

PROJECT DESCRIPTION

NEW SUBDIVISION INCLUDING NEW ROADWAY, SANITARY SEWER, WATERLINE,
AND STORM SEWER WITH A DETENTION/WATER QUALITY SYSTEM.

TOTAL IMPROVEMENTS:

STREETS • • • • • 3,910 LF
SANITARY MAIN • • • • • 4,165 LF
STORM MAIN • • • • • 4,629 LF
WATER MAIN • • • • • 4,630 LF

CONVENTIONAL SIGNS

RIGHT OF WAY • • • EXISTING: — Ex R/W — , PROPOSED: — PE-R/W —
COUNTY LINE • • • —————
TOWNSHIP LINE • • • —————
CORPORATION LINE • • —————
FENCE LINE • • • EXISTING: — X — , PROPOSED: — X —
GUARDRAIL • • • EXISTING: — — — — — , PROPOSED: — — — — —
MANHOLES • • • EXISTING: — — — , PROPOSED: — — — , REHABILITATED: — — —
CATCH BASINS • • EXISTING: — — — , PROPOSED: — — — , REHABILITATED: — — —
SIGNS • • • • • 1-POST: — — — , 2-POST: — — — , 3-POST: — — — , STREET: — — —
EXISTING POLES • • • POWER: — — — , TELEPHONE — — — , LIGHT — — — , SPAN — — —
PROPOSED POLES • • • POWER: — — — , TELEPHONE — — — , LIGHT — — — , SPAN — — —
EXIST. UTILITIES • • • VALVE: — — — , HYDRANT: — — — , METERS: — — — , GUY: — — —

OHIO EPA PERMITS

SANITARY SEWER PERMIT TO INSTALL (P.T.I.) HAS BEEN RECEIVED FROM THE OHIO
ENVIROMENTAL PROTECTION AGENCY THIS 4th
DAY OF, August, 2021.
PTI No. 1427769

WATER SYTEM PERMIT TO INSTALL (P.T.I.) HAS BEEN APPROVED FROM THE OHIO
ENVIRONMENTAL PROTECTION AGENCY THIS 9th
DAY OF, August, 2021.
PTI No. 047604512

NPDES NOTICE OF INTENT (N.O.I.) HAS BEEN APPROVED BY THE OHIO
ENVIRONMENTAL PROTECTION AGENCY PROTECTION AGENCY THIS 1st DAY
OF, July, 2021.
NPDES No. 04C000005

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
TWO WORKING DAYS
BEFORE YOU DIG
1-800-925-0988 (TOLL FREE)
OIL @ GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE

OWNER:

Lockhart Development Company
800 W Waterloo Rd
Akron, Ohio 44314
(330) 745-6520

PLAN PREPARED BY:

CIVPRO ENGINEERING, LLC
4450 Belden Village Street NW, Suite 800
Canton, Ohio 44718
(234) 410-3913

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC



7/19/21

DATE

Kenyon Creek Estates Phases 2 - 4

CITY OF MASSILLON

STARK COUNTY, OHIO

93 LOTS , 28.9641 ACRES



LOCATION MAP

PROPOSED STREETS • • • • •

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
GRADING & DEMOLITION PLAN	3
ESTIMATED QUANTITIES	4
TYPICAL SECTION	5
GENERAL NOTE	6-7
PLAN AND PROFILE	8-22
CROSS SECTIONS	23-36
INTERSECTION DETAILS	37-40
DETENTION/QUALITY/SEDIMENT BASIN	41-42
SERVICE DETAILS	43
CATCH BASIN DETAILS	44-46
MANHOLE DETAILS	47
WATER LINE DETAILS	48-49
MISCELLANEOUS DETAILS	50
SWP3	51-56

CITY OF MASSILLON ELECTED OFFICIALS

KATHY CATAZARO-PERRY • • • • • MAYOR
JUSTIN RICHARD • • • • • LAW DIRECTOR/PROSECUTOR
JAYNE FERRERO • • • • • AUDITOR
MAUDE SLAGLE • • • • • TREASURER
COUNCIL
CLAUDETTE O. ISTNICK • • • • • PRESIDENT
MARK LOMBARDI • • • • • 1st WARD
JIM THIERET • • • • • 2nd WARD
MICHAEL L. GREGG • • • • • 3rd WARD
JILL CREAMER • • • • • 4th WARD
MEGAN STARRETT • • • • • 5th WARD
LINDA K. LITMAN • • • • • 6th WARD
TED HERNICANE • • • • • AT LARGE
ED LEWIS IV • • • • • AT LARGE
JAMIE SLUTZ • • • • • AT LARGE

APPROVALS

APPROVAL - CITY OF MASSILLON ENGINEER

JASON POPIEL, P.E. 07-22-21
DATE

APPROVAL - STARK SOIL & WATER

APPROVED BY STARK SOIL AND WATER PER LETTER DATED 06-25-21

APPROVAL - AQUA OHIO

REGISTERED PROFESSIONAL ENGINEER
DATE

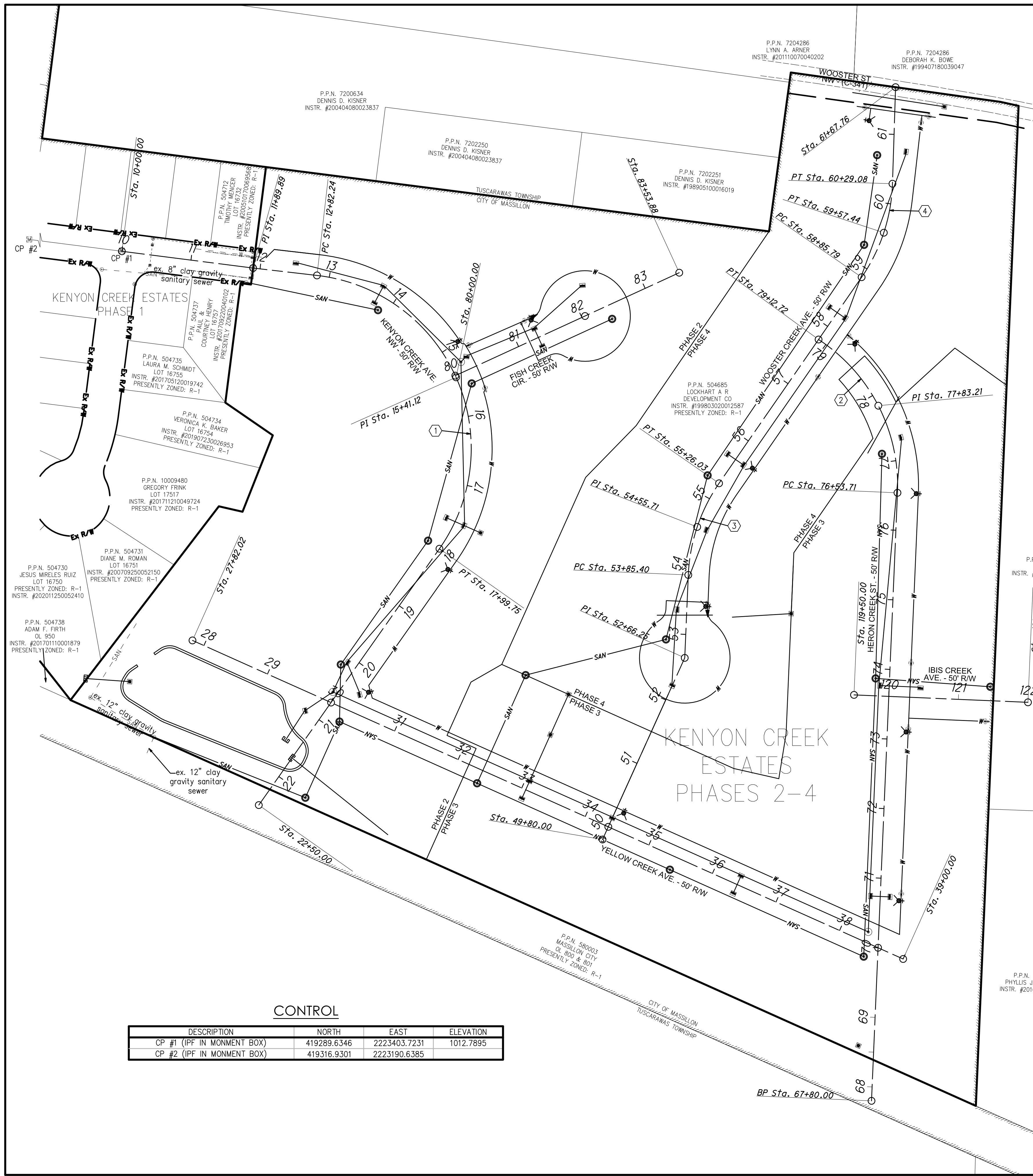
APPROVAL OF THESE PLANS IS FOR AQA
AND OHIO EPA COMPLIANCE ONLY, NOT
FOR DESIGN OR CONSTRUCTION.



Kenyon Creek Estates Phase 2 - 4
Title Sheet
City of Massillon
Stark County, Ohio



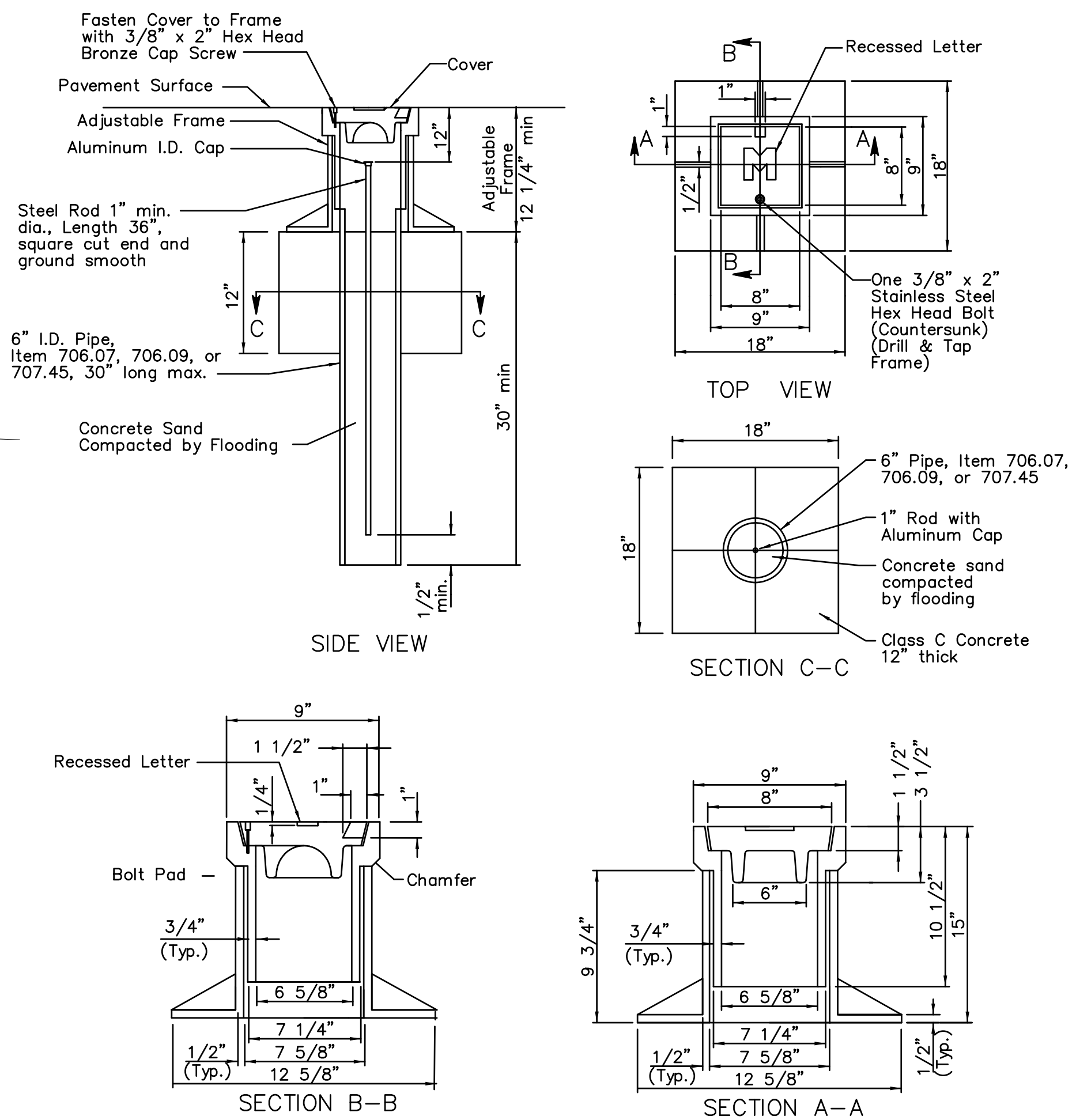
DRAWING NAME:
REF NUMBER:
1 / 56



DESCRIPTION	NORTHING	EASTING	DESCRIPTION	NORTHING	EASTING
KENYON CREEK AVE. NW			HERON CREEK ST.		
STA. 11+89.89	2653958.8307	1892748.0996	STA. 68+50.00	2654802.4207	1893909.5612
STA. 12+82.24	2654050.0584	1892762.4321	STA. 70+00.00	2654814.9975	1893760.0894
STA. 15+38.55	2654242.5121	1892914.4221	STA. 73+61.21	2654845.2831	1893400.1527
STA. 15+41.12	2654243.4760	1892916.8035	STA. 76+53.71	2654869.8084	1893108.6773
STA. 17+99.75	2654209.5072	1893161.7086	STA. 77+83.21	2654847.5038	1892982.5736
STA. 20+69.91	2654044.9187	1893375.9459	STA. 79+12.72	2654765.6842	1892884.0586
STA. 22+50.00	2653935.2029	1893518.7580	IBIS CREEK AVE.		
FISH CREEK CIR.			STA. 120+00.00	2654845.2831	1893400.1527
STA. 80+00.00	2654243.4760	1892916.8035	STA. 121+50.00	2654994.7550	1893412.7295
STA. 82+05.00	2654432.1409	1892836.5380	WOOSTER CREEK AVE.		
STA. 83+53.88	2654569.8534	1892779.9770	STA. 50+00.00	2654435.2254	1893570.6452
YELLOW CREEK AVE.			STA. 52+66.25	2654554.9069	1893332.8113
STA. 27+82.02	2653849.8583	1893278.6426	STA. 53+85.40	2654564.8971	1893214.0811
STA. 30+00.00	2654044.9187	1893375.9459	STA. 54+55.71	2654580.5038	1893145.7581
STA. 34+36.17	2654435.2254	1893570.6452	STA. 55+26.03	2654614.4613	1893084.4516
STA. 38+60.57	2654814.9975	1893760.0894	STA. 57+77.08	2654765.6842	1892884.0586
STA. 39+00.00	2654850.2776	1893777.6884	STA. 58+85.79	2654831.1701	1892797.2799
			STA. 59+57.44	2654865.5997	1892734.7286
			STA. 60+29.08	2654880.9434	1892664.9960
			STA. 61+67.76	2654891.0982	1892526.6942

1	KENYON CREEK AVE NW	2	HERON CREEK ST.	3	WOOSTER CREEK AVE.	4	WOOSTER CREEK AVE.
CURVE DATA							
P.I. =	15+41.12	P.I. =	77+83.21	P.I. =	54+55.71	P.I. =	59+57.44
Δ =	118°39'45" RT.	Δ =	22°55'06" LT.	Δ =	32°3'47" RT.	Δ =	32°50'24" LT.
R =	250'	R =	250'	R =	250'	R =	250'
T =	421.57'	T =	142.48'	T =	72.23'	T =	73.67'
L =	517.76'	L =	259.01'	L =	140.63'	L =	143.29'
P.C. =	12+82.24	P.C. =	76+53.71	P.C. =	53+85.40	P.C. =	58+85.79
P.T. =	17+99.75	P.T. =	79+12.72	P.T. =	55+26.03	P.T. =	60+29.08

CENTERLINE MONUMENT DETAILS
USE EAST JORDAN 8371 MONUMENT BOX OR APPROVED EQUAL



DESCRIPTION	NORTH	EAST	ELEVATION
CP #1 (PF IN MONMENT BOX)	419289.6346	2223403.7231	1012.7895
CP #2 (PF IN MONMENT BOX)	419316.9301	2223190.6385	

NW

NE

SW

SE

1"=25'

0 40 80

HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:

DATE	DESCRIPTION
6/21/21	VARIOUS
7/19/21	OEPA - SAN

Kenyon Creek Estates Phase 2 - 4

Schematic Plan

City of Massillon

Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 E. MICHIGAN AVE. S.W. CANTON, OHIO 44705

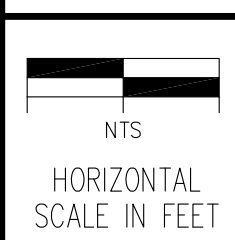
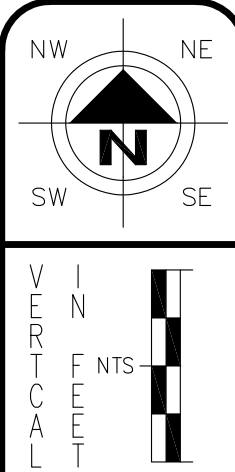
PHONE: (330) 285-3724 FAX: (330) 285-3725 WWW.CIVIPROENGINEERING.COM

DRAWING NAME:
Schematic

REF. NUMBER:
2 / 56

Item No.	Item Description	Quantity	Unit	Item No.	Item Description	Quantity	Unit
201	Clearing and Grubbing	1	LUMP SUM	611	8" Class 52 DIP (Polyethylene Wrap) - Phase 2	1146	L.F.
203	Earthwork	SEE EST.	SEE EST.	611	8" Class 52 DIP (Polyethylene Wrap) - Phase 3	1579	L.F.
204	Subgrade Compaction	15499	S.Y.	611	8" Class 52 DIP (Polyethylene Wrap) - Phase 4	932	L.F.
204	Proof Rolling	5	HOURS	611	12" Class 52 DIP (Polyethylene Wrap) - Phase 4	114	L.F.
207SPEC	Erosion Control	1	LUMP SUM	611	Fire Hydrant W/Valve Assembly - Phase 2	4	EACH
659SPEC	Topsoil, Seeding and Mulching	1	LUMP SUM	611	Fire Hydrant W/Valve Assembly - Phase 3	4	EACH
301	Asphalt Concrete Base	1665	C.Y.	611	Fire Hydrant W/Valve Assembly - Phase 4	4	EACH
304	Aggregate Base	2583	C.Y.	611	8" Gate Valve W/Box - Phase 2	3	EACH
407	Tack Coat	1707	GAL.	611	8" Gate Valve W/Box - Phase 3	4	EACH
407	Prime Coat	8535	GAL.	611	8" Gate Valve W/Box - Phase 4	4	EACH
421	Asphalt Concrete Surface Course, Type 1, PG 64-22	555	C.Y.	611	12" Gate Valve W/Box - Phase 4	2	EACH
609	4' Concrete Walk	31837	S.F.	611	8" Blow Off Assembly - Phase 3	1	EACH
609	Curb, Type 2	8020	L.F.	604	1" Corporation Stop - Phase 2	28	EACH
705	Joint Sealer	134	GAL	604	1" Corporation Stop - Phase 3	39	EACH
611	6" Type B Conduit (Lateral)	3105	L.F.	604	1" Corporation Stop - Phase 4	26	EACH
611	12" Type B Conduit	2533	L.F.	605	1" Curb Stop & Box - Phase 2	28	EACH
611	15" Type B Conduit	836	L.F.	605	1" Curb Stop & Box - Phase 3	39	EACH
611	18" Type B Conduit	287	L.F.	605	1" Curb Stop & Box - Phase 4	26	EACH
611	24" Type B Conduit	1149	L.F.	605	2" HDPE Tubing - Phase 2	444	L.F.
611	30" Type B Conduit	106	L.F.	605	2" HDPE Tubing - Phase 4	437	L.F.
611	42" Type B Conduit	67	L.F.	605	2" Curb Stop Valve - Phase 2	1	EACH
611	ODOT Headwall 2.1	6	EACH	605	2" Curb Stop Valve - Phase 4	1	EACH
611	Drainage Manhole	3	EACH	605	1" Type K Copper Service Line - Phase 2	860	L.F.
611	Catch Basin Per Plan	37	EACH	605	1" Type K Copper Service Line - Phase 3	1412	L.F.
605	4" Shallow Pipe Underdrains	8020	L.F.	605	1" Type K Copper Service Line - Phase 4	802	L.F.
611	6" SDR-35 (Lateral)	3302	L.F.				
611	8" SDR-35 Sanitary Sewer	4165	L.F.				
604	Sanitary Manhole	18	EACH				
604	Sanitary Manhole Adjust	3	EACH				
623	Construction Staking	1	LUMP SUM				
624	Mobilization	1	LUMP SUM				

ESTIMATED QUANTITIES ON THIS SHEET ARE APPROXIMATE AND FOR BIDDING PURPOSES. THE CONTRACTOR IS RESPONSIBLE TO CALCULATE ACTUAL QUANTITIES FOR EACH PAY ITEM.



HORIZONTAL SCALE IN FEET

CHECKED BY: KAD

DATE: Mar. 2021

DRAWN BY: BMH

DATE: Mar. 2021

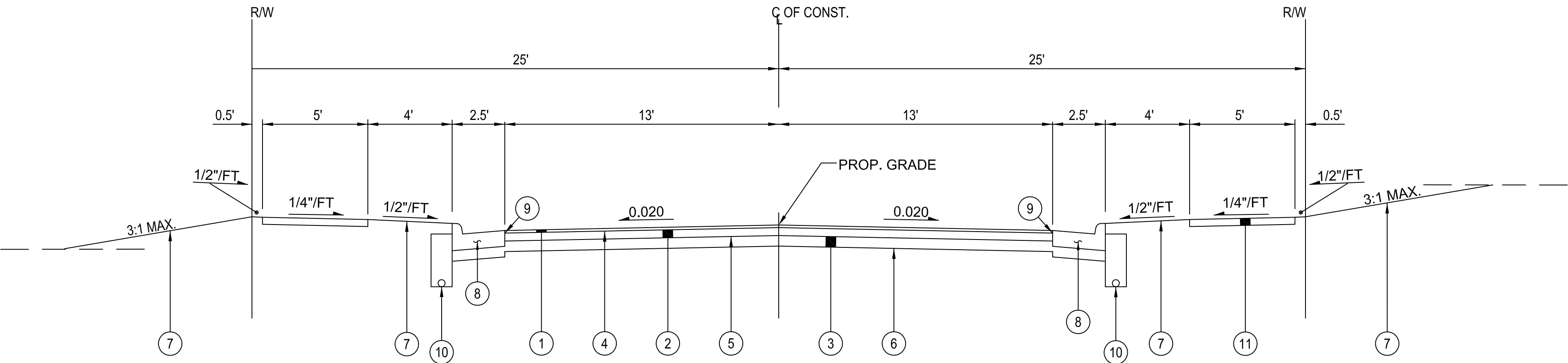
REVISIONS:	DATE	DESCRIPTION	MAS	ENG	DEPT
	5/24/21				
	6/21/21				

Kenyon Creek Estates Phase 2 - 4
Estimated Quantities
City of Massillon
Stark County, Ohio



DRAWING NAME:
Estimated Quantities

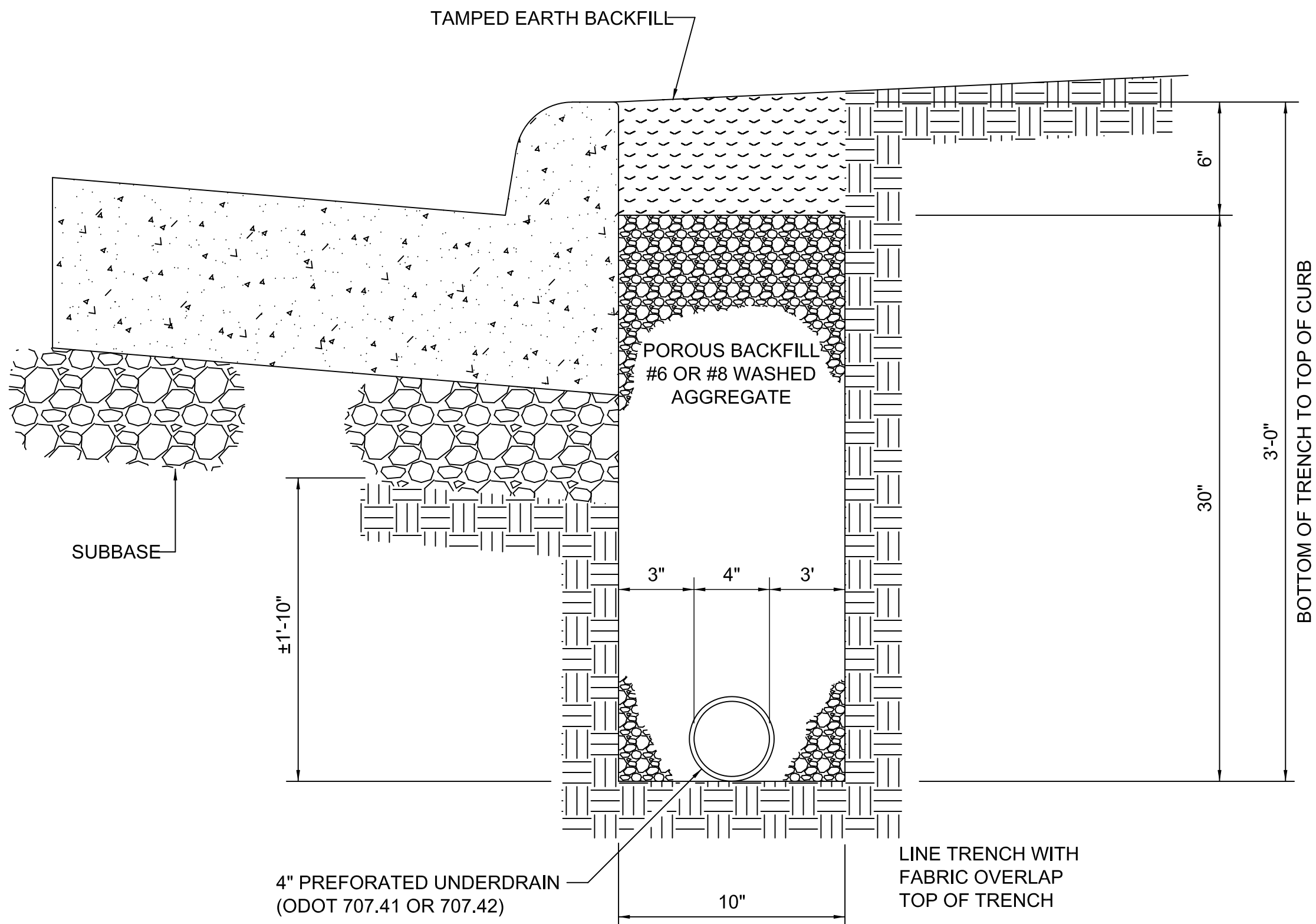
REF NUMBER:



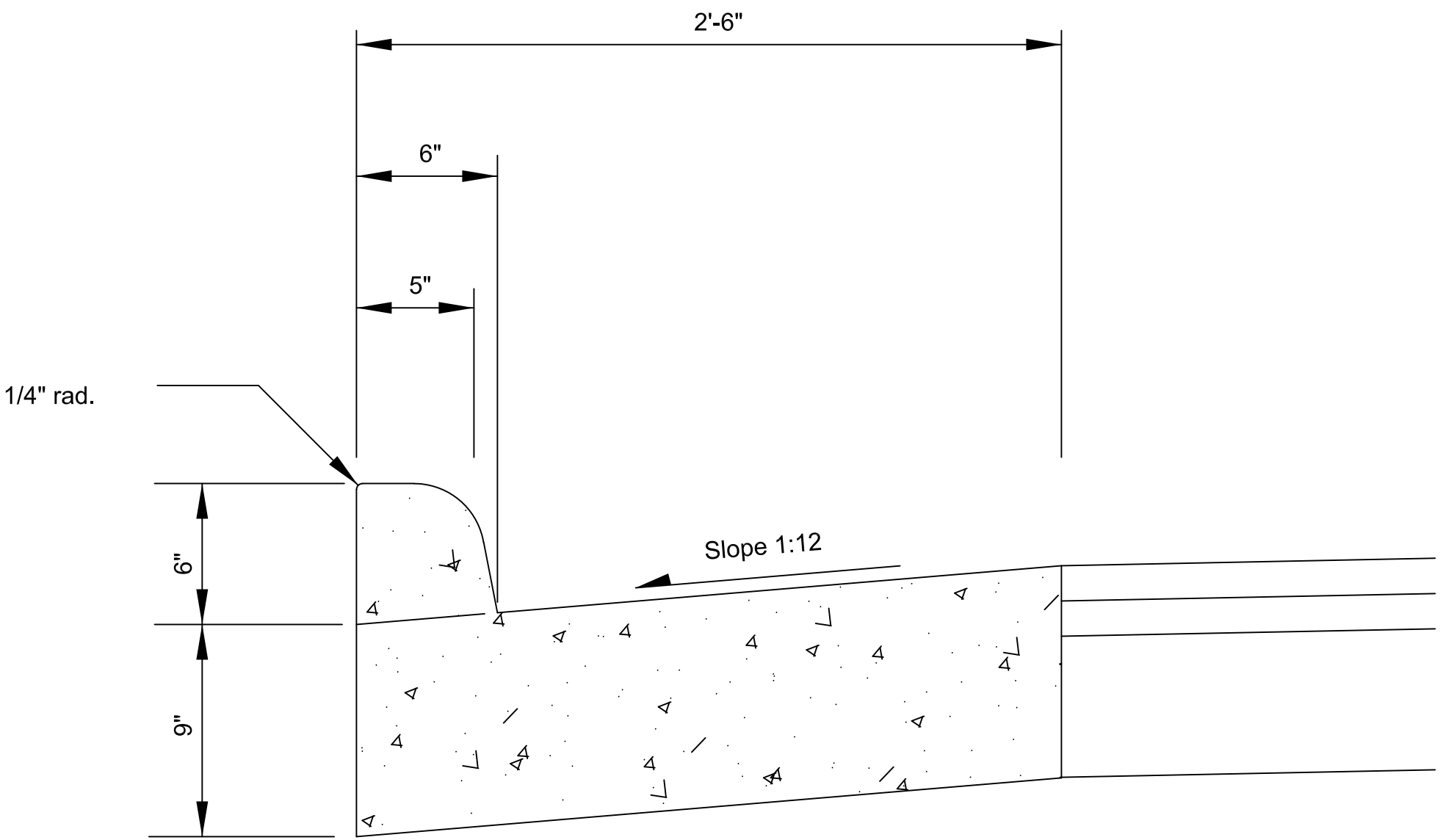
TYPICAL SECTION

PROPOSED LEGEND

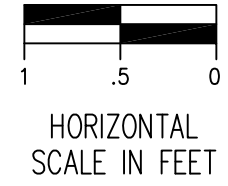
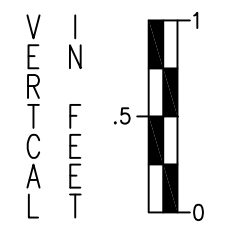
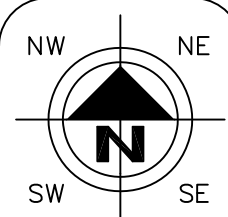
- ① - ITEM 448-1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
- ② - ITEM 301-4 1/2" ASPHALT CONCRETE BASE
- ③ - ITEM 304-6" AGGREGATE BASE
- ④ - ITEM 407-TACK COAT (0.08 GAL./S.Y.)
- ⑤ - ITEM 408-PRIME COAT (0.40 GAL./S.Y.)
- ⑥ - ITEM 204-SUBGRADE COMPACTION
- ⑦ - ITEM 659-SEEDING AND MULCHING
- ⑧ - ITEM 609-CURB, TYPE 2
- ⑨ - ITEM 705-HOT APPLIED JOINT SEALER(REQUIRED)
- ⑩ - ITEM 605-4" SHALLOW PIPE UNDERDRAINS
- ⑪ - ITEM 608-4"CONCRETE WALK (6" CONCRETE WALK @ DRIVEWAYS) SIDEWALK TO BE CONSTRUCTED BY INDIVIDUAL LOT OWNER



ITEM 605-4" SHALLOW PIPE UNDERDRAINS



ITEM 609-CURB, TYPE 2



CHECKED BY: KAD

DATE: Mar. 2021

DRAWN BY: BMH

DATE: Mar. 2021

REVISIONS:	DATE	DESCRIPTION

Kenyon Creek Estates Phase 2 - 4
Typical Section
City of Massillon
Stark County, Ohio



DRAWING NAME: Kenyon-Typical
REF NUMBER:

* THE FOLLOWING NOTES ARE CITY OF MASSILLON STANDARD NOTES AND MAY NOT BE APPLICABLE TO ALL PROJECTS.

UTILITIES

LISTED BELOW ARE ALL KNOWN UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AT&T 50 W. BOWERY, 6TH FLOOR AKRON, OH. 44308 888-901-2779	AQUA WATER 870 THIRD STREET NW MASSILLON, OH. 44647 JACOB FLANARY (330) 832-5764 EXT. 50650	OHIO EDISON STARK DIVISION 2600 S ERIE ST. (800) 633-4766	MASSILLON CABLE P.O. BOX 814 MASSILLON, OH. 44646 (330) 760-3930	OWS AQISITIONS CO, LLC 1037 LAWRNDRIDGE RD. NE BOLIVAR, OH. 44612 (304) 552-6501
CITY OF MASSILLON SANITARY SEWER 151 LINCOLN WAY EAST MASSILLON, OH 44646 (330) 830-1722	AT&T COMMUNICATIONS 2535 E. 40TH AVE. DENVER, CO 80205-3601 (800) 852-3786	DOMINION EAST OHIO GAS COMPANY 4725 SOUTHWAY ST SW CANTON, OH 44706 (330) 478-1700	DIVERSIFIED GAS & OIL PLC 4150 BELDEN VILLAGE ST. NW SUITE 410 CANTON, OH 44718 (205) 408-0909	

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES 48 HOURS PRIOR TO WORK.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN AT APPROXIMATE LOCATIONS AND WHERE OBTAINED AS REQUIRED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

OUPS - 1-800-362-2764
OGUPUPS - 1-800-925-0988

DATUM ELEVATION

ALL BENCHMARKS ARE BASED ON REFERENCE BENCHMARKS PROVIDED BY THE CITY OF MASSILLON

STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE BASELINE AS SHOWN.

NOTIFICATION OF SAFETY FORCES AND BUS GARAGES

THE CONTRACTOR SHALL NOTIFY ALL AGENCY LISTED BELOW AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSING OR TRAFFIC CHANGE.

MASSILLON SAFETY SERVICE 330-830-1702	MASSILLON FIRE DEPARTMENT 330-833-1053	PERRY TOWNSHIP HALL 330-833-2141	NORTH LAWGRANCE FIRE DEPT 330-832-6347
TUSCARAWAS TOWNSHIP HALL 330832-4337	JACKSON FIRE DEPARTMENT 330-832-1553	MASSILLON POLICE DEPARTMENT 330-830-1735	MASSILLON SCHOOL BUS GARAGE 330-830-1849
JACKSON TOWNSHIP HALL 330-832-7416	PERRY FIRE DEPARTMENT 330478-5121	JACKSON POLICE DEPARTMENT 330-497-7440	JACKSON SCHOOL BUS GARAGE 330-830-8042
PERRY POLICE DEPARTMENT 330-833-3865	PERRY SCHOOL BUS GARAGE 330-477-1300	STARK COUNTY SHERIFF 330-430-3887	TUSCARAWAS SCHOOL BUS GARAGE 330-837-7805

SARTA
330-454-5333

SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING THEIR BID. PROSPECTIVE BIDDERS ARE TO COORDINATE WITH THE OWNER FOR ACCESS TO THE SITE FOR INSPECTIONS AND EXPLORATORY EXCAVATION. THE BIDDER SHALL CONTACT THE OWNER AT LEAST 72 HOURS IN ADVANCE OF THE DESIRED INSPECTION OR EXCAVATION. THE BIDDER SHALL CONTACT O.U.P.S. AND OBTAIN LOCATIONS OF OTHER UTILITIES.

QUANTITIES

QUANTITIES ARE INDICATED FOR COMPARISON OF BIDS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES BEFORE ORDERING MATERIALS. VARIATIONS FROM THE PLAN QUANTITIES SHALL BE APPROVED BY THE CITY OF MASSILLON ENGINEER BEFORE MATERIAL ORDERS ARE PLACED. MATERIALS REJECTED DUE TO INCOMPATIBILITY BETWEEN ORDERED QUANTITIES AND FIELD CONDITIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION SPECIFICATIONS & STANDARDS

ALL CONSTRUCTION IS TO BE COMPLETED ACCORDING TO THE CURRENT CITY OF MASSILLON SPECIFICATIONS AND STANDARDS, AND THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. WHEN A CONFLICT ARISES BETWEEN THE CITY OF MASSILLON AND ODOT'S STANDARDS, THE MORE STRINGENT STANDARD WILL BE USED AT THE DISCRETION OF THE CITY OF MASSILLON ENGINEER. THE CONTRACTOR SHALL FOLLOW ALL OSHA AND ADA REGULATIONS AND REQUIREMENTS.

PRESERVATION OF EXISTING UTILITY SERVICES

ANY EXISTING WATER LINE, SANITARY SEWER, STORM SEWER, GAS LINE OR OTHE UTILITY IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

CONTRACTOR AVAILABILITY

THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A 24 HOUR PHONE NUMBER WHERE THE CONTRACTOR SHALL BE AVAILABLE FOR EMERGENCIES.

PRESERVATION OF PRIVATE PROPERTY

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY TELEPHONE OR POWER POLES, SIGNS, LANDSCAPING ITEMS, ETC.. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF CUTTING THEIR DRIVEWAY.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE CONTRACTOR SHALL PROVIDE FOR THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PROFILE AND ALIGNMENT

THE PROSPED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

GRADING AND FILLING OPERATIONS

THE PLACEMENT OF COMPACTED AGGREGATE SHALL NOT EXTEND PAST THE EXISTING GRADED SHOULDERS. NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WETLANDS OR STREAMS, UNLESS THE REQUIRED STATE AND/OR FEDERAL PERMITS HAVE BEEN OBTAINED IN ACCORDANCE WITH ALL APPLICABLE STATE AND/OR FEDERAL LAWS AND REGULATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS OR STREAMS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT. A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE BID FORM FOR ITEM201SPEC. CLEARING AND GRUBBING. THIS ITEM SHALL INCLUDE ALL PROVISIONS AS SET FORTH IN THE 2008 ODOT SPECIFICATIONS. REMOVAL ITEMS MAY INCLUDE TREES, STUMPS, AND BRUSH AS DETERMINED BY THE CITY ENGINEER.

ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201SPEC, CLEARING AND GRUBBING.

PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS AND ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHAL FURNISH A CERTIFICATION BY AN OHIO REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

REMOVAL AND RELOCATION OF EXISTING UTILITIES

THE CONTRACTOR IS REQUIRED TO COOPERATE WITH EACH RESPECTIVE UTILITY OWNER FOR THE REMOVAL AND RELOCATION OF ANY AND ALL UTILITIES THAT CREATE A CONFLICT WITH CONSTRUCTION OF THE PROJECT.

CROSSING OR CONNECTING TO EXISTING PIPES AND UTILITIES

WHERE THE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE CITY OF MASSILLON ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF SANITARY AND DRAINAGE FACILITIES

AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK SHALL BE COMPLETED BEFORE AND AFTER WORK HAS COMMENCED. FINAL ACCEPTANCE BY THE CITY OF MASSILLON WILL NOT OCCUR UNTIL AFTER SAID INSPECTION. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE OBSERVATIONS SHALL BE PROVIDED IN WRITING BY THE CONTRACTOR TO THE CITY OF MASSILLON.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BT THE CITY OF MASSILLON.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 408, BITUMINOUS PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.40 GALLONS PER SQUARE YARD OF PRIME COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 659, TOPSOIL, SEEDING AND MULCHING

ITEM 659 SHALL BE APPLIED TO ALL EXPOSED SOIL AREAS DISTURBED DURING CONSTRUCTION. SUCH AS SPECIFIED IN ITEM 659 AND IS NOT LIMITED TO JUST TOPSOIL, SEEDING AND MULCHING.

THE CITY SHALL APPROVE SEED MIX PRIOR TO APPLICATION TO BE USED THROUGHOUT CONSTRUCTION LIMITS.

ITEM 603SPEC - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING CONDUITS SPECIFIED IN THE FIELD. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 203.05. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

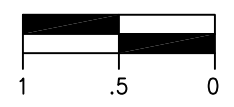
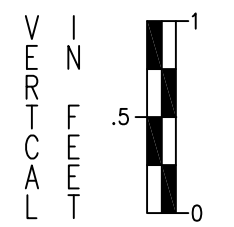
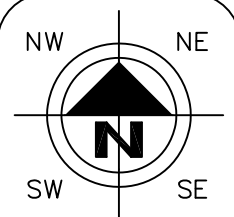
CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

CONDITIONS OF WORK

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ACT, STATE, COUNTY, AND CITY OF MASSILLON LAWS AND REGULATIONS. ALL WORK, AT ALL TIMES SHALL BE SUBJECT TO OBSERVATION BY THE CITY OF MASSILLON ENGINEER AND/OR HIS REPRESENTATIVE. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS AND OHIO EPA, AND STANDARDS OF THE CITY OF MASSILLON. ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES TO THE PROJECT SITE. ADJACENT ROADS SHALL BE MAINTAINED AND KEPT CLEAN OF MUD AND OTHER DEBRIS THAT MAY BE CAUSED BY TRAFFIC EXITING THE WORK SITE. THE CONTRACTOR SHALL COORDINATE AND PROVIDE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL FOLLOW THE MORE STRINGENT GUIDELINES OF THE CITY OF MASSILLON OR ODOT AT THE DESCREATION OF THE CITY OF MASSILLON ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN FACILITIES FOR A CONSTRUCTION OFFICE, EMPLOYEE PARKING, AND EMPLOYEE SANITARY FACILITIES. ON STREET PARKING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE FOR THE LAWFUL OFF-SITE DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE.



HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:	DESCRIPTION	
	DATE	

Kenyon Creek Estates Phase 2 - 4
General Notes
City of Massillon
Stark County, Ohio



DRAWING NAME:
General Notes 1
REF NUMBER:



CIVPRO
ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
 4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
 PHONE: (330) 268-3734 EMAIL: KADOB@PROENGINEERING.COM
 WWW.PROENGINEERING.COM

DRAWING NAME: General Notes 2	REF NUMBER:
7	56

TELEVISION TESTING

ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE A COMPLETE INTERNAL INSPECTION DVD TO THE STARK COUNTY SANITARY DEPARTMENT. THE RECORDING PROCEDURE SHALL BE IN ACCORDANCE WITH STARK COUNTY SANITARY DEPARTMENT STANDARDS.

LEAKAGE TESTS

LEAKAGE TESTS SHALL BE PERFORMED WHICH MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER COMPLETED AND ACCEPTED.

WATER (HYDROSTATIC) TEST

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY [9L/(MM OF PIPE DIAMETER KM D)] FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (0.6 M).

AIR TESTING AS PER ASTM F1417

AIR TESTING WILL BE CONDUCTED AS THE PROJECT IS BEING CONSTRUCTED. AT NO TIME WILL MORE THAN 900 FEET OF PIPE BE INSTALLED BEFORE AIR TESTING IS PERFORMED. SEWAGE WILL NOT BE DIVERTED TO ANY SECTION OF PIPE, REGARDLESS OF LENGTH, UNTIL ALL TESTING IS COMPLETED AND ACCEPTED.

AFTER BACKFILLING A MANHOLE TO MANHOLE REACH OF SANITARY SEWER LINE, THE CONTRACTOR SHALL, AT HIS EXPENSE, CONDUCT THE LINE ACCEPTANCE TESTS. THE TESTS SHALL BE PERFORMED ACCORDING TO THE STATED PROCEDURES AND UNDER THE SUPERVISION OF THE STARK COUNTY SANITARY ENGINEER OR HIS REPRESENTATIVE.

EQUIPMENT USED SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS AND BE APPROVED BY THE STARK COUNTY SANITARY ENGINEER:

- 1: PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR A GREATER THAN THE DIAMETER OF THE PIPE BEING INSPECTED.
- 2: PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRED EXTERNAL BRACING OR BLOCKING.
- 3: ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
- 4. THREE INDIVIDUAL HOSES SHALL BE USED FOR THE FOLLOWING CONNECTIONS:
 - a. FROM CONTROL PANEL TO PNEUMATIC PLUGS FOR INFLATION.
 - b. FROM CONTROL PANEL TO SEALED LINE FOR INTRODUCING THE LOW PRESSURE AIR.
 - c. FROM SEALED LINE TO CONTROL PANEL FOR CONTINUALLY MONITORING AIR PRESSURE RISE IN THE SEALED LINE.

ALL PNEUMATIC PLUGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AN SEALED AT BOTH ENDS WITH THE PNEUMATIC PLUGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLUGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.

AFTER A MANHOLE TO MANHOLE REACH OF PIPE HAS BEEN BACKFILLED AND CLEANED, AND THE PNEUMATIC PLUGS ARE CHECKED BY THE ABOVE PROCEDURE, THE PLUGS SHALL BE PLACED IN THE LINE AT EACH MANHOLE. LOW PRESSURE AIR SHALL BE SLOWLY INTRODUCED INTO THIS SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES APPROXIMATELY 4 PSIG.

AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSIG, THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE DISCONNECTED. THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THEN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

PIPE DIAMETER IN.	MINIMUM TIME MINUTES	LENGTH FOR MINUTES TIME, FT.	TIME FOR LONGER LENGTH, S	SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES							
				100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	198	3.416 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	6.342 L	14:10	14:10	17:46	22:15	26:42	31:09	35:36	40:04
18	17:0	133	7.692 L	17:00	19:13	25:38	32:09	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	36:54	43:37	52:21	XX:XX	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	76:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	49:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	170:29	205:07	230:46

IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE CONTRACTOR SHALL INSTALL A 1/2 INCH DIAMETER CAPPED PIPE NIPPLE APPROXIMATELY 10 INCHES LONG, THROUGH THE MANHOLE WALL ON TOP OF ONE OF THE SANITARY SEWER LINES ENTERING THE MANHOLE. THIS SHALL BE DONE AT THE TIME THE SANITARY SEWER LINE IS INSTALLED. IMMEDIATELY PRIOR TO THE PERFORMANCE OF THE LINE ACCEPTABILITY TEST, THE GROUND WATER SHALL BE DETERMINED BY REMOVING THE PIPE CAP, BLOWING AIR THROUGH THE PIPE NIPPLE IN THE GROUND SO AS TO CLEAR IT, AND THEN CONNECTING A CLEAR PLASTIC TUBE TO THE NIPPLE. THE PLASTIC TUBE SHALL BE VERTICAL AND A MEASUREMENT OF THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. AIR TEST PRESSURE IS TO BE INCREASED BY 0.433 PSI FOR EACH FOOT THE GROUND WATER IS ABOVE THE INVERT OF THE SEWER LINE BEING TESTED. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING OF THE TEST REMAIN THE SAME.

IF A LINE ACCEPTABILITY TEST IS BEING CONDUCTED ON MORE THAN ONE MANHOLE REACH OF PIPE, THE ENTIRE SECTION BEING TESTED SHALL MEET THE LINE ACCEPTABILITY REQUIREMENTS AS IF ONLY ONE (1) OF THE MANHOLE REACHES IN THE SECTION WERE BEING TESTED.

NEGATIVE AIR PRESSURE (VACUUM) TESTING OF MANHOLES AS PER ASTM C-1244

PREPARATION OF THE MANHOLE:

- A. ALL LIFT HOLES SHALL BE PLUGGED
- B. ALL PIPES ENTERING THE MANHOLE SHALL BE TEMPORARILY PLUGGED, TAKING CARE TO SECURELY BRACE THE PIPE AND PLUGS TO PREVENT THEM FROM BEING DRAWN INTO THE MANHOLE

PROCEDURE:

- A. THE TEST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- B. A VACUUM OF 10 IN. OF MERCURY SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 IN. OF MERCURY.
- C. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10 IN. OF MERCURY TO 9 IN. OF MERCURY MEETS OR EXCEEDS THE VALUES INDICATED IN TABLE BELOW.

DEPTH (FT)	MINIMUM TEST TIMES FOR MANHOLES							
	DIAMETER, IN.							
	30	33	36	42	48	54	60	72
TIME, IN SECONDS								
8	11	12	14	17	20	23	26	29
10	14	15	18	21	25	29	33	41
12	17	18	21	25	30	35	39	49
14	20	21	25	30	35	41	46	57
16	22	24	39	34	40	46	52	67
18	25	27	32	38	45	52	59	73
20	28	30	35	42	50	53	65	81

CLEAN WATER STATEMENT

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

COMMENCING. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWINGS SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF STARK COUNTY SANITARY ENGINEER IN A CLEAR AND LEGIBLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

RELATION TO WATER MAINS

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.

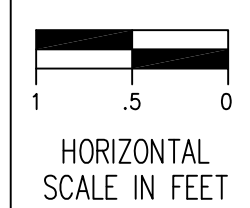
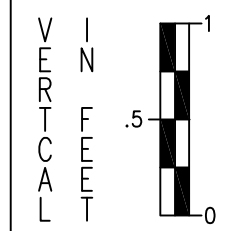
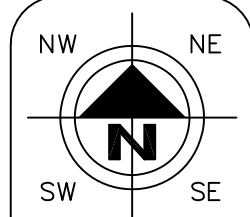
STARK COUNTY SANITARY FOR SCSD 27-15

CONNECTIONS TO EXISTING MANHOLES

(SEC. 16.09) ITEM 16C: WHERE EXISTING MANHOLES REQUIRE CONNECTIONS FOR PROPOSED SANITARY SEWER, THE CONTRACTOR SHALL CORE DRILL MANHOLES FOR OPENINGS REQUIRED, IF OPENINGS DO NOT EXIST. INLET AND OUTLET PIPES SHALL BE CONNECTED TO NEW AND EXISTING MANHOLES WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION SATISFYING ASTM C425 AND C443. KOR-N-SEAL BOOTS BY NPC, A-LOK PRODUCTS OR APPROVED EQUAL SHALL BE USED. ANY REWORK OF THE EXISTING MANHOLE BENCH REQUIRED TO PROVIDE A NEW CHANNEL FOR THE PROPOSED CONNECTION SHALL BE SUPPLIED. ANY BYPASSING OF FLOWS REQUIRED TO PERFORM THIS WORK SHALL ALSO BE SUPPLIED.

OHIO EPA NOTES

- 1. THE PROPOSED SANITARY SEWER MUST MAINTAIN A 10' HORIZONTAL SEPARATION FROM ALL WATER LINES. WHEN CROSSING A WATER LINE, A VERTICAL CLEARANCE OF 18" MUST BE MAINTAINED.
- 2. THE PROPOSED STORM SEWER MUST MAINTAIN A 10' HORIZONTAL SEPARATION FROM ALL WATER LINES. WHEN CROSSING A WATER LINE, A VERTICAL CLEARANCE OF 18" MUST BE MAINTAINED.
- 3. THE FLEXIBLE GASKET SPECIFICATION FOR SEWER CONNECTIONS SHALL CONFORM TO ASTM C-923.



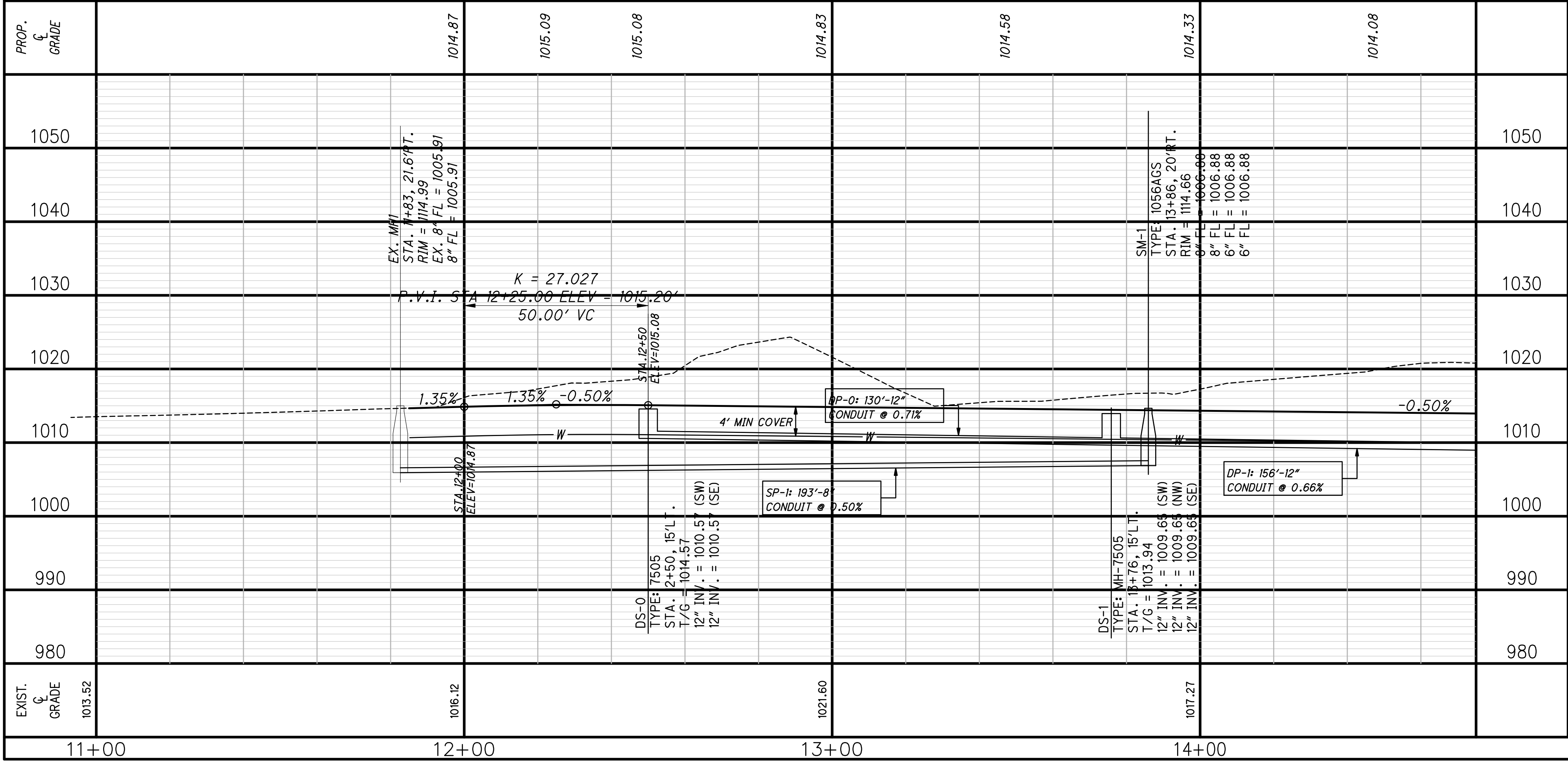
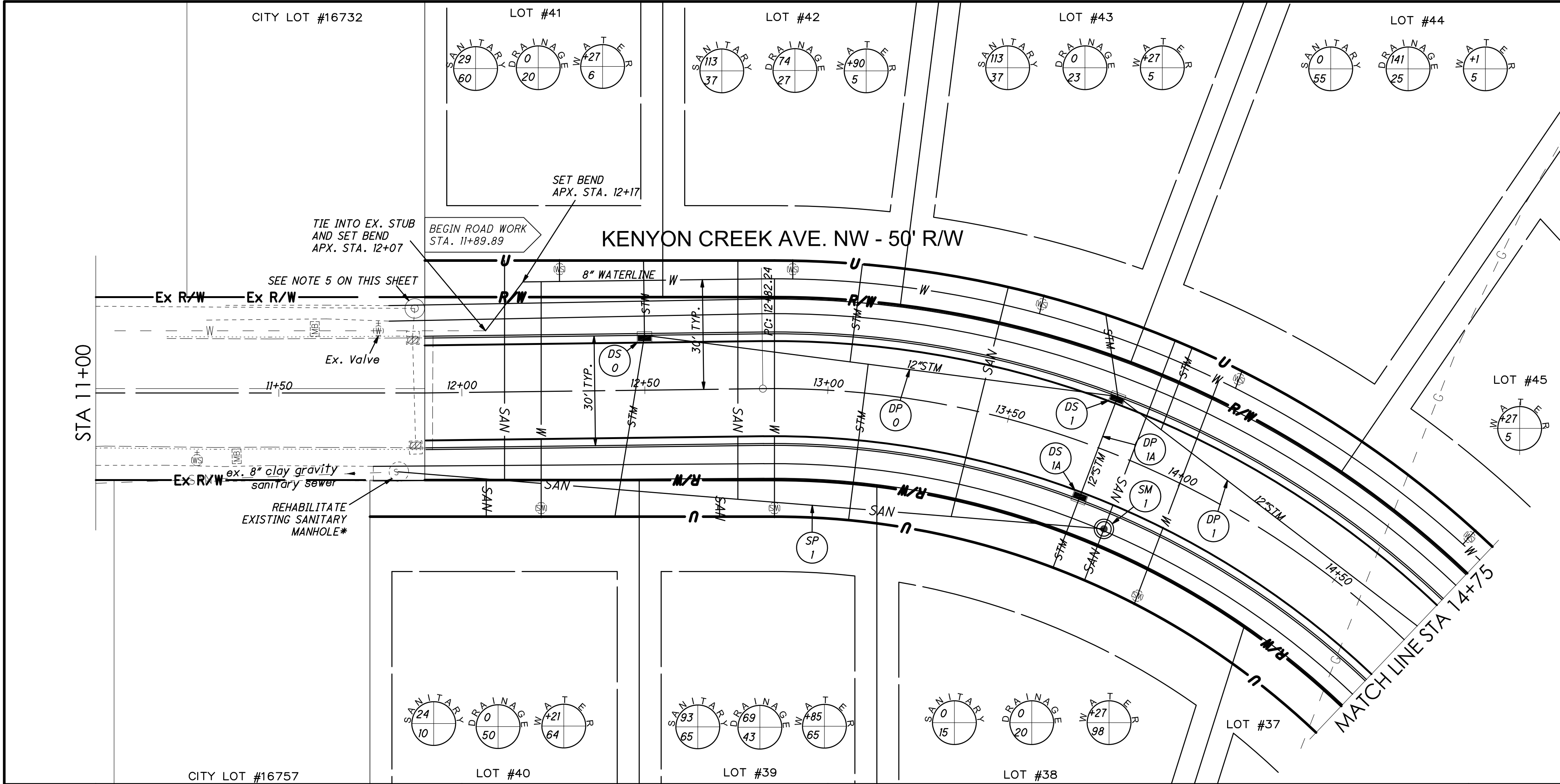
CHECKED BY: KAD
DATE: June 2021
DRAWN BY: BMH
DATE: June 2021

REVISIONS:	DATE	DESCRIPTION	OEPA- SAN
	7/19/21		

Kenyon Creek Estates Phase 2 - 4
General Notes
City of Massillon
Stark County, Ohio



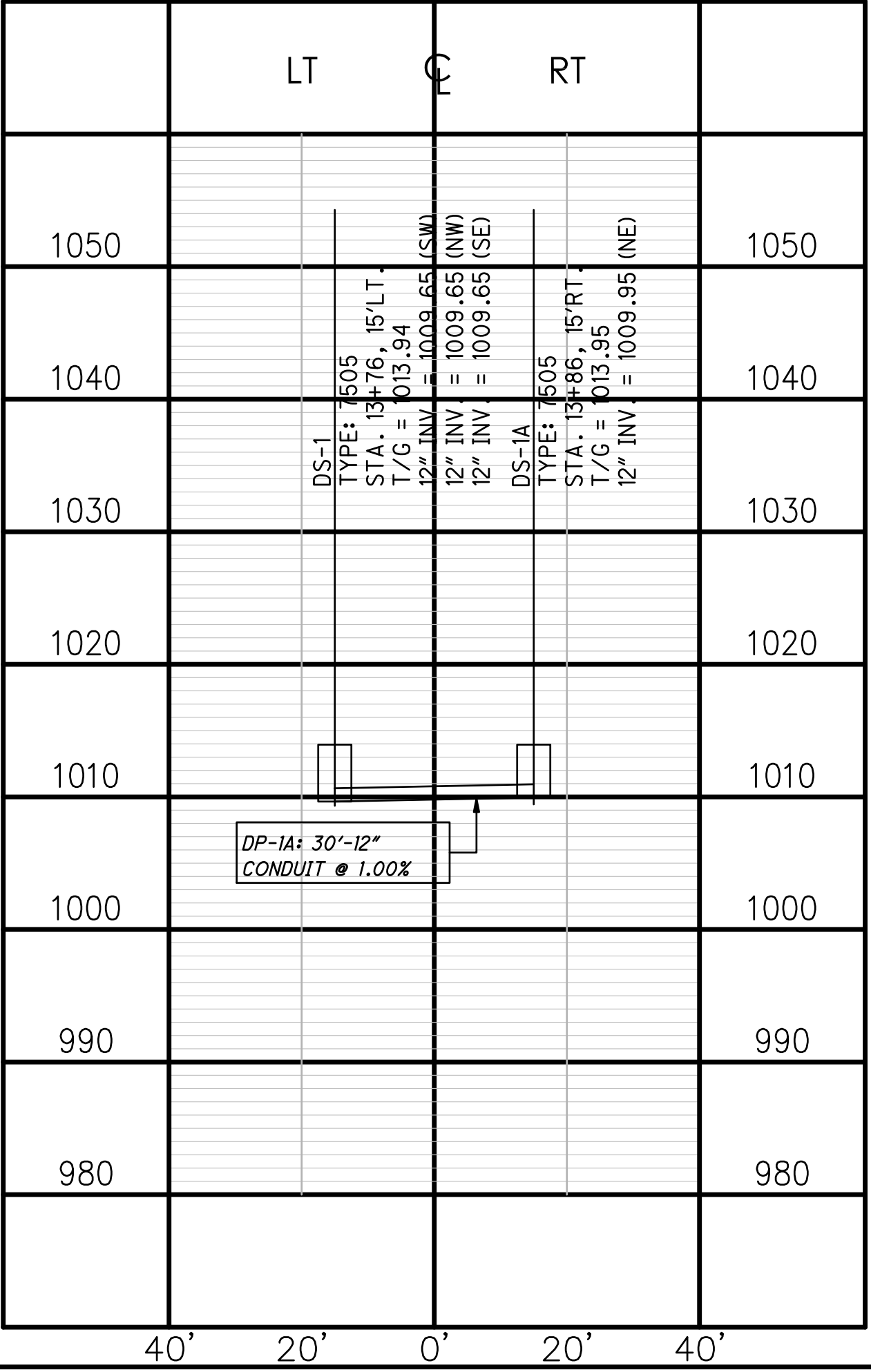
DRAWING NAME: General Notes 3
REF NUMBER:



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 - *3. REHABILITATION OF EXISTING MANHOLES INCLUDES CORE DRILLING HOLES TO INSTALL A PIPE CONNECTION IF A CONNECTION IS PROPOSED PER PLAN. ADDITIONALLY, IF THE MANHOLE IS BURIED, THE SURROUNDING GROUND SURFACE MUST BE EXCAVATED TO MATCH THE EXISTING MANHOLE RIM.
 4. PROVIDE A BUTT JOINT WHEN TYING INTO EXISTING PAVEMENT. SEE DETAIL ON SHEET 50A.
 5. THE CONTRACTOR THAT BUILDS THE SIDEWALK MUST ENSURE THAT THE TOP OF THE SIDEWALK IS FLUSH WITH THE TOP OF THE EXISTING STORM MANHOLE RIM AT STA. 11+87.

STM CROSS SECTION @ STA 13+76



N

NE

SE

SW

WN

10

5

0

VERTICAL SCALE

1" = 5'

0

10

20

HORIZONTAL SCALE IN FEET

CHECKED BY:

KAD

DATE:

Mar, 2021

DRAWN BY:

BMH

DATE:

Mar, 2021

REVISIONS:

DATE	DESCRIPTION
5/24/21	MAS ENG DEPT
6/21/21	VARIOUS
7/19/21	OEPA-SAN

Kenyon Creek Estates Phase 2 - 4

Kenyon Creek Ave. Sta. 11+00 to Sta. 14+75 Plan and Profile

City of Massillon
Stark County, Ohio

CIVIPRO

ENGINEERING

DESIGNERS-SUPERVISORS-CONSTRUCTION MANAGERS

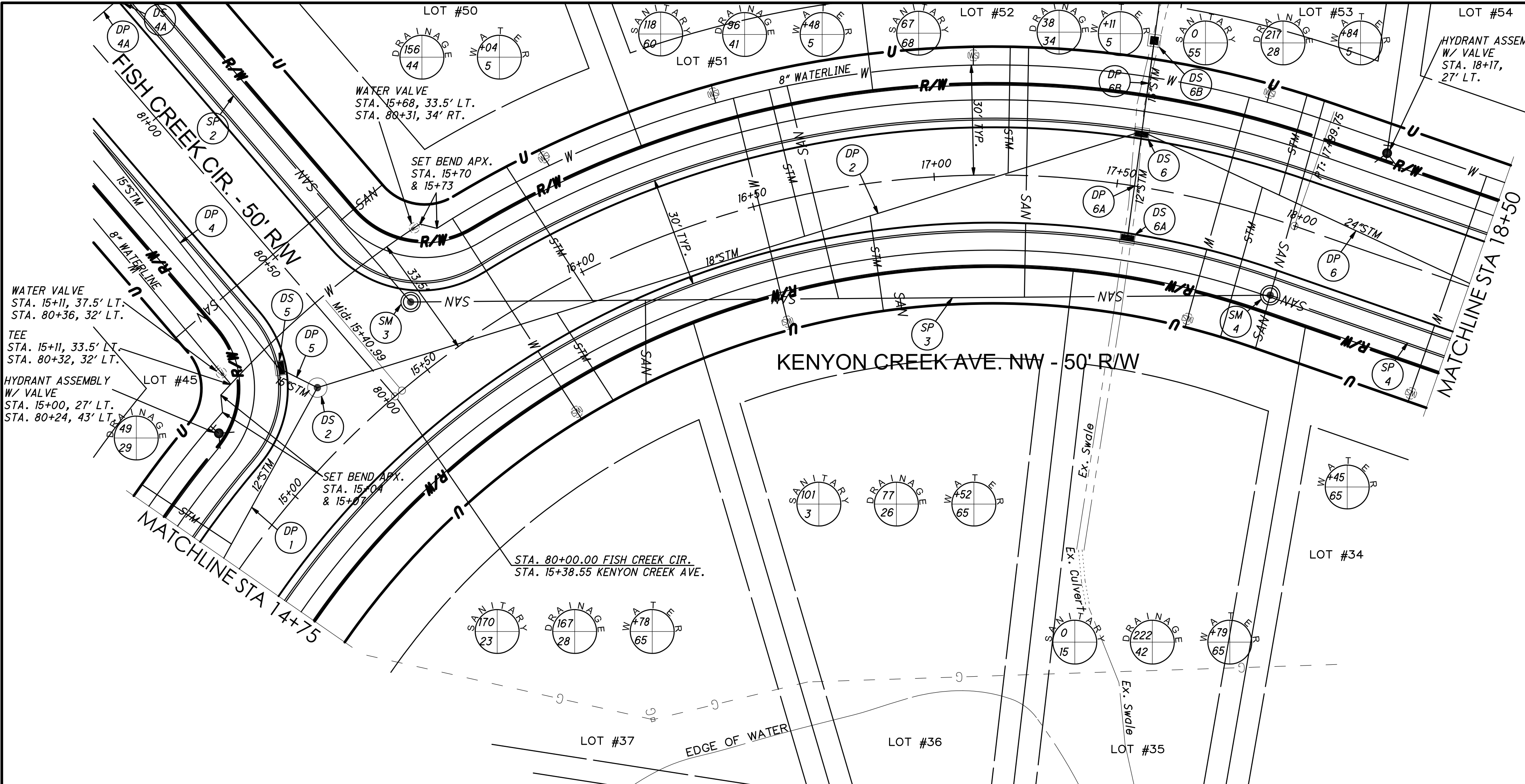
4450 E. MICHIGAN AVE. SUITE 200
MASSILLON, OHIO 44860
PHONE (224) 410-3613 FAX (224) 410-3614
WWW.CIVIPROENGINEERING.COM

DRAWING NAME:

Kenyon Creek Ave. PPI

REF NUMBER:

8 / 56



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.

NE
N
E
S
W

0 10 20
HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

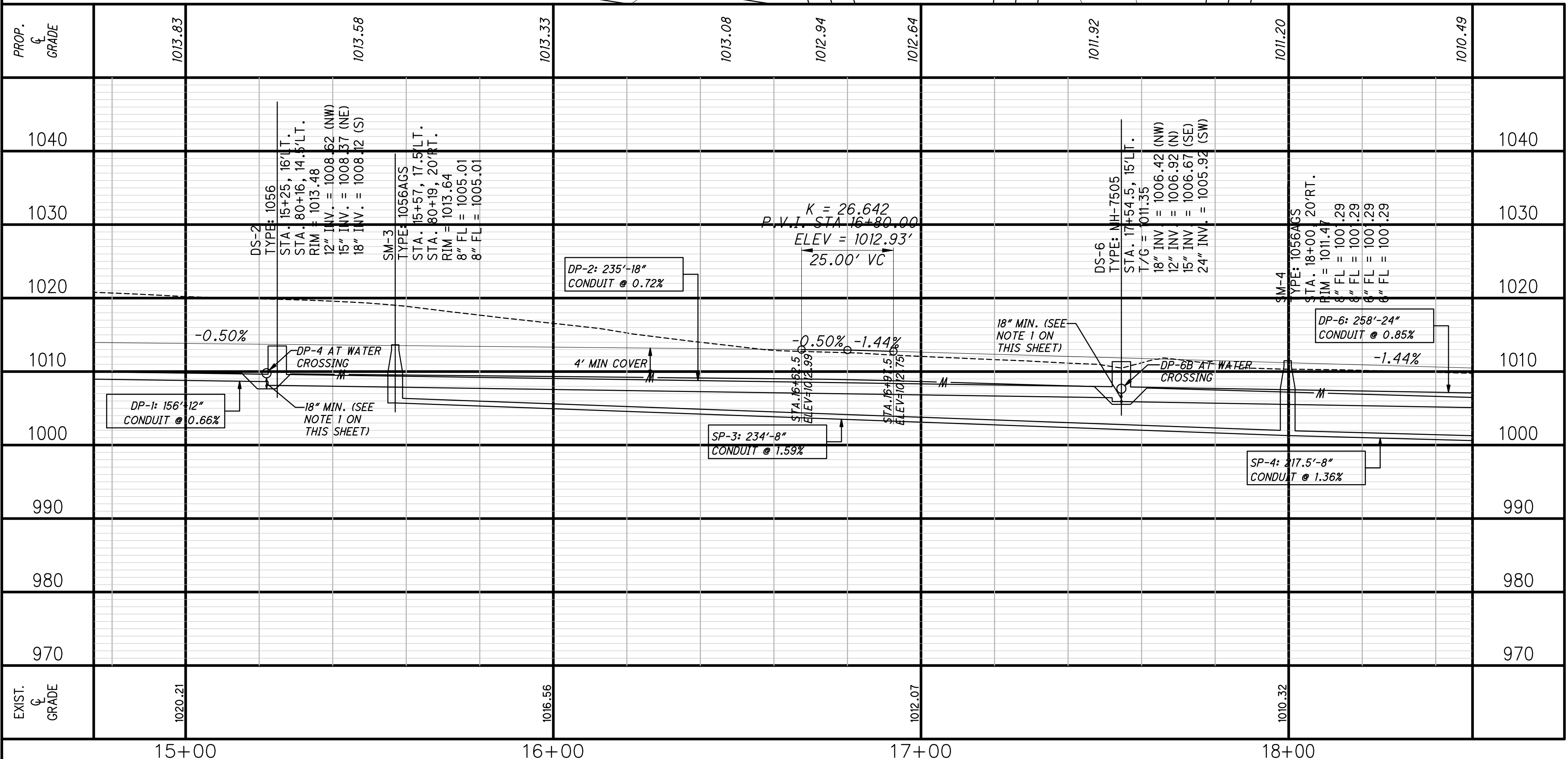
DATE:
Mar, 2021

DRAWN BY:
BMH

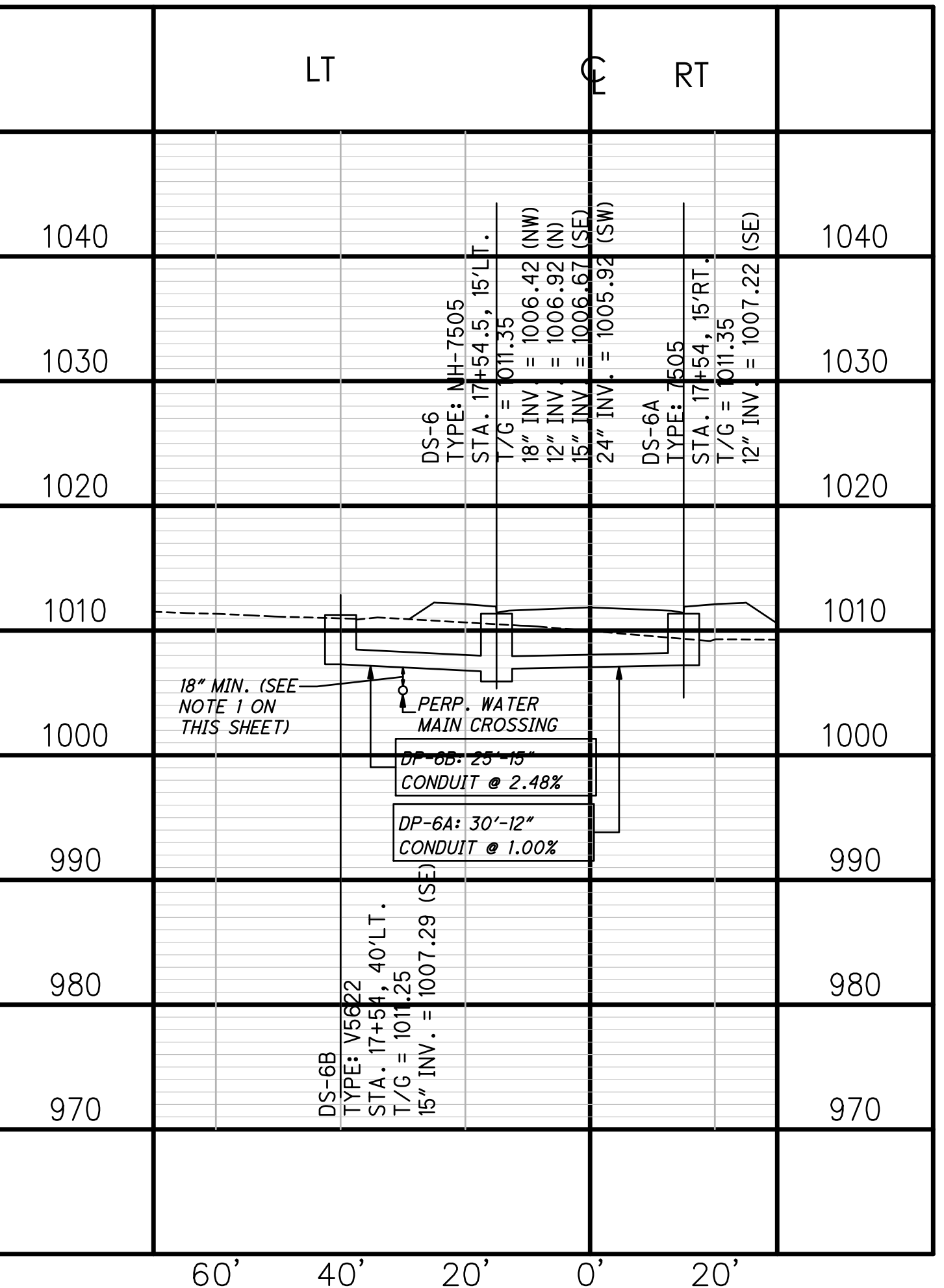
DATE:
Mar, 2021

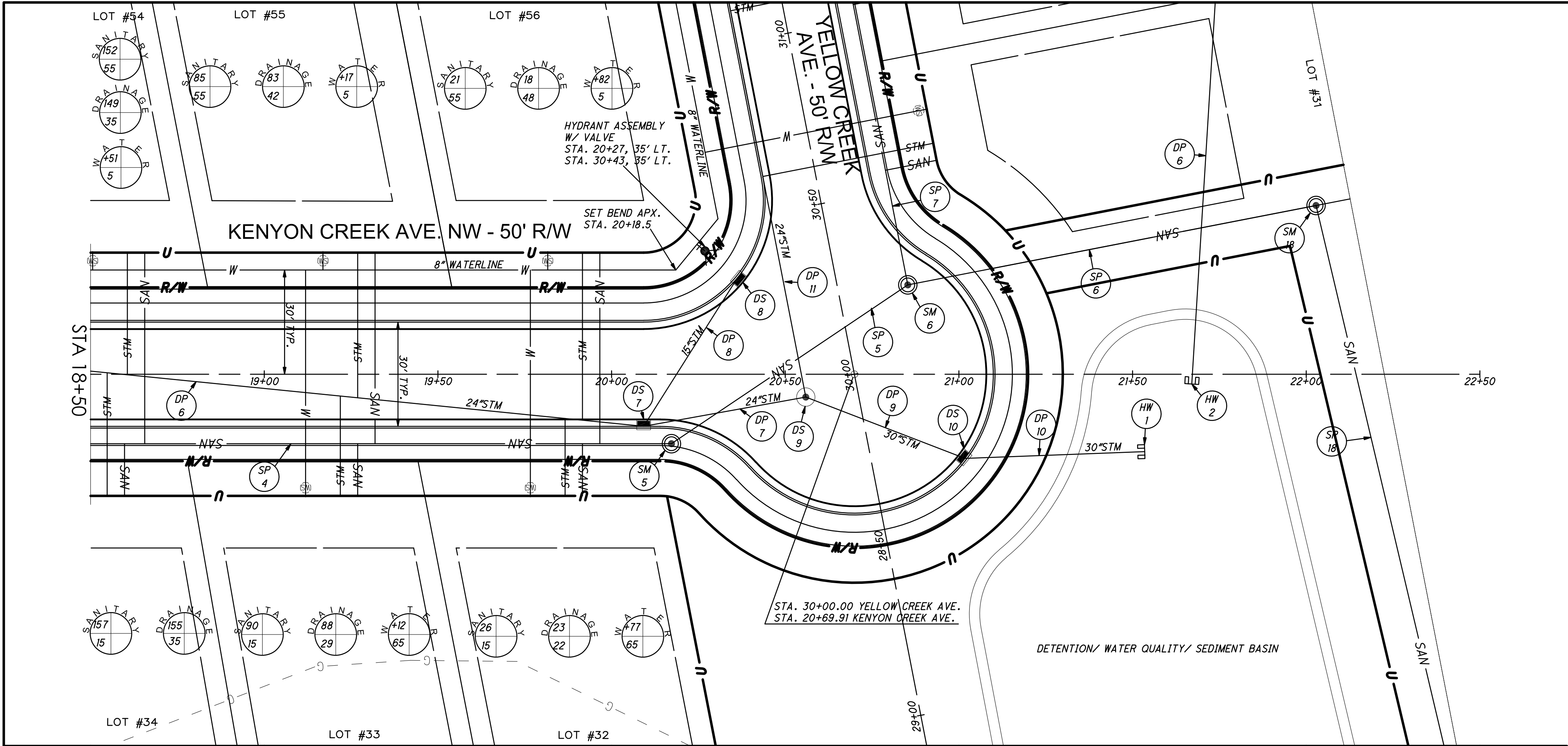
REVISIONS:

DATE	DESCRIPTION
5/24/21	MAS ENG DEPT
6/21/21	VARIOUS
7/19/21	OEPA SAN



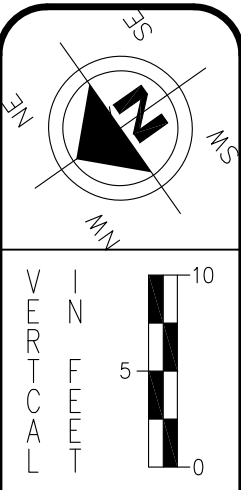
STM CROSS SECTION @ STA 17+54





A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.



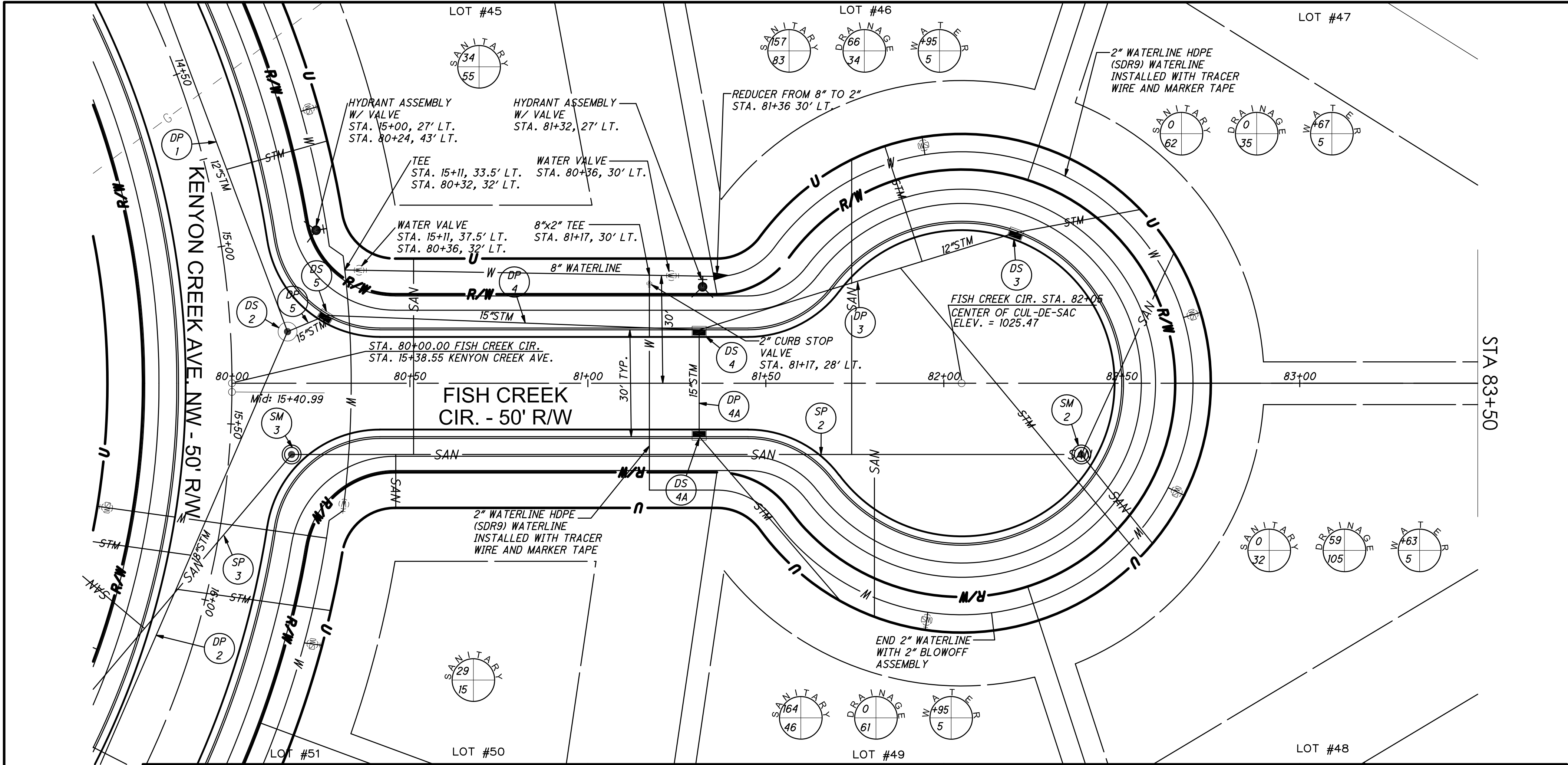
HORIZONTAL SCALE IN FEET

CHECKED BY:		KAD	
DATE:		Mar, 2021	
DRAWN BY:		BMH	
DATE:		Mar, 2021	
REVISIONS:	DATE	DESCRIPTION	
	5/24/21	MAS ENG DEPT	
	6/21/21	VARIOUS	

Kenyon Creek Estates Phase 2 - 4
Kenyon Creek Ave. Sta. 18+50 to Sta. 22+50 Plan and Profile
City of Massillon
Stark County, Ohio

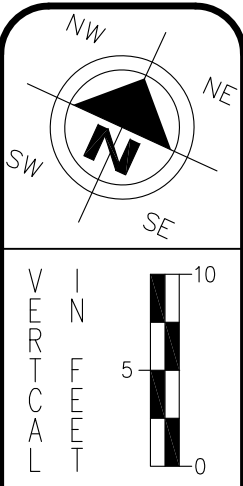


DRAWING NAME:
Kenyon Creek Ave. PP3
REF NUMBER:



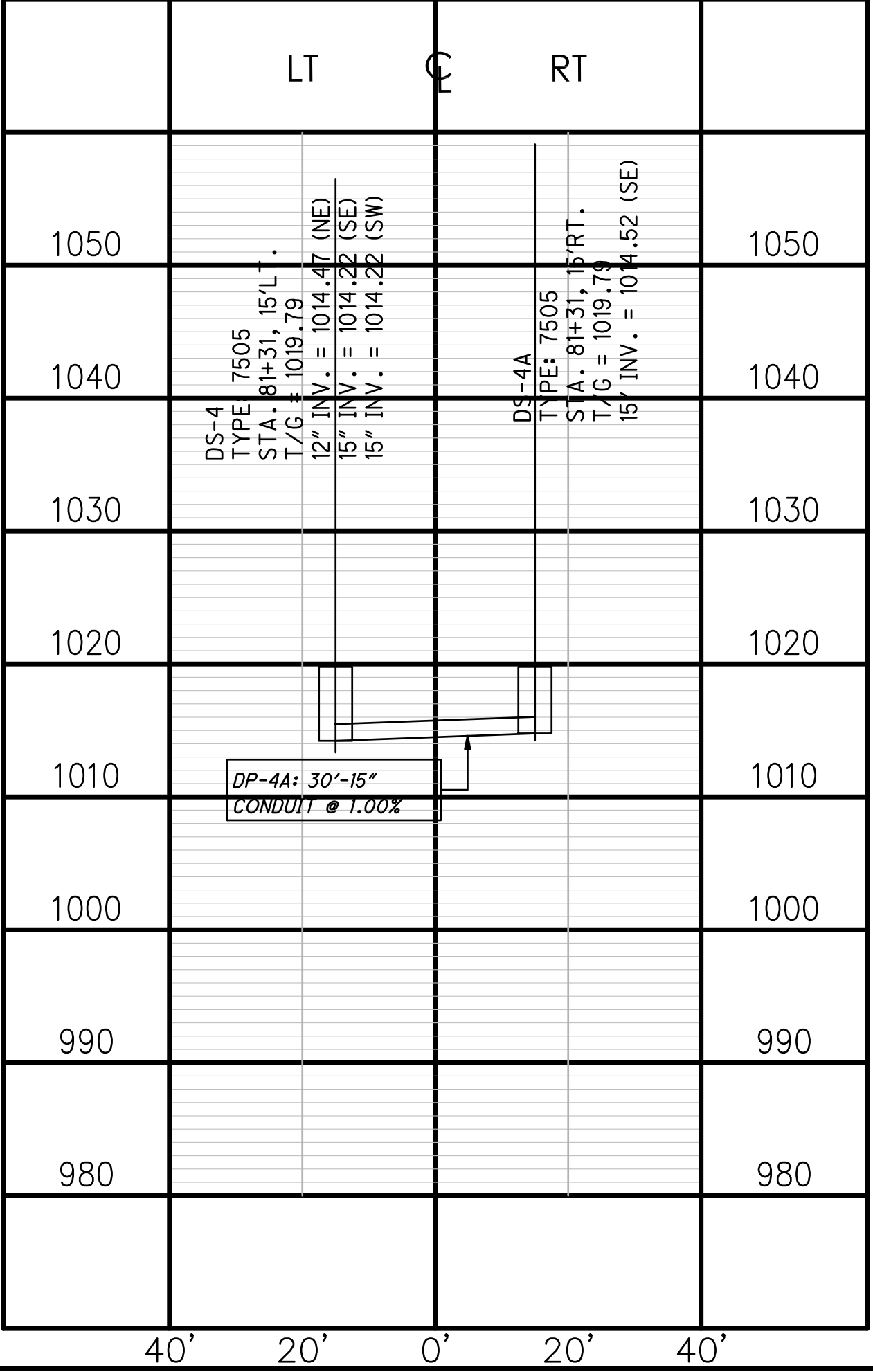
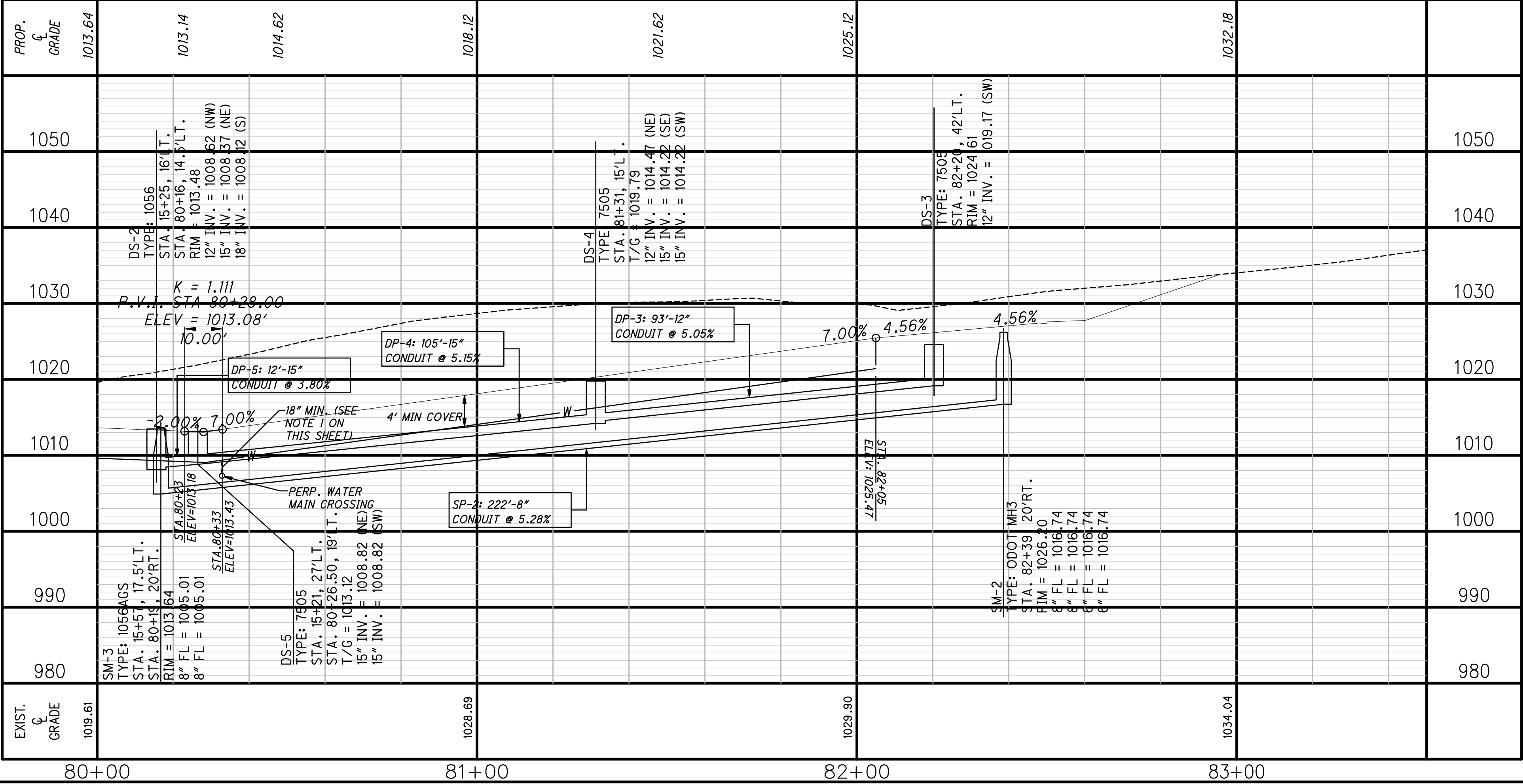
A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.



CHECKED BY:		KAD
DATE:		Mar, 2021
DRAWN BY:		BMH
DATE:		Mar, 2021
REVISIONS:	DATE	DESCRIPTION
	5/24/21	MAS ENG DEPT
	6/21/21	VARIOUS
	7/19/21	OEPA-SAN

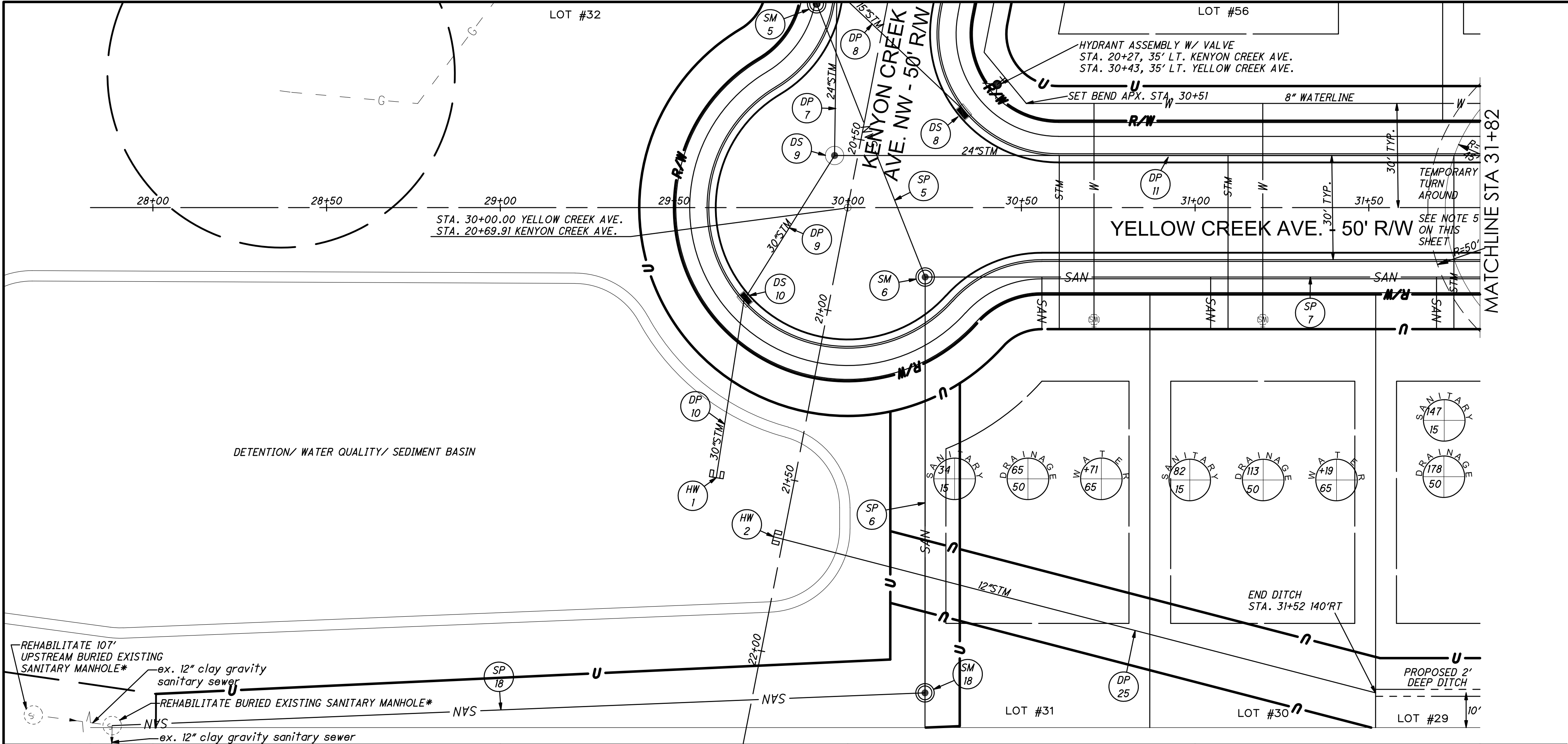
STM CROSS SECTION @ STA 81+31



Kenyon Creek Estates Phase 2 - 4
Fish Creek Cir. 80+00 to Sta. 83+50 Plan and Profile
City of Massillon
Stark County, Ohio

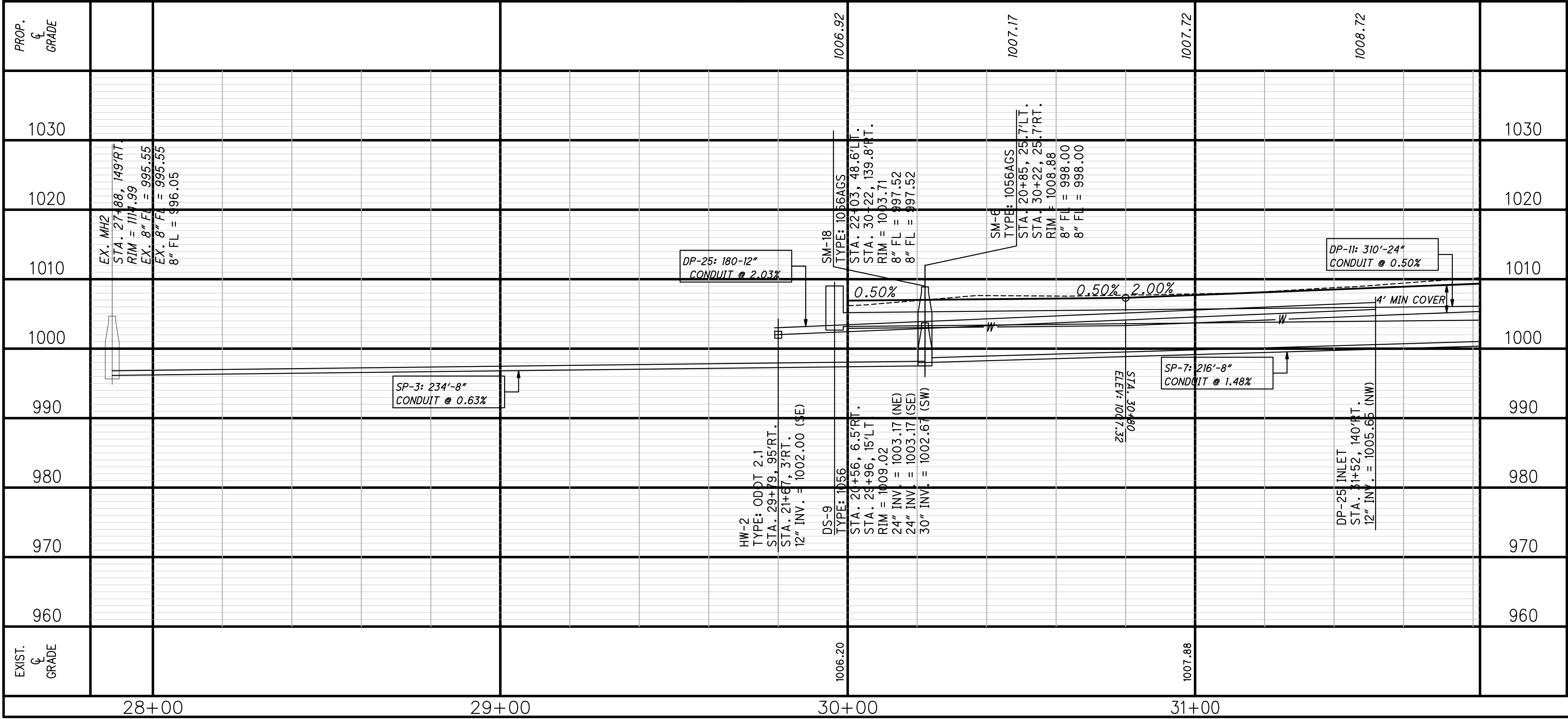


DRAWING NAME:
Fish Creek Cir. PP1
REF NUMBER:



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 3. THE PROPOSED DITCH SHOWN ON THIS SHEET HAS A 2' WIDE FLOOR. THE CENTERLINE OF THE DITCH IS OFFSET 10' FROM THE PROPERTY LINE AS SHOWN. THE SIDE SLOPES OF THE DITCH SHALL BE 2:1.
 - *4. REHABILITATION OF EXISTING MANHOLES INCLUDES CORE DRILLING HOLES TO INSTALL A PIPE CONNECTION IF A CONNECTION IS PROPOSED PER PLAN. ADDITIONALLY, IF THE MANHOLE IS BURIED, THE SURROUNDING GROUND SURFACE MUST BE EXCAVATED TO MATCH THE EXISTING MANHOLE RIM.
 5. THE TEMPORARY TURN AROUND SHALL INCLUDE THE FOLLOWING:
A. A SUBGRADE COMPACTION (ODOT 203)
B. 6" (2-3" COURSES) AGGREGATE BASE (ODOT 304)
C. DOUBLE CHIP & SEAL COAT (ODOT 409)
- BITUMINOUS MATERIAL @ 0.3 GAL/SY
- COVER AGGREGATE @ 0.008 CY/SY



0

10

20

HORIZONTAL

SCALE IN FEET

CHECKED BY:

KAD

DATE:

Mar, 2021

DRAWN BY:

BMH

DATE:

Mar, 2021

REVISIONS:

DATE	DESCRIPTION	MAS	ENG	DEPT
5/24/21				
6/21/21				
7/19/21				

Kenyon Creek Estates Phase 2 - 4

Yellow Creek Ave. 27+82 to Sta. 31+82 Plan and Profile

City of Massillon
Stark County, Ohio

CIVIPRO

ENGINEERING

DESIGNERS-SURVEYORS-CONSULTING MANAGERS

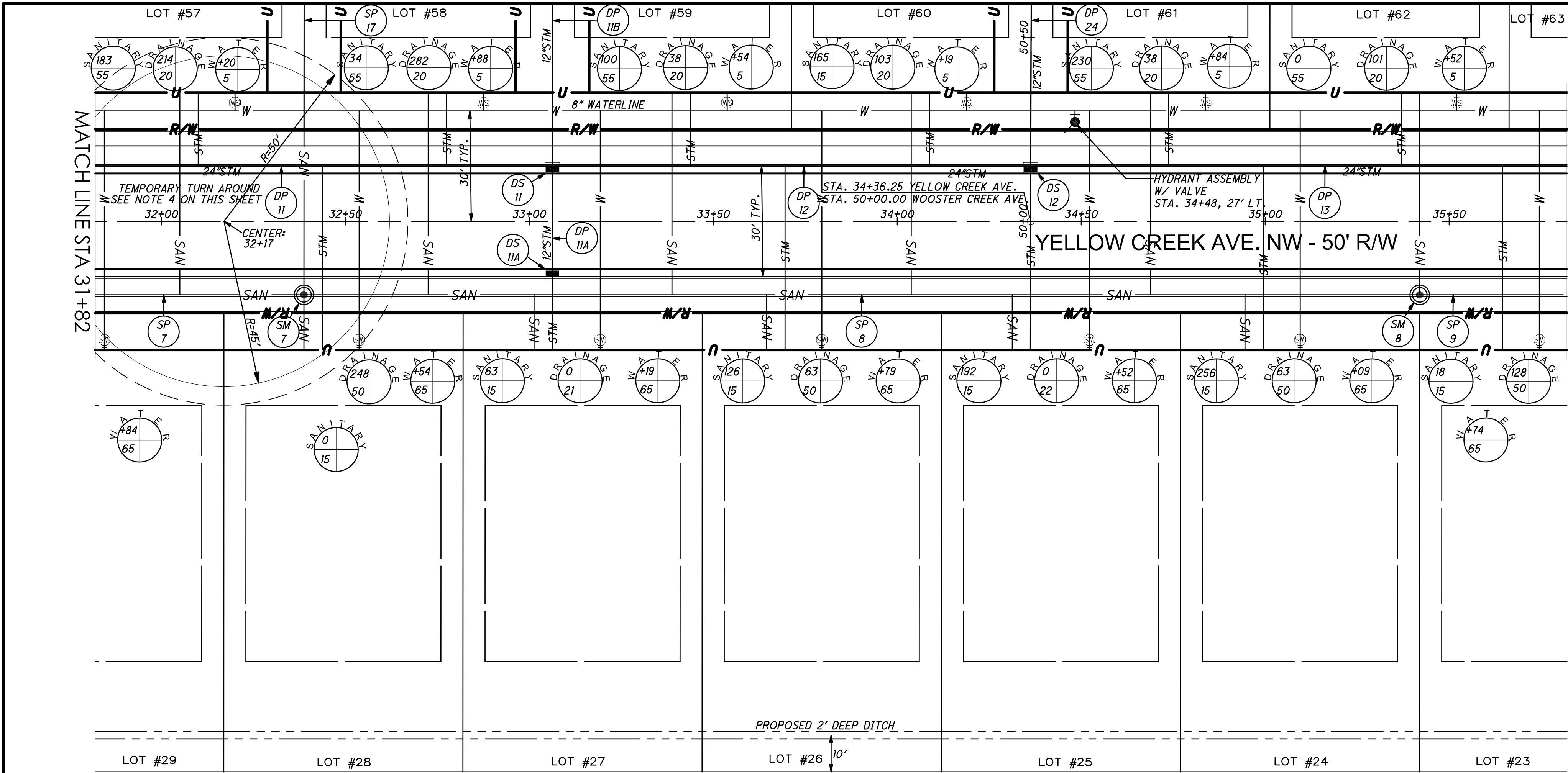
4450 E. LONGVIEW AVE. SUITE 100
MASSILLON, OHIO 44862
PHONE (224) 410-3913 EMAIL: KAD@CIVIPROENGINEERING.COM
WWW.CIVIPROENGINEERING.COM

DRAWING NAME:

Yellow Creek Ave. PPI

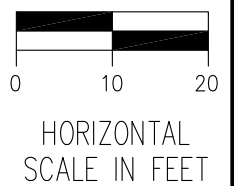
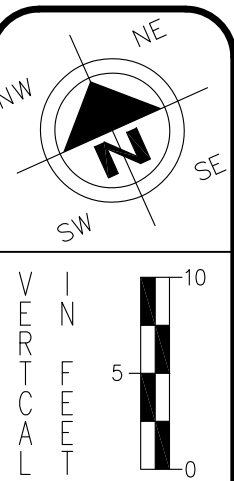
REF NUMBER:

12 / 56



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

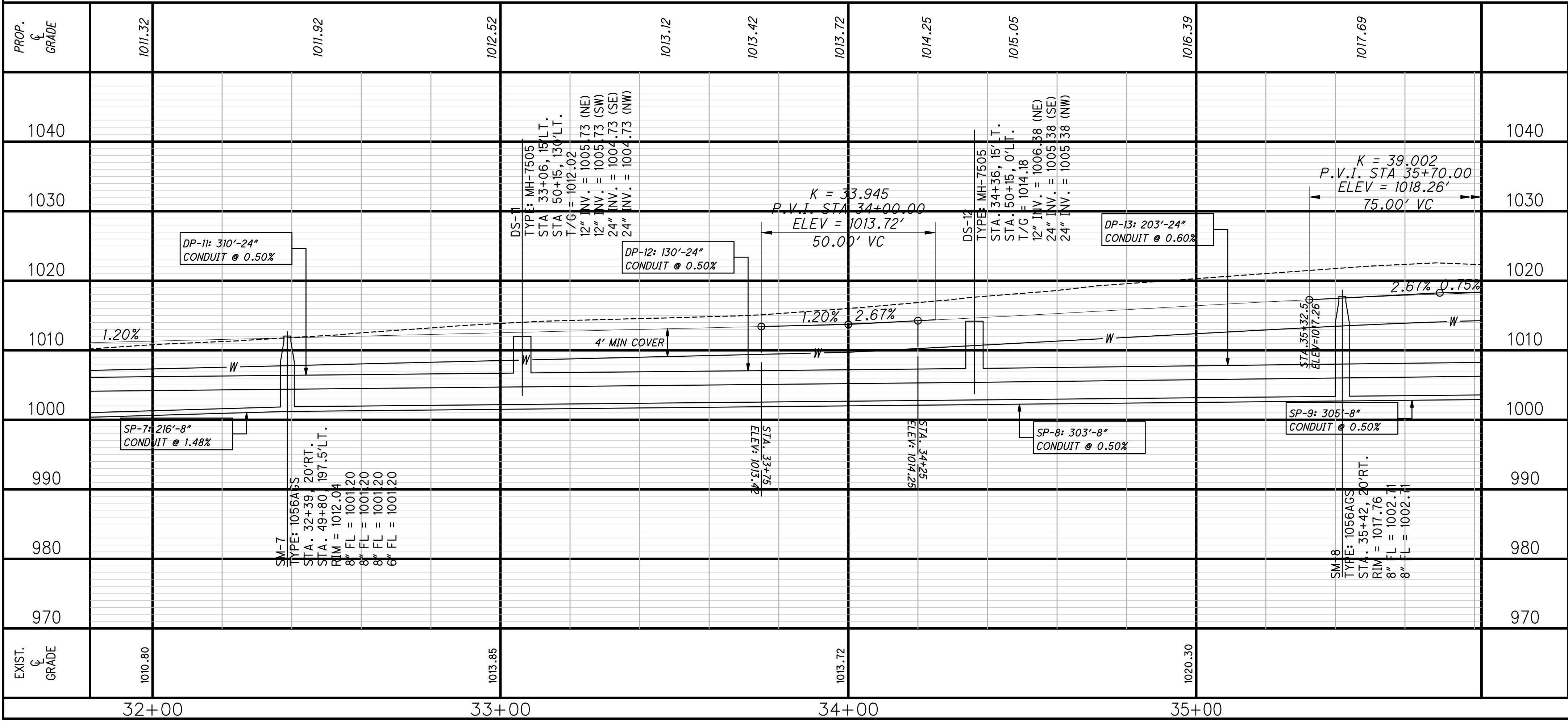
- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 3. THE PROPOSED DITCH SHOWN ON THIS SHEET HAS A 2' WIDE FLOOR. THE CENTERLINE OF THE DITCH IS OFFSET 10' FROM THE PROPERTY LINE AS SHOWN. THE SIDE SLOPES OF THE DITCH SHALL BE 2:1.
 4. THE TEMPORARY TURN AROUND SHALL INCLUDE THE FOLLOWING:
 - A. A SUBGRADE COMPACTION (ODOT 203)
 - B. 6" (2-3" COURSES) AGGREGATE BASE (ODOT 304)
 - C. DOUBLE CHIP & SEAL COAT (ODOT 409).
 - BITUMINOUS MATERIAL @ 0.3 GAL/SY
 - COVER AGGREGATE @ 0.008 CY/SY



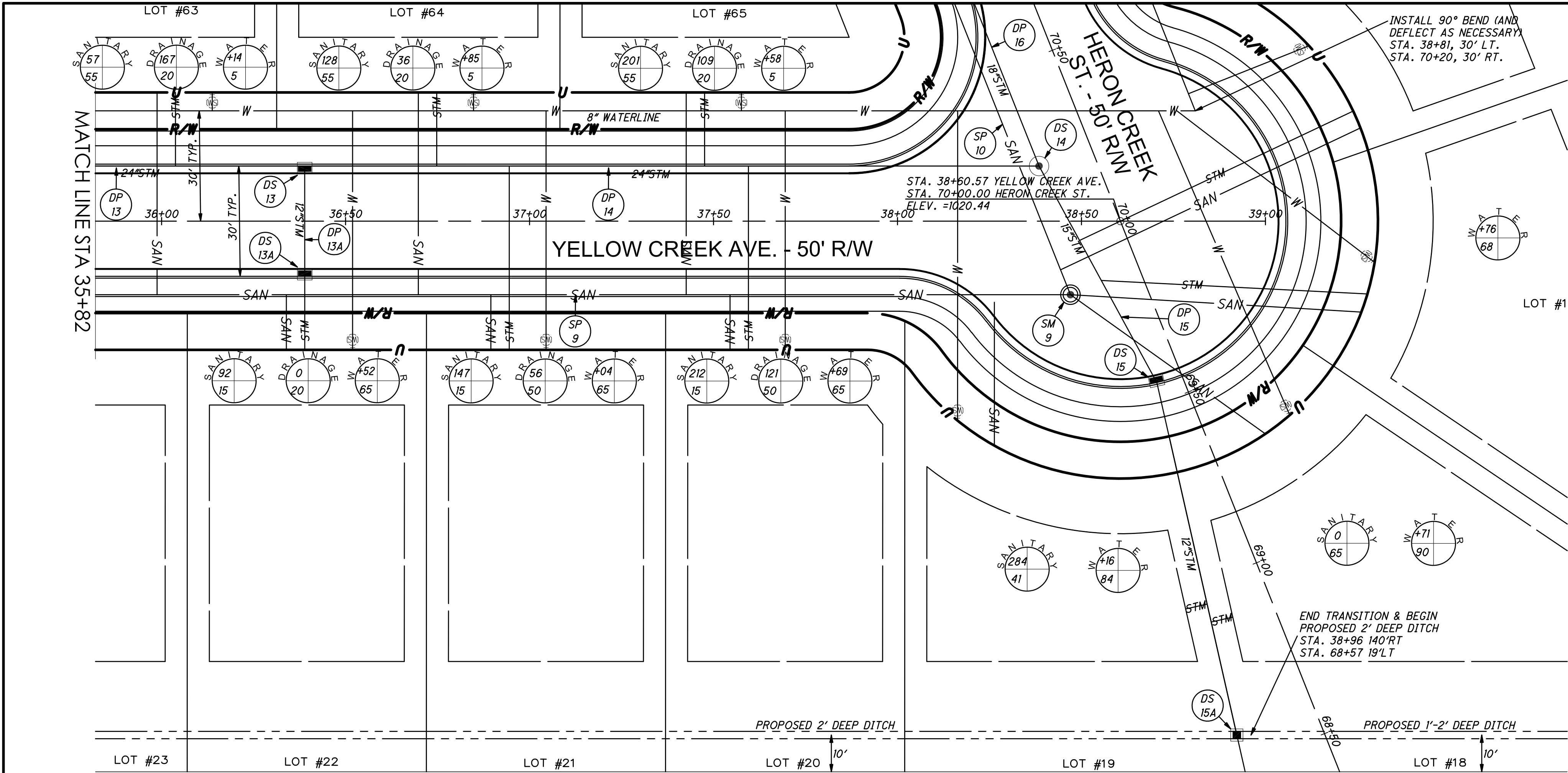
CHECKED BY: KAD
DATE: Mar, 2021
DRAWN BY: BMH
DATE: Mar, 2021

REVISIONS:	DATE	DESCRIPTION	MAS	ENG	DEPT
	5/24/21				
	6/21/21				

Kenyon Creek Estates Phase 2 - 4
Yellow Creek Ave. 31+82 to Sta. 35+82 Plan and Profile
City of Massillon
Stark County, Ohio

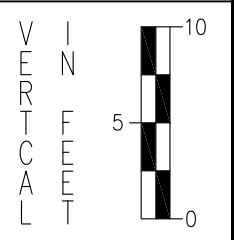
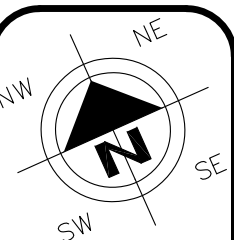


DRAWING NAME: Yellow Creek Ave, PP2
REF NUMBER:



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 3. THE PROPOSED DITCH SHOWN ON THIS SHEET HAS A 2' WIDE FLOOR. THE CENTERLINE OF THE DITCH IS OFFSET 10' FROM THE PROPERTY LINE AS SHOWN. THE SIDE SLOPES OF THE DITCH SHALL BE 2:1.



HORIZONTAL SCALE IN FEET

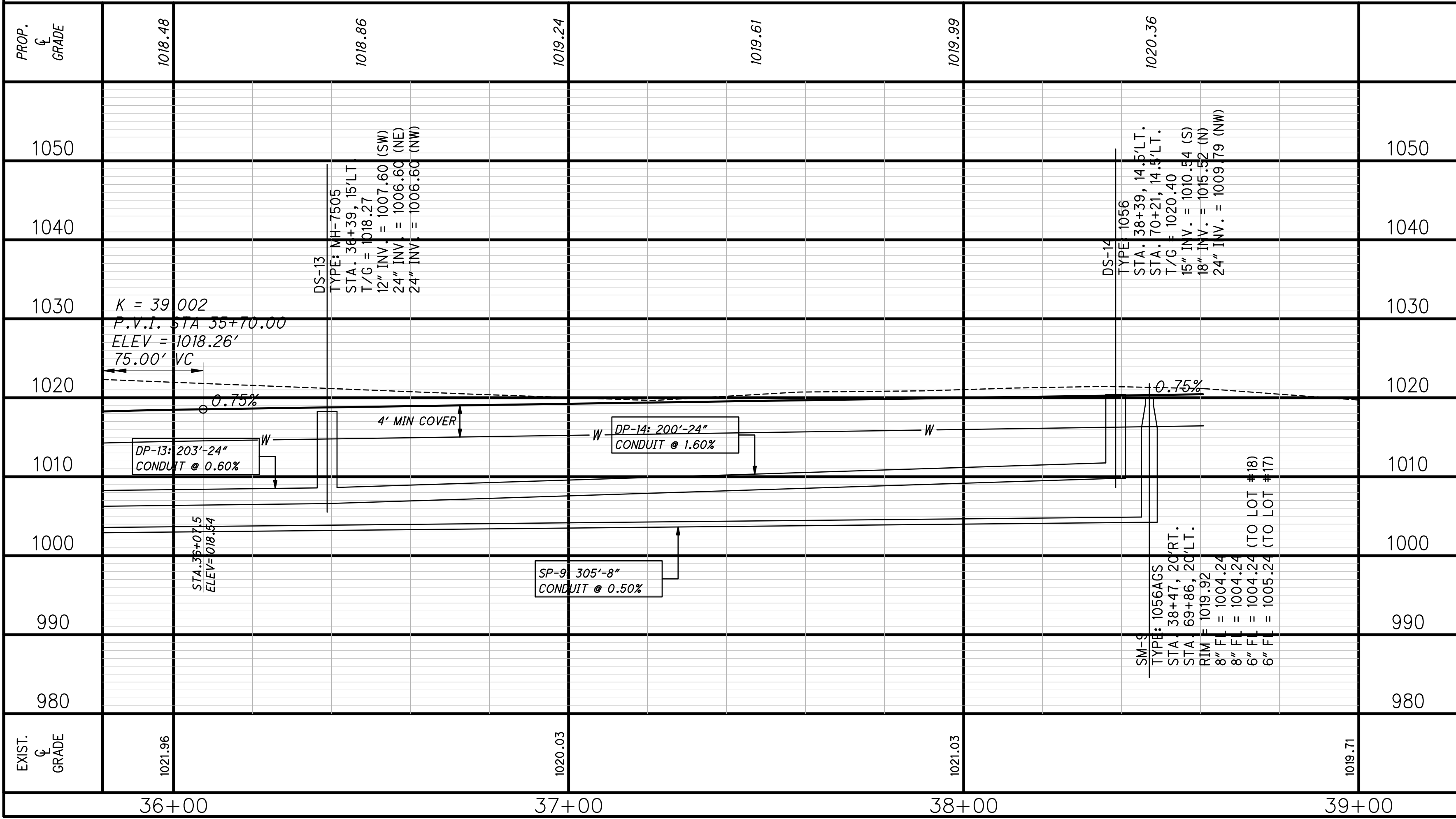
CHECKED BY: KAD

DATE: April 2021

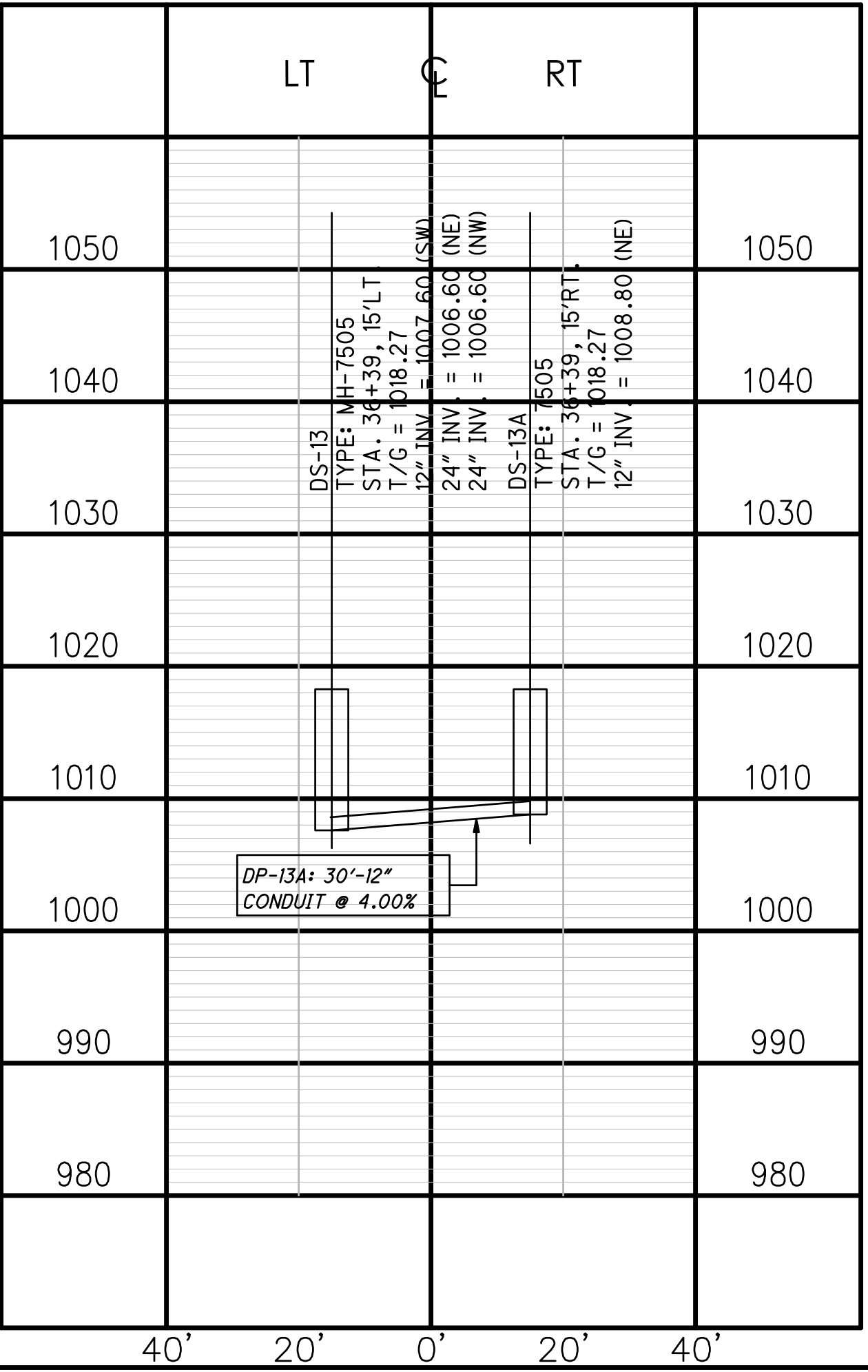
DRAWN BY: BMH

DATE: April 2021

REVISIONS:	DATE	DESCRIPTION	MAS	ENG	DEPT
	5/24/21				
	6/21/21				



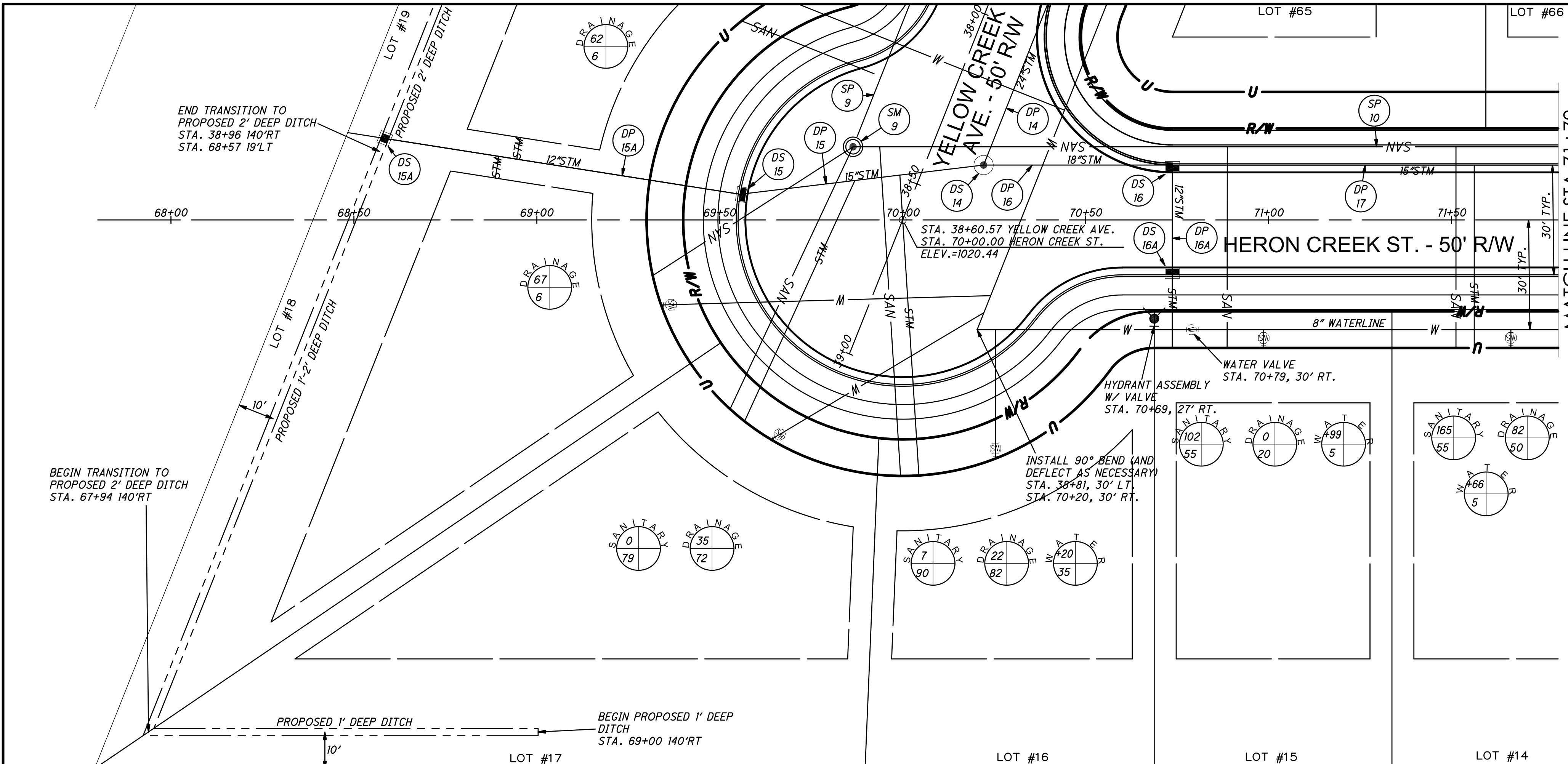
STM CROSS SECTION @ STA 36+39



Kenyon Creek Estates Phase 2 - 4
Yellow Creek Ave. 35+82 to Sta. 39+00 Plan and Profile
City of Massillon
Stark County, Ohio

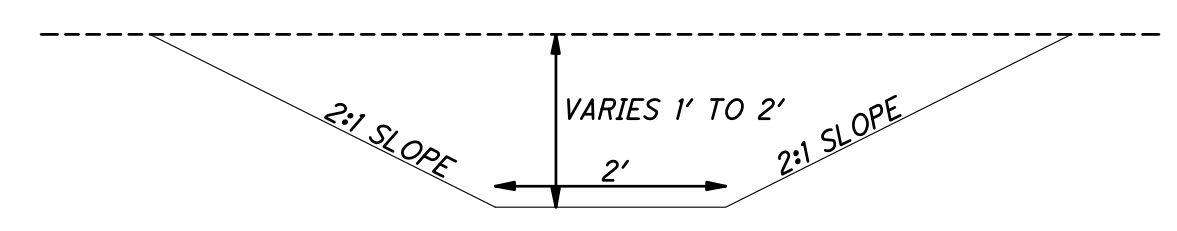


DRAWING NAME: Yellow Creek Ave, PP3
REF NUMBER:

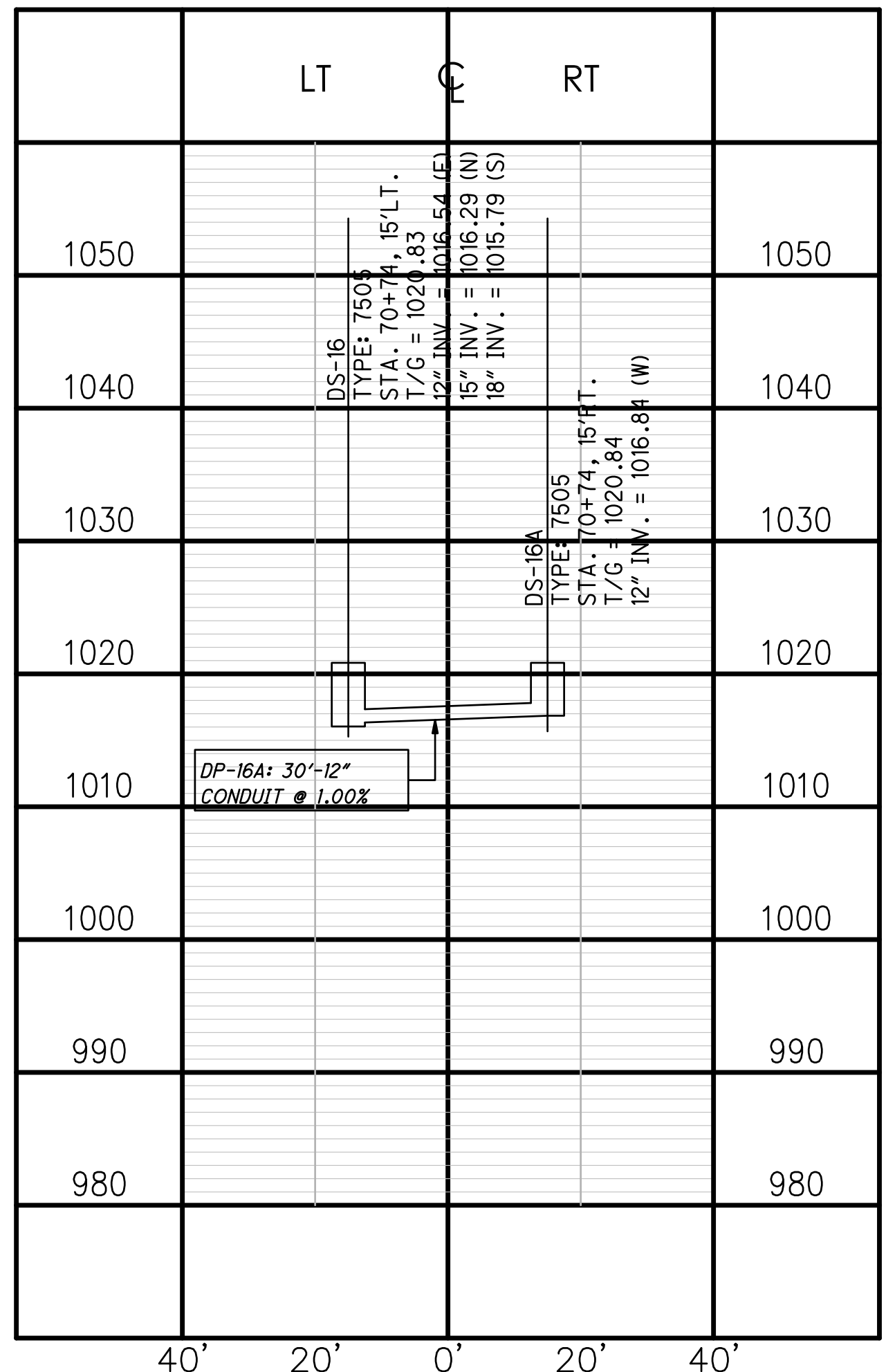
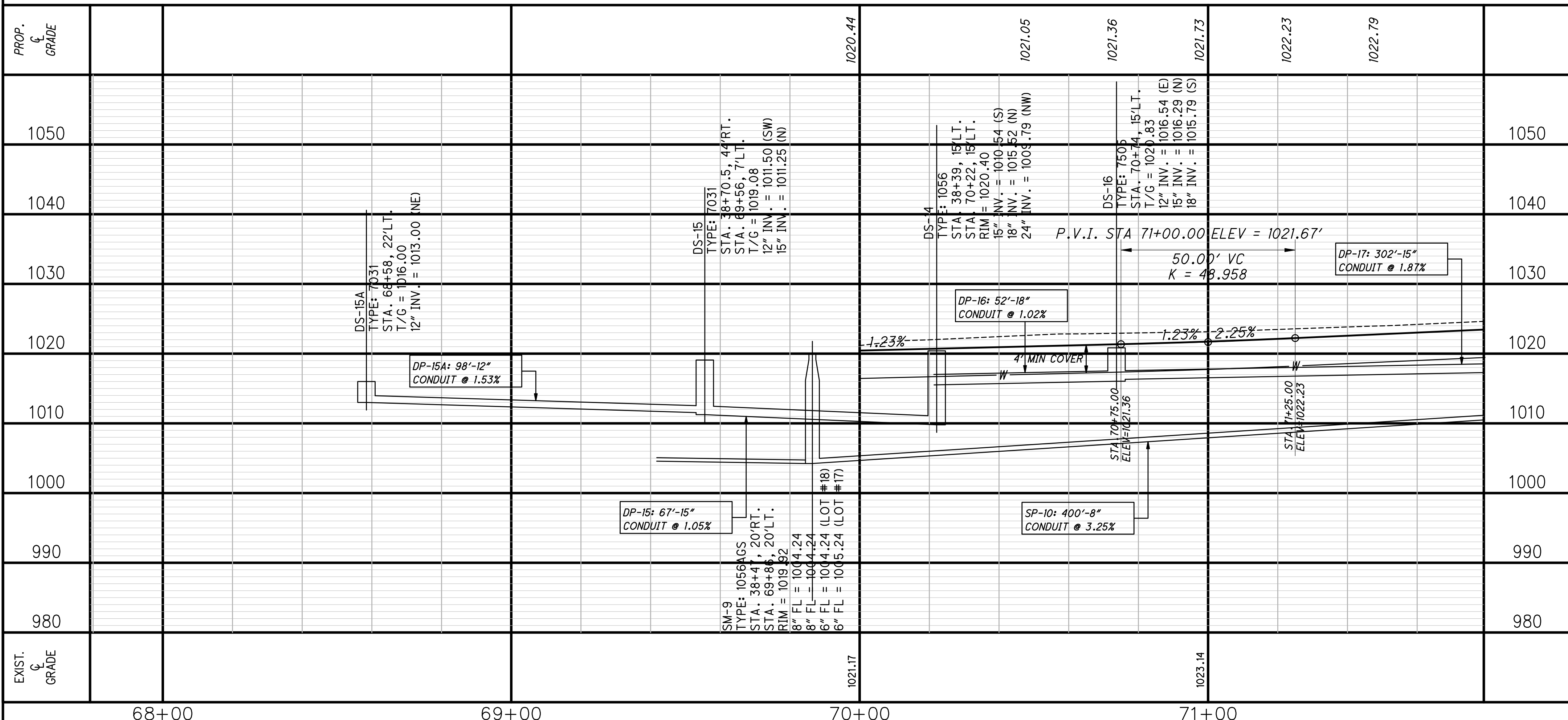


A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 3. THE PROPOSED DITCH SHOWN ON THIS SHEET HAS A 2' WIDE FLOOR. THE CENTERLINE OF THE DITCH IS OFFSET 10' FROM THE PROPERTY LINE AS SHOWN. THE SIDE SLOPES OF THE DITCH SHALL BE 2:1.



STM CROSS SECTION @ STA 70+74



MS

SE

NE

WN

2

0

10

20

0

5

10

CHECKED BY:

KAD

DATE:

April 2021

DRAWN BY:

BMH

DATE:

April 2021

REVISIONS:

DATE	DESCRIPTION	MAS	ENG	DEPT
5/24/21				
6/21/21				

Kenyon Creek Estates Phase 2 - 4

Heron Creek St. 67+79 to Sta. 71+79 Plan and Profile

City of Massillon

Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 BOLDEN VALLEY STREET NW, SUITE 800 CANTON, OH 44705

PHONE: (224) 410-3913 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

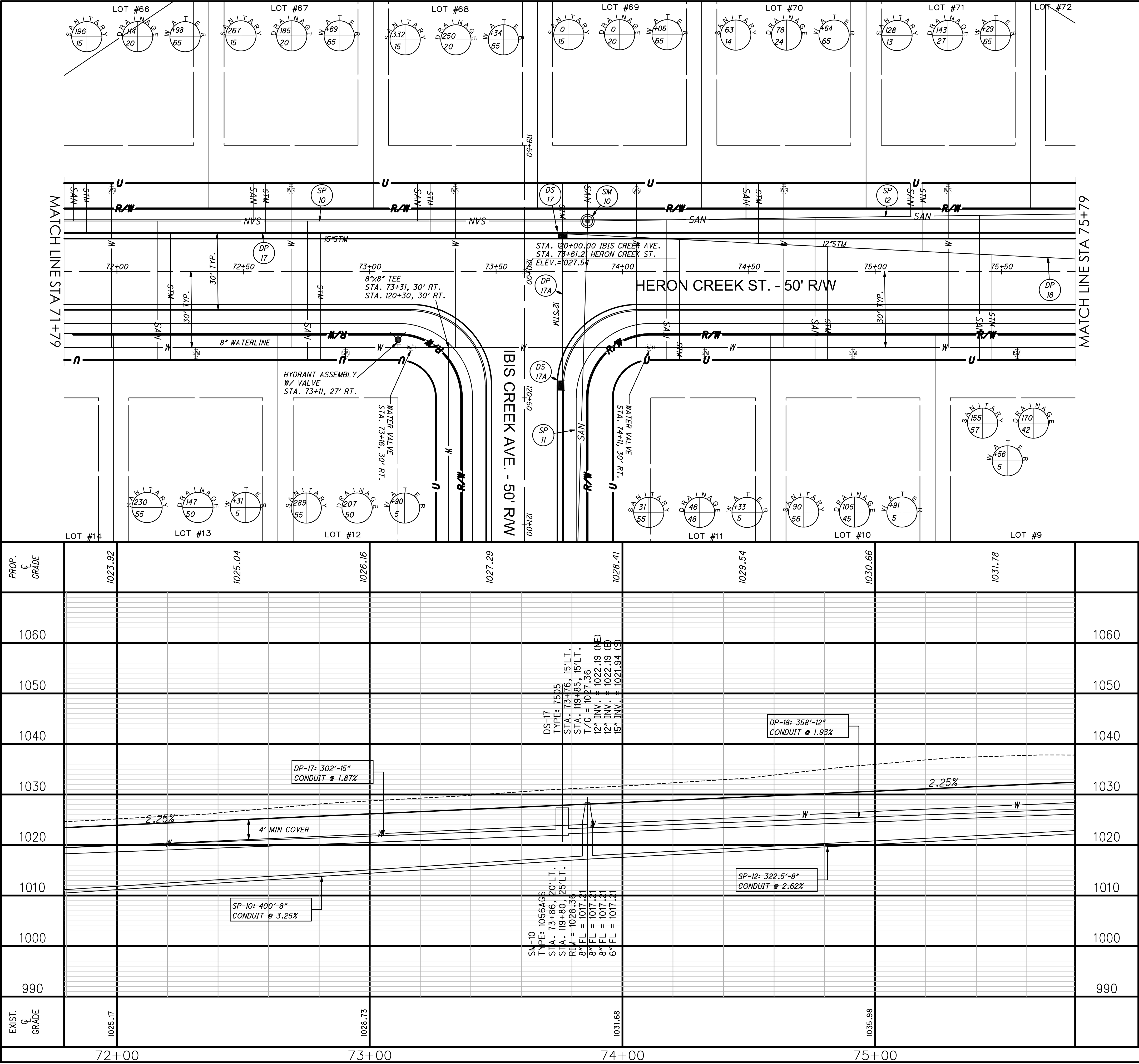
DRAWING NAME:

Heron Creek St. PP1

REF NUMBER:

15

56



A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4" UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.

SW

NW

SE

NE

2

0

10

20

HORIZONTAL SCALE IN FEET

CHECKED BY:

KAD

DATE:

April 2021

DRAWN BY:

BMH

DATE:

April 2021

REVISIONS:

DATE	DESCRIPTION
5/24/21	MAS ENG DEPT
6/21/21	VARIOUS

Kenyon Creek Estates Phase 2 - 4

Heron Creek St. 71+79 to Sta. 75+79 Plan and Profile

City of Massillon
Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-PLANNERS-CONSTRUCTION MANAGERS

4450 BIDDEN VALLEY STREET NW, SUITE 800 CANTON, OH 44705

PHONE: (334) 410-3913 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

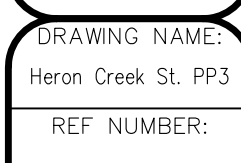
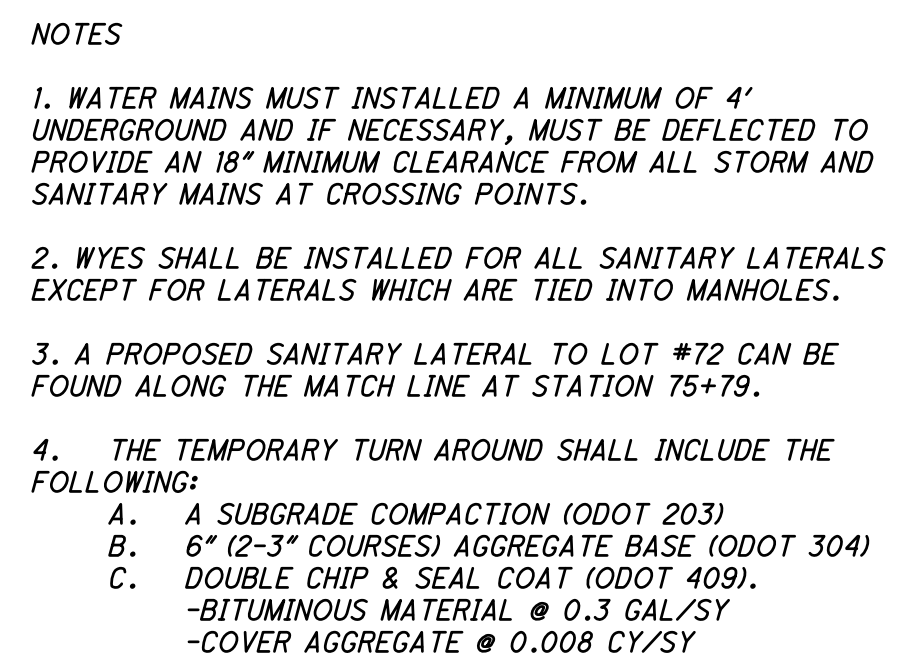
DRAWING NAME:

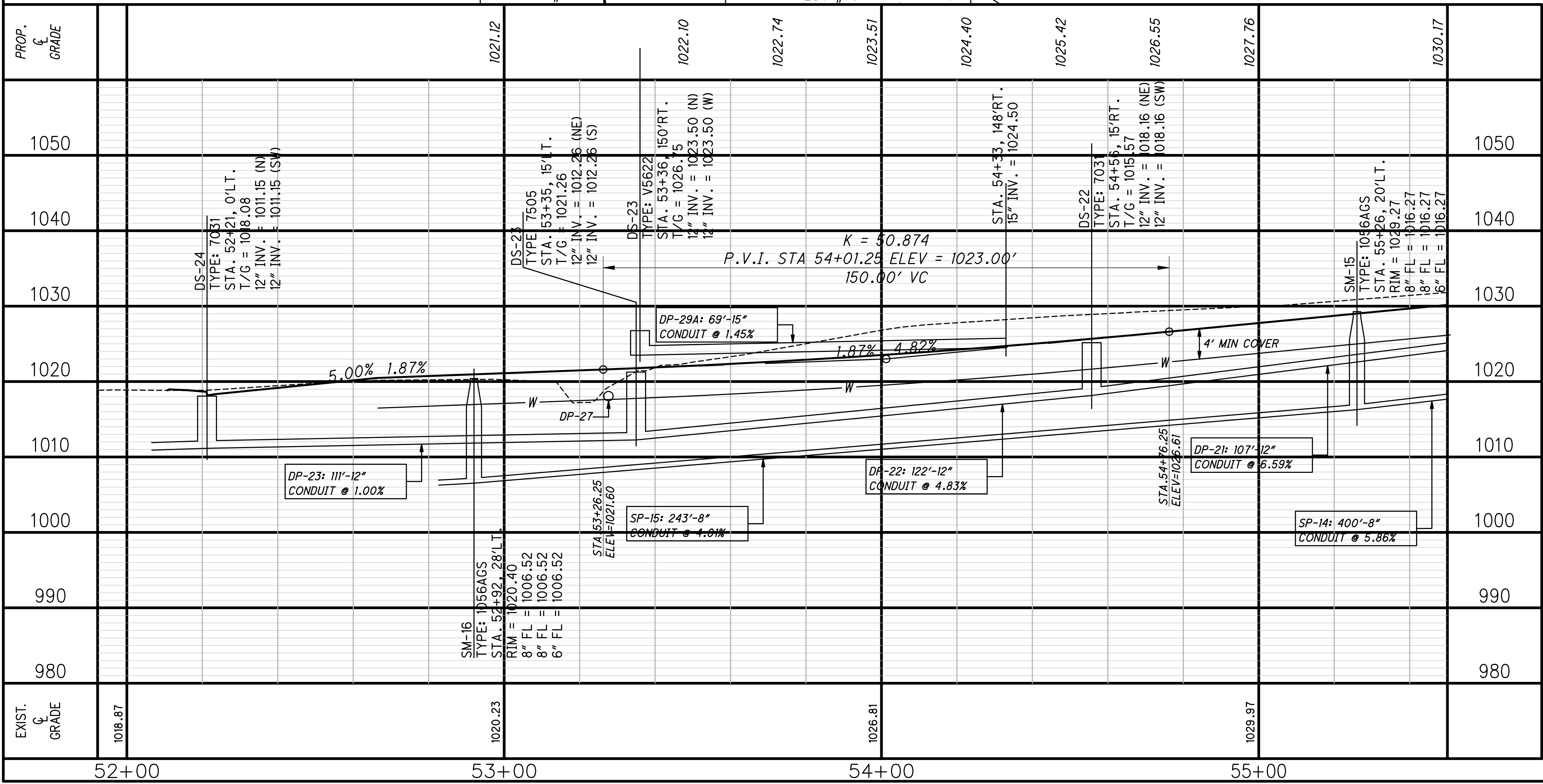
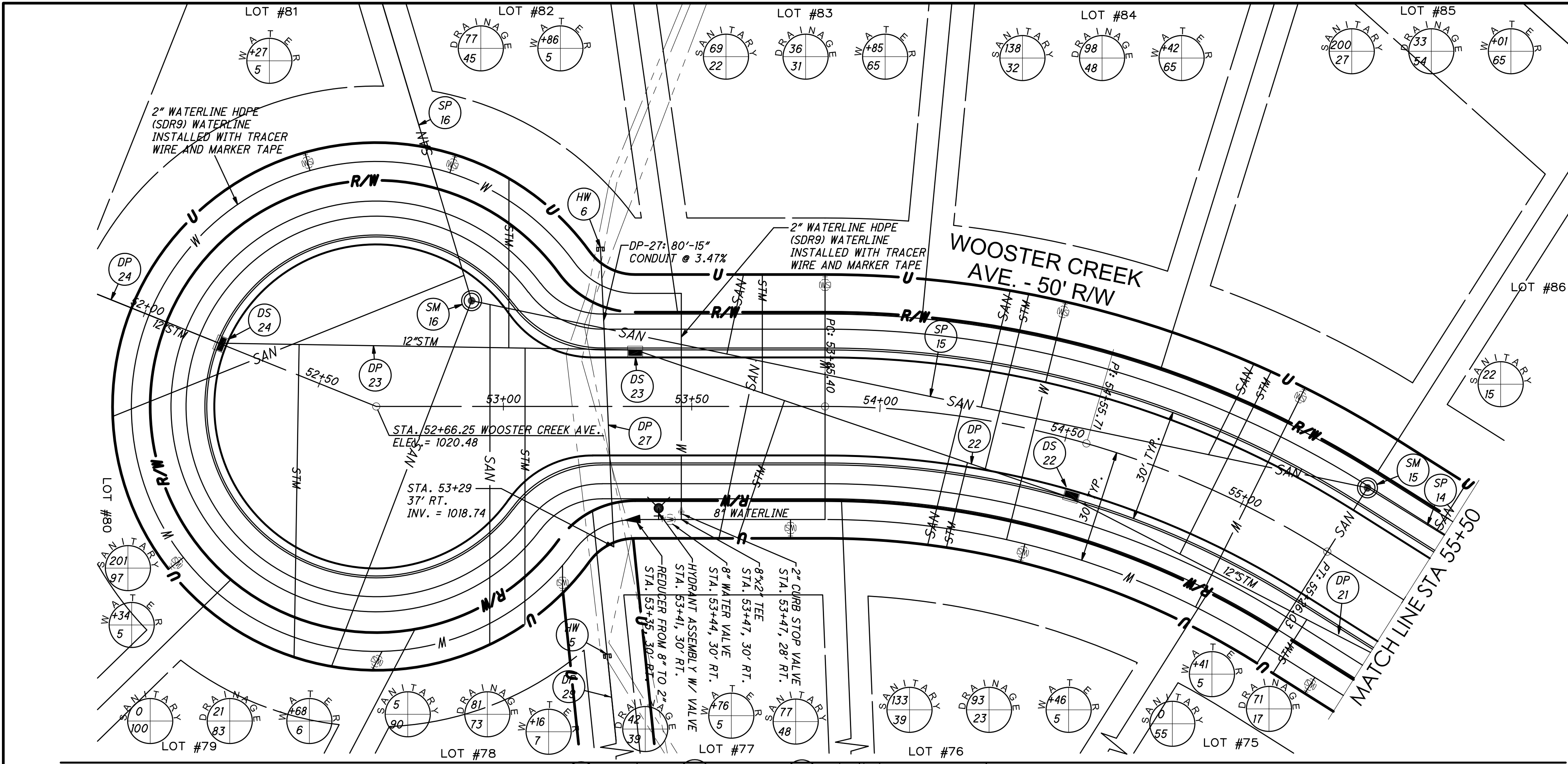
Heron Creek St. PP2

REF NUMBER:

16

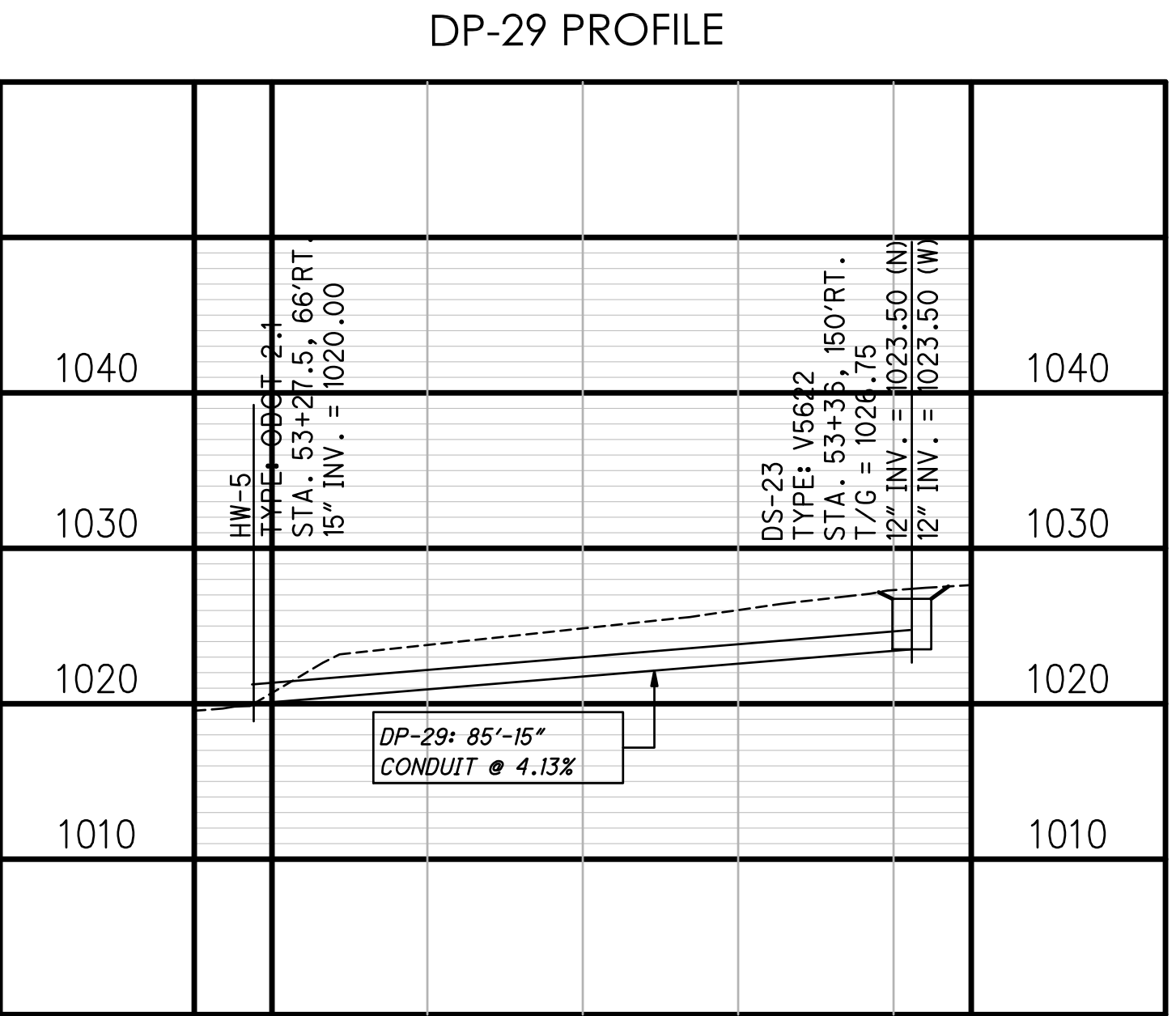
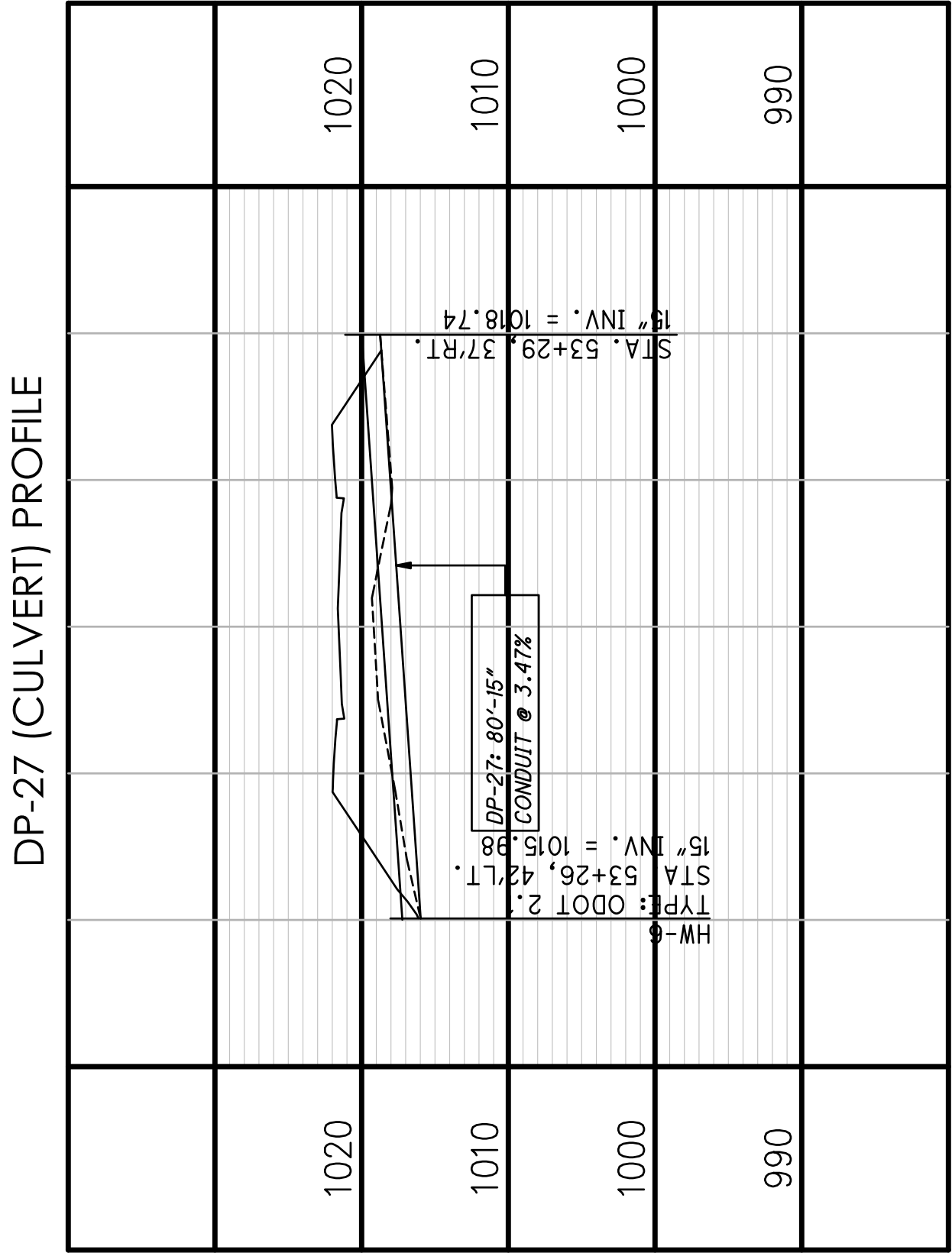
56





A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

- NOTES
1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.
 2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.
 3. PLAN AND PROFILE DATA FOR DP-24 & SP-16 CAN BE FOUND ON THE PREVIOUS SHEET.



MS

2

SE

NE

WN

EN

0

5

10

20

HORIZONTAL SCALE IN FEET

CHECKED BY: KAD

DATE: April 2021

DRAWN BY: BMH

DATE: April 2021

REVISIONS:

DATE

DESCRIPTION

MAS

ENG

DEPT

VARIOUS

Kenyon Creek Estates Phase 2 - 4

Wooster Creek Ave. 51+92 to Sta. 55+50 Plan and Profile

City of Massillon

Stark County, Ohio

CIVILPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 BUDEN VALLEY STREET NW, SUITE 800 CANTON, OH 44705

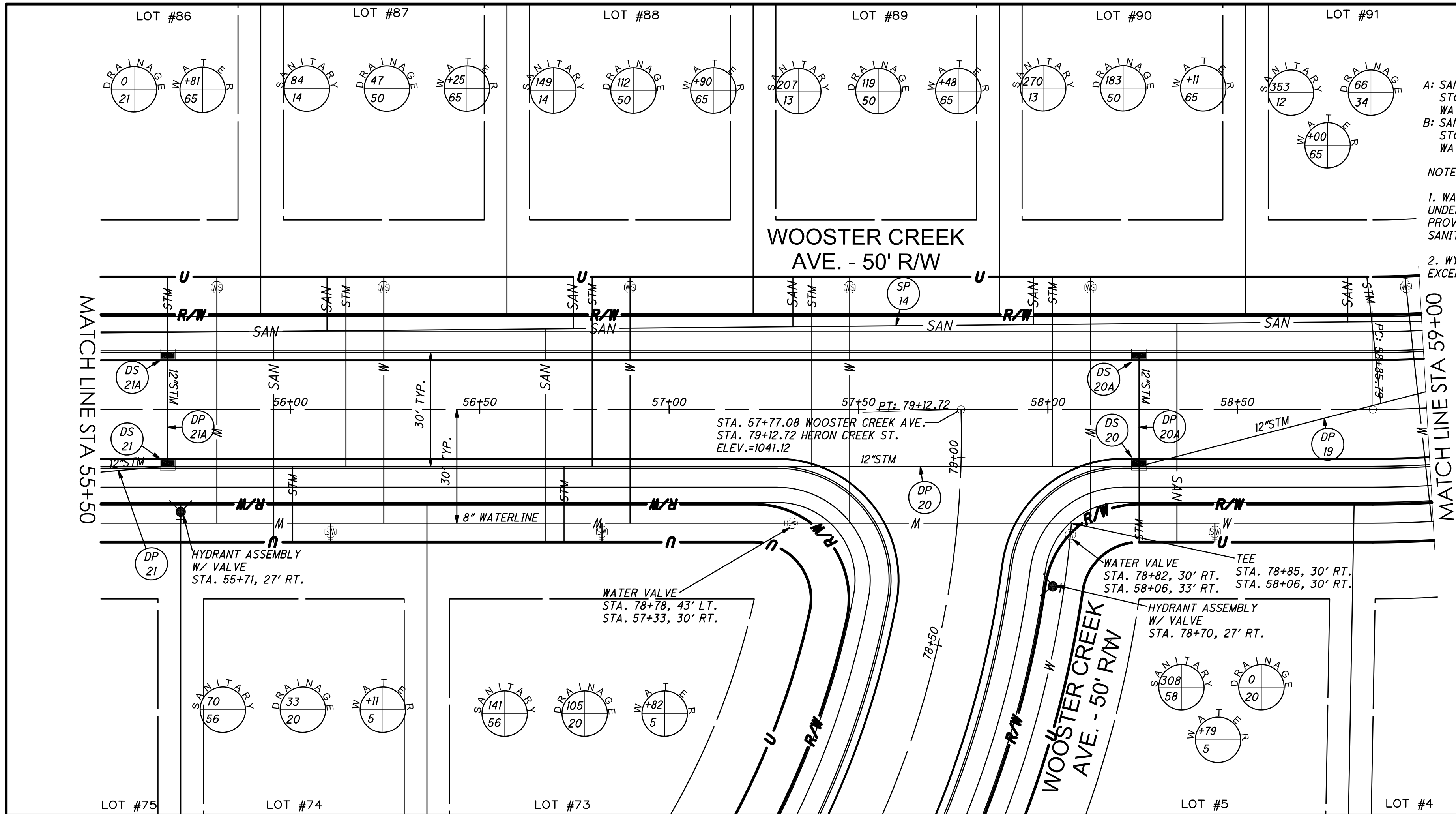
PHONE: (334) 410-3913 EMAIL: KAD@CIVILPROENGINEERING.COM WWW.CIVILPROENGINEERING.COM

DRAWING NAME

Wooster Creek Ave. PP2

REF NUMBER:

20 / 56

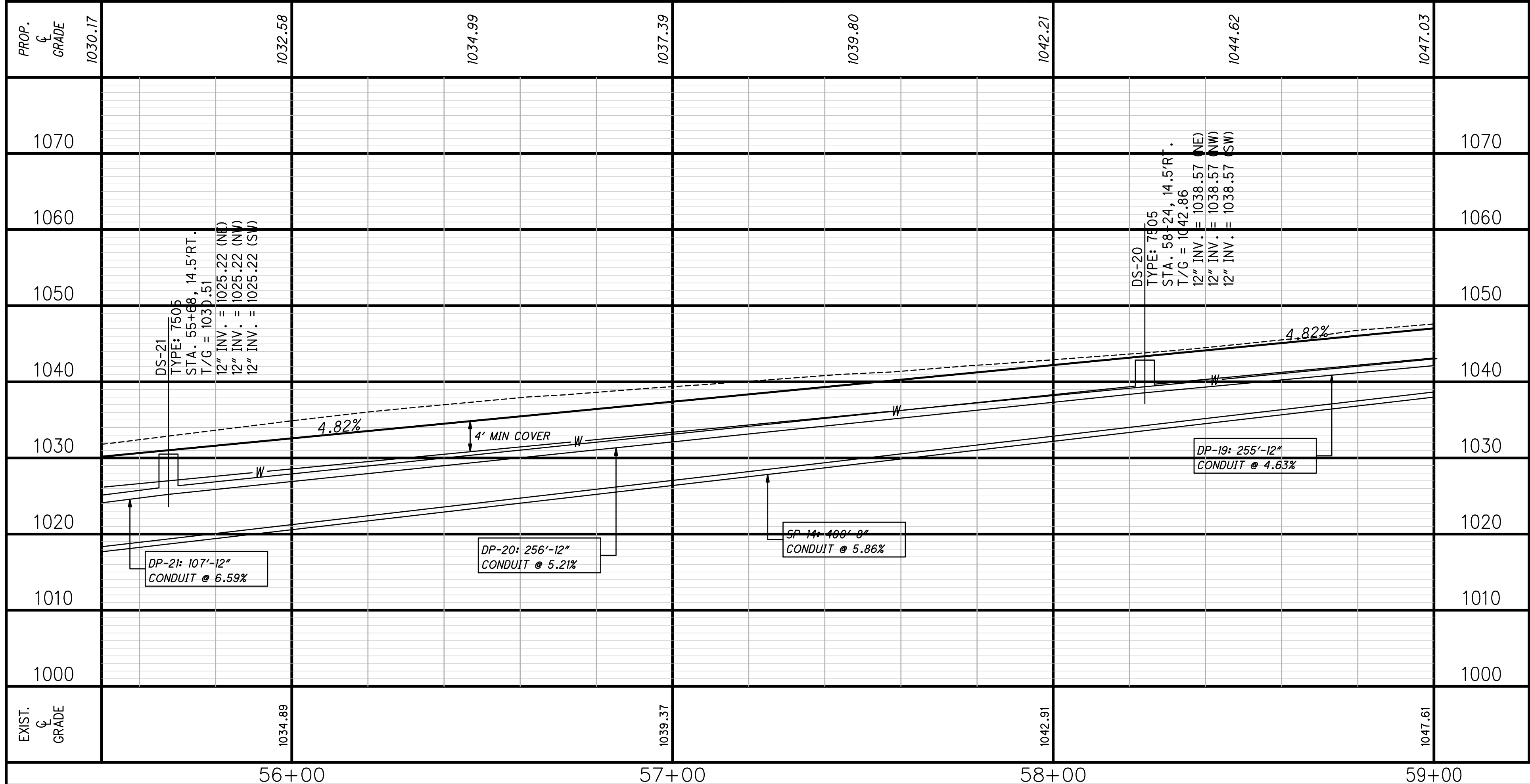
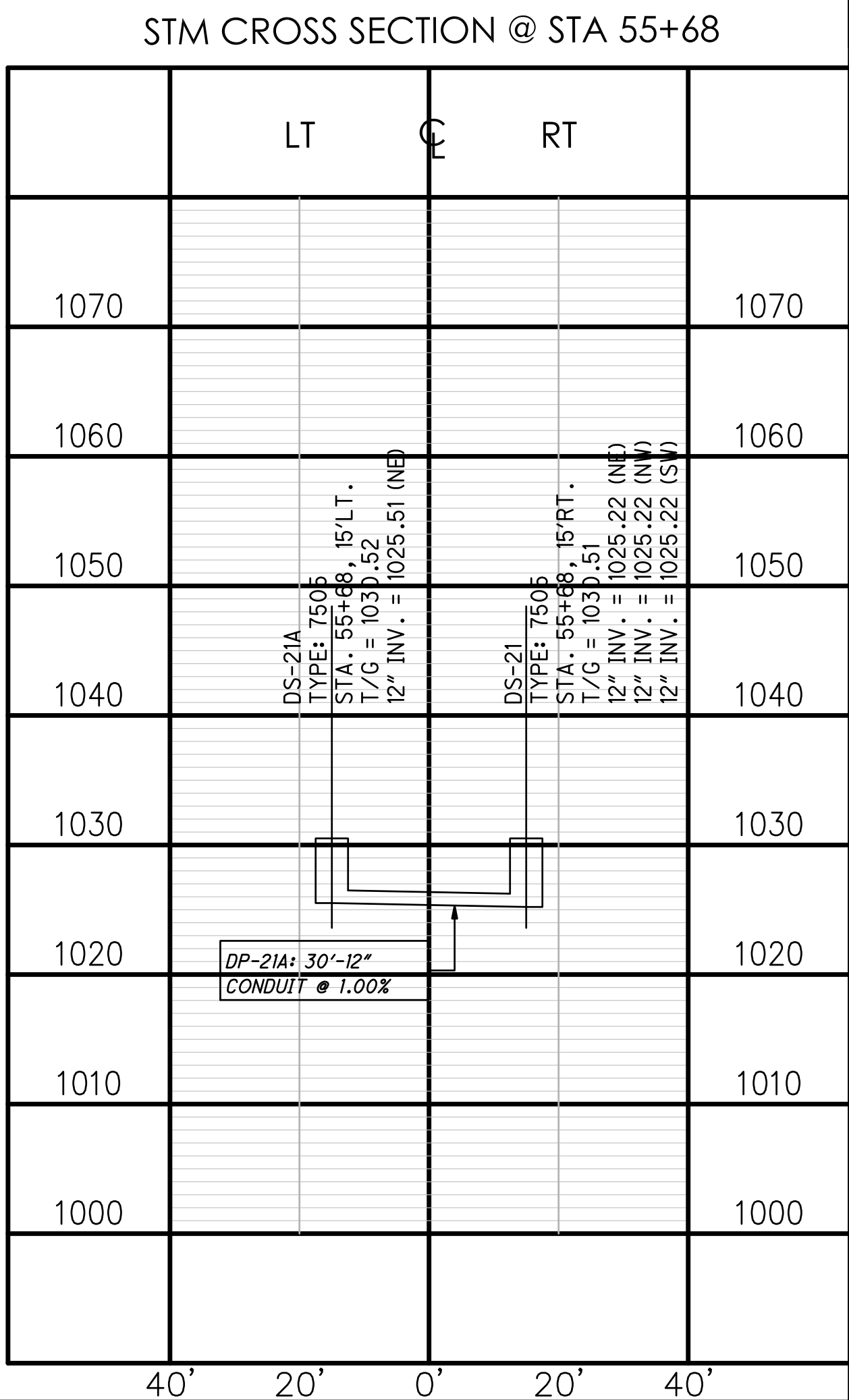
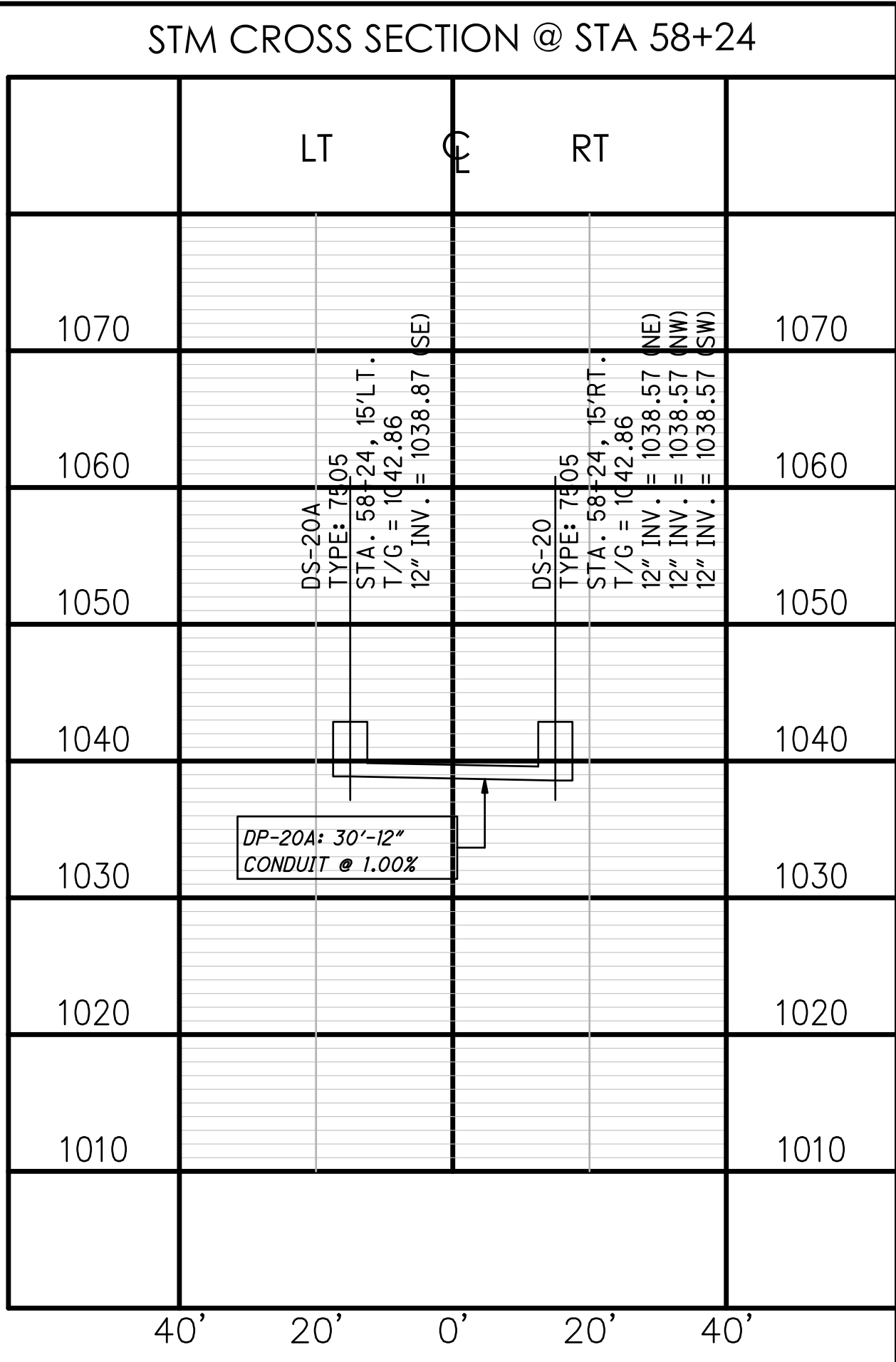


A: SANITARY = DISTANCE FROM DOWNSTREAM MANHOLE
STORM = DISTANCE FROM DOWNSTREAM DRAINAGE STRUCTURE
WATER = STATION LOCATION
B: SANITARY = DISTANCE FROM MAIN
STORM = DISTANCE FROM MAIN
WATER = DISTANCE FROM MAIN

NOTES

1. WATER MAINS MUST BE INSTALLED A MINIMUM OF 4' UNDERGROUND AND IF NECESSARY, MUST BE DEFLECTED TO PROVIDE AN 18" MINIMUM CLEARANCE FROM ALL STORM AND SANITARY MAINS AT CROSSING POINTS.

2. WYES SHALL BE INSTALLED FOR ALL SANITARY LATERALS EXCEPT FOR LATERALS WHICH ARE TIED INTO MANHOLES.



CHECKED BY: KAD
DATE: April 2021
DRAWN BY: BMH
DATE: April 2021

REVISIONS:

DATE	DESCRIPTION
5/24/21	MAS ENG DEPT
6/21/21	VARIOUS

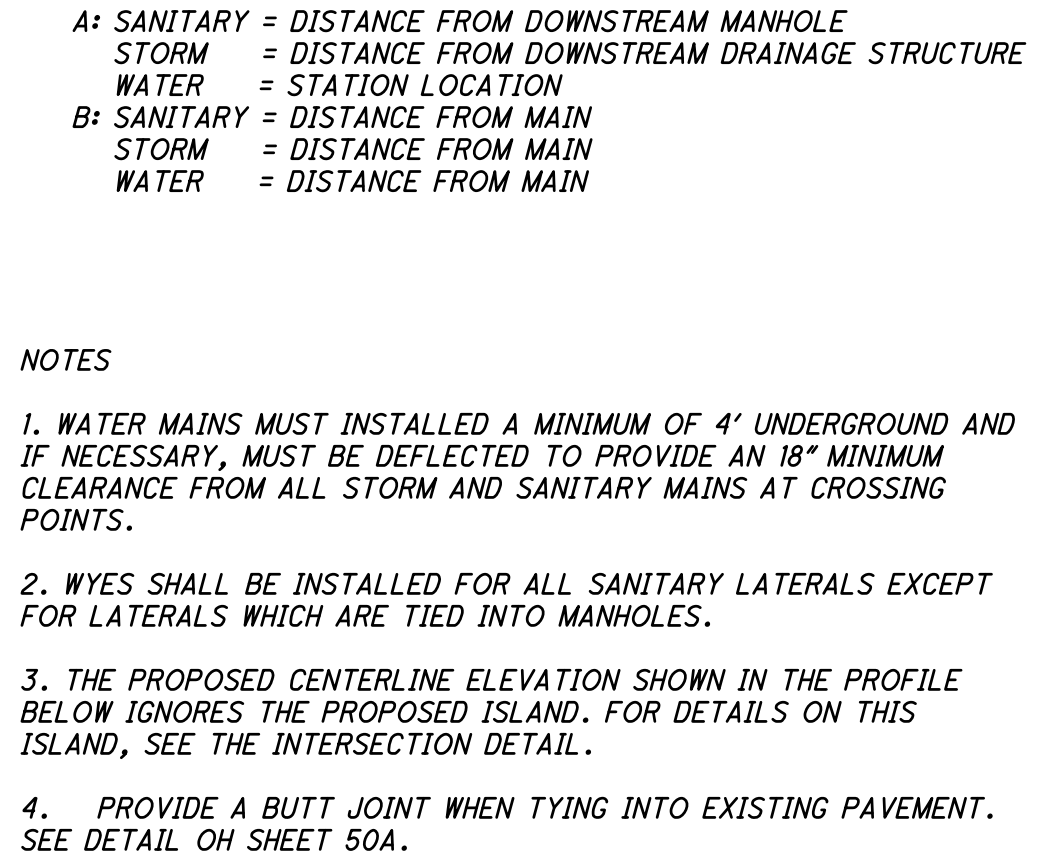
Kenyon Creek Estates Phase 2 - 4
Wooster Creek Ave. 55+50 to Sta. 59+00 Plan and Profile
City of Massillon
Stark County, Ohio

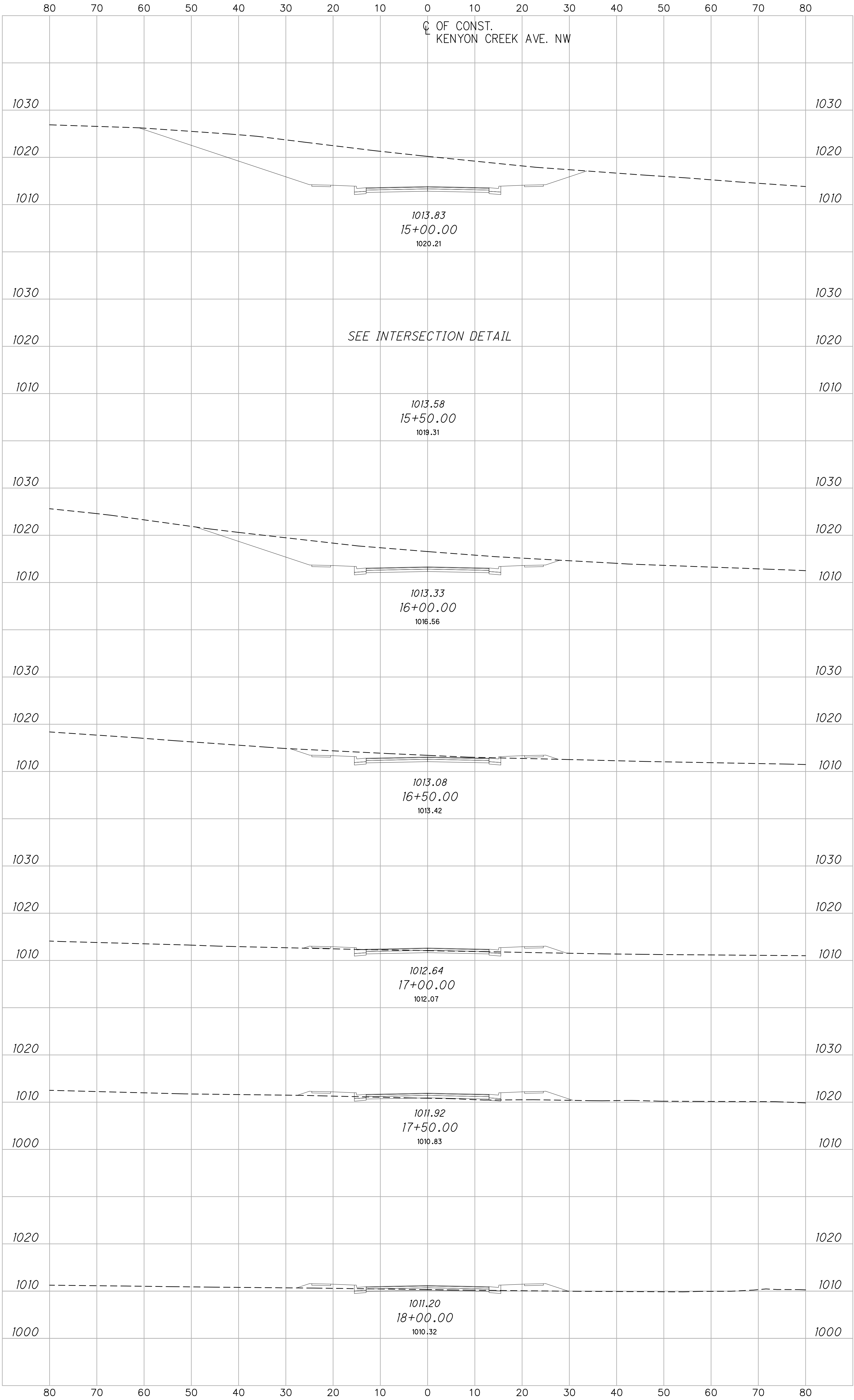
CIVIPRO ENGINEERING
ENGINEERS-ARCHITECTS-PLANNERS
4450 BELLEVILLE ROAD, SUITE 200
PHONE: (224) 412-3913 EMAIL: KAD@CIVIPROENGINEERING.COM
WWW.CIVIPROENGINEERING.COM

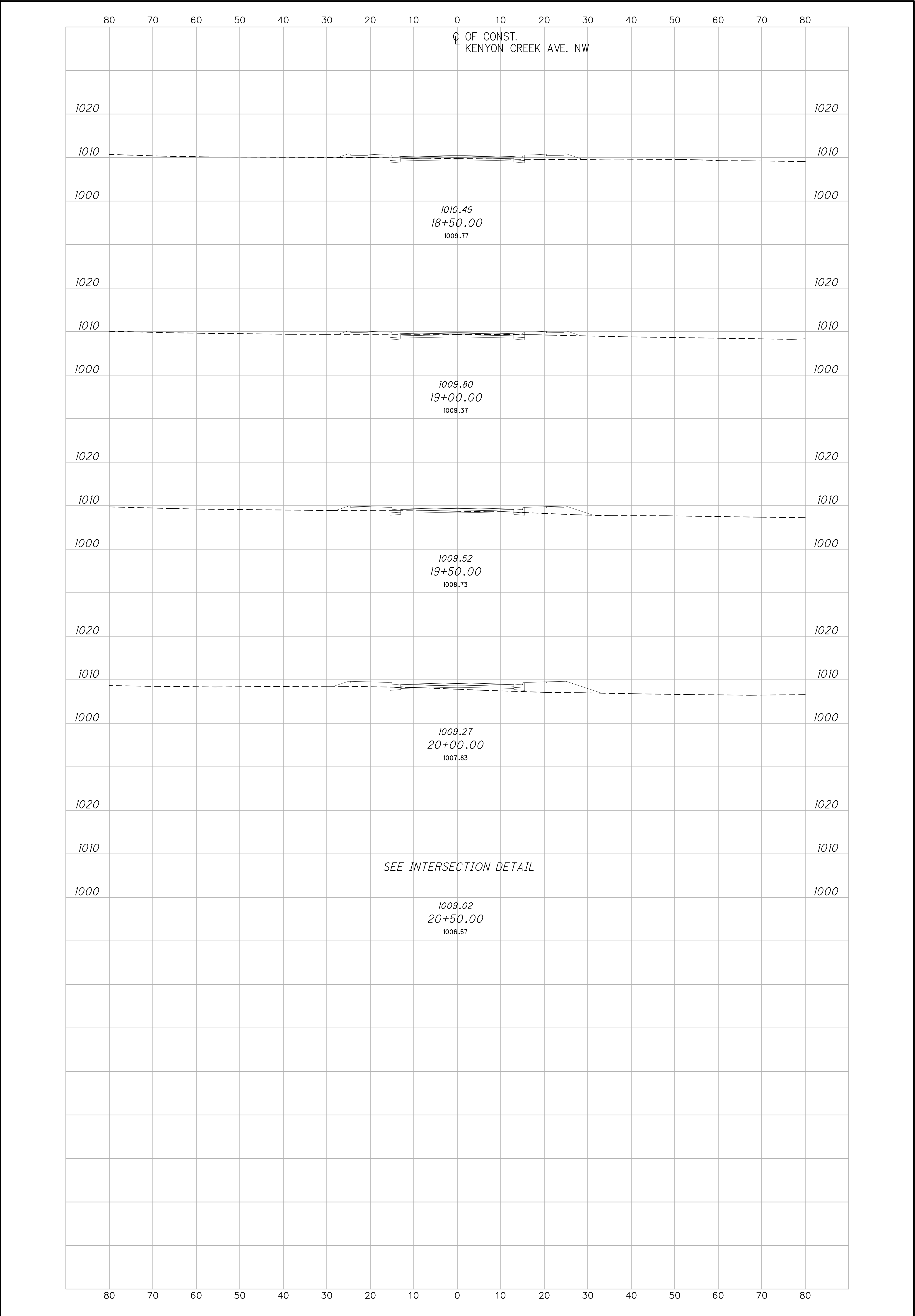
DRAWING NAME:
Wooster Creek Ave. PP3

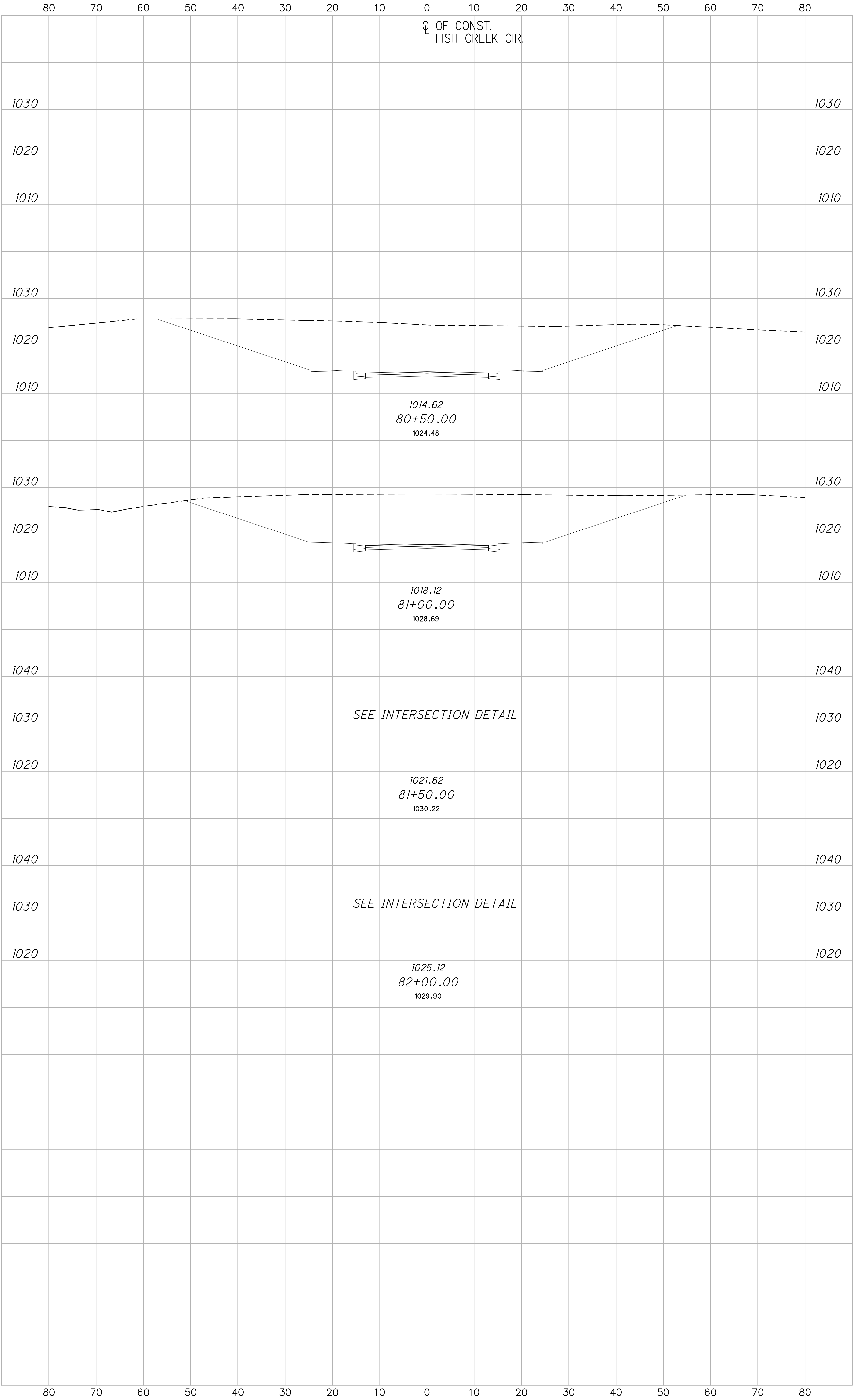
REF NUMBER:

21 / 56









26 / 56

DRAWING NAME:
Fish Creek Cir. Cross Sections

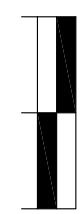
CIVPRO
ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (330) 268-3734 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

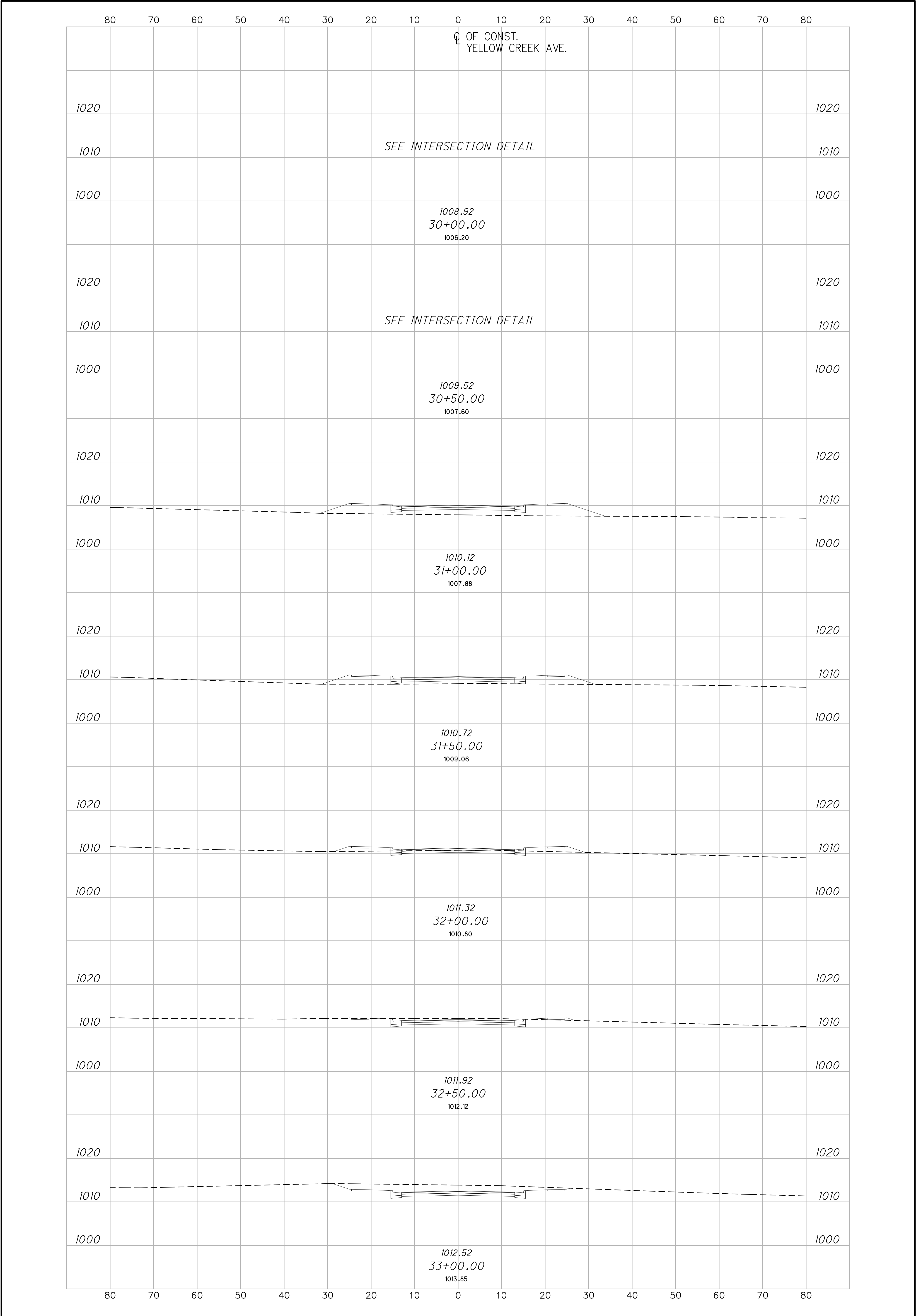
Kenyon Creek Estates Phase 2 - 4
Fish Creek Cir. Cross Sections
City of Massillon
Stark County, Ohio

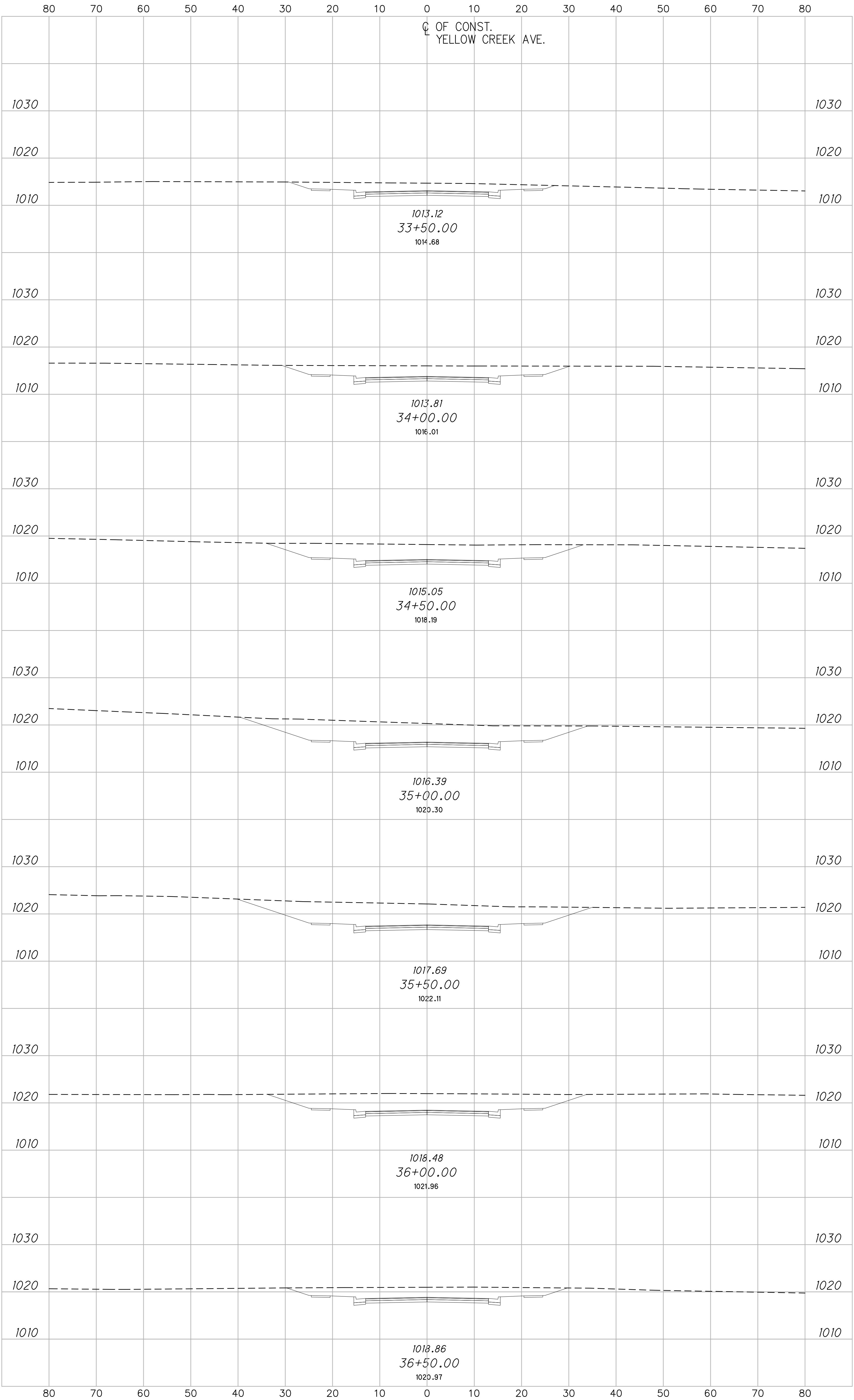
REVISIONS:
DATE DESCRIPTION
5/24/21 MAS ENG DEPT

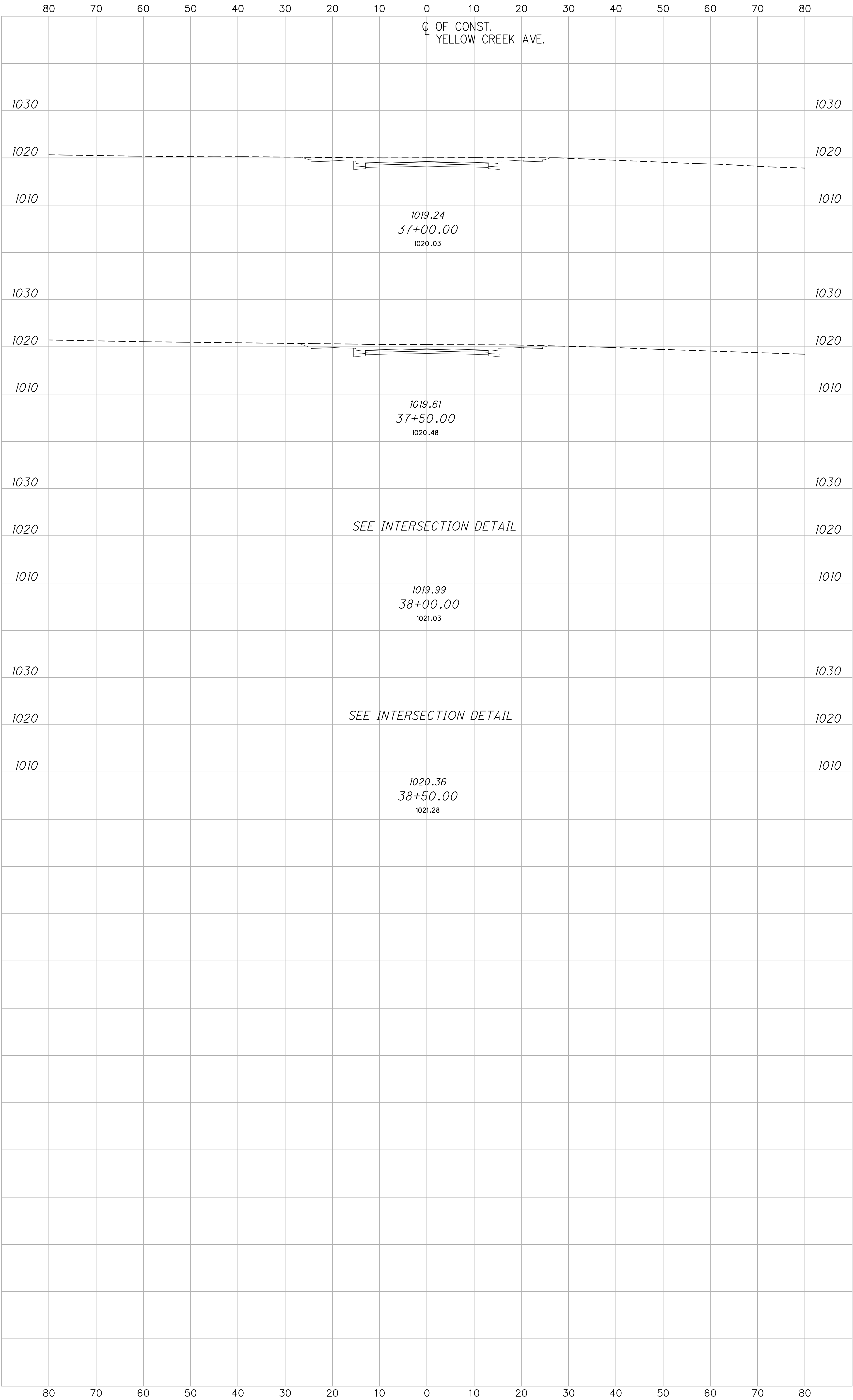
DESIGNED BY:
DATE: KAD
DRAWN BY:
DATE: BMH
MAY 2021

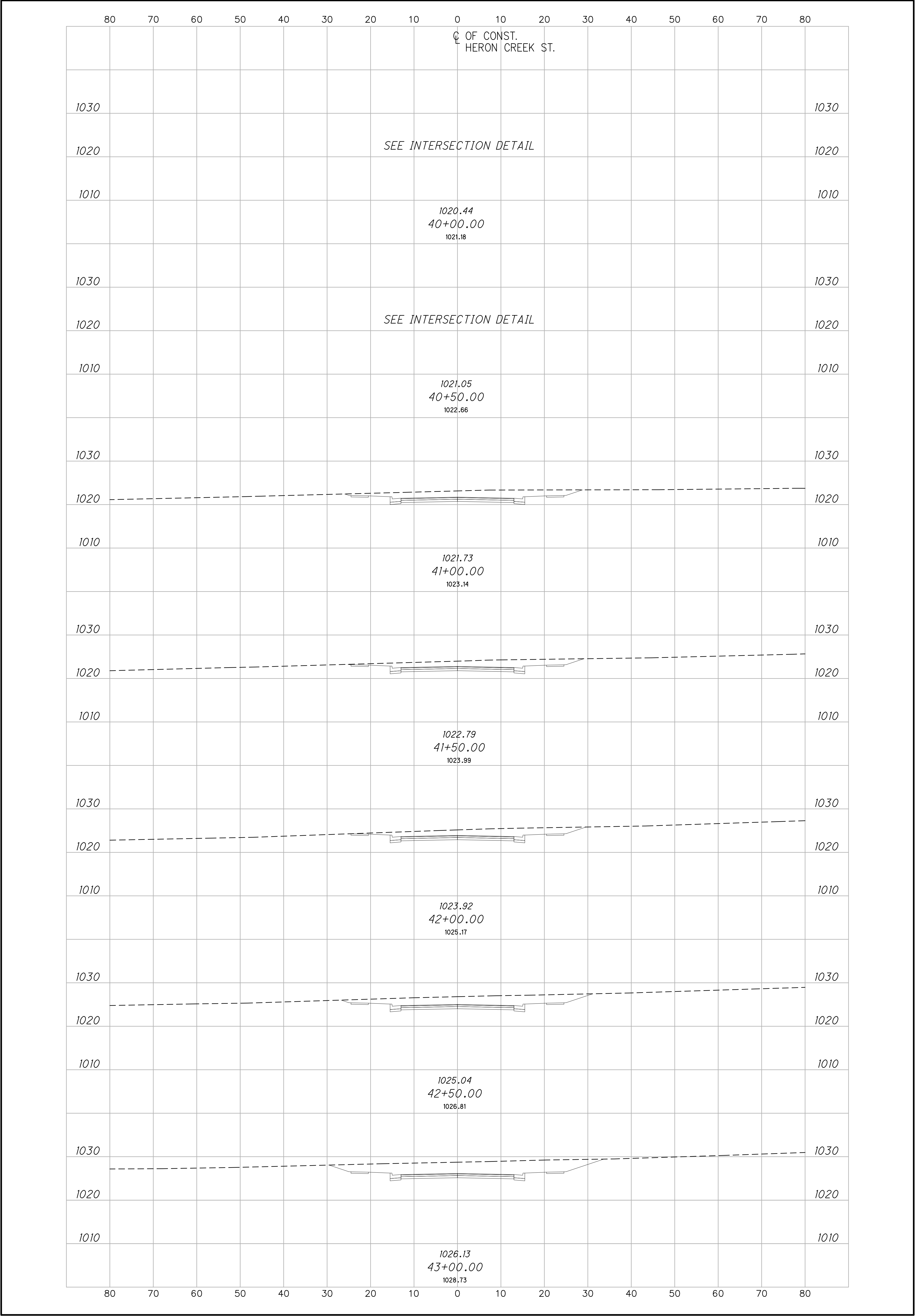
HORIZONTAL
SCALE IN FEET

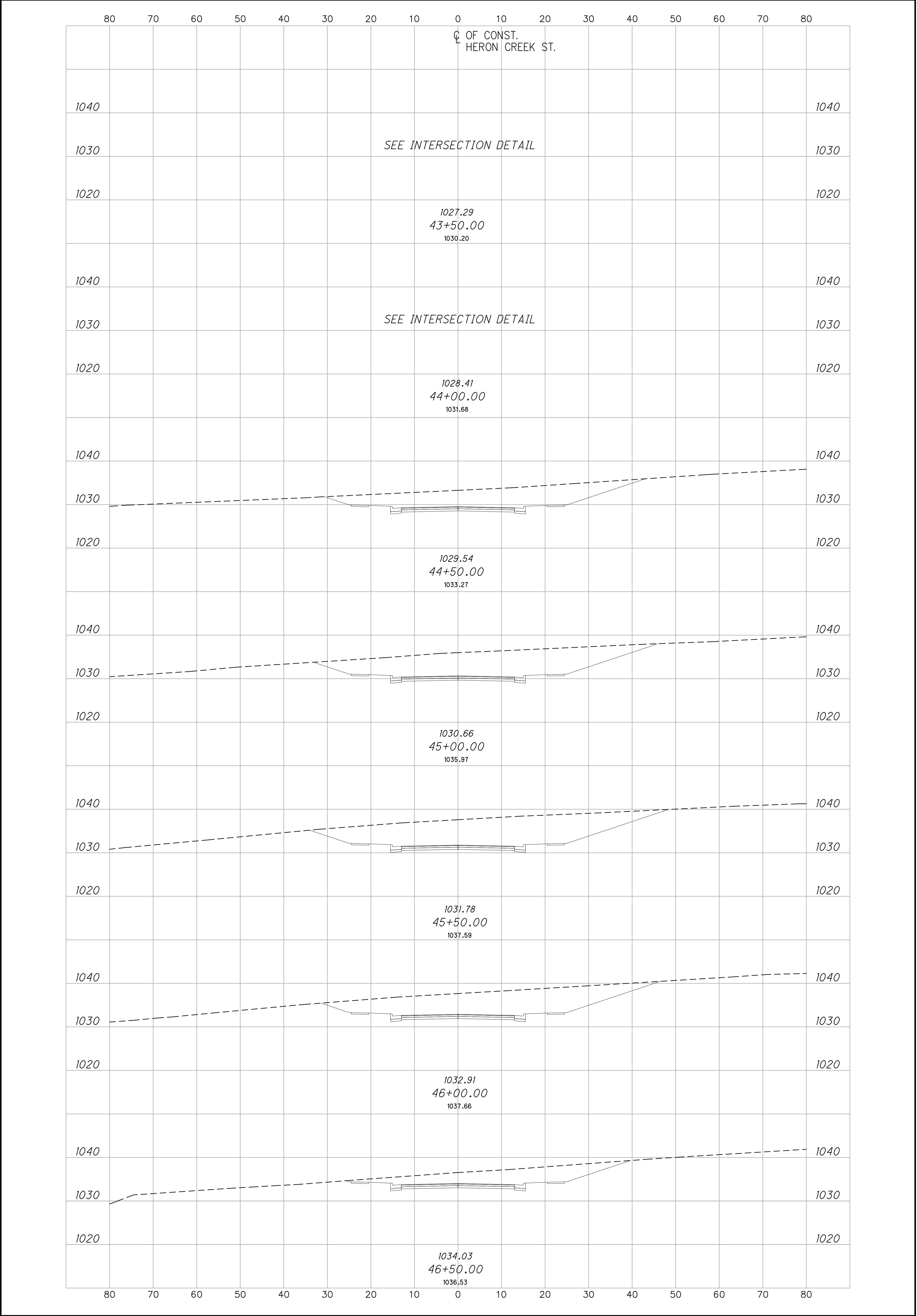


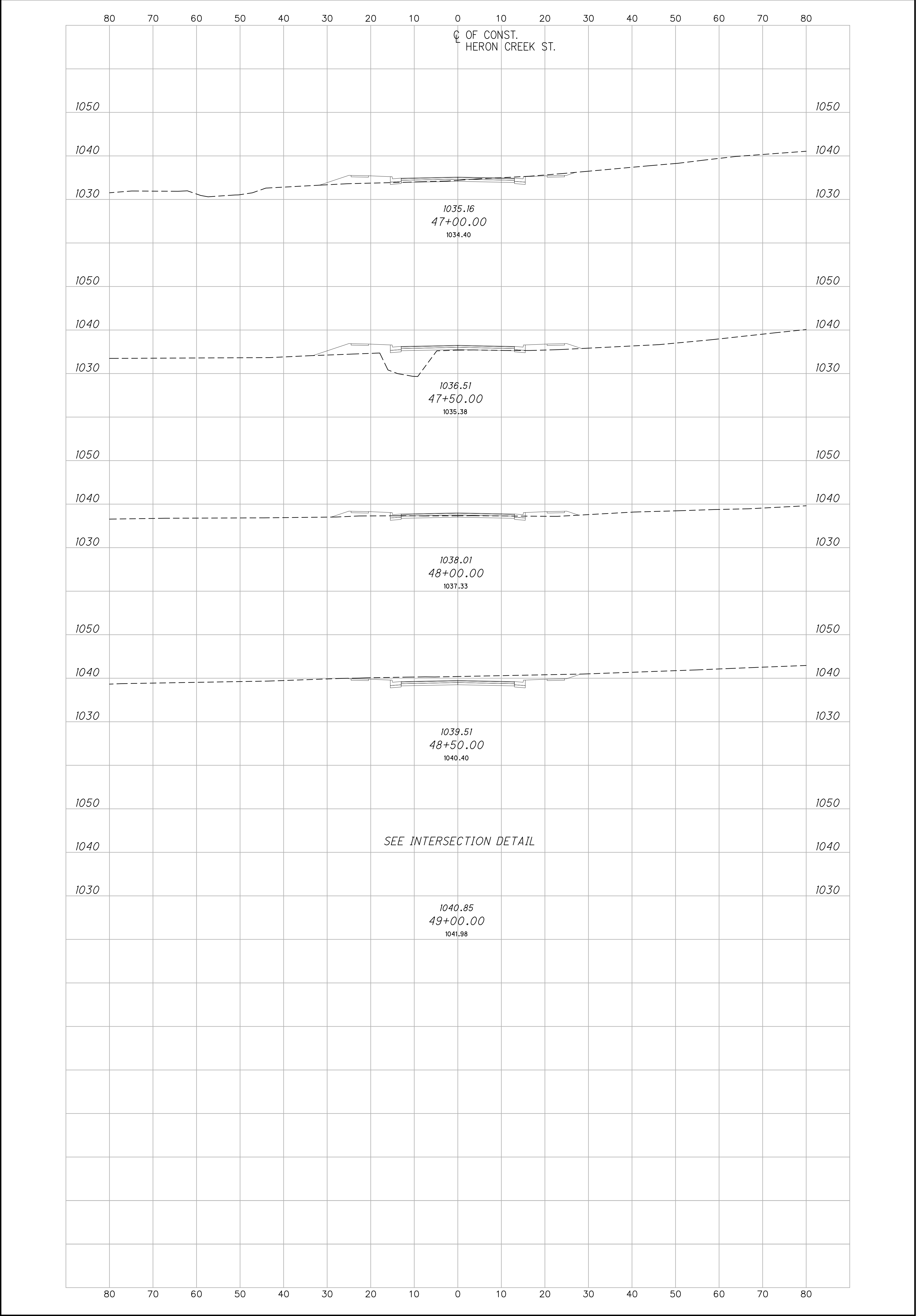


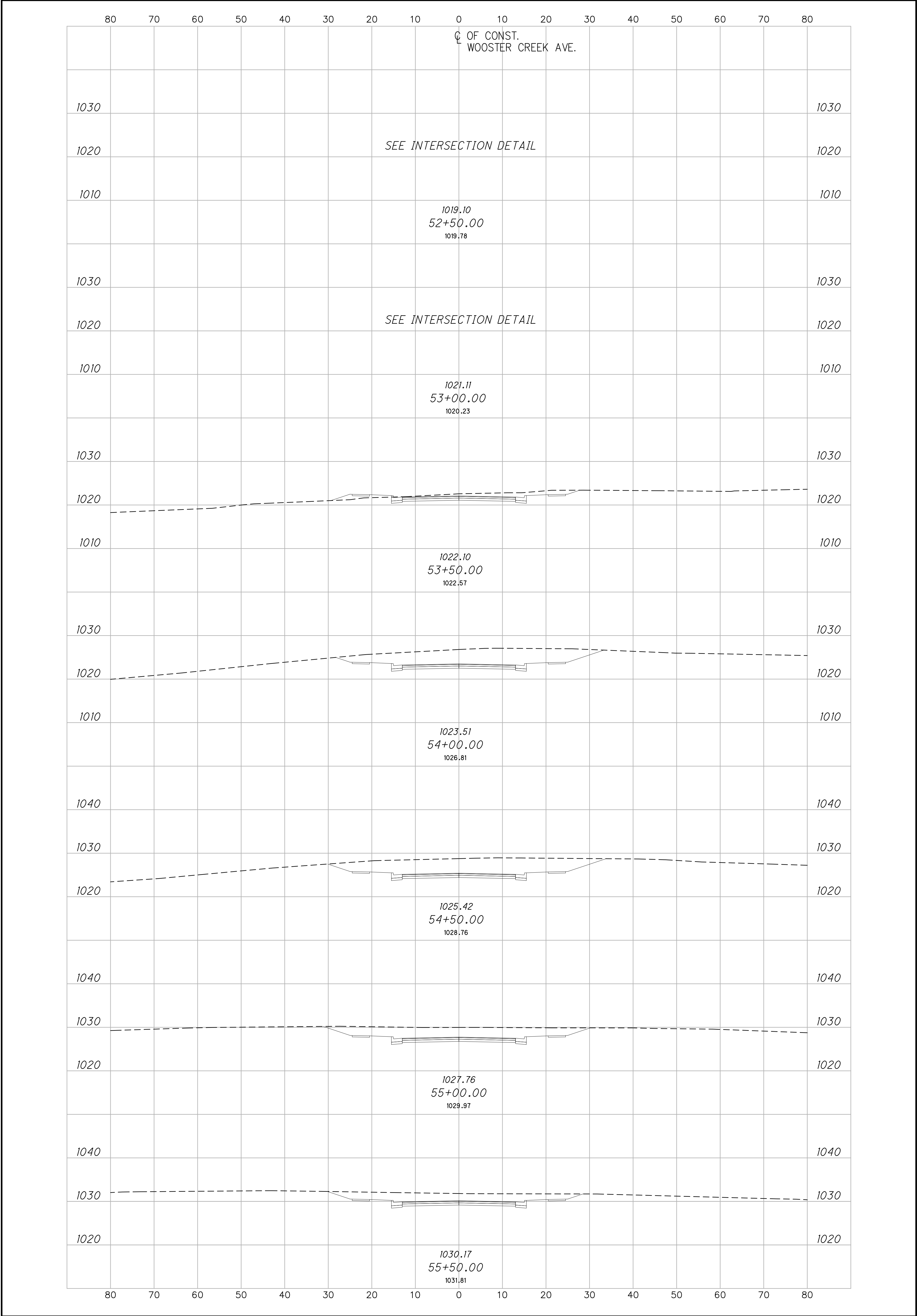


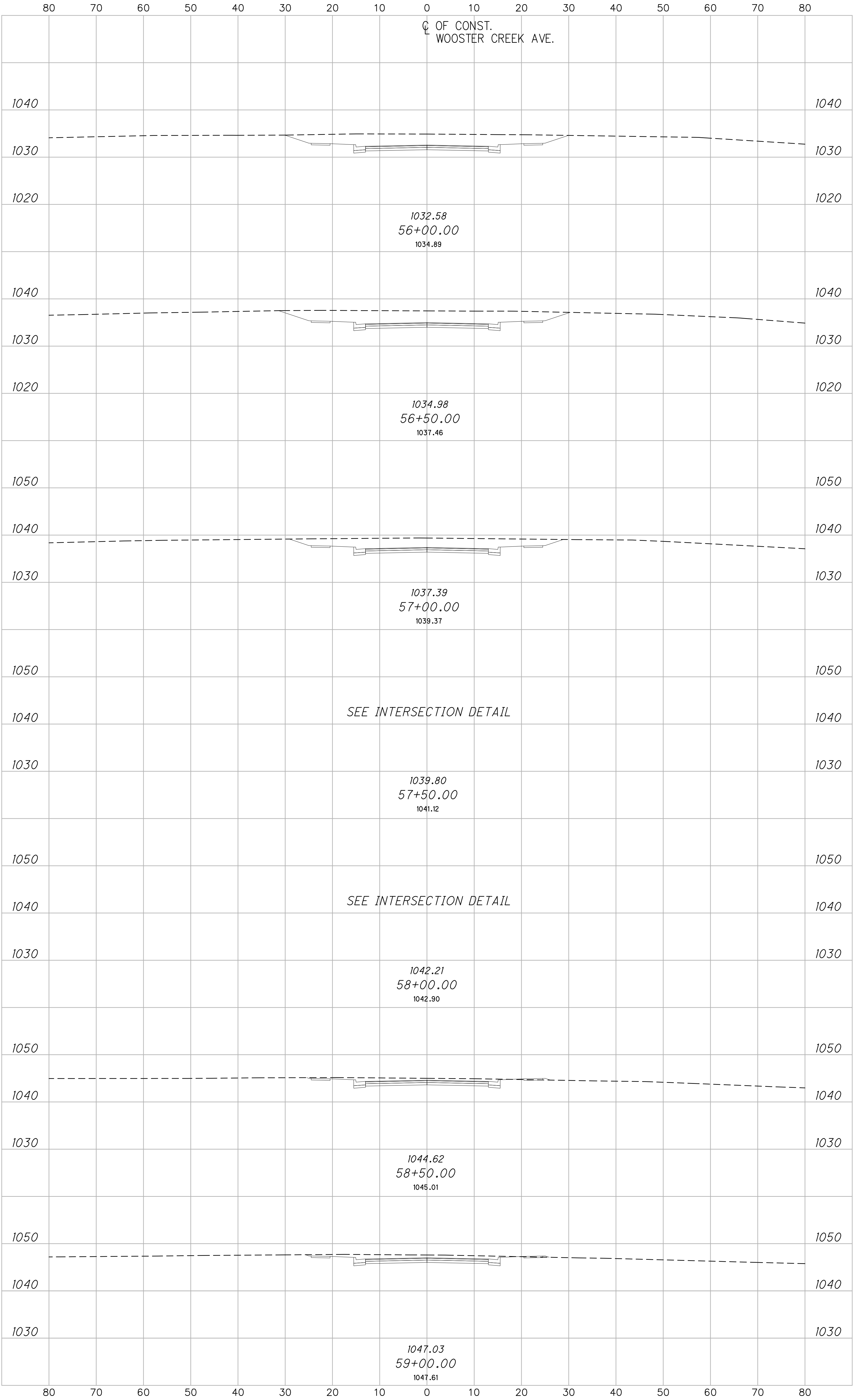


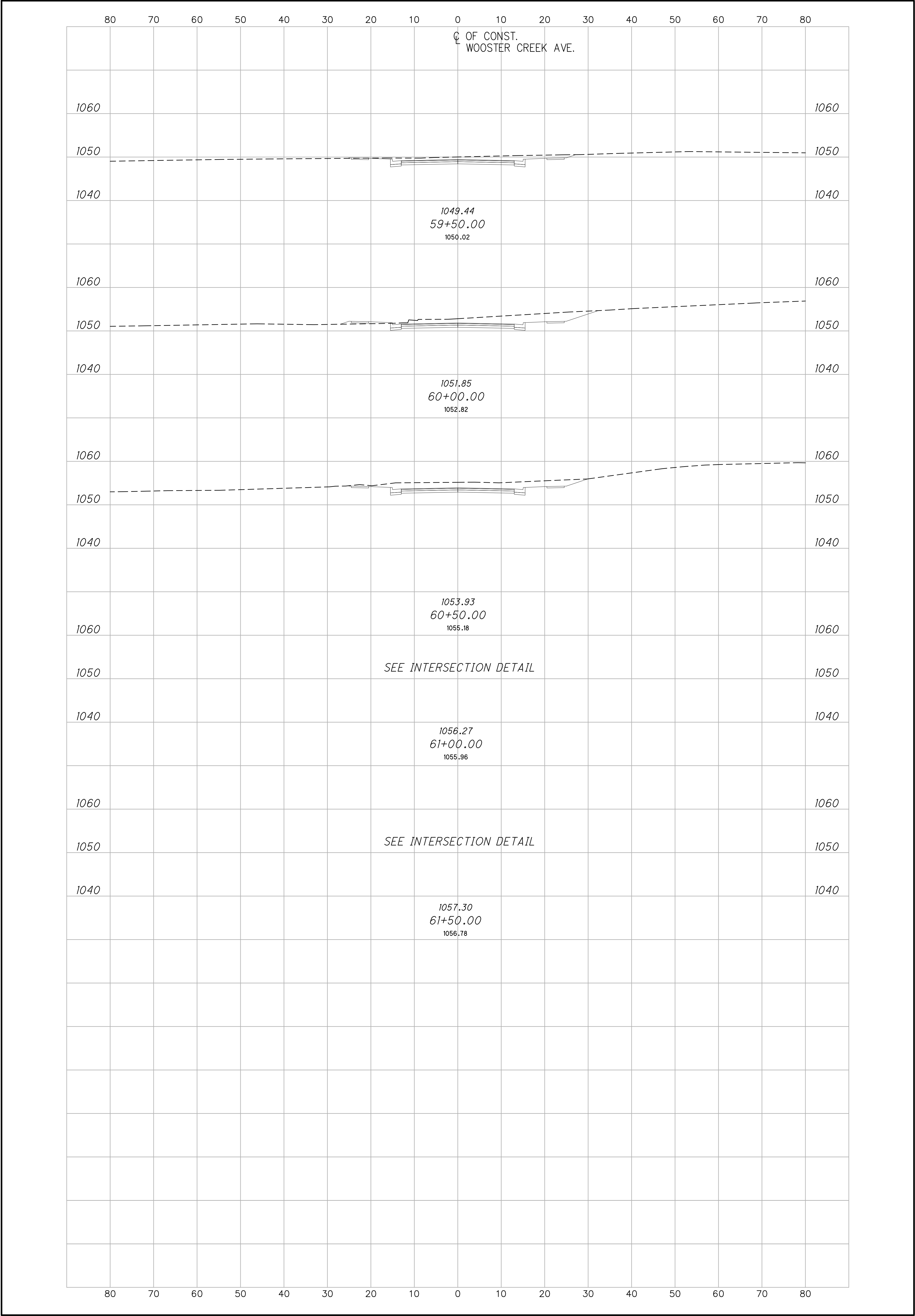


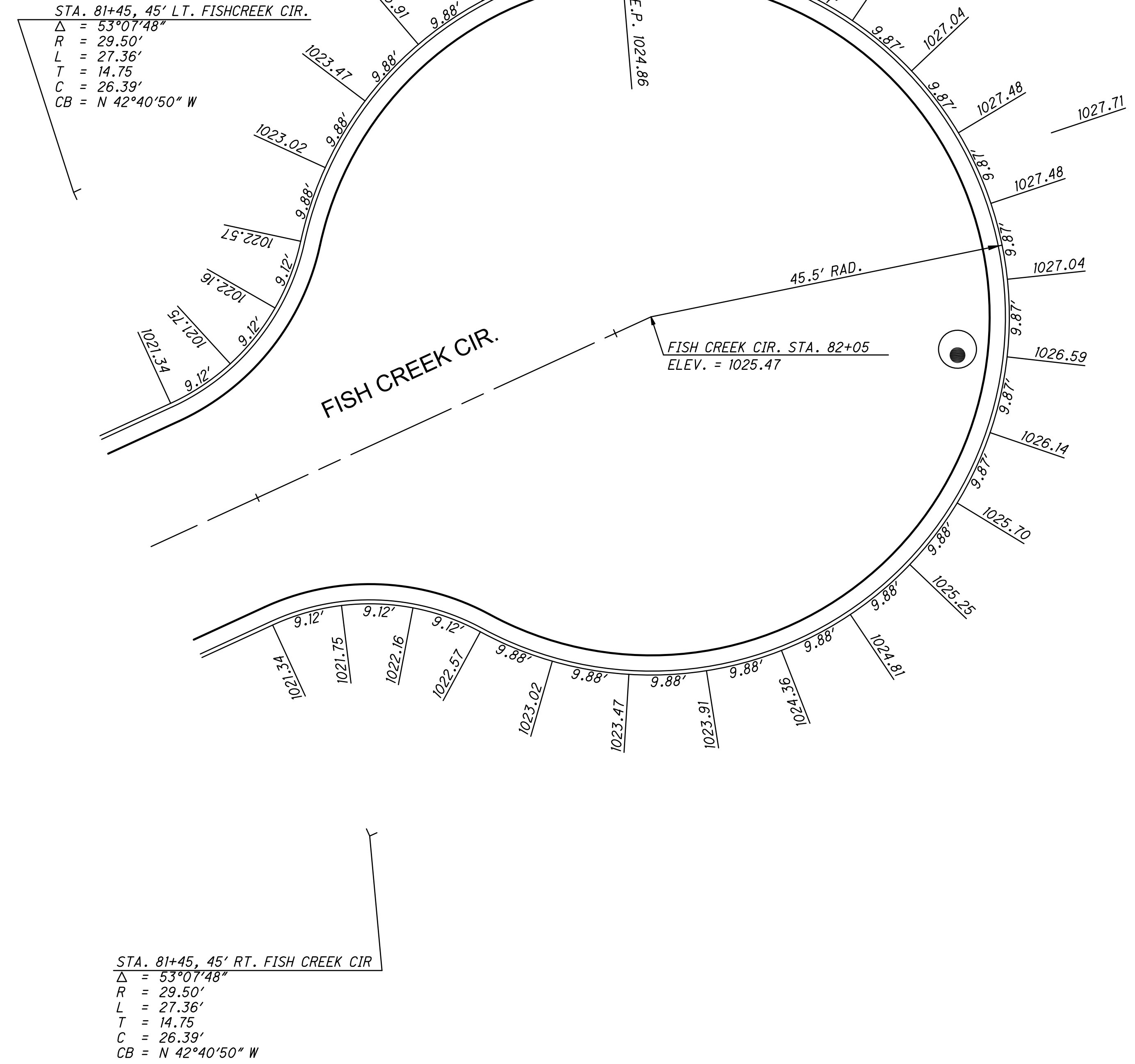
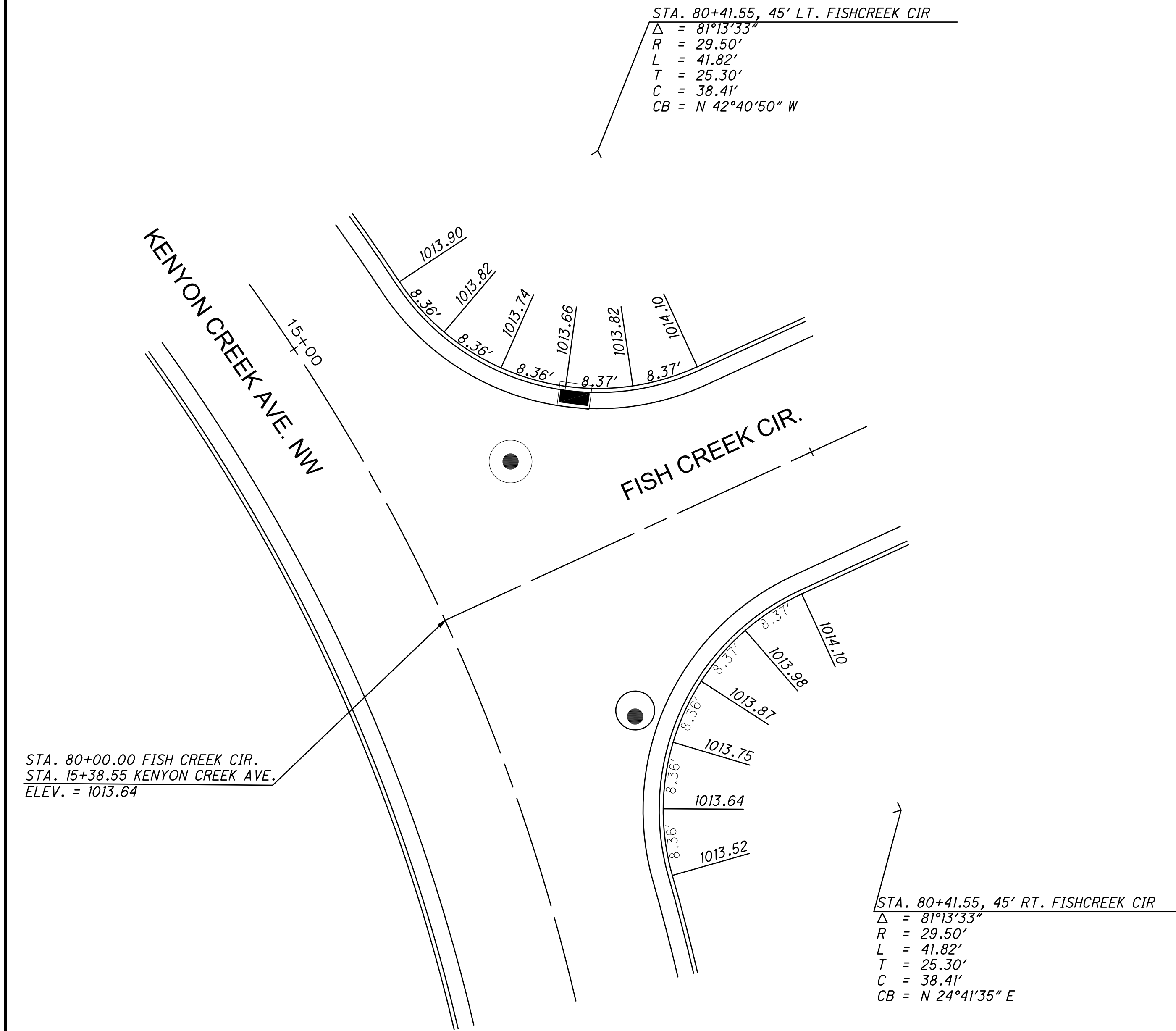












- NOTES
1. SPOT ELEVATIONS ARE AT THE BACK OF CURB
 2. CURVE DATA IS ALONG THE BACK OF CURB

NW

NE

N

SW

SE

VERTICAL

SCALE

IN

FEET

N/A

0

5

10

HORIZONTAL
SCALE IN FEET

CHECKED BY:

KAD

DATE:

Mar. 2021

DRAWN BY:

BMH

DATE:

Mar. 2021

REVISIONS:	DATE	DESCRIPTION
	5/24/21	MAS ENG DEPT

Kenyon Creek Estates Phase 2 - 4

Intersection Details

City of Massillon

Stark County, Ohio

CIVILPRO

ENGINEERING

DESIGNERS- SURVEYORS- CONSTRUCTION MANAGERS

4450 BROWN VILLAGE STREET NW, SUITE 800 CANTON, OH 44705

PHONE: (234) 410-3913 EMAIL: KAD@CIVILPROENGINEERING.COM

WWW.CIVILPROENGINEERING.COM

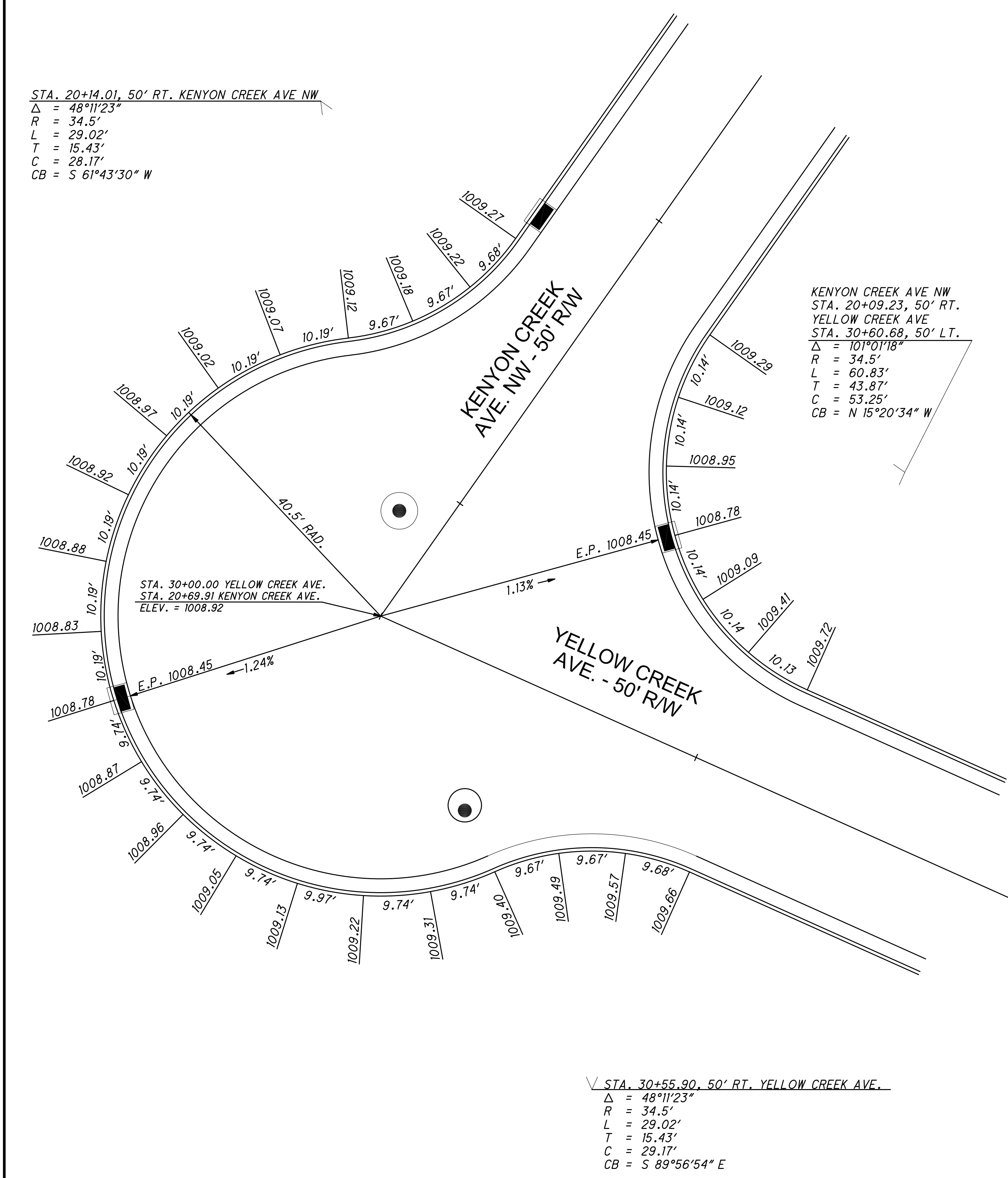
DRAWING NAME:

Int Det.Dwg

REF NUMBER:

37

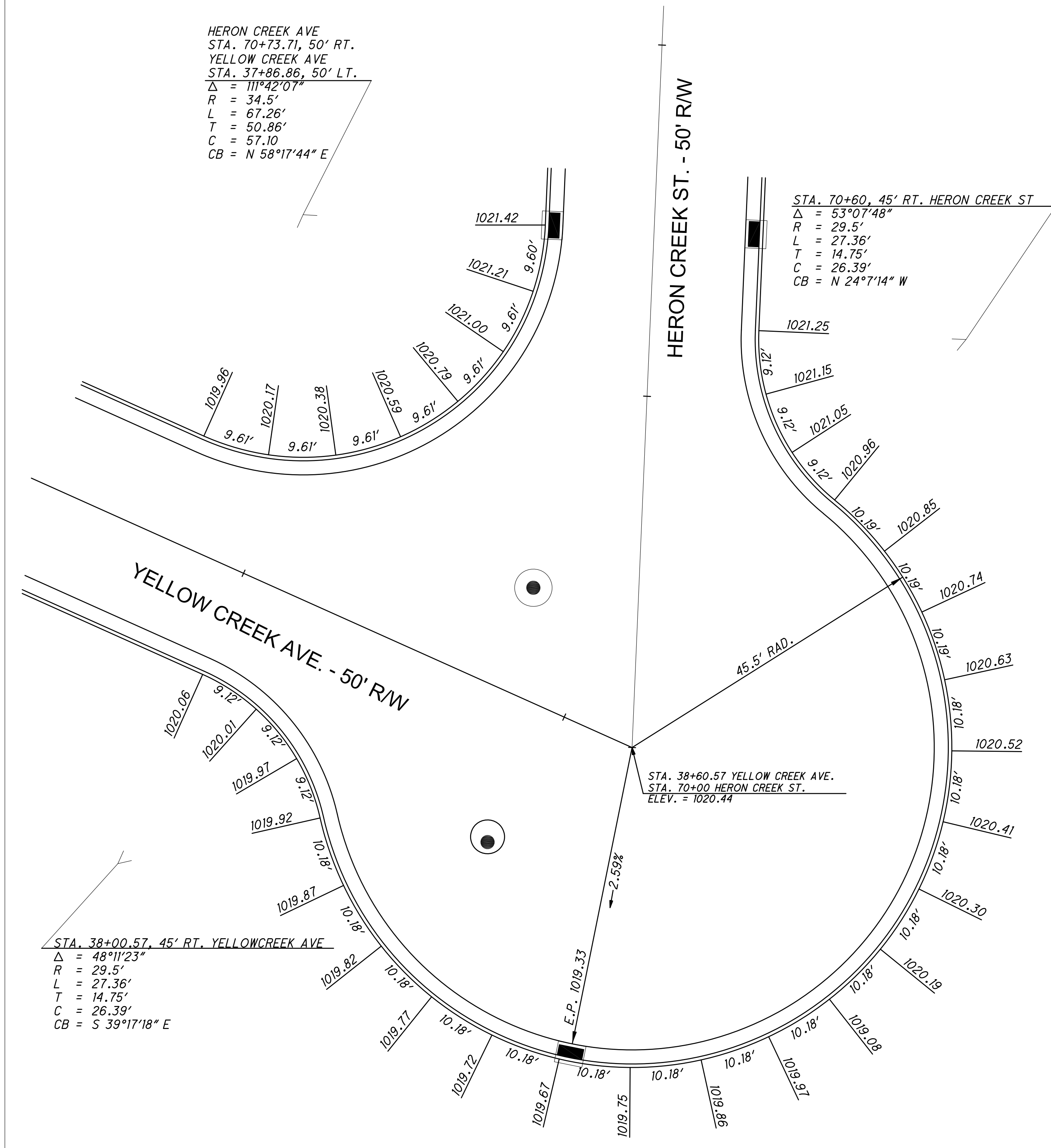
56



NOTES

1. SPOT ELEVATIONS ARE AT THE BACK OF CURB

2. CURVE DATA IS ALONG THE BACK OF CURB



NW

NE

SW

SE

V

N

F

N/A

E

T

0

5

10

HORIZONTAL
SCALE IN FEET

CHECKED BY:

KAD

DATE:

Mar. 2021

DRAWN BY:

BMH

DATE:

Mar. 2021

REVISIONS:

DATE	DESCRIPTION
5/24/21	MAS ENG DEPT

Kenyon Creek Estates Phase 2 - 4

Intersection Details

City of Massillon

Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44708

PHONE: (234) 410-3913 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

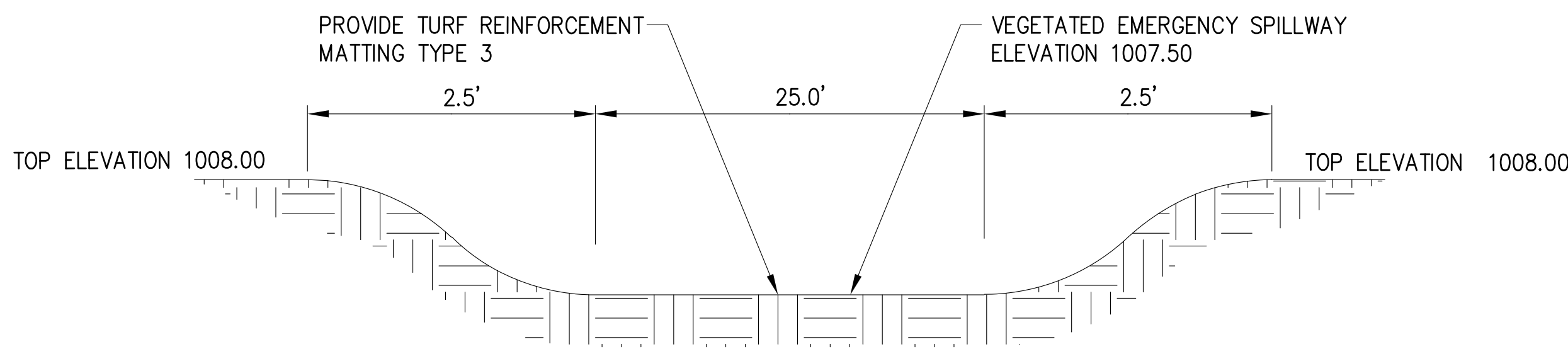
DRAWING NAME:

Int Det.Dwg

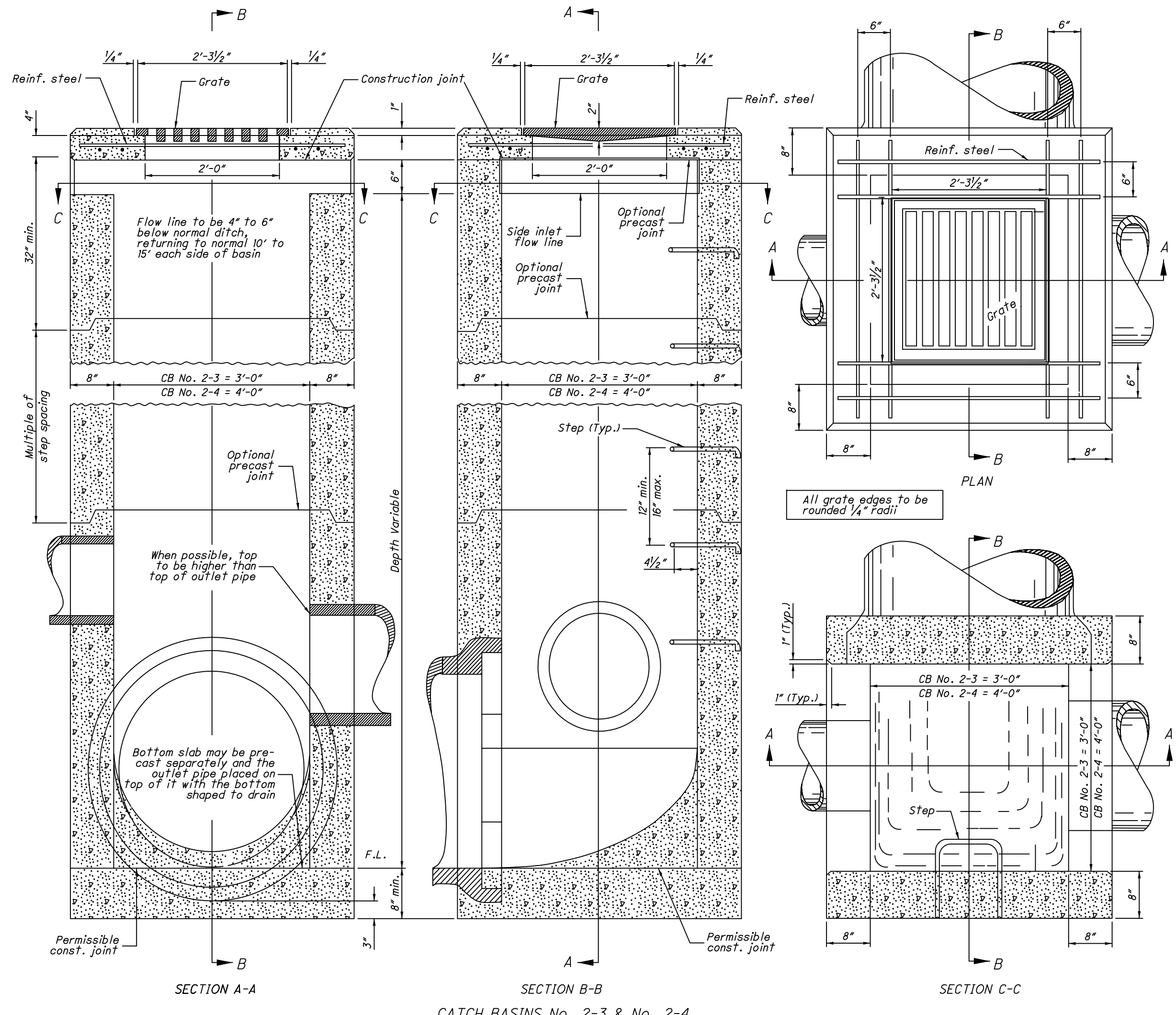
REF NUMBER:

38 / 56

EMERGENCY SPILLWAY
REFERENCE ONLY



ODOT CB NO. 2-3 & 2-4
NOT TO SCALE, REFERENCE ONLY



NOTES

GENERAL: Catch Basins 2-3 and 2-4 are not intended for traffic bearing applications.

GRATE: See details on SCD CB-1.1.

If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-4859-C or East Jordan No. 510 Type M3 bicycle safe grates or approved equals.

Cast the following text into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY"

Print text in bold, capital letters at least 1/2" high. "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Construct brick or cast-in-place walls with a nominal 8" thickness. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and handling without damage.

STEPS: Provide steps where the depth exceeds 6". Meet the requirements of SCD MH-1.1.

CONCRETE: Use 4000 psi compressive strength for cast-in-place concrete. Meet the requirements of CMS 706.13 for all precast concrete and mark with the catch basin number.

REINFORCEMENT: Provide #4 bars spaced at 6" center to center for top reinforcing. For Catch Basin No. 2-3 use eight bars, and for Catch Basin No. 2-4 use twelve bars.

INLETS OVER 12 FEET DEEP: Use precast or cast-in-place concrete; reinforce with #4 bars on 12" centers both vertically and horizontally with 2" clearance from inside wall face.

PRECAST BASE: If a precast base is used, set it deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Do not use brick layers to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and the elevation are at the top center of the grate. When side openings are provided, the elevation is at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 is the outside diameter (O.D.) of the outlet pipe plus 7".

OPENINGS: Ensure pipe openings are the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per CMS 611.

SIDE INLETS: Provide inlets on both sides of the No. 2-3 and 2-4 catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Do not use catch basins with side inlets within the Clear Zone.

PAYMENT: All materials and labor, including excavation and backfill, are paid for under Item 611 - Catch Basin, No. 2-3 or Item 611 - Catch Basin No. 2-4.

CATCH BASIN	OUTLET PIPE SIZE
2-3	12" to 33"
2-4	36" to 42"

NW

NE

N

SW

SE

VERTICAL

1" = 10'

NTS

NTS

HORIZONTAL SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar, 2021

DRAWN BY:
BMH

DATE:
Mar, 2021

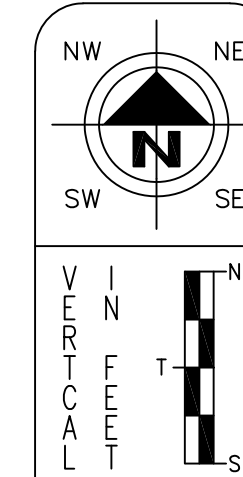
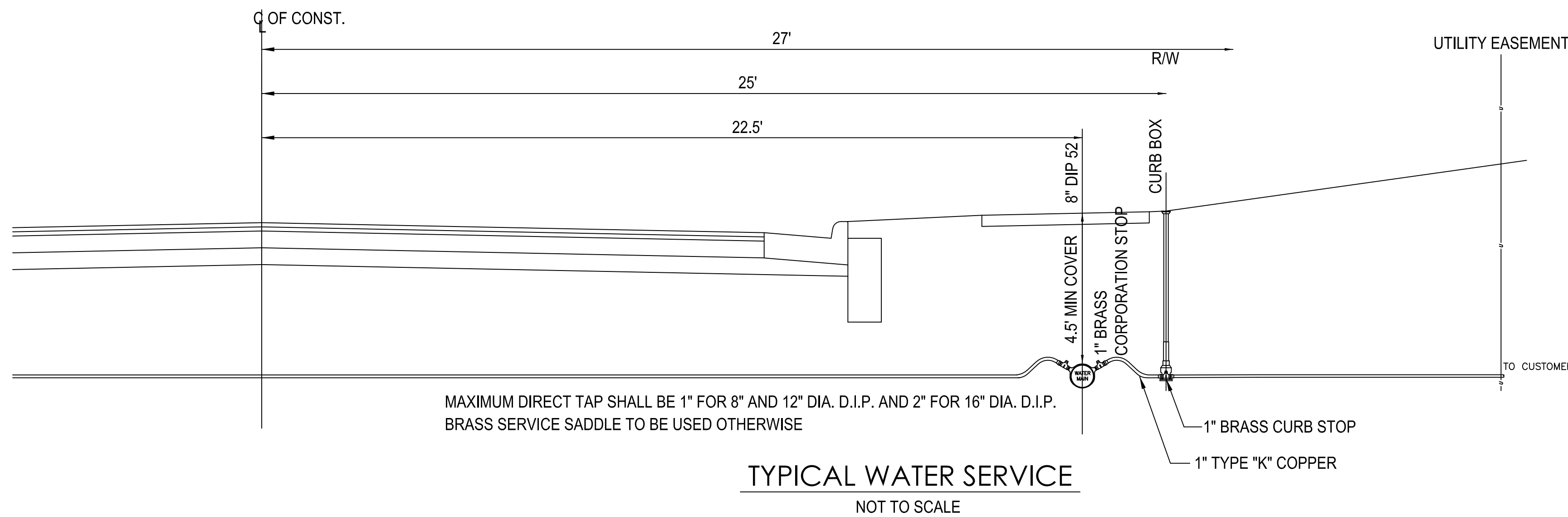
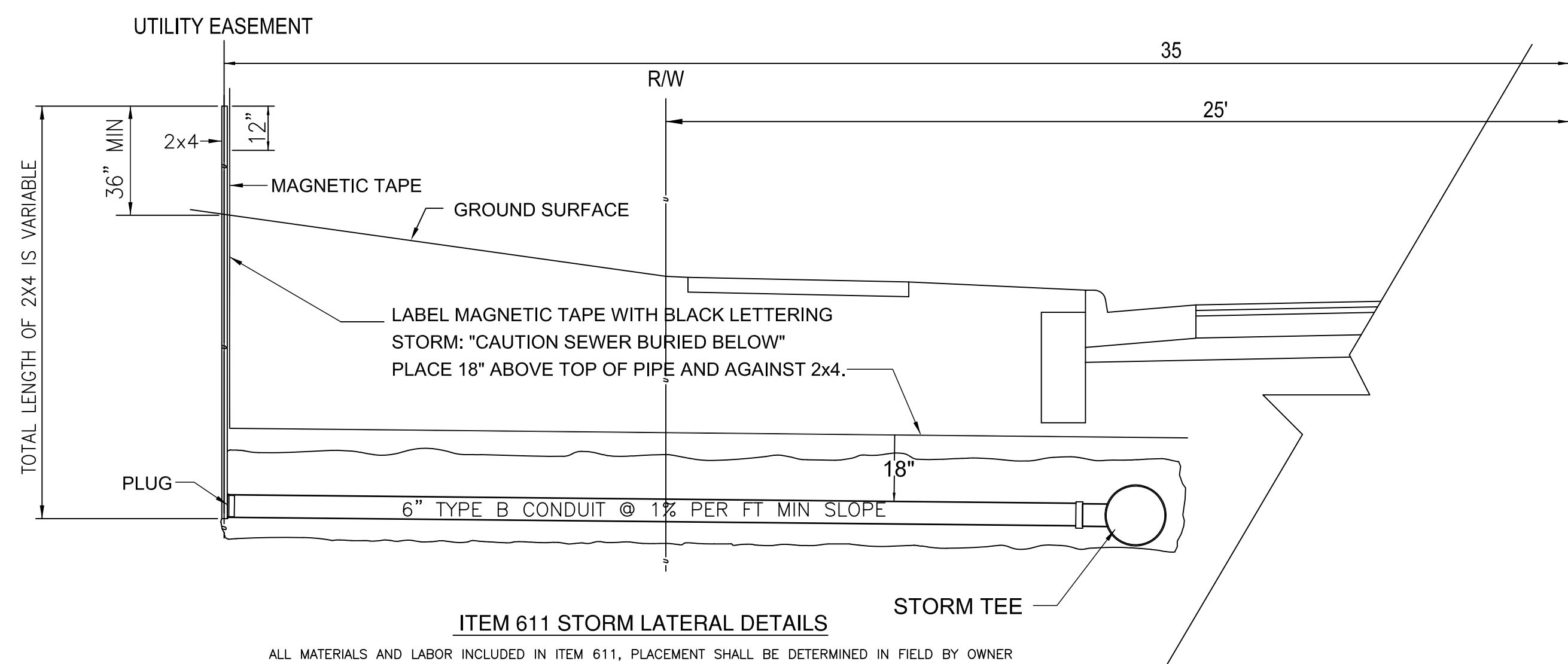
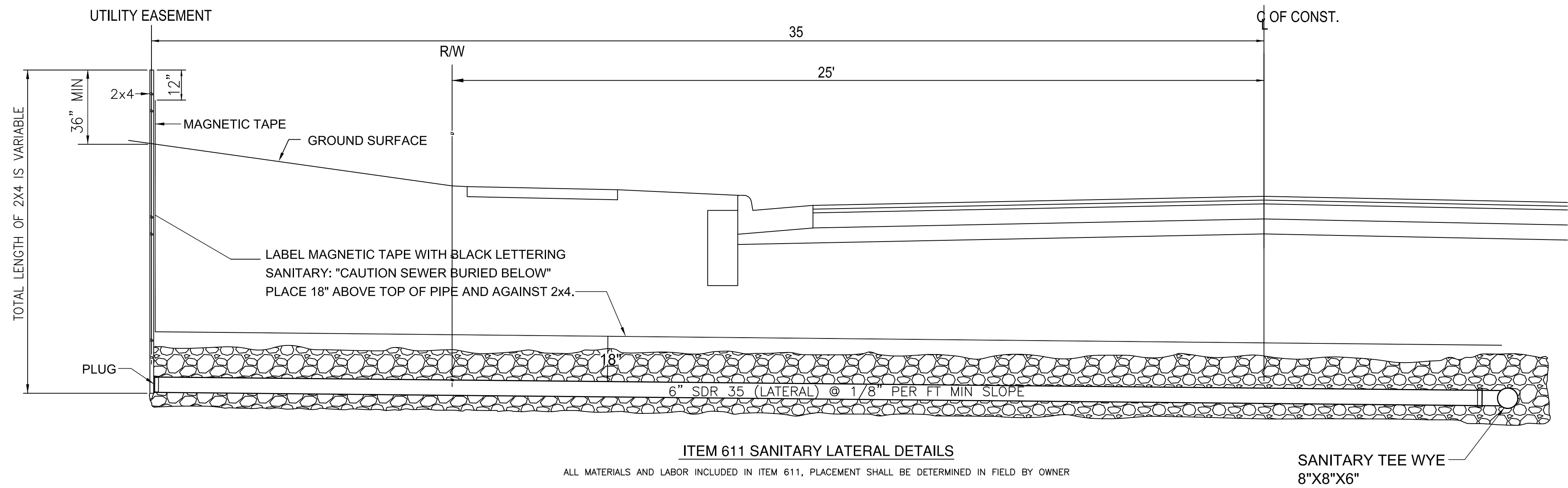
REVISIONS:	DATE	DESCRIPTION
	5/24/21	MAS ENG DEPT

Kenyon Creek Estates Phases 2 - 4
Detention/Water Quality/Sediment Basin
City of Massillon
Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 E. STATE ST. SUITE 200
MASSILLON, OHIO 44862
PHONE: (334) 410-3613 EMAIL: KAD@CIVIPROENGINEERING.COM
WWW.CIVIPROENGINEERING.COM



NTS
HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:	DATE	DESCRIPTION

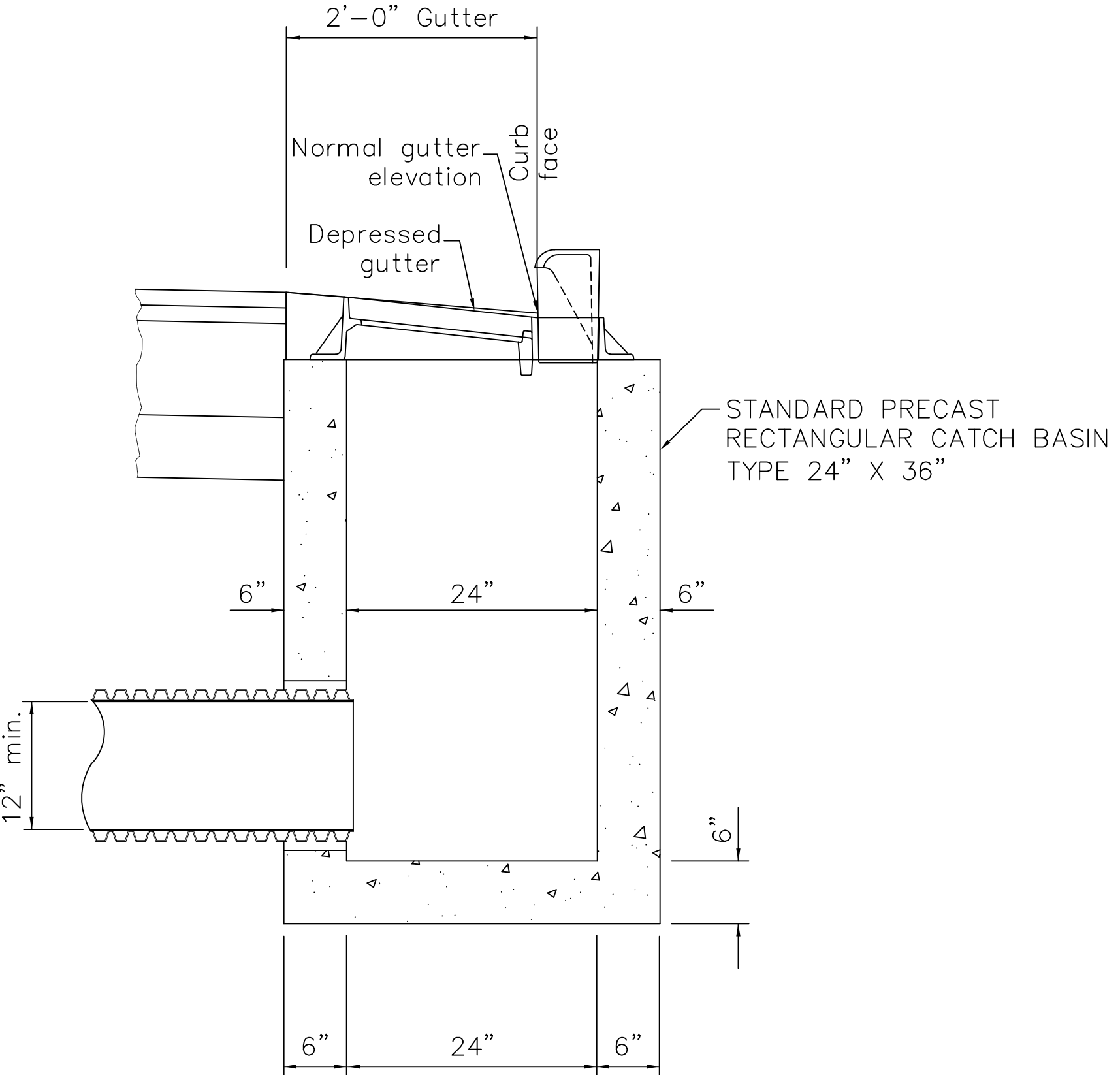
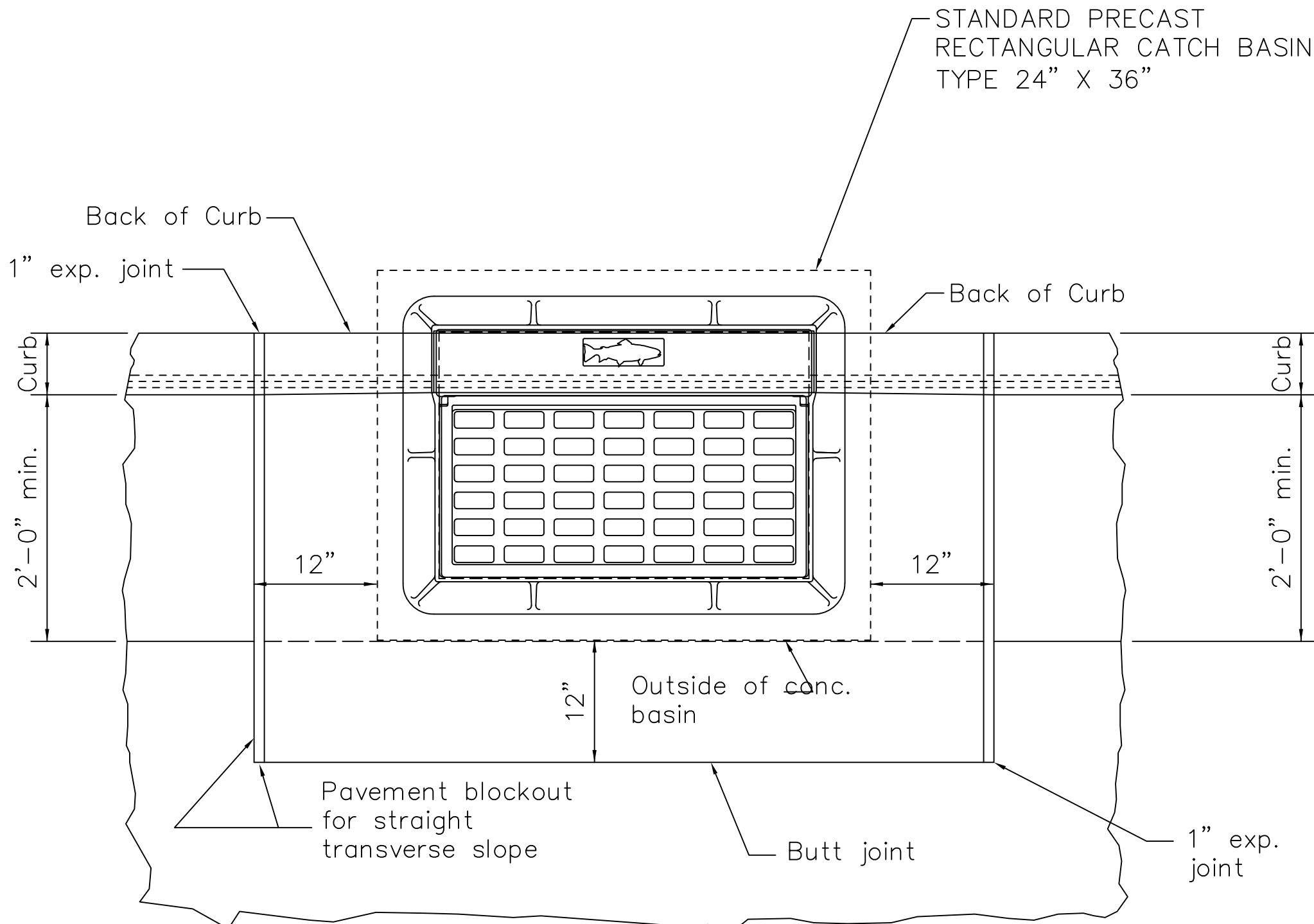
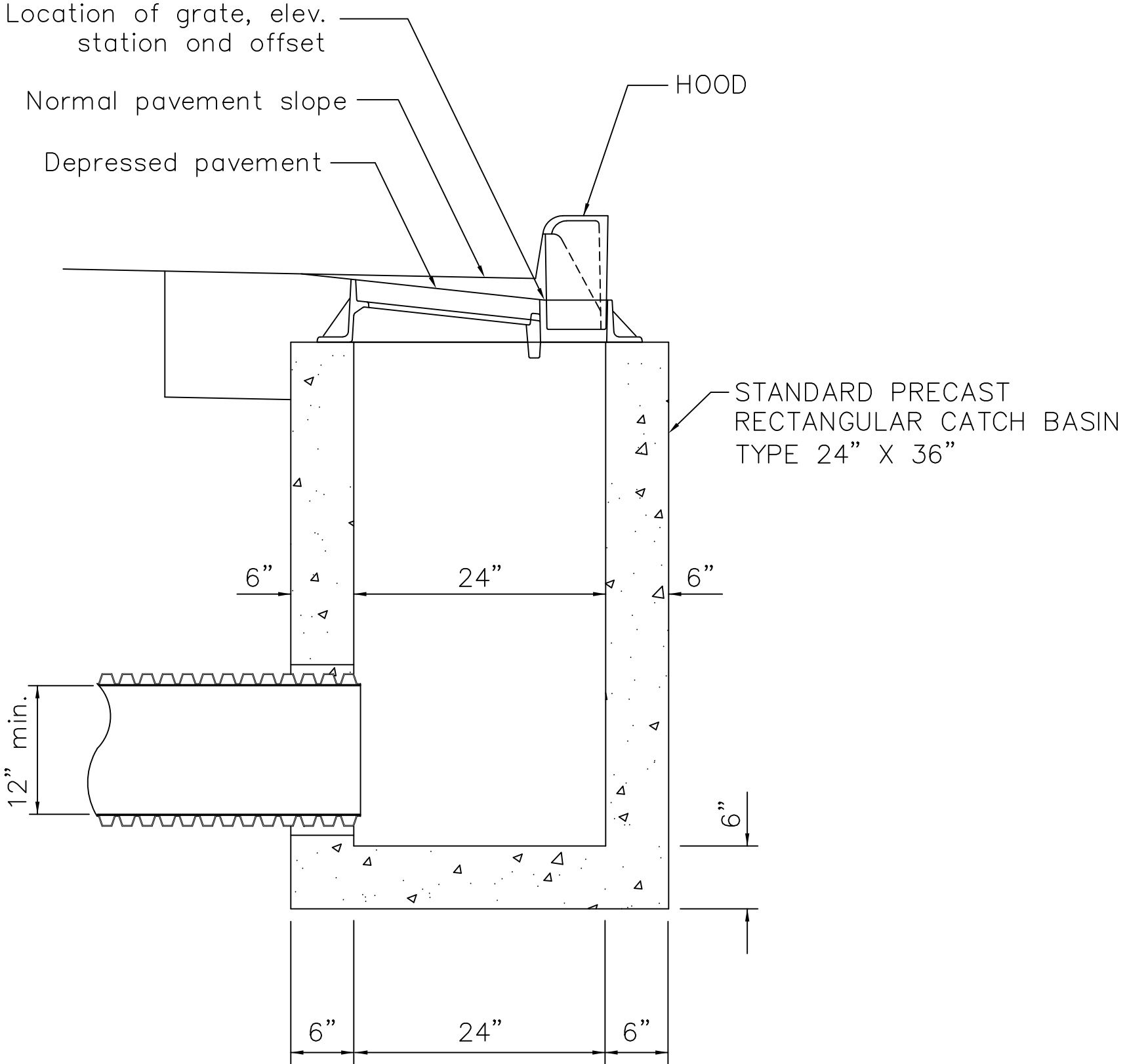
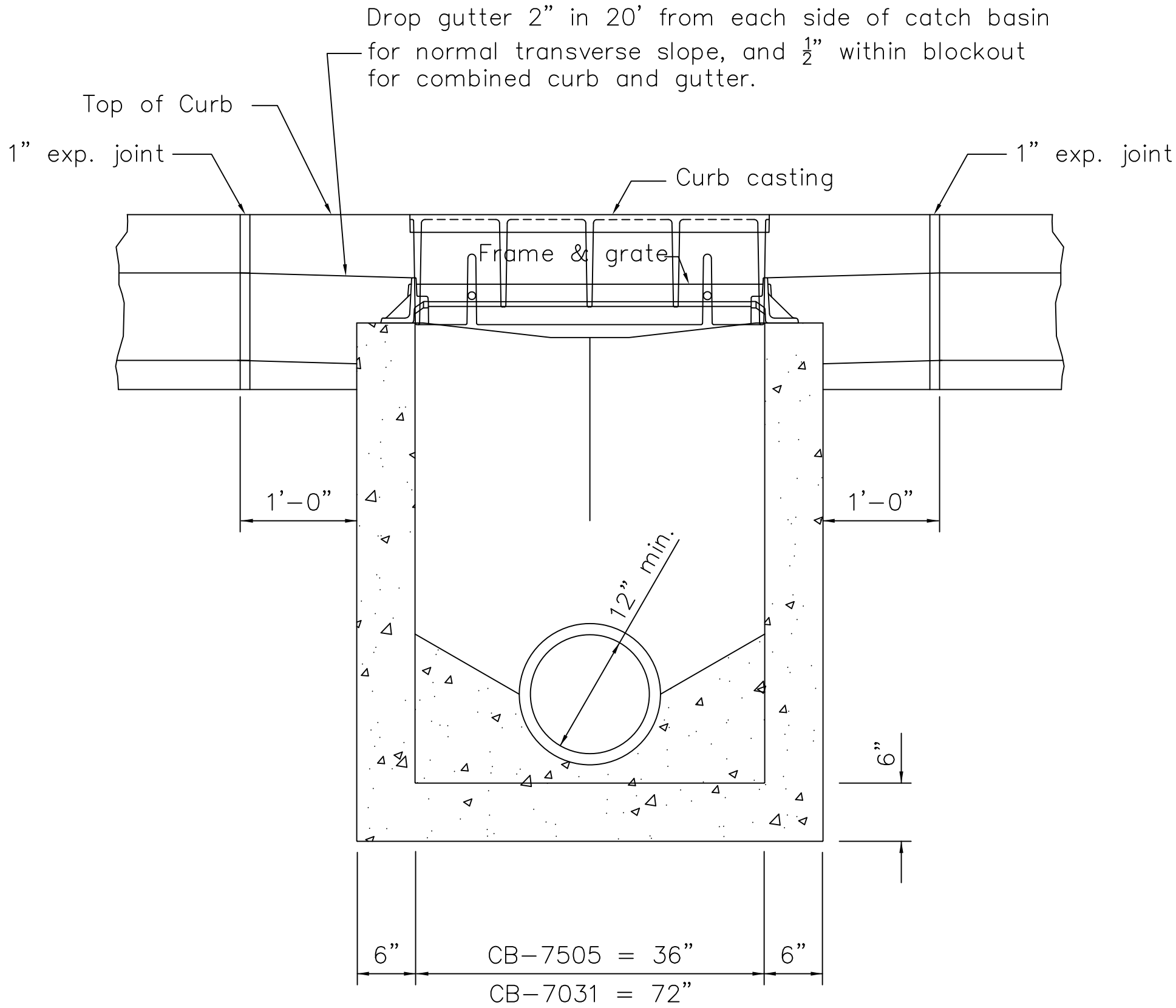
Kenyon Creek Estates Phase 2 - 4
Service Details
City of Massillon
Stark County, Ohio



DRAWING NAME:
Service Details
REF NUMBER:

43 / 56

7505 AND 7031



GRATES: Two required. For details, see EJ 7505Z. provide Grate M1 unless the plans specifically require the bicycle safety grate.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

Frame	=	7505 Z, 7031 Z
Gate	=	7505 M1,
	=	7505 M3 for bicycle safety
Hood	=	7505 T4
		7505 T4 for drop curb area

BEARING AREAS: Fit and finish the frame and grate to provide a firm seat and even seat. No projections are permitted on bearing areas, and grate must seat in its frame without rocking.

PRECAST CONSTRUCTION: Meet CMS 706.13 concrete requirements. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and placement without damage. Reduce the wall thickness from the outside.

MINIMUM DEPTH: The minimum depth is per the cover requirements for that pipe type.

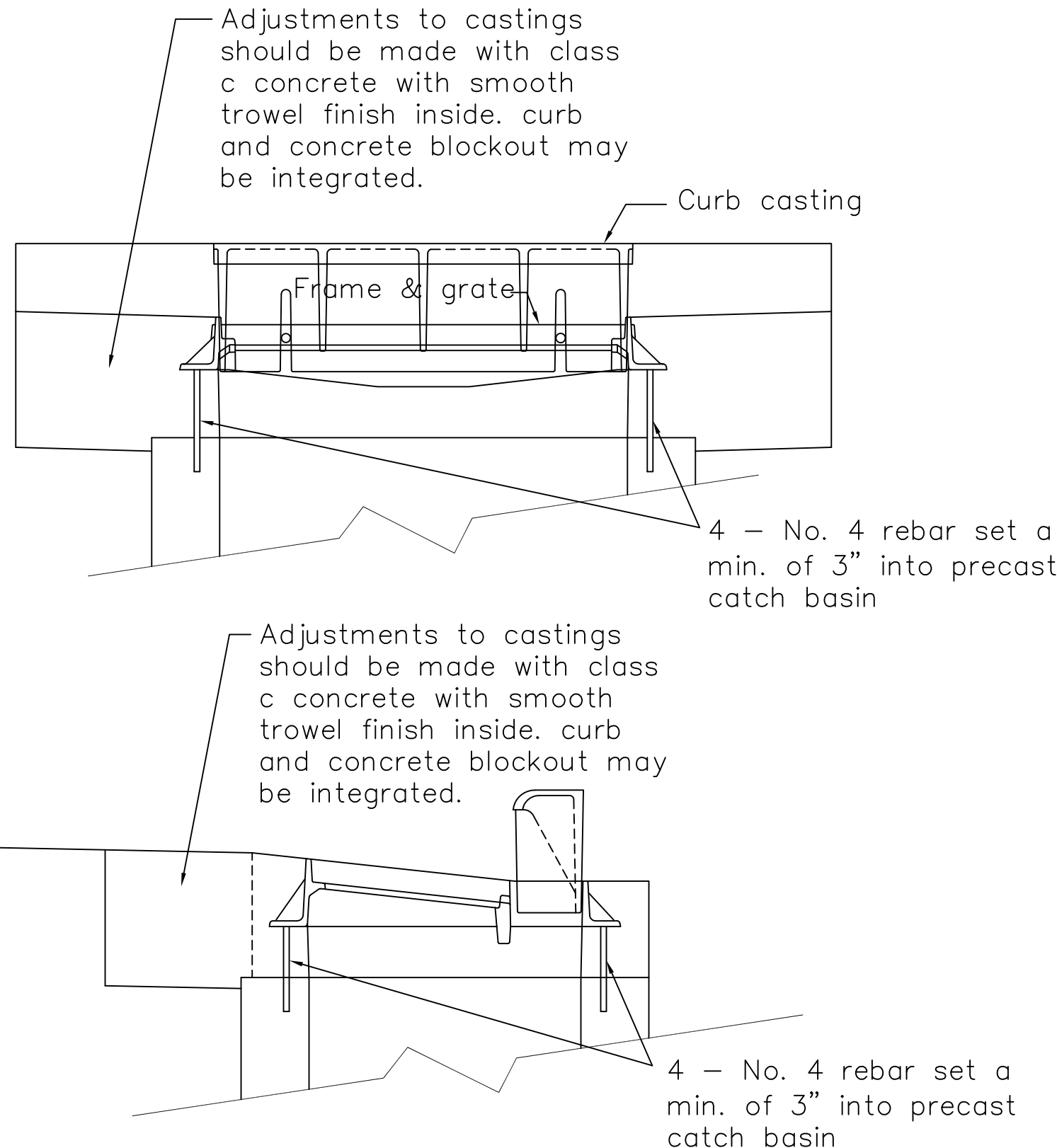
OPENINGS: Obtain the Engineer's approval for any pipe opening greater than 4" from the outside of the pipe to the structure. Fill all voids per CMS 611.

DOWELS: Furnish four 1"x18" dowels for concrete pavement on gutter blockout. See SCD BP-2.2 for dowel details.

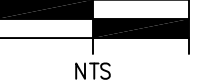
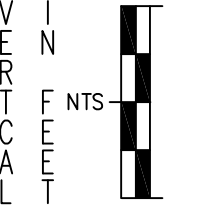
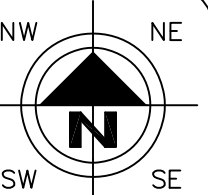
BLOCKOUT: Pave blockouts with 4000 psi compressive strength concrete in PCC pavement or gutter. Blockouts are paid for as part of the catch basin quantities because of the castings. Cast a 4000 psi compressive strength concrete apron, the size of the 2'-0" gutter blockout, in place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction is made in curb quantities.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under Item 611Spec – Catch Basin, Mass7030.

ADJUSTMENT: No brick shall be used to adjust castings height.
See Adjustment detail this sheet.



CASTING ADJUSTMENT



HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE: Mar. 2021

BMH

Mar. 2021

REVISIONS:	DATE	DESCRIPTION

Kenyon Creek Estates Phase 2 - 4

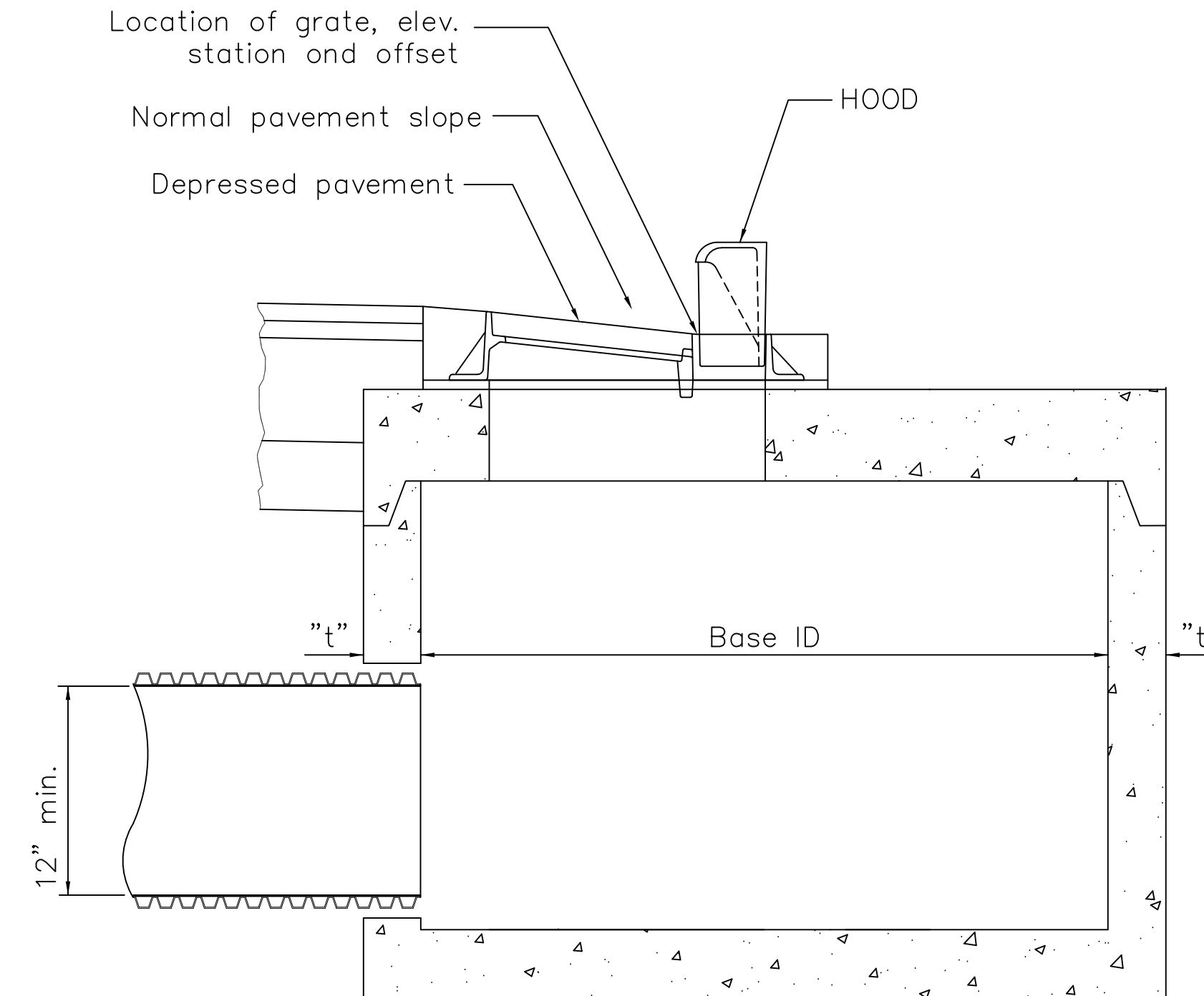
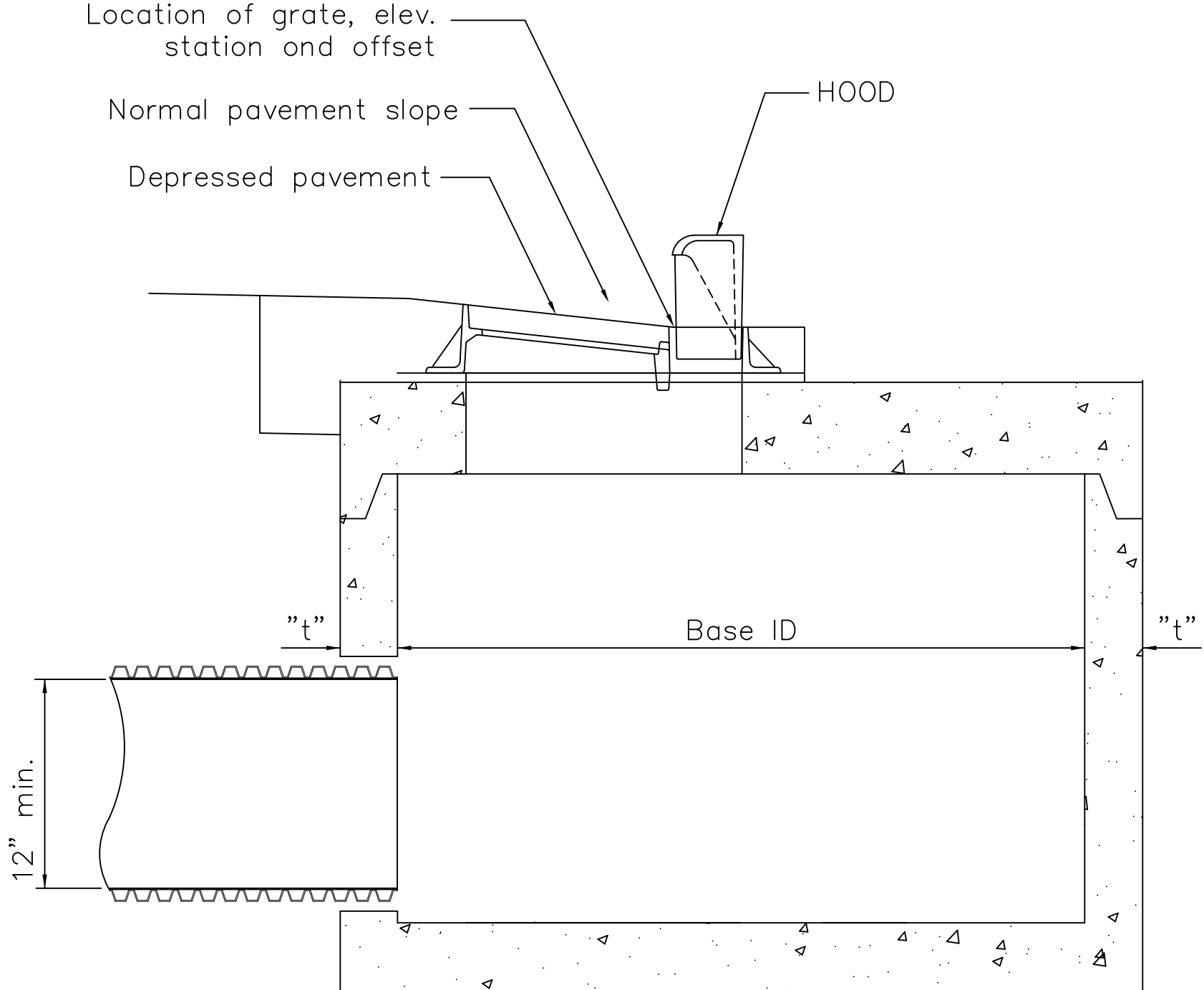
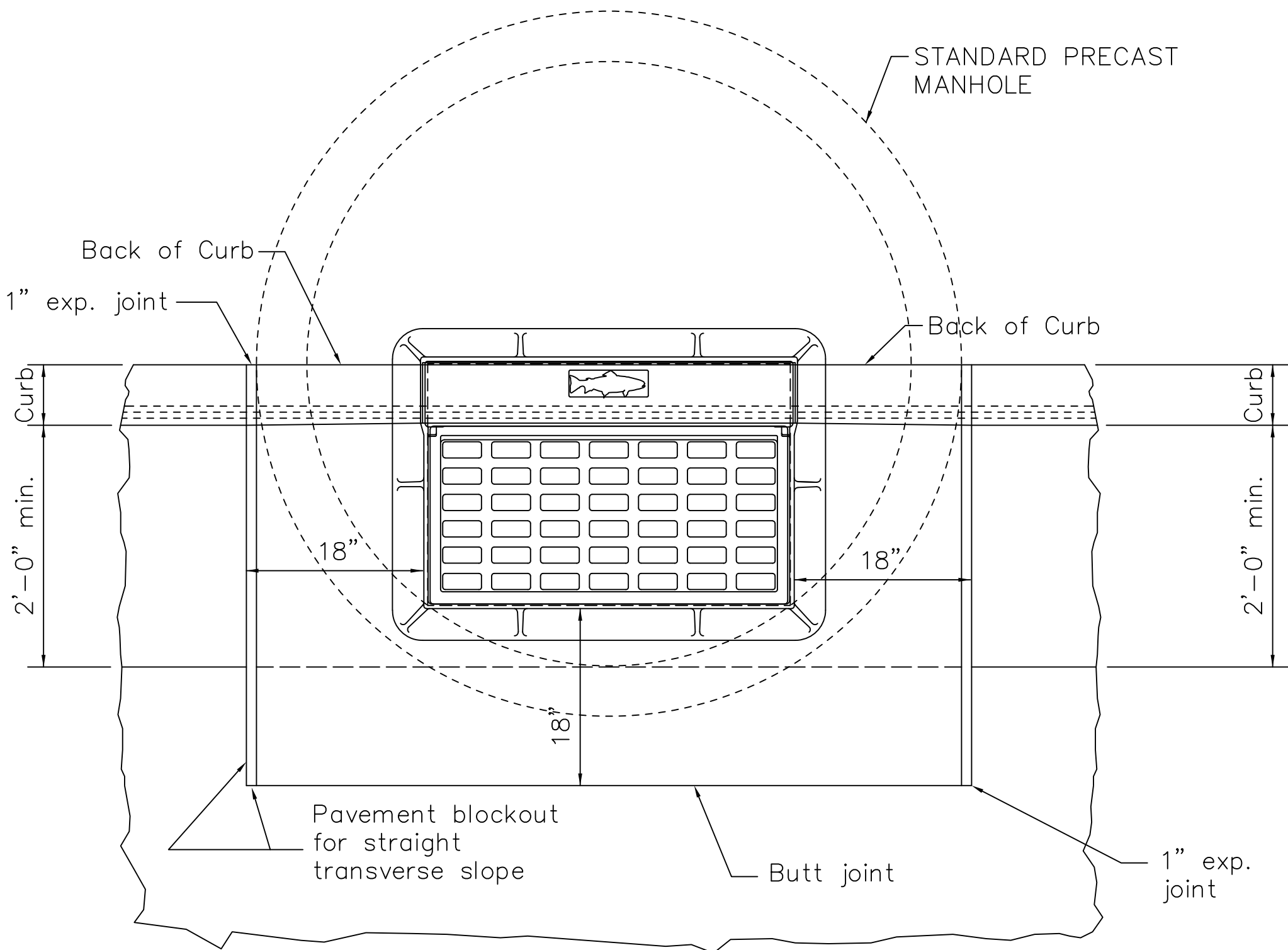
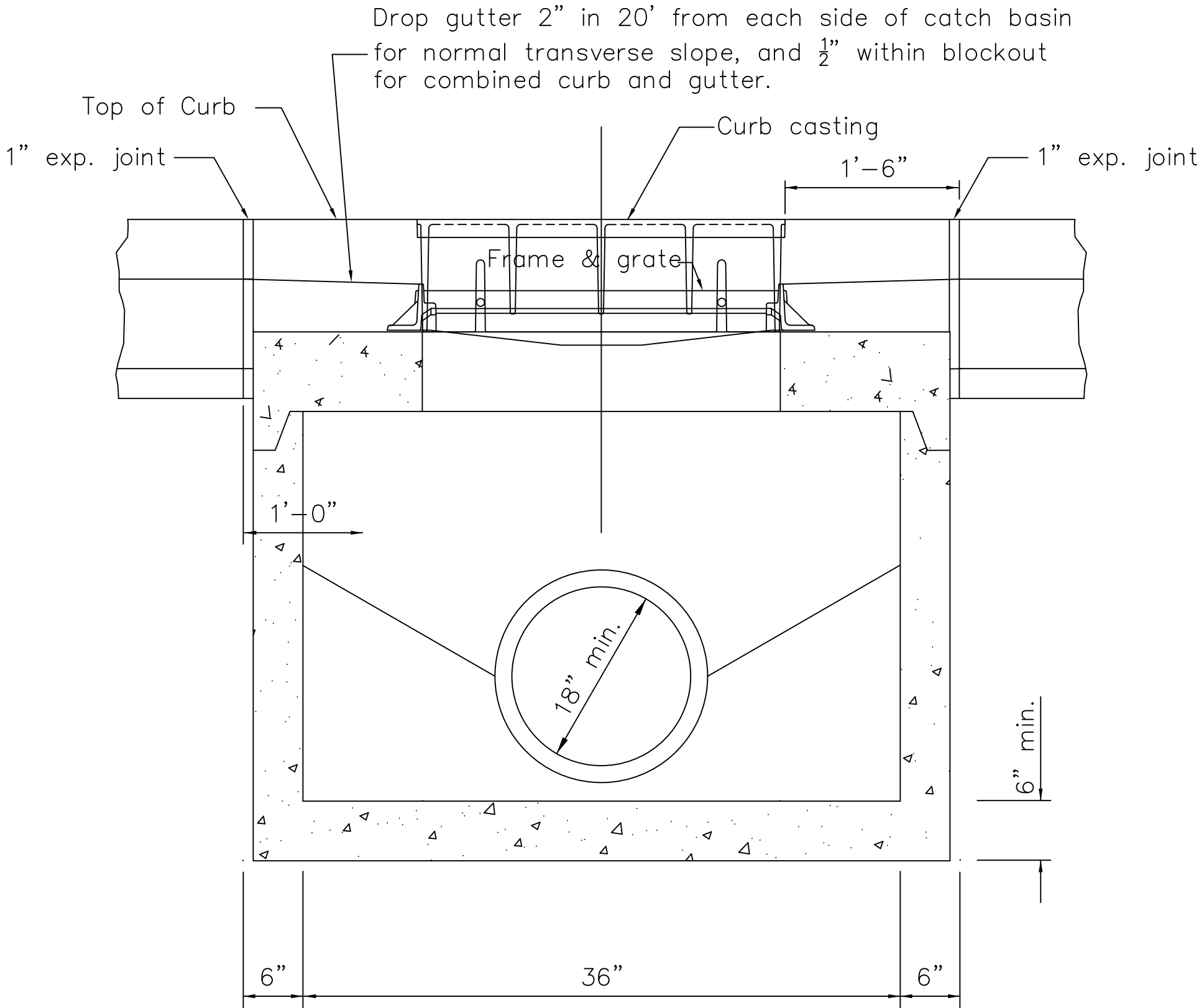
Drainage Details
City of Massillon
Stark County, Ohio



4450 BE
PHONE:

DRAWING NAME:
Drainage Details 1

MH-7505 AND MH-7031



GRATES: Two required. For details, see EJ 7505Z. provide Grate M1 unless the plans specifically require the bicycle safety grate.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

- Frame = 7505 Z
- Grate = 7505 M1
- = 7505 M3 for bicycle safety
- Hood = 7030 T4
- 7030 T4 for drop curb areas

BEARING AREAS: Fit and finish the frame and grate to provide a firm seat and even seat. No projections are permitted on bearing areas, and grate must seat in its frame without rocking.

MINIMUM DEPTH: The minimum depth is per the cover requirements for that pipe type.

OPENINGS: Obtain the Engineer's approval for any pipe opening greater than 4" from the outside of the pipe to the structure. Fill all voids per CMS 611.

DOWELS: Furnish four 1"x18" dowels for concrete pavement or gutter blackout. See ODOT SCD BP-2.2 for dowel details.

BLOCKOUT: Pave blockouts with 4000 psi compressive strength concrete in PCC pavement or gutter. Blockouts are paid for as part of the catch basin quantities because of the castings. Cast a 4000 psi compressive strength concrete apron, the size of the 2'-0" gutter blackout, in place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction is made in curb quantities.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under Item 611Spec - Manhole Mass7030.

ADJUSTMENT: No brick shall be used to adjust castings height. See Adjustment detail this sheet.

BASE: Manhole 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirement. Bottom channels may be formed of concrete, precast in the base or field constructed.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may either prefabricated or cut in field provided the sides of pipe at the springline do not project into the manhole.

JOINT SEAL: Furnish flexible gasket joints per CMS 706.11.

OPENING: The maximum pipe opening is the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of CMS 706.13

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	66"
108"	9"	72"

NWNE
SWSE

V
E
R
T
I
C
A
L

1"=10'
NTS

H
O
R
I
Z
O
N
T
A
L

1"=10'
NTS

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:

DATE	DESCRIPTION

Kenyon Creek Estates Phase 2 - 4

Drainage Details

City of Massillon

Stark County, Ohio

CIVPRO
ENGINEERING

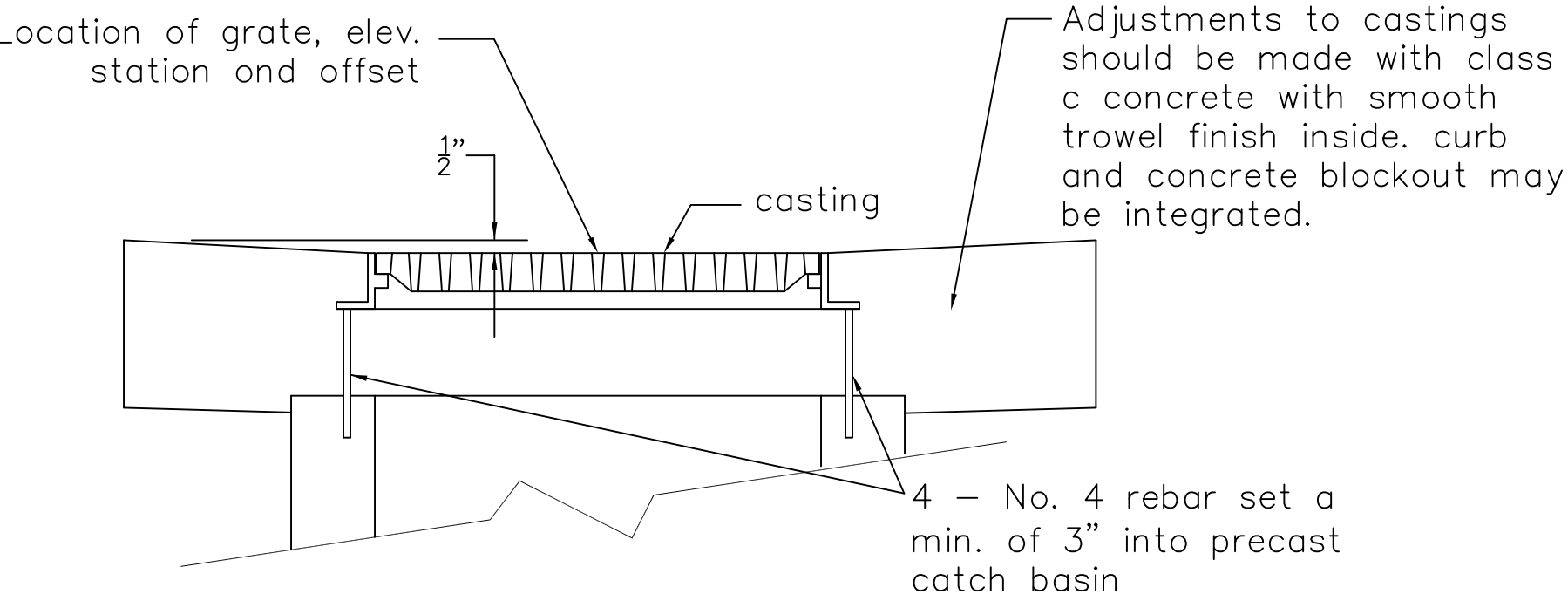
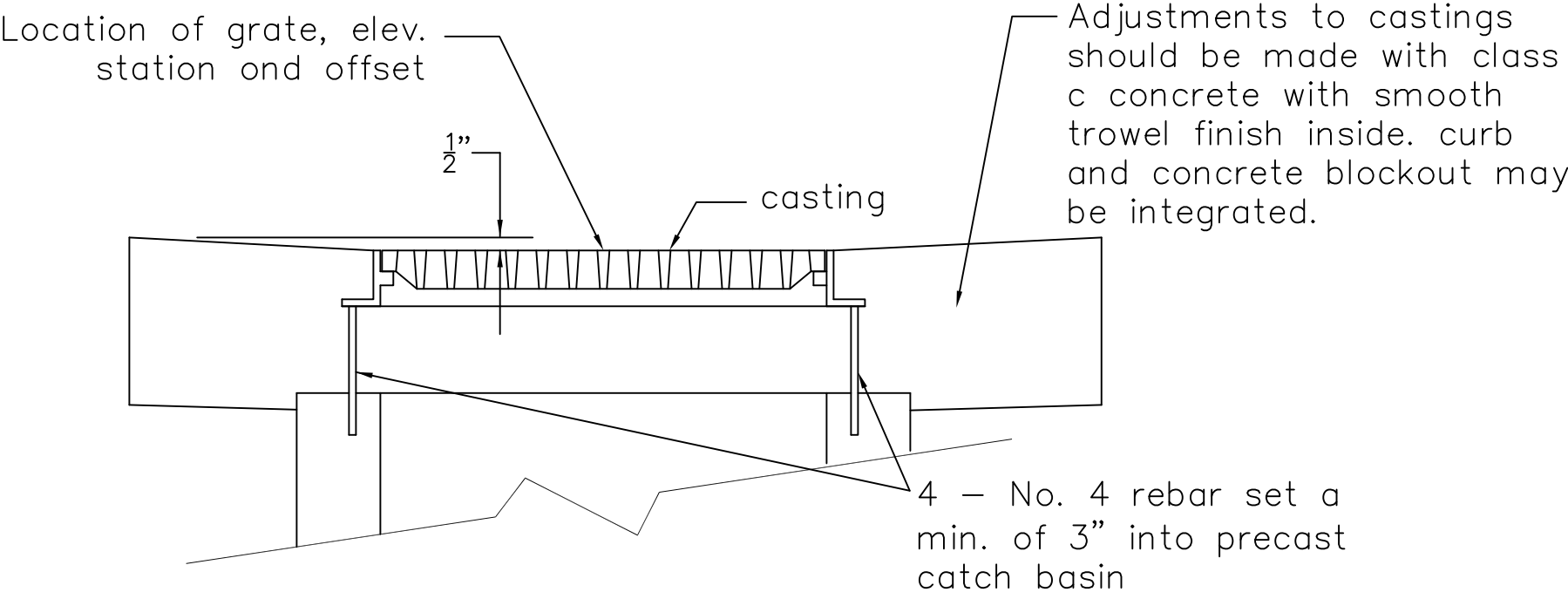
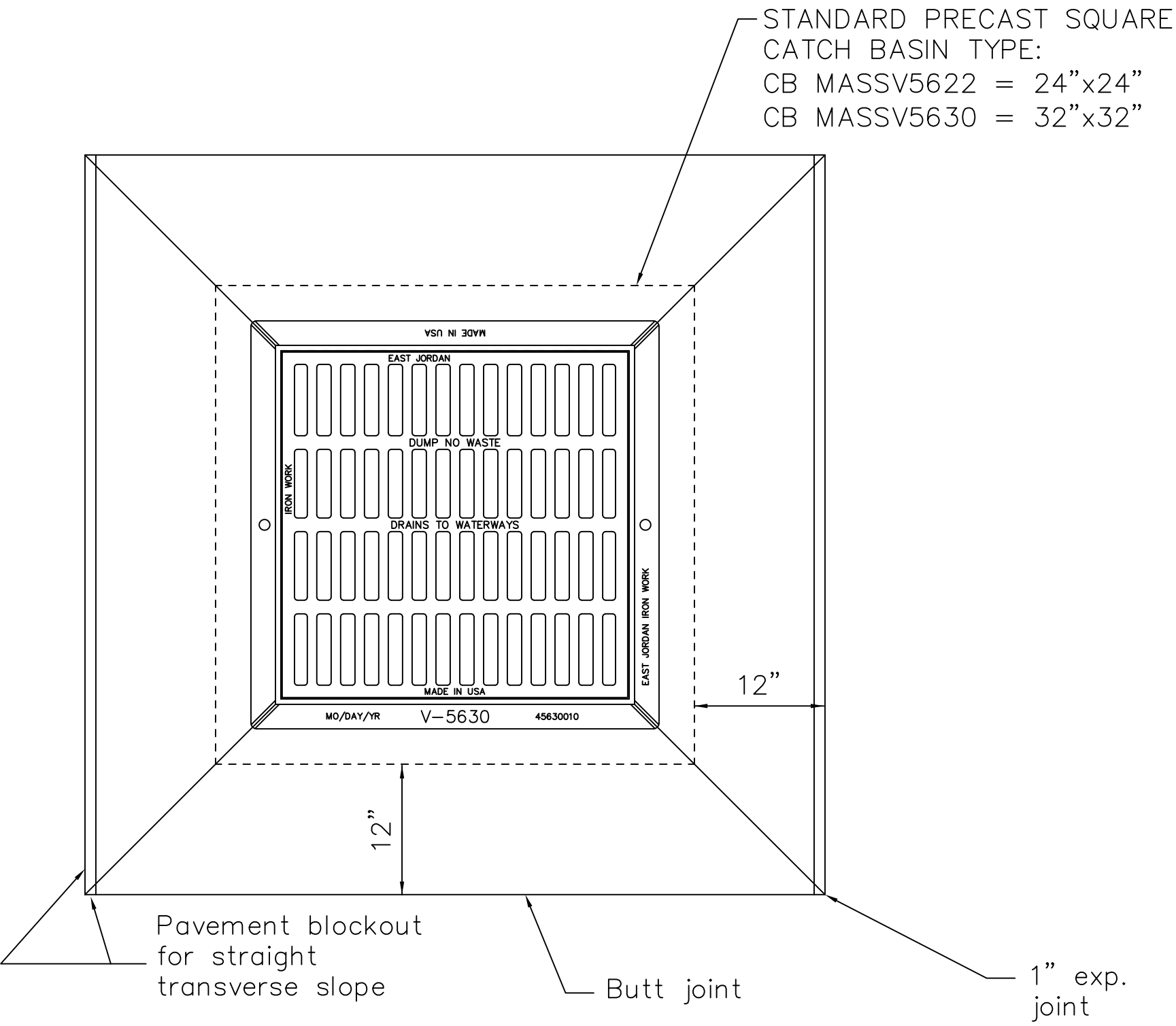
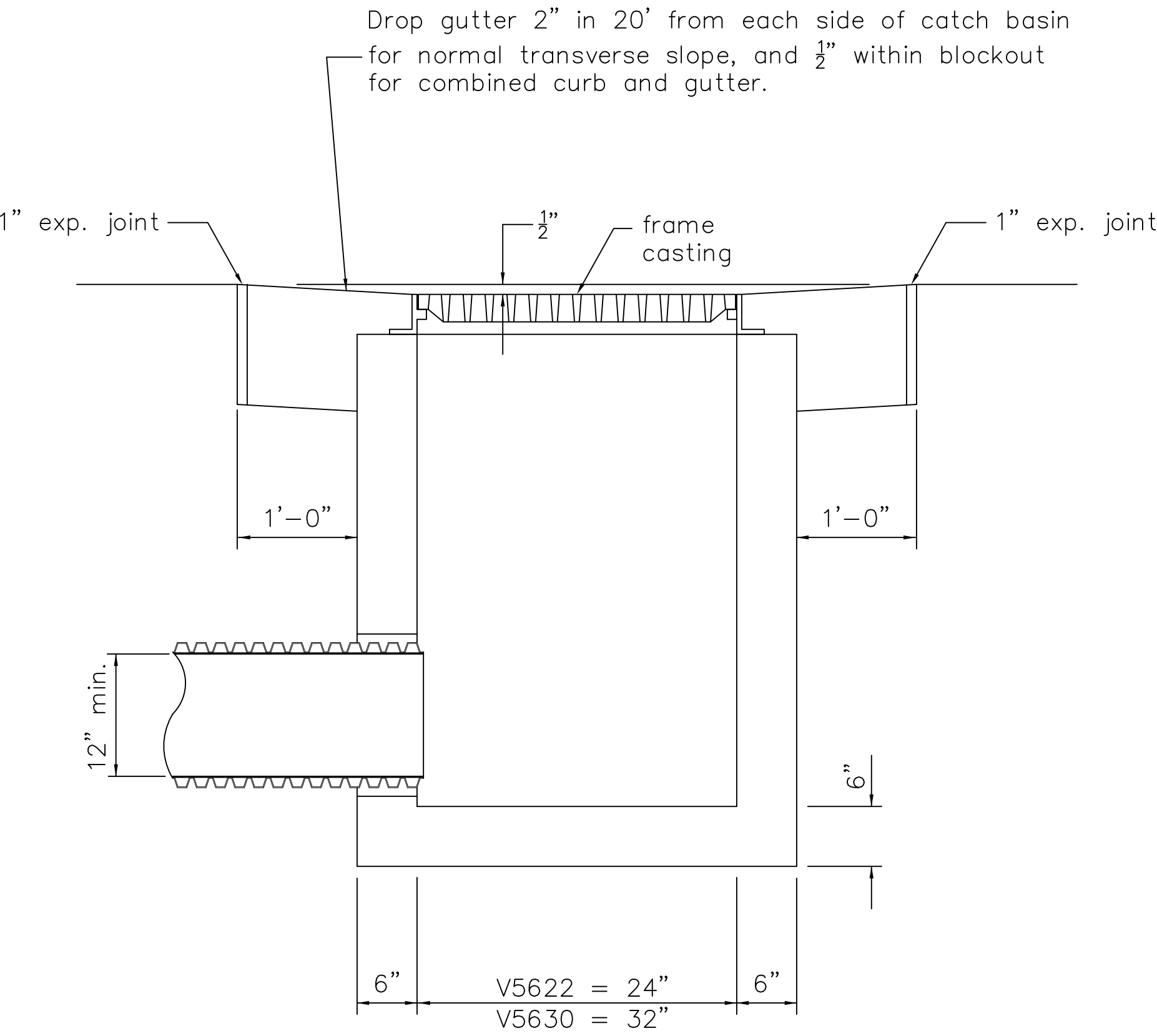
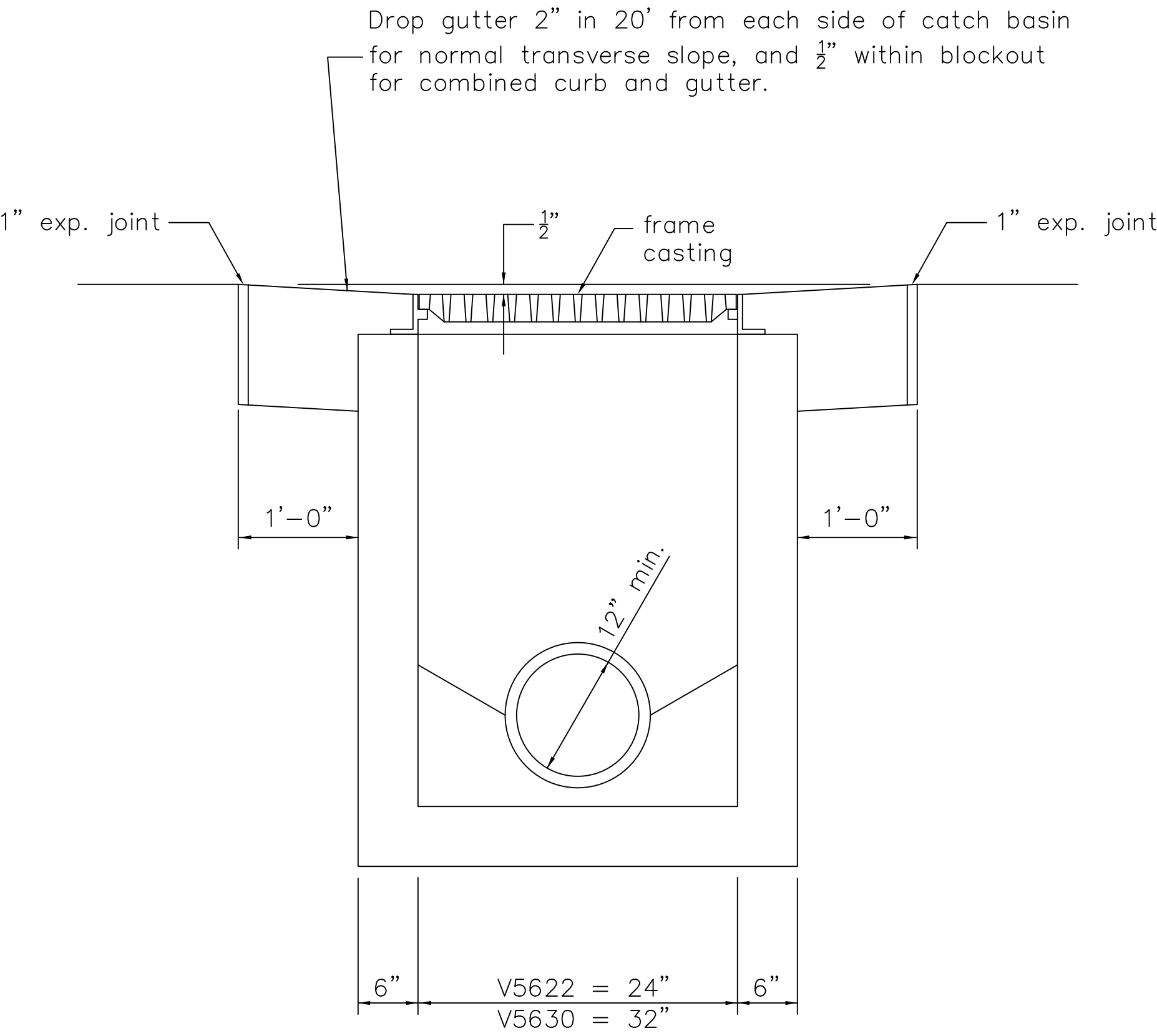
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (330) 268-3734 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:
Drainage Details 2

REF NUMBER:

45 / 56

V5622 AND V5630



CASTING ADJUSTMENT

GRATES: Two required. For details, see EJ V5630. provide Grate V5630 unless the plans specifically require different grate.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

MASS–V5622	
Frame	= V5622
Grate	= V5622
MASS–V5630	
Frame	= V5630
Grate	= V5630

BEARING AREAS: Fit and finish the frame and grate to provide a firm seat and even seat. No projections are permitted on bearing areas, and grate must seat in its frame without rocking.

PRECAST CONSTRUCTION: Meet CMS 706.13 concrete requirements. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and placement without damage. Reduce the wall thickness from the outside.

MINIMUM DEPTH: The minimum depth is per the cover requirements for that pipe type.

OPENINGS: Obtain the Engineer's approval for any pipe opening greater than 4" from the outside of the pipe to the structure. Fill all voids per CMS 611.

DOWELS: Furnish four 1"x18" dowels for concrete pavement or gutter blockout. See SCD BP–2.2 for dowel details.

BLOCKOUT: Pave blockouts with 4000 psi compressive strength concrete in PCC pavement or gutter. Blockouts are paid for as part of the catch basin quantities because of the castings. Cast a 4000 psi compressive strength concrete apron, the size of the 2'–0" gutter blockout, in place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction is made in curb quantities.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under Item 611Spec – Catch Basin, Massv5630.

ADJUSTMENT: No brick shall be used to adjust castings height. See Adjustment detail this sheet.

NWNE
SWSE
N

VERTICAL
SCALE
1" = 1'-0"

NTS

HORIZONTAL
SCALE IN FEET
1" = 1'-0"

NTS

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:	DATE	DESCRIPTION

Kenyon Creek Estates Phase 2 - 4
Drainage Details
City of Massillon
Stark County, Ohio

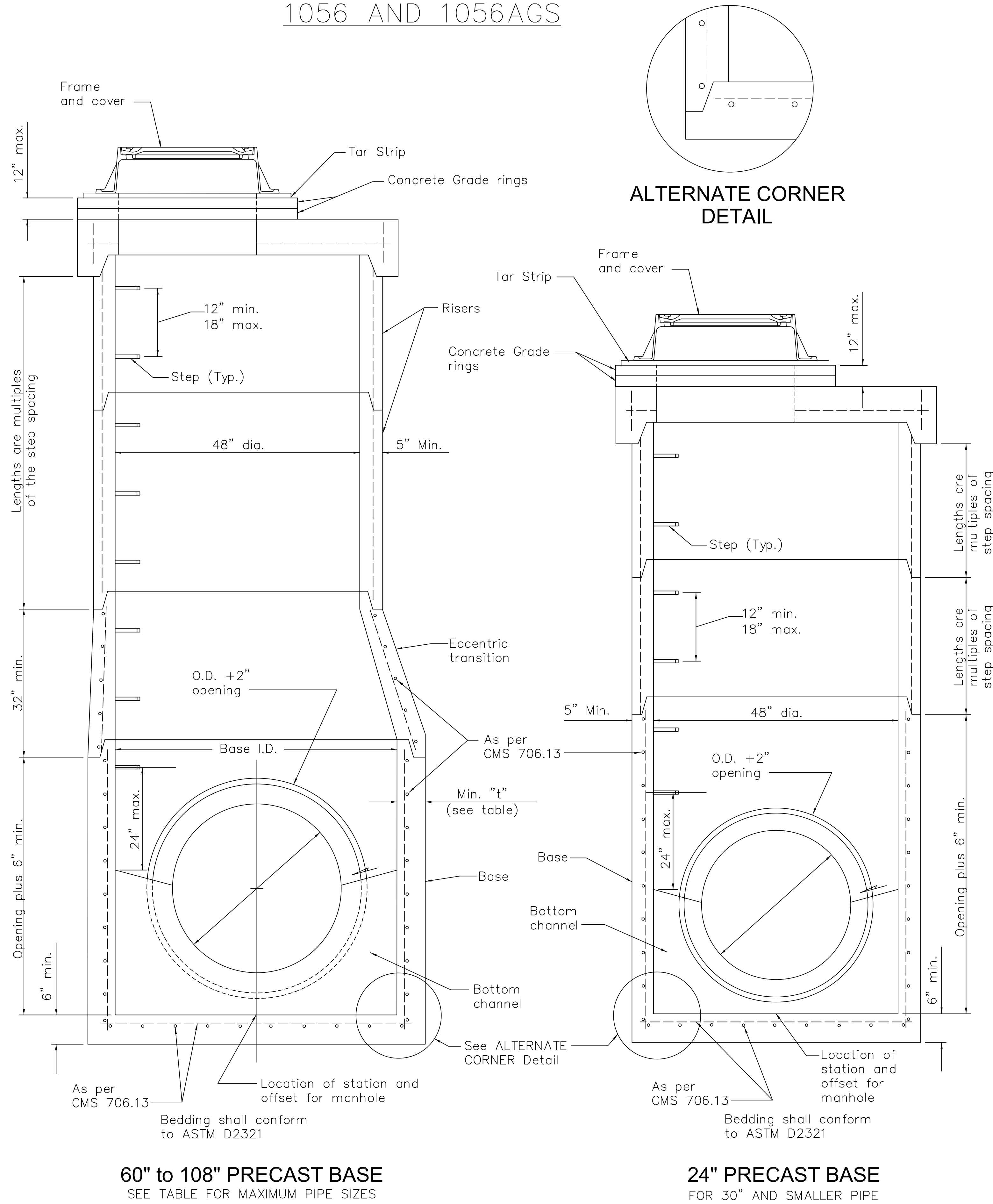
CIVERO

ENGINEERING

ENGINEERS SURVEYORS-CONSTRUCTION MANAGERS
4450 DELTA LANE SUITE 100
MASSILLON OHIO 44718
PHONE: (330) 268-3734 EMAIL: KAD@CIVEROENGINEERING.COM
WWW.CIVEROENGINEERING.COM

DRAWING NAME:
Drainage Details 3
REF NUMBER:

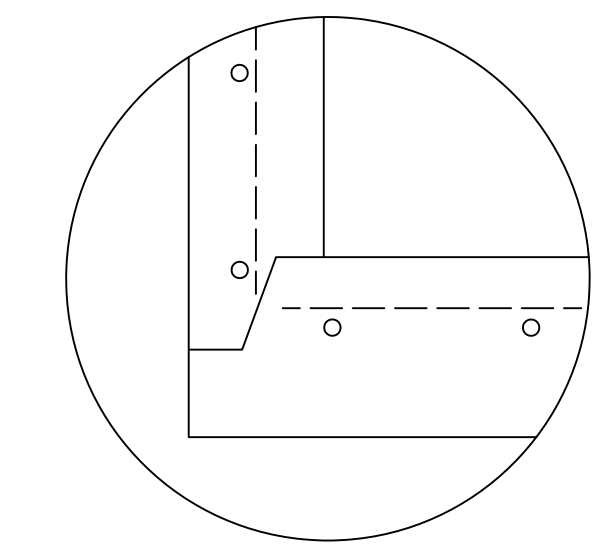
1056 AND 1056AGS



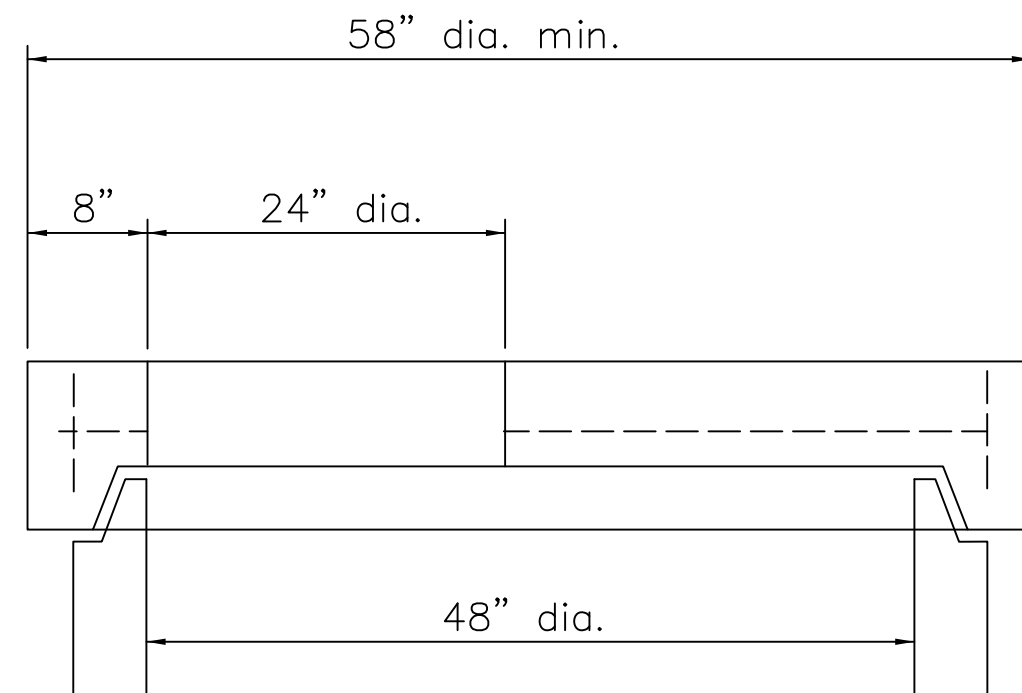
60" to 108" PRECAST BASE
SEE TABLE FOR MAXIMUM PIPE SIZES

24" PRECAST BASE
FOR 30" AND SMALLER PIPE

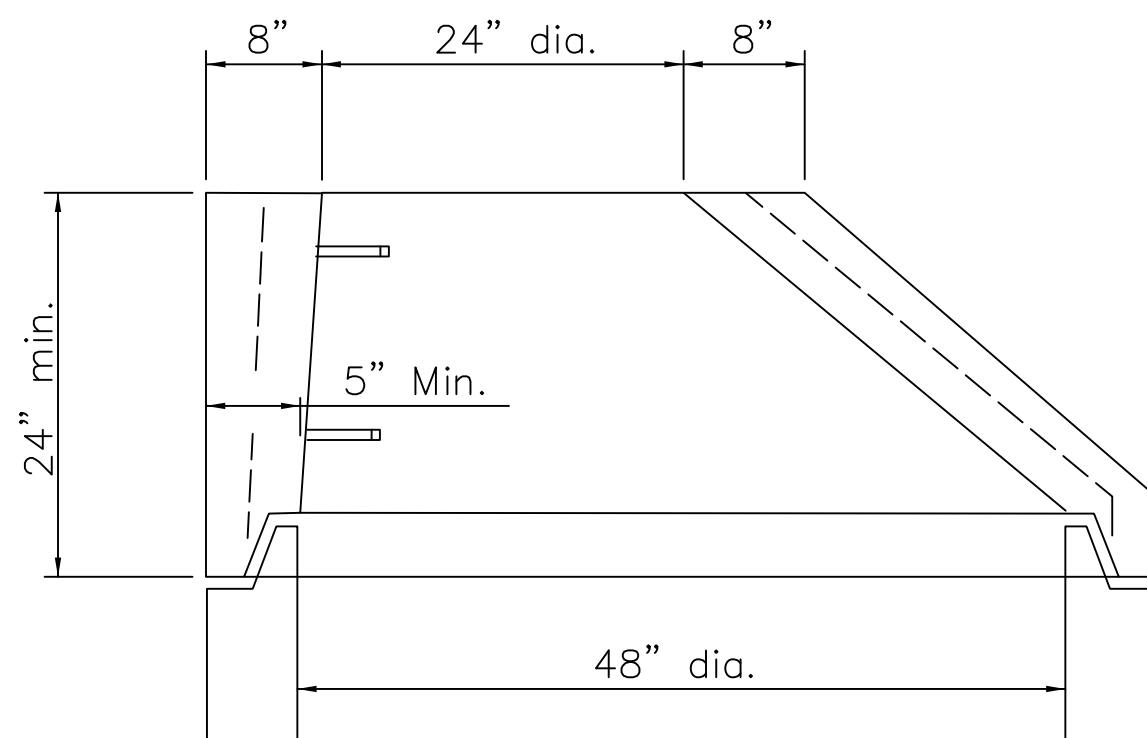
SECTION VIEWS OF REINFORCED PRECAST MANHOLES



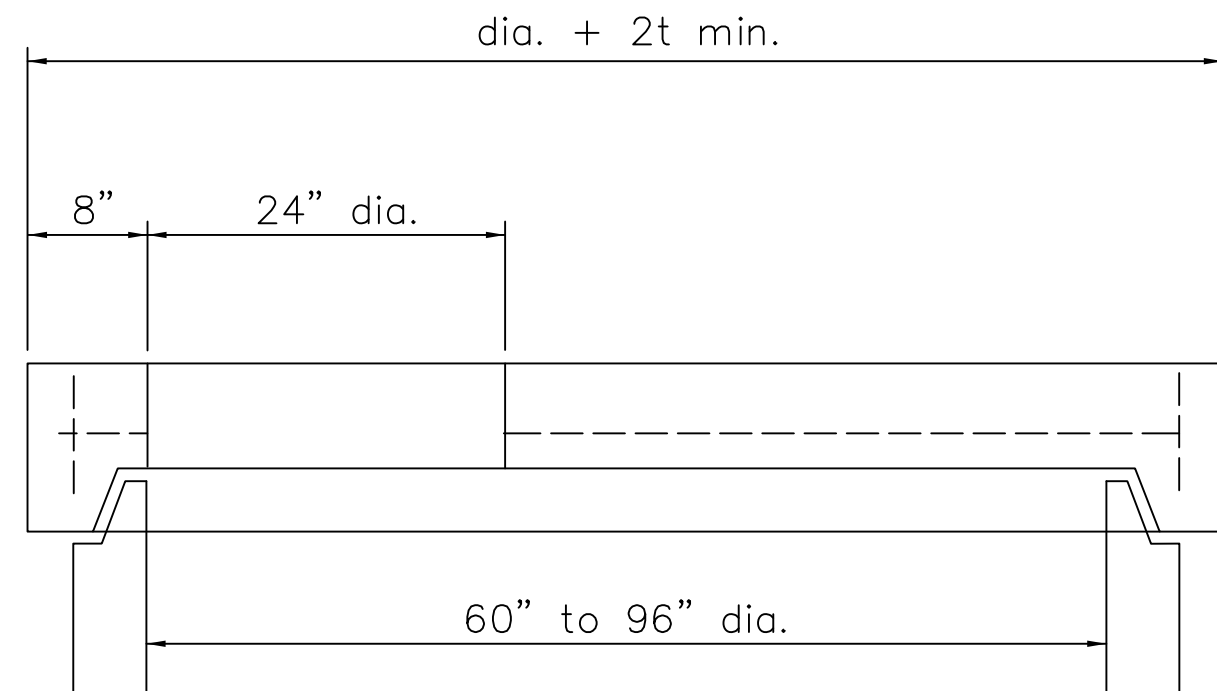
ALTERNATE CORNER
DETAIL



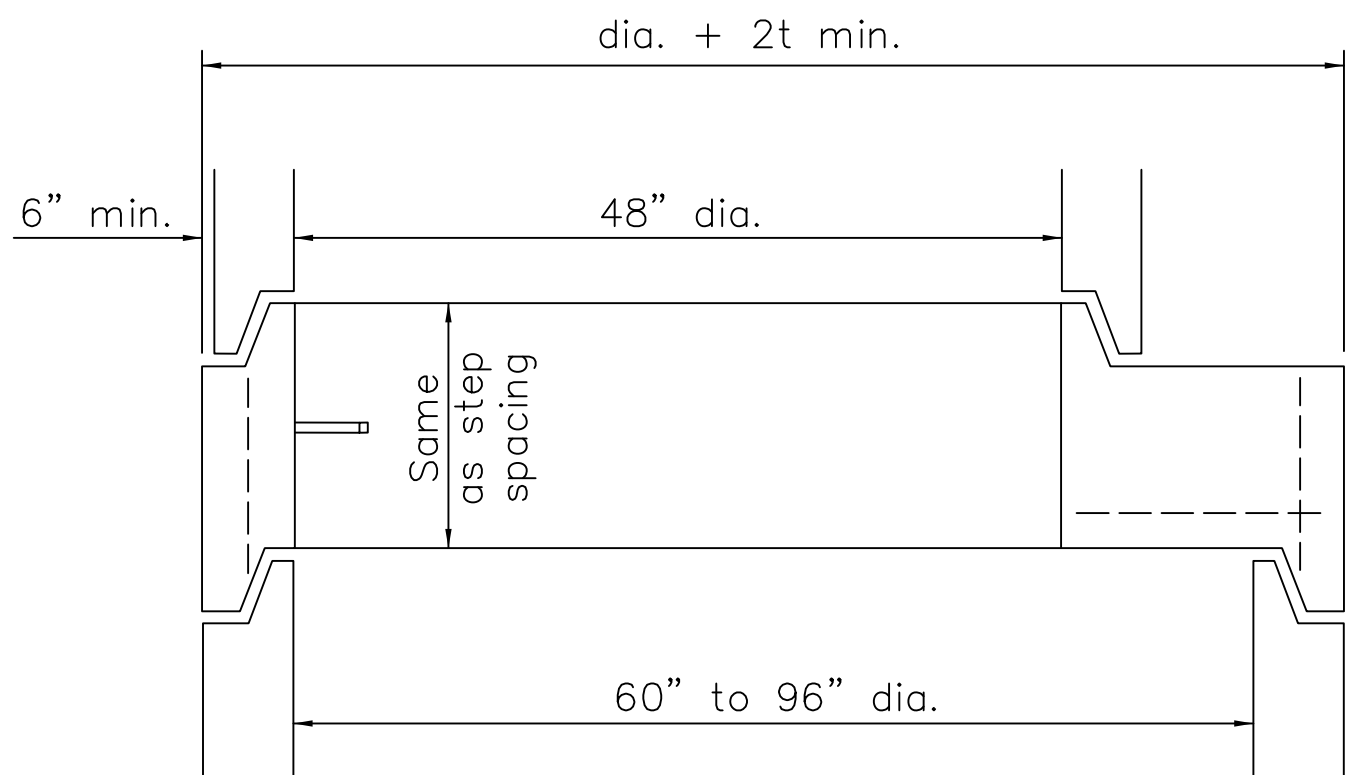
FLAT SLAB TOP



ALTERNATE
ECCENTRIC CONE TOP



FLAT SLAB TOP



FLAT SLAB TRANSITION

MAXIMUM PIPE SIZE

BASE I.D.	MIN. "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	66"
108"	9"	72"

GENERAL: With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth. Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling. Leave handling device for flat slab in place.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

DRAINAGE: Cover = Massillon 1040A
Cover = 1040 M3 ADA(WHEN SPECIFIED)
Frame = 1048

SANITARY: Cover = Massillon 1040AGS
Frame = 1048

TOP: Provide a flat slab for this section unless an eccentric cone is specified.

TRANSITION (OR REDUCER): This section can be either eccentric cone or flat slab.

BASE: Manhole is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirement. Bottom channels may be formed of concrete, precast in the base or field constructed.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may either prefabricated or cut in field provided the sides of pipe at the springline do not project into the manhole.

CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with a resilient connectors conforming to ASTM C 923.

JOINT SEAL: Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per ASTM C-443.

OPENING: The maximum pipe opening is the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any drainage manhole voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of C-478

DROP PIPE: When specified on the plans, construct drop pipe as shown on SCD MASS1048-DROP.

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

NW NE
SW SE
VERTICAL SCALE
HORIZONTAL SCALE IN FEET
CHECKED BY: KAD
DATE: July, 2018
DRAWN BY: BMH
DATE: July, 2018
REVISIONS: DATE DESCRIPTION
7/19/21 OEPA-SAN

Kenyon Creek Estates Phase 2 - 4
MH-MASS1048A AND MH-MASS1048AGS
City of Massillon
Stark County, Ohio

CIVILPRO
ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (330) 268-3734 EMAIL: KAD@CIVILPROENGINEERING.COM
WWW.CIVILPROENGINEERING.COM

DRAWING NAME: Manhole Details
REF NUMBER:
47 / 56

MATERIAL SPECIFICATIONS

DUCTILE IRON PIPE. Type required: push-on joints, cement lined, pressure class 52 for 4 inch through 16-inch, manufacturing standards AWWA C150 and C151. Polyethylene encasement shall be installed on all ductile pipe and fittings.

DUCTILE IRON FITTINGS. (tees, crosses, bends, reducers, sleeves, couplings and plugs.) Type required: mechanical joint, tees, crosses, bends and reducers are to be cement lined; working pressure rating 250 psi, manufacturing standards ANSI A21.53, ANSI A21.4 and ANSI A21.10. Compact style is acceptable. Retainer glands shall be installed wherever there is a possibility of joint separation.

FIRE HYDRANTS. Type required: post type, breakable flange design for traffic collisions, 5 1/4" diameter main valve, one 5" Storz connection and two 2 1/2" hose nozzles, 6" MJ inlet, main valve to open left, direction of opening to be indicated with arrow cast on hydrant, to be designed for 5 foot trench, National Standard threads on nozzles, O-ring packing preferred, type 304 stainless steel bolts and nuts, operating nut and nut on caps: 1 1/2" pentagon, color yellow paint on body trimmed with red paint on bonnet and caps, AWWA standard C502, Mueller Centurion A423-539382, US Pipe M-94 or Clow Medallion.

TAPPING VALVES. Type required: Stainless steel or ductile iron with MJ outlet, stainless steel bolts and nuts, manufacturing standards and pressure ratings AWWA specification C110.

4" THROUGH 12" GATE VALVES. Type required: resilient seat, iron body, stainless steel bonnet bolts and nuts, mechanical joint accessories, non-rising stem, for underground service, O-ring packing preferred, **OPEN RIGHT** (clockwise), 2-inch square operating nut, manufacturing standards and pressure ratings AWWA C515, Mueller A-2361 or equal.

VALVE BOXES. Type required: two piece, cast iron, screw type for adjustable height, height range to be approximately 36 to 60 inches. They are to include a well-fitting cast-iron lid, the word "WATER" to be cast on lid.

2" WATER MAIN. 2" water main shall be soft drawn type "K" copper tubing or high-density polyethylene plastic (HDPE), copper tube size, as called out on the plan. If HDPE is used, it shall be 200 psi, SDR 9 with marking tape and a 12-gauge copper tracer wire laid in the trench. Brass compression fittings shall be used. Stainless steel stiffeners are necessary at each joint.

POLYETHYLENE ENCASEMENT. Type required: Eight mil thick polyethylene tube manufactured in accordance with ANSI/AWWA C105/A21.5. Polyethylene adhesive tape, 1 1/2" wide, is to seal joints.

BLOW OFF ASSEMBLIES. Type required: Kupferle Foundry TF500 or approved equal. Install in valve box. Install 2" curb stop with curb box ahead of each blow off.

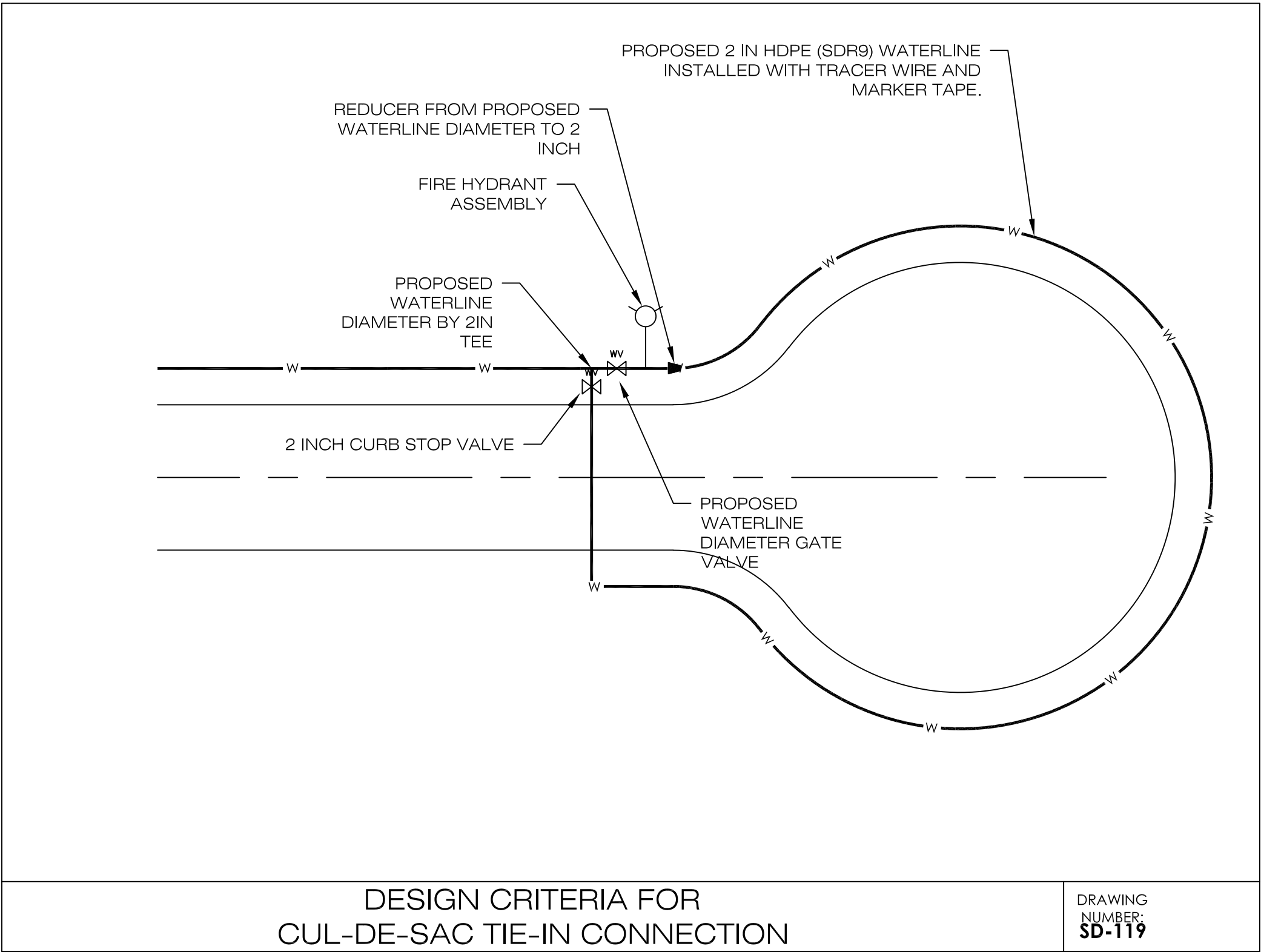
GENERAL WATERLINE INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE LINE AND GRADE STAKES AT 100' INTERVALS FOR WATER MAIN AND FOR EACH FITTING AND APPURTENANCE. A COPY OF CUT SHEET SHALL BE PROVIDED TO FIELD INSPECTOR PRIOR TO INSTALLATION.
2. WATER WORK SHALL NOT BEGIN UNTIL AREAS OF WATERLINE CONSTRUCTION ARE ROUGH GRADED (WITHIN 1FT. OF FINISHED GRADE" AND FILL AREAS ARE COMPLETED AND COMPACTED.)
3. NO WATER SERVICE CONNECTIONS TO ANY BUILDINGS SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY AQUA OHIO, INC. WHICH SHALL INCLUDE APPROVED RECTIFICATION OF ALL PUNCH LIST ITEMS. ONCE PUNCH LIST ITEMS ARE COMPLETED, THE BUILDER SHALL BE RESPONSIBLE FOR GRADE ADJUSTMENTS TO WATER FACILITIES AT TIME OF BUILDING CONSTRUCTION AND DURING FINAL SITE GRADING.
4. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN UTILITY CONDUIT CROSSEOVERS AND WATERLINE APPURTENANCES, I.E. HYDRANTS, VALVES, TEES, ETC.
5. WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL MEET OR EXCEED ALL APPLICABLE A.W.W.A. STANDARDS INCLUDING BUT NOT LIMITED TO THE MOST RECENT VERSIONS OF C600 AND C651.
6. WATERLINE MATERIAL AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH AQUA OHIO SPECIFICATIONS. CLASS 52 D.I.P. POLYWRAPPED, FITTINGS CLASS 53 CEMENT LINED POLYWRAPPED AND 1" K COPPER TUBING WITH COMPRESSION FITTINGS FOR DOMESTIC SERVICES OR 2" HDPE SDR 9 POLYETHYLENE 3408 PIPE AROUND CUL-DE-SAC. IF POLYETHYLENE IS USED, A 12 GAUGE WIRE AND METALLIC CAUTION TAPE MUST BE USED.
7. ALL PIPE AND APPURTENANCES INSTALLED ON A DEPRESSURIZED WATER MAIN ARE TO BE WIPED CLEAN AND ALL INTERIOR SURFACES SATURATED WITH A MINIMUM 1% CHLORINE SOLUTION.
8. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED USING MEGALUG OR "FORD" EQUIVALENT. FIRE LINE RISERS TO INCLUDE (2) 5/8" ALL THREAD RODS EXTENDING FROM LOWER BEND TO RISER FLANGE.
9. A RESTRAINT GASKET (FIELD-LOK OR APPROVED EQUAL) SHALL BE UTILIZED ON PUSH-ON JOINTS AS REQUIRED BY AQUA OHIO STANDARDS.
10. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED AND TAPED AS PER DUCTILE IRON PIPE RESEARCH ASSOCIATION RECOMMENDATIONS.
11. DUCTILE IRON IN CASING SHALL BE CLASS 52, POLYWRAPPED AND ALL PUSH-ON JOINTS SHALL BE EQUIPPED WITH RESTRAINT GASKETS (FIELD-LOK OR APPROVED EQUAL) AND STAINLESS STEEL CASING SPACERS ARE REQUIRED.
12. ALL THRUST BLOCKING WILL BE SOLID CONCRETE BLOCKS WITH OAK WEDGES OR POURED CONCRETE, PER AQUA STANDARDS DRAWING.
13. ALL VALVES ARE OPEN RIGHT AND ALL MAIN LINE VALVES ARE TO BE PLACED ON A MINIMUM OF ONE 4" SOLID CONCRETE BLOCK. ALL VALVES TO HAVE #57 LIMESTONE UP TO OPERATING NUT OF VALVE.
14. ALL FIRE HYDRANTS TO HAVE A MINIMUM OF 1/2 CUBIC YARD OF #57 LIMESTONE 6" ABOVE DRAIN HOLE OR EQUIVALENT SIZE BANK RUN GRAVEL. PLASTIC SHALL BE PLACED OVER STONE PRIOR TO BACKFILL. ALL HYDRANTS TO BE TURNED WITH 4-1/2" NOZZLE FACING STREET WITH 5" STORZ FITTING AND MEETING FIRE DEPARTMENT SPECIFICATIONS.
15. ALL VALVE BOX COVERS ARE TO BE PAINTED BLUE. CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENTS TO VALVE BOXES, CURB BOXES, AND FIRE HYDRANTS WITH RESPECT TO FINAL GRADING. ALL VALVES BOXES IN NEW OR PROPOSED PAVEMENT SHALL BE SCREW TYPE.
16. WATERLINE WILL NOT BE ACCEPTED OR PLACED IN SERVICE UNTIL CONTRACTOR CONDUCTS AND OBTAINS SATISFACTORY RESULTS OF PRESSURE AND CHLORINE TESTS. BACTERIA TEST WILL THEN BE CONDUCTED BY AQUA OHIO. ALL VALVES, HYDRANTS, AND CURB BOXES ARE TO BE AT PROPER GRADE PRIOR TO ACCEPTANCE.
17. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE SAFETY OF THE PUBLIC ON AND SURROUNDING THE SITE DURING CONSTRUCTION.
18. THE LOCATION OF EXISTING UTILITIES AND STRUCTURES, BOTH ABOVE GROUND AND UNDERGROUND ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE AND/OR CORRECT. THE EXACT LOCATION AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL USE DUE DILIGENCE IN PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER. THE CONTRACTOR SHALL CONTACT OHIO UTILITIES PROTECTION SERVICE, AT 1- 800-362-2764, TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION AS REQUIRED BY OHIO LAW.
19. THE WATERLINE SHALL BE INSTALLED AT 4'-0" OF COVER FROM EXISTING/PROPOSED GRADE TO TOP OF THE WATERLINE. THIS 4' SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
20. A MINIMUM 10' -0" HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
21. A MINIMUM 18" VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
22. DRIVEWAY RESTORATION SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY ONLY IS NOT ACCEPTABLE.
23. THE CONTRACTOR SHALL VISIT THE SITE TO PERSONALLY ASCERTAIN THE NATURE OF THE WORK INVOLVED AND THOROUGHLY BECOME FAMILIAR WITH THE SITE PRIOR TO THE SUBMISSION OF HIS OR HER BID.
24. THE CONTRACTOR SHALL CAREFULLY LAYOUT THE WATERLINE AND ALL RELATED FACILITIES TO ENSURE THAT THEY ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR ACQUIRED EASEMENTS AS INDICATED.
25. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE (YARDS, DITCHES, DRIVEWAYS, ETC.) TO ITS ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE WATERLINE INSTALLATION.
26. THE CONTRACTOR MAY DEFLECT THE WATERLINE AS PER MANUFACTURER'S SPECS WITH PERMISSION FROM AQUA AS NEEDED TO MAINTAIN MINIMUM HORIZONTAL AND VERTICAL SEPARATION DISTANCES.
27. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES. ANY BENCHMARK, PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED PROFESSIONAL SURVEYOR AT THE CONTRACTORS EXPENSE.
28. ALL MAIL BOXES, TRAFFIC CONTROL SIGNS AND ADVERTISING SIGNS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED IMMEDIATELY AFTER THE WATER MAIN HAS BEEN INSTALLED AND BACKFILLED. TEMPORARY SIGNS TO BE USED AS NEEDED.
29. WATER SERVICE LINE CONNECTIONS ARE NOT TO BE INSTALLED UNTIL PRESSURE TEST AND BACTERIA TESTS HAVE BEEN APPROVED.
30. THE NORMAL WORKING PRESSURE IN WATER LINES SHALL NOT BE LESS THAN 35 PSI.

NOTE: THIS LIST DOES NOT SUPERCEDE CONTRACT SPECIFICATIONS AND IS INTENDED ONLY AS A GUIDELINE TO INSTALLING WATERLINES WITHIN THE AQUA OHIO SERVICES AREA. ANY QUESTIONS SPECIFIC TO YOUR PROJECT, SHOULD BE DISCUSSED WITH THE ONSITE INSPECTOR.

ADDITIONAL AQUA OHIO NOTES

1. FOR CURB STOPS ON THE SAME SIDE OF THE STREET AS THE WATER MAIN, LOCATE THE CURB STOPS 2 FEET BACK OF THE MAIN. TAILS MAY BE INSTALLED IF DESIRED.
2. FOR CURB STOPS ON THE FAR SIDE OF THE STREET FROM THE WATER MAIN, LOCATE CURB STOPS 2 FEET BACK OF THE SIDEWALK. TAILS MAY BE INSTALLED IF DESIRED.
3. DUE TO HIGH WATER PRESSURE, A PRESSURE REDUCING VALVE IS NECESSARY IN EACH HOUSE AFTER THE METER. COST TO BE INCLUDED WITH THE PLUMBING FOR THE HOUSE.



NWNE

SWSE

N

V

I

N

L

N

T

S

NTS

1"=10'

HORIZONTAL

SCALE IN FEET

CHECKED BY:

KAD

DATE:

Mar. 2021

DRAWN BY:

BMH

DATE:

Mar. 2021

REVISIONS:

DESCRIPTION

DATE

6/21/21

VARIOUS

Kenyon Creek Estates Phase 2 - 4

Waterline Details

City of Massillon

Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SUPERVISORS-CONSTRUCTION MANAGERS

4450 BELDEN VILLAGE STREET NW, SUITE 300 CANTON, OH 44718

PHONE: (330) 268-3734 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

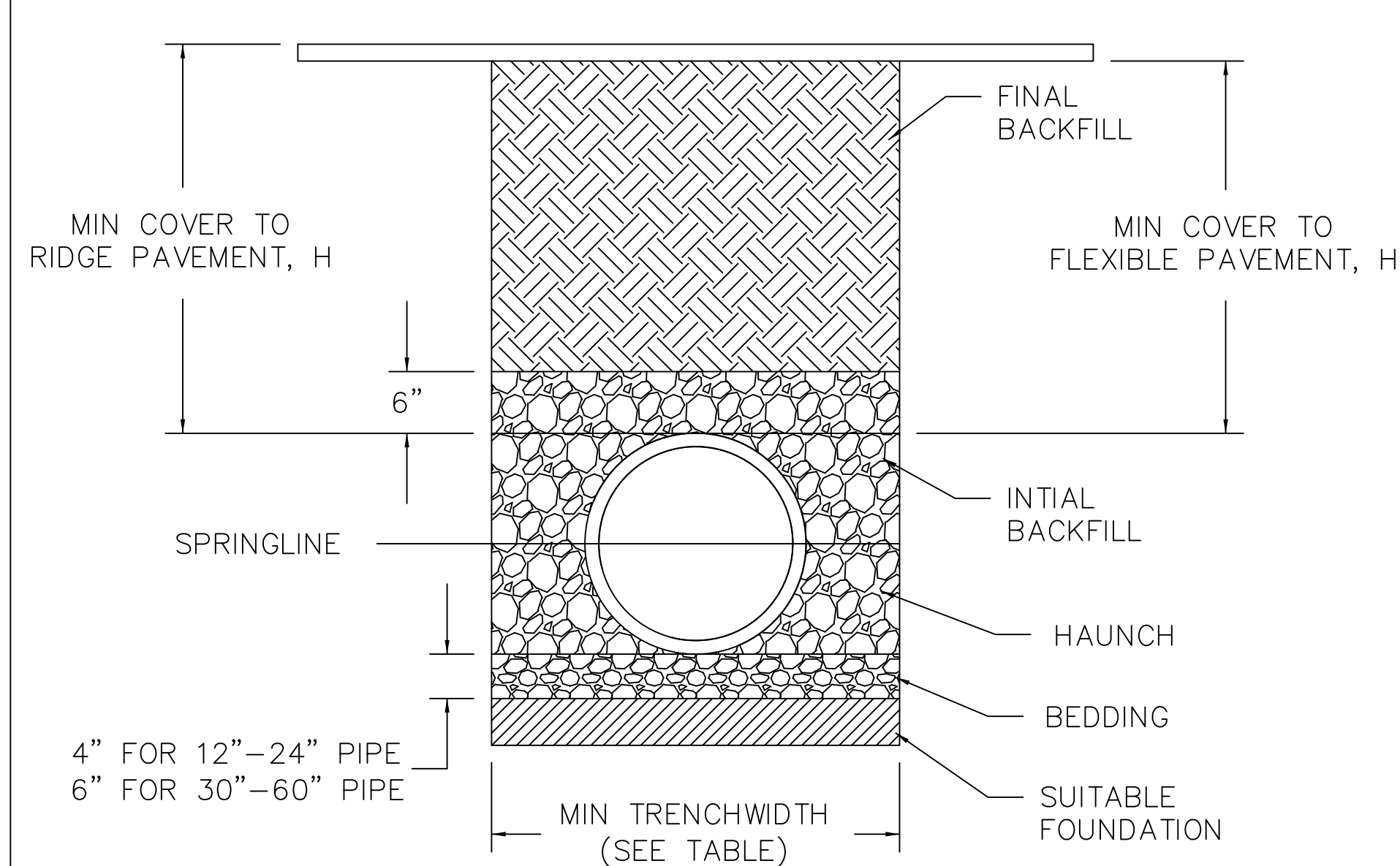
DRAWING NAME:

Water Details1

REF NUMBER:

48

56



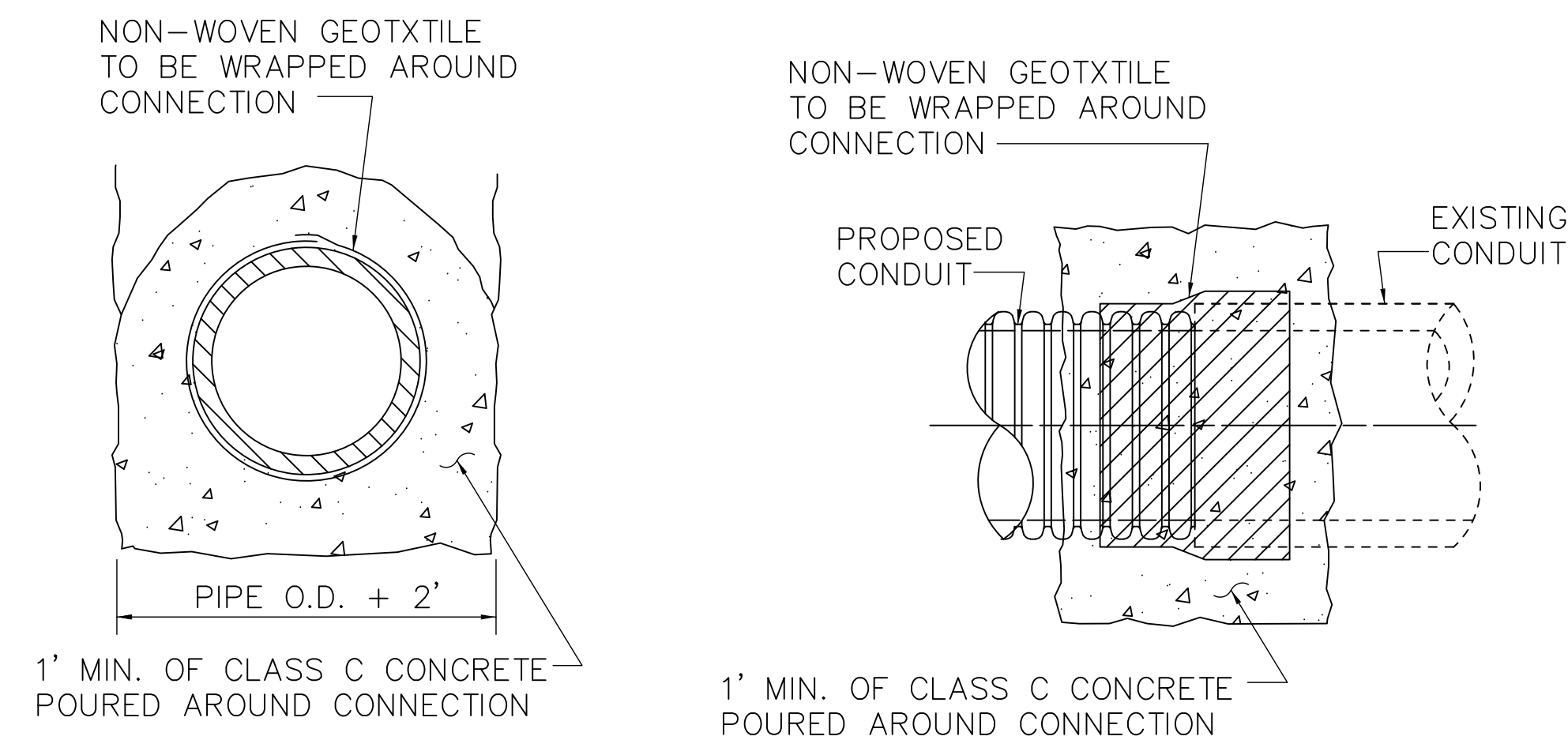
RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21'
6"	23'
8"	26'
10"	28'
12"	30'
15"	34'
18"	39'
24"	48'
30"	56'
36"	64'
42"	72'
48"	80'
54"	88'
60"	96'

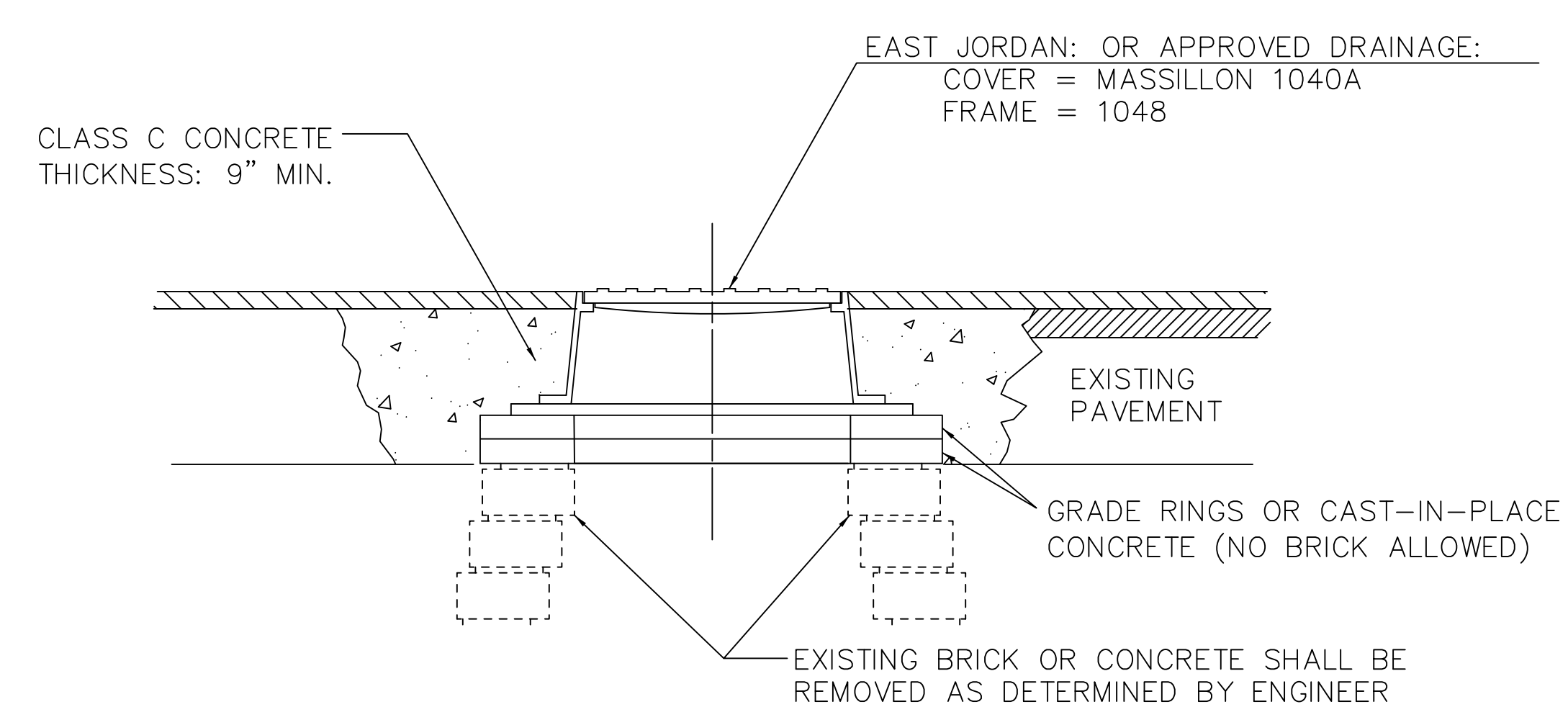
NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE APPLICATION", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III, PER MANUFACTURERS AND ODOT ITEM 611 REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4"-24"; 6" FOR 30"-60".
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO THE GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54" TO 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIDGE PAVEMENT.

TRENCHING DETAIL FOR PIPE



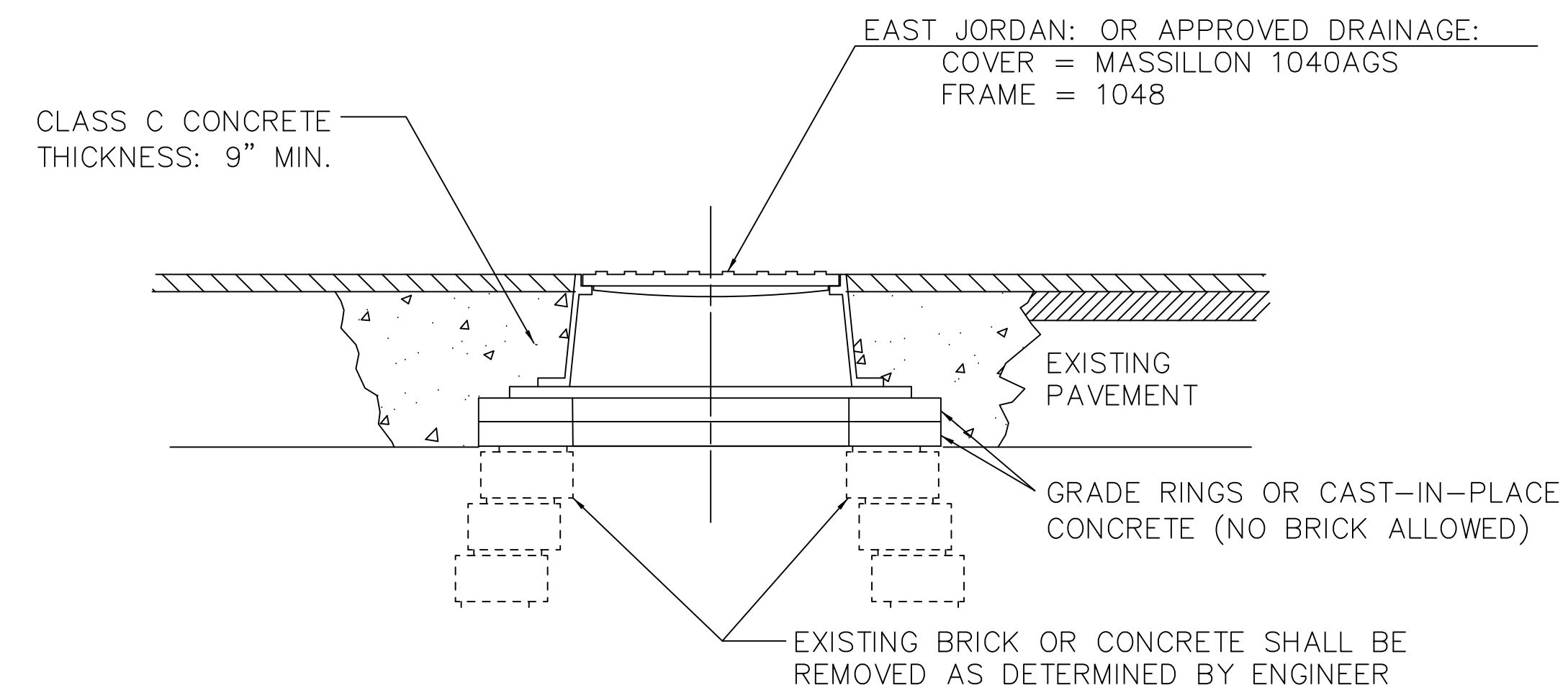
CONCRETE COLLAR



NOTES:

1. ALL CASTINGS, LIDS AND GRATES ARE TO BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR FOR SALVAGE BY THE CITY OF MASSILLON.
2. WORK SHALL INCLUDED ALL REMOVAL AND DISPOSAL OF EXISTING.

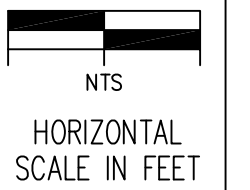
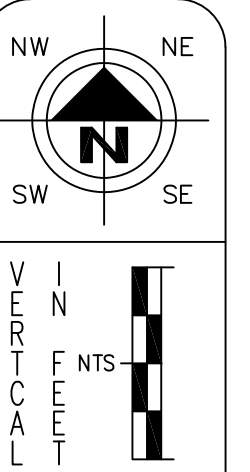
ITEM 604 DRAINAGE MANHOLE MASS1048-R



NOTES:

1. ALL CASTINGS, LIDS AND GRATES ARE TO BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR FOR SALVAGE BY THE CITY OF MASSILLON.
2. WORK SHALL INCLUDED ALL REMOVAL AND DISPOSAL OF EXISTING.

ITEM 604 SANITARY MANHOLE MASS1048-R



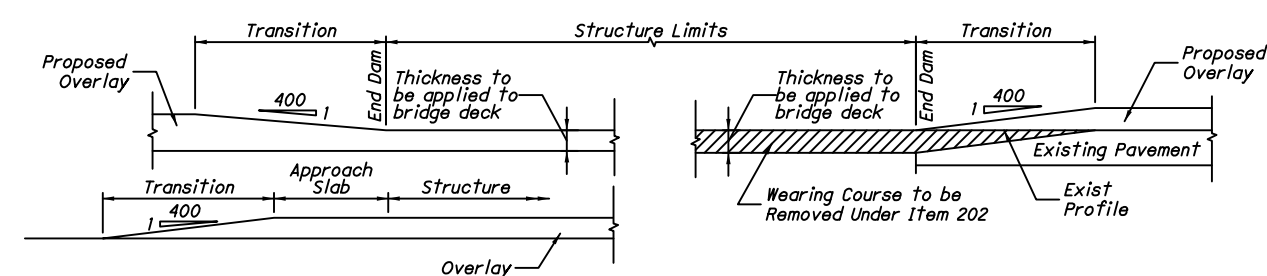
CHECKED BY: KAD
DATE: Mar. 2021
DRAWN BY: BMH
DATE: Mar. 2021

REVISIONS:	DESCRIPTION
DATE	

Kenyon Creek Estates Phase 2-4
Miscellaneous Details
City of Massillon
Stark County, Ohio

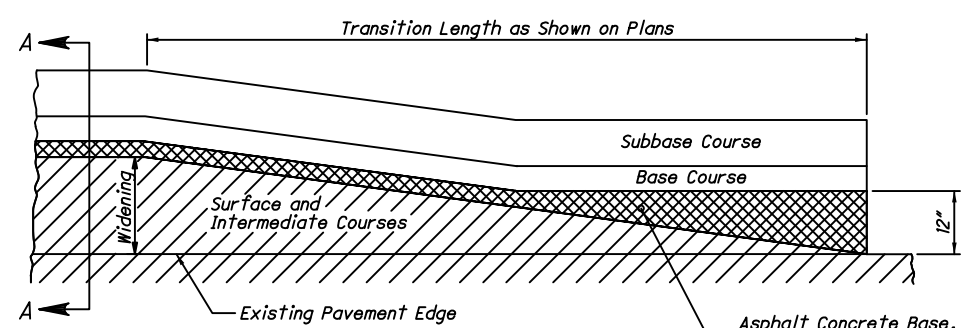
CIVILPRO
ENGINEERING
ENGINEERS, SURVEYORS, CONSTRUCTION MANAGERS
4450 BEULIN VILLAGE STREET NW, SUITE 300 CANTON, OH 44708
PHONE: (330) 268-3734 EMAIL: KAD@CIVILPROENGINEERING.COM
WWW.CIVILPROENGINEERING.COM

DRAWING NAME: MiscDetails
REF NUMBER:



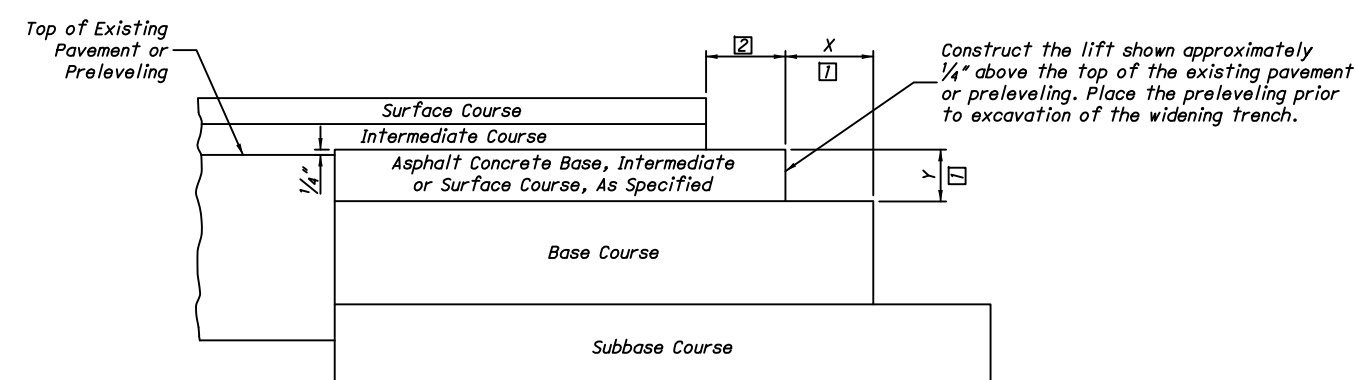
Details assume non-settled approach slabs. Smoothing of the profile for settlement is required per plan grades or as directed by the Engineer.

TRANSITIONING AT STRUCTURES



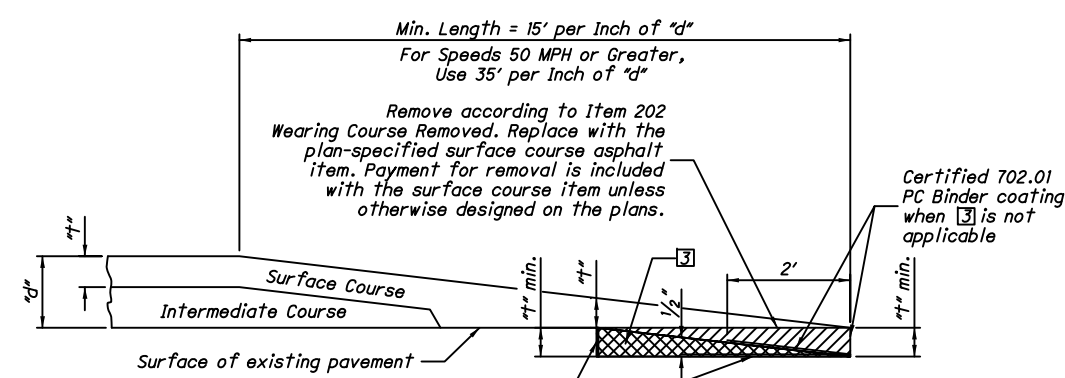
PLAN

MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT

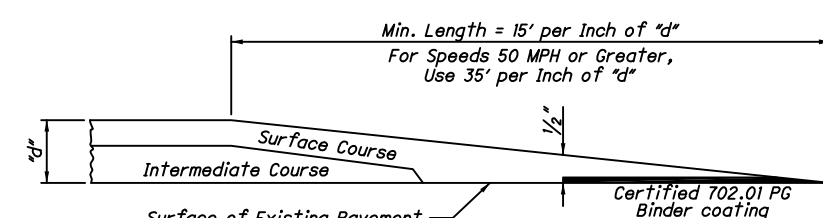


SECTION A-A

COURSE DETAIL FOR WIDENING



Butt Joint



Taper End

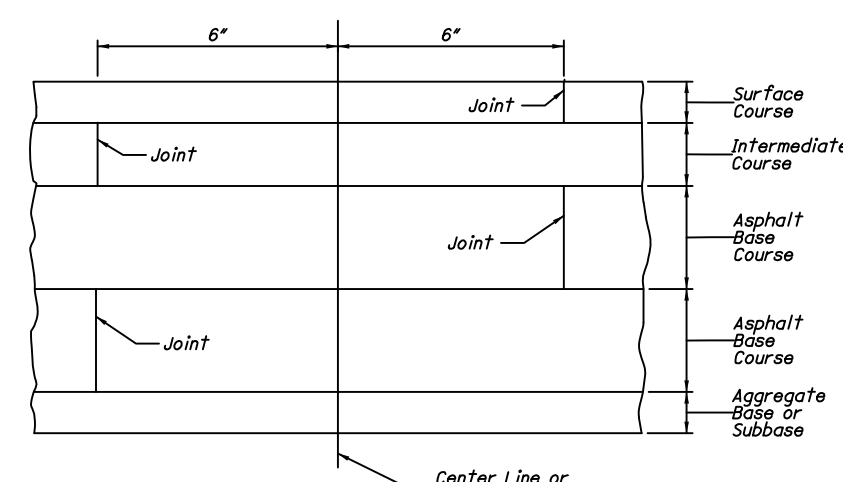
NOTE: Butt joint is required unless the taper end is specified in the plans or approved by the Engineer.

BUTT JOINTS AND TAPER ENDS

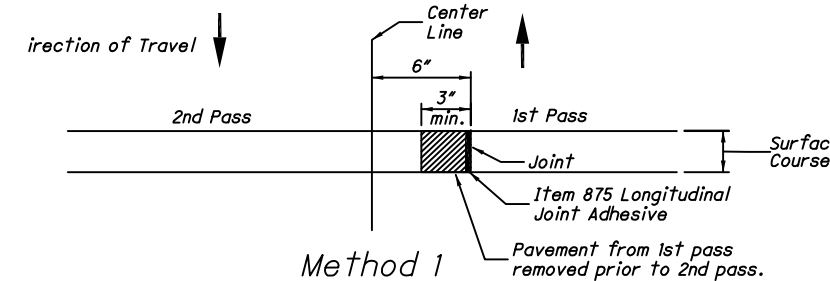
Values for "1" and "4" are obtained from the plans.

LEGEND

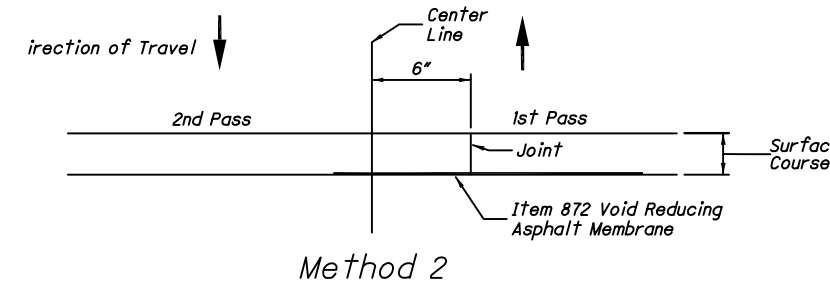
- 1 The extended width (X) of a base or subbase (Y) shall be equal to the depth (Z) of the overlying lift or 6", whichever is greater, or as shown on the plans.
- 2 The extended width shall be equal to the combined thickness of the surface and intermediate courses, or 4", whichever is greater.
- 3 Permissible removal and replacement



LAPPING LONGITUDINAL JOINTS (see notes)

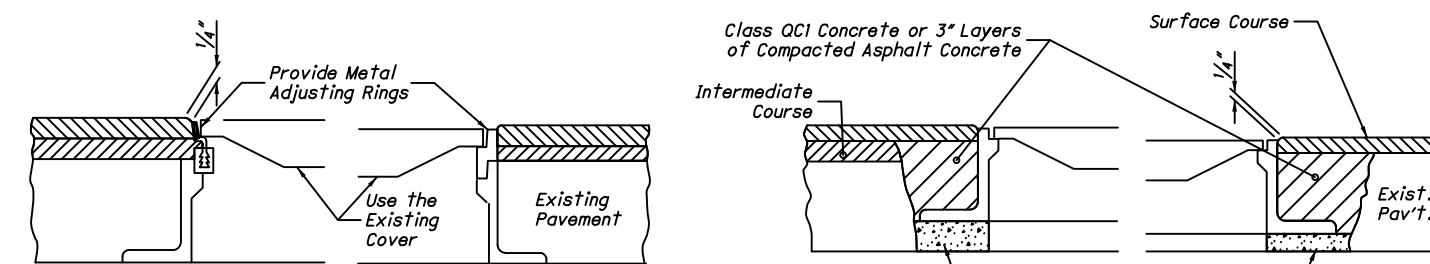


Method 1



Method 2

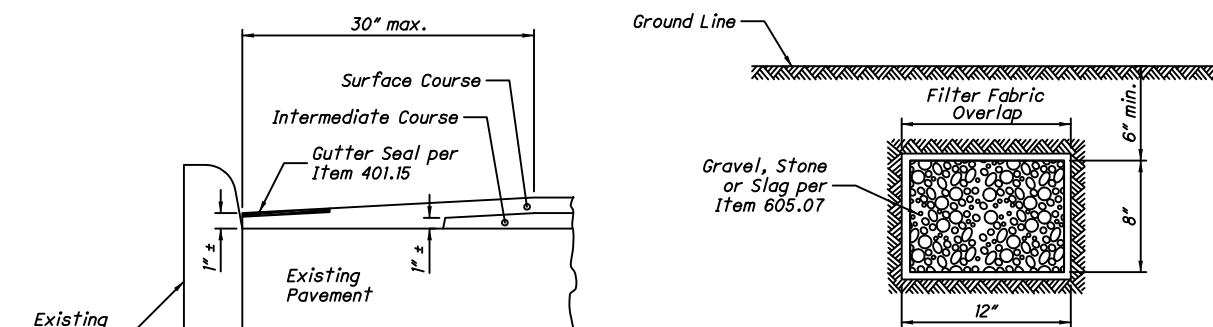
LONGITUDINAL JOINT PREPARATION (if specified)



Using Metal Adjusting Rings

Using Concrete or Mortar

MANHOLES ADJUSTED TO GRADE



Special care shall be taken during construction to obtain maximum compaction of asphalt concrete in gutters.

Aggregate drains to be placed where and as directed by Engineer. Provide Filter Fabric when specified as a separate pay item.

GUTTER FINISH

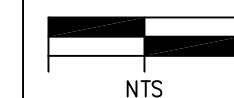
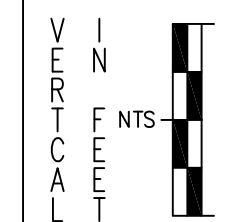
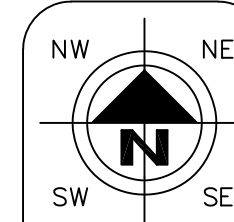
AGGREGATE DRAIN

NOTES

GENERAL: Lap all longitudinal joints as shown regardless of the number of courses being placed. Do not construct a longitudinal joint directly above and in line with the longitudinal joint of previously placed material.

METAL ADJUSTING RINGS: Metal adjusting rings shall: (a) Attach securely to the existing frame by welding or mechanical devices; (b) consist either of cast metal having an integral rim and seat, or be fabricated metal with a sturdy connection between the seat and rim; and (c) provide an even seal for the manhole cover. In addition, the adjusting ring type shall be a design acceptable to the local governmental agency responsible for street and sewer maintenance. Any installation unacceptable to the Engineer shall be replaced by the Contractor at his expense.

PAYMENT: The Department will pay for manholes adjusted to grade using Item 611 Manhole, Catch Basin, or Inlet Adjusted to Grade. The Department will pay for longitudinal joint preparation using Item 614 Longitudinal Joint Preparation.



NTS

HORIZONTAL SCALE IN FEET

CHECKED BY: KAD

DATE: May 2021

DRAWN BY: BMH

DATE: May 2021

REVISIONS:	DESCRIPTION
DATE	

Kenyon Creek Estates Phase 2-4

Miscellaneous Details

City of Massillon

Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718

PHONE: (330) 268-3734 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

DRAWING NAME: MiscDetails

REF NUMBER:

50A/ 56

Kenyon Creek Estates Phases 2 - 4
STORM WATER POLLUTION PREVENTION PLAN
CITY OF MASSILLON
Stark County, Ohio

ESTIMATED CONSTRUCTION DATES

START DATE: AUGUST 2021
COMPLETION DATE: JANUARY 2022

GENERAL NOTES:

FOR REVISIONS/AMENDMENTS TO THE SWP3, CONTACT KEITH A. DYLEWSKI AT CIVPRO ENGINEERING, LLC AT (234) 410-3913.

A LOG DOCUMENTING GRADING AND STABILIZATION ACTIVITIES AS WELL AS AMENDMENTS TO THIS SWP3 SHALL BE MAINTAINED WITH THESE PLANS

A PRE-CONSTRUCTION MEETING IS REQUIRED BETWEEN THE DEVELOPER, CONTRACTOR, CITY OF MASSILLON, AND STARK COUNTY SOIL AND WATER PRIOR TO THE BEGINNING OF ANY CONSTRUCTION ACTIVITY ON SITE. CONTACT PARTIES AT LEAST SEVEN DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY.

OFFSITE BORROW AREAS:

IF OFFSITE BORROW AREA IS REQUIRED. CONTRACTOR SHALL OBTAIN ALL APPLICABLE LOCAL AND STATE PERMITS. LOCATION SHALL BE COVERED BY NOI AND APPROVED SWPPP.

AND STATE PERMITS. LOCATION SHALL BE COVERED BY NOI AND APPROVED SWPPP.

I, THE UNDERSIGNED, CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGED THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

KEITH A. DYLEWSKI

DESIGN ENGINEER - KEITH A. DYLEWSKI, P.E., P.S.

6/21/21

DATE

LONG-TERM MAINTENANCE OF STRUCTURAL POST- CONSTRUCTION CONTROLS SHALL BE THE RESPONSIBILITY OF THE OWNER.

OWNER

DATE

THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION & MAINTENANCE OF SEDIMENT CONTROL & BMP MEASURES DURING THE SEQUENCE OF CONSTRUCTION.

SITE CONTRACTOR

DATE

THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION & MAINTENANCE OF SEDIMENT CONTROL & BMP MEASURES ONCE ALL SITE WORK IS COMPLETED.

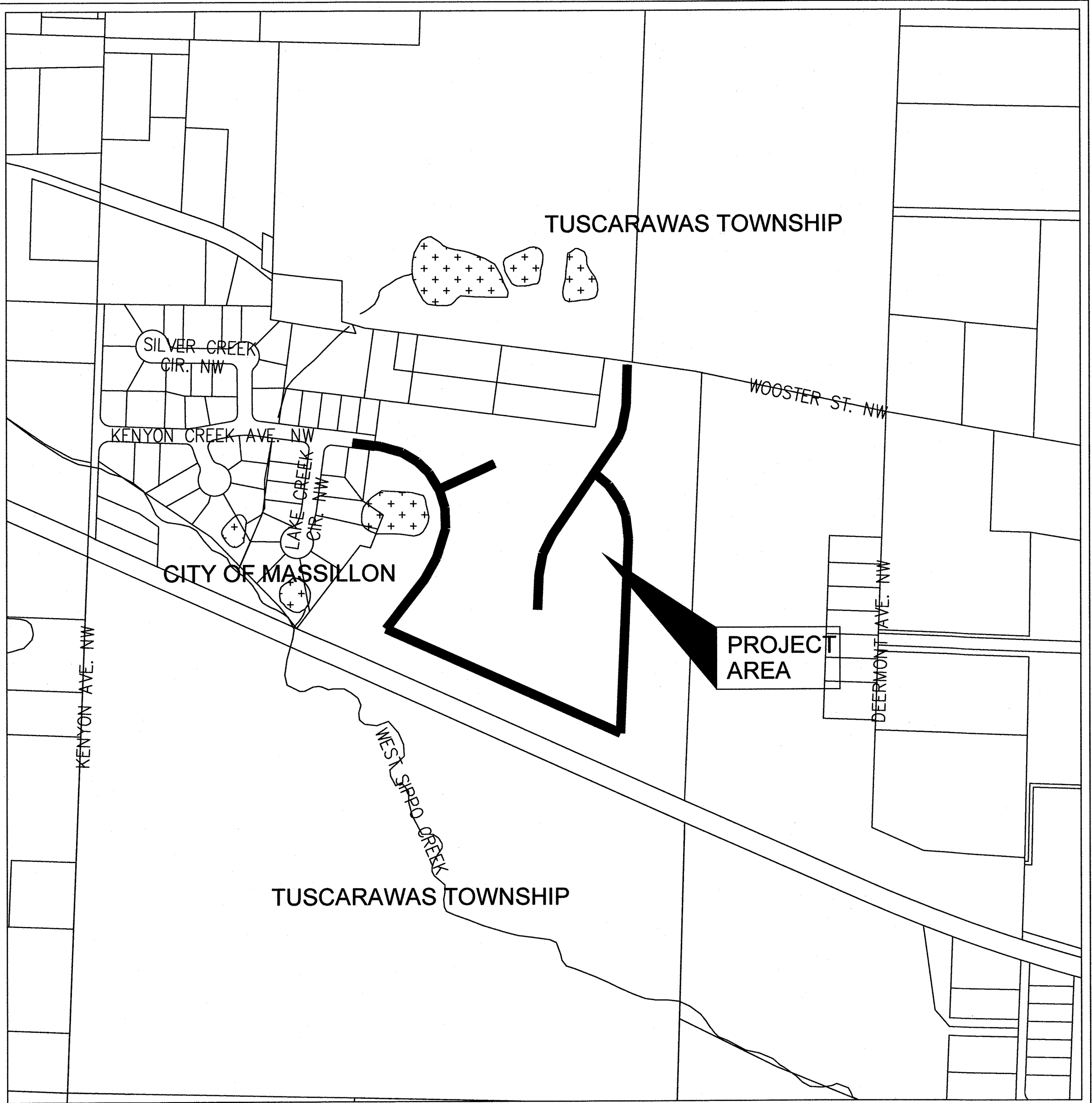
BUILDING CONTRACTOR

DATE



PLAN PREPARED BY:
CIVPRO ENGINEERING, LLC
4450 Belden Village Street NW, Suite 800
Canton, Ohio 44718
(234) 410-3913

OWNER:
Lockhart Development Company
800 W Waterloo Rd
Akron, Ohio 44314
(330) 745-6520



LOCATION MAP

INDEX OF SHEETS SWP3:

TITLE SHEET	51
GENERAL NOTES	52
SWPP SITE PLAN	53
SWPPP DETAILS & NOTES	54-56

EXISTING POND

THE PONDS AND STREAMS ARE SHOWN AT THE REQUEST OF THE STARK SOIL AND WATER DISTRICT, AND WERE ESTIMATED USING AERIAL PHOTOGRAPHY.

SWP3 STATEMENT:
THIS SWP3 PLAN WAS DEVELOPED TO CONTROL EROSION AND SEDIMENT PRIOR TO EXITING THE SITE. SEDIMENT WILL BE CONTROLLED WITH THE SHOWN BMP'S. SILT FENCE SHOULD BE PLACED AT THE BOTTOM OF THE SLOPES. SEE THE IMPLEMENTATION SCHEDULE & SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS ON THE NEXT SHEET. THE SCHEDULE SHOULD BE FOLLOWED TO MAINTAIN PROPER CONTROL OF EROSION AND SEDIMENT ON SITE. ALL DISTURBED AREAS WHERE CONSTRUCTION WILL CEASE FOR MORE THAN 14 DAYS MUST BE STABILIZED. SEEDING AND MULCHING SHOULD BE CONSISTENT WITH THE SOIL STABILIZATION REQUIREMENTS SECTION. SLOPES 3:1 OR GREATER REQUIRE EROSION CONTROL MATTING TO BE INSTALLED TO CONTROL EROSION. A LOG OF GRADING AND STABILIZATION ACTIVITIES AND SITE INSPECTION NEEDS TO BE KEPT. INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER A STORM EVENT GREATER THAN 1/4 INCH OF RAINFALL WITHIN A 24-HOUR DURATION. ALL MEASURES SHALL BE OBSERVED TO ENSURE CORRECT OPERATION; REPAIRS TO ANY DAMAGED DEVICE/STRUCTURE SHALL BE COMPLETED WITHIN 3 DAYS OF THE INSPECTION.

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

OHIO UtilitiesProtection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

NW NE
SW SE

VERTICAL SCALE
1" = 50'
0 50 100

HORIZONTAL SCALE IN FEET
0 150 300

CHECKED BY: KAD
DATE: Mar. 2021
DRAWN BY: BMH
DATE: Mar. 2021

REVISIONS:	DATE	DESCRIPTION
	5/3/21	S&W COMMENTS
	6/21/21	VARIOUS

Kenyon Creek Estates Phases 2 - 4
SWP3 Title Sheet
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
BUSINESS SERVICES-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800
CANTON, OHIO 44718
PHONE: (234) 410-3913 FAX: (234) 410-3914
WWW.CIVPROENGINEERING.COM

DRAWING NAME:
SWP3 Title
REF NUMBER:

SEDIMENT POLLUTANT CONTROLS (GENERAL NOTES):

1. PERIMETER SEDIMENT CONTROLS (I.E. SEDIMENT TRAPS, SILT FENCE, COMPOST SOCKS, COMPOST BERMS, ETC...) SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPSLOPE AREAS DRAINING TO THEM ARE PERMANENTLY STABILIZED, OR AS DIRECTED BY THE CITY ENGINEER, OR DESIGNATED REPRESENTATIVE.
2. NO EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED FROM THE SITE PRIOR TO ADEQUATE PERMANENT STABILIZATION OF THE ASSOCIATED UPLAND DRAINAGE AREAS AND WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CITY ENGINEER, OR HIS DESIGNATED REPRESENTATIVE, UNLESS THEIR REMOVAL IS SPECIFICALLY PROVIDED FOR WITHIN THE SITE'S APPROVED PLAN.
3. THERE SHALL BE NO SEDIMENT-LADEN OR TURBID DISCHARGES TO WATER RESOURCES OR WETLANDS RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUNDWATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT TRAP 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 SEDIMENT 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.
4. STREETS DIRECTLY ADJACENT TO CONSTRUCTION ENTRANCES AND RECEIVING TRAFFIC FROM THE DEVELOPMENT AREA, SHALL BE CLEANED DAILY TO REMOVE SEDIMENT TRACKED OFF-SITE. IF APPLICABLE, THE CATCH BASINS ON THESE STREETS NEAREST TO THE CONSTRUCTION ENTRANCES SHALL ALSO BE CLEANED WEEKLY. BASED ON SITE CONDITIONS, THE CITY ENGINEER, OR HIS DESIGNATED REPRESENTATIVE, MAY REQUIRE ADDITIONAL BEST MANAGEMENT PRACTICES TO CONTROL OFF-SITE TRACKING OF DUST.
5. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, OR REPRESENTATIVE, TO PROVIDE INSPECTION OF ALL CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS, AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. INSPECTIONS MUST BE COMPLETED BY A QUALIFIED INDIVIDUAL. WHEN INSPECTIONS REVEAL THE NEED FOR REPAIR, REPLACEMENT, OR INSTALLATION OF EROSION AND SEDIMENT CONTROL BMP'S, EMAIL WEEKLY REPORTS TO BORCHERDS@cvelimited.com. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
- A. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE: THE BMP SHALL BE REPAIRED WITHIN 3 DAYS OF INSPECTION. EXCEPTION: SEDIMENT PONDS SHALL BE REPAIRED OR MAINTAINED WITH 10 DAYS OF INSPECTION.
- B. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION: A MORE APPROPRIATE BMP SHALL BE SELECTED AND IMPLEMENTED WITHIN 10 DAYS OF THE INSPECTION.
- C. WHEN PRACTICES DEPICTED IN THE SWP3 ARE NOT INSTALLED: THE BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE BMP IS NOT NECESSARY, THE RECORD MUST CONTAIN AN EXPLANATION FOR THE DECISION.
6. THE APPLICANT SHALL MAINTAIN FOR 3 YEARS FOLLOWING FINAL STABILIZATION, THE RESULTS OF THESE INSPECTIONS. THE NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTIONS, THE DATES OF INSPECTIONS, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWP3, A CERTIFICATION AS TO WHETHER THE FACILITY IS IN COMPLIANCE WITH THE SWP3, AND INFORMATION ON ANY INCIDENTS OF NON-COMPLIANCE DETERMINED BY THESE INSPECTIONS.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES SPECIFIED ON THIS PLAN SHALL CONFORM WITH THE DETAILS AND SPECIFICATIONS OUTLINED IN THE CURRENT VERSION OF THE OHIO DEPARTMENT OF NATURAL RESOURCES, "RAINWATER AND LAND DEVELOPMENT" MANUAL, OR AS SPECIFIED BY THE CITY ENGINEER, OR DESIGNATED REPRESENTATIVE.
8. EROSION AND SEDIMENT CONTROL PRACTICES NOT ALREADY SPECIFIED ON THIS PLAN MAY BE NECESSARY DUE TO UNFORESEEN ENVIRONMENTAL CONDITIONS AND/OR CHANGES IN DRAINAGE PATTERNS CAUSED BY EARTH-MOVING ACTIVITY. ADDITIONAL PRACTICES SHALL BE IMPLEMENTED AT THE DEVELOPER'S EXPENSE AS DIRECTED BY THE CITY ENGINEER, OR DESIGNATED REPRESENTATIVE.
9. NO STRUCTURAL SEDIMENT CONTROLS (SILT FENCE, SEDIMENT TRAPS, ETC.) SHALL BE USED IN A WATER RESOURCE OR WETLAND, UNLESS THEIR USE IS SPECIFICALLY PROVIDED FOR WITHIN THE SITE'S APPROVED PLAN.
10. SOIL STOCK PILES, TOPSOIL OR OTHER WISE, SHALL BE SITUATED A WAY FROM STREETS, SWALES, OR OTHER WATERWAYS AND SHALL BE SEEDED AND/OR MULCHED IMMEDIATELY.
11. ON-SITE PERSONNEL SHALL TAKE ALL NECESSARY MEASURES TO COMPLY WITH APPLICABLE REGULATIONS REGARDING FUGITIVE DUST EMISSIONS, INCLUDING OBTAINING NECESSARY PERMITS FOR SUCH EMISSIONS. THE CITY ENGINEER, OR DESIGNATED REPRESENTATIVE, MAY REQUIRE DUST CONTROLS INCLUDING, BUT NOT LIMITED TO, THE USE OF WATER TRUCKS TO WET DISTURBED AREAS, TAPPING STOCKPILES, TEMPORARY STABILIZATION OF DISTURBED AREAS, AND REGULATION OF THE SPEED OF VEHICLES ON THE SITE.

1. ANY DISTURBED AREA NOT PAVED, SODDED, OR BUILT UPON SHALL HAVE A MINIMUM OF 80% UNIFORM VEGETATIVE COVER PRIOR TO FINAL INSPECTION AND, IN THE OPINION OF THE CITY ENGINEER OR DESIGNATED REPRESENTATIVE, WILL BE MATURE ENOUGH TO CONTROL EROSION SATISFACTORILY AND SURVIVE SEVERE WEATHER.

NON-SEDIMENT POLLUTANT CONTROLS (GENERAL NOTES):

1. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR ENSURING ALL FORMS OF WASTE ARE PROPERLY DISPOSED OF.
2. NO CONTAMINATED SOILS ARE KNOWN TO EXIST ON SITE. CONTAMINATED SOILS DISCOVERED FROM REDEVELOPMENT SITES SHALL BE DISPOSED OF PROPERLY. RUNOFF FROM CONTAMINATED SOILS SHALL NOT BE DISCHARGED FROM THE SITE. PROPER PERMITS SHALL BE OBTAINED FOR DEVELOPMENT PROJECTS ON SOLID WASTE LANDFILL SITES OR REDEVELOPMENT SITES.
3. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER, FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FEET OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.

4. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF. ANY AND ALL WASTE MATERIALS (SOLID, HAZARDOUS, CONSTRUCTION & DEMOLITION, SANITARY, TOXIC, CONTAMINATED SOILS, ETC.) GENERATED AT THE SITE SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL RULES/REGULATIONS. ON-SITE STORAGE CONTAINERS SHALL BE COVERED AND NOT LEAKING. IT IS PROHIBITED TO BURN, BUY OR POUR OUT ONTO THE GROUND OR INTO THE STORM SEWERS ANY SOLVENTS, PAINTS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND ANY OTHER SUCH TOXIC OR HAZARDOUS MATERIALS OR WASTES.
5. HANDLING CONSTRUCTION CHEMICALS. MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATER COURSE, DITCH OR STORM DRAIN.
6. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED A WAY FROM WATER COURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF ALL CONTAINERS IN A STORAGE AREA SHALL BE PROVIDED FOR ALL FUEL/LIQUID STORAGE TANKS AND DRUMS.
7. ALL SANITARY WASTE SHALL BE COLLECTED FROM PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.
8. THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:
- A. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR APPROPRIATE CONTAINERS, AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- C. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE MANUFACTURER'S LABEL. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- D. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- E. THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- F. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON SITE.
9. IN ADDITION TO PREVIOUS NOTES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEAN-UP:
- A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN-UP WILL BE POSTED A NO SITE PERSONNEL MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEAN-UP SUPPLIES.
- B. MATERIALS AND EQUIPMENT NECESSARY FOR SPELL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT LIMITED TO: BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOFFLES, CAT LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY DESIGNATED FOR THIS PURPOSE.
- C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- D. THE SPILL AREA WILL BE KEPT WELL-VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- E. SPILLS OF TOXIC OR HAZARDOUS MATERIALS WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.
- F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEANUP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
- G. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY OPERATIONS WILL BE THE SPILL PREVENT ON AND CLEANUP COORDINATOR. THEY WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ON SITE.

CITY OF MASSILLON CONSTRUCTION STANDARDS AND SPECIFICATIONS:

GENERAL

CONTRACTOR SHALL MEET THE EROSION AND SEDIMENT CONTROL REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY, DEPARTMENT OF TRANSPORTATION AND THE SOIL CONSERVATION SPECIFICATIONS. REQUIRED NPDES STORM WATER PERMITS SHALL APPLY.

IN CASES WHERE CONFLICTS EXIST BETWEEN STANDARDS, THE STRICTER REQUIREMENTS SHALL GOVERN.

PROPOSED TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE CITY ENGINEER.

CONSTRUCTION ENTRANCE

THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT.

MATERIAL USED SHALL BE #1 & #2 LIMESTONE AGGREGATE TWO INCH STONE. MINIMUM WIDTH OF 14 FT. AND DEPTH OF 8".

A CULVERT PIPE SHALL BE PLACED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOW ACROSS THE ENTRANCE AND ONTO THE PAVED ROADWAY, PER CITY STANDARDS.

CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. THEREFORE MUD TRACKED ON TO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY BY SCRAPING OR SWEEPING.

PAVED DETENTION FACILITY

DETENTION FACILITIES WHICH ARE TO REMAIN PERMANENT SHALL BE DESIGNED TO INCLUDE CONCRETE PAVED GUTTERS IN ACCORDANCE WITH THE ODOT STANDARD DRAWING FOR PAVED GUTTERS, DM 2.1.M. GUTTERS SHALL BE CONSTRUCTED OF CLASS C CONCRETE. THE PROPOSED DESIGN, GRADE AND LOCATION SHALL BE SUBMITTED TO THE CITY ENGINEER FOR HIS APPROVAL OR MODIFICATION.

SPECIFICATION FOR SEEDING (G-13)

1. A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. REOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION:

1. LIME -- AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMEND BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT A RATE OF 100 LB./1,000 SQ.FT. OR 2 TONS/ AC.
2. FERTILIZER -- FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 12 LB./1,000 SQ. FT. OR 500. LB./AC. OF 10-10-10 OR 12-12-12 ANALYSIS.
3. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 IN. ON SLOPING LAND, THE SOIL SHOULD BE WORKED ON THE CONTOUR.
4. SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30 THESE SEEDING DATES ARE IDEAL BUT, WITH THE USE OF ADDITIONAL MULCH AND IRRIGATION, SEEDINGS MAY BE MADE ANY TIME THROUGHOUT THE GROWING SEASON. TILLAGE/SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION OF DORMANT SEEDING.

DORMANT SEEDINGS

1. SEEDING SHALL NOT BE PLANTED FROM OCTOBER 1 THROUGH NOVEMBER 20 DURING THIS PERIOD THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING"

- FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE ELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.

- FROM NOVEMBER 20, THROUGH MARCH 15, WHEN SOIL CONDITIONS PER MIX, PREPARE THE SEEDBED, LIME AND FERTILIZE. APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.

- APPLY SEEDING UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.

- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE

MULCHING

1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES AND WITH FAVORABLE SOIL CONDITIONS AND ON VERY FLAT AREAS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION. DORMANT SEEDING SHALL BE MULCHED.
2. MATERIALS

- STRAW -- IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/ AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ. -FT. SECTIONS AND SPREAD TWO 45- LB. BALES OF STRAW IN EACH SECTION.

- HYDROSEEDERS -- IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB./AC/ OR 46 LB./1,000 SQ.FT.

- OTHER -- OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS/A C.

3. STRAW MULCH ANCHORING METHODS

- STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
- MECHANICAL -- A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PINCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED, BUT GENERALLY, BE LEFT LONGER THAN 6 IN.
 - MULCH NETTINGS -- NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
 - ASPHALT EMULSION -- ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER OR AT A RATE OF 160 CAL. / AC.
 - SYNTHETIC BINDERS -- SYNTHETIC BINDER S SUCH AS ACRYLIC DLRACRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
 - WOOD CELLULOSE FIBER -- WOOD CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 L B./100 GAL. OR WOOD CELLULOSE FIBER.

IRRIGATION

1. PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS AS NEEDED FOR ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.

2. EXCESSIVE IRRIGATION RATES SHALL BE AVOIDED AND IRRIGATION MONITORED TO PREVENT EROSION AND DAMAGE FROM RUNOFF.

SEED MIX

1. SEED MIX SHALL BE PER ODOT 559.09 OR AS APPROVED BY THE CITY SERVICE DEPT.

IMPLEMENTATION SCHEDULE & SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS:

- A. BEFORE ANY GRADING ACTIVITIES BEGIN:
- CONTACT STARK SOIL & WATER CONSERVATION DISTRICT TO SCHEDULE A PRE-CONSTRUCTION MEETING AT (330) 451-7645 PRIOR TO ANY EARTH MOVING ACTIVITY
1. INSTALL PROTECTION FENCING AROUND WETLAND AREA TO REMAIN UNDISTURBED. FENCING TO BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS.
2. CONSTRUCT CONSTRUCTION FENCE AS NECESSARY TO ENCLOSE SITE
3. INSTALL SILT FENCING PER DETAIL
4. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE

B. CLEARING AND GRUBBING:

1. INSTALL REMAINING SILT FENCE, PER PLAN REQUIREMENTS
2. CLEAR AND GRUB THE BASIN/WATER QUALITY BASIN AREA A
3. CONSTRUCT SEDIMENT BASIN PER PLAN WITH OUTLET STRUCTURE, EMERGENCY SPILLWAY, AND ASSOCIATED PIPING (DP-25, DP-10, AND DP-28)
4. CONSTRUCT THE DRAINAGE DITCHES AND CHECK DAMS
5. CLEAR AND GRUB REMAINING AREAS DESIGNATED ON THE PLAN
6. CONSTRUCT CONCRETE WASHOUT AREA, VEHICLE FUELING AREA, CONSTRUCTION DUMPSTER AREA, AND SOLID, SANITARY, AND TOXIC WASTE AREA

C. STRIPPING AND STOCKPILING OF TOPSOIL

1. STRIP TOPSOIL WHERE APPLICABLE AND PLACE IN DESIGNATED STOCKPILE AREA
2. CONSTRUCT FILTER BERM AROUND STOCKPILE
3. INSTALL SOIL STABILIZATION MEASURES AS NEEDED
4. DISTURBED AREAS WHERE CONSTRUCTION WILL CEASE FOR MORE THAN 14 DAYS WILL BE STABILIZED

D. MASS GRADING OPERATIONS:

1. BEGIN MASS GRADING OF SITE PER PLAN
2. INSTALL EROSION CONTROLS MEASURES (ROCK DAMS, EROSION CONTROL MATTING, ETC.), PER PLAN REQUIREMENTS AS NEEDED
3. DISTURBED AREAS WHERE CONSTRUCTION WILL CEASE FOR MORE THAN 14 DAYS WILL BE STABILIZED

E. UTILITY CONSTRUCTION:

1. CONSTRUCT SANITARY SERVICE AND WATERLINE, PER PLAN
2. CONSTRUCT STORM SEWER SYSTEM, INCLUDING HEADWALLS, CATCH BASINS, YARD DRAINS, AND ROCK CHANNEL PROTECTION, PER PLAN
3. INSTALL INLET PROTECTION
4. INSTALL SOIL STABILIZATION MEASURES AS NEEDED

F. PAVING OPERATIONS:

1. CONSTRUCT ASPHALT AND CONCRETE PAVING, SIDEWALK, CURB
2. CLEAN AND RESET ALL UTILITY STRUCTURES TO FINAL GRADE
- NOTE: THE TEMPORARY DITCH IS NOW NO LONGER NECESSARY

G. BUILDING:

2. CONSTRUCTION OF BUILDING. MAINTAIN ALL BMPs.

H. FINAL GRADING OPERATIONS:

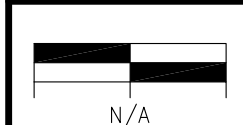
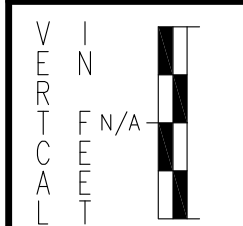
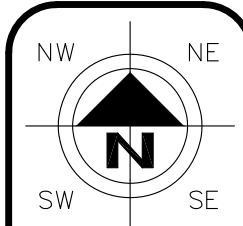
1. REMOVE SEDIMENT FROM POND AND DRAINAGE STRUCTURES
2. REMOVE BMPs FROM STORM INLETS AND FINALIZE PAVEMENT ACTIVITIES
3. REMOVE TEMPORARY CONCRETE WASHOUT AREA
4. REMOVE ALL TEMPORARY BMPs AND STABILIZE ANY AREAS DISTURBED BY THERE REMOVAL WITH EROSION CONTROLS
5. PREPARE FINAL SEEDING AND LANDSCAPING
6. REMOVE PROTECTION FENCING AROUND WETLAND AREA
7. BASIN MUST BE DREGGED OF ACCUMULATED SEDIMENT AND RESTORED TO ORIGINAL DESIGN CAPACITY

I. POST-GRADING OPERATIONS:

1. MONITOR PROGRESS OF SITE STABILIZATION
2. RE-SEED AND REPAIR DAMAGED AREAS
3. MAINTAIN AND INSPECT ALL PERMANENT BMPs

DEWATERING:

1. THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS FROM DEWATERING ACTIVITIES.
2. CONTRACTOR SHALL PREPARE A DEWATERING PLAN PRIOR TO ANY PUMPING ACTIVITIES.
3. WATER FROM TRENCHES SHALL BE DISPOSED OF IN SUCH A MANNER TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR ENVIRONMENT, DAMAGE TO PROPERTIES, OR DAMAGE TO WORK COMPLETED.



HORIZONTAL SCALE IN FEET

CHECKED BY: KAD

DATE: Mar. 2021

DRAWN BY: BMH

DATE: Mar. 2021

REVISIONS:	DATE	DESCRIPTION
	5/3/21	S&W COMMENTS

Kenyon Creek Estates Phases 2 - 4

SWP3 General Notes
City of Massillon
Stark County, Ohio



DRAWING NAME: SWP3 General Notes
PROJECT NUMBER:



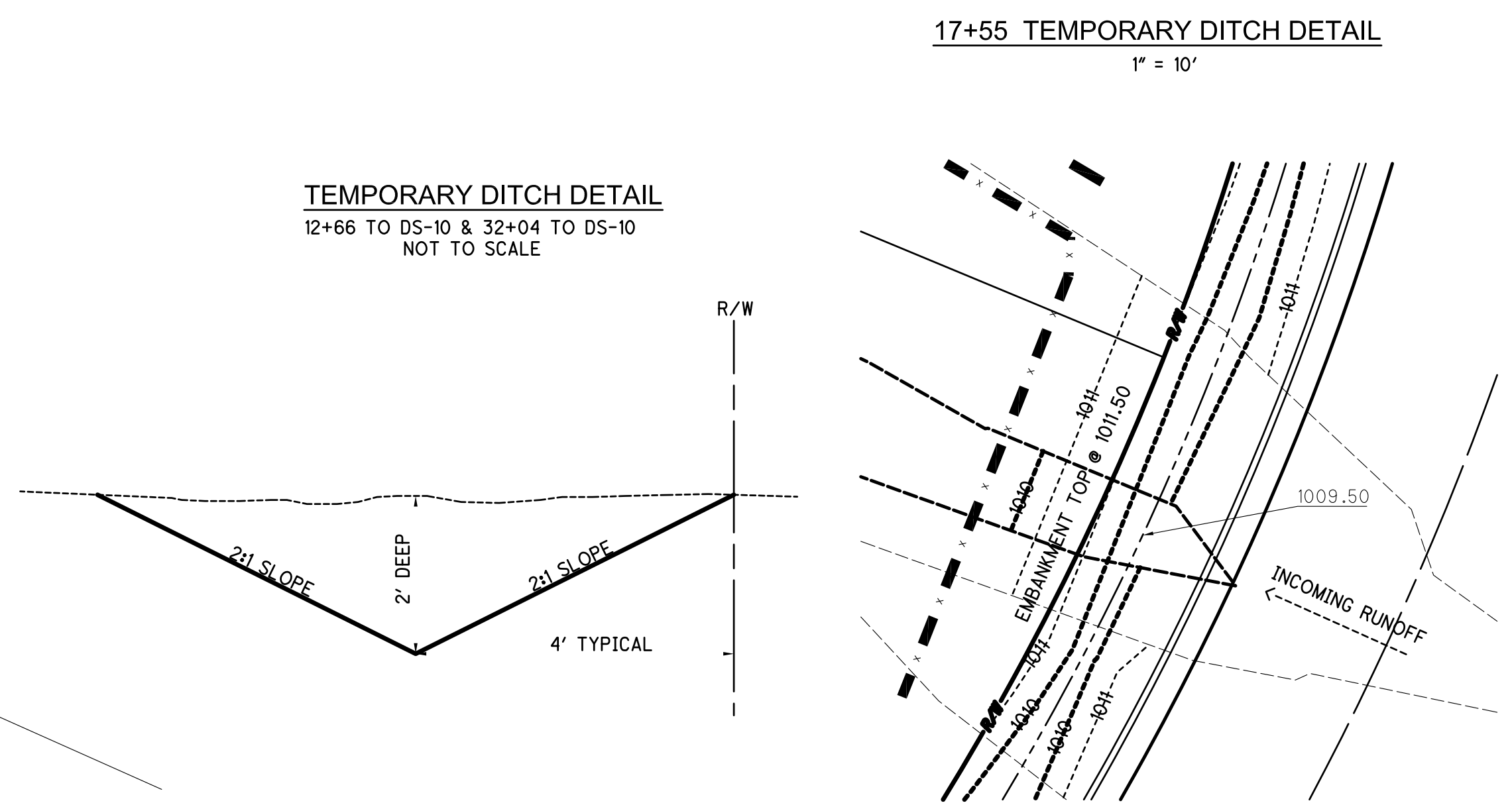
LEGEND:

- 650.0
649.5
650.0
TOP OF CURB ELEVATION
PAVEMENT ELEVATION
PROPOSED SPOT ELEVATION
- EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
PROPOSED TEMPORARY MAJOR CONTOUR
PROPOSED TEMPORARY MINOR CONTOUR
- LP
HP
100 YEAR FLOOD ROUTE
- CE
PS
TS
TSS
IP
ISP
VF
SA
CW
ROCK CHANNEL PROTECTION
SILT FENCE
- x ---
LIMITS OF CONSTRUCTION/ DISTURBANCE & POTENTIAL TREE CLEARING: 27.231 ACRES
(23.440 ACRES WITHIN THE WATER QUALITY POND BMP)

NOTES:

1. ALL EMBANKMENT UNDER PAVEMENT AND STRUCTURES SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPECIFICATION 203.
2. CONTRACTOR SHALL STRIP ANY TOP SOIL AND STOCKPILE PRIOR TO SITE GRADING.
3. MEET ALL EXISTING GRADES FLUSH.
4. ALL NEW GRADED AREAS SHALL BE GRADED TO ENSURE POSITIVE FLOW TO THE NEAREST DRAINAGE STRUCTURE OR OVERLAND SWALE.
5. TO THE NEAREST DRAINAGE STRUCTURE OR OVERLAND SWALE.
6. SEE WATER QUALITY CALCULATIONS IN THE STORMWATER REPORT.
7. ROCK CHANNEL PROTECTION IS REQUIRED AT ALL HEADWALLS AND CAN BE FOUND ON SHEET 41.
8. DETAILS FOR THE PERMANENT DITCH CAN BE FOUND IN THE PLAN AND PROFILE SHEETS. SEE THE TEMPORARY DITCH DETAIL BELOW FOR THE TEMPORARY DITCH.
9. ENSURE THAT SITE RUNOFF IN THE TEMPORARY DITCH IS ROUTED TOWARDS THE SEDIMENT BASIN NEAR STATION 17+55 AND IS NOT BEING ROUTED WEST OFFSITE. AN EMBANKMENT WILL BE NECESSARY IN THIS LOCATION AS SHOWN BELOW IN THE 17+55 TEMPORARY DITCH DETAIL.

CONTROL			
DESCRIPTION	NORTH	EAST	ELEVATION
CP #1 (IPF IN MONMENT BOX)	419289.6346	2223403.7231	1012.7895
CP #2 (IPF IN MONMENT BOX)	419317.3740	2223190.3630	



NWNE
SWSE

N

1"=40'

04080

HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:

DATE	DESCRIPTION
5/3/21	SAW COMMENTS
5/24/21	MAS ENG DEPT
6/21/21	VARIOUS

Kenyon Creek Estates Phases 2 - 4

SWP3 Plan View

City of Missillon

Stark County, Ohio

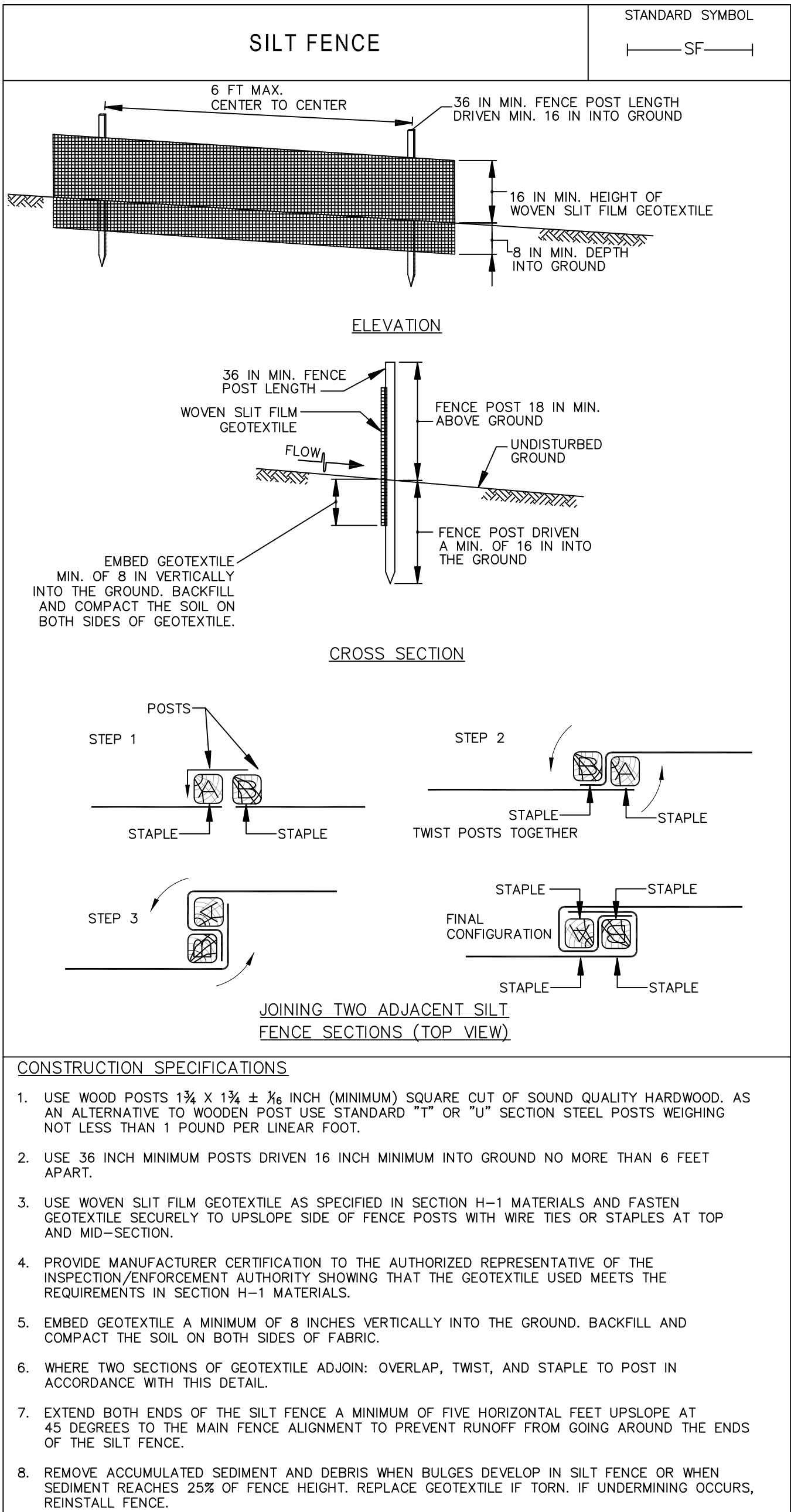
CIVIPRO

ENGINEERING

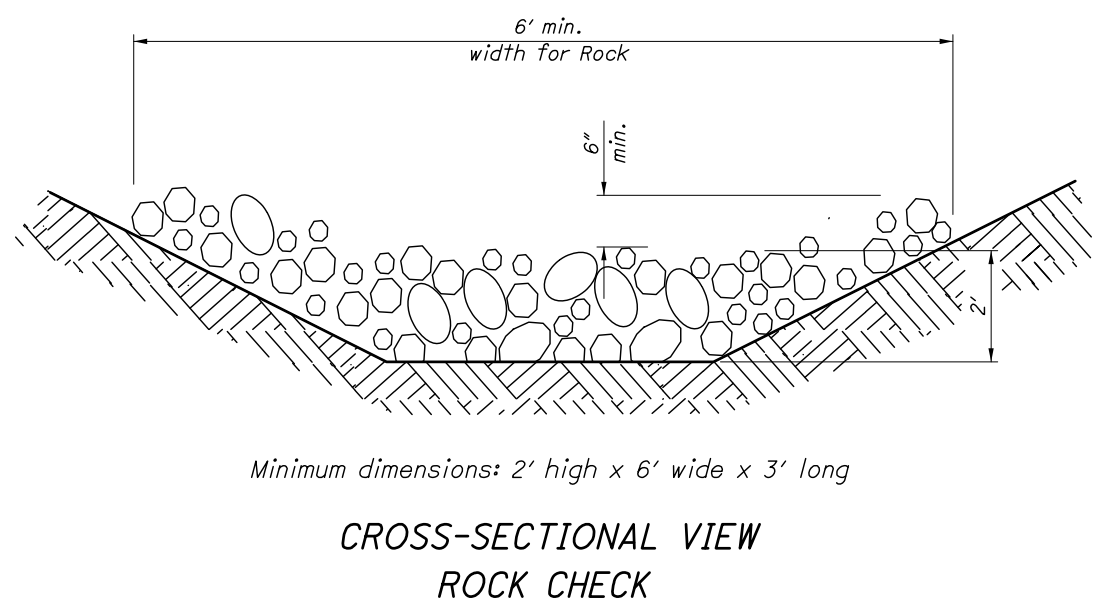
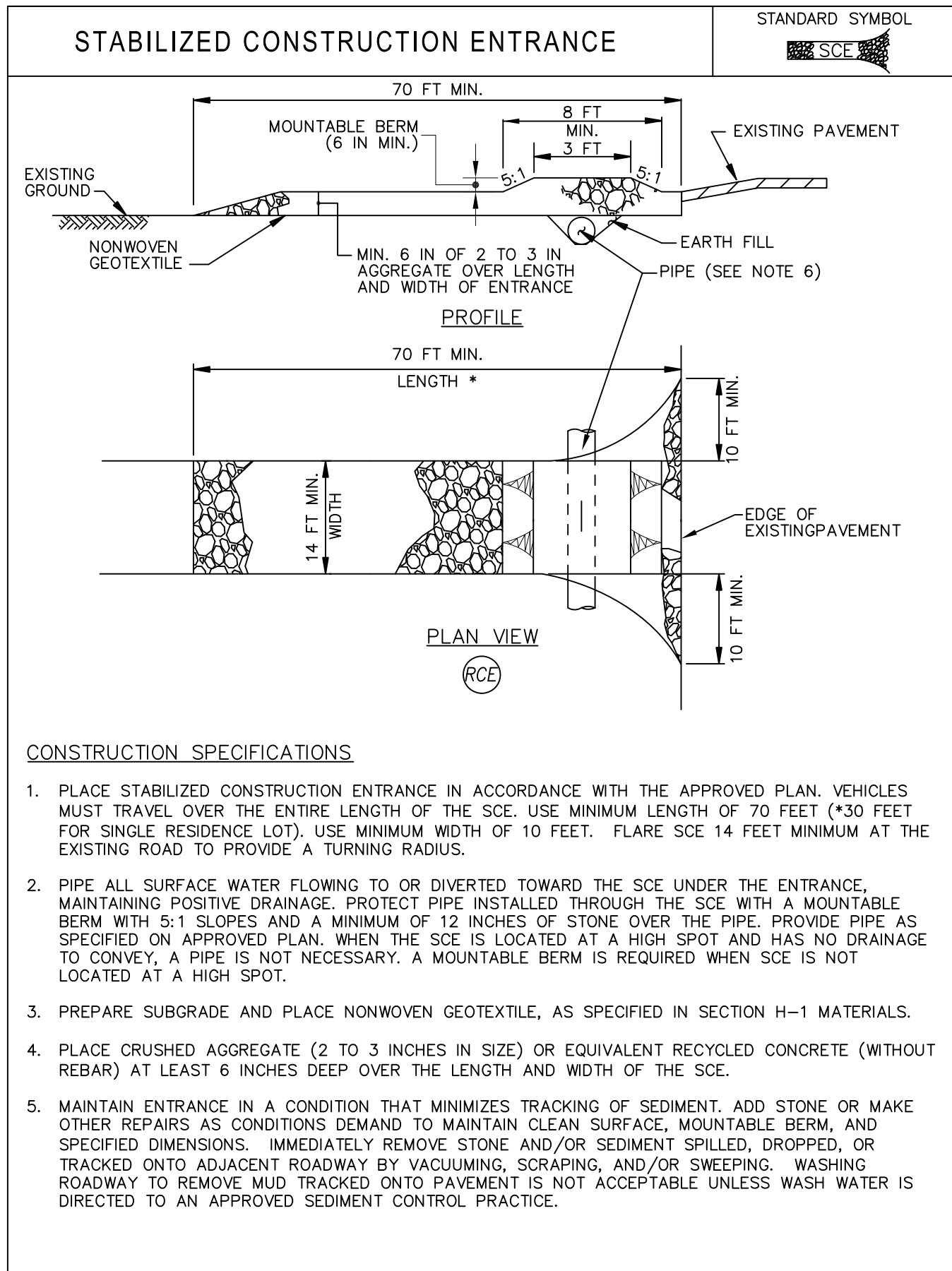
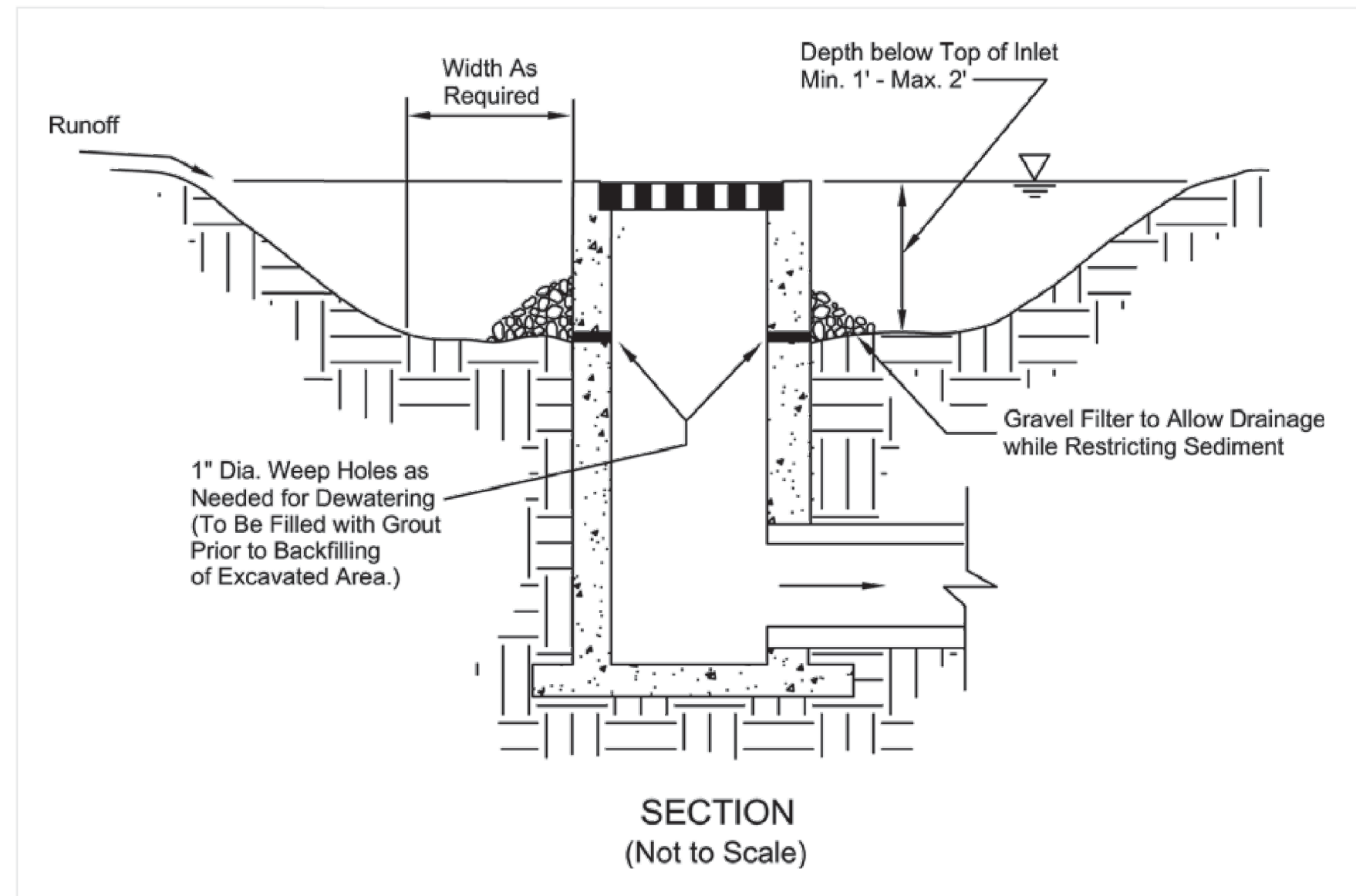
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 N. STATE ST. SUITE 200
COLUMBUS, OH 43230
PHONE: (614) 262-1724 FAX: (614) 262-1725
WWW.CIVIPROENGINEERING.COM

DRAWING NAME:
SWP3 Plan View

REF NUMBER:
53 / 56



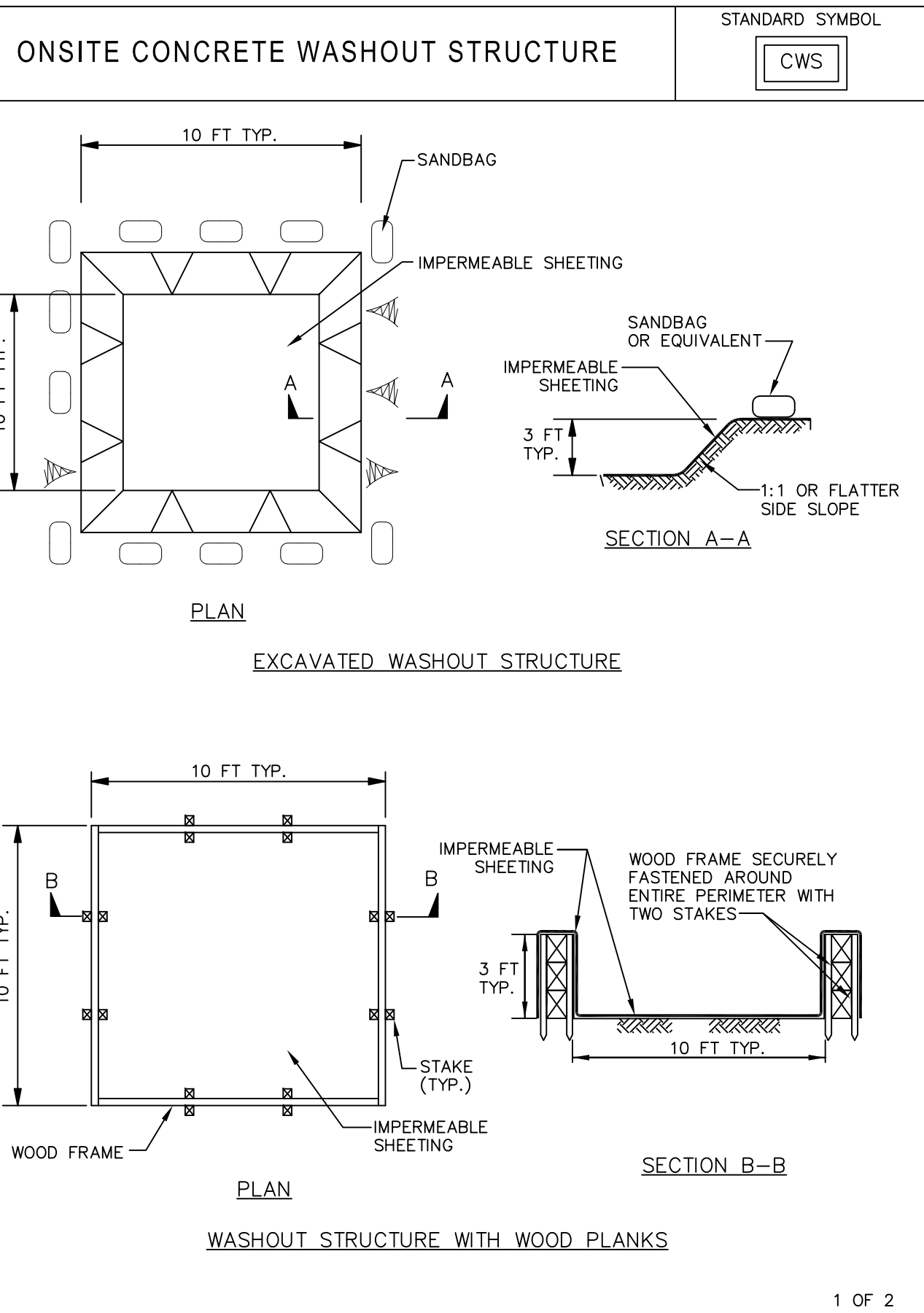
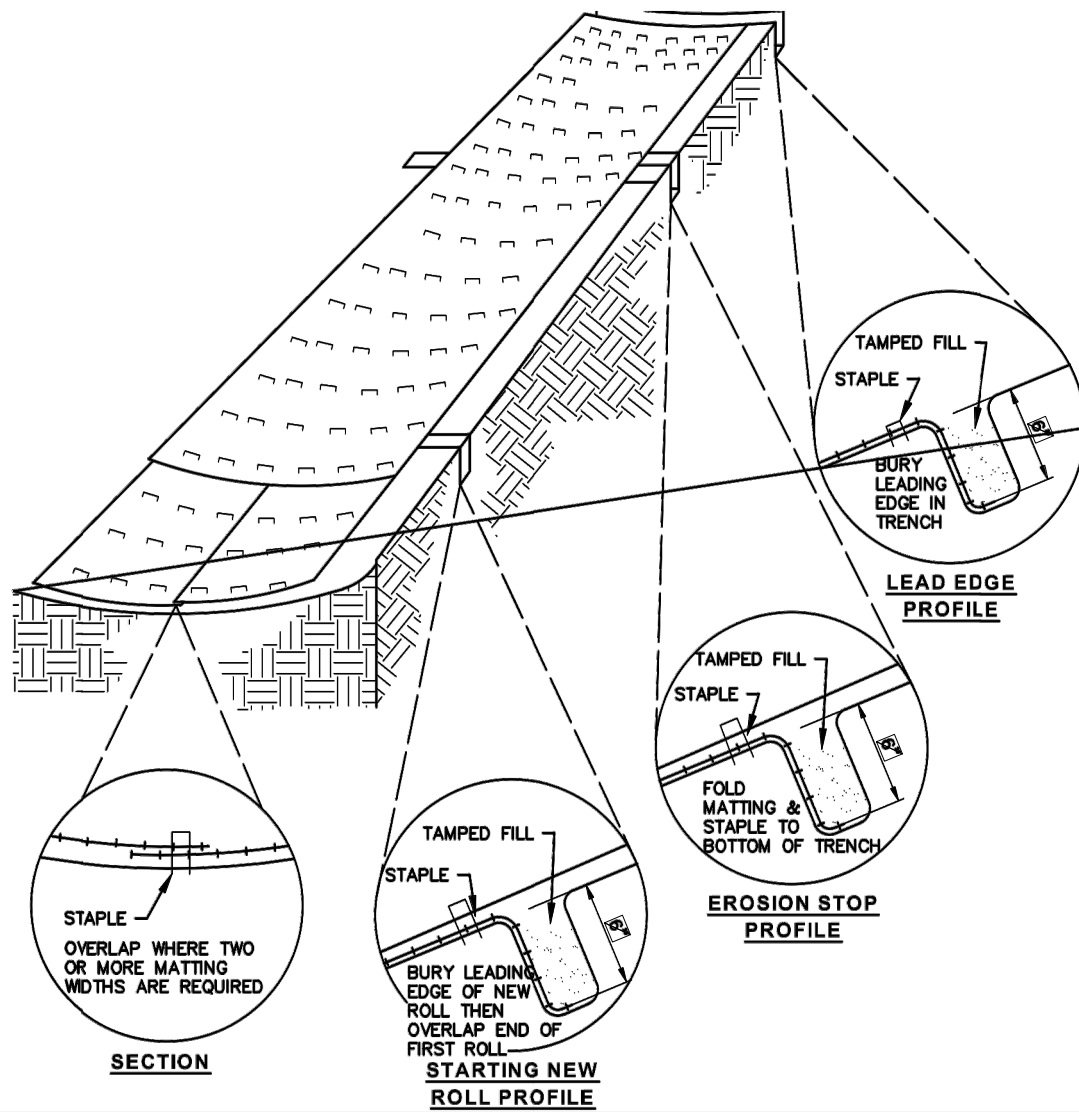
Excavated Drop Inlet Sediment Protection



TURF REINFORCEMENT MATTING DETAIL (NTS)

NOTES

- CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED TURF REINFORCEMENT MATTING (TRM) WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
- CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.



NOTES

ROCK CHECKS:

MATERIALS:

Furnish material conforming to Item 601 - Rock Channel Protection, Type C or D, Without Filter.

CONSTRUCTION:

If the Engineer determines that rock should not be used for the rock checks, replace rock channel protection with straw bales configured with minimal gaps between bales. tightly place each bale adjacent to one another. Entrrench 2 to 4 into the ground prior to staking. Firmly stake each bale with at least two stakes.

- Rock Channel Protection, Type C or D, Without Filter

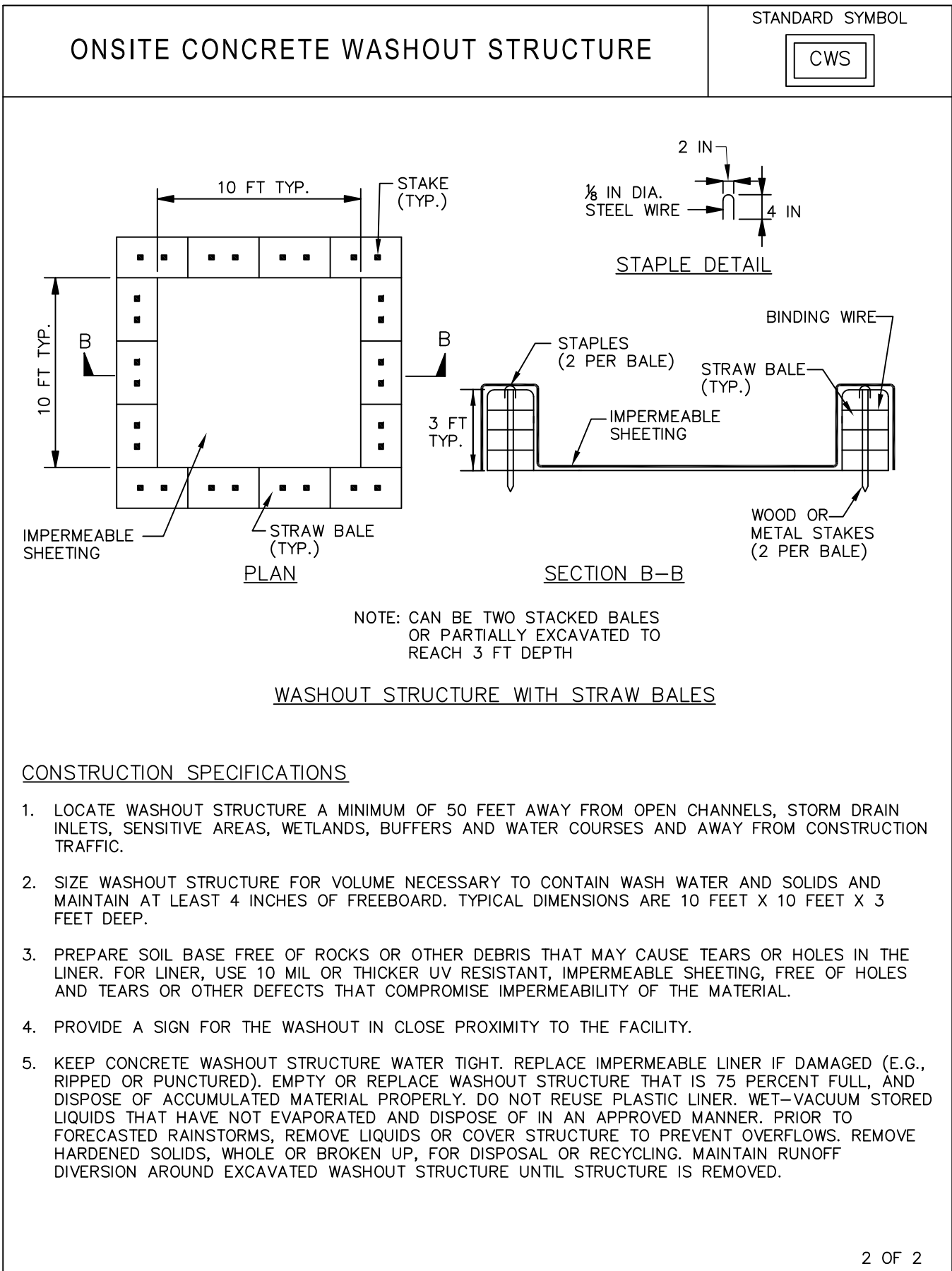
All items shown on this Standard Construction Drawing that are required for construction that are not specifically identified in S5832 Appendix F are considered incidental.

SLOPE INSTALLATION

- EXCAVATE TOP AND BOTTOM TRENCHES (12"x6"). INTERMITTENT EROSION CHECK SLOTS (6"x6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
- IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED INSTALL TRM IN 6"x6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. TRM SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
- INSTALL TRM IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
- UNROLL TRM DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE TAM LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
- OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE TAM ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL EVERY 12".
- INSTALL TAM IN BOTTOM ANCHOR TRENCH (12"x6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

CHANNEL INSTALLATION

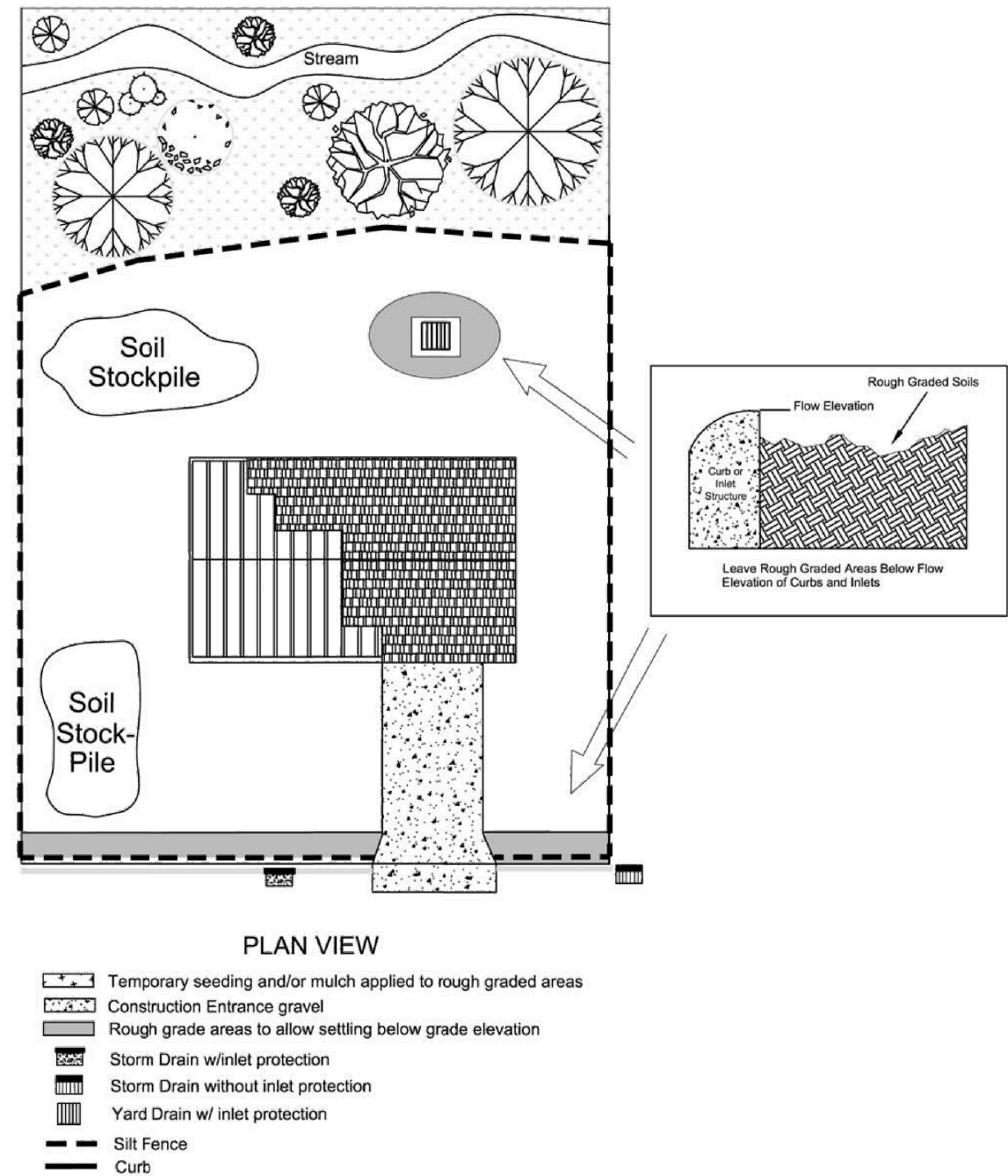
- EXCAVATE INITIAL ANCHOR TRENCH (12"x6") ACROSS THE LOWER END OF THE PROJECT AREA.
- EXCAVATE INTERMITTENT CHECK SLOTS (6"x6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.
- EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"x4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE TAM 2'-3" ABOVE THE CREST OF CHANNEL SIDE SLOPES.
- INSTALL TAM IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
- ROLL OUT TRM BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.
- AT TOP OF CHANNEL SIDE SLOPES INSTALL TAM IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
- INSTALL TRM IN INTERMITTENT CHECK SLOTS. LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
- OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE TAM ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
- INSTALL UPSLOPE END IN A TERMINAL ANCHOR TRENCH (12"x6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
- COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SANDY OR GRAVELLY SOILS.



CONSTRUCTION SPECIFICATIONS

- LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
- SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
- PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
- PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
- KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

Specifications for Small Construction Site Controls



GENERAL EROSION AND SEDIMENT CONTROL NOTES

EROSION CONTROL SHALL CONSIST OF TEMPORARY CONTROL MEASURES AS DETAILED ON THE PLANS OR ORDERED BY THE CITY OF MASSILLON DURING THE TERM OF CONSTRUCTION TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH THE USE OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S).

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 THE COMMENCEMENT OF ANY CLEARING OR EARTHVORK OPERATIONS. CONDITIONS THAT DEVELOP DURING CONSTRUCTION THAT WERE NOT FORSEEN DURING DESIGN STAGE, THAT REQUIRE ADDITIONAL OR MODIFIED TEMPORARY OR PERMANENT BMP'S SHALL BE APPROVED BY THE DESIGN ENGINEER AND REFLECTED ON THE REVISED SWP3.

SEDIMENT PONDS, SEDIMENT TRAPS, AND PERIMETER SEDIMENT CONTROLS, SHALL BE IMPLEMENTED PRIOR TO GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UP SLOPE DEVELOPMENT AREAS ARE RE-ESTABLISHED WITH VEGETATION. SEDIMENT CONTROLS SHALL NOT BE PLACED IN A STREAM.

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

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

ADDITIONAL EROSION AND SEDIMENT CONTROL BMP'S MAY BE REQUIRED BY THE CITY OF MASSILLON AS UNFORSEEN SITUATIONS MAY ARISE THAT REQUIRE ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES.

CLEARING AND GRUBBING

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

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

CONSTRUCTION ENTRANCE

A STONED CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR ALL INGRESS AND EGRESS TO THE SITE. THE MINIMUM DIMENSIONS OF THE DRIVE SHALL BE 14 FEET WIDE BY 70 FEET LONG. THE STONE SHALL BE 6 INCHES DEEP WITH AN UNDERLAIN GEOTEXTILE FABRIC. THE DRIVE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. SEDIMENTS SHALL BE REMOVED FROM THE ROADWAY DAILY OR MORE FREQUENTLY IF REQUIRED BY STARK COUNTY.

STABILIZATION

PERMANENT AND TEMPORARY STABILIZATION SHALL OCCUR AS REQUIRED IN THE FOLLOWING TABLES:

TABLE 1 - PERMANENT STABILIZATION

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 SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN 2 DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN 7 DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TEMPORARY SEEDING

SEEDED AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 80% COVER SHALL BE RESEEDD BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH STRAW MULCH WHEN CONDITIONS PROHIBIT SEEDING.

STRAW MULCH SHALL BE APPLIED AT A RATE OF 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 STRAW MULCHED WITHIN 7 DAYS OF COMPLETED CONSTRUCTION.

TABLE 2: TEMPORARY STABILIZATION

TEMPORARY STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCT/ON ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL REMAIN IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER (NOV 1) STRAW MULCH 2-3 BALES PER 1000 SQ FT OR 2 TONS PER ACRE.
NOTE WHERE VEGETATIVE STABILIZATION TECHNIQUES ARE UNOBTAINABLE DUE TO INSTABILITY, EROSION MATTING MAY BE USED.	

PERMANENT STABILIZATION OF CONVEYANCE CHANNELS

THE CONTRACTOR SHALL UNDERTAKE SPECIAL MEASURES TO STABILIZE CHANNELS AND OUTFALLS AND PREVENT EROSIIVE FLOWS. MEASURES MAY INCLUDE SEEDING, DORMANT SEEDING, MULCHING, EROSION CONTROL MATTING, SODDING, RIPRAP. NATURAL CHANNEL DESIGN WITH BIO-ENGINEERING TECHNIQUES. OR ROCK CHECK DAMS, ALL AS DEFINED IN THE MOST RECENT EDITION OF THE RAINWATER AND LAND DEVELOPMENT MANUAL PUBLISHED BY ODNR.

SOIL TRANSPORT ONTO PUBLIC ROADS

WHERE SOIL IS TRANSPORTED ONTO PUBLIC ROAD SURFACES, THE ROADS SHALL BE CLEANED THOROUGHLY BY EITHER SWEEPING OR SCRAPING AT THE END OF EACH WORK DAY OR MORE FREQUENTLY IF NEEDED IN ORDER TO ENSURE PUBLIC SAFETY. STREET WASHING IS NOT PERMITTED. IF APPLICABLE, THE CATCH BASINS NEAREST TO THE CONSTRUCTION ENTRANCE SHALL BE CLEANED WEEKLY.

ADDITIONAL REQUIREMENTS TO CONTROL SOIL TRANSPORT ONTO PUBLIC ROADS MAY INCLUDE

- SILT FENCE OR CONSTRUCTION FENCE INSTALLED AROUND THE PERIMETER OF THE DEVELOPMENT AREA TO ENSURE ALL VEHICLE TRAFFIC ADHERES TO DESIGNATED CONSTRUCTION ENTRANCES.
- DESIGNATED WHEEL WASHING AREAS. WASH WATER FROM THESE AREAS MUST BE DIRECTED TO A DESIGNATED SEDIMENT TRAP, SEDIMENT SETTLING POND, OR TO A DEWATERING SUMP PIT.

ERODIBLE MATERIAL RAMPS IN STREETS TO ENABLE EQUIPMENT TO CROSS CURBS SHALL BE PROPERLY REMOVED IMMEDIATELY AFTER USE.

SILT FENCE AND DIVERSIONS

SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES, WATER RESOURCES, AND WETLANDS FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCE SHALL BE PLACED ON A LEVEL CONTOUR AND SHALL BE CAPABLE OF TEMPORARILY PONDING RUNOFF. THE EPA PERMIT No. DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF.

STORM WATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES. SUCH DEVICES. WHICH INCLUDE SWALES, DIKES OR BERMS, MAY RECEIVE STORM WATER RUNOFF FROM AREAS UP TO 10 ACRES.

INLET PROTECTION

INLET PROTECTION IS MANDATORY. INLET PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENT VERSION OF THE RAINWATER AND LAND DEVELOPMENT MANUAL BY ODNR. ALL INLETS RECEIVING RUNOFF FROM DRAINAGE AREAS OF ONE OR MORE ACRES WILL REQUIRE A SEDIMENT SETTLING POND. STRAW OR HAY BALES ARE NOT ACCEPTABLE FORMS OF INLET PROTECTION.

NON-SEDIMENT POLLUTANTS CONTROLS

NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORM WATER RUNOFF. ALL NECESSARY BMP'S MUST BE IMPLEMENTED TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE, WATER RESOURCES, OR WETLANDS. UNDER NO CIRCUMSTANCE SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL, STREET, STORM SEWER. OR OTHER PUBLIC FACILITY OR NATURAL RESOURCE. EXPOSURE OF WASTE MATERIALS TO STORM WATER IS NOT PERMITTED.

TRENCH AND GROUNDWATER 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 BE SETTLING IN PLACE OR BY DEWATERING INTO A SUMP PIT, FILTER BAG, OR COMPARABLE PRACTICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT 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.

INSPECTION

ALL CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. THE CONTRACTOR SHALL ASSIGN QUALIFIED INSPECTION PERSONNEL TO CONDUCT THESE INSPECTIONS TO ENSURE THAT THE CONTROL PRACTICES ARE FUNCTIONAL AND TO EVALUATE WHETHER THE SWP3 IS ADEQUATE, OR WHETHER ADDITIONAL CONTROL MEASURES ARE REQUIRED. QUALIFIED INSPECTION PERSONNEL ARE INDIVIDUALS WITH KNOWLEDGE AND EXPERIENCE IN THE INSTALLATION AND MAINTENANCE OF SEDIMENT AND EROSION CONTROLS.

INSPECTIONS SHALL MEET THE FOLLOWING REQUIREMENTS:

- 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 DRAINAGE SYSTEM.
- EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY THE CONTRACTOR SHALL UTILIZE AN INSPECTION FORM ACCEPTABLE TO THE CITY OF AVON. THE INSPECTION FORM SHALL INCLUDE:
 - THE INSPECTION DATE.
 - NAMES, TITLES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION.
 - WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION, INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT AND APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT IN INCHES, AND WHETHER ANY DISCHARGES OCCURRED.
 - LOCATIONS OF:
 - DISCHARGES FROM SEDIMENT OR OTHER POLLUTANTS FROM THE SITE.
 - BMP'S THAT NEED TO BE MAINTAINED.
 - BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION.
 - WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION.
 - CORRECTIVE ACTION REQUIRED INCLUDING ANY NECESSARY CHANGES TO THE SWP3 AND IMPLEMENTATION DATES.
- DISCHARGE LOCATIONS SHALL BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATER RESOURCE OR WETLANDS.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING
- THE PERMIT APPLICANT SHALL MAINTAIN FOR 3 YEARS FOLLOWING FINAL STABILIZATION THE RESULTS OF THESE INSPECTIONS, THE NAMES AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTIONS, THE DATES OF THE INSPECTIONS, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWP3, A CERTIFICATION AS TO WHETHER THE FACILITY IS IN COMPLIANCE WITH THE SWP3, AND INFORMATION ON ANY INCIDENTS OF NON-COMPLIANCE DETERMINED BY THESE INSPECTIONS. EMAIL WEEKLY REPORTS TO BORCHERD@cvelimited.com

MAINTENANCE

ALL CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION UNTIL FINAL STABILIZATION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP SLOPE AREAS THEY CONTROL REACH FINAL STABILIZATION THE CONTRACTOR SHALL COMPLY WITH THE MAINTENANCE SCHEDULE CONTAINED IN THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S SHALL BE MAINTAINED AT THE JOB SITE AS PROOF ACKNOWLEDGING THAT THEY HAVE REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

WHEN INSPECTIONS REVEAL THE NEED FOR REPAIR, REPLACEMENT, OR INSTALLATION OF EROSION AND SEDIMENT CONTROL BMP'S, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

- WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE CONTROL PRACTICES IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.
- WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION: CONTROL PRACTICES THAT FAIL TO PERFORM THEIR INTENDED FUNCTION AS DETAILED IN THE SWP3 SHALL BE REPLACED WITH ANOTHER MORE APPROPRIATE CONTROL WITHIN 10 DAYS. THE SWP3 SHALL BE AMENDED TO SHOW THE NEW CONTROL PRACTICE.
- WHEN PRACTICES ON THE SWP3 ARE NOT INSTALLED: CONTROL PRACTICES REQUIRED BY THE SWP3 BUT NOT IMPLEMENTED AT THE TIME OF THE INSPECTION SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE PLANNED CONTROL IS NOT NEEDED, AN EXPLANATION AS TO WHY THE CONTROL IS NOT NEEDED SHALL BE ADDED TO THE SWP3.

WASTE DISPOSAL

A COVERED DUMPSTER SHALL BE MADE AVAILABLE FOR THE PROPER DISPOSAL OF GARBAGE, PLASTER, DRYWALL, GROUT, GYPSUM, AND OTHER WASTE MATERIALS. ALL CONTAINERS MUST BE LEAK PROOF. ALL WASTE MATERIAL INCLUDING TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.

NW

NE

N

SW

SE

V

U

L

C

A

N

U

M

E

N

T

S

1

2

3

4

5

6

7

8

9

10

11

12

NTS

HORIZONTAL
SCALE IN FEET

CHECKED BY:
KAD

DATE:
Mar. 2021

DRAWN BY:
BMH

DATE:
Mar. 2021

REVISIONS:

DATE

DESCRIPTION

5/3/21

S&W COMMENTS

Kenyon Creek Estates Phases 2 - 4

SWP3 Details & Notes
City of Massillon
Stark County, Ohio

CIVIPRO

ENGINEERING

ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718

PHONE: (330) 268-3734 EMAIL: KAD@CIVIPROENGINEERING.COM

WWW.CIVIPROENGINEERING.COM

DRAWING NAME:

SWP3 Details&Notes

PROJECT NUMBER:

55 / 56

BRICKS, HARDENING CONCRETE. AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATER RESOURCES OR WETLANDS CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED OF INTO THE PROPERTY SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.

ALL C&DD SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714. MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS (SEE OHIO ADMINISTRATIVE CODE (OAC) 3745-20).

AREAS SHALL BE DESIGNATED FOR THE 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 STORM WATER DRAINAGE AREAS.

ALL FUEL/LIQUID TANKS AND DRUMS SHALL BE STORED IN A MARKED STORAGE AREA. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. VEHICLE FUELING AND MAINTENANCE SHALL OCCUR IN DESIGNATED AREAS. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORM WATER DRAINAGE AREAS.

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 TANK STORAGE OF 1330 GALLONS, OR BELOW GROUND STORAGE OF 42,000 GALLONS OF FUEL.

CONCRETE CHUTE OR OTHER CONCRETE WASH WATERS SHALL BE DISCHARGED INTO DESIGNATED AREAS ONLY. DESIGNATED AREAS SHALL BE IDENTIFIED WITH SIGNAGE AND LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORM WATER DRAINAGE AREAS.

ALL CONTAMINATED SOILS MUST BE TREATED AND/OR DISPOSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSDFS). RUNOFF FROM CONTAMINATED SOILS SHALL NOT BE DISCHARGED FROM THE SITE. PROPER PERMITS SHALL BE OBTAINED FOR DEVELOPMENT PROJECTS ON SOLID WASTE LANDFILL SITES OR REDEVELOPMENT SITES.

IN THE EVENT OF A SMALL RELEASE (LESS THAN 25 GALLONS) OF PETROLEUM WASTE, THE LOCAL FIRE DEPARTMENT SHALL BE CONTACTED. IN THE EVENT OF A LARGER RELEASE (25 OR MORE GALLONS) OF PETROLEUM WASTE, CONTACT OHIO EPA AT 1-800-282-9378, AND THE LOCAL FIRE DEPARTMENT.

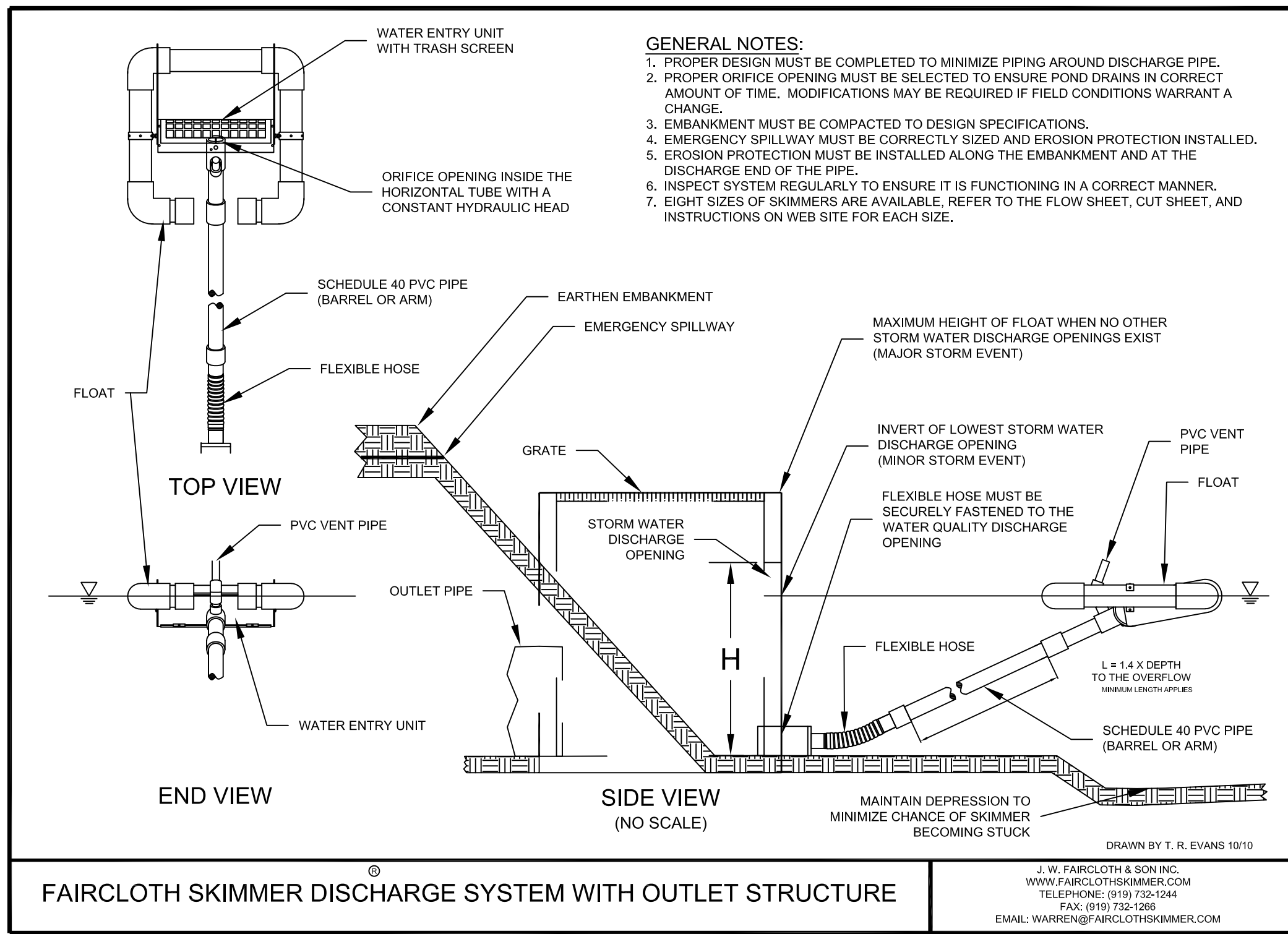
OPEN BURNING IS NOT PERMITTED.

USED OIL SHALL NOT BE USED AS A DUST SUPPRESSANT. DUST CONTROLS MAY INCLUDE THE USE OF WATER TRUCKS TO WET DISTURBED AREAS, TARPING STOCKPILES, TEMPORARY STABILIZATION OF DISTURBED AREAS, AND REGULATION OF THE SPEED OF VEHICLES ON THE SITE.

STREAM CROSSINGS SHALL BE CONSTRUCTED ENTIRELY OF STONE, ROCK, OR CLEAN RECYCLED CONCRETE. SOIL OR EARTHEN MATERIAL MAY NOT BE USED. A 20 FOOT STONE APRON ON EITHER SIDE OF THE STREAM SHALL BE CONSTRUCTED TO PREVENT LOCALIZED SEDIMENTATION. THE CHANNEL BED AND BANKS SHALL BE RESTORED, AND ALL DISTURBED AREAS OF THE BANK WITHIN 50 FEET OF THE STREAM SHALL BE STABILIZED WITH SEED AND STRAW MULCH WITHIN 2 DAYS OF THE DISTURBANCE.

SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 659 OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING MIXTURES SHALL BE USED FOR SEEDING:

SEED MIX		GENERAL USE (DOOT 650/9, CLASS 1)		SEED MIX		GENERAL USE (DOOT 650/9, CLASS 1)	
		SEEDING RATE	FERTILIZER			SEEDING RATE	FERTILIZER
KENTUCKY BLUEGRASS	3.1BS/1000 SQ FT	10-20-10@20 LBS/1000 SQ FT	MULCH				
CREEPING RED FESCUE	3.1BS/1000 SQ FT						
ANNUAL RYEGRASS	2.1BS/1000 SQ FT						
PERENNIAL RYEGRASS	2.1BS/1000 SQ FT						
ROADSIDE DITCHES AND SWALES (DOOT 650/9, CLASS 2)							
SEED MIX		SEEDING RATE		SEEDING RATE		SEEDING RATE	
PERENNIAL RYEGRASS	1.5 LBS/1000 SQ FT	10-20-10@20 LBS/1000 SQ FT	MULCH				
KENTUCKY 31 FESCUE	2.0 LBS/1000 SQ FT						
KENTUCKY BLUEGRASS	1.5 LBS/1000 SQ FT						
STEP BANKS CUT SLOPES, DEFLECTION AREAS, WHERE SLOPES ARE STEEPER THAN 3:1 (DOOT 650/9, CLASS 3C)							
SEED MIX		SEEDING RATE		SEEDING RATE		SEEDING RATE	
PERENNIAL RYEGRASS	1.8 LBS/1000 SQ FT						
ANNUAL RYEGRASS	0.3 LBS/1000 SQ FT						
TEMPORARY EROSION CONTROL (DOOT 650/9, CLASS 7)							
SEED MIX		SEEDING RATE		SEEDING RATE		SEEDING RATE	
ANNUAL RYEGRASS	2.02 LBS/1000 SQ FT	10-20-10@20 LBS/1000 SQ FT	MULCH				
STRAW - 2 TONS/ACRE							



Project Summary	
Project Name:	Kenyon Creek Estates Phase 2 & 3
Project Location:	Massillon, OH, 44647
Subwatershed ID/Label:	
Project Latitude:	40.812132
Project Longitude:	-81.578574
NPDES Permit Applicant:	
Submitted by:	
Date:	
Watershed:	▼
Subwatershed Total Drainage Area, A_{total} =	29.61 acres = 1,289,812 ft^2
Subwatershed Disturbed Drainage Area, A_{dist} =	23.44 acres = 1,021,003 ft^2

Step 1 - Sediment Basin Volume Requirements					
For Statewide Watersheds					
Minimum Sediment Storage Volume, Vsediment =	23439 ft3	=	868 yd3	=	0.538 acre-ft
Minimum Dewatering Zone Volume, Vdewatering =	53298 ft3	=	1,974 yd3	=	1.224 acre-ft

[illegible]

Basin Schematic

Top of Pond Elevation = 1007.50 ft

Secondary Outlet Invert Elevation = 1006.50 ft

Dewatering Zone

Skimmer Outlet/Stop Elevation = 1002.00 ft

Sediment Storage Zone

Bottom of Pond Elevation = 999.00 ft

Note: The basin dewatering discharge calculation in this worksheet assumes a free discharge from the outlet (i.e., no tailwater). The skimmer outlet elevation may need to be adjusted upward to account for tailwater as appropriate. Tailwater is common to low gradient ditches or water bodies with prolonged increases in water level

Step 3 - Outlet Elevations and Storage Volumes		
Skimmer Outlet Invert/Skimmer Stop Elevation =	1002.00 ft	OKAY
Secondary Outlet Invert Elevation =	1006.50 ft	OKAY
Provided Sediment Storage Volume =	25,799 ft ³	OKAY
Provided Dewatering Volume =	73,105 ft ³	OKAY

Step 4 - Skimmer-Type Outlet Sizing

Select Skimmer Type or Manufacturer: Faircloth Skimmer

Faircloth Skimmer Sizing Calculator: [Click Here For Link to Online Calculator](#)

Orifice Size Selected: 4.5 in

Dewatering Drawdown Time: 48 hrs

Example Faircloth Float Spec Sheet

Please note the drawing and image shown below are provided solely to assist with identification of the skimmer type and its associated components. The drawing and photo below do not necessarily depict an installation that complies with the General Permit or Rainwater & Land Development specification, especially where the sediment storage zone is omitted.

SKIMMER
Date: 04/17/97
Drawn By: W.C. M.
Date: April 17, 1997

Faircloth Float Photo