THE METROPOLITAN SEWER DISTRICT
OF GREATER CINCINNATI
HAMILTON COUNTY

PROPOSED PROJECT NO. I0370025

KENWOOD HILLS
LOCAL SEWER

NOTES:

MANHOLES: ALL PROPOSED MANHOLES AND DROP MANHOLES SHALL BE TYPE "S". ALL MANHOLES LOCATED OUTSIDE OF ROAD RIGHT-OF-WAY AND OUTSIDE OF MAINTAINED RESIDENTIAL YARDS SHALL HAVE MANHOLE TOPS 18" ABOVE GROUND. THE STANDARD PRECAST MANHOLE BASE WITH FLEXIBLE MANHOLE JOINTS SHALL BE USED WITH P.V.C. PIPE. IF THE CONTRACTOR PROVIDES PRECAST MANHOLES, THE CONTRACTOR SHALL ASSUME ANY RISK OF MAKING FIELD MODIFICATIONS TO THE PRECAST MANHOLES, DUE TO FIELD CONDITIONS

PIPE JOINTS: ALL PROPOSED CONDUIT SHALL HAVE RESILIENT AND FLEXIBLE JOINTS.

HOUSE CONNECTIONS: ALL HOUSE CONNECTIONS SHALL BE TYPE "I" CONDUIT WITH RESILIENT AND FLEXIBLE JOINTS, EITHER P.V.C. OR ABS CONDUIT, SDR35 WITH ASTM D-3212 FLEXIBLE ELASTOMERIC SEALS.

UNDERGROUND STRUCTURES: LOCATION OF UNDERGROUND STRUCTURES ARE NOT GUARANTEED. APPROXIMATE LOCATION OF GAS, WATER & ELECTRIC SERVICE LATERALS ARE SHOWN IN PLAN VIEW ONLY.

OVERHEAD UTILITY LINES: LOCATION OF ABOVEGROUND UTILITY LINES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VISIT PROJECT SITE PRIOR TO BIDDING TO VERIFY OVERHEAD UTILITIES.

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

THE CONTRACTOR SHALL FURNISH ALL MANHOLE FRAMES AND COVERS.

ALL FENCING DAMAGED BY SEWER CONSTRUCTION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AND ALL ASSOCIATED COSTS SHOULD BE INCLUDED WITH VARIOUS CONTRACT ITEMS.

BENCH MARKS:

BM #1:

HAMILTON COUNTY/CITY OF CINCINNATI MONUMENTS
HAMILTON COUNTY 2009, 2012, 2420, 4086, 8031, 8405
CITY OF CINCINNATI MONUMENT 6913

DATUM:

HORIZONTAL: NAD 83
VERTICAL: NGVD 29

DESIGN EXCEPTION

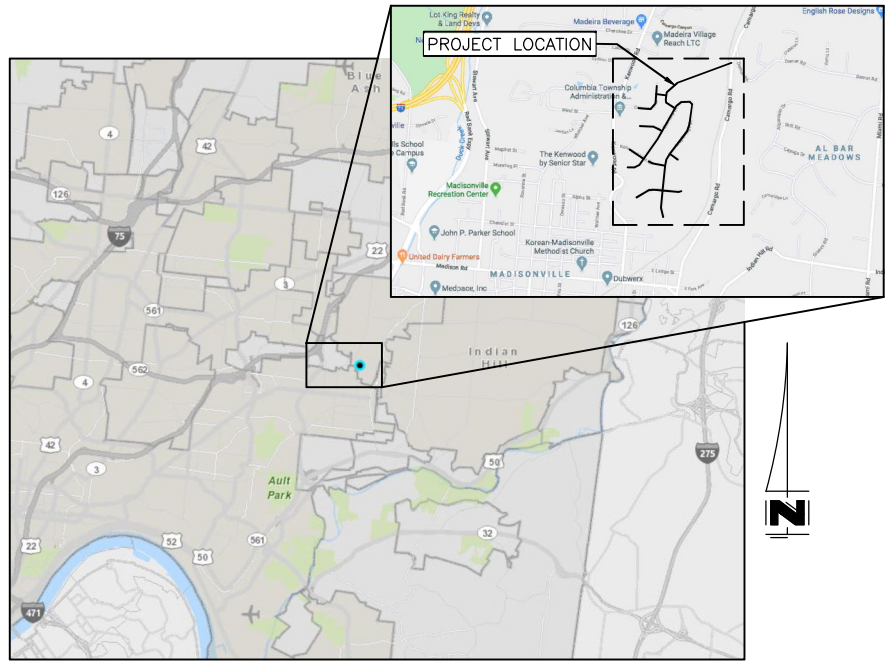
SLOPE OF 0.40% IS EXCEPTION TO THE MSDGC STANDARD OF 0.70% 0.40% MEETS THE MINIMUM SLOPE FOR THE 10 STATE STANDARDS.

DISTANCE BETWEEN MANHOLES IS MEASURED FROM CENTER TO CENTER.

RECEIVING MANHOLES SHALL CONFORM TO STANDARD DRAWING ACCESSION # 49063 LOW PRESSURE FORCE MAIN TYPICAL RECEIVING MANHOLE EXCEPT THE MANHOLE SHALL BE CONSTRUCTED OF POLYMER CONCRETE (POLYCRETE, OR EQUAL) OR RECEIVE A CURED-IN-PLACE LINING.

FOR A SERVICE CONNECTION TO A LOW PRESSURE FORCE MAIN THE CONTRACTOR FOLLOW STANDARD DRAWING ACCESSION # 49069 STANDARD BUILDING CONNECTION TO A LOW PRESSURE FORCE MAIN EXCEPT THE CONTRACTOR SHALL DISREGARD THE "5'0" MAX." COVER DIMENSION.

DESIGNED BY: GEW
DRAWN BY: GAU



VICINITY MAP

NO SCALE

100% DESIGN SUBMITTAL

SUBJECT TO REVISION

DYNOTEC
DYNOTEC, INC.
2931 E. Dublin-Granville Road, Suite 200
Columbus, OH 43231
Ph: (614) 880-7320 Fax: (614) 880-7324

ENGINEERS SEAL

STANDARDS:

(SEE MSDGC STANDARD DRAWINGS)

DESCRIPTION	ACCESSION NO.
STANDARD DROP MANHOLE	49003
TYPICAL INVERTS	49004
STANDARD CASTINGS FOR MANHOLES	49005
STANDARD CONCRETE COLLARS ON CONDUITS	49031
CONTROL DIMENSIONS FOR TYPICAL TRENCHES FOR CONDUITS	49032
TYPICAL BUILDING SEWERS AND STACKS	49033
STANDARD, (TYPE "S") MANHOLE	49037
STANDARD CONCRETE CRADLE AND ENCASEMENT	49044
STANDARD MANHOLE FOR SANITARY CONDUITS ON STEEP SLOPE	49046
MODIFIED, (TYPE "S") MANHOLE	49049
WATERTIGHT MANHOLE	49051
STANDARD PRECAST CONCRETE MANHOLE BASE	49056
TYPICAL INSTALLATION OF BUILDING SEWER LATERAL	49060
LOW PRESSURE FORCE MAIN TYPICAL RECEIVING MANHOLE	49063
STANDARD BUILDING CONNECTION TO A LOW PRESSURE FORCE MAIN	49069
STANDARD SYMBOLS	49072 TO 49076
STANDARD TWO WAY CLEANOUT FOR BUILDING SEWERS	61979
STANDARD CASTINGS OVER TWO WAY CLEANOUT	61979-A
1" TO 2-1/2" LPFM TERMINAL FLUSHING CHAMBER DETAIL	LPFM24
1" TO 2-1/2" LPFM AIR RELIEF CHAMBER	LPFM30

CONTENTS:

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SHEET INDEX
3-31	PLAN AND PROFILES
32-33	PROJECT DETAILS AND CONTACTS
34	RAILROAD EASEMENT

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
OHIO UTILITIES PROTECTION SERVICE
Call 800-362-2764 (Toll Free)
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
Call 800-925-0988 (Toll Free)

MSD
WASTEWATER
ENGINEERING

SUBMITTED: _____
CHIEF ENGINEER

APPROVED: _____
DIRECTOR OF SEWERS

DATE: _____

PATH: N:\JOBS\2018\18926 - KENWOOD HILLS LOCAL SEWER\WATER_WASTEWATER\600 CAD\SSN\BASE\MSD-TITLE.DWG

ACAD DRAWING NAME: MSD-TITLE.DWG

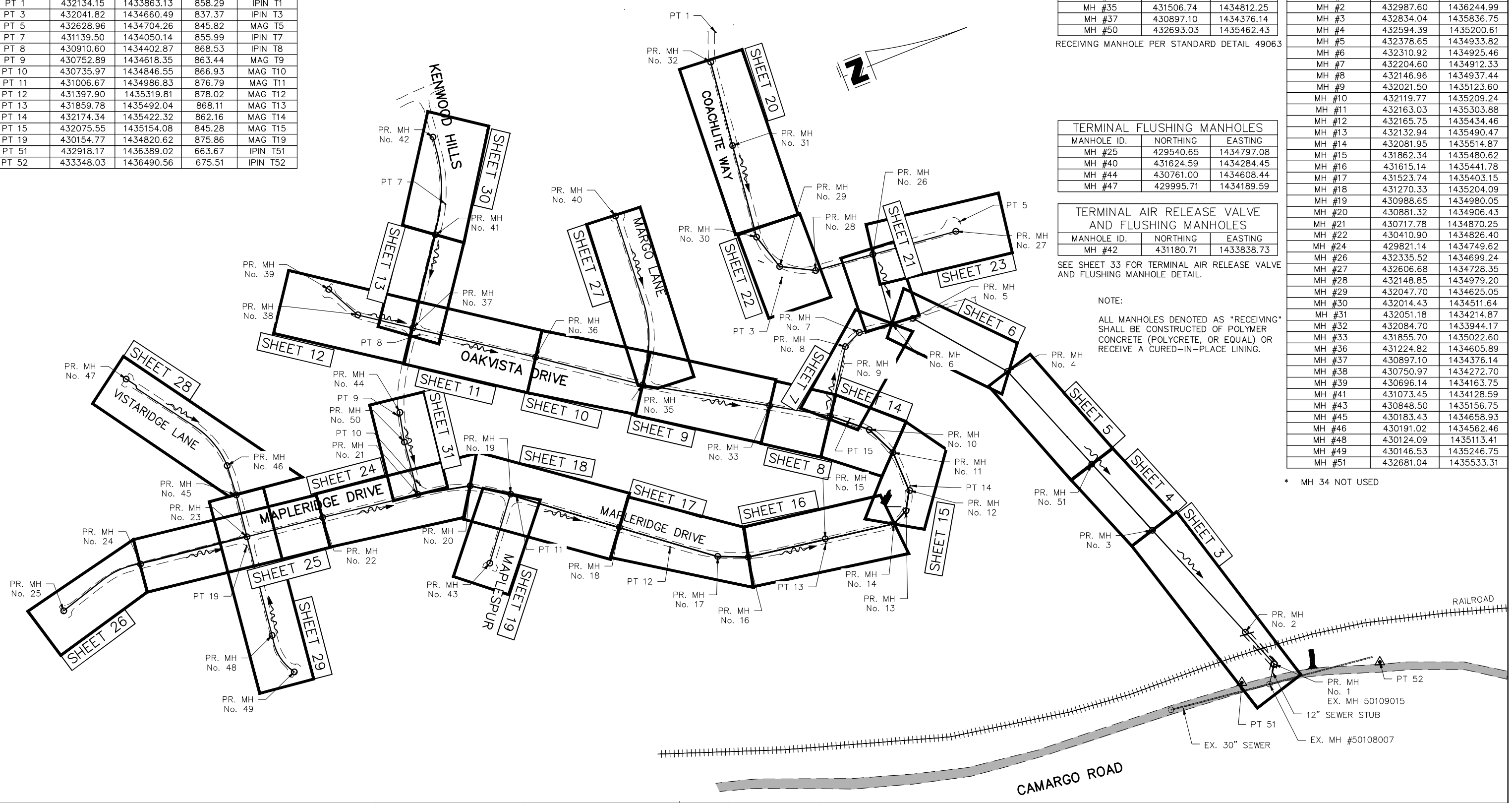
ACC. NO. 78230

SS# 5933

TITLE SHEET

LAYOUT CONTROL COORDINATES

TRAVERSE PT	NORTHING	EASTING	ELEV	DESCRIPTION
PT 1	432134.15	1433863.13	858.29	IPIN T1
PT 3	432041.82	1434660.49	837.37	IPIN T3
PT 5	432628.96	1434704.26	845.82	MAG T5
PT 7	431139.50	1434050.14	855.99	IPIN T7
PT 8	430910.60	1434402.87	868.53	IPIN T8
PT 9	430752.89	1434618.35	863.44	MAG T9
PT 10	430735.97	1434846.55	866.93	MAG T10
PT 11	431006.67	1434986.83	876.79	MAG T11
PT 12	431397.90	1435319.81	878.02	MAG T12
PT 13	431859.78	1435492.04	868.11	MAG T13
PT 14	432174.34	1435422.32	862.16	MAG T14
PT 15	432075.55	1435154.08	845.28	MAG T15
PT 19	430154.77	1434820.62	875.86	MAG T19
PT 51	432918.17	1436389.02	663.67	IPIN T51
PT 52	433348.03	1436490.56	675.51	IPIN T52



RECEIVING MANHOLES

MANHOLE ID.	NORTHING	EASTING
MH #23	430165.70	1434794.48
MH #35	431506.74	1434812.25
MH #37	430897.10	1434376.14
MH #50	432693.03	1435462.43

RECEIVING MANHOLE PER STANDARD DETAIL 49063

TERMINAL FLUSHING MANHOLES

MANHOLE ID.	NORTHING	EASTING
MH #25	429540.65	1434797.08
MH #40	431624.59	1434284.45
MH #44	430761.00	1434608.44
MH #47	429995.71	1434189.59

TERMINAL AIR RELEASE VALVE AND FLUSHING MANHOLES

MANHOLE ID.	NORTHING	EASTING
MH #42	431180.71	1433838.73

SEE SHEET 33 FOR TERMINAL AIR RELEASE VALVE AND FLUSHING MANHOLE DETAIL.

NOTE:

ALL MANHOLES DENOTED AS "RECEIVING" SHALL BE CONSTRUCTED OF POLYMER CONCRETE (POLYCRETE, OR EQUAL) OR RECEIVE A CURED-IN-PLACE LINING.

MANHOLES

MANHOLE ID.	NORTHING	EASTING
MH #1	433035.08	1436372.22
MH #2	432987.60	1436244.99
MH #3	432834.04	1435836.75
MH #4	432594.39	1435200.61
MH #5	432378.65	1434933.82
MH #6	432310.92	1434925.46
MH #7	432204.60	1434912.33
MH #8	432146.96	1434937.44
MH #9	432021.50	1435123.60
MH #10	432119.77	1435209.24
MH #11	432163.03	1435303.88
MH #12	432165.75	1435434.46
MH #13	432132.94	1435490.47
MH #14	432081.95	1435514.87
MH #15	431862.34	1435480.62
MH #16	431615.14	1435441.78
MH #17	431523.74	1435403.15
MH #18	431270.33	1435204.09
MH #19	430988.65	1434980.05
MH #20	430881.32	1434906.43
MH #21	430717.78	1434870.25
MH #22	430410.90	1434826.40
MH #24	429821.14	1434749.62
MH #26	432335.52	1434699.24
MH #27	432606.68	1434728.35
MH #28	432148.85	1434979.20
MH #29	432047.70	1434625.05
MH #30	432014.43	1434511.64
MH #31	432051.18	1434214.87
MH #32	432084.70	1433944.17
MH #33	431855.70	1435022.60
MH #36	431224.82	1434605.89
MH #37	430897.10	1434376.14
MH #38	430750.97	1434272.70
MH #39	430696.14	1434163.75
MH #41	431073.45	1434128.59
MH #43	430848.50	1435156.75
MH #45	430183.43	1434658.93
MH #46	430191.02	1434562.46
MH #48	430124.09	1435113.41
MH #49	430146.53	1435246.75
MH #51	432681.04	1435533.31

* MH 34 NOT USED

PATH: N:\JOBS\2018\18926 - KENWOOD HILLS LOCAL SEWER\WATER_WASTEWATER\600 CAD\SSM\BASE\KENWOOD HILLS BASEMAP.DWG
DATE: Jan 16, 2025 - 12:24 PM
PLOTTED BY: RCUMMINS

DESIGNED BY: GEW
DRAWN BY: GAU

REVISIONS		
BY:	DATE:	DESCRIPTION:

DYNOTEC

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

MSD WASTEWATER ENGINEERING

PROPOSED PROJECT NO. 10370025

FROM THE INT. OF KENWOOD HILLS DR. AND KENWOOD HILLS TO THE CABANA CLUB DR. FROM THE CUL-DE-SAC OF MAPLE RIDGE DR AND VISTA RIDGE DR TO THE CABANA CLUB DR ALONG COACHLITE

SCALE: HORIZ. 1"=150'

0 150 300

SHEET INDEX

SHEET INDEX

ACAD DRAWING NAME: KENWOOD HILLS BASEMAP.DWG

ACC. NO. 78231

SS# 5933

PROP. 8" CONDUIT, (SPECIAL THICKNESS CLASS 55 D.I.P). TYPE G, JACK AND BORE, 350 RWP

24.89' @ 2.70%
PROP. 12" CONDUIT(DIP)

135.77' @ 4.64%

JACK AND BORE DIST. = 125.77'

SEE DETAIL ON SHEET 33

PROP. 8" I.D. CONDUIT, HDD, HDPE, DR-21

436.18' @ 7.80%

PROP. MH 1
STA. = 0+24.89
PROP. 12" INV.= 660.91 (SE)
PROP. 8" INV.= 661.10 (W)

PROP. MH 2
STA. = 1+60.69
PROP. 8" INV.= 667.21 (SE)
PROP. 8" INV.= 667.21 (W)

PROP. MH 3
STA. = 5+96.86
PROP. 8" INV.= 701.23 (E)
PROP. 8" INV.= 701.23 (W)

EX. RAILROAD

EX. GROUND

RR ZONE OF INFLUENCE

740 730 720 710 700 690 680 670 660

EX. 12" STUB INV.=660.24

EX. MH #50108007

EX. 30" COMB.

EXIST. 12" D.I.P

CAMARGO ROAD

DALEY DESIGN + BUILD LLC
525-0021-0037
O.R. 14521 PG. 2260
10/27/21

CONNECT TO EX. 12 IN DIP STUB
STA = A0+00.00
SEE NOTE 1.

BALTIMORE & OHIO RAILROAD COMPANY
(CSX TRANSPORTATION),
CAMARGO ROAD,
CINCINNATI, OH 45220
525-0021-0045
1/17/1950
D.B. 2395 PG. 534

EAST END OF TUNNEL

BURIED

CITY OF MADEIRA,
5795 CAMARGO ROAD,
CINCINNATI, OH 45220
525-0021-0005
4/5/1999
R.L. 7925 PG. 2351
NEW CERT. #180781

LIMITS OF CONSTRUCTION

20' PERM ESMT

PROP. 8" CONDUIT

PROP. 12" CONDUIT

JACK AND BORE

N=433020.91
E=1436392.69

N=433043.37
E=1436390.95

BH 17

20'x50' JACKING & HDD PIT

124°50'18"

20'X30' RECEIVING PIT

PROP. MH 1
STA. = A0+24.89
Δ = 55°9'19"(L)

PROP. MH 2
STA. = A1+60.69
Δ = 0°

PROP. MH 3
STA. = B5+96.86
Δ = 0°

BH 16

WOODED AREA/ BRUSH

05250021011900
33 CAMARGO CANYON DR
WALLER DEBRA LEE

052500210120
34 CAMARGO CANYON DR
OXLEY MATTHEW

052500210121
35 CAMARGO CANYON DR
SEIDEN ALLEN M & PEACHY

SEE SHEET 33 FOR JACK AND BORE DETAIL

SEE ACC. NO. 78262 FOR TEMPORARY EASEMENTS SEE SHEET 34 FOR FULL EASEMENT VIEW

EX RR

LIMITS OF CONSTRUCTION

NOTE:

UNCOVER THE EXISTING 12" SEWER STUB AS FIRST ORDER OF BUSINESS – INCLUDE COST WITH 603.

CONTINUED ON SHEET 4, STA. 5+95

DESIGNED BY: GEW
DRAWN BY: GAU

REVISIONS

BY:	DATE:	DESCRIPTION:

DYNOTEC

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

PROPOSED PROJECT NO. 10370025

FROM THE INT. OF KENWOOD HILLS DR. AND KENWOOD HILLS TO THE CABANA CLUB DR. FROM THE CUL-DE-SAC OF MAPLE RIDGE DR AND VISTA RIDGE DR TO THE CABANA CLUB DR ALONG COACHLITE

SCALE: HORIZ. 1"=20'
VERT. 1"=10'

0 20 40

MH 1 TO MH 3

PLAN AND PROFILE

PATH: N:\JOBS\2018\18926 - KENWOOD HILLS LOCAL SEWER\WATER_WASTEWATER\600 CAD\SSM\BASE\KENWOOD HILLS BASEMAP.DWG
DATE: Jan 17, 2025 - 11:03 AM
PLOTTED BY: RCUMMINS

ACAD DRAWING NAME: KENWOOD HILLS BASEMAP.DWG

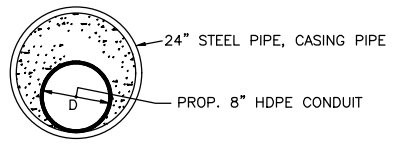
FOR EASEMENT DRAWING SEE ACC. NO. 78262

ACC. NO. 78232

SS# 5933

FILL WITH A LEAN (1 TO 8) MIXTURE OF CEMENT AND SAND OR CEMENT, SAND AND PEA GRAVEL RAMMED OR BLOWN INTO PLACE DRY. SOME POSITIVE MEANS TO ASSURE THAT THE SPACE IS COMPLETELY FILLED, FREE OF ANY VOIDS, SHALL BE USED.

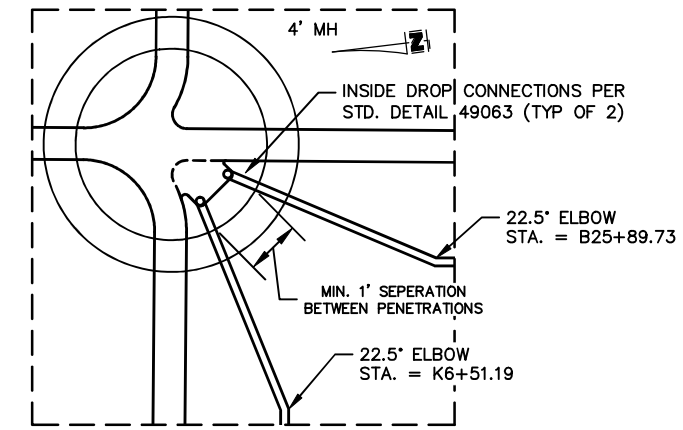
PROP. CONDUIT SIZE "D"	MINIMUM STEEL CASING WALL THICKNESS
8"	0.375"



NO SCALE

JACK AND BORE INSTALLATION OF HDPE PIPE DETAIL, BETWEEN COACHLITE WAY AND CABANA CLUB

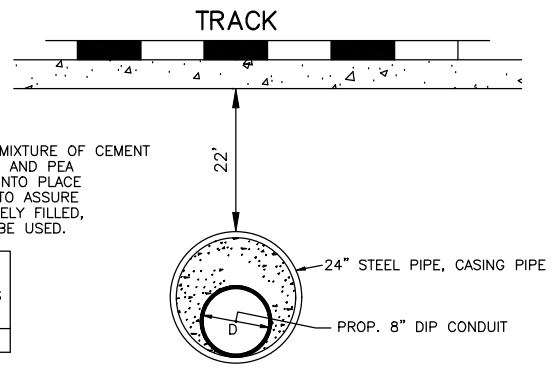
NOT TO SCALE



PROP. MH 23 DETAIL PLAN

SCALE: 1"=2'

SEE SHEET 25



FILL WITH A LEAN (1 TO 8) MIXTURE OF CEMENT AND SAND OR CEMENT, SAND AND PEA GRAVEL RAMMED OR BLOWN INTO PLACE DRY. SOME POSITIVE MEANS TO ASSURE THAT THE SPACE IS COMPLETELY FILLED, FREE OF ANY VOIDS, SHALL BE USED.

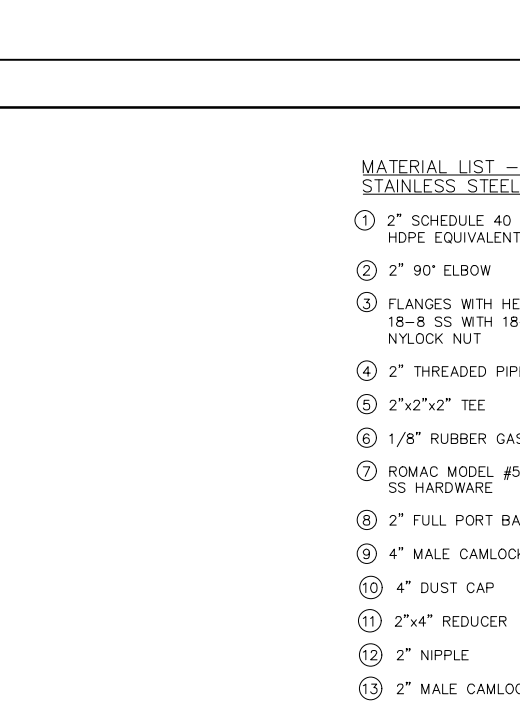
PROP. CONDUIT SIZE "D"	MINIMUM STEEL CASING WALL THICKNESS
8"	0.375"

PROPOSED JACK AND BORE INSTALLATION OF DIP PIPE DETAIL RAILROAD SECTION

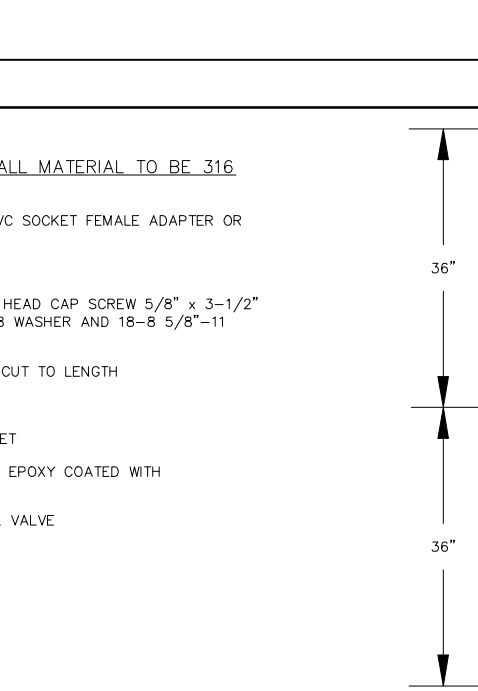
NOT TO SCALE

MATERIAL LIST – ALL MATERIAL TO BE 316 STAINLESS STEEL

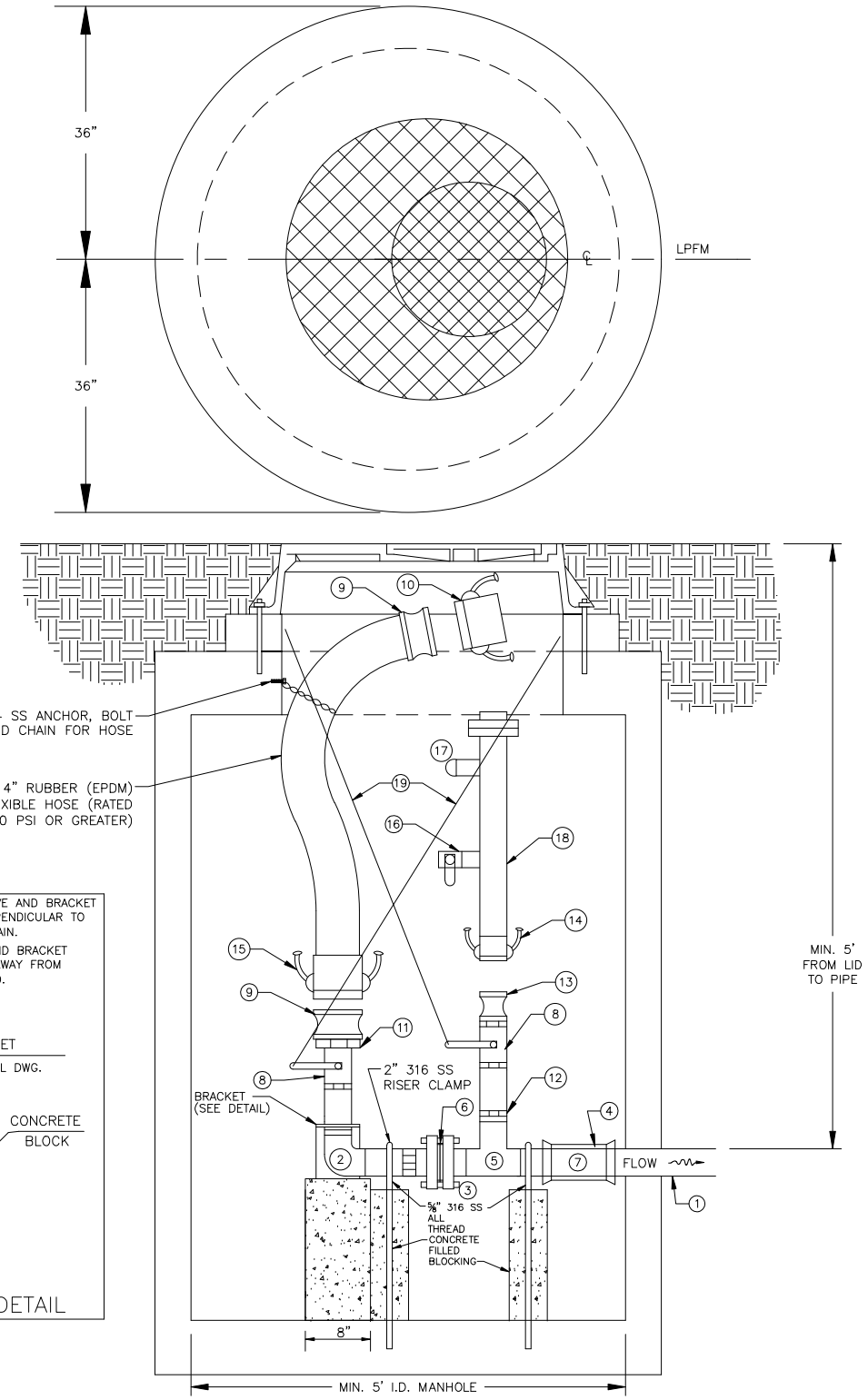
1. 2" SCHEDULE 40 PVC SOCKET FEMALE ADAPTER OR HDPE EQUIVALENT
2. 2" 90° ELBOW
3. FLANGES WITH HEX HEAD CAP SCREW 5/8" x 3-1/2" 18-8 SS WITH 18-8 WASHER AND 18-8 5/8"-11 NYLOCK NUT
4. 2" THREADED PIPE CUT TO LENGTH
5. 2"x2"x2" TEE
6. 1/8" RUBBER GASKET
7. ROMAC MODEL #511 EPOXY COATED WITH SS HARDWARE
8. 2" FULL PORT BALL VALVE
9. 4" MALE CAMLOCK
10. 4" DUST CAP
11. 2"x4" REDUCER
12. 2" NIPPLE
13. 2" MALE CAMLOCK
14. 2" FEMALE CAMLOCK WITH HITCH PINS INSTALLED IN LOCK POSITION
15. 4" FEMALE CAMLOCK WITH HITCH PINS INSTALLED IN LOCK POSITION
16. 1" FULL PORT BALL VALVE
17. 1" PIPE CAP
18. VENT-TECH OR VENT-O-MAT AIR RELEASE VALVE
19. VALVE ACTIVATION HANDLES (SEE DETAIL)



HANDLE DETAIL



BRACKET AND BLOCK DETAIL



2 INCH TERMINAL AIR RELEASE VALVE (ARV) AND FLUSHING MANHOLE

NOT TO SCALE

PATH: N:_JOBS\2018\18026 – KENWOOD HILLS LOCAL SEWER\WATER_WASTEWATER\600 CAD\BASE\RA CONSULTANTS KENWOOD.DWG
DATE: Jan 16, 2025 – 12:42 PM
PLOTTED BY: RCUMMINS

DESIGNED BY: GEW
DRAWN BY: GAU

REVISIONS

BY:	DATE:	DESCRIPTION:

DYNOTEC
RA Consultants, LLC

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

PROPOSED PROJECT NO. 10370025

FROM THE INT. OF KENWOOD HILLS DR. AND KENWOOD HILLS TO THE CABANA CLUB DR. FROM THE CUL-DE-SAC OF MAPLE RIDGE DR AND VISTA RIDGE DR TO THE CABANA CLUB DR ALONG COACHLITE

SCALE: HORIZ. 1"=20'
VERT. 1"=10'

0 20 40

NOTES & DETAILS

PLAN AND PROFILE

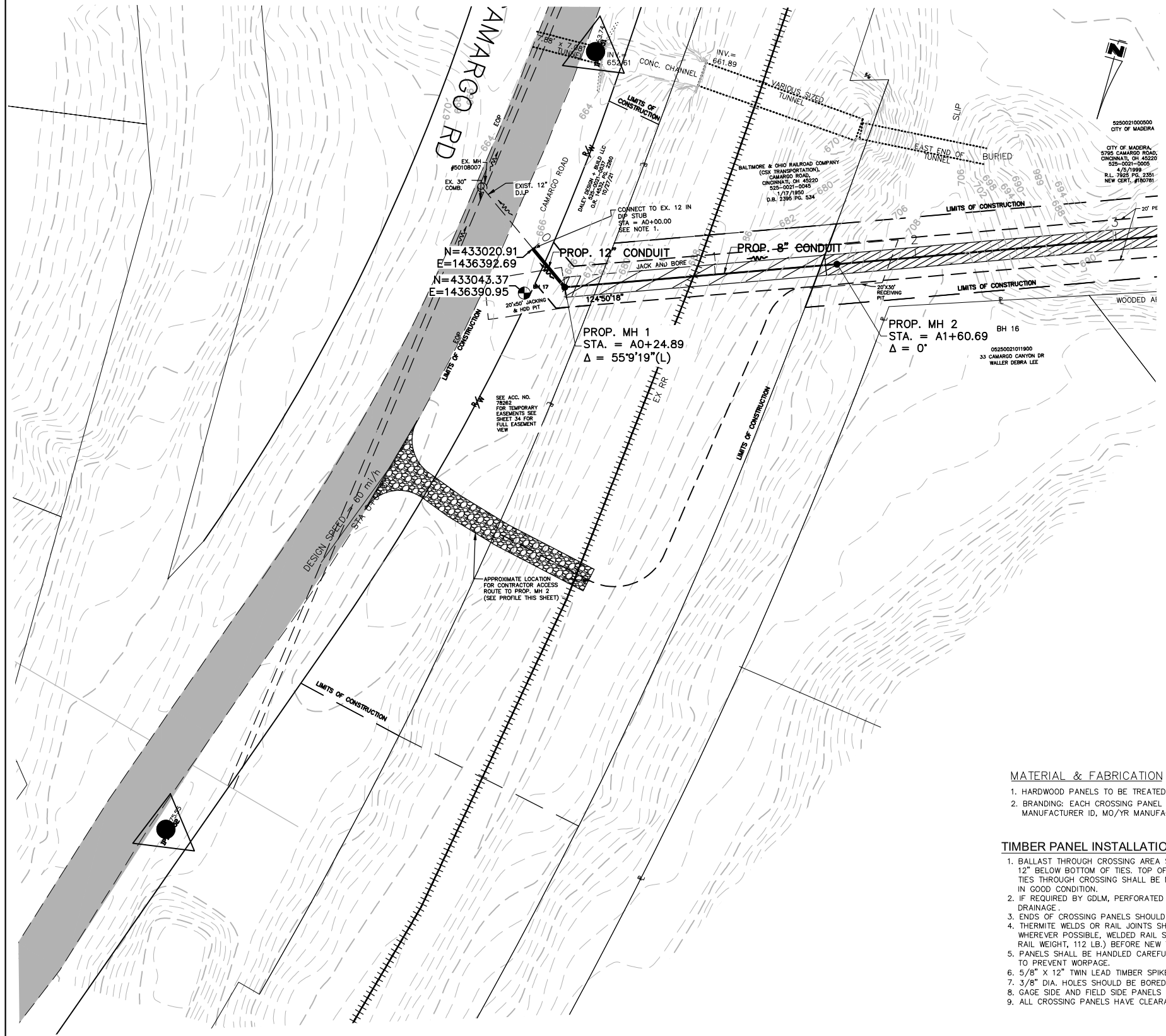
ACAD DRAWING NAME: RA CONSULTANTS KENWOOD.DWG

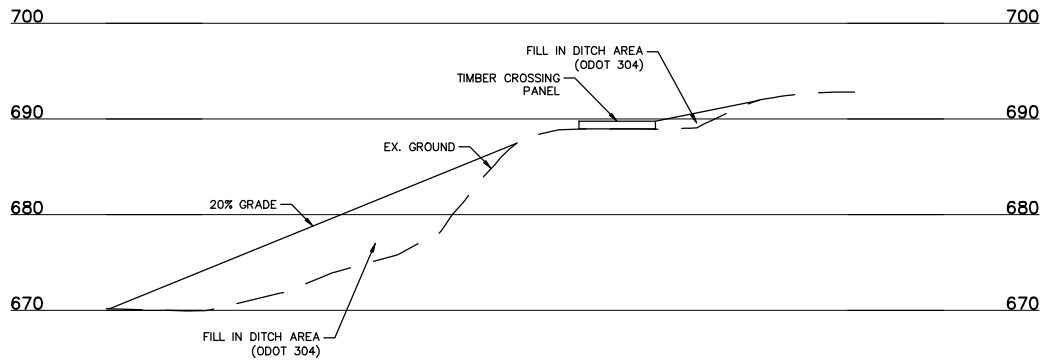
ACC. NO. 78260

SHEET 33 OF 34

SS# 5933

Details

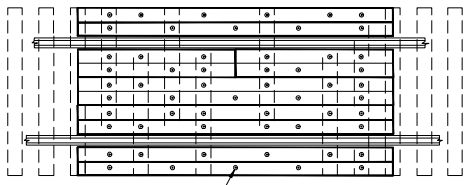


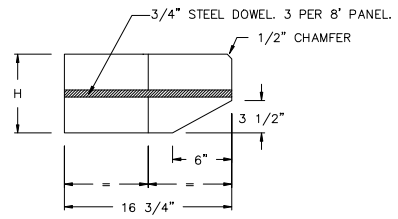


PROFILE OF ACCESS ROAD AT RAILROAD CROSSING

0 10 20
1"=20'

TYPICAL 16' CROSSING





TWO PIECE PANEL

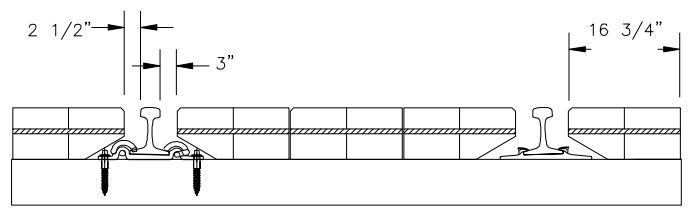
H = 7" FOR 100 LB RAIL
H = 7 1/2" FOR 115 LB RAIL
H = 8" FOR 136 LB. RAIL

MATERIAL & FABRICATION

1. HARDWOOD PANELS TO BE TREATED MIXED HARDWOOD, FREE OF WANE.
2. BRANDING: EACH CROSSING PANEL SHALL BE IDENTIFIED ON THE END WITH MANUFACTURER ID, MO/YR MANUFACTURED, WEIGHT RAIL.

TIMBER PANEL INSTALLATION

1. BALLAST THROUGH CROSSING AREA SHALL BE CLEAN CRUSHED ROCK BALLAST, 12" BELOW BOTTOM OF TIES. TOP OF BALLAST TO BE 2" BELOW TOP OF TIES. TIES THROUGH CROSSING SHALL BE NO. 5 TREATED HARDWOOD 19 3/16" ON CENTERS, IN GOOD CONDITION.
2. IF REQUIRED BY GDLM, PERFORATED DRAINAGE PIPE RECOMMENDED FOR PROPER DRAINAGE .
3. ENDS OF CROSSING PANELS SHOULD BE CENTERED ON TIE.
4. THERMITE WELDS OR RAIL JOINTS SHOULD BE LOCATED OUTSIDE THE CROSSING. WHEREVER POSSIBLE, WELDED RAIL SHOULD BE RELAYED THROUGH CROSSING (MINIMUM RAIL WEIGHT, 112 LB.) BEFORE NEW TIES AND CROSSING PANELS ARE INSTALLED.
5. PANELS SHALL BE HANDLED CAREFULLY, SLATTED AND STACKED ON LEVEL GROUND TO PREVENT WORPAGE.
6. 5/8" X 12" TWIN LEAD TIMBER SPIKES FURNISHED SEPARATELY.
7. 3/8" DIA. HOLES SHOULD BE BORED IN FIELD, TO PATTERN SHOWN.
8. GAGE SIDE AND FIELD SIDE PANELS ARE INTERCHANGEABLE.
9. ALL CROSSING PANELS HAVE CLEARANCE FOR PANDROL PLATES AND CLIPS.



8'6" CROSS TIE

TIMBER CROSSING PANEL FOR LOW DENSITY RAIL TRAFFIC ON 8'-6" TIES

PATH: N:\JOBS\2018\18926 - KENWOOD HILLS LOCAL SEWER\WATER_WASTEWATER\600 CAD\SSIA\BASE\KENWOOD HILLS BASEMAP.DWG
DATE: Jan 17, 2025 - 02:19 PM
PLOTTED BY: RCUMMINS

DESIGNED BY: GEW	REVISIONS		
DRAWN BY: GAU	BY:	DATE:	DESCRIPTION:

DYNOTEC

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D WASTEWATER ENGINEERING

PROPOSED PROJECT NO. 10370025

FROM THE INT. OF KENWOOD HILLS DR. AND KENWOOD HILLS TO THE CABANA CLUB DR. FROM THE CUL-DE-SAC OF MAPLE RIDGE DR AND VISTA RIDGE DR TO THE CABANA CLUB DR ALONG COACHLITE

SCALE HORIZ. 1"=30'

RAILROAD ESMT

PLAN AND PROFILE

ACAD DRAWING NAME: KENWOOD HILLS BASEMAP.DWG

FOR EASEMENT DRAWING SEE ACC. NO. 78262

ACC. NO. 78232

SHEET 34 OF 34

SS# 5933