BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

PARKVIEW SENIOR LIVING RESIDENTIAL DEVELOPMENT IMPROVEMENT PLANS

SAGAMORE HILLS TOWNSHIP ~ SUMMIT COUNTY ~ STATE OF OHIO

D.S.S.S. PROJECT NO. _____

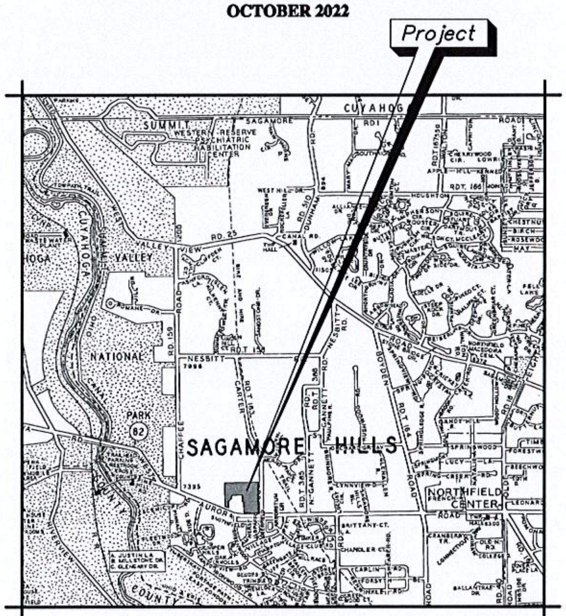
SOUTHERLY W.W.T.P. VIA TRUNK TO NEORSD

OCTOBER 2022

CONVENTIONAL SIGNS:

ITEM	EXISTING	PROPOSED	RECONST'D
RIGHT OF WAY			
CENTERLINE			
PROPERTY LINE			
EASEMENT LINE	E.L.	E.L.	
TEMP. EASEMENT LINE	T.E.L.	T.E.L.	
GAS MAIN	G		
GAS CONNECTION	G.C.		
WATER MAIN	W	W	
HYDRANT & VALVE			
WATER CONNECTION	W.C.	W.C.	
WATER MAIN VALVE			
SANITARY SEWER	SAN.	SAN.	
SANITARY CONNECTION	SAN.C.	SAN.C.	
STORM SEWER	ST.	ST.	
STORM CONNECTION	ST.C.	ST.C.	
UNDERGRD. TELE. DUCTS	T	T	
UNDERGRD. ELEC. CABLE	E	E	
UNDERGRD. TV CABLE	CTV	CTV	
FENCE	x	x	
GUARDRAIL			
UTILITY POLE			- RELOCATED
LIGHT POLE			- RELOCATED
MONUMENT ASSEMBLY			
MANHOLE			
BASIN			
SIGN POST			
TREE			
BUSH, BRUSH			
WELL	W		
SEPTIC TANK	S		
SWALE			
SPOT ELEVATION			
CONTOUR ELEVATION	100	100	

INDEX OF SHEETS



LOCATION MAP
NOT TO SCALE

N

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE (800) 362-2764
OHIO UTILITIES PROTECTION SERVICE
OGPUPS CALL (614)-715-2984
OHIO OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE

DATE: 1-27-2023
ENGINEER OF DESIGN – TRAVIS COYNE, P.E.

SEWERAGE SYSTEM APPROVAL

DATE:
DIRECTOR – MICHAEL VINAY
DEPARTMENT OF SANITARY SEWER SERVICES

WATER MAIN APPROVAL

CITY OF CLEVELAND PROJ. No. DATE:
DIVISION OF WATER

DATE:
NORTH HILLS WATER DISTRICT ENGINEER

OHIO ENVIRONMENTAL PROTECTION AGENCY (O.E.P.A.)

SANITARY SEWER APPROVAL DATE:
WATER SYSTEM APPROVAL DATE:
NPDES PERMIT No. APPROVAL DATE:

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

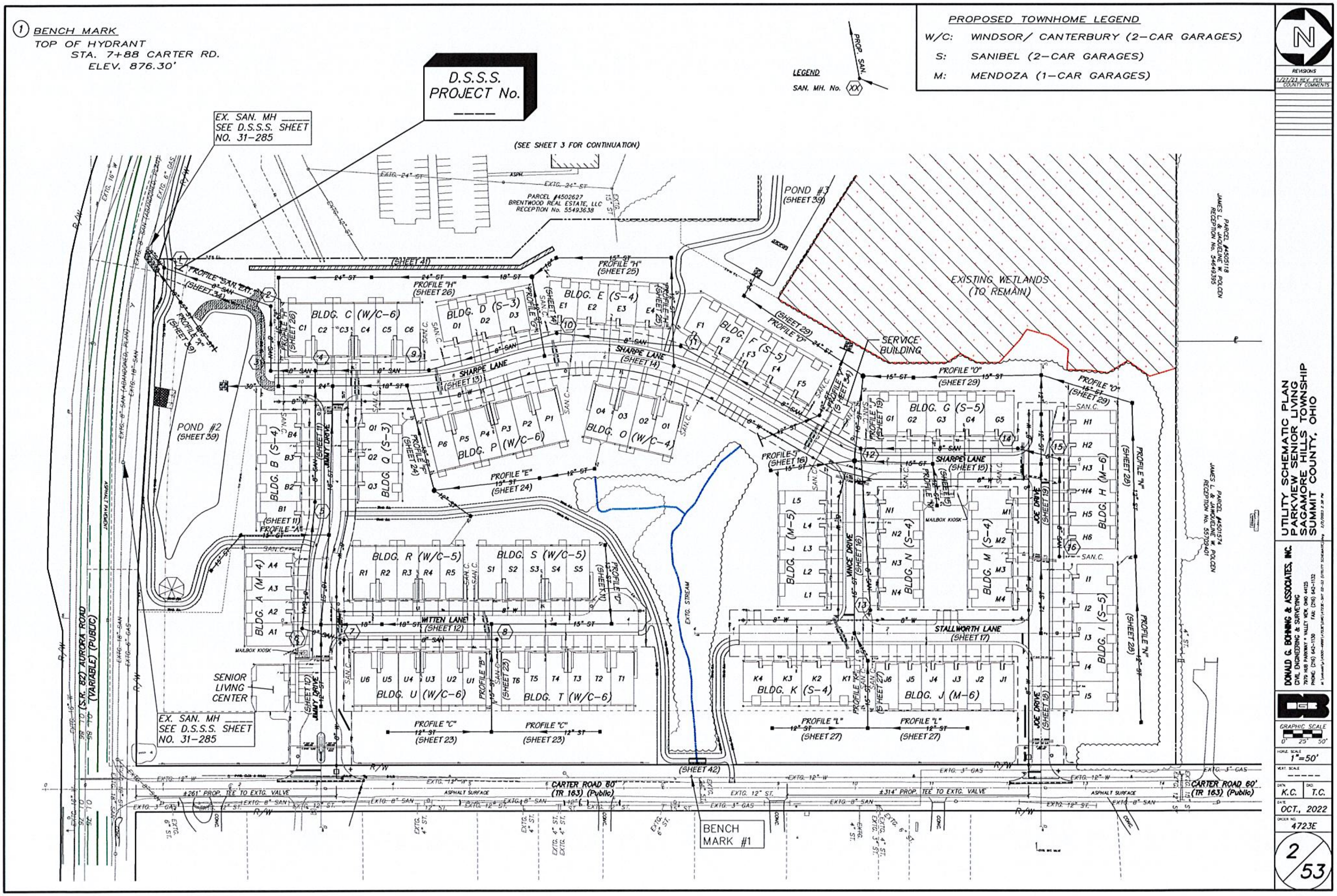
STATE OF OHIO
TRAVIS B. COYNE
E-78050
REGISTERED
PROFESSIONAL ENGINEER

DEVELOPER
PRIDE ONE CONSTRUCTION
2211 MEDINA ROAD #100
MEDINA OH, 44256
ATTN: ERICK ALLEN
PHONE: (330) 697-0379

TITLE SHEET
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
HORZ. SCALE -----
VERT. SCALE -----
DR'N K.C. CH'D. T.C.
DATE OCT., 2022
ORDER NO. 4723E



1 BENCH MARK
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'
D.S.S.S.
PROJECT No.

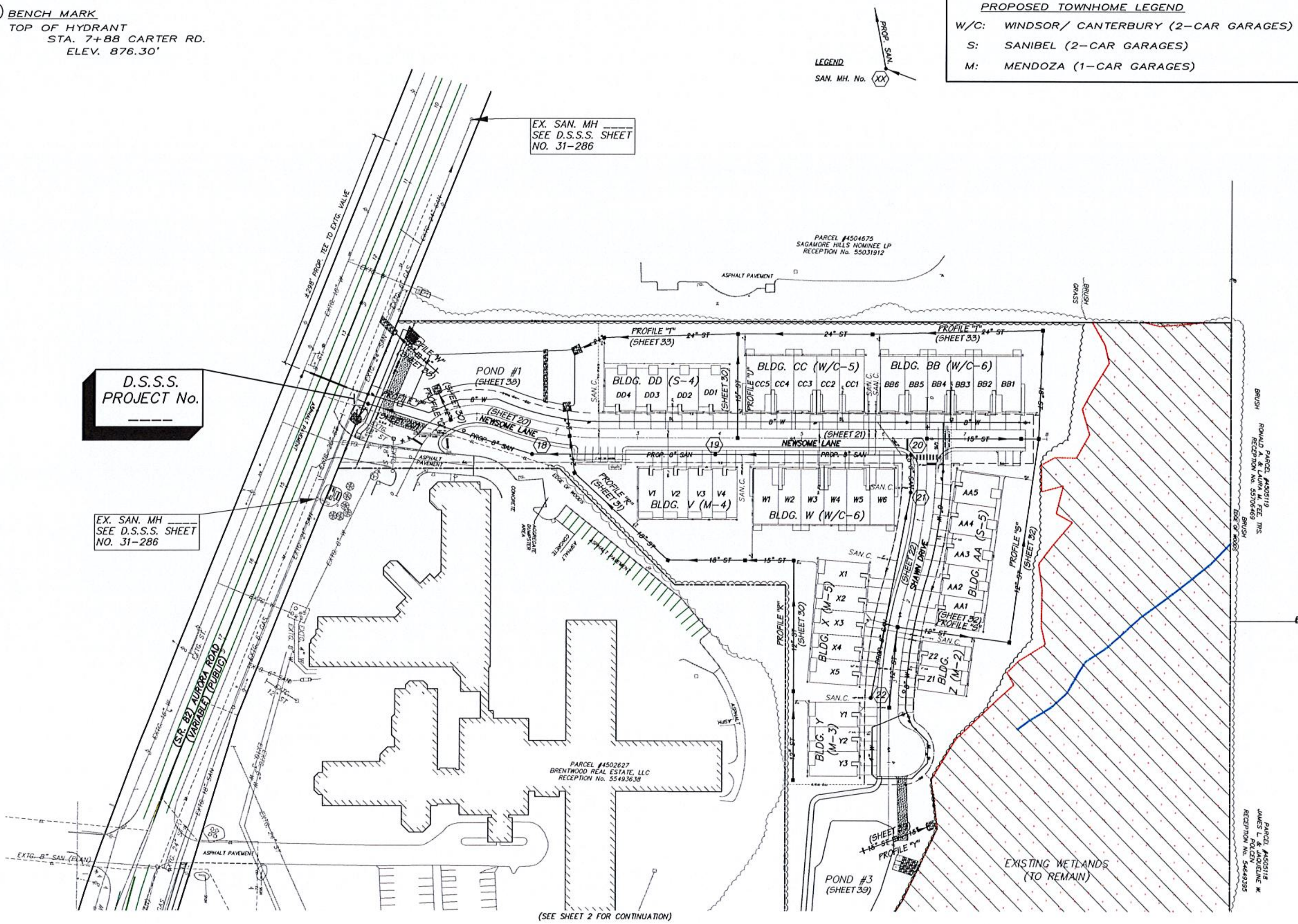
EX. SAN. MH ____
SEE D.S.S.S. SHEET
NO. 31-285
LEGEND
SAN. MH. No. XX
PROP. SAN.
PROPOSED TOWNHOME LEGEND
W/C: WINDSOR/ CANTERBURY (2-CAR GARAGES)
S: SANIBEL (2-CAR GARAGES)
M: MENDOZA (1-CAR GARAGES)
(SEE SHEET 3 FOR CONTINUATION)
PARCEL #4502627
BRENTWOOD REAL ESTATE, LLC
RECEPTION No. 55493638
POND #3
(SHEET 39)
EXISTING WETLANDS
(TO REMAIN)
SERVICE
BUILDING
PARCEL #4505118
JAMES L. & JACQUELINE W. POLCEN
RECEPTION No. 54649395
PARCEL #4501574
JAMES L. & JACQUELINE W. POLCEN
RECEPTION No. 55729401
POND #2
(SHEET 39)
BLDG. A (M-4)
BLDG. B (S-4)
BLDG. C (W/C-6)
BLDG. D (S-3)
BLDG. E (S-4)
BLDG. F (S-5)
BLDG. G (S-5)
BLDG. H (M-6)
BLDG. I (S-5)
BLDG. J (M-6)
BLDG. K (S-4)
BLDG. L (M-5)
BLDG. M (S-4)
BLDG. N (S-4)
BLDG. O (W/C-4)
BLDG. P (W/C-6)
BLDG. Q (S-3)
BLDG. R (W/C-5)
BLDG. S (W/C-5)
BLDG. T (W/C-6)
BLDG. U (W/C-6)
SHARPE LANE
(SHEET 13)
SHARPE LANE
(SHEET 14)
SHARPE LANE
(SHEET 15)
WITTEN LANE
(SHEET 12)
STALLWORTH LANE
(SHEET 17)
JIMMY DRIVE
(SHEET 11)
JIMMY DRIVE
(SHEET 12)
VINCE DRIVE
(SHEET 16)
JOE DRIVE
(SHEET 19)
JOE DRIVE
(SHEET 18)
PROFILE "A"
PROFILE "B"
PROFILE "C"
(SHEET 23)
PROFILE "D"
PROFILE "E"
(SHEET 24)
PROFILE "H"
(SHEET 25)
PROFILE "H"
(SHEET 26)
PROFILE "L"
(SHEET 27)
PROFILE "N"
(SHEET 28)
PROFILE "O"
(SHEET 29)
MAILBOX KIOSK
EXTG. STREAM
SENIOR
LIVING
CENTER
(S.R. 82) AURORA ROAD
(VARIABLE) (PUBLIC)
CARTER ROAD 60'
(TR 163) (Public)
±261' PROP. TEE TO EXTG. VALVE
±314' PROP. TEE TO EXTG. VALVE
ASPHALT SURFACE
(SHEET 42)
BENCH
MARK #1
UTILITY SCHEMATIC PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
GRAPHIC SCALE
0' 25' 50'
1"=50'
K.C.
T.C.
OCT., 2022
4723E
2/53

(1) BENCH MARK
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

LEGEND
SAN. MH. No. (XX)

PROPOSED TOWNHOME LEGEND

W/C:	WINDSOR/ CANTERBURY (2-CAR GARAGES)
S:	SANIBEL (2-CAR GARAGES)
M:	MENDOZA (1-CAR GARAGES)



(SEE SHEET 2 FOR CONTINUATION)

UTILITY SCHEMATIC PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

GRAPHIC SCALE 0' 25' 50'
HORIZ. SCALE 1"=50'
VERT. SCALE ----
DRN. K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

SURVEY REFERENCES:

REC. = STATE OF OHIO ROUTE 82 IMPROVEMENT PLANS PROJECT NO. SUM.-82- (0.58-7.84) APPROVED SEPTEMBER 1950.

SURV.= MAP OF SURVEY OF 10.069 ACRE PARCEL BY PAT SALANGO #4804, DATED NOVEMBER 2, 1987.

NOTES:

1. "IR. PIN SET" INDICATES 5/8 DIAMETER BY 30" LONG REBAR WITH IDENTIFICATION "D.G. BOHNING ASSOC."
2. A ROAD OPENING PERMIT AND PERFORMANCE BOND IS REQUIRED TO BE OBTAINED FROM SAGAMORE HILLS TOWNSHIP PRIOR TO THE START OF ANY CONSTRUCTION WITHIN THE R/W OF CARTER ROAD.

LEGEND:

STORMWATER MANAGEMENT EASEMENT (GRANTED TO SUMMIT COUNTY AND SAGAMORE HILLS TOWNSHIP)

E.L. 60' WATER SERVICE EASEMENT AND GENERAL UTILITY AND ACCESS EASEMENT (GRANTED TO CLEVELAND WATER, D.S.S.S., FIRST ENERGY, DOMINION, AND SPECTRUM)

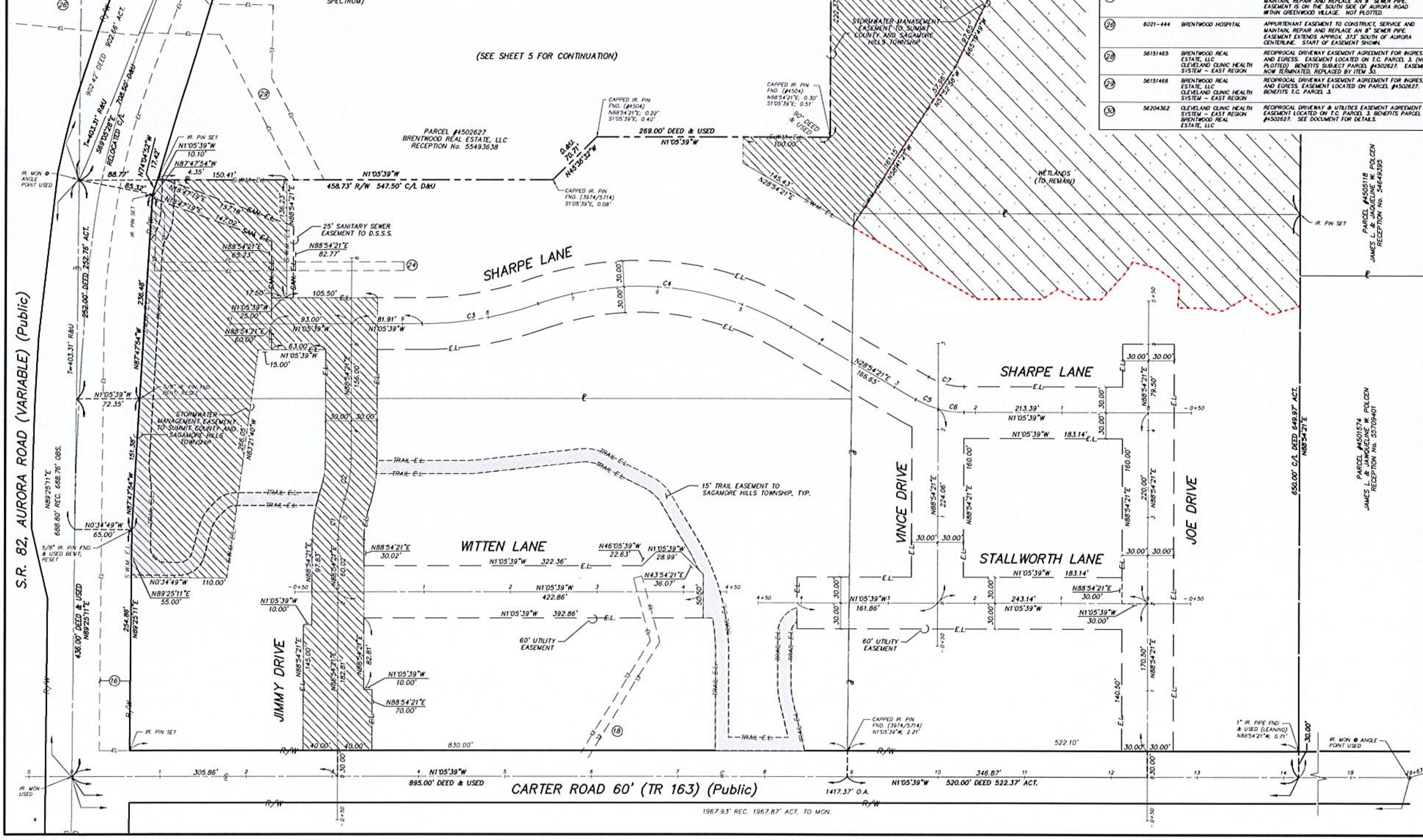
CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	150.00'	47.63'	24.02'	47.43'	N81°59'48"W	18°11'42"
C2	150.00'	47.63'	24.02'	47.43'	N81°59'48"W	18°11'42"
C3	402.00'	136.74'	69.04'	136.08'	N10°50'19"W	19°29'22"
C4	350.00'	302.31'	161.31'	293.00'	N4°09'41"E	49°29'22"
C5	111.00'	28.01'	14.08'	27.93'	N21°40'38"E	14°27'28"
C6	111.00'	30.11'	15.15'	30.02'	N6°40'38"E	15°32'32"
C7	81.00'	42.41'	21.70'	41.93'	N13°54'21"E	30°00'00"

TITLE COMMITMENT REVIEW CHART
COMMONWEALTH LAND TITLE NO. 17-265N JUNE 12, 2017

MAP NO. & SCH. B	VOL.-PG.	GRANTEE, ETC.	DESCRIPTION
15	1682-219	OHIO EDISON COMPANY	ELECTRIC POLE LINE EASEMENT WITHIN CARTER ROAD RIGHT-OF-WAY. UNABLE TO DETERMINE PARCELS AFFECTED.
16	2776-270	STATE OF OHIO	EASEMENT FOR HIGHWAY PURPOSES OVER PART OF SUBJECT PARCELS 1 & 3, ALONG S.R. 82 AS SHOWN.
17	3114-224	OHIO EDISON COMPANY	ELECTRIC POLE LINE EASEMENT WITHIN CARTER ROAD RIGHT-OF-WAY. POLES TO BE WITHIN 2 FEET OF HIGHWAY LIMITS UNABLE TO DETERMINE PARCELS AFFECTED.
18	6195-365 (EASEMENT IS TO BE VACATED)	OHIO EDISON COMPANY	10' WIDE ELECTRIC EASEMENT OVER T.C. PARCEL 1. AS SHOWN. ONLY ABLE TO DETERMINE APPROX. LOCATION FROM DESCRIPTION GIVEN.
24	OR 477-630 (EASEMENT IS TO BE VACATED)	OHIO EDISON COMPANY	10' WIDE OVERHEAD & UNDERGROUND ELECTRIC EASEMENT OVER T.C. PARCEL 3 AS SHOWN.
25	6021-440	BRENTWOOD HOSPITAL	APPURTENANT EASEMENT TO CONSTRUCT, SERVICE AND MAINTAIN, REPAIR AND REPLACE AN 8" SEWER PIPE. EASEMENT IS ON THE SOUTH SIDE OF AURORA ROAD WITHIN GREENWOOD VILLAGE. NOT PLOTTED.
26	6021-444	BRENTWOOD HOSPITAL	APPURTENANT EASEMENT TO CONSTRUCT, SERVICE AND MAINTAIN, REPAIR AND REPLACE AN 8" SEWER PIPE. EASEMENT EXTENDS APPROX. 373' SOUTH OF AURORA CENTERLINE. START OF EASEMENT SHOWN.
28	56151465	BRENTWOOD REAL ESTATE, LLC CLEVELAND CLINIC HEALTH SYSTEM - EAST REGION	RECIPROCAL DRIVEWAY EASEMENT AGREEMENT FOR INGRESS AND EGRESS. EASEMENT LOCATED ON T.C. PARCEL 3. (NOT PLOTTED) BENEFITS SUBJECT PARCEL #4502627. EASEMENT NOW TERMINATED, REPLACED BY ITEM 30.
29	56151466	BRENTWOOD REAL ESTATE, LLC CLEVELAND CLINIC HEALTH SYSTEM - EAST REGION	RECIPROCAL DRIVEWAY EASEMENT AGREEMENT FOR INGRESS AND EGRESS. EASEMENT LOCATED ON PARCEL #4502627. BENEFITS T.C. PARCEL 3.
30	56204362	CLEVELAND CLINIC HEALTH SYSTEM - EAST REGION BRENTWOOD REAL ESTATE, LLC	RECIPROCAL DRIVEWAY & UTILITIES EASEMENT AGREEMENT EASEMENT LOCATED ON T.C. PARCEL 3. BENEFITS PARCEL #4502627. SEE DOCUMENT FOR DETAILS.

(SEE SHEET 5 FOR CONTINUATION)



REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

BOUNDARY AND EASEMENTS PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 25' 50'

HORIZ. SCALE 1"=50'

VERT. SCALE -----

DRN. DER | CKD. T.C.

DATE OCT., 2022

ORDER NO. 4723E

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C8	80.00'	119.33'	73.91'	108.57'	N21°55'03"W	85°27'51"
C9	329.42'	122.32'	61.87'	121.62'	N9°51'39"E	21°16'33"
C10	450.00'	134.67'	67.84'	134.16'	N82°31'15"W	17°08'46"
C11	561.90'	168.33'	84.80'	167.71'	N82°31'15"W	17°09'53"
C13	40.00'	104.71'	149.17'	77.27'	N76°05'01"W	149°58'44"
C14	10.00'	10.39'	5.72'	9.93'	N58°41'34"E	59°31'54"
C15	290.00'	108.33'	54.81'	107.71'	N10°06'50"E	21°24'14"
C17	110.00'	103.93'	56.21'	100.10'	N6°15'01"W	54°07'55"

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COMMONWEALTH LAND TITLE NO. 17-265N JUNE 12, 2017

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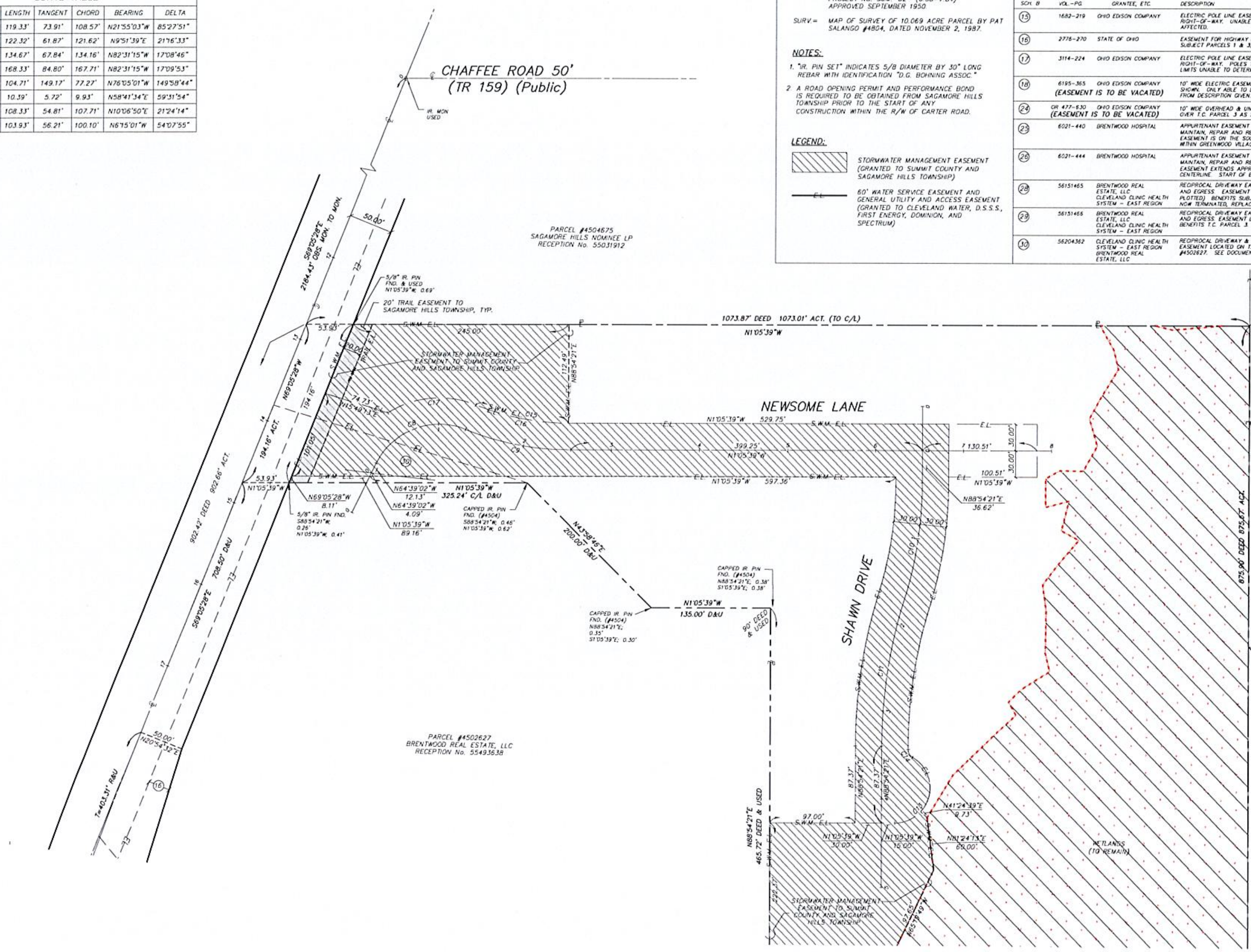

(SEE SHEET 4 FOR CONTINUATION)

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REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

BOUNDARY AND EASEMENT PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 25' 50'
HORIZ. SCALE 1"=50'
VERT. SCALE -----
DR'N DER | CK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E

- DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

DEMOLITION LEGEND:

- REMOVE ASPHALT DRIVE
- REMOVE CONCRETE SIDEWALK/DRIVE
- TREE CLEARING
- WETLANDS TO BE FILLED
- WETLANDS TO REMAIN

NOTES:

1.) ABANDON EXISTING STORM SEWER TO THE WEST. PLUG END OF STORM SEWER TO REMAIN WITH 2' OF NON SHRINK MORTAR/GROUT.

2.) PRIOR TO CONSTRUCTION, TWO EXISTING BUILDINGS WILL BE DEMOLISHED BY OTHERS. ALL SCRAP MATERIALS, FOOTINGS, AND FOUNDATIONS SHALL BE HAULED OFF-SITE.

3.) COORDINATE ACTUAL LOCATIONS AND REMOVAL OF EXISTING ON-SITE GAS LINE WITH DOMINION ENERGY OHIO (DEO).

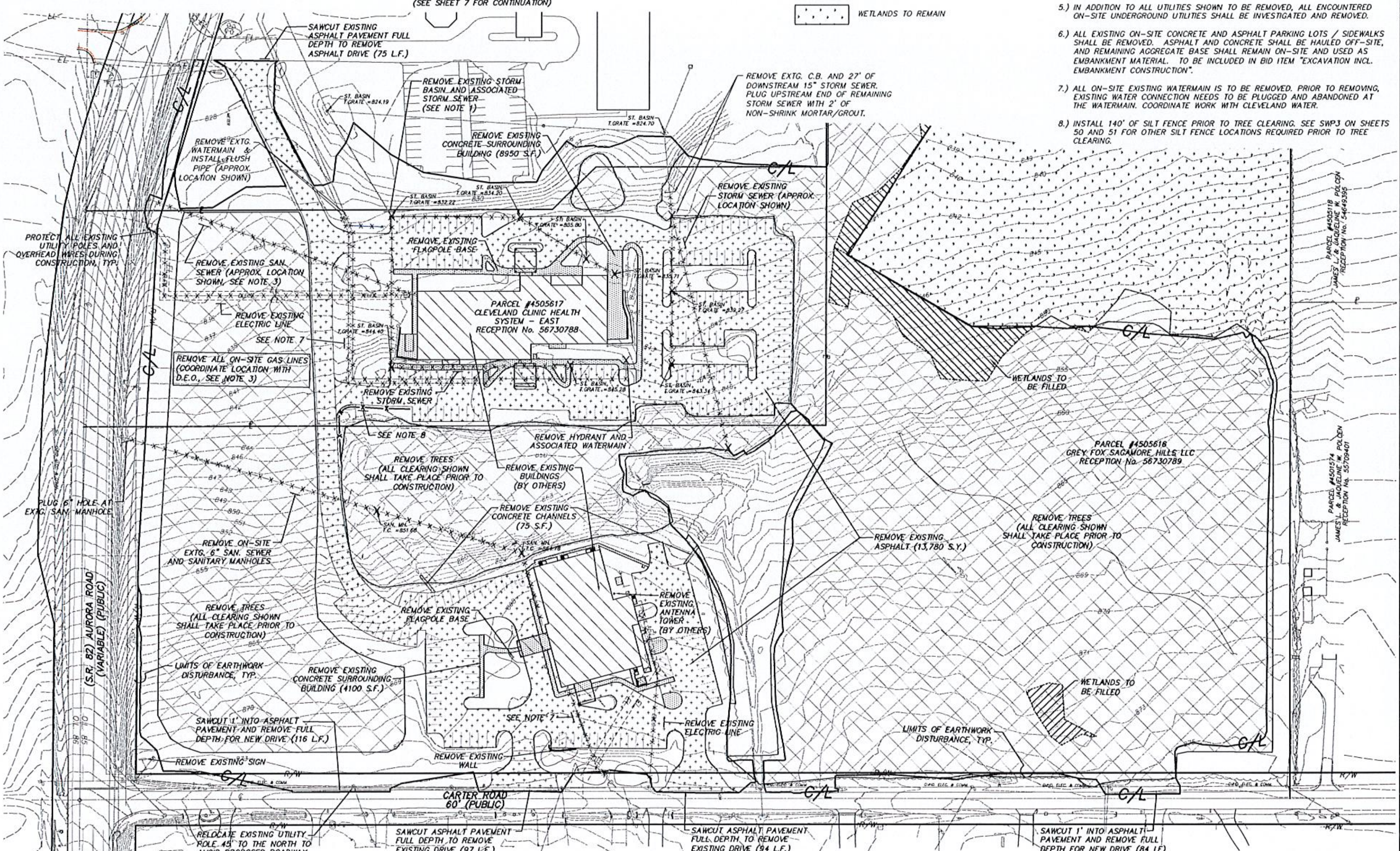
4.) COORDINATE ALL ELECTRIC DEMOLITION WITH OHIO EDISON.

5.) IN ADDITION TO ALL UTILITIES SHOWN TO BE REMOVED, ALL ENCOUNTERED ON-SITE UNDERGROUND UTILITIES SHALL BE INVESTIGATED AND REMOVED.

6.) ALL EXISTING ON-SITE CONCRETE AND ASPHALT PARKING LOTS / SIDEWALKS SHALL BE REMOVED. ASPHALT AND CONCRETE SHALL BE HAULED OFF-SITE, AND REMAINING AGGREGATE BASE SHALL REMAIN ON-SITE AND USED AS EMBANKMENT MATERIAL. TO BE INCLUDED IN BID ITEM "EXCAVATION INCL. EMBANKMENT CONSTRUCTION".

7.) ALL ON-SITE EXISTING WATERMAIN IS TO BE REMOVED. PRIOR TO REMOVING, EXISTING WATER CONNECTION NEEDS TO BE PLUGGED AND ABANDONED AT THE WATERMAIN. COORDINATE WORK WITH CLEVELAND WATER.

8.) INSTALL 140' OF SILT FENCE PRIOR TO TREE CLEARING. SEE SWP3 ON SHEETS 50 AND 51 FOR OTHER SILT FENCE LOCATIONS REQUIRED PRIOR TO TREE CLEARING.



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REVISIONS

1/27/23 REV. PER COUNTY COMMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
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0' 25' 50'
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DWN. K.C. | CKD. T.C.

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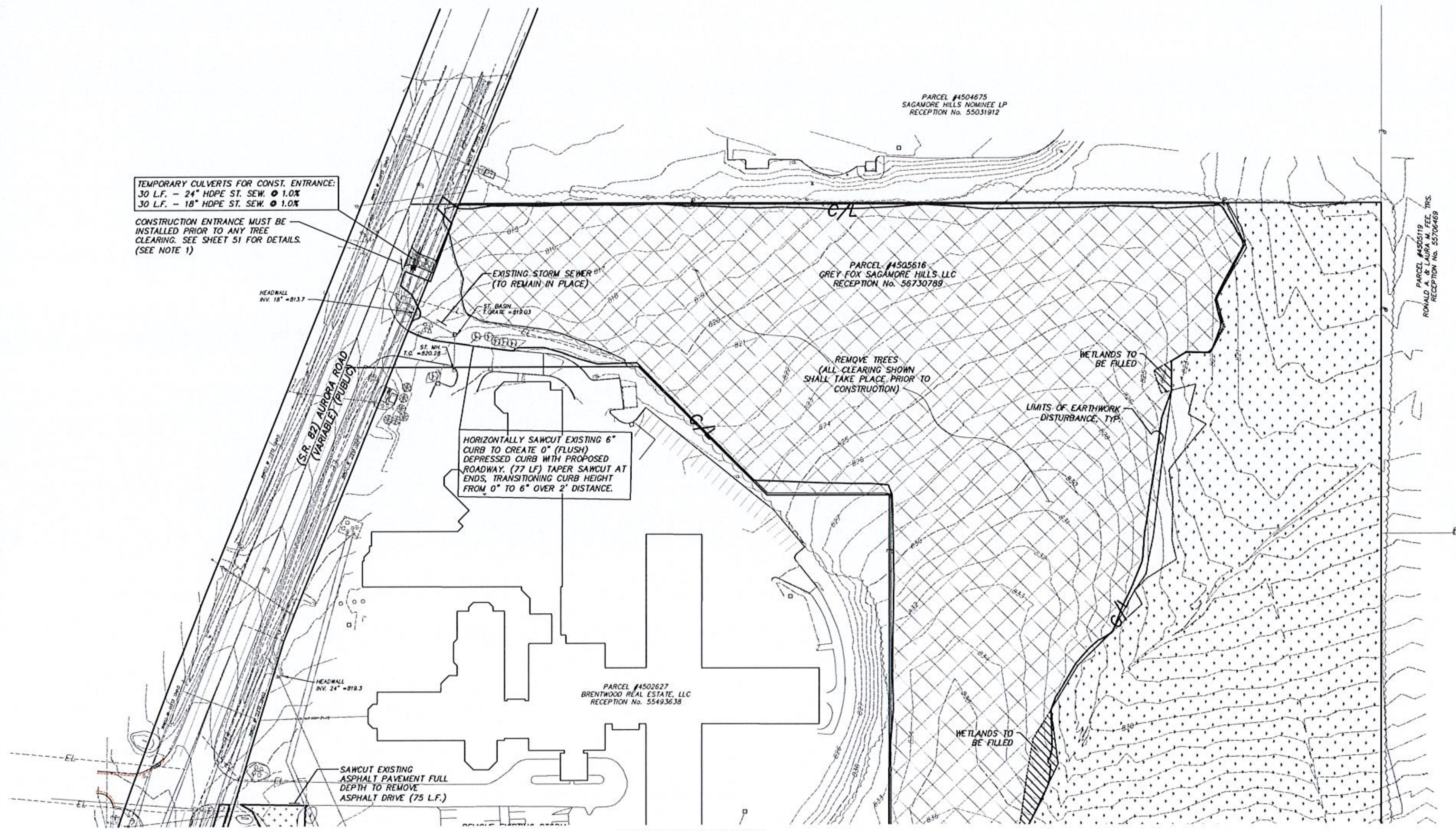
EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

NOTES:

1. INSTALL CONSTRUCTION ENTRANCE AS NEEDED FOR TREE CLEARING OPERATIONS. ENTRANCE SHALL BE APPROX. 14' WIDE BY 35' LONG OVER TWO TEMPORARY STORM CONDUITS INSTALLED AT THE ROADSIDE DITCH OF S.R. 82. TO MEET THE EQUIVALENT CAPACITY OF THE ADJACENT 30" DRIVE CULVERT, INSTALL MIN. (1) 30 L.F. 24" DIAMETER TEMPORARY STORM CONDUIT AND (1) 30 L.F. 18" DIAMETER TEMPORARY STORM CONDUIT (SMOOTH INTERIOR HDPE OR APPROVED ALTERNATE).

DEMOLITION LEGEND:

- REMOVE ASPHALT DRIVE
- REMOVE CONCRETE SIDEWALK/DRIVE
- TREE CLEARING
- WETLANDS TO BE FILLED
- WETLANDS TO REMAIN



(SEE SHEET 6 FOR CONTINUATION)

N

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
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GRAPHIC SCALE
0' 25' 50'
HORIZ. SCALE 1"=50'
VERT. SCALE -----
DRN. K.C. CKD. T.C.
DATE OCT., 2022
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GENERAL

SCOPE OF WORK

THESE PLANS INCLUDE CONSTRUCTION OF ALL UNDERGROUND UTILITIES, PAVEMENT, EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION, TOPSOIL STRIPPING, STOCKPILING, AND RESPREADING, AND SEEDING AND MULCHING TO THEIR RESPECTIVE LIMITS AS INDICATED IN THE PLANS.

SUBSOIL INVESTIGATION

ALL CONTRACTORS, PRIOR TO SUBMITTING BIDS FOR THIS IMPROVEMENT, WILL BE PERMITTED TO DIG TEST HOLES WITHIN THE LIMITS OF THIS PROPOSED WORK. AT LEAST 48 HOUR NOTICE MUST BE GIVEN TO THE OWNER, AND THE LOCATION OF ALL TEST HOLES IS SUBJECT TO THE APPROVAL OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM DIGGING THESE HOLES AND HE SHALL RESTORE ALL PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DIGGING WAS DONE. ROCK EXCAVATION SHALL NOT BE PAID FOR AS A SEPARATE ITEM, BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER VARIOUS ITEMS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

WHERE IN ANY CASE THE PLANS AND SPECIFICATIONS DO NOT ENTIRELY COVER MATERIALS AND/OR WORKMANSHIP, THE "STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS," CURRENT EDITION, SHALL APPLY AND BE IN FORCE. THROUGHOUT THE PLANS THE REFERENCE TO SPECIFIC ODOT ITEM NUMBERS ARE INDICATED. MATERIAL AND WORKMANSHIP SHALL ALSO CONFORM TO THE ORDINANCES AND ENGINEERING DESIGN AND CONSTRUCTION STANDARDS OF SUMMIT COUNTY. SANITARY SEWER WORK SHALL ALSO BE PERFORMED IN ACCORDANCE WITH THE ENGINEERING DESIGN AND CONSTRUCTION MANUAL OF THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES. WHERE CONFLICTS OCCUR IN THE ABOVE, THE SUMMIT COUNTY ENGINEER SHALL DETERMINE THE GOVERNING AUTHORITY. ANY DEFECTS IN THE CONSTRUCTION INCLUDING MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE GOVERNING AUTHORITY. REFERENCE THROUGHOUT THESE PLANS TO "THE ENGINEER" SHALL BE THE SUMMIT COUNTY ENGINEER.

ELEVATION DATUM

ALL ELEVATIONS SHOWN ON THESE PLANS ARE IN FEET ABOVE THE "U.S.G.S." DATUM PLANE.

UTILITIES

THE FOLLOWING IS BELIEVED TO BE THE LIST OF UTILITY OWNERS AND GOVERNING AUTHORITIES WITHIN THE LIMITS OF CONSTRUCTION:

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN.: FRED ROBERTS
PHONE: (216) 664-2444 EXT. 75590

SUMMIT COUNTY ENGINEER
538 EAST SOUTH STREET
AKRON, OHIO 44311
PHONE: (330) 643-2850

SUMMIT COUNTY
DEPARTMENT OF SANITARY SEWER SERVICES
1180 SOUTH MAIN STREET, SUITE 201
AKRON, OHIO 44301
PHONE: (330) 926-2444

SUMMIT SOIL & WATER CONSERVATION DISTRICT
1180 SOUTH MAIN STREET, SUITE 241
AKRON, OHIO 44301
PHONE: (330) 929-2871

SAGAMORE HILLS TOWNSHIP
11551 VALLEY VIEW ROAD
SAGAMORE HILLS, OHIO 44067
PHONE: (330) 467-0900

NORTH HILLS WATER DISTRICT
253 WEST AURORA ROAD
NORTHFIELD, OHIO 44067
PHONE: (330) 467-9600

WINDSTREAM
100 OWEN BROWN STREET
HUDSON, OHIO 44236
PHONE: (330) 650-8430

CHARTER COMMUNICATIONS
8385 BAVARIA PARKWAY
MACEDONIA, OHIO 44056
PHONE: (330) 963-3620 x114

DOMINION EAST OHIO
320 SPRINGSIDE DRIVE
AKRON, OHIO 44333
PHONE: (330) 664-2409

OHIO EDISON COMPANY
1910 WEST MARKET STREET
AKRON, OHIO 44313
PHONE: (330) 384-4720

ANY AND ALL WORK REQUIRED FOR REMOVAL, RELOCATION AND/OR NEW CONSTRUCTION FACILITIES FOR PRIVATE OR PUBLIC UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THE RESPECTIVE OWNERS UNLESS OTHERWISE NOTED ON THE PLANS. THE PROCEDURE AS OUTLINED IN THE OHIO REVISED CODE SECTION 153.64, REGARDING UTILITY IDENTIFICATION SHALL BE FOLLOWED. NAMELY, THE OWNER WILL NOTIFY THE OWNERS OF UNDERGROUND UTILITY FACILITIES OF THE IMPENDING PROJECT. THE CONTRACTOR MUST NOTIFY THE UNDERGROUND UTILITY PROTECTION SERVICE AND THE INDIVIDUAL UTILITY 48 HOURS PRIOR TO COMMENCING WORK. THE UNDERGROUND UTILITY OWNER MUST STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF ITS FACILITY. THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE DESIGN ENGINEER DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS AND THE CONTRACTOR IS THEREFORE URGED TO PROCEED WITH CAUTION. EXISTING APPURTENANCES SUCH AS UTILITY POLES, VALVE BOXES, ETC ARE TO BE SAFEGUARDED BY THE CONTRACTOR DURING CONSTRUCTION.

STATIONING AND LOCATIONS

STATIONING AND LOCATIONS INDICATED ON THESE PLANS ARE APPROXIMATE. ALL LOCATIONS AND ITEMS CALLED OUT BY STATION OR COORDINATES ARE SUBJECT TO ADJUSTMENT IN THE FIELD "AS DIRECTED BY THE ENGINEER."

PRE-CONSTRUCTION CONFERENCE

AT LEAST FIVE DAYS PRIOR TO THE START OF ANY CONSTRUCTION WORK, A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD AT THE DIRECTION OF THE SUMMIT COUNTY ENGINEER. APPROPRIATE TOWNSHIP OFFICIALS, AND THE OWNER'S REPRESENTATIVES. THE CONTRACTOR OR HIS AUTHORIZED SUPERINTENDENT SHALL BE PRESENT, ALONG WITH ANY AND ALL PRIVATE UTILITY COMPANY REPRESENTATIVES. THIS MEETING WILL BE FOR COORDINATION AND PROCEDURE REVIEW PRIOR TO COMMENCING ANY PHYSICAL WORK.

PRE-CONSTRUCTION CONFERENCES SHALL ALSO BE SCHEDULED WITH THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.) AND WITH NORTH HILLS WATER DISTRICT (N.H.W.D.) AT WHICH THE CONTRACTOR OR HIS AUTHORIZED SUPERINTENDENT SHALL BE PRESENT.

PRECONSTRUCTION VIDEO RECORDING

PRIOR TO THE DELIVERY OF ANY EQUIPMENT, MATERIALS OR SUPPLIES TO THE SITE OF ANY WORK, OR TO THE BEGINNING OF ANY OF THE CONSTRUCTION WORK, THE CONTRACTOR SHALL PROVIDE PRECONSTRUCTION VIDEO RECORDING AS SPECIFIED BELOW FOR THE PURPOSE OF ESTABLISHING THE SURFACE CONDITIONS EXISTING IN ALL OF THE AREAS TO BE AFFECTED.

THE VIDEO RECORDING SHALL BE PERFORMED BY A EXPERIENCED AND QUALIFIED FIRM ENGAGED IN THIS TYPE OF WORK, AS APPROVED BY THE ENGINEER.

SCOPE OF WORK – ABOVE GROUND VIDEO RECORDING SHALL CONSIST OF COLOR VIDEO RECORDING OF SURFACE FEATURES OF THE ROADWAYS ADJACENT TO THE PROJECT (S.R. 82 AND CARTER ROAD), AND OF THE PROPERTY LINE SHARED WITH THE ADJACENT NEIGHBORS. ALL RECORDINGS SUBMITTED SHOULD BE DVD FORMAT. ONE (1) COPY EACH OF THE FINISHED PRODUCT SHOULD BE SUBMITTED TO THE SUMMIT COUNTY ENGINEER AND TO THE OWNER. ANY PORTION OF THE VIDEO COVERAGE DEEMED UNACCEPTABLE BY THE ENGINEER MUST BE RE-RECORDED BY THE CONTRACTOR AT NO ADDITIONAL CHARGE.

INSPECTION

INSPECTION BY THE SUMMIT COUNTY ENGINEER AND NORTH HILLS WATER DISTRICT WILL BE REQUIRED THROUGHOUT CONSTRUCTION. THE COST OF ALL INSPECTION AND TESTS SHALL BE PAID BY THE CONTRACTOR AND INCLUDED IN THE UNIT PRICE BID. NO FINAL ESTIMATE WILL BE ISSUED UNTIL ALL FEES FOR INSPECTION AND TESTING HAVE BEEN INVOICED BY THE SUMMIT COUNTY ENGINEER, AND COPIES OF ALL INSPECTION AND TEST RESULTS HAVE BEEN FORWARDED TO THE OWNER.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR INSPECTION FEES TO BE PAID TO THE SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.) WHICH ARE DUE AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOT COMMENCE WITH ANY FORM OF CONSTRUCTION WITHOUT GIVING 48 HOUR NOTICE TO THE OFFICE OF THE COUNTY ENGINEER, TO ARRANGE FOR INSPECTION. IF ANY CHANGE IN THE WORK SCHEDULE BECOMES NECESSARY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE INSPECTORS TO AVOID UNNECESSARY INSPECTION COSTS. IF NO NOTIFICATION IS MADE IN REGARDS TO THE CANCELLATION OF WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE INSPECTION TIME INCURRED.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A "ROAD OPENING" PERMIT AND A PERFORMANCE BOND IS REQUIRED TO BE OBTAINED FROM SAGAMORE HILLS TOWNSHIP PRIOR TO THE START OF ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY OF CARTER ROAD.

PRECAUTION AGAINST UTILITY DAMAGE

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO EXPENSE TO THE OWNER TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITY LINES DURING THE INSTALLATION OF THE PROPOSED IMPROVEMENTS. IT MAY BE NECESSARY TO CHANGE THE ALIGNMENT OR THE FLOW LINE ELEVATION OF PROPOSED SEWERS DUE TO VARIOUS EXISTING UTILITY LINES. FIELD MODIFICATIONS SHOULD BE VERIFIED BY THE DESIGN ENGINEER TO ASSURE CAPACITY IS MET. THE CONTRACTOR SHALL MAKE INVESTIGATIONS TO DETERMINE THE LOCATION OF EXISTING UTILITY LINES PRIOR TO THE INSTALLATION OF THE PROPOSED IMPROVEMENTS. SUCH INVESTIGATIONS SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

CONSTRUCTION VEHICLES

AT NO TIME THROUGHOUT CONSTRUCTION SHALL THE CONTRACTOR OR HIS EMPLOYEES BE ALLOWED TO PARK, UNLOAD, OR LOAD VEHICLES ON EXISTING STREETS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A PARKING AND LOADING/UNLOADING AREA WITHIN THE SITE. ALL COST INVOLVED WITH THIS SHALL BE INCLUDED IN THE UNIT PRICE FOR VARIOUS OTHER ITEMS.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, SATISFACTORY BARRIERS, LIGHTING, FLAGMEN, TEMPORARY GUARDRAIL, AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN "ITEM 614 – MAINTAINING TRAFFIC" SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION. ALL AREAS OF PAVEMENT REMOVAL WHICH HAVE NOT BEEN FULLY RESTORED SHALL BE PROTECTED WITH CONES OR DRUMS DURING DAYLIGHT HOURS. THESE AREAS SHALL BE PROTECTED WITH FLASHING BARRICADES OR DRUMS WITH STEADY BURNING LIGHTS AT NIGHT. PAYMENT FOR LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL WHEREVER OF APPROACHES, BYPASSES, CROSSOVERS, BARRICADES, LIGHTS, SIGNS, AND SIGN SUPPORTS, SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO THE PROPOSED WORK WITH A MINIMUM OF HAZARD, DELAY, AND INCONVENIENCE TO THE MOTORISTS USING THE STREETS AFFECTED BY THE WORK DONE UNDER THIS CONTRACT. LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AND THE CLOSING OF ANY STREET SHALL BE COORDINATED WITH THE ENGINEER AND THE POLICE CHIEF OF SAGAMORE HILLS TOWNSHIP.

ROADWAY

CLEARING AND GRUBBING

ANY TREES AND BRUSH, AND ANY OTHER VEGETATION WITHIN THE LIMITS OF THE PROJECT THAT INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED FROM THE SITE. STUMPS MAY BE GROUND OUT OR REMOVED FROM THE SITE. PAYMENT FOR ALL SUCH WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "CLEARING AND GRUBBING".

EARTHWORK

ALL EARTHWORK SHALL HAVE INSPECTION AND TESTING AS DEEMED NECESSARY BY THE SUMMIT COUNTY ENGINEER AND THE OWNER. SUCH INSPECTION WILL BE COORDINATED BY THE CONTRACTOR, WHO SHALL USE A SOILS TESTING LABORATORY TO MAKE TESTS INCIDENTAL TO THE QUALITY CONTROL OF THE EARTHWORK OPERATION. THE COST OF THIS INSPECTION AND TESTING WILL BE PAID BY THE CONTRACTOR. THE PRICES BID FOR THE VARIOUS EARTHWORK ITEMS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. PREPARING THE SUBGRADE AS DEEMED NECESSARY BY THE ENGINEER TO ACCEPT EMBANKMENT.
2. DEWATERING THE SUBGRADE, IF NECESSARY, AND MAINTAINING GOOD SURFACE DRAINAGE OF THE CONSTRUCTION AREA.
3. PROOF-ROLLING AND/OR STABILITY VERIFICATION OF ALL SUBGRADES BEFORE AND AFTER EMBANKMENT CONSTRUCTION AND OF ALL EXCAVATED AREAS AFTER ACHIEVING SUBGRADE ELEVATION.
4. SPREADING LIFTS NOT TO EXCEED 8 INCHES IN DEPTH AND COMPACTING AT THE SPECIFIED MOISTURE CONTENT UNTIL ITS DENSITY IS NOT LESS THAN 98 PERCENT OF THE MAXIMUM LABORATORY DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD OF MOISTURE DENSITY RELATIONSHIP TESTING (ASTM D698). THE WORK SHALL BE DONE USING COMPACTION EQUIPMENT THAT WILL PROVIDE THE REQUIRED IN PLACE DENSITY WITHOUT BREAKING DOWN THE UNDERLYING SOILS.
5. OBTAINING OPTIMUM MOISTURE CONTENT.
6. INCORPORATING EXCESS TRENCH MATERIALS INTO EMBANKMENT CONSTRUCTION.
7. THE REMOVAL OF ANY SEDIMENT FROM DITCHES, SWALES AND CREEKS, WHICH AS DETERMINED BY THE ENGINEER, RESULTED FROM THESE IMPROVEMENTS.
8. FOLLOWING THE GENERAL OUTLINE OF SUCH EARTHWORK OPERATIONS AS INDICATED ON THE EARTHWORK PLAN.
9. MAINTAINING POSITIVE DRAINAGE AT ALL TIMES. EXCAVATED AREAS SHALL BE GRADED OR FILLED TO PREVENT PONDING ON SITE.

WHERE SOFT SUBGRADE IS ENCOUNTERED, DUE TO NO FAULT OR NEGLECT OF THE CONTRACTOR, IN WHICH SATISFACTORY STABILITY CANNOT BE OBTAINED BY MOISTURE CONTROL AND COMPACTION, THE UNSTABLE MATERIAL SHALL BE EXCAVATED TO THE DEPTH REQUIRED BY THE ENGINEER. BACKFILLING OF THESE EXCAVATED AREAS SHALL BE WITH EMBANKMENT MATERIAL FROM THE CONSTRUCTION PROJECT OR SUITABLE GRANULAR MATERIAL PER ODOT ITEM 203, "AS DIRECTED BY THE ENGINEER."

IN AREAS OF HIGH GROUNDWATER OR WHERE SURFACE SEEPAGE HAS BEEN OBSERVED IT MAY BE NECESSARY TO CONSTRUCT DRAINS PERPENDICULAR TO THE PROPOSED PAVEMENT. THESE UNCLASSIFIED PIPE UNDERDRAINS, CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605, SHALL BE 3 FEET BELOW CURB GRADE AND CONNECTED INTO THE APPROPRIATE STORM CONDUIT OR OUTLET. CONDUIT SHALL BE 4" DIAMETER PERFORATED PVC TYPE PS-46 PIPE CONFORMING TO ASTM F758, OR 4" DIAMETER CORRUGATED TUBING UNDERDRAIN AASHTO M252 (ODOT 707.31) WITH NO. 8 AGGREGATE (NO SLAG). THE USE OF THIS OPTIONAL ITEM SHALL BE ONLY AS DIRECTED BY THE OWNER.

UTILIZING EXCAVATED ROCK/SANDSTONE:

TO BE ALLOWED FOR USE AS EMBANKMENT, EXCAVATED SANDSTONE OR ROCK MUST BE REDUCED IN SIZE UNTIL IT IS SMALL ENOUGH TO BE INCORPORATED INTO THE FOLLOWING HORIZONTAL LIFT THICKNESS:

1. WHEN PLACING ROCK FILL WITHIN A LENGTH OF SIX TIMES THE HEIGHT OF THE FILL AT AN ABUTMENT, PLACE ROCK FILL IN LOOSE LIFTS NOT TO EXCEED 18 INCHES AS DIRECTED BY THE ENGINEER.
2. NATURAL GRANULAR MATERIALS INCLUDING BROKEN OR CRUSHED ROCK/SANDSTONE MUST BE ABLE TO BE PLACED IN 8-INCH LOOSE LIFTS FOR USE IN EMBANKMENT CONSTRUCTION.
3. CRUSHED/REDUCED ROCK SHALL BE SPREAD AND COMPACTED PER ODOT 203.06. ALL SUITABLE MATERIALS ARE RESTRICTED IN ODOT 203.03 AND MUST CONFORM TO ODOT 703.16.

TO BE ALLOWED FOR USE AS A SUBBASE FOR ROADWAYS, EXCAVATED SANDSTONE OR ROCK MUST BE REDUCED IN SIZE AS NOTED FOR PREMIUM BACKFILL UNDER "COMPACTED BACKFILL" ON THIS SHEET.

REUSING DEMO PAVEMENT GRINDINGS:

PAVEMENT GRINDINGS FROM EXISTING ON-SITE ASPHALT CAN BE USED IN EMBANKMENT CONSTRUCTION PER ODOT 203.02 (A). RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE BLENDED TO MEET THE REQUIREMENTS IN ODOT 703.16. ENSURE THAT PIECES OF RAP DO NOT EXCEED 4 INCHES IN THE LARGEST DIMENSION. WHEN USING RAP, COMPLETELY BLEND IT WITH AT LEAST 30 PERCENT NATURAL SOIL OR NATURAL GRANULAR MATERIAL. FOLLOW ODOT 203.03 FOR RESTRICTIONS ON USE OF RAP AS EMBANKMENT MATERIAL. RAP CAN ONLY BE USED AS EMBANKMENT MATERIAL IF PLACED 3 FEET BELOW THE SURFACE OF THE SUBGRADE. DO NOT USE RAP IN ANY LOCATION WHERE IT WOULD INHIBIT THE GROWTH OF VEGETATION.

ALL ON-SITE RECYCLED MATERIAL TO BE USED FOR EMBANKMENT MUST BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER.

UNDERGROUND INSTALLATIONS – GENERAL

UNDERGROUND INSTALLATION

THE UNIT PRICE BID FOR THE VARIOUS UNDERGROUND INSTALLATION ITEMS SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL EXCAVATION, MATERIAL, LABOR, BEDDING, BACKFILL, COMPACTION, EQUIPMENT, UTILITY PROTECTION, MAINTENANCE OF ROADWAYS AND DRIVES UNTIL FINAL REPLACEMENT, PUMPING AND/OR DEWATERING, CONSTRUCTION AND REMOVAL OF ALL NECESSARY TRENCH PROTECTION AND ALL OTHER INCIDENTAL ITEMS NECESSARY TO INSTALL SUCH UTILITY. THE CONTRACTOR IS TO TOTALLY FAMILIARIZE HIMSELF WITH THE GROUND CONDITIONS THAT NOW DO OR MAY EXIST DURING THE CONSTRUCTION SO AS NOT TO ADVERSELY AFFECT THE INTEGRITY OF ANY UTILITY INSTALLATION OR STRUCTURE ON THE CONSTRUCTION SITE OR ADJACENT PROPERTIES.

ALL SANITARY SEWER AND STORM SEWER CONSTRUCTION SHALL CONFORM WITH ODOT ITEM 611 AND SHALL BE INSTALLED ON A FIRM BEDDING FOR ITS FULL LENGTH.

ANY UNSUITABLE MATERIAL, MATERIAL NOT APPROVED BY THE ENGINEER FOR BACKFILL AND MATERIAL IN EXCESS OF THAT REQUIRED FOR BACKFILLING SHALL BE DISPOSED OF BY THE CONTRACTOR ON THE SITE.

TRENCH PROTECTION

ALL OPEN TRENCH EXCAVATIONS ARE TO COMPLY WITH MINIMUM OSHA SAFETY STANDARDS.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT ANY CAVING OR SETTLING OF EXCAVATION OR TRENCH WALLS WHICH COULD ENDANGER THE SAFETY OF ANY PERSON ENGAGED IN THE WORK OR IN ANY WAY DAMAGE THE UNDERGROUND INSTALLATIONS OF ADJACENT UTILITIES OR PROPERTY; OR DIMINISH THE TRENCH WIDTH NECESSARY FOR THE PROPER CONSTRUCTION OF THE UNDERGROUND INSTALLATION OR OTHERWISE INJURE OR DELAY THE WORK. THE TYPE AND AMOUNT OF SUCH PROTECTION, SUCH AS TRENCH BOXES, SHEETING, SHORING, OR BRACING SHALL BE CONSISTENT WITH THE DEPTH AND WIDTH OF EXCAVATION, THE COMPOSITION AND WATER CONTENT OF THE SOIL, THE PROXIMITY OF STRUCTURES OR OTHER UTILITIES, THE VIBRATION FROM EQUIPMENT AND THE SPOIL PLACEMENT, AND SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.

IN ORDER TO REDUCE GROUND WATER SEEPAGE AND PROVIDE A STABLE TRENCH BOTTOM IT MAY BE NECESSARY TO DEWATER PRIOR TO EXCAVATION OF THE SEWER TRENCH AND/OR PROVIDE TEMPORARY SUMPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT STRUCTURES, PAVEMENTS, OR UTILITIES, OR LOSS OF PRIVATE WELL WATER RESULTING FROM DEWATERING, LOSS OF GROUND, HEAVE, TRENCH CONSTRUCTION, OR ANY OTHER CONSTRUCTION METHODS. THE CONTRACTOR SHALL PROTECT ALL EXISTING SEWERS AND UTILITIES THAT THE PROPOSED INSTALLATION CROSSES BY COMPACTING THE BACKFILL UNDER SUCH EXISTING FACILITY OR SHALL PROTECT THE EXISTING FACILITY IN A MANNER AS APPROVED BY THE ENGINEER. IF SHEETING IS USED, IT MAY BE NECESSARY TO DRIVE THE SHEETING SEVERAL FEET BELOW THE BOTTOM OF THE PIPE. WHEN USING MOVABLE TRENCH SUPPORTS OR SHEETING, CARE SHALL BE EXERCISED SO AS NOT TO DISTURB THE PIPE LOCATION, JOINTING, OR BEDDING MATERIAL. IF STEEL PILE SHEETING IS USED, IT SHALL BE HELD IN PLACE BY LONGITUDINAL BEAMS AND CROSS BRACES OR STRUTS AS REQUIRED TO RESTRAIN THE TOP OF THE SHEETING. IF TIMBER SHEETING AND BRACING IS USED, IT MUST BE OF GOOD QUALITY AND OF HARDWOOD CONSTRUCTION. AFTER THE PIPE HAS BEEN INSTALLED AND THE BALANCE OF THE BEDDING MATERIAL HAS BEEN PLACED OVER THE PIPE, THE REMOVAL OF ANY TRENCH PROTECTION SHALL BE CAREFULLY CONTROLLED. THE CONTRACTOR SHALL DEMONSTRATE THAT THE REMOVAL OF THE TRENCH PROTECTION WILL NOT ADVERSELY AFFECT THE PIPE LOCATION AND BEDDING. IF SHEETING CANNOT BE REMOVED WITHOUT ADVERSELY AFFECTING THE PIPE LOCATION, THE ENGINEER MAY ORDER THE SHEETING CUT OFF AT SOME POINT, AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE AND LEFT IN PLACE AT NO ADDITIONAL COST.

MAINTENANCE OF EXISTING SEWER SYSTEMS

PRIOR TO ANY CONNECTION INTO AN EXISTING SEWER MANHOLE OR CONDUIT THE CONTRACTOR SHALL TAKE SUCH MEASURES AS NECESSARY, "AS APPROVED BY THE ENGINEER", TO GUARD AGAINST ANY DRAINAGE FROM ENTERING THE EXISTING SYSTEM AND POSSIBLY CONTAMINATING SUCH SYSTEM WITH SILT (I.E. TEMPORARY PLUGS FOR SANITARY SEWERS & SAND BAGS FOR STORM SEWERS). THESE MEASURES SHALL NOT BE REMOVED UNTIL AFTER THE SEWER HAS BEEN CLEANED OF ALL SILT AND DEBRIS. ALL WORK AND MATERIALS NECESSARY TO GUARANTEE THIS CONDITION SHALL BE INCLUDED IN THE VARIOUS ITEMS BID.

SUBBEDDING MATERIAL

THE SUBBEDDING MATERIAL FOR THE SEWERS SHALL BE A SEPARATE PAY ITEM. IN SECTIONS WHERE UNSTABLE SOILS CONSTITUTE THE TRENCH BOTTOM AND FIRM SUPPORT CANNOT BE ESTABLISHED TO CONSTRUCT THE PIPE BEDDING, THE UNSTABLE SOIL SHALL BE UNDERCUT IN DEPTH AS APPROVED BY THE ENGINEER. THIS UNDERCUT AREA IS TO BE BACKFILLED WITH A COMPACTED NUMBER 4 CRUSHED STONE AGGREGATE, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER, TO A DEPTH OF SIX INCHES BELOW THE BOTTOM OF THE PIPE. THE UNIT PRICE BID FOR SUBBEDDING MATERIAL SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, EXCAVATION AND DISPOSAL OF UNSUITABLE SOILS AT OTHER LOCATIONS ON THE CONSTRUCTION SITE AND INCIDENTALS TO COMPLETE THIS WORK. THE USE AND DIRECTION OF THE ENGINEER FOR THIS ITEM DOES NOT REMOVE THE CONTRACTOR'S RESPONSIBILITY FOR THE SAFETY OF HIS LABOR FORCE OR THE INTEGRITY OF SUCH CONDUIT INSTALLATION FOR MEETING ALL TESTING AND INSPECTION REQUIREMENTS. CALCULATIONS OF THE NUMBER OF TONS OF THIS ITEM USED SHALL BE MADE FROM LOAD SLIPS SUPPLIED TO THE OWNER.

COMPACTED BACKFILL

COMPACTED TRENCH BACKFILL SHALL CONFORM TO THE SUMMIT COUNTY ENGINEER'S UTILITY TRENCH DETAIL STANDARD DRAWING ON SHEET 45/53 AND PER SPECIFICATIONS BELOW:

UTILIZING EXCAVATED ROCK/SANDSTONE FOR TRENCH BACKFILL:

TO BE ALLOWED FOR USE AS PREMIUM BACKFILL, EXCAVATED SANDSTONE OR ROCK MUST BE REDUCED IN SIZE SO IT IS SMALL ENOUGH TO BE CONSIDERED A #304 GRADATION (WITH LESS THAN 15% FINES). THE ROCK CAN BE BROKEN DOWN BY MEANS OF CRUSHING AND SORTING USING AN ON-SITE CRUSHING MACHINE, LARGE VIBRATORY ROLLER, AND/OR SHEEPSROLLER. ALL MATERIAL TO BE USED FOR PREMIUM BACKFILL MUST BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER.

LINE AND GRADE CONTROL

THE LINE AND GRADE OF SEWER MAINS SHALL BE CONTROLLED DURING THE SEWER CONSTRUCTION BY USE OF AN APPROVED LASER DEVICE. THE LINE AND GRADE OF THE LASER SHALL BE "CHECKED" FROM LINE AND GRADE STAKES AS DEEMED NECESSARY BY THE CONTRACTOR.

LIMIT OF CONNECTIONS

ALL CONNECTIONS SHALL TERMINATE 1' BEYOND THE UTILITY EASEMENT LINE AS SHOWN ON THE IMPROVEMENT PLANS AND TYPICAL SECTION. THE FURTHER EXTENSION OF THE SANITARY CONNECTIONS SHALL BE CONSTRUCTED AFTER THE LATERAL PERMIT HAS BEEN OBTAINED FROM THE D.S.S.S.

CONCRETE ENCASEMENT

AT ALL STORM SEWER MAIN AND SANITARY SEWER MAIN INTERSECTIONS (CROSSINGS) WHEN PIPE CLEARANCE IS LESS THAN 18", THE LOWER PIPE SHALL BE ENCASED AND THE UPPER PIPE SHALL BE MONOLITHICALLY CRADLED IN CLASS C CONCRETE FOR THE WIDTH OF THE TRENCH. AT PIPE CROSSINGS GREATER THAN 18" THE BACKFILL BELOW THE UPPER PIPE SHALL BE COMPACTED IN PLACE TO THE SATISFACTION OF THE ENGINEER. THE COST OF CONCRETE ENCASEMENT, CRADLING, AND COMPACTED BACKFILL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS SEWER CONDUITS.

SCE GENERAL NOTES

(MODIFIED FOR PROPOSED PROJECT)

1. ALL CONSTRUCTION AND MATERIALS INCLUDED ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE SPECIFICATIONS AND DETAILS OF THE SCE. WHERE CONFLICTS OCCUR IN THE ABOVE, THE SCE SHALL DETERMINE THE GOVERNING AUTHORITY.
2. ANY DEFECTS IN THE CONSTRUCTION, INCLUDING MATERIALS OR WORKMANSHIP, SHALL BE REPLACED OR CORRECTED BY REMOVAL AND REPLACEMENT OR OTHER APPROVED METHOD.
3. THE DEVELOPER'S ENGINEER CERTIFIES THAT ALL DESIGN DATA AND CALCULATIONS PERTAINING TO THESE IMPROVEMENT PLANS, WHERE APPLICABLE, ARE CORRECT AND DO CONFORM TO THE CURRENT DESIGN CRITERIA.
4. THE SCE IN APPROVING THESE PLANS, DOES NOT, IN ANY WAY, RELIEVE THE DEVELOPER'S ENGINEER OF HIS RESPONSIBILITY FOR ACCURATE AND COMPLETE ENGINEERING DESIGN RELATIVE TO THE PLANS.
5. ALL ROAD SURFACES, EASEMENTS OR RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT ARE TO BE RESTORED COMPLETELY TO THE BEFORE CONSTRUCTION CONDITION OR BETTER WHEN DIRECTED BY THE SCE AND/OR THE SUMMIT COUNTY D.O.E.S. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES AND SHALL BACKFILL AND GRADE EXCAVATED AREAS TO ELIMINATE PONDING ON THE SITE.
6. THE LOCATIONS OF ALL BURIED UTILITY ARE TO BE DETERMINED BY THE CONTRACTOR. EXISTING UTILITY APPURTENANCES ARE TO BE SAFEGUARDED BY THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITIES PROTECTION SERVICE, 1-800-362-2764, AT LEAST FORTY-EIGHT (48) HOURS BEFORE ANY UNDERGROUND WORK IS COMMENCED.
7. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH THE SCE PRIOR TO THE START OF ANY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT COMMENCE WITH ANY FORM OF CONSTRUCTION WITHOUT NOTIFYING THE SCE FORTY-EIGHT (48) HOURS PRIOR TO STARTING CONSTRUCTION (330-643-2850). IF ANY CHANGE IN THE WORK SCHEDULE BECOMES NECESSARY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE INSPECTOR TO AVOID UNNECESSARY INSPECTION COSTS. IF NO NOTIFICATION IS MADE IN REGARDS TO THE CANCELLATION OF WORK, THE DEVELOPER WILL BE CHARGED FOR THE INSPECTION TIME INCURRED. THE DEVELOPER WILL BE BILLED QUARTERLY FOR INSPECTION SERVICES.
8. THE CONTRACTOR OR DEVELOPER SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES AND OBTAIN ALL NECESSARY PERMITS. A ROAD OPENING PERMIT IS REQUIRED ON ALL SUBDIVISIONS BEFORE ACCESS IS GRANTED FOR CONSTRUCTION PURPOSES WITHIN A PUBLIC RIGHT-OF-WAY. THE SCE WILL NOT INSPECT OR ACCEPT ANY WORK THAT IS DONE WITHOUT A ROAD OPENING PERMIT BEING AVAILABLE ON THE CONSTRUCTION SITE. IN ADDITION, LOCAL TRAFFIC MUST BE MAINTAINED AT ALL TIMES.
9. ANY DISTURBED SIGNS, GUARDRAIL, MAIL/PAPER BOXES, DRIVES, DRIVE CULVERTS, STORM SEWER PIPES, STRUCTURES, PAVEMENTS, BERMS AND DITCHES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE SCE. ANY DISTURBED LAWN AREAS SHALL BE REPLACED BY SEEDING AND MULCHING, INCLUDING TOPSOIL WHERE NEEDED, IN ACCORDANCE WITH ODOT ITEM 653 & 659, AS DIRECTED BY THE SCE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 832, SUMMIT SOIL AND WATER CONSERVATION DISTRICT AND THE SCE. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE ANY OTHER CONSTRUCTION COMMENCES ON THIS SITE. THE CONTRACTOR SHALL, ON A DAILY BASIS, CLEAN ALL EXISTING STREETS OF MUD AND DIRT DURING THE CONSTRUCTION PHASE. THE STORMWATER POLLUTION PREVENTION PLAN MUST BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION.
11. ALL STORM SEWER INSTALLATION WITHIN THE RIGHT-OF-WAY LIMITS AND EASEMENTS SHALL CONFORM TO ODOT ITEM 611.
12. WHERE SEWER AND/OR WATER MAIN INTERSECTIONS HAVE LESS THAN EIGHTEEN (18) INCH VERTICAL SEPARATION, ENCASE THE LOWER PIPE AND MONOLITHICALLY CRADLE THE UPPER PIPE IN CLASS C CONCRETE FOR THE WIDTH OF THE TRENCH.
13. STORM SEWER LATERALS SHALL BE PVC (SDR 35). ALL WYES AND LATERALS FOR DOWNSPOUT DRAINS SHALL BE INSTALLED WHEN THE STORM SEWER IS INSTALLED.
14. EACH BUILDING MUST ROUTE ALL STORMWATER DRAINAGE FROM A CONDUIT TO THE STORM SEWER LATERAL THAT IS PROVIDED. NO OPEN DISCHARGES FROM A HOUSE CONDUIT ARE PERMITTED.
15. ALL SEWER/UTILITY TRENCH CONSTRUCTION, CONDUIT BEDDING, PIPE COVER, BACKFILL AND COMPACTION SHALL CONFORM TO THE UTILITY TRENCH DETAIL STANDARD DRAWING ON SHEET # 43/53.
16. ALL INSPECTION AND TESTING SHALL BE DONE BY AN EXPERIENCED AND QUALIFIED FIRM ENGAGED IN THIS TYPE OF WORK. ALL STORM SEWERS/CULVERTS MUST BE FLUSHED AND HAVE A COLOR TELEVISION INSPECTION ACCOMPANIED WITH A WRITTEN REPORT SUBMITTED TO THE SCE FOR REVIEW AND APPROVAL. THE VIDEOTAPE MUST BE SUBMITTED, REVIEWED AND APPROVED PRIOR TO RELEASE OF THE PERFORMANCE BOND. IF THE STORM SEWER/CULVERT VIDEOTAPE AND WRITTEN REPORT IS NOT APPROVED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE DEFECTS AND RESUBMIT THE INFORMATION. THE INTENT IS TO VIDEOTAPE PIPES NOT EASILY ACCESSIBLE FOR VISUAL INSPECTION. FOR EXAMPLE: A CULVERT UNDER A ROAD THAT CAN BE VISUALLY CHECKED IS EXEMPT FROM VIDEOTAPING. A SYSTEM OF PIPES WITH MANHOLES AND CATCH BASINS WILL BE REQUIRED TO BE VIDEOTAPED. THE SCE WILL DETERMINE IF A PIPE CAN BE VISUALLY CHECKED OR IF A VIDEOTAPE IS REQUIRED.
17. UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605; CONDUIT SHALL BE A MINIMUM OF FOUR (4) INCH DIAMETER PIPE AND CONFORMING TO ODOT SPECIFICATION 707.33, 707.41, 707.42 OR 707.45 WITH NO. 8 AGGREGATE ON FOUR (4) INCHES OF BEDDING. THE UNDERDRAIN SHALL BE MODIFIED WITH FOUR (4) ROWS OF PERFORATIONS. SEE UNDERDRAIN NOTES ON SHEET # 43/53.
18. ALL PROPOSED STORM SEWER STRUCTURES (MANHOLES, HEADWALLS AND CATCH/INLET BASINS) SHALL ADHERE TO ODOT ITEMS 602 AND 611 AND THE CURRENT EDITION OF THE ODOT STANDARD CONSTRUCTION DRAWINGS.
19. WHEREVER UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED THAT ARE NOT INDICATED ON THE PLANS, THE WORK SHALL BE DISCONTINUED UNTIL THE SCE APPROVES THE METHOD AND MATERIAL TO BE INCORPORATED INTO THE WORK, AS ALL CONDUITS SHALL BE INSTALLED ON A FIRM BED FOR ITS FULL LENGTH IN ACCORDANCE WITH ODOT ITEM 611 UNLESS OTHERWISE SPECIFIED.
20. ALL FILLED AREAS, EXCLUDING TRENCHES, WITHIN RIGHT-OF-WAY AREAS SHALL BE COMPACTED IN ACCORDANCE WITH ODOT ITEM 203. IN ADDITION, FOR ANY FILL IN EXCESS OF TWO (2) FEET, NUCLEAR COMPACTION TESTS SHALL BE PERFORMED BY AN APPROVED TESTING COMPANY IN ACCORDANCE WITH ODOT ITEM 203. THESE TESTS SHALL BE APPROVED BY THE SCE BEFORE ANY PAVEMENT CONSTRUCTION COMMENCES AND SHALL MEET THE COMPACTION REQUIREMENTS OF THE TRENCH DETAIL STANDARD DRAWING ON SHEET # 43/53. EMBANKMENT CONSTRUCTION AT DETENTION/RETENTION FACILITIES SHALL BE COMPACTED IN ACCORDANCE WITH ODOT ITEM 203 AND TO A MINIMUM OF 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY AND MUST BE WITHIN 2% OF THE MATERIAL'S OPTIMUM MOISTURE CONTENT PRIOR TO COMPACTION.
21. BEFORE ACCEPTANCE OF THE SUB-GRADE BY THE SCE, A FORTY (40) TON PROOF ROLL SHALL BE REQUIRED ON ALL AREAS TO BE PAVED. THE SUBGRADE AND PROOF ROLL MUST BE IN ACCORDANCE WITH ODOT ITEM 204. IN LIEU OF USING THE EQUIPMENT UNDER ODOT ITEM 204, A TANDEM DUMP TRUCK WITH A GROSS WEIGHT OF 60,000 POUNDS MAY BE SUBSTITUTED.
22. FOR ODOT ITEMS 301 & 441, THE CONTRACTOR SHALL PROVIDE THE SCE WITH A JOB MIX FORMULA FOR REVIEW AND APPROVAL PRIOR TO PAVING OPERATIONS. ALL MATERIALS USED MUST BE OBTAINED FROM A SOURCE APPROVED BY ODOT. FOR ITEM 441 SURFACE COURSE, THE COARSE AGGREGATE IN THE MIX SHALL BE CRUSHED LIMESTONE. THE SURFACE COURSE SHALL BE CONSTRUCTED NO LATER THAN ONE (1) YEAR AFTER ITEM 301 IS PLACED.
23. PROPOSED CURB SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 609, CAST IN PLACE CONCRETE CURB. NO ASPHALT, CONCRETE PAVEMENT, OR CURB SHALL BE LAID ON A FROZEN SURFACE.
24. IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER OR CONTRACTOR TO NOTIFY THE INSPECTOR WHEN WORK ON SITE IS BEING PERFORMED OR CANCELED. IF THERE IS NOT ANY NOTIFICATION IN REGARDS TO CANCELLATION OF WORK, THE DEVELOPER WILL BE CHARGED FOR THE INSPECTION TIME INCURRED.
25. IMMEDIATELY FOLLOWING THE COMPLETION OF GRADING OPERATIONS FOR A PROPOSED DETENTION/RETENTION BASIN, FINAL RESTORATION OF THE BASIN MUST BE COMPLETED TO ESTABLISH PROPER VEGETATION AND LIMIT SOIL EROSION. A MINIMUM THICKNESS OF 3" OF TOPSOIL MUST BE APPLIED TO THE LIMITS OF THE GRADING FOR THE BASIN AND THEN SEEDED AND MULCHED. THE MATERIAL UTILIZED IN RESTORATION OF THE BASIN SHALL ADHERE TO ODOT ITEMS 652, 653 AND 659.

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DRN. S.W. CHD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

STORM SEWER

STORM CONDUIT

ALL STORM SEWER CONDUIT SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

1. REINFORCED CONCRETE PIPE ASTM C-76, "B" OR "C" WALL, 8 FOOT LENGTHS, WITH RESILIENT GASKET JOINTS CONFORMING TO ASTM C-443:
   (A) 12" & 15" DIA. CLASS IV
   (B) 18" THRU 36" DIA. CLASS III
2. REINFORCED CONCRETE ELLIPTICAL PIPE, ODOT 706.04, 8 FOOT LENGTHS, WITH JOINTS PER ODOT 611.08(B) USING BITUMINOUS JOINT FILLER PER ODOT 706.10:
   (A) 24"x38" CLASS HE-III
3. POLYVINYL CHLORIDE (PVC) ASTM D-3034 (SDR 35) WITH GASKET MATERIAL CONFORMING TO ASTM F-477 AND JOINTS PER ASTM D-3212.
4. SMOOTH INTERIOR, CORRUGATED, HIGH DENSITY POLYETHYLENE PIPE (HDPE) CONFORMING TO AASHTO SPECIFICATIONS M252 TYPE S AND M294 TYPE S, (O.D.O.T. 707.33) ADS N-12, HANCOR HI-Q, OR APPROVED EQUAL WITH AN INTEGRAL BELL AND SPIGOT JOINT WITH A POLYISOPRENE GASKET, AND INSTALLED IN ACCORDANCE WITH ASTM D-2321 AND MANUFACTURER'S RECOMMENDATIONS.
5. OTHER OPTIONAL MATERIALS MAY BE USED AS APPROVED BY THE SUMMIT COUNTY ENGINEER.
6. ALL FLEXIBLE STORM SEWERS SHALL PASS A DEFLECTION TEST (5% MAX.)
7. ALL STORM SEWER JOINTS AND PIPE SHALL BE WATERTIGHT.

COLOR VIDEO INSPECTION AND TESTING OF STORM SEWERS

ALL INSPECTION AND TESTING SHALL BE DONE BY AN EXPERIENCED AND QUALIFIED FIRM ENGAGED IN THIS TYPE OF WORK, AS APPROVED BY THE SUMMIT COUNTY ENGINEER. ALL STORM SEWERS MUST BE FLUSHED AND HAVE A COLOR VIDEO INSPECTION IN ACCORDANCE WITH THE SUMMIT COUNTY ENGINEER'S SPECIFICATIONS AFTER SEEDING OF DISTURBED AREAS. A COPY OF THE VIDEO IN DVD FORMAT AND WRITTEN REPORTS FOR ALL INSPECTION AND TESTING SHALL BE SUBMITTED TO THE OWNER AND THE SUMMIT COUNTY ENGINEER FOR APPROVAL. IF THE INSTALLATION FAILS TO MEET THE REQUIREMENTS OF THESE TESTS AND INSPECTIONS, THE CONTRACTOR SHALL REPAIR OR REPLACE ALL DEFECTS AND RETEST THE INSTALLATION.

STORM WYE BRANCHES, RISERS, AND CONNECTIONS

APPROPRIATE WYE BRANCHES, BOOTS OR SADDLES SHALL BE INSTALLED IN CORED HOLES IN THE STORM SEWER CONDUIT. SUCH CONNECTIONS TO THE SEWER SHALL BE WATERTIGHT. THE MATERIAL FOR ALL WYE BRANCHES, RISERS, AND CONNECTIONS SHALL BE POLYVINYL CHLORIDE (PVC) ASTM D-3034 (SDR 35) WITH GASKET MATERIAL CONFORMING TO ASTM F-477 AND JOINTS PER ASTM D-3212.

THE END OF EACH CONNECTION SHALL BE SEALED WITH A TIGHT FITTING PLUG AND THE END OF EACH CONNECTION SHALL BE MARKED WITH A 2" X 2" HARDWOOD STAKE, EXTENDING VERTICALLY FROM THE END OF THE CONNECTION TO A POINT APPROXIMATELY THREE FEET ABOVE THE SURFACE OF THE GROUND. MARKERS SHALL BE COLOR CODED: STORM – GREEN, SANITARY – RED, WATER – BLUE.

SANITARY SEWERS

SUMMIT COUNTY DEPARTMENT OF SANITARY SEWER SERVICES

GENERAL NOTES

1. ALL SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS (O.E.P.A. 3MA00001*AM) OF THE DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.).
2. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED. (ORDINANCE NO. 85-656, APPROVED 10/8/85)
3. APPROVAL BY D.S.S.S. CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
4. THE DESIGN ENGINEER STATES THAT ALL UTILITIES IN EXISTING AND PROPOSED ROADS AND EASEMENTS ARE SHOWN FROM AVAILABLE RECORDS AND FIELD VERIFICATION.
5. ALL SANITARY SEWERS SHALL PASS THE AIR ACCEPTANCE TEST PRIOR TO ACCEPTANCE BY D.S.S.S.
6. ALL SANITARY SEWERS SHALL BE VIDEO TAPED BY THE OWNER AND FOUND TO BE FREE OF DEFECTS AND FOREIGN MATTER AND IN PROPER ALIGNMENT PRIOR TO FORMAL ACCEPTANCE BY D.S.S.S.
7. ALL MANHOLES SHALL BE SUPPLIED WITH SOLID COVERS.
8. ALL SANITARY LATERALS SHALL BE EXTENDED TO NOT LESS THAN FIFTEEN (15) FEET INTO THE PROPERTY.
9. ALL SANITARY LATERALS SHALL BE LAID AT NO LESS THAN 1% GRADE.
10. SANITARY SEWER MATERIALS SHALL CONFORM TO D.S.S.S. AND O.E.P.A. STANDARDS.
11. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING SEWERAGE SYSTEM RESULTING FROM NON-CONFORMANCE WITH SUMMIT COUNTY STANDARDS OR GENERAL NEGLIGENCE.
12. A 12" MAXIMUM MANHOLE GRADE ADJUSTMENT IS PERMITTED. ADJUSTMENT IS TO BE MADE WITH PRECAST GRADE RINGS OR INFRA-RISER RUBBER RISER RINGS. A MINIMUM OF ONE (1) GRADE RING IS REQUIRED AT EACH MANHOLE.
13. INTERNAL CHIMNEY SEALS SHALL BE INSTALLED IN ALL MANHOLES.
14. MANHOLE COVER INSERTS SHALL BE PROVIDED FOR ALL MANHOLES, REGARDLESS OF THE TYPE OF COVER REQUIRED.
15. WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES, A FLEXIBLE WATER TIGHT JOINT, AS APPROVED BY D.S.S.S., IS REQUIRED.
16. SANITARY SEWER MATERIAL SHALL CONSIST OF PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO ASTM D3212.
17. THE OWNER (CONTRACTOR) MUST ALERT THE OHIO UTILITIES PROTECTION SERVICE AT 1-800-362-2764 AT LEAST 48 HOURS BEFORE ANY EXCAVATION HAS BEGUN.
18. ALL ROUGH GRADING (WITHIN 6" OF FINISHED GRADE) SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY PRIOR TO SANITARY SEWER CONSTRUCTION.
19. NO SEWER CONSTRUCTION WILL BE PERMITTED UNTIL SUCH TIME THAT THE PLANS ARE APPROVED BY D.S.S.S. AND THE O.E.P.A. INCLUDING PAYMENT OF REVIEW AND "PERMIT TO INSTALL" FEES REQUIRED BY THE O.E.P.A.
20. ALL SANITARY SEWERS CONTAINED HEREIN ARE TO BE PUBLICLY OWNED AND MAINTAINED.
21. ALL SANITARY SEWER CONSTRUCTION MUST BE INSPECTED BY AN AUTHORIZED D.S.S.S. REPRESENTATIVE. TWENTY-FOUR (24) HOUR ADVANCE NOTICE OF WORK MUST BE GIVEN THE OFFICE FOR SCHEDULING AN INSPECTION.
22. SANITARY LATERALS OVER STORM SEWERS SHALL HAVE LIMESTONE BEDDING BETWEEN THE STORM SEWER AND THE LATERAL, THE WIDTH OF THE STORM SEWER TRENCH.

WATER WORK

GENERAL

ALL WATER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER (CWD), 1201 LAKESIDE AVENUE, CLEVELAND OHIO 44113, AND THE NORTH HILLS WATER DISTRICT (NHWD). ALL PERMIT AND FEES ASSOCIATED WITH THE VARIOUS WATER ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SEE SHEET 45A FOR ADDITIONAL CLEVELAND WATER NOTES.

HYDRANT

ALL HYDRANTS SHALL BE OF THE 'BREAKAWAY' TYPE, KENNEDY K81D AS PER THE CITY OF CLEVELAND'S STANDARDS. HYDRANTS SHALL BE SUPPLIED WITH NATIONAL STANDARD THREADS (NST). ONE (1) 4 1/2" STEAMER NOZZLE WITH 5" STORZ CONNECTION, TWO (2) 2-1/2" HOSE NOZZLES, PER THE NORTH HILLS WATER DISTRICT STANDARDS AND AS APPROVED BY THE CITY OF MACEDONIA FIRE DEPARTMENT. A SIX (6) INCH HYDRANT ASSEMBLY SHALL INCLUDE THE TEE OR REDUCER AS APPLICABLE, VALVE, VALVE BOX, PIPE, AND A STANDARD SIX (6) INCH HYDRANT SET TO THE PROPER GRADE. THE UNIT PRICE BID FOR EACH HYDRANT SHALL INCLUDE ALL EXCAVATION, BEDDING, BLOCKING, BACKFILL, MATERIAL, LABOR, PIPE OFFSET IF NECESSARY, AND ALL OTHER INCIDENTAL ITEMS TO COMPLETE SUCH WORK.

ALL HYDRANTS SHALL BE POWDER COATED BY THE MANUFACTURER PRIOR TO DELIVERY. THE COLOR OF THE HYDRANTS SHALL MATCH THE EXISTING PAINT COLOR OF THE DISTRICT.

WATER MAIN

ALL WATER MAIN TRENCH UNDER EXISTING OR PROPOSED PAVEMENTS SHALL BE BACKFILLED AS PER THE PLAN DETAILS. THE UNIT PRICE BID PER LINEAR FOOT OF WATER MAIN SHALL INCLUDE ALL EXCAVATION, BEDDING, BLOCKING, TRENCH BACKFILL MATERIALS, COMPACTION AS REQUIRED, LABOR, PIPE AND ALL OTHER INCIDENTAL ITEMS NECESSARY TO COMPLETE SUCH WORK.

ALL WATER MAIN PIPE SHALL BE EITHER OF THE FOLLOWING:

1. POLYVINYL CHLORIDE (PVC) PRESSURE PIPE IN ACCORDANCE WITH AWWA C-900-97 CLASS 200 OR C-909-98 200 PSI OR BETTER. JOINTS SHALL BE MADE UTILIZING A STAB TYPE, RUBBER GASKETED BELL & SPIGOT; SOLVENT CEMENT TYPE JOINTS WILL NOT BE PERMITTED. STANDARD PLASTIC TRACER TAPE IS TO BE BURIED 4'-0" AND LOCATED DIRECTLY ABOVE THE WATERMAIN.
2. A MINIMUM OF ASA CLASS 52 CEMENT- LINED DUCTILE IRON PIPE WITH A RUBBER RINGGASKET COMPRESSION TYPE JOINT, UNLESS OTHERWISE APPROVED BY THE DISTRICT ENGINEER AND THE CITY OF CLEVELAND WATER DEPARTMENT. ALL DUCTILE IRON WATER MAINS IN EASEMENTS SHALL BE POLYETHYLENE WRAPPED PER THE NORTH HILLS WATER DISTRICT REQUIREMENTS.

TESTING AND INSPECTION

THE CONTRACTOR SHALL SUPPLY PROOF TO THE NHWD ENGINEER AND/OR OWNER HAVING MADE APPLICATION AND PAYMENT TO THE CWD FOR ANY AND ALL TESTING, CHLORINATION, AND TAPPING OF THE WATER MAIN APPURTENANCES. ALL EXPENSES CONNECTED WITH THE AFOREMENTIONED WORK SHALL BE BORNE BY THE CONTRACTOR. ALL WATER NECESSARY FOR THE SATISFACTORY COMPLETION OF ALL CLASSES OF WORK SHALL BE FURNISHED BY THE CONTRACTOR AT HIS EXPENSE. THE NHWD ENGINEER SHALL BE NOTIFIED A MINIMUM OF SEVENTY-TWO (72) HOURS BEFORE ANY SUCH WORK IS DONE ON THE WATER MAIN SO THAT HE OR HIS AUTHORIZED REPRESENTATIVE MAY BE PRESENT. ANY OF THE AFOREMENTIONED NOT COMPLIED WITH, OR DONE IN THE ABSENCE OF THE NORTH HILLS WATER DISTRICT ENGINEER, WILL NOT BE ACCEPTED AND SHALL BE RETESTED AT THE CONTRACTOR'S EXPENSE.

A 72 HOUR NOTICE SHALL BE GIVEN BY THE CONTRACTOR TO THE OFFICE OF THE CITY OF CLEVELAND, DIVISION OF WATER, AND THE ENGINEER OF THE NORTH HILLS WATER DISTRICT IN ADVANCE OF THE START OF ACTUAL CONSTRUCTION WORK, WHETHER INITIAL OR AFTER CESSATION OF WORK DUE TO ANY CAUSE. ALL EXPENSES CONNECTED WITH THE INSPECTION OF THE WATER MAIN BY THE CITY OF CLEVELAND OR THE N.H.W.D. SHALL BE BORNE BY THE CONTRACTOR.

OHIO E.P.A. GENERAL NOTES

1. A MINIMUM 35 PSI PRESSURE SHALL BE DELIVERED TO THE CURB STOP BOXES DURING NORMAL OPERATING CONDITIONS FOR ALL WATER SERVICE CONNECTIONS, AND A MINIMUM 20 PSI PRESSURE AT GROUND LEVEL SHALL BE MAINTAINED UNDER ALL CONDITIONS OF FLOW.
2. BOOSTER PUMPS ARE NOT PERMITTED ON WATER SERVICE CONNECTIONS.
3. THE SANITARY SEWERS MUST PASS A LEAKAGE TEST WHICH SHALL BE A LOW PRESSURE AIR TEST IN ACCORDANCE WITH THE "TEN STATES STANDARDS" SECTION 33.95, PER ASTM F-1417 FOR PLASTIC PIPE. WATER LEAKAGE TEST LIMIT FOR SANITARY SEWER PIPING IS 100 GAL./IN. DIAMETER/MILE/DAY.
4. ALL SANITARY MANHOLES SHALL BE AIR TESTED PER ASTM SPECIFICATION C 1244-93 TO VERIFY WATER TIGHTNESS AND PROPER CONSTRUCTION PER PLAN DETAILS.
5. ALL FLEXIBLE SANITARY SEWERS MUST PASS A DEFLECTION TEST (5% MAX.)

   DEFLECTION TESTS SHALL BE PERFORMED NO SOONER THAN 28 DAYS FOLLOWING COMPLETION OF BACKFILL. MAXIMUM RING DEFLECTION OF THE PIPE UNDER LOAD SHALL BE LIMITED TO 5% OF THE AVERAGE INSIDE DIAMETER LISTED IN ASTM D-2751 FOR ABS SOLID WALL PIPE AND ASTM D-2680 FOR ABS COMPOSITE WALL PIPE. ASTM D-3034 FOR POLYVINYL CHLORIDE (PVC) PIPE LISTS OUTSIDE DIMENSIONS AND MINIMUM WALL THICKNESSES WHICH MAY BE USED TO CALCULATE APPLICABLE BASE DIAMETERS. THE PROPER SIZED MANDRELS SHALL BE PULLED THROUGH THE PIPE.

   ALL PIPE FAILING TO MAINTAIN THE MINIMUM DEFLECTION DIAMETER OR LARGER FOR THE APPLICABLE TYPE OF PIPE SHALL BE CONSIDERED TO HAVE BEEN IMPROPERLY INSTALLED AND SHALL BE RELAYED OR REPLACED BY THE CONTRACTOR.
6. ALL DUCTILE IRON WATER MAIN SHALL BE INSTALLED AND PRESSURE TESTED PER AWWA C-600. ALL POLYVINYL CHLORIDE (PVC) WATER MAIN SHALL BE INSTALLED AND PRESSURE TESTED PER AWWA C-605.
7. ALL WATER MAIN SHALL BE DISINFECTED PER AWWA C651.
8. THE FOLLOWING MINIMUM HORIZONTAL SEPARATIONS (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATER LINE AND THE SEWERS SHALL BE MAINTAINED:
   a.) 10 FOOT SEPARATION FROM THE STORM SEWER
   b.) 10 FOOT SEPARATION FROM THE SANITARY SEWER
9. THE FOLLOWING MINIMUM VERTICAL CLEARANCES (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATER LINE AND THE SEWERS SHALL BE MAINTAINED:
   a.) 18 INCH CLEARANCE FROM THE STORM SEWER
   b.) 18 INCH CLEARANCE FROM THE SANITARY SEWER
10. BEDDING CLASSIFICATION FOR SANITARY SEWERS SHALL BE ASTM D-2321 (CLASS 1). 100% OF BEDDING MATERIAL TO PASS 3/4 – 1 INCH SIEVE.

UTILITIES

UNDERGROUND DISTRIBUTION LINES

ALL STREET CROSSING DUCTS FOR DIRECT BURIED CABLE SERVICE LINES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE OHIO EDISON COMPANY, WINDSTREAM, AND CHARTER COMMUNICATIONS. ALL DUCTS SHALL BE 2" – 4" CONFORMING TO THE UTILITY COMPANY'S SPECIFICATIONS, SUITABLE FOR DIRECT BURIAL. THE EXCAVATION AND SUBSEQUENT BACKFILLING OF ALL STREET DUCTS SHALL BE PER THE PLAN TRENCH DETAIL FOR UNDER PAVEMENTS. ALL CONDUIT TRENCHES SHALL BE EITHER OF 12 INCHES WIDE AND 36 INCHES DEEP OR 24 INCHES WIDE AND 36 INCHES DEEP AS DETERMINED BY THE UTILITY COMPANIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE TRENCHING, LAYING OF THE CABLES BY THE RESPECTIVE UTILITY COMPANIES AND THE SUBSEQUENT BACKFILLING. WHERE THE DUCT TRENCHES CROSS THE PROPOSED PAVEMENT COMPACTED BACKFILL PER ODOT 304 SHALL BE PLACED TO PAVEMENT SUBGRADE TO A POINT FIVE (5) FEET BEYOND PROPOSED PAVEMENT EDGES. THE UNIT PRICE BID FOR THESE ITEMS SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, BACKFILLING, COMPACTED BACKFILL WHERE NECESSARY, AND INCIDENTALS TO COMPLETE THESE ITEMS. THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR USE "AS DIRECTED BY THE OWNER AND UTILITY COMPANIES" FOR THE INSTALLATION OF UNDERGROUND DISTRIBUTION LINES:

		QUANTITY
ITEM SPECIAL	UNDERGROUND DISTRIBUTION LINES OPEN TRENCHING, EXCAVATION, AND BACKFILLING (12" MINIMUM WIDTH)	4,270 L.F.
ITEM SPECIAL	UNDERGROUND DUCT TRENCH UNDER FUTURE PAVEMENT – COMPACTED BACKFILL (12" MINIMUM WIDTH)	735 L.F.
ITEM SPECIAL	2" THRU 4" UNDERGROUND DUCT MATERIAL (OPEN TRENCHING)	5,800 L.F.
ITEM SPECIAL	2" THRU 4" UNDERGROUND DUCT MATERIAL (UNDER FUT. PAVEMENT AND COMPACTED BACKFILL)	1,955 L.F.
ITEM SPECIAL	2" THRU 4" UNDERGROUND DUCT INSTALLATION	7,755 L.F.
ITEM SPECIAL	EXCAVATION, AGGREGATE PAD, ETC. FOR ELECTRIC TRANSFORMER & HANDHOLE PADS	26 EA.
ITEM SPECIAL	UNDERGROUND DUCT TRENCH UNDER FUTURE PAVEMENT – COMPACTED BACKFILL (4" CONDUIT FOR GAS AND IRRIGATION LINES AS SHOWN)	175 L.F.
ITEM SPECIAL	4" UNDERGROUND DUCT MATERIAL UNDER FUTURE PAVEMENT AND COMPACTED BACKFILL (4" CONDUIT FOR GAS AND IRRIGATION LINES AS SHOWN)	295 L.F.
ITEM SPECIAL	UNDERGROUND DUCT TRENCH UNDER FUTURE PAVEMENT – COMPACTED BACKFILL (6" CONDUIT FOR GAS LINES AS SHOWN)	195 L.F.
ITEM SPECIAL	6" UNDERGROUND DUCT MATERIAL UNDER FUTURE PAVEMENT AND COMPACTED BACKFILL (6" CONDUIT FOR GAS LINES AS SHOWN)	195 L.F.

PAVEMENT AND DRIVES

PAVEMENT AND DRIVE REMOVAL, MAINTENANCE DURING CONSTRUCTION, REPAIR AND/OR REPLACEMENT

THE EXTENT OF ANY PAVEMENT OR DRIVE THAT IS DAMAGED OR HAS TO BE REMOVED SHALL BE IN RELATION TO THE CONTRACTOR'S METHOD OF CONSTRUCTION AND THE PLAN DETAILS. ALL REMOVAL MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE SITE AT HIS SOLE RESPONSIBILITY AND EXPENSE. ALL PAVEMENT REPAIRS SHALL BE PER SUMMIT COUNTY STANDARDS AND PLAN DETAILS. ALL OF THE COST OF ANY PAVEMENT AND DRIVE REMOVAL, MAINTENANCE DURING CONSTRUCTION, REPAIR, OR REPLACEMENT, INCLUDING ALL WORK CONSTRUCTED IN ACCORDANCE WITH PLAN DETAILS, PREMIUM TRENCH BACKFILL, SUBBASE REPLACEMENT AND COMPACTION, CONNECTION TO EXISTING PAVEMENT OR DRIVE, AND ALL OTHER INCIDENTAL ITEMS, SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

PAVEMENT

NO CONCRETE PAVEMENT OR CURBING SHALL BE LAID ON FROZEN PAVEMENT, BASE OR SUBBASE.

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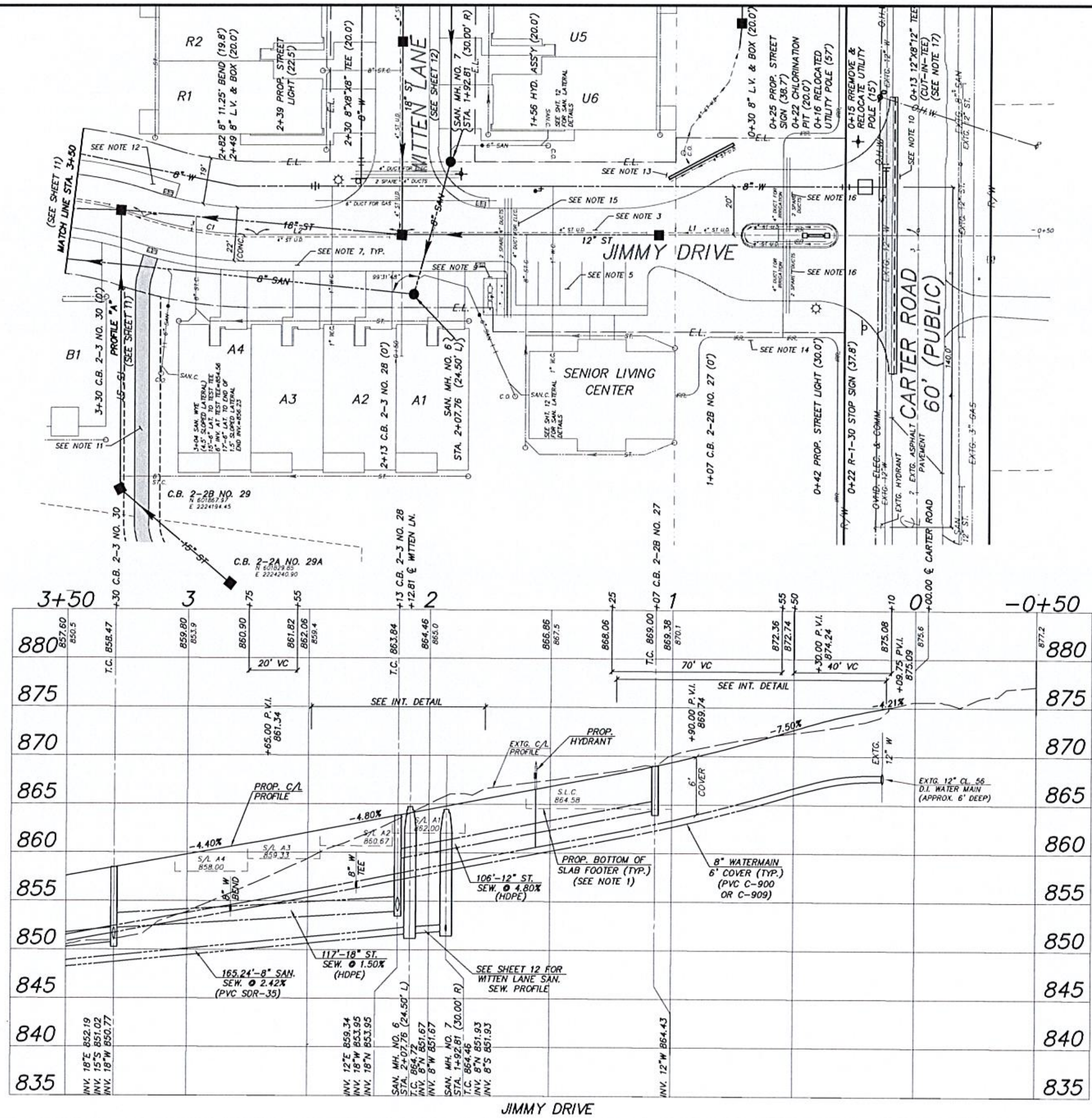


JIMMY DRIVE				
	STORM CONNECTION			WATER CONNECTION
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER	1" OR 1.5" TAP STATION
S.L.C.	51'	41'	–	1+51 (1")
A1–A4	31'	37'	–	2+42 (1")

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. DOWNSPOUT / STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
5. PARKING STALLS SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE (TO MATCH SITE ROADWAY PAVEMENT AND SIDEWALK SECTIONS).
6. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
7. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
8. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
9. MAILBOX PAD AND SIDEWALK SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE. CONCRETE PAD, SIDEWALK IS BY CONTRACTOR AND MAILBOXES ARE BY HOMEBUILDER.
10. SAWCUT 1' INTO EXISTING ASPHALT PAVEMENT AND REMOVE FULL DEPTH (116 L.F.) AND GRIND-OFF EXISTING ASPHALT 1' INTO PAVEMENT (PAST SAWCUT) FOR BUTT JOINT OVERLAY OF SURFACE COURSE AND INTERMEDIATE COURSE (116 L.F.).
11. 6' WIDE ASPHALT PATH. SEE DETAIL ON SHT. 35.
12. 6' WIDE CONC. SIDEWALK SHALL BE 6" CONC. OVER 3" AGGREGATE BASE.
13. CONSTRUCT 30' LONG LANDSCAPE WALL, VARYING IN HEIGHT FROM 1' TO 3'. SEE PROPOSED SPOT ELEVATIONS ON SHEET 46. WALL IS TO BE CONSTRUCTED UTILIZING EXCAVATED ON-SITE BOULDERS.
   - PLACE BOULDERS ON COMPACTED, LEVEL SUBGRADE
   - IF STACKING IS NECESSARY, PLACE LARGER BOULDERS AT THE BOTTOM OF THE WALL
   - USE ON-SITE SOILS TO FILL BETWEEN BOULDERS
   - BACKFILL BEHIND WALL WITH 12" WIDTH OF NO. 57 AGGREGATE
   - PLACE GEOTEXTILE FABRIC BEHIND AGGREGATE
   - INSTALL 4" HDPE PERF. UNDERDRAIN BEHIND BASE OF WALL
14. IRRIGATION LAYOUT IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. FINAL DESIGN AND FINAL LAYOUT BY OTHERS.
15. INSTALL THREE 49' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
16. INSTALL THREE 31' LENGTHS OF 4" PVC CONDUIT (FOR IRRIGATION, ELECTRIC, AND MISC.)
17. CUT-IN NEW 12"X8"X12" TEE, INSTALL 8' OF NEW 12" D.I.P WATERMAIN, AND INSTALL NEW 12" LINE VALVE ON EXISTING 12" D.I.P. WATERMAIN. COORDINATE SHUTTING-OFF OF EXISTING WATERMAIN WITH TOWNSHIP, NORTH HILLS WATER DISTRICT, AND EXISTING RESIDENCES ON CARTER ROAD.

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C1	150.00'	47.63'	47.43'	N81°59'48"W	18°11'42"
L1		212.81'		N88°54'21"E	
L2		60.02'		N88°54'21"E	

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

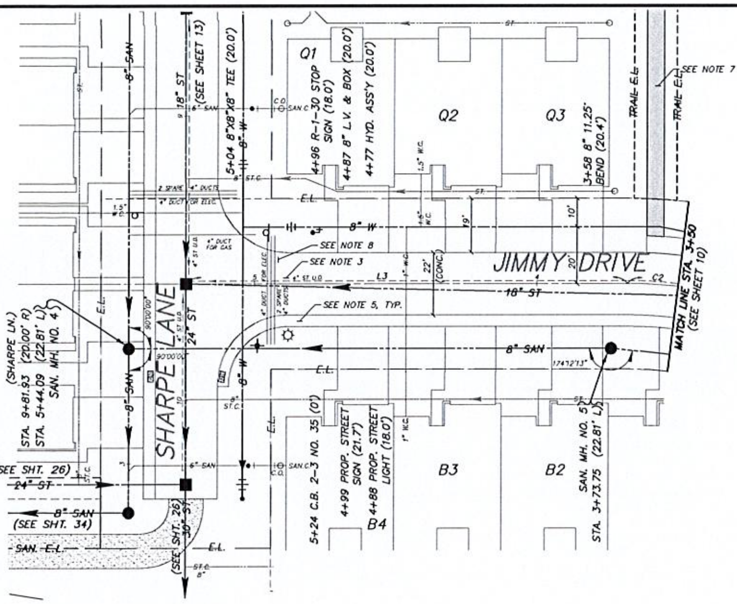
REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

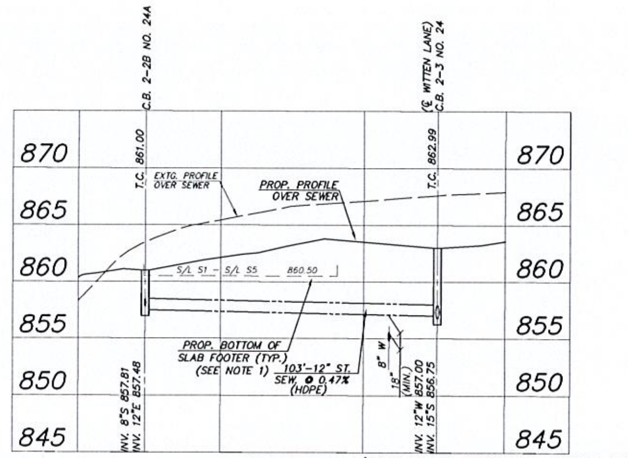
IMPROVEMENT PLAN & PROFILE
JIMMY DRIVE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

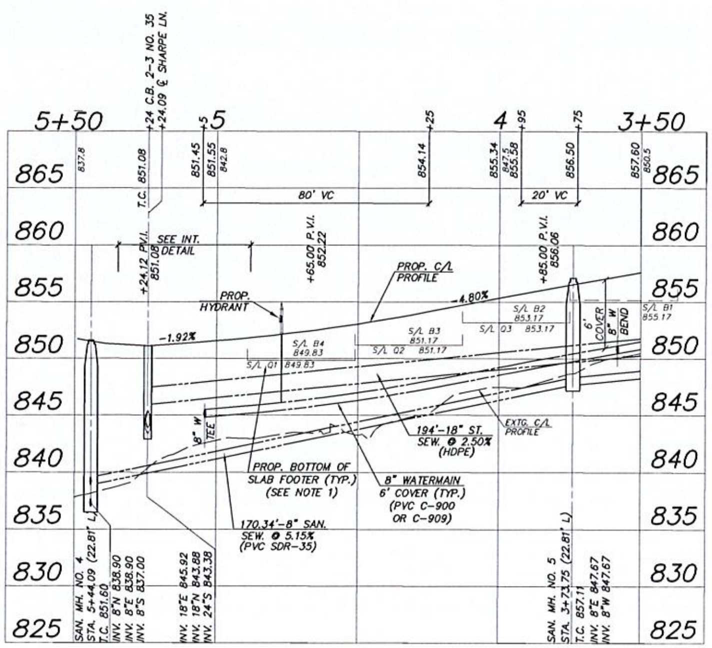
GRAPHIC SCALE
0' 10' 20'

HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DR'N K.C.
CK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E

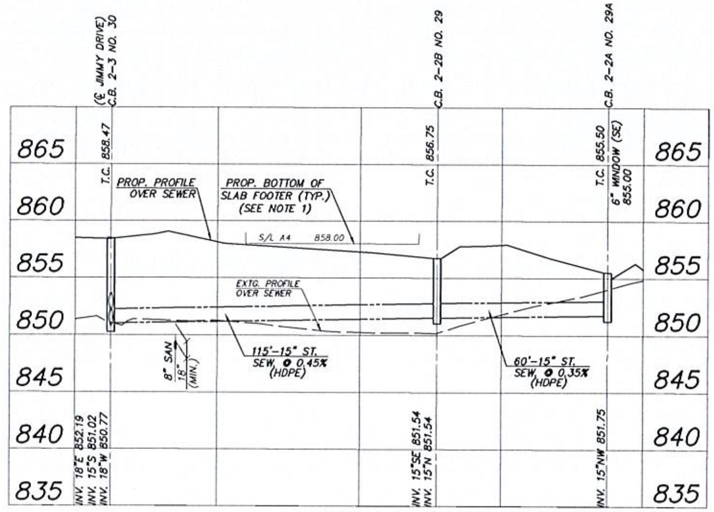




PROFILE D (SEE PLAN VIEW ON SHEET 12)



JIMMY DRIVE



PROFILE A (SEE PLAN VIEW ON SHEET 10)

JIMMY DRIVE, PROFILES "A" & "D"

	STORM CONNECTION			WATER CONNECTION
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER	1" OR 1.5" TAP STATION
A4	110'	17'	–	SEE SHT. 10
* B1–B4	SEE SHT. 13		–	4+46 (1") *
	SEE SHT. 13		–	4+41 (1.5")
Q1–Q3	SEE SHT. 24		–	
S1–S5	@ CB	10'	–	SEE SHT. 12

* WATER CONNECTION FOR BUILDING "B" SHALL BE ROUTED UNDER 18" STORM SEWER.

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. 6' WIDE ASPHALT PATH (SEE DETAIL ON SHT. 35).
8. INSTALL THREE 38' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C2	150.00'	47.63'	47.43'	N81°59'48"W	18°11'42"
L3		156.00'		N88°54'21"E	

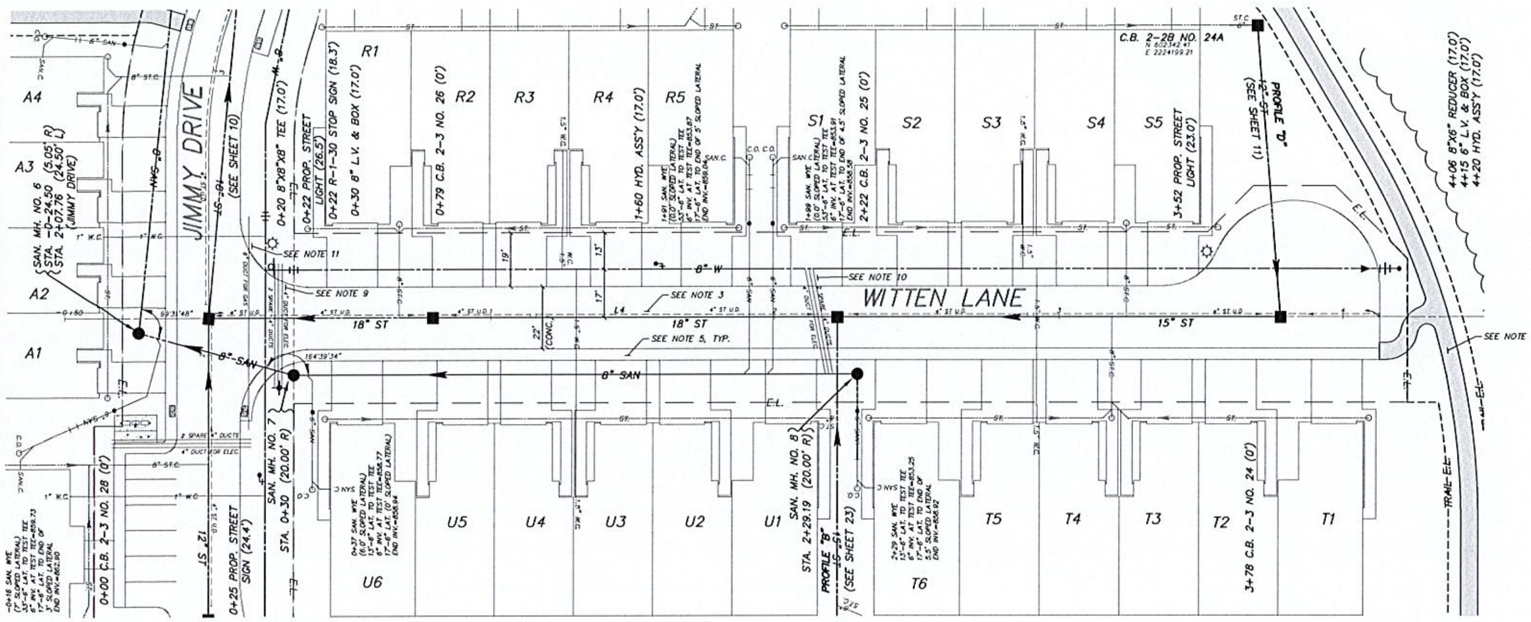
BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

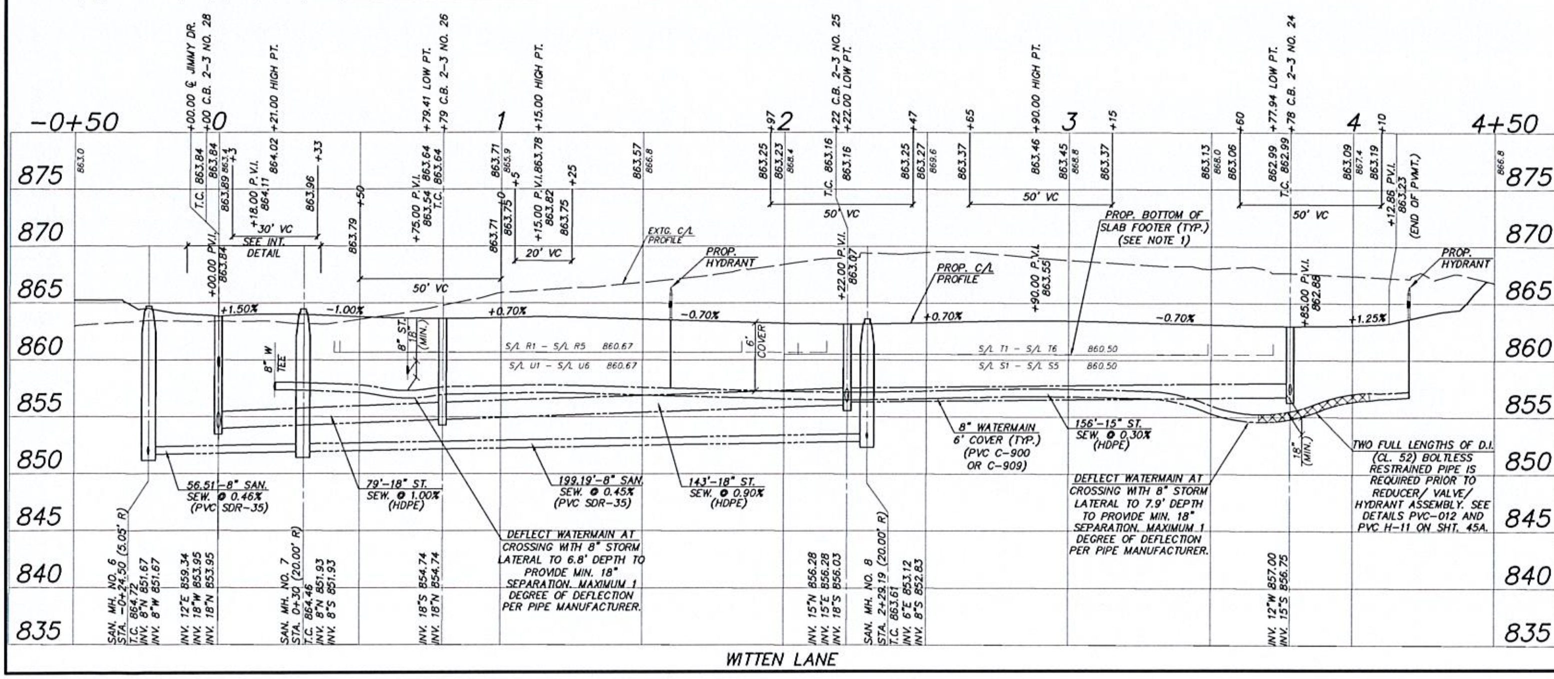
REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
JIMMY DRIVE, PROFILE "A" & PROFILE "D"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE 0' 10' 20'
HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E





C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L4		412.86'		N1°05'39"W	

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

WITTEN LANE

UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION: LENGTH OF 8" PVC CONN. @ 1.00%	RISER	WATER CONNECTION: 1" OR 1.5" TAP STATION
R1-R5	67'	30'	3.5'	1+25 (1.5")
S1-S5	101'	30'	–	2+87 (1.5")
T1-T6	96'	30'	1.5'	2+92 (1.5")**
U1-U6	SEE SHT. 23		–	1+30 (1.5")*

* THE WATER SERVICE CONNECTION FOR BUILDING "U" SHALL BE ROUTED OVER THE TOP OF THE 18" STORM SEWER. IT SHOULD BE INSTALLED AT 5.25' DEPTH AT CROSSING TO PROVIDE 18" SEPARATION.

** THE WATER SERVICE CONNECTION FOR BUILDING "T" SHALL BE ROUTED UNDERNEATH THE 15" STORM SEWER.

NOTES:

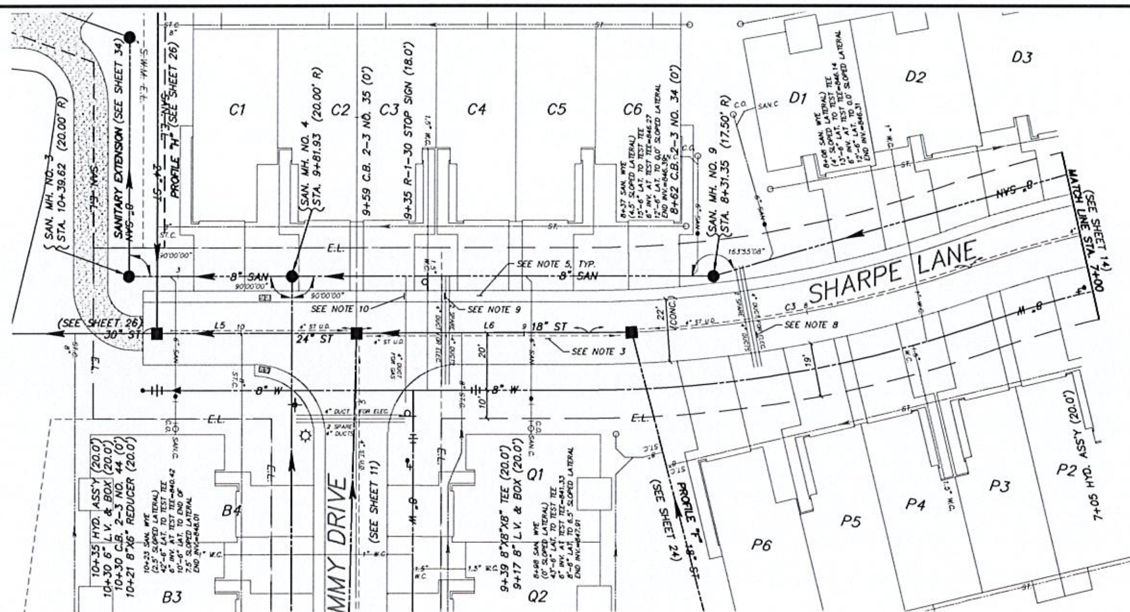
1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. DOWNSPOUT / STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
7. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
8. 6' WIDE ASPHALT PATH (SEE DETAIL ON SHT. 35).
9. INSTALL THREE 44' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, TELEPHONE, & CABLE).
10. INSTALL THREE 38' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, TELEPHONE, & CABLE).
11. INSTALL 75' OF 6" PVC CONDUIT (FOR GAS).

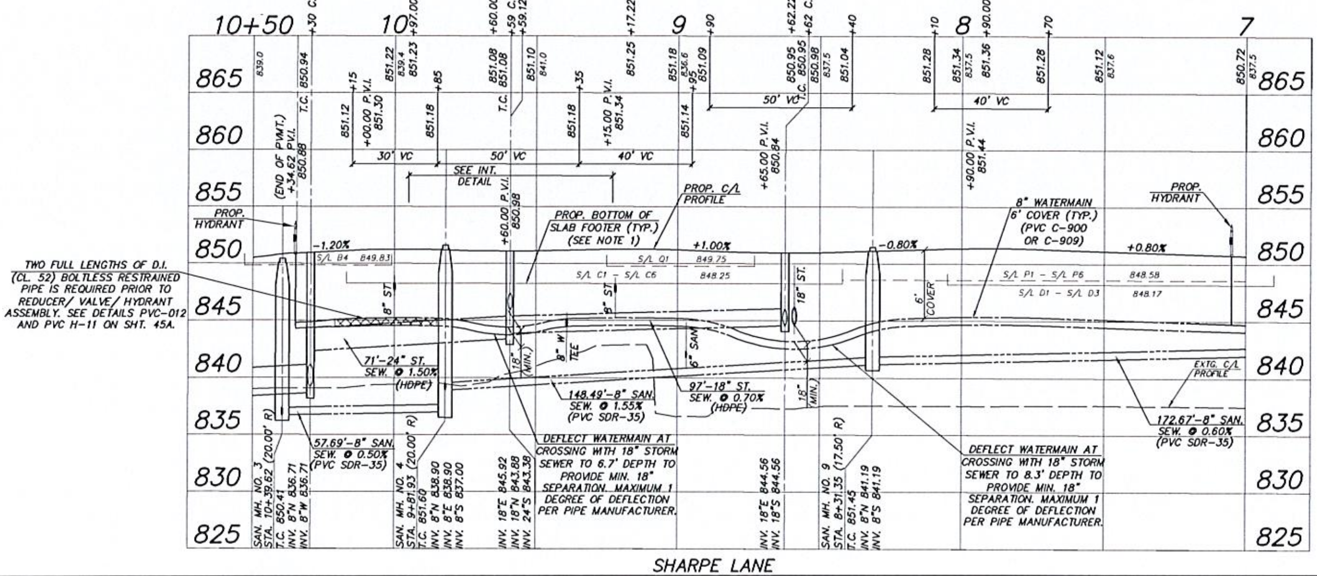
REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
WITTEN LANE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN. K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E





SHARPE LANE				
	STORM CONNECTION			WATER CONNECTION
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER	1" OR 1.5" TAP STATION
B1-B4	35'	31'	2.5'	SEE SHT. 11
* C1-C6	SEE SHT. 26		–	9+34 (1.5")
D1-D3	SEE SHT. 14		–	7+62 (1")
P1-P6	SEE SHT. 24		–	7+67 (1.5")
Q1-Q3	SEE SHT. 24		–	SEE SHT. 11
	36'	31'	1.5'	

* WATER CONNECTION FOR BUILDING "C" SHALL BE ROUTED UNDER 18" STORM SEWER.

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDERDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. INSTALL THREE 36' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
9. INSTALL THREE 38' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
10. INSTALL 44' OF 4" PVC CONDUIT (FOR GAS).

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C3	402.00'	136.74'	136.08'	N10°50'19"W	19°29'22"
L5		75.50'		N1°05'39"W	
L6		81.91'		N1°05'39"W	

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
SHARPE LANE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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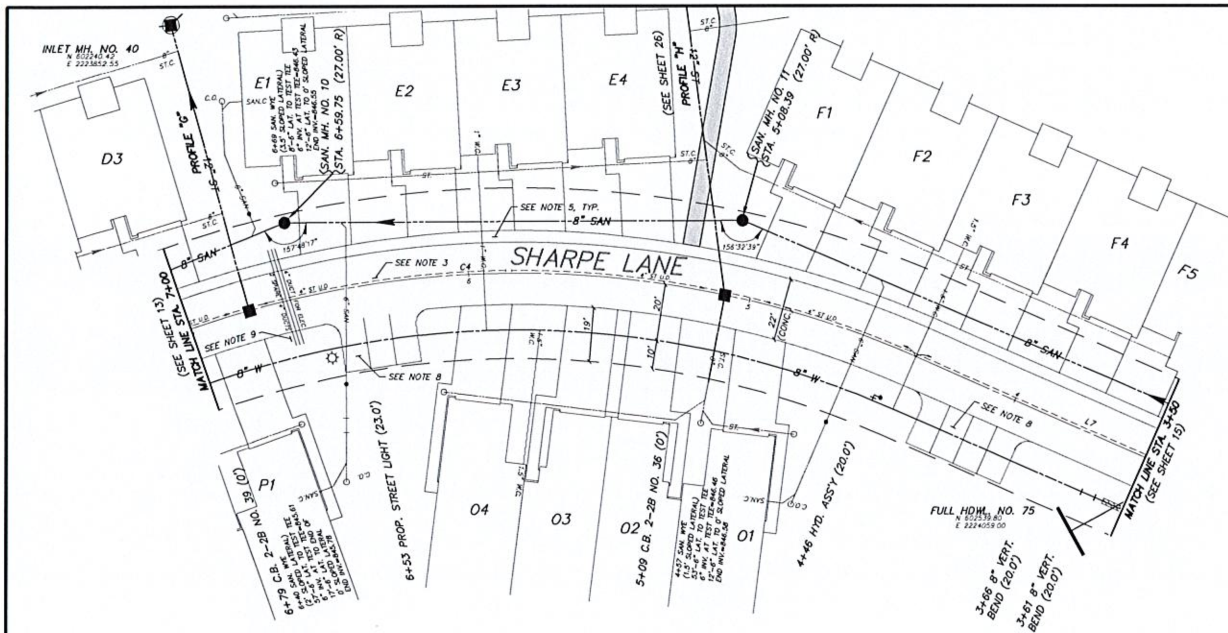


SHARPE LANE & PROFILE "G"

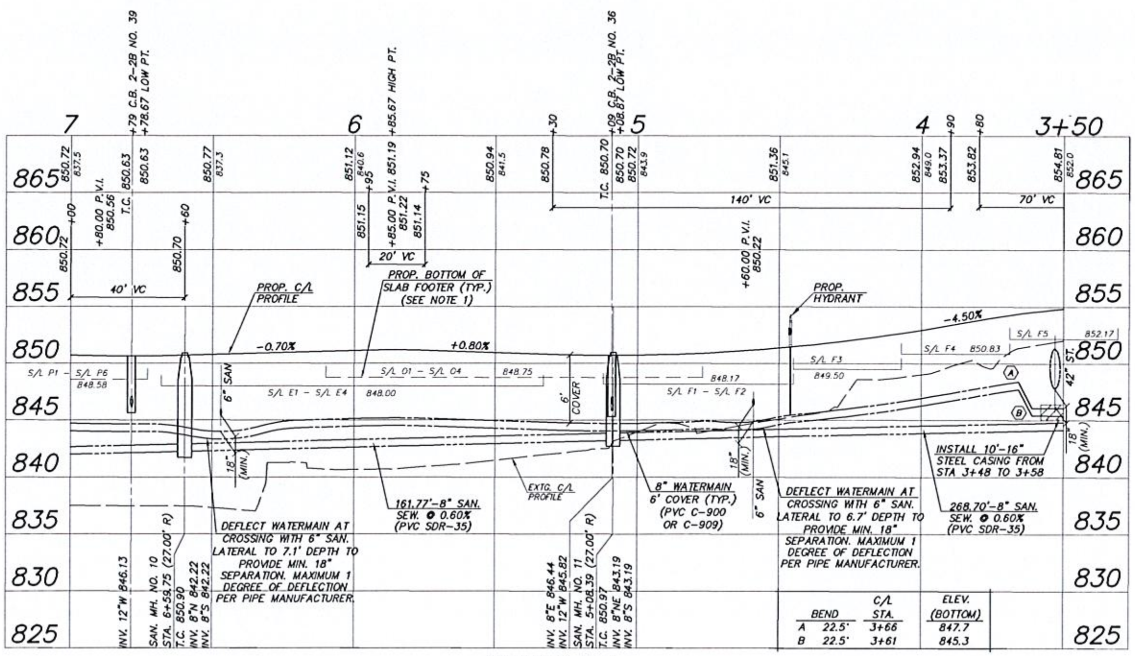
UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION: LENGTH OF 8" PVC CONN. @ 1.00%	RISER	WATER CONNECTION: 1" OR 1.5" TAP STATION
D1-D3	10'	10'	-	SEE SHT. 13
	69'	6'	-	
E1-E4	SEE SHT. 26		-	5+94 (1")
F1-F5	SEE SHT. 26		-	4+38 (1.5")
O1-O4	@ C.B. NO. 36	31'	-	5+74 (1.5")
	SEE SHT. 24		-	

NOTES:

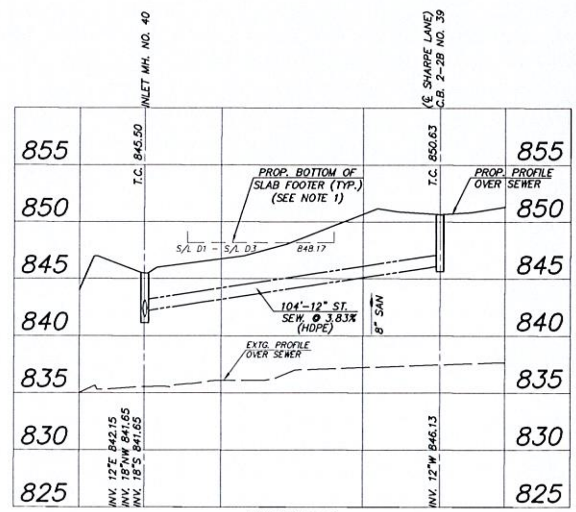
1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. PARKING STALLS SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE (TO MATCH SITE ROADWAY PAVEMENT AND SIDEWALK SECTIONS).
9. INSTALL THREE 35' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C4	350.00'	302.31'	293.00'	N4°09'41"E	49°29'22"
L7		166.65'		N28°54'21"E	

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'



SHARPE LANE



PROFILE G

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
SHARPE LANE & PROFILE "G"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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VERT. SCALE 1" = 5'
DR'N K.C. | CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

SHARPE LANE & PROFILE "M"

UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION: LENGTH OF 8" PVC CONN. @ 1.00%	RISER	WATER CONNECTION: 1" OR 1.5" TAP STATION
G1–G5	@ C.B. NO. 15	31'	–	1+00 (1.5")
	SEE SHT. 19		–	
M1–M4	@ C.B. NO. 14	10'	–	SEE SHT. 19
	SEE SHT. 19		–	
N1–N4	@ C.B. NO. 14	10'	–	SEE SHT. 16
	SEE SHT. 16		–	
SERVICE BUILDING	36'	6'	–	3+02 (1")
	SEE SHT. 19		–	

REVISIONS

1/27/23 REV. PER COUNTY COMMENTS

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4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
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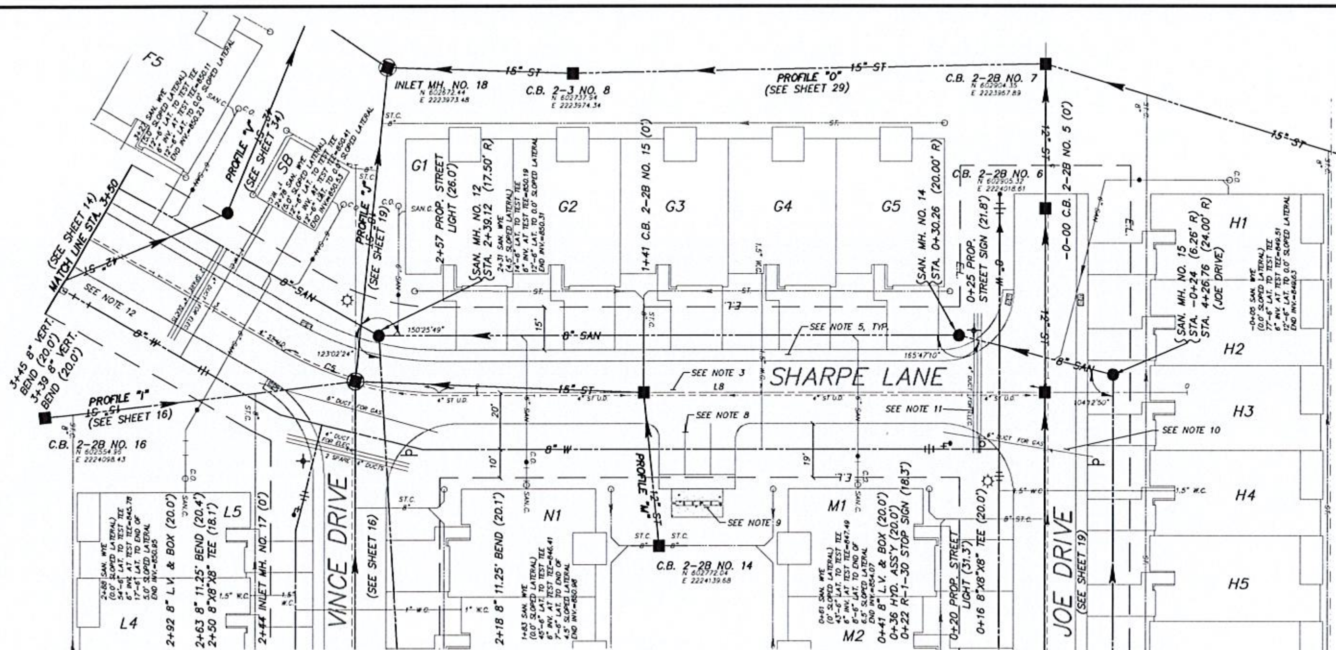
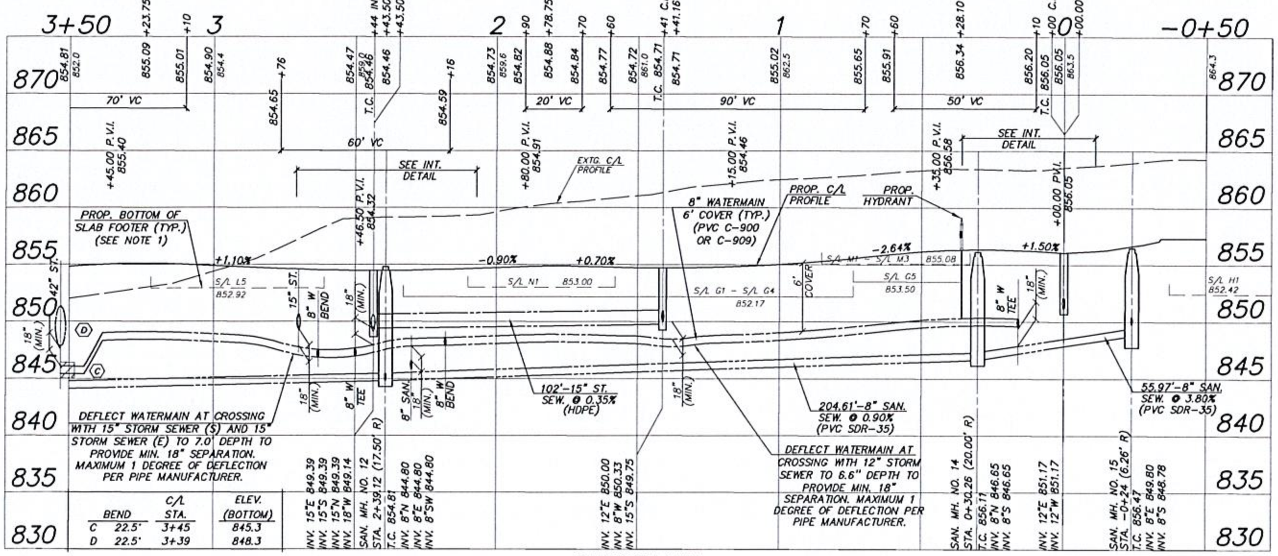
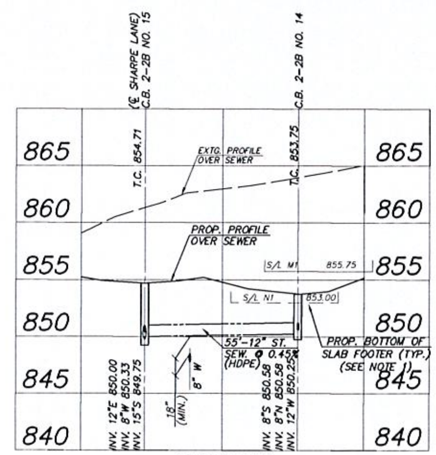
9. MAILBOX PAD AND SIDEWALK SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE. CONCRETE PAD, SIDEWALK IS BY CONTRACTOR AND MAILBOXES ARE BY HOMEBUILDER.
10. INSTALL THREE 53' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE.)
11. INSTALL 49' OF 6" PVC CONDUIT (FOR GAS).
12. INSTALL THREE 37' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).





BEND	C/L STA.	ELEV. (BOTTOM)
C 22.5'	3+45	845.3
D 22.5'	3+39	848.3

SHARPE LANE



PROFILE M

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C5	111.00'	58.12'	57.46'	N13°54'21"E	30°00'00"
L8		213.39'		N1°05'39"W	

BENCH MARK # 1

TOP OF HYDRANT

STA. 7+88 CARTER RD.

ELEV. 876.30'

IMPROVEMENT PLAN & PROFILE
SHARPE LANE & PROFILE "M"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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GRAPHIC SCALE 0' 10' 20'

HORIZ. SCALE 1"=20'

VERT. SCALE 1" = 5'

DR'N K.C. CK'D T.C.

DATE OCT., 2022

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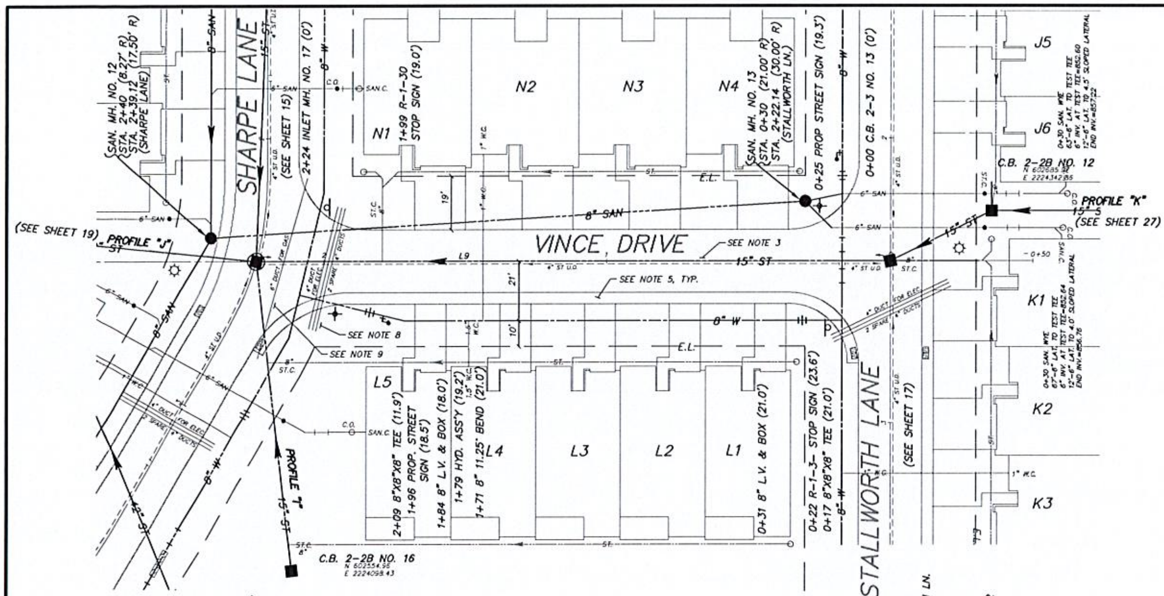
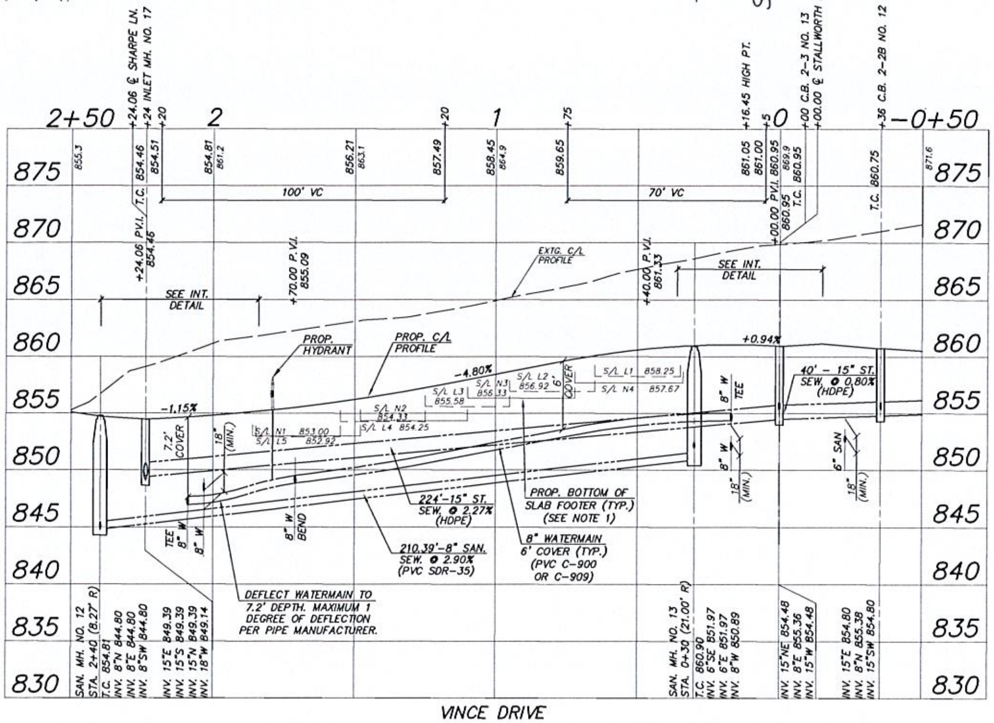
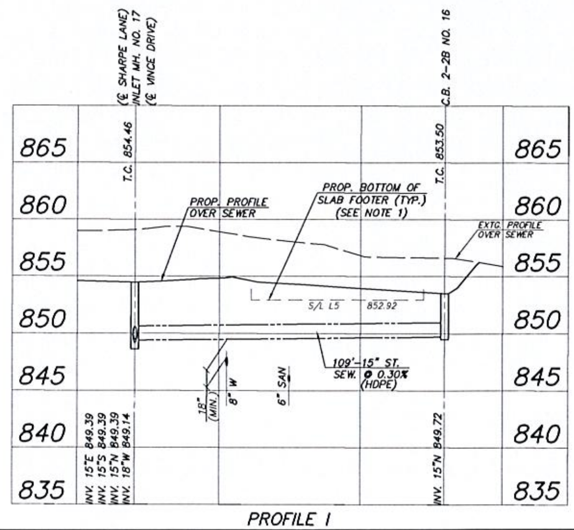




VINCE DRIVE



PROFILE I

VINCE DRIVE & PROFILE "I"

	STORM CONNECTION			WATER CONNECTION
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER	1" OR 1.5" TAP STATION
J1–J6	@ C.B. NO. 12	10'	–	SEE SHT. 17
	SEE SHT. 27		–	
K1–K4	@ C.B. NO. 13	31'	–	SEE SHT. 17
	SEE SHT. 27		–	
• L1–L5	36'	15'	–	1+49 (1.5")
	100'	10'	–	
	45'	26'	–	
• N1–N4	SEE SHT. 15		–	1+44 (1")

• WATER CONNECTION SHALL BE ROUTED UNDER STORM SEWER AND OVER SANITARY SEWER.

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. INSTALL THREE 44' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
9. INSTALL 66' OF 6" PVC CONDUIT (FOR GAS).

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

C/L DATA

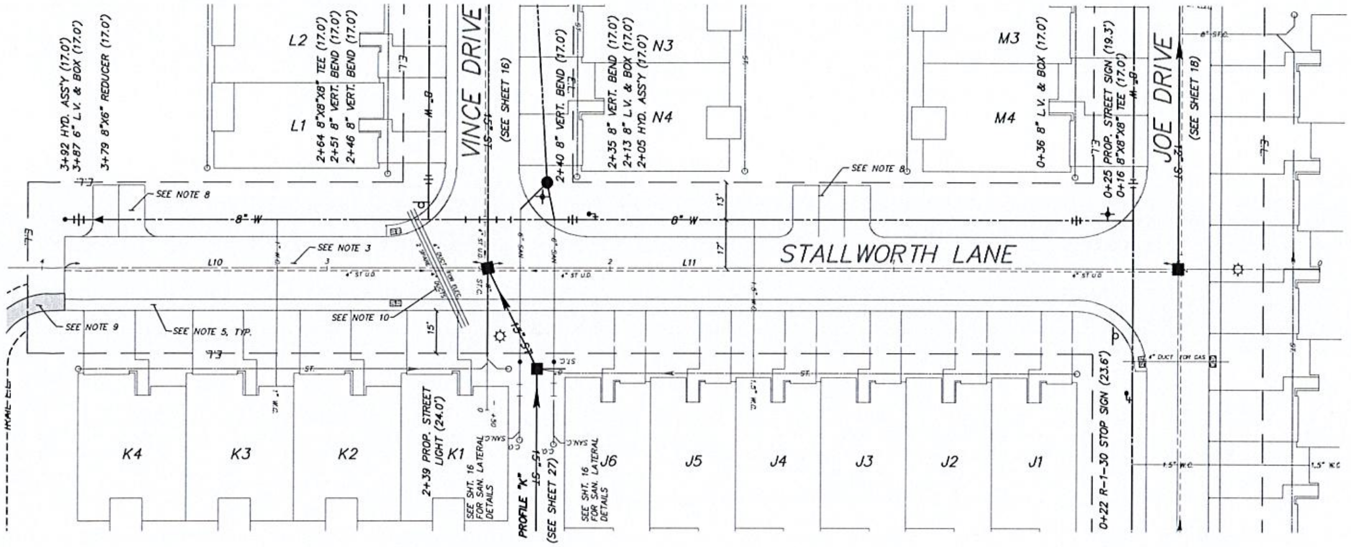
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L9		224.06'		N88°54'21"E	

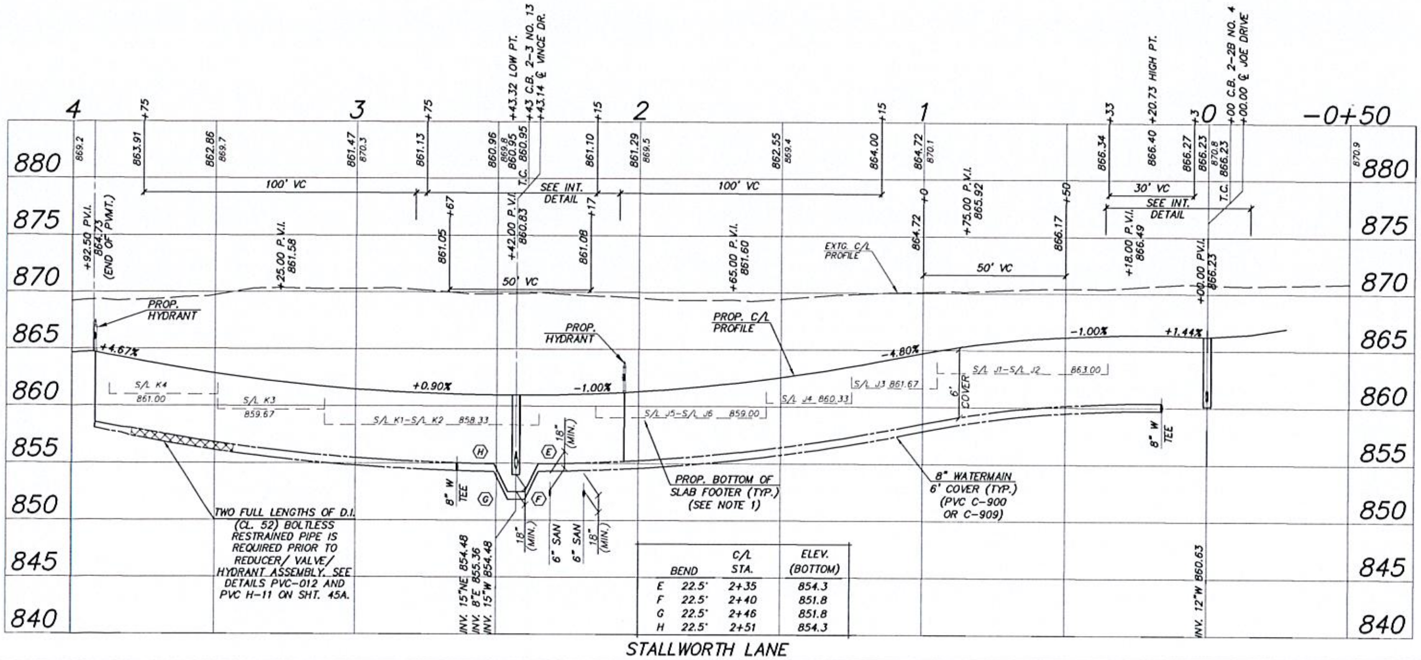
REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
VINCE DRIVE & PROFILE "I"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E





BEND		C/L STA.	ELEV. (BOTTOM)
E	22.5'	2+35	854.3
F	22.5'	2+40	851.8
G	22.5'	2+46	851.8
H	22.5'	2+51	854.3

STALLWORTH LANE

UNIT	WATER CONNECTION 1" OR 1.5" TAP STATION
J1–J6	1+49 (1.5")
K1–K4	3+18 (1")

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. PARKING STALLS SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE (TO MATCH SITE ROADWAY PAVEMENT AND SIDEWALK SECITONS).
9. 6' WIDE ASPHALT PATH (SEE DETAIL ON SHT. 35).
10. INSTALL THREE 45' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L10		149.36'		N1°05'39"W	
L11		243.14'		N1°05'39"W	

IMPROVEMENT PLAN & PROFILE
STALLWORTH LANE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

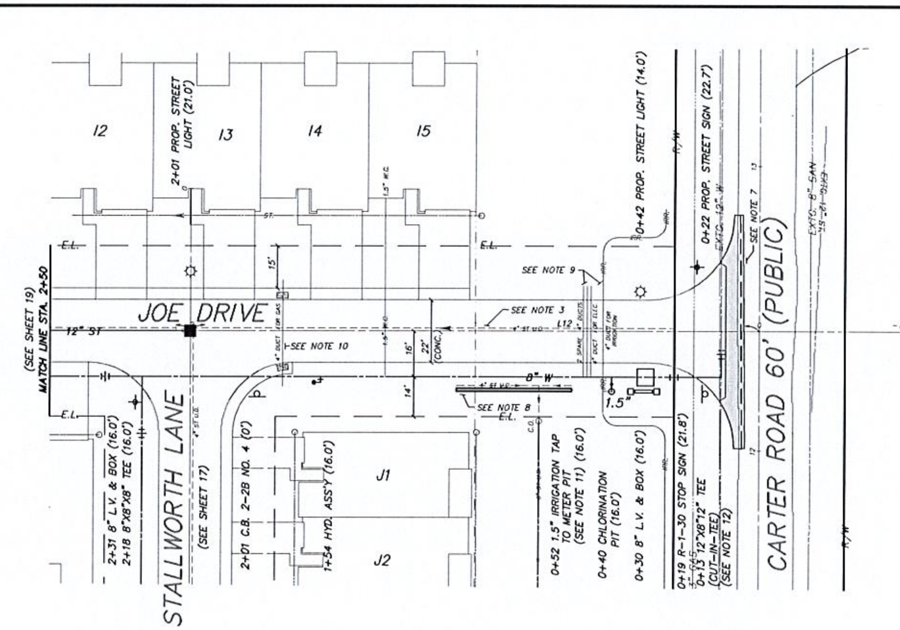
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN. K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

JOE DRIVE	
UNIT	WATER CONNECTION 1" OR 1.5" TAP STATION
I1-I5	1+32 (1.5")

N

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS



NOTES:

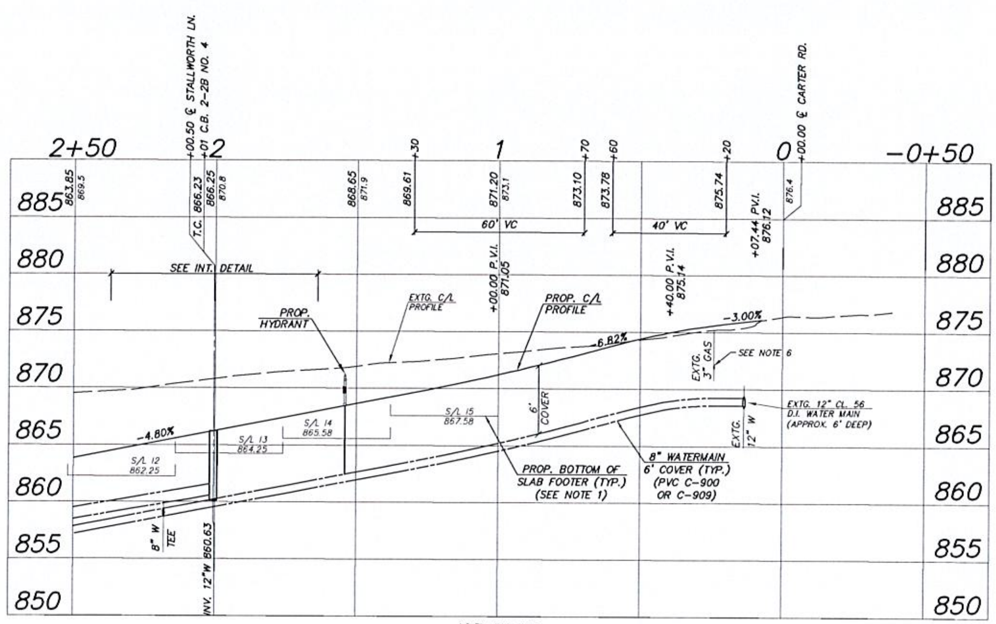
1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDERDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
5. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
6. APPROXIMATE LOCATION OF EXISTING 3" GAS LINE AS SHOWN. FIELD VERIFY LOCATION PRIOR TO ANY EXCAVATION.
7. SAWCUT 1' INTO EXISTING ASPHALT PAVEMENT AND REMOVE FULL DEPTH (82 L.F.) AND GRIND-OFF EXISTING ASPHALT 1' INTO PAVEMENT (PAST SAWCUT) FOR BUTT JOINT OVERLAY OF SURFACE COURSE AND INTERMEDIATE COURSE (82 L.F.).
8. CONSTRUCT 40' LONG LANDSCAPE WALL, VARYING IN HEIGHT FROM 0.5' TO 2.5'. SEE PROPOSED SPOT ELEVATIONS ON SHEET 46. WALL IS TO BE CONSTRUCTED UTILIZING EXCAVATED ON-SITE BOULDERS. - PLACE BOULDERS ON COMPACTED, LEVEL SUBGRADE
   - IF STACKING IS NECESSARY, PLACE LARGER BOULDERS AT THE BOTTOM OF THE WALL
   - USE ON-SITE SOILS TO FILL BETWEEN BOULDERS
   - BACKFILL BEHIND WALL WITH 12" WIDTH OF NO. 57 AGGREGATE
   - PLACE GEOTEXTILE FABRIC BEHIND AGGREGATE
   - INSTALL 4" HDPE PERF. UNDERDRAIN BEHIND BASE OF WALL
9. INSTALL FOUR 32' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, CABLE, & IRRIGATION).
10. INSTALL 37' LENGTH OF 4" PVC CONDUIT (FOR GAS).
11. INSTALL 1.5" TYPE K COPPER SERVICE CONNECTION TO CURB BOX AND METER PIT VAULT IN TREE LAWN (WITH LIGHT DUTY FRAME AND COVER). SEE STD-M29 AND STD-V01 CLEVELAND WATER DETAILS ON SHEET 45. TOP OF PRECAST TO BE SET A MIN. 12" BELOW FINISH GRADE. BACKFLOW DEVICE AND INSTALLATION PER C.W.D. STANDARDS. CONNECTION TO BE EXTENDED AS REQUIRED FOR LANDSCAPE SPRINKLER CONTROLLER AND PIPING SYSTEM.

    1.5" IRRIGATION TAP AND METER SHOWN ARE FOR REFERENCE ONLY AND IS NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR TAP AND METER MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. ALL COSTS ASSOCIATED WITH 1.5" IRRIGATION TAP, METER, VAULT, PERMIT FEES, INSPECTION, ETC. SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR 1.5" IRRIGATION TAP.
12. CUT-IN NEW 12"X8"12" TEE, INSTALL 8' OF NEW 12" D.I.P. WATERMAIN, AND INSTALL NEW 12" LINE VALVE ON EXISTING 12" D.I.P. WATERMAIN. COORDINATE SHUTTING-OFF OF EXISTING WATERMAIN WITH TOWNSHIP, NORTH HILLS WATER DISTRICT, AND EXISTING RESIDENCES ON CARTER ROAD.

C/L DATA

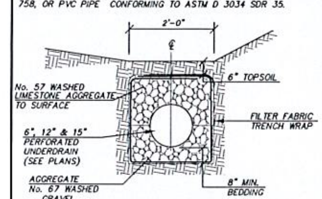
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L12		200.50'		N88°54'21"E	

BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'



JOE DRIVE

NOTE:
UNDERDRAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605. CONDUIT SHALL BE PERFORATED HDPE PIPE PER AASHTO M294 TYPE SP, PVC TYPE PS-46 PIPE CONFORMING TO ASTM F 758, OR PVC PIPE CONFORMING TO ASTM D 3034 SDR 35.



AGGREGATE TRENCH AND PERFORATED UNDERDRAIN DETAIL
NO SCALE

IMPROVEMENT PLAN & PROFILE
JOE DRIVE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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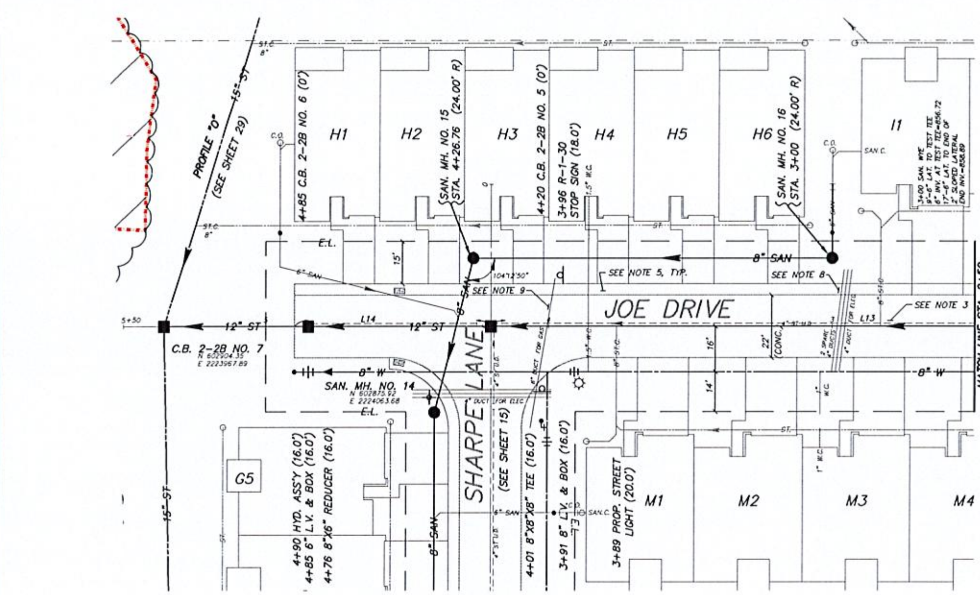
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN. K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L13		220.00'		N88°54'21"E	
L14		69.50'		N88°54'21"E	

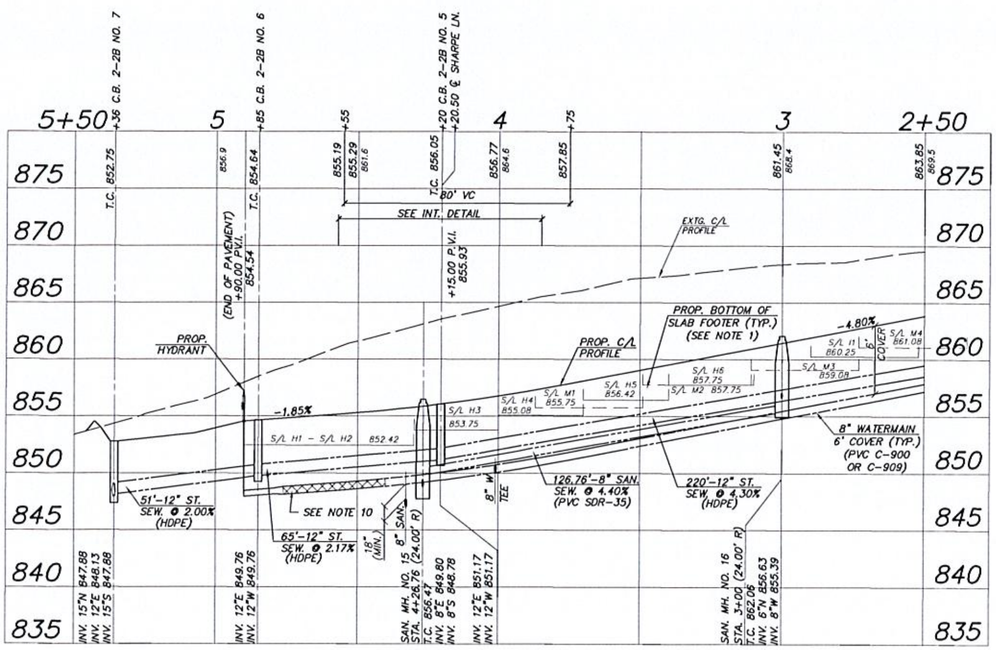
BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

JOE DRIVE & PROFILE "J"

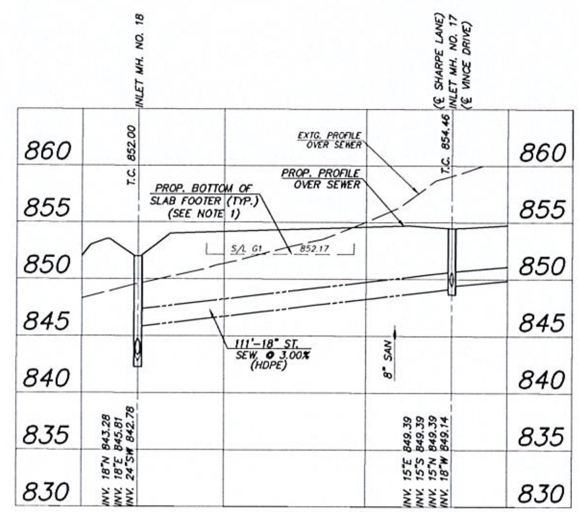
UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION: LENGTH OF 8" PVC CONN. @ 1.00%	RISER	WATER CONNECTION: 1" OR 1.5" TAP STATION
	20'	5'	2.5'	
G1-G5	SEE SHT. 15		–	SEE SHT. 15
H1-H6*	SEE SHT. 29		–	3+86 (1.5")*
	138'	31'		
I1-I5	SEE SHT. 28		–	SEE SHT. 18
	41'	30'	–	
M1-M4	SEE SHT. 15		–	3+04 (1")

* WATER SERVICE CONNECTION SHALL BE ROUTED UNDERNEATH BOTH STORM AND SANITARY SEWER.

NOTES:
1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. INSTALL THREE 36' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
9. INSTALL 53' LENGTH OF 6" PVC CONDUIT (FOR GAS).
10. TWO FULL LENGTHS OF D.I. (CL. 52) BOLTLESS RESTRAINED PIPE IS REQUIRED PRIOR TO REDUCER/ VALVE/ HYDRANT ASSEMBLY. SEE DETAILS PVC-012 AND PVC H-11 ON SHT. 45A.



JOE DRIVE



PROFILE J (PLAN VIEW ON SHEETS 16 & 29)

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
JOE DRIVE & PROFILE "J"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE
0' 10' 20'
HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DWN K.C.
CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E

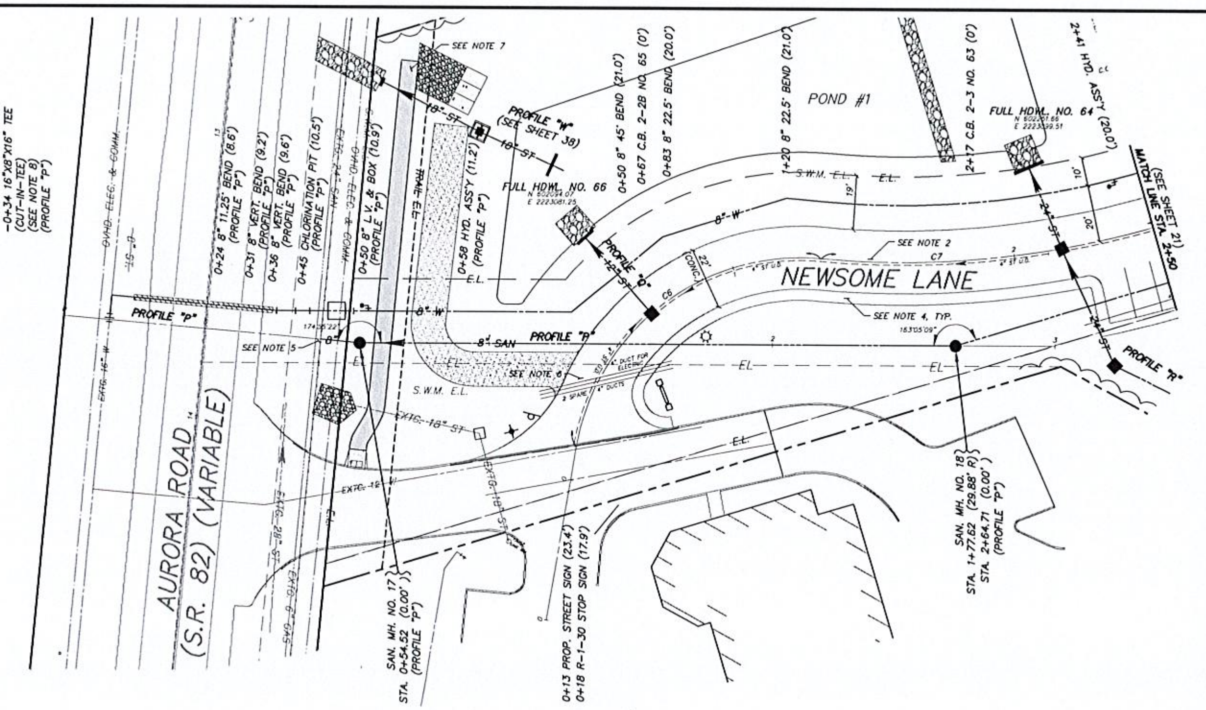
C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C6	80.00'	119.33'	108.57'	N21°55'03"W	85°27'59"
C7	320.00'	122.37'	121.62'	N9°51'39"E	21°54'35"

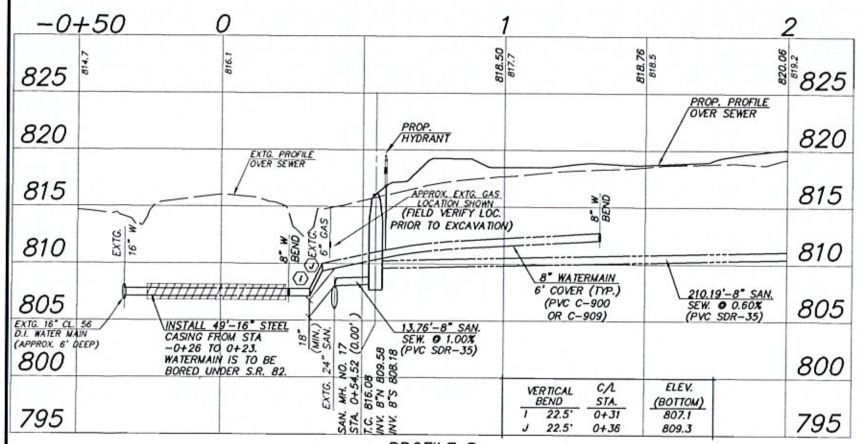
BENCH MARK # 1

TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

NOTES:

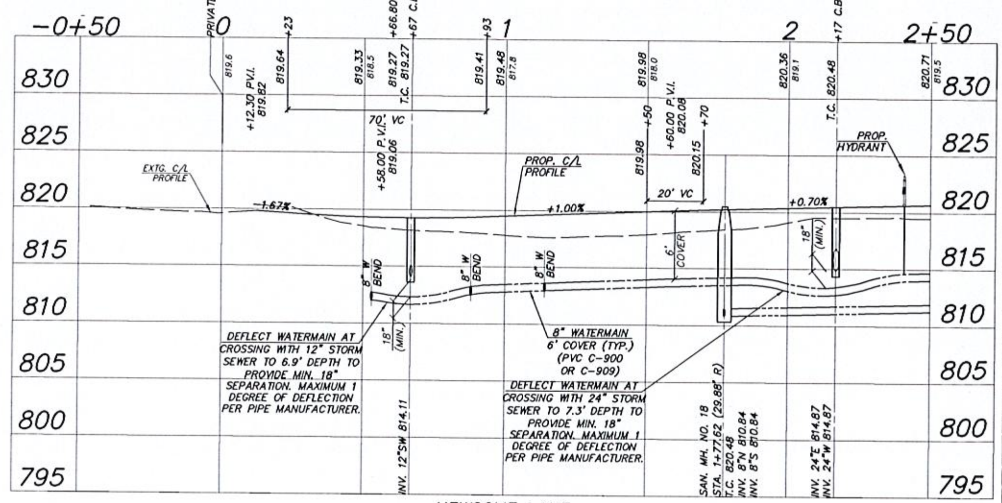
1. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
2. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
3. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
4. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
5. CONNECT TO EXISTING 24" SANITARY SEWER. CORE HOLE FOR NEW 8" WATER-TIGHT CONNECTION.
6. INSTALL THREE LENGTHS OF 48' PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
7. 6' WIDE ASPHALT PATH (SEE DETAIL ON SHT. 35).
8. CUT-IN NEW 16"X8"X16" TEE, INSTALL 8' OF NEW 16" D.I.P. WATERMAIN, AND INSTALL NEW 16" LINE VALVE ON EXISTING 16" D.I.P. WATERMAIN. COORDINATE SHUTTING-OFF OF EXISTING WATERMAIN WITH TOWNSHIP, NORTH HILLS WATER DISTRICT, AND EXISTING RESIDENCES ON AURORA ROAD.





VERTICAL BEND		C/L STA.	ELEV. (BOTTOM)
I	22.5°	0+31	807.1
J	22.5°	0+36	809.3

PROFILE P



NEWSOME LANE

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
NEWSOME LANE & PROFILE "P"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 10' 20'
HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

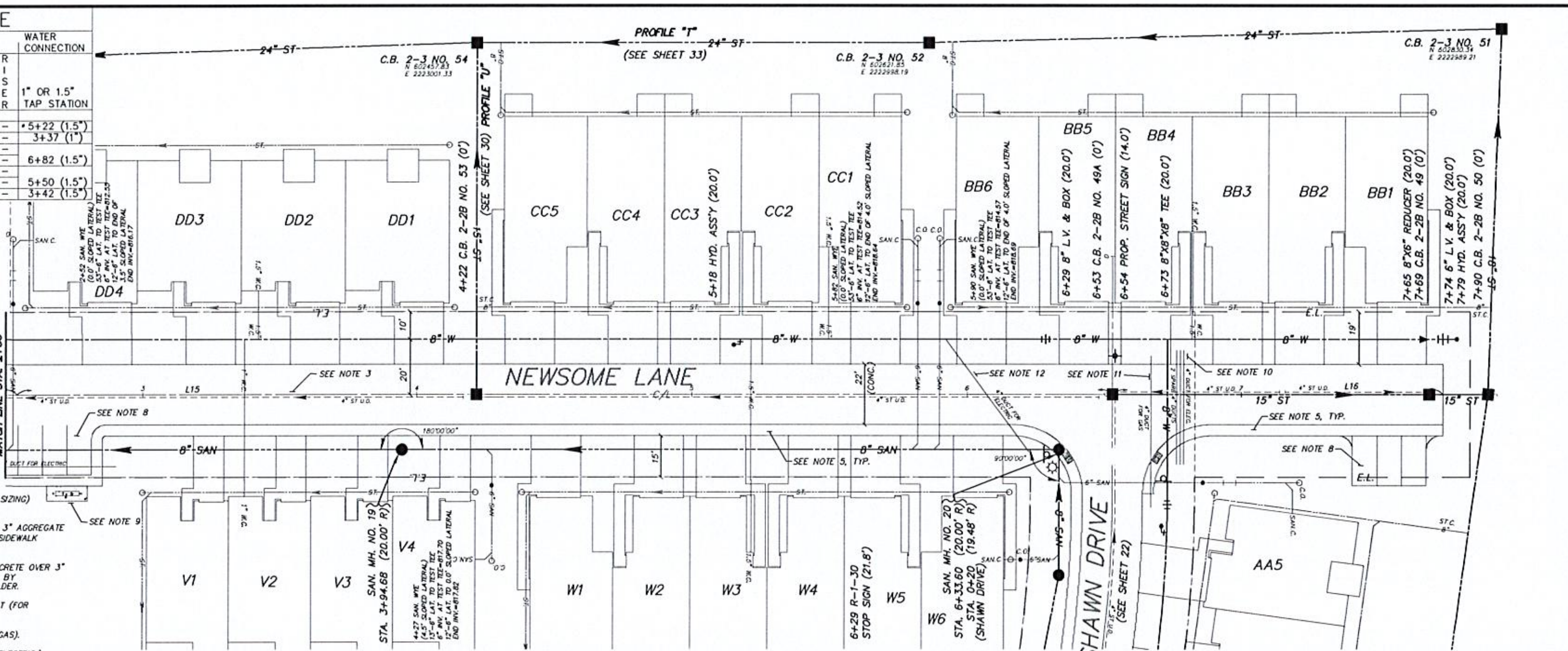
NEWSOME LANE

UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION: LENGTH OF 8" PVC CONN. @ 1.00%	RISER	WATER CONNECTION: 1" OR 1.5" TAP STATION
W1-W6	SEE SHT. 31		-	*5+22 (1.5")
V1-V4	SEE SHT. 31		-	3+37 (1")
BB1-BB6	201'	26'	-	6+82 (1.5")
	SEE SHT. 33		-	
CC1-CC5	SEE SHT. 30		-	5+50 (1.5")
	SEE SHT. 33		-	
DD1-DD4	SEE SHT. 33		-	3+42 (1.5")

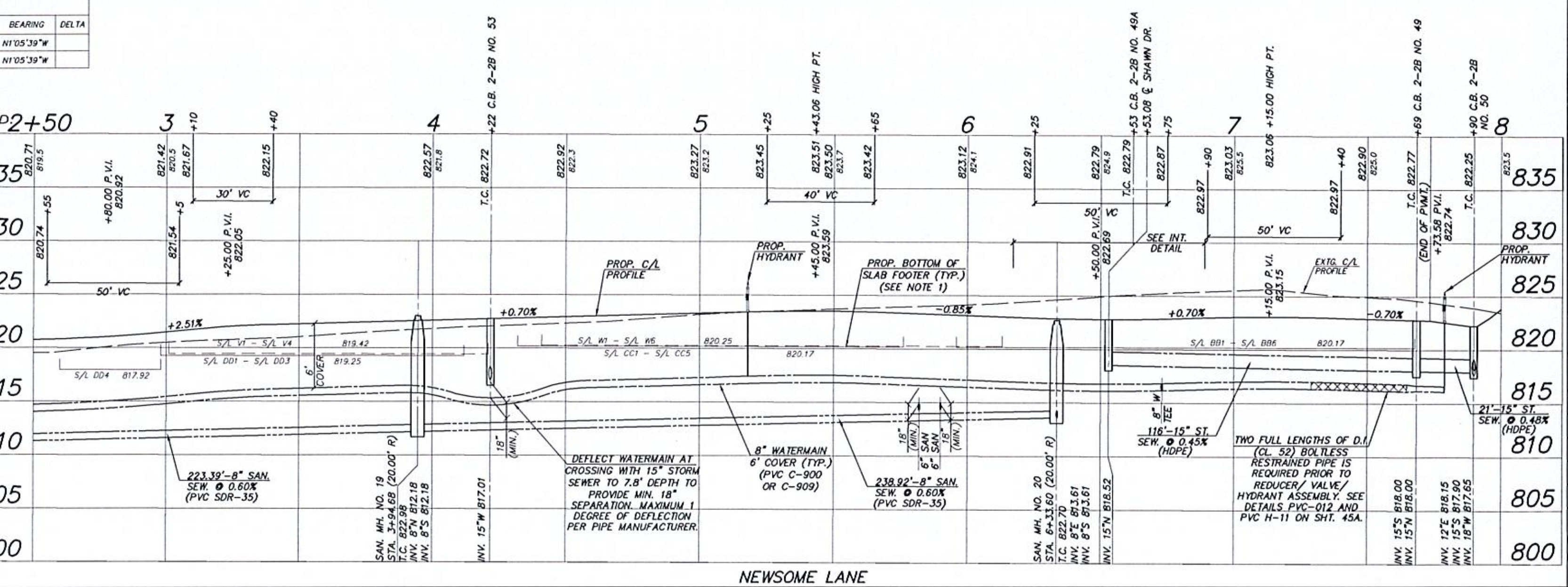
* WATER CONNECTION SHALL BE ROUTED UNDERNEATH STORM SEWER.

NOTES:
1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. PARKING STALLS SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE (TO MATCH SITE ROADWAY PAVEMENT & SIDEWALK SECTIONS).
9. MAILBOX PAD AND SIDEWALK SHALL BE 6" CONCRETE OVER 3" AGGREGATE BASE. CONCRETE PAD, SIDEWALK IS BY CONTRACTOR AND MAILBOXES ARE BY HOMEBUILDER.
10. INSTALL THREE 41' LENGTHS OF 4" PVC CONDUIT (FOR ELECTRIC, PHONE, & CABLE).
11. INSTALL 55' LENGTH OF 4" PVC CONDUIT (FOR GAS).
12. INSTALL 51' LENGTH OF 4" PVC CONDUIT (FOR ELECTRIC.)

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
L15		399.25'		N1°05'39"W	
L16		120.51'		N1°05'39"W	



<u>BENCH MARK # 1</u>
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'



NEWSOME LANE

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
NEWSOME LANE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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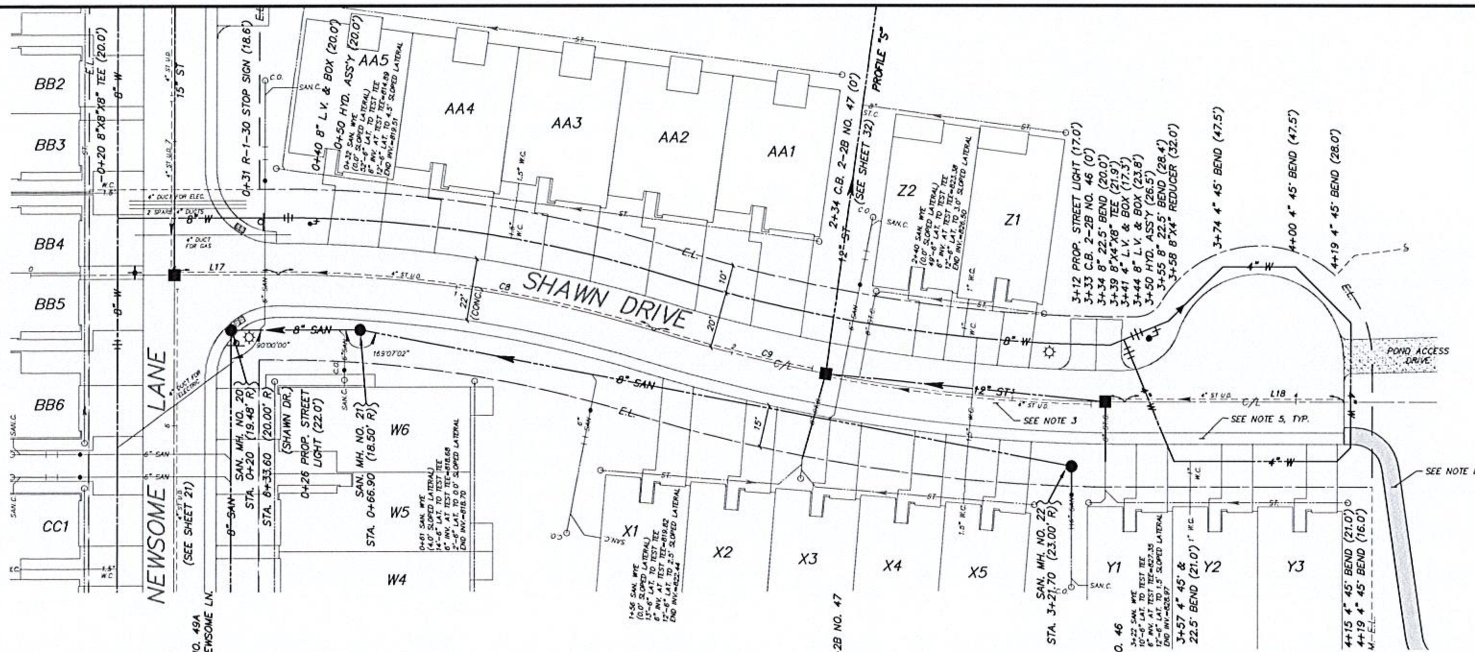
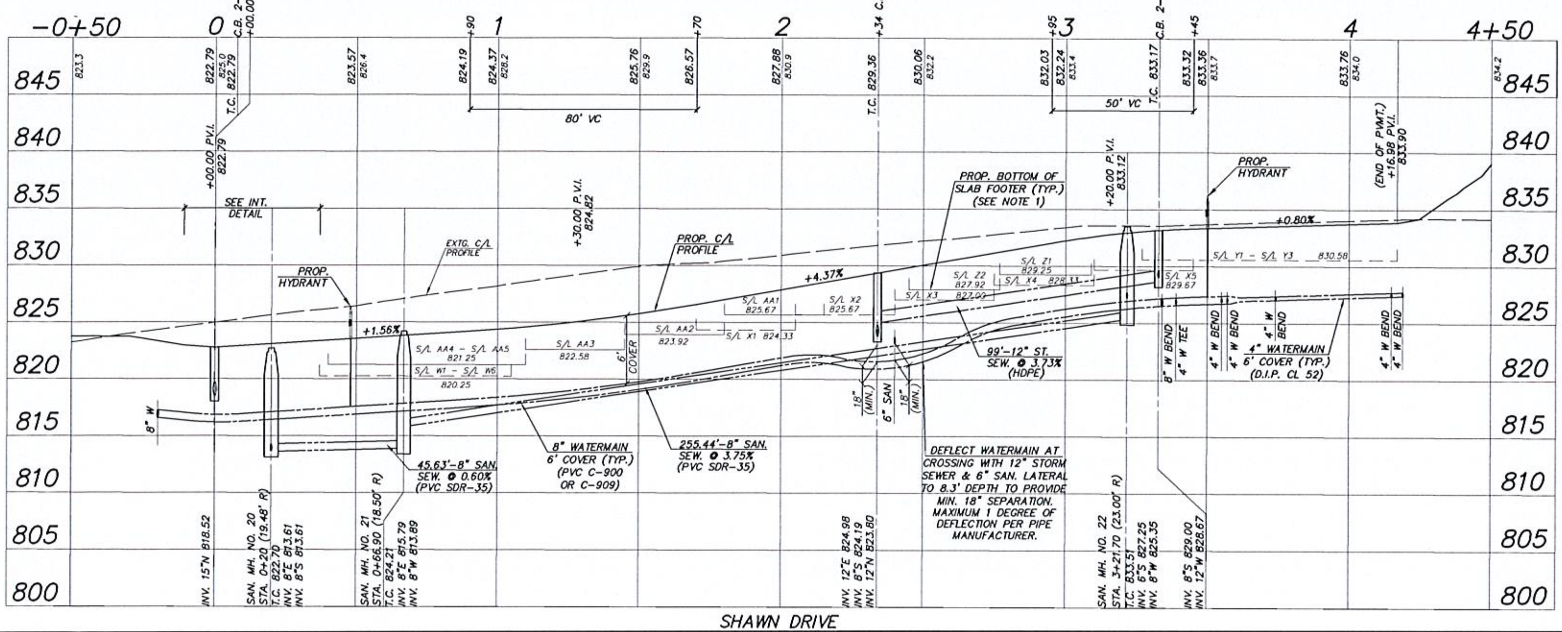
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E





SHAWN DRIVE				
	STORM CONNECTION			WATER CONNECTION
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER	1" OR 1.5" TAP STATION
X1–X5	@ C.B. NO. 47	31'	–	•2+86 (1.5")
	SEE SHT. 30		–	
Y1–Y3	@ C.B. NO. 46	31'	–	3+63 (1")
	SEE SHT. 33		–	
Z1–Z2	12'	26'	–	2+81 (1")
	SEE SHT. 30		–	
AA1–AA5	SEE SHT. 32		–	1+16 (1")

• WATER CONNECTION SHALL BE ROUTED UNDERNEATH STORM SEWER.

NOTES:

1. BOTTOM OF SLAB FOOTER ELEVATIONS LISTED ARE 4.00' BELOW THE FINISHED FLOOR ELEVATIONS (SHOWN ON GRADING PLAN).
2. ALL HYDRANT (STA./OFFSET) CALLS ARE TO TEE LOCATION.
3. INSTALL 4" UNDEDRDRAIN AT CENTERLINE OF ALL PRIVATE DRIVES (SHOWN 1' OFF C/L FOR CLARITY). SEE SHEET 43 FOR DETAILS.
4. ALL PROPOSED SANITARY SEWER MAINLINE SHALL BE PVC SDR-35 MEETING ASTM D3034 WITH JOINTS CONFORMING TO D3212.
5. 4' CONCRETE SIDEWALK TO BE CONSTRUCTED BY DEVELOPER AS PART OF ROAD CONSTRUCTION.
6. ADDITIONAL PERMITS FOR WATER CONNECTIONS MUST BE OBTAINED FROM C.W.D. PRIOR TO INSTALLATION. CALL THE PERMITS AND SALES UNIT FOR MORE INFORMATION 216-664-2444 EXT. 75209.
7. DOWNSPOUT/STORM SEWER INSTALLATION (AND SIZING) ARE RESPONSIBILITY OF TOWNHOME BUILDER.
8. 6' WIDE ASPHALT PATH (SEE SHT. 35 FOR DETAIL).

C/L DATA					
LINE/CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C8	450.00'	134.67'	134.16'	N82°31'15"W	17°08'46"
C9	562.50'	168.33'	167.71'	N82°31'15"W	17°08'46"
L17		36.61'		N88°54'21"E	
L18		77.37'		N88°54'21"E	

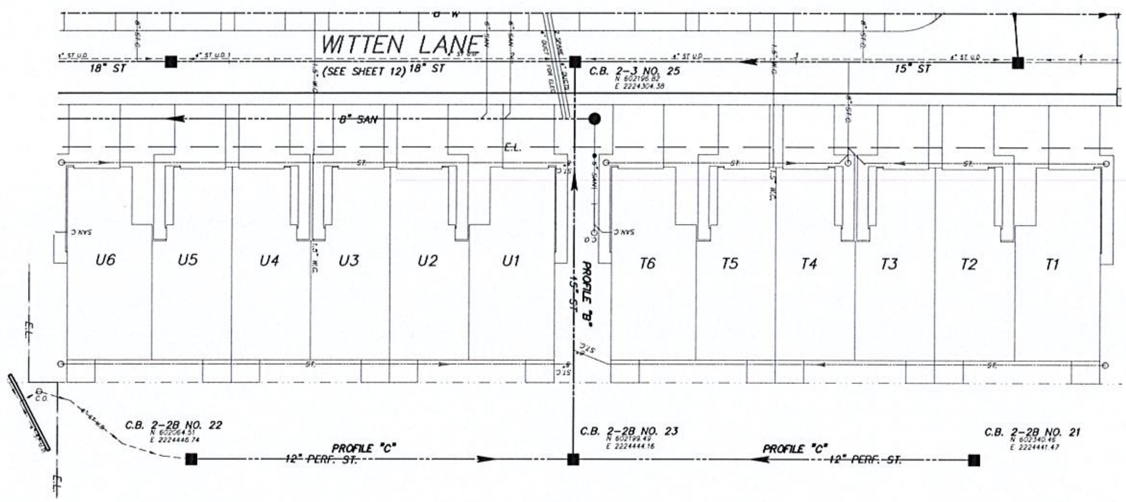
BENCH MARK # 1
TOP OF HYDRANT
STA. 7+88 CARTER RD.
ELEV. 876.30'

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

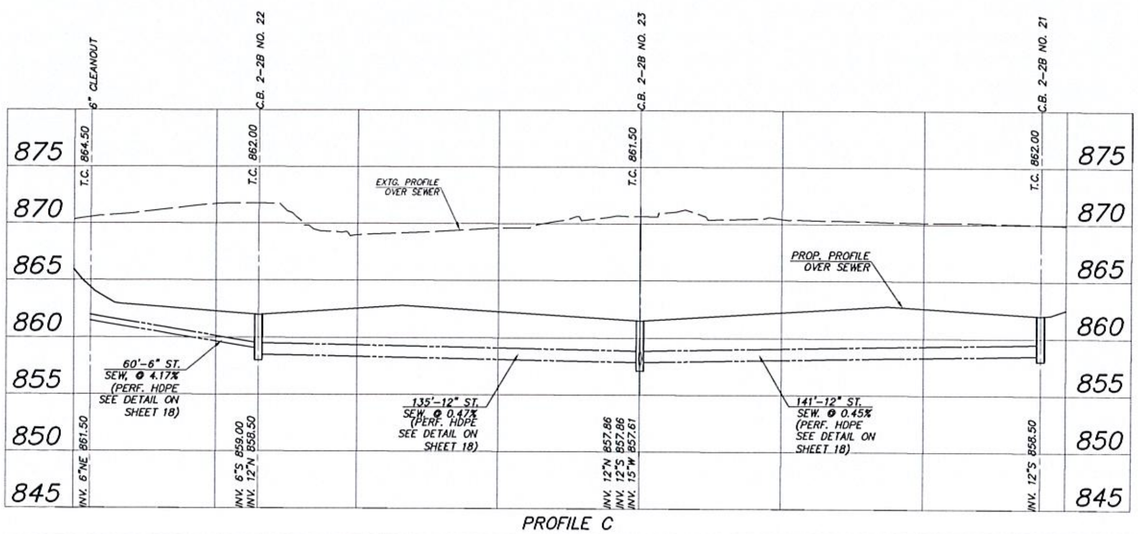
IMPROVEMENT PLAN & PROFILE
SHAWN DRIVE
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

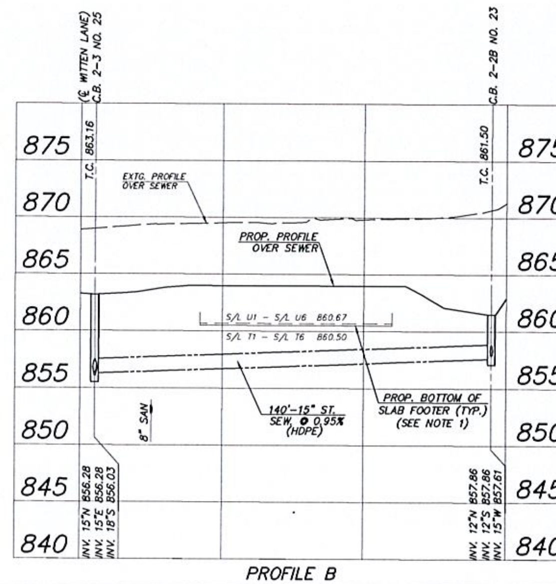
GRAPHIC SCALE 0' 10' 20'
HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN. K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



PROFILE "B"			
	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 12		–
T1–T6	101'	5'	–
	36'	5'	–
U1–U6	106'	5'	–



PROFILE C



PROFILE B

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILES "B" & "C"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

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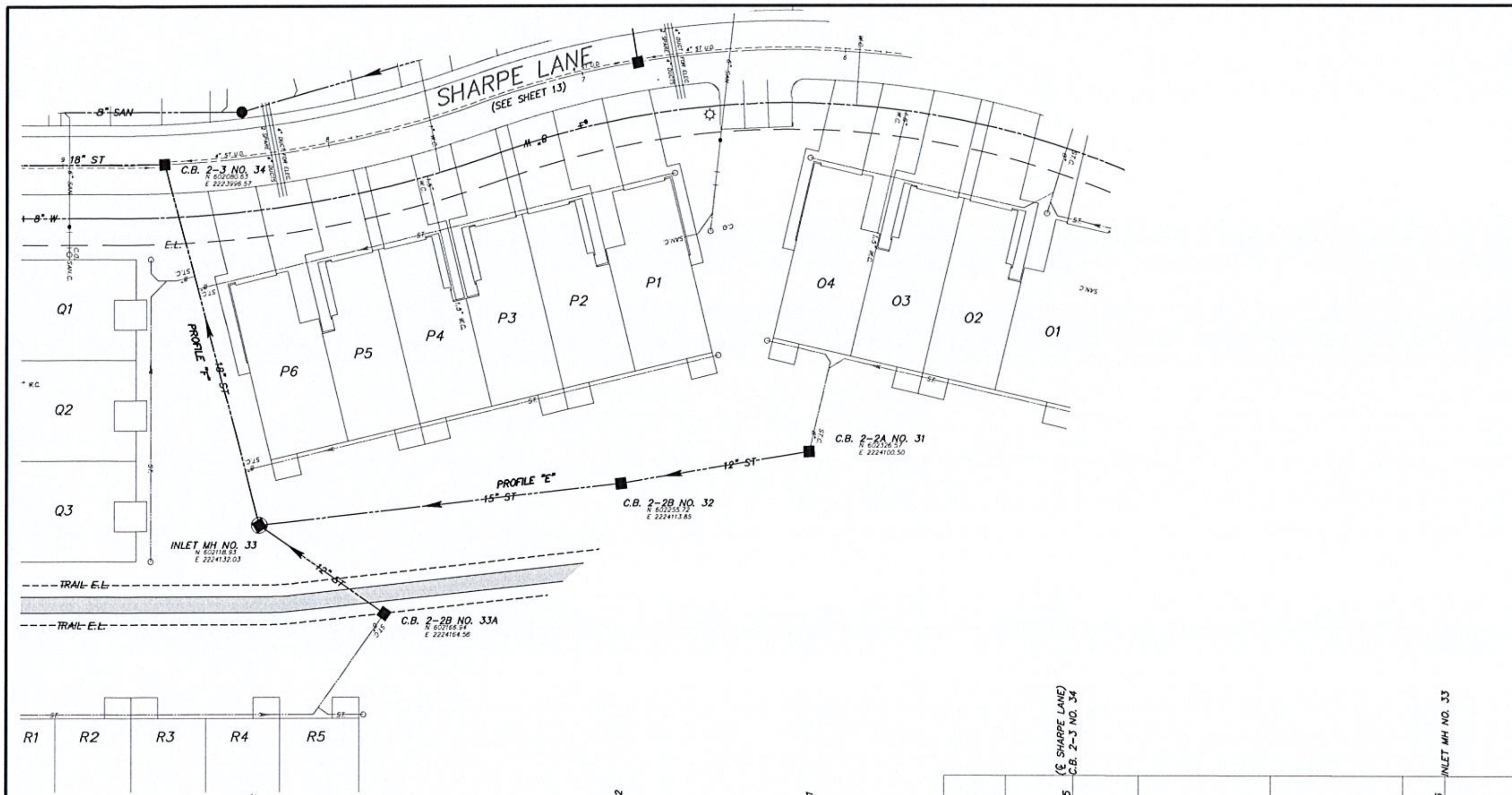
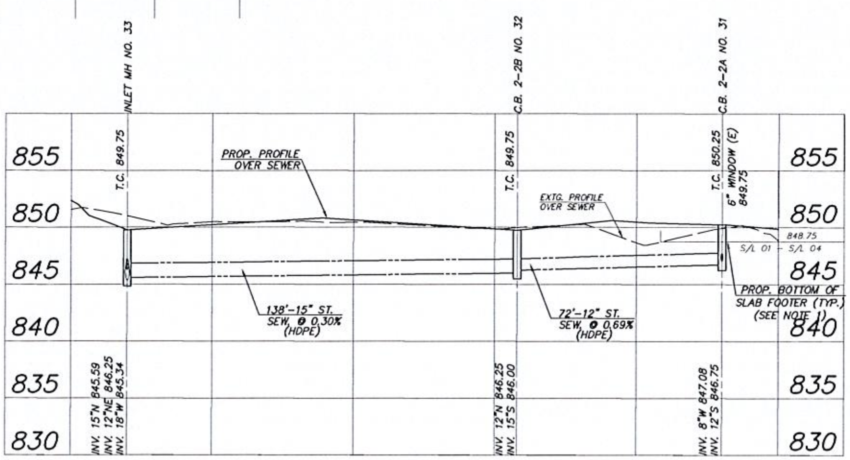
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. | CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E



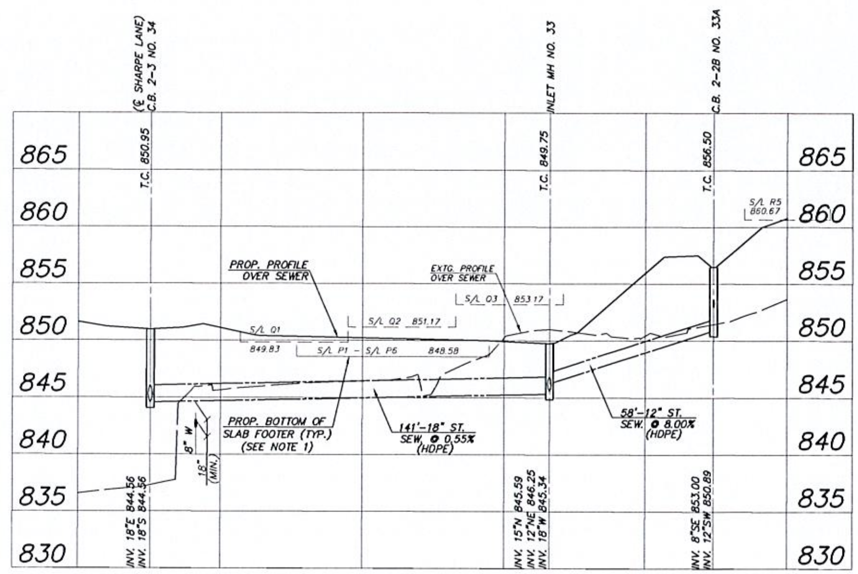
PROFILES "E" & "F"

UNIT	STORM CONNECTION WYE DISTANCE FROM DOWNSTREAM MH	STORM CONNECTION LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 25		–
O1–O4	@ C.B. NO. 31	10'	–
	49'	5'	–
P1–P6	119'	5'	–
	SEE SHT. 11		–
Q1–Q3	44'	6'	–
	SEE SHT. 12		–
R1–R5	@ C.B. NO. 33A	10'	–

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS



PROFILE E



PROFILE F

DONALD G. BOHNING & ASSOCIATES, INC.
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PHONE: (216) 642-1130 FAX: (216) 642-1132

IMPROVEMENT PLAN & PROFILE
PROFILES "E" & "F"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

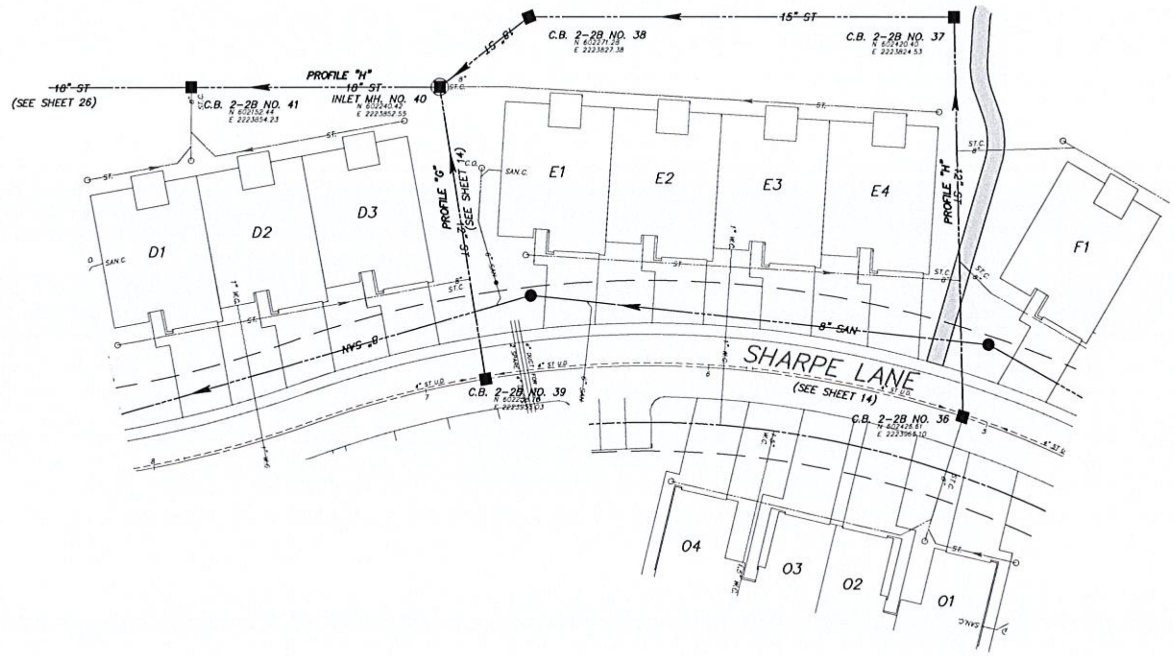
GRAPHIC SCALE 0' 10' 20'

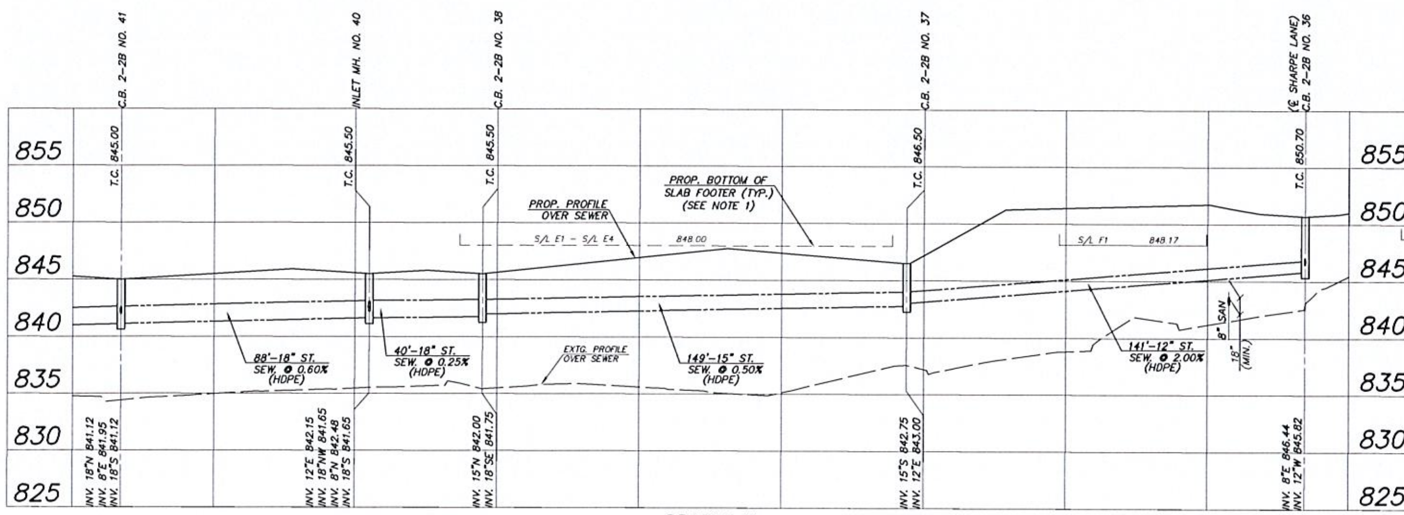
HORIZ. SCALE	1"=20'
VERT. SCALE	1" = 5'
DR'N K.C.	CKD. T.C.
DATE	OCT., 2022
ORDER NO.	4723E

PROFILE "H"

	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	@ C.B. NO. 40	10'	
D1–D3	69'	6'	
	@ M.H. NO. 40	10'	–
E1–E4	93'	8'	–
	47'	27'	2'
F1–F6	86'	11'	1.5'
	@ C.B. NO. 36	31'	–
O1–O4	SEE SHT. 24		–

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS





PROFILE H

IMPROVEMENT PLAN & PROFILE
PROFILES "H"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY * VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 10' 20'
HORIZ. SCALE 1" = 20'
VERT. SCALE 1" = 5'
DRN. K.C. CKD. T.C.
DATE OCT., 2022
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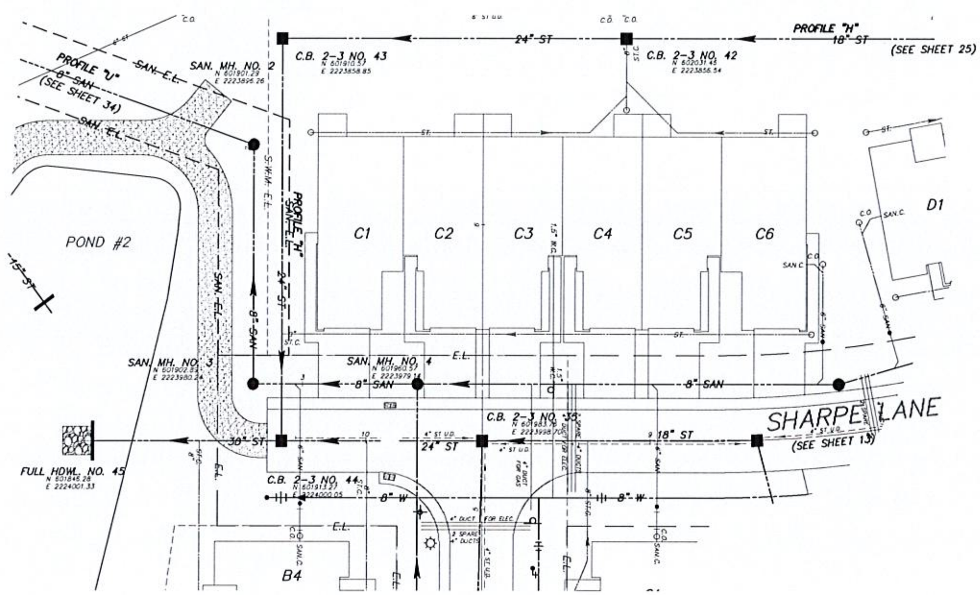
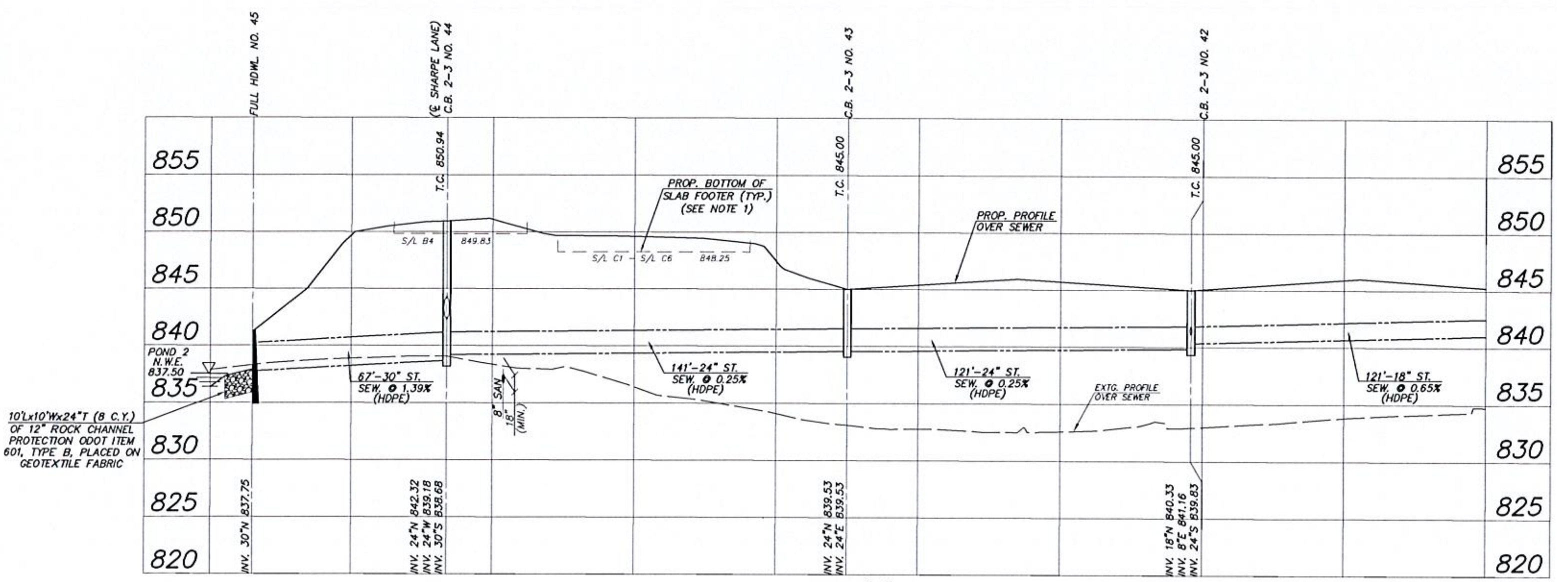


PROFILE "H"

UNIT	STORM CONNECTION WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 13		–
B1–B4	43'	10'	5'
	@ C.B. NO. 42	10'	–
C1–C6	108'	10'	5'



PROFILE "H"

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILES "H"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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GRAPHIC SCALE 0' 10' 20'
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DRN K.C. CKD T.C.
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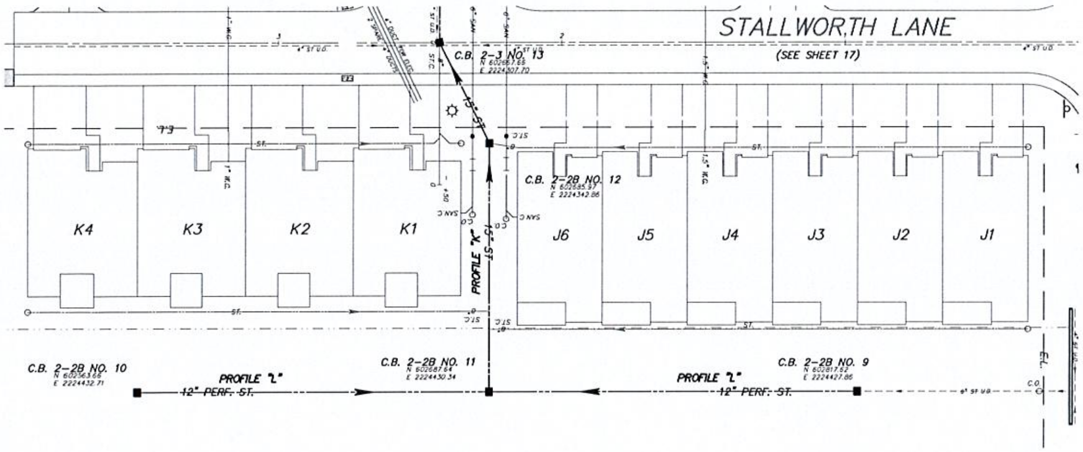
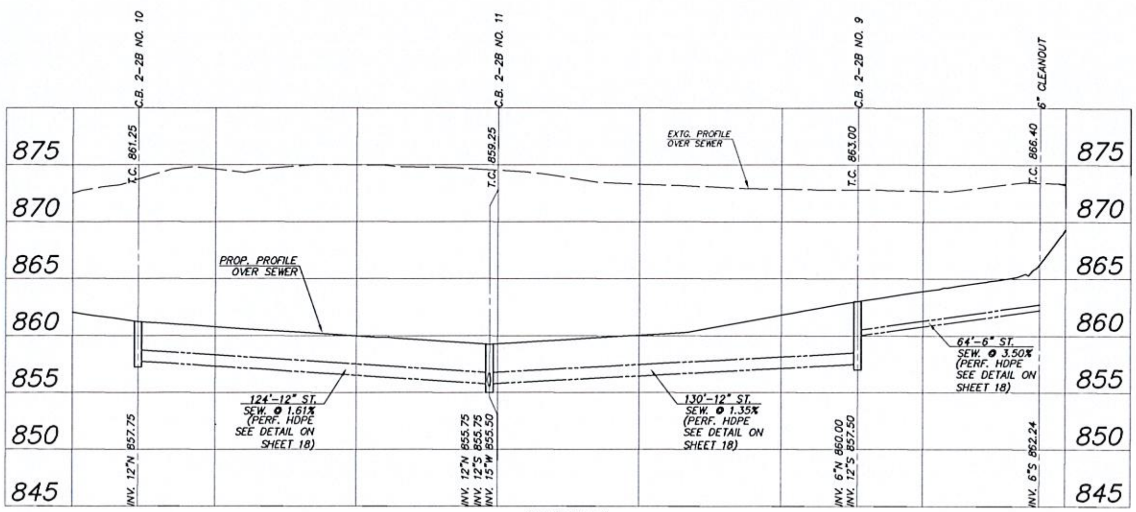
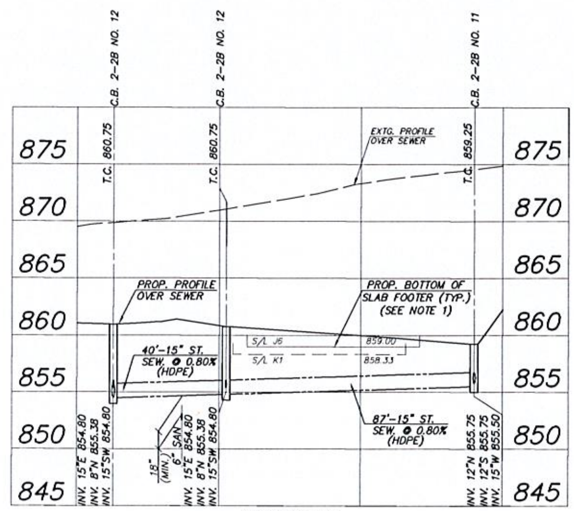
ORDER NO. 4723E





PROFILE L



PROFILE K

PROFILES "K" & "L"

UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
J1-J6	@ C.B. NO. 12	10'	–
	64'	10'	–
K1-K4	SEE SHT. 17		–
	59'	10'	–

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILES "K" & "L"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
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GRAPHIC SCALE 0' 10' 20'
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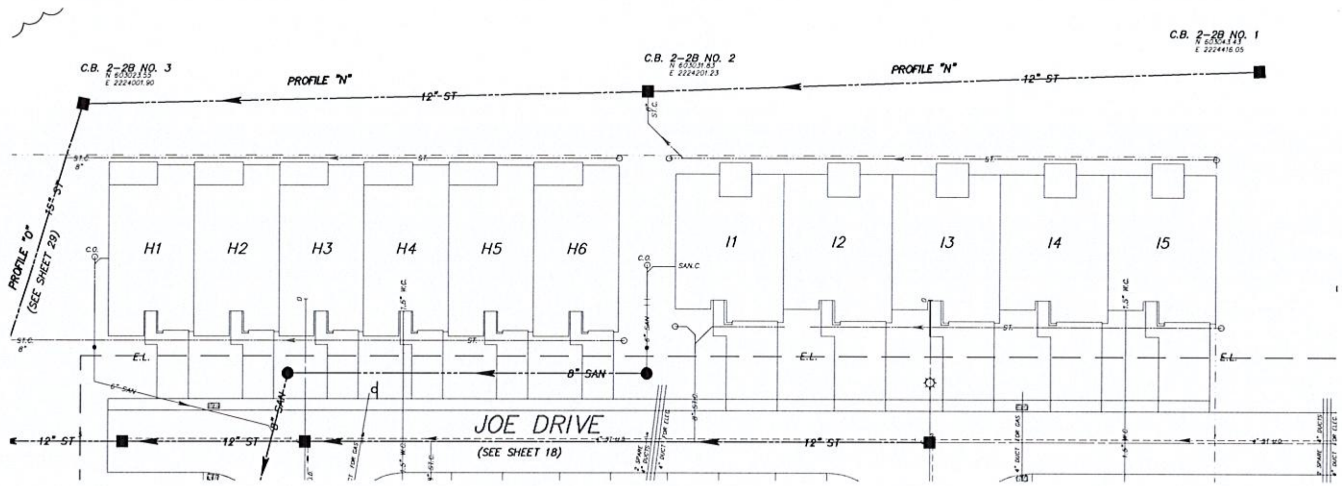
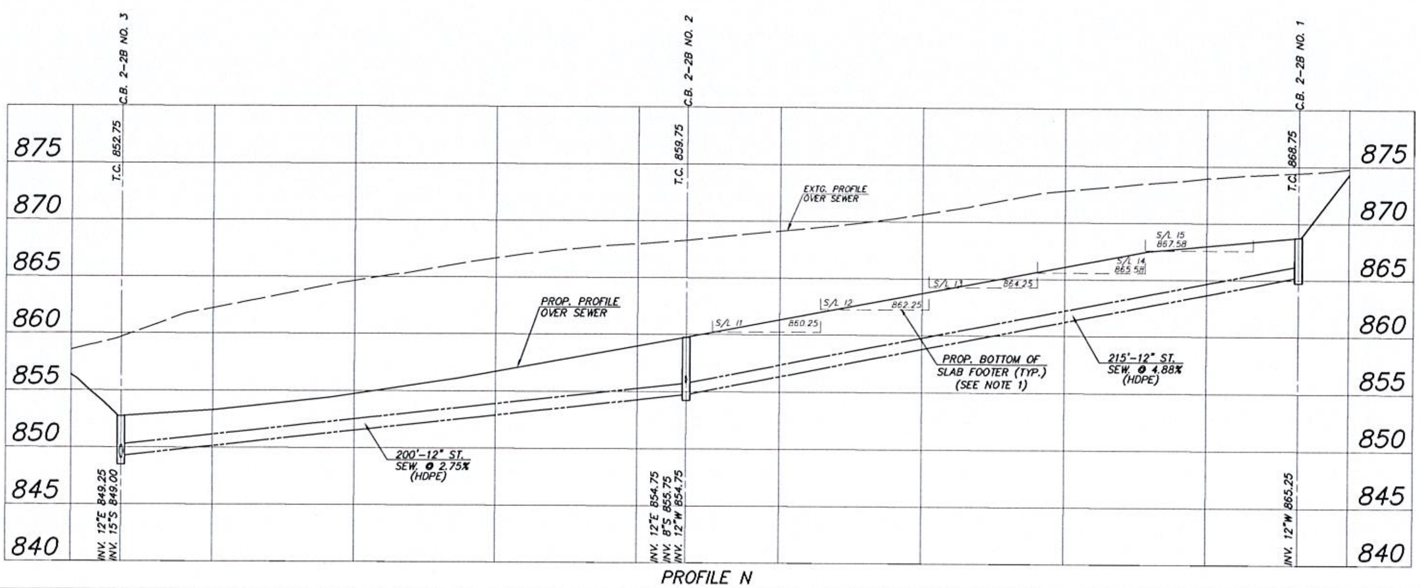
DRN K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

	PROFILE "N"		
	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 18		–
I1–I5	@ C.B. NO. 2	10'	–

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS





PROFILE N

IMPROVEMENT PLAN & PROFILE
PROFILES "N"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
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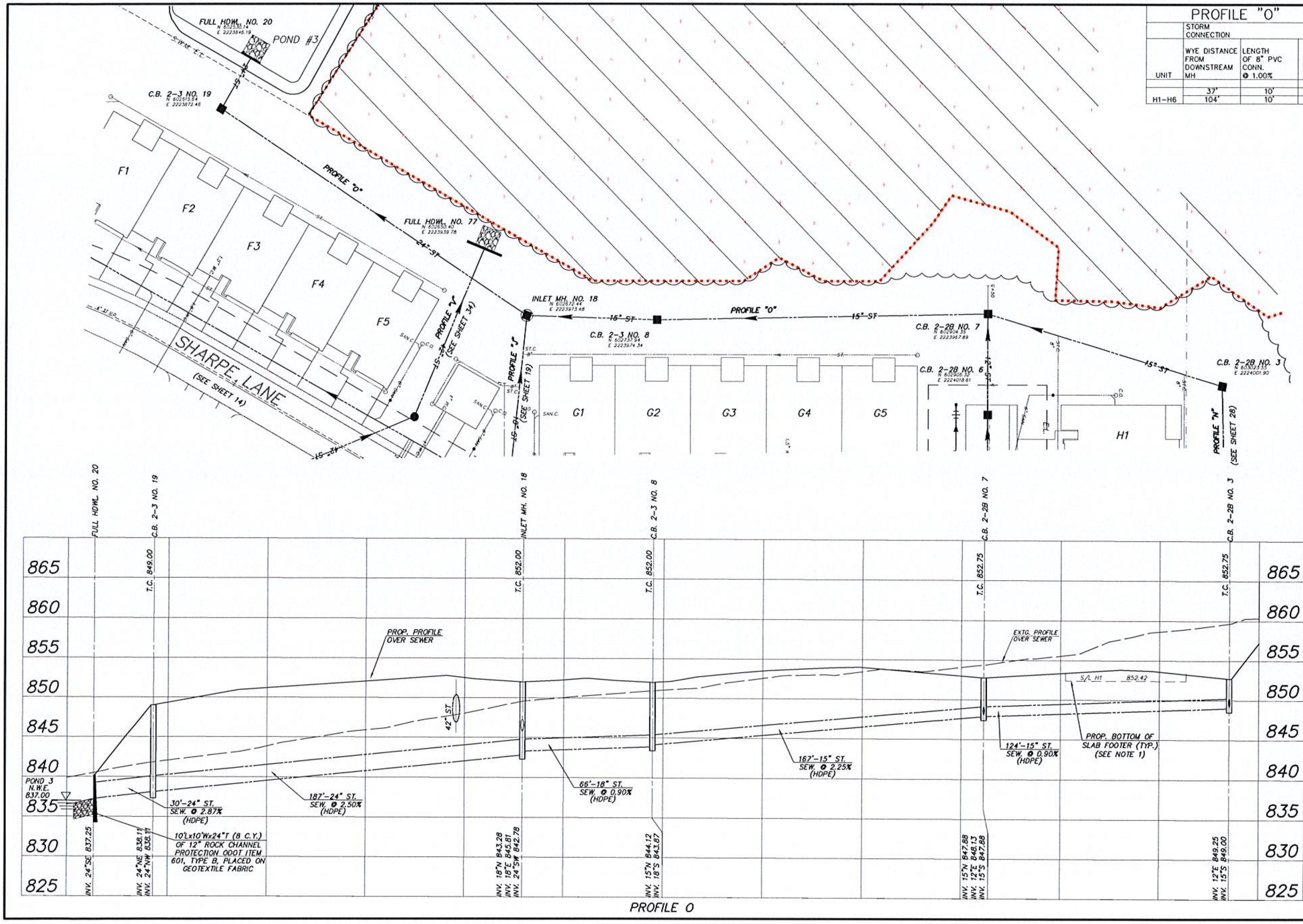
GRAPHIC SCALE 0' 10' 20'
HORZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DR'N K.C. | CK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E

PROFILE "O"

UNIT	STORM CONNECTION: WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	37'	10'	–
H1–H6	104'	10'	–



PROFILE O

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILES "O"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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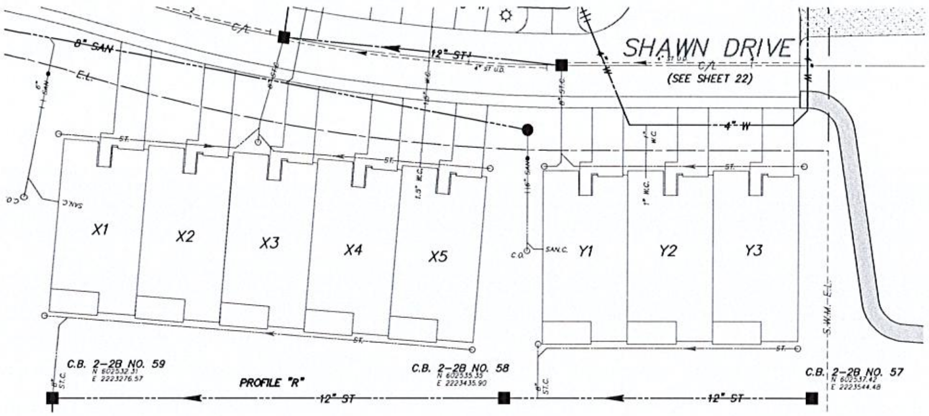
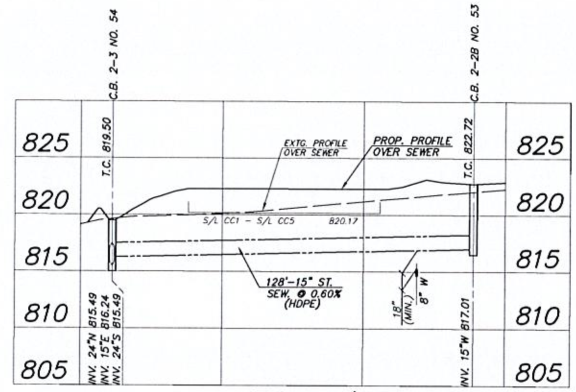
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

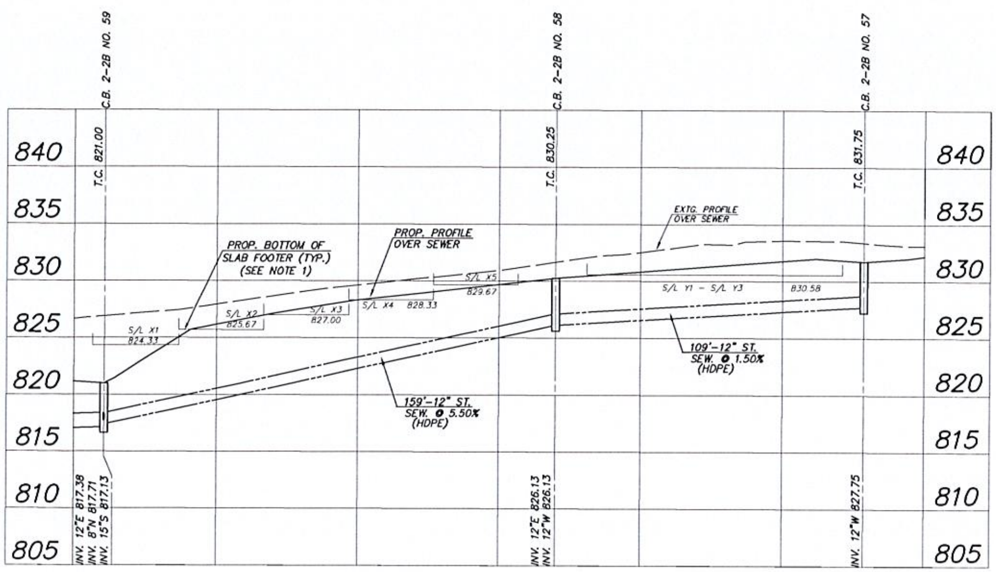
GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN K.C. CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



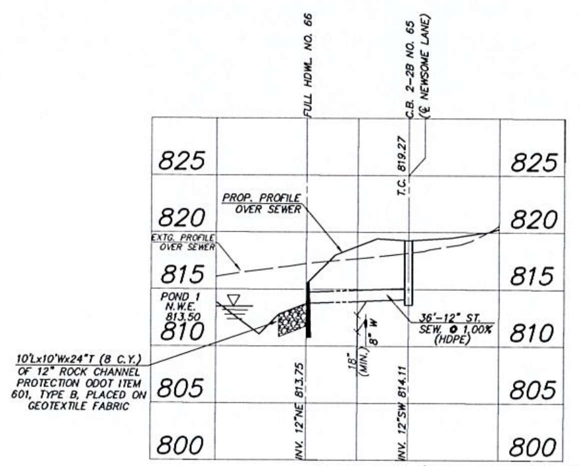
PROFILE "R"			
	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 22		–
X1–X5	@ C.B. NO. 59	10'	–
	SEE SHT. 22		–
Y1–Y3	12'	8'	–



PROFILE U (PLAN VIEW ON SHEET 21)



PROFILE R



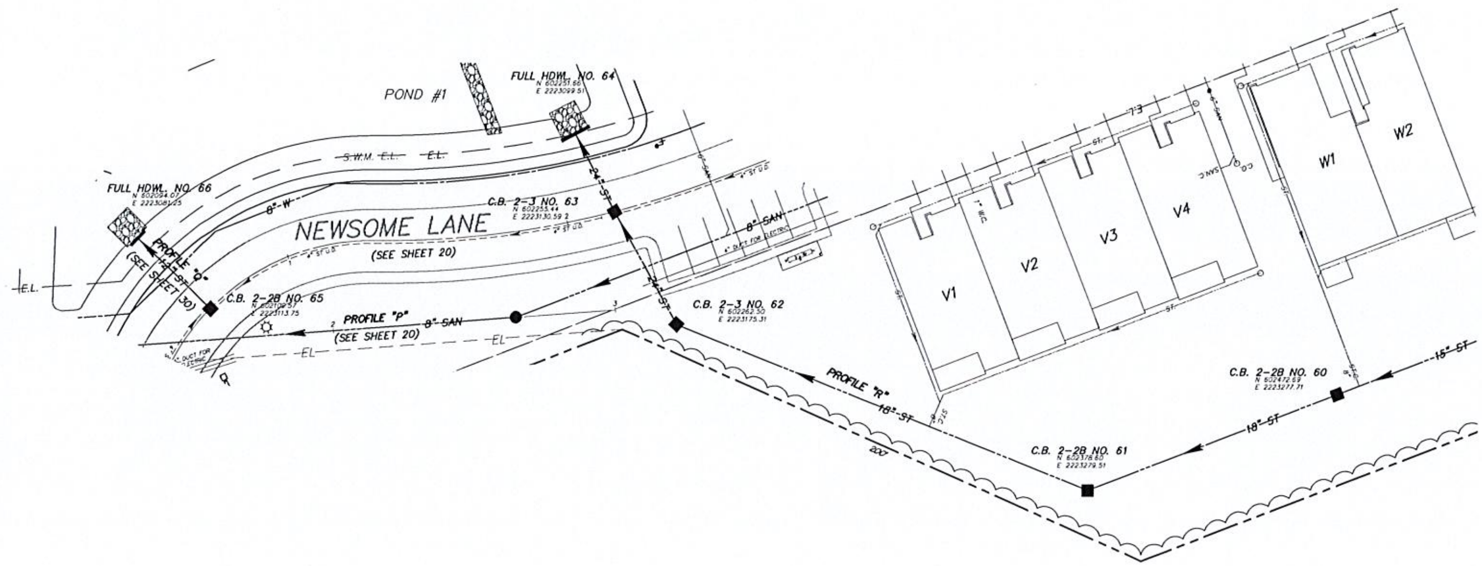
PROFILE Q (PLAN VIEW ON SHEET 20)

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILES "Q", "R", & "U"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

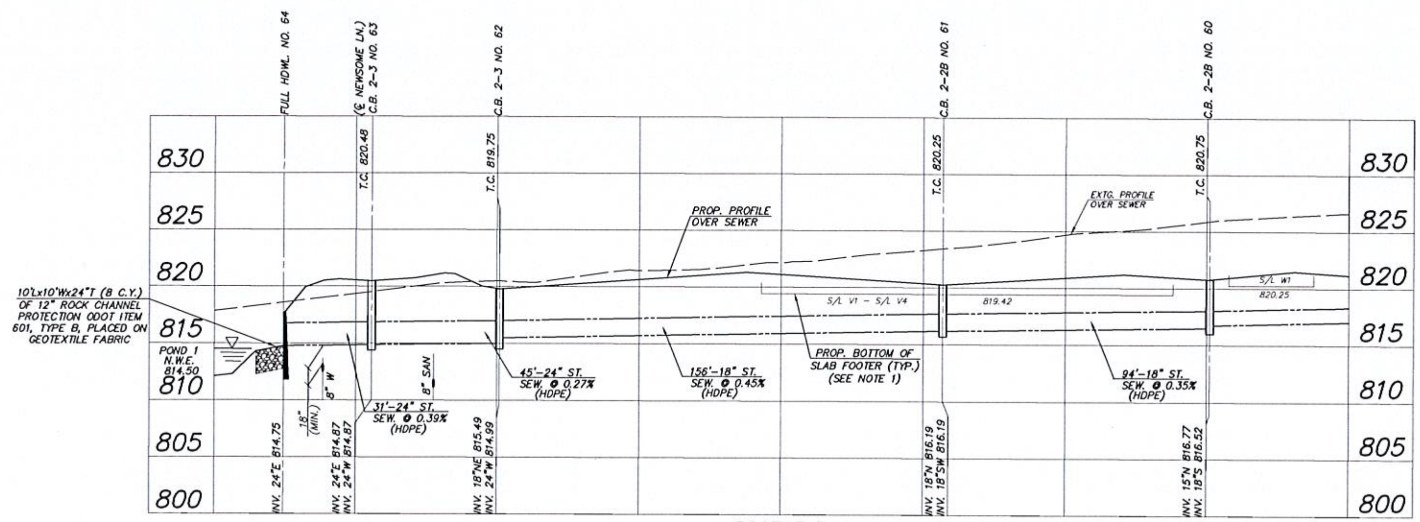
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE
0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DWN K.C.
CHK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E



PROFILE "R"

UNIT	STORM CONNECTION WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
			–
V1–V4	96'	6'	–
W1–W6	9'	10'	–



PROFILE R

REVISIONS

1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILE "R"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'

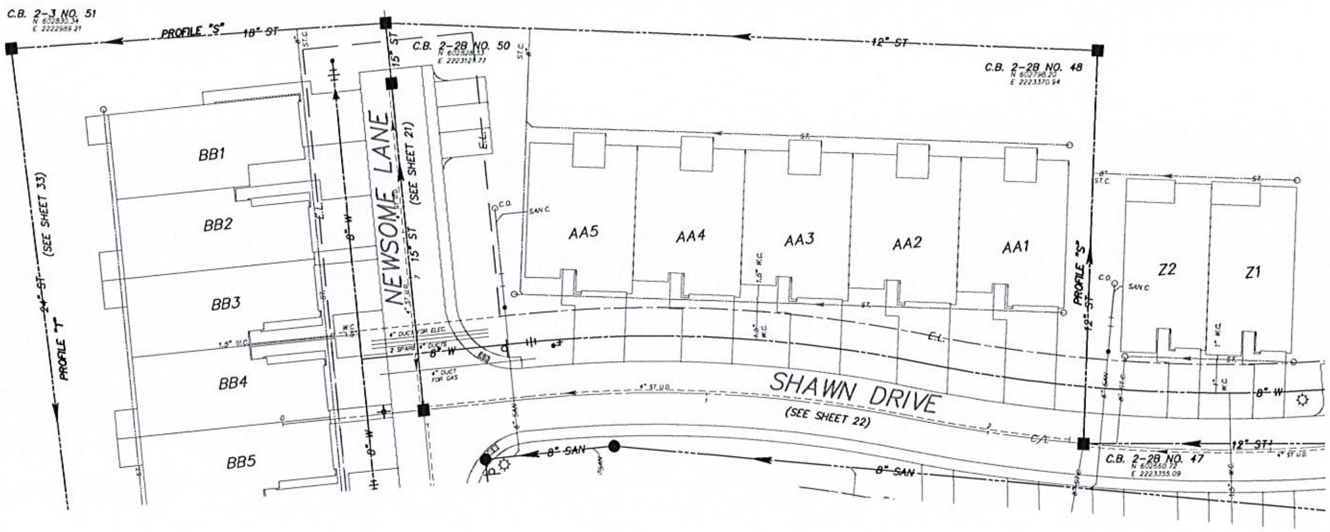
HORIZ. SCALE 1"=20'

VERT. SCALE 1" = 5'

DR'N K.C. | CK'D T.C.

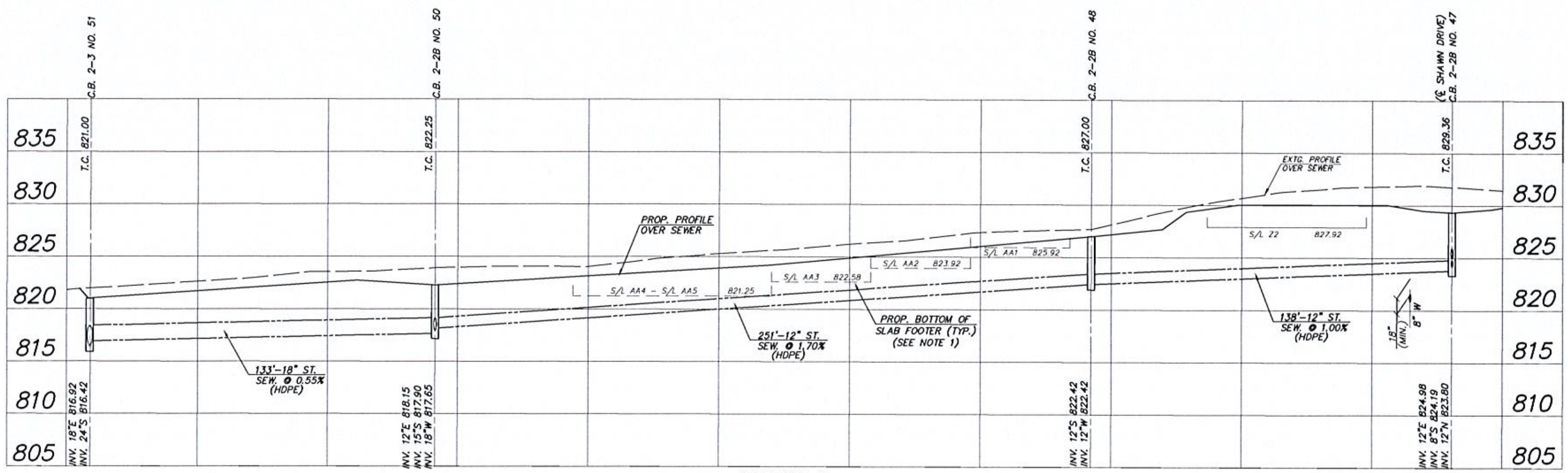
DATE OCT., 2022

ORDER NO. 4723E



PROFILE "S"			
	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 22		–
Z1–Z2	43'	6'	–
AA1–AA5	51'	15'	–
BB1–BB5	101'	10'	–

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS



PROFILE S

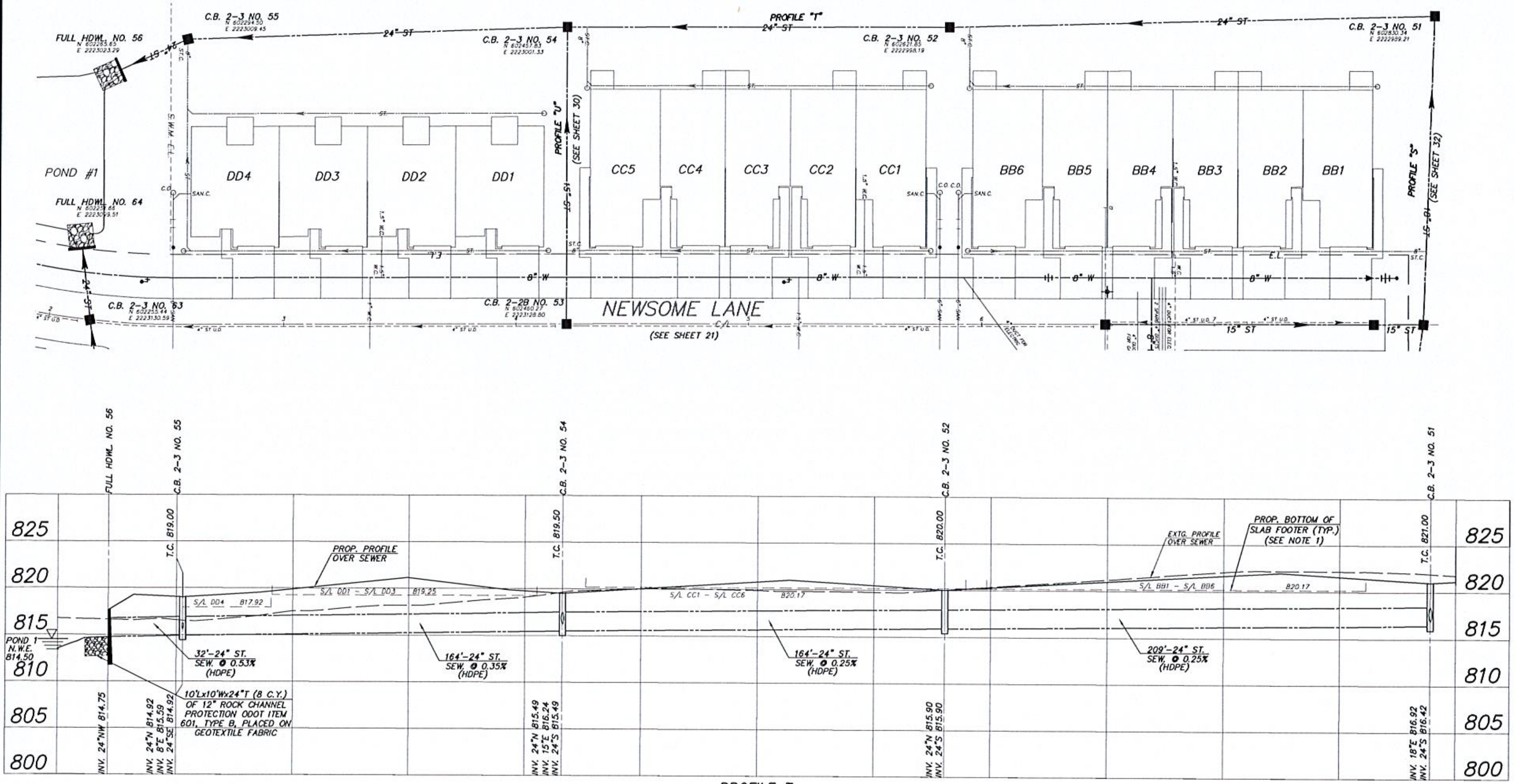
IMPROVEMENT PLAN & PROFILE
PROFILE "S"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DR'N K.C. | CK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E

PROFILE "T"			
	STORM CONNECTION		
UNIT	WYE DISTANCE FROM DOWNSTREAM MH	LENGTH OF 8" PVC CONN. @ 1.00%	RISER
	SEE SHT. 32		–
BB1–BB6	9'	10'	–
	SEE SHT. 30		–
CC1–CC6	9'	10'	–
DD1–DD4	@ C.B. NO. 55	10'	–

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS



PROFILE T

IMPROVEMENT PLAN & PROFILE
PROFILE "T"
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

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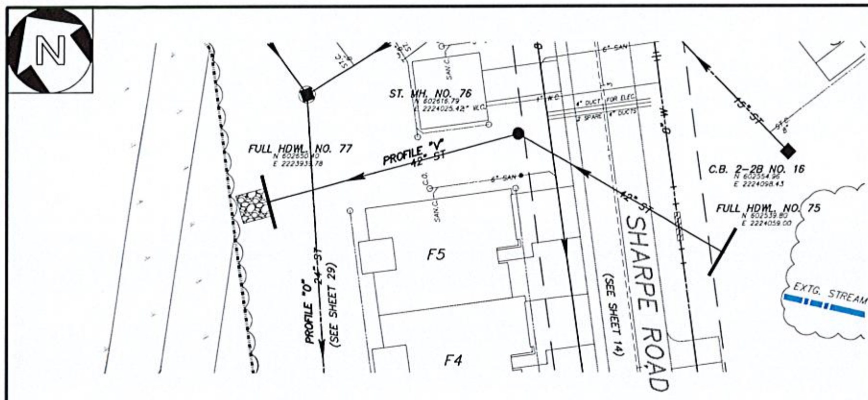
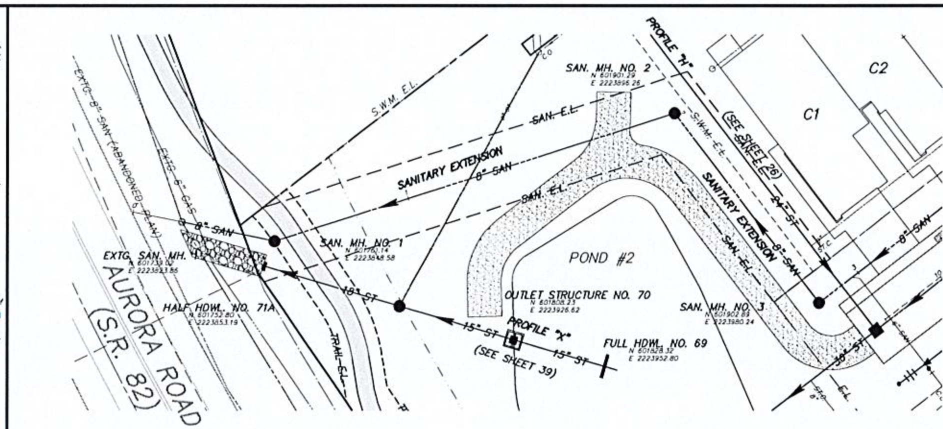
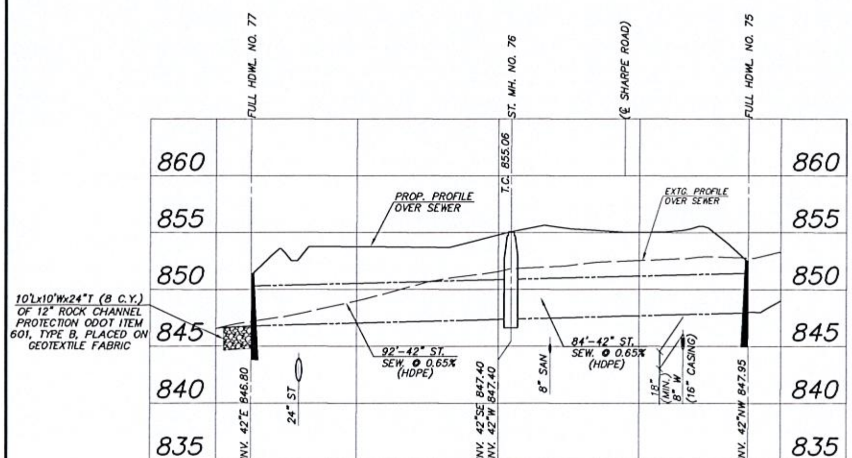
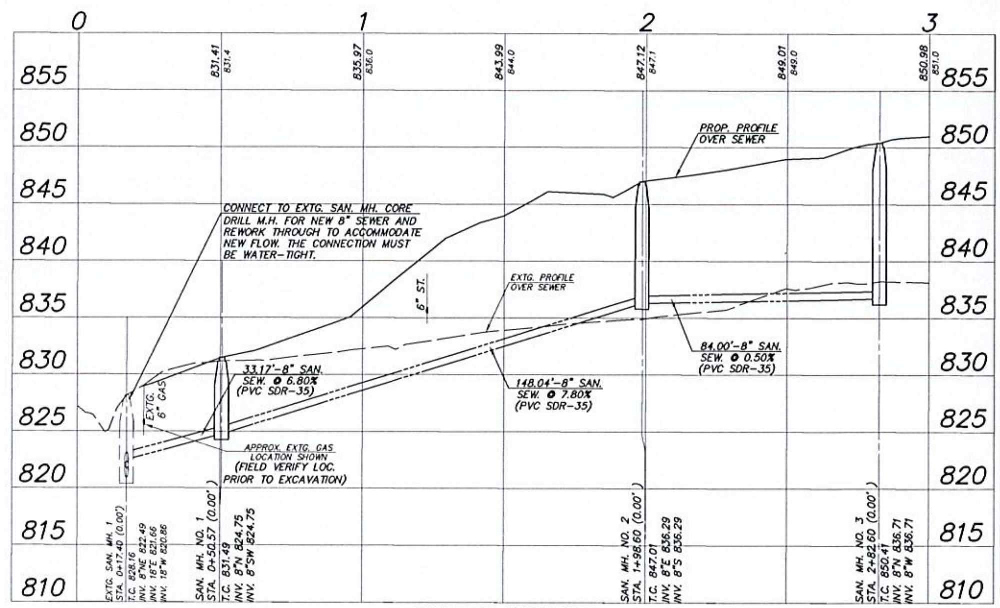






PROFILE V



SANITARY EXTENSION

REVISIONS

1/27/2023 REV. PER COUNTY COMMENTS

IMPROVEMENT PLAN & PROFILE
PROFILE "V" & SANITARY EXTENSION
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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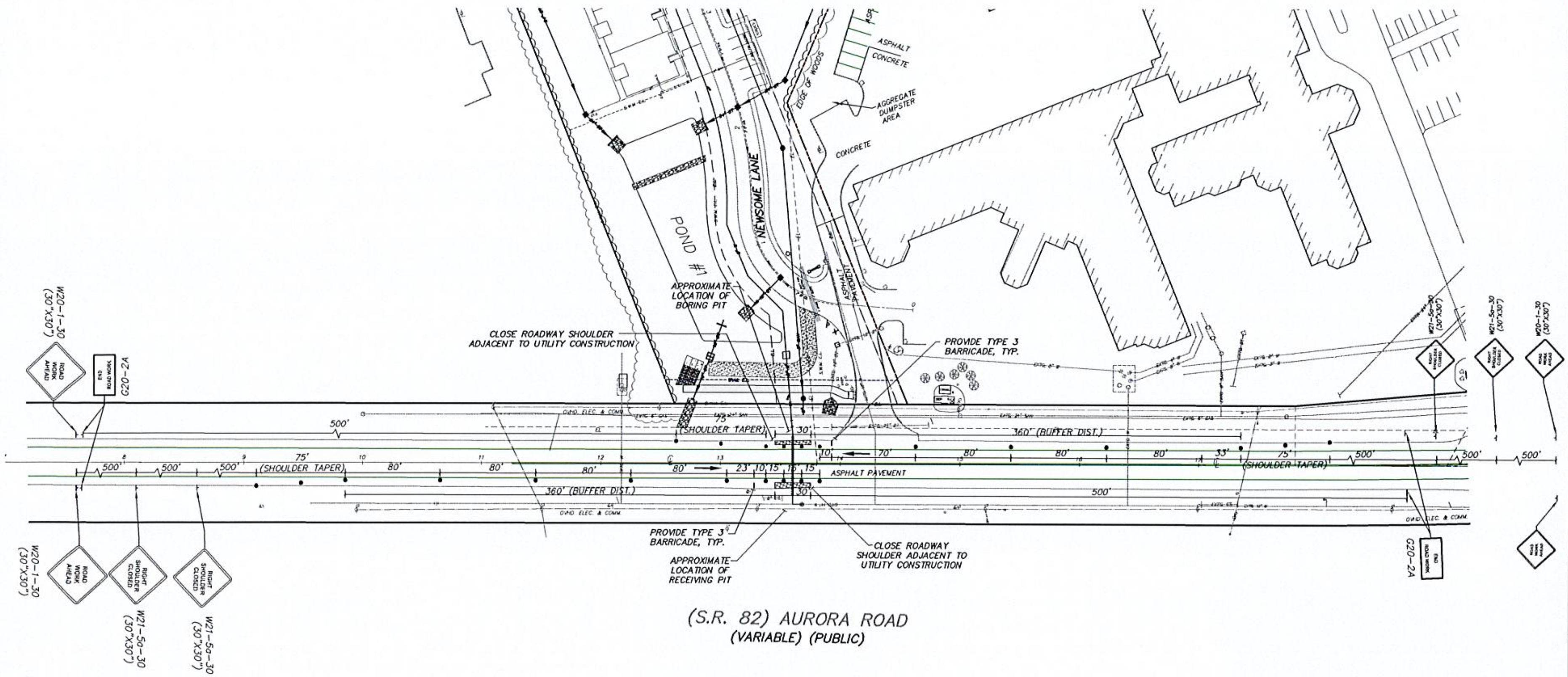
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'

HORIZ. SCALE	1"=20'
VERT. SCALE	1" = 5'
DWN K.C.	CKD. T.C.
DATE	OCT., 2022
ORDER NO.	4723E



MAINTAINING TRAFFIC, COMPLETE, AS PER PLAN

ONLY THE EXISTING ROADWAY SHOULDERS ARE PROPOSED TO BE TEMPORARILY CLOSED DURING CONSTRUCTION OF THE 8" WATERMAIN WITHIN THE S.R. 82 RIGHT-OF-WAY.

THE CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, SATISFACTORY BARRIERS, LIGHTING, FLAGGERS, TEMPORARY SIGNAGE, TEMPORARY PAVEMENT MARKINGS, HEAVY STEEL PLATES, WORK ZONE IMPACT ATTENUATORS, AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN ODOT ITEM 614 – "MAINTAINING TRAFFIC" SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION. APPROPRIATE SIGNAGE PER THE OMUTCD SHALL BE PLACED IN ALL WORK ZONES. THE CONTRACTOR SHALL MAINTAIN SAFE AND SATISFACTORY ACCESS TO THE ADJACENT PROPERTIES. THE CONTRACTOR SHALL SUBMIT A COMPLETE MAINTENANCE OF TRAFFIC PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THIS PLAN SHALL MINIMALLY DEPICT THE LOCATIONS OF ALL SIGNS AND BARRICADES FOR EACH PHASE OF CONSTRUCTION AND INCLUDE A DETAILED MAINTENANCE OF TRAFFIC CONSTRUCTION SEQUENCE.

ALL CONSTRUCTION TRAFFIC CONTROL DEVICES USED FOR THIS PROJECT SHALL CONFORM TO THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS AND SHALL BE PROVIDED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR PER THE MANUAL. PAYMENT FOR LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL WHEREVER REQUIRED FOR ALL MAINTENANCE OF TRAFFIC ITEMS NOT SPECIFICALLY IDENTIFIED FOR PAYMENT UNDER A SEPARATE ITEM SHALL BE INCLUDED THE LUMP SUM PRICE FOR "MAINTAINING TRAFFIC, COMPLETE, AS PER PLAN".

LEGEND

- TRAFFIC FLOW
- 2' DIA. TRAFFIC BARREL

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

MAINTENANCE OF TRAFFIC PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 15' 30'

HORIZ. SCALE 1"=30'
VERT. SCALE ---
DRN K.C. CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E

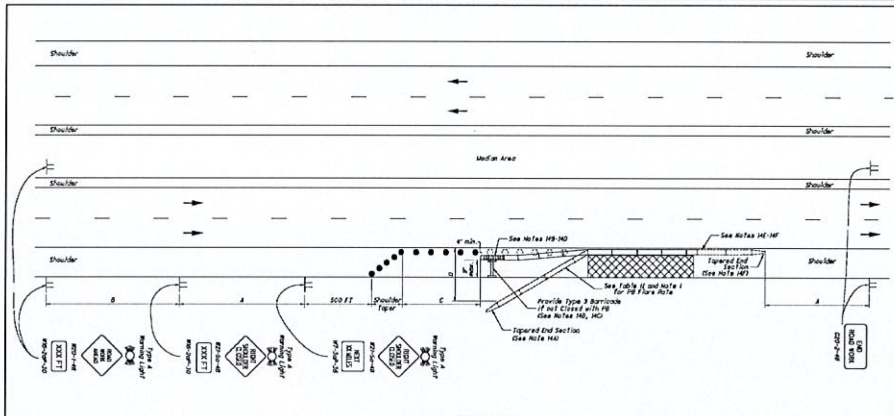


TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)	
	A	B
MAJOR CONVENTIONAL	500	500
FREEWAY & EXPRESSWAY	1000	1500

TABLE II

SPEED LIMIT (MPH)	SHOULDER TAPER RATE MINIMUM	PB FLARE RATE MINIMUM	MAXIMUM DRUM SPACING (FT)		BUFFER (C) (FT) MINIMUM	CLEAR ZONE WIDTH (D) (FT)
			TAPER SEC.	TANGENT SEC.		
25	4:1	8:1	25	40	165	15
30	5:1	8:1	30	40	200	15
35	7:1	9:1	35	40	250	15
40	9:1	10:1	40	80	305	15
45	15:1	12:1	45	80	360	19
50	17:1	14:1	50	80	425	19
55	19:1	16:1	55	80	495	23
60	20:1	18:1	60	120	570	30
65	22:1	19:1	65	120	645	30
70	24:1	20:1	70	120	730	30

LEGEND

WORK AREA
DRUMS
PORTABLE BARRIER (PB)
ATTENUATOR
OPTIONAL TREATMENT
DIRECTION OF TRAVEL
DRUMS FOR USE WITH TAPERED END SECTION

MT-95.45 — CLOSING SHOULDER OF A MULTI-LANE DIVIDED HIGHWAY — OFFICE OF ROADWAY ENGINEERING — Soleson — David L. Holstein — 01-17-2020 — 1/2

THIS DRAWING REPLACES MT-95.45 DATED 04-19-2019.

NOTES:

DESIGN SPEED

1. The design speed used for taper rates should typically be the permanent legal speed. However, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

TAPERS

2A. The minimum acceptable rate for the shoulder taper is provided in Table II.

SIGN SPACING

3A. The work zone sign spacings shown in Table I are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.

3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds 50 mph or greater.

ADJUSTMENTS FOR SIGHT DISTANCE

4. The location of the shoulder taper and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.

5B. END ROAD WORK (G20-2) signs are only required for shoulder closures of more than 1 day. It is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.

5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any W20-1 or G20-2 signs which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

SIGNING DETAILS

6A. When the approach speed limit is 40 mph or less, 36" warning signs may be used.

6B. The distance plaque W16-2aP shall indicate the distance to the beginning of the shoulder taper. Distances less than 1 mile may be expressed in feet.

EXTRA ADVANCE WARNING SIGNING

7. Extra Advance Warning Sign Groups consisting of ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED (W21-5a) signs plus Distance plaques may be specified in the plans or may be required to be erected, as determined by the Engineer (see Standard Construction Drawing (SCD) MT-95.50).

PAVEMENT MARKINGS / RPMs

8A. If a shoulder closure of greater than 3 days is required, the following shall be performed:

a) The appropriate color work zone edge lines shall be applied along the taper and tangent sections.
b) The existing conflicting pavement markings shall be removed or covered per CMS 614.11C.

8B. Work zone pavement markings which would conflict with final traffic lanes shall be removable tape (CMS 740.06, Type I) unless the area will be resurfaced prior to project completion.

8C. After completion of the work, pavement markings other than CMS 740.06, Type I shall be removed in accordance with CMS 614.11 I. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.

(RESERVED FOR FUTURE USE)

9A. (Intentionally blank)

10A. (Intentionally blank)

FLASHING WARNING LIGHTS

11. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the RIGHT SHOULDER CLOSED (W21-5a) signs are required whenever a night lane closure is necessary.

INTERSECTION / DRIVEWAY ACCESS

12. Within the length of the closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:

a) Place across the closed shoulder, barricades, and/or
b) Provide an additional flagger at every public street intersection and major driveway.

Barricades placed across the closed shoulder shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions. The method of control shall be subject to the approval of the Engineer.

DRUMS/CONES

13A. The maximum drum spacing along tapers and along tangent sections shall be as shown in Table II. A minimum of 3 drums in the taper shall be used to close the upstream shoulder.

13B. Cones may be substituted for drums as follows:

a) Use of cones is permissible for either daytime operation or for nighttime operation, but shall not be used continuously, day and night. Upon completion of work within the work period, the cones shall be removed. They may again be placed on the highway in order to resume work in the following such work period.
b) Cones used for daytime traffic control shall have a minimum height of 28".
c) Cones used for nighttime traffic control shall have a minimum height of 42".
d) Use of cones at night shall be prohibited along tapers.
e) Cone spacing at night shall be at a maximum of 40'.
f) Where cones are substituted for drums along tangents, intermixing of channelizing devices within the same run will not be permitted. Either cones shall be used for the entire length of the tangent section, or drums shall be used for the entire length.

13C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.

13D. All drums and cones should have a minimum offset from the edge of the traveled lanes of 1.5 feet.

13E. The use of drums or cones in lieu of portable barrier should be based on engineering judgement.

PORTABLE BARRIER (PB)

14A. A tapered end section may be used in place of the impact attenuator at locations where the last full section of NCHRP 350 PB can be extended outside of the clear zone for approaching traffic. See Table II for clear zone widths. When a tapered end section is used, drums shall extend parallel to the travel lanes from the shoulder taper to the first section of PB parallel to the traveled lanes.

14B. If it is necessary to provide the Contractor with access to the work area behind the PB flare, the PB end treatment shall include an impact attenuator. The maximum width of the opening shall be 9' between the impact attenuator and the outside edge of the paved shoulder. Where space constraints do not allow for 4' between the lane line and attenuator, a minimum of 1' may be used.

14C. If Contractor access is provided per Note 14B, the length of PB shall be adequate to shield the work area from the motorist. This length of need of PB shall be determined from the calculations provided in SCD MT-101.75 and the L&D Manual, Volume 1, Figure 602-1E, and shall require the approval of the Engineer.

14D. When used, impact attenuators shall be installed parallel to traffic. Also, the last full section of PB, adjacent to the impact attenuator, shall be located parallel to traffic.

14E. Where narrow medians are provided, see Table II to determine whether or not the downstream end of the PB is located within the clear zone of opposing traffic. If the PB is located within the clear zone of opposing traffic, the downstream end shall be flared away from opposing traffic to shield the work area from potential errant vehicles crossing the median.

14F. If the NCHRP 350PB is located beyond the clear zone of opposing traffic, the downstream end of the NCHRP 350 PB may be provided with a tapered end, located 10' beyond the work area.

14G. Where PB is located beyond the edge of the paved shoulder, the cross slope within the clear zone, including the surface on which the PB is placed, shall be graded at 10:1, or flatter. If the cross slope is steeper than 10:1, the PB shall be terminated on the paved shoulder. The PB shall be extended along the paved shoulder as necessary to satisfy the length of need, and then terminated using an impact attenuator.

14H. The work area shall be adequately protected from traffic approaching from intersections and driveway approaches using PB and impact attenuators as called for by the Engineer.

14I. For installation procedures, refer to the manufacturer's installation instructions.

14J. For details on delineation of PB, see Standard Construction Drawing MT-101.70.

SHADOW VEHICLE

15A. If cones and drums are used in lieu of Portable Barrier, the shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.

15B. The shadow vehicle shall be equipped with a high-intensity yellow rotating, flashing, oscillating, or strobe light(s).

15C. The shadow vehicle shall be equipped with a truck-mounted or trailer attenuator (TMA) in accordance with CMS 614.03.

MT-95.45 — CLOSING SHOULDER OF A MULTI-LANE DIVIDED HIGHWAY — OFFICE OF ROADWAY ENGINEERING — Soleson — David L. Holstein — 01-17-2020 — 2/2

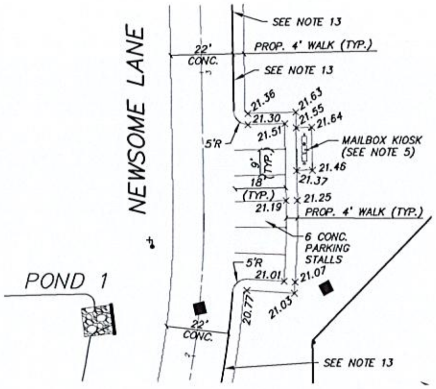
THIS DRAWING REPLACES MT-95.45 DATED 04-19-2019.

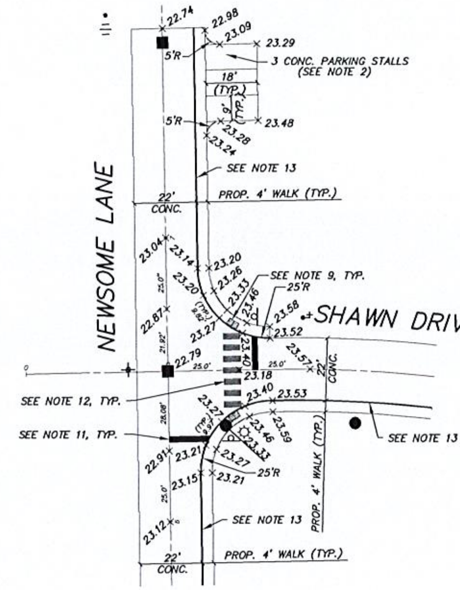
REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

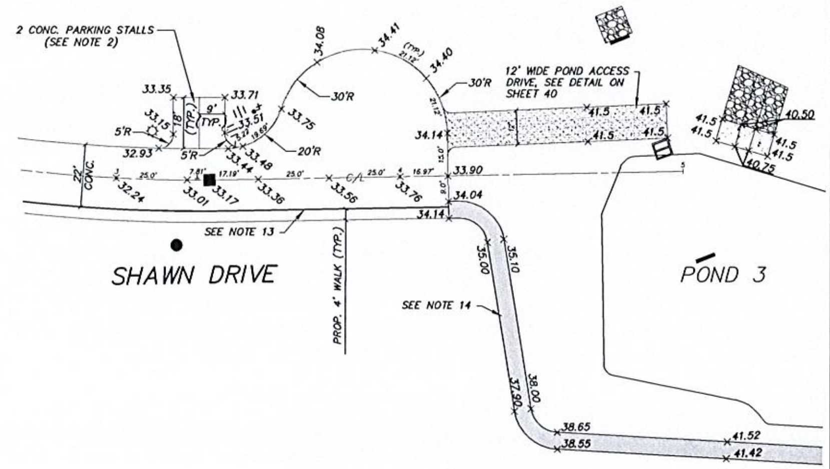
MAINTENANCE OF TRAFFIC PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

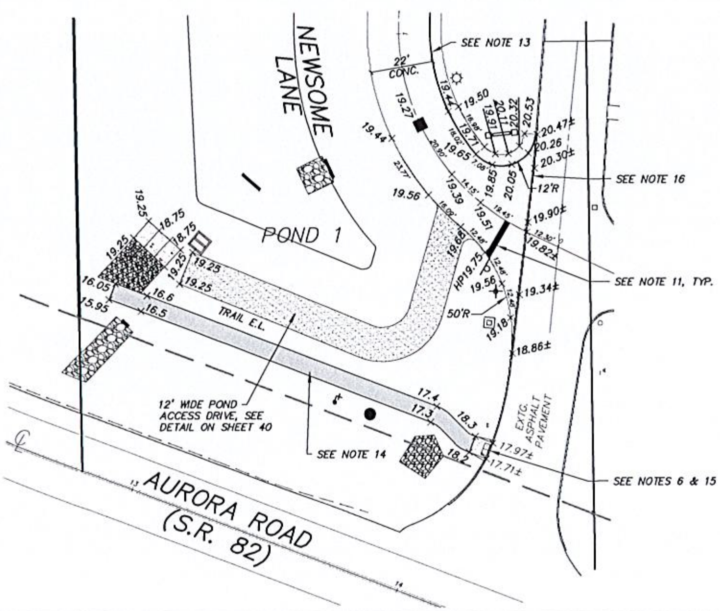
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE (216) 642-1130 FAX (216) 642-1132

GRAPHIC SCALE
0' 15' 30'
HORIZ. SCALE 1"=30'
VERT. SCALE ----
DRN. K.C. CHK. T.C.
DATE OCT., 2022
ORDER NO. 4723E



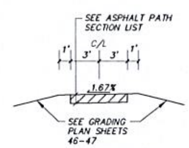






6' ASPHALT PATH SECTION	
ODOT #	THICKNESS (inches)
441 ASPHALT CONCRETE SURFACE COURSE, LIMESTONE	2.5"
304 LIMESTONE BASE	6.0"

= 6' WIDE ASPHALT PATH



ASPHALT PATH
TYPICAL SECTION
HORZ. SCALE: 1"=5'

NOTES:

1.) ADD 800' TO ALL PROPOSED ELEVATIONS SHOWN TO OBTAIN U.S.G.S. DATUM.

2.) CONCRETE ROADWAYS, ADJACENT SIDEWALK, AND PARKING STALLLS SHALL BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE, TYP. SEE TYPICAL SECTION, SHEET 43.

3.) ALL RADII ARE TO BACK OF EDGE OF PAVEMENT (TYP.)

4.) CONCRETE JOINTS PER ODOT BUREAU OF LOCATION & DESIGN, STANDARD CONSTRUCTION DRAWINGS BP-2.1 & BP-2.2, AND SUMMIT COUNTY STANDARDS.

5.) MAILBOX PADS SHALL ALSO BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE. CONCRETE PAD IS BY SITE CONTRACTOR AND MAILBOXES ARE TO BE INSTALLED BY HOME BUILDER.

6.) CONCRETE SIDEWALK AT THE ADA RAMP LEADING TO ASPHALT TRAIL (NOT ADJACENT TO THE ON-SITE ROADWAY) SHALL BE 4" CONCRETE OVER 2" ODOT 304 AGGREGATE BASE.

7.) 3 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "AA" SHALL NOT BE INSTALLED UNTIL BUILDING "AA" IS UNDER CONSTRUCTION AND AFTER THE BUILDING'S SANITARY CONNECTION IS MADE.

8.) 2 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "Z" SHALL NOT BE INSTALLED UNTIL BUILDING "Z" IS UNDER CONSTRUCTION.

9.) DETECTABLE WARNINGS (TRUNCATED DOMES) TO BE INSTALLED PER ODOT'S 7-12-02 PLAN INSERT SHEETS, OR APPROVED EQUAL.

10.) STRIPING OF PARKING STALLS SHALL BE 4" WHITE PAINTED PARKING STALL LINES, TYP.

11.) STOP BARS SHOWN SHALL BE 24" WIDE WHITE PAINTED STOP LINES.

12.) CROSS WALK STRIPING SHOWN SHALL BE 6'X2' WHITE PAINTED, SPACED 4' APART (CENTER TO CENTER).

13.) THERE SHALL BE 6" WHITE PAINTED STRIPING AT THE LONGITUDINAL JOINT BETWEEN THE SIDEWALK AND THE ROADWAY (3" ON EITHER SIDE OF THE JOINT).

14.) 6' WIDE ASPHALT PATH. SEE DETAIL ON SHEET 35 (THIS SHEET).

15.) HORIZONTALLY SAWCUT EXISTING 6" CURB DOWN TO 0" TO CREATE FLUSH CURB AT PROPOSED SIDEWALK RAMP (6 L.F. DISTANCE). TAPER SAWCUT TO TRANSITION FROM 0" TO 6" CURB HEIGHT OVER 1' DISTANCE AT BOTH SIDES OF THE SIDEWALK RAMP.

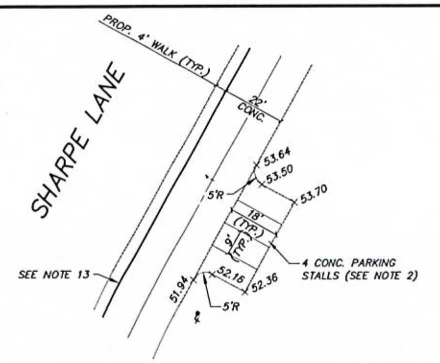
16.) HORIZONTALLY SAWCUT EXISTING 6" CURB DOWN TO 0" TO CREATE FLUSH CURB AT NEW ROADWAY ENTRANCE (77 L.F. TOTAL). TAPER SAWCUT TO TRANSITION FROM 0" TO 6" CURB HEIGHT OVER 2' DISTANCE AT BOTH NORTH AND SOUTH ENDS OF ENTRANCE.

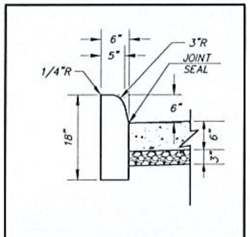
REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

INTERSECTION DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

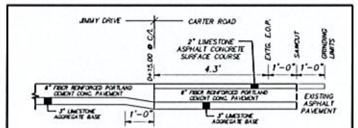
GRAPHIC SCALE 0 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE ----
DRN. DER CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E





TYPE 6 CONCRETE CURB

SCALE: 1"=1'-0"



PAVEMENT TRANSITION SECTION DETAIL

STA. 3+05.86 CARTER ROAD (@ C/L)

SCALE: 1/2"= 1'-0"

NOTES:

1.) ADD 800' TO ALL PROPOSED ELEVATIONS SHOWN TO OBTAIN U.S.G.S. DATUM.

2.) CONCRETE ROADWAYS, ADJACENT SIDEWALK, AND PARKING STALLS SHALL BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE, TYP. SEE TYPICAL SECTION, SHEET 43.

3.) ALL RADII ARE TO BACK OF EDGE OF PAVEMENT (TYP.)

4.) CONCRETE JOINTS PER ODOT BUREAU OF LOCATION & DESIGN, STANDARD CONSTRUCTION DRAWINGS BP-2.1 & BP-2.2, AND SUMMIT COUNTY STANDARDS.

5.) MAILBOX PADS SHALL ALSO BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE. CONCRETE PAD IS BY SITE CONTRACTOR AND MAILBOXES ARE TO BE INSTALLED BY HOME BUILDER.

6.) CONCRETE SIDEWALK AT THE ADA RAMP LEADING TO ASPHALT TRAIL (NOT ADJACENT TO THE ON-SITE ROADWAY) SHALL BE 4" CONCRETE OVER 2" ODOT 304 AGGREGATE BASE.

7.) 3 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "AA" SHALL NOT BE INSTALLED UNTIL BUILDING "AA" IS UNDER CONSTRUCTION AND AFTER THE BUILDING'S SANITARY CONNECTION IS MADE.

8.) 2 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "Z" SHALL NOT BE INSTALLED UNTIL BUILDING "Z" IS UNDER CONSTRUCTION.

9.) DETECTABLE WARNINGS (TRUNCATED DOMES) TO BE INSTALLED PER ODOT'S 7-12-02 PLAN INSERT SHEETS, OR APPROVED EQUAL.

10.) STRIPING OF PARKING STALLS SHALL BE 4" WHITE PAINTED PARKING STALL LINES, TYP.

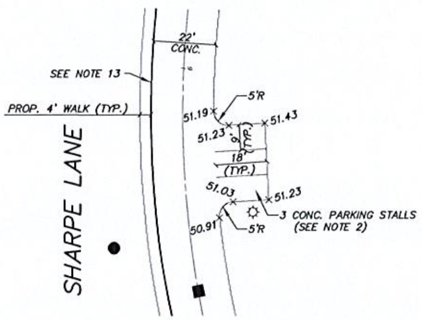
11.) STOP BARS SHOWN SHALL BE 24" WIDE WHITE PAINTED STOP LINES.

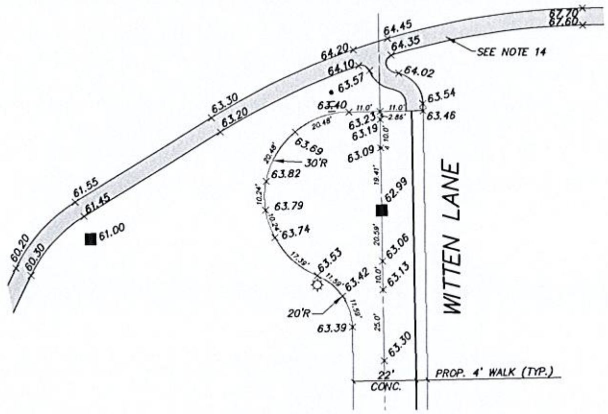
12.) CROSS WALK STRIPING SHOWN SHALL BE 6'X2' WHITE PAINTED, SPACED 4' APART (CENTER TO CENTER).

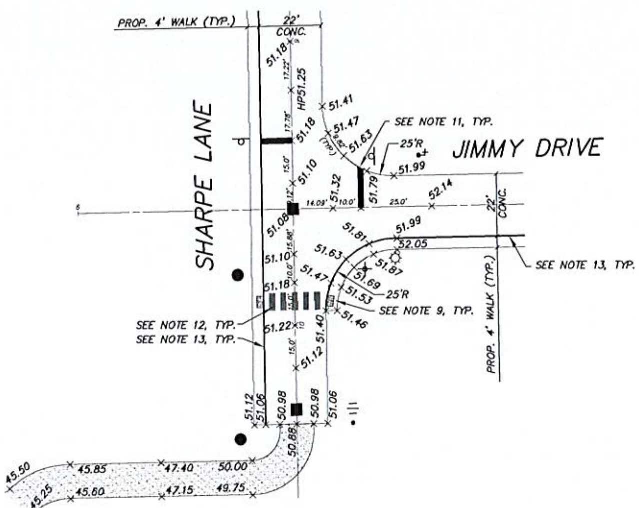
13.) THERE SHALL BE 6" WHITE PAINTED STRIPING AT THE LONGITUDINAL JOINT BETWEEN THE SIDEWALK AND THE ROADWAY (3" ON EITHER SIDE OF THE JOINT).

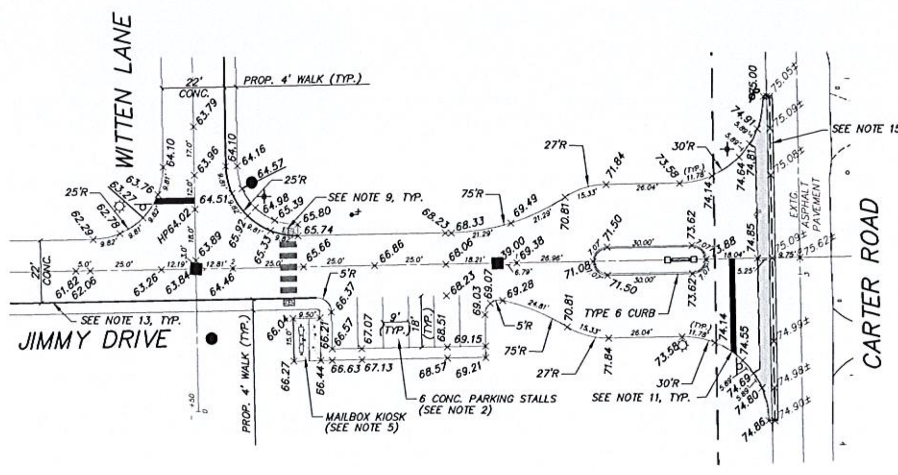
14.) 6' WIDE ASPHALT PATH. SEE DETAIL ON SHEET 35.

15.) SAWCUT 1' INTO EXTG. ASPHALT PAVEMENT AND REMOVE FULL DEPTH (114 LF) AND GRIND OFF EXTG. ASPHALT 1' INTO PAVEMENT (PAST SAWCUT) FOR BUTT JOINT OVERLAY OF SURFACE COURSE AND INTERMEDIATE COURSE (114 LF).









REVISIONS

1/27/23 REV PER COUNTY COMMENTS

INTERSECTION DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE

HORIZ. SCALE 1"=20'

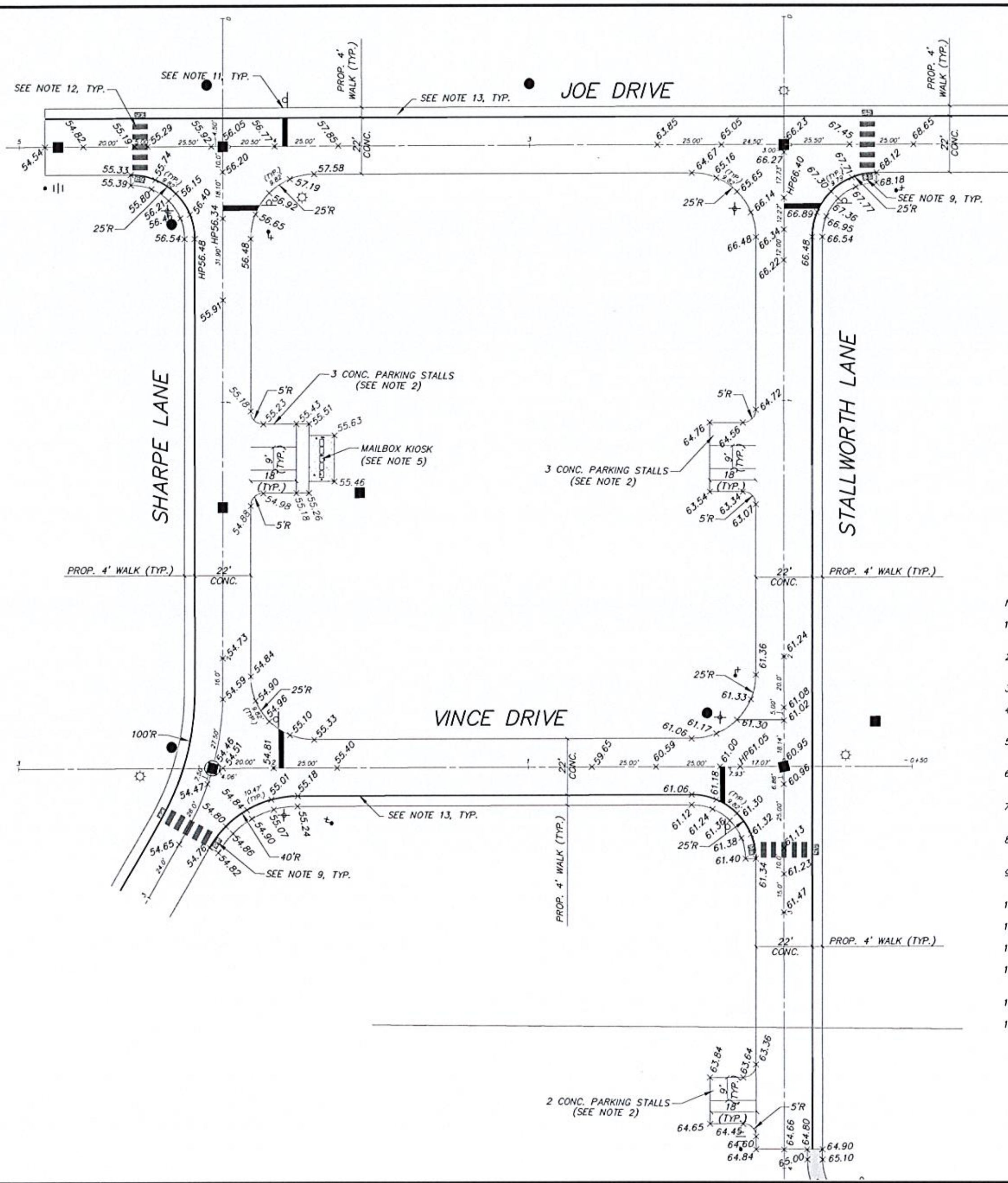
VERT. SCALE -----

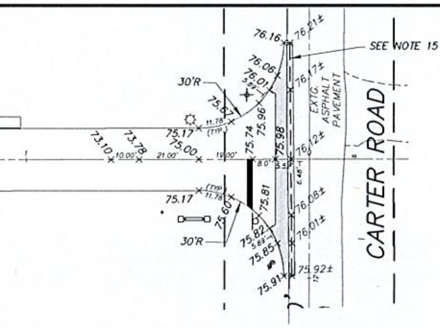
DRN DER | CKD T.C.

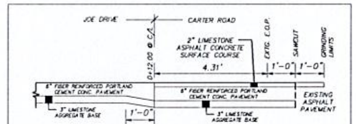
DATE OCT. 2022

ORDER NO. 4723E

36/53







PAVEMENT TRANSITION SECTION DETAIL

STA. 12+41.87 CARTER ROAD (℄ C/L)

SCALE: 1/2"= 1'-0"

NOTES:

1.) ADD 800' TO ALL PROPOSED ELEVATIONS SHOWN TO OBTAIN U.S.G.S. DATUM.

2.) CONCRETE ROADWAYS, ADJACENT SIDEWALK, AND PARKING STALLLS SHALL BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE, TYP. SEE TYPICAL SECTION, SHEET 43.

3.) ALL RADII ARE TO BACK OF EDGE OF PAVEMENT (TYP.)

4.) CONCRETE JOINTS PER ODOT BUREAU OF LOCATION & DESIGN, STANDARD CONSTRUCTION DRAWINGS BP-2.1 & BP-2.2, AND SUMMIT COUNTY STANDARDS.

5.) MAILBOX PADS SHALL ALSO BE 6" CONCRETE OVER 3" ODOT 304 AGGREGATE BASE. CONCRETE PAD IS BY SITE CONTRACTOR AND MAILBOXES ARE TO BE INSTALLED BY HOME BUILDER.

6.) CONCRETE SIDEWALK AT THE ADA RAMP LEADING TO ASPHALT TRAIL (NOT ADJACENT TO THE ON-SITE ROADWAY) SHALL BE 4" CONCRETE OVER 2" ODOT 304 AGGREGATE BASE.

7.) 3 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "AA" SHALL NOT BE INSTALLED UNTIL BUILDING "AA" IS UNDER CONSTRUCTION AND AFTER THE BUILDING'S SANITARY CONNECTION IS MADE.

8.) 2 CONCRETE PARKING STALLS ADJACENT TO PROPOSED BUILDING "Z" SHALL NOT BE INSTALLED UNTIL BUILDING "Z" IS UNDER CONSTRUCTION.

9.) DETECTABLE WARNINGS (TRUNCATED DOMES) TO BE INSTALLED PER ODOT'S 7-12-02 PLAN INSERT SHEETS, OR APPROVED EQUAL.

10.) STRIPING OF PARKING STALLS SHALL BE 4" WHITE PAINTED PARKING STALL LINES, TYP.

11.) STOP BARS SHOWN SHALL BE 24" WIDE WHITE PAINTED STOP LINES.

12.) CROSS WALK STRIPING SHOWN SHALL BE 6'X2' WHITE PAINTED, SPACED 4' APART (CENTER TO CENTER).

13.) THERE SHALL BE 6" WHITE PAINTED STRIPING AT THE LONGITUDINAL JOINT BETWEEN THE SIDEWALK AND THE ROADWAY (3" ON EITHER SIDE OF THE JOINT).

14.) 6' WIDE ASPHALT PATH. SEE DETAIL ON SHEET 35.

15.) SAWCUT 1' INTO EXTG. ASPHALT PAVEMENT AND REMOVE FULL DEPTH (82 LF) AND GRIND OFF EXTG. ASPHALT 1' INTO PAVEMENT (PAST SAWCUT) FOR BUTT JOINT OVERLAY OF SURFACE COURSE AND INTERMEDIATE COURSE. (82 LF)

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

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SUMMIT COUNTY, OHIO

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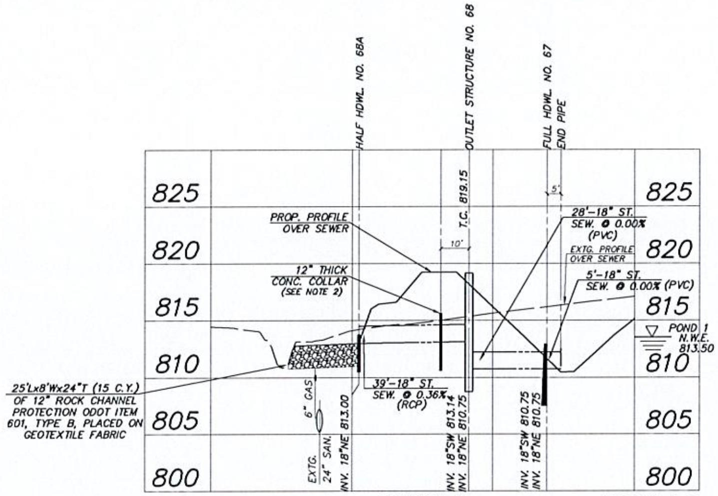
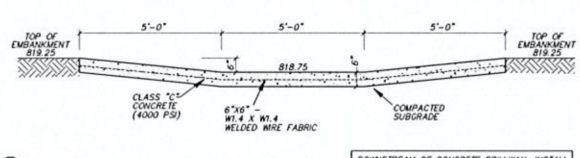
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE -----
DRN. DER CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



PROFILE W

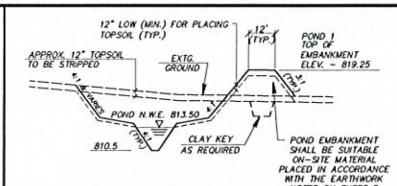
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'



(ES) EMERGENCY SPILLWAY DETAIL (PAVED CONC. GUTTER – 8' WIDTH)

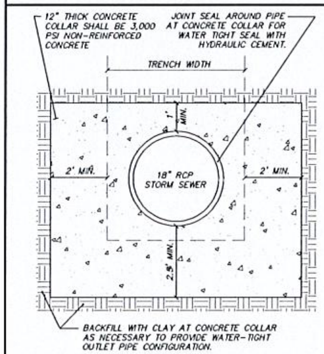
SCALE: 1/2"=1'-0"

DOWNSTREAM OF CONCRETE SPILLWAY: INSTALL 16'LX15'WX12"T (9 C.Y.) OF 6" ROCK CHANNEL PROTECTION ODOT ITEM 601, TYPE C, PLACED ON GEOTEXTILE FABRIC



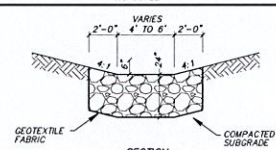
TYPICAL POND EXCAVATION SECTION

NO SCALE



12" THICK CONCRETE COLLAR DETAIL

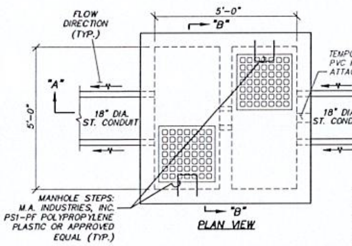
NO SCALE



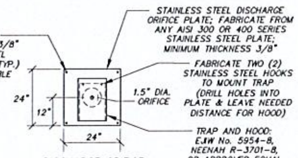
SECTION

(RP) ROCK CHANNEL PROTECTION DETAIL

NOT TO SCALE

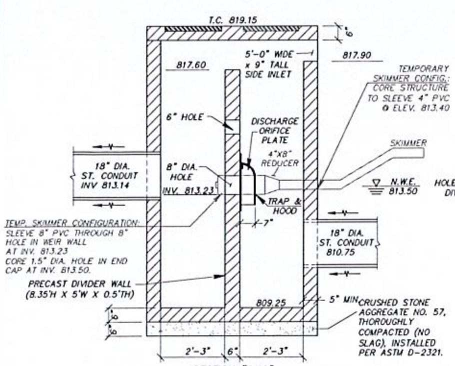


PLAN VIEW



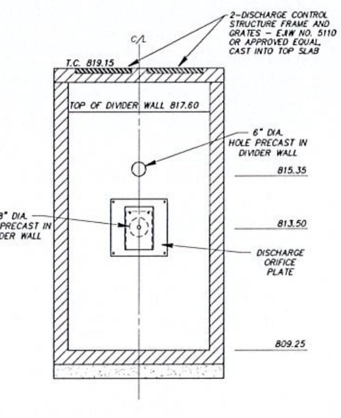
DISCHARGE ORIFICE PLATE DETAIL

PRECAST SECTIONS TO CONFORM TO ASTM C-478 WITH A RESILIENT GASKET JOINT CONFORMING TO ASTM C-443. PRECAST CONSTRUCTION MEETING ODOT 706.13 – CLASS C (4000 PSI) CONCRETE, WITH PIPE CONNECTION HOLES CORED AT THE TIME OF PRECAST MANUFACTURE. (IF APPLICABLE)



SECTION "A-A"

POND 1 DISCHARGE CONTROL STRUCTURE NO. 68 DETAIL



SECTION "B-B"

(MODIFIED ODOT C.B. 2-5)

SCALE: 1/2"=1'-0"

NOTES:

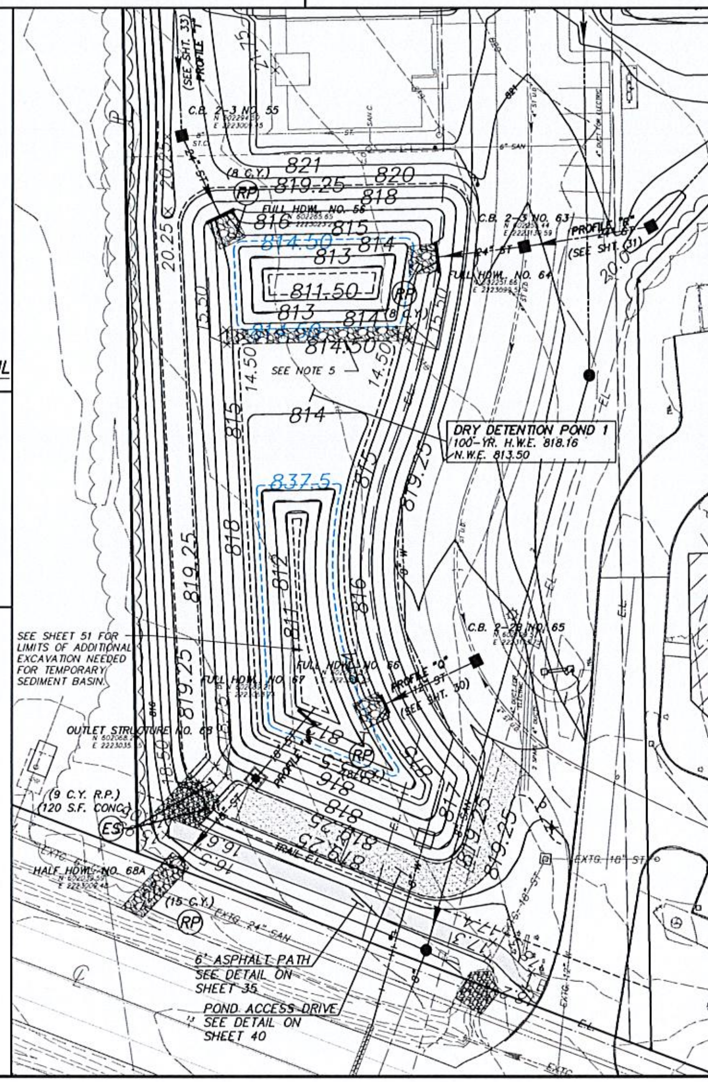
1.) ALL STRUCTURE TO PIPE CONNECTIONS AND PIPE JOINTS SHALL HAVE WATERTIGHT SEALS.

2.) THE 12" THICK CONCRETE COLLAR SHALL BE 3,000 PSI NON-REINFORCED CONCRETE ON THE DISCHARGE CONDUIT AND SHALL EXTEND A MINIMUM OF 24" BEYOND THE TRENCH LIMITS, 12" ABOVE THE PIPE AND 2'-6" BELOW THE PIPE. JOINT SEAL AROUND PIPE AT CONCRETE COLLAR FOR WATER TIGHT SEAL WITH HYDRAULIC CEMENT. BACKFILL WITH CLAY AT CONCRETE COLLAR AS NECESSARY TO PROVIDE WATER-TIGHT OUTLET PIPE CONFIGURATION. COST FOR THE COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM CONDUIT.

3.) IF THE CONTROL STRUCTURE DIVIDER WALL IS PRECAST SEPARATELY, ALL WALL JOINTS AND WALL TO STRUCTURE JOINTS SHALL BE WATERTIGHT. THE DIVIDER WALL SHALL BE KEYED INTO THE STRUCTURE BASE AND WALLS (PRECAST KEY 1" MINIMUM, 1-1/2" MAXIMUM DEPTH), AND SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.

4.) CONTRACTOR TO UTILIZE DISCHARGE CONTROL STRUCTURE TO ATTACH TEMPORARY SKIMMER DEWATERING DEVICE. CONFIGURATION SHOWN ON DETAIL IS TO ATTACH SKIMMER THROUGH CORED 4" HOLE (PLUG AT REMOVAL). INITIAL INSTALLATION AND ULTIMATE REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE FOR "SEDIMENT BASIN AND TEMPORARY SKIMMER DEWATERING DEVICE".

5.) INSTALL 5'W X 65'L X 24"T FOREBAY ROCK DAM. ROCK SHALL BE 12" ODOT 601, TYPE B, PLACED ON GEOTEXTILE FABRIC (24 C.Y. TOTAL).

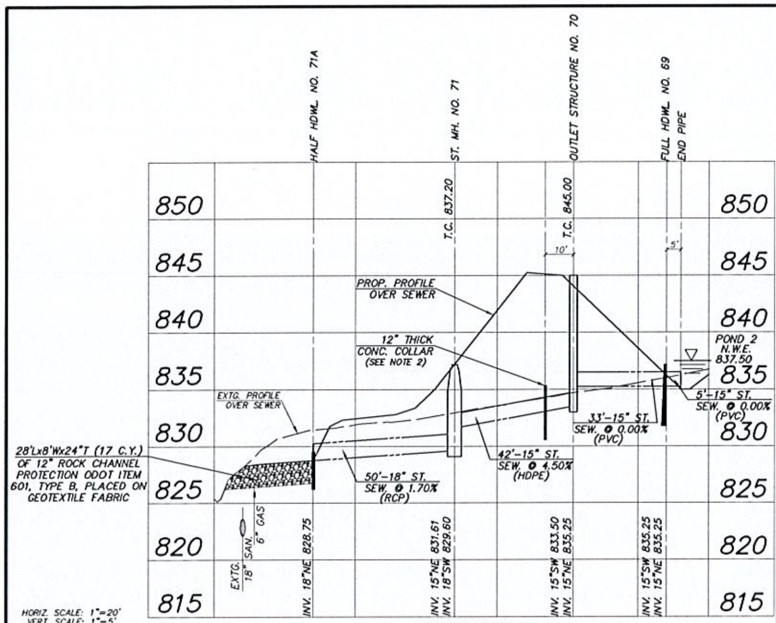


REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

DRY DETENTION POND 1 PLAN & DETAILS
PARKVIEW SENIOR LIVING
RESIDENTIAL DEVELOPMENT
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 10' 20'
HORIZ. SCALE 1"=20'
VERT. SCALE 1"=5'
DRN DER | CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



PROFILE X

HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'

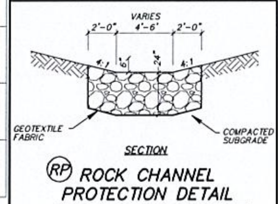
NOTES:

1.) ALL STRUCTURE TO PIPE CONNECTIONS AND PIPE JOINTS SHALL HAVE WATERTIGHT SEALS.

2.) THE 12" THICK CONCRETE COLLAR SHALL BE 3,000 PSI NON-REINFORCED CONCRETE ON THE DISCHARGE CONDUIT AND SHALL EXTEND A MINIMUM OF 24" BEYOND THE TRENCH LIMITS, 12" ABOVE THE PIPE AND 2'-6" BELOW THE PIPE. JOINT SEAL AROUND PIPE AT CONCRETE COLLAR FOR WATER TIGHT SEAL WITH HYDRAULIC CEMENT. BACKFILL WITH CLAY AT CONCRETE COLLAR AS NECESSARY TO PROVIDE WATER-TIGHT OUTLET PIPE CONFIGURATION. COST FOR THE COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM CONDUIT. SEE SHEET 40 FOR CONCRETE COLLAR DETAIL.

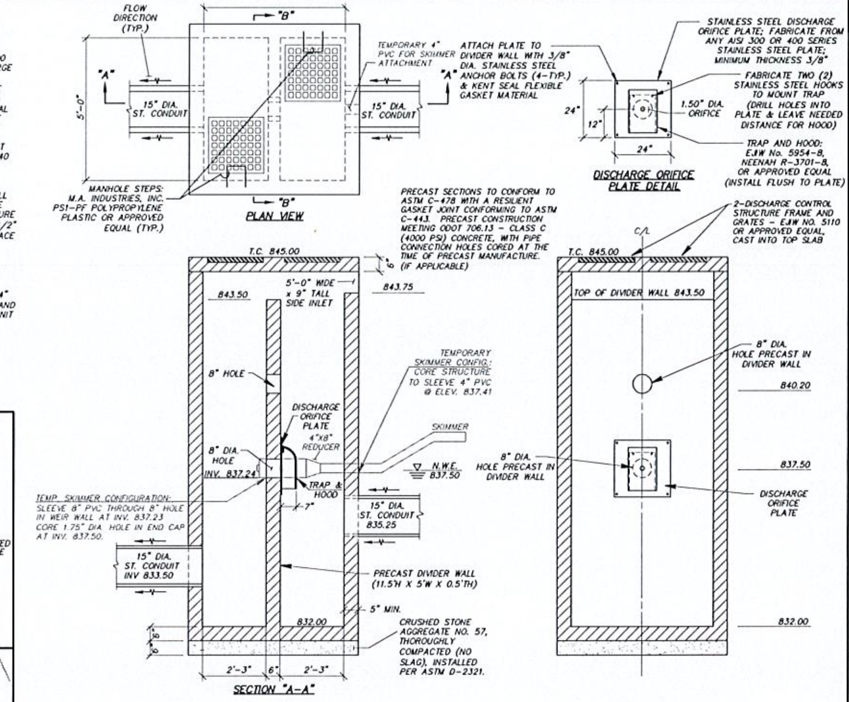
3.) IF THE CONTROL STRUCTURE DIVIDER WALL IS PRECAST SEPARATELY, ALL WALL JOINTS AND WALL TO STRUCTURE JOINTS SHALL BE WATERTIGHT. THE DIVIDER WALL SHALL BE KEYED INTO THE STRUCTURE BASE AND WALLS (PRECAST KEY 1" MINIMUM, 1-1/2" MAXIMUM DEPTH), AND SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.

4.) CONTRACTOR TO UTILIZE DISCHARGE CONTROL STRUCTURE TO ATTACH TEMPORARY SKIMMER DEWATERING DEVICE. CONFIGURATION SHOWN ON DETAIL IS TO ATTACH SKIMMER THROUGH CORED 4" HOLE (PLUG AT REMOVAL). INITIAL INSTALLATION AND ULTIMATE REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE FOR "SEDIMENT BASIN AND TEMPORARY SKIMMER DEWATERING DEVICE".



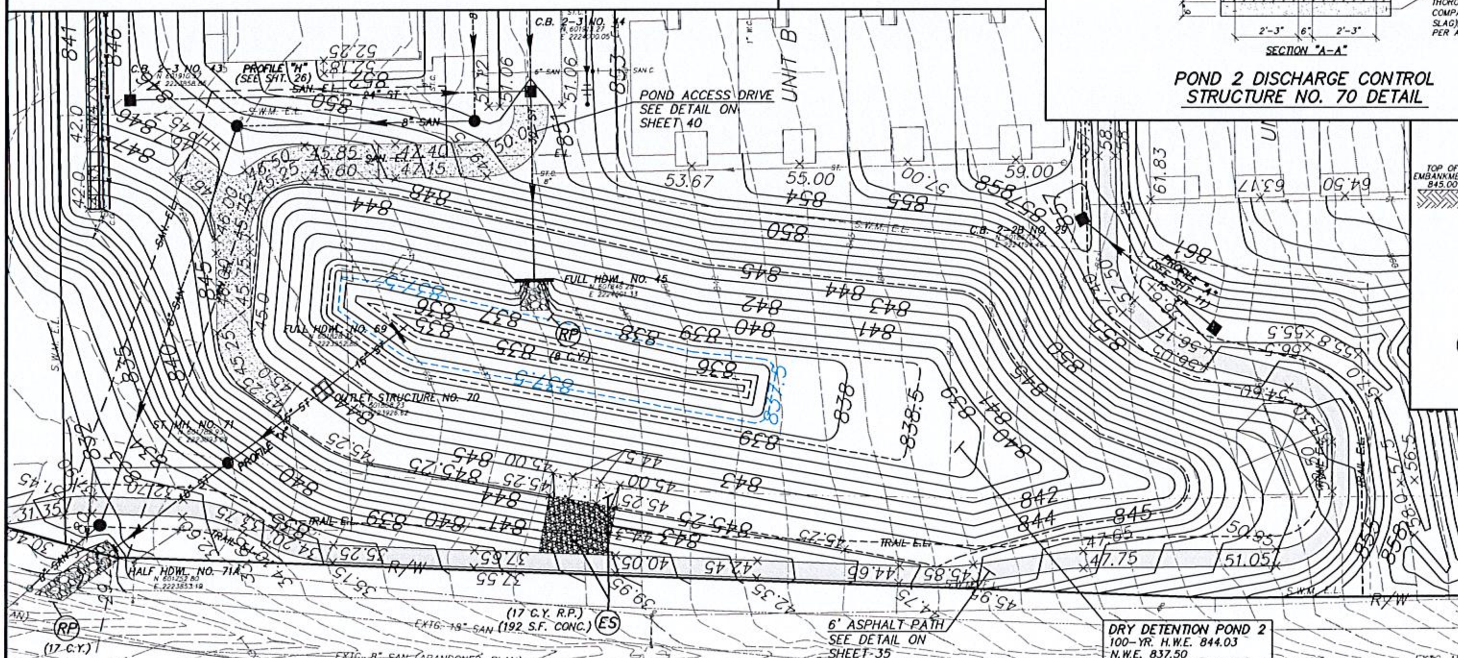
(RP) ROCK CHANNEL PROTECTION DETAIL

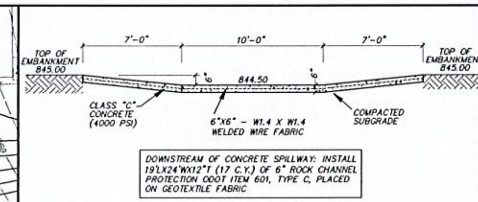
NOT TO SCALE



POND 2 DISCHARGE CONTROL STRUCTURE NO. 70 DETAIL

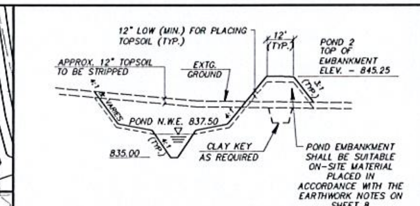
SECTION "B-B"
(MODIFIED ODOT C.B. 2-5)
SCALE: 1/2"=1'-0"





(ES) EMERGENCY SPILLWAY DETAIL (PAVED CONC. GUTTER - 8' WIDTH)

SCALE: 1/4"=1'-0"



TYPICAL POND EXCAVATION SECTION

NO SCALE

DRY DETENTION POND 2 PLAN & DETAILS
PARKVIEW SENIOR LIVING
RESIDENTIAL DEVELOPMENT
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

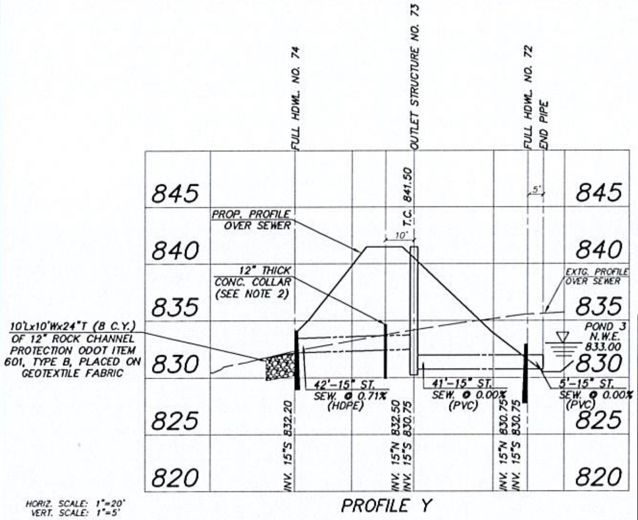
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

GRAPHIC SCALE 0' 10' 20'

HORIZ. SCALE 1"=20'
VERT. SCALE 1"=5'
DRN DER CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E

DRY DETENTION POND 3 PLAN & DETAILS
PARKVIEW SENIOR LIVING RESIDENTIAL DEVELOPMENT
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO



PROFILE Y

NOTES:

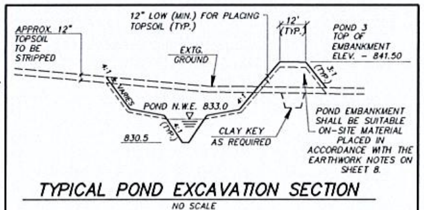
1.) ALL STRUCTURE TO PIPE CONNECTIONS AND PIPE JOINTS SHALL HAVE WATERTIGHT SEALS.

2.) THE 12" THICK CONCRETE COLLAR SHALL BE 3,000 PSI NON-REINFORCED CONCRETE ON THE DISCHARGE CONDUIT AND SHALL EXTEND A MINIMUM OF 24" BEYOND THE TRENCH LIMITS, 12" ABOVE THE PIPE AND 2'-6" BELOW THE PIPE. JOINT SEAL AROUND PIPE AT CONCRETE COLLAR FOR WATER TIGHT SEAL WITH HYDRAULIC CEMENT. BACKFILL WITH CLAY AT CONCRETE COLLAR AS NECESSARY TO PROVIDE WATER-TIGHT OUTLET PIPE CONFIGURATION. COST FOR THE COLLAR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE STORM CONDUIT.

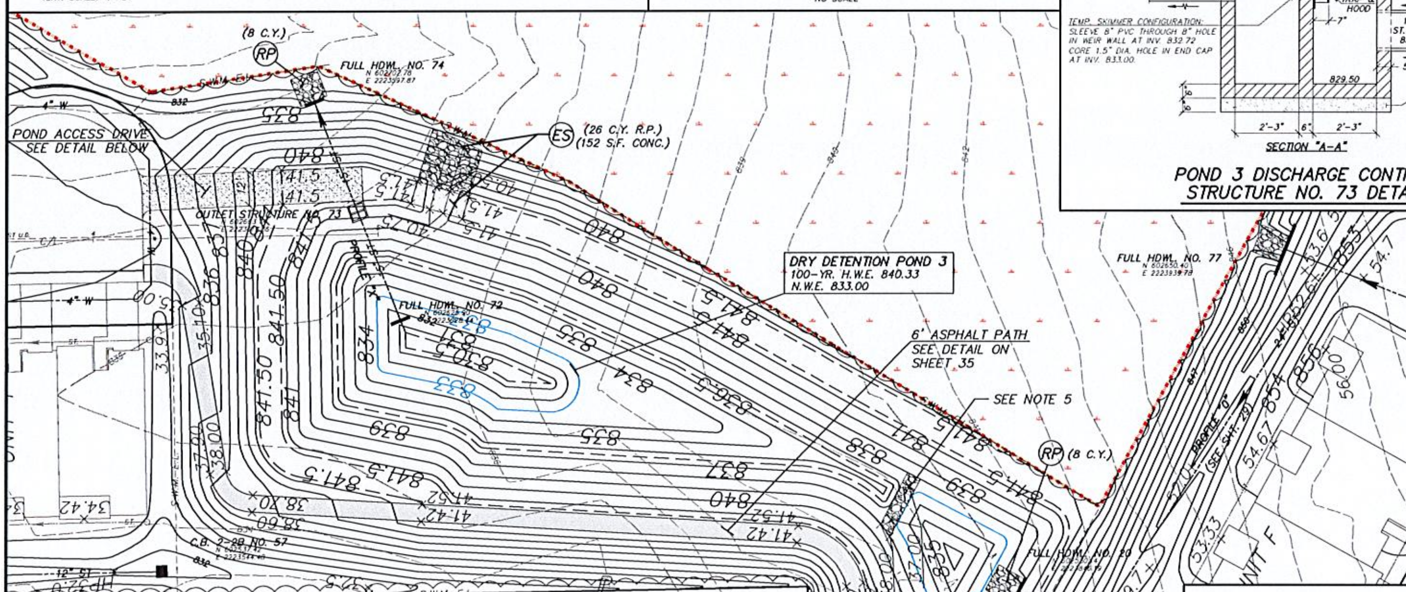
3.) IF THE CONTROL STRUCTURE DIVIDER WALL IS PRECAST SEPARATELY, ALL WALL JOINTS AND WALL TO STRUCTURE JOINTS SHALL BE WATERTIGHT. THE DIVIDER WALL SHALL BE KEYED INTO THE STRUCTURE BASE AND WALLS (PRECAST KEY 1" MINIMUM, 1-1/2" MAXIMUM DEPTH), AND SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.

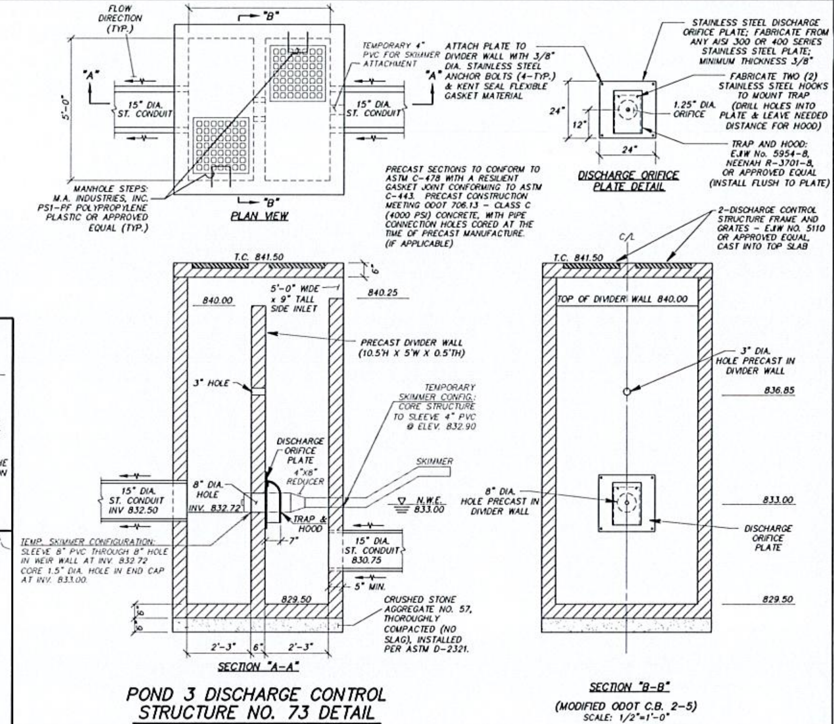
4.) CONTRACTOR TO UTILIZE DISCHARGE CONTROL STRUCTURE TO ATTACH TEMPORARY SKIMMER DEWATERING DEVICE. CONFIGURATION SHOWN ON DETAIL IS TO ATTACH SKIMMER THROUGH CORED 4" HOLE (PLUG AT REMOVAL). INITIAL INSTALLATION AND ULTIMATE REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE FOR "SEDIMENT BASIN AND TEMPORARY SKIMMER DEWATERING DEVICE".

5.) INSTALL 5'W X 22'L X 24"T FOREBAY ROCK DAM. ROCK SHALL BE 12" ODOT 601, TYPE B, PLACED ON GETEXTILE FABRIC (8 CY TOTAL).

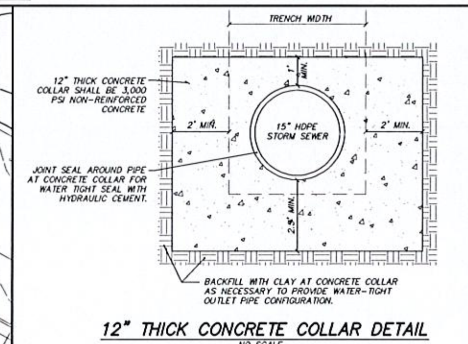


TYPICAL POND EXCAVATION SECTION
NO SCALE

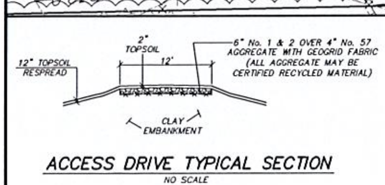




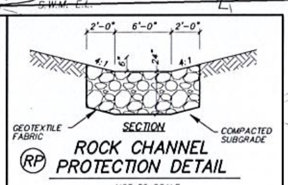
POND 3 DISCHARGE CONTROL STRUCTURE NO. 73 DETAIL



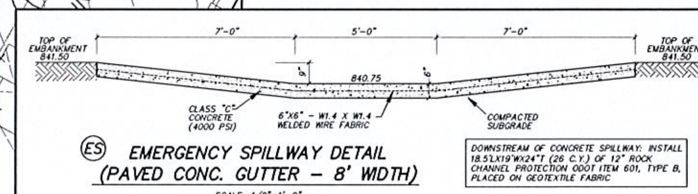
12" THICK CONCRETE COLLAR DETAIL
NO SCALE



ACCESS DRIVE TYPICAL SECTION
NO SCALE



RP ROCK CHANNEL PROTECTION DETAIL
NOT TO SCALE



ES EMERGENCY SPILLWAY DETAIL (PAVED CONC. GUTTER - 8' WIDTH)
SCALE: 1/2"=1'-0"

DOWNSTREAM OF CONCRETE SPILLWAY: INSTALL 18.5'LX19'WX24"T (26 C.Y.) OF 12" ROCK CHANNEL PROTECTION ODOT ITEM 601, TYPE B, PLACED ON GEOTEXTILE FABRIC

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

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VERT. SCALE 1"=5'
DRN. DER CKD. T.C.
DATE OCT., 2022
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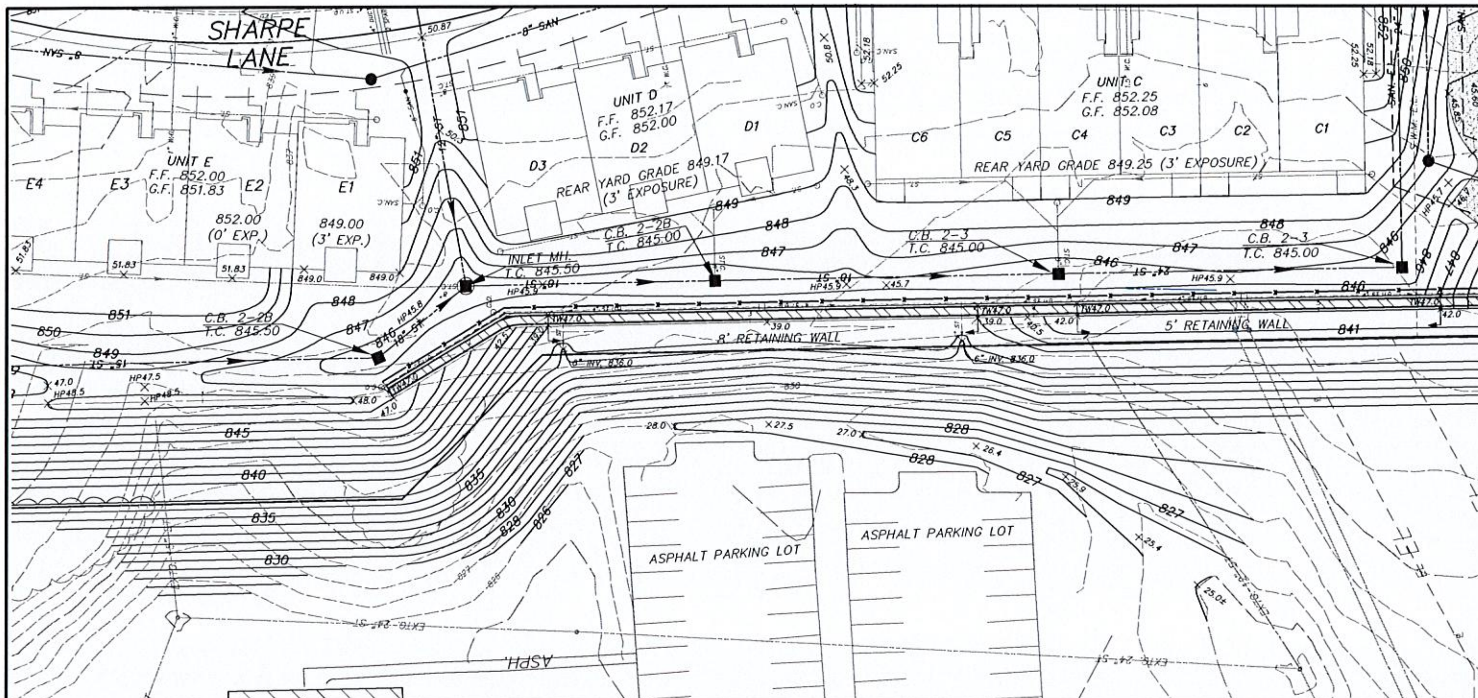


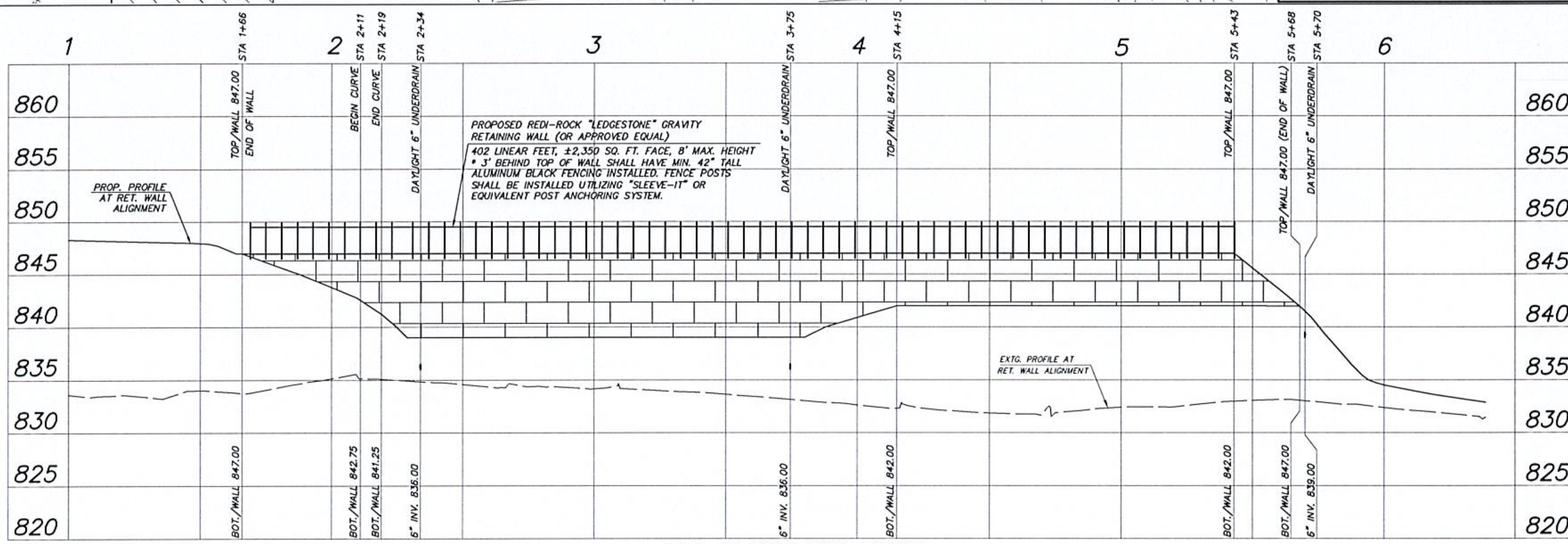
SOIL NOTES:

1. A MORE DETAILED REDI-ROCK RETAINING WALL DESIGN SHALL BE SUBMITTED SEPARATELY.
2. IF PRESENT, ANY DELETERIOUS CONDITIONS SHOULD BE REMEDIED BY UNDERCUTTING AS DIRECTED BY AN ON-SITE GEO-TECHNICAL ENGINEER OR THEIR REPRESENTATIVE, AND REPLACEMENT WITH LEAN CONCRETE OR COMPACTED ODOT #57 CRUSHED LIMESTONE.
3. A SUBSURFACE EVALUATION WAS PERFORMED BY WERTZ GEOTECHNICAL ENGINEERING, INC. IN JULY OF 2021 AND GENERALLY INDICATED STIFF CLAY OVER SHALLOW SANDSTONE BEDROCK. A GENERAL GEOTECHNICAL RECOMMENDATION FOR DESIGN OF RETAINING WALLS PER WERTZ:

Exterior, free standing retaining walls should be designed for an active pressure of 43 psf per foot depth ($\varphi=32°\gamma=130$ PCF). Sliding resistance would be provided due to friction at the base of the foundation using a coefficient of friction of 0.36, plus a passive resisting pressure of 390 psf per foot depth($\varphi=30°\gamma=130$ PCF) on the resisting face of the wall. The retaining wall foundations should be designed for a gross allowable bearing pressure of 2,500 psf if bearing on stiff or better clay soils or 8,000 psf if bearing on sandstone bedrock.

The lateral pressure on the walls from live and dead surface loadings should be taken as 0.6 times the load. The influence zone is defined as the region behind the wall to a distance equal to 2.0 times the height above the wall footing. Building foundations should not be supported by the backfill of the retaining wall. Wall heights greater than 15 feet or placed on steel slopes (2:1, H>15') should be evaluated for global stability.

These pressures assume the wall and foundations are backfilled with properly compacted, granular, engineered fill compacted as outlined above within the influence zone of the wall. Granular soils are defined as sand and gravel soils with less than 20 percent passing the 200 sieve.



PROP. RETAINING WALL PROFILE

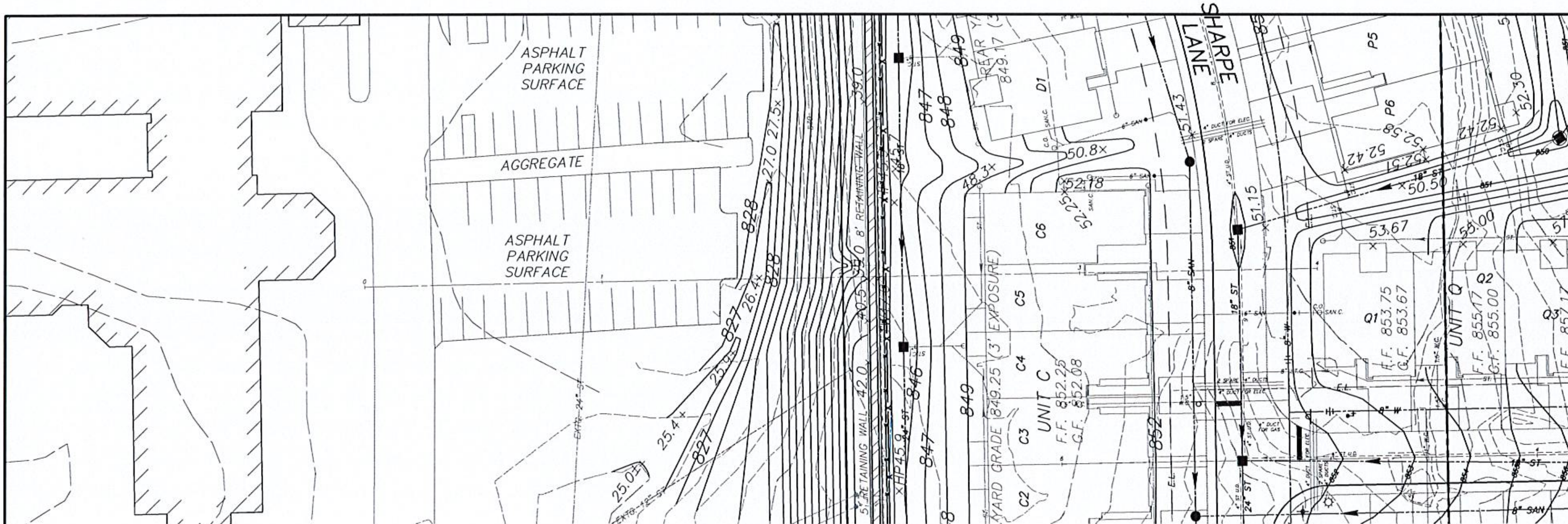
IMPROVEMENT PLAN & PROFILE ~ RETAINING WALL
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

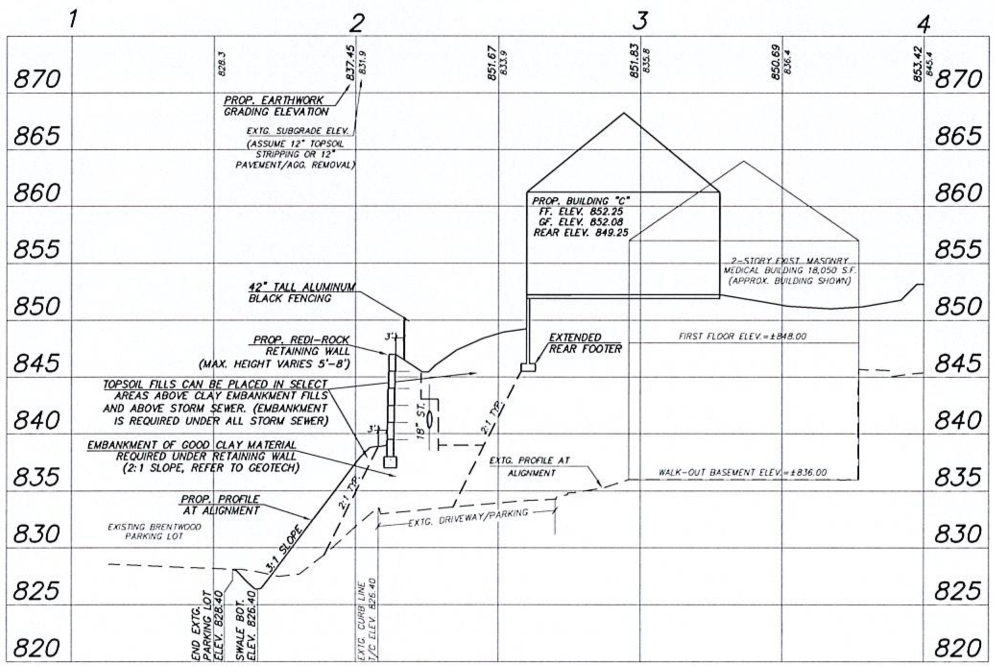
REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

GRAPHIC SCALE
HORIZ. SCALE 1"=20'
VERT. SCALE 1" = 5'
DRN. K.C.
CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

41/53





PROPOSED GRADING PROFILE

IMPROVEMENT PLAN & PROFILE ~ RETAINING WALL
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
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REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

GRAPHIC SCALE
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DRN K.C.
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DATE OCT., 2022
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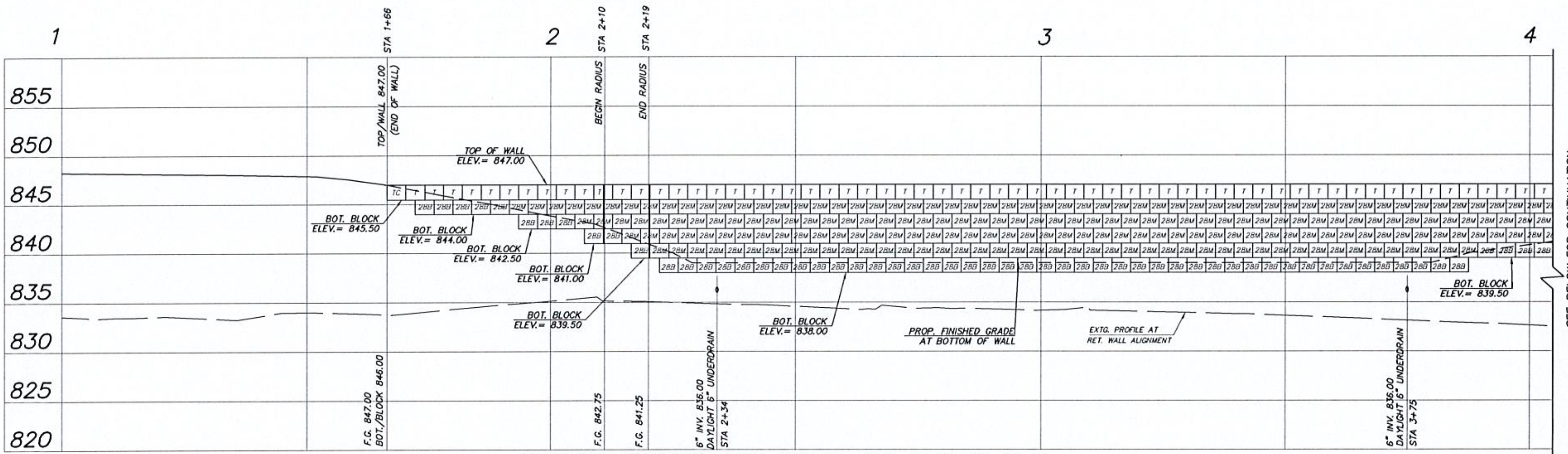
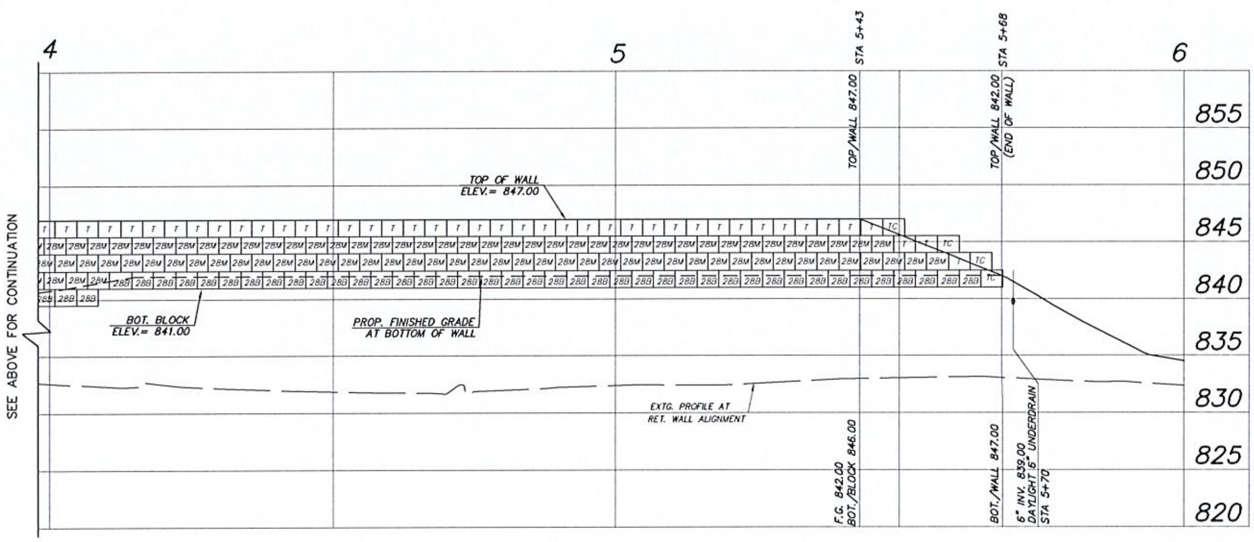
41A/53



PROPOSED RETAINING WALL PROFILE STA. 1+00 TO 4+00



PROPOSED RETAINING WALL PROFILE STA. 4+00 TO 6+00

REDI-ROCK BLOCK KEY		
T	TOP BLOCK	101
28M	28" DEEP MIDDLE	280
28B	28" DEEP BOTTOM	99
TC	TOP CORNER	5
	MIRAFI 5XT	
	TYPE 1AT CONNECTOR RODS	
CONTRACTOR SHALL CONFIRM ALL QUANTITIES		

REVISIONS
1/27/2023 PLAN REV

IMPROVEMENT PLAN & PROFILE ~ REDI-ROCK WALL DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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GRAPHIC SCALE
0' 10' 20'

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DRN K.C. CKD. T.C.
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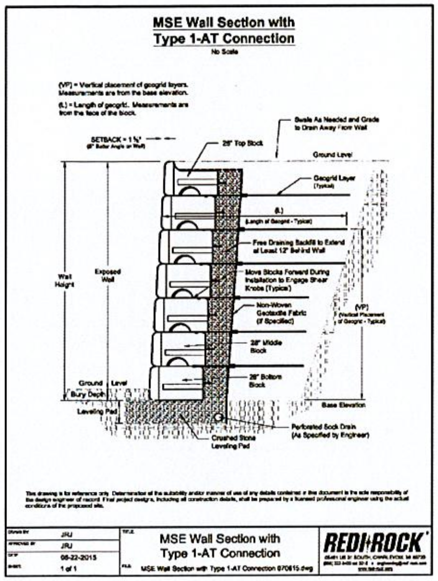
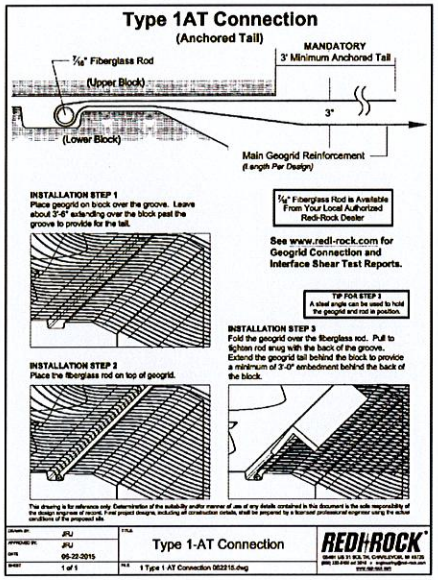
41B/53





REVISIONS
1/27/2023 PLAN REV

IMPROVEMENT PLAN & PROFILE ~ REDI-ROCK WALL DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
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PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE

HORIZ. SCALE ---
VERT. SCALE ---

DRN	CKD
K.C.	T.C.

DATE OCT., 2022
ORDER NO. 4723E

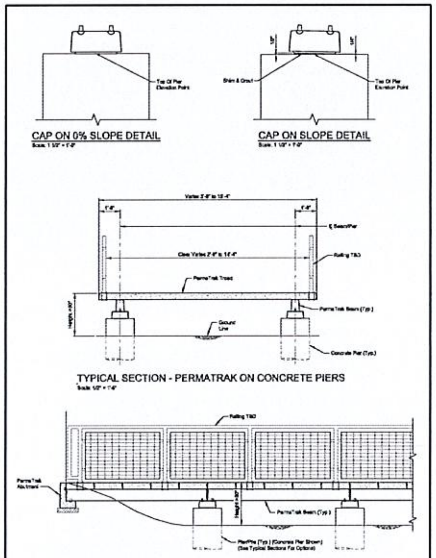
41C / 53

PEDESTRIAN BOARDWALK NOTES:

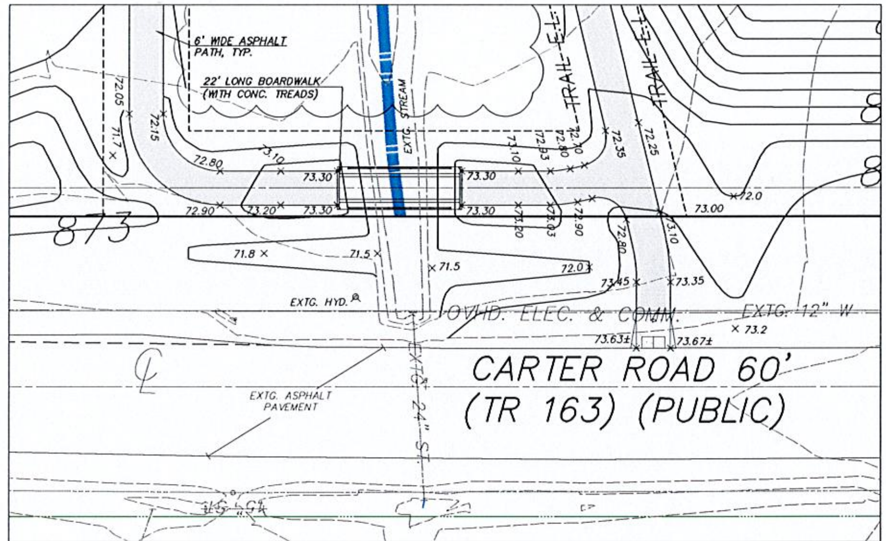
1. PEDESTRIAN BOARDWALK SHALL CONFORM TO OHIO DEPARTMENT OF TRANSPORTATION DESIGN MANUAL AND SPECIFICATIONS AND BE SUBMITTED TO THE SUMMIT COUNTY ENGINEER FOR APPROVAL.
2. CONTRACTOR IS RESPONSIBLE TO SUBMIT SHOP DRAWINGS FOR PROPOSED BOARDWALK. PLAN AND PROFILE DEPICTS "PERMATRAK" DESIGN WITH CONCRETE FOOTER SPACED 22' APART. AN ALTERNATE "PERMATRAK" DESIGN WITH CENTERED CONCRETE PIERS CAN ALSO BE SUBMITTED. MINIMUM WIDTH OF CONCRETE PIERS IS 12' TO SPAN EXISTING STREAM.
3. "TERRA TREAD" AND OTHER SIMILAR CONCRETE BOARDWALK PRODUCTS CAN BE USED, HOWEVER A SEPARATE SET OF DESIGN DRAWINGS ARE REQUIRED TO BE SUBMITTED. IF DEEMED ACCEPTABLE, CONTRACTOR SHALL SUBMIT SHOP DRAWING TO ENGINEER AND COUNTY FOR FINAL REVIEW.

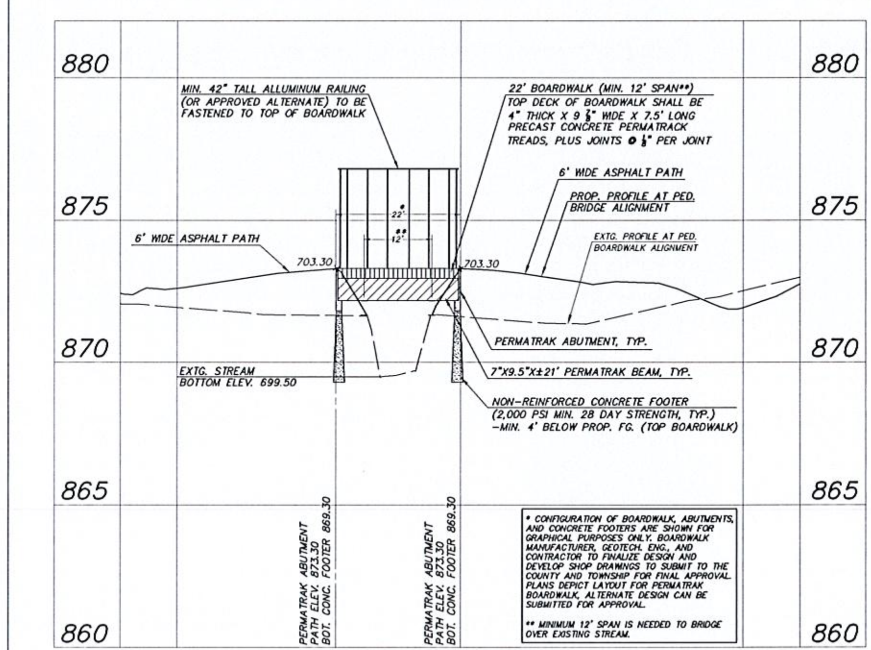
SOIL NOTES:

1. TO CONTROL SETTLEMENT, IT IS RECOMMENDED THAT ALL FOUNDATION SUBGRADES SUPPORTING THE CONCRETE FOOTERS AND ABUTMENTS OF THE PEDESTRIAN BOARDWALK SHALL CONSIST OF MEDIUM DENSE, VERY STIFF CLAY, OR BETTER SOILS, AND BE FREE OF SOFT, LOOSE, OR ORGANIC SOILS AND MISCELLANEOUS INCLUSIONS; AND BE APPROVED BY A GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE PRIOR TO PLACEMENT.
2. IF PRESENT, ANY DELETERIOUS CONDITIONS SHOULD BE REMEDIED BY UNDERCUTTING AS DIRECTED BY AN ON-SITE GEO-TECHNICAL ENGINEER OR THEIR REPRESENTATIVE, AND REPLACEMENT WITH LEAN CONCRETE OR COMPACTED ODOT #57 CRUSHED LIMESTONE.
3. FOUNDATION SUBGRADES ARE TO BE CONCRETED IN A DRY AND FROST-FREE CONDITION, AND AS SOON AFTER EXPOSURE AS POSSIBLE. A STONE LAYER MAY BE NEEDED TO BE PLACED ON THE BEARING SUBGRADE TO PREVENT DETERIORATION OF THE SURFACE SOILS.
4. ALL PERMANENT FOUNDATIONS BE LOCATED BELOW THE DEPTH OF POTENTIAL FROST PENETRATION.
5. PER CONDUCTED TEST PIT EXCAVATIONS, ABOUT 3.5' BELOW THE SURFACE IS SANDSTONE ROCK (GRAY, SLIGHTLY TO MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, FINE GRAINED).



PERMATRAK – EXAMPLE DETAILS FOR ALTERNATE CENTERED CONCRETE PIER DESIGN





BOARDWALK PROFILE

REVISIONS

BOARDWALK PLAN AND DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 5' 10'

HORIZ. SCALE 1"=10'

VERT. SCALE -----

DR'N DER | CK'D T.C.

DATE OCT., 2022

ORDER NO. 4723E

PARKVIEW SENIOR LIVING

GENERAL NOTES

GENERAL

1. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROJECT ARCHITECTS PLAN LAYOUT AND GUIDELINES. SUITABILITY FOR ACCESS AND INTENDED USAGE SHALL BE THE RESPONSIBILITY OF THE ARCHITECT.

2. VEHICULAR ACCESS LARGER THAN THE DESIGN LIVE LOAD SHALL BE LIMITED BY PERMANENT PHYSICAL MEANS.
*3. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS THROUGH THE PROJECT ARCHITECT. PRIOR TO CONSTRUCTION, ALL FOUNDATION LOCATIONS SHALL BE STAKED BY THE SURVEYOR PER THE APPROVED DRAWINGS MARKED "FOR CONSTRUCTION".

4. ONLY PERMATRAK NORTH AMERICA MAY PROVIDE THE PRECAST STRUCTURE SHOWN ON THESE PLANS.

5. INSTALLER SHALL NOT CUT OR MODIFY ANY PERMATRAK COMPONENTS WITHOUT PERMATRAK'S APPROVAL.

6. THE INSTALLER IS RESPONSIBLE FOR THE APPROPRIATE MEANS AND METHODS FOR THIS PROJECT, INCLUDING ENSURING PROPER CONSTRUCTIBILITY OF ALL COMPONENTS SHOWN ON THESE PLANS. NO EQUIPMENT MAY BE OPERATED ON THE STRUCTURE, UNLESS NOTED OTHERWISE IN THE DESIGN DATA ON THIS SHEET.

7. A MATERIAL CHANGE TO THE BOARDWALK SYSTEM IS NOT ALLOWED AND NOT CONSIDERED AN EQUAL.

8. PRIOR TO CONSTRUCTION, ALL EXISTING UTILITIES, BUILDING LOCATIONS, EXISTING FOUNDATIONS AND TREE ROOTS (AS APPLICABLE) SHALL BE LOCATED TO VERIFY NO CONFLICTS EXIST WITH THE STRUCTURES SHOWN ON THESE PLANS.

DESIGN DATA

1. BOARDWALK SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES.

2. DESIGN LIVE LOAD: PEDESTRIAN LOADING - 90 PSF UNIFORM
VEHICULAR LOADING - MAINTENANCE VEHICLE

3. A HYDRAULIC ANALYSIS, INCLUDING SCOUR EVALUATION, HAS NOT BEEN PERFORMED BY PERMATRAK. THIS SCOPE IS THE RESPONSIBILITY OF THE DESIGN CONSULTANT.

4. RAILING SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO SPECIFICATIONS. THE RAILING SUPPLIER IS RESPONSIBLE FOR THE ENGINEERING OF THE DETAILED RAILING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

5. NO GEOTECHNICAL REPORT WAS AVAILABLE AT THE TIME THESE DRAWINGS WERE PREPARED. CONTRACTOR IS TO VARIFY THERE IS A MINIMUM OF 1500 PSF BEARING CAPACITY.

MATERIAL

1. FASTENERS, BOLTS AND HARDWARE SHALL BE EITHER FIBER REINFORCED POLYMER (FRP) OR GRADE 316 STAINLESS STEEL.

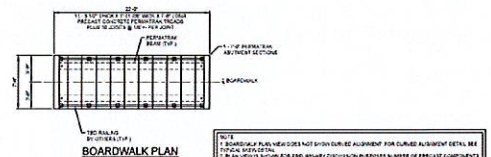
2. ALL REINFORCING SHALL BE GRADE 60 CONFORMING TO ASTM A615.

PROJECT COMPONENTS

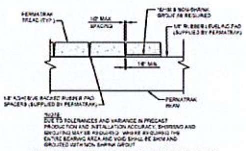
SUPPLIED BY PERMATRAK
PRECAST CONCRETE TREADS
PRECAST CONCRETE ABUTMENTS
PRECAST CONCRETE BEAMS
3/4" DIAMETER THREADED BARS WITH NUTS AND WASHERS (BEAM TO PIER CONNECTION)
ELASTOMERIC BEARING PADS
RUBBER SPACER PADS (BETWEEN TREADS)
CLIP ANGLE KITS

SUPPLIED BY CONTRACTOR
HILTI HIT-200 EPOXY ADHESIVE (ANCHORING SYSTEM CONNECTION)
SIKAFLEX SELF LEVELING SEALANT
SHIMS AND NON-SHRINK GROUT (LEVELING FOR PRECAST COMPONENTS)
RAILING AND CONNECTION HARDWARE

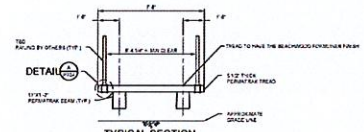
PREPARED FOR: DONALD G BOHNING & ASSOCIATES — FOR BIDDING PURPOSES ONLY — PermaTrak The Concrete Boardwalk Company — OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO — PROJECT TITLE: PARKVIEW SENIOR LIVING, SAGAMORE HILLS, OH — SHEET NO. PT01



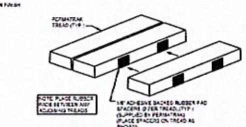
BOARDWALK PLAN



TYPICAL SHIM/GROUT (UNDER TREAD) & TREAD SPACING DETAIL

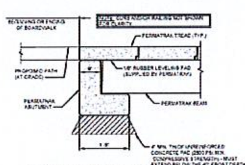


TYPICAL SECTION



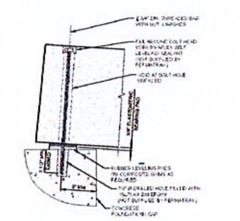
TYPICAL TREAD RUBBER SPACING DETAIL

PREPARED FOR: DONALD G BOHNING & ASSOCIATES — FOR BIDDING PURPOSES ONLY — PermaTrak The Concrete Boardwalk Company — PROJECT TITLE: PARKVIEW SENIOR LIVING, SAGAMORE HILLS, OH — SHEET NO. PT02



TYPICAL PRECAST ABUTMENT DETAIL

PREPARED FOR: DONALD G BOHNING & ASSOCIATES — FOR BIDDING PURPOSES ONLY — PermaTrak The Concrete Boardwalk Company — PROJECT TITLE: PARKVIEW SENIOR LIVING, SAGAMORE HILLS, OH — SHEET NO. PT03



TYPICAL BEAM TO CONCRETE FOUNDATION/CAP CONNECTION DETAIL

PREPARED FOR: DONALD G BOHNING & ASSOCIATES — FOR BIDDING PURPOSES ONLY — PermaTrak The Concrete Boardwalk Company — PROJECT TITLE: PARKVIEW SENIOR LIVING — SHEET NO. PT04

REVISIONS

BOARDWALK PLAN AND DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
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7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
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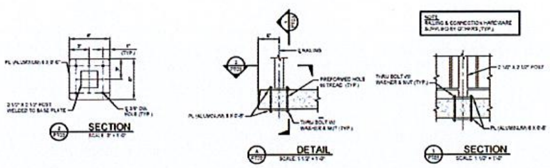
HORIZ. SCALE
VERT. SCALE
DRN: DER | CKD: T.C.
DATE: OCT., 2022
ORDER NO. 4723E



Patented Product U.S. Patent #5,505,034 #6,302,362 #6,533,503 #8,555,593 #8,096,727

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NO	DATE		DESCRIPTION	BY

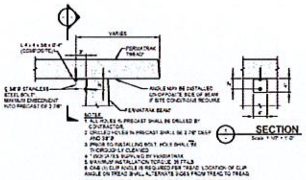
PREPARED FOR:
DONALD G BOHNING & ASSOCIATES
FOR BIDDING PURPOSES ONLY

PermaTrak
The Concrete Boardwalk Company
www.permatrak.com TEL 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PROJECT TITLE:
PARKVIEW SENIOR LIVING
SAGAMORE HILLS, OH

JOB NUMBER: 2022-1552
DATE: 10/3/22
DESIGNED BY: CAP
DRAWN BY: DHC
CHECKED BY:
SHEET NO: PT05



TREAD TO BEAM CONNECTION

Patented Product U.S. Patent #5,505,034 #6,302,362 #6,533,503 #8,555,593 #8,096,727

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PREPARED FOR:
DONALD G BOHNING & ASSOCIATES
FOR BIDDING PURPOSES ONLY

PermaTrak
The Concrete Boardwalk Company
www.permatrak.com TEL 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PROJECT TITLE:
PARKVIEW SENIOR LIVING
SAGAMORE HILLS, OH

JOB NUMBER: 2022-1552
DATE: 10/3/22
DESIGNED BY: CAP
DRAWN BY: DHC
CHECKED BY:
SHEET NO: PT06

ELEVATED PRECAST CONCRETE BOARDWALK PROJECT SPECIFICATIONS

PRECAST CONCRETE BOARDWALK SYSTEM

PART 1 GENERAL

1.1 SUMMARY

Permatrak North America LLC

Patented Product U.S. Patent #5,505,034 #6,302,362 #6,533,503 #8,555,593 #8,096,727

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NO	DATE		DESCRIPTION	BY

PREPARED FOR:
DONALD G BOHNING & ASSOCIATES
FOR BIDDING PURPOSES ONLY

PermaTrak
The Concrete Boardwalk Company
www.permatrak.com TEL 877-332-7862

OFFICE LOCATIONS: FLORIDA, TEXAS, LOUISIANA, NORTH CAROLINA, OHIO

PROJECT TITLE:
PARKVIEW SENIOR LIVING
SAGAMORE HILLS, OH

JOB NUMBER: 2022-1552
DATE: 10/3/22
DESIGNED BY: CAP
DRAWN BY: DHC
CHECKED BY:
SHEET NO: Precast Specs

REVISIONS

BOARDWALK PLAN AND DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
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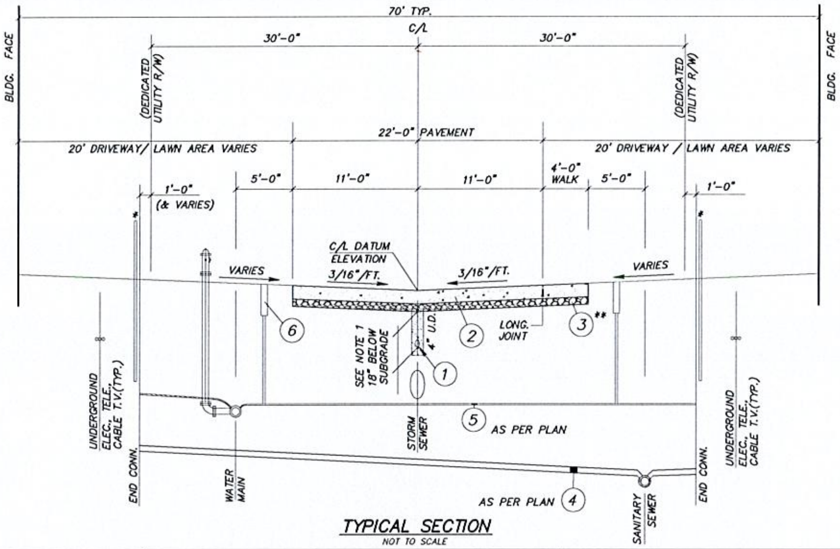
HORIZ. SCALE
VERT. SCALE
DWN DER CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E

42B / 53



TYPICAL SECTION

NOT TO SCALE

TYPICAL SECTION LEGEND

REF. NO.	ODOT ITEM	DESCRIPTION
(1)	605	4" DIA. PERFORATED PVC UNDERDRAIN WITH GEOTEXTILE FABRIC AND GRANULAR FILTER AGGREGATE
(2)	451	6" FIBER REINFORCED* PORTLAND CEMENT CONCRETE PAVEMENT (CLASS QC1)
(3)	304	3" LIMESTONE AGGREGATE BASE
		** ALTERNATE: RECYCLED 304 UTILIZING DEMO PAVEMENT GRINDINGS AND SUBBASE (TO BE APPROVED BY COUNTY AND GEOTECHNICAL ENGINEER)
(4)	603	6" DIA. SANITARY CONNECTION AT 1.0% GRADE
(5)	SPEC.	1"-1.5" DIA. WATER CONNECTION
(6)	SPEC	WATER CONNECTION SHUTOFF BOX
(7)	203	SUBGRADE PROOF-ROLLING AND/OR STABILITY VERIFICATION

*** CONCRETE NOTE:**
6" FIBER REINFORCED (CLASS QC1) WITH FIBRILLATED PROPYLENE FIBERS, LENGTH 3/4" MINIMUM, MIXED AT MINIMUM RATE OF 1.5 POUNDS PER CUBIC YARD.

**** RECYCLED 304 NOTE:**
PAVEMENT GRINDINGS FROM EXISTING ON-SITE ASPHALT PARKING LOTS CAN BE MIXED WITH THEIR EXISTING 304 STONE BASE (TO BE EXCAVATED) TO CREATE A RECYCLED 304 MATERIAL TO BE USED FOR THE PROPOSED PAVEMENT SUBBASE (PER ODOT 203.02 (A). ALL ON-SITE RECYCLED MATERIAL MUST BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER.

*** NOTES:**

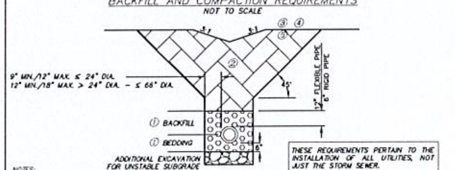
1. INSTALL PERFORATED 4" ODOT 605 UNDERDRAIN PIPE MATERIAL (WITH GEOTEXTILE FABRIC) AT 18" BELOW SUBGRADE WHERE NOTED ON PLANS.
   - PIPE SHALL BE MODIFIED W/4 ROWS OF PERFORATIONS.
   - BACKFILL & BEDDING SHALL BE NO. 8 AGGREGATE.
   - 707.33 CORRUGATED POLYETHELENE SMOOTH LINED PIPE
   - 707.41 POLYVINYL CHLORIDE PIPE
   - 707.42 POLYVINYL CHLORIDE SMOOTH INTERIOR PIPE
   - 707.45 POLYVINYL CHLORIDE SOLID WALL PIPE
2. SANITARY SEWER AND WATERMAIN VARY WHICH SIDE OF THE STREET THEY ARE LOCATED. WATERMAIN IS TYPICALLY 5' FROM THE EDGE OF PAVEMENT AND SANITARY IS TYPICALLY 9' FROM THE EDGE OF PAVEMENT.
3. THE CONTRACTOR SHALL MARK THE ENDS OF THE SEWER CONNECTIONS AND WATER SERVICES WITH A 4"X4" STAKE EXTENDING A MINIMUM 3' ABOVE GRADE ALONG WITH A METAL ROD FOR LOCATING ENDS OF LATERALS IN THE FUTURE. THE END OF THE SEWER CONNECTIONS SHALL HAVE A WATERTIGHT CAP. THE CONTRACTOR SHALL ALSO SET A PERMANENT SHEET METAL TAG ON THE STAKES DENOTING THE DEPTH OF THE CONNECTIONS (SEE SHEET 5). CAP AND MARKERS SHALL BE COLOR CODED: STORM-GREEN, SANITARY-RED, & WATER-BLUE.
4. ALL SANITARY SEWER CONNECTIONS SHALL HAVE A TEST TEE RISER SECTION INSTALLED BY THE HOME BUILDER WHEN THE CONNECTION IS EXTENDED TO THE HOUSE.

*** UTILIZING EXCAVATED ROCK/SANDSTONE FOR TRENCH BACKFILL:**

TO BE ALLOWED FOR USE AS PREMIUM BACKFILL, EXCAVATED SANDSTONE OR ROCK MUST BE REDUCED IN SIZE SO IT IS SMALL ENOUGH TO BE CONSIDERED A #304 GRADATION (WITH LESS THAN 15% FINES). THE ROCK CAN BE BROKEN DOWN BY MEANS OF CRUSHING AND SORTING USING AN ON-SITE CRUSHING MACHINE, LARGE VIBRATORY ROLLER, AND/OR SHEEPSROLLER. ALL MATERIAL TO BE USED FOR PREMIUM BACKFILL MUST BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER.

SCE TRENCH DETAIL
BACKFILL AND COMPACTION REQUIREMENTS

NOT TO SCALE



THESE REQUIREMENTS PERTAIN TO THE INSTALLATION OF ALL UTILITIES, NOT JUST THE STORM SEWER.

NOTES:

(1) CRUSHED STONE AGGREGATE No. 67, THROUGHLY COMPACTED (NO SLAG OR RECYCLED CONCRETE).

(2) TRENCH BACKFILL:

INSTALLATION UNDER PAVEMENT - SHALL BE INSTALLED IN ACCORDANCE WITH O.D.O.T. ITEM 304 AGGREGATE BASE. SLAG MATERIAL OR RECYCLED CONCRETE IS NOT PERMITTED. (SEE "*" NOTE ABOVE)

INSTALLATION WITHIN A 45° (DEGREE) INFLUENCE LINE FROM THE PAVEMENT EDGE - SHALL BE INSTALLED IN ACCORDANCE WITH O.D.O.T. ITEM 304 AGGREGATE BASE. SLAG MATERIAL OR RECYCLED CONCRETE IS NOT PERMITTED. (SEE "*" NOTE ABOVE)

THE COUNTY ENGINEER MAY CONSIDER THE USE OF OTHER MATERIALS UNDER SPECIAL CONDITIONS. A WRITTEN REQUEST, INCLUDING EVIDENCE THAT THE REPLACEMENT MATERIAL WILL BE SUITABLE FOR BACKFILL MUST BE SUBMITTED FOR APPROVAL.

COMPACTION REQUIREMENTS:

(a) UNDER PROPOSED PAVEMENT

BACKFILL MATERIAL SHALL BE O.D.O.T. ITEM 304 AGGREGATE BASE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.

(b) NOT UNDER PROPOSED PAVEMENT BUT WITHIN A 45° (DEGREE) INFLUENCE FROM THE EDGE OF PAVEMENT

BACKFILL MATERIAL SHALL BE O.D.O.T. ITEM 304 AGGREGATE BASE COMPACTED TO AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.

(c) WITHIN THE R/W BUT NOT UNDER PAVEMENT OR WITHIN THE 45° (DEGREE) INFLUENCE LINE
BACKFILL OR FILL MATERIAL MUST BE COMPACTED TO AT LEAST 85% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY WITH THE MATERIAL'S MOISTURE CONTENT ADJUSTED TO WITHIN ±1-2% OF THE OPTIMUM PRIOR TO COMPACTION.

(d) IN DEPTHS OVER 8 FEET AND WHEN COMPACTING WITH A HOE-PAC OR EQUAL HYDRAULIC COMPACTOR, THE CONTRACTOR MAY INSTALL THE FIRST LIFT UP TO 3 FEET IN DEPTH BEFORE COMPACTING. SUBSEQUENT LIFTS SHALL BE COMPACTED AS PER THE ABOVE.

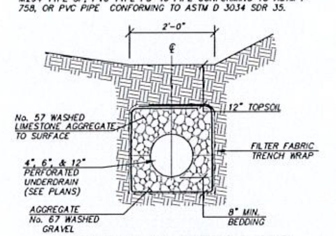
(3) O.D.O.T. ITEM 653 - 2" TOPSOIL FURNISHED AND PLACED

(4) O.D.O.T. ITEM 659 - SEEDING & MULCHING, CLASS 1

(5) O.D.O.T. ITEM 659 - FERTILIZER

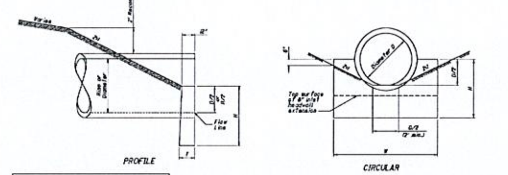
REVISED: FEBRUARY 20, 2015

NOTE:
UNDERDRAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605. CONDUIT SHALL BE PERFORATED HDPE PIPE PER AASHTO M294 TYPE SP, PVC TYPE PS-46 PIPE CONFORMING TO ASTM F 758, OR PVC PIPE CONFORMING TO ASTM D 3034 SDR 35.



AGGREGATE TRENCH AND PERFORATED UNDERDRAIN DETAIL

NO SCALE



C.I.P. HEADWALL FOR CONC. PIPE				
CIRCULAR				
D	W	H	T	Conc. Cu. Yds.
18"	5'-0"	3'-3"	12"	0.31

CONCRETE: Use 4000 psi compressive strength concrete for headwalls.
Concrete quantities are based on headwalls without the 6" extension under the channel protection.

NOTE:
THIS DETAIL IS AN EXCERPT FROM THE FULL ODOT DETAIL HW-2.2. THE MOST CURRENT VERSION OF THE FULL HW-2.2 DETAIL SHALL PREVAIL WITH THE EXCEPTION THAT NO CUTOFF WALL IS REQUIRED.

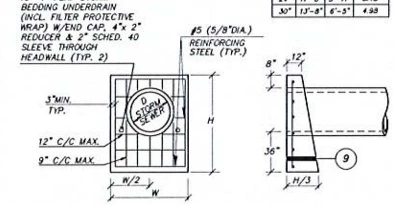
HALF HEIGHT HEADWALL DETAIL (ODOT HW-2.1)

NO SCALE

ALL SANITARY AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS (OEPA 3MA00001*AM) OF THE DEPARTMENT OF SANITARY SEWER SERVICES (D.S.S.S.).

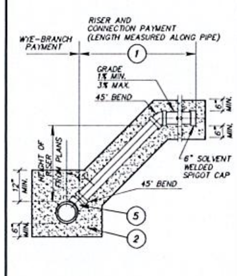
CONTRACTOR SHALL CONTACT D.S.S.S. FOR COPY OF MOST CURRENT STANDARDS AND DETAILS PRIOR TO CONSTRUCTION.

HEADWALL DIMENSIONS			
D	W	H	Conc. Cu. Yds.
12"	5'-8"	4'-10"	1.70
15"	7'-0"	5'-2"	1.78
18"	8'-4"	5'-5"	2.28
24"	11'-0"	5'-11"	3.48
30"	13'-8"	6'-5"	4.93



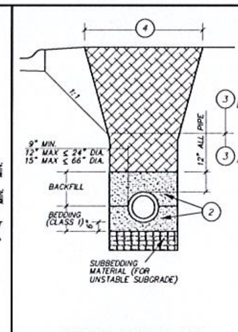
FULL HEADWALL DETAIL

NO SCALE



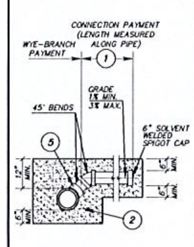
STORM RISER DETAIL

SCALE: 3/8" = 1'-0"



STORM SEWER OR CONNECTION TRENCH DETAIL

SCALE: 3/8"=1'-0"



STORM SEWER WYE-BRANCH AND CONNECTION DETAIL

SCALE: 3/8" = 1'-0"

(1) 6" DIAMETER PVC RISER AND/OR CONNECTION

(2) CRUSHED STONE AGGREGATE NO. 57, THOROUGHLY COMPACTED (NO SLAG), INSTALLED PER ASTM D-2321.

(3) TRENCH BACKFILL:
(A) UNDER THE EXISTING, PROPOSED, OR FUTURE STREET PAVEMENT, INCLUDING 1:1 ZONE OF INFLUENCE - CRUSHED CARBONATE STONE AGGREGATE ODOT ITEM 304, AS APPROVED BY COUNTY ENGINEER MEETING 98% DRY DENSITY PROCTOR, MOISTURE CONTENT SHALL BE OPTIMUM ±2%.
ALSO ACCEPTABLE: ODOT RECYCLED PORTLAND CEMENT CONCRETE (RPCC) PER ODOT 703.16.

NOTE: FOR UTILITY TRENCHES UNDER PAVEMENT, RECYCLED PREMIUM BACKFILL SHALL ONLY BE INSTALLED TO SUBGRADE OF THE ROADWAY. ROADWAY AGGREGATE BASE SHALL BE VIRGIN LIMESTONE 304 PER TYPICAL SECTION DETAILS ON THIS SHEET.

(B) WITHIN THE 60' UTILITY RIGHT-OF-WAY BUT OUTSIDE THE PAVEMENT ZONE COMPACTED ON-SITE MATERIAL AS APPROVED BY THE COUNTY ENGINEER OR APPROVED GRANULAR MATERIAL PLACED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS WITH MECHANICAL TAMPERS MEETING 98 PERCENT DRY DENSITY AS LISTED ABOVE.
(C) OUTSIDE THE 60' UTILITY RIGHT-OF-WAY NON-COMPACTED ON-SITE MATERIAL OR GRANULAR MATERIAL AS APPROVED BY THE COUNTY ENGINEER.
* SEE "COMPACTED BACKFILL" NOTE, SHEET 8, FOR ADDITIONAL SPECIFIC REQUIREMENTS & TYPICAL SECTION 1:1 SLOPE ZONE OF INFLUENCE.

(4) ALL OPEN TRENCH EXCAVATIONS ARE TO COMPLY WITH MINIMUM OSHA SAFETY STANDARDS. IF ANY LONGITUDINAL TRENCH EXCAVATION IS WITHIN 2 FEET OF AN EXISTING PAVEMENT EDGE THE ENTIRE TRENCH SHALL HAVE "PREMIUM BACKFILL".

(5) WYE BRANCH: APPROVED WYE FITTING OR SADDLE.

REVISIONS
7/27/23 REVISED PER COUNTY COMMENTS

TYPICAL SECTION & DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
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GRAPHIC SCALE

HORIZ. SCALE ----

VERT. SCALE ----

DRN K.C. CHKD T.C.

DATE OCT., 2022

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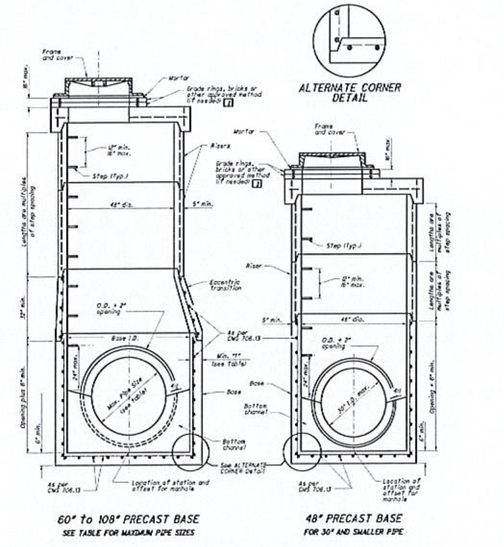


SECTION VIEWS OF REINFORCED PRECAST MANHOLES

NOTES

GENERAL: With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth.

Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling.

Leave handling device for the flat slab in place.

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

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

BASE: Manhole No. 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete integral with the base or field constructed as shown on **SCD MH-1 and MH-2.**

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

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

JOINT SEAL: Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per CMS 706.11.

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

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

DROP PIPE: When specified on the plans, construct drop pipe as shown on **SCD MH-2.**

STEPS, FRAMES AND COVERS: Meet the requirements shown on **SCD MH-1.**

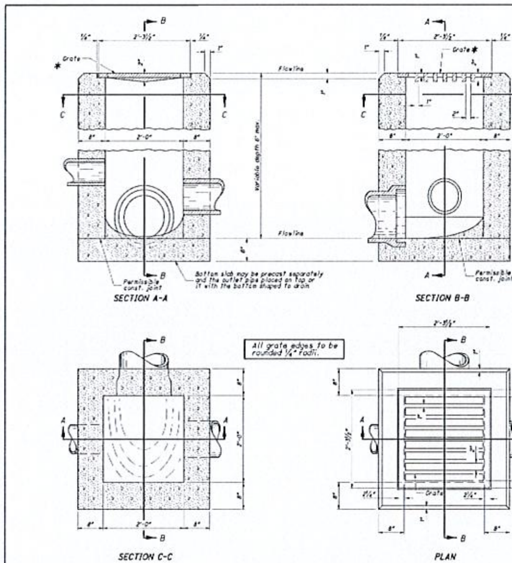
TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

LEGEND

[1] Reconstruction to grade only. Approved materials are kept on file by the Office of Materials Management.

MAXIMUM PIPE SIZES		
BASE I.D.	MIN. "T"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7½"	60"
96"	8"	66"
108"	9"	72"

Jeffery E. Syar · 7-19-02, 7-15-05, 1-20-06, 7-20-12, 1-18-13, 1-15-16, 7-16-21 · M. Cozzoli · OFFICE OF HYDRAULICS ENGINEERING · MANHOLE No. 3 · MH-3 · 1/2



CATCH BASIN No. 2-2B

CATCH BASIN No. 2-2C

* USE EJW NO. 5105 FRAME AND GRATE FOR STRUCTURES IN PAVEMENT

NOTES

CATCH BASINS 2-2A, 2-2B & 2-2C: This sheet depicts Catch Basin 2-2B & 2-2C. See Sheet 1 of 2 for Catch Basin 2-2A.

* **CB-2-2B GRATE:** Furnish a design essentially the same and equally as strong as the one shown (see Construction Information Table), or meet the requirements of CMS 711.14. Provide grate openings and dimensions as shown here unless otherwise shown in the plans.

If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-4859-S or EJ No. 5110M3 (00511043) grates or approved equals.

Place grate elevation 4" to 6" below normal ditch and return to normal 10' to 15' each side of inlet.

CB-2-2C FRAME & GRATE: Where the catch basin is specified for use in a parking lot, furnish Neenah No. R-1878-A5G or EJ No. V-5622 (45622010) frame and V-5622 (45622030) grate or approved equals. If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-3405 grate or EJ No. 5250M (00525035) grate or approved equals.

CB-2-2C APRON: On cast-in-place and precast units, provide a level surface on the catch basin 4" below the plan grate elevation for setting the frame and grate assembly. Install a 4000 psi concrete apron to encase and secure the frame with a minimum width not less than the thickness of the catch basin walls. Slope the apron to provide a local depression. Include a 1" expansion joint where the apron abuts PCC pavement. The cost is included in the catch basin bid price.

GRATE TEXT: Cast the following text into the top of the grate:

"DRAINS TO WATERWAY" and "DUMP NO WASTE"

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

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

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

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

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate.

MINIMUM DEPTH: The minimum depth of CB No. 2-2B is the outside diameter (O.D.) of the outlet pipe plus 4". The minimum depth of CB No. 2-2C is the outside diameter (O.D.) of the outlet pipe plus 8".

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

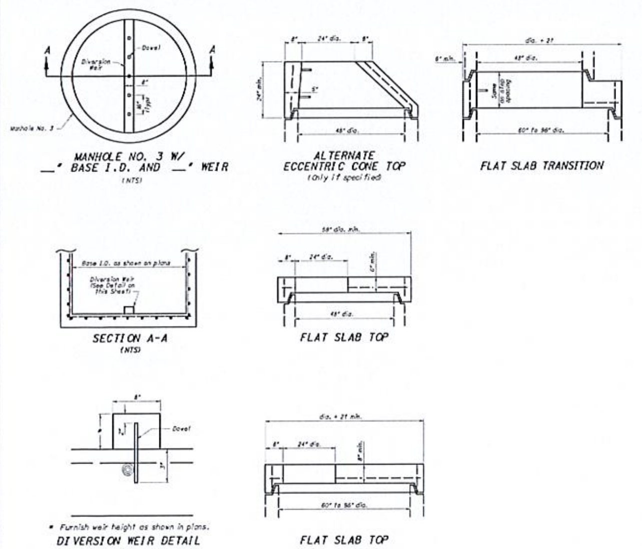
PAYMENT: All materials and labor, including excavation and backfilling, are paid for under **Item 611 - Catch Basin, No. 2-2B or 2C.**

CONSTRUCTION INFORMATION
Minimum weight of grate, 120 lbs.

Jeffery E. Syar · 7-20-12, 1-18-13, 1-15-16, 7-20-18, 7-19-19, 7-16-21, 7-15-22 · M. Cozzoli · OFFICE OF HYDRAULICS ENGINEERING · CATCH BASIN No's 2-2A, 2-2B, 2-2C · CB-2-2A, 2-2B, 2-2C · 2/2

ODOT CB NO. 2-2B

HOLES FOR UNDERDRAIN TO BE CORED AT TIME OF PRECAST MANUFACTURE, AND SHALL BE 30" BELOW TOP OF CASTING OR GUTTER ELEVATION – 4" PERF. UNDERDRAIN



NOTES

MANHOLE NO. 3 W/__" BASE I.D. AND __" DIVERSION WEIR: Furnish manhole base with precast diversion weir or construct diversion weir from Structural Concrete, 4000 psi compressive strength concrete or Brick and Masonry Units conforming to CMS 611. A bottom channel section for the manhole is not required when a diversion weir is specified on the plans.

Place diversion weir perpendicular to flow of inflowing trunk sewer. Dowel concrete or masonry units into the base of the manhole to a depth of 3" using epoxy coated #4 reinforcing bars. Start dowels at the center of the diversion weir and space 16" on center across the entire weir.

All materials and labor, including excavation and backfill, are paid for at the contract price for **ITEM 611 - MANHOLE NO. 3 WITH __" BASE I.D. AND __" DIVERSION WEIR.**

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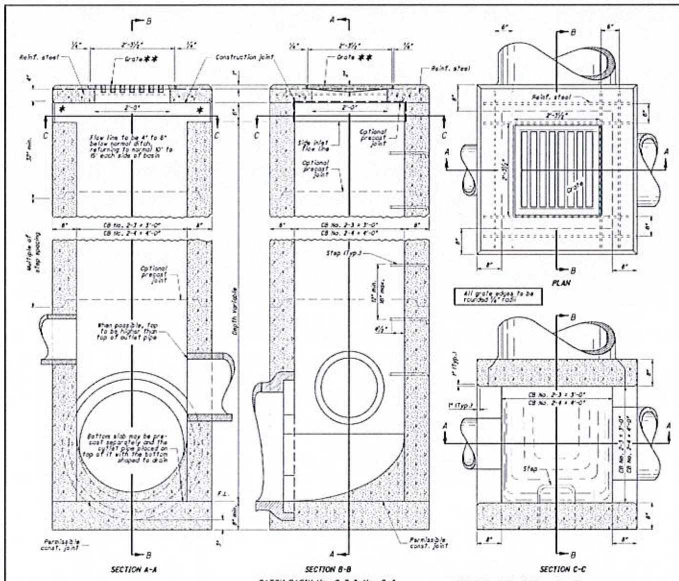
ODOT NO. 3 MH



ODOT CB NO. 2-3

NOTES

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

** **GRATE:** See details on **SCD CB-2-2A, 2-2B, 2-2C.**

If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-4859-C or East Jordan No. 5110 Type M3 bicycle safe grates or approved equals.

Cast the following text into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY"

Print text in bold, capital letters at least ½" high. "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

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

STEPS: Provide steps where the depth exceeds 6'. Meet the requirements of **SCD MH-1.**

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

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

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

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

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

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 is the outside diameter (O.D.) of the outlet pipe plus 1'.

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

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

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

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

Jeffery E. Syar · 7-20-01, 7-19-02, 7-15-05, 7-20-12, 1-18-13, 1-15-16, 7-16-21 · M. Cozzoli · OFFICE OF HYDRAULICS ENGINEERING · CATCH BASIN No's 2-3, 2-4 · CB-2-3, 2-4 · 1/1

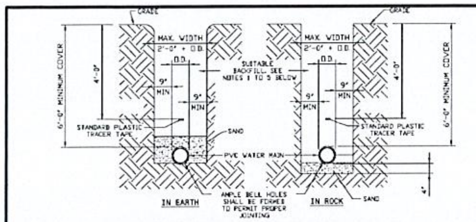
* SIDE INLET WINDOWS ONLY TO BE PROVIDED FOR C.B. 2-3A STRUCTURES, AS NOTED ON PLANS.
** FOR C.B 2-3 IN PAVEMENT, USE EJW NO. 5105 FRAME AND GRATE ON 6" FLAT SLAB TOP WITH 24"X24" OPENING.

REVISIONS

STORM DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
HORIZ. SCALE ------
VERT. SCALE ------
DR'N K.C. CK'D T.C.
DATE OCT., 2022
ORDER NO. 4723E

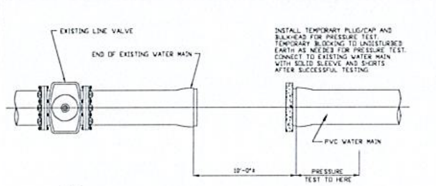


WATER MAIN TRENCH DETAILS

- NOT TO SCALE -

NOTES:
1) SUITABLE BACKFILL SHALL CONSIST OF EXCAVATED MATERIAL FREE OF ROCK (>3"), FROZEN EARTH AND DEBRIS. THE BACKFILL SHALL NOT BE ALLOWED TO FREE-FALL ONTO THE PREVIOUSLY PLACED PIPE. THE CONTRACTOR SHALL CONSOLIDATE THE BACKFILL IN SUCH A MANNER TO ENSURE THE MINIMUM POSSIBLE SETTLEMENT. PREMIUM BACKFILL IS REQUIRED UNDER EXISTING OR FUTURE PAVEMENTS, SIDEWALKS, AND/OR DRIVES OR WHEN REQUIRED BY THE LOCAL MUNICIPALITY. PREMIUM BACKFILL SHALL BE FULL DEPTH OF THE TRENCH.
2) PREMIUM BACKFILL SHALL BE LIMESTONE SCREENINGS GRADED PER ODOT 304.02 OR ODOT 411. NO SLAG IS PERMITTED.
3) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE BACKFILL SO AS TO AVOID INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN PLACING THE BACKFILL.
4) MINIMUM COMPACTION FOR PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.
5) PAVEMENT, SIDEWALK OR DRIVES TO BE INSTALLED IN ACCORDANCE WITH LOCAL MUNICIPALITY'S SPECIFICATIONS.

PVC-001 | DATE: 11-1-09 | BY: DR

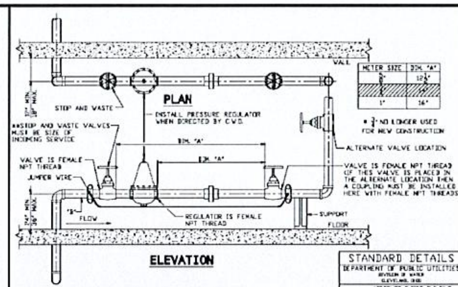


NOTE:
PRESSURE TESTING OF WATER MAINS:
WHERE NEW/EXTENDED WATER MAINS ARE CONNECTED TO AN EXISTING WATER MAIN FOR PRESSURE TEST, RESULTING IN FAILURE OF THE PRESSURE TEST OR ANY DAMAGE TO THE EXISTING WATER MAIN, OR ITS APPURTENANCES, THE REPAIR THEREOF SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL REPAIRS SHALL BE DONE TO THE SATISFACTION OF THE DIVISION OF WATER.

ALTERNATE PRESSURE TESTING DETAIL

- NOT TO SCALE -

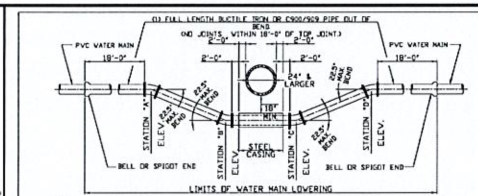
PVC-002 | DATE: 6-11-2001 | BY: RSK



* NOTE: IF METER SIZE IS REDUCED FROM THE INCOMING LINE SIZE, THE APPROPRIATE REDUCTION SHOULD TAKE PLACE AT POINT "B".
CLEVELAND WATER DEPARTMENT WILL PROVIDE WIRE JUMPER AROUND THE METER.

** BALL VALVES MAY BE USED IN PLACE OF STOP AND WASTE VALVES.

STANDARD DETAILS
DEPARTMENT OF PUBLIC UTILITIES
STD-W17

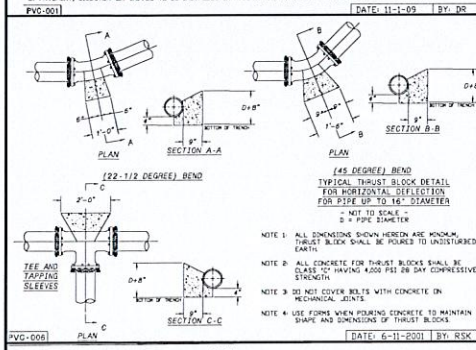


NOTE:
1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.
2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS "A" & "B" AND/OR "C" & "D" THE ENTIRE LOWERING SHALL BE MADE WITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS ALL HAVING BOLTLESS RESTRAINED PUSH-ON JOINTS, TYPE I OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS "B" & "C", AND PIPE JOINTS ARE AS INDICATED IN NOTE "1" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN "B" AND "C" AND PIPE JOINTS ARE AS INDICATED IN NOTE "2" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS 24" & LARGER IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

- NOT TO SCALE -

PVC-L05 | DATE: 11-1-09 | BY: DR

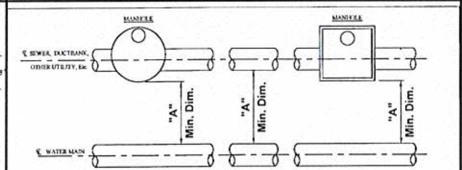


TYPICAL THRUST BLOCK DETAIL FOR HORIZONTAL DEFLECTION FOR PIPE UP TO 16" DIAMETER

- NOT TO SCALE -
D = PIPE DIAMETER

NOTE 1: ALL DIMENSIONS SHOWN HEREON ARE MINIMUM. THRUST BLOCK SHALL BE POURED TO UNDISTURBED EARTH.
NOTE 2: ALL CONCRETE FOR THRUST BLOCKS SHALL BE CLASS "C" HAVING 4,000 PSI 28 DAY COMPRESSIVE STRENGTH.
NOTE 3: DO NOT COVER BOLTS WITH CONCRETE ON MECHANICAL JOINTS.
NOTE 4: USE FORMS WHEN POURING CONCRETE TO MAINTAIN SHAPE AND DIMENSIONS OF THRUST BLOCKS.

PVC-006 | DATE: 6-11-2001 | BY: RSK



PLAN VIEW

- SEE STD-018 FOR PROFILE VIEW -

HORIZONTAL CLEARANCE	STORM SEWER	SANITARY SEWER	GAS, DUCTBANK, OTHER UTILITY, Etc
"A"	10'-0" MIN.	10'-0" MIN.	5'-0" MIN.

HORIZONTAL CLEARANCE FOR UTILITIES

NOT TO SCALE

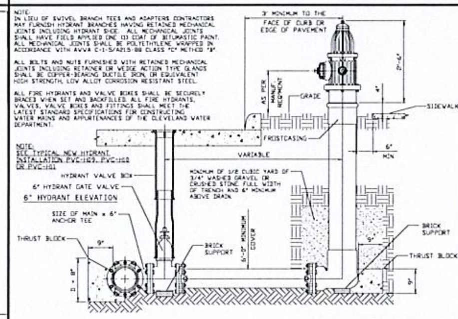
STD-017 | DATE: 7-02-2014 | BY: MTA

NOTE:
IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A215-88 CLASS "C" METHOD "B".

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

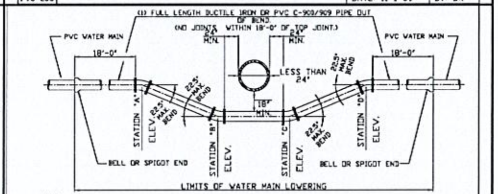
ALL FIRE HYDRANTS AND VALVE BOXES SHALL BE SECURELY BRACED WHEN SET AND BACKFILLED. ALL FIRE HYDRANTS, VALVES, VALVE BOXES AND FITTINGS SHALL MEET THE LATEST STANDARD SPECIFICATIONS FOR CONSTRUCTING WATER MAINS AND APPURTENANCES OF THE CLEVELAND WATER DEPARTMENT.

NOTE:
SEE TYPICAL NEW HYDRANT INSTALLATION PVC-H09, PVC-H10 OR PVC-H01



6" HYDRANT ELEVATION

PVC-H13 | DATE: 6-11-2001 | BY: RSK

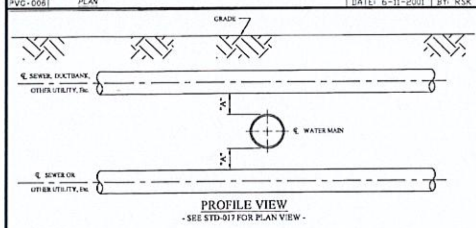


NOTE:
1) WATER MAIN SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PUSH-ON JOINT PIPE WITH RETAINED MECHANICAL JOINT DUCTILE IRON CLASS 350, CEMENT LINED RETAINED MECHANICAL JOINT FITTINGS.
2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS "A" & "B" AND/OR "C" & "D" THE ENTIRE LOWERING SHALL BE MADE WITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS ALL HAVING BOLTLESS RESTRAINED PUSH-ON JOINTS, TYPE I OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS "B" & "C", AND PIPE JOINTS ARE AS INDICATED IN NOTE "1" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II OR CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.
4) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN "B" AND "C" AND PIPE JOINTS ARE AS INDICATED IN NOTE "2" ABOVE, THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE I CERTA-LOK™ RESTRAINED JOINT SYSTEM BY CERTAINTEED.

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS LESS THAN 24" IN DIAMETER OR WIDTH FOR "NEW CONSTRUCTION"

- NOT TO SCALE -

PVC-L04 | DATE: 11-1-09 | BY: DR



PROFILE VIEW

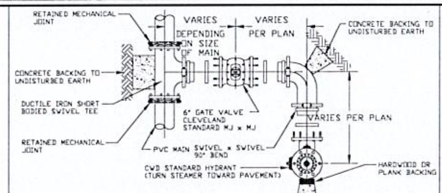
- SEE STD-017 FOR PLAN VIEW -

VERTICAL CLEARANCE	SANITARY SEWER LESS THAN 24"	SANITARY SEWER 24" & LARGER	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY LESS THAN 24"	STORM SEWER, DUCTBANK, GAS, OTHER UTILITY 24" & LARGER	REMARKS
"A"	18" Min.	18" Min.	18" Min.	18" Min.	IF CANNOT ACHIEVE MIN. CLEARANCE WATER MAIN TO BE LOWERED

VERTICAL CLEARANCE FOR UTILITIES

NOT TO SCALE

STD-018 | DATE: 7-02-2014 | BY: MTA



TYPICAL NEW HYDRANT INSTALLATION DETAIL "B"

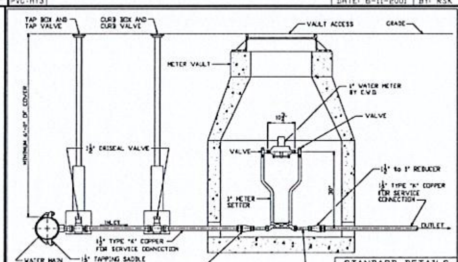
- NOT TO SCALE -

NOTE: ALL MATERIAL SHALL BE DUCTILE IRON (CL. 52) CEMENT LINED PIPE.

IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE. ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT. ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE WITH AWWA C-1-5/A215-88 CLASS "C" METHOD "B".

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

PVC-H10 | DATE: 6-11-2001 | BY: RSK

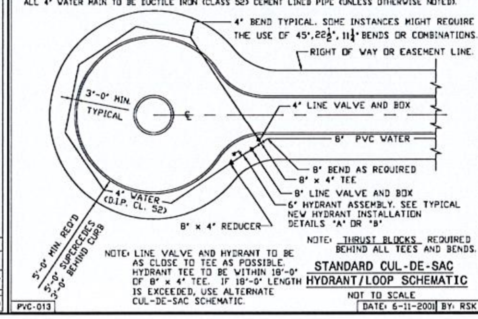


1" METER SETTER 30" HIGH
MUELLER Cat. No. B2404FB WITH H-14222 COUPLING FOR FLARE CONNECTION OR H-14227 COUPLING FOR COMPRESSION CONNECTION.
FORD 70 SERIES COPPER SETTER Cat. No. VV74-30 WITH FLARED OR COMPRESSION CONNECTION.

CONNECTION REDUCER (2) 1½" COMPRESSION COUPLING COPPER TO IRON MALE.
(2) 1½" x 1" REDUCER COUPLING BRASS, (2) 1" COMPRESSION COUPLING COPPER TO IRON MALE.

STANDARD DETAILS
DEPARTMENT OF PUBLIC UTILITIES
STD-M29

ALL PUSH ON JOINTS BETWEEN BENDS TO BE BOLTLESS RESTRAINED TYPE II (UNLESS OTHERWISE NOTED).
ALL 4" WATER MAIN TO BE DUCTILE IRON (CLASS 52) CEMENT LINED PIPE (UNLESS OTHERWISE NOTED).



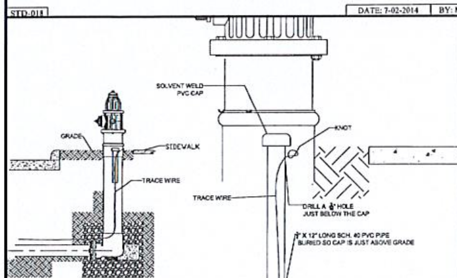
NOTE: LINE VALVE AND HYDRANT TO BE AS CLOSE TO TEE AS POSSIBLE. HYDRANT TEE TO BE WITHIN 18'-0" OF 8" x 4" TEE. IF 18'-0" LENGTH IS EXCEEDED, USE ALTERNATE CUL-DE-SAC SCHEMATIC.

NOTE: THRUST BLOCKS REQUIRED BEHIND ALL TEES AND BENDS.

STANDARD CUL-DE-SAC HYDRANT/LOOP SCHEMATIC

NOT TO SCALE

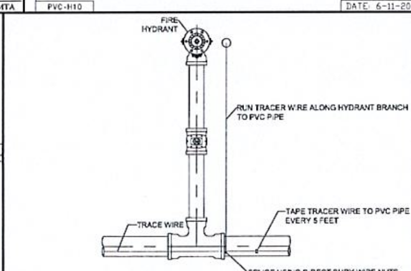
PVC-013 | DATE: 6-11-2001 | BY: RSK



TRACER WIRE AT HYDRANT

- NOT TO SCALE -

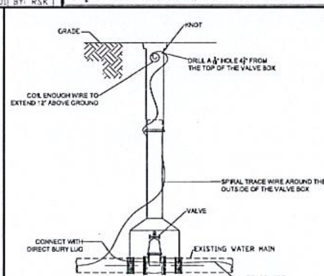
PVC-TW01 | DATE: 11-1-09 | BY: DCR



TRACER WIRE AT HYDRANT TEE

- NOT TO SCALE -

PVC-TW02 | DATE: 11-1-09 | BY: DCR



TRACER WIRE AT LINE VALVE BOX

- NOT TO SCALE -

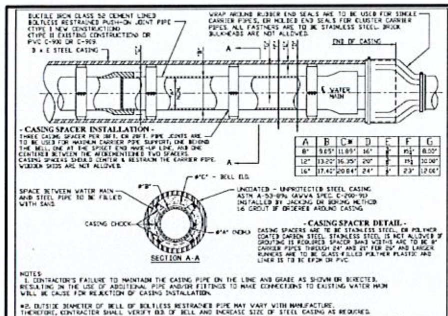
PVC-TW03 | DATE: 11-1-09 | BY: DCR

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

WATERMAIN DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

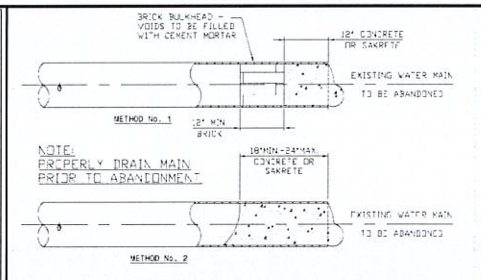
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY * VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
HORIZ. SCALE -----
VERT. SCALE -----
DR'N K.C. | CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E



CASING DETAIL No. 2 END OF CASING AND CASING CHOCK DETAIL

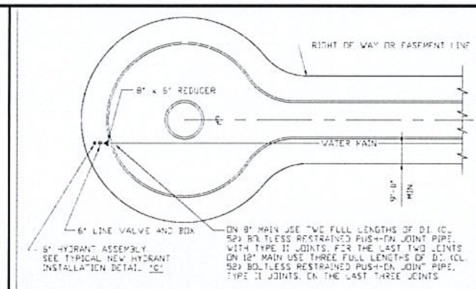
PVC-016 | DATE: 1-21-2010 | BY: RSK



PLUGGING ABANDONED WATER MAIN ENDS

- NOT TO SCALE -

PVC-004 | DATE 6-11-2001 | BY: RSK

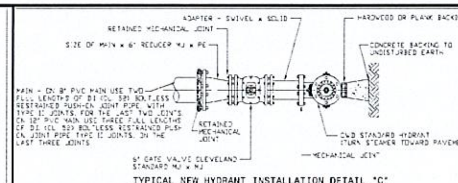


STRAIGHT CUL-DE-SAC SCHEMATIC

NOT TO SCALE

NOTE: THRUST BLOCKS REQUIRED BEHIND ALL TEE AND BENDS.

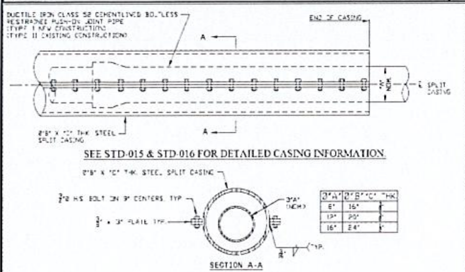
PVC-012 | DATE 6-1-2001 | BY: RSK



TYPICAL NEW HYDRANT INSTALLATION DETAIL "C"

NOT TO SCALE

PVC-H11 | DATE: 3-4-2002 | BY: RSK

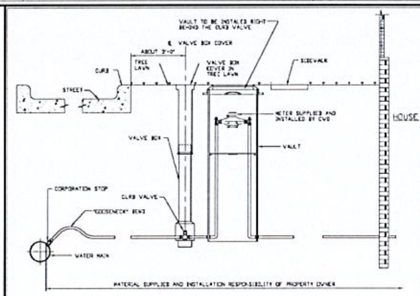


SEE STD-015 & STD-016 FOR DETAILED CASING INFORMATION

SPLIT CASING DETAIL

- NOT TO SCALE -

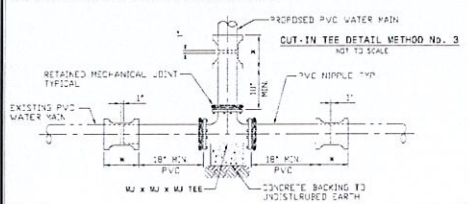
PVC-021 | DATE: 6-11-2001 | BY: RSK



RESIDENTIAL SERVICE CONNECTION INSTALLATION DETAIL WITH METER IN VAULT

- NOT TO SCALE -

STD-014 | DATE: 9-28-2011 | BY: RSK



CUT-IN TEE DETAIL METHOD No. 3

NOT TO SCALE

PVC-T03 | DATE: 6-11-2001 | BY: RSK

WATER WORK

CLEVELAND DIVISION OF WATER NOTES FOR NEW PVC WATER MAIN INSTALLATION

GENERAL:

1. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE CLEVELAND DIVISION OF WATER, SHALL BE AT THE EXPENSE OF THE PROJECT.

2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF WORK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS AND THEIR ACCURACY IS NOT GUARANTEED.

3. CALL THE CWD INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING. THE PRESENCE OF THE NORTH HILLS WATER DISTRICT (NHWD) INSPECTOR IS REQUIRED AT THE PRE-CONSTRUCTION MEETING. CALL THE OFFICE OF THE DISTRICT ENGINEER AT 440-439-1999 TO SCHEDULE THE NHWD INSPECTOR.

   THE OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE WATER SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED WITHOUT THE SUPERVISION OF THE CLEVELAND DIVISION OF WATER INSPECTOR.

4. THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CWD INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF WATER. THE CLEVELAND DIVISION OF WATER WILL REQUIRE THE DELIVERY AND ACCEPTANCE OF TWO COPIES OF RECORD (AS BUILT) PRINTS BEFORE THE PRESSURE TEST AND CHLORINATION OF THE MAIN.

5. FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL PROVIDE AND INSTALL, AT EACH OF THE CHLORINATION PIT LOCATIONS SHOWN AND AT OTHER LOCATIONS DETERMINED BY THE DIVISION OF WATER, FLUSHING/SAMPLING TAPS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER. CHLORINATION PITS SHALL BE SIX (6) FEET SQUARE, MEETING OSHA STANDARDS.

6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CHLORINATION OF THE WATER MAIN INSTALLATION, SHALL BE PROVIDED BY THE BUILDER/DEVELOPER AND/OR CONTRACTOR FOR ALL WATER MAINS AND SERVICE CONNECTION WORK PERFORMED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND REPAIRS BE REQUIRED DUE TO DEFECTIVE MATERIAL OR POOR WORKMANSHIP.

7. USE BACKFILL MATERIAL AS SPECIFIED AND COMPACT SUFFICIENTLY IN THOSE AREAS WHERE EXISTING MAINS AND WATER SERVICE CONNECTION ARE EXPOSED. (SEE DIVISION OF WATER STANDARD DETAIL PVC-001).

8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED SHALL CONFORM TO THE MOST CURRENT DIVISION OF WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION OF WATER'S STANDARDS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATER MAINS AND APPURTENANCES THEREOF WHEN CONNECTING THE NEW WATER MAIN FOR THE HYDROSTATIC TEST. ALL REPAIRS TO DAMAGED, EXISTING FACILITIES SHALL BE MADE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE DIVISION OF WATER. (REFER TO THE ALTERNATE TEST DETAIL PVC-002 AS NEEDED).

10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESENCE OF THE DIVISION OF WATER'S INSPECTOR AND ALSO THE NHWD'S INSPECTOR OR OBSERVER. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI. THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO (2) HOURS WITH THE PRESSURE BEING MAINTAINED WITHIN FIVE (5) PSI OF THE REQUIRED TEST PRESSURE. SHOULD THE PRESSURE TEST FAIL, THE CONTRACTOR SHALL FIND AND CORRECT THE DEFICIENCY(IES) TO THE SATISFACTION OF THE DIVISION OF WATER AND REPEAT THE TWO (2) HOUR PRESSURE TEST.

    ALL HYDRANTS SHALL FACE STREET BEFORE HYDROSTATIC TEST.

WATER MAINS:

11A. ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE IN ACCORDANCE WITH AWWA C-900-97 CLASS 200 OR C-909-98 200 PSI OR BETTER. JOINTS SHALL BE MADE UTILIZING A STAB TYPE, RUBBER GASKETED BELL & SPIGOT; SOLVENT CEMENT TYPE JOINTS WILL NOT BE PERMITTED. STANDARD PLASTIC TRACER TAPE IS TO BE BURIED 4'-0" AND LOCATED DIRECTLY ABOVE THE WATERMAIN.

11B. ALL FITTINGS, UNLESS OTHERWISE CALLED FOR, SHALL BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED OR FUSION BONDED EPOXY COATED. ALL FITTINGS AND PVC PIPE CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C-110/A21.10 AND ANSI/AWWA C-111/A21.11 OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C-153/A21.53. EXCEPT FOR ANCHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES WHEN DIRECTED BY CLEVELAND CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE BELL ENDS.

11C. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE, FIELD APPLIED, ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".

11D. WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, DUCTILE IRON PIPE AND FITTINGS SHALL HAVE AN APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS. WHERE NOTED (AWWA C-900 RJ) PVC BOLTLESS RESTRAINED PIPE MAY BE USED.

11E. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATER TIGHT 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. THE STATIONING SHALL BE SHOWN BY THE USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END.

     PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CWD 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. AS-BUILTS SHALL BE CONSIDERED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

11F. ALL PVC PIPE SHALL BE INSTALLED WITH A CONTINUOUS RUN OF INSULATED #12 GAUGE COPPER WIRE TAPED TO THE TOP OF THE PIPE EVERY 5 FEET. BRING TRACE WIRE TO THE SURFACE AT EVERY VALVE BOX, OR HYDRANT (SEE DETAILS). ALL SPLICES OR CONNECTIONS TO THE WIRE ARE TO BE MADE USING APPROVED DIRECT BURY LUGS OR NUTS. SHOULD THE TYPE OF PIPE CHANGE TO DUCTILE IRON PIPE, THEN TRACE WIRE SHOULD BE TERMINATED AT THE FIRST VALVE BOX OR HYDRANT AFTER THE TRANSITION IS MADE.

HYDRANTS:

12A. IN ALL HYDRANT INSTALLATIONS, THE CONTRACTOR SHALL FACE ALL HYDRANT'S 4" (STEAMER) NOZZLE TOWARD THE PAVEMENT PRIOR TO TESTING PRIOR TO TESTING AND CHLORINATION OF WATER MAINS. CONTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE DEPARTMENT TO OBTAIN HYDRANT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT INDICATED ON THE APPROVED PLANS.

12B. HYDRANT ASSEMBLIES SHALL BE CONSTRUCTED OF DUCTILE IRON (CL. 52) CEMENT LINED PIPE.

VALVES:

13. ALL VALVES SHALL BE AN APPROVED MODEL RESILIENT SEATED GATE VALVES AS PER THE MOST CURRENT VERSION OF AWWA C509 OR C515.

CONNECTIONS:

14. WATER CONNECTIONS SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND ARE NOT PART OF THE WATER MAIN APPROVAL. ADDITIONAL PERMITS FOR SERVICE CONNECTIONS MUST BE OBTAINED FROM THE DIVISION OF WATER PRIOR TO INSTALLATION OF ANY PORTION OF THE SERVICE CONNECTION(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR PERMITS FOR ALL SIZE WATER SERVICE CONNECTIONS BEFORE PERFORMING ANY WORK. THE AMOUNT OF THE CHARGES CAN BE OBTAINED FROM THE DIVISION OF WATER, PERMITS AND SALES SECTION AT 216-664-2444 X5203.

15. ONE INCH SERVICE CONNECTIONS SHALL BE PERMITTED TO SERVICE HOMES BASED ON THE FOLLOWING CRITERIA:
    - PEAK FLOW DEMANDS DO NOT EXCEED 25 GPM FOR AN INDIVIDUAL HOME/UNIT. INCLUSIVE OF ALL USAGE (FIRE, DOMESTIC AND/OR IRRIGATION) AND
    - LENGTH OF ONE INCH CONNECTION DOES NOT EXCEED 50 FEET AS MEASURED FROM THE MAIN TO THE CURB VALVE.

    ANY SERVICE REQUESTS DIFFERING FROM THE STATED CRITERIA SHALL REQUIRE THE SUBMITTAL OF A COMPLETE WATER SERVICE APPLICATION. PEAK DEMANDS ARE TO BE ASSESSED ON APPLICATION AND SETBACKS ARE TO BE SHOWN ON AN ACCOMPANYING SITE PLAN. SITE PLANS SHALL SHOW WATER METER VAULTS IN THE RIGHT OF WAY OR IN AN EASEMENT CONTIGUOUS TO THE RIGHT OF WAY FOR ANY HOMES/UNITS WITH SETBACKS GREATER THAN 150 FEET. EASEMENTS ARE TO BE PROVIDED WITH THE SERVICE CONNECTION APPLICATION SUBMITTAL.

16. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALLED IN GRASS AREAS WHEN POSSIBLE.

17. SERVICE SADDLES SHALL BE USED FOR ALL SERVICE CONNECTIONS. THE OUTLET SHALL BE TAPPED WITH EITHER A.W.W.A. TAPER (C.C.) OR A.W.W.A. F.I.P.T. THREADS. SADDLES SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL APPLICABLE PARTS OF ANSI/AWWA C800-NSF 61 CERTIFIED, AND BE APPROVED BY THE DIVISION OF WATER.

EMERGENCIES:

18. IF A WATER MAIN OR SERVICE CONNECTION BREAK OCCURS DURING CONSTRUCTION AND EMERGENCY ASSISTANCE IS REQUIRED, PLEASE NOTIFY THE DIVISION OF WATER AT 216-664-3060.

REVISIONS

1/27/23 REV PER COUNTY COMMENTS

WATERMAIN DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

DRN. K.C. | CKD. T.C.

DATE OCT., 2022

ORDER NO. 4723E

- DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

(SEE SHEET 47 FOR CONTINUATION)

NOTES:

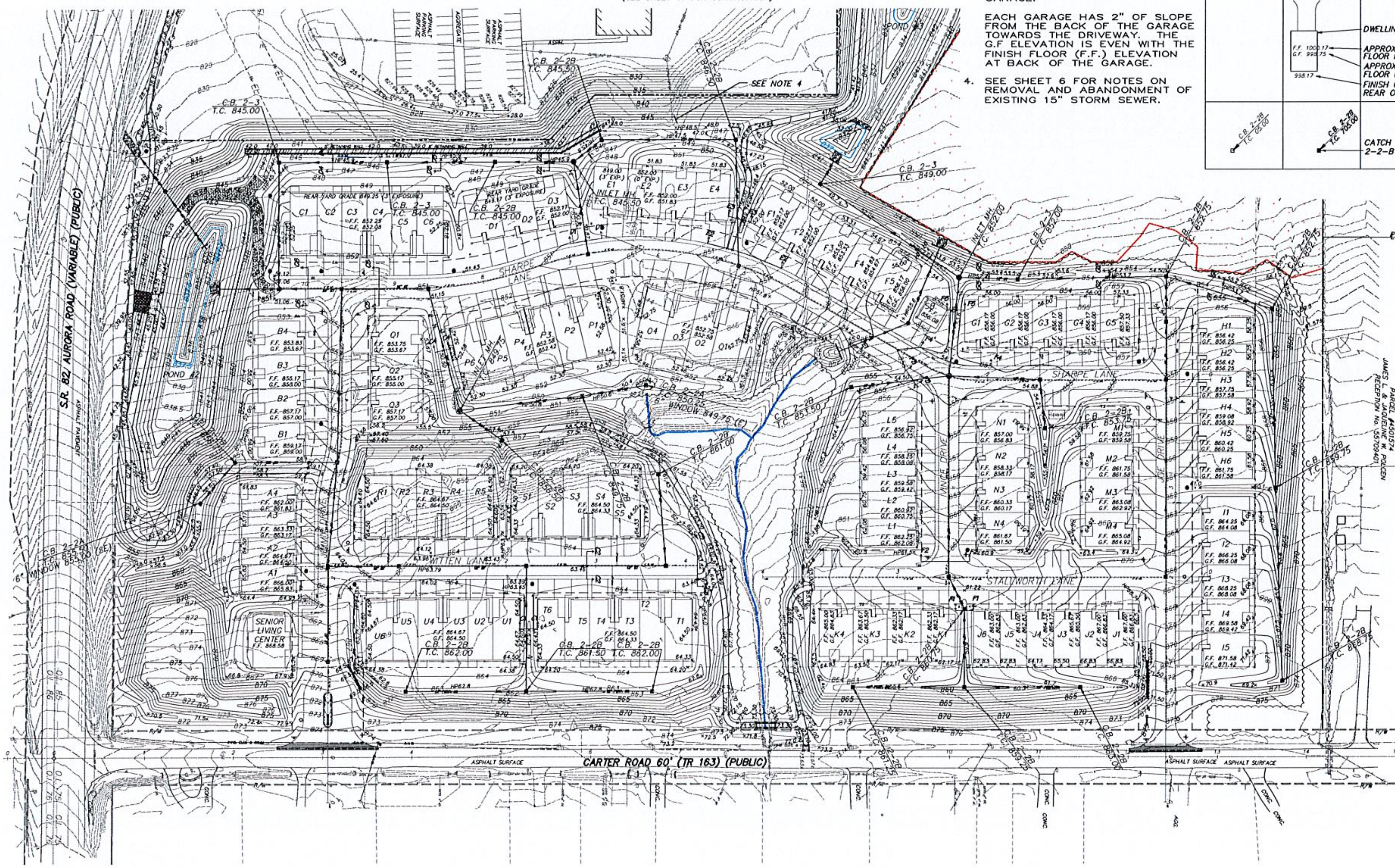
1. ADD 800' TO ALL PROPOSED SPOT ELEVATIONS SHOWN.
2. GRADING AS PROPOSED IS FOR GENERAL DRAINAGE PURPOSES ONLY. EACH BUILDING PLOT PLAN SHALL ESTABLISH ACTUAL FINAL GRADING AND BUILDING FLOOR ELEVATIONS.
3. GARAGE FLOOR (G.F.) ELEVATION LISTED AT EACH UNIT IS THE ELEVATION WHERE THE DRIVEWAY MEETS THE FRONT OF THE GARAGE.

   EACH GARAGE HAS 2" OF SLOPE FROM THE BACK OF THE GARAGE TOWARDS THE DRIVEWAY. THE G.F ELEVATION IS EVEN WITH THE FINISH FLOOR (F.F.) ELEVATION AT BACK OF THE GARAGE.
4. SEE SHEET 6 FOR NOTES ON REMOVAL AND ABANDONMENT OF EXISTING 15" STORM SEWER.

LEGEND

SYMBOL	DESCRIPTION
	EDGE OF PAVEMENT
	CENTERLINE
	EDGE OF PAVEMENT

EXISTING	PROPOSED	DESCRIPTION
993	998	CONTOUR
	F.F. 1000.17 G.F. 998.75 998.17	DWELLING; APPROX. FIN. FLOOR ELEV.; APPROX. GAR. FLOOR ELEV.; FINISH GRADE @ REAR OF HOUSE
C.B. 2-2B T.C. 1000.00	C.B. 2-2B T.C. 1000.00	CATCH BASIN 2-2-B & 2-3



REVISIONS

1/27/23 REV. PER COUNTY COMMENTS

GRADING PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 25' 50'

HORZ. SCALE 1"=50'

VERT. SCALE -----

DRN DER | CKD. T.C.

DATE OCT., 2022

ORDER NO. 4723E

46/53

- DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

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1. ADD 800' TO ALL PROPOSED SPOT ELEVATIONS SHOWN.
2. GRADING AS PROPOSED IS FOR GENERAL DRAINAGE PURPOSES ONLY. EACH BUILDING PLOT PLAN SHALL ESTABLISH ACTUAL FINAL GRADING AND BUILDING FLOOR ELEVATIONS.
3. GARAGE FLOOR (G.F.) ELEVATION LISTED AT EACH UNIT IS THE ELEVATION WHERE THE DRIVEWAY MEETS THE FRONT OF THE GARAGE.

   EACH GARAGE HAS 2" OF SLOPE FROM THE BACK OF THE GARAGE TOWARDS THE DRIVEWAY. THE G.F ELEVATION IS EVEN WITH THE FINISH FLOOR (F.F.) ELEVATION AT BACK OF THE GARAGE.

LEGEND

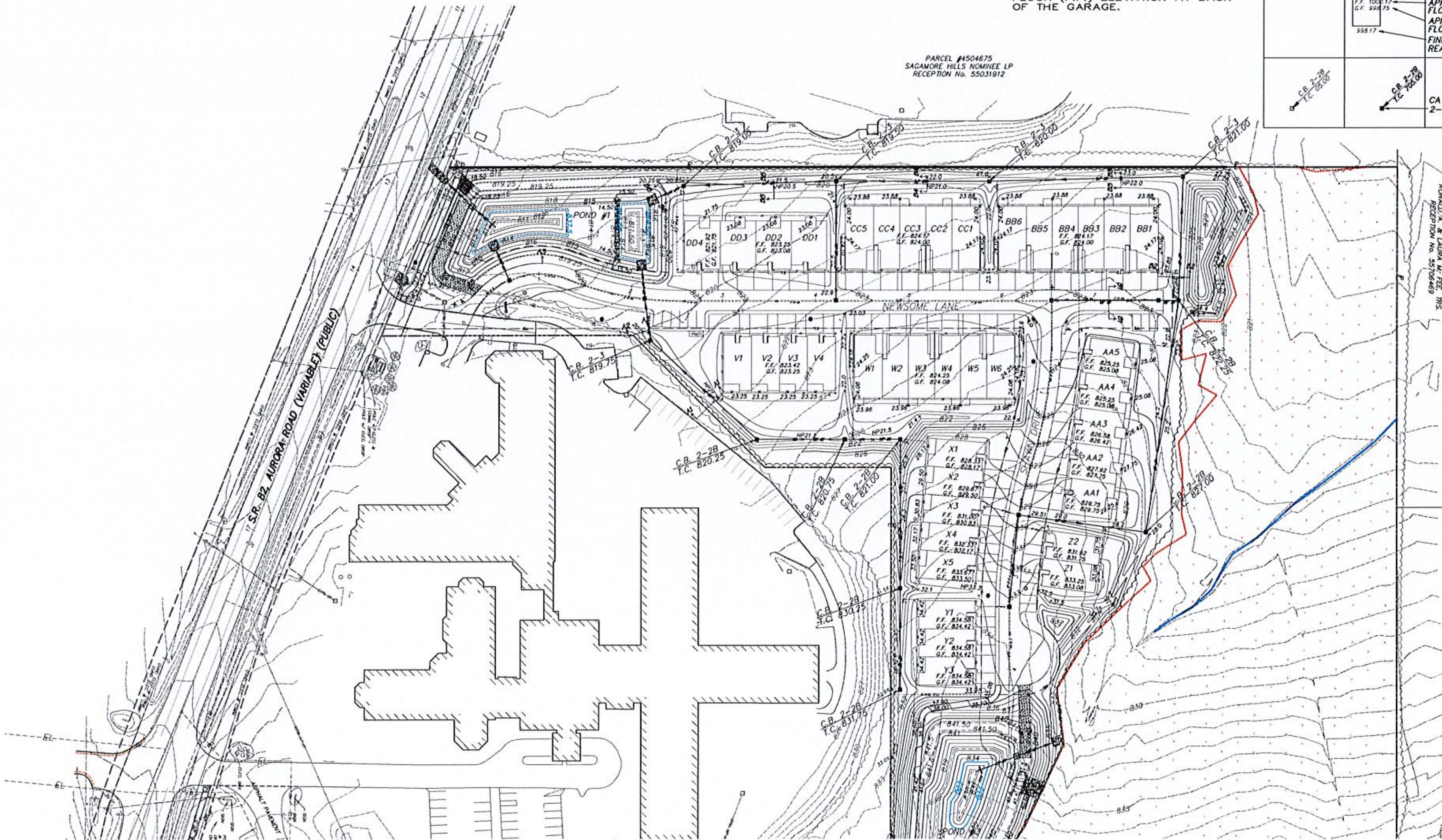
SYMBOL	DESCRIPTION
	EDGE OF PAVEMENT
	CENTERLINE
	EDGE OF PAVEMENT

EXISTING	PROPOSED	DESCRIPTION
993	990	CONTOUR
	F.F. 1000.17 G.F. 998.75 998.17	DWELLING APPROX. FIN. FLOOR ELEV. APPROX. GAR. FLOOR ELEV. FINISH GRADE @ REAR OF HOUSE
C.B. 2-2B T.C. 05.00	C.B. 2-2B T.C. 105.00	CATCH BASIN 2-2-B & 2-3

N

REVISIONS

1/27/23 REV. PER COUNTY COMMENTS



(SEE SHEET 46 FOR CONTINUATION)

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRADING PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

GRAPHIC SCALE 0' 25' 50'

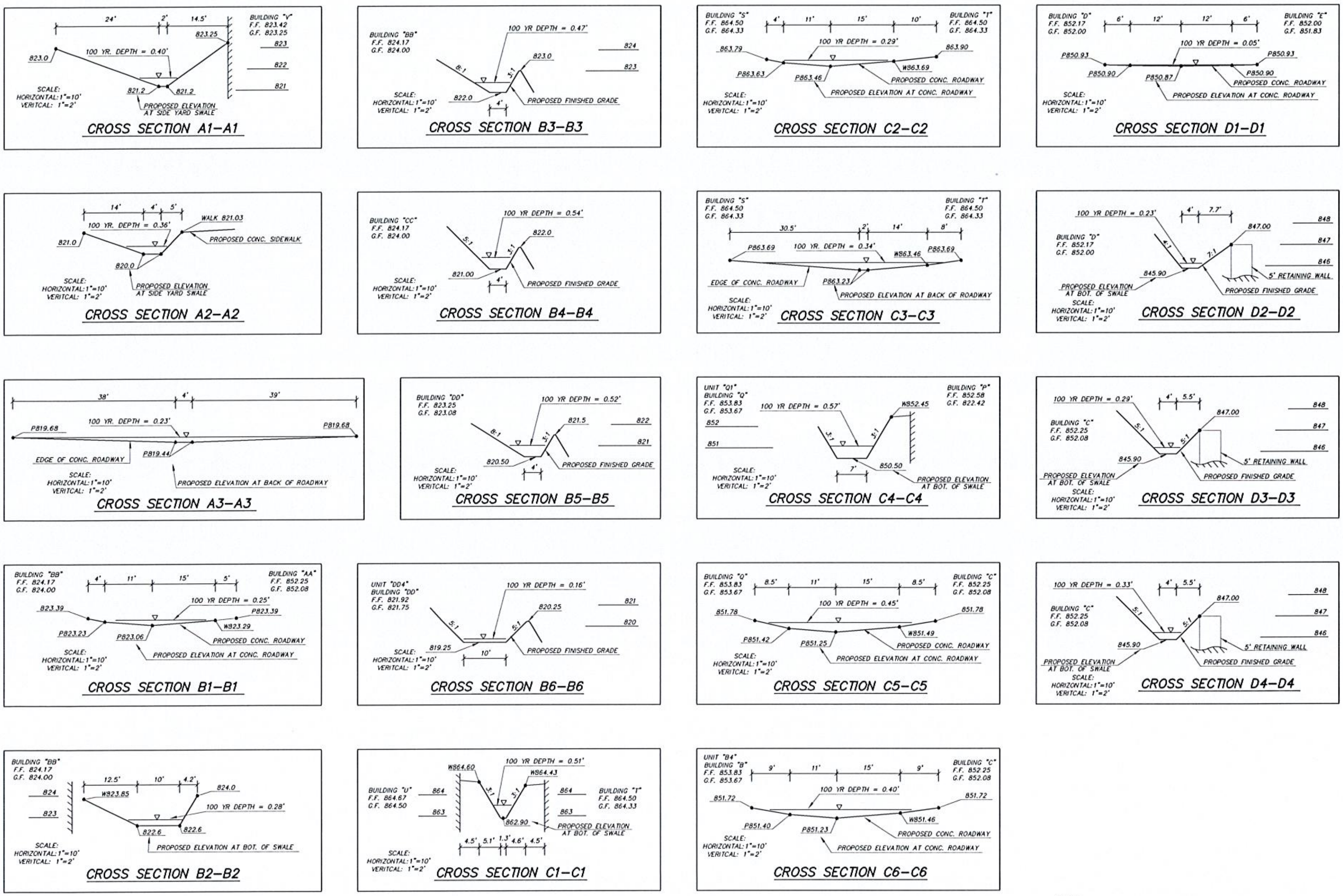
HORIZ. SCALE 1"=50'

VERT. SCALE -----

DRN DER CKD T.C.

DATE OCT., 2022

ORDER NO. 4723E



NOTES:
1.) SEE SHEETS 46-47 FOR PLAN VIEW LOCATION OF CROSS SECTIONS
2.) 100 YEAR FLOW DEPTH SHOWN ASSUMES ALL RUNOFF IS FLOWING OVER LAND.

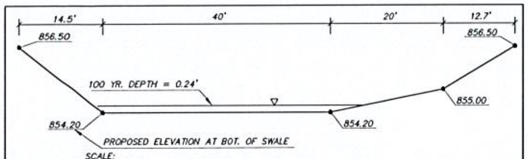
REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

EMERGENCY OVERFLOW CROSS SECTIONS
PARKVIEW SENIOR LIVING RESIDENTIAL DEVELOPMENT
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

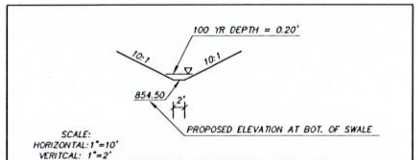
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING

HORIZ. SCALE 1"=10'
VERT. SCALE 1"=2'
DRN K.C. CKD T.C.
DATE OCT., 2022
ORDER NO. 4723E

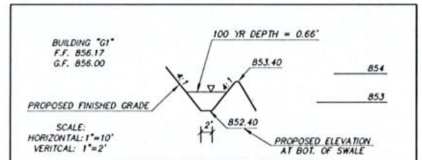
47A/53



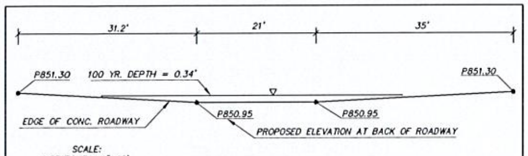
CROSS SECTION E1-E1



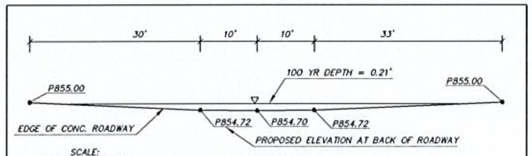
CROSS SECTION F3-F3



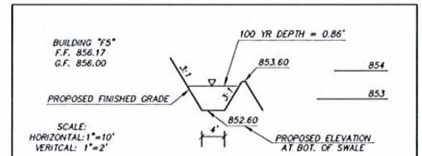
CROSS SECTION G3-G3



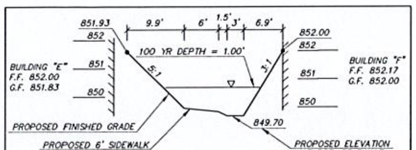
CROSS SECTION E2-E2



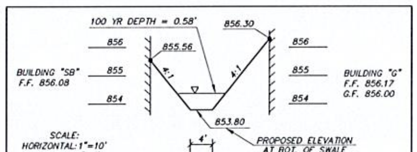
CROSS SECTION F4-F4



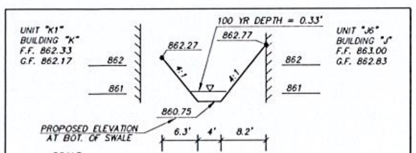
CROSS SECTION H1-H1



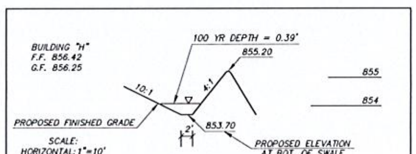
CROSS SECTION E3-E3



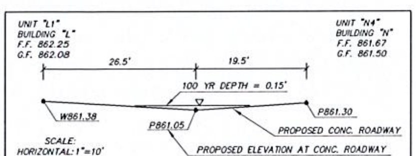
CROSS SECTION F5-F5



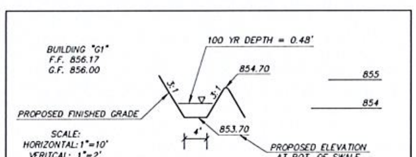
CROSS SECTION F1-F1



CROSS SECTION G1-G1



CROSS SECTION F2-F2



CROSS SECTION G2-G2

NOTES:
1.) SEE SHEETS 46-47 FOR PLAN VIEW LOCATION OF CROSS SECTIONS
2.) 100 YEAR FLOW DEPTH SHOWN ASSUMES ALL RUNOFF IS FLOWING OVER LAND.

REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

EMERGENCY OVERFLOW CROSS SECTIONS
PARKVIEW SENIOR LIVING RESIDENTIAL DEVELOPMENT
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE
HORIZ. SCALE 1"=10'
VERT. SCALE 1"=2'
DR'N K.C. CK'D T.C.
DATE OCT., 2022
ORDER NO. 4273E

TOPSOIL LEGEND

C/L — CONSTRUCTION LIMITS

TOPSOIL RESPREAD AREAS (12" DEPTH) (AT DETENTION PONDS)

LIMITS OF AREAS WHERE TOPSOIL FILLS ARE TO BE PERFORMED — EXISTING TOPSOIL DOES NOT NEED TO BE STRIPPED PRIOR TO PERFORMING FILLS UNLESS BORROW IS BEING PERFORMED

LIMITS OF AREAS WHERE EARTHWORK IS TO BE OVER-DUG BY 12" AND RESPREAD WITH 12" TOPSOIL

LIMITS OF AREAS WHERE TOPSOIL FILLS ARE TO BE PERFORMED BUT EXISTING TOPSOIL NEEDS TO BE STRIPPED FIRST (SINCE BORROW PITS ARE LOCATED HERE)

– DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

FOR EARTHWORK SECTION, LEGENDS AND DETAILS, SEE SHEETS 52-53

(SEE SHEET 49 FOR CONTINUATION)

NOTES:

1.) ALL WORK NECESSARY TO INCORPORATE EXCESS MATERIAL FROM UNDERGROUND UTILITY CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION.

2.) STREET CONTOURS ARE SHOWN FOR GRAPHICAL DEPICTION ONLY. ROADWAY SHALL BE GRADED IN ACCORDANCE WITH THE TYPICAL SECTION SHOWN ON THIS SHEET.

3.) QUANTITIES GIVEN IN THE LEGEND ARE ONLY APPROXIMATE AND ARE GIVEN TO ASSIST IN ESTABLISHING THE UNIT PRICE BID FOR THE VARIOUS ITEMS.

4.) PRIOR TO ANY GRADING ALL TOPSOIL SHALL BE STRIPPED WITHIN THE PROPOSED LIMITS OF DISTURBANCE, UNLESS NOTED ON THE PLAN AS A TOPSOIL FILL AREA.

5.) ALL COMPACTION SHALL BE IN ACCORDANCE WITH THE EARTHWORK NOTES ON SHEET 8, INCLUDING SPREADING LIFTS NOT TO EXCEED 8 INCHES IN DEPTH AND COMPACTING AT THE SPECIFIED MOISTURE CONTENT UNTIL ITS DENSITY IS NOT LESS THAN 98 PERCENT OF THE MAXIMUM LABORATORY DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD OF MOISTURE DENSITY RELATIONSHIP TESTING. THE WORK SHALL BE DONE USING COMPACTION EQUIPMENT THAT WILL PROVIDE THE REQUIRED IN PLACE DENSITY WITHOUT BREAKING DOWN THE UNDERLYING SOILS.

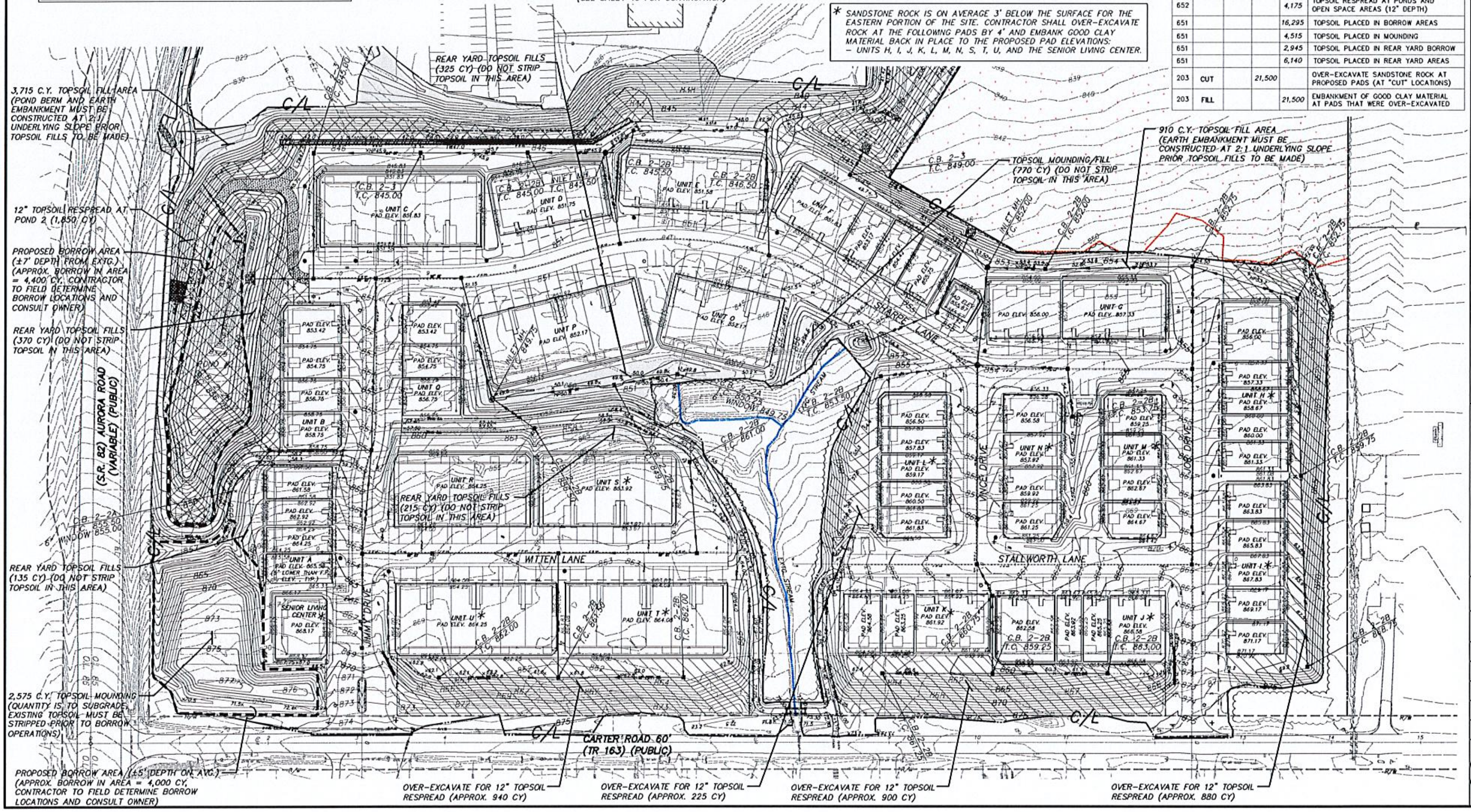
6.) ALL DISTURBED AREAS TO REMAIN DORMANT FOR MORE THAN TWENTY-ONE DAYS (OR UPON COMPLETION) MUST BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING.

7.) SEE EARTHWORK NOTES ON SHEET 49, FOR SCOPE, DISPOSITION AND SEQUENCING OF PROJECT EARTHWORK (TOPSOIL/EXCAVATION/ EMBANKMENT).

* SANDSTONE ROCK IS ON AVERAGE 3' BELOW THE SURFACE FOR THE EASTERN PORTION OF THE SITE. CONTRACTOR SHALL OVER-EXCAVATE ROCK AT THE FOLLOWING PADS BY 4' AND EMBANK GOOD CLAY MATERIAL BACK IN PLACE TO THE PROPOSED PAD ELEVATIONS:
– UNITS H, I, J, K, L, M, N, S, T, U, AND THE SENIOR LIVING CENTER.

EARTHWORK LEGEND

ODOT ITEM	SYMBOL	AREA (ACRES)	CUT (C.Y.)	FILL (C.Y.)	DESCRIPTION
203	CUT		75,375		LIMITS OF EXCAVATION
203	CUT		8,100		EXCESS MATERIAL AVAILABLE FROM UNDERGROUND UTILITY CONSTRUCTION
203	CUT		16,295		BORROW
203	CUT		6,100		ROCK EXPANSION (16%) FROM EXCAVATION
203	CUT		650		ROCK EXPANSION (16%) FROM UNDERGROUND UTILITY CONSTRUCTION
203	CUT		11,480		HAUL-IN OF GOOD CLAY MATERIAL (SITE BALANCE SHORTAGE)
203	FILL			118,000	LIMITS OF EMBANKMENT CONSTRUCTION (0% SHRINKAGE/SWELL)
651		20.11	32,445		TOPSOIL STRIPPED AND PLACED IN TEMPORARY STOCKPILES
651			1,625		5 PERCENT TOPSOIL SWELL ADJUSTMENT
651			34,070		ADJUSTED TOPSOIL QUANTITIY
652				4,175	TOPSOIL RESPREAD AT PONDS AND OPEN SPACE AREAS (12" DEPTH)
651				16,295	TOPSOIL PLACED IN BORROW AREAS
651				4,515	TOPSOIL PLACED IN MOUNDING
651				2,945	TOPSOIL PLACED IN REAR YARD BORROW
651				6,140	TOPSOIL PLACED IN REAR YARD AREAS
203	CUT		21,500		OVER-EXCAVATE SANDSTONE ROCK AT PROPOSED PADS (AT "CUT" LOCATIONS)
203	FILL			21,500	EMBANKMENT OF GOOD CLAY MATERIAL AT PADS THAT WERE OVER-EXCAVATED



REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

EARTHWORK PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 25' 50'

HORIZ. SCALE 1"=50'

VERT. SCALE -----

DRN DER | CKD. T.C.

DATE OCT., 2022

ORDER NO. 4723E

TOPSOIL LEGEND

C/L — CONSTRUCTION LIMITS

TOPSOIL RESPREAD AREAS (12" DEPTH) (AT DETENTION PONDS AND SLOPE AREAS)

LIMITS OF AREAS WHERE TOPSOIL FILLS ARE TO BE PERFORMED – EXISTING TOPSOIL DOES NOT NEED TO BE STRIPPED PRIOR TO PERFORMING FILLS UNLESS BORROW IS BEING PERFORMED

LIMITS OF AREAS WHERE TOPSOIL FILLS ARE TO BE PERFORMED BUT EXISTING TOPSOIL NEEDS TO BE STRIPPED FIRST (SINCE BORROW PITS ARE LOCATED HERE)

EARTHWORK NOTES

TOPSOIL

THE INTENT OF THE EARTHWORK AS DEPICTED IN THESE PLANS IS THAT ALL EXCESS TOPSOIL WILL REMAIN ON-SITE. ALL COSTS ASSOCIATED WITH THE IMPORT/EXPORT OF MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS TOPSOIL ITEMS.

THE DISPOSITION AND SEQUENCING OF TOPSOIL STRIPPING AND STOCKPILING, AND IMPORT/EXPORT IF NECESSARY, SHALL BE AS DETERMINED BY THE OWNER AND CONTRACTOR PRIOR TO CONSTRUCTION.

ONLY AREAS OF THE SITE THAT REQUIRE EXCAVATION AND/OR CLAY EMBANKMENT SHALL BE STRIPPED OF TOPSOIL (12" APPROXIMATE DEPTH OR AS DIRECTED BY THE OWNER). ALL TOPSOIL SHALL BE TEMPORARILY STOCKPILED OR PLACED INTO ITS FINAL DESTINATION.

EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION

THE INTENT OF THE EARTHWORK AS DEPICTED IN THESE PLANS IS TO BALANCE THE EXCAVATION/EMBANKMENT MATERIAL MOVEMENT ON THE SITE: APPROXIMATELY 11,480 CY OF GOOD CLAY MATERIAL IS NEEDED TO BE HAULED INTO THE SITE TO ACHIEVE A BALANCED SITE.

FOR CALCULATION PURPOSES, IT HAS BEEN ASSUMED THAT THERE WILL BE A 16 PERCENT SWELL OF ALL ONSITE EXCAVATION OF ROCK MATERIAL AS DIRECTED BY THE GEOTECHNICAL ENGINEER. ALL EXCESS MATERIAL FROM UNDERGROUND UTILITY CONSTRUCTION SHALL BE INCORPORATED AS EMBANKMENT. IF DUE TO THE CONTRACTOR'S ANTICIPATED METHOD OF CONSTRUCTION AN EXCESS OR SHORTAGE OF EMBANKMENT MATERIAL IS ANTICIPATED, THE CONTRACTOR SHALL IMPORT OR EXPORT THE MATERIAL AS NECESSARY TO PROVIDE A BALANCED SITE. ALL COSTS ASSOCIATED WITH THE IMPORT/EXPORT OF MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS EMBANKMENT ITEMS.

THE DISPOSITION AND SEQUENCING OF EARTHWORK (EXCAVATION/EMBANKMENT), AND IMPORT/EXPORT IF NECESSARY, SHALL BE AS DETERMINED BY THE OWNER AND CONTRACTOR PRIOR TO CONSTRUCTION.

IN THE PAVEMENT AREA THE EARTHWORK PLAN INDICATES APPROXIMATE PROPOSED SUBGRADE CONTOURS. THE EARTHWORK CONTRACTOR SHALL GRADE THE PAVEMENT SECTION FIVE (5) FEET WIDER ON EACH SIDE THAN THE WIDTH OF THE PROPOSED PAVEMENT PER THE TYPICAL SECTION SHOWN ON THIS SHEET, LEAVING GRADING TWO (2) INCHES ABOVE THE FINAL PAVEMENT SUBGRADE, THUS LEAVING MATERIAL FOR THE FINAL SUBGRADE PREPARATION BY THE PAVING CONTRACTOR. (SEE TYPICAL EXCAVATION SECTION)

IN THE YARD AREAS, THE CONTRACTOR SHALL PERFORM EXCAVATION AND/OR EMBANKMENT TO THE ELEVATIONS DEPICTED ON THE EARTHWORK PLAN. THESE ELEVATIONS SHALL BE ACHIEVED ACROSS THE ENTIRE BUILDING ENVELOPES AND TRANSITION ACROSS THE SIDEYARDS TO ACHIEVE THE ADJACENT BUILDING GRADING. FILL WITHIN REAR YARD AREAS BEYOND THE EXTENT OF BUILDING ENVELOPES AS DEPICTED MAY BE TOPSOIL OR OTHER UN-COMPACTABLE MATERIAL. IT IS THE INTENT OF THESE PLANS TO PLACE EMBANKMENT AT AN ELEVATION SUITABLE FOR THE HOME BUILDER TO CONSTRUCT PORCH, GARAGE, & BUILDING FOUNDATIONS IN VIRGIN, UNDISTURBED EARTH OR ON COMPACTED EMBANKMENT.

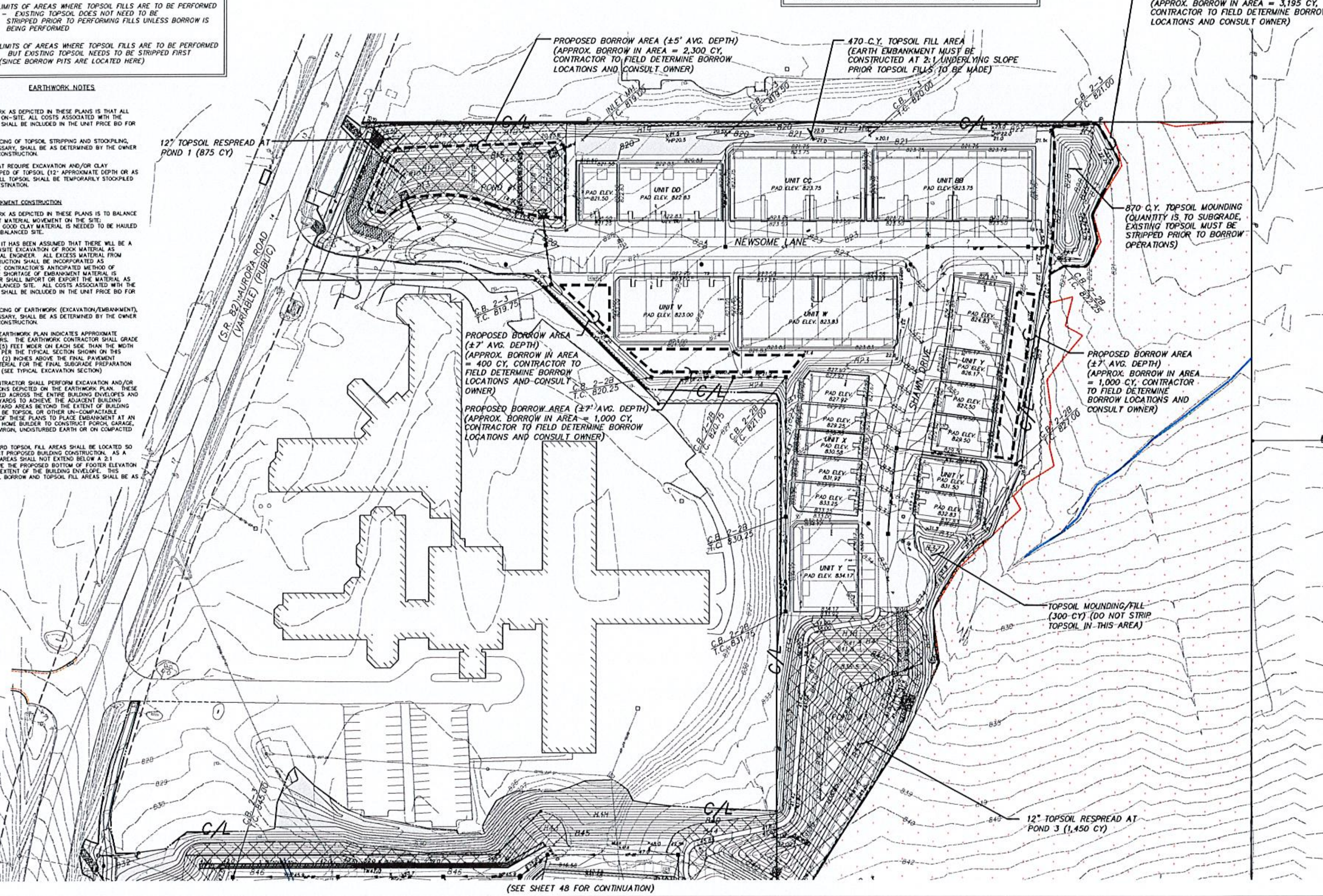
BORROW AREAS AND REAR YARD TOPSOIL FILL AREAS SHALL BE LOCATED SO AS TO NOT NEGATIVELY IMPACT PROPOSED BUILDING CONSTRUCTION. AS A GENERAL GUIDELINE, BORROW AREAS SHALL NOT EXTEND BELOW A 2:1 INFLUENCE LINE FROM 1' ABOVE THE PROPOSED BOTTOM OF FOOTER ELEVATION AT THE FURTHEST POTENTIAL EXTENT OF THE BUILDING ENVELOPE. THIS LOCATION AND EXTENT OF ALL BORROW AND TOPSOIL FILL AREAS SHALL BE AS APPROVED BY THE OWNER.

FOR EARTHWORK SECTION, LEGENDS AND DETAILS, SEE SHEETS 52-53

– DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.



(SEE SHEET 48 FOR CONTINUATION)

REVISIONS

1/27/23 REV. PER COUNTY COMMENTS

EARTHWORK PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

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CIVIL ENGINEERING & SURVEYING
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PHONE: (216) 642-1130 FAX: (216) 642-1132

GRAPHIC SCALE 0' 25' 50'

HORZ. SCALE 1"=50'

VERT. SCALE ----

DWN DER CKD T.C.

DATE OCT., 2022

ORDER NO. 4723E

- DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

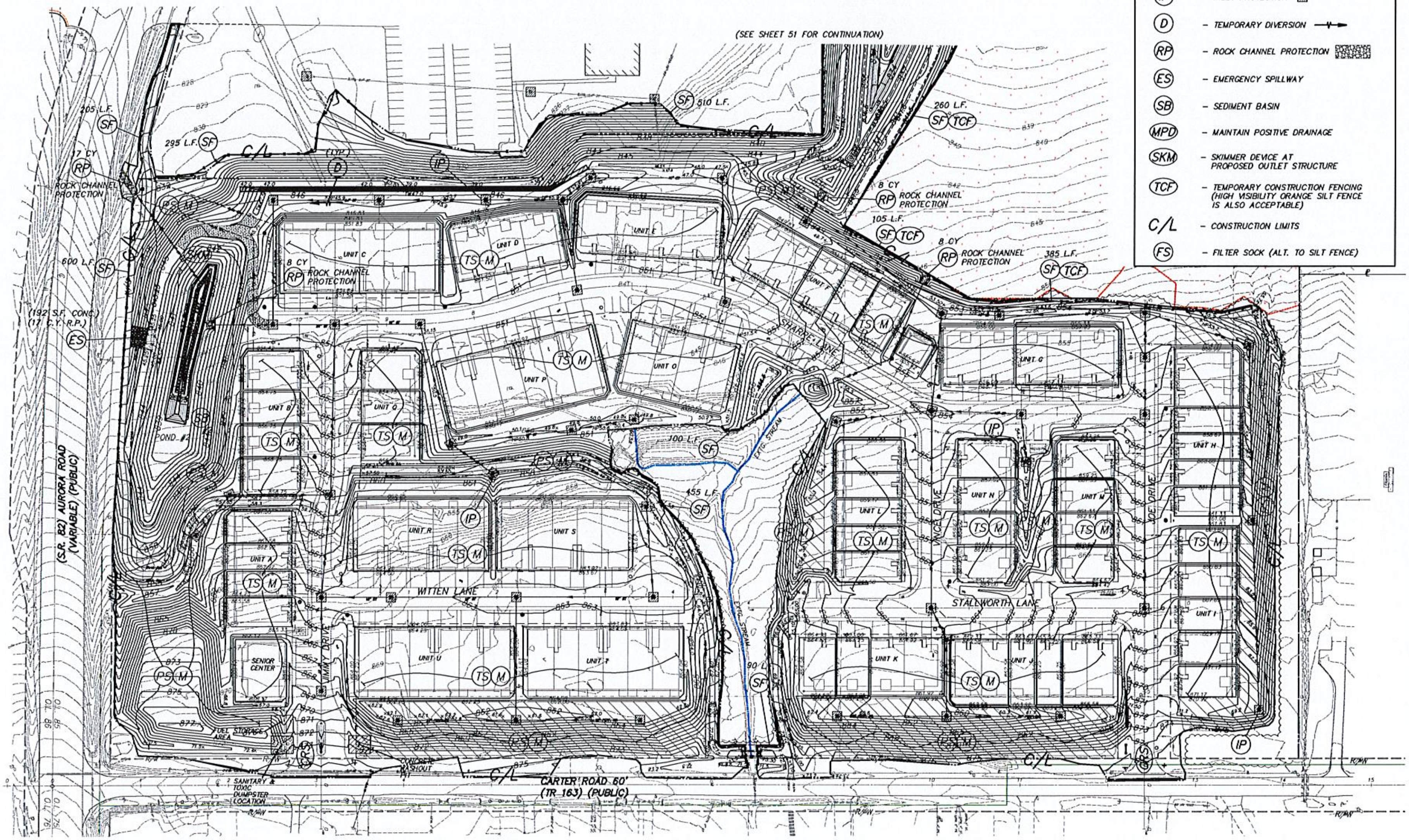
EXISTING TOPOGRAPHY SHOWN IS PER FIELD TOPO PERFORMED IN APRIL 2022 BY DONALD G. BOHNING & ASSOCIATES, INC.

NOTES:

1. ALL DISTURBED AREAS AND ALL SOIL MATERIAL STOCKPILES TO REMAIN DORMANT FOR MORE THAN FOURTEEN DAYS (OR UPON COMPLETION) MUST BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING. ALL AREAS THAT ABUT WETLANDS OR LIVE STREAMS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN TWO DAYS PER PLAN NOTES.
2. SKIMMER DEWATERING DEVICES AT THE POND OUTLET STRUCTURES TO REMAIN IN PLACE THROUGHOUT BUILDING CONSTRUCTION.
3. ADD 800.00' TO ALL PROPOSED SPOT ELEVATIONS SHOWN.

SWPPP LEGEND

SYMBOL	DESCRIPTION
CRS	- CONSTRUCTION ENTRANCE
SF	- HIGH VISIBILITY ORANGE SILT FENCE (FILTER FABRIC FENCE)
PS M	- PERMANENT SEEDING AND MULCHING
TS M	- TEMPORARY SEEDING AND MULCHING
IP	- INLET PROTECTION
D	- TEMPORARY DIVERSION
RP	- ROCK CHANNEL PROTECTION
ES	- EMERGENCY SPILLWAY
SB	- SEDIMENT BASIN
MPD	- MAINTAIN POSITIVE DRAINAGE
SKM	- SKIMMER DEVICE AT PROPOSED OUTLET STRUCTURE
TCF	- TEMPORARY CONSTRUCTION FENCING (HIGH VISIBILITY ORANGE SILT FENCE IS ALSO ACCEPTABLE)
C/L	- CONSTRUCTION LIMITS
FS	- FILTER SOCK (ALT. TO SILT FENCE)



REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

STORM WATER POLLUTION PREVENTION PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
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0' 25' 50'
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CKD. T.C.
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SWPPP LEGEND

SYMBOL	DESCRIPTION
CRS	– CONSTRUCTION ENTRANCE
SF	– HIGH VISIBILITY ORANGE SILT FENCE (FILTER FABRIC FENCE)
PS M	– PERMANENT SEEDING AND MULCHING
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C/L	– CONSTRUCTION LIMITS
FS	– FILTER SOCK (ALT. TO SILT FENCE)
SPS	– TEMPORARY STORM CONDUIT

NOTES:

1. ALL DISTURBED AREAS AND ALL SOIL MATERIAL STOCKPILES TO REMAIN DORMANT FOR MORE THAN FOURTEEN DAYS (OR UPON COMPLETION) MUST BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING. ALL AREAS THAT ABUT WETLANDS OR LIVE STREAMS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN TWO DAYS PER PLAN NOTES.
2. SKIMMER DEWATERING DEVICES AT THE POND OUTLET STRUCTURES TO REMAIN IN PLACE THROUGHOUT BUILDING CONSTRUCTION.
3. ADD 800.00' TO ALL PROPOSED SPOT ELEVATIONS SHOWN.
4. CONSTRUCTION ENTRANCE TO BE APPROX. 14' WIDE BY 125' LONG OVER TWO TEMPORARY STORM CONDUITS INSTALLED AT THE ROADSIDE DITCH OF S.R. 82. TO MEET THE EQUIVALENT CAPACITY OF THE ADJACENT 30" DRIVE CULVERT, INSTALL MIN. (1) 30 L.F. 24" DIAMETER TEMPORARY STORM CONDUIT AND (1) 30 L.F. 18" DIAMETER TEMPORARY STORM CONDUIT (SMOOTH INTERIOR HDPE OR APPROVED ALTERNATE).

   TEMPORARY STORM CONDUITS TO BE REMOVED ONCE SITE IS STABILIZED, STREET PAVEMENT IS INSTALLED, AND CONSTRUCTION ENTRANCE IS NO LONGER NEEDED. CONSTRUCTION OF TEMPORARY CONDUITS AND CONSTRUCTION ENTRANCE TO BE INSTALLED PER OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER MANUAL.

– DELINEATED WETLANDS TO REMAIN

WETLANDS DELINEATIONS AND MAPPING PERFORMED BY HZW ENVIRONMENTAL CONSULTANTS. THESE DRAWINGS DEPICT THE DELINEATED WETLANDS TO REMAIN. REFER TO APPROVED U.S. ARMY CORPS PERMIT NO. LRB-2021-00877 FOR DELINEATED WETLANDS PERMITTED TO BE FILLED.

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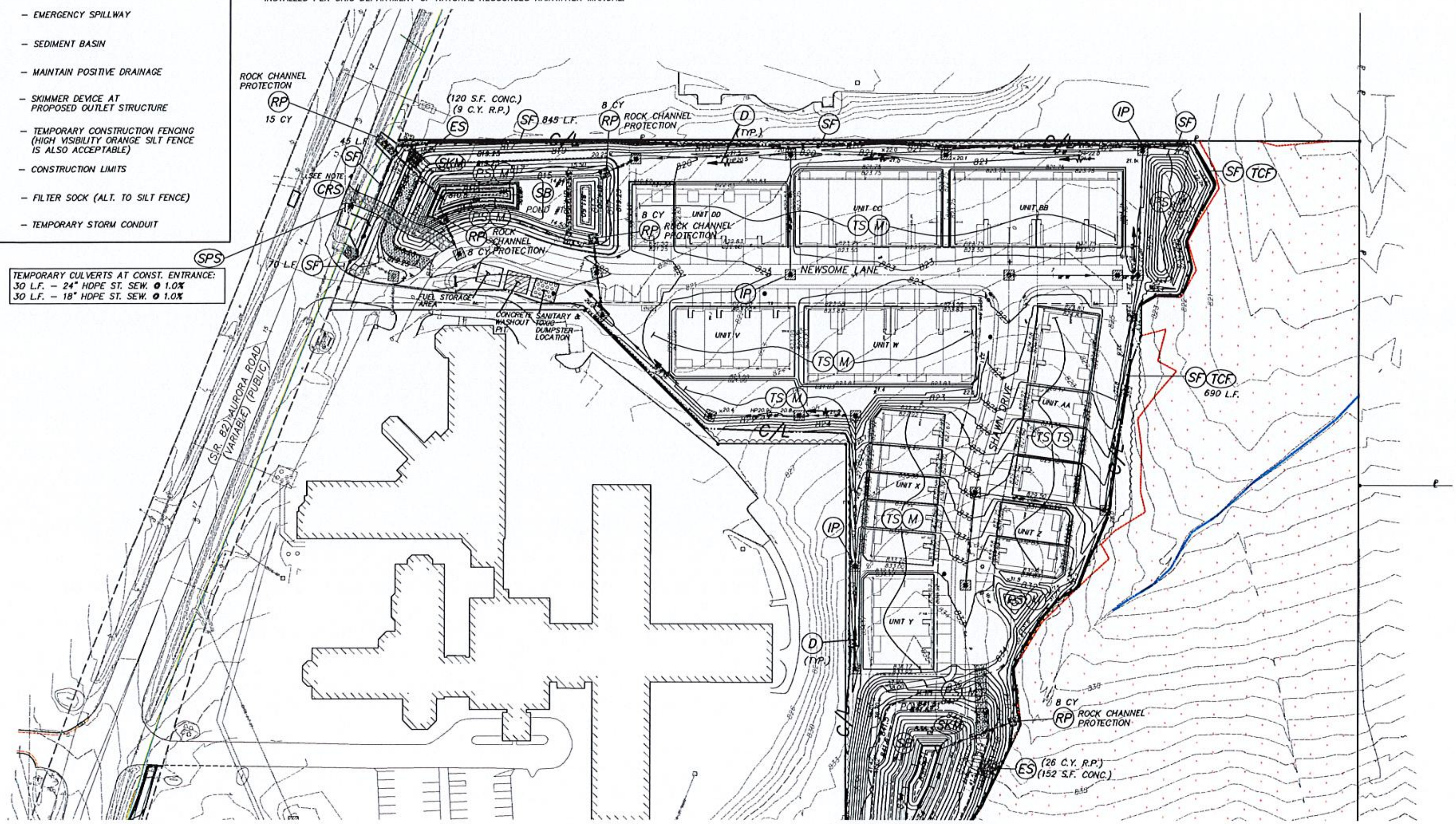
TEMPORARY CULVERTS AT CONST. ENTRANCE:
30 L.F. – 24" HDPE ST. SEW. @ 1.0%
30 L.F. – 18" HDPE ST. SEW. @ 1.0%



(SEE SHEET 50 FOR CONTINUATION)

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REVISIONS
1/27/23 REV. PER COUNTY COMMENTS

STORM WATER POLLUTION PREVENTION PLAN
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
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CKD. T.C.
DATE OCT., 2022
ORDER NO. 4723E

GENERAL NOTES

1.) NOTICE OF INTENT (NOI) MUST BE SUBMITTED TO OHIO EPA FOR NPDES PERMIT 21 DAYS PRIOR TO THE START OF CLEARING AND/OR GRADING.
2.) CONTRACTOR MUST COMPLY WITH ALL LOCAL EROSION, SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY, AND HEALTH REGULATIONS (E.G. PROVISION OF PORTABLE SANITARY FACILITIES, TEMPORARY FUEL TANK REGULATIONS, ETC.)
3.) THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY PRACTICES TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS INTO STORM WATER RUNOFF. UNDER NO CIRCUMSTANCE SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL, STORM SEWER OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORM WATER TO WASTE MATERIALS IS RECOMMENDED.
4.) OFF-SITE TRACKING OF SEDIMENTS AND DUST GENERATION SHALL BE MINIMIZED.
5.) THERE SHALL BE NO TURBID DISCHARGES RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT SETTLING POND PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. AS AN ALTERNATE, THE CONTRACTOR MAY IMPLEMENT AN EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE (E.G. SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE) ONLY AS APPROVED BY THE ENGINEER.
6.) ALL FUEL TANKS AND DRUMS SHALL BE STORED IN MARKED STORAGE AREA. A DIKE SHALL BE CONSTRUCTED AROUND THIS STORAGE AREA WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF THE LARGEST CONTAINER IN THE STORAGE AREA. ALL ADDITIONAL REQUIREMENTS OF THE LOCAL FIRE AUTHORITY MUST BE FOLLOWED. IF THE FUEL TANKS HAVE A SELF-CONTAINED "DIKE," THE PLUG WILL BE KEPT IN THE "DIKE" TANK AT ALL TIMES. A MOBILE FUELING SPILL PREVENTION AND RESPONSE PLAN MUST BE PREPARED AND FOLLOWED BY ALL SITE PERSONNEL.

GENERAL PERMIT DOCUMENT INCLUSION REQUIREMENTS

THIS PROJECT SWP3 INCORPORATES A COPY OF OHIO EPA CONSTRUCTION GENERAL PERMIT NO. OHC000005. THE PART VII. CERTIFICATION SHALL BE ATTACHED AND SIGNED PER THE SIGNATORY REQUIREMENTS OF PART V.G. OF THE PERMIT.

THE ACKNOWLEDGMENT DOCUMENT REQUIRED BY PERMIT PART III.E. SHALL BE SIGNED BY THE CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE SWP3 AS INDICATED. THE SIGNED DOCUMENT SHALL BE INCORPORATED INTO THIS SWP3.

A LOG DOCUMENTING GRADING AND STABILIZATION ACTIVITIES AS WELL AS ANY AMENDMENTS TO THE SWP3, WHICH OCCUR AFTER CONSTRUCTION ACTIVITIES COMMENCE, SHALL BE MAINTAINED BY QUALIFIED PERSONNEL UNDER THE DIRECTION OF THE ENGINEER/OWNER CONTRACTOR OR OTHER AUTHORIZED REPRESENTATIVE OF THE PERMITTEE. THESE RECORDS SHALL BE INCORPORATED INTO THIS SWP3.

SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS
(I.E. GRUBBING, EXCAVATION, GRADING, UTILITIES, & INFRASTRUCTURE)

1) INITIAL SEDIMENT CONTROL, CLEARING & GRUBBING
a) INSTALL CONSTRUCTION STAGING/ROAD STABILIZATION AS INDICATED ON THE SWPP PLAN.
b) CLEAR ALL DESIGNATED AREAS WITHIN THE CONSTRUCTION LIMITS AS DESIGNATED ON THE SWPP PLAN.
c) INSTALL ALL TEMPORARY CONSTRUCTION FENCING AND SILT FENCING AS DESIGNATED ON THE SWPP PLAN.
d) INSTALL SEDIMENT SETTLING FACILITIES AS DESIGNATED ON THE SWPP PLAN. INITIAL EXCAVATION OF EACH FACILITY SHALL CREATE A SETTLING VOLUME EQUAL TO OR GREATER THAN THE "STORAGE VOLUME NEEDED" LISTED IN THE PLAN SEDIMENT FACILITY DATA. STABILIZE THE FACILITIES WITH SEEDING AND MULCHING.
e) INSTALL ALL DIVERSION SWALES, SILTATION CHECK DAMS, AND TEMPORARY STORM CONDUIT CONSTRUCTION ROUTING AS DESIGNATED ON THE SWPP PLAN. STABILIZE DIVERSION SWALES WITH SEEDING AND MULCHING.
f) GRUB ALL STUMPS AND ROOTS WITHIN THE CONSTRUCTION LIMITS AS DESIGNATED ON THE SWPP PLAN.
g) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL SITE AREAS WHICH ARE TO REMAIN DORMANT.

2) EXCAVATION & GRADING
a) STRIP TOPSOIL FROM ALL EXCAVATION & EMBANKMENT AREAS, PLACING ALL TOPSOIL DIRECTLY INTO THE DESIGNATED ULTIMATE LOCATIONS OR INTO TEMPORARY STOCKPILES.
b) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL TOPSOIL STOCKPILES WHICH ARE TO REMAIN DORMANT.
c) COMPLETE ALL EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION AND BORROW AS SPECIFIED ON THE EARTHWORK PLAN.
d) SEED AND MULCH PER PLAN NOTES ALL AREAS OF THE SITE WHICH ARE TO REMAIN DORMANT.

3) UTILITY INSTALLATION
a) INSTALL THE SANITARY SEWER AND APPURTENANCES.
b) INSTALL THE STORM SEWERS, POND OUTLETS AND APPURTENANCES. INSTALL INLET AND OUTLET PROTECTION.
c) INSTALL THE WATERMAIN AND APPURTENANCES.
d) RESTORE DISTURBED AREAS WITH SEEDING & MULCHING.

4) INFRASTRUCTURE INSTALLATION
a) TRIM PAVEMENT SUBGRADE, CASTING SPOILS TO THE SIDE OF THE PAVEMENT.
b) INSTALL PAVEMENT SECTION AND UNDER-DRAINS.
c) INSTALL INLET PROTECTION ON ALL BASIN GRATES WITHIN PAVEMENT SECTION.
d) ADJUST ALL CASTINGS WITHIN THE ROADWAY AREAS.
e) RE-GRADE THE ROADWAY AREAS AND BACKFILL CURBS.
f) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL SITE AREAS WHICH ARE TO REMAIN DORMANT.

5) PRIVATE UTILITY INSTALLATION
a) INSTALL GAS MAIN, ELECTRIC LINES, PHONE LINES, CABLE LINES AND ALL APPURTENANCES.
b) RE-GRADE ROADWAY AREA DISTURBED BY INSTALLATION OF PRIVATE UTILITIES.
c) STABILIZE ALL DISTURBED AREAS PER PLAN NOTES AND SPECIFICATIONS.

6) DISPOSITION OF SEDIMENT SETTLING FACILITIES
a) PRIOR TO REMOVING THE SITE SETTLING FACILITIES, PUMP ALL STANDING WATER FROM WITHIN THE FACILITIES TO AN APPROVED FILTERING SYSTEM IN A WELL-VEGETATED AREA.
b) REMOVE AND DISPOSE OF ALL UNSTABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE FACILITIES PRIOR TO PLACEMENT OF COMPACTED SOIL.
c) REMOVE THE SEDIMENT FACILITY ROCK OUTLETS / SPILLWAYS / DEWATERING PIPES.
d) STABILIZE ALL DISTURBED AREAS PER PLAN NOTES AND SPECIFICATIONS.

7) FINAL SITE STABILIZATION AND DISPOSITION OF BMP'S
a) REMOVE TEMPORARY BMP'S WHEN NO LONGER NEEDED (I.E. AFTER TRIBUTARY AREAS ARE STABILIZED).
b) INSPECT SITE UPON COMPLETION OF THE SITE CONTRACT WORK PER "MAINTENANCE OF EROSION CONTROL ITEMS" NOTE.
c) FOLLOW DIRECTIVES OF THE OWNER AND CITY REGARDING FINAL BMP MAINTENANCE OR REMOVAL.
d) STABILIZE PER PLAN NOTES ALL AREAS DISTURBED BY FINAL BMP REMOVAL.

8) POST-CONSTRUCTION STORM WATER MANAGEMENT (STORM WATER QUALITY PONDS)
a) SWP3 INCORPORATES EXTENDED DETENTION IN THE PROPOSED PONDS.
b) PROPERTY OWNER TO MAINTAIN SITE STORM WATER QUALITY PONDS PER MAINTENANCE SCHEDULE.

SOIL EROSION AND SEDIMENT CONTROL

GENERAL

THIS WORK SHALL CONSIST OF TEMPORARY AND PERMANENT CONTROL MEASURES AS SHOWN ON THE STORM WATER POLLUTION PREVENTION PLAN AND AS DIRECTED BY THE ENGINEER AND OWNER TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH THE USE OF SEDIMENT TRAPS, SEDIMENT BASINS, SILT FENCES, EARTH DIVERSION DIKES, CHECK DAMS, STORM DRAIN INLET PROTECTION, GRASSES AND MULCHES, CONSTRUCTED IN ACCORDANCE WITH THE PLANS, AND THE CURRENT EDITION OF THE OHIO RAINWATER AND LAND DEVELOPMENT MANUAL. THE IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL SHALL ALSO CONFORM TO THE REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) UNDER THE NPDES PERMIT PROGRAM FOR THE DISCHARGE OF STORM WATER FROM CONSTRUCTION SITES AND THE EROSION AND SEDIMENT CONTROL PRACTICES AND RECOMMENDATIONS OF SUMMIT COUNTY SOIL AND WATER. IF CONFLICTS EXIST REGARDING THE SOIL AND SEDIMENT CONTROL PRACTICES, THE MORE RESTRICTIVE SHALL APPLY.

IN ORDER TO CONTAIN SEDIMENT ON SITE, DIVERSION DITCHES, DIKES, AND SEDIMENTATION TRAPS AND OTHER MEASURES FOR TRAPPING SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING CONSTRUCTION AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. AS CONSTRUCTION PROGRESSES, TEMPORARY SEDIMENT BARRIERS, DITCH CHECKS, AND SILT FENCES SHALL BE USED TO INTERCEPT AND DETAIN SEDIMENT, TO DECREASE FLOW VELOCITIES, AND TO LIMIT THE FLOW FROM LARGE DISTURBED AREAS. EFFORTS TO PREVENT THE SILTATION OF THE STORM SEWER SYSTEM AND WATERWAYS SHALL INCLUDE THE PROTECTION OF INLET BASINS, CATCH BASINS, AND OTHER STORM INLETS (SEE INLET PROTECTION DETAIL). AS AREAS OF EARTHWORK CONSTRUCTION ARE COMPLETED, THE CONTRACTOR IS TO PROTECT AND STABILIZE THE AREAS WITH SEEDING AND MULCHING.

DUST CONTROL

THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY, SUCH AS CALCIUM CHLORIDE, WATER, OR A MOTORIZED DUST-FREE STREET SWEEPING DEVICE, AS DIRECTED BY THE ENGINEER, TO MAINTAIN ALL ROADWAYS BEING USED FOR ACCESS TO THE CONSTRUCTION SITE. PAYMENT FOR ALL DUST CONTROL MEASURES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER VARIOUS ITEMS.

LIMITS OF CONSTRUCTION

AREAS OF EXISTING VEGETATION BEYOND THE LIMITS OF CONSTRUCTION ARE TO REMAIN UNDISTURBED.

ALL EARTHWORK METHODS, STAGING AND IMPLEMENTATION SHALL BE AS APPROVED BY THE OWNER PRIOR TO COMMENCING WORK. ALL AREAS UTILIZED FOR STOCKPILING OF EMBANKMENT SHALL BE STRIPPED OF TOPSOIL PRIOR TO THE PLACEMENT OF MATERIAL. FOR ANY AREAS OF DISTURBANCE BEYOND THE PLAN LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S AND VEGETATIVE STABILIZATION PER PLAN NOTES AND SPECIFICATIONS, NECESSARY UPDATES TO THE SWP3, AND ANY ADDITIONAL MEASURES AS DIRECTED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SUCH WORK AND SUCH COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS EARTHWORK ITEMS.

STORM INLET CASTING INSIGNIA

INLET CASTINGS WITH "DUMP NO WASTE - DRAINS TO WATERWAYS" NOTATION AND FISH INSIGNIA SHALL BE USED WHERE POSSIBLE.

EROSION CONTROL PROCEDURES

1.) TIMING OF SEDIMENT TRAPPING PRACTICES. SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL THROUGHOUT EARTH DISTURBING ACTIVITY. SETTLING FACILITIES, PERIMETER CONTROLS AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABILIZED. OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.

2.) STABILIZATION OF DISTURBED AREAS. DISTURBED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN FOURTEEN (14) DAYS. FOR AREAS WITHIN FIFTY (50) FEET OF ANY LIVE STREAM, SOIL STABILIZATION PRACTICES SHALL BE INITIATED WITHIN TWO (2) DAYS ON ALL INACTIVE, DISTURBED AREAS. TEMPORARY OR PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. FOR STOCKPILES OF TOPSOIL IN WINDROWS, THESE TIME LIMITS FOR INITIATION OF STABILIZATION OF ANY GIVEN PORTION OF THE WINDROW SHALL BE BASED ON THE DAY THAT PORTION IS PUT IN PLACE. WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED.

WINTERIZATION-ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED 14 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.

3.) SETTLING FACILITIES. CONCENTRATED STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH A SEDIMENT SETTLING FACILITY. SEDIMENT BASINS AND TRAPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OHIO RAINWATER AND LAND DEVELOPMENT MANUAL, AND PLAN DETAILS. THE CONTRACTOR SHALL PERIODICALLY CLEANOUT SEDIMENT WHEN CAPACITIES HAVE BEEN REDUCED BY 40% OF ORIGINAL. THE SEDIMENT SETTLING FACILITY SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL FINAL STABILIZATION OF THE SITE. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE SETTLING FACILITY AND RESTORE THE AREA WITH SEEDING & MULCHING, UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER TO LEAVE THE FACILITY IN PLACE. ALL WORK NECESSARY TO REMOVE THE SEDIMENT SETTLING FACILITY SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTENANCE OF EROSION CONTROL ITEMS".

4.) SEDIMENT BARRIERS. SHEET FLOW RUNOFF FROM DISTURBED AREAS SHALL BE INTERCEPTED BY SEDIMENT BARRIERS. SEDIMENT BARRIERS, SUCH AS SILT FENCES, OR DIVERSIONS DIRECTING RUNOFF TO SETTLING FACILITIES, SHALL PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED BY SHEET FLOW.

5.) STREAM PROTECTION. STREAMS, INCLUDING BEDS AND BANKS, SHALL BE RESTABILIZED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED, INTERRUPTED OR STOPPED. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. ALL DITCHES WITH GRADES OVER 1.5% GRADE SHOULD HAVE DITCH PROTECTION APPLIED, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. (TYPE TO BE SHOWN ON S.W.P.P. PLAN).

6.) MAINTENANCE AND INSPECTION. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. THE OWNER DESIGNATES THE EARTHWORK/SEWER CONTRACTOR WHO SHALL ASSIGN QUALIFIED PERSONNEL TO INSPECT THE PRACTICES AND PERFORM MAINTENANCE AND REPAIRS TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. THE CONTRACTOR SHALL MAINTAIN INSPECTION RECORDS OF THE CONDITION OF THE CONTROL PRACTICES AS WELL AS THEIR EFFECTIVENESS AND ANY NECESSARY CORRECTIVE ACTIONS. COPIES OF THESE REPORTS SHALL BE FORWARDED TO THE OWNER TO BE KEPT ON FILE FOR A PERIOD OF NO LESS THAN THREE (3) YEARS AFTER THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE OHIO E.P.A. THESE RECORDS ARE TO BE COLLECTED AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE SITE EROSION CONTROL ITEMS BY THE OWNER. THE OWNER SHALL THEN CONTINUE THESE RECORDS UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

7.) EXTENDED DEVELOPMENT. THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES DEPICTED IN THESE PLANS ARE RELEVANT FOR ONLY THESE CONSTRUCTION PLANS. SOIL EROSION AND SEDIMENT CONTROL PRACTICES FOR ANY SUBSEQUENT WORK BEING DONE ON THIS SITE OR INDIVIDUAL LOTS SHALL BE THE RESPONSIBILITY OF THE BUILDER, WHO MUST FILE AN INDIVIDUAL LOT NOTICE OF INTENT (NOI) WITH THE OHIO EPA.

INSPECTION SCHEDULE

1.) ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED AT 7 DAY INTERVALS AND AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. (SEE "MAINTENANCE AND INSPECTION" NOTE).
2.) SEDIMENT SETTLING FACILITIES TO BE CHECKED AFTER EACH MAJOR PHASE OF DEVELOPMENT FOR SEDIMENT ACCUMULATION.
3.) VEGETATIVE PLANTINGS-PLANTINGS TO BE CHECKED DURING SPRING, SUMMER, AND EARLY FALL.
4.) REPAIRS-ANY EROSION CONTROL MEASURES, STRUCTURAL MEASURES, OR OTHER RELATED ITEMS IN NEED OF REPAIR OR MAINTENANCE MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION, WITH THE EXCEPTION OF SEDIMENT SETTLING PONDS, WHICH MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS.
5.) MOWING-GRASSED AREAS ARE TO BE MOWED REGULARLY.
6.) FERTILIZATION-SEEDED AREAS WHERE THE SEED HAS NOT PRODUCED AT LEAST A UNIFORM VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70% COVER FOR THE AREA, WILL BE INSPECTED, RESEEDED, AND FERTILIZED AS NECESSARY.

ROCK CHANNEL PROTECTION (RP)

ALL ROCK CHANNEL PROTECTION SHALL BE IN ACCORDANCE WITH PLAN DETAILS AND SHALL BE INSTALLED IMMEDIATELY AFTER THE INSTALLATION OF THE PERTINENT STORM STRUCTURE. (SEE PROFILES FOR EXTENTS AND SHEET 18 FOR DETAIL.)

MAINTENANCE OF POSITIVE DRAINAGE (MPD)

THE CONTRACTOR IS REQUIRED TO MAINTAIN POSITIVE DRAINAGE THROUGH ALL PHASES OF SITE CONSTRUCTION. IT IS ANTICIPATED THAT POSITIVE DRAINAGE SHALL BE MAINTAINED BY USE OF ANY COMBINATION OF THE FOLLOWING:

1.) DIVERT WATER FROM LOW AREAS BY CUTTING TEMPORARY SWALES OR DITCHES TO AN AREA WHERE POSITIVE DRAINAGE CAN BE OBTAINED.
2.) LEAVE LOW AREAS UNEXCAVATED TO AID WITH POSITIVE DRAINAGE UNTIL SUCH TIME THAT PERMANENT DRAINAGE SYSTEMS ARE INSTALLED.
3.) CONSTRUCT STORM SEWER AS NECESSARY TO REACH THE LOW AREAS AND INSTALL A DROP PIPE STRUCTURE ON A STORM CONNECTION, A STORM STRUCTURE, OR THE STORM SEWER.
4.) INSTALL STORM BASINS WITH TEMPORARY BASIN UNDERDRAINS. IF THE TEMPORARY UNDERDRAINS ARE NOT CONNECTED TO THE BASINS IMMEDIATELY, THE CONTRACTOR SHALL INSTALL INLET PROTECTION, WHICH SHALL CONSIST OF FILTER FABRIC PLACED TO COVER THE HOLES IN THE BACKSIDE OF THE BASINS, TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.

ALL COSTS INVOLVED WITH MAINTAINING POSITIVE DRAINAGE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION."

SEEDING AND MULCHING OF DISTURBED AREAS

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL SEED, COMMERCIAL FERTILIZER, MULCH, AND WATER AND PLACING ALL MATERIALS ON A PREPARED BED PER ODOT ITEM 659.

THE DETENTION BASINS, SWALES, AND RIGHT OF WAY SHALL BE SEEDED & MULCHED PRIOR TO FINAL ACCEPTANCE BY SUMMIT COUNTY.

THE CONTRACTOR SHALL RESTORE BY SEEDING ALL AREAS ABOVE THE CHANNEL BEDS AND POND NORMAL WATER ELEVATIONS THAT HAVE BEEN DISTURBED BY CONSTRUCTION.

SEED MIX NO. 1 (PS)(M)

AREAS SHALL BE SEEDED WITH CLASS 2 - ROADSIDE MIXTURE PER ODOT ITEM 659.09.

SEED MIX NO. 2 (TS)(M)

AREAS SHALL BE SEEDED WITH THE FOLLOWING MIXTURE:

SPECIES	LB./1,000 SQ. FT.
PERENNIAL RYEGRASS	1
TALL FESCUE	1
ANNUAL RYEGRASS	1

Specifications for

Additional Construction Site Pollution Controls

[illegible]

...tem must be collected and properly disposed at an approved disposal facility. In the event, leachate or seepage is discharged, it must be isolated for collection and proper disposal and corrective actions taken to eliminate the source of waste water.

3. 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.

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THE CONTRACTOR IS REQUIRED TO ESTABLISH A UNIFORM VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70% COVER OF UNIFORM COLOR AND DENSITY OVER ALL DISTURBED AREAS TO THE SATISFACTION OF THE ENGINEER. IF AT THE TIME THE CONTRACT HAS BEEN OTHERWISE COMPLETED IT IS NOT POSSIBLE TO MAKE AN ADEQUATE DETERMINATION OF THE COLOR, DENSITY AND UNIFORMITY OF SUCH STAND OF GRASS, PAYMENT FOR THE UNACCEPTED PORTION OF THE SEEDED AREA WILL BE WITHHELD UNTIL SUCH TIME AS THESE REQUIREMENTS HAVE BEEN MET.

MAINTENANCE OF EROSION CONTROL ITEMS

AFTER INSTALLATION, ALL EROSION CONTROL ITEMS SHALL BE MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLAN NOTES AND AS DIRECTED BY THE ENGINEER AND OWNER. UPON COMPLETION OF THE SITE CONTRACT WORK, THE OWNER WILL REVIEW ALL EROSION CONTROL ITEMS WITH THE CONTRACTOR TO DETERMINE WHICH ITEMS NEED FINAL MAINTENANCE, WHICH ITEMS SHALL BE REMOVED, AND WHICH SHALL REMAIN IN PLACE. UPON FINAL ACCEPTANCE BY THE OWNER, THE OWNER SHALL THEN ASSUME MAINTENANCE OF ALL ITEMS THAT ARE TO REMAIN IN PLACE. ALL SUCH WORK BY THE CONTRACTOR IS TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTENANCE OF EROSION CONTROL ITEMS".

REPAIR OF EROSION CONTROL ITEMS

THE UNIT PRICES BID FOR REPAIR OF THE VARIOUS EROSION CONTROL ITEMS SHALL INCLUDE ALL WORK NECESSARY TO REPAIR OR REPLACE EROSION CONTROL ITEMS, IF NEEDED AS A RESULT OF UNUSUALLY SEVERE WEATHER OR OTHER UNFORESEEABLE EVENTS, DUE TO NO FAULT OR NEGLECT OF THE CONTRACTOR. NO WORK SHALL COMMENCE ON THESE ITEMS UNLESS AUTHORIZED BY THE OWNER.

SEEDING AND MULCHING OF NATIVE SEEDING AREAS:

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL SEED, COMMERCIAL FERTILIZER, MULCH, AND WATER AND PLACING ALL MATERIALS ON A PREPARED BED PER ODOT ITEM 659.

THE CONTRACTOR SHALL RESTORE BY SEEDING ALL AREAS THAT HAVE BEEN DISTURBED BY CONSTRUCTION.

NATIVE SEED MIX

AREAS SHALL BE SEEDED WITH CLASS 4B - LOW GROWING NATIVE GRASS MIXTURE PER ODOT ITEM 659.09.

SPECIES	LB./1,000 SQ. FT.
LITTLE BLUESTEM	0.18
SIDEOATS GRAMA	0.04
PRAIRIE DROPSEED	0.04
ANNUAL RYEGRASS	0.11 (SPRING), 0.34 (FALL)

THE CONTRACTOR IS REQUIRED TO ESTABLISH A UNIFORM VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70% COVER OF UNIFORM COLOR AND DENSITY OVER ALL DISTURBED AREAS TO THE SATISFACTION OF THE ENGINEER. IF AT THE TIME THE CONTRACT HAS BEEN OTHERWISE COMPLETED IT IS NOT POSSIBLE TO MAKE AN ADEQUATE DETERMINATION OF THE COLOR, DENSITY AND UNIFORMITY OF SUCH STAND OF GRASS, PAYMENT FOR THE UNACCEPTED PORTION OF THE SEEDED AREA WILL BE WITHHELD UNTIL SUCH TIME AS THESE REQUIREMENTS HAVE BEEN MET.

POST-CONSTRUCTION STORMWATER MANAGEMENT CALCULATIONS

Project: Parkview Senior Living Residential Development
Sagamore Hills Township, Ohio

Discussion:

For the proposed project three dry extended detention ponds were chosen as the post-construction storm water treatment BMP. This practice was selected because of the ability to perform extended detention in the proposed storm water detention facilities and also the effectiveness in treating the required Water Quality Volume.

Conclusion:

The following calculations indicate that, for each proposed dry extended detention pond, the Post-Construction Storm water treatment is sized to meet the design requirements of the Ohio EPA's NPDES Permit and the guidelines listed in the Ohio Rainwater and Land Development Manual (2006).

Stormwater Quality / Detention Pond 1 (Dry Extended Detention):

Total Drainage Area [A] = 6.66 acres
Proposed Roadways and Sidewalks = 0.78 acres
Permanent Pool Area = 0.10 acres
Proposed Townhomes and Driveways = 2.11 acres
Proposed Asphalt Path = 0.04 acres
Total Impervious Area = 3.03 acres
Fraction of Post Construction Impervious Surface [i] = 3.03 Ac. / 6.66 Ac. = 0.4550
Water Quality Storm Intensity [P] = 0.90 inch in 24 hours (per NPDES Permit)

Determination of Water Quality Volume
Rv = 0.05 + 0.9i = (0.05 + 0.9 x 0.4550) = 0.4595
WQv = Rv x P x A / 12 = 0.4595 x 0.90 x 6.66 / 12 = 0.2295 acre-feet = 9,997 cubic feet

Per NPDES Permit requirements for a dry extended detention basin:
Minimum Permanent Pool Volume = WQv x 0.20 = 1,999 cubic feet
Required Extended Detention Volume = WQv = 9,997 cubic feet

Permanent Pool Volume Provided

South Micropool

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
810.5	199	---	---
811	516	179	179
812	1,272	894	1,073
813	2,204	1,738	2,811
813.5	2,730	1,234	4,045

North Forebay

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
811.50	266	---	---
812	459	181	181
813	912	701	882
814	1,552	1,247	2,129
814.50	1,899	863	2,992

Total Permanent Pool Volume Provided = 7,037 cubic feet > 1,999 cubic feet

Extended Detention Volume Provided

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
813.50	2,730	---	---
814	4,236	1,742	1,742
814.50	8,072	3,077	4,819
815	9,484	4,389	9,208
816	11,607	10,546	19,754
817	13,814	12,711	32,465
818	16,217	15,016	47,481
819	18,708	17,463	64,944
819.25	19,346	4,757	69,701

Extended Detention Elevation (Elevation at Σ Volume = 9,997 C.F.) = 815.07

Calculation of Drawdown Time
Maximum drawdown time [T] = 48 hours for a dry extended detention pond
(to drawdown from the ED elevation of 815.07 to the pond normal water elevation of 813.50)
Maximum Q_{avg} = 9,997 c.f. / 172,800 sec = 0.0579 cfs
Assume Q_{avg} = ½ Q_{max}

For 1.5" Diameter outlet orifice (A = 0.0123 sq. ft., center of orifice elevation = 813.56):
At Elev. = 815.07, H = 1.51'
Q_{max} = 0.61 x 0.0123 sq. ft. x √(64.4 x 1.51 ft.)
= 0.0740 cfs
Q_{avg} = 0.0370 cfs (< Max. Q_{avg} = 0.0579 cfs)

Drawdown time: T = WQv/Qavg = 270,189 sec = 75.05 hours > 48 hours✓

Verify that the upper 50% of the Extended Detention Volume will drain in no less than 1/3 of the required drain time:
50% of WQv = 0.5 x 9,997 c.f. = 4,998.5 c.f.
1/3 of T = T_{50} = 1/3 x 48 hours = 16 hours
Maximum Q_{avg} = 4,998.5 c.f. / 57,600 sec. = 0.0868 cfs

50% of WQv (Elevation at Σ Volume = 4,998.5 c.f.) = 814.44

At Elev. = 814.44, H = 0.88'
Q_{min} = 0.61 x 0.0123 x √(64.4 x 0.88 ft.)
= 0.0565 cfs
Q_{avg} = (Q_{max}+Q_{min})/2 = (0.0740 + 0.0565) / 2 = 0.0653 cfs

Drawdown time: T_{50} = 4,998.5 c.f. / 0.0653 cfs = 76,547 sec = 21.26 hours > 16 hours

Stormwater Quality / Detention Pond 2 (Dry Extended Detention):

Total Drainage Area [A] = 10.87 acres
Proposed Roadways and Sidewalks = 1.12 acres
Permanent Pool Area = 0.08 acres
Proposed Townhomes and Driveways = 3.43 acres
Proposed Asphalt Path = 0.14 acres
Existing Roadway = 0.15 acres
Total Impervious Area = 4.92 acres
Fraction of Post Construction Impervious Surface [i] = 4.92 Ac. / 10.87 Ac. = 0.4526
Water Quality Storm Intensity [P] = 0.90 inch in 24 hours (per NPDES Permit)

Determination of Water Quality Volume
Rv = 0.05 + 0.9i = (0.05 + 0.9 x 0.4526) = 0.4573
WQv = Rv x P x A / 12 = 0.4573 x 0.90 x 10.87 / 12 = 0.3728 acre-feet = 16,239 cubic feet

Per NPDES Permit requirements for a dry extended detention basin:
Minimum Permanent Pool Volume = WQv x 0.20 = 3,248 cubic feet
Required Extended Detention Volume = WQv = 16,239 cubic feet

Permanent Pool Volume Provided

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
835	305	---	---
835.5	848	288	288
836	1,440	572	860
837	2,715	2,078	2,938
837.5	3,394	1,527	4,465

Total Permanent Pool Volume Provided = 4,465 cubic feet > 3,248 cubic feet

Extended Detention Volume Provided

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
837.5	3,394	---	---
838	4,834	2,057	2,057
838.50	6,460	2,824	4,881
839	8,056	3,629	8,510
840	10,420	9,238	17,748
841	12,764	11,592	29,340
842	15,354	14,059	43,399
843	18,113	16,734	60,133
844	21,013	19,563	79,696
845	24,002	22,508	102,204
845.25	27,020	6,378	108,582

Extended Detention Elevation (Elevation at Σ Volume = 16,239 C.F.) = 839.84

Calculation of Drawdown Time

Maximum drawdown time [T] = 48 hours for a dry extended detention pond
(to drawdown from the ED elevation of 839.84 to the pond normal water elevation of 837.50)
Maximum Q_{avg} = 16,239 c.f. / 172,800 sec = 0.0940 cfs

Assume Q_{avg} = ½ Q_{max}

For 1.5" Diameter outlet orifice (A = 0.0123 sq. ft., center of orifice elevation = 837.56):
At Elev. = 839.84, H = 2.28'
Q_{max} = 0.61 x 0.0123 sq. ft. x √(64.4 x 2.28 ft.)
= 0.0909 cfs
Q_{avg} = 0.04545 cfs (< Max. Q_{avg} = 0.0909 cfs)

Drawdown time: T = WQv/Qavg = 357,294 sec = 99.25 hours > 48 hours✓

Verify that the upper 50% of the Extended Detention Volume will drain in no less than 1/3 of the required drain time:
50% of WQv = 0.5 x 16,239 c.f. = 8,119.5 c.f.
1/3 of T = T_{50} = 1/3 x 48 hours = 16 hours
Maximum Q_{avg} = 8,119.5 c.f. / 57,600 sec. = 0.1410 cfs

50% of WQv (Elevation at Σ Volume = 8,119.5 c.f.) = 838.96
At Elev. = 838.96, H = 1.40'

Q_{min} = 0.61 x 0.0123 x √(64.4 x 1.40 ft.)
= 0.0712 cfs
Q_{avg} = (Q_{max}+Q_{min})/2 = (0.0909 + 0.0712) / 2 = 0.0811 cfs

Drawdown time: T_{50} = 8,119.5 c.f. / 0.0811 cfs = 100,117 sec = 27.81 hours > 16 hours

Stormwater Quality / Detention Pond 3 (Dry Extended Detention):

Total Drainage Area [A] = 7.66 acres
Proposed Roadways and Sidewalks = 0.89 acres
Permanent Pool Area = 0.06 acres
Proposed Townhomes and Driveways = 2.04 acres
Proposed Asphalt Path = 0.06 acres
Existing Roadway = 0.09 acres
Total Impervious Area = 3.14 acres
Fraction of Post Construction Impervious Surface [i] = 3.14 Ac. / 7.66 Ac. = 0.4099
Water Quality Storm Intensity [P] = 0.90 inch in 24 hours (per NPDES Permit)

Determination of Water Quality Volume
Rv = 0.05 + 0.9i = (0.05 + 0.9 x 0.4099) = 0.4189
WQv = Rv x P x A / 12 = 0.4189 x 0.90 x 7.66 / 12 = 0.2407 acre-feet = 10,485 cubic feet

Per NPDES Permit requirements for a dry extended detention basin:
Minimum Permanent Pool Volume = WQv x 0.20 = 2,097 cubic feet
Required Extended Detention Volume = WQv = 10,485 cubic feet

Permanent Pool Volume Provided
North Micropool

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
830.5	204	---	---
831	446	163	163
832	1,020	733	896
833	1,710	1,365	2,261

South Forebay

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
834	26	---	---
835	218	122	122
836	568	393	515
837	1,051	810	1,325

Total Permanent Pool Volume Provided = 3,586 cubic feet > 2,097 cubic feet

Extended Detention Volume Provided

Elevation	Area (S.F.)	Δ Volume (C.F.)	Σ Volume (C.F.)
833	1,710	---	---
834	3,236	2,473	2,473
835	4,587	3,912	6,385
836	6,195	5,391	11,776
836.5	7,121	3,329	15,105
837	9,124	4,061	19,166
838	11,775	10,450	29,616
839	14,427	13,101	42,717
840	17,182	15,805	58,522
841	20,108	18,645	77,167
841.5	21,626	10,434	87,601

Extended Detention Elevation (Elevation at Σ Volume = 10,485 C.F.) = 835.76

Calculation of Drawdown Time

Maximum drawdown time [T] = 48 hours for a dry extended detention pond
(to drawdown from the ED elevation of 835.76 to the pond normal water elevation of 833.00)
Maximum Q_{avg} = 10,485 c.f. / 172,800 sec = 0.0607 cfs
Assume Q_{avg} = ½ Q_{max}

For 1.25" Diameter outlet orifice (A = 0.0085 sq. ft., center of orifice elevation = 833.05):
At Elev. = 835.76, H = 2.71'
Q_{max} = 0.61 x 0.0085 sq. ft. x √(64.4 x 2.71 ft.)
= 0.0685 cfs
Q_{avg} = 0.03425 cfs (< Max. Q_{avg} = 0.0607 cfs)

Drawdown time: T = WQv/Qavg = 306,131 sec = 85.04 hours > 48 hours✓

Verify that the upper 50% of the Extended Detention Volume will drain in no less than 1/3 of the required drain time:
50% of WQv = 0.5 x 10,485 c.f. = 5,242.5 c.f.
1/3 of T = T_{50} = 1/3 x 48 hours = 16 hours
Maximum Q_{avg} = 5,242.5 c.f. / 57,600 sec. = 0.0910 cfs

50% of WQv (Elevation at Σ Volume = 5,242.5 c.f.) = 834.79
At Elev. = 834.79, H = 1.74'

Q_{min} = 0.61 x 0.0085 x √(64.4 x 1.74 ft.)
= 0.0549 cfs
Q_{avg} = (Q_{max}+Q_{min})/2 = (0.0685 + 0.0549) / 2 = 0.0617 cfs

Drawdown time: T_{50} = 5,242.5 c.f. / 0.0617 cfs = 84,968 sec = 23.60 hours > 16 hours

Temporary Seeding

Table 7.8.1 Temporary Seeding Species Selection

[illegible]

Table 2.6.3 Typical Maintenance Activities For Water Quality Ponds (USEPA) Adapted from WMI, 1997 and SMRC

Schedule	Activity
Monthly	Mow embankment and clean trash and debris from outlet structure. Address any accumulations of hydrocarbons.
Annually	Inspect embankment and outlet structure for damage and proper flow. Remove woody vegetation and fix any eroding areas. Monitor sediment accumulations in forebay and main pool.
Semi Annually	Inspect wetland areas for invasive plants.
3-7 years	Remove Sediment from forebays.
15-20 years	Monitor sediment accumulations in the main pool and clean as pond becomes eutrophic or pool volume is reduced significantly.

Maintenance of Water Quality Ponds

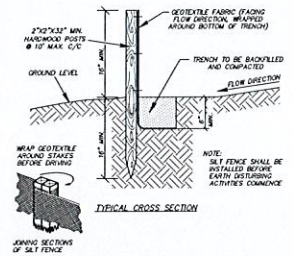
Long-term maintenance of the storm water quality ponds (wet/dry, extended detention pond) shall be the responsibility of the property owner. An inspection report certified by a registered professional engineer, landscape architect, or certified professional in erosion and sediment control, shall be furnished to the City Engineer by May 1st of each year. Reports shall detail all inspection and maintenance performed during the prior year. Checklists are available at the City Engineer's office. The property owner shall ensure that pollutants collected within the storm water quality ponds be disposed of in accordance with local, state, and federal regulations.

REVISIONS
1/27/2023 REV. PER COUNTY COMMENTS

S.W.P.P.P. NOTES
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
SUMMIT COUNTY, OHIO

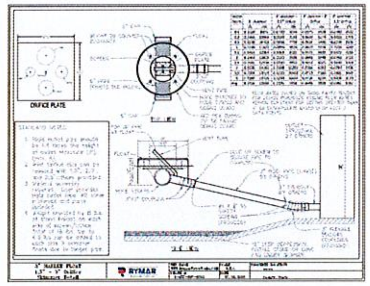
DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY • VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

HORZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED
DRN: DER CKD: T.C.
DATE: OCT., 2022
ORDER NO. 4723E



SILT FENCE DETAIL (SF)

NO SCALE

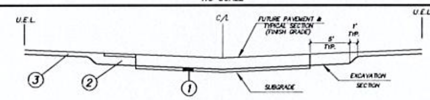


"OR APPROVED EQUAL SKIMMER"

SKIMMER DETAIL

NO SCALE

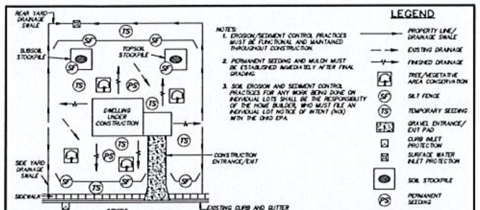
HYDROLOGIC SOIL GROUP MAP



LEGEND

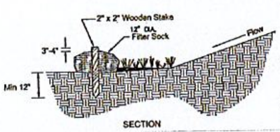
1. GRADING LEFT 2'(+1') ABOVE SUBGRADE
2. FOR PAVING CONTRACTOR SPOIL MATERIAL
3. GRADING LEFT 6" BELOW PROPOSED FINISH GRADE FOR BUILDING FOOTER SPOILS

TYPICAL EXCAVATION SECTION



SAMPLE EROSION/SEDIMENT CONTROL PRACTICE PLAN FOR TYPICAL INDIVIDUAL LOT (ONE-OR-TWO FAMILY DWELLING) UNDER CONSTRUCTION

NO SCALE



12" DIA. 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.

* NOT ALLOWABLE FOR INLET PROTECTION

* ALTERNATE TO USE OF SILT FENCE (FS)

NO SCALE

SEDIMENT BASIN DATA (SB) (SKM)

BASIN DESIG.	STORAGE VOLUME NEEDED		STORAGE VOLUME PROVIDED					WIDTH OF EMERGENCY SPILLWAY (FEET)	EMERGENCY SPILLWAY ELEV. (FEET)
	WATERSHED AREA (ACRES)	X 1800 C.F./Ac. = (C.F.)	N.W.E. (FEET)	N.W.E. AREA (S.F.)	OUTLET CREST (FEET)	AREA @ CREST (S.F.)	TOTAL STORAGE (C.F.)		
SB	6.66	11,988	813.50	2,627	815.35	9,792	12,173	5.0'	818.75

(POND 1)	SEDIMENT VOLUME NEEDED		SEDIMENT VOLUME PROVIDED					OUTLET INFO			
	AREA OF DISTURBANCE (ACRES)	X 1000 C.F./Ac. = (C.F.)	BOTTOM ELEV. (FEET)	BOTTOM AREA (S.F.)	N.W.E. (FEET)	AREA @ N.W.E. (S.F.)	TOTAL STORAGE (C.F.)	BARREL PIPE (IN.)	RISER PIPE (IN.)	ORIFICE (IN.)	DRAIN TIME (HRS)
	6.38	6,380	809	689	813.50	2,627	7,227	18	-	1.5	*
								ORIFICE INVERT = 813.50			

* DRAIN TIME IS 88 HOURS IF MODEL #3 1.5" ORIFICE SADDLE MARLEE FLOAT SKIMMER IS USED.

SEDIMENT BASIN DATA (SB) (SKM)

BASIN DESIG.	STORAGE VOLUME NEEDED		STORAGE VOLUME PROVIDED					WIDTH OF EMERGENCY SPILLWAY (FEET)	EMERGENCY SPILLWAY ELEV. (FEET)
	WATERSHED AREA (ACRES)	X 1800 C.F./Ac. = (C.F.)	N.W.E. (FEET)	N.W.E. AREA (S.F.)	OUTLET CREST (FEET)	AREA @ CREST (S.F.)	TOTAL STORAGE (C.F.)		
SB	10.87	19,566	837.5	4,078	840.20	10,889	20,050	10.0'	844.50

(POND 2)	SEDIMENT VOLUME NEEDED		SEDIMENT VOLUME PROVIDED					OUTLET INFO			
	AREA OF DISTURBANCE (ACRES)	X 1000 C.F./Ac. = (C.F.)	BOTTOM ELEV. (FEET)	BOTTOM AREA (S.F.)	N.W.E. (FEET)	AREA @ N.W.E. (S.F.)	TOTAL STORAGE (C.F.)	BARREL PIPE (IN.)	RISER PIPE (IN.)	ORIFICE (IN.)	DRAIN TIME (HRS)
	10.64	10,640	832.5	396	837.5	4,078	10,835	15	-	2.0	*
								ORIFICE INVERT = 837.50			

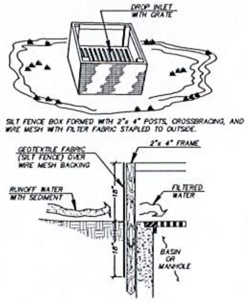
* DRAIN TIME IS 70 HOURS IF MODEL #3 2.0" ORIFICE SADDLE MARLEE FLOAT SKIMMER IS USED.

SEDIMENT BASIN DATA (SB) (SKM)

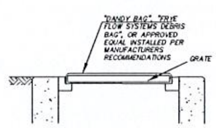
BASIN DESIG.	STORAGE VOLUME NEEDED		STORAGE VOLUME PROVIDED					WIDTH OF EMERGENCY SPILLWAY (FEET)	EMERGENCY SPILLWAY ELEV. (FEET)
	WATERSHED AREA (ACRES)	X 1800 C.F./Ac. = (C.F.)	N.W.E. (FEET)	N.W.E. AREA (S.F.)	OUTLET CREST (FEET)	AREA @ CREST (S.F.)	TOTAL STORAGE (C.F.)		
SB	7.66	13,788	833.0	3,246	836.85	8,523	19,247	5.0'	840.75

(POND 3)	SEDIMENT VOLUME NEEDED		SEDIMENT VOLUME PROVIDED					OUTLET INFO			
	AREA OF DISTURBANCE (ACRES)	X 1000 C.F./Ac. = (C.F.)	BOTTOM ELEV. (FEET)	BOTTOM AREA (S.F.)	N.W.E. (FEET)	AREA @ N.W.E. (S.F.)	TOTAL STORAGE (C.F.)	BARREL PIPE (IN.)	RISER PIPE (IN.)	ORIFICE (IN.)	DRAIN TIME (HRS)
	7.49	7,490	829.5	1,379	833.0	3,246	7,928	15	-	1.5	*
								ORIFICE INVERT = 833.0			

* DRAIN TIME IS 86 HOURS IF MODEL #3 1.5" ORIFICE SADDLE MARLEE FLOAT SKIMMER IS USED.



INLET PROTECTION FOR YARD INLETS



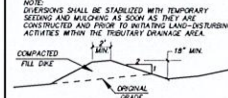
NOTE:
"INLET PROTECTION AFTER PAVEMENT CONSTRUCTION" SHALL BE INSTALLED ON EACH STREET BASIN AFTER PAVEMENT CONSTRUCTION IS COMPLETE. INSTALL COMMERCIALLY AVAILABLE STREET BASIN SEDIMENT FILTER i.e. "BEAVER DAM" BY DANDY PRODUCTS, "CURB & GUTTER INLET SEDIMENT CONTROL ASSEMBLY" BY FRYE FLOW SYSTEMS, OR AS APPROVED BY THE GOVERNING AUTHORITY. PERIODIC CLEANING AS NECESSARY TO MAINTAIN EFFECTIVENESS SHALL BE INCLUDED IN THE LUMP SUM BID FOR "MAINTENANCE OF EROSION CONTROL ITEMS".

INLET PROTECTION FOR STREET INLETS

INLET PROTECTION DETAIL (IP)

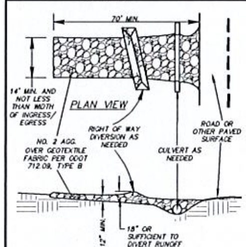
NO SCALE

NOTE:
DIVERSIONS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING AS SOON AS THEY ARE CONSTRUCTED AND PRIOR TO INITIATING LAND-DISTURBING ACTIVITIES WITHIN THE TRIBUTARY DRAINAGE AREA.



DIVERSION DETAIL (D)

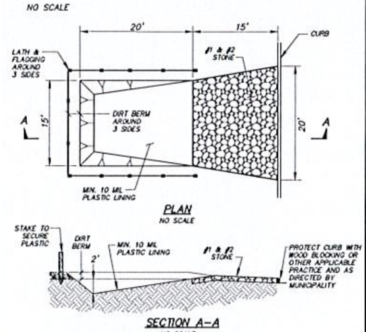
NO SCALE



CONSTRUCTION ROAD STABILIZATION DETAIL (CRS)

NO SCALE

NO SCALE



- TEMPORARY CONCRETE WASHOUT FACILITIES (TYPE BELOW GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAIL. THE QUANTITY AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
- LATH AND FLAGGING SHOULD BE COMMERCIAL TYPE.
- PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
- ALL WORK NECESSARY TO INSTALL AND MAINTAIN THE WASHOUT FACILITY SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR MAINTENANCE OF EROSION CONTROL ITEMS".

TEMPORARY CONCRETE WASHOUT FACILITY DETAIL

(TYPE BELOW GRADE)

SOIL PROTECTION CHART

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING			●	●	●	*	*	*	●	●		
DORMANT SEEDING	●	●	●							●	●	●
TEMPORARY SEEDING			●	●	●	*	*	*	●	●		
SODDING			**	**	**	**	**	**	**			
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●

* – IRRIGATION NEEDED DURING JUNE THRU AUGUST
** – IRRIGATION NEEDED FOR 2-3 WEEKS AFTER APPLYING SOD

NOTE: DISTURBED AREAS THAT WILL BE IDLE OVER WINTER SHALL HAVE EROSION CONTROLS APPLIED PRIOR TO THE ONSET OF WINTER WEATHER.

ANTICIPATED START DATE: MARCH 1, 2023
ANTICIPATED COMPLETION DATE: FEB. 1, 2024

PROJECT IMPLEMENTATION SCHEDULE

SYM.	ODOT ITEM	QUANT.	UNITS	DESCRIPTION
1. INITIAL SEDIMENT CONTROL MEASURES				
CRS	703.01	600	TONS	CONST. ROAD STABILIZATION NO. 2 AGGREGATE
SF	207	---	L.F.	EXISTING SILT FENCING (TO BE MAINTAINED)
SF	207	4,800	L.F.	SILT FENCING (FILTER FABRIC FENCE)
SB	207	3	EA.	SEDIMENTATION BASINS
ST	207	---	EA.	SEDIMENTATION TRAPS
IP	207	4	EA.	INLET PROTECTION (EXTG. INLETS)
D	207	---	L.F.	DRAINAGE WAY ROUTING (DIVERSIONS)
SKM	SPEC	3	EA.	SKIMMER DEWATERING DEVICE
TCF	SPEC	1,440	L.F.	TEMPORARY CONSTRUCTION FENCING (NOT NEEDED IF ORANGE SILT FENCE IS USED)
2. SITE GRADING				
TPS	651	---	C.Y.	TOPSOIL STOCKPILE
TS M	207	14.8	ACRE	TEMPORARY SEEDING & MULCHING SEED MIX NO. 2
FS	207	---	S.Y.	VEGETATIVE FILTER STRIP
DP	207	---	S.Y.	DITCH PROTECTION
3. SITE IMPROVEMENT INSTALLATION – SANITARY & STORM SEWERS, & WATERMAIN				
IP	207	66	EA.	INLET PROTECTION
IP	207	24	EA.	INLET PROTECTION (AFTER PAVEMENT CONSTRUCTION)
RP	601	90	C.Y.	ROCK CHANNEL PROT. (TYPE B)
RP	601	52	C.Y.	ROCK CHANNEL PROT. (TYPE C)
RP	601	32	C.Y.	FOREBAY ROCK DAM
LS	SPEC	---	E.A.	RIGID LIP LEVEL SPREADER
4. FINAL SITE STABILIZATION				
SK	207	---	L.F.	FILTER SOCK, 12" DIA
PS M	659	7.5	ACRE	PERMANENT SEEDING & MULCHING SEED MIX NO. 1

POST-CONSTRUCTION STORM WATER MGMT.

DETENTION PONDS 1, 2, & 3 (DRY EXTENDED DETENTION) FOR DEVELOPED AREAS

RESIDENTIAL – APARTMENTS

SITE DESCRIPTION (TYPE OF CONSTRUCTION)

TOTAL AREA OF SITE: 33.9 AC.
AREA TO BE EXCAVATED: 25.3 AC.
PRE-DEV. RUNOFF COEFF.: 0.30
POST-DEV. RUNOFF COEFF.: 0.62
IMPERVIOUS AREA: 11.09 AC
% IMPERVIOUS CREATED: 43.8%
KNOWN PRIOR LAND USES: COMMERCIAL & WOODLANDS

SOIL TYPES:	% OF SITE	% EXCAVATED
A: DkC	20.5	19.2
C: LoB	16.3	10.5
D: CcB, FcB, GbB, MlB	63.2	70.3

FOR FULL SOIL TYPE DESCRIPTIONS SEE THE SOIL SURVEY OF CUYAHOGA COUNTY, OHIO (U.S.D.A., S.C.S)

SITE LOCATION INFORMATION:

PARKVIEW SENIOR LIVING
PROJECT NAME

SAGAMORE HILLS (CITY) SUMMIT (COUNTY) OHIO (STATE) 44067 (ZIP CODE)

LATITUDE 41.314797 LONGITUDE -81.568831

UNNAMED STREAM TRIBUTARY TO THE CUYAHOGA RIVER
IMMEDIATE RECEIVING STREAM OR SURFACE WATER(S)

ADJACENT/RECEIVING WETLANDS & AREA (SIZE)

DEVELOPER

PRIDE ONE CONSTRUCTION
2211 MEDINA ROAD #100
MEDINA OH, 44256
ATTN: ERICK ALLEN
PHONE: (330) 697-0379

REVISIONS

1/27/2023 REV. PER COUNTY COMMENTS

S.W.P.P.P. NOTES AND DETAILS
PARKVIEW SENIOR LIVING
SAGAMORE HILLS TOWNSHIP
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