N)	ASTM D 4632
Maximum Elongation at 60 lbs	50%	ASTM D 4632
Minimum Puncture Strength	50 lbs (220 N)	ASTM D 4633
Minimum Tear Strength	40 lbs (180 N)	ASTM D 4533
Apparent Opening Size	≤ 0.84 mm	ASTM D 4751
Minimum Permittivity	1X10-2 sec-1	ASTM D 4491
UV Exposure Strength Retention	70%	ASTM G 435

1. Stone Size—0007 #2 (1.5 to 5.2 inch) stone shall be used, or recycled concrete aggregate.

2. Length—The entrance shall be as long as required to provide high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).

3. Thickness—The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches thick for heavy duty use.

4. Width—The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.

5. Gasketing—A gasketing shall be laid out the entire area prior to placing the stone. It shall be composed of stone root-proof polymeric fibers and meet the following specifications:

Figure 7-6.1 Performance Specifications for Gasketing	
Minimum Tensile Strength	200 lbs.
Minimum Flexural Strength	80 psi.
Minimum Tear Strength	50 lb.
Minimum Burst Strength	320 psi.
Minimum Elongation	20%
Equivalent Opening Size	EQS < 0.1 mm
Permeability	1"x1-0.5 cm/sec.

6. Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.

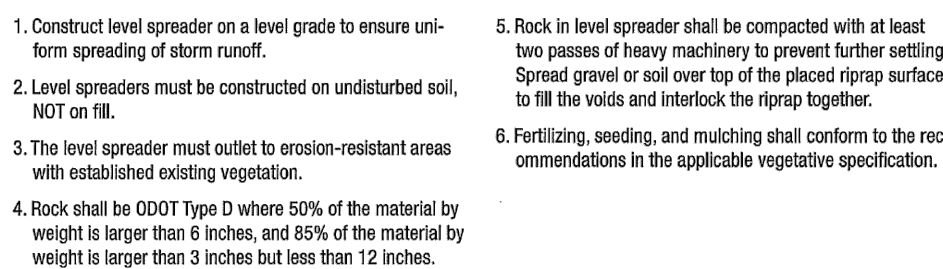
7. Culvert / A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed onto paved surfaces.

8. Water Bar / A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and onto paved surfaces.

9. Maintenance / Top dressing of additional stone will be applied as conditions demand. Mud spilled, dropped, or otherwise scattered onto public roads, or any surface where runoff is not checked by sediment controls, will be removed immediately. Removal shall be accomplished by sweeping or sweeping.

10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction site shall be restricted from muddy streets.

11. Removal—The entrance shall remain in place until the disturbed area is stabilized or replaced with its permanent roadway or driveway.



Installation:

- 1. Concrete washcoat must not be allowed to flow or stream, drain, slump, or run. If any other water comes into contact with the washcoat it should be diluted a minimum of 10:1 (200 ml from one liter).
- 2. Field tie of other surfaceubridges provided within 10.0 m of the shop panel must be cut and plugged.
- 3. Ensure a stable plane for provided for concrete trucks to reach the washcoat area.
- 4. Washcoat should be applied in a continuous manner. Do not stop and start the washcoat pl.
- 5. Surface runoff generated from splash area must be diverted away from belowgrade washcoat application area so that it does not flow into them.
- 6. A single extra washcoat washcoat area may be utilized to multiple sublots.

Maintenance:

- 7. The washcoat pl must be inspected frequently to ensure the tire is intact.
- 8. Once 70% of the original volume of the washcoat pl is lost due to the tire loss or the tire is torn, the material must be removed and replaced with new concrete washcoat pl. Once the hardened concrete is removed, the tire must be replaced (RFD). A new pl must be installed to compensate for the original tire loss is no longer intact.

Removal:

- 1. Once the washcoat pl is no longer needed, ensure all washcoat material is completely hardened, then remove the washcoat pl by cutting it into sections and lifting it out. It can be ground or sawed.
- 2. Prefabricated concrete specifically designed for concrete washcoat removal can be used subject to prior approval by the Community Engineer. Follow the manufacturer's suggestions for installation, maintenance and removal.

Below-grade (3-ft depth)			Above-grade (2-ft depth)		
# of concrete trucks expected to be washed out on site*	Width (ft)	Length (ft)	# of concrete trucks expected to be washed out on site*	Width (ft)	Length (ft)
2-3	3	3	2	3	3
4-6	4	4	3-4	4	4
6-7	5	5	5-6	5	5
8-10	6	6	7-8	6	6
			9-11	7	7
11-14	7	7	12-15	8	8

*For small projects using a maximum of only one truckload of concrete or utilizing on-site mixing, rinsing of equipment may take place on the lot without a pit, provided it can be done a minimum of fifty (50) feet away from any water conveyances.

PRESERVE OF HUDSON TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
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WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433 (440) 944-3722 (Fax)
www.polaris-es.com



SWP3 DETAILS

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

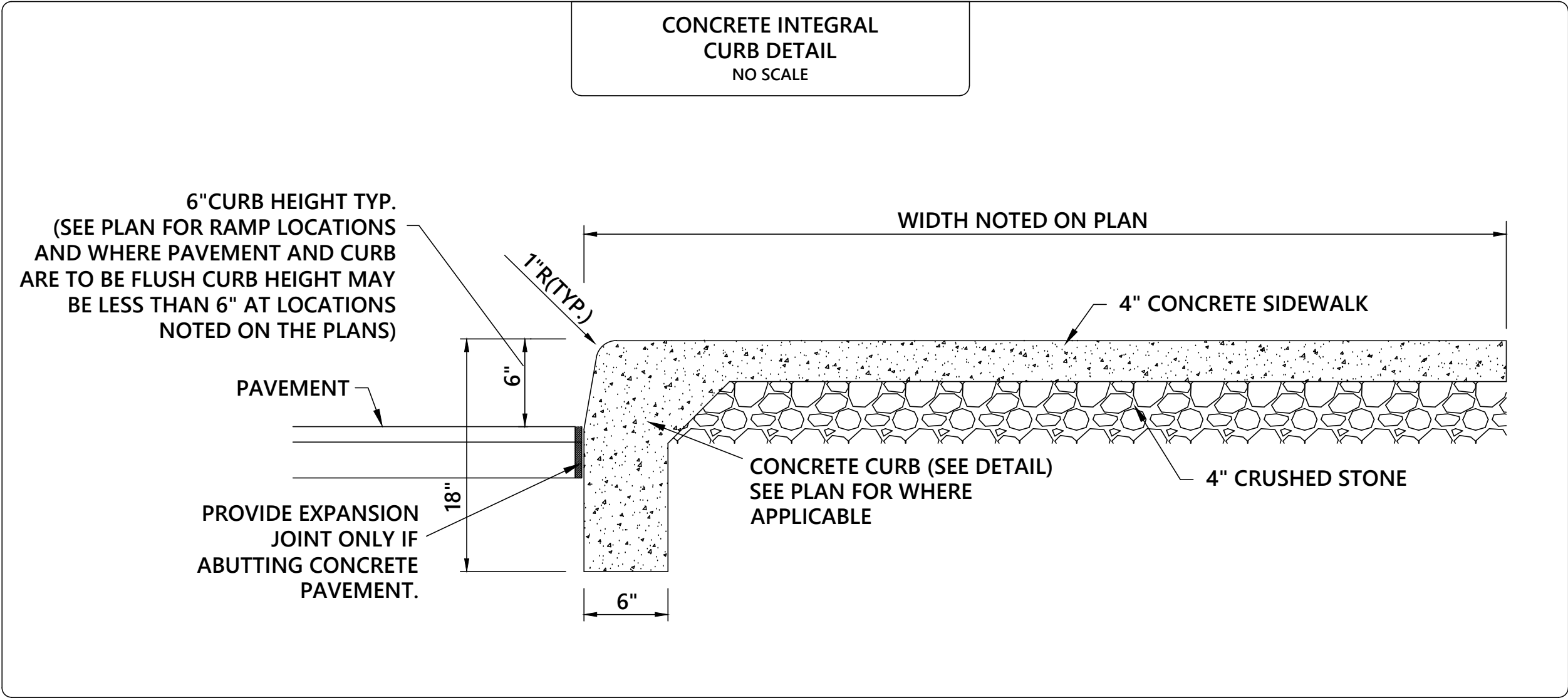
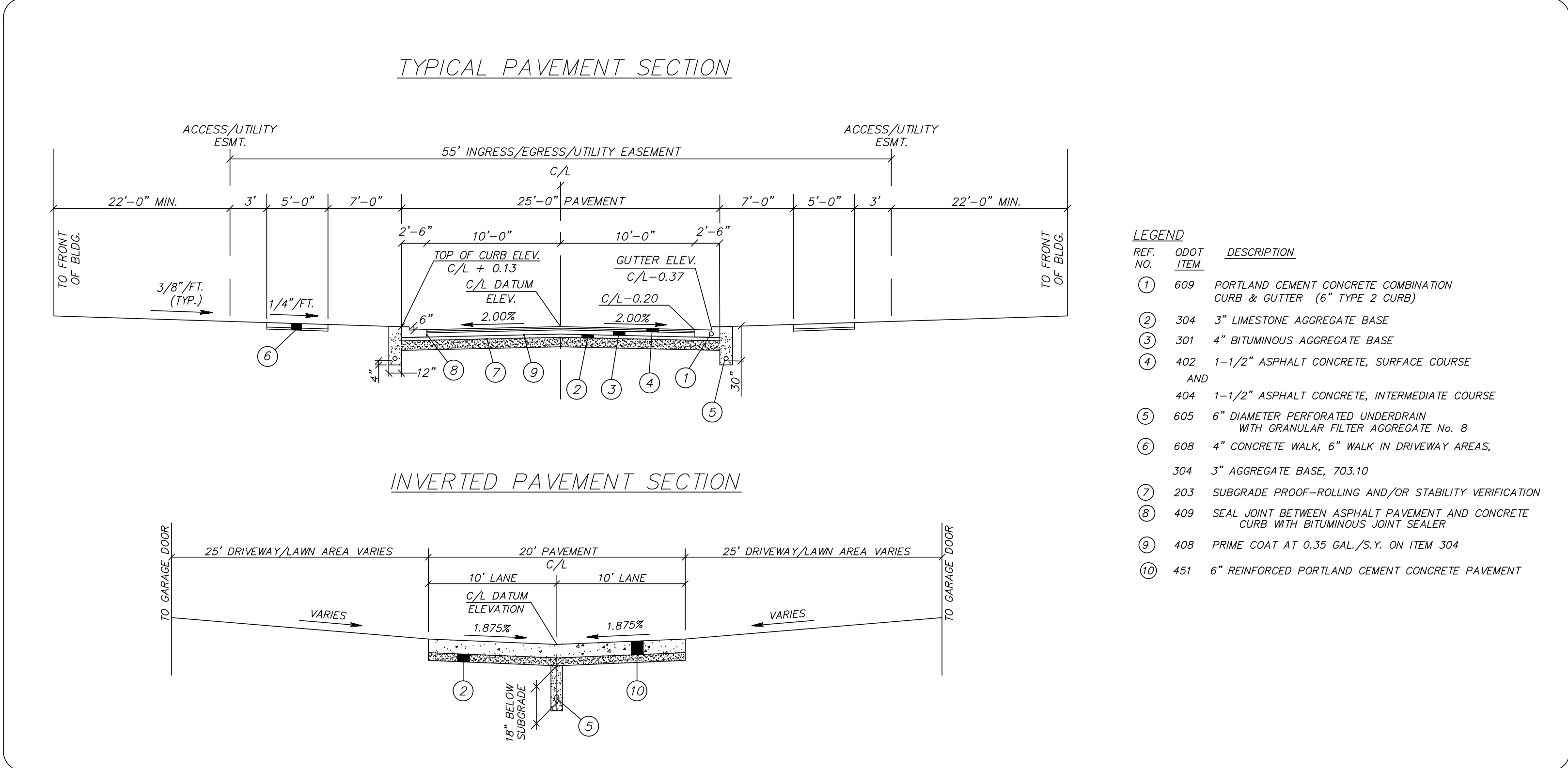
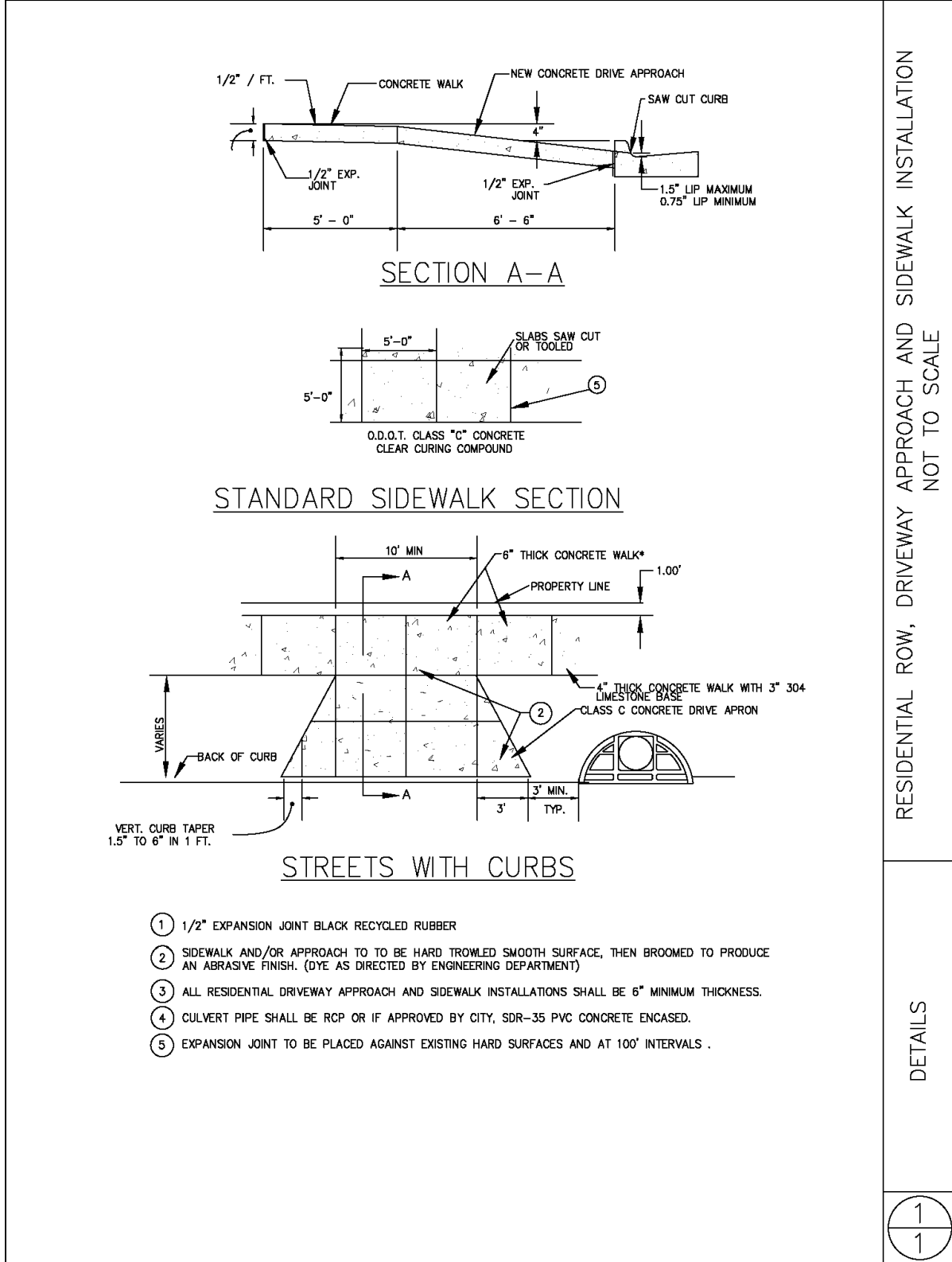
24189

SHEET	OF
16	20

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					TAB: XX
					BNDY. CHK: N/A
					BASE. CHK: N/A



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SCALE: HOR. 1"=00' VERT. 1"=00'
FOLDER: DWG/Proj. Engineering
FILENAME: 24189 T.N.D
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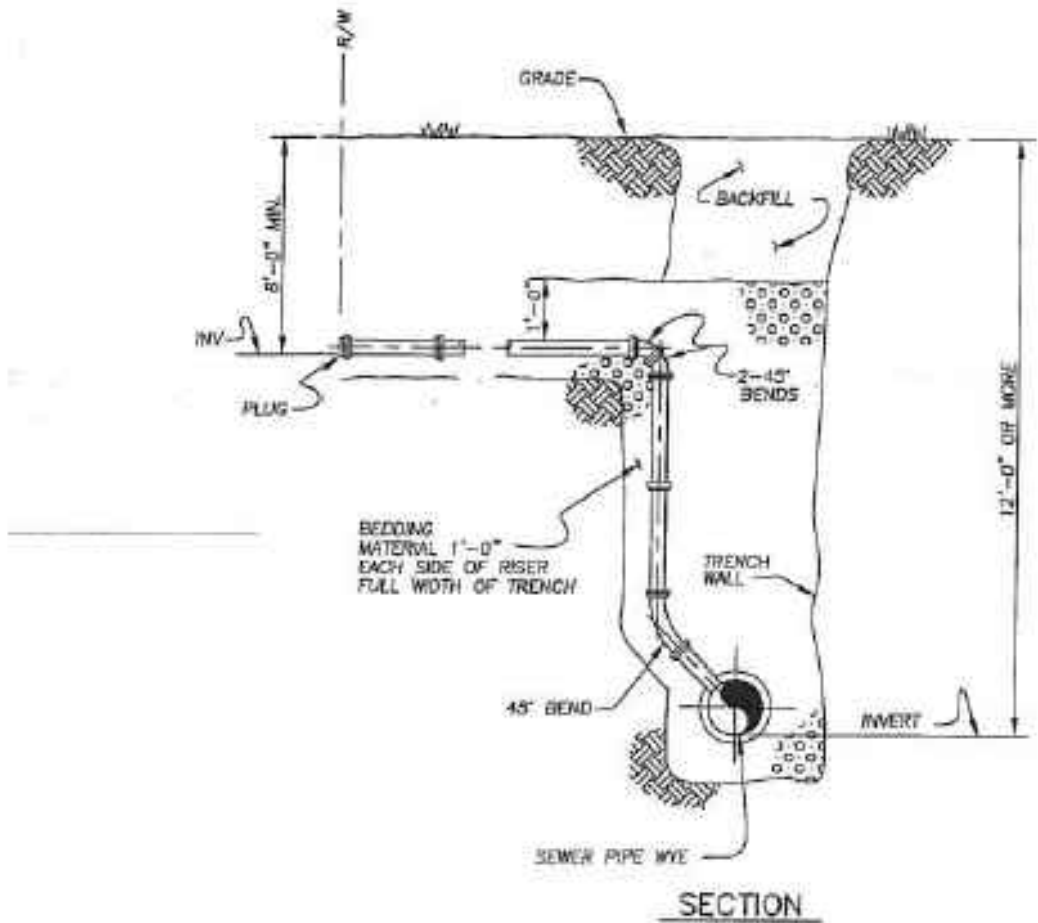
PAVEMENT DETAILS

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

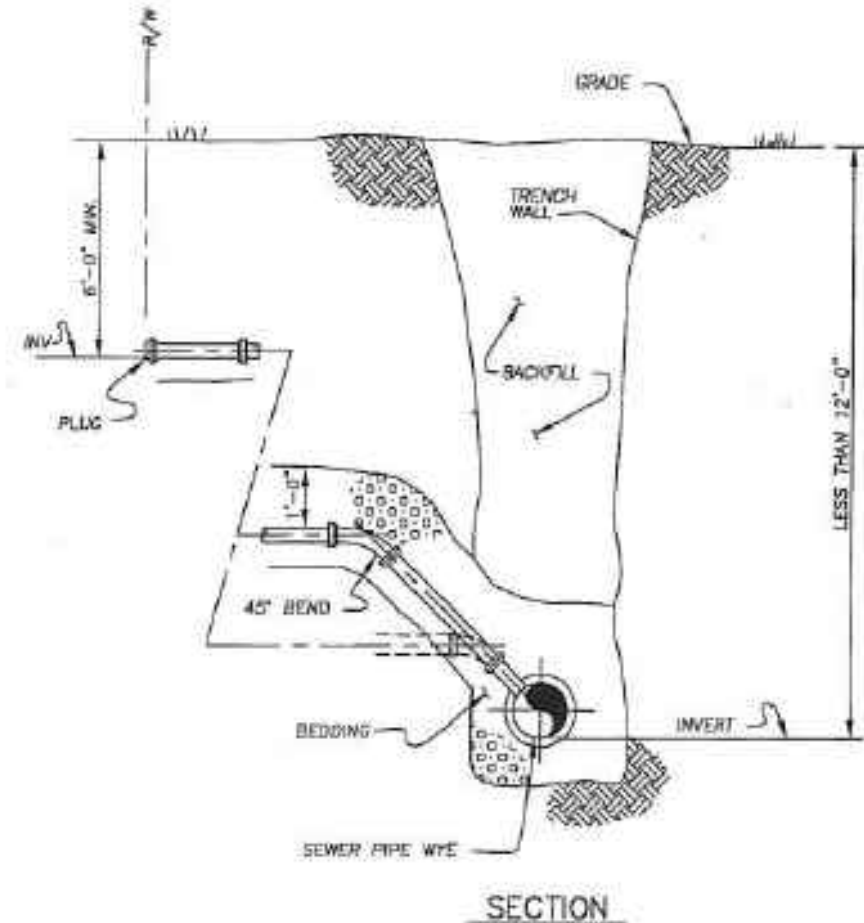
CONTRACT No.

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SHEET	OF
17	20



SECTION
RISERS WHERE DEPTH
OF MAIN SEWER
EXCEEDS 12'-0"

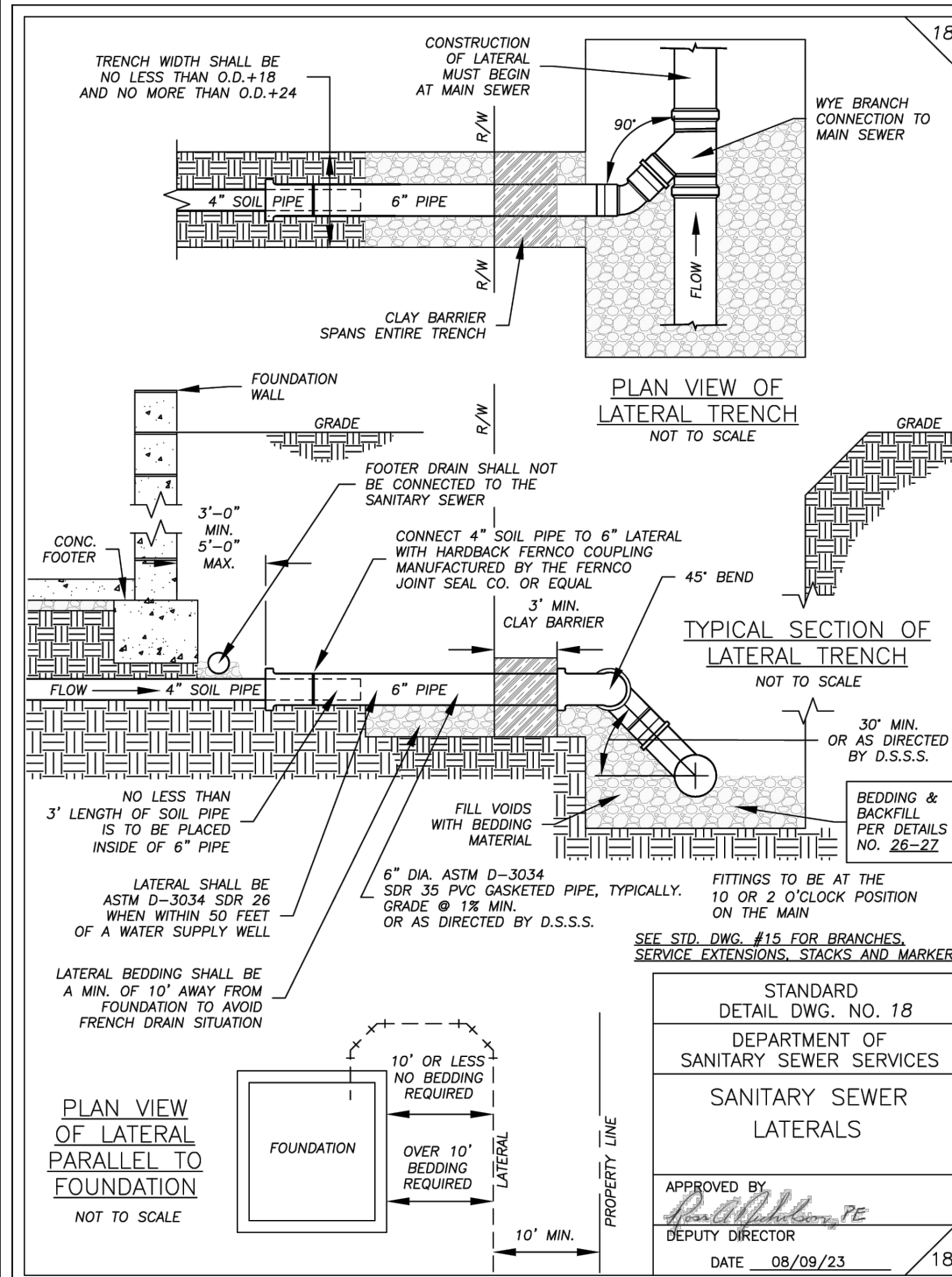


SECTION
STORMWATER CONNECTION WHERE
DEPTH OF MAIN SEWER IS
LESS THAN 12'-0"

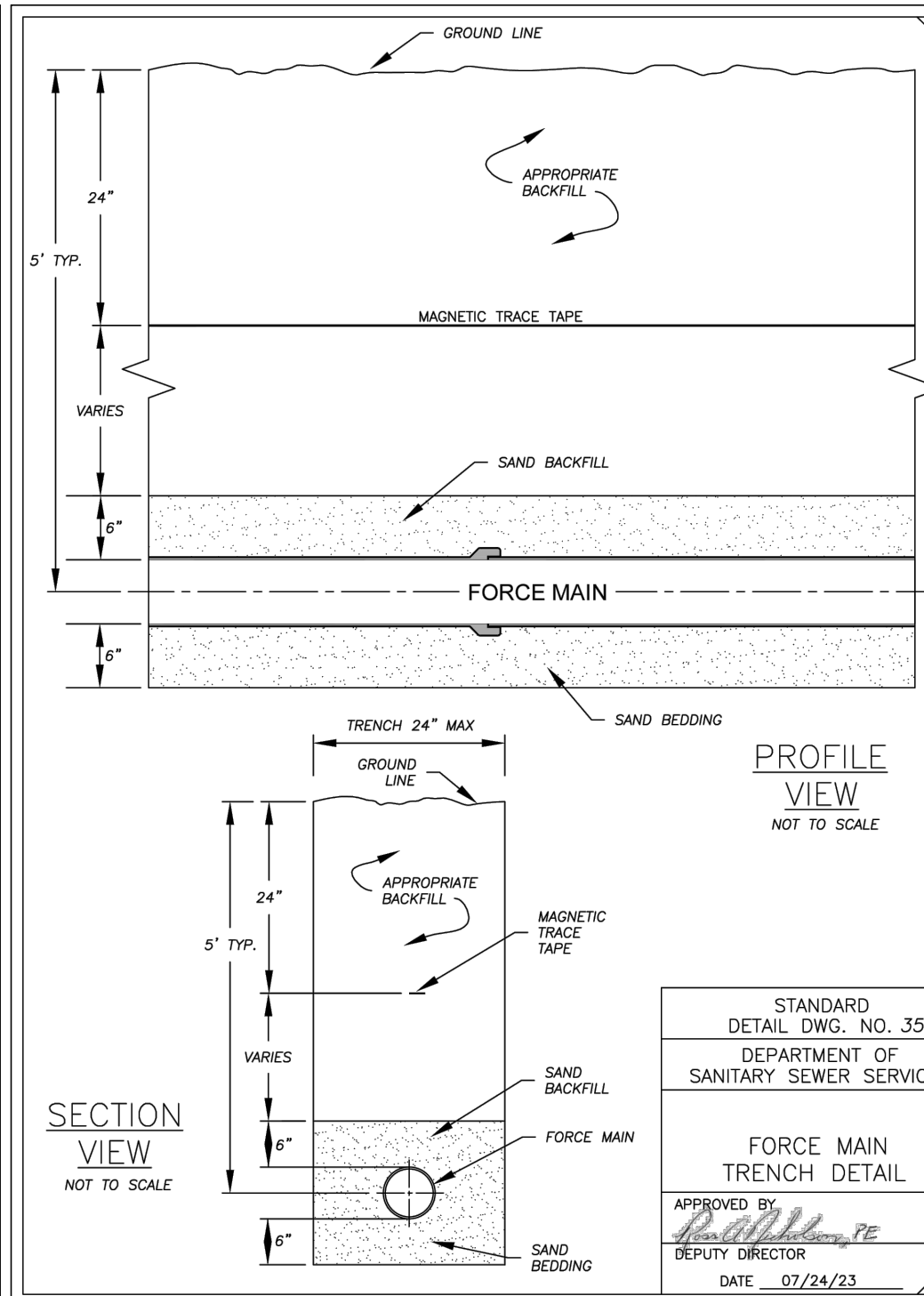
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NO SCALE

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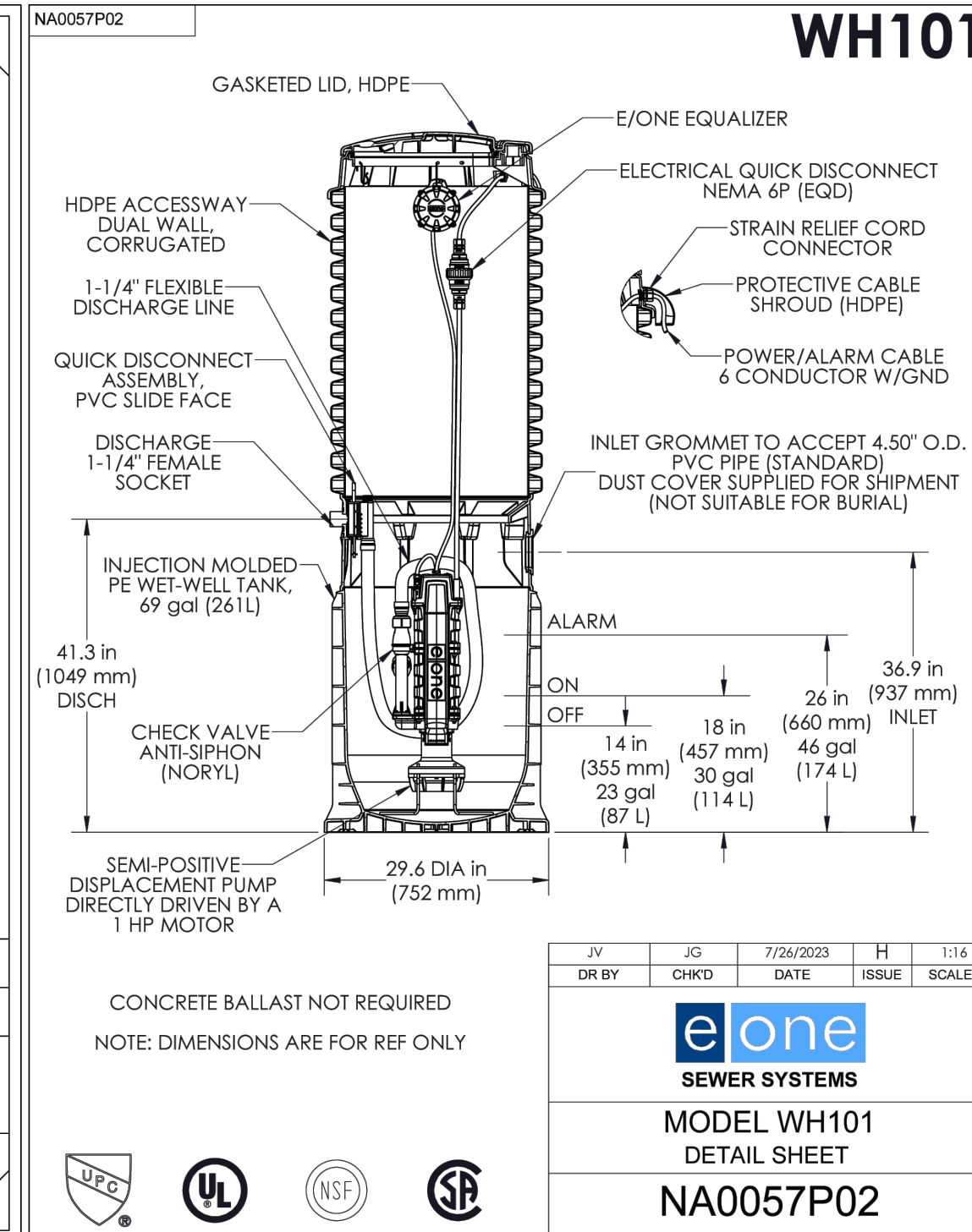
FIG 4.10.1



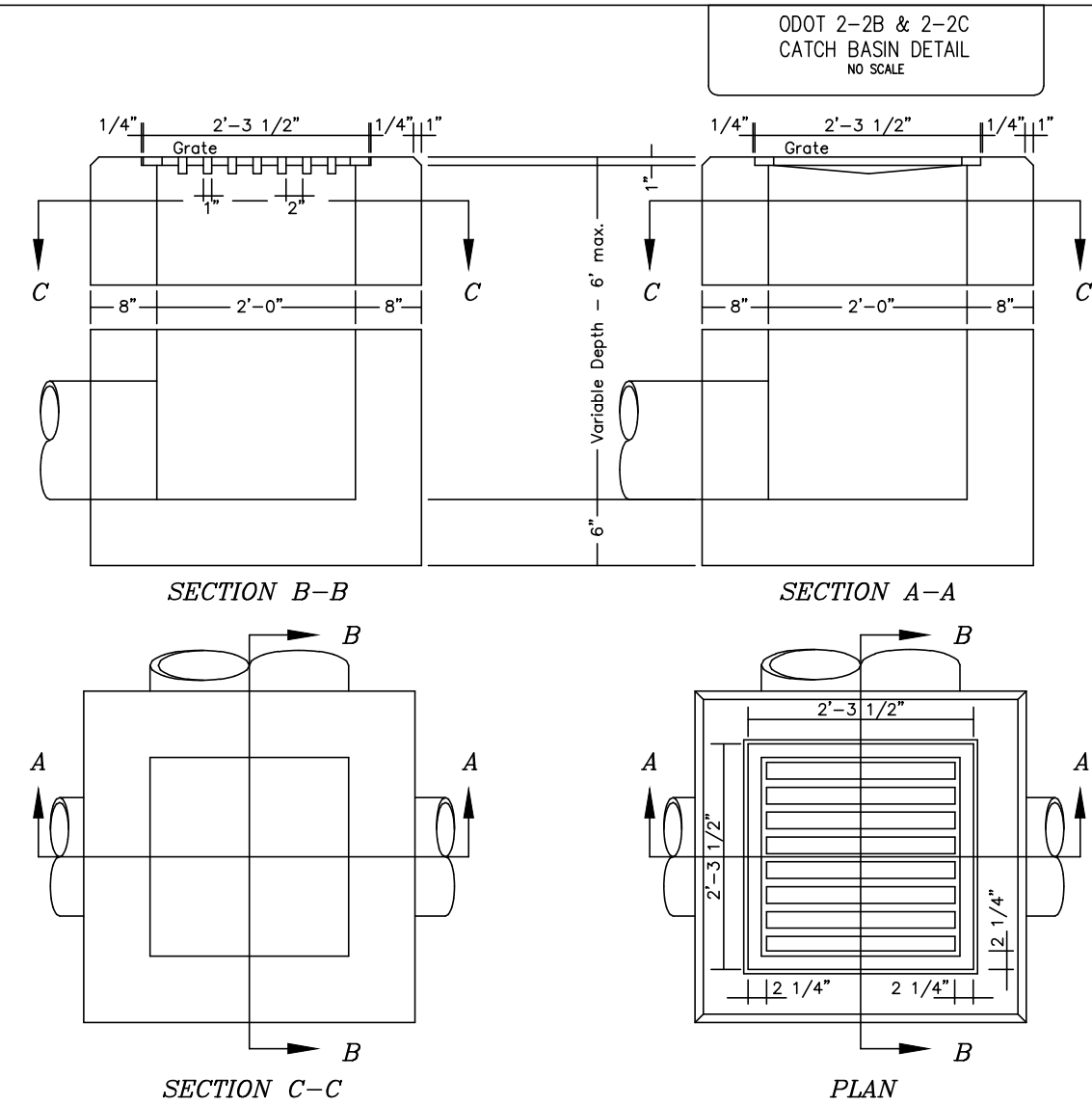
STANDARD
DETAIL DWG. NO. 18
DEPARTMENT OF
SANITARY SEWER SERVICES
SANITARY SEWER
LATERALS
APPROVED BY: *[Signature]*
DEPUTY DIRECTOR
DATE 08/24/23



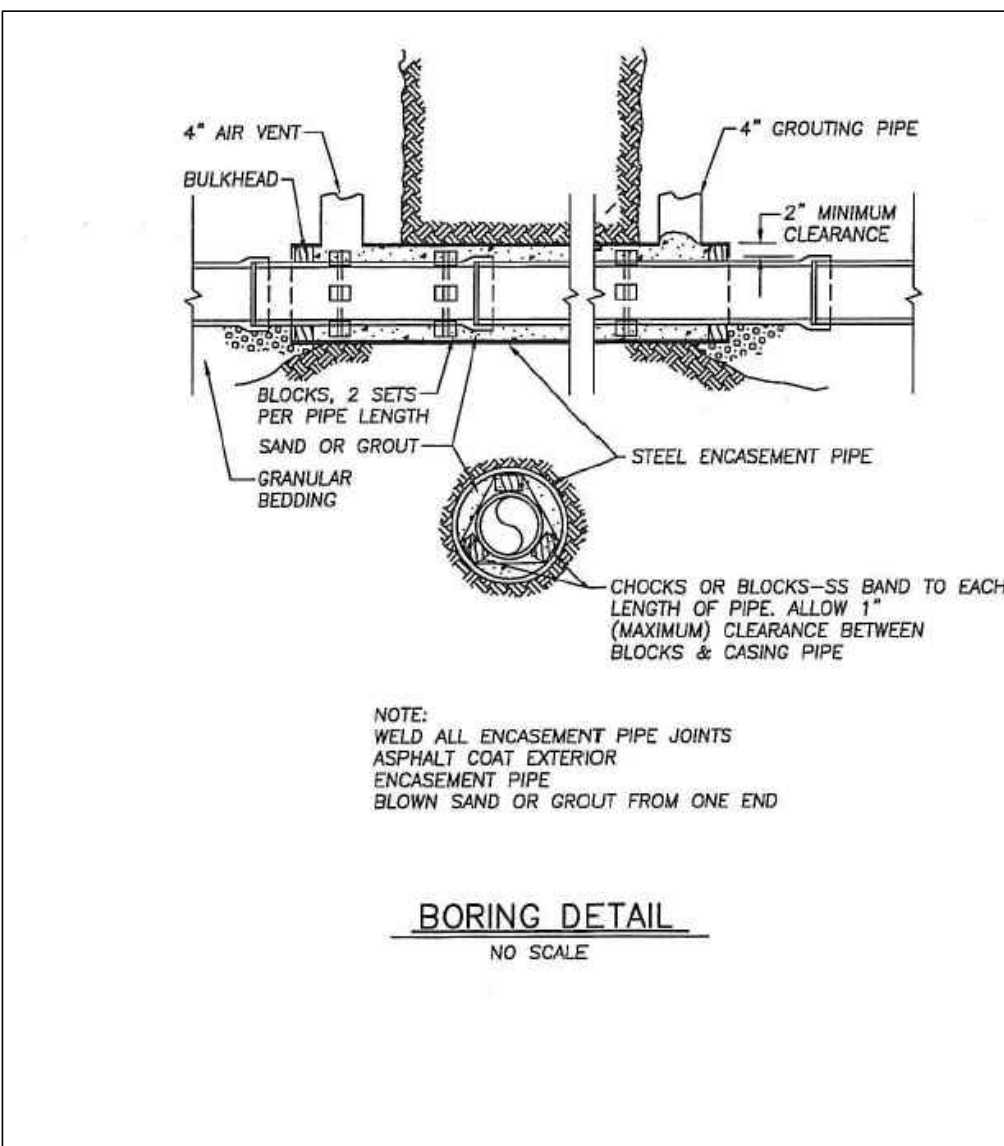
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DETAIL DWG. NO. 35
DEPARTMENT OF
SANITARY SEWER SERVICES
FORCE MAIN
TRENCH DETAIL
APPROVED BY: *[Signature]*
DEPUTY DIRECTOR
DATE 07/24/23



NA0057P02
WH101
SEWER SYSTEMS
MODEL WH101
DETAIL SHEET
NA0057P02



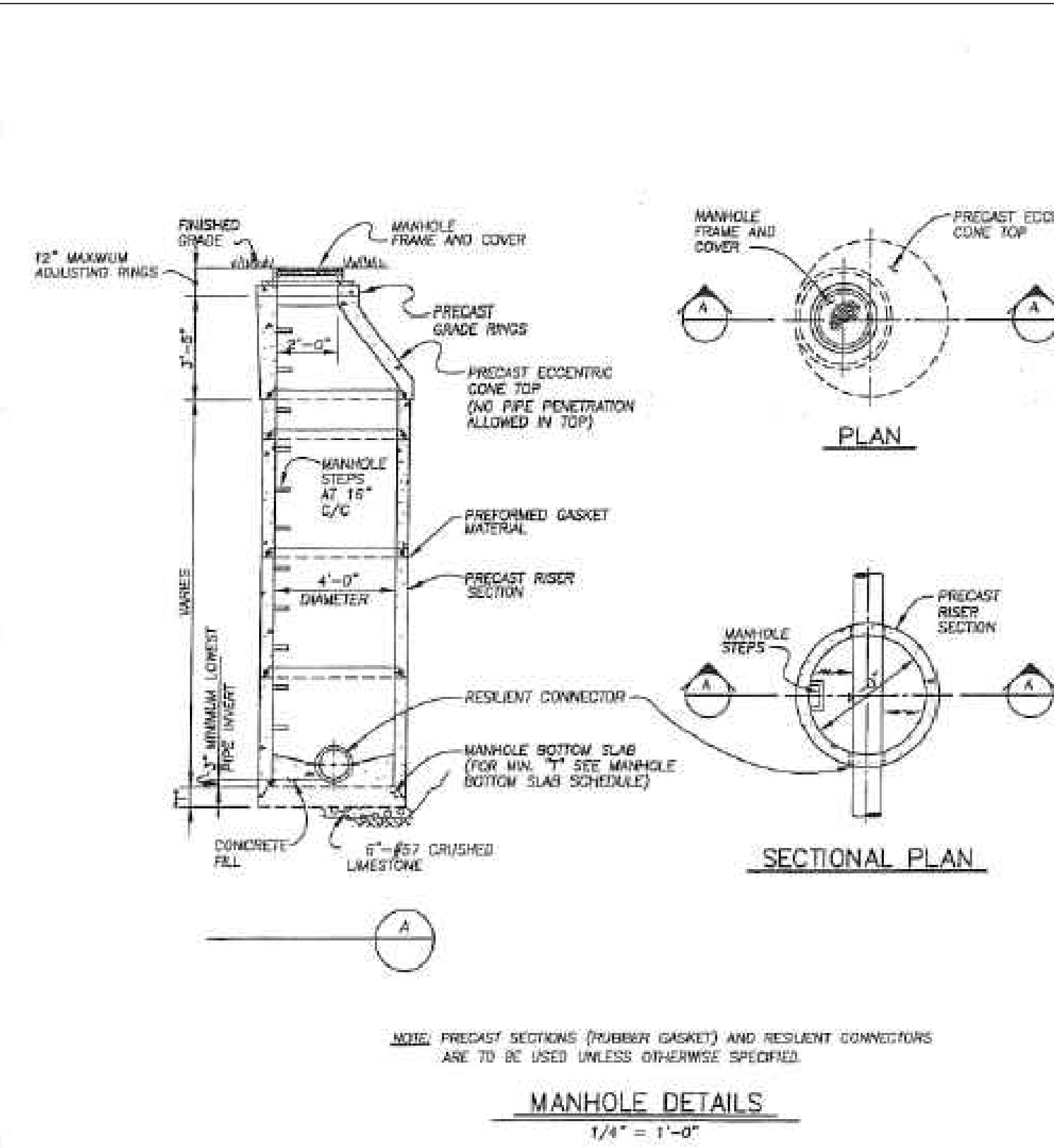
000T 2-2B & 2-2C
CATCH BASIN DETAIL
NO SCALE
LOCATION and elevation when given
on the plans is top center of the
grate.
CASTING & GRATING
000T 2-2B In Pavement (Without Slab Top):
Casting to Be East Jordan No. 5250
000T 2-2B In Lawn (With Slab Top):
Casting to Be East Jordan No. 5110
w/ Type M3 Grate (or equal).
BRICK, concrete block or cast-in-place
walls have a nominal thickness of 8
inches. Precast walls shall have a
minimum thickness of 6 inches and be
reinforced sufficiently to permit ship-
ping and handling without damage.
2-2-B GRATE elevation to be placed
4 to 6 inches below normal elevations
of median or ditch flow line returning
to normal 10 feet each side of basin.
CONCRETE, cast-in-place, to be Class
"C". All precast concrete shall meet
the requirements of 706.13 with 6%
plus or minus 2% air void content in the
hardened concrete and be marked
with catch basin number.
OPENINGS for pipes shall be O.D. +2"
when fabricated or field cut.
THIS DETAIL IS INTENDED TO DETAIL THE
000T STANDARD 2-2-B CATCH BASIN



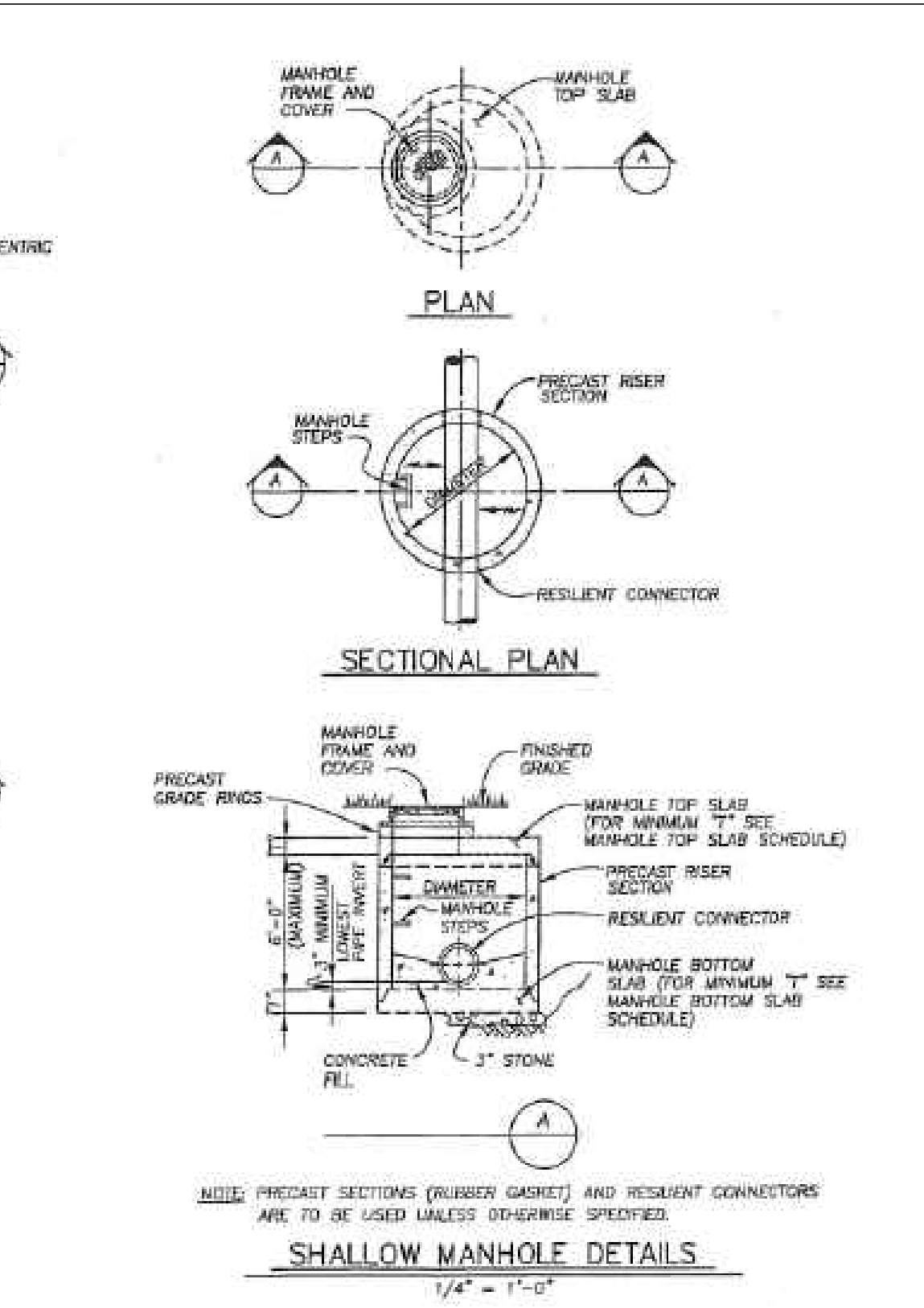
BORING DETAIL
NO SCALE

BORING.DWG 09-15-99

FIG 4.5.1



MANHOLE DETAILS
1/4" = 1'-0"



SHALLOW MANHOLE DETAILS
1/4" = 1'-0"

FIG 4.5.2

STATE OF OHIO
PROFESSIONAL ENGINEER
KEVIN HOFFMAN
74831
DATE: 10/21/24 DRAWN: NMO
SCALE: HOR. 1"=00' VERT. 1"=00'
FOLDER: DWG/Proj. Engineering
FILENAME: 24189 T.N.D.
TAB: XX
BNDY. CHK: N/A
BASE. CHK: N/A

REV. No.	DATE	BY

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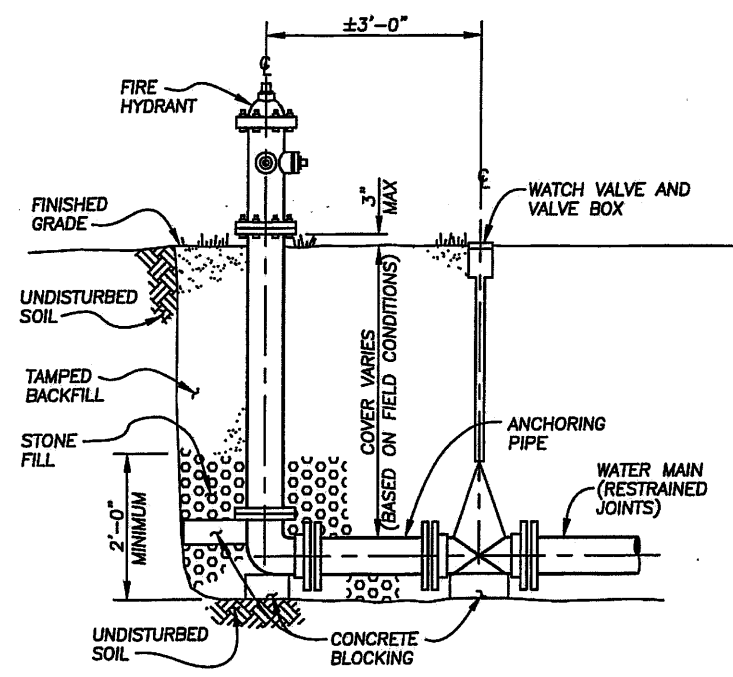
SEWER DETAILS

PREPARED FOR:
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CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

SHEET OF
18 20

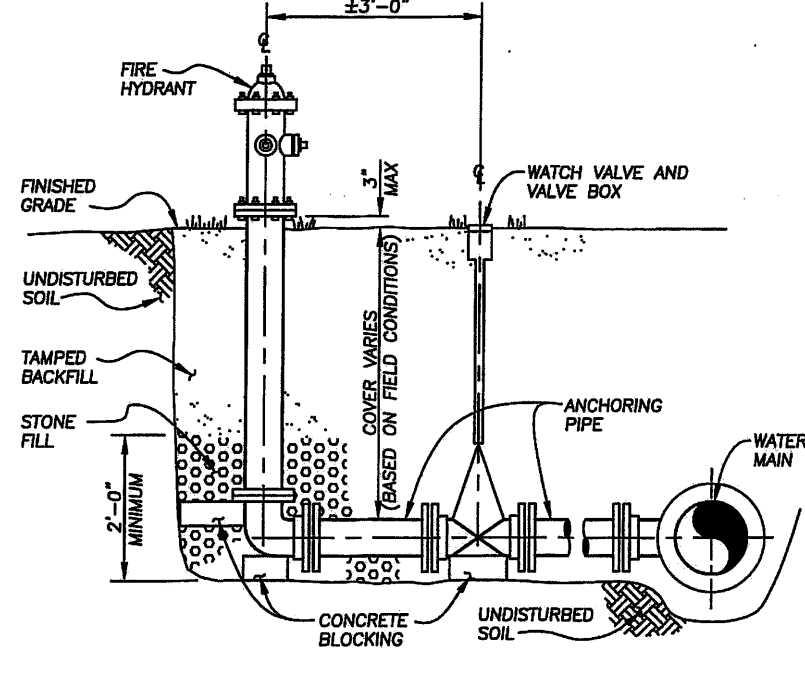


SECTION
HYDRANT AT END OF WATER MAIN DETAIL
1/2" = 1'-0"

NOTE: ONLY TO BE USED WITH APPROVAL FROM CITY ENGINEER

HYDENW.M.DWG 09-15-99

FIG 2.15.3



SECTION
HYDRANT PERPENDICULAR TO WATER MAIN DETAIL
1/2" = 1'-0"

HYPERW.M.DWG 09-15-99

FIG 2.15.1

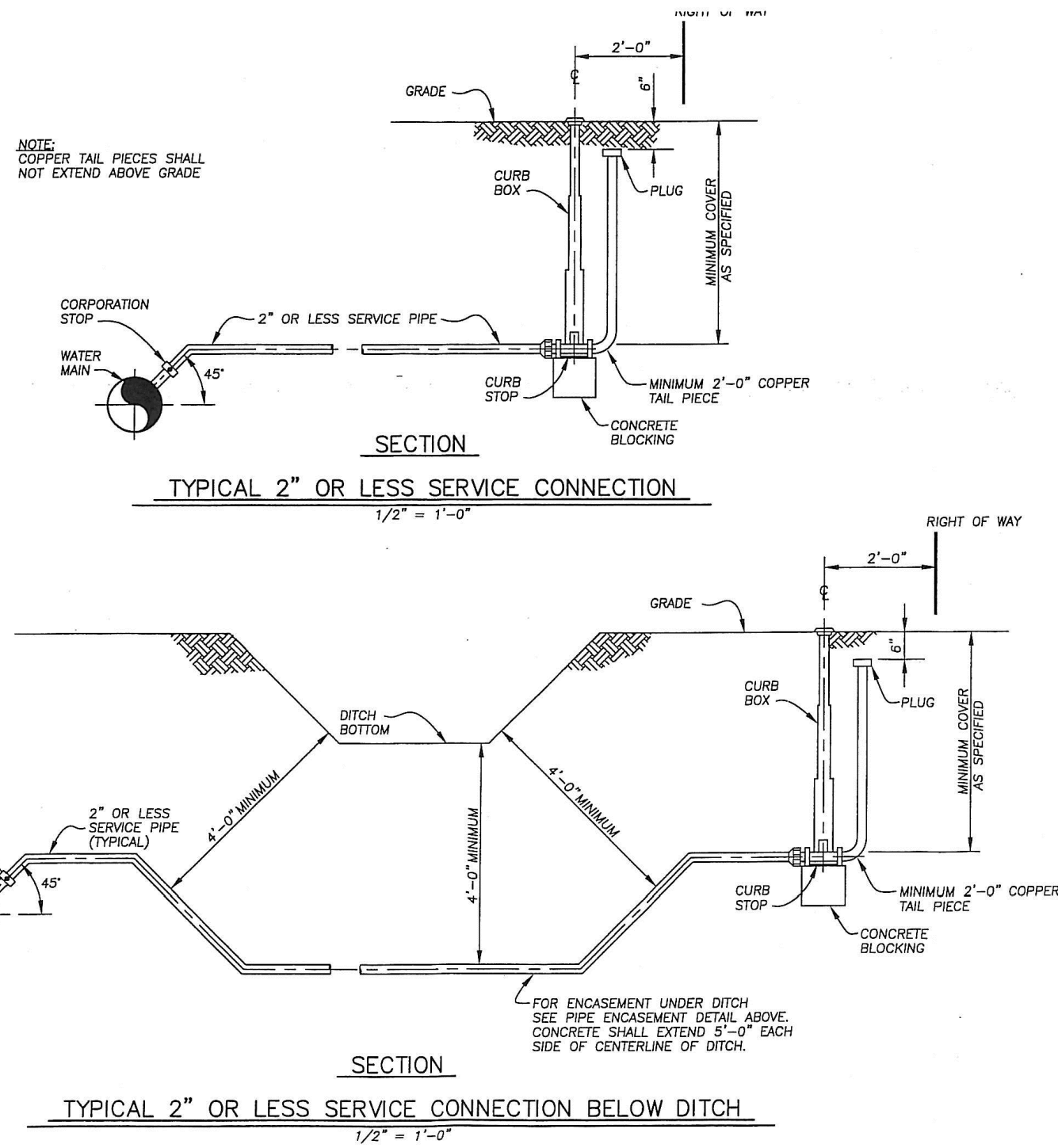
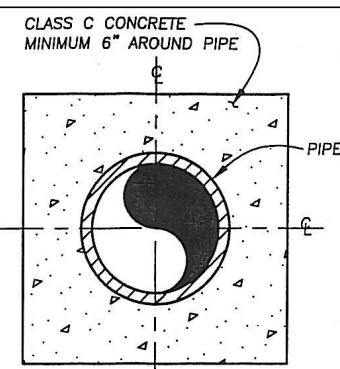
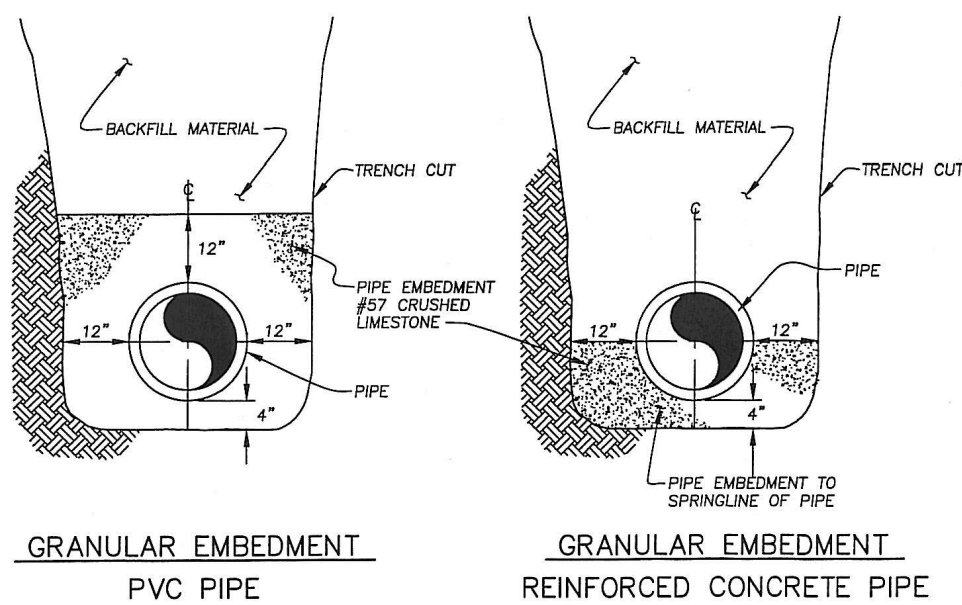


FIG 2.18.1



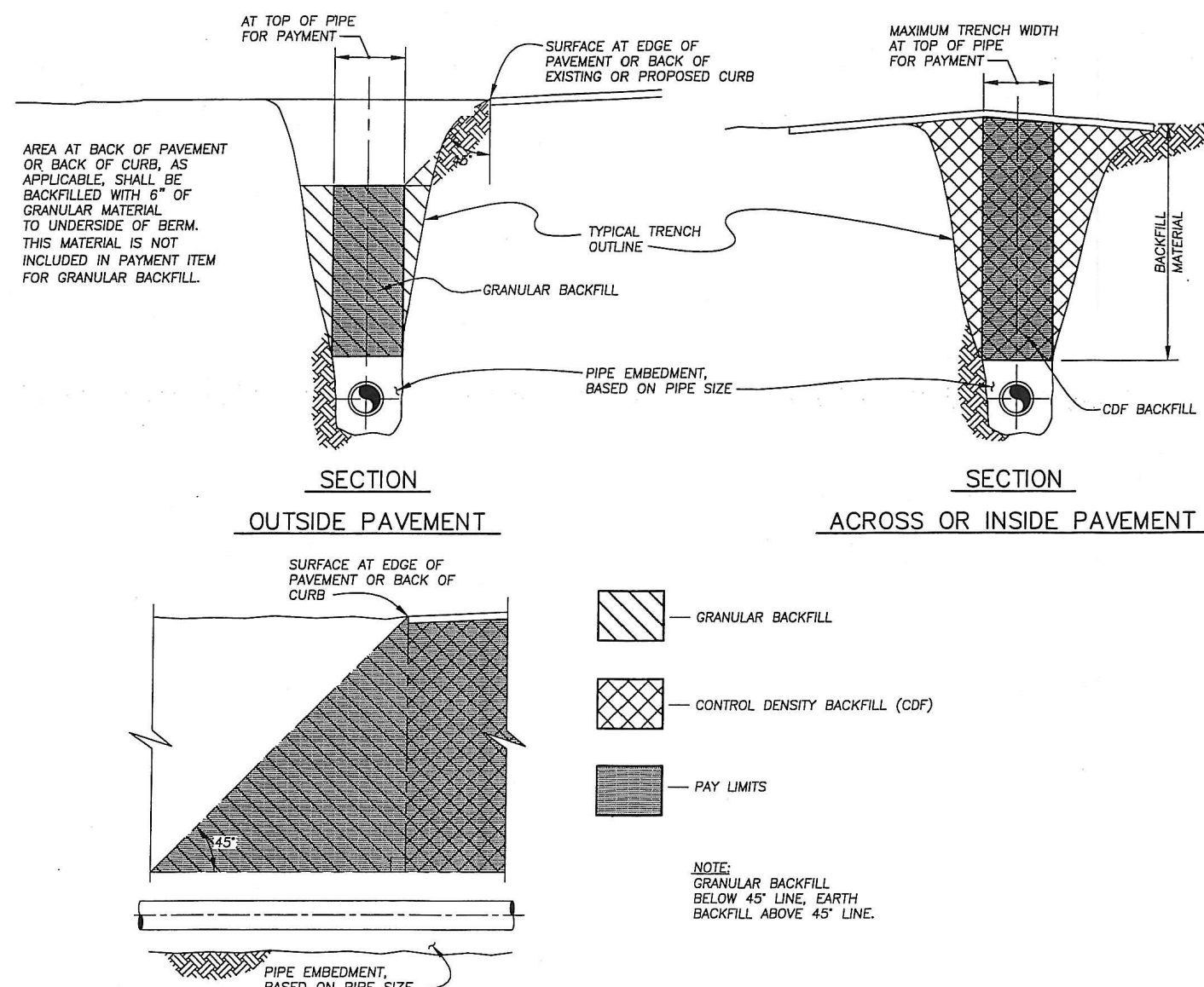
SECTION
CONCRETE PIPE ENCASEMENT



BEDDING DETAILS
NO SCALE

CONCENCK.DWG 09-15-99

FIG 4.17.1



SECTION
CROSSING PAVEMENT WITHIN MAXIMUM TRENCH WIDTH
SECTION
GRANULAR OR CONTROLLED DENSITY FILL BACKFILL - PAY LIMITS
NO SCALE

CONDNBKFL.DWG 09-15-99

FIG 3.19.1

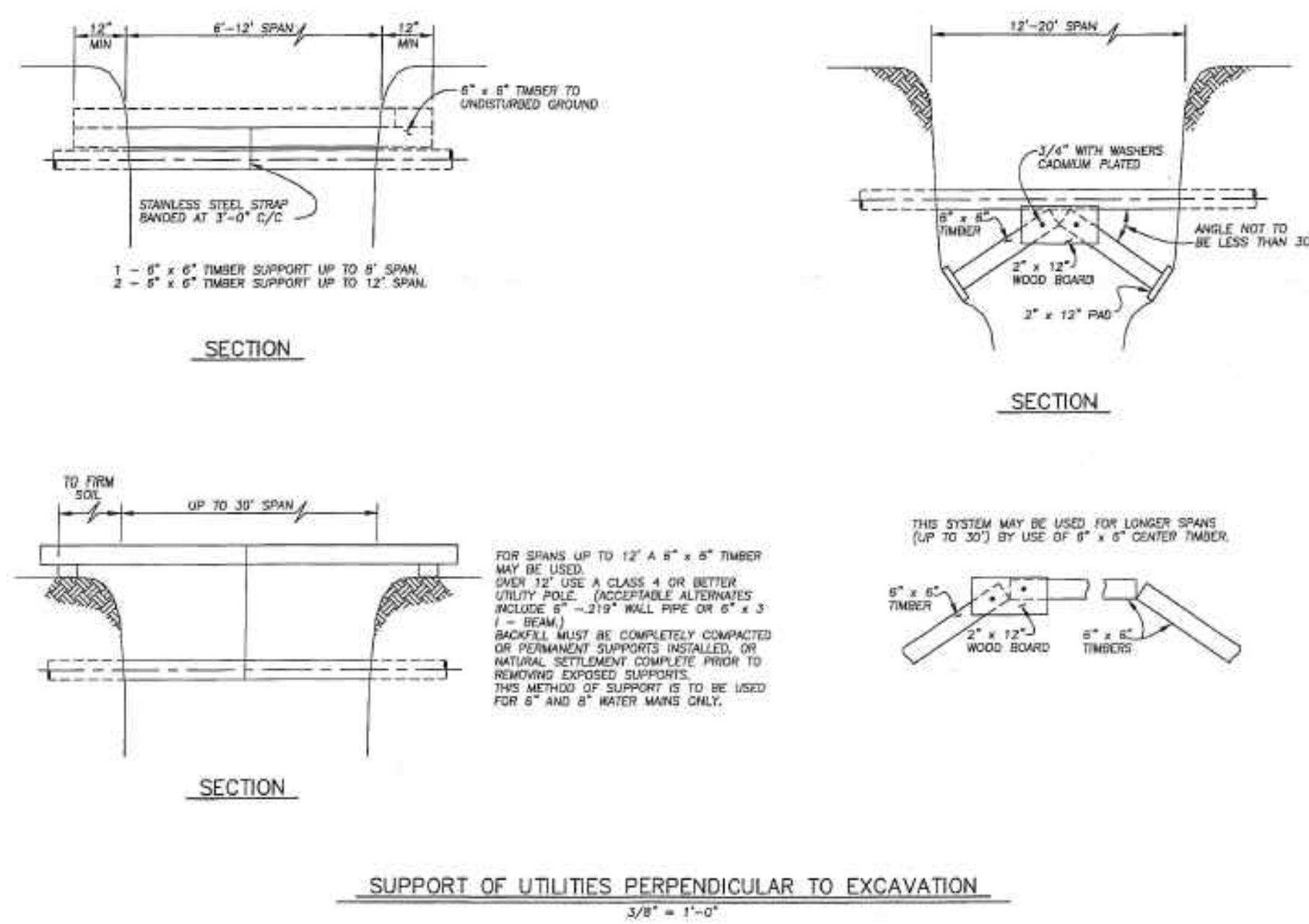


FIG 2.22.1

IND.DWG 09-15-99

REV. No.		DATE	BY	

STATE OF OHIO
PROFESSIONAL ENGINEER
KEVIN HOFFMAN
74831

DATE: 10/21/24 DRAWN: NMO
SCALE: HOR. 1"=00' VERT. 1"=00'
FOLDER: DWG/Proj. Engineering
FILENAME: 24189 T.N.D
TAB: XX
BNDY. CHK: N/A
BASE. CHK: N/A

PRESERVE OF HUDSON
TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433 (440) 944-3722 (Fax)
www.polaris-es.com



WATER DETAILS

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

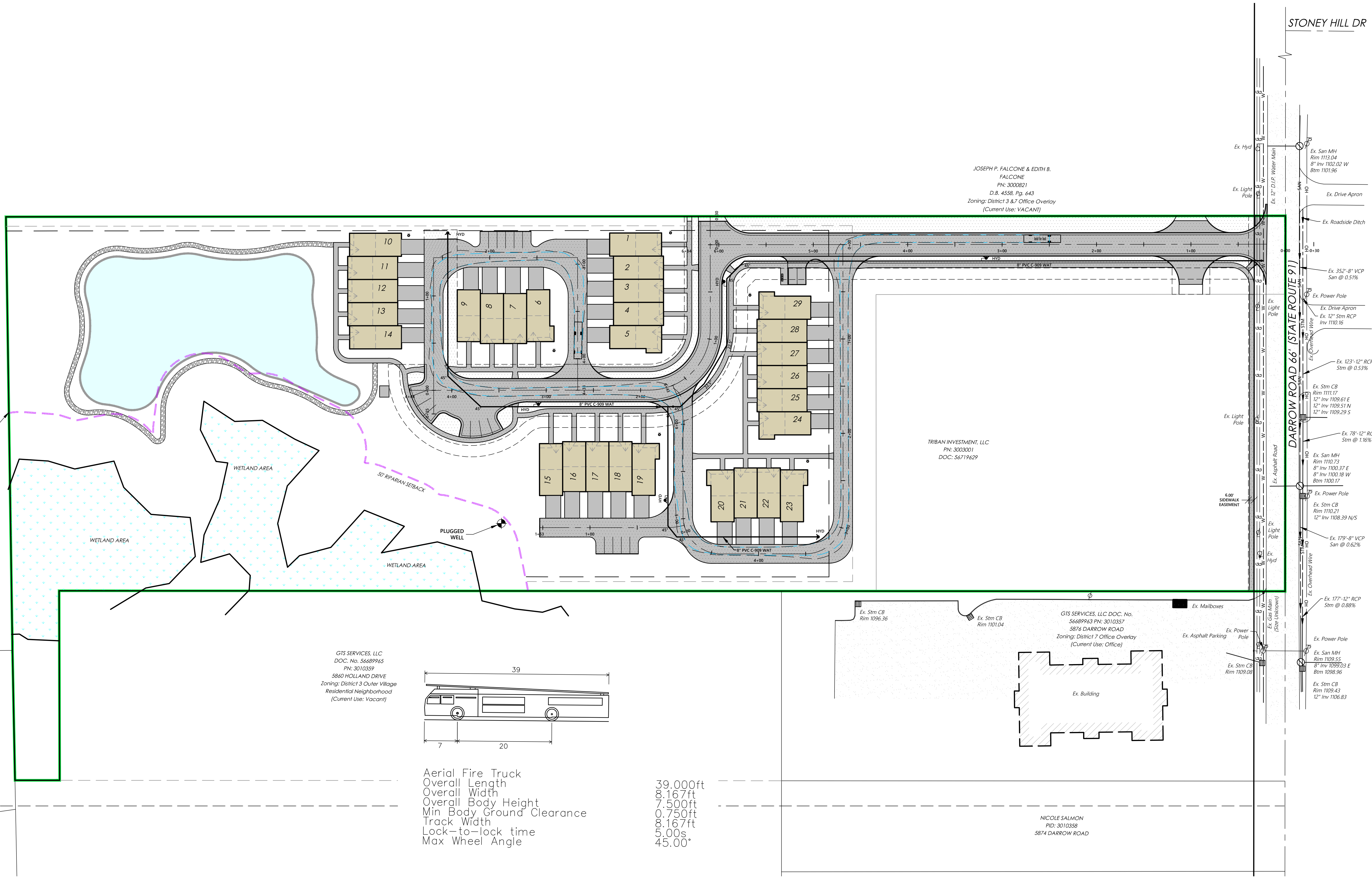
24189

SHEET	OF
19	20

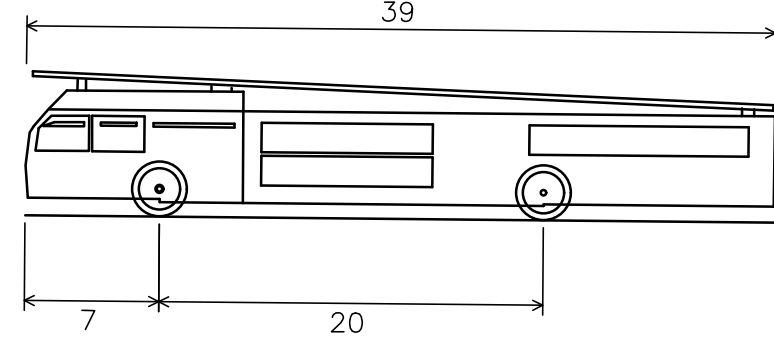


JOSEPH P. FALCONE & EDITH B. FALCONE
P.N. 3000821
D.B. 4558, Pg. 643
Zoning: District 3 & 7 - see map
(Current Use: VACANT)

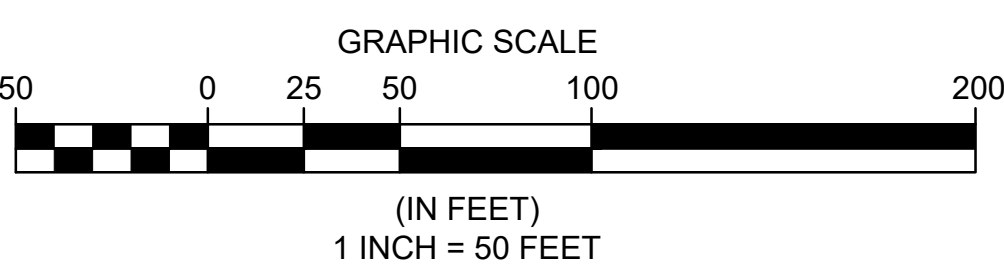
LTC REALTY LLC
DOC. No. 56689965
P.N. 3010359
5860 HOLLAND DRIVE
Zoning: District 3 Outer Village
Residential Neighborhood
(Current Use: Vacant)



GIS SERVICES, LLC
DOC. No. 56689965
P.N. 3010359
5860 HOLLAND DRIVE
Zoning: District 3 Outer Village
Residential Neighborhood
(Current Use: Vacant)



Aerial Fire Truck
Overall Length 39.000ft
Overall Width 8.167ft
Overall Body Height 7.500ft
Min Body Ground Clearance 0.750ft
Track Width 8.167ft
Lock-to-lock time 5.00s
Max Wheel Angle 45.00°



Ex. Clean Out Ex. Catch Basin Prop. Catch Basin Ex. Yard Drain Ex. Manhole Ex. Storm Manhole Prop. Storm Manhole	Ex. Sanitary Manhole Prop. Sanitary Manhole Prop. Curb Inlet Ex. Curb Inlet Ex. Storm Inlet MH Ex. Gas Meter Ex. Gas Valve	Ex. Gas Marker Ex. Water Valve Ex. Water Meter Ex. Fire Hydrant Prop. Hydrant Prop. WL Valve	Ex. Telephone Box Ex. Electrical Box Ex. Power Transformer Cable TV Box Ex. Power Pole Ex. Light Power Pole	Ex. Yard Light Ex. Guy Wire Prop. Light Pole Traffic Signal Pole Traffic Signal Box	Ex. Tree Ex. Pine Tree Ex. Bush Ex. Stump Ex. Mailbox Ex. Sign Electrical Outlet	Ex. Monument Box Irrigation Valve Sprinkler Control Box Sprinkler Head Test Bore Guard Post
---	---	--	---	--	---	---

REV. No.	DATE	BY

STATE OF OHIO

PROFESSIONAL ENGINEER

KEVIN HOFFMAN

74831

DATE: 10/21/24, DRAWN: NMO
SCALE: HOR. 1"=50' VERT. 1"=00'
FOLDER: DWG/Proj. Engineering
FILENAME: 24189 Improvement Plans
TAB: 20-Autoturn
BNDY. BY: GBC
BASE. BY: NMO

PRESERVE OF HUDSON
TOWNHOMES
CITY OF HUDSON - SUMMIT COUNTY - OHIO

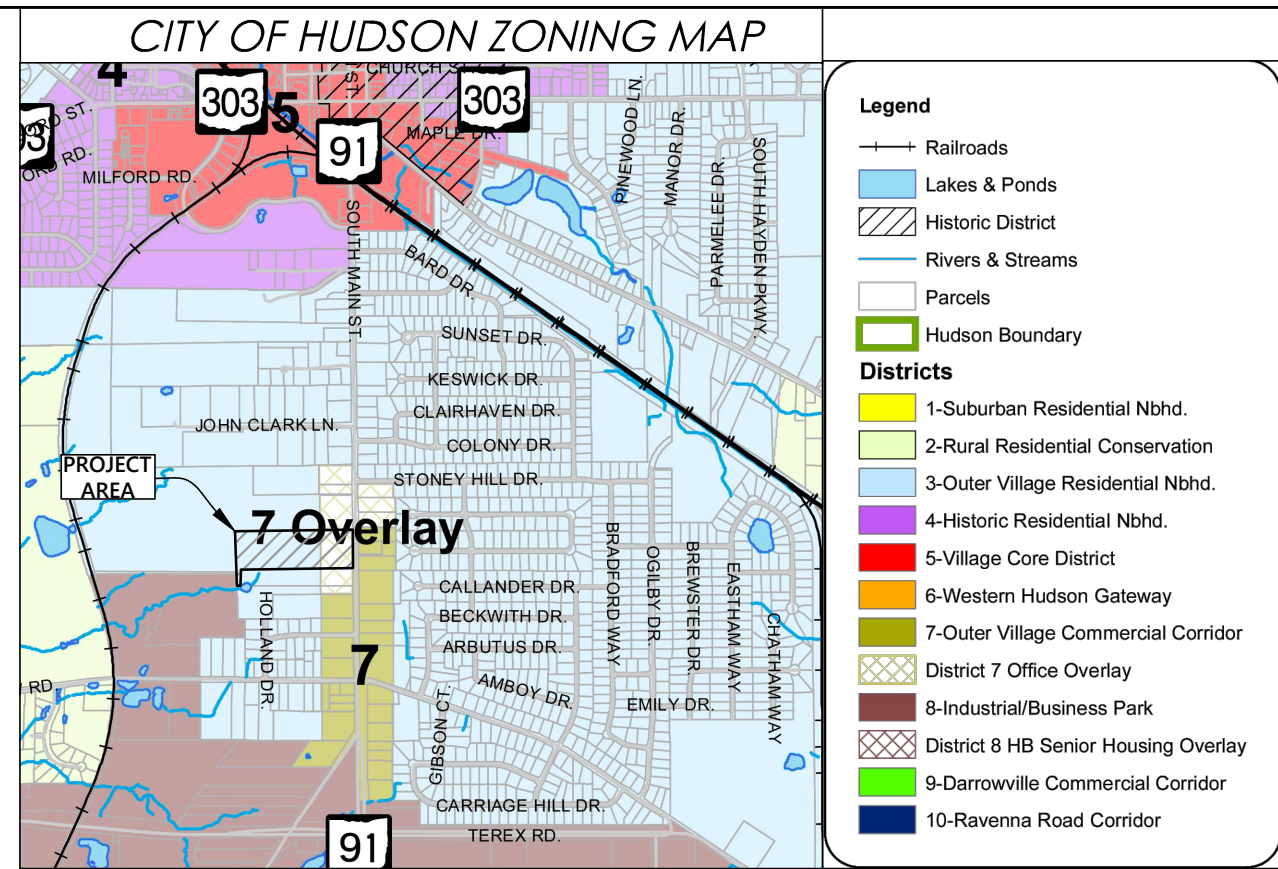
POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



AUTOTURN

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

SHEET		OF	
20		20	



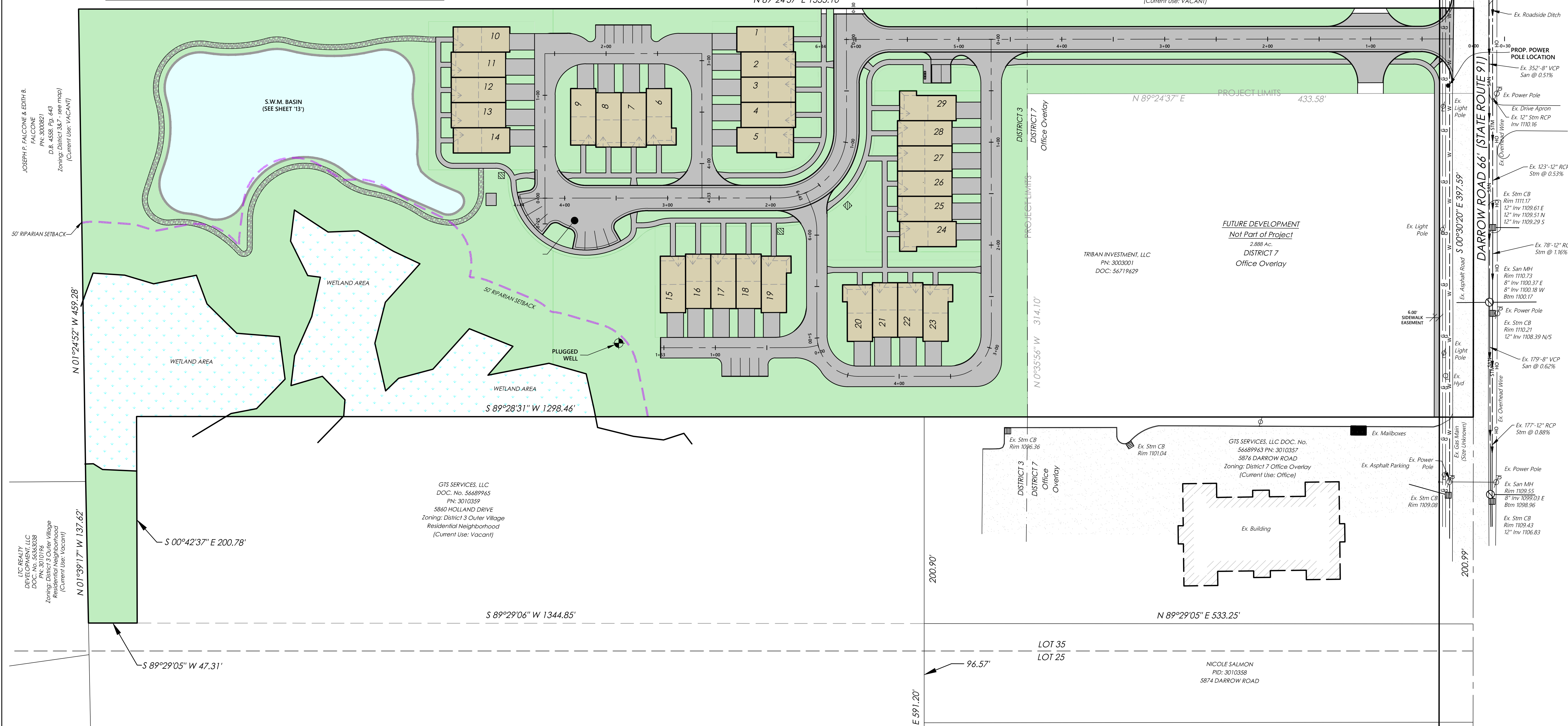
FLOOR AREA TO LOT RATIO - 0.887 AC./9.353 AC. = 9.5%

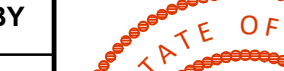


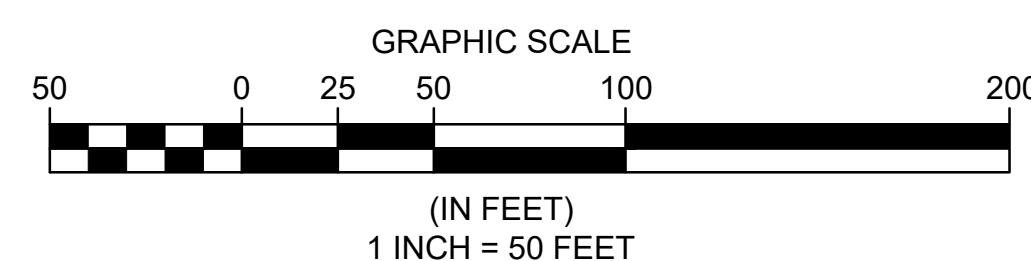
WETLANDS

AREAS (Acres)						DENSITY	
GROSS LAND TO R/W	IN DIST. 7	IN DIST. 3	IN WET-LAND	IN EASEMENTS RIGHT-OF-WAY & PUBLIC OPEN SPACE	NET LAND DIST. 3	ALLOWABLE @ 4/ Ac.	PROPOSED
9.353	0.763	8.590	1.14	0	7.450	29	29

JOSEPH P. FALCONE & EDITH B.
FALCONE
PN: 3000821
D.B. 4558, Pg. 643
Zoning: District 3 & 7 Office Overlay
(Current Use: VACANT)



REV. No.		DATE	BY		DATE: <u>10/21/24</u> DRAWN: <u>NMO</u>
					SCALE: HOR. <u>1"=50'</u> VERT. <u>1"=00'</u>
					FOLDER: <u>DWG/Proj. Engineering</u>
					FILENAME: <u>24189 Improvement Plans</u>
					TAB: <u>Open Space Exhibit</u>
					BN DY. BY: <u>GBC</u>
					BASE. BY: <u>NMO</u>



SYMBOL LEGEND									
	Ex. Clean Out		Ex. Sanitary Manhole		Ex. Gas Marker		Ex. Telephone Box		Ex. Yard Light
	Ex. Catch Basin		Prop. Sanitary Manhole		Ex. Water Valve		Ex. Electrical Box		Ex. Guy Wire
	Prop. Catch Basin		Prop. Curb Inlet		Ex. Water Meter		Ex. Power Transformer		Ex. Light Pole
	Ex. Yard Drain		Ex. Curb Inlet		Ex. Fire Hydrant		Cable TV Box		Prop. Light Pole
	Ex. Manhole		Ex. Storm Inlet MH		Prop. Hydrant		Ex. Power Pole		Traffic Signal Pole
	Ex. Storm Manhole		Ex. Gas Meter		Prop. WL Valve		Ex. Light Power Pole		Traffic Signal Box
	Prop. Storm Manhole		Ex. Gas Valve		Ex. Gas Marker		Ex. Tree		Ex. Pine Tree
			Ex. Gas Valve		Irrigation Valve		Ex. Bush		Ex. Stump
					Ex. Mailbox		Ex. Sign		Electrical Outlet
					Test Bed		Guard Post		

**PRESERVE OF HUDSON
TOWNHOMES**

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
334600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



OPEN SPACE EXHIBIT

PREPARED FOR:
TRIBAN INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0098
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

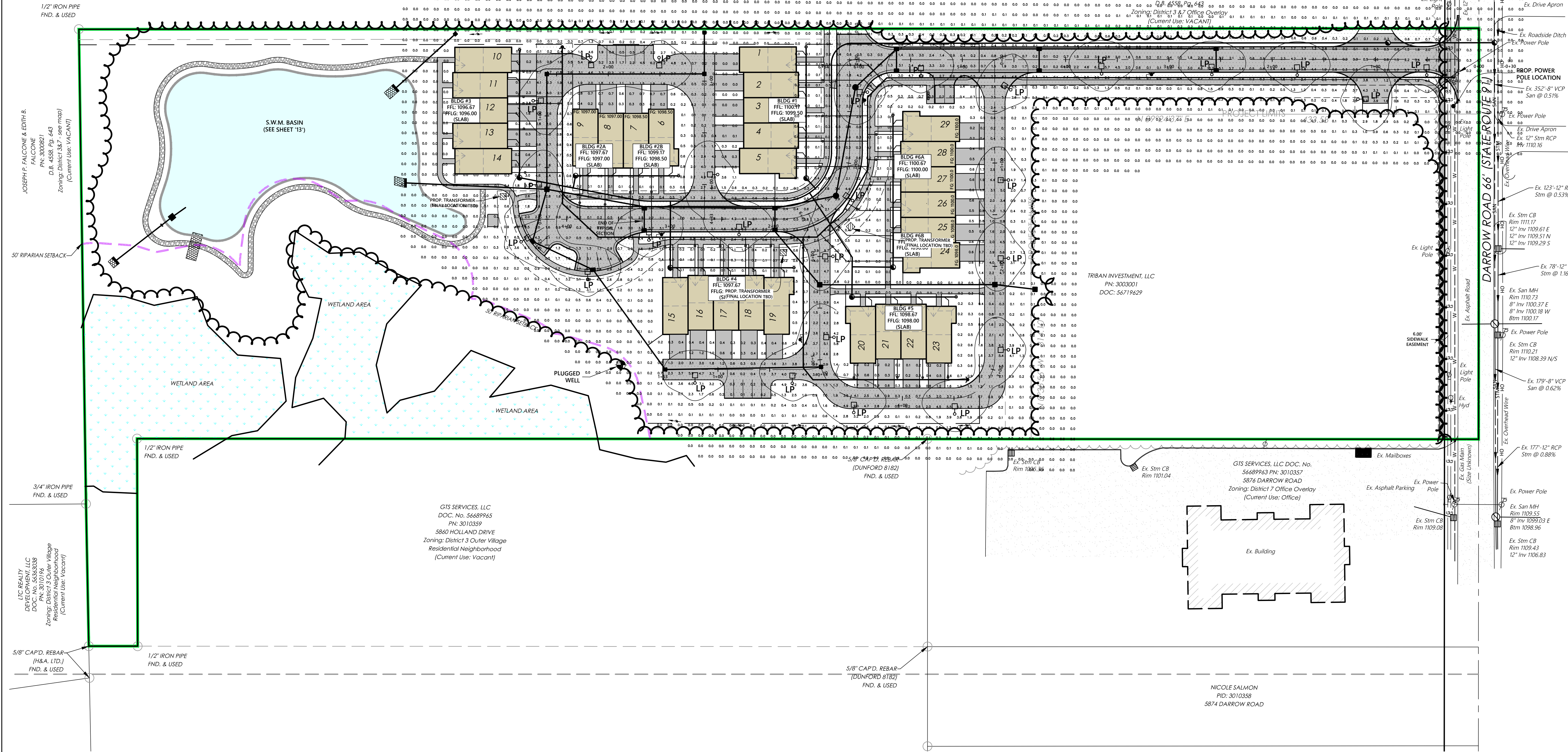
SHEET	OF
05	05

GENERAL
PHOTOMETRIC
SCHEDULE

AVERAGE FOOT-CANDLES	0.73
MAXIMUM FOOT-CANDLES	11.3
MINIMUM FOOT-CANDLES	0.0
MINIMUM TO MAXIMUM FC RATIO	0.00
MAXIMUM TO MINIMUM FC RATIO	11.27 / 0.00
AVERAGE TO MINIMUM FC RATIO	0.73 / 0.00

LUMINAIRE SCHEDULE

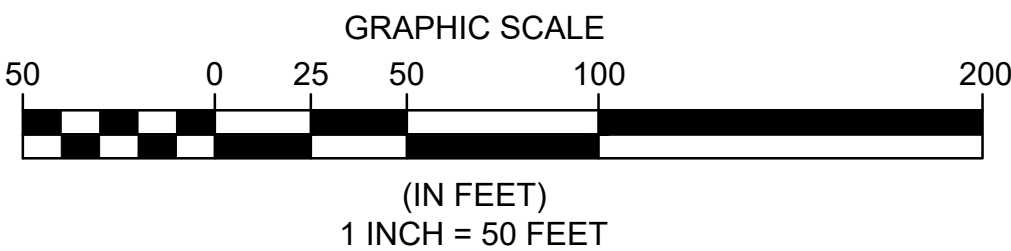
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	VOLTS	NOTE 3	QUANTITY
LP		(1)	247CL American Revolution LED Full Cutoff, P202 Performance Package, 4000K CCT, R4 Distribution,	ELECTRONIC	POLE	American Electric Lighting, 247CL P202 XXXX 40K R4	120V 1P 2W	/11/2022 SCALED PHOTOMETRY TYPE IV, MEDIUM, BUG RATING: B2 - U0 - G3 7964 80 LED ROADWAY 0, 0.74, 0.9 0ed38b16--ec67--4d90--9522--f4987876581b 247CL 318123	27



REV. No.		DATE	BY

DATE: 10/21/24	DRAWN: NMO
SCALE: HOR. 1"=50' VERT. 1"=00'	
FOLDER: DWG/Proj. Engineering	
FILENAME: 24189 Photometric Plan	
TAB: 24x36 (Side)	
BDNY. BY: GBC	
BASE. BY: KTH	

STATE OF OHIO
KEVIN HOFFMAN
74831
REGISTERED PROFESSIONAL ENGINEER



PRESERVE OF HUDSON
TOWNHOMES

CITY OF HUDSON - SUMMIT COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com



PHOTOMETRIC PLAN

PREPARED FOR:
TRIBAL INVESTMENT, LLC
7555 FREDLE DRIVE
PAINESVILLE, OH
PHONE: (440) 346-0088
CONTACT: HANNA COHAN
PLESSNER

CONTRACT No.

24189

SHEET
PH-1

OF
PH-1