IMPROVEMENT PLANS & SWP3
FOR
ASCEND AT CENTER RIDGE
RESIDENTIAL DEVELOPMENT
CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO
August 12, 2026

DESIGNED BY:

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

DEVELOPED BY:

GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OH 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

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VICINITY MAP
N.T.S.

APPROVALS

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

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

APPROVED BY THE CITY OF WESTLAKE , OHIO:
(STAMP BELOW)

8/12/26
KEVIN T. HOFFMAN, P.E.

STATE OF OHIO
KEVIN T. HOFFMAN 74831
REGISTERED PROFESSIONAL ENGINEER

TITLE SHEET

CONTRACT No.
26003

SHEET	OF
01	20

GENERAL NOTES

A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE WESTLAKE CITY ENGINEER SHALL BE HELD PRIOR TO THE START OF ANY WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO THE WESTLAKE CITY ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.

THE LATEST EDITION OF STANDARD SPECIFICATIONS OF THE CITY OF WESTLAKE CONSTRUCTION STANDARDS, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN THIS PROJECT.

ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF WESTLAKE ENGINEER AND AT ALL TIMES BE SUBJECT TO HIS DIRECT INSPECTION.

ALL CITY OF WESTLAKE STANDARD CONSTRUCTION DRAWINGS AND METHODS SHALL APPLY TO THIS PROJECT, TO INCLUDE ANY AMENDMENTS THERETO.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

STATIONING SHOWN HEREON IS ALONG THE CENTERLINE OF THE RIGHT OF WAY FOR STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND PAVING WORK.

UTILITY CONTACTS

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATIONS OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 154.64 OF THE O.R.C. AND AS OUTLINED IN PROJECT SPECIFICATIONS. THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

OHIO UTILITIES PROTECTION SERVICE
106 WEST RYEN ROOM 427
YOUNGSTOWN, OHIO 44051
PHONE: (800) 362-2764

CITY OF WESTLAKE ENGINEERING DEPARTMENT
27700 HILLIARD BOULEVARD
WESTLAKE, OHIO 44145
PHONE: (440) 617-4145
FAX: (440) 617-4189
CONTACT: JAMES SMOLIK, P.E.

THE ILLUMINATING COMPANY
6896 MILLER ROAD, SUITE 101
BRECKSVILLE OHIO 44141
PHONE: (440) 546-8677
(MARK CESARESPADA)

AT&T
13630 LORAIN AVE.-3rd FLOOR
CLEVELAND, OHIO 44111
PHONE: (216) 476-6051
(JESSICA HANOBIK)

COLUMBIA GAS OF OHIO
3101 NORTH RIDGE ROAD, EAST
LORAIN, OH 44055
MIDDLEBURG HEIGHTS, OHIO 44130
PHONE: (440) 752-2649
(JANINE MAWSON)

CITY OF CLEVELAND DIVISION OF WATER
1201 LAKESIDE AVE.-2ND FLOOR
CLEVELAND, OHIO 44114
PHONE: (216) 664-2444
(RASHEED WARITH)

CHARTER COMMUNICATIONS
(SPECTRUM CABLE)
1200 BROWNSTONE AVE.
AKRON, OH 4431
PHONE: (330) 572-4129
(CHARTERDEVELOPERCONTACT@CHARTER.COM)

BREEZELINE
105 BLAZE INDUSTRIAL PARKWAY
BEREA, OH 44017
PHONE: (440)-625-0305
MOBILE: (440) 915-8254
(TOM AUBRY)

OHIO OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS)
(800) 925-0988

OHIO EPA UTILITY NOTES:

1. TEN FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN WATER LINE AND STORM/SANITARY SEWERS.
2. AN 18" MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM/SANITARY SEWERS AT ALL CROSSINGS UNLESS OTHERWISE NOTED.
3. THE PROPOSED WATERLINE IMPROVEMENTS WILL PROVIDE A MINIMUM 35 PSI PRESSURE AT THE CURB STOP DURING NORMAL OPERATING CONDITIONS. THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI (140 kPA) AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL CONDITIONS OF FLOW.
4. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.
5. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478 WITH JOINTS PER ASTM C-443. PIPE CONNECTION TO MANHOLE SHALL BE MADE USING FLEXIBLE GASKET JOINTS PER ASTM C-923.
6. SANITARY SEWER MANHOLE VACUUM TESTING SHALL CONFORM TO ASTM C-1244 SPECIFICATIONS.
7. ALL SOLID WALL PLASTIC PIPE SHALL BE SUBJECTED TO A MINIMUM 5% DEFLECTION TESTING. DEFLECTION TESTING SHALL CONFORM TO ASTM D-2122 SPECIFICATIONS. DEFLECTION TESTING SHALL BE PERFORMED AT LEAST 60 DAYS AFTER INSTALLATION.
8. LEAKAGE TESTING OF ALL SANITARY SEWERS SHALL BE PERFORMED USING THE LOW PRESSURE AIR TEST METHOD, PER ASTM F-1417. INFILTRATION SHALL NOT EXCEED THE OHIO EPA LIMIT OF 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE OF SEWER.
9. ROOF DRAINS, FOUNDATION DRAINS, AND ANY OTHER CLEAN-WATER DRAINS SHALL NOT BE CONNECTED TO THE SANITARY SEWER SYSTEM.
10. ALL DUCTILE IRON WATER MAIN SHALL BE INSTALLED PER AWWA C600-17.
ALL PVC WATER MAIN SHALL BE INSTALLED PER AWWA C605-13

STORM SEWER NOTES

1. ALL FIELD TILE ENCOUNTERED SHALL BE TIED INTO THE STORM SEWER. ANY FIELD TILE INTERCEPTED BY OTHER EXCAVATIONS SHALL BE RECONNECTED. COST FOR TILE REPAIR AND CONNECTION SHALL BE INCLUDED IN THE PRICE BID FOR STORM SEWER.
2. STORM SEWERS SHALL BE TELEVISED AFTER INSTALLATION OF ROADWAY AND UTILITIES IN A MANNER APPROVED BY CITY ENGINEER AND SUBMITTED PRIOR TO ENTERING THE MAINTENANCE PERIOD. COPIES OF THE DVD SHALL BE PROVIDED TO THE CITY.
3. MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE CONSULTING ENGINEER, AND MAINTAINING AGENCY.

   STORM SEWER SPECIFICATIONS
   PVC/DIP PIPE
   6" LATERALS SHALL BE PVC (ASTM D3034, SDR 35) CONSTRUCTED AT 1% MIN. SLOPE WITH A WYE CONNECTION. LATERALS WITH LESS THAN 3 FEET OF COVER TO SUBGRADE SHALL BE ENCASED IN CONCRETE (MIN. 6") OR SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE ANSI/ASTM CL 50 AS INDICATED ON THE PLANS.

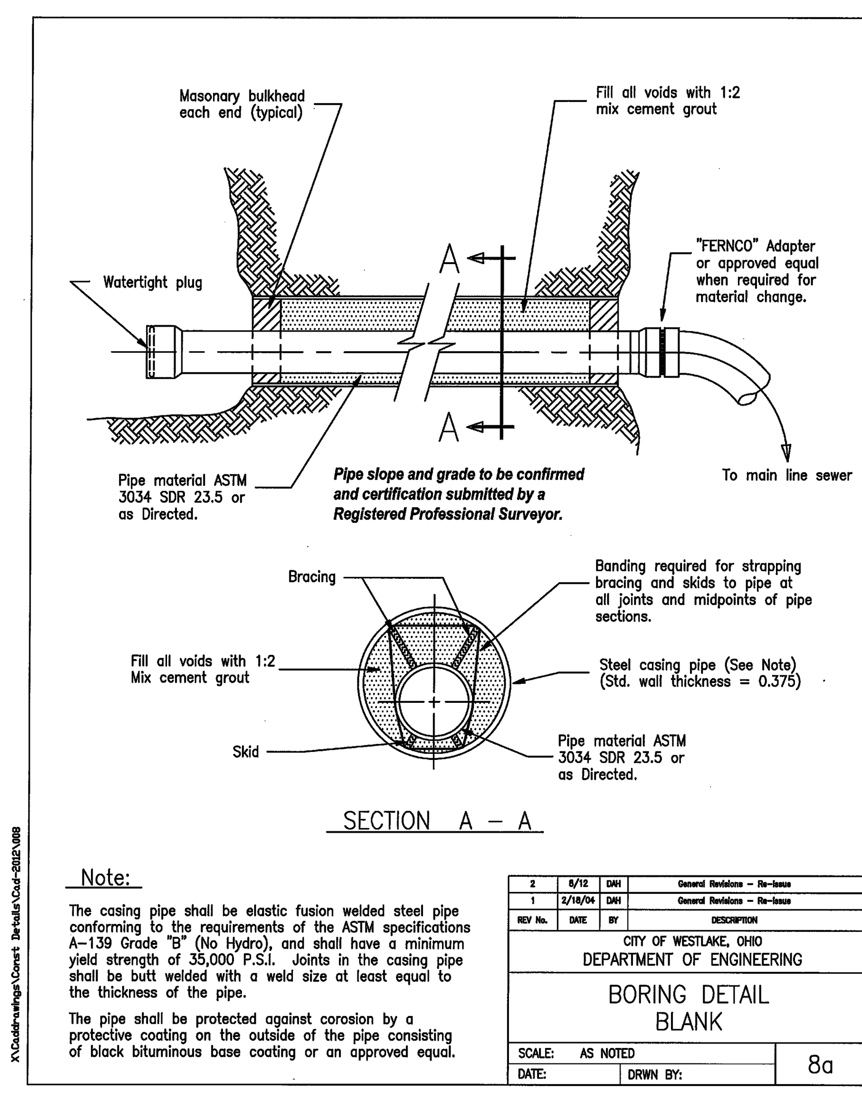
   RCP PIPE (WITHIN RIGHT OF WAY)
   12" AND 15" PIPE: CLASS IV REINFORCED CONCRETE PIPE
   18" AND GREATER: CLASS III REINFORCED CONCRETE PIPE

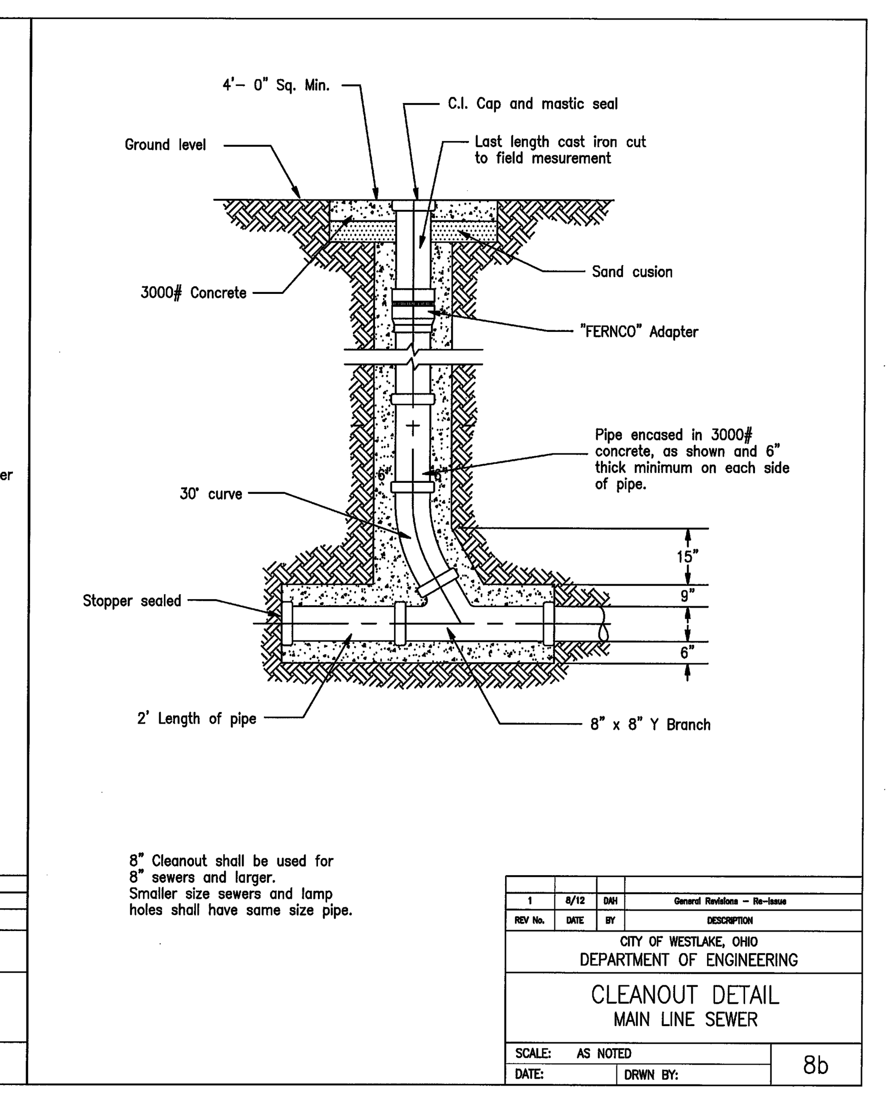
   CORRUGATED PVC PIPE (OUTSIDE RIGHT OF WAY)
   A-2000 (PVC) SMOOTH INTERIOR AND CORRUGATED EXTERIOR PIPE ODOT 707.42 CONFORMING TO AASHTO M-304 OR ASTM F949 (12"-15") WITH GASKETS MEETING ASTM F477 AND INSTALLED PER ASTM D-2321-89.
4. ALL STORM INLET GRATES SHALL BE BICYCLE -SAFE.
5. ALL NEW SEWERS, MANHOLES, AND/OR INLET BASINS WITHIN THE PROJECT AREA SHALL BE CLEANED PRIOR TO ACCEPTANCE.
6. ALL STORM SEWER SHALL BE CLEANED, FLUSHED & VIDE0 TAPED.

SANITARY SEWER NOTES

1. SANITARY SEWER SPECIFICAITONS
   PVC PIPE
   6" LATERALS SHALL BE PVC (ASTM D3034, SDR 35) CONSTRUCTED AT 1% MIN. SLOPE WITH A WYE CONNECTION AND JOINTS PER ASTM D-3212 AND BEDDING PER ASTM D-2321.

   8" MAIN LINE SEWER SHALL BE PVC TRUSS PIPE PER ASTM D-2680, WITH JOINTS PER ASTM D-3212 AND BEDDING PER ASTM D-2680.
2. ALL PROPOSED MANHOLE RIM ELEVATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE FINAL ELEVATION SHALL BE DETERMINED IN THE FIELD. THE COST TO ADJUST THE ELEVATION, IF NECESSARY, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STRUCTURE.
3. SANITARY SEWERS SHALL BE TELEVISED AFTER INSTALLATION OF ROADWAY AND UTILITIES IN A MANNER APPROVED BY CITY ENGINEER AND SUBMITTED PRIOR TO ENTERING THE MAINTENANCE PERIOD. COPIES OF THE DVD SHALL BE PROVIDED TO THE CITY.
4. SANITARY SEWERS AND MANHOLES MUST PASS LEAK TEST.





EARTHWORK OPERATIONS

EROSION CONTROL METHODS MUST BE IN PLACE PRIOR TO ANY STRIPPING OR EXCAVATION WORK COMMENCING.

CLEARING AND GRUBBING (INCLUDING TREE AND STUMP REMOVAL) SHALL BE PERFORMED WITHIN THE ENTIRE SITE.

ALL EARTHWORK OPERATIONS WITHIN THE SITE SHALL BE PERFORMED WITH STRICT CONFORMANCE TO O.D.O.T. ITEMS 203 ALL SECTIONS. SUBGRADE PREPARATION AND COMPACTION SHALL BE PERFORMED AS PER O.D.O.T. ITEM 204.

ALL STUMPS, TREES, AND OTHER CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING. ALL FILL SHALL BE INSTALLED IN CONFORMANCE WITH ODOT ITEM 203. ALL FILL MATERIAL SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ITS PLACEMENT. STUMPS SHALL NOT BE BURIED ON THE SITE.

THE DESIGNATED AREAS OF EXCAVATION AND FILL SHALL BE CLEARED AND STRIPPED BY THE CONTRACTOR PRIOR TO THE START OF ANY EARTHWORK OPERATIONS.

THE CONTRACTOR SHALL STRIP ALL TOPSOIL FROM THE SITE AND SPREAD OR STOCKPILE IN AREAS DESIGNATED BY THE IMPROVEMENT PLANS AND/OR THE OWNER.

THE CONTRACTOR SHALL PLACE AND COMPACT ALL SUITABLE FILL MATERIAL EXCAVATED DURING HIS CONSTRUCTION OPERATIONS WITHIN THE FILL AREAS DESIGNATED ON THE IMPROVEMENT PLANS. THE FINAL GRADE OF THE EXCAVATED AND FILLED AREAS SHALL CORRESPOND TO THE PROPOSED GRADES SHOWN ON THE IMPROVEMENT PLANS.

811

O.U.P.S. REFERENCE
X-XXX-XXX-XXX

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

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

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

REFERENCE STANDARDS
1. ASTM A276- STAINLESS STEEL BARS AND SHAPES
2. ASTM A193/A194- ALLOY-STEEL AND STAINLESS-STEEL BOLTING FOR HIGH TEMPERATURE OR HIGH-PRESSURE SERVICE AND OTHER SPECIAL PURPOSE APPLICATIONS
3. ASTM A536- DUCTILE IRON CASTINGS
4. ASTM A1097- STEEL CASING PIPE, CARBON, ELECTRIC-FUSION (ARC)-WELDED (NPS 10 AND LARGER)
5. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
6. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC
7. ANSI/AWWA C111- RUBBER-GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS
8. ANSI/AWWA C151-DUCTILE-IRON PIPE, CENTRIFUGALLY CAST
9. ANSI/AWWA C153- DUCTILE IRON COMPACT FITTINGS
10. ANSI/AWWA C110- DUCTILE IRON FLANGED FITTINGS
11. AWWA C219- BOLTED SLEEVE-TYPE COUPLINGS FOR PLAIN-END PIPE
12. AWWA C509- RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
13. AWWA C515- REDUCED-WALL, RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
14. AWWA C900- POLYVINYL CHLORIDE PVC PRESSURE PIPE AND FABRICATED FITTINGS
15. AWWA C909- MOLECULARLY ORIENTED POLYVINYL CHLORIDE
16. ODOT 499- CONCRETE

DUCTILE IRON PIPE
1. ALL PIPE SHALL BE AWWA C151 DUCTILE IRON, MINIMUM CLASS 52, WITH A CEMENT MORTAR LINING, HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET. MAINS 36" AND LARGER SHALL BE MINIMUM PRESSURE CLASS 350.

PVC PIPE
1. AWWA C900 CLASS 235 PSI (DR18) *OR* AWWA C909 CLASS 235 PSI (DR18)
2. INSIDE DIAMETER: NO LARGER THAN 12", NO SMALLER THAN 4".

GATE VALVES
1. AWWA C509 *OR* C515 APPROVED MODEL RESILIENT SEATED GATE VALVES
2. VALVE OPERATING NUTS: TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP
3. MIDDLE RING AND FOLLOWER GLANDS TO BE DUCTILE IRON ASTM A536

AIR RELIEF VALVES
1. AIR RELIEF VALVE COMPONENT PARTS SHALL CONFORM TO AWWA C800 AND ASTM B584 FOR MATERIALS THAT COME INTO CONTACT WITH POTABLE WATER.
2. VALVE INLET AND OUTLET SIZE SHALL BE 2". INSTALL ***ONLY*** CLEVELAND WATER-APPROVED AIR RELIEF VALVE PRODUCTS.

HYDRANTS
1. INSTALL ***ONLY*** CLEVELAND WATER-APPROVED HYDRANT MODELS .
2. HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE, INCLUDING STORZ IF REQUESTED BY THE LOCAL MUNICIPALITY.
3. INSTALL ALL HYDRANTS WITH APPROVED PVC PIPE (ITEM 2) AND AWWA C509 6" RW GATE VALVES .
4. HYDRANT CONNECTIONS ARE TO BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS WITH ROD AND CLAMPS AS DIRECTED BY CLEVELAND WATER.
5. HYDRANT BRANCHES TO BE FULLY RESTRAINED. IF BRANCH IS SHORTENED, USE ONLY 1 SLEEVE OR COUPLING WITH NO NEW PIPE REQUIRED.
6. MIDDLE RING AND FOLLOWER GLANDS TO BE EITHER STEEL OR DUCTILE IRON ASTM A536.
7. FLUSHING HYDRANTS SHALL CONSIST OF 2" FIP VERTICAL INLET, 2" MIP OUTLET AND BE SELF-DRAINING. FLUSHING HYDRANT SHALL BE FULLY OPERABLE AND SERVICEABLE FROM ABOVE GROUND. EQUAL TO KUPERFERLE TRUFLO MODEL NO. TF500.

COMPRESSION COUPLINGS - VALVES AND HYDRANTS
1. CLASS 250 AWWA C219 GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END PIPE
2. MINIMUM WORKING PRESSURE: 250 PSI
3. EQUAL TO DRESSER STYLE NO. 38, 138, OR 162 (TRANSITION TYPE) OR ROMAC 501/ SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.
4. EACH COUPLING TO CONSIST OF 1 DUCTILE IRON MIDDLE RING WITHOUT STOPS (ASTM-A536), 2 DUCTILE IRON FOLLOWER GLANDS (ASTM A536), 2 RUBBER COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS, AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS OF ASTM A276/A193/194 TYPE 304 EXTRA HEAVY HEX TO PROPERLY COMPRESS THE GASKETS.

FITTINGS/JOINTS
1. ALL FITTINGS/JOINTS TO BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED, OR FUSION BONDED EPOXY COATED (UNLESS OTHERWISE CALLED FOR ON PLANS) .
2. ALL FITTINGS TO BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C110/A21.10 AND ANSI/AWWA C111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C153/A21.53.
3. MUST HAVE APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
4. ALL FITTINGS ARE TO HAVE BELL ENDS.

GASKETS AND LUBRICANTS
1. ELASTOMERIC GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 FOR HIGH-HEAD APPLICATIONS.
2. GASKETS AND LUBRICANTS INTENDED FOR USE WITH POTABLE WATER SHALL BE CERTIFIED BY AN ACCREDITED TESTING AGENCY FOR COMPLIANCE WITH NSF/ANSI 61.

ANODE PROTECTION
1. MAGNESIUM ALLOY ANODES SHALL MEET ASTM B843 AND ASTM G97.
2. THERMITE WELDS ARE TO BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP.
3. COPPER SLEEVES ARE REQUIRED FOR THERMITE WELD WIRE CONNECTIONS USING #10 AWG WIRE OR SMALLER.

WATER MAIN TRENCH
1. BEDDING, INITIAL, AND PREMIUM BACKFILL MATERIAL: # 57 OR #67 COARSE LIMESTONE AGGREGATE COMPLYING WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 703.11; WRITTEN APPROVAL REQUIRED BY CWD FOR SAND BEDDING FOR DUCTILE IRON PIPE.
2. SUITABLE BACKFILL: EXCAVATED MATERIAL FREE OF ROCK LARGER THAN 1.5", FROZEN MATERIALS, ORGANIC MATERIAL, AND DEBRIS.
3. TYPE 2 CONTROLLED LOW-STRENGTH MORTAR (CLSM) SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 613.03. CLSM MAY BE USED AS DIRECTED BY CLEVELAND WATER.

CASING
1. CASING SPACER: 8" WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS
2. CASING PIPE: ASTM A1097 COATED OR UNCOATED STEEL WITH A MIN. 35,000 PSI SMYS.
3. FOR 8" WATER MAIN USE 16" CASING
4. FOR 12" WATER MAIN USE 20" CASING

TRACER WIRE
1. MUST BE INSTALLED WITH A CONTINUOUS RUN OF 12-GAUGE COPPER-CLAD STEEL WIRE.
2. BREAKING LOAD: MIN. 450 POUNDS
3. MIN. 30 MILS OF BLUE HDPE INSULATION CERTIFIED FOR DIRECT BURIAL
4. GROUND ROD: MIN 1.5 LB MAGNESIUM DRIVE-IN ANODE ROD WITH CONNECTED GROUND WIRE.
5. CONNECTORS: WATERPROOF, CONTAIN DIELECTRIC SILICONE AND RATED FOR DIRECT BURIAL.
6. NON-LOCKING FRICTION FIT, TWIST-ON, AND TAPED CONNECTIONS ARE NOT PERMITTED.

SERVICE CONNECTIONS
1. ALL SERVICE CONNECTIONS SHALL BE A MINIMUM OF 1"
2. FOR CONNECTIONS 2" AND SMALLER: USE TYPE K COPPER
3. FOR CONNECTIONS 3" AND LARGER: USE CLASS 52 DUCTILE IRON WRAPPED IN V-BIO® ENHANCED POLYETHYLENE ENCASEMENT.

BOLTS AND NUTS
1. ALL BOLTS AND NUTS ON ALL RETAINED MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE 1 COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF V-BIO® POLYETHYLENE WRAP OR APPROVED EQUAL WRAPPING IN ACCORDANCE WITH ANSI/AWWA C105/A21.5 MODIFIED METHOD "A" .

CONCRETE
1. FOR BULKHEAD: CLASS QC 1 OR 4,000 PSI HIGH STRENGTH BAGGED CONCRETE MIX
2. FOR THRUST BLOCK: CLASS QC 1 WITH 4,000 PSI 28 DAY COMPRESSIVE STRENGTH (ODOT 499)

FROST PROOFING
1. USE PRE-FORMED CELLULAR CONCRETE FOAM "GILSULATE 500 XR" AS MANUFACTURED BY GILSULATE INTERNATIONAL, INC. OR APPROVED EQUAL.

LOWERING
1. PIPE USED SHALL BE 8" (MIN.) AND 12" (MAX.) IN DIAMETER.
2. MAXIMUM BEND ALLOWED TO BE 22.5 DEGREES.

TEE
1. PIPE TO BE USED ON TEE: 8" (MIN.) AND 12" (MAX)
2. AWWA C110 OR C153 DI CLASS 350 MJ FITTINGS WITH FBE COATING, CEMENT LINING, POLYETHYLENE ENCASEMENT
3. AWWA C219 PIPE COUPLINGS- ROMAC 501 OR SMITH BLAIR 441 DI ONLY
4. AWWA C509 DUCTILE IRON RESILIENT WEDGE GATE VALVE (MJ X MJ)
5. MECHANICAL JOINT RETAINER GLAND FOR PVC PIPE-TYLER UNION OR APPROVED EQUAL

CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	REVISIONS			MATERIAL CRITERIA FOR WATER MAIN INSTALLATION AND REPLACEMENT
	NO.	DATE	BY	DETAIL NO.: GEN-000A
				SCALE: N.T.S. DATE: 7/12/2024

DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/ OR AS PROVIDED BY CLEVELAND WATER *STAFF.*

REFERENCE STANDARDS
1. AWWA C600 - INSTALLATION OF DUCTILE-IRON MAINS AND THEIR APPURTENANCES
1. AWWA C605- UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS
2. AWWA C651- DISINFECTING WATER MAINS
3. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
4. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC PIPE

OVERALL PIPE PREPARATION AND EXECUTION
1. ALL DUCTILE IRON PIPE SHALL BE INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600, AWWA MANUAL M41, DIPRA'S "INSTALLATION GUIDE FOR DUCTILE IRON PIPE" (ISBN 0-9642194-0-9) AND "DIRECT TAPPING OF DUCTILE IRON PIPING ENCASED IN POLYETHYLENE", AS WELL AS THE MANUFACTURER'S INSTRUCTIONS.
2. ALL DUCTILE IRON BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A" AND ASTM A674.
3. PIPE AND ACCESSORIES SHOULD BE INSPECTED FOR DEFECTS AND CLEANLINESS BEFORE THEY ARE LOWERED INTO THE TRENCH. ANY DEFECTIVE OR DAMAGED MATERIAL SHOULD BE REPAIRED OR REPLACED, AND ALL FOREIGN MATTER OR DIRT REMOVED FROM THE INTERIOR OF THE PIPE AND ACCESSORIES BEFORE LOWERING INTO TRENCH.
4. ALL PVC PIPE SHALL BE INSTALLED PER AWWA, C605, ASTM D2774, ASTM F1668, AND MANUFACTURER'S INSTRUCTIONS.
5. ONCE DELIVERED, ALL PVC PIPE MUST BE PROTECTED FROM DIRECT SUN EXPOSURE UNTIL THE PIPE IS INSTALLED AND BACKFILLED.
6. ANY PIPE JOINT THAT HAS BEEN OVER-INSERTED SHALL HAVE BOTH THE BELL PIPE AND THE SPIGOT PIPE REMOVED AND DISCARDED.
7. IN NO CASE SHALL MAINS BE LAID WITH LESS THAN 3'-6" OF COVER IN UNPAVED AREAS AND 3'-0" TO BOTTOM OF SLAB IN PAVED AREAS. MAINS SHALL BE LAID AT A BURY DEPTH OF 6 FT MIN. UNLESS WRITTEN PERMISSION IS PROVIDED BY CLEVELAND WATER.
8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND DIVISION OF WATER STANDARDS.
9. TWO FEET ABOVE THE MAIN, DETECTABLE TRACER TAPE NOTING THE PRESENCE OF A WATER MAIN SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE MAIN, INCLUDING HYDRANT LATERALS AND OPEN CUT INSTALLED SERVICE CONNECTIONS.
10. ALL MATERIALS USED SHALL ABIDE BY REQUIREMENTS LISTED ON MATERIAL SPECIFICATION LIST (GEN-000A).

TRACER WIRE FOR PVC PIPE
1. ALL NEW TRACER WIRE INSTALLATIONS SHALL HAVE THEIR FUNCTION VERIFIED BY BEING LOCATED USING TYPICAL LOW FREQUENCY (512HZ) LINE TRACING EQUIPMENT. THE LOCATING FIRM SHALL PROVIDE WRITTEN CERTIFICATIONS THAT THE SYSTEM IS COMPLETELY FUNCTIONAL AT TEST COMPLETION.
2. MAGNESIUM GROUND ANODE RODS ARE TO BE INSTALLED AT EACH DEAD END PER THE MANUFACTURER'S INSTRUCTIONS.
3. TRACER LINES SHALL TERMINATE AT A DEDICATED AT-GRADE ACCESS POINT/TEST STATION IDENTIFIED WITH "WATER" ON THE CAP. AT LEAST 2 FEET OF SLACK WIRE SHALL BE PROVIDED AT EACH TERMINATION POINT.
4. LATERAL TRACER LINES ON HYDRANTS, TEES, AND CROSSES ARE NOT TO CUT THE MAIN TRACER WIRE.

HYDROSTATIC PRESSURE TESTING
1. CLEAN PIPE PRIOR TO CONDUCTING HYDROSTATIC PRESSURE TESTING. CLEANING MAY BE COMPLETED VIA FLUSHING OR SWABBING EXCEPT IF DISINFECTION IS CONDUCTED USING THE TABLET METHOD.
2. FILL WATER MAIN AT A CONTINUOUS RATE, 1 FT/SEC MAXIMUM. ONCE FULL, FLUSH THE LINE NOT LESS THAN 3 FT/SEC UNLESS DIRECTED BY CLEVELAND WATER THAT CONDITIONS DO NOT PERMIT THE REQUIRED FLOW RATE TO BE ACHIEVED. FLUSHING SHALL CONTINUE UNTIL THE VOLUME OF WATER IN THE NEWLY INSTALLED MAIN HAS TURNED OVER AT LEAST ONE TIME.
3. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI.
4. DURATION: 2 HOURS (WITH PRESSURE MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE).
5. SHOULD THE PRESSURE TEST FAIL, THE CONTRACTOR SHALL IDENTIFY THE SOURCE(S) AND CORRECT THE DEFICIENCY. THE HYDROSTATIC PRESSURE TEST SHALL BE REPEATED FOR THE PRESCRIBED DURATION TO VERIFY THAT THE NEW WATER MAIN MEETS THE TEST CRITERIA. WORK PERFORMED TO IDENTIFY AND CORRECT FAILURE SOURCE(S) AND THEIR REMEDIATION MUST BE COMPLETED TO THE SATISFACTION OF CLEVELAND WATER AT NO ADDITIONAL COST.

DISINFECTION
1. DISINFECTION FOR WATER MAINS SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN THE MOST CURRENT REVISION OF AWWA C651.

SERVICE CONNECTIONS
1. SADDLE TAPPING SHALL BE PERFORMED FOR PIPES OF ANY NOMINAL SIZE AND PRESSURE CLASS. TAP SIZE IS LIMITED TO 2-INCHES MAXIMUM.
2. TAPPING SLEEVE AND VALVE IS REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 2-INCHES. THRUST RESTRAINT IS REQUIRED.
3. SERVICE CLAMPS OF SADDLES SHALL PROVIDE FULL SUPPORT AROUND THE CIRCUMFERENCE OF THE PIPE AND PROVIDE A BEARING AREA OF SUFFICIENT WIDTH ALONG THE AXIS OF THE PIPE TO PREVENT DISTORTION WHEN THE SADDLE IS TIGHTENED. NARROW U-BOLT-TYPE STRAPS AND SADDLES HAVING LUGS ARE PROHIBITED.

PIPE JOINTS
1. PIPE JOINTS SHALL ADHERE TO ANSI/AWWA C110/A21.10, C111/A21.11, C153/A21.53, C900, C905, C907 AND C909 REQUIREMENTS AND PROCEDURES FOR JOINT METHODS AND MATERIALS.
4. RESTRAINED JOINTS, AS INDICATED ON THE PLANS, SHALL COMPLY WITH ANSI/AWWA C111/A21.11.

FITTINGS AND APPURTENANCES
1. ALL FITTINGS SHALL BE APPROVED DUCTILE IRON CLASS 350, CEMENT LINED AND FUSION BOND EPOXY COATED CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53.
2. ALL FITTINGS AND PIPES CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT. JOINTS SHALL COMPLY WITH ANSI/AWWA C111/A21.11.
3. ALL FITTINGS MUST HAVE BELL ENDS UNLESS APPROVED BY CLEVELAND WATER.
4. PROVIDE PROPER SUPPORT FOR VALVES, HYDRANTS, AND FITTINGS SUCH THAT THE WEIGHT IS NOT APPLIED TO THE PIPE.

FIELD QUALITY CONTROL
1. PIPE SPIGOT END, BELL END, COUPLER OR FITTING, AND ELASTOMERIC GASKET SHALL BE CLEANED IMMEDIATELY BEFORE ASSEMBLY. DO NOT REMOVE FACTORY INSTALLED GASKETS. APPROVED LUBRICANTS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. PIPE CUTTING SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C600, C900, AND MANUFACTURER REQUIREMENTS. PIPE SHALL BE MARKED AROUND ITS ENTIRE CIRCUMFERENCE TO ENSURE A SQUARE CUT.
3. CUT ENDS OF PIPE SHALL BE BEVELED TO ENSURE PROPER JOINT ASSEMBLY. USE FACTORY-FINISHED PIPE END AS A GUIDE TO DETERMINE THE ANGLE AND LENGTH OF THE BEVEL. DEBURR AND CLEAN CUT PIPE END PRIOR TO BELL INSERTION.
4. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATERTIGHT PLUGS AS PER THE "PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED BY USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END. PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.
5. CLEVELAND WATER INSPECTORS SHALL BE INVITED TO WITNESS TRACER WIRE VERIFICATION FOR PVC PIPE INSTALLATIONS. THIS VERIFICATION SHALL BE PERFORMED UPON COMPLETION OF ROUGH GRADING AND AGAIN PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT. CONTINUITY TESTING IN LIEU OF ACTUAL LINE TRACING SHALL NOT BE ACCEPTED. CLEVELAND WATER WILL REQUIRE COMPLETION OF THE FIRST VERIFICATION PRIOR TO CHLORINATION, WITH CERTIFICATION SUBMITTED ALONG WITH RED LINE DRAWINGS. CERTIFICATION OF THE SECOND VERIFICATION SHALL BE PROVIDED WITH AS-BUILT DRAWINGS.

CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	REVISIONS			GUIDELINES FOR WATER MAIN INSTALLATION AND REPLACEMENT
	NO.	DATE	BY	DETAIL NO.: GEN-000B
				SCALE: N.T.S. DATE: 5/31/2024

REV. No.		DATE	BY

STATE OF OHIO
KEVIN T. HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 02-General Notes
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

GENERAL NOTES

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
02	20

NOTE:
ANYONE USING ELEVATIONS ASSOCIATED WITH THIS PLAN SHALL UTILIZE & CHECK INTO BOTH BENCHMARKS FOR VERTICAL CONTROL. POLARIS SHALL BE NOTIFIED IMMEDIATELY OF ANY IRREGULARITIES.

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CHORD	BEARING	DELTA
C1	260.90'C/M	2809.79'R/M	130.55'	260.81'	N25°38'53"W	5°19'13"
C2	415.81'R/M	2809.79'R/M	208.28'	415.43'R/M	N32°32'51"W	8°28'44"
C3	81.82'R/M	2803.79'R/M	40.91'	81.82'	N41°49'25"W	1°40'19"
C4	50.26'	30.00'R/M	33.31'	44.58'	S89°20'45"W	95°59'59"

EXISTING UTILITY LINE LEGEND

SAN	Existing Sanitary Sewer
COMBO	Existing Combination Sewer
FM	Existing Force Main
STM	Existing Storm Sewer
W	Existing Water Line
OH	Existing Overhead Wire
E	Existing Buried Electric Line
G	Existing Gas Line
TEL	Existing Tel./Comm. Line
FO	Existing Fiber Optic Cable

STATE OF OHIO · RICHARD A. THOMPSON, JR. 7388 REGISTERED PROFESSIONAL SURVEYOR

Boundary Certification:

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PREMISES AND PREPARED THE ATTACHED PLAT IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 4733-37 OF THE OHIO ADMINISTRATIVE CODE. THE DIMENSIONS ARE IN FEET AND DECIMAL PARTS THEREOF, ALL OF WHICH ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IRON MONUMENTS OR PINS AS INDICATED WERE FOUND OR SET AS SHOWN HEREON. THE TERM CERTIFY AS USED IN THIS STATEMENT IS UNDERSTOOD TO BE THE PROFESSIONAL OPINION OF THE SURVEYOR WHICH IS FORMULATED ON HIS BEST KNOWLEDGE, INFORMATION AND BELIEF, AND AS SUCH, IT DOES NOT CONSTITUTE A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED. THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS REVEALED BY A EXAMINATION OF THE SAME. BEARINGS REFER TO THE OHIO STATE COORDINATE SYSTEM OF 1983 (NORTH ZONE) BASED ON THE ODOT CORS/VRS SYSTEM NAD83 (2011) DATUM. ALL IRON PINS SET ARE 5/8 INCH DIAMETER BY 30-INCH-LONG REBAR WITH RED IDENTIFICATION CAP "POLARIS P.S.-7388" AS SHOWN HEREON (●).

Richard A. Thompson Jr.
RICHARD A. THOMPSON, JR.
OHIO PROFESSIONAL SURVEYOR #7388
MAP DATE: 05/05/26
FIELD SURVEY DATE: 04/13/26

STATE OF OHIO · RICHARD A. THOMPSON JR. 7388 REGISTERED PROFESSIONAL SURVEYOR

TOPOGRAPHIC CERTIFICATION:

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS TOPOGRAPHY, INDICATED BY 1' CONTOURS, AND ELEVATIONS SHOWN HEREON, REPRESENT AN ACTUAL FIELD SURVEY MADE UNDER MY SUPERVISION ON THE 13TH DAY OF APRIL, 2026, AND THAT THE ELEVATIONS WERE TAKEN AT APPROPRIATE INTERVALS AND THAT AS OF THAT DATE THEY EXISTED AS INDICATED HEREON. VERTICAL DATUM IS BASED ON NAVD88.

Richard A. Thompson Jr.
RICHARD A. THOMPSON, JR., P.S. #7388

CENTER RIDGE ROAD
DEDICATION PLAT VOL. 118, PG. 27
WIDTH VARIES

CROCKER - STEARNS ROAD
PLAT VOL. 360, PG. 93 (2009)
WIDTH VARIES

Crocker Road Medical Assembly Plat
Vol. 383, Pg. 77 (2016)

Parcel CP-1
CROSCKER PROFESSIONALS, LLC
P.P.N 217-26-019
4350 CROCKER ROAD
3.55 Ac.

CITY OF WESTLAKE
P.P.N 111-WD
AFN 200304210563

PHOENIX RENTAL, AN OHIO PARTNERSHIP
AFN:200304210563
P.P.N 217-26-003
7.48 Ac.

Brentwood Townhomes Subdivision
AFN: 202309080371 (2023)

Brentwood Subdivision
AFN: 202309080370 (2023)

BRENTWOOD WESTLAKE DEVELOPMENT, LLC
P.P.N 217-26-042
1.17 Ac.

THOMAS & BRITA HACKETT
P.P.N 217-26-026
4393 PALOMAR LANE
0.47 Ac.

JAMES & JENNIFER L. POLLOCK
P.P.N 217-24-025
PALOMAR LANE
1.28 Ac.

PALOMAR LANE 60'

SEQUOIA TRAIL 60'

MICHAEL M., BARNER
P.P.N 217-24-010
29810 SEQUOIA TRAIL
0.43 Ac.

MARIA NEMEC
P.P.N 217-24-068
29820 SEQUOIA TRAIL
0.38 Ac.

SUN KYUNG KWON
P.P.N 217-24-032
29840 SEQUOIA TRAIL
0.34 Ac.

JEFFREY R. SALIM & EMMA M. SHEGA
P.P.N 217-24-069
29830 SEQUOIA TRAIL
0.36 Ac.

JOSEPH & LAUREN MULHOLLAND
P.P.N 217-24-031
29850 SEQUOIA TRAIL
0.34 Ac.

MATTHEW H. DAWSON
P.P.N 217-24-030
29860 SEQUOIA TRAIL
0.37 Ac.

NATHAN S. & JENNIFER T. LYONS
P.P.N 217-26-014
29790 SEQUOIA TRAIL
0.44 Ac.

Bretton Woods Parks Subdivision No. 3 (Volume 359, Page 56 (2009))
Bretton Woods Park Subdivision No. 2 Vol. 246 Pgs 19-20 (1969)

Benchmark #1
SAN MH RIM
731.18

Benchmark #2
STM MH RIM
732.30

EX. POWER POLE, GUY WIRE AND OVERHEAD WIRE TO BE REMOVED

EX. UTILITY POLE AND GUY WIRE TO BE REMOVED.
EX. STREET SIGNAGE TO BE RELOCATED. CONTRACTOR TO COORDINATE WITH CITY OF WESTLAKE.

EX. 6" CLEANOUT & CONNECTED PIPING TO BE REMOVED. CONTRACTOR TO VERIFY DEPTH, LOCATION, AND OUTLET POINT OF EX. CONNECTION PRIOR TO REMOVAL.

PROP. CLEARING LIMITS

20' Landscape Easement As Shown by Plat Vol. 359 Pg. 56

Parcel No. 111-X
Permanent Easement to Construct, Reconstruct, Operate & Maintain a Channel.
AFN 200304210657

Ex. 5' Wood Fence (along property line)

FEMA FLOOD PLAIN
F.I.R.M. 39035C0137E
eff. 12/31/2010
LOMR 19-05-5365P
eff. 10/29/2020

Flood Plain Legend: 500 year Floodplain · 100 year Floodplain · Floodway

811 O.U.P.S. REFERENCE 2606404068
2 WORKING DAYS BEFORE YOU DIG CALL 8-1-1
OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECT

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

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

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 INCH = 50 FEET

REV. No.		DATE	BY

STATE OF OHIO · KEVIN HORTMAN 74831 REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 03-Existing Conditions
BNDY. BY: RAT
BASE. BY: SRB

EXISTING CONDITIONS SYMBOL LEGEND

Ex. Square Catch Basin	Ex. Manhole	Ex. Electric Meter	Ex. Electric Marker	Ex. Power Pole	Ex. Transmission Pole	Ex. Electrical Box	Ex. Irrigation Valve	Ex. Stump
Ex. Round Yard Drain	Ex. Sanitary Manhole	Ex. Gas Meter	Ex. Fiber Optic Marker	Ex. Light Pole	Ex. Non-Utility Pole	Ex. Power Transformer	Ex. Sprinkler Control Box	Ex. Tree
Ex. Square Yard Drain	Ex. Clean Out	Ex. Water Meter	Ex. Gas Marker	Ex. Light Power Pole	Ex. Yard Light	Ex. Pull Box	Ex. Sprinkler Head	Ex. Pine Tree
Ex. Round Catch Basin	Ex. Hydrant	Ex. Gas Valve	Ex. Tel. Line Marker	Ex. Tel. Light Pole	Ex. Traffic Signal Pole	Ex.Telephone Box	Ex. Electrical Outlet	Ex. Bush
Ex. Curb Inlet	Ex. Water Well	Ex. Gas Service Valve	Ex. Waterline Marker	Ex. Power Tel. Light Pole	Ex. Traffic Signal Box	Ex. Cable TV Box	Ex. Mailbox	Ex. Test Bore
Ex. Round Curb Inlet	Ex. Gas Test	Ex. Waterline Valve	Ex. Guy Wire			Ex. Guard Post	Ex. Air Conditioning Unit	Ex. Aerial Control Point
Ex. Storm Manhole	Ex. Sign	Ex. Water Service Valve	Ex. Anchor Pole			Ex. Railroad Signal	Ex. Monitoring Well	

BENCHMARK DATA

B.M #1: EX. SAN MH RIM
ELEV.: 731.18
NORTHING: 642535.98
EASTING: 2119914.37

B.M #2: EX. STM MH RIM
ELEV.: 732.30
NORTHING: 642470.93
EASTING: 2119851.46

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

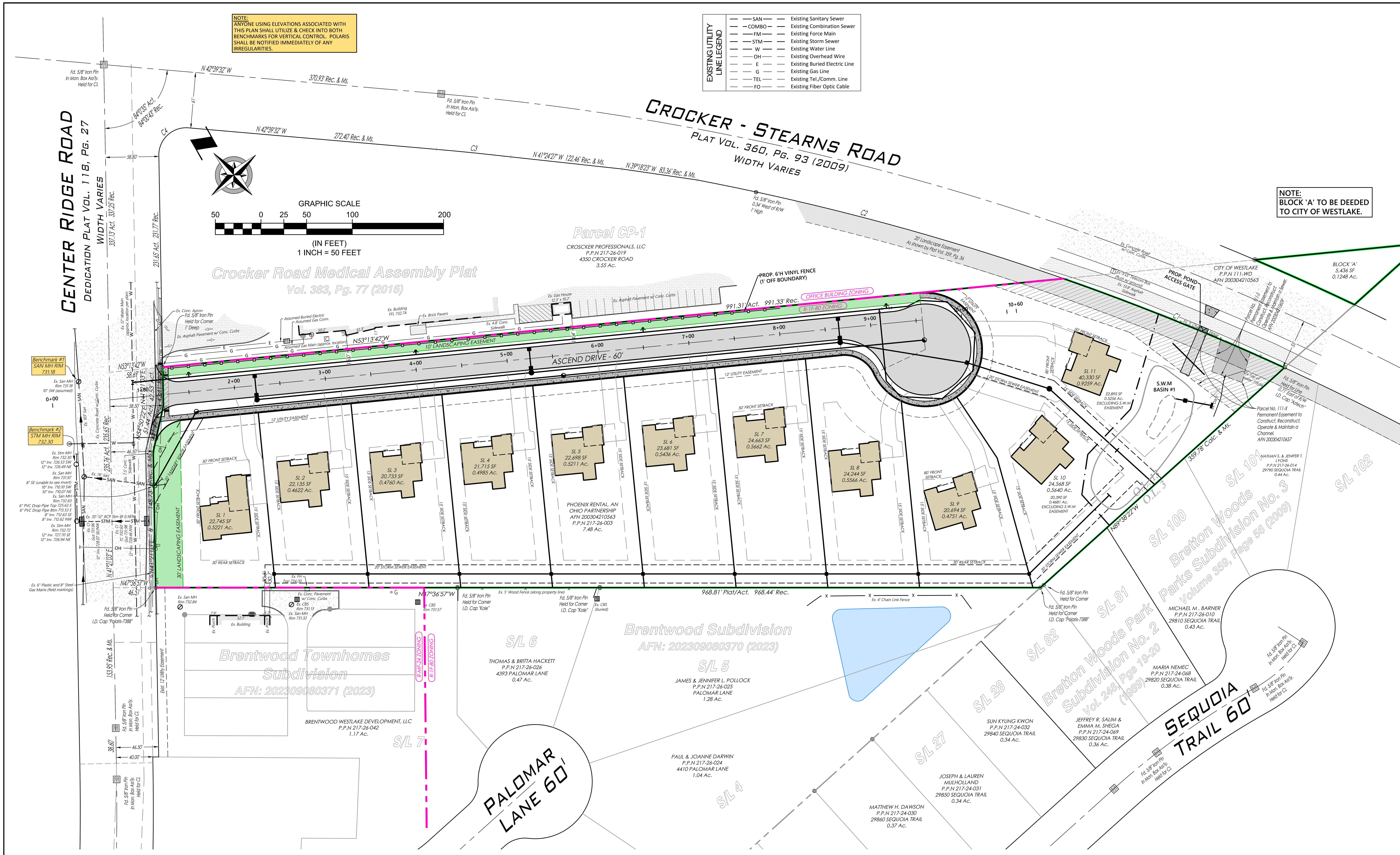
POLARIS ENGINEERING & SURVEYING, INC.
34600 CHARDON ROAD - SUITE D
WILLOUGHBY HILLS, OHIO 44094
(440) 944-4433
www.polaris-es.com

EXISTING CONDITIONS & DEMO PLAN

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
03	20



EXISTING UTILITY LINE LEGEND	
SAN	Existing Sanitary Sewer
COMBO	Existing Combination Sewer
FM	Existing Force Main
STM	Existing Storm Sewer
W	Existing Water Line
OH	Existing Overhead Wire
E	Existing Buried Electric Line
G	Existing Gas Line
TEL	Existing Tel./Comm. Line
FO	Existing Fiber Optic Cable

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

POLARIS ENGINEERING & SURVEYING, INC.
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DEVELOPMENT PLAN

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9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

REV. No.		DATE	BY

STATE OF OHIO — KEVIN T. HOFFMAN 74831 — REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 04-Development Plan
BNDY. BY: RAT
BASE. BY: SRB

EXISTING CONDITIONS SYMBOL LEGEND

Ex. Square Catch Basin	Ex. Manhole	Ex. Electric Meter	Ex. Electric Marker	Ex. Power Pole	Ex. Transmission Pole	Ex. Electrical Box	Ex. Irrigation Valve
Ex. Round Yard Drain	Ex. Sanitary Manhole	Ex. Gas Meter	Ex. Fiber Optic Marker	Ex. Light Pole	Ex. Non-Utility Pole	Ex. Power Transformer	Ex. Sprinkler Control Box
Ex. Square Yard Drain	Ex. Clean Out	Ex. Water Meter	Ex. Gas Marker	Ex. Light Power Pole	Ex. Yard Light	Ex. Pull Box	Ex. Sprinkler Head
Ex. Round Catch Basin	Ex. Hydrant	Ex. Gas Valve	Ex. Tel. Line Marker	Ex. Tel. Light Pole	Ex. Traffic Signal Pole	Ex.Telephone Box	Ex. Electrical Outlet
Ex. Curb Inlet	Ex. Water Well	Ex. Gas Service Valve	Ex. Waterline Marker	Ex. Power Tel. Light Pole	Ex. Traffic Signal Box	Ex. Cable TV Box	Ex. Mailbox
Ex. Round Curb Inlet	Ex. Gas Test	Ex. Waterline Valve	Ex. Guy Wire			Ex. Guard Post	Ex. Air Conditioning Unit
Ex. Storm Manhole	Ex. Sign	Ex. Water Service Valve	Ex. Anchor Pole			Ex. Railroad Signal	Ex. Monitoring Well

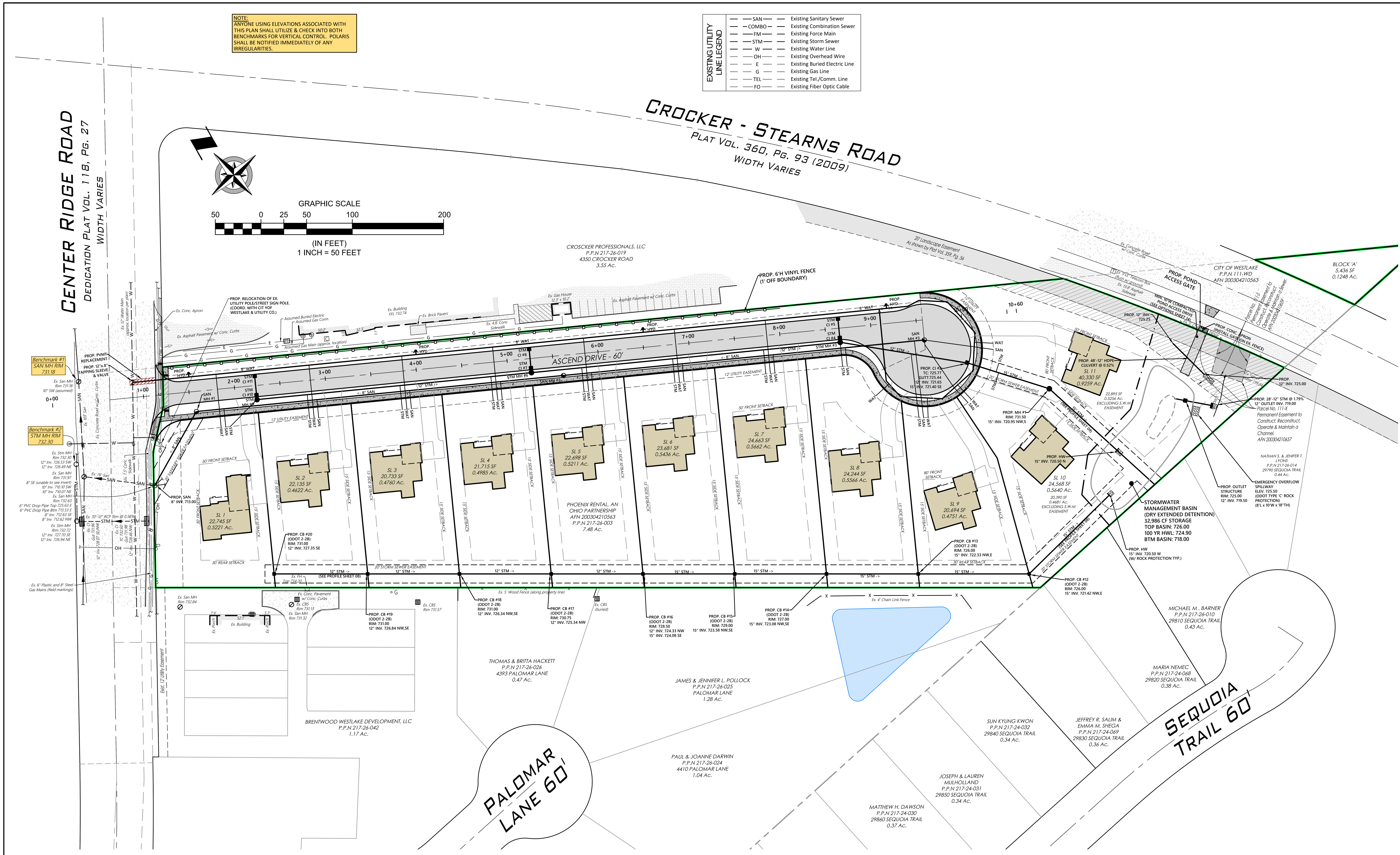
Ex. Stump, Ex. Tree, Ex. Pine Tree, Ex. Bush, Ex. Test Bore, Ex. Aerial Control Point

BENCHMARK DATA

B.M #1:	EX. SAN MH RIM		
	ELEV.:	731.18	
	NORTHING:	642535.98	
	EASTING:	2119914.37	
B.M #2:	EX. STM MH RIM		
	ELEV.:	732.30	
	NORTHING:	642470.93	
	EASTING:	2119851.46	

CONTRACT No. 26003

SHEET 04 OF 20



REV. No.		DATE	BY

STATE OF OHIO — KEVIN T. HOFFMAN 74831 — REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 05-Utility Plan
BNDY. BY: RAT
BASE. BY: SRB

EXISTING CONDITIONS SYMBOL LEGEND

Ex. Square Catch Basin; Ex. Round Yard Drain; Ex. Square Yard Drain; Ex. Round Catch Basin; Ex. Curb Inlet; Ex. Round Curb Inlet; Ex. Storm Manhole; Ex. Manhole; Ex. Sanitary Manhole; Ex. Clean Out; Ex. Hydrant; Ex. Water Well; GT Ex. Gas Test; Ex. Sign; Ex. Electric Meter; Ex. Gas Meter; Ex. Water Meter; Ex. Gas Valve; Ex. Gas Service Valve; Ex. Waterline Valve; Ex. Water Service Valve; E Ex. Electric Marker; FO Ex. Fiber Optic Marker; G Ex. Gas Marker; T Ex. Tel. Line Marker; W Ex. Waterline Marker; Ex. Guy Wire; Ex. Anchor Pole; Ex. Power Pole; Ex. Light Pole; Ex. Light Power Pole; Ex. Tel. Light Pole; Ex. Power Tel. Light Pole; Ex. Transmission Pole; Ex. Non-Utility Pole; Ex. Yard Light; Ex. Traffic Signal Pole; Ex. Traffic Signal Box; Ex. Electrical Box; Ex. Power Transformer; Ex. Pull Box; Ex.Telephone Box; Ex. Cable TV Box; Ex. Guard Post; Ex. Railroad Signal; IRR Ex. Irrigation Valve; SCB Ex. Sprinkler Control Box; SH Ex. Sprinkler Head; EO Ex. Electrical Outlet; Ex. Mailbox; Ex. Air Conditioning Unit; MW Ex. Monitoring Well; Ex. Stump; Ex. Tree; Ex. Pine Tree; Ex. Bush; Ex. Test Bore; Ex. Aerial Control Point

BENCHMARK DATA

B.M #1:	EX. SAN MH RIM		
	ELEV.:	731.18	
	NORTHING:	642535.98	
	EASTING:	2119914.37	
B.M #2:	EX. STM MH RIM		
	ELEV.:	732.30	
	NORTHING:	642470.93	
	EASTING:	2119851.46	

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

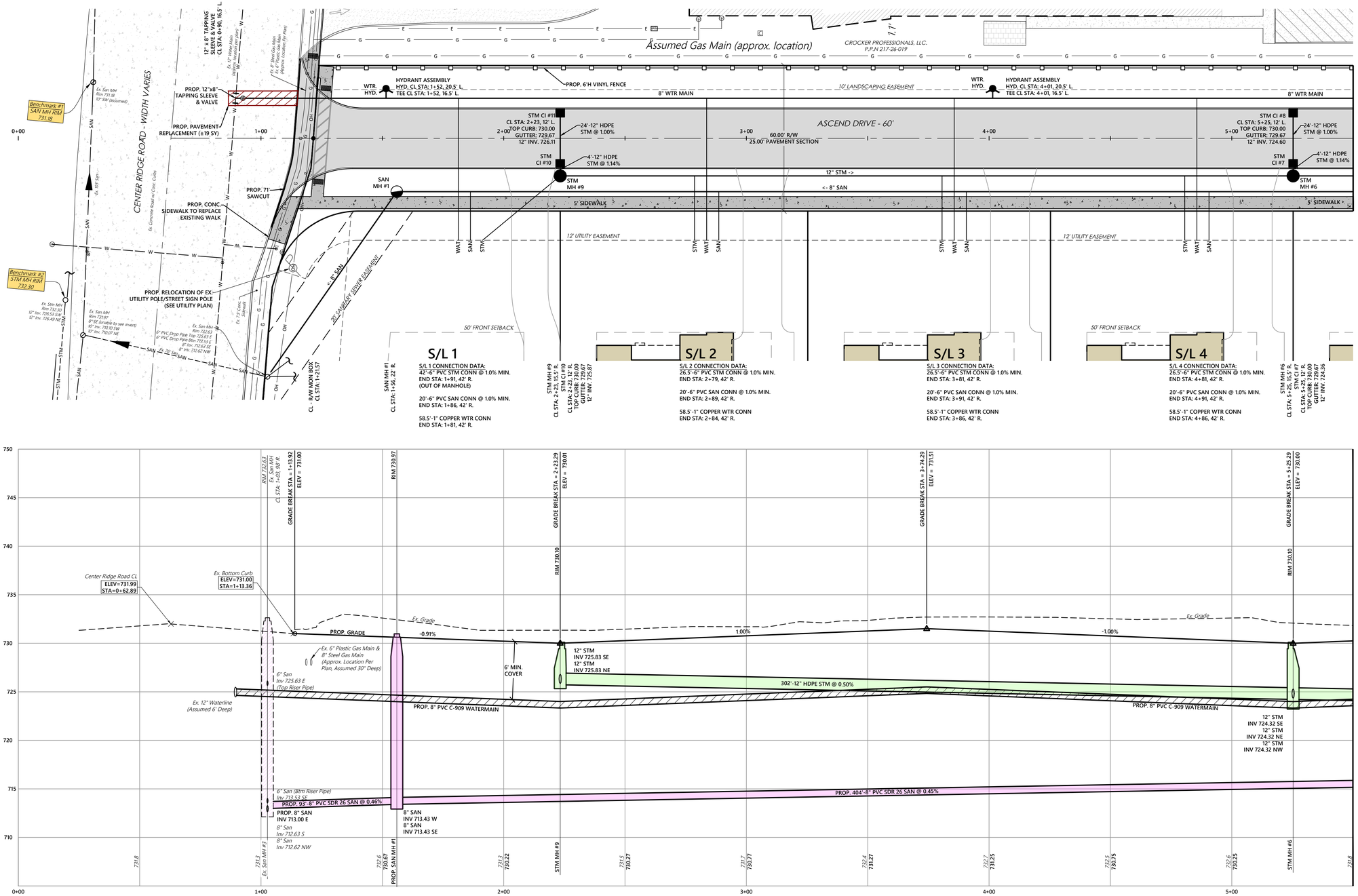
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UTILITY PLAN

PREPARED FOR:
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MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No. 26003

SHEET 05 OF 20



REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Surveying
FILENAME: 26003 P&P
TAB: 06-P&P (Sta. 0+00 - 5+50)
BNDY. BY: RAT
BASE. BY: SRB

NOTE:
ANYONE USING ELEVATIONS ASSOCIATED WITH THIS PLAN SHALL UTILIZE & CHECK INTO BOTH BENCHMARKS FOR VERTICAL CONTROL. POLARIS SHALL BE NOTIFIED IMMEDIATELY OF ANY IRREGULARITIES.

BENCHMARK DATA

B.M #1: EX. SAN MH RIM
ELEV.: 731.18
NORTHING: 642535.98
EASTING: 2119914.37

B.M #2: EX. STM MH RIM
ELEV.: 732.30
NORTHING: 642470.93
EASTING: 2119851.46

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 INCH = 20 FEET

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

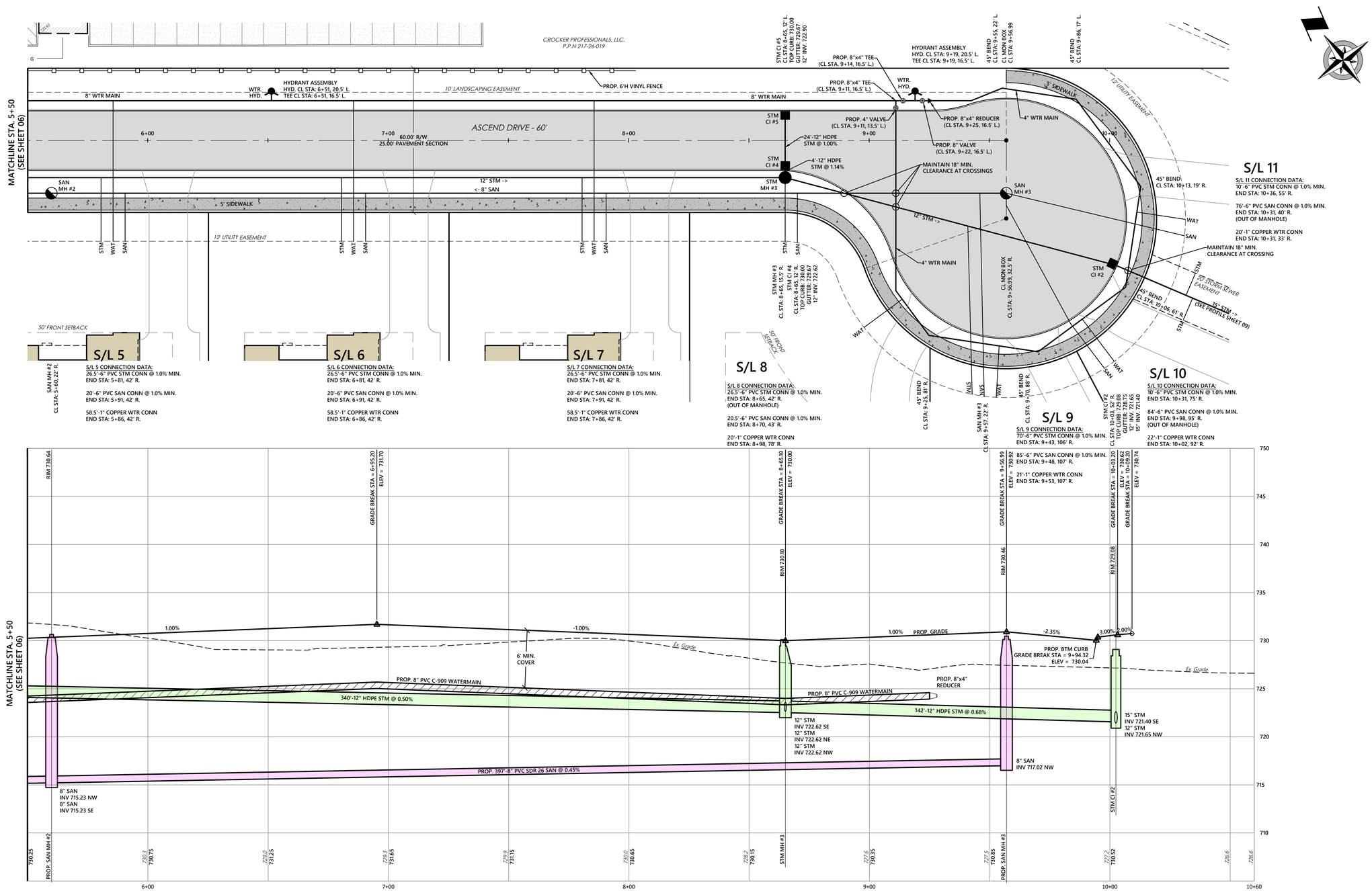
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www.polaris-es.com

PLAN & PROFILE
ASCEND DRIVE STA. 0+00 - 5+50

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
06	20



REV. No.		DATE	BY

STATE OF OHIO
KEVIN HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Surveying
FILENAME: 26003 P&P
TAB: 07-P&P (Sta. 5+50 - End)
BNDY. BY: RAT
BASE. BY: SRB

NOTE:
ANYONE USING ELEVATIONS ASSOCIATED WITH THIS PLAN SHALL UTILIZE & CHECK INTO BOTH BENCHMARKS FOR VERTICAL CONTROL. POLARIS SHALL BE NOTIFIED IMMEDIATELY OF ANY IRREGULARITIES.

BENCHMARK DATA

B.M #1: EX. SAN MH RIM
ELEV.: 731.18
NORTHING: 642535.98
EASTING: 2119914.37

B.M #2: EX. STM MH RIM
ELEV.: 732.30
NORTHING: 642470.93
EASTING: 2119851.46

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 INCH = 20 FEET

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

polaris Engineering & Surveying

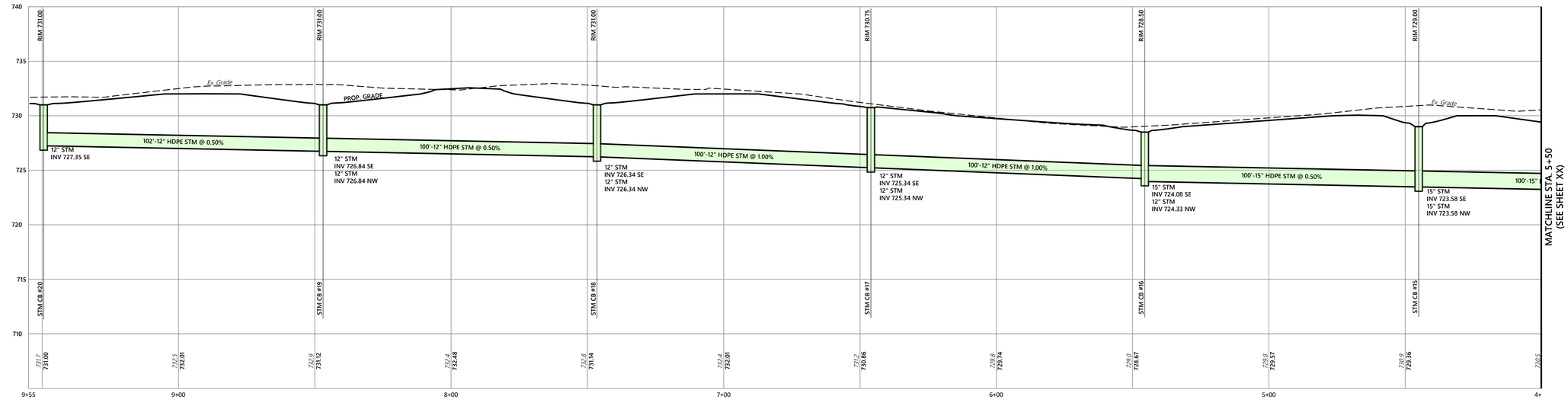
PLAN & PROFILE
ASCEND DRIVE STA. 5+50 - END

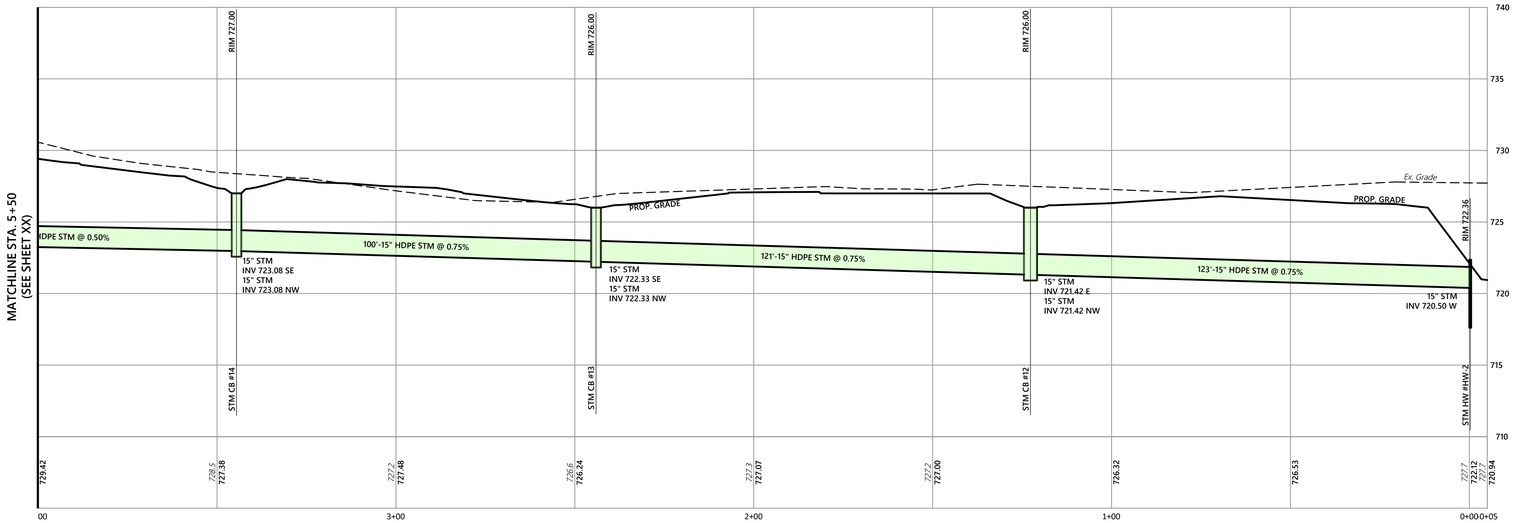
PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
07	20

STORM SEWER PROFILE
PROP. STM CB #13 TO PROP. CB #17





REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Surveying
FILENAME: 26003 P&P
TAB: 08-P&P Sewers
BNDY. BY: RAT
BASE. BY: SRB

ASCEND
AT CENTER RIDGE
CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

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PLAN & PROFILE
REAR YARD STORM SEWER

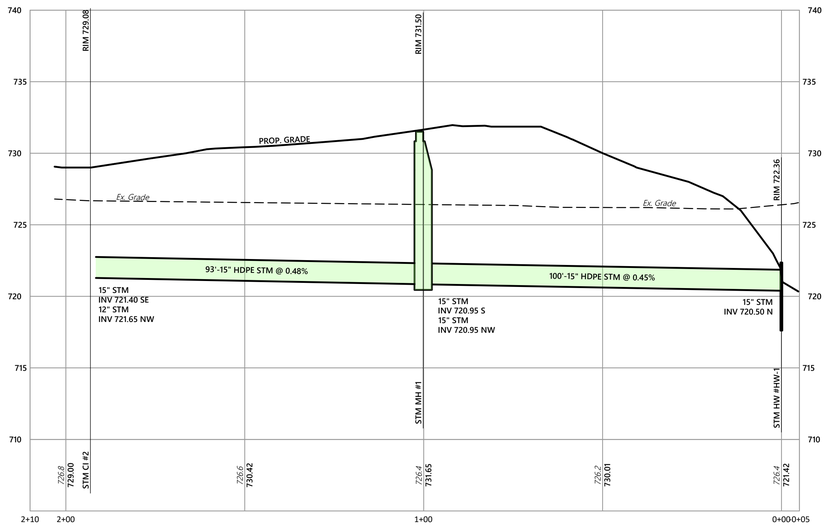
PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.

26003

SHEET	OF
08	20

STORM SEWER PROFILE
PROP. STM CI #3 TO BASIN



REV. No.		DATE	BY

STATE OF OHIO
KEVIN
HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Surveying
FILENAME: 26003 P&P
TAB: 09-P&P Sewers 2
BNDY. BY: RAT
BASE. BY: SRB

ASCEND
AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

polaris Engineering & Surveying

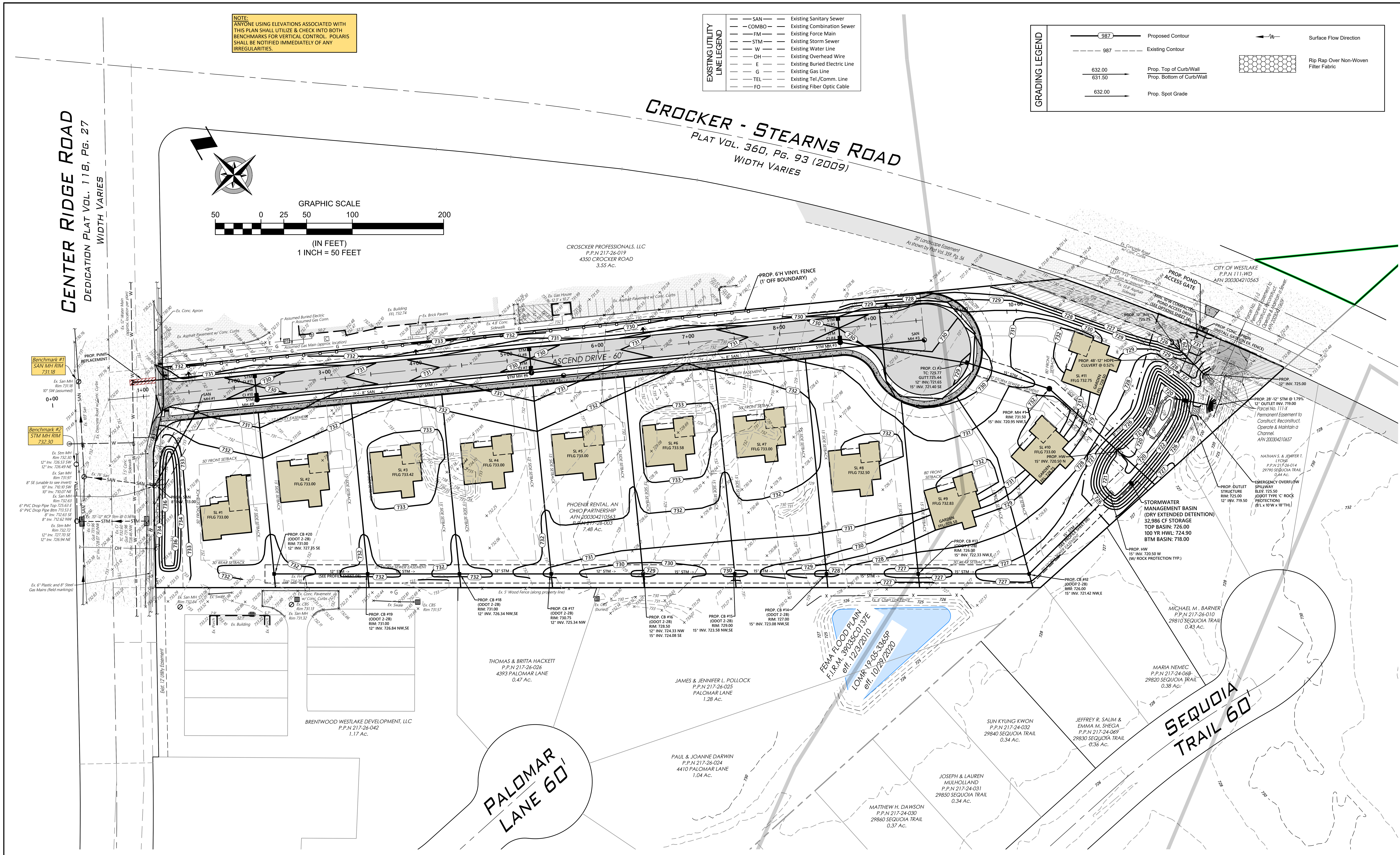
PLAN & PROFILE
STORM SEWER TO BASIN

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.

26003

SHEET	OF
09	20



ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

FINAL GRADING PLAN

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.	
26003	
SHEET	OF
10	20

REV. No.		DATE	BY

STATE OF OHIO
KEVIN T. HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 10-Final Grading Plan
BNDY. BY: RAT
BASE. BY: SRB

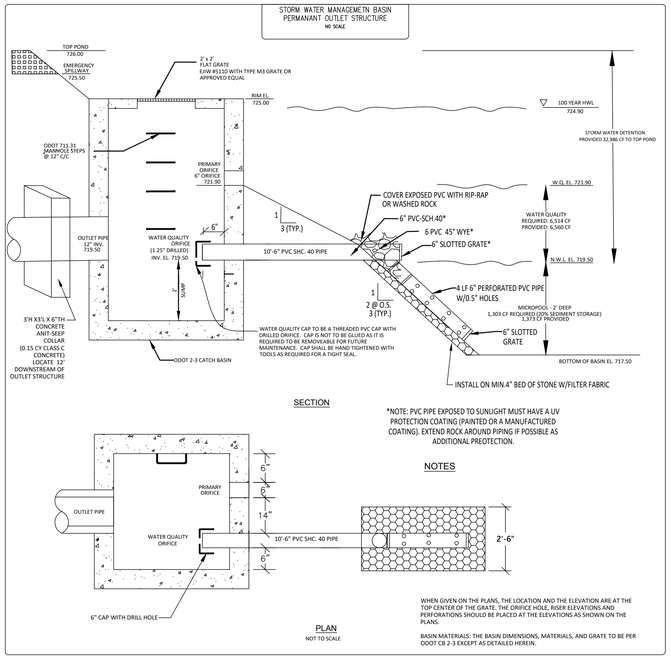
EXISTING CONDITIONS SYMBOL LEGEND

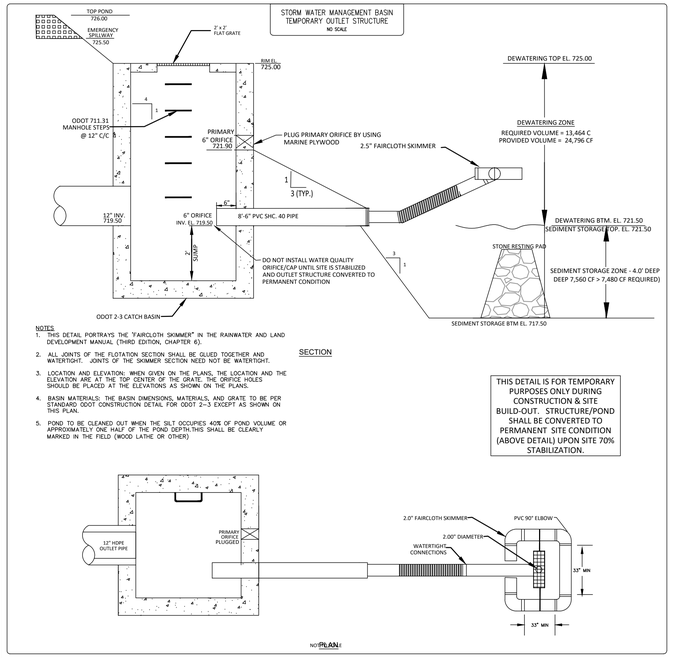
Ex. Square Catch Basin
YD Ex. Round Yard Drain
YD Ex. Square Yard Drain
Ex. Round Catch Basin
Ex. Curb Inlet
Ex. Round Curb Inlet
Ex. Storm Manhole
Ex. Manhole
Ex. Sanitary Manhole
Ex. Clean Out
Ex. Hydrant
Ex. Water Well
GT Ex. Gas Test
Ex. Sign
Ex. Electric Meter
Ex. Gas Meter
Ex. Water Meter
Ex. Gas Valve
Ex. Gas Service Valve
Ex. Waterline Valve
Ex. Water Service Valve
E Ex. Electric Marker
FO Ex. Fiber Optic Marker
G Ex. Gas Marker
T Ex. Tel. Line Marker
W Ex. Waterline Marker
Ex. Guy Wire
Ex. Anchor Pole
Ex. Power Pole
Ex. Light Pole
Ex. Light Power Pole
Ex. Tel. Light Pole
Ex. Power Tel. Light Pole
Ex. Transmission Pole
Ex. Non-Utility Pole
Ex. Yard Light
Ex. Traffic Signal Pole
Ex. Traffic Signal Box
Ex. Electrical Box
Ex. Power Transformer
Ex. Pull Box
Ex.Telephone Box
Ex. Cable TV Box
Ex. Guard Post
Ex. Railroad Signal
IRR Ex. Irrigation Valve
SCB Ex. Sprinkler Control Box
SH Ex. Sprinkler Head
EO Ex. Electrical Outlet
MB Ex. Mailbox
A/C Ex. Air Conditioning Unit
MW Ex. Monitoring Well
Ex. Stump
Ex. Tree
Ex. Pine Tree
Ex. Bush
Ex. Test Bore
Ex. Aerial Control Point

BENCHMARK DATA

B.M #1: EX. SAN MH RIM
ELEV.: 731.18
NORTHING: 642535.98
EASTING: 2119914.37

B.M #2: EX. STM MH RIM
ELEV.: 732.30
NORTHING: 642470.93
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REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED · PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=20' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 11-Basin Detail
BNDY. BY: RAT
BASE. BY: SRB

polaris Engineering & Surveying

PROJECT: Ascend at Center Ridge
PROJECT NO. 26003 SHEET NO. 1 OF 1
CALCULATED BY DJZ DATE -
SUBJECT: **SWM Dry Basin Water Quality Calculation**

BMP: DRY DETENTION

Water Quality Volume Calculations

$WQ_v = Rv \times P \times A/12$

Where:

Rv = Runoff Coefficient = 0.05+0.9i

I_{Area} = 1.80 Ac. Impervious Area

i = 24.06 % Impervious Factor

Rv = 0.267

P = Inches of Precipitation Depth = 0.9

A = Drainage Area = 7.48 Ac.

WQ_v = 0.15 Acre-Feet ---------> WQ_v = 6514 ft^3

The proposed SWM basin elevation at this volume = 721.90

The normal water elevation of the SWM Basin = 719.50

Orifice Sizing

$Q_{avg} = WQ_v/t_d$ = 0.038 ft^3/s — t_d = Draindown Time = 48 hrs

Q_{max} = 2 x Qavg = 0.075 ft^3/s — A = Area of the Orifice

$A = Q_{max}/(C(2gH)^{0.5})$ = 0.01 ft^2 — C = Coefficient of discharge (0.6)

$D = (4A/3.14)^{0.5}$ = 0.113 ft — g = Acceleration of gravity (32.2 ft/sec^2)

CALC'D ORIFICE = 1.4 inches — H = Hmax = Max Hydraulic Head = 2.40 ft

ORIFICE USED = **1.25** inches — D = Diameter of Orifice

Required Sediment Storage Volume = 1303 ft^3 (20% of WQv)

Provided Sediment Storage Volume = 1373 ft^3

Confirm Orifice Releases no more than one-half the WQv in the first one-third of Draindown Time

1/3Td = 16 hrs

$1/2WQ_v$ = 3257 ft^2

Volume DischargeD in 1/3 of required draw-down time (Qavg x 1/3Td x 3600) = 2171 ft^3 < 3257 ft^3 OK

polaris Engineering & Surveying

PROJECT: Ascend at Center Ridge
PROJECT NO. 26003 SHEET NO. 1 OF 1
CALCULATED BY DJZ DATE -
SUBJECT: **Temporary Sediment Basin Calculation**

TEMPORARY SEDIMENT BASIN

Sediment Storage Volume

Total Disturbed Area: A = 7.48 Acres

Required Sediment Storage Volume: S_t = 1000 CF / Acre

= 7480 CF

Provided Sediment Storage Volume: Sv = 7560 CF

Storage Between Elevations: Btm = 717.50 Top = 721.50

Dewatering Storage Volume

Total Watershed Area A = 7.48 Acres

Required Dewatering Volume D_t = 1800 CF / Acre

= 13464 CF — NWL = 719.50 Req. V_D = 723.30

Provided Dewatering Volume D_v = 14803 CF — NWL = 719.50 Orifice/Rim = 725.00

Marlee Float Skimmer Sizing

Head H = 3.80 ft

Skimmer Size = 2.0 in

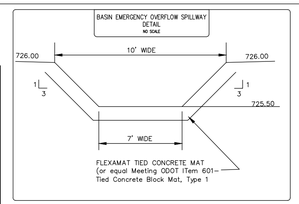
Skimmer Orifice = 2.0 in

Drawdown Rate = 5100 CFD *(Interpolated from Table on Skimmer Detail)*

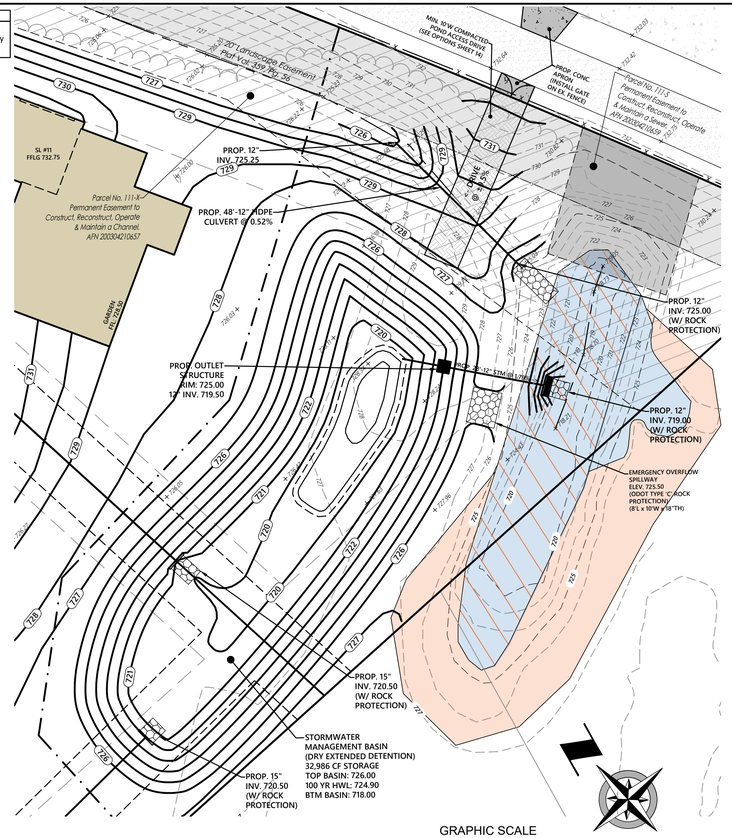
Calculated Draindown = 13464 / 5100 = 2.640 Days = 63 Hours

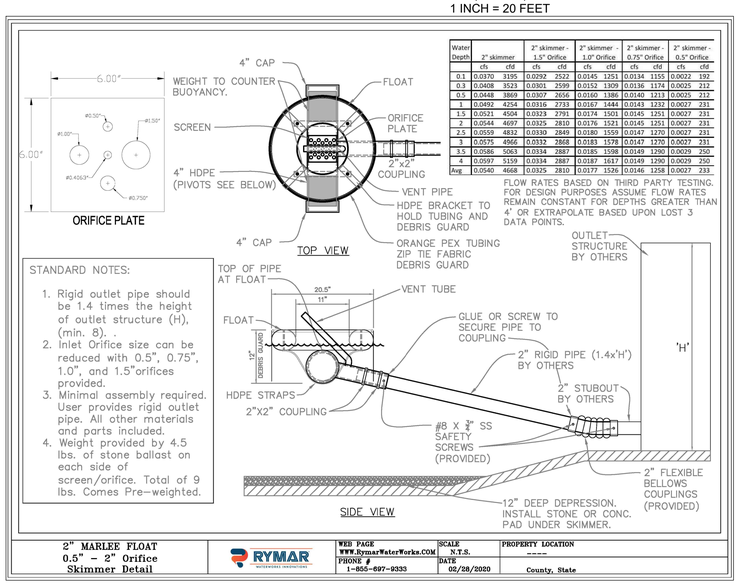
Storage Between Elevations: NWL = 719.50 Req V_D = 723.30

Draindown Time to be Greater Than 48 Hours & Less Than 168 Hours: Good



Flood Plain Legend: 500 year Floodplain; 100 year Floodplain; Floodway





Water Depth	2" skimmer		2" skimmer - 1.5" Orifice		2" skimmer - 1.0" Orifice		2" skimmer - 0.75" Orifice		2" skimmer - 0.5" Orifice	
---	cfs	cfd	cfs	cfd	cfs	cfd	cfs	cfd	cfs	cfd
0.1	0.0370	3195	0.0292	2522	0.0145	1251	0.0134	1155	0.0022	192
0.3	0.0408	3523	0.0301	2599	0.0152	1309	0.0136	1174	0.0025	212
0.5	0.0448	3869	0.0307	2656	0.0160	1386	0.0140	1213	0.0025	212
1	0.0492	4254	0.0316	2733	0.0167	1444	0.0143	1232	0.0027	231
1.5	0.0521	4504	0.0323	2791	0.0174	1501	0.0145	1251	0.0027	231
2	0.0544	4697	0.0325	2810	0.0176	1521	0.0145	1251	0.0027	231
2.5	0.0559	4832	0.0330	2849	0.0180	1559	0.0147	1270	0.0027	231
3	0.0575	4966	0.0332	2868	0.0183	1578	0.0147	1270	0.0027	231
3.5	0.0586	5063	0.0334	2887	0.0185	1598	0.0149	1290	0.0029	250
4	0.0597	5159	0.0334	2887	0.0187	1617	0.0149	1290	0.0029	250
Avg	0.0540	4668	0.0325	2810	0.0177	1526	0.0146	1258	0.0027	233

2" MARLEE FLOAT
0.5" – 2" Orifice
Skimmer Detail

RYMAR WATERWORKS CONSTRUCTION

WEB PAGE: WWW.RymarWaterWorks.COM
PHONE #: 1-855-697-9333
SCALE: N.T.S.
DATE: 02/28/2020
PROPERTY LOCATION: ____ County, State

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

polaris Engineering & Surveying

S.W.M BASIN DETAIL

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET 11 OF 20

NOTE:
ANYONE USING ELEVATIONS ASSOCIATED WITH THIS PLAN SHALL UTILIZE & CHECK INTO BOTH BENCHMARKS FOR VERTICAL CONTROL. POLARIS SHALL BE NOTIFIED IMMEDIATELY OF ANY IRREGULARITIES.

Flood Plain Legend
- 500 year Floodplain
- 100 year Floodplain
- Floodway

EXISTING UTILITY LINE LEGEND
- SAN — Existing Sanitary Sewer
- COMBO — Existing Combination Sewer
- FM — Existing Force Main
- STM — Existing Storm Sewer
- W — Existing Water Line
- OH — Existing Overhead Wire
- E — Existing Buried Electric Line
- G — Existing Gas Line
- TEL — Existing Tel./Comm. Line
- FO — Existing Fiber Optic Cable

SWP3 Site Description

Previous Land Use:	Vacant
Development Type:	Residential
Total Site Acreage:	7.48 Ac.
Total Disturbance:	7.31 Ac.
Overall Site Watershed	
Pre-Developed Impervious Area:	0.00 Ac. (0%)
Pre-Developed Pervious Area:	7.48 Ac. (100%)
Pre-Developed Runoff Coefficient	0.30
Post Developed Impervious Area:	5.61 Ac. (75%)
Post Developed Pervious Area:	1.87 Ac. (25%)
Post Developed Curve Number:	0.45
Predominant Soil(s) & Hydraulic Group(s):	OsB - Oshtemo Sandy Loam (Group A) St - Stafford Variant Sandy Loam (Group A) Mo - Mermill Loam (Group D) Mr - Miner Silty Clay Loam (Group D)
First Receiving Water Body:	Onsite Ditch/Culvert
Subsequent Receiving Water Body:	Ex. Pond Northeast of Site
Water Resources w/in 200' of Site:	Yes
Offsite Borrow Areas:	None

CENTER RIDGE ROAD
DEDICATION PLAT VOL. 118, PG. 27
WIDTH VARIES

CROCKER - STEARNS ROAD
PLAT VOL. 360, PG. 93 (2009)
WIDTH VARIES

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 INCH = 50 FEET

ASCEND DRIVE - 60'
PALOMAR LANE 60'
SEQUOIA TRAIL 60'

CROCKER PROFESSIONALS, LLC
P.P.N 217-26-019
4350 CROCKER ROAD
3.55 Ac.

CITY OF WESTLAKE
P.P.N 111-WD
AFN 200304210563

PHOENIX RENTAL, AN OHIO PARTNERSHIP
AFN 200304219563
P.P.N 217-26-003
7.48 Ac.

THOMAS & BRITTA HACKETT
P.P.N 217-26-026
4393 PALOMAR LANE
0.47 Ac.

JAMES & JENNIFER L. POLLOCK
P.P.N 217-26-025
PALOMAR LANE
1.28 Ac.

PAUL & JOANNE DARWIN
P.P.N 217-26-024
4410 PALOMAR LANE
1.04 Ac.

BRENTWOOD WESTLAKE DEVELOPMENT, LLC
P.P.N 217-26-042
1.17 Ac.

MICHAEL M., BARNER
P.P.N 217-26-010
29810 SEQUOIA TRAIL
0.43 Ac.

MARIA NEMEC
P.P.N 217-24-068
29820 SEQUOIA TRAIL
0.38 Ac.

SUN KYUNG KWON
P.P.N 217-24-032
29840 SEQUOIA TRAIL
0.34 Ac.

JEFFREY R. SALIM & EMMA M. SHEGA
P.P.N 217-24-069
29830 SEQUOIA TRAIL
0.36 Ac.

JOSEPH & LAUREN MULHOLLAND
P.P.N 217-24-031
29850 SEQUOIA TRAIL
0.34 Ac.

MATTHEW H. DAWSON
P.P.N 217-24-030
29860 SEQUOIA TRAIL
0.37 Ac.

NATHAN S. & JENIFER T. LYONS
P.P.N 217-26-014
29790 SEQUOIA TRAIL
0.44 Ac.

FEMA FLOOD PLAIN
F.I.R.M. 39035C0137E
eff. 12/3/2010
LOMR 18-05-3365P
eff. 10/29/2020

Benchmark #1
SAN MH RIM
731.18

Benchmark #2
STM MH RIM
732.30

BENCHMARK DATA

B.M #1: EX. SAN MH RIM
ELEV.: 731.18
NORTHING: 642535.98
EASTING: 2119914.37

B.M #2: EX. STM MH RIM
ELEV.: 732.30
NORTHING: 642470.93
EASTING: 2119851.46

STORMWATER MANAGEMENT BASIN (DRY EXTENDED DETENTION)
32,986 CF STORAGE
TOP BASIN: 726.00
100 YR HWL: 724.90
BTM BASIN: 718.00

GRADING LEGEND
- 987 — Proposed Contour
- 987 — Existing Contour
- 632.00 / 631.50 — Prop. Top of Curb/Wall / Prop. Bottom of Curb/Wall
- 632.00 — Prop. Spot Grade
- Surface Flow Direction
- Rip Rap Over Non-Woven Filter Fabric

SWP3 LEGEND
- 987 — Proposed Contour
- 987 — Existing Contour
- x 632.00 — Existing Spot Grade
- Stacked x 632.00 / x 631.50 — Ex. Top of Curb Elev. / Ex. Gutter Elev.
- FG 632.00 / EX 631.50 — Prop. Spot Elevation / Existing Spot Elevation
- Surface Flow Direction (Min 1.0%)
- SF — Silt Fence or 12" Filter Sock
- Stone Construction Entrance
- Temporary Seeding/ Erosion Control Matting
- CW — Concrete Washout
- I.P. — Inlet Protection
- S — Sump Pump
- Clearing & Disturbance Limits
- Soil Delineation Line
- B.M.P. Drainage Areas
- Diversion Swale
- Areas Requiring Stabilization Measures (Temporary/Permanent)
- Miscellaneous Bmps/Staging Areas (Waste Disposal/Dumpster/Fuel Tanks)
- Rip Rap Over Non-Woven Filter Farbric
- Rock Check Dam

REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 Utility & Grading
TAB: 12-Mass Grading & SWP3 Plan
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

MASS GRADING & SWP3 PLAN

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
12	20

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT INFORMATION

NPDES PERMIT (OHC000006) #____________________

PERMITEE (DEVELOPER) ____________________
CO-PERMITEE (CONTRACTOR)____________________

GENERAL EROSION AND SEDIMENT CONTROL NOTES

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

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

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

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

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

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

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

SWP3 INSPECTION & MAINTENANCE NOTES

INSPECTION REQUIREMENTS (DURING CONSTRUCTION)
ALL STORMWATER CONTROLS ON THE SITE ARE INSPECTED BY A QUALIFIED PROFESSIONAL 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. A WRITTEN RECORD DOCUMENTING THE RESULTS OF THESE INSPECTIONS MUST BE CREATED AND MAINTAINED WITH THE SWP3. THE INSPECTION CHECKLIST SHALL BE COMPLETED AND SIGNED BY THE INSPECTOR AFTER EVERY INSPECTION. IF THE SITE WILL BE DORMANT FOR A LONG PERIOD AND THE SITE HAS BEEN STABILIZED, A WAIVER REQUEST MAY BE SUBMITTED TO THE OEPA TO REDUCE THE INSPECTION FREQUENCY TO EVERY MONTH. RECORDS SHALL BE MAINTAINED FOR 3 YEARS AFTER TERMINATION OF CONSTRUCTION ACTIVITIES. SWP3 AREAS TO BE INSPECTED INCLUDE DISTURBED AREAS, MATERIAL STORAGE AREAS, EROSION AND SEDIMENT CONTROLS, DISCHARGE LOCATIONS, AND VEHICLE ENTRANCE/EXIT LOCATIONS.

SWP3 INSPECTION CHECKLIST
THE SWP3 INSPECTION CHECKLIST (TO BE COMPLETED AND SIGNED AFTER EVERY INSPECTION) THAT INCLUDES:
- THE INSPECTION DATE, NAMES, TITLES, AND QUALIFICATIONS OF INSPECTORS
- WEATHER FOR THE PERIOD SINCE THE LAST INSPECTION (E.G., BEGINNING, DURATION, & RAINFALL MOUNT OF EACH STORM EVENT AND WHETHER A DISCHARGE OCCURRED)
- WEATHER AND A DESCRIPTION OF ANY DISCHARGES OCCURING AT THE TIME OF THE INSPECTION
- LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE
- LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED
- LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION
- LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION
- CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES

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

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

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

INSPECTION REQUIREMENTS (AFTER CONSTRUCTION)
UPON COMPLETION, THE POST CONSTRUCTION STORM WATER MANAGEMENT CONTROLS SHALL BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED INSPECTOR. REFER TO THE COMMUNITY REQUIREMENTS AND/OR AN SIGNED AGREEMENT BETWEEN THE LAND OWNER AND THE COMMUNITY AS TO THE FREQUENCY OF INSPECTIONS AND MAINTENANCE REQUIREMENTS.

ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS

1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
- PREVENT SPILLS
- USE PRODUCTS UP
- FOLLOW LABEL DIRECTIONS FOR DISPOSAL
- REMOVE LIDS FROM EMPTY BOTTLESAND CANS WHEN DISPOSING IN TRASH
- RECYCLE WASTES WHENEVER POSSIBLE
- DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
- DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
- DON'T BURY CHEMICALS OR CONTAINERS
- DON'T BURN CHEMICALS OR CONTAINERS
- DON'T MIX CHEMICALS TOGETHER

2. WASTE CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON-SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT AN OHIO EPA APPROVED CD&D LANDFILL.

3. NO CONSTRUCTION RELATED WASTED MATERIALS ARE TO BE BURIED ON-SITE. BY EXCEPTION, CLEAN FILL (BRICK, HARDENED CONCRETE, SOIL) MAY BE UTILIZED IN A WAY WHICH DOES NOT ENCROACH UPON NATURAL WETLANDS, STREAMS OR FLOODPLAINS OR RESULT IN THE CONTAMINATION OF WATERS OF THE STATE.

4. 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 WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, 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 SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE DISPOSED OF IN ACCORDANCE WITH ITEM 8.

6. 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 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.

7. SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO OHIO EPA.

8. CONTAMINATED SOILS. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND SIPOSED OF AT LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). NOTE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT TO BE AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

9. OPEN BURNING. NO MATERIALS CONTAINING RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS, SUCH AS TIRES, AUTOPARTS, PLASTICS OR PLASTIC COATED WIRE MAY BE BURNED (OAC 3745-19). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS, WHICH ARE DEFINED AS: 1) WITHIN CORPORATION LIMITS; 2) WITHIN 1,000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVING A POPULATION OF 1,000 TO 10,000 AND 3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE. OUTSIDE OF RESTRICTED AREAS, NO OPEN BURNING IS ALLOWED WITHIN 1,000 FEET OF AN INHABITED BUILDING ON ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR: HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE OR LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES, EXCLUDING BUILDINGS.

10. DUST CONTROL OR DUST SUPPRESSANTS SHALL BE USED TO PREVENT NUISANCE CONDITIONS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER, WHICH PREVENT A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

11. OTHER AIR PERMITTING REQUIREMENTS: CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO: MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. OPERATORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. FOR DEMOLITION OF ALL COMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

12. PROCESS WASTE WATER/LEACHATE MANAGEMENT. OHIO EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON-SITE SEPTIC LEACHATE, CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED' IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.

13. A PERMIT TO INSTALL (PTI) IS REQUIRED PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVING ONE, TWO, AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. PLANS MUST BE SUBMITTED AND APPROVED BY OHIO EPA. ISSUANCE OF AN OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

SOIL STABILIZATION CONTROLS

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

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

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

STABILIZATION
PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE OEPA AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM OHIO EPA PERMIT NO. OH000006 EFFECTIVE DATE 4/23/23 - EXPIRATION DATE 4/22/28 DISTURBED AREAS MUST BE STABILIZED AS SPECIFIED IN THE FOLLOWING TABLES BELOW:

TEMPORARY SEEDING
SEEDING AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 80% COVER SHALL BE RESEEDED AS NECESSARY BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH MULCH WHEN CONDITIONS PROHIBIT SEEDING.

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

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

TEMPORARY STABILIZATION

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

TEMPORARY SEEDING SPECIFICATIONS

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

PERMANENT STABILIZATION

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

PERMANENT SEEDING SPECIFICATIONS

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

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

TEMPORARY SEDIMENT CONTROLS

SILT FENCE
SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCES SHALL BE PLACED ON A LEVEL CONTOUR. THE EPA PERMIT NO. OHC000006 DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF. SILT FENCE IS NOT PERMITTED TO BE USED FOR CONTROLLING CONCENTRATED SURFACEWATER FLOW (ONLY SHEET FLOW).

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

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

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

TEMPORARY RUN-OFF CONTROLS

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

CONSTRUCTION SEQUENCE NARRATIVE

1. PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL AS SPECIFIED BY THE APPROVED SWP3 PLANS AND NARRATIVE. CONTRACTOR MUST REVIEW THE SWP3 AND NARRATIVE.
2. CONTRACTOR SHALL COMPLETE AND SUBMIT THE OEPA CO-PERMITEE NOTICE OF INTENT (N.O.I.) APPLICATION. ALL OPERATORS AT THE CONSTRUCTION SITE ARE REQUIRED TO BECOME CO-PERMITTEES. VISIT THE OHIO EPA eBUSINESS CENTER FOR MORE INFORMATION.
3. INSTALL STONE CONSTRUCTION ENTRANCE FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
4. AS NECESSARY, DELIVER CONSTRUCTION TRAILER TO SITE AND ESTABLISH TEMPORARY POWER & UTILITIES.
5. STAKEOUT LIMITS OF DISTURBANCE AND INSTALL ORANGE CONSTRUCTION FENCE TO CLEARLY DEMONSTRATE THE BOUNDARY OF PRESERVED WETLANDS AND RIPARIAN SETBACKS AS REQUIRED.
6. INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS. INLET PROTECTION SHALL BE INSTALLED AS PER PLAN DESIGNATION.
7. IF POSSIBLE PRIOR TO CLEARING, INSTALL FILTER FABRIC FENCE OR 12" FILTER SOCK WHERE SHOWN ON PLANS. FILTER FABRIC FENCE SHALL BE INSTALLED AS PER PLAN DESIGNATION. IF SILT FENCE/FILTER SOCK CANNOT BE INSTALLED PRIOR TO CLEARING (DUE TO ACCESSIBILITY CONSTRAINTS) IT SHOULD BE INSTALLED WITHIN 7 DAYS OF CLEARING AND PRIOR TO GRUBBING.
8. BEGIN CLEARING AND GRUBBING OF THE SITE.
9. WITHIN 7 DAYS OF THE START OF CLEARING & GRUBBING, THE TEMPORARY SEDIMENT BASIN SHALL EXCAVATED/CONSTRUCTED. THE TEMPORARY SEDIMENT BASIN OUTLET STRUCTURE AND RELATING OUTLET PIPE AND EMERGENCY OVERFLOW SPILLWAY INCLUDING ALL OUTLET PROTECTION SHALL BE INSTALLED ONCE GRADES ARE ESTABLISHED. TEMPORARY BASIN SHALL BE INSTALLED WITHIN SEVEN DAYS FROM THE START OF GRUBBING AND SITE GRADING.
10. REMOVE TOPSOIL FROM AREAS AS NECESSARY. REMOVE FROM SITE PER OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA) STANDARDS OR TEMPORARILY STOCKPILE MATERIAL IN DESIGNATED AREAS.
11. INSTALL TEMPORARY DIVERSION SWALES, DIRECTING RUN-OFF TO THE SEDIMENT BASIN. THE BASIN AREA AND TEMPORARY SWALE SHALL BE SEEDED AND MULCHED UPON COMPLETION AS PER THE TEMPORARY SEEDING SPECIFICATIONS.
12. AT A MINIMUM ALL CONTROLS ARE INSPECTED AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH PER 24 HOUR PERIOD. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF THE INSPECTION.
13. TEMPORARILY STORE MATERIAL EXCAVATED FOR CONSTRUCTION AT DESIGNATED AREAS. MATERIAL TO BE MAINTAINED FOR DUST CONTROL BY USE OF A COVER OR OTHER METHODS APPROVED BY OHIO EPA.
14. IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SWALE. REMOVE SILT FROM BASIN AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL. IF WASTE MATERIAL IS REMOVED FROM THE PROJECT SITE, THE CONTRACTOR MUST PROVIDE AN EROSION AND SEDIMENTATION CONTROL PLAN TO THE REGULATORY COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE PROJECT SITE AS WELL AS THE COUNTY CONSERVATION DISTRICT MAINTAINING JURISDICTION OF THE DISPOSAL AREA.
15. BEGIN EARTHMOVING AND SITE GRADING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF LOCATION AND EROSION SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL.
16. TEMPORARY STABILIZATION PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES WHICH ARE QUICK GROWING ARE SEEDED AND USUALLY STRAW MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. TEMPORARY STABILIZATION IS REQUIRED BY OHIO EPA'S GENERAL CONSTRUCTION PERMIT TO BE APPLIED ON DISTURBED SOIL AREAS WITHIN 7 DAYS IF THE AREA IS INTENDED TO BE DORMANT FOR GREATER THAN 14 DAYS, OR WITHIN 2 DAYS IF THE AREA IS WITHIN 50 FEET OF JURISDICTIONAL WATER (STREAM OR WETLAND).
17. BEGIN STORM SEWER AND OTHER UTILITY INSTALLATION. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY. INLET PROTECTION SHALL BE INSTALLED ON EACH STORM STRUCTURE UPON INDIVIDUAL COMPLETION.
18. REPAIR/STABILIZE ALL AREAS DESIGNATED FOR TEMPORARY SEEDING AND MULCHING. INCLUDING AREAS WHERE SLOPE IS 3:1 OR GREATER, WHICH REQUIRE A MULCH NETTING. ANY AREAS AT FINAL GRADE OR THAT WILL LIE DORMANT FOR ONE YEAR OR MORE REQUIRE PERMANENT SEEDING WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE (REFER TO OHIO'S "RAINWATER AND LAND DEVELOPMENT" MANUAL). IN ADDITION, ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE REQUIRE EROSION CONTROLS WITHIN 2 DAYS OF REACHING FINAL GRADE. NOTE THAT A 70% VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION.
19. MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK. SEDIMENT BASINS & TRAPS SHOULD BE CLEANED OUT WHEN SILT OCCUPIES 40 PERCENT OF THE POND DEPTH.
20. THE TEMPORARY DRAINAGE SWALE SHALL BE REMOVED AND BROUGHT TO FINAL GRADE UPON COMPLETION OF STORM SEWER INSTALLATION.
21. INSTALL CONCRETE CURBS(WHERE APPLICABLE) AND PAVEMENT SUBBASE. BEGIN BITUMINOUS OR CONCRETE PAVING, REMOVING STONE CONSTRUCTION ENTRANCE ONLY WHEN NECESSARY.
22. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING IMMEDIATELY UPON REACHING FINAL GRADE.
23. ALL REMAINING TEMPORARY SEDIMENT CONTROL PRACTICES (INLET PROTECT, SILT FENCE, ETC.) SHALL BE REMOVED UPON SITE STABILIZATION. NOTE 70% VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION. ORANGE CONSTRUCTION FENCE SHALL REMAIN ALONG THE RIPARIAN SETBACK LIMITS UNTIL THE CONSTRUCTION AND SITE LANDSCAPING ACTIVITIES ARE COMPLETE. THE ORANGE FENCE SHALL BE REMOVED FROM THE SITE WITHOUT USING ANY EARTH DISTURBING PRACTICES.
24. PRIOR TO CONVERSION, PUMP ALL STANDING WATER FROM WITHIN THE TEMPORARY SEDIMENT BASIN TO A FILTERING SYSTEM IN A WELL-VEGETATED AREA OR WITHIN THE CHANNEL OF THE EMERGENCY SPILLWAY. REMOVE AND DISPOSE OF ALL UNSUITABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE BASIN PRIOR TO FINAL GRADING OF THE PERMANENT STORM WATER MANAGEMENT BASIN. IF THE BASIN WILL SERVE AS A DRY EXTENDED DETENTION BASIN, A FOREBAY AND MICROPOOL SHALL BE REESTABLISHED AND THE BOTTOM OF BASIN SHALL BE RE-GRADED TO PROVIDE A MEANDERING SWALE BETWEEN THE TWO POOLS. IF THE BASIN WILL SERVE AS A WET EXTENDED DETENTION BASIN THE BASIN SHOULD BE EXCAVATED TO THE PROPOSED DEPTH SHOWN ON THE FINAL GRADING PLAN. THE TEMPORARY SEDIMENT BASIN OUTLET STRUCTURE SHOULD BE REMOVED (OR RETROFITTED) AND REPLACED WITH THE PERMANENT OUTLET STRUCTURE.
25. PERMANENT SEEDING AND LANDSCAPING SHOULD BE APPLIED WITHIN THE WATER QUALITY AND DETENTION BASIN UPON COMPLETION.
26. COMPLETE SITEWORK, PAVEMENT MARKINGS, FINAL LANDSCAPING, SIGN INSTALLATION(S), AND CLEAN-UP.
27. RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 70% VEGETATIVE DENSITY IS ACHIEVED.
28. IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARED SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
29. ONCE FINAL STABILIZATION HAS BEEN ACHIEVED THE CONTRACTOR SHALL COMPLETE AND SUBMIT THE OEPA NOTICE OF TERMINATION (N.O.T) APPLICATION. INSTRUCTIONS AND APPLICATIONS ARE ALSO LOCATED ON THE EPA WEBSITE (SEE STEP #1). CONTRACTOR SHOULD VERIFY WITH THE OWNER THAT THE TERMS OF THE CONTRACT HAVE BEEN FINALIZED PRIOR TO SUBMITTING THE N.O.T.
30. ALL QUESTIONS REGARDING EROSION CONTROL ARE TO BE DIRECTED TO POLARIS ENGINEERING AND SURVEYING AT (440) 944-4433 OR TO THE APPROPRIATE COUNTY CONSERVATION DISTRICT FOR REVIEW PRIOR TO THE COMMENCEMENT OF SUCH CHANGES AT THE CONSTRUCTION SITE.

NOTE: SITE CONTRACTOR SHALL PROVIDE THE CITY A PERFORMANCE BOND TO CONVERT THE RETENTION BASIN OVER FROM TEMPORARY CONTROL TO PERMANENT CONTROL THAT INCLUDES ALL WORK LISTED UNDER THE NARRATIVE

REV. No.		DATE	BY

STATE OF OHIO
KEVIN T. HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 13-SWP3 Notes
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

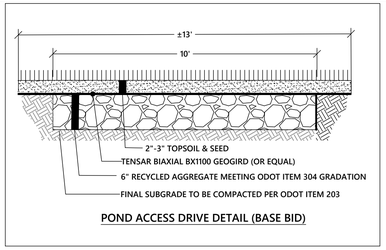
CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

SWP3 NOTES

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003



POND ACCESS DRIVE DETAIL (BASE BID)

vv POND ACCESS DRIVE SECTION (ALTERNATE BID #1) vv

Placement of Rebar J Hooks

The goal is to place Rebar J Hooks every 3' – 4' in all directions. And, be sure to place one every 3' around the perimeter. Suggested placement is shown below.

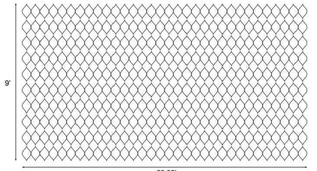
LSG-3, LSG-4 and LSG-6 (9' x 24')



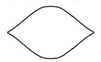
(3) (3) (3) (3) (3) (3) (3) = total 21

LSG Series (Load Support Grid) Detail

Expanded Grid Options (each total 215 sf):
23.92' (24') L x 9' W x **3"** Deep
23.92' (24') L x 9' W x **4"** Deep
23.92' (24') L x 9' W x **6"** Deep



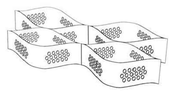
Fully Expanded Single Cell



8.8" x 10.2"

NOTES:
True length 23.92'.
Rounded to 24' for ease.

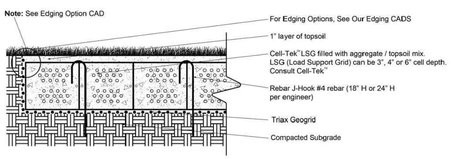
CELL-TEK Geosynthetics
809 Barkwood Ct., Suite M
Linthicum Heights, MD 21090
Phone: 410.721.4844
Fax: 410.721.3844
Email: info@celltekdirect.com
www.celltekdirect.com

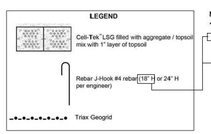


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Vegetated Green Paving with LSG Series (Load Support Grid)

Note: See Edging Option CAD



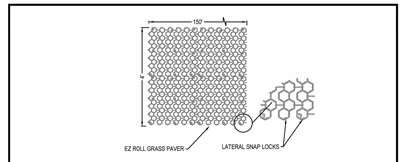


NOTES:
- Max weight per Cell Depth
  - 3" = 8000 lbs (axle loads: 18kN)
  - 4" = 1110 Loading 40,000 lbs (axle loads:75kN)
  - 6" = H20 Loading 80,000 lbs (axle loads:145kN)

SPECIFIED FOR THIS PROJECT

CELL-TEK Geosynthetics
809 Barkwood Ct., Suite M
Linthicum Heights, MD 21090
Phone: 410.721.4844
Fax: 410.721.3844
Email: info@celltekdirect.com
www.celltekdirect.com

120516



1 of 2

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ENGINEERED PERMEABLE PAVER
GRASS SURFACE

NOTES:

ENGINEERING PROPERTIES:
1. COMPRESSIVE STRENGTH OF EZ ROLL:
   EMPTY PAVERS: ULTIMATE LOAD = 53,683 LBS / 373 PSI
   FILLED PAVERS: ULTIMATE LOAD = 400,000 LBS

TOP SOIL FILL:
3. NDS RECOMMENDS NATIVE TOP SOIL FOR BACKFILL INSIDE THE PAVERS.
4. EXTEND TOP SOIL INSIDE PAVER AN ADDITIONAL ¼ TO ½ INCH ABOVE PAVER SURFACE AND MATCH SURROUNDING GRADE. PROPOSED FINISHED GRADE SLOPE PER PROJECT GRADING PLAN. PROTECT PAVER AREA UNTIL GRASS IS SUFFICIENTLY ESTABLISHED TO HANDLE TRAFFIC. PROVIDE 1" (MIN.) CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER.
5. GRASS PAVERS ARE TO BE USED FOR AREAS OF PEDESTRIAN USE, EROSION CONTROL, AND OCCASIONAL VEHICULAR TRAFFIC USE (E.G., OVERFLOW PARKING AND EMERGENCY/FIRE LANES).

AASHTO #57 BASE ROCK:
6. GRADATION OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1 ½" SCREEN, 95-100% PASSING 1", 25-60% PASSING ½", AND 0-10% PASSING #8 SCREEN.
   OPTIONAL: ADD PULVERIZED NATIVE TOP SOIL EQUAL TO 15% OF TOTAL VOLUME. BLEND TO OBTAIN HOMOGENEOUS MIXTURE PRIOR TO PLACEMENT.
7. THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS: NO BASE REQUIRED FOR EROSION CONTROL AND PEDESTRIAN-ONLY LOADS (COMPACTION OF NATIVE SOIL RECOMMENDED FOR SLOPES UP TO 3%); 4 INCHES FOR LIGHT LOADS (GOLF CARTS); 6 INCHES FOR MEDIUM LOADS (CARS AND PICKUP TRUCKS); 8 INCHES FOR HEAVY LOADS (FIRE TRUCKS).
8. COMPACT WITH ONE TO THREE PASSES OF 5-TON STEEL WHEEL ROLLER. SINCE IT IS DIFFICULT TO MEASURE DENSITY OF COARSE AGGREGATE, APPROACH OF REQUIRING A FIXED DENSITY IS NOT APPLICABLE.

FILTER FABRIC (OPTIONAL):
9. FILTER FABRIC MAY BE USED TO PREVENT MIGRATION OF FINES FROM SURROUNDING NATIVE SOILS INTO COARSE AGGREGATE LAYER. THE FABRIC PREVENTS CLOGGING OF AGGREGATE LAYER AND EXTENDS ITS USEFUL LIFE. USE OF FILTER FABRIC IS STRONGLY RECOMMENDED AROUND EDGE DRAIN.
10. NDS RECOMMENDS NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE. WOVEN GEOTEXTILES SHOULD NOT BE USED.
11. USE FILTER FABRIC WITH AOS <0.60 MM FOR NATIVE SOILS WITH 50% OR LESS PARTICLES BY WEIGHT PASSING NO.200 SIEVE. USE FILTER FABRIC WITH AOS <0.30MM FOR NATIVE SOILS WITH 50% OR GREATER PARTICLES BY WEIGHT PASSING THE NO.200 SIEVE.

UNDERDRAIN:
12. NDS RECOMMENDS UNDERDRAIN TO COLLECT PERCOLATED WATER AND CONVEY TO PROJECT STORMWATER FACILITY FOR NATIVE SOIL THAT IS (NRCS HYDROLOGIC SOIL GROUP C OR D (LOW PERCOLATION RATE). UNDERDRAIN IS OPTIONAL FOR SOIL GROUP B (MODERATE INFILTRATION) AND CAN BE ELIMINATED FOR SOIL GROUP A (GOOD INFILTRATION).
13. USE MINIMUM 4-INCH DIA PERFORATED PVC OR POLYETHYLENE PIPE AT 250-FT CENTERS; MINIMUM ONE PIPE. PIPE TO BE INSTALLED AT MINIMUM 0.5% SLOPE. RECOMMENDED 2 SQ. INCHES OF OPENING / LINEAR FOOT.
14. UNDERDRAIN TO DAYLIGHT INTO PROJECT STORMWATER FACILITY (CATCH BASIN / OPEN CHANNEL / BASIN).
15. INVERT OF PIPE RECOMMENDED TO BE ABOVE PROJECT HIGH WATER LEVEL TO PREVENT BACKING-UP OF WATER INTO PAVER SYSTEM.
16. UNDERDRAIN TO BE SURROUNDED BY 4" OF AASHTO #57 COARSE AGGREGATE, WITH MIN. 2" BEDDING.

SUBGRADE NATIVE SOIL:
17. COMPACT SUBGRADE NATIVE SOILS TO 95% STANDARD PROCTOR DENSITY PER ASTM D698 FOR SOILS WITH CALIFORNIA BEARING RATIO >20%, R-VALUE >30, AASHTO A-1, A-2, AND A-3 SOILS.
18. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSIDER HIGHER LEVEL OF COMPACTION FOR CBR 5 TO 20%, R-VALUE 10 TO 30, AASHTO A-4 SOILS FOR HEAVY LOADS WHERE INFILTRATION INTO NATIVE SOILS IS NOT A REQUIREMENT.
19. NDS RECOMMENDS THAT ENGINEER-OF-RECORD CONSULT WITH PROJECT GEOTECHNICAL ENGINEER FOR POTENTIAL SOIL MODIFICATION (E.G., LIME TREATMENT) AND COMPACTION LEVEL FOR CBR <5% AND R-VALUE <10, AASHTO A-5, A-6, AND A-7 SOILS.

2 of 2

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GRASS SURFACE

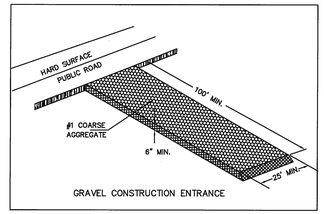
^^POND ACCESS DRIVE SECTION (ALTERNATE BID #2) ^^

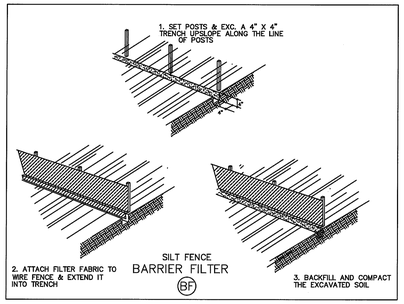
SOIL PROTECTION CHART

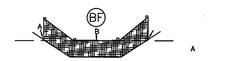
STABILIZATION TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDING			A			*	*	*	*			
DORMANT SEEDING	B									B		
TEMPORARY SEEDING			C			D						
SODDING			E	**								
MULCHING	F											

A. KENTUCKY BLUEGRASS 90 LBS/AC MIXED WITH PERENNIAL RYEGRASS 30 LBS/AC
B. KENTUCKY BLUEGRASS 135 LBS/AC MIXED WITH PERENNIAL RYEGRASS 45 LBS/AC + STRAW MULCH 2 TONS/AC.
C. SPRING DATE 100 LBS/AC.
D. WHEAT OR CEREAL RYE 150 LBS/AC.
E. SOD
F. STRAW MULCH 2 TONS/AC.

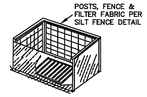
* IRRIGATION NEEDED DURING JUN, JUL, AUG & SEP.
* * IRRIGATION NEEDED FOR 2–3 WEEKS AFTER SODDING







PROPER PLACEMENT OF A BARRIER IN A DRAINAGE WAY
BARRIER PLACEMENT EVERY 50'
POINTS "A" SHOULD BE HIGHER THAN POINT "B"



POSTS, FENCE & FILTER FABRIC PER SILT FENCE DETAIL

THIS APPLICATION IS APPLICABLE THE INLET DRAINS A FLAT AREA (< 5%) WHERE FLOW IS < .5 C.F.S

INLET PROTECTION
IP

REV. No.		DATE	BY
1		1/16/04	DAH

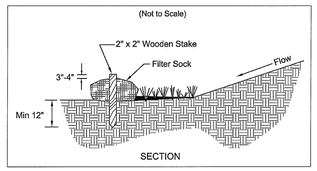
General Redraw — Re-Issued

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

EROSION & SEDIMENTATION DETAILS

SCALE: AS NOTED
DATE: DRWN BY:
31

Specifications for
Filter Sock

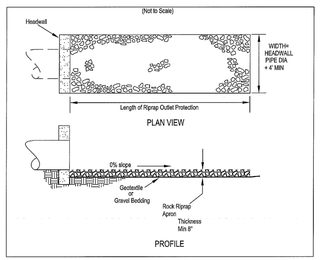


1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

INSTALLATION:
3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.
5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

MAINTENANCE:
6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such as way as to facilitate and not obstruct seedings.

Specifications for
Rock Outlet Protection



ubgrade for the filter or bedding and riprap shall be epared to the required lines and grades as shown on the an. The subgrade shall be cleared of all trees, stumps, ots, sod, loose rock, or other material.

prap shall conform to the grading limits as shown on the an.

otextile shall be securely anchored according to manu- cturers' recommendations.

otextile shall be laid with the long dimension parallel to e direction of flow and shall be laid loosely but without rinkles and creases. Where joints are necessary, strips all be placed to provide a 12-in. minimum overlap, with e upstream strip overlapping the downstream strip.

5. Gravel bedding shall be ODOT No. 67's or 57's unless shown differently on the drawings.
6. Riprap may be placed by equipment but shall be placed in a manner to prevent slippage or damage to the geotextile.
7. Riprap shall be placed by a method that does not cause segregation of sizes. Extensive pushing with a dozer causes segregation and shall be avoided by delivering riprap near its final location within the channel.
8. Construction shall be sequenced so that outlet protection is placed and functional when the storm drain, culvert, or open channel above it becomes operational.
9. All disturbed areas will be vegetated as soon as practical.

Concrete Washout Areas

Installation:
1. Concrete wash water shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance and washout pits shall be situated a minimum of fifty (50) feet from them.
2. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged.
3. Ensure a stable path is provided for concrete trucks to reach the washout area.
4. A highly visible sign that reads "Concrete Washout Area" shall be erected adjacent to the washout pit.
5. Surface runoff generated from upslope areas shall be diverted away from below-grade washout pits so as not to flow into them.
6. A single centralized washout area may be utilized for multiple sublots.

Maintenance:
7. The washout pit must be inspected frequently to ensure the liner is intact.
8. Once 75% of the original volume of the washout pit is filled or if the liner is torn, the material must be removed and properly disposed of once it is completely hardened. Once the hardened concrete is removed, the liner must be replaced (if torn). A new pit must be constructed if the original structure is no longer suitable.

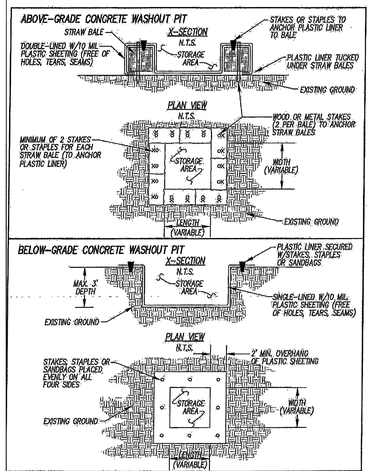
Removal:
9. Once the washout pit is no longer needed, ensure all washout material has completely hardened, then remove and properly dispose of all materials. If straw bales were used, they can be spread as mulch.
10. Prefabricated containers specifically designed for concrete washout collection may be used subject to prior approval by the Community Engineer. Follow the manufacturer's suggestions for installation, maintenance and removal procedures.

Sizing of Concrete Washout Pits

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

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

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



ASCEND AT CENTER RIDGE
CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

SWP3 DETAILS

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

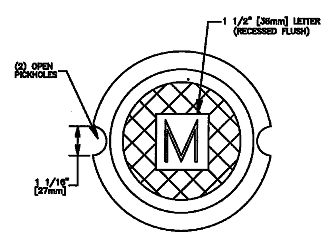
CONTRACT No.
26003

SHEET	OF
14	20

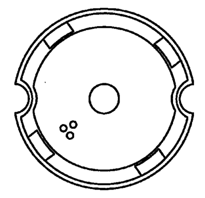
STATE OF OHIO
KEVIN HOFFMAN
74831
REGISTERED PROFESSIONAL ENGINEER

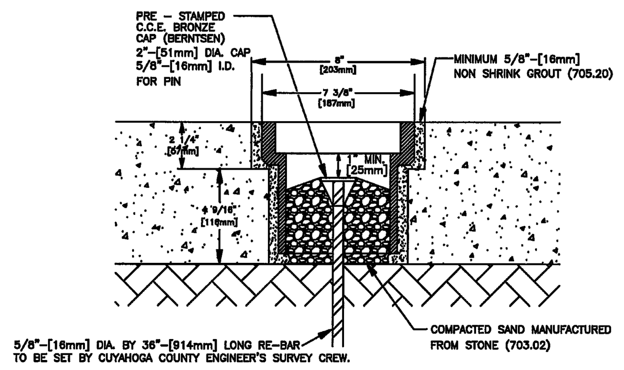
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SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 14-SWP3 Details
BNDY. BY: RAT
BASE. BY: SRB

MONUMENT BOX

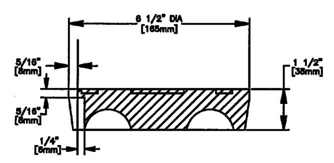


PLAN OF COVER

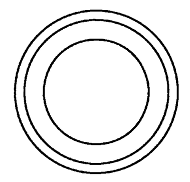

BOTTOM VIEW

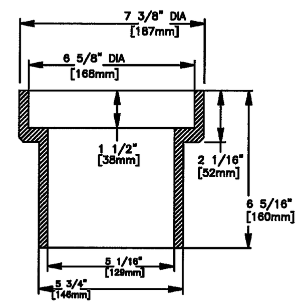


MONUMENT BOX DETAIL
(NOT USABLE IN LANDSCAPE ISLANDS)



SIDE VIEW OF COVER


PLAN OF FRAME



FRAME SECTION

NOTES
CASTINGS

SHALL MINIMALLY MEET THE REQUIREMENTS OF 604.02 – 711.12, A.S.T.M. A48, CLASS 35 GRAY IRON.

THE ASSEMBLY SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN HEREON.

TOTAL MINIMUM WEIGHT = 22 LBS. (10KG)

PROVIDED THEY COMPLY WITH THE SPECIFICATIONS, DETAILS, DIMENSIONS AND MINIMUM WEIGHT,
EAST JORDAN – 2960A MONUMENT BOX COVER
EAST JORDAN – 2960Z FRAME SECTION
OR APPROVED EQUAL CASTINGS ARE ACCEPTABLE.

LEGEND:

CONCRETE, CLASS "C" (499)

COMPACTED SAND MANUFACTURED FROM STONE (703.02)

UNDISTURBED EARTH OR AGGREGATE BASE. REPLACEMENT OF UNSUITABLE MATERIAL PER 604.04 AND TO THE SATISFACTION OF THE ENGINEER.

NOTES:

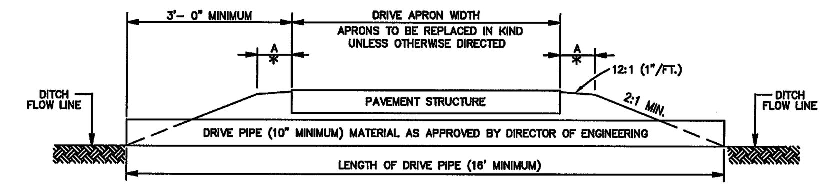
MONUMENT BOX CASTING TO BE EJIW #29602 WITH SPECIAL ORDER LID. ANNULAR SPACE BETWEEN CASTING AND PAVEMENT TO BE FILLED WITH NON–SHRINK GROUT PER O.D.O.T. 705.20

INSTALLATION:
1. CORE BOTH OPENINGS IN PAVEMENT
2. REMOVE DEBRIS AND PREPARE CONCRETE FOR GROUT PER MANUFACTURE SPECIFICATIONS.
3. COAT PAVEMENT OPENING AND EXTERIOR OF CASTING WITH GROUT.
4. INSTALL CASTING AND FINISH FLUSH WITH PAVEMENT.

REV No.	DATE	BY	DESCRIPTION
2	9/12	DAH	General Revisions – Re–Issue
1	2/17/04	DAH	General Revisions – Re–Issue

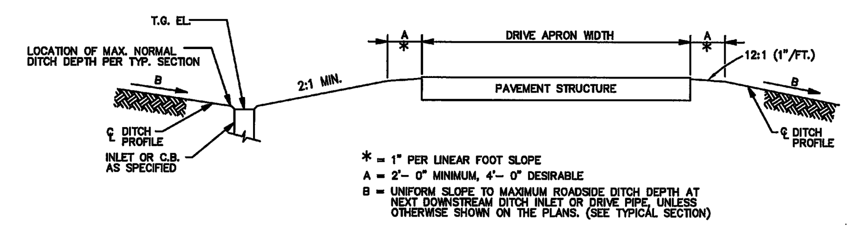
CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING
CITY STD. MONUMENT BOX
SCALE: AS NOTED
DATE: DRWN BY:
12a

X:\Caddrawings\Const Details\Cad-2012\012a



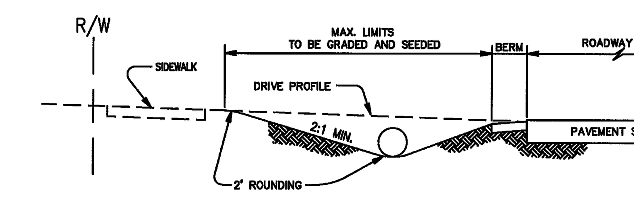
* = 1" PER LINEAR FOOT SLOPE
A = 2'– 0" MINIMUM, 4'– 0" DESIRABLE

TYPICAL DRIVE PIPE INSTALLATION



* = 1" PER LINEAR FOOT SLOPE
A = 2'– 0" MINIMUM, 4'– 0" DESIRABLE
B = UNIFORM SLOPE TO MAXIMUM ROADSIDE DITCH DEPTH AT NEXT DOWNSTREAM DITCH INLET OR DRIVE PIPE, UNLESS OTHERWISE SHOWN ON THE PLANS. (SEE TYPICAL SECTION)

TYPICAL DITCH INLET INSTALLATION AT DRIVE



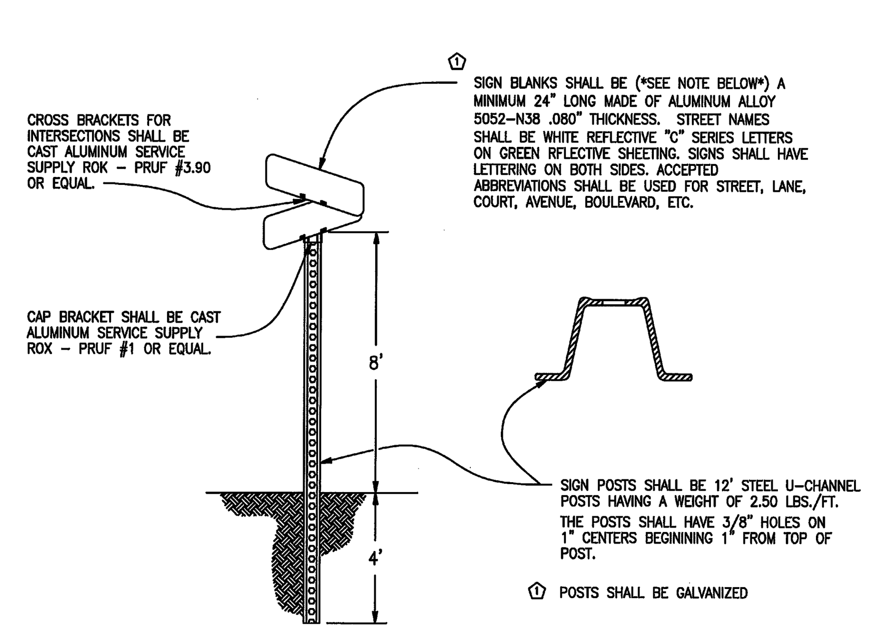
TYPICAL DITCH SECTION AT DRIVE APRON

NOTE:
BACKFILL AROUND COLLAR AFTER CONCRETE HAS ATTAINED SUFFICIENT STRENGTH. FOR CONNECTIONS TO NEW SEWERS, USE APPROPRIATE SIZED "TEE" CONNECTIONS.

REV No.	DATE	BY	DESCRIPTION

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING
DETAIL
SWALE & DRIVE PIPE
SCALE: NONE
DATE: DRWN BY:
30a

X:\Caddrawings\Const Details\Cad-2012\030



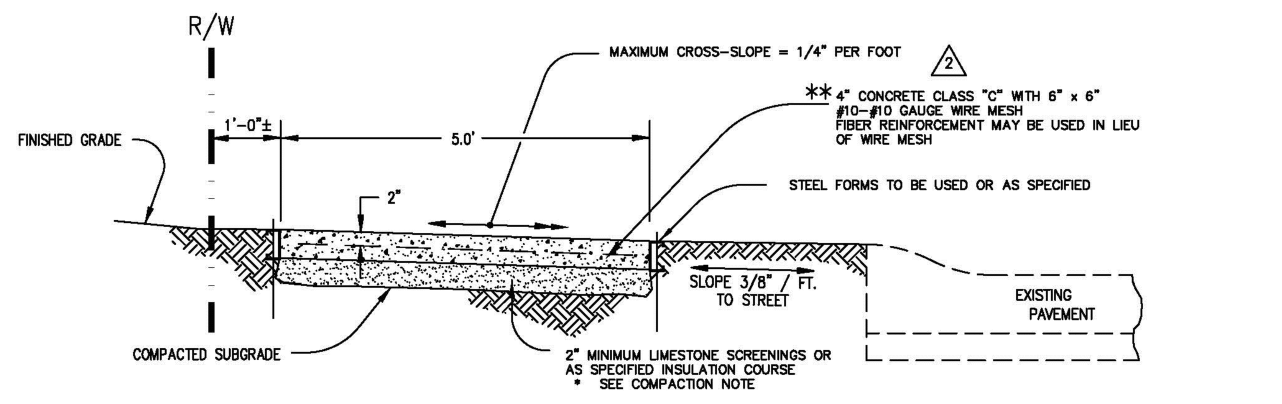
SIGN NOTE:

SPEED LIMIT
OVER 25 MPH
9" x 24" MIN. SIGN (REFLECTIVE GREEN)
6" "C" SERIES HIGHWAY LETTERS
(REFLECTIVE WHITE)

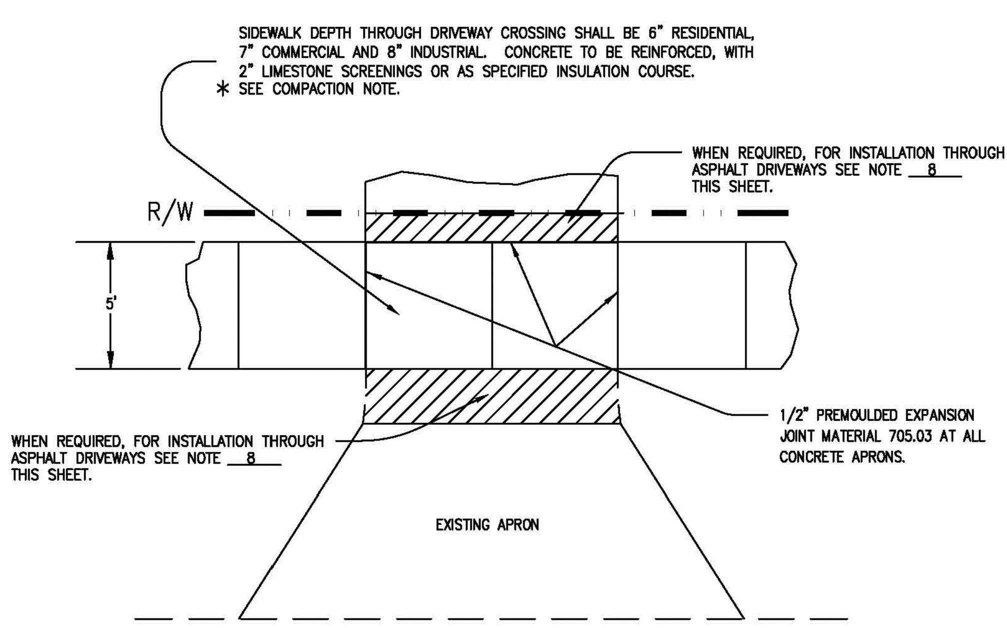
SPEED LIMIT
25 MPH OR LESS
6" x 24" MIN. SIGN (REFLECTIVE GREEN)
4" "C" SERIES HIGHWAY LETTERS
(REFLECTIVE WHITE)

REV No.	DATE	BY	DESCRIPTION
2	9/12	DAH	General Revisions – Re–Issue
1	9/20/06	DAH	SIZE AND MATERIAL REVISIONS

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING
STANDARD
STREET SIGN DETAIL
SCALE: NONE
DATE: DRWN BY:
30b



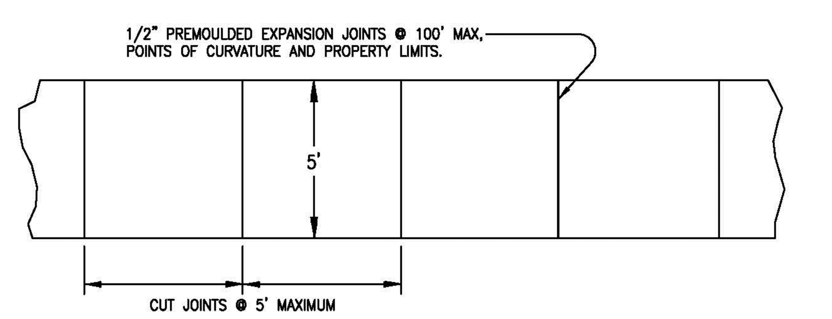
CROSS SECTION



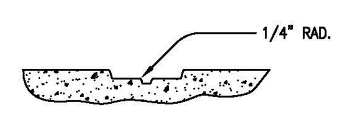
DRIVEWAY APRON DETAIL

GENERAL NOTES:

1) ELEVATION AND LOCATION OF SIDEWALKS TO BE DETERMINED, APPROVED, AND STAKED BY THE CITY OF WESTLAKE ENGINEERING DEPARTMENT
2) ALL BACKFILL, GRADING, ALONG WITH SEEDING SHALL BE INCLUDED WITH ANY SIDEWALK CONSTRUCTION.
3) USE EJ CLEANOUT/ BOX FRAME 2960Z ALONG WITH CLEANOUT/ BOX COVER 2960ALOCATED IN DRIVES/APRONS OR SIDEWALKS AND ADJUST TO FINISH CONCRETE GRADE
4) ALL PROVATE UTILITY VALVE BOXES IN THE WALK AREA SHALL BE ADJUSTED TO THE TOP OF WALK AS REQUIRED BY THE UTILITY COMPANY.
5) FINE BROOM FINISH AND RETRACE ALL JOINTS IN THE CITY SIDEWALK
6) WHITE CURE AND SEALING REQUIRED FOR ALL WALKS AND CURB RAMPS.
7) SEE CITY STANDARD DRAWING No.24 FOR DRIVEWAY SPECIFICATIONS.
8) FOR SIDEWALK INSTALLATION THROUGH EXISTING ASPHALT APRONS. THE AMOUNT OF ASPHALT REMOVED AND REPAIR WILL BE DETERMINED BY THE CITY OF WESTLAKE INSPECTOR. ALL EDGES OF REMOVAL SHALL BE FULL DEPTH SAWCUT TO PROVIDE A CLEAN NEAT EDGE.
9) SIDEWALK CROSSING ASPHALT DRIVEWAYS TO HAVE ALL JOINTS SEALED WITH HOT ASPHALT CEMENT AS DIRECTED BY THE ENGINEERING REPRESENTATIVE.
10) * ALL BASE MATERIAL TO BE COMPACTED BY USE OF MECHANICAL TAMPER OR OTHER APPROVED COMPACTORS.
11) ALL JOINTS ARE TO BE TOOLED AND RETRACED.
12) ** FIBER REINFORCEMENT MAY BE USED IN LIEU OF WIRE MESH. FIBER SPECIFICATIONS AVAILABLE THRU THE ENGINEERING DEPARTMENT.



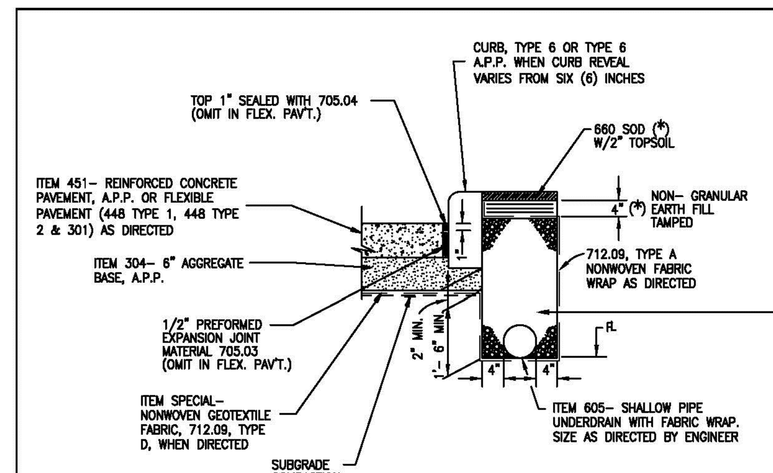
PLAN VIEW



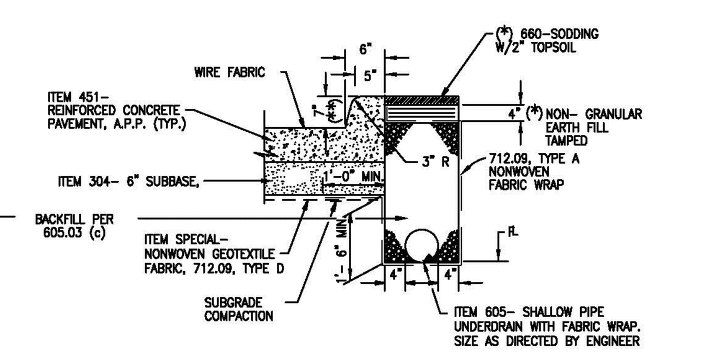
CUT JOINT

REV No.	DATE	BY	DESCRIPTION
2	1/22/19	MAC	GENERAL NOTES (RE–ISSUED)
1	9/12	DAH	GENERAL REVISIONS (RE–ISSUED)

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING
SIDEWALK INSTALLATION DETAIL
SCALE: AS NOTED
DATE: DRWN BY:
27



CURB, TYPE 6 AND SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP



CURB, TYPE 2–A, A.P.P. (**) AND SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP

NOTES:

WHEN ITEM 605 CALLS FOR 706.08 CONDUIT, THE CONDUIT SHALL BE PERFORATED BELL AND SPIGOT VITRIFIED CLAY PIPE WITH PERFORATIONS IN ACCOR– DANCE WITH A.A.S.H.T.O. M–65, WITH THREE (3) LUGS PROVIDED IN THE BELL END TO CENTER AND ALIGN THE PIPE AND PROVIDE A THREE– EIGHTH (3/8) INCH GAP BETWEEN PIPE LENGTHS. PERFORATIONS ARE PLACED DOWN.

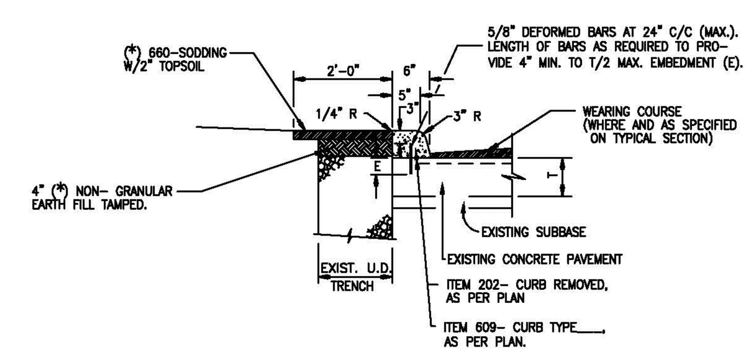
(*) WHEN USING 659–SEEDING AND MULCHING IN LIEU OF SOD WITH TOPSOIL, THE UNDERDRAIN TRENCH SHALL SIMPLY BE TOPPED WITH SIX (6) INCHES OF NON– GRANULAR EARTH FILL TAMPED.

(**) SPECIFY CURB, TYPE 2–A WHEN UTILIZING A SIX (6) INCH REVEAL PER WESTLAKE STANDARD CONSTRUCTION DRAWING SHEET 13.

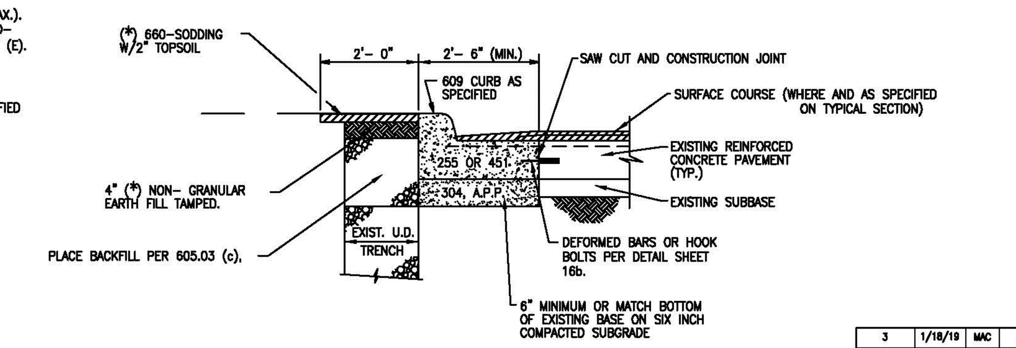
SPECIFY CURB, TYPE 2–A, AS PER PLAN WHEN REVEAL VARIES FROM SIX (6) INCHES.

SPECIFY CURB, TYPE 2–B WHEN UTILIZING WEARING COURSE AND SIX (6) INCH REVEAL PER WESTLAKE STANDARD CONSRUCTION SHEET 13.

SPECIFY CURB TYPE 2–B, AS PER PLAN WHEN REVEAL VARIES FROM SIX (6) INCHES.



INTEGRAL CONCRETE CURB REPLACEMENT DETAIL METHOD "A"



INTEGRAL CONCRETE CURB REPLACEMENT DETAIL METHOD "B"
(SEE DWG. ____)

REV No.	DATE	BY	DESCRIPTION
3	1/18/19	MAC	General Revisions (Re–Issued)
2	8/12	DAH	General Revisions (Re–Issued)
1	2/25/04	DAH	General Revisions (Re–Issued)

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING
CONCRETE CURB & UNDERDRAIN DETAILS
SCALE: AS NOTED
DATE: DRWN BY:
14

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ASCEND AT CENTER RIDGE
CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

PAVEMENT DETAILS

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

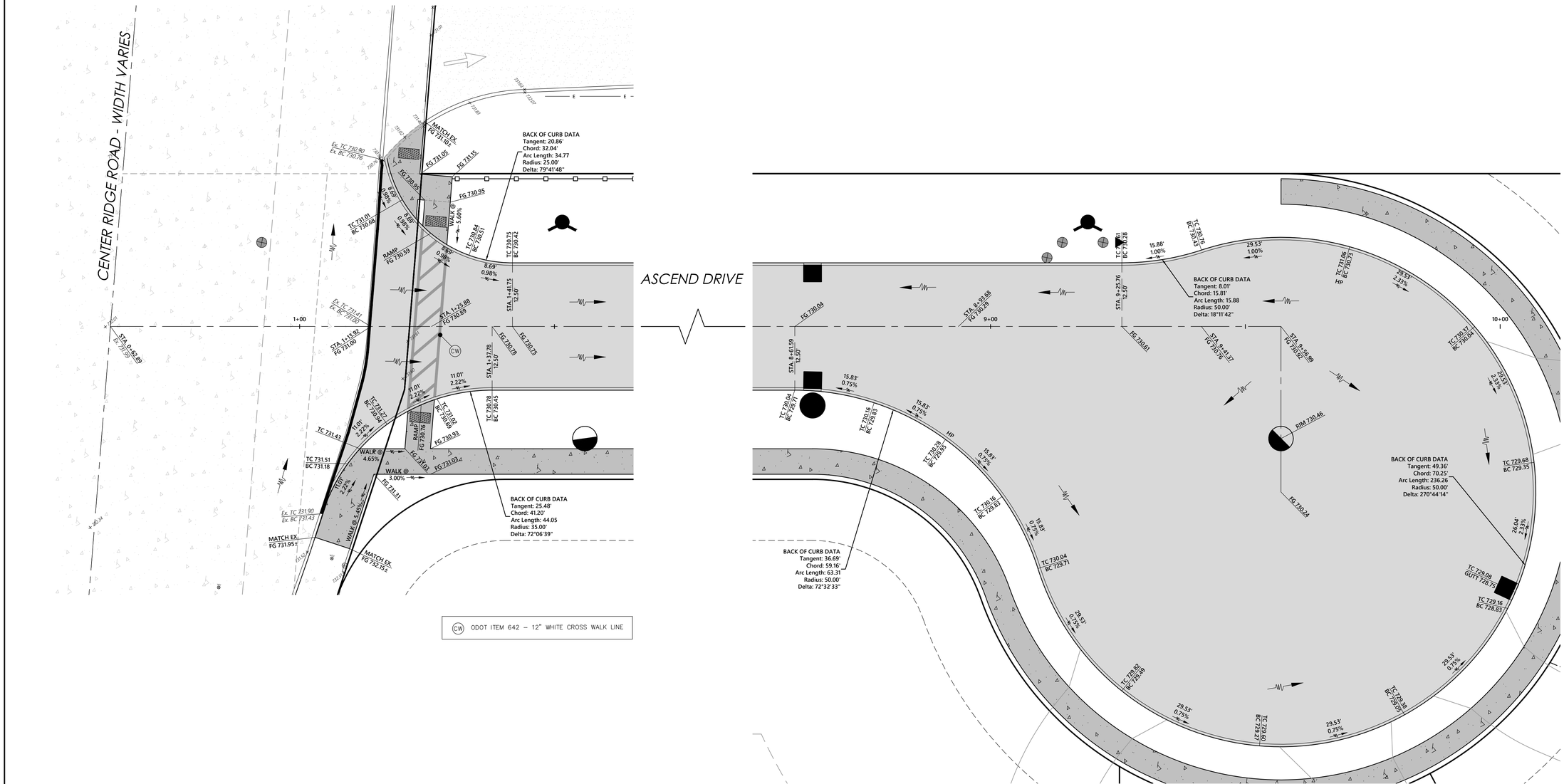
CONTRACT No.
26003

SHEET 15 OF 20

REV. No.		DATE	BY

STATE OF OHIO – KEVIN T. HOFFMAN – 74831 – REGISTERED – PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 15-Pvmt Details
BNDY. BY: RAT
BASE. BY: SRB



GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 INCH = 10 FEET

REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=10' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 16-Intx Details
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

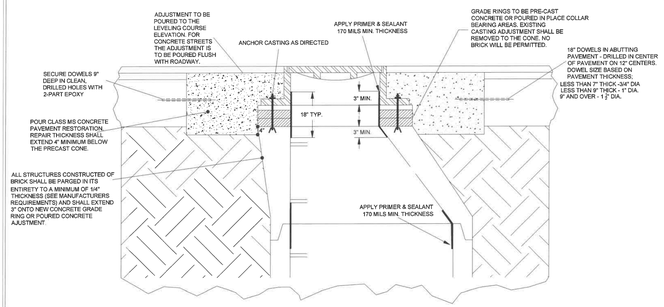
INTERSECTION DETAILS

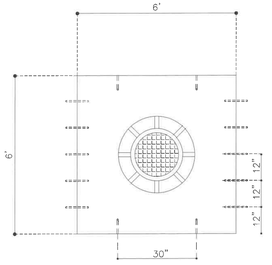
PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.

26003

SHEET	OF
16	20





REHABILITATION NOTES:

1.) REMOVE MANHOLE LID.

2.) CLEAN SURFACE OF INTERIOR OF CASTING, PRECAST MANHOLE AND ADJUSTMENT BRICK OR ADJUSTMENT RINGS. REMOVE ALL RUST, DEBRIS, FOREIGN MATERIAL AND LOOSE BRICK, CONCRETE OR MORTAR. SAND BLASTER, MECHANICAL GRINDER OR PRESSURE WASHER TO BE USED FOR CLEANING.

3.) STOP ACTIVE INTERNAL LEAKS WITH WATER PLUG.

4.) FILL VOIDS WITH CEMENTITOUS GROUT (STRONG-SEAL QSR OR APPROVED EQUAL).

5.) IF THE MASONRY SURFACE IS ROUGH, IRREGULAR, OR CONTAINS EXCESSIVE VOIDS AND WILL NOT PROVIDE AN EFFECTIVE SEAL, APPLY PATCHING MIX TO PROVIDE A SMOOTH UNIFORM SURFACE. ALLOW MIX TO CURE PRIOR TO INSTALLING THE FLEXIBLE MANHOLE SEALANT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS.

6.) DRY INTERIOR SURFACES PER MANUFACTURER'S RECOMMENDATION.

7.) APPLY MANHOLE ADJUSTMENT RING PRIMER AND SEALANT (FLEX-SEAL OR APPROVED EQUAL). APPLY TO ENTIRE SURFACE OF ADJUSTMENT RING(S) AS WELL AS MANHOLE STRUCTURE AND CASTING AT LEAST 3" ABOVE, AND BELOW ADJUSTMENT RING. ALLOW TO PRIMER TO CURE PRIOR TO APPLICATION OF SEALANT.

8.) PREFABRICATED PLUGS SHALL BE USED FOR VENTED MANHOLE LIDS IN PAVED AREAS TO MITIGATE WATER INFLOW.

9.) THE PLUGS SHALL BE NEOPRENE STYLE OR APPROVED EQUAL.

10.) THE VENTED HOLES OF THE CASTING SHALL BE CLEAN OF FOREIGN DEBRIS SO THE PLUG CAN BE INSTALLED AND SEAL AGAINST THE CASTING.

11.) ONE VENT HOLE SHALL BE LEFT OPEN TO FACILITATE FUTURE LID REMOVAL AND TO VENT SANITARY GASSES FROM THE SYSTEM.

NOTES

1.) CASTINGS: SHALL BE REMOVED FROM THE STRUCTURE AND THOROUGHLY CLEANED OF CONCRETE / FOREIGN MATERIAL. CASTINGS ARE TO BE RESET ON NEW ADJUSTMENT WITH THEIR BASE FULLY AND EVENLY SUPPORTED BY THE ADJUSTMENT. DAMAGED CASTINGS SHALL BE REPLACED AT THE DIRECTION OF ENGINEER UNDER MISC. METAL. CASTINGS DAMAGED BY THE CONTRACTOR WILL BE REPLACED AT NO ADDITIONAL COST TO THE CITY.

2.) EXISTING ADJUSTMENT: EXISTING DAMAGED BRICK OR CONCRETE SHALL BE REMOVED TO THE MANHOLE CONE. ALL WALLS ARE TO BE REMOVED TO THE SAME LEVEL AS DIRECTED BY THE FIELD REPRESENTATIVE.

3.) NEW ADJUSTMENT: USING THE SALVAGED CASTING, RECONSTRUCT THE STRUCTURE TO THE NEW GRADE, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSION USING A POURED "MS" CONCRETE COLLAR OR PRE CAST CONCRETE GRADE RINGS.

4.) PAVEMENT REPAIR LIMITS: WILL BE MARKED BY THE ENGINEER.

5.) DOWELS: 18" LONG, EPOXY COATED DOWELS ARE REQUIRED FOR USE ON 12" CENTERS ALONG TRANSVERSE FACES OF BOX-OUTS. DOWEL DIAMETER WILL BE DEPENDENT ON THE THICKNESS OF ABUTTING PAVEMENT.

6.) HOOK BOLTS: 5/8" HOOK BOLTS, OR CITY APPROVED REPLACEMENT PER CITY DETAIL, ARE TO BE PLACED ON 90° CENTERS ALONG THE LONGITUDINAL FACE OF BOX-OUT IN CENTER OF ABUTTING CONCRETE. IF THEIR INSTALLATION IS DIRECTED BY THE ENGINEER.

7.) CONCRETE: MS, AIR-ENTRAINED CONCRETE (6% +/- 2%) SHALL BE POURED FROM THE BOTTOM OF THE ABUTTING PAVEMENT TO LEVEL AS NOTED IN THE DETAIL.

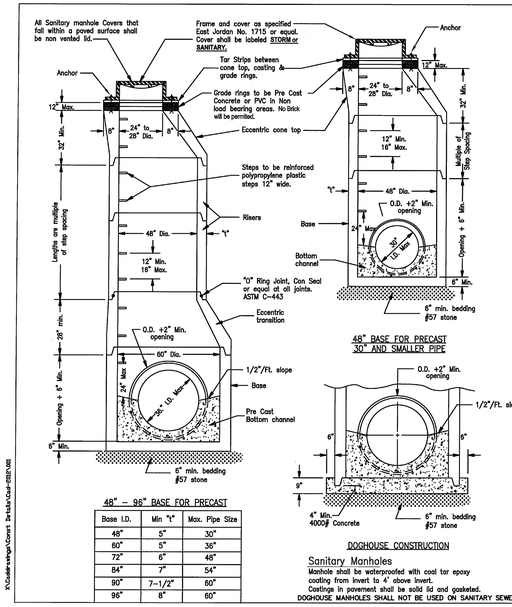
8.) ANCHORS: ANCHORS 1 8" DIA ALL-THREAD WITH WASHERS AND HEX NUT (MIN 4). ANCHOR TO BE SECURED INTO THE ECCENTRIC CONE TOP.

REV No.	DATE	BY	DESCRIPTION
1	3/18	WMD	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

MANHOLE ADJUSTMENT
& ADJUSTMENT RING REHABILITATION

SCALE: AS NOTED
DATE: DRWN BY:
35



48" – 96" BASE FOR PRECAST

Base I.D.	Min "t"	Max. Pipe Size
48"	5"	30"
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7-1/2"	60"
96"	8"	60"

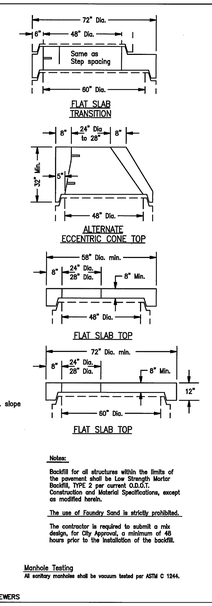
DOGHOUSE CONSTRUCTION

Sanitary Manholes

Manhole shall be waterproofed with coal tar epoxy coating from invert to 4' above invert.

Castings in pavement shall be solid lid and gasketed.

DOGHOUSE MANHOLES SHALL NOT BE USED ON SANITARY SEWERS



Notes:

Backfill for all structures within the limits of the pavement shall be Low Strength Mortar Backfill, TYPE 2 per current O.D.O.T. Construction and Material Specifications, except as modified herein.

The use of Foundry Sand is strictly prohibited.

The contractor is required to submit a mix design, for City Approval, a minimum of 48 hours prior to the installation of the backfill.

Manhole Testing

All sanitary manholes shall be vacuum tested per ASTM C 1244.

NOTES

Sections of the precast manhole shall be cast and assembled with either a tongue or a groove ends up. Lift holes may be provided in each section for handling.

TOP AND TRANSITION (or reducer)
Sections may be either eccentric cone, concentric cone or flat slab.

BASES for manholes are shown with 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. Openings for inlet and outlet pipe shall be provided, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete precast in the base or by field construction. Bases may also be poured in place.
All inlets and outlets are to be identified.

OPENINGS IN RISER SECTIONS for 18" and smaller inlet pipes shall be prefabricated. Flexible connections shall be provided for sanitary and combined sewers.

JOINT SEAL between precast manhole sections on sewers shall be resilient and flexible gasket joints per ASTM C-443 or latest edition.
In addition to O-ring joint, between manhole section, a flexible butyl rubber seal, Con-Seal or equal, shall be used. This sealant shall meet a minimum temperature workability of 10°F – 130°F.
A watertight flexible sleeve "KOR-N-SEAL", "PRESS WEDGE" or equal to be provided at all connections between manholes and pipes.

MATERIALS for bases and other precast sections, including reinforcement not specified hereon, shall comply with the specifications.

LANDING PLATFORMS as shown on the Landing Details shall be installed in manholes that are over 28 feet deep to the invert with maximum vertical spacing of 20 feet. SEE DETAIL.

PRECAST MANHOLE shall conform to the requirements of ASTM C-478. Concrete shall be 4000# P.S.I.

SEAL lift holes with approved concrete plugs and bit.

ANCHORS ¾" dia. Allthread with washers and hex nut (Min 4). Lead anchor secured into the eccentric cone top.

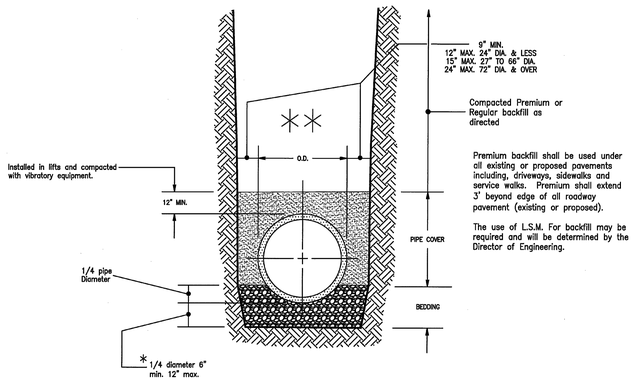
CASTINGS for manholes shall be cleaned and painted in field with one coat of asphalt varnish or coal tar pitch paint.

REV No.	DATE	BY	DESCRIPTION
2	5/30/13	DMJ	Backfill Requirements – Re-Issue
1	1/17/04	DMJ	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

PRECAST CONCRETE M.H.

SCALE: AS NOTED
DATE: DRWN BY:
1



TYPICAL TRENCH DETAIL
MAINLINE AND LATERALS

Premium backfill shall consist of course interlocking aggregate O.D.O.T #304 and #57.

Pipe cover shall consist of course interlocking aggregate no. 57, #5 and #8 (lateral connections only).

Bedding shall consist of course interlocking aggregate No. 57, or 8 for 60" or smaller diameter pipe, for 66" or larger diameter pipe No. 4, #57 and #8 aggregate may also be used.

All Material substitutions must be approved by the City Engineer.
Fire and Water Line bedding and cover to be sand in accordance with the City of Cleveland Water Department construction standards.

The use of slag is prohibited.

Low Strength Mortar Backfill
When the use of flowable fill is directed by the Engineer within the limits of the pavement, the material used shall be Low Strength Mortar Backfill, TYPE 2 per current O.D.O.T. Construction and Material Specifications, except as modified herein.

The use of Foundry Sand is strictly prohibited.

The contractor is required to submit a mix design, for City Approval, a minimum of 48 hours prior to the installation of the backfill.

Notes:

Lateral connections to have a minimum bedding depth of 3" course aggregate.

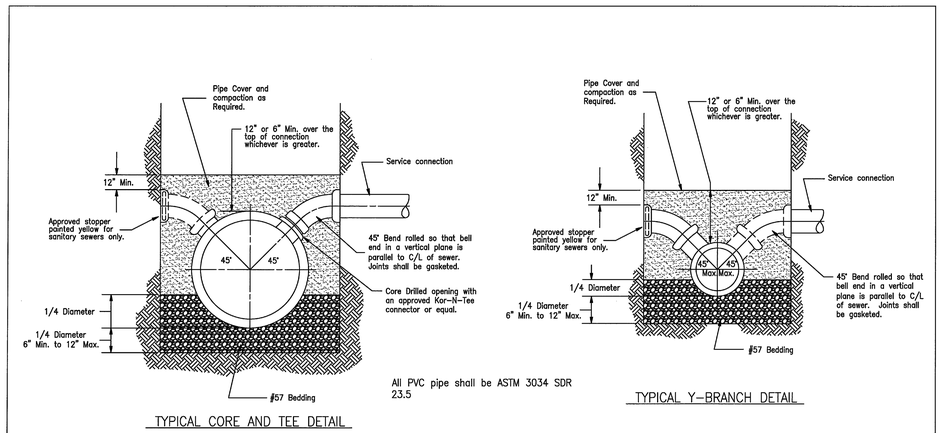
A clay dam shall be installed as directed by the City of Westlake inspector for all sanitary and storm connections.

REV No.	DATE	BY	DESCRIPTION
2	8/12	DMJ	General Revisions – Re-Issued
1	2/17/04	DMJ	General Revisions – Re-Issued

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

TYPICAL
TRENCH DETAILS

SCALE: AS NOTED
DATE: DRWN BY:
5



TYPICAL CORE AND TEE DETAIL

All PVC pipe shall be ASTM 3034 SDR 23.5

TYPICAL Y-BRANCH DETAIL

REV No.	DATE	BY	DESCRIPTION
2	8/12	DMJ	General Revisions – Re-Issue
1	2/17/04	DMJ	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

DETAILS
SLANT & Y-BRANCH

SCALE: AS NOTED
DATE: DRWN BY:
6

REV. No.		DATE	BY

STATE OF OHIO · KEVIN HOFFMAN · 74831 · REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 17-Sewer Details
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

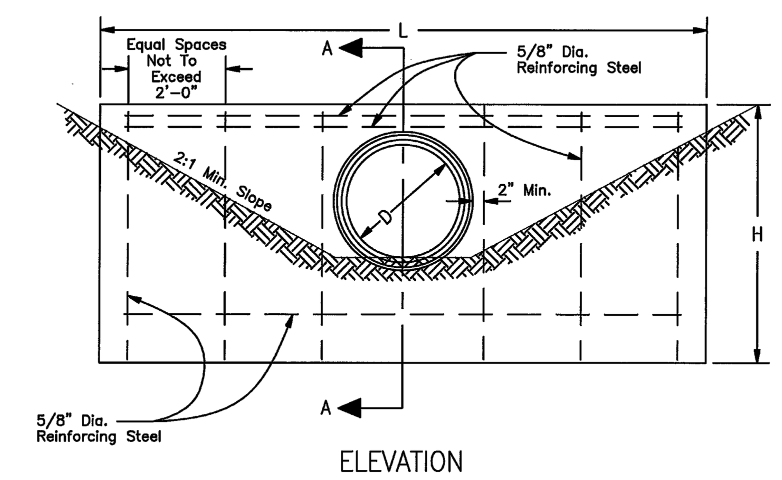
polaris Engineering & Surveying

SEWER DETAILS

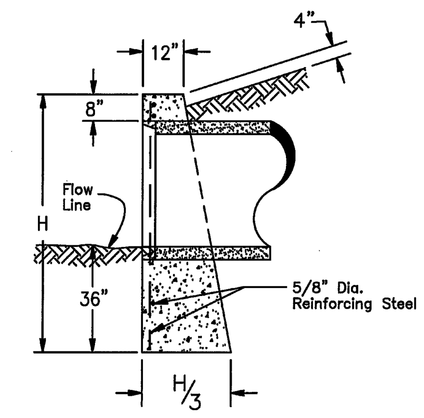
PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.
26003

SHEET	OF
17	20



ELEVATION



SECTION A–A

DIMENSIONS			QUANTITIES ONE HEADWALL	
DIAMETER	H	L	CONCRETE CU. YDS.	REINFORCING STEEL LBS.
15"	5'–2"	7'–0"	1.7	41
18"	5'–5"	8'–4"	2.2	57
21"	5'–8"	9'–8"	2.8	62
24"	5'–11"	11'–0"	3.3	69
30"	6'–5"	13'–8"	4.7	92
36"	7'–0"	16'–4"	6.5	105

L CIRCULAR SECTIONS = 5D + 4t
L ELLIPTICAL OR PIPE ARCH = 4R + 4t + S
H CIRCULAR SECTIONS = D + t = 44"
H ELLIPTICAL OR PIPE ARCH = R + t = 44"

D = DIAMETER OF PIPE
R = RISE OF PIPE
S = SPAN OF PIPE
t = THICKNESS OF BARREL
L = LENGTH OF HEADWALL
H = HEIGHT OF HEADWALL

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NOTES

No. 1 headwall, where required, will be provided for nonskewed culverts having a diameter or rise of 36" or less.

Concrete shall be class "C".

Reinforcing steel bars shall be 5/8" round.

Dimension and quantities are shown for circular sections only. It will be necessary to determine dimensions for the No. 1 headwall required for reinforced elliptical concrete pipe or corrugated metal pipe arches in accordance with the equations listed on this drawing.

Chamfer all exposed corners 3/4 of an inch.

Foundation. Where the soil borings indicate a bearing capacity of less than 2600 pounds per square foot, it will be necessary to increase the width of the base.

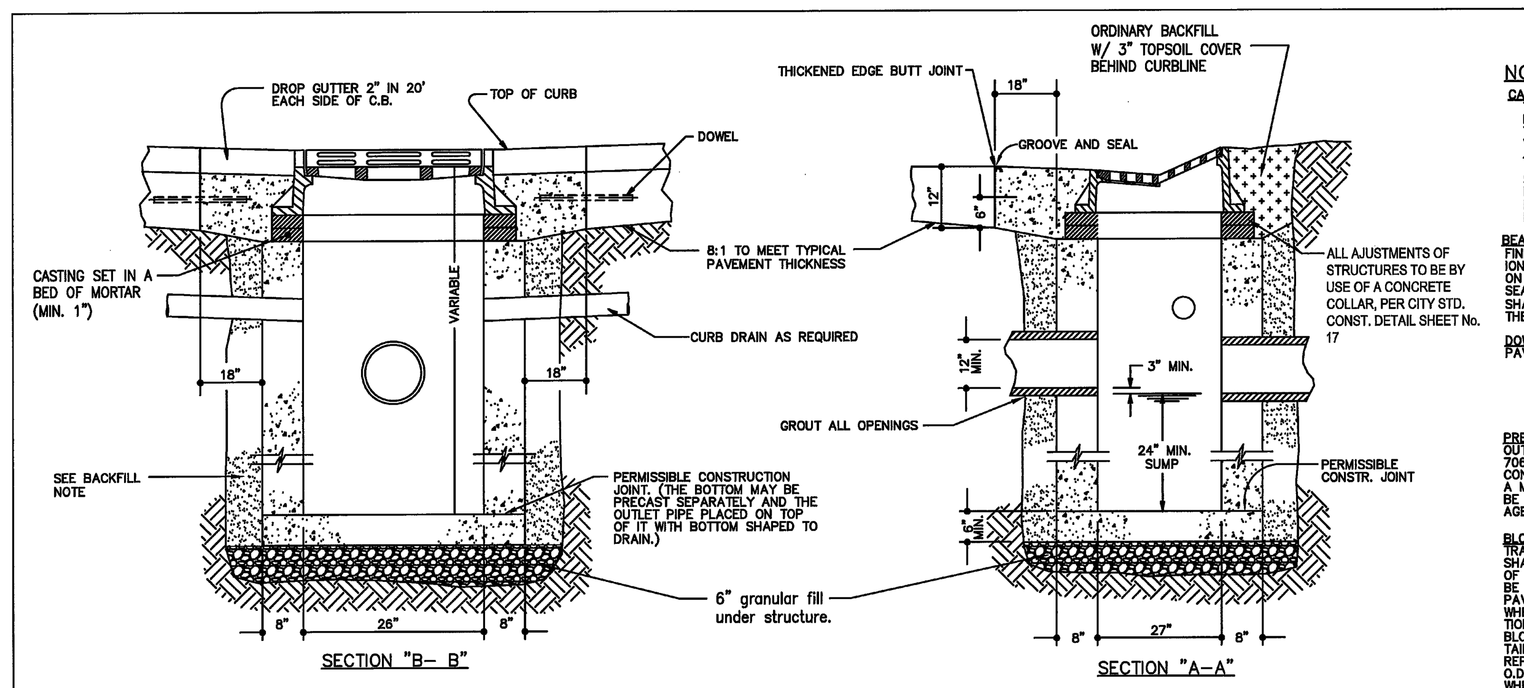
All cast in place headwalls shall have a cement wash.

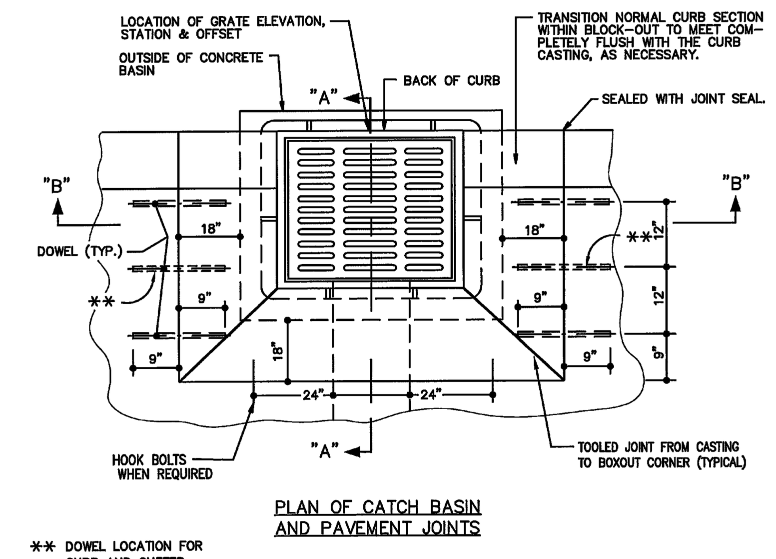
REV No.	DATE	BY	DESCRIPTION
2	9/12	DAH	General Revisions – Re-Issue
1	1/7/04	DAH	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
No. 1 HEADWALL

SCALE: AS NOTED
DATE: DRWN BY:
29





PLAN OF CATCH BASIN AND PAVEMENT JOINTS

** DOWEL LOCATION FOR CURB AND GUTTER

X:\Caddrawings\Const Details\Cad-2012\020

Note:

RESIDENTIAL PAVEMENT T = 7" (1"x 18" Long Dia. Dowel)
INDUSTRIAL PAVEMENT T = 9" (1¼"x 18" Long Dia. Dowel)

Notes:

Backfill for all structures within the limits of the pavement shall be Low Strength Mortar Backfill, TYPE 2 per current O.D.O.T. Construction and Material Specifications, except as modified herein.

The use of Foundry Sand is strictly prohibited.

The contractor is required to submit a mix design, for City Approval, a minimum of 48 hours prior to the installation of the backfill.

Curb Drains installed shall be stubbed out 1' past the limits of excavation with solid pipe.

NOTES

CASTINGS SHALL MINIMALLY MEET THE REQUIREMENTS OF 604–711.12, A.S.T.M. A 48, CLASS 35 GRAY IRON OR 711.13 DUCTILE IRON. AFTER ACCEPTANCE, EXPOSED PARTS OF CURB CASTING TO BE THOROUGHLY CLEANED AND GIVEN ONE COAT OF ASPHALT VARNISH OR COAL TAR PITCH PAINT, AT THE SITE.
TOTAL MINIMUM ASSEMBLY WEIGHT = 600 LBS.
SUBJECT TO THE ABOVE, THE FOLLOWING OR APPROVED EQUAL CASTINGS ARE ACCEPTED:
NEENAH No. R–3514–F AND EAST JORDAN No. 7390 WITH BICYCLE SAFE GRATE.

BEARING AREAS OF FRAME AND GRATE SHALL BE SO FITTED AND FINISHED AS TO PROVIDE A FIRM AND EVEN SEAT FOR ALL PORTIONS OF THE GRATE IN THE FRAME. NO PROJECTIONS SHALL EXIST ON BEARING AREAS OF EITHER CASTING AND THE GRATE SHALL SEAT IN ITS FRAME WITHOUT ROCKING. EACH FRAME AND GRATE SHALL BE FITTED, MATCHED AND MARKED BEFORE DELIVERY TO THE PROJECT.

DOWELS: FOUR (4) 1"x18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT.

PRECAST CONSTRUCTION IS PERMITTED, (EXCEPT FOR THE BLOCK–OUT PAVEMENT) AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH SIX PLUS OR MINUS TWO PERCENT (6±2%) AIR VOID CONTENT IN THE HARDENED CONCRETE. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF SIX (6) INCHES AND REINFORCING SHALL BE SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE.

BLOCKOUT: WHERE ONE SIDE OF THE BLOCKOUT IS LOCATED AT A TRANSVERSE PAVEMENT JOINT THE TRANSVERSE PAVEMENT JOINT SHALL BE THICKENED AND CONTINUED IN KIND WITHIN THE LIMITS OF THE BLOCKOUT. EXCEPT AS DESCRIBED ABOVE, BLOCKOUTS SHALL BE LOCATED NO CLOSER THAN FIVE (5) FEET FROM A TRANSVERSE PAVEMENT JOINT.
WHERE THE SPECIFIED CATCH BASIN WORK REQUIRES THE CONSTRUCTION/RECONSTRUCTION OF BLOCKOUTS IN EXISTING PAVEMENT, THE BLOCKOUTS SHALL CONFORM, AS CLOSELY AS POSSIBLE, TO THE DETAILS SHOWN HEREON EXCEPT THAT THE DOWELS SHALL BE PLACED/REPLACED IN ACCORDANCE WITH THE "SECTION–TYPE X" JOINT, PER O.D.O.T. CONSTRUCTION DRAWING BP–2.5C. ("SECTION–TYPE Y" JOINT WHERE BLOCKOUT JOINT IS AT A EXISTING CONTRACTION OR HINGE JOINT LOCATION.)
A CLASS "C" CONCRETE APRON, THE SIZE OF THE TWO (2) FOOT GUTTER BLOCKOUT, SHALL BE CAST IN PLACE IN FLEXIBLE PAVEMENT AND NO DOWELS ARE REQUIRED.

PRECAST CATCH BASIN

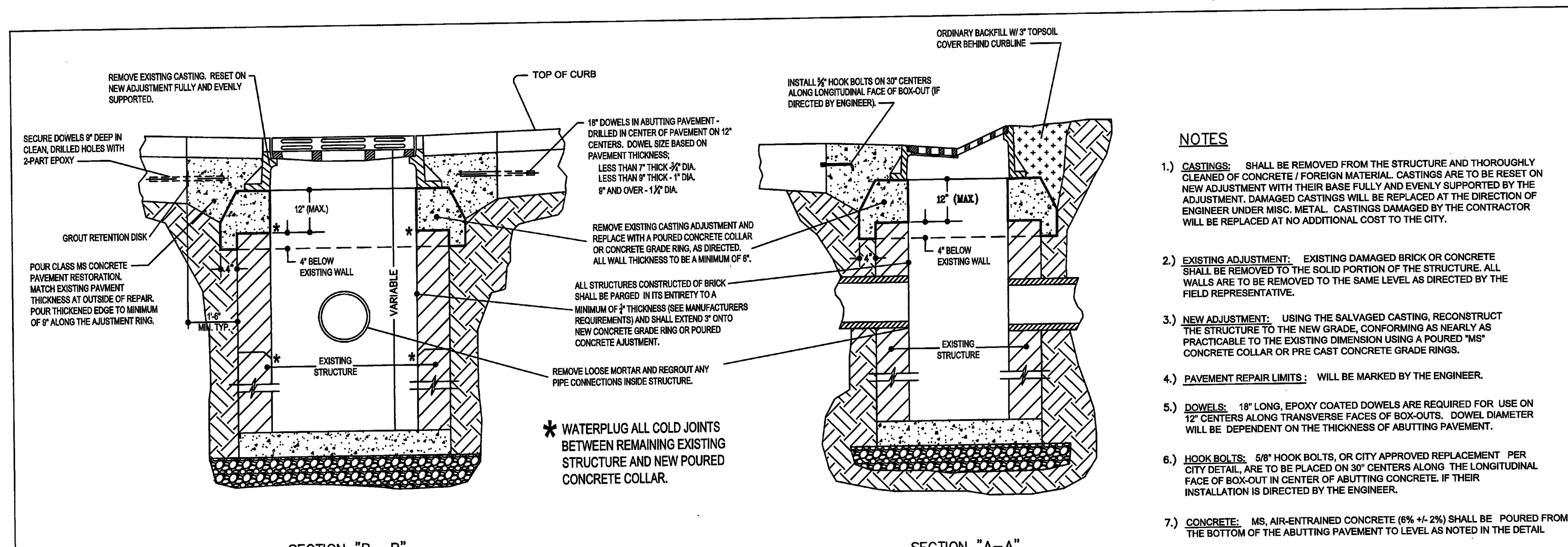
A PRECAST CONCRETE CHAMBER MAY BE USED. THE WALL THICKNESS SHALL BE A MINIMUM OF 6". REINFORCING STEEL SHALL BE USED IN ALL CASES. No. 3 BARS SHALL BE USED WHERE THE WALL HEIGHT FROM THE TOP OF THE WALL TO BOTTOM OF SLAB IS 3 FEET OR LESS AND No. 4 BARS SHALL BE USED WHEN THE WALL HEIGHT EXCEEDS 3 FEET. SHOP DRAWINGS SHALL BE REQUIRED IF PRECAST CONCRETE STRUCTURE IS USED.

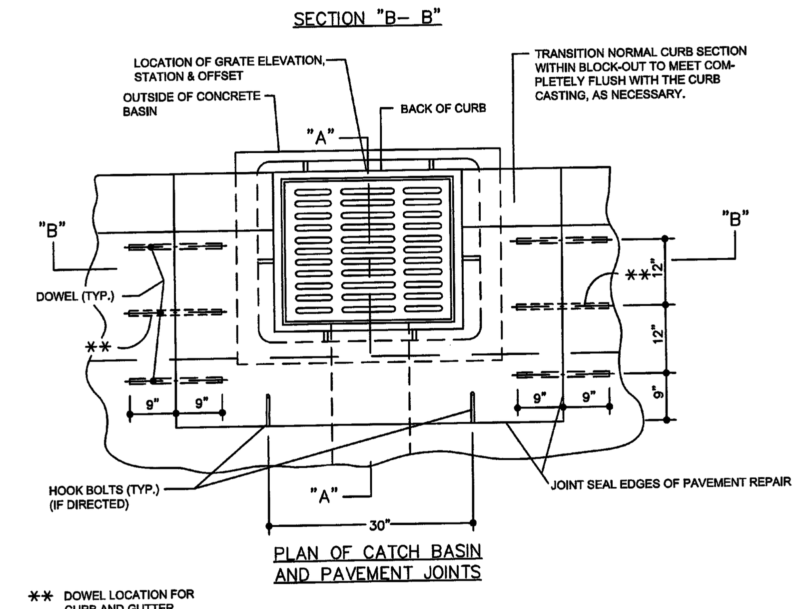
REV No.	DATE	BY	DESCRIPTION
4	9/13	DAH	Adjust to Grade Revision – Re-Issue
3	6/13	DAH	Removed Expansion & Caps – Re-Issue
2	8/12	DAH	General Revisions – Re-Issue
1	2/27/04	DAH	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

CATCH BASIN
MOUNTABLE CURB

SCALE: AS NOTED
DATE: DRWN BY:
20





PLAN OF CATCH BASIN AND PAVEMENT JOINTS

** DOWEL LOCATION FOR CURB AND GUTTER

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NOTES

1.) CASTINGS: SHALL BE REMOVED FROM THE STRUCTURE AND THOROUGHLY CLEANED OF CONCRETE / FOREIGN MATERIAL. CASTINGS ARE TO BE RESET ON NEW ADJUSTMENT WITH THEIR BASE FULLY AND EVENLY SUPPORTED BY THE ADJUSTMENT. DAMAGED CASTINGS WILL BE REPLACED AT THE DIRECTION OF ENGINEER UNDER MISC. METAL. CASTINGS DAMAGED BY THE CONTRACTOR WILL BE REPLACED AT NO ADDITIONAL COST TO THE CITY.

2.) EXISTING ADJUSTMENT: EXISTING DAMAGED BRICK OR CONCRETE SHALL BE REMOVED TO THE SOLID PORTION OF THE STRUCTURE. ALL WALLS ARE TO BE REMOVED TO THE SAME LEVEL AS DIRECTED BY THE FIELD REPRESENTATIVE.

3.) NEW ADJUSTMENT: USING THE SALVAGED CASTING, RECONSTRUCT THE STRUCTURE TO THE NEW GRADE, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSION USING A POURED "MS" CONCRETE COLLAR OR PRE CAST CONCRETE GRADE RINGS.

4.) PAVEMENT REPAIR LIMITS: WILL BE MARKED BY THE ENGINEER.

5.) DOWELS: 18" LONG, EPOXY COATED DOWELS ARE REQUIRED FOR USE ON 12" CENTERS ALONG TRANSVERSE FACES OF BOX-OUTS. DOWEL DIAMETER WILL BE DEPENDENT ON THE THICKNESS OF ABUTTING PAVEMENT.

6.) HOOK BOLTS: 5/8" HOOK BOLTS, OR CITY APPROVED REPLACEMENT PER CITY DETAIL, ARE TO BE PLACED ON 30" CENTERS ALONG THE LONGITUDINAL FACE OF BOX-OUT IN CENTER OF ABUTTING CONCRETE. IF THEIR INSTALLATION IS DIRECTED BY THE ENGINEER.

7.) CONCRETE: MS, AIR-ENTRAINED CONCRETE (6% +/- 2%) SHALL BE POURED FROM THE BOTTOM OF THE ABUTTING PAVEMENT TO LEVEL AS NOTED IN THE DETAIL

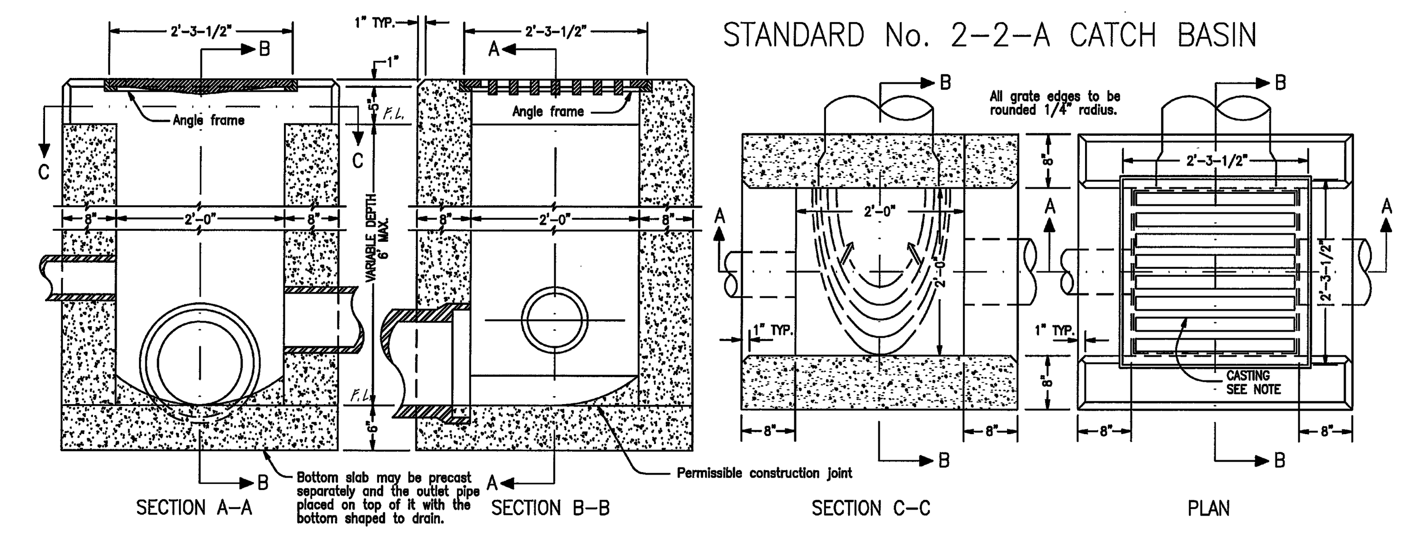
REV No.	DATE	BY	DESCRIPTION
1	8/12	DAH	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

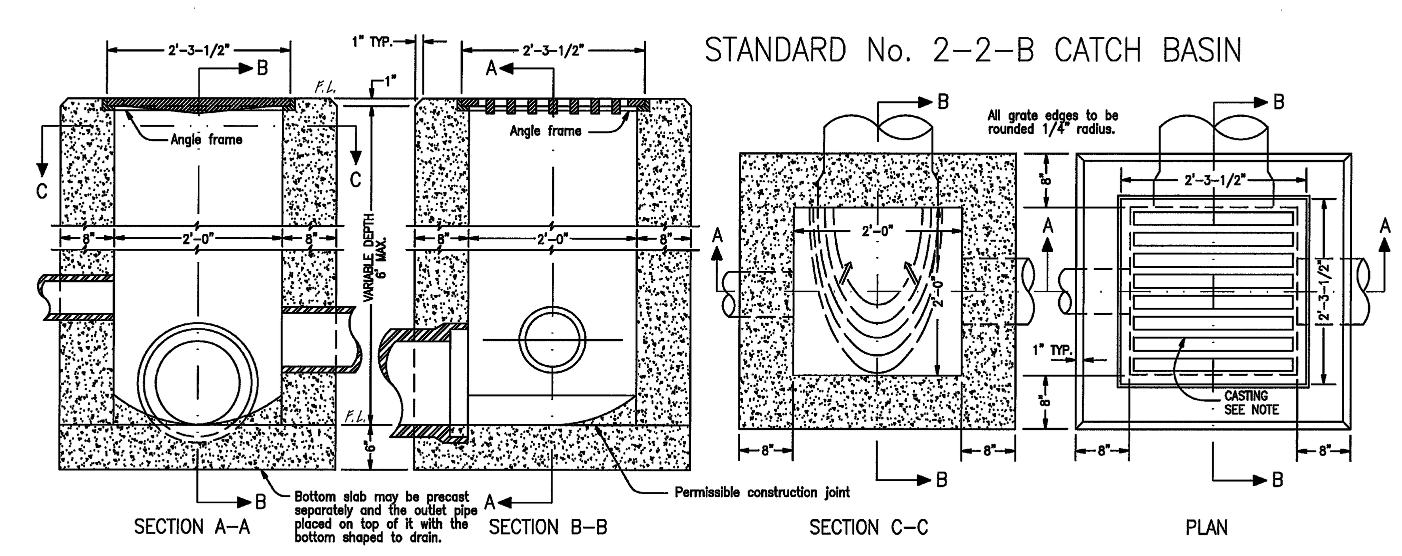
CATCH BASIN ADJUSTMENT

SCALE: AS NOTED
DATE: DRWN BY:
17

STANDARD No. 2–2–A CATCH BASIN



STANDARD No. 2–2–B CATCH BASIN



ALL STRUCTURES TO BE PRE-CAST CONCRETE UNLESS OTHERWISE DIRECTED.

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Notes:

Location and elevation when given on the plans is top center of the grate. When side openings are provided, elevation shall be the flow line of the side inlet.

Casting and Frame Casting to be East Jordan Iron Works No. 5110 w/Type M2 Flat Grate or as approved equal.

IF DIRECTED BY THE ENGINEER brick and concrete block or cast–in–place walls shall have a nominal thickness of 8 inches. Precast walls shall have a min. thickness of 6 inches and be reinforced sufficiently to permit shipping and handling without damage. Brick or concrete block shall not be used above the flow line of the side opening for type 2–2–A.

2–2–A Side Inlets to be placed 4 to 6 inches below normal elevations of median or ditch flow line returning to normal 10 feet each side of the basin.

2–2–B Grate elevation to be placed 4 to 6 inches below normal ditch returuning to normal 10 feet each side of the basin.

Side Inlets shall be provided on both sides of the No. 2–2–A catch basins in sags and on upstream side only where the ditch has a continuous down grade past the catch basin.

Concrete, cast in place, to be Class C. All precast concrete shall meet the requirements of 706.13.

Openings for pipes shall be O.D +2" when fabricated or field cut.

Backfill for structures within 3' of all pavement, driveways and sidewalks shall be Low Strength Mortar Backfill, TYPE 2 per current O.D.O.T. Construction and Material Specifications, except as modified herein.

The use of Foundry Sand is strictly prohibited.

The contractor is required to submit a mix design, for City Approval, a minimum of 48 hours prior to the installation of the backfill.

REV No.	DATE	BY	DESCRIPTION
2	9/12	DAH	General Revisions – Re-Issue
1	5/3/03	DAH	General Revisions – Re-Issue

CITY OF WESTLAKE, OHIO
DEPARTMENT OF ENGINEERING

CATCH BASIN
2–2–A 2–2–B

SCALE: AS NOTED
DATE: DRWN BY:
23

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

polaris Engineering & Surveying

SEWER DETAILS

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

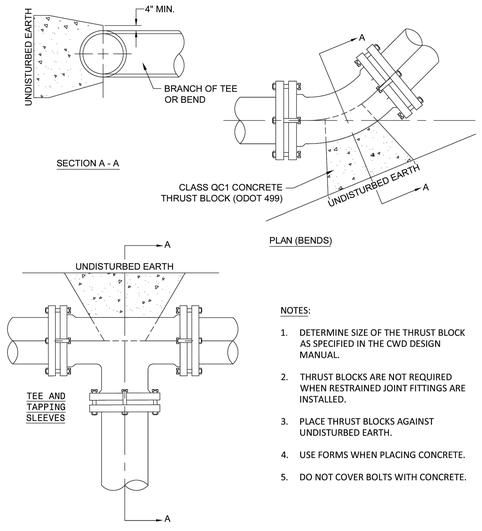
CONTRACT No.
26003

SHEET	OF
18	20

REV. No.		DATE	BY

STATE OF OHIO
KEVIN T. HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

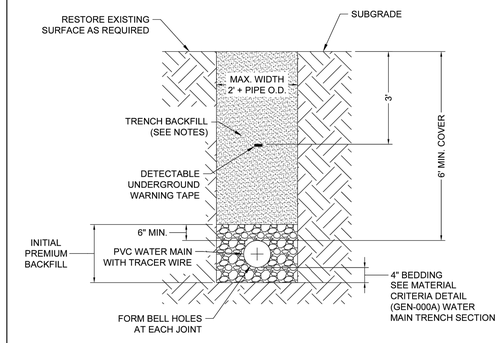
DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 18-Sewer Details (2)
BNDY. BY: RAT
BASE. BY: SRB



NOTES:

1. DETERMINE SIZE OF THE THRUST BLOCK AS SPECIFIED IN THE CWD DESIGN MANUAL.
2. THRUST BLOCKS ARE NOT REQUIRED WHEN RESTRAINED JOINT FITTINGS ARE INSTALLED.
3. PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH.
4. USE FORMS WHEN PLACING CONCRETE.
5. DO NOT COVER BOLTS WITH CONCRETE.

REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CONCRETE THRUST BLOCKS FOR TEES AND HORIZONTAL BENDS
				DETAIL NO.: GEN-006
				SCALE: N.T.S. DATE: 5/31/2024



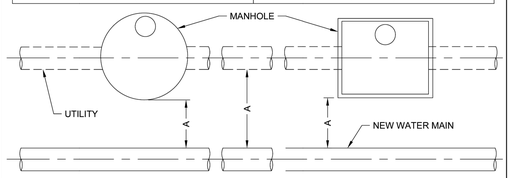
IN EARTH

NOTES:

1. PLACE AND COMPACT INITIAL PREMIUM BACKFILL USING HAND-HELD OR WALK BEHIND EQUIPMENT. DO NOT ALLOW BACKFILL MATERIAL TO FREE-FALL INTO TRENCH.
2. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS WITHIN THE CITY OF CLEVELAND CORPORATION LIMITS, PLACE AND COMPACT CONTROLLED LOW STRENGTH MORTAR - CONTROLLED DENSITY FILL (CLSM-CDF) TRENCH BACKFILL TO PAVEMENT SUBGRADE. PLACE CLSM-CDF IN OTHER MUNICIPALITIES WHERE PERMITTED OR DIRECTED.
3. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS IN OTHER MUNICIPALITIES WHERE PERMITTED, PLACE AND COMPACT PREMIUM TRENCH BACKFILL MATERIAL IN MAXIMUM 6" LIFTS TO 95% OF STANDARD PROCTOR AT +/2% OF OPTIMUM MOISTURE CONTENT TO PAVEMENT SUBGRADE. IF NOT PERMITTED, FOLLOW LOCAL REQUIREMENTS.
4. IN LAWNS AND STREETSCAPE AREAS, PLACE AND COMPACT SUITABLE TRENCH BACKFILL MATERIAL IN MAXIMUM 6" LIFTS TO 85% OF STANDARD PROCTOR AT +/-3% OF OPTIMUM MOISTURE CONTENT TO FINAL RESTORATION SUBGRADE.

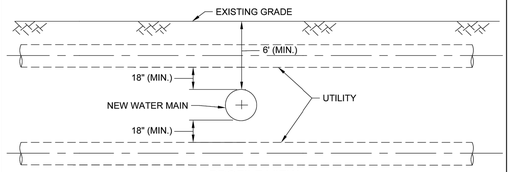
REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	WATER MAIN TRENCH DETAILS
				DETAIL NO.: PVC-001
				SCALE: N.T.S. DATE: 7/9/2024

HORIZONTAL CLEARANCE (A)	
STORM, SANITARY AND COMBINED SEWERS	GAS, DUCTBANK, OTHER UTILITY
10 FT (MIN.)	5 FT (MIN.) *



* UNLESS OTHERWISE AUTHORIZED BY CWD

PLAN VIEW

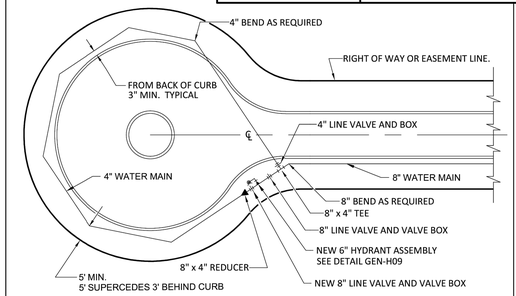


PROFILE VIEW

NOTES:

1. ADJUST HORIZONTAL OR VERTICAL ALIGNMENT AS NEEDED TO ACHIEVE REQUIRED SEPARATION. SEE DETAILS GEN-L01 AND GEN-L02 FOR VERTICAL BEND RESTRAINT AND LOWERING REQUIREMENTS.
2. IF EXISTING SEPARATION IS LESS THAN REQUIRED, SEPARATION MUST BE IMPROVED OR MAINTAINED.
3. SEE SECTION 8.8 OF THE MOST CURRENT VERSION OF '10 STATES STANDARDS - RECOMMENDED STANDARDS FOR WATER WORKS' FOR SEPARATION FROM SEWERS AND SOURCES OF CONTAMINATION.

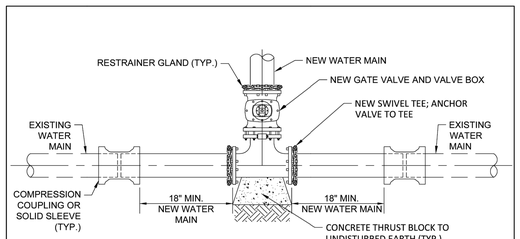
REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	HORIZONTAL AND VERTICAL CLEARANCE FOR UTILITIES
				DETAIL NO.: GEN-017
				SCALE: N.T.S. DATE: 5/31/2024



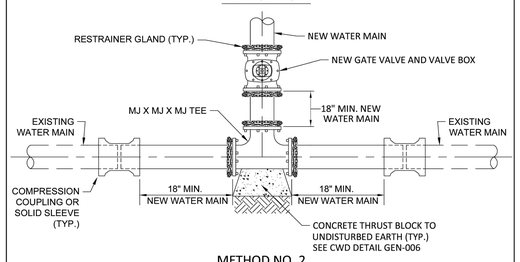
NOTE:

1. INSTALL HYDRANT ASSEMBLY AS CLOSE TO 8" X 4" TEE AS POSSIBLE (MAX. 18 FT). USE ALTERNATE CUL-DE-SACE SCHEMATIC WHEN 18 FT IS EXCEEDED.
2. INSTALL THRUST BLOCKS BEHIND ALL TEES AND BENDS.
3. INSTALL RESTRAINED JOINT PIPE AND FITTINGS.

REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	STANDARD CUL - DE - SAC HYDRANT/LOOP SCHEMATIC
				DETAIL NO.: GEN-013
				SCALE: N.T.S. DATE: 1/26/2024



METHOD NO. 1

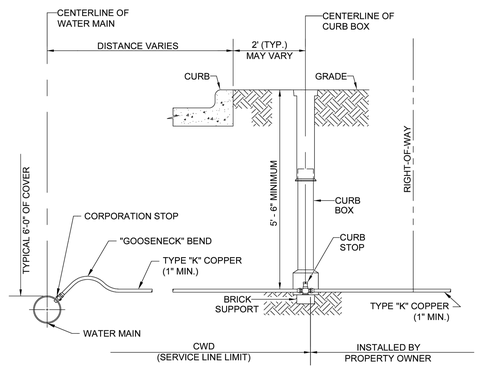


METHOD NO. 2

NOTES:

1. USE METHOD NO. 1 UNLESS DIRECTED BY CWD.
2. THRUST BLOCKS NOT REQUIRED IF BOLTLESS RESTRAINED JOINTS ARE USED.

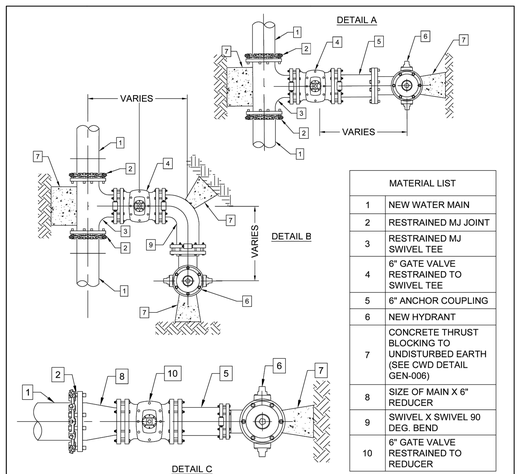
REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CUT-IN TEE DETAILS
				DETAIL NO.: GEN-T01
				SCALE: N.T.S. DATE: 1/15/2024



NOTES:

1. DO NOT TAP PVC PIPE WITHIN 2 FEET OF PIPE BELL OR SPIGOT INSERTION MARKS.
2. MIN. 18-INCH SEPARATION BETWEEN TAPS IN A SINGLE PVC PIPE. STAGGER ADJACENT TAPS AROUND PIPE CIRCUMFERENCE.
3. CURB VALVES IN EASEMENTS SHALL BE PLACED APPROXIMATELY 3 FEET FROM THE WATER MAIN.

REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	NEW 1" WATER SERVICE CONNECTION IN PUBLIC RIGHT-OF-WAY OR WATER SUPPLY EASEMENT
				DETAIL NO.: GEN-C04
				SCALE: N.T.S. DATE: 2/13/2024

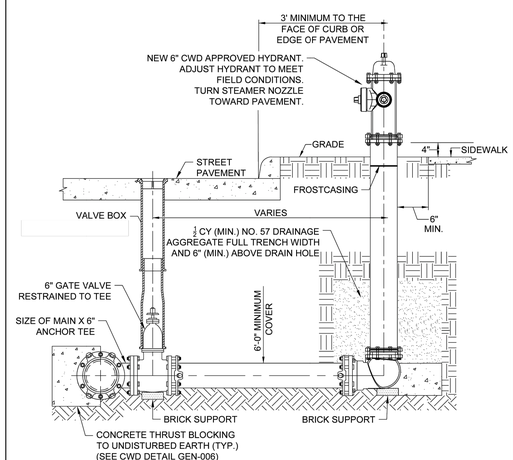


MATERIAL LIST	
1	NEW WATER MAIN
2	RESTRAINED MJ JOINT
3	RESTRAINED MJ SWIVEL TEE
4	6" GATE VALVE RESTRAINED TO SWIVEL TEE
5	6" ANCHOR COUPLING
6	NEW HYDRANT
7	CONCRETE THRUST BLOCKING TO UNDISTURBED EARTH (SEE CWD DETAIL GEN-006)
8	SIZE OF MAIN X 6" REDUCER
9	SWIVEL X SWIVEL 90 DEG. BEND
10	6" GATE VALVE RESTRAINED TO REDUCER

NOTES:

1. INSTALL RESTRAINED JOINTS ON ALL PIPE AND FITTINGS.
2. ADJUST NEW HYDRANT TO MEET FIELD CONDITIONS. TURN STEAMER NOZZLE TOWARD PAVEMENT.
3. INSTALL NEW 8" PIPE WITH 36 LF (MIN.) FULLY RESTRAINED JOINTS OR NEW 12" PIPE WITH 54 LF (MIN.) RESTRAINED JOINTS.

REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TYPICAL NEW HYDRANT INSTALLATION DETAILS
				DETAIL NO.: GEN-H09
				SCALE: N.T.S. DATE: 5/31/2024



NOTES:

1. SEE DETAILS GEN-H02, GEN-H03, GEN-H08 AND GEN-H09 FOR HYDRANT INSTALLATIONS.

REVISIONS NO.	DATE	BY	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	6" HYDRANT ELEVATION DETAIL
				DETAIL NO.: GEN-H13
				SCALE: N.T.S. DATE: 5/28/2024

STATE OF OHIO
KEVIN HOFFMAN 74831
REGISTERED PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 19-Water Details
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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

polaris Engineering & Surveying

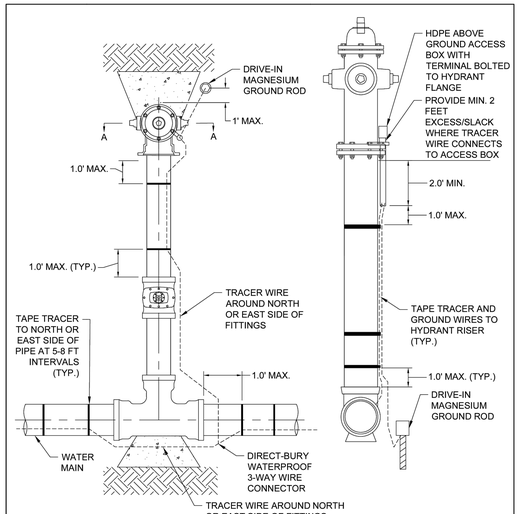
WATER DETAILS

PREPARED FOR:
GD3 VENTURES
9134 TYLER BLVD.
MENTOR, OHIO 44060
PHONE: (440) 255-6535
CONTACT: GEORGE DAVIS III

CONTRACT No.

26003

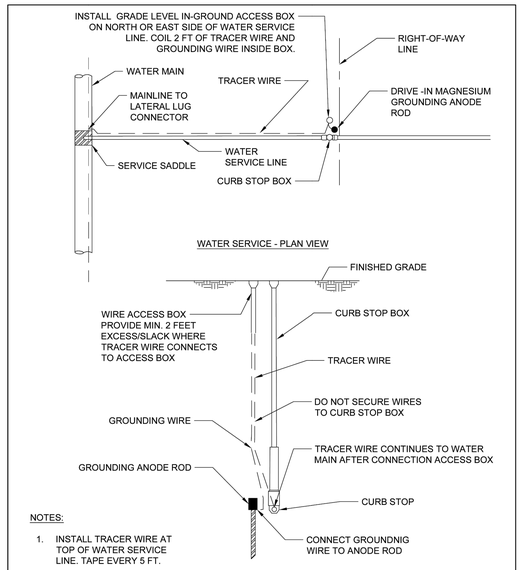
SHEET	OF
19	20



HYDRANT - PLAN

SECTION A-A

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TRACER WIRE AT HYDRANT	
NO.	DATE	BY		DETAIL NO.:	PVC-TW01
				SCALE: N.T.S.	DATE: 1/15/2024



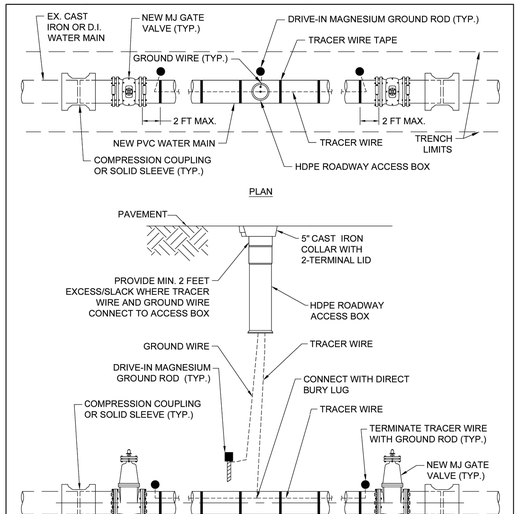
WATER SERVICE - PLAN VIEW

WATER SERVICE - SECTION VIEW

NOTES:

1. INSTALL TRACER WIRE AT TOP OF WATER SERVICE LINE. TAPE EVERY 5 FT.

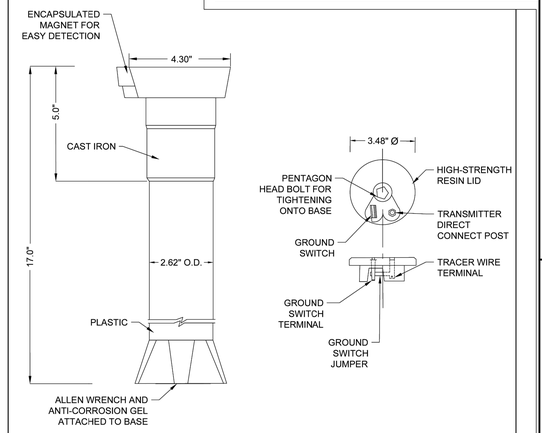
REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TRACER WIRE AT WATER SERVICE LINE	
NO.	DATE	BY		DETAIL NO.:	PVC-TW02
				SCALE: N.T.S.	DATE: 3/28/2024



PLAN

PROFILE

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TRACER WIRE AT ROADWAY ACCESS BOX	
NO.	DATE	BY		DETAIL NO.:	PVC-TW03
				SCALE: N.T.S.	DATE: 3/29/2024



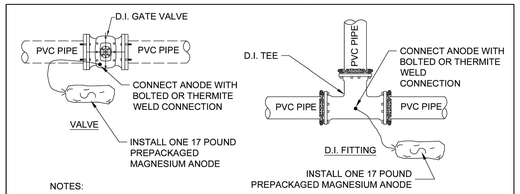
BASE

TWO-TERMINAL SWITCHABLE LID

NOTES:

1. ACCESS BOXES SHALL BE PLACED AT ALL WATER MAIN LINE VALVES; OR AT 1,000 FT MAX. INTERVALS IF LINE VALVES ARE NOT PRESENT.

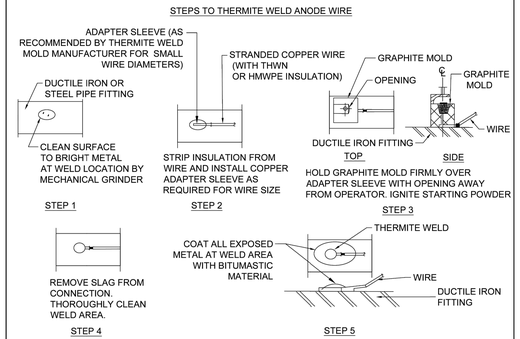
REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TRACER WIRE ROADWAY ACCESS BOX DETAIL	
NO.	DATE	BY		DETAIL NO.:	PVC-TW04
				SCALE: N.T.S.	DATE: 5/28/2024



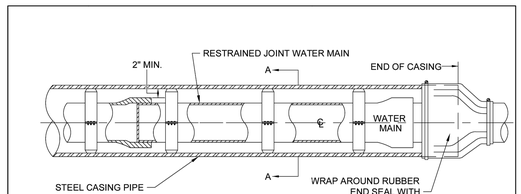
NOTES:

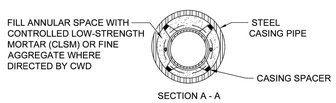
1. PLACE ANODES AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE.
2. THERMITE WELD ANODE LEAD WIRE DIRECTLY TO D.I. FITTING. DO NOT THERMITE WELD TO PVC PIPE.

STEPS TO THERMITE WELD ANODE WIRE



REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	ANODE PROTECTION AT D.I. VALVES AND FITTINGS	
NO.	DATE	BY		DETAIL NO.:	PVC-ANODEDETAIL
				SCALE: N.T.S.	DATE: 1/26/2024





SECTION A - A

NOTES:

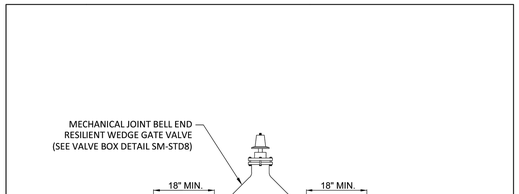
STEEL CASING PIPE:
- ASTM A1097
- MIN. 35,000 PSI SMYS
- MIN. WALL THICKNESS = 3/8"
- MIN. 2" CLEARANCE BETWEEN OUTSIDE DIAMETER OF PIPE JOINT AND INSIDE DIAMETER OF CASING.

CASING SPACERS:
- 8" WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS.

SPACING ON PVC PIPE:
- 1 AT END OF BELL
- 1 AT JOINT INSERTION LINE
- 1 AT PIPE MIDPOINT

SPACING ON DUCTILE IRON PIPE:
- MAX. 8 FT

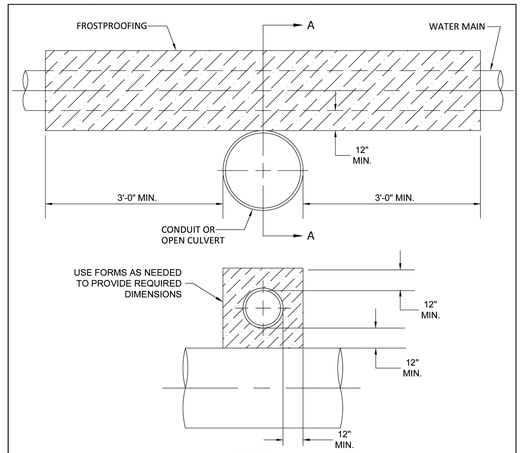
REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	WATER MAIN IN STEEL CASING	
NO.	DATE	BY		DETAIL NO.:	GEN-016
				SCALE: N.T.S.	DATE: 7/9/2024



NOTES:

1. CWD WILL DETERMINE THE FIELD LOCATION AND SCHEDULE VALVE INSTALLATION. CONTRACTOR WILL PERFORM THE INSTALLATION WORK UNDER CWD SUPERVISION.
2. CONNECT PIPE SPOOLS TO THE GATE VALVE BEFORE CUTTING THE EXISTING WATER MAIN. AFTER CUTTING PIPE, MAKE FINAL CONNECTIONS WITH SPECIFIED COUPLINGS.

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CUT-IN-VALVE DETAIL	
NO.	DATE	BY		DETAIL NO.:	GEN-005
				SCALE: N.T.S.	DATE: 5/31/2024



SECTION A - A

NOTES:

1. INSTALL FROSTPROOFING WHERE DIRECTED BY CWD AND:
   - WHERE WATER MAIN IS INSTALLED WITH LESS THAN 5 FT OF COVER.
   - WHERE WATER MAIN CROSSES OVER STORM SEWERS 24-INCHES AND LARGER IN DIAMETER.
   - WHERE WATER MAIN CROSSES OVER OR UNDER OPEN ENDED CULVERTS.
2. DO NOT INSTALL WATER MAIN WITH LESS THAN 3.5 FT OF COVER IN UNPAVED AREAS.
3. DO NOT INSTALL WATER MAIN WITH LESS THAN 3 FT OF COVER BELOW PAVEMENT SUBGRADE.
4. REFER TO MATERIAL CRITERIA DETAIL (GEN-000A) FOR FROSTPROOFING PRODUCT REQUIREMENTS.

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TYPICAL FROSTPROOFING DETAIL	
NO.	DATE	BY		DETAIL NO.:	GEN-009
				SCALE: N.T.S.	DATE: 5/31/2024

STATE OF OHIO
KEVIN HOFFMAN
74831
REGISTERED
PROFESSIONAL ENGINEER

DATE: 8/12/26 DRAWN: DJZ
SCALE: HOR. 1"=50' VERT. N/A
FOLDER: DWG/Proj. Engineering
FILENAME: 26003 TN&D
TAB: 20-Water Details (2)
BNDY. BY: RAT
BASE. BY: SRB

ASCEND AT CENTER RIDGE

CITY OF WESTLAKE - CUYAHOGA COUNTY - OHIO

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WATER DETAILS

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CONTRACT No.

26003

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