SITE DATA

1.	OWNER OF RECORD:	FOL DEL LLC 855 CENTENNIAL AVENUE PISCATAWAY, NJ 08854
2.	ENGINEER / SURVEYER	BECKER MORGAN GROUP INC. THE TOWER AT STAR CAMPUS 100 DISCOVERY BOULEVARD, SUITE 102 NEWARK, DELAWARE 19713 302-369-3700
3.	PROPERTY ADDRESS	720 PULASKI HWY BEAR, DE 19701
4.	PROPERTY LOCATION:	LATITUDE N 39° 38' 37.38.20" GRS80 - NAD83 (2011) LONGITUDE W 075° 38' 12.34" GRS80 - NAD83 (2011)
5.	TAX PARCEL NUMBER:	10-034.00-021
6.	DEED REFERENCE :	20220203 0015415
7.	SITE AREA SUMMARY:	EXISTING: 10.35 ACRES ±
8.	ZONING CLASSIFICATION:	EXISTING: CR - COMMERCIAL REGIONAL PROPOSED: CR - COMMERCIAL REGIONAL
9.	BULK REQUIREMENTS:	CR - COMMERCIAL REGIONAL (HEAVY RETAIL & SERVICE) LOT AREA: 2 ACRES LOT WIDTH: 100 FT STREET YARD: 40 FT SIDE YARD: 20 FT REAR YARD: 20 FT PAVING STREET YARD: 25 FT OTHER PAVING YARD: 5 FT MAX BUILDING HEIGHT: 50 FT
10.	LANDSCAPE SURFACE: RATIO	REQUIRED: 0.25 PROPOSED: 0.40
11.	FLOOR AREA RATIO:	MAX ALLOWED: 2.87 ACRES (125,017 S.F.) PROPOSED: 1.18 ACRES (51,354 S.F.)
12.	PARKING:	HEAVY RETAIL/SERVICE NCC CODE: 5 SPACES MINIMUM PLUS 1 PER 1000 S.F. OF FLOOR AND GROUND AREA DEVOTED TO SALES, SERVICE, DISPLAY AND STORAGE REQUIRED: 5 SPACES + 1 SPACE * (53,579 S.F. / 1,000 S.F.) = 59 SPACES PROVIDED: 64 SPACES REQUIRED BICYCLE PARKING: 8 SPACE EXISTING: 19 SPACES PROVIDED BICYCLE PARKING: 8 SPACES REQUIRED HANDICAP PARKING: 3 SPACES PROVIDED HANDICAP PARKING: 3 SPACES EXISTING HANDICAP PARKING: 2 SPACES LOADING BERTHS REQUIRED: 2 BAYS LOADING BERTHS PROVIDED: 2 BAYS
13.	PRESENT USE:	CONSTRUCTION VEHICLE SALES, RENTAL, REPAIR
14.	PROPOSED USE:	CONSTRUCTION VEHICLE SALES, RENTAL, REPAIR
15.	PROPOSED BUILDING:	TYPE / FOOTPRINT / G.F.A. SALES & SERVICE: 40,533 S.F. 46,924 S.F. UTILITY BUILDING: 4,430 S.F. 4,430 S.F. TOTAL: 44,963 S.F. 51,354 S.F. OUTDOOR STORAGE: 2,225 S.F. MAX GROSS FLOOR AREA: 126,324 S.F. ± MAX NET FLOOR AREA: 125,017 S.F. ±
16.	PROPOSED BUILDING:	PERMITTED: 50 FT PROPOSED: 38 FT
17.	BUILDING CONST. TYPE:	IIB
18.	TRACT AREAS CALCS: WITHIN PARCEL AREA	EXISTING / PROPOSED BUILDING COVERAGE: 0.51 ACRES (22,216 S.F.) 1.08 ACRES (47,188 S.F.) IMPERVIOUS SURFACES: 6.28 ACRES (273,556 S.F.) 5.15 ACRES (224,334 S.F.) ROW DEDICATION: 0.00 ACRES (0.00 S.F.) 0.00 ACRES (0.00 S.F.) OPEN SPACE: 3.56 ACRES (155,074 S.F.) 4.12 ACRES (179,324 S.F.) TOTAL: 10.35 ACRES (450,846 S.F.) 10.35 ACRES (450,846 S.F.)
19.	ROAD CLASSIFICATION:	US RT 40 / PULASKI HWY - OTHER PRINCIPAL ARTERIAL - 45/55 MPH
20.	SURVEY DATUM:	NGS MONUMENTS VERTICAL: NAVD 88 - X HORIZONTAL: NAD 83 (2011) DSP - X
21.	SURVEY UNIT:	LINEAR: US SURVEY FOOT ANGULAR: DEGREES MINUTES SECONDS (DMS) COORDINATE: GROUND
22.	MONUMENTATION:	17 FOUND / 0 SET
23.	TOTAL DISTURBED AREA:	7.79 ACRES ±
24.	SANITARY SEWER FLOW:	AVERAGE DAILY FLOW: SITE SPECIFIC DATA = 2,250 GPD PEAK DAILY FLOW: 2,250 GPD * 4 = 9,000 GPD
25.	NUMBER OF LOTS:	EXISTING: 1 PROPOSED: 1
26.	SOURCE OF WATER:	ARTESIAN WATER COMPANY
27.	SOURCE OF GAS:	DELMARVA POWER
28.	SOURCE OF ELECTRIC:	DELMARVA POWER
29.	SOURCE OF SEWER:	NEW CASTLE COUNTY

CERTIFICATION OF OWNERSHIP

WE, FOLEY CAT / BEAR, HEREBY CERTIFY THAT WE ARE THE LEGAL OWNER OF THE PROPERTY AND THAT THE SANITARY SEWER WILL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS, CODES, STANDARDS, GUIDELINES, LAWS AND POLICIES, INCLUDING BUT NOT LIMITED TO CHAPTER 38 OF THE NEW CASTLE COUNTY CODE, THE DEPARTMENT OF PUBLIC WORKS POLICIES #6 AND #7, THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AMENDMENTS AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES.

Ken Flack — 01-10-2024

FOLEY CAT / BEAR — DATE

CERTIFICATION OF PLAN ACCURACY

I, CHRISTOPHER D. DUKE, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE WITH A BACKGROUND IN CIVIL ENGINEERING AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, I CERTIFY THAT ALL OF THE INFORMATION ON THESE SANITARY SEWER DRAWINGS IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED SURVEYING AND ENGINEERING STANDARDS AND PRACTICES AND BY THE NEW CASTLE COUNTY UNIFIED DEVELOPMENT CODE. ADDITIONALLY, THE SANITARY SEWER DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH AND COMPLIES WITH ALL APPLICABLE REGULATIONS, CODES, STANDARDS, GUIDELINES, LAWS AND POLICIES, INCLUDING BUT NOT LIMITED TO CHAPTER 38 OF THE NEW CASTLE COUNTY CODE, THE DEPARTMENT OF SPECIFIC SERVICES POLICIES #6 AND #7, THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AMENDMENTS AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES.

No. 16378 — CHRISTOPHER DUKE — 01-10-2024

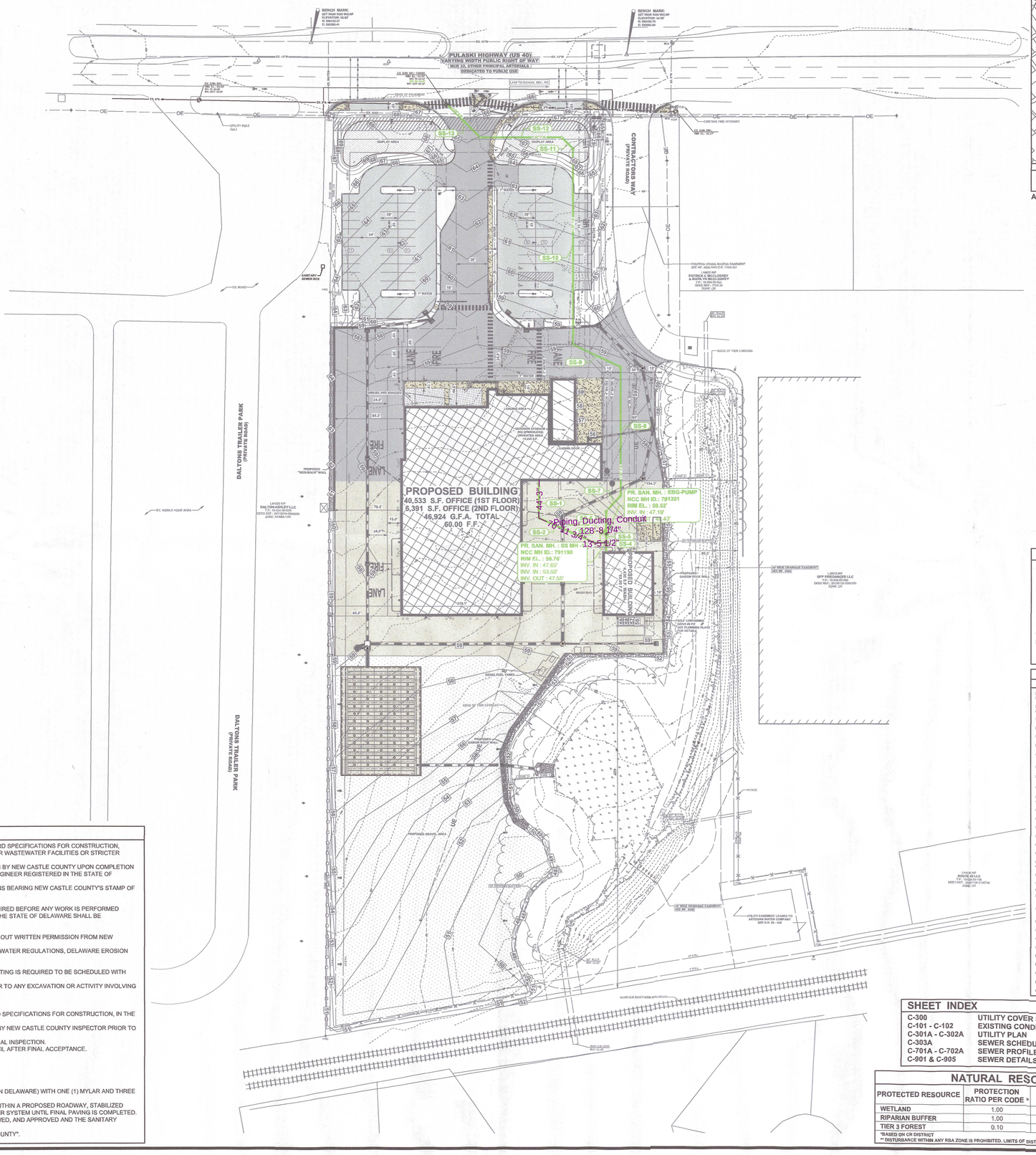
CHRISTOPHER D. DUKE — DATE

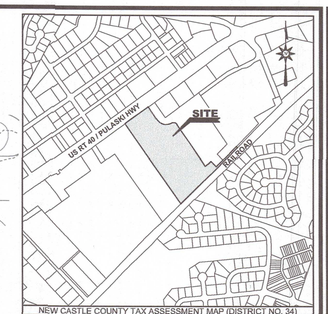
SANITARY SEWER GENERAL NOTES :

1. SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS, AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES OR STRICTER STANDARDS IDENTIFIED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN APPROVAL AND ACCEPTANCE OF THE SANITARY SEWER SYSTEM BY NEW CASTLE COUNTY UPON COMPLETION OF CONSTRUCTION. AS-BUILT PLANS SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR OR PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE MUST BE SUBMITTED TO NEW CASTLE COUNTY BEFORE ACCEPTANCE.
3. DURING CONSTRUCTION, THE CONTRACTOR MUST HAVE IN THEIR POSSESSION ON SITE, A SET OF CONSTRUCTION PLANS BEARING NEW CASTLE COUNTY'S STAMP OF APPROVAL.
4. THE CONTRACTOR SHALL NOT PLACE, PLANT, PUT OR SET ANY STRUCTURE WITHIN THE SANITARY SEWER EASEMENT.
5. A CONSTRUCTION PERMIT ISSUED BY THE STATE OF DELAWARE, DEPARTMENT OF TRANSPORTATION (DELDOT) IS REQUIRED BEFORE ANY WORK IS PERFORMED WITHIN A DELDOT RIGHT-OF-WAY. ALL WORK PERFORMED WITHIN DELDOT'S RIGHT-OF-WAY OR PROPERTY OWNED BY THE STATE OF DELAWARE SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST RECENT DELDOT STANDARD SPECIFICATIONS AND UTILITY MANUAL.
6. SANITARY SEWER IS TO BE PRIVATELY OWNED AND MAINTAINED.
7. CONSTRUCTION SHALL NOT DEVIATE FROM THE PLANS AND SPECIFICATIONS APPROVED BY NEW CASTLE COUNTY WITHOUT WRITTEN PERMISSION FROM NEW CASTLE COUNTY'S DEPARTMENT OF PUBLIC WORKS.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK AND THE NEW CASTLE COUNTY DRAINAGE CODE, AS AMENDED.
9. TYPICAL SEQUENCE OF CONSTRUCTION
   - 9.1. PRIOR TO PROCEEDING WITH CONSTRUCTION OF SANITARY SEWER OR PUMP STATION, A PRE-CONSTRUCTION MEETING IS REQUIRED TO BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS.
   - 9.2. CONTACT NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS (TWO BUSINESS DAYS' NOTICE AT 395-5756) PRIOR TO ANY EXCAVATION OR ACTIVITY INVOLVING SANITARY SEWER CONSTRUCTION, PUMP STATION CONSTRUCTION OR LATERAL TIE-INS TO EXISTING LINES.
   - 9.3. CONSTRUCT PROPOSED SANITARY SEWER SYSTEM AS APPROVED BY NEW CASTLE COUNTY.
   - 9.4. BACKFILL AND REGRADE AS REQUIRED.
   - 9.5. PERFORM AIR TEST, IF REQUIRED, IN ACCORDANCE WITH SECTION 32.01-3 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, IN THE PRESENCE OF A NEW CASTLE COUNTY INSPECTOR.
   - 9.6. FOLLOWING A PASSING AIR TEST (IF APPLICABLE), A FINAL VISUAL INSPECTION (LAMP TEST) MUST BE PERFORMED BY NEW CASTLE COUNTY INSPECTOR PRIOR TO ACCEPTANCE BY NEW CASTLE COUNTY.
   - 9.7. BASED UPON THE RESULTS OF THE VISUAL INSPECTION, A MANDREL TEST MAY BE REQUIRED FOLLOWING THE VISUAL INSPECTION.
   - 9.8. LATERAL CONNECTIONS FROM NEW HOMES/OFFICE BUILDINGS INTO THE SEWER LINE WILL NOT BE PERMITTED UNTIL AFTER FINAL ACCEPTANCE.
   - 9.9. PRIOR TO NEW CASTLE COUNTY MAKING A FINAL INSPECTION, THE FOLLOWING ITEMS MUST BE COMPLETED:
     - 9.9.1. ALL MANHOLES MUST BE BROUGHT TO GRADE AND HAVE CONCRETE COLLARS INSTALLED.
     - 9.9.2. CHANNELS MUST BE COMPLETED IN ALL MANHOLES.
     - 9.9.3. ANY INSIDE DROP PIPE AND APPURTENANCES INSTALLED.
     - 9.9.4. ALL MANHOLES AND SEWER PIPES MUST BE CLEANED AND FLUSHED.
     - 9.9.5. AS-BUILT DRAWINGS (SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER IN DELAWARE) WITH ONE (1) MYLAR AND THREE (3) SETS OF PRINTS MUST BE SUBMITTED TO NEW CASTLE COUNTY.
     - 9.9.6. TURF TRAIL IS CONSTRUCTED IN ACCORDANCE WITH NCC DETAIL SS-MISC-2, OR IF PIPE AND MANHOLES ARE WITHIN A PROPOSED ROADWAY, STABILIZED ROADWAY ACCESS IS CONSTRUCTED FOR THE PURPOSE OF MAINTAINING THE CONSTRUCTED SANITARY SEWER SYSTEM UNTIL FINAL PAVING IS COMPLETED.
   - 9.10. CERTIFICATES OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN RECEIVED, REVIEWED, AND APPROVED AND THE SANITARY SEWER CONSTRUCTION (INCLUDING ALL APPURTENANCES) HAS BEEN ACCEPTED BY NEW CASTLE COUNTY.
10. MANHOLE COVERS ON PRIVATELY OWNED AND MAINTAINED SEWER SYSTEMS SHALL NOT BE LABELED "NEW CASTLE COUNTY".

PLAN PURPOSE

1. TO DEMOLISH THE EXISTING 22,171 S.F. CONSTRUCTION VEHICLE SALES, REPAIR, AND RENTAL FACILITY AND CONSTRUCT A PROPOSED 46,924 G.F.A. CONSTRUCTION VEHICLE SALES, REPAIR, AND RENTAL FACILITY, AND A 4,430 G.F.A. UTILITY BUILDING.





NEW CASTLE COUNTY TAX ASSESSMENT MAP (DISTRICT NO. 34)

LOCATION MAP SCALE: 1" = 800'

ADC MAP 16 - GRID C1 & C2

FOR USE BY DEPARTMENT OF PUBLIC WORKS

"The New Castle County Department of Public Works has reviewed the document bearing this stamp and any supporting documents submitted therewith solely for compliance with applicable New Castle County standards and specifications pertaining to the sanitary sewer design concept. New Castle County is not approving the suitability of the design or engineering and shall not be responsible for damages or losses of any kind arising from errors or omissions in this document or any other documents submitted or related to the design or installation of the proposed sanitary sewer."

B.G. 01/25/24

LEGEND

ITEM	EXISTING	PROPOSED
SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	EX. 10"S	PR. 10" S
SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	EX. 10" F.M.	12" F.M.
SANITARY SEWER MANHOLE (S.M.H.)		
SANITARY SEWER CLEANOUT		
WATER MAIN & SIZE	EX. 10" W	12" W
FIRE HYDRANT	F.H.	F.H.
WATER VALVE (W.V.), OR METER (W.M.)	W.M. W.V.	W.M. W.V.
STORM DRAIN MANHOLE (S.D.M.H.)		
STORM DRAIN LINE (CMP OR RCP)		
CATCH BASIN		
UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)		
UNDERGROUND ELECTRIC	U.E.	U.E.
UNDERGROUND TELEPHONE	U.T.	U.T.
UNDERGROUND GAS MAIN	EX. 2" G	2" G
PAVEMENT TO BE REMOVED	N/A	
CONCRETE CURB & GUTTER		
CONCRETE SIDEWALK, SLAB / PAVING		
IMPERVIOUS SURFACED ROAD, DRIVE OR LOT		
INDIVIDUAL TREE OR BUSH	EVERGREEN DECIDUOUS	N/A
WIRE FENCE	X X X	X X X
CHAINLINK FENCE		
STOCKADE FENCE		
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)		
DRAINAGE DITCH OR SWALE		
DRAINAGE SIDESLOPES (DOWN)		
CONTOUR	49	50
ELEVATION SPOT SHOT	49.55	25.50 TC 25.00 BC
BENCH MARK		25.15 N/A
PROPERTY OR RIGHT-OF-WAY LINE		
CENTERLINE		
LIGHT POLE	N/A	
CONSTRUCTION NOTE		

SHEET INDEX

C-300	UTILITY COVER SHEET
C-101 - C-102	EXISTING CONDITIONS & DEMOLITION PLAN
C-301A - C-302A	UTILITY PLAN
C-303A	SEWER SCHEDULES
C-701A - C-702A	SEWER PROFILES
C-901 & C-905	SEWER DETAILS

NATURAL RESOURCES DATA TABLE

PROTECTED RESOURCE	PROTECTION RATIO PER CODE *	TOTAL AREA ON SITE	DISTURBED AREA	PROTECTED RATIO
WETLAND	1.00	0.42 AC.	0.00 AC.	1.000
RIPARIAN BUFFER	1.00	1.80 AC	0.00 AC.	1.000
TIER 3 FOREST	0.10	2.41 AC	0.19 AC.	0.921

*BASED ON CR DISTRICT
** DISTURBANCE WITHIN ANY RBA ZONE IS PROHIBITED. LIMITS OF DISTURBANCE TO REMAIN OUTSIDE OF THE RBA.

BECKER MORGAN GROUP

ARCHITECTURE
ENGINEERING

Delaware
309 South Governors Avenue
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
302.369.3700

Maryland
312 West Main Street, Suite 300
Salisbury, MD 21801
410.546.9100

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

www.beckermorgan.com

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVELOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

UTILITY COVER SHEET

0 30 60 120

SCALE: 1" = 60'

ISSUE BLOCK		
12	1/10/24	AGENCY SUBMISSION
11	1/9/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
6	11/02/23	AGENCY SUBMISSION
5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

LAYER STATE: C-300

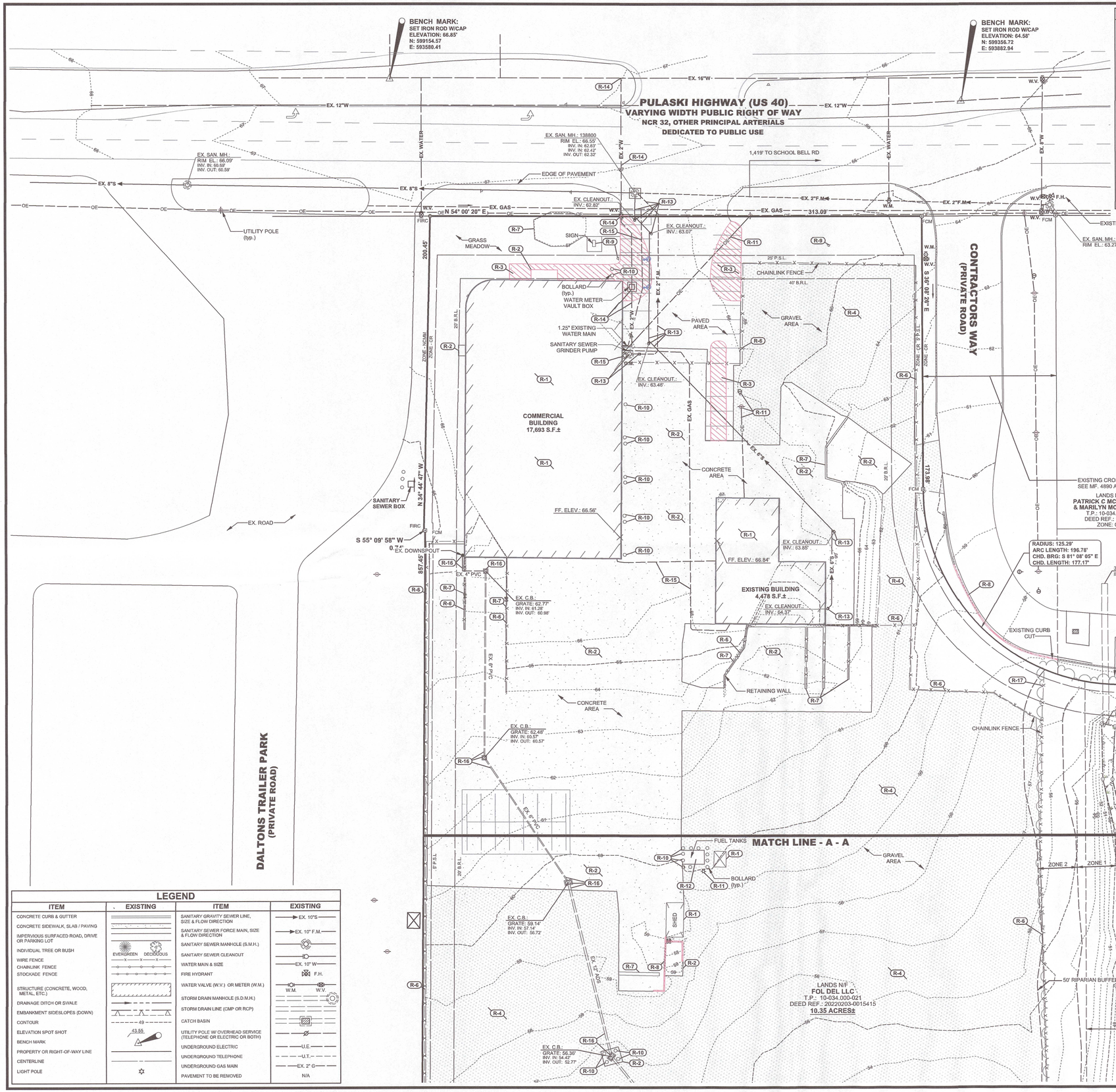
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DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET

C-300

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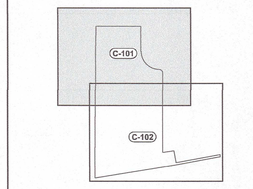
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DEMOLITION CONSTRUCTION NOTES

R-1	DEMOLISH EXISTING STRUCTURES.
R-2	REMOVE EXISTING CONCRETE PADS / SIDEWALK.
R-3	REMOVE EXISTING BITUMINOUS PAVEMENT.
R-4	REMOVE EXISTING GRAVEL AREAS.
R-5	PROPOSED TREE CLEARING LIMITS. SEE PROPOSED TREE LINE ON SHEET C-201.
R-6	REMOVE EXISTING FENCE.
R-7	REMOVE EXISTING WALL.
R-8	REMOVE EXISTING CURB AS SHOWN.
R-9	REMOVE EXISTING SIGN.
R-10	REMOVE EXISTING POLE BOLLARD (TYP.).
R-11	REMOVE OR RELOCATE EXISTING ELECTRIC LINES, POLES, GUY WIRES, EQUIPMENT, ETC. AT LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK.
R-12	REMOVE EXISTING ABOVE GROUND FUEL TANKS.
R-13	REMOVE EXISTING SEWER LINES, GRINDER PUMPS, MANHOLES, CLEANOUTS, ETC. AT LOCATIONS SHOWN: CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK.
R-14	REMOVE EXISTING WATER SERVICE LINES, VALVES, METERS, ETC. AT LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK. WATER SERVICE LINE TO BE DISCONNECTED AND REMOVED FROM THE MAIN. EXISTING WATER MAIN TO BE CAPPED.
R-15	REMOVE EXISTING GAS LINES AND ASSOCIATED EQUIPMENT AT LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK.
R-16	REMOVE EXISTING STORM DRAIN PIPES AND CATCH BASINS AT LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK.
R-17	SELECTIVE BRUSH/ TREE CLEARING FOR PROPOSED SLIDING ELECTRIC SECURITY GATE. TREES NEEDED TO BE CUT SHALL HAVE THE STUMPS REMAIN AND ONLY NECESSARY CLEARING FOR THE GATE SHALL BE DONE. SEE SHEET C-201 FOR PROPOSED GATE.

KEY MAP - FOLEY / CAT BEAR



SCALE: 1" = 500'

LEGEND

ITEM	EXISTING	ITEM	EXISTING
CONCRETE CURB & GUTTER		SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	EX. 10"S
CONCRETE SIDEWALK, SLAB / PAVING		SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	EX. 10" F.M.
IMPERVIOUS SURFACED ROAD, DRIVE OR PARKING LOT		SANITARY SEWER MANHOLE (S.M.H.)	
INDIVIDUAL TREE OR BUSH	EVERGREEN DECIDUOUS	SANITARY SEWER CLEANOUT	
WIRE FENCE	X X X	WATER MAIN & SIZE	EX. 10" W
CHAINLINK FENCE		FIRE HYDRANT	F.H.
STOCKADE FENCE		WATER VALVE (W.V.) OR METER (W.M.)	W.M. W.V.
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)		STORM DRAIN MANHOLE (S.D.M.H.)	
DRAINAGE DITCH OR SWALE		STORM DRAIN LINE (CMP OR RCP)	
EMBANKMENT SIDESLOPES (DOWN)		CATCH BASIN	
CONTOUR	49	UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)	
ELEVATION SPOT SHOT	43.55	UNDERGROUND ELECTRIC	U.E.
BENCH MARK		UNDERGROUND TELEPHONE	U.T.
PROPERTY OR RIGHT-OF-WAY LINE		UNDERGROUND GAS MAIN	EX. 2" G
CENTERLINE		PAVEMENT TO BE REMOVED	N/A
LIGHT POLE			

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CHRISTOPHER D. DIKE
LICENSE
No. 16378
PROFESSIONAL ENGINEER
STATE OF DELAWARE

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVELOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

EXISTING CONDITIONS AND DEMOLITION PLAN

0 15 30 60

SCALE: 1" = 30'

ISSUE	BLOCK	
12	1/10/24	AGENCY SUBMISSION
11	1/9/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
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5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

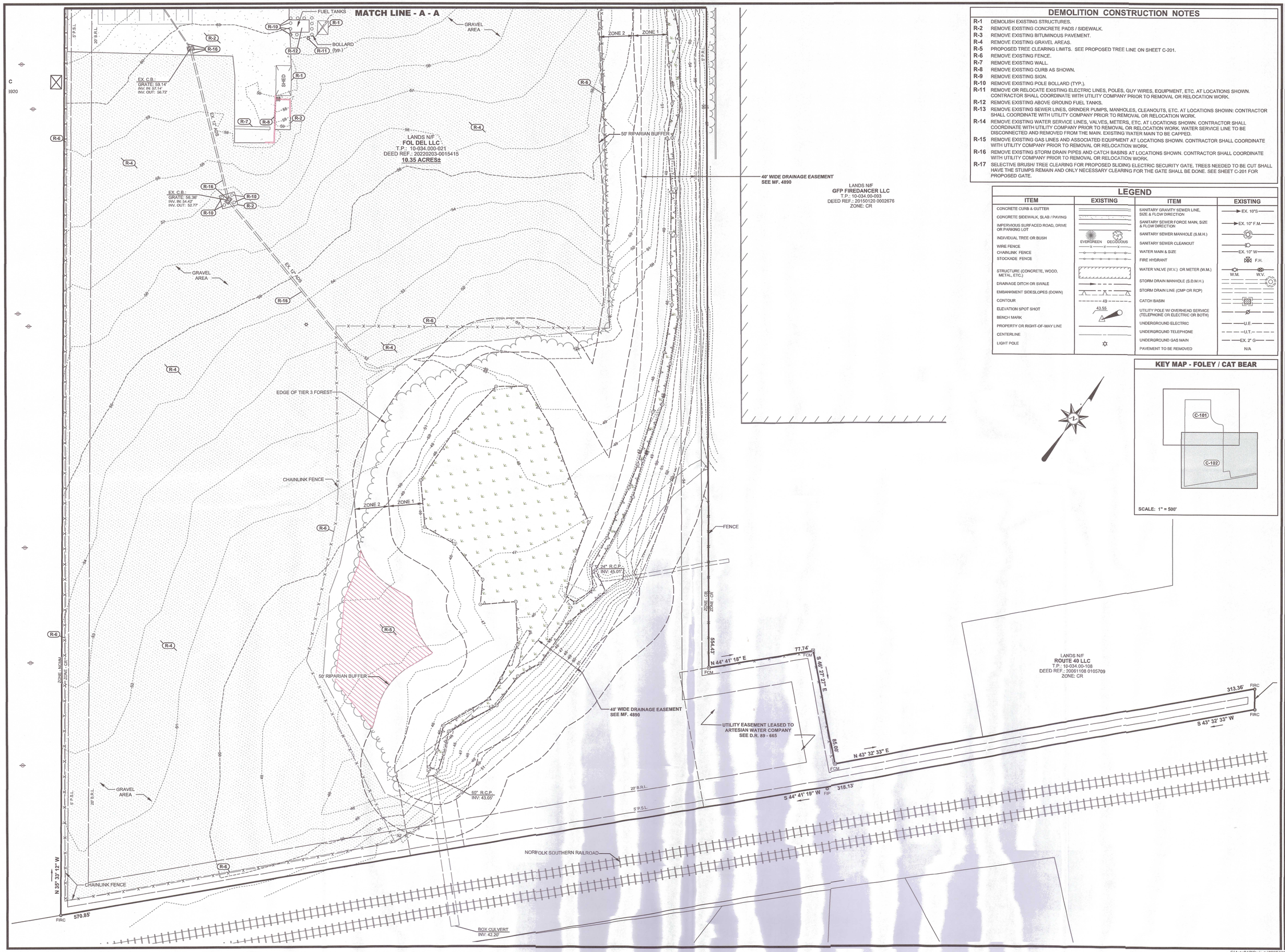
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PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET
C-101

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DEMOLITION CONSTRUCTION NOTES

- **R-1** DEMOLISH EXISTING STRUCTURES.
- **R-2** REMOVE EXISTING CONCRETE PADS / SIDEWALK.
- **R-3** REMOVE EXISTING BITUMINOUS PAVEMENT.
- **R-4** REMOVE EXISTING GRAVEL AREAS.
- **R-5** PROPOSED TREE CLEARING LIMITS. SEE PROPOSED TREE LINE ON SHEET C-201.
- **R-6** REMOVE EXISTING FENCE.
- **R-7** REMOVE EXISTING WALL.
- **R-8** REMOVE EXISTING CURB AS SHOWN.
- **R-9** REMOVE EXISTING SIGN.
- **R-10** REMOVE EXISTING POLE BOLLARD (TYP.).
- **R-11** REMOVE OR RELOCATE EXISTING ELECTRIC LINES, POLES, GUY WIRES, EQUIPMENT, ETC. AT LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION WORK.
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LEGEND

ITEM	EXISTING	ITEM	EXISTING
CONCRETE CURB & GUTTER		SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	EX. 10"S
CONCRETE SIDEWALK, SLAB / PAVING		SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	EX. 10" F.M.
IMPERVIOUS SURFACED ROAD, DRIVE OR PARKING LOT		SANITARY SEWER MANHOLE (S.M.H.)	
INDIVIDUAL TREE OR BUSH	EVERGREEN DECIDUOUS	SANITARY SEWER CLEANOUT	
WIRE FENCE		WATER MAIN & SIZE	EX. 10" W
CHAINLINK FENCE		FIRE HYDRANT	F.H.
STOCKADE FENCE		WATER VALVE (W.V.) OR METER (W.M.)	W.M. W.V.
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)		STORM DRAIN MANHOLE (S.D.M.H.)	
DRAINAGE DITCH OR SWALE		STORM DRAIN LINE (CMP OR RCP)	
EMBANKMENT SIDESLOPES (DOWN)		CATCH BASIN	
CONTOUR	49	UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)	
ELEVATION SPOT SHOT	43.55	UNDERGROUND ELECTRIC	U.E.
BENCH MARK		UNDERGROUND TELEPHONE	U.T.
PROPERTY OR RIGHT-OF-WAY LINE		UNDERGROUND GAS MAIN	EX. 2" G
CENTERLINE		PAVEMENT TO BE REMOVED	N/A
LIGHT POLE			

KEY MAP - FOLEY / CAT BEAR

SCALE: 1" = 500'

BECKER MORGAN GROUP

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CHRISTOPHER D. CRAIK LICENSE No. 16378 PROFESSIONAL ENGINEER STATE OF DELAWARE

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

EXISTING CONDITIONS AND DEMOLITION PLAN

0 15 30 60

SCALE: 1" = 30'

ISSUE BLOCK		
12	1/10/24	AGENCY SUBMISSION
11	1/8/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
6	11/02/23	AGENCY SUBMISSION
5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

LAYER STATE: C-101

PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET

C-102

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SANITARY SEWER CONSTRUCTION NOTES

S-1	INSTALL 6" SDR 26 PVC SANITARY SEWER LATERAL (2.0% MINIMUM SLOPE) WITH A CLEANOUT INSTALLED AT THE LOCATION SHOWN HEREON (48" MINIMUM COVER).
S-2	INSTALL LATERAL CLEANOUT AT LOCATIONS SHOWN. SEE DETAIL, SHEET C-901.
S-3	INSTALL 8" PVC SDR 26 SANITARY SEWER MAIN AT LOCATIONS SHOWN HEREON (TYP.) SEE PIPE SCHEDULE, SHEET C-303.
S-4	INSTALL SANITARY SEWER DROP MANHOLE WITH FRAME AND COVER AT THE INVERTS AND ELEVATIONS SHOWN HEREON (TYP.). SEE SANITARY SEWER MANHOLE SCHEDULE, SHEET C-303 AND DETAIL SHEET C-901.
S-5	INSTALL 1.25" SANITARY SEWER FORCEMAIN, SDR 11 HDPE (42" MINIMUM COVER). FORCEMAIN SHALL BE MARKED IN ACCORDANCE WITH NEW CASTLE COUNTY STANDARDS, SEE DETAIL, SHEET C-901. ALL GRINDER PUMP STATION FORCEMAIN CONNECTIONS TO BE INTEGRAL FLOW FITTINGS PER MANUFACTURE SPECIFICATIONS.
S-6	INSTALL EONE SUBMERSIBLE GRINDER PUMP STATION WITH TRAFFIC BEARING LID. SEE SHEET C-905 FOR DETAILS AND PUMP PERFORMANCE CURVES. GRINDER PUMP INSTALLATION AND INSPECTION TO BE COORDINATED WITH MANUFACTURER AND NEW CASTLE COUNTY PUBLIC WORKS DEPARTMENT.
S-7	INSTALL 3" X 1.25" ECCENTRIC EXPANSION JOINT LAST 5' OF FORCE MAIN TO BE 3" SDR 26 PVC, PER NEW CASTLE COUNTY STANDARDS. SEE SHEET C-905 FOR CONNECTION DETAILS.
S-8	INSTALL SHUT OFF VALVE AT EDGE OF RIGHT OF WAY, SEE DETAIL ON SHEET C-901.
S-9	CONTRACTOR TO INSTALL TERMINAL CLEANOUTS AT ALL FORCEMAIN BENDS GREATER THAN 30°. SEE DETAIL SHEET C-901.
S-10	CONTRACTOR TO CORE DRILL INTO EXISTING MANHOLE USING LINK SEAL BOOT. SEE SHEET C-601 FOR SANITARY SEWER FLOW CHANNEL DETAIL AND SHEET C-905 FOR CONNECTION DETAIL.

BENCH MARK:
SET IRON ROD W/CAP
ELEVATION: 66.85'
N: 599154.57
E: 593580.41

BENCH MARK:
SET IRON ROD W/CAP
ELEVATION: 64.58'
N: 599356.72
E: 593882.94

PULASKI HIGHWAY (US 40)
VARYING WIDTH PUBLIC RIGHT OF WAY
NCR 32, OTHER PRINCIPAL ARTERIALS
DEDICATED TO PUBLIC USE

EX. SAN. MH.: 138800
RIM EL.: 66.53'
INV. IN: 62.63'
INV. OUT: 62.33'

1,419' TO SCHOOL BELL RD

EX. 8"S
EX. 8"W
EX. 16"W
EX. 12"W
EX. 2"F.M.
EX. GAS
EX. WATER
UTILITY POLE (typ.)
EDGE OF PAVEMENT
EXISTING FIRE HYDRANT
EX. SAN. MH.: RIM EL.: 63.27'

CONTRACTORS WAY (PRIVATE ROAD)

DISPLAY AREA

NCC C.O. ID.: 791196
NCC C.O. ID.: 791197
NCC C.O. ID.: 791195
NCC C.O. ID.: 791193
NCC C.O. ID.: 791194
NCC C.O. ID.: 791192
NCC C.O. ID.: 791191
NCC C.O. ID.: 791199
NCC C.O. ID.: 791200
NCC S.S. ID.: 791202
NCC F.M. ID.: 791205

1.25" F.M.
2" PR. GAS
4" PR. GAS
1" WATER
4" WATER
6" WATER
8" WATER
8" R. DRAIN INV: 57.00'
6" R. DRAIN INV: 57.00'
4" R. DRAIN INV: 57.00'

PR. C.B. : CB-5C
GRATE : 58.27'
INV. OUT : 55.30'

PR. C.B. : CB-4B
GRATE : 58.86'
INV. OUT : 53.29'

PR. C.B. : CB-5B
GRATE : 58.59'
INV. IN : 52.98'
INV. OUT : 52.98'

PR. C.B. : CB-4C
GRATE : 58.13'
INV. IN : 54.38'
INV. OUT : 54.38'

PR. C.B. : CB-3B
GRATE : 57.73'
INV. IN : 52.61'
INV. OUT : 52.61'

PR. C.B. : CB-2B
GRATE : 58.87'
INV. IN : 51.49'
INV. OUT : 51.49'

PR. C.B. : CB-1B
GRATE : 58.87'
INV. IN : 50.89'
INV. OUT : 50.89'

PR. C.B. : CB-6C
GRATE : 55.92'
INV. OUT : 52.63'

PR. C.B. : CB-2C
GRATE : 59.79'
INV. IN : 51.99'
INV. OUT : 51.60'

PR. C.B. : CB-1C
GRATE : 59.08'
INV. IN : 51.29'
INV. OUT : 51.29'

PR. C.B. : CB-3C
GRATE : 58.85'
INV. IN : 53.81'
INV. OUT : 53.81'

PR. C.B. : CB-7C
GRATE : 58.20'
INV. IN : 52.31'
INV. IN : 52.31'
INV. OUT : 52.31'

PR. S.D. MH. : MH-4C
RIM EL. : 58.69'
INV. IN : 53.53'
INV. OUT : 53.53'

PR. S.D. MH. : MH-2C
RIM EL. : 59.71'
INV. IN : 51.97'
INV. OUT : 51.97'

PR. SAN. MH. : EBG-PUMP
NCC MH ID.: 791201
RIM EL. : 59.52'
INV. IN : 47.19'
INV. OUT : 48.43'

PR. SAN. MH. : SS MH -1
NCC MH ID.: 791190
RIM EL. : 59.76'
INV. IN : 47.65'
INV. IN : 53.50'
INV. OUT : 47.55'

GRINDER PUMP

PROPOSED BUILDING
40,533 S.F. OFFICE (1ST FLOOR)
6,391 S.F. OFFICE (2ND FLOOR)
46,924 G.F.A. TOTAL
60.00 F.F.

PROPOSED BUILDING
4,435 S.F. WAS
60.00 F.F.

MATCH LINE - A - A

225'-2 1/4"

SHRUBS AND GRASSES
LOADING AREA
LOADING DOCK
OUTDOOR STORAGE (NO SPRINKLERS) UNHEATED AREA =2,225 S.F.
WASH BAY
SANITARY SEWER BOX
PROPOSED "REDI-ROCK" WALL
PROPOSED GABION ROCK WALL
EX. ROAD
EX. MOBILE HOME AREA
DALTONS TRAILER PARK (PRIVATE ROAD)
EDGE OF TIER 3 WOODS
50' RIPARIAN BUFFER
EXISTING CROSS ACCESS EASEMENT SEE MF. 4890 AND D.R. V102-231
40' WIDE DRAINAGE EASEMENT SEE MF. 4890
36" R.C.P. INV: 52.35'
35" R.C.P. INV: 51.02'

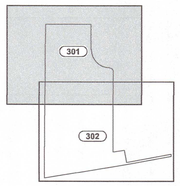
LANDS N/F
PATRICK C MCCLOSKEY & MARILYN MCCLOSKEY
T.P.: 10-034.00-022
DEED REF.: 1700 28
ZONE: CR

LANDS N/F
DALTON-ASHLEY LLC
T.P.: 10-034.00-020
DEED REF.: 20110214-0008820
ZONE: NCMM / CR

LANDS N/F
GFP FIREDANCER LLC
T.P.: 10-034.00-083
DEED REF.: 20150120 0002676
ZONE: CR

ZONE 1
ZONE 2

KEY MAP - FOLEY / CAT BEAR



SCALE: 1" = 500'

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CHRISTOPHER D. DUNN LICENSE No. 16378 DELAWARE PROFESSIONAL ENGINEER

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

UTILITY PLAN (SEWER PLAN)

0 15 30 60
SCALE: 1" = 30'

ISSUE BLOCK		
12	1/10/24	AGENCY SUBMISSION
11	1/9/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
6	11/02/23	AGENCY SUBMISSION
5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

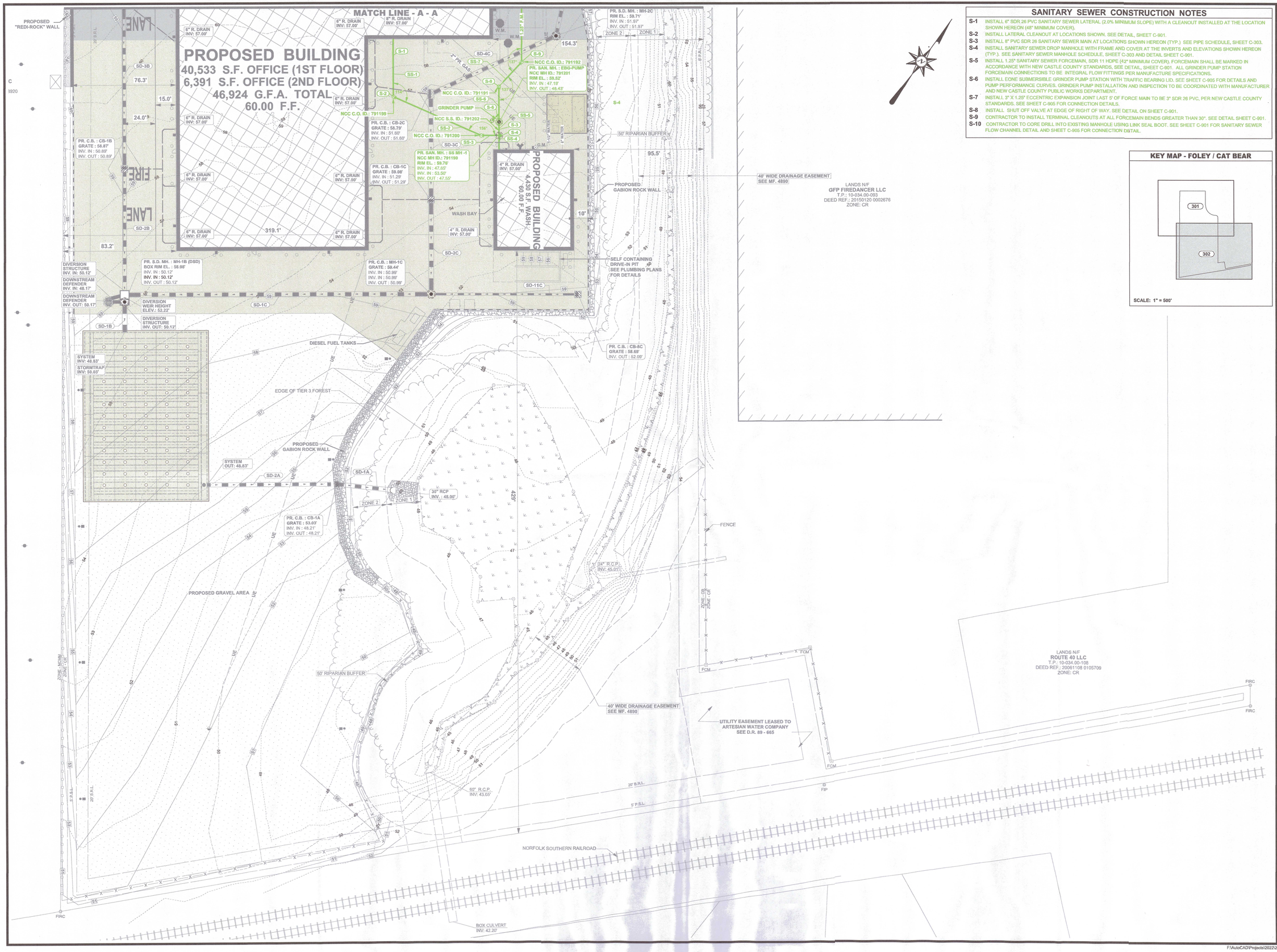
LAYER STATE: C-301-A

PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY:	HPC
PROJ. MGR.:	CDD

SHEET
C-301A

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SANITARY SEWER CONSTRUCTION NOTES

- **S-1** INSTALL 6" SDR 26 PVC SANITARY SEWER LATERAL (2.0% MINIMUM SLOPE) WITH A CLEANOUT INSTALLED AT THE LOCATION SHOWN HEREON (48" MINIMUM COVER).
- **S-2** INSTALL LATERAL CLEANOUT AT LOCATIONS SHOWN. SEE DETAIL, SHEET C-901.
- **S-3** INSTALL 8" PVC SDR 26 SANITARY SEWER MAIN AT LOCATIONS SHOWN HEREON (TYP.) SEE PIPE SCHEDULE, SHEET C-303.
- **S-4** INSTALL SANITARY SEWER DROP MANHOLE WITH FRAME AND COVER AT THE INVERTS AND ELEVATIONS SHOWN HEREON (TYP.). SEE SANITARY SEWER MANHOLE SCHEDULE, SHEET C-303 AND DETAIL SHEET C-901.
- **S-5** INSTALL 1.25" SANITARY SEWER FORCEMAIN, SDR 11 HDPE (42" MINIMUM COVER). FORCEMAIN SHALL BE MARKED IN ACCORDANCE WITH NEW CASTLE COUNTY STANDARDS, SEE DETAIL, SHEET C-901. ALL GRINDER PUMP STATION FORCEMAIN CONNECTIONS TO BE INTEGRAL FLOW FITTINGS PER MANUFACTURE SPECIFICATIONS.
- **S-6** INSTALL EONE SUBMERSIBLE GRINDER PUMP STATION WITH TRAFFIC BEARING LID. SEE SHEET C-905 FOR DETAILS AND PUMP PERFORMANCE CURVES. GRINDER PUMP INSTALLATION AND INSPECTION TO BE COORDINATED WITH MANUFACTURER AND NEW CASTLE COUNTY PUBLIC WORKS DEPARTMENT.
- **S-7** INSTALL 3" X 1.25" ECCENTRIC EXPANSION JOINT LAST 5' OF FORCE MAIN TO BE 3" SDR 26 PVC, PER NEW CASTLE COUNTY STANDARDS. SEE SHEET C-905 FOR CONNECTION DETAILS.
- **S-8** INSTALL SHUT OFF VALVE AT EDGE OF RIGHT OF WAY. SEE DETAIL ON SHEET C-901.
- **S-9** CONTRACTOR TO INSTALL TERMINAL CLEANOUTS AT ALL FORCEMAIN BENDS GREATER THAN 30°. SEE DETAIL SHEET C-901.
- **S-10** CONTRACTOR TO CORE DRILL INTO EXISTING MANHOLE USING LINK SEAL BOOT. SEE SHEET C-901 FOR SANITARY SEWER FLOW CHANNEL DETAIL AND SHEET C-905 FOR CONNECTION DETAIL.

KEY MAP - FOLEY / CAT BEAR

SCALE: 1" = 500'

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CHRISTOPHER C. DIVITE
LICENSE
No. 16378
PROFESSIONAL ENGINEER
STATE OF DELAWARE

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

UTILITY PLAN (SEWER PLAN)

0 15 30 60

SCALE: 1" = 30'

ISSUE BLOCK		
12	1/10/24	AGENCY SUBMISSION
11	1/9/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
6	11/02/23	AGENCY SUBMISSION
5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

DATA STATE: C3D1-A

PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET

C-302A

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SANITARY SEWER PIPE SCHEDULE

PIPE NO.	SIZE	PIPE TYPE	LENGTH	SLOPE	INV. IN	INV. OUT
SS-1	6"	PVC SDR 26	42'	5.00%	51.43'	49.32'
SS-2	6"	PVC SDR 26	71'	2.00%	49.32'	47.91'
SS-3	6"	PVC SDR 26	13'	2.00%	47.91'	47.65'
SS-4	6"	PVC SDR 26	10'	5.00%	54.00'	53.50'
SS-5	8"	PVC SDR 26	10'	3.63%	47.55'	47.19'

SANITARY SEWER MANHOLE SCHEDULE

MH NO.	RIM EL.	DIA.	DEPTH	INV. IN	INV. OUT	NORTHING	EASTING	FLOW ANGLE
EBG-PUMP	59.52'	48"	12.33'	47.19' *(SS-5)*	48.43' *(SS-6)*	598896.2548	594188.0713	180°
SS MH -1	59.76'	48"	12.21'	47.65' *(SS-3)* 53.50' *(SS-4)*	47.55' *(SS-5)*	598888.1641	594193.9484	180°

Lateral Number	Lateral Invert at Connection Point to Sanitary Sewer	Minimum Plumbing Fixture Elevation	Lateral Invert at Connection Point to Building	Elevation of Lowest floor Sewered by Gravity	Upstream MH Number and Rim Elevation		Downstream MH Number	Distance of Lateral Connection From Upstream Manhole	Backwater Valve Required
*MAIN BUILDING	47.65'	52.65'	51.43'	60.00'	-	-	1	-	NO
*WASH BUILDING	53.50'	58.50'	54.00'	60.00'	-	-	1	-	NO

*Sanitary Lateral is connected to a Sanitary Manhole.

Lateral Number	Total Number of Manholes	Nominal Diameter of Sanitary Sewer Pipe (in inches)	Total Linear Feet of Gravity Sanitary Sewer Pipe	Total Linear Feet of Force Main	Pipe Material
SITE	1	8" (gravity) 1.25" (FM)	10.0'	648.0'	PVC SDR 26 (gravity) SDR 11 (FM)

SANITARY SEWER GENERAL NOTES :

1. SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS, AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES OR STRICTER STANDARDS IDENTIFIED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN APPROVAL AND ACCEPTANCE OF THE SANITARY SEWER SYSTEM BY NEW CASTLE COUNTY UPON COMPLETION OF CONSTRUCTION. AS-BUILT PLANS SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR OR PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE MUST BE SUBMITTED TO NEW CASTLE COUNTY BEFORE ACCEPTANCE.
3. DURING CONSTRUCTION, THE CONTRACTOR MUST HAVE IN THEIR POSSESSION ON SITE, A SET OF CONSTRUCTION PLANS BEARING NEW CASTLE COUNTY'S STAMP OF APPROVAL.
4. THE CONTRACTOR SHALL NOT PLACE, PLANT, PUT OR SET ANY STRUCTURE WITHIN THE SANITARY SEWER EASEMENT.
5. A CONSTRUCTION PERMIT ISSUED BY THE STATE OF DELAWARE, DEPARTMENT OF TRANSPORTATION (DELDOT) IS REQUIRED BEFORE ANY WORK IS PERFORMED WITHIN A DELDOT RIGHT-OF-WAY. ALL WORK PERFORMED WITHIN DELDOT'S RIGHT-OF-WAY OR PROPERTY OWNED BY THE STATE OF DELAWARE SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST RECENT DELDOT STANDARD SPECIFICATIONS AND UTILITY MANUAL.
6. SANITARY SEWER IS TO BE PRIVATELY OWNED AND MAINTAINED.
7. CONSTRUCTION SHALL NOT DEVIATE FROM THE PLANS AND SPECIFICATIONS APPROVED BY NEW CASTLE COUNTY WITHOUT WRITTEN PERMISSION FROM NEW CASTLE COUNTY'S DEPARTMENT OF PUBLIC WORKS.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK AND THE NEW CASTLE COUNTY DRAINAGE CODE, AS AMENDED.
9. SEQUENCE OF CONSTRUCTION
   - 9.1. CONTACT NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS (TWO BUSINESS DAYS' NOTICE AT 395-5756) PRIOR TO ANY EXCAVATION OR ACTIVITY INVOLVING SANITARY SEWER CONSTRUCTION. PUMP STATION CONSTRUCTION OR LATERAL TIE-IN'S TO EXISTING LINES.
   - 9.2. CONSTRUCTION PROPOSED SANITARY SEWER SYSTEM AS APPROVED BY NEW CASTLE COUNTY.
   - 9.3. BACKFILL AND REGRADE AS REQUIRED.
   - 9.4. PERFORM AIR TEST, IF REQUIRED, IN ACCORDANCE WITH SECTION 32.01-3 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION, IN THE PRESENCE OF A NEW CASTLE COUNTY INSPECTOR.
   - 9.5. FOLLOWING A PASSING AIR TEST (IF APPLICABLE), A FINAL VISUAL INSPECTION (LAMP TEST) MUST BE PERFORMED BY NEW CASTLE COUNTY INSPECTOR PRIOR TO ACCEPTANCE BY NEW CASTLE COUNTY.
   - 9.6. BASED UPON THE RESULTS OF THE VISUAL INSPECTION, A MANDREL TEST MAY BE REQUIRED FOLLOWING THE VISUAL INSPECTION.
   - 9.7. LATERAL CONNECTIONS FROM NEW HOMES/OFFICE BUILDINGS INTO THE SEWER LINE WILL NOT BE PERMITTED UNTIL AFTER FINAL ACCEPTANCE.
   - 9.8. PRIOR TO NEW CASTLE COUNTY MAKING A FINAL INSPECTION, THE FOLLOWING ITEMS MUST BE COMPLETED:
     - 9.8.1. ALL MANHOLES MUST BE BROUGHT TO GRADE AND HAVE CONCRETE COLLARS INSTALLED.
     - 9.8.2. CHANNELS MUST BE COMPLETED IN ALL MANHOLES.
     - 9.8.3. ANY INSIDE DROP PIPE AND APPURTENANCES INSTALLED.
     - 9.8.4. ALL MANHOLES AND SEWER PIPES MUST BE CLEANED AND FLUSHED.
     - 9.8.5. AS-BUILT DRAWINGS (SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER IN DELAWARE) WITH ONE (1) MYLAR AND THREE (3) SETS OF PRINTS MUST BE SUBMITTED TO NEW CASTLE COUNTY.
     - 9.8.6. TURF TRAIL IS CONSTRUCTED IN ACCORDANCE WITH NCC DETAIL SS-MISC-2, OR IF PIPE AND MANHOLES ARE WITHIN A PROPOSED ROADWAY, STABILIZED ROADWAY ACCESS IS CONSTRUCTED FOR THE PURPOSE OF MAINTAINING THE CONSTRUCTED SANITARY SEWER SYSTEM UNTIL FINAL PAVING IS COMPLETED.
   - 9.9. CERTIFICATES OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN RECEIVED, REVIEWED, AND APPROVED AND THE SANITARY SEWER CONSTRUCTION (INCLUDING ALL APPURTENANCES) HAS BEEN ACCEPTED BY NEW CASTLE COUNTY.
10. MANHOLE COVERS ON PRIVATELY OWNED AND MAINTAINED SEWER SYSTEMS SHALL NOT BE LABELED "NEW CASTLE COUNTY".

FOR USE BY DEPARTMENT OF SPECIAL SERVICES

UTILITY SEPARATION FOR WATER / SEWER / STORM DRAIN:

1. WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18 INCHES AND A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN THE OUTSIDE WALL OF THE WATER MAIN AND THE OUTSIDE WALL OF THE SANITARY SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMAL HORIZONTAL AND/OR VERTICAL SEPARATIONS THE OFFICE OF DRINKING WATER MUST SPECIFICALLY APPROVE ANY VARIANCE SUPPORTED BY DATA FROM THE DESIGN ENGINEER.
2. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED BETWEEN WATER MAINS AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE.
3. A MINIMUM VERTICAL SEPARATION OF 12 INCHES AND HORIZONTAL SEPARATION OF 5 FEET IS REQUIRED BETWEEN SANITARY SEWER AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE. WHEN IT IS NOT POSSIBLE TO OBTAIN THE MINIMUM 12 INCH VERTICAL SEPARATION BETWEEN THE SANITARY SEWER AND STORM DRAINS, THE CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH NEW COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
4. WATER MAINS MUST BE DEFLECTED VERTICALLY, OR VERTICAL BENDS MUST BE USED, AS NECESSARY, TO PROVIDE 18" MINIMUM CROSSING CLEARANCE WITH OTHER UTILITIES (TYP.).

BECKER MORGAN GROUP

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312 West Main Street, Suite 300
Salisbury, MD 21801
410.546.9100

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

www.beckermorgan.com

CHRISTOPHER D. DIX — LICENSE — No. 16378 — PROFESSIONAL ENGINEER — DELAWARE

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

UTILITY SCHEDULES

0 15 30 60

SCALE: 1" = 30'

ISSUE BLOCK		
12	1/10/24	AGENCY SUBMISSION
11	1/9/24	AGENCY SUBMISSION
10	1/4/24	AGENCY SUBMISSION
9	12/19/23	AGENCY SUBMISSION
8	11/28/23	AGENCY SUBMISSION
7	11/10/23	AGENCY SUBMISSION
6	11/02/23	AGENCY SUBMISSION
5	10/11/23	BID SET
MARK	DATE	DESCRIPTION

LAYER DATE: C303-A

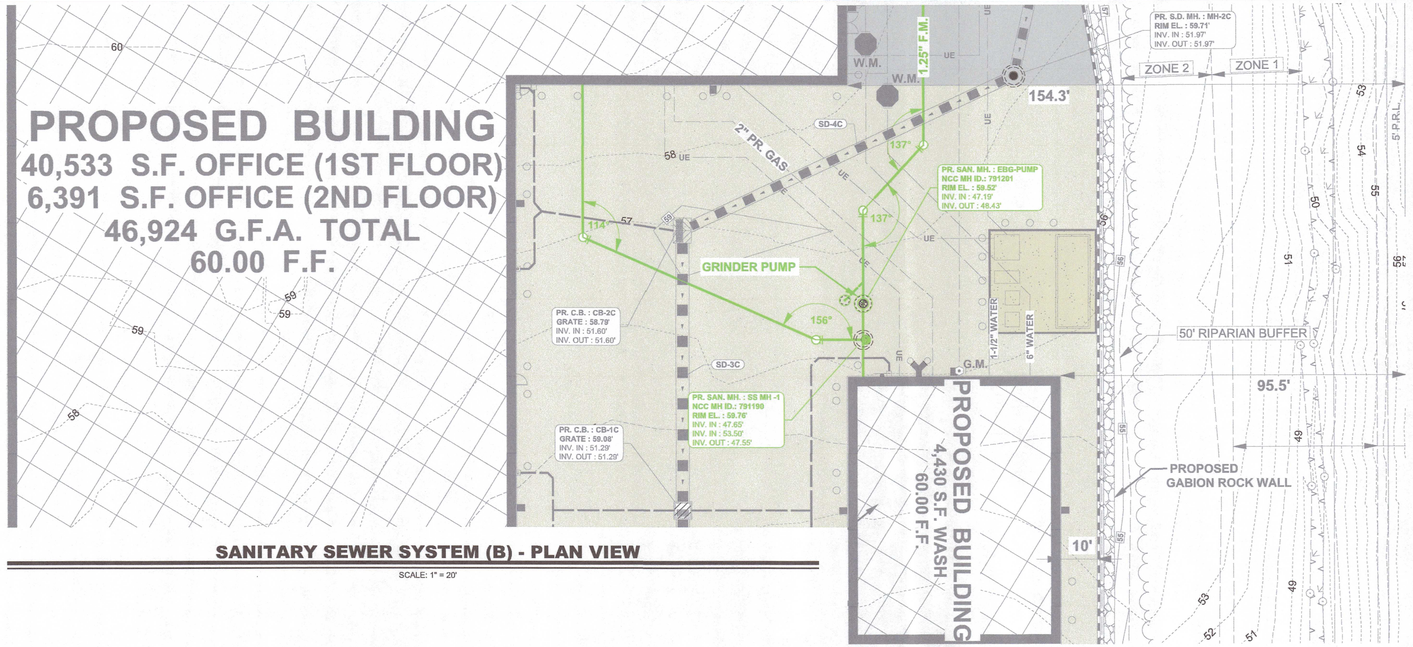
PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET

C-303A

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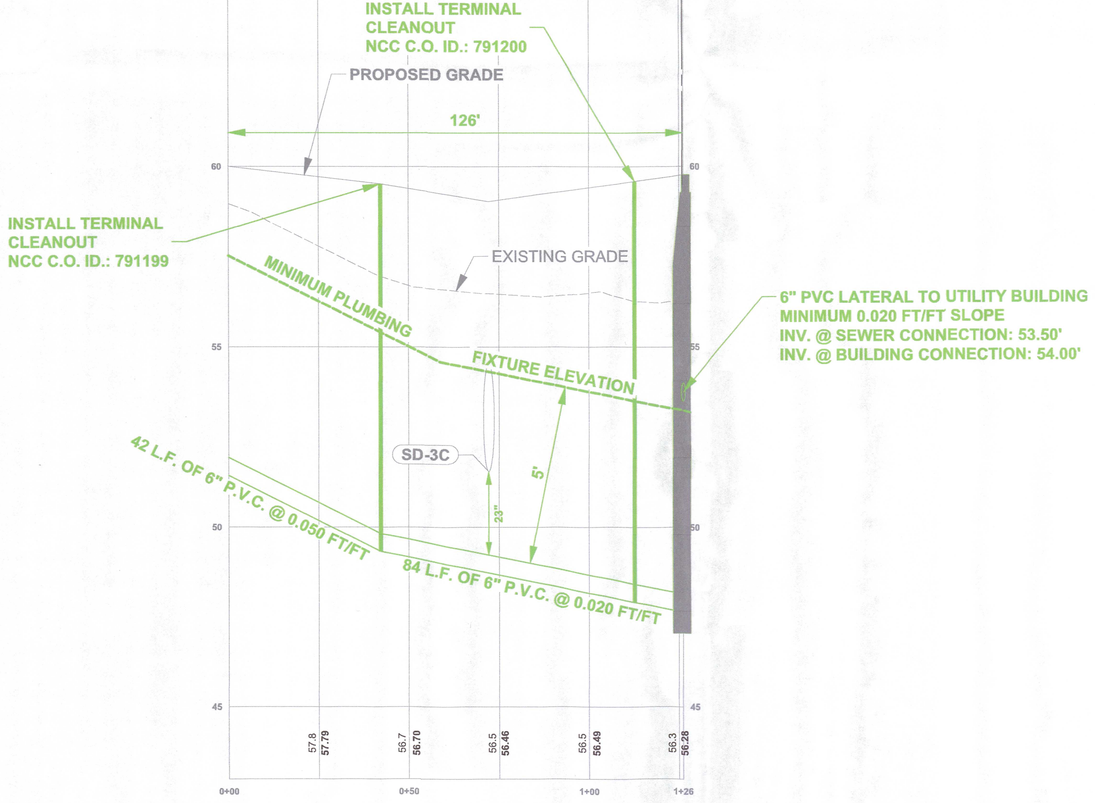


SANITARY SEWER SYSTEM (B) - PLAN VIEW

SCALE: 1" = 20'

UTILITY SEPARATION FOR WATER / SEWER / STORM DRAIN:

1. WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18 INCHES AND A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN THE OUTSIDE WALL OF THE WATER MAIN AND THE OUTSIDE WALL OF THE SANITARY SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMAL HORIZONTAL AND/OR VERTICAL SEPARATIONS THE OFFICE OF DRINKING WATER MUST SPECIFICALLY APPROVE ANY VARIANCE SUPPORTED BY DATA FROM THE DESIGN ENGINEER.
2. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED BETWEEN WATER MAINS AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE.
3. A MINIMUM VERTICAL SEPARATION OF 12 INCHES AND HORIZONTAL SEPARATION OF 5 FEET IS REQUIRED BETWEEN SANITARY SEWER AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE. WHEN IT IS NOT POSSIBLE TO OBTAIN THE MINIMUM 12 INCH VERTICAL SEPARATION BETWEEN THE SANITARY SEWER AND STORM DRAINS, THE CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH NEW COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
4. WATER MAINS MUST BE DEFLECTED VERTICALLY, OR VERTICAL BENDS MUST BE USED, AS NECESSARY, TO PROVIDE 18" MINIMUM CROSSING CLEARANCE WITH OTHER UTILITIES (TYP.).



SANITARY SEWER SYSTEM (B) - PROFILE VIEW

SCALE: 1" = 20' HORIZONTAL
SCALE: 1" = 2' VERTICAL

BECKER MORGAN GROUP

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ENGINEERING

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309 South Governors Avenue
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
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302.369.3700

Maryland
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Salisbury, MD 21801
410.546.9100

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

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CHRISTOPHER D. DINKEL
LICENSE
No. 16378
STATE OF DELAWARE
PROFESSIONAL ENGINEER

PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

SANITARY SEWER PROFILE

0 10 20 40
SCALE: 1" = 20'

ISSUE BLOCK		
8	1/10/24	AGENCY SUBMISSION
7	1/4/24	AGENCY SUBMISSION
6	12/19/23	AGENCY SUBMISSION
5	11/28/23	AGENCY SUBMISSION
4	11/10/23	AGENCY SUBMISSION
3	9/22/23	AGENCY SUBMISSION
2	7/14/23	AGENCY SUBMISSION
1	4/14/23	AGENCY SUBMISSION
MARK	DATE	DESCRIPTION

LAYER STATE: C-701A

PROJECT NO.:	2022211.00
DATE:	9/12/2023
SCALE:	1" = 30'
DRAWN BY: HPC	PROJ. MGR.: CDD

SHEET

C-701A

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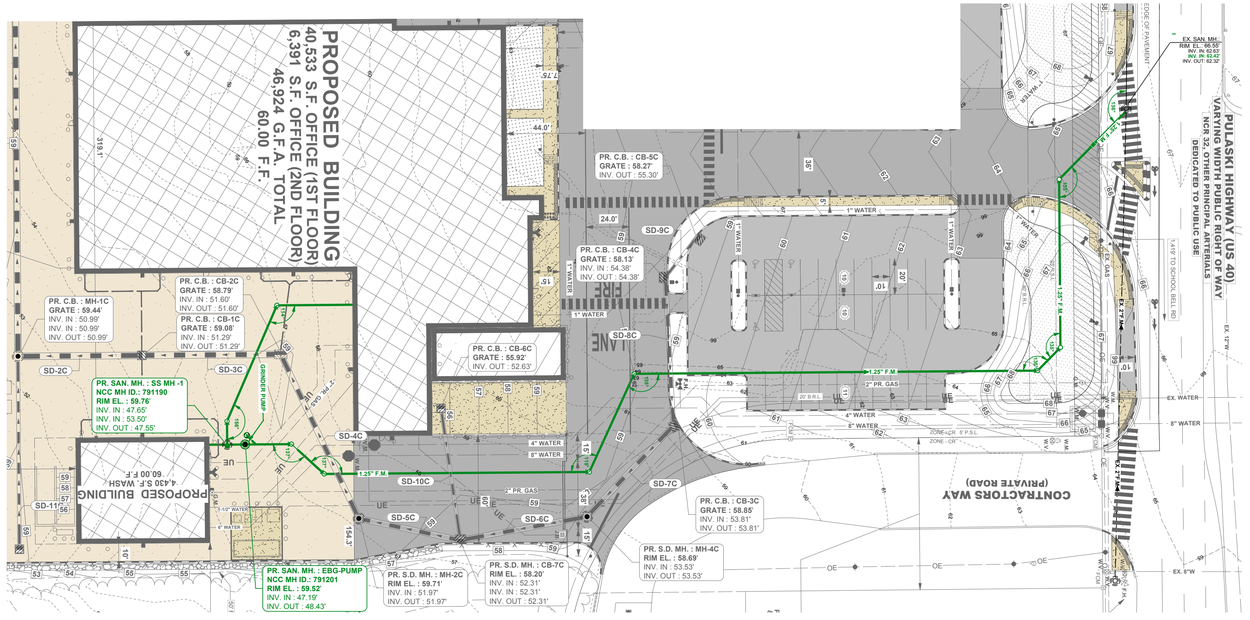
UTILITY SEPARATION FOR WATER / SEWER / STORM DRAIN:

1. WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 18 INCHES AND A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN THE OUTSIDE WALL OF THE WATER MAIN AND THE OUTSIDE WALL OF THE SANITARY SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMAL HORIZONTAL AND/OR VERTICAL SEPARATIONS THE OFFICE OF DRINKING WATER MUST SPECIFICALLY APPROVE ANY VARIANCE SUPPORTED BY DATA FROM THE DESIGN ENGINEER.

2. A MINIMUM VERTICAL SEPARATION OF 18 INCHES IS REQUIRED BETWEEN WATER MAINS AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE.

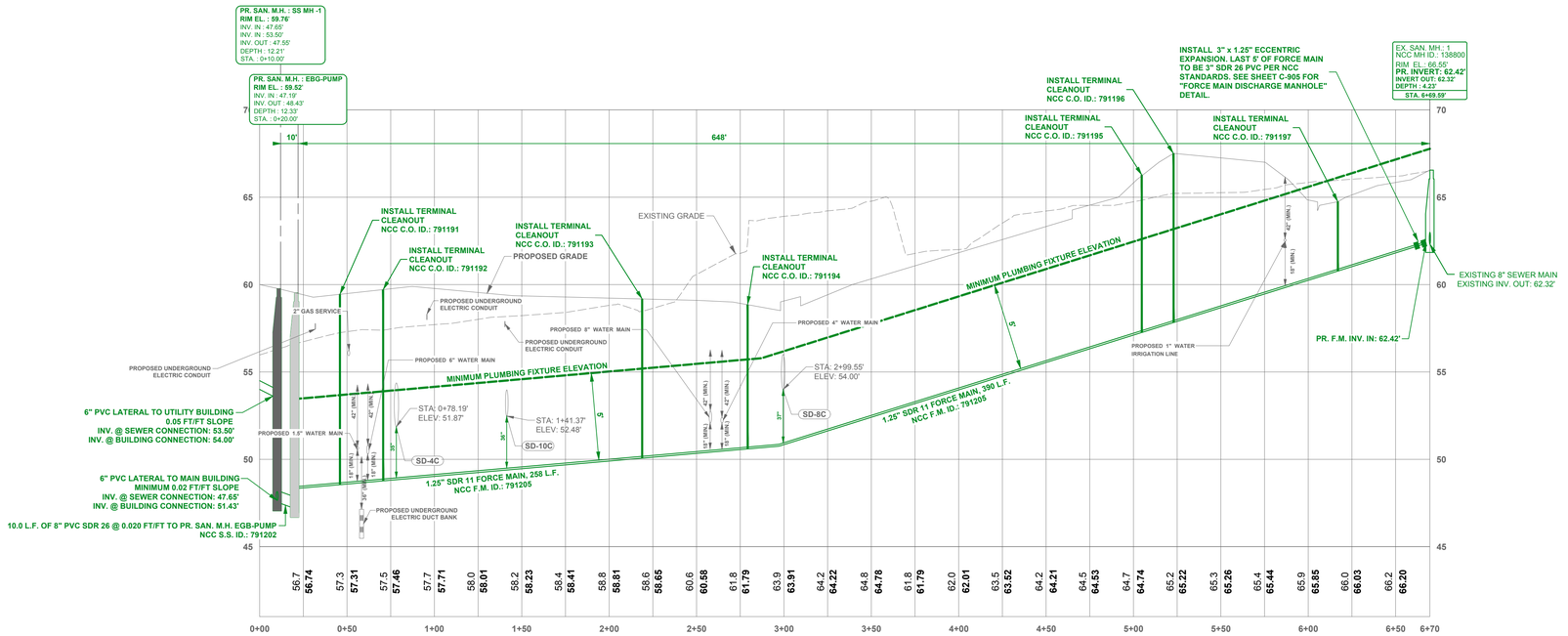
3. A MINIMUM VERTICAL SEPARATION OF 12 INCHES AND HORIZONTAL SEPARATION OF 5 FEET IS REQUIRED BETWEEN SANITARY SEWER AND STORM DRAINS AS MEASURED FROM THE OUTSIDE OF THE PIPE. WHEN IT IS NOT POSSIBLE TO OBTAIN THE MINIMUM 12 INCH VERTICAL SEPARATION BETWEEN THE SANITARY SEWER AND STORM DRAINS, THE CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH NEW COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.

4. WATER MAINS MUST BE DEFLECTED VERTICALLY, OR VERTICAL BENDS MUST BE USED, AS NECESSARY, TO PROVIDE 18" MINIMUM CROSSING CLEARANCE WITH OTHER UTILITIES (TYP.).



SANITARY SEWER SYSTEM (A) - PLAN VIEW

SCALE: 1" = 40'



SANITARY SEWER SYSTEM (A) - PROFILE VIEW

SCALE: 1" = 40' HORIZONTAL
SCALE: 1" = 4' VERTICAL

BECKER MORGAN GROUP

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PROJECT TITLE

APPLICATION No.: 2023-0225

FOLEY CAT / BEAR

MINOR REDEVLOPMENT PLANS
NCC APPLICATION NO. : 2023-0225

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

SANITARY SEWER PROFILE FORCE MAIN

0 20 40 80

SCALE: 1" = 40'

ISSUE	BLOCK	
7	1/10/24	AGENCY SUBMISSION
6	1/4/2023	AGENCY SUBMISSION
5	12/19/23	AGENCY SUBMISSION
4	11/28/23	AGENCY SUBMISSION
3	9/22/23	AGENCY SUBMISSION
2	7/14/23	AGENCY SUBMISSION
1	4/14/23	AGENCY SUBMISSION
MARK	DATE	DESCRIPTION

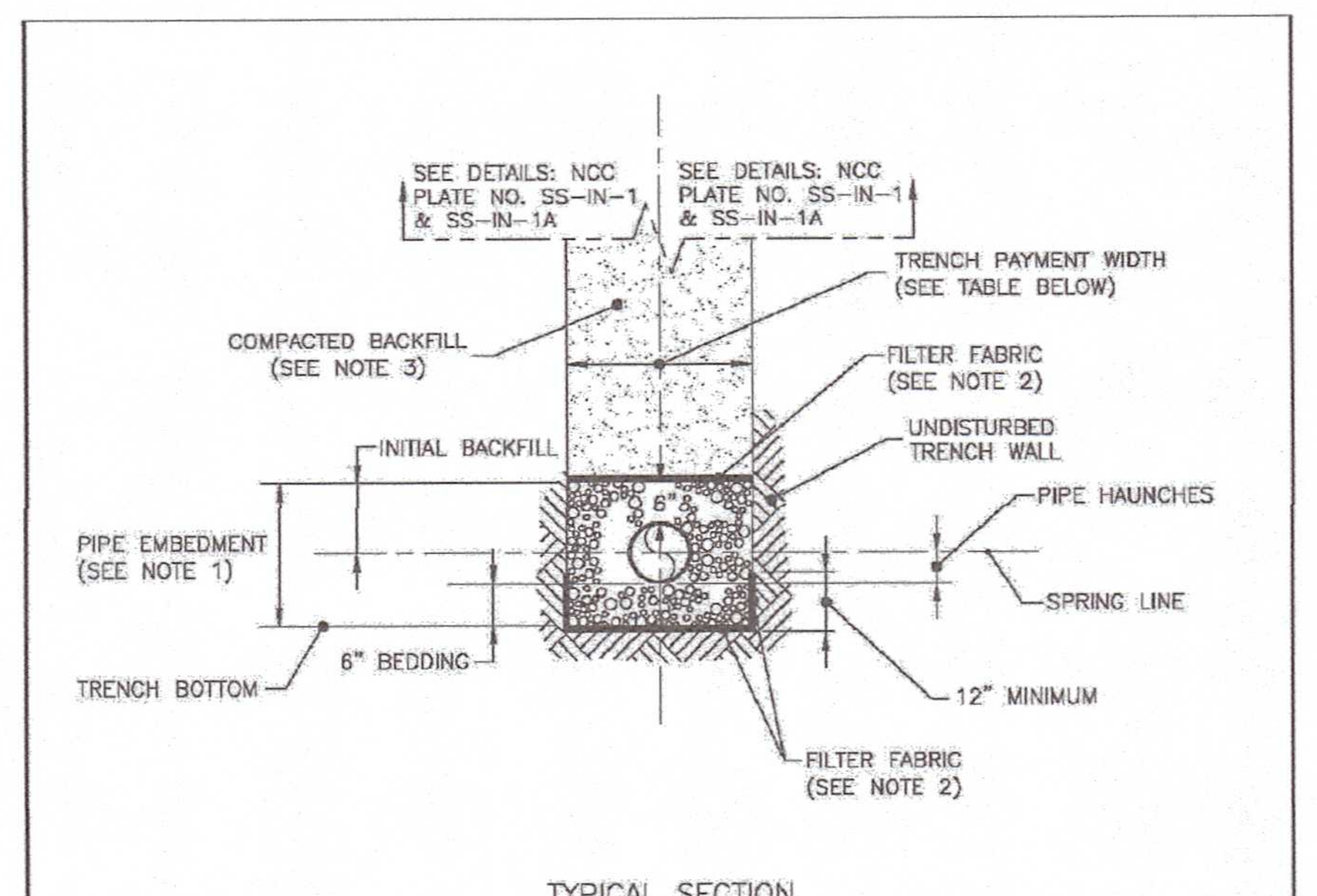
LAYER STATE: C-702A

PROJECT NO.: 2022211.00
DATE: 12/2/2022
SCALE: 1" = 30'
DRAWN BY: **HPC** | PROJ. MGR.: **CDD**

SHEET

C-702A

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TYPICAL SECTION

NOTES:

1) PIPE EMBEDMENT: BEDDING, HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL CONFORM TO SECTION 20.04-1, "STONE BEDDING," OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1A) BEDDING: PRIOR TO PIPE INSTALLATION, CAREFULLY BRING STONE BEDDING UP TO PROPOSED BOTTOM OF PIPE TO BE INSTALLED AND ALONG ITS ENTIRE LENGTH. IF TRENCH BOTTOM IS IN UNSUITABLE MATERIAL, SUITABLE FILL MATERIAL WILL BE REQUIRED PRIOR TO PLACEMENT OF BEDDING.

1B) PIPE HAUNCHES: CAREFULLY WORK, BY HAND, STONE BEDDING FROM THE EDGE OF THE TRENCH UP AND UNDER THE PIPE TO SUPPORT THE HAUNCHES. CONTINUE FILLING, BY HAND, TO THE SPRING LINE OF THE PIPE.

2) MIRAFI 140N OR APPROVED EQUAL FILTER FABRIC.

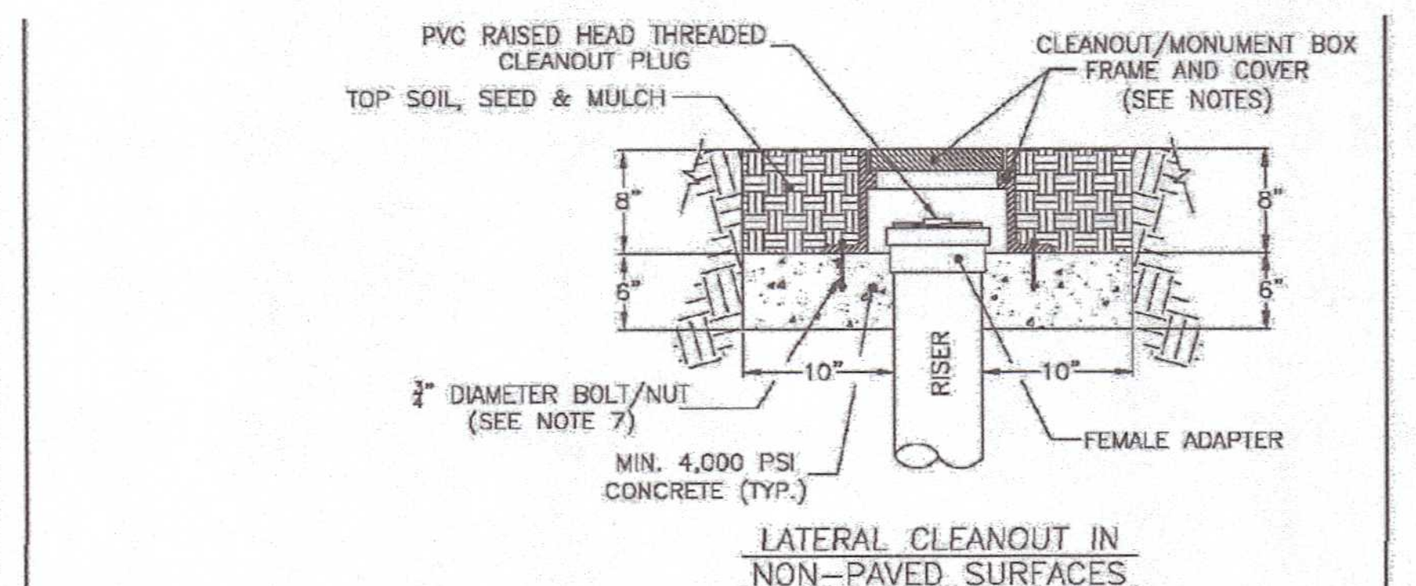
3) FILL TRENCH WITH BORROW TYPE C "BACKFILL" IN COMPLIANCE WITH SECTION 20.03-2 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.

4) FOR NEW CASTLE COUNTY CAPITAL IMPROVEMENT PROJECTS, SEE TABLE FOR TRENCH PAYMENT WIDTH.

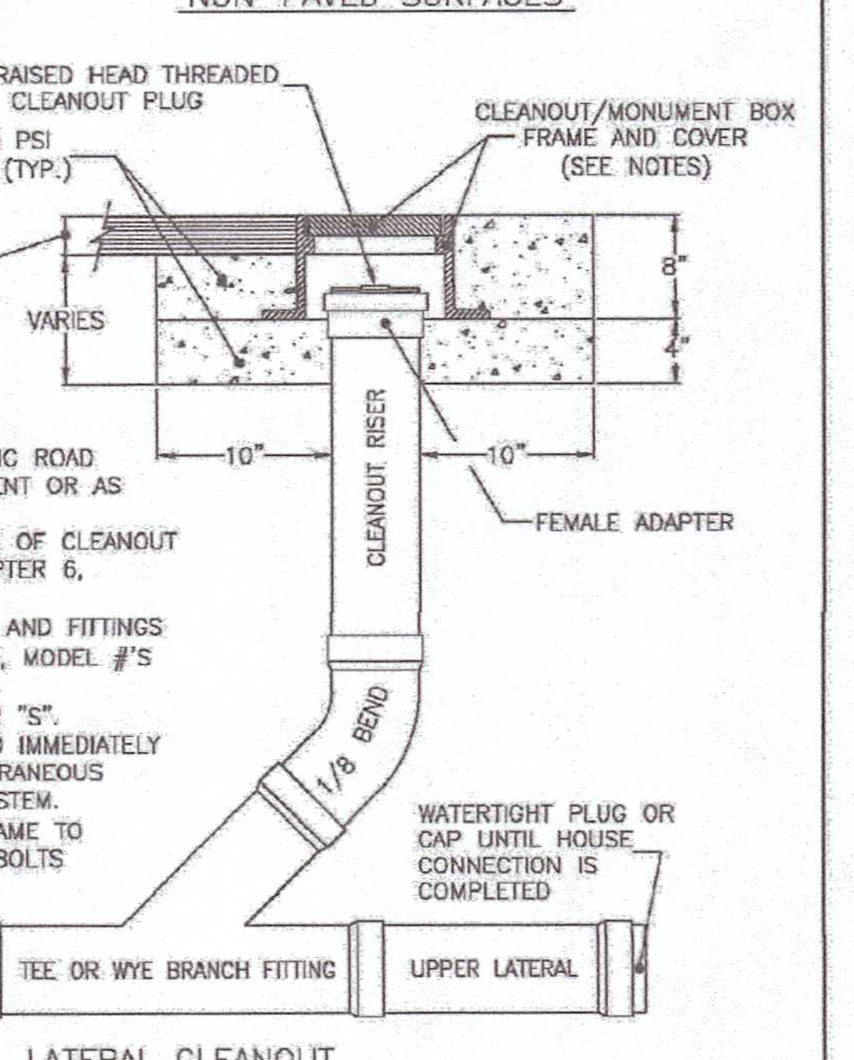
PIPE DIAMETER	TRENCH PAYMENT WIDTH
6"	36"
8"	36"
10"	36"
12"	36"
15" AND 16"	36"
18"	42"
20" AND 21"	42"
24"	48"
27"	60"
30"	60"

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | TRENCH WIDTH AND PIPE BEDDING DETAIL (NTS) | NCC PLATE NO. SS-IN-2

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 9/04/2019



LATERAL CLEANOUT IN NON-PAVED SURFACES

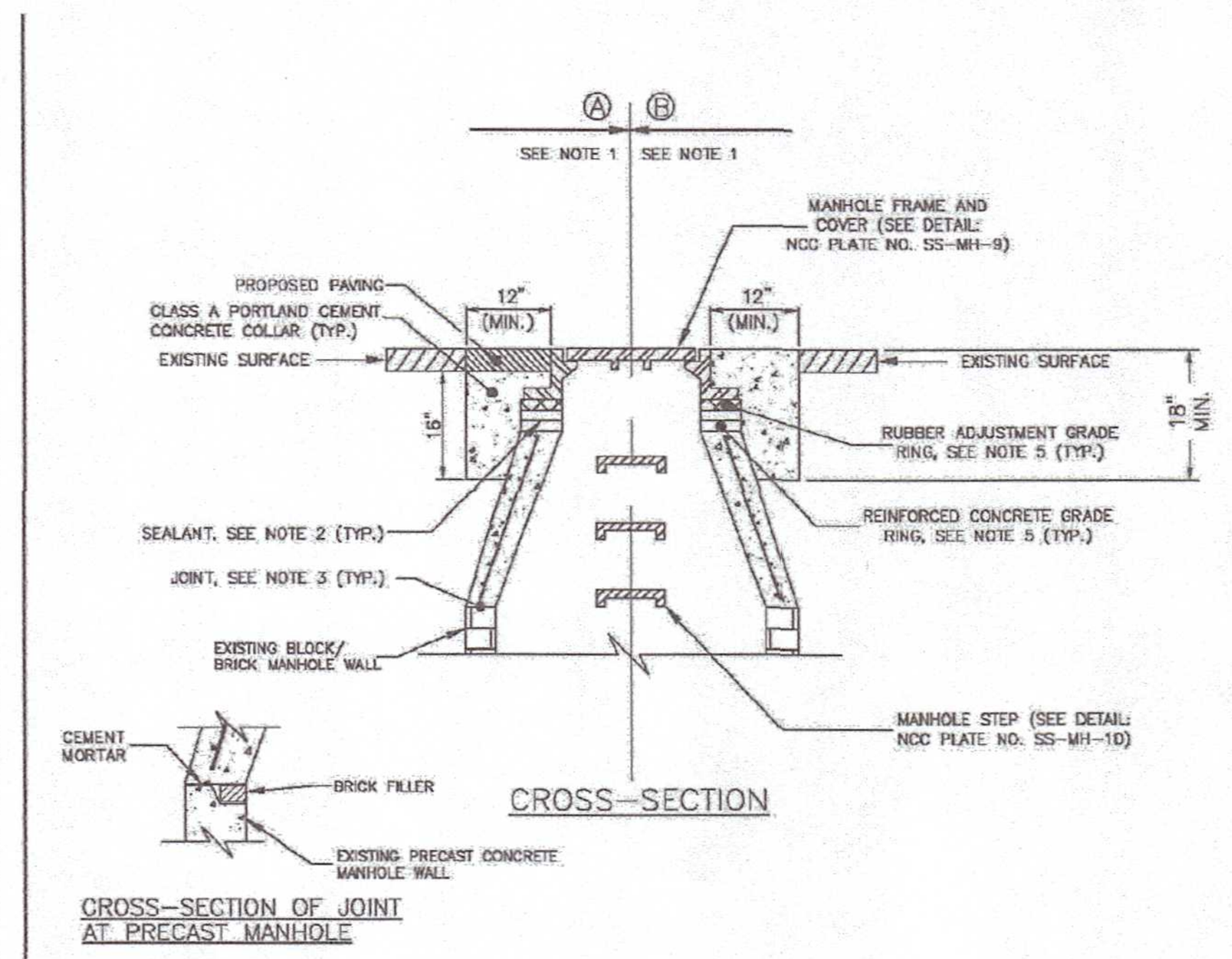


LATERAL CLEANOUT IN PAVED SURFACES

NOTES:
1. CLEANOUTS PLACED AT EDGE OF PUBLIC ROAD RIGHT-OF-WAY, PUBLIC SEWER EASEMENT OR AS DIRECTED BY ENGINEER.
2. PIPE DIA. MAY BE REDUCED UPSTREAM OF CLEANOUT IN ACCORDANCE WITH NCC CODE, CHAPTER 6, ARTICLE 7.
3. MATERIAL: 6" DIA. SDR-26 PVC PIPE AND FITTINGS
4. CASTINGS: EAST JORDAN IRON WORKS, MODEL #'S 1574A & 1574Z OR APPROVED EQUAL.
5. COVER SHALL BE MARKED "SEWER" OR "S".
6. LATERAL CLEANOUTS SHALL BE CAPPED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EXTRANEOUS WATER FROM ENTERING THE SEWER SYSTEM.
7. FASTEN CLEANOUT/MONUMENT BOX FRAME TO CONCRETE USING A MINIMUM OF TWO BOLTS EMBEDDED INTO CONCRETE.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | LATERAL CLEANOUT DETAIL (NTS) | NCC PLATE NO. SS-LAT-2

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



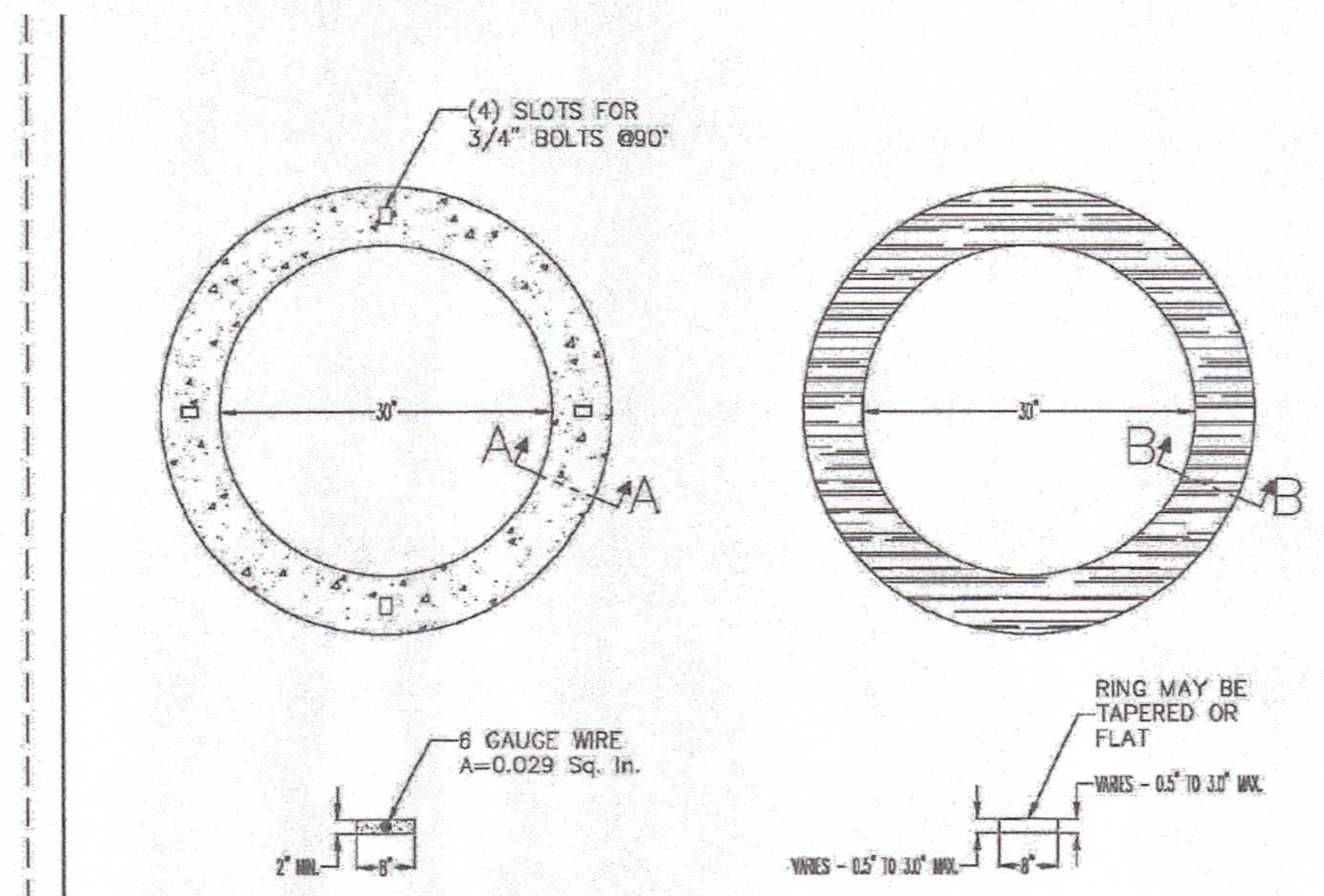
CROSS-SECTION

CROSS-SECTION OF JOINT AT PRECAST MANHOLE

NOTES:
1. AT THE DISCRETION OF THE CONTRACTOR, EITHER OPTION 'A' OR 'B' MAY BE INSTALLED ACCORDING TO DelDOT SPECIFICATIONS.
Ⓐ CONTRACTOR SHALL PAVE TO TOP OF MANHOLE FRAME TO MATCH EXISTING CONDITIONS PER DelDOT STANDARD.
Ⓑ CONTRACTOR WILL INSTALL SQUARE CONCRETE COLLAR, 12" FROM MANHOLE FRAME, TO TOP OF MANHOLE FRAME PER DelDOT STANDARD.
2. SEAL EVERY JOINT IN MANHOLE 'CHIMNEY' BETWEEN THE FRAME AND RUBBER GRADE RING, BETWEEN EACH EACH GRADE RING AND BETWEEN GRADE RING AND TAPERED CONE SECTION USING ADHESIVE SEALANT CONFORMING TO ASTM D3498 AND SUITABLE FOR USE WITH MASONRY, RUBBER AND METAL MATERIALS. APPLY IN CONTINUOUS 1/2 INCH BEADS (MIN. TWO BEADS EVERY JOINT).
3. SEAL PRECAST CONE SECTION TO COMPETENT LAYER OF BLOCK OR BRICK USING CEMENT MORTAR. IF EXISTING MANHOLE IS PRE-CAST CONCRETE, SECURE BRICK IN GROOVED JOINT, WITH CEMENT MORTAR PRIOR TO PLACING CONE SECTION.
4. ADJUSTMENT RISERS OF ANY TYPE (I.E. BRICK) MAY NOT BE USED AS A SUBSTITUTE FOR GRADE RINGS.
5. HEIGHT OF RUBBER GRADE RING(S) NOT TO EXCEED 3". COMBINED HEIGHT OF GRADES RINGS NOT TO EXCEED 12" (SEE DETAIL: NCC PLATE NO. SS-MH-7).

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | PAVED AREA MANHOLE CONE SECTION DETAIL (NTS) | NCC PLATE NO. SS-MH-6

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 8/02/19



CROSS-SECTION A-A — REINFORCED CONCRETE GRADE RING

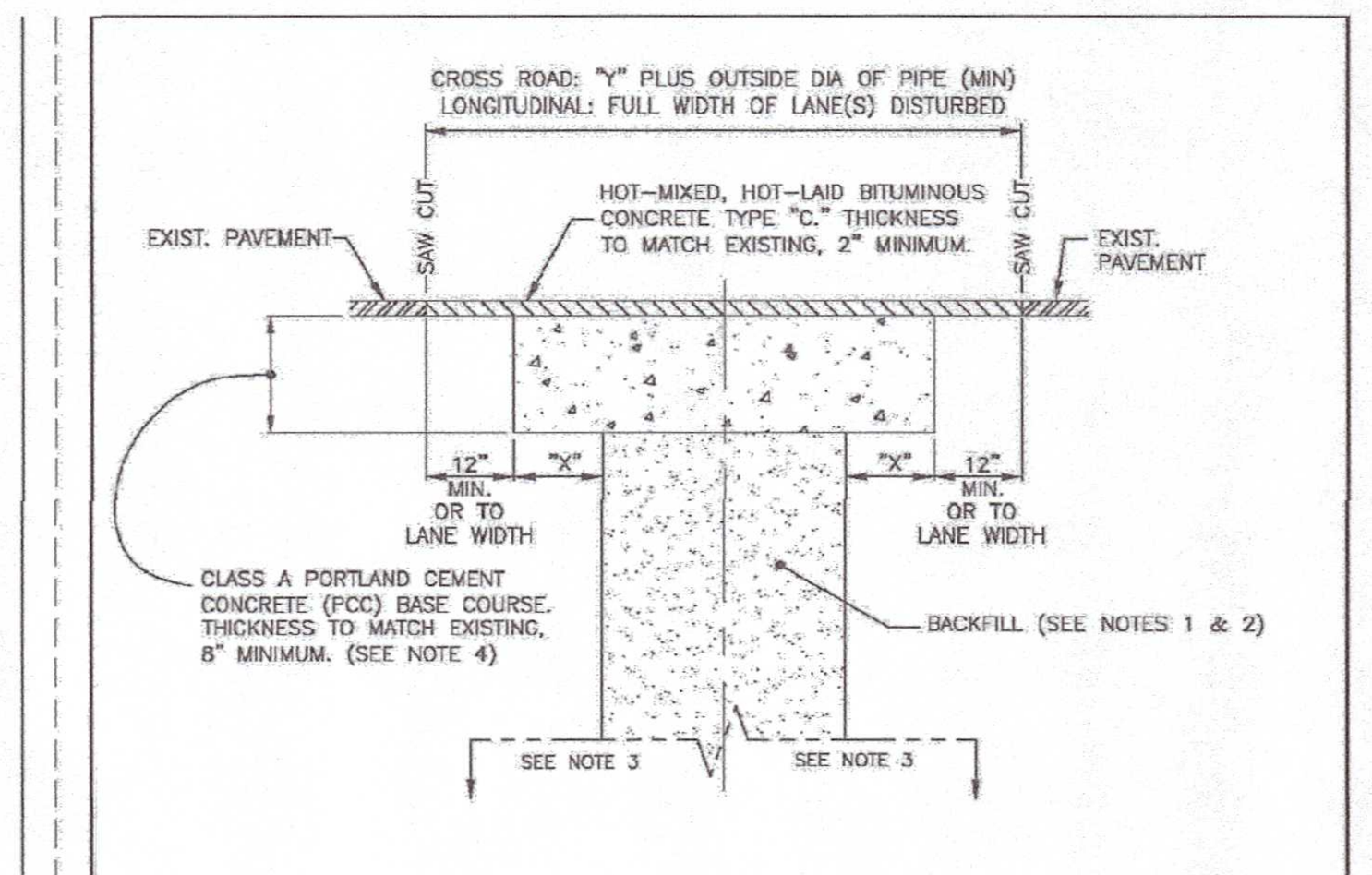
CROSS-SECTION B-B — RUBBER ADJUSTMENT GRADE RING

NOTES:
1. DESIGN MEETS REQUIREMENTS OF A.S.T.M. STANDARD C-478.
2. APPROXIMATE WEIGHT OF ONE REINFORCED CONCRETE GRADE RING:
24"ø - 140 lbs.
30"ø - 165 lbs.

NOTES:
1. SEAL EACH JOINT BETWEEN FRAME, RUBBER GRADE RING AND PRECAST GRADE RINGS USING ADHESIVE SEALANT CONFORMING TO ASTM D3498 AND SUITABLE FOR USE WITH MASONRY, RUBBER AND METAL MATERIALS. APPLY IN CONTINUOUS 1/2 INCH BEADS.
2. UNDER NO CIRCUMSTANCE SHALL A RUBBER GRADE RING BE MODIFIED OR ALTERED IN LIEU OF USING THE APPROPRIATE TAPERED GRADE RING.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | GRADE RING DETAIL (NTS) | NCC PLATE NO. SS-MH-7

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



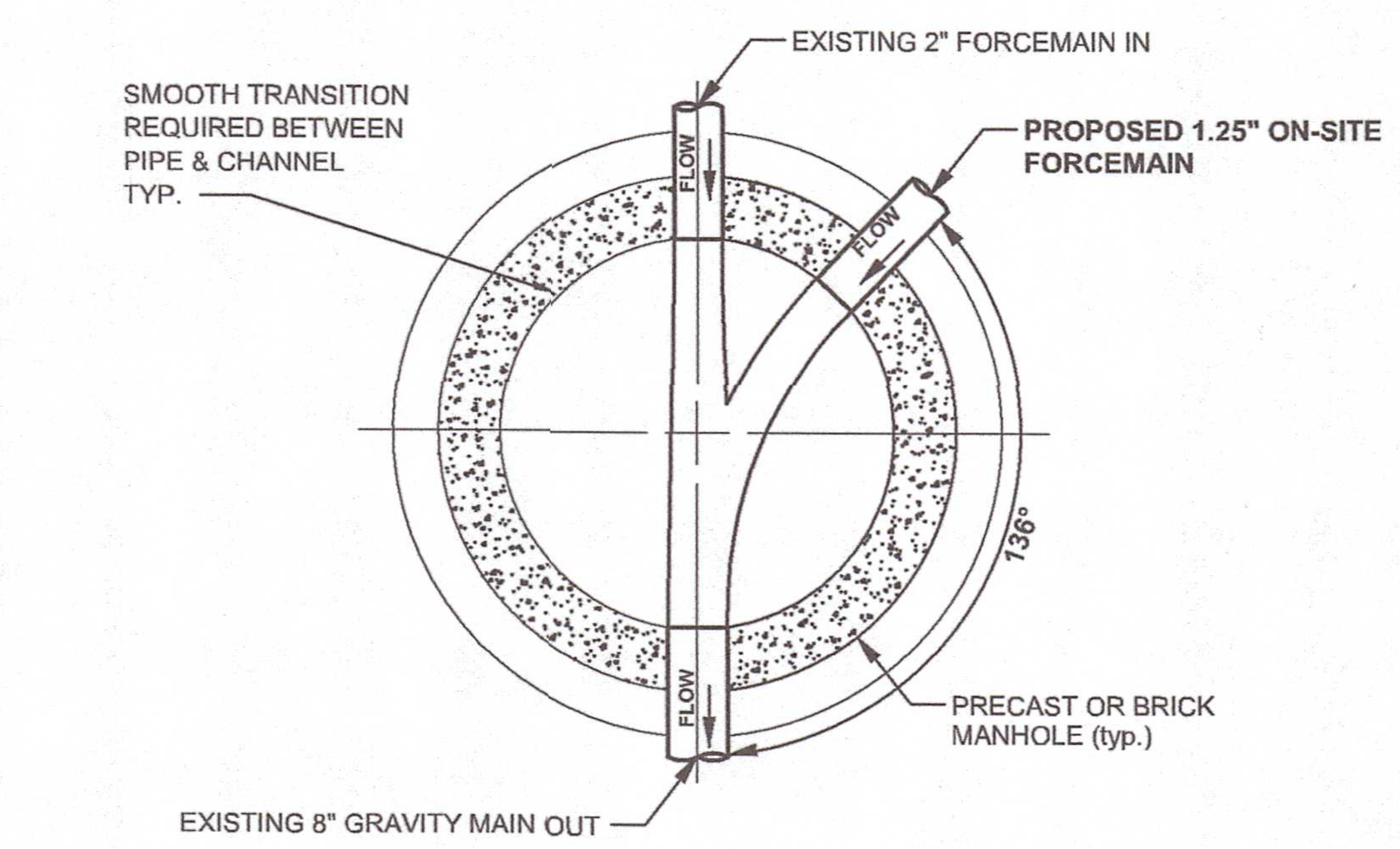
TYPICAL SECTION

NOTES:
1. FILL TRENCH WITH BORROW TYPE C "BACKFILL" IN COMPLIANCE WITH SECTION 20.03-2 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION
2. "BACKFILL" TO BE COMPACTED IN 8" LIFTS TO 95% STANDARD PROCTOR DENSITY BY ASTM D698.
3. SEE DETAIL: NCC PLATE NO. SS-IN-2 FOR TRENCH WIDTH AND PIPE BEDDING REQUIREMENTS.
4. FOR EXISTING BITUMINOUS CONCRETE PAVEMENT, HOT-MIXED, HOT-LAID BITUMINOUS CONCRETE BASE COURSE (12" MINIMUM THICKNESS) MAY BE SUBSTITUTED FOR CLASS A PORTLAND CEMENT CONCRETE (PCC).

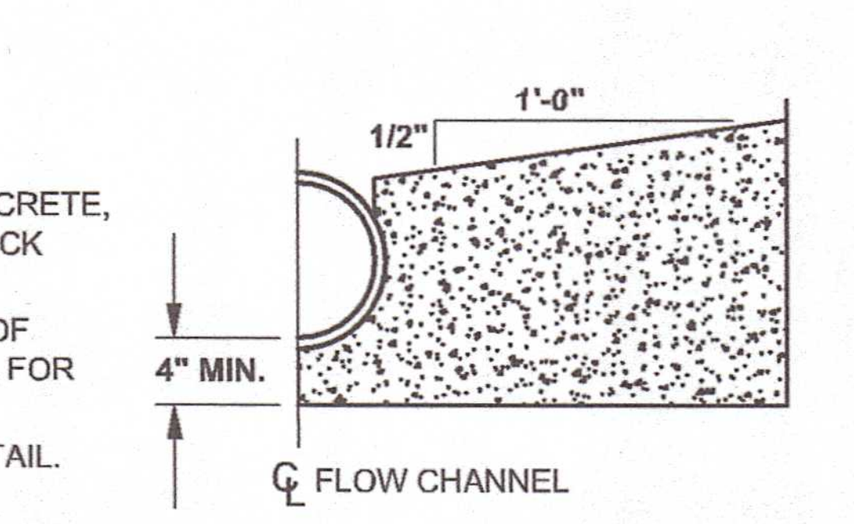
ROADWAY TABLE	DIMS	HOT-MIX	PCC
BASE COURSE WIDTH	X	12"	24"
WEAR COURSE WIDTH	Y	6'-0"	8'-0"

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | PAVING RESTORATION DETAIL (NTS) | NCC PLATE NO. SS-IN-1

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



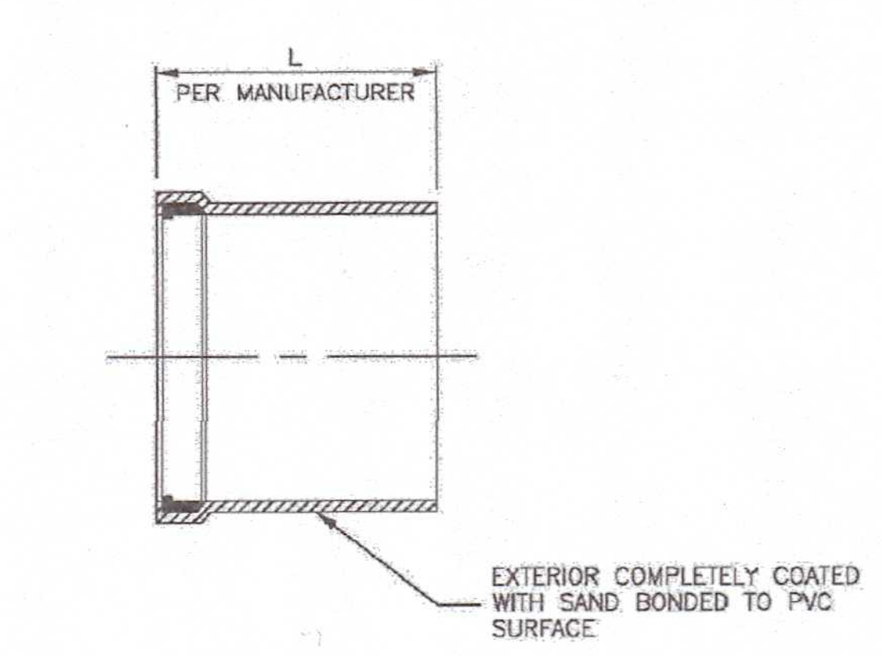
FLOW CHANNEL NOTES:
1. FLOW CHANNELS SHALL BE EITHER BRICK OR CONCRETE, 4" MIN. THICKNESS. USE TYPE S" MORTAR FOR BRICK CHANNELS. CONCRETE SHALL BE SHA MIX NO. 1.
2. CHANNEL WIDTH SHALL MATCH INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. BLEND CHANNEL FOR SMOOTH TRANSITION.
3. BENCH TO BE INSTALLED TO TOP OF PIPE, SEE DETAIL.



BENCH DETAIL

SANITARY SEWER MANHOLE FLOW CHANNEL

NO SCALE — BMG NO. : SS-02A



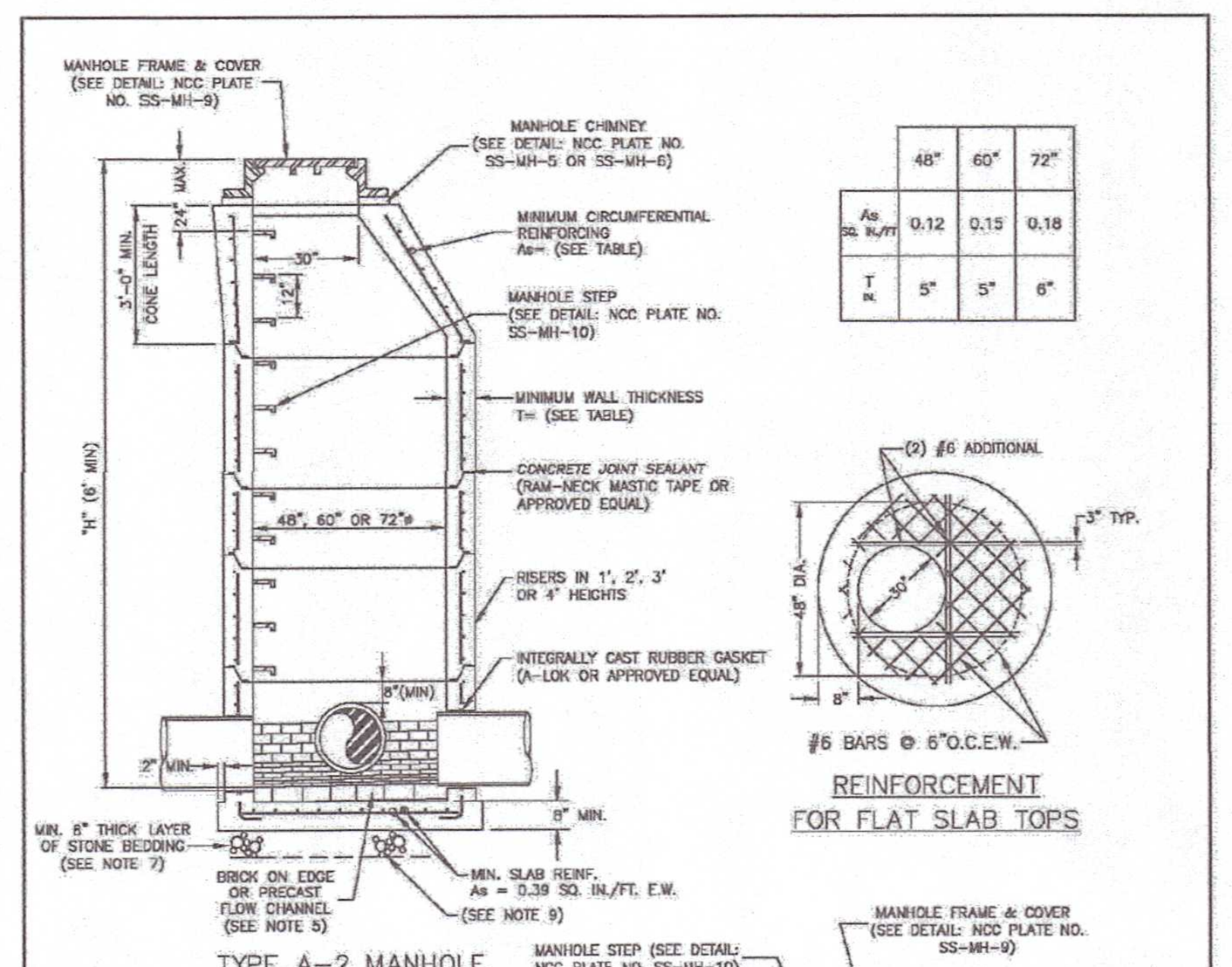
TYPICAL SECTION

SPECIFICATIONS:
MATERIAL: ASTM D1784-03
GASKET JOINT: ASTM D3212-96a(2003)e1
GASKET: ASTM F477-02e1
PIPE DIAMETER TO WALL THICKNESS: SDR-26

NOTES:
1. ONE PIECE MOLDED.
2. ADAPTERS AS MANUFACTURED BY HARCO OR APPROVED EQUAL.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | MANHOLE ADAPTER (SAND COLLAR) FOR PVC OR DIP SEWER (SINGLE BELL) DETAIL (NTS) | NCC PLATE NO. SS-MH-11

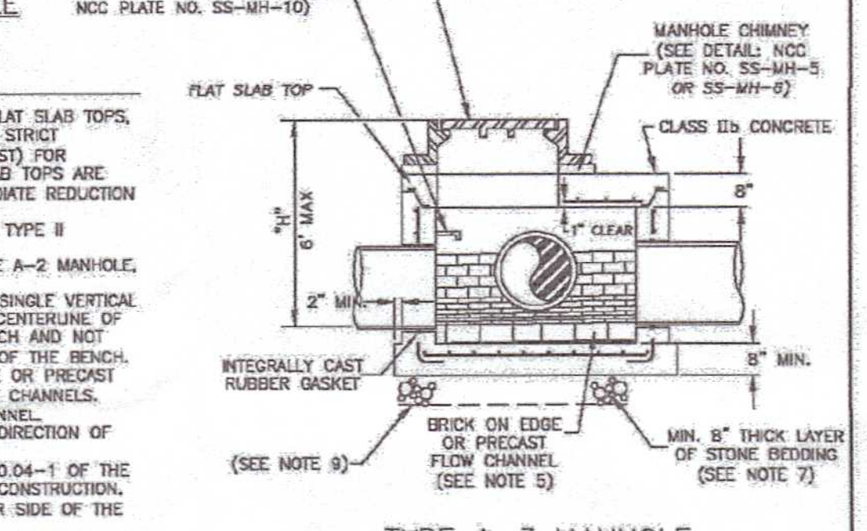
THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



	48"	60"	72"
As SQ. IN./FT	0.12	0.15	0.18
T IN.	5"	5"	6"

REINFORCEMENT FOR FLAT SLAB TOPS

TYPE A-2 MANHOLE MIN 6' DEPTH

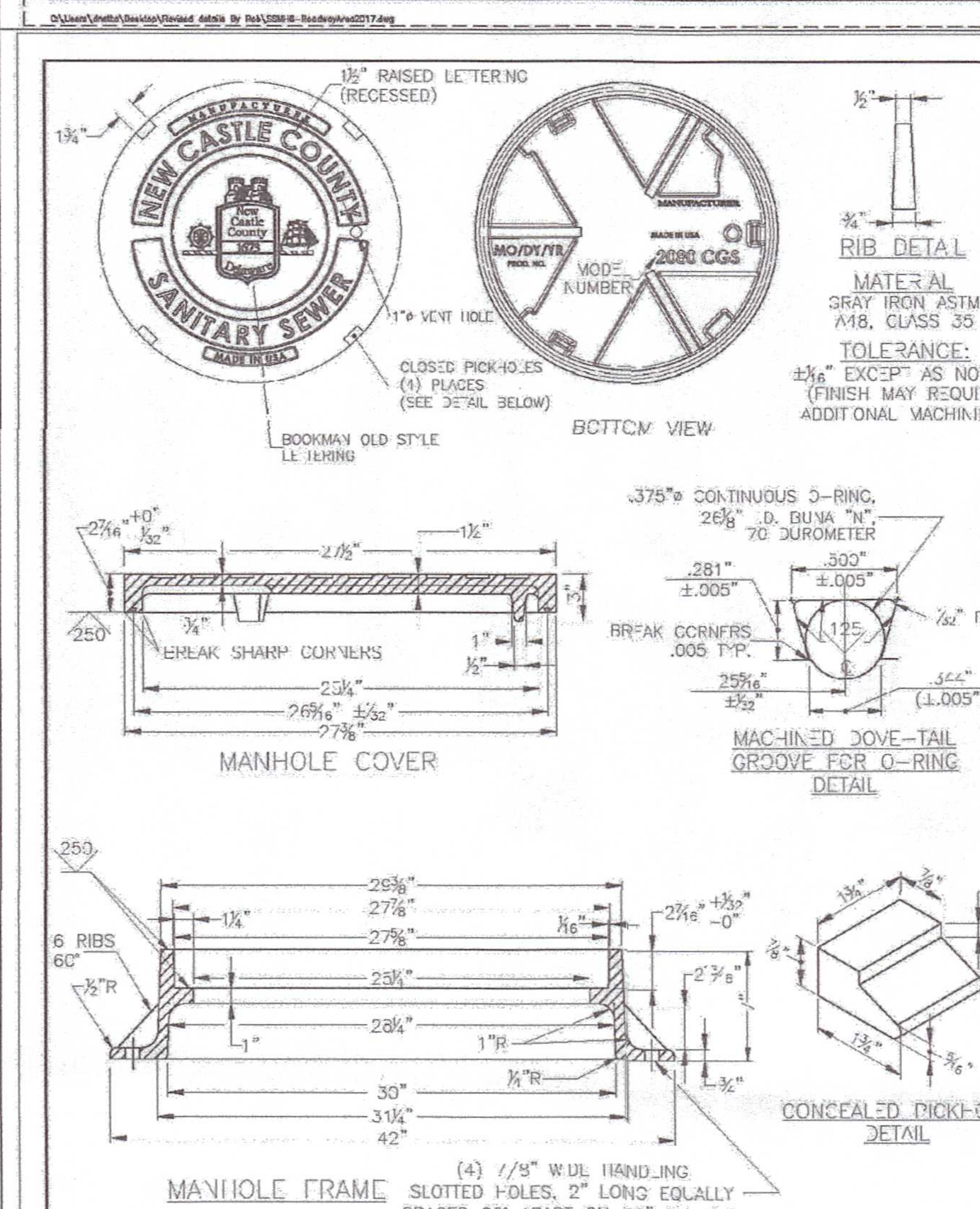


TYPE A-3 MANHOLE MAX 6' DEPTH

NOTES:
1. UNLESS OTHERWISE NOTED, MANHOLE CONICAL AND FLAT SLAB TOPS, RISERS AND BASE SECTIONS SHALL BE FURNISHED IN STRICT ACCORDANCE WITH ASTM DESIGNATION C478 (OR LATEST) FOR PRECAST REINFORCED CONCRETE MANHOLES. FLAT SLAB TOPS ARE PERMITTED FOR 72"ø, TYPE A-2 MANHOLES. INTERMEDIATE REDUCTION IN MANHOLE DIAMETER IS NOT PERMITTED.
2. ALL MANHOLES SHALL BE 4,000 PSI MIN. CONCRETE, TYPE II PORTLAND CEMENT.
3. REINFORCING FOR TYPE A-3 MANHOLE SAME AS TYPE A-2 MANHOLE, EXCEPT AS NOTED.
4. MANHOLE STEPS SHALL BE SPACED AS SHOWN IN A SINGLE VERTICAL ALIGNMENT. THE STEPS SHALL NOT BE STAGGERED. CENTERLINE OF STEP ORIENTATION TO BE ALIGNED OVER TOP OF BENCH AND NOT FLOW CHANNEL. BOTTOM STEP SHALL BE WITHIN 12" OF THE BENCH.
5. FLOW CHANNEL IN MANHOLE MAY BE BRICK ON EDGE OR PRECAST CONCRETE (4,000 PSI MIN.) NO CAST IN PLACE FLOW CHANNELS. SLOPE OF BENCH TO BE 1/4"/FT. MIN. TOWARD CHANNEL.
6. MANHOLE FLOW CHANNEL SHALL BE SLOPED IN THE DIRECTION OF FLOW BY 0.1' MINIMUM DROP.
7. STONE BEDDING SHALL CONFORM TO SPECIFICATION 20.04-1 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.
8. A MINIMUM BENCH WIDTH OF 18" IS REQUIRED EITHER SIDE OF THE MAIN FLOW CHANNEL.
9. IF MANHOLE BOTTOM IS IN UNSUITABLE MATERIAL, SUITABLE FILL MATERIAL AND MIRAFI 140N OR APPROVED EQUAL FILTER FABRIC WILL BE REQUIRED PRIOR TO PLACEMENT OF BEDDING.

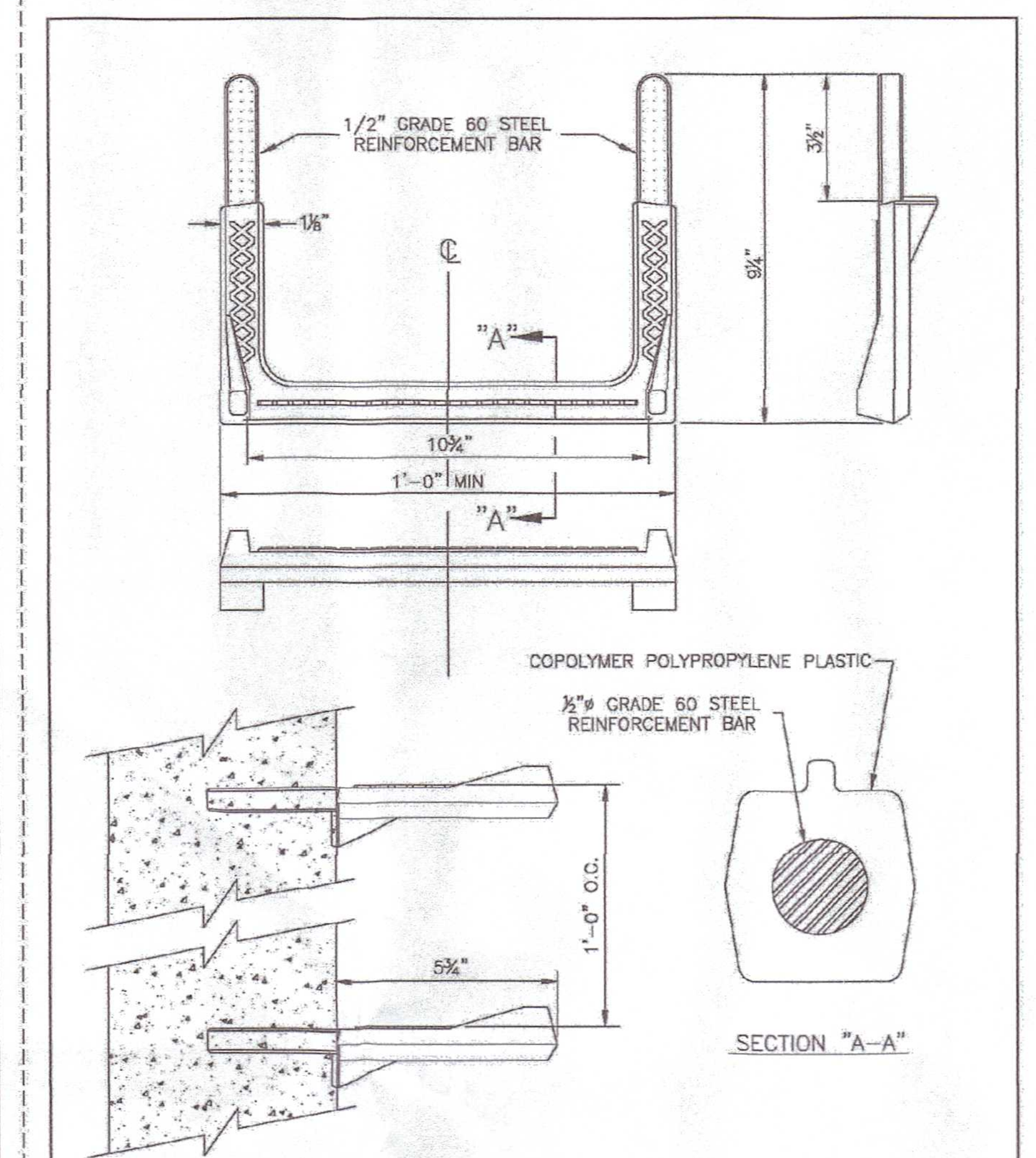
NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | PRECAST CONCRETE MANHOLE DETAIL (NTS) | NCC PLATE NO. SS-MH-1

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



NOTE: MANHOLE FRAME AND COVER SHALL BE BY EAST JORDAN IRON WORKS, NEENAH FOUNDRY OR APPROVED EQUAL.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | SANITARY SEWER DETAILS SELF SEALING MANHOLE FRAME & COVER | ISSUED 5/27/10, REVISED 12/02/10, REVISED 12/6/12, PLATE SS-MH-9

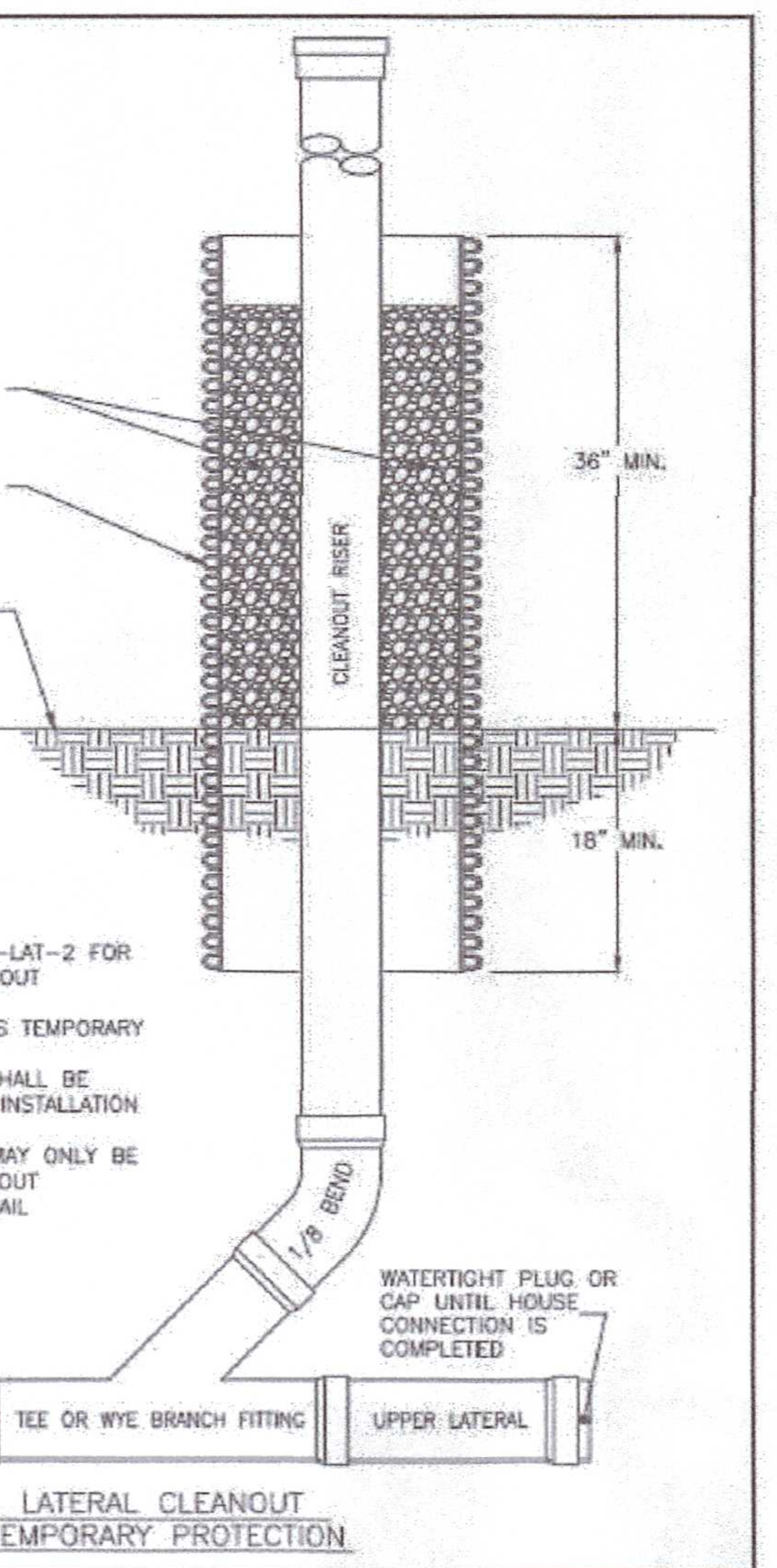


TYPICAL WALL SECTION

SECTION "A-A"

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | MANHOLE STEP DETAIL (NTS) | NCC PLATE NO. SS-MH-10

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019

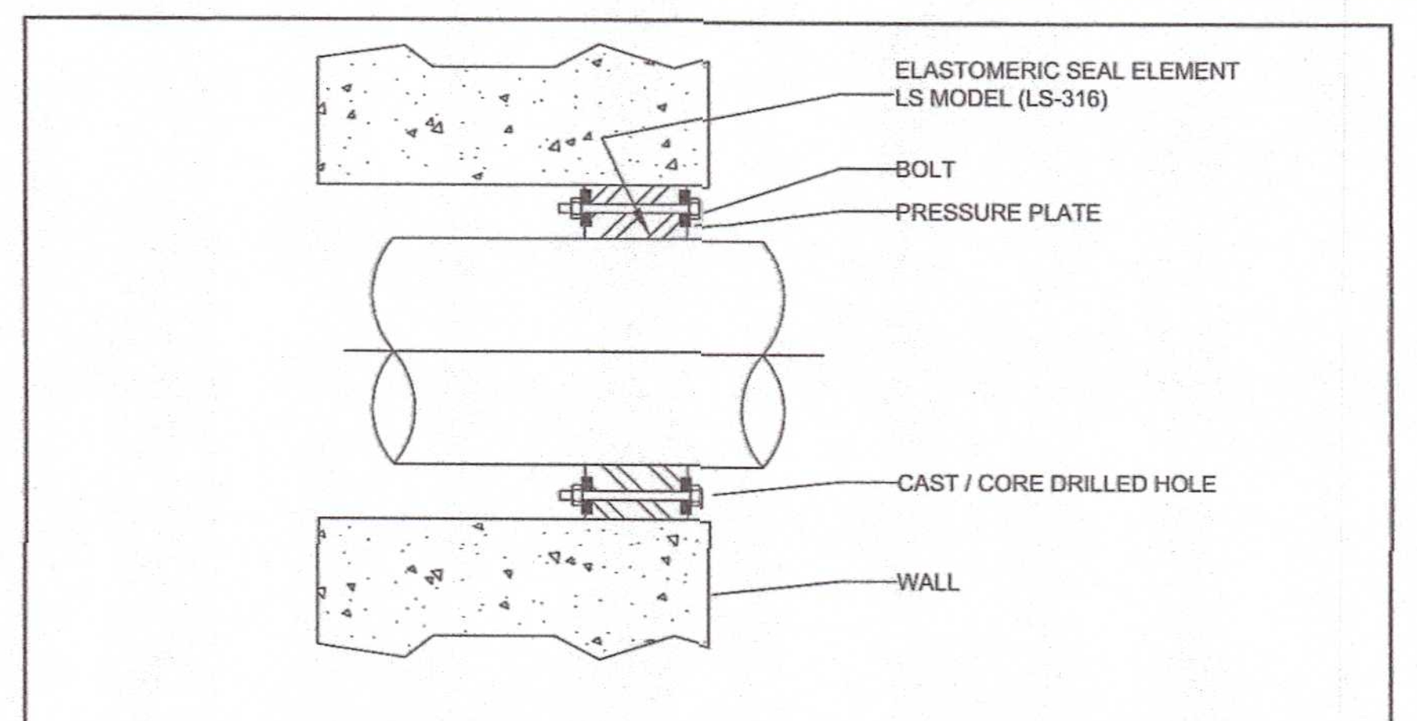


LATERAL CLEANOUT TEMPORARY PROTECTION

NOTES:
1. SEE LATERAL CLEANOUT DETAIL SS-LAT-2 FOR ADDITIONAL INFORMATION OF CLEANOUT MATERIALS, GENERAL NOTES, ETC.
2. HDPE PIPE SHALL BE INSTALLED AS TEMPORARY PROTECTION FOR LATERAL DURING CONSTRUCTION. HDPE PIPE SHALL BE INSTALLED IMMEDIATELY AFTER INSTALLATION OF LATERAL STAND PIPE.
3. TEMPORARY LATERAL PROTECTION MAY ONLY BE REMOVED WHEN PERMANENT CLEANOUT PROTECTION IS INSTALLED PER DETAIL SS-LAT-2.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | LATERAL CLEANOUT PROTECTION DETAIL (NTS) | NCC PLATE NO. SS-LAT-4

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/17/2023



TYPICAL SECTION

MODULAR SEAL CHART FOR SDR-26 PVC					
PIPE SIZE (NOM.)	ACTUAL O.D.	HOLE I.D.	LS SIZE	LINKS PER SEAL	LS MODEL
6	6.625	10.000	LS-475	10	LS-316
8	8.625	12.000	LS-475	12	LS-316
10	10.750	14.000	LS-475	14	LS-316
12	12.750	16.000	LS-475	17	LS-316
14	14.000	18.000	LS-575	16	LS-316
16	16.000	20.000	LS-575	18	LS-316
18	18.000	22.000	LS-575	20	LS-316
20	20.000	24.000	LS-475	26	LS-316
22	22.000	26.000	LS-575	24	LS-316
24	24.000	28.000	LS-475	31	LS-316

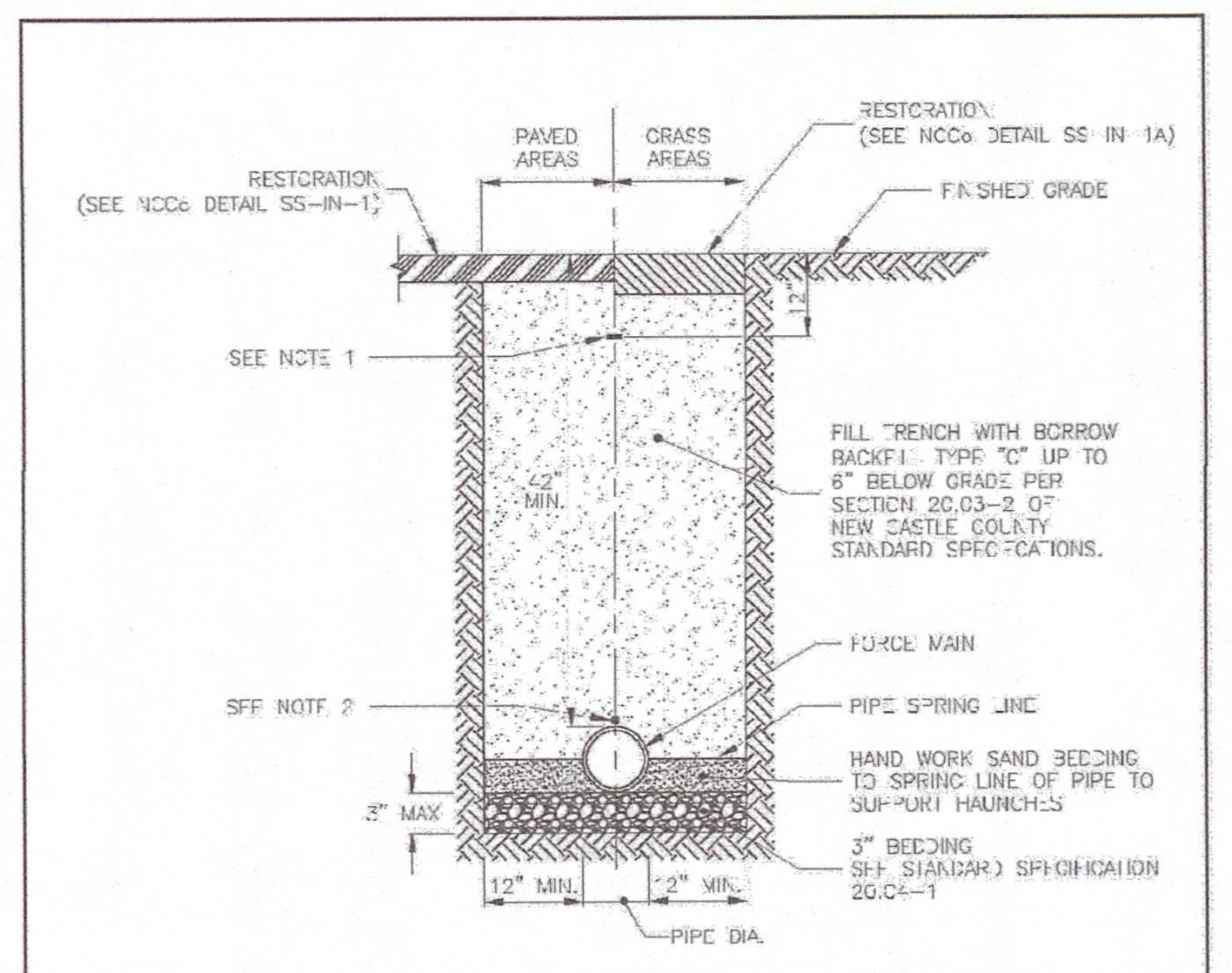
MODULAR SEAL CHART FOR DUCTILE IRON PIPE					
PIPE SIZE (NOM.)	ACTUAL O.D.	HOLE I.D.	LS SIZE	LINKS PER SEAL	LS MODEL
6	6.900	10.000	LS-410	10	LS-316
8	9.050	12.000	LS-400	9	LS-316
10	11.100	14.000	LS-400	10	LS-316
12	13.200	16.000	LS-360	21	LS-316
14	15.300	18.000	LS-360	24	LS-316
16	17.400	20.000	LS-360	27	LS-316
18	19.500	24.000	LS-525	17	LS-316
20	21.600	26.000	LS-525	19	LS-316
24	25.800	28.000	LS-425	23	LS-316

MODULAR SEAL:
TYPE: STAINLESS
SEAL ELEMENT: BLACK EPDM
PRESSURE PLATE: REINFORCED NYLON POLYMER
BOLTS & NUTS: 316 STAINLESS STEEL
TEMPERATURE RANGE: -40° TO +250°F

NOTES:
1. SEALS AS MANUFACTURED BY LINK SEAL OR APPROVED EQUAL.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | PIPE TO MANHOLE MODULAR SEAL FOR PVC OR DIP SEWER (SINGLE BELL) DETAIL (NTS) | NCC PLATE NO. SS-MH-13

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 6/8/2023

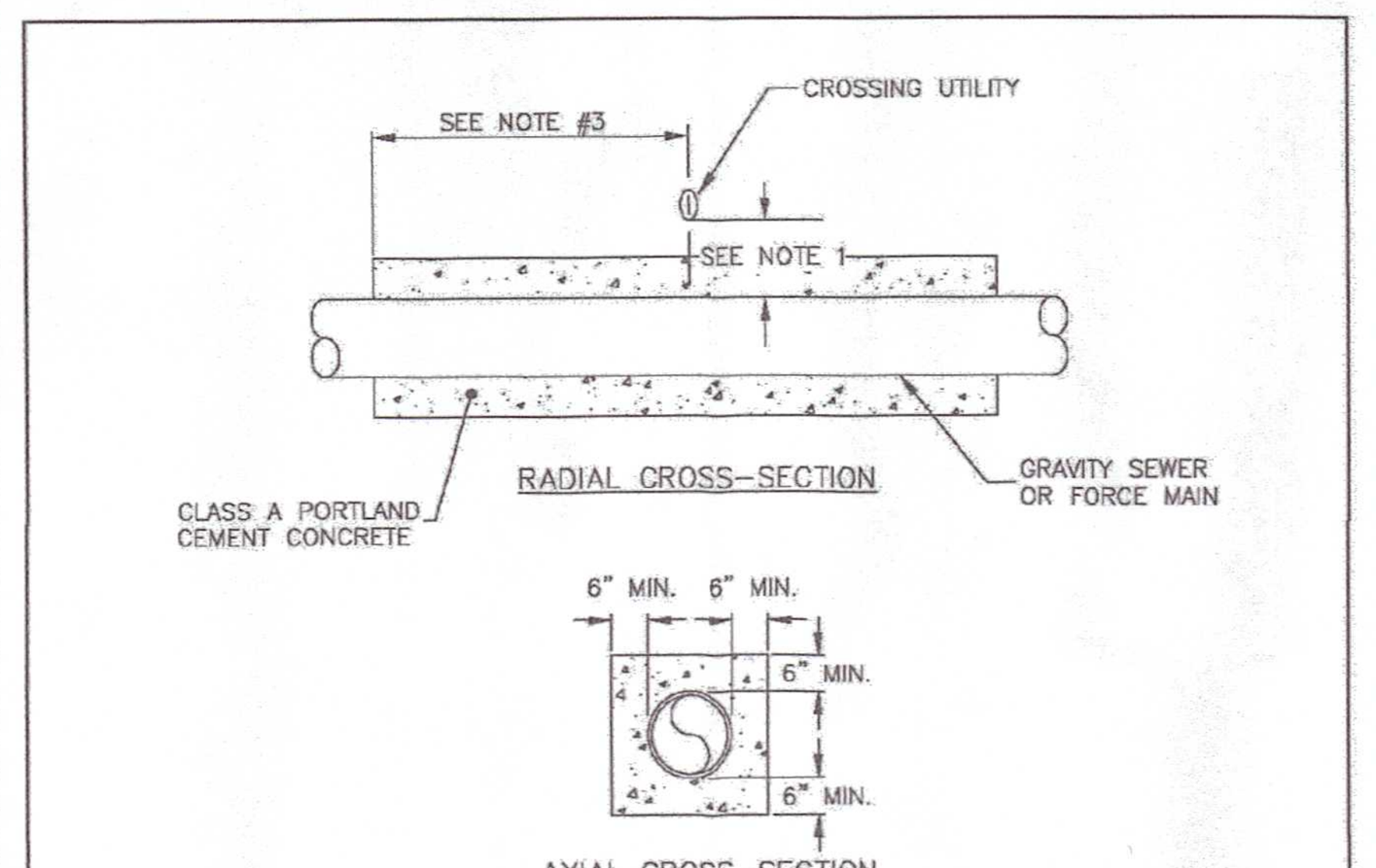


NOT TO SCALE

NOTES:
1. UNDERGROUND MARKING TAPE SHALL BE A (2", 3", 4", 6", OR 12" WIDTH), DETECTABLE MARKING TAPE, WITH A MINIMUM 5.0 MIL OVERALL THICKNESS. TAPE SHALL BE MANUFACTURED USING A 0.8 MIL CLEAR VIRGIN POLYPROPYLENE FILM, REVERSE PRINTED AND LAMINATED TO A 0.35 MIL SOLID ALUMINUM FOIL CORE, AND THEN LAMINATED TO A 3.75 MIL CLEAR VIRGIN POLYETHYLENE FILM. TAPE SHALL BE PRINTED USING A DIAGONALLY STRIPED DESIGN FOR MAXIMUM VISIBILITY, AND MEET THE APWA COLOR-CODE STANDARD FOR IDENTIFICATION OF BURIED UTILITIES. DETECTABLE MARKING TAPE SHALL BE PRO-LINE SAFETY PRODUCTS OR APPROVED EQUAL AND MADE IN THE USA.
2. PIPELINE DETECTABLE WIRE SHALL BE INSTALLED CONTINUOUSLY ALONG PIPE. WIRE SHALL BE HDPE INSULATED (GREEN), COPPER OR COPPER CLAD STEEL CORE, #12 AWG AND RATED FOR DIRECT BURIAL. SPLICING SHALL BE DONE WITH WATER AND CORROSION PROOF CONNECTORS RATED FOR DIRECT BURIAL. WIRE TO BE BROUGHT UP TO THE SURFACE AT THE BEGINNING AND TERMINATION OF THE PIPE, ALL TRACER STATIONS AND AT ANY IN-LINE VALVING (INTERIOR OF THE VALVE BOX). CONTRACTOR MUST PERFORM ELECTRICAL TESTING FOR CONTINUITY BEFORE ACCEPTANCE. DIRECTION DRILLING APPLICATIONS SHALL USE COPPER CLAD STEEL CORE WIRE.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | FORCE MAIN TRENCH DETAIL | NCC PLATE NO. SS-FM-3

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 2/24/2019



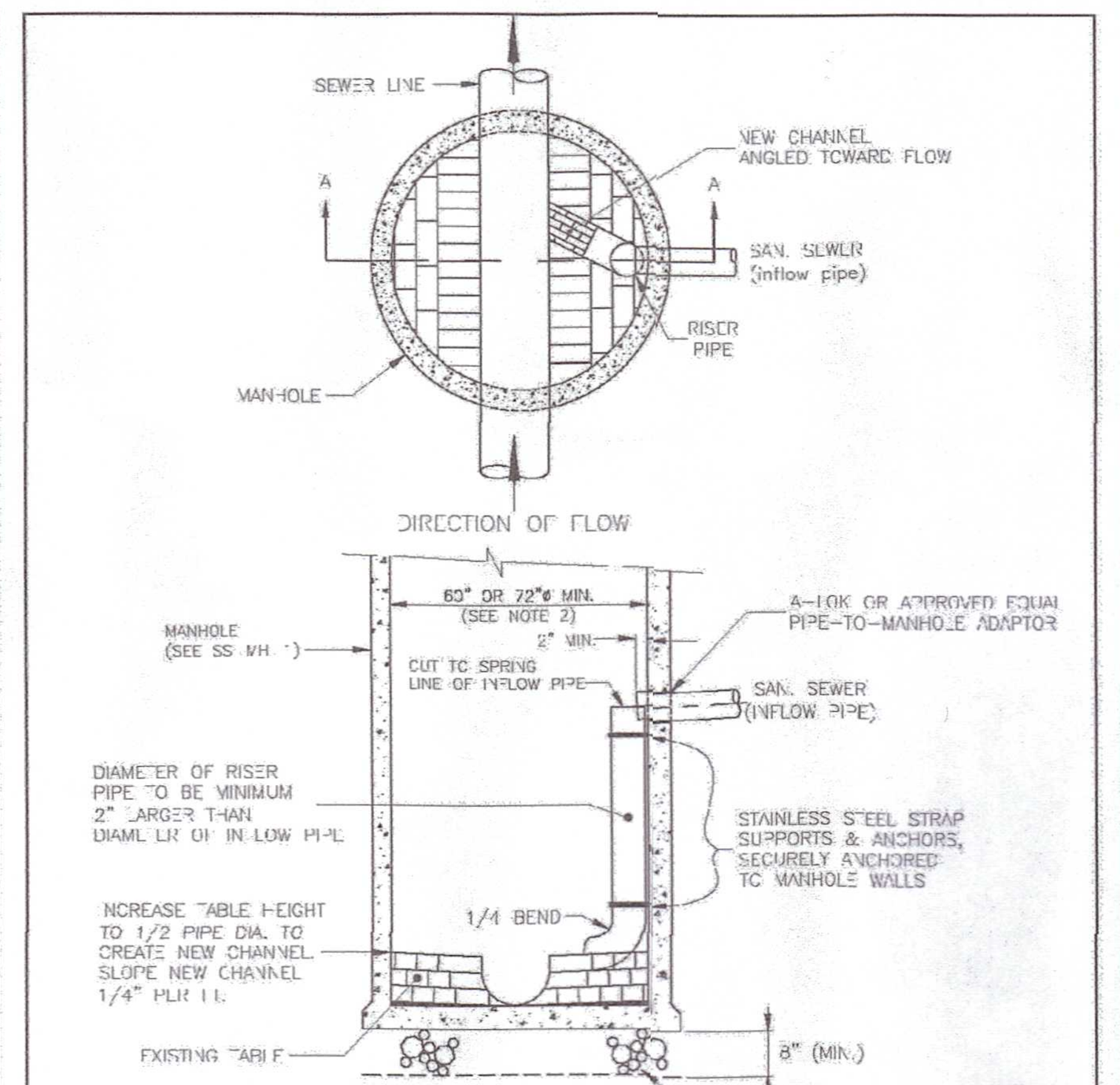
RADIAL CROSS-SECTION

AXIAL CROSS-SECTION

NOTES:
1. WHEN CROSSING UTILITY IS STORM SEWER
IF STORM SEWER IS LESS THAN 18"ø AND WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 2', CONCRETE SHALL FILL THE VOID BETWEEN THEM WHILE CRADLING THE STORM SEWER.
IF STORM SEWER IS EQUAL TO OR GREATER THAN 18"ø AND WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 3', CONCRETE SHALL FILL VOID BETWEEN THEM WHILE CRADLING THE STORM SEWER.
CROSSING UTILITY OTHER THAN STORM SEWER OR WATER MAIN:
WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS LESS THAN 12", CONCRETE SHALL FILL THE VOID BETWEEN THEM WHILE CRADLING THE CROSSING UTILITY.
WHERE THE VERTICAL SEPARATION FROM EITHER A GRAVITY SEWER OR FORCE MAIN IS 12" OR GREATER, THE CROSSING UTILITY SHALL BE SUPPORTED WITH AASHTO #57 STONE OR EQUIVALENT.
2. WHEN CROSSING UTILITY IS A WATER MAIN, SEE NCC PLATE NO. SS-MISC-4.
3. CONCRETE ENCASEMENT SHALL SPAN A MINIMUM DISTANCE OF 10' TO EITHER SIDE OF CROSSING UTILITY.
4. ALL CONCRETE SHALL BE 4,000 P.S.I. MINIMUM.
5. THE VERTICAL SEPARATION SHALL NOT BE LESS THAN 6".

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | CONCRETE ENCASEMENT DETAIL FOR UTILITY CROSSING (NTS) | NCC PLATE NO. SS-UC-1

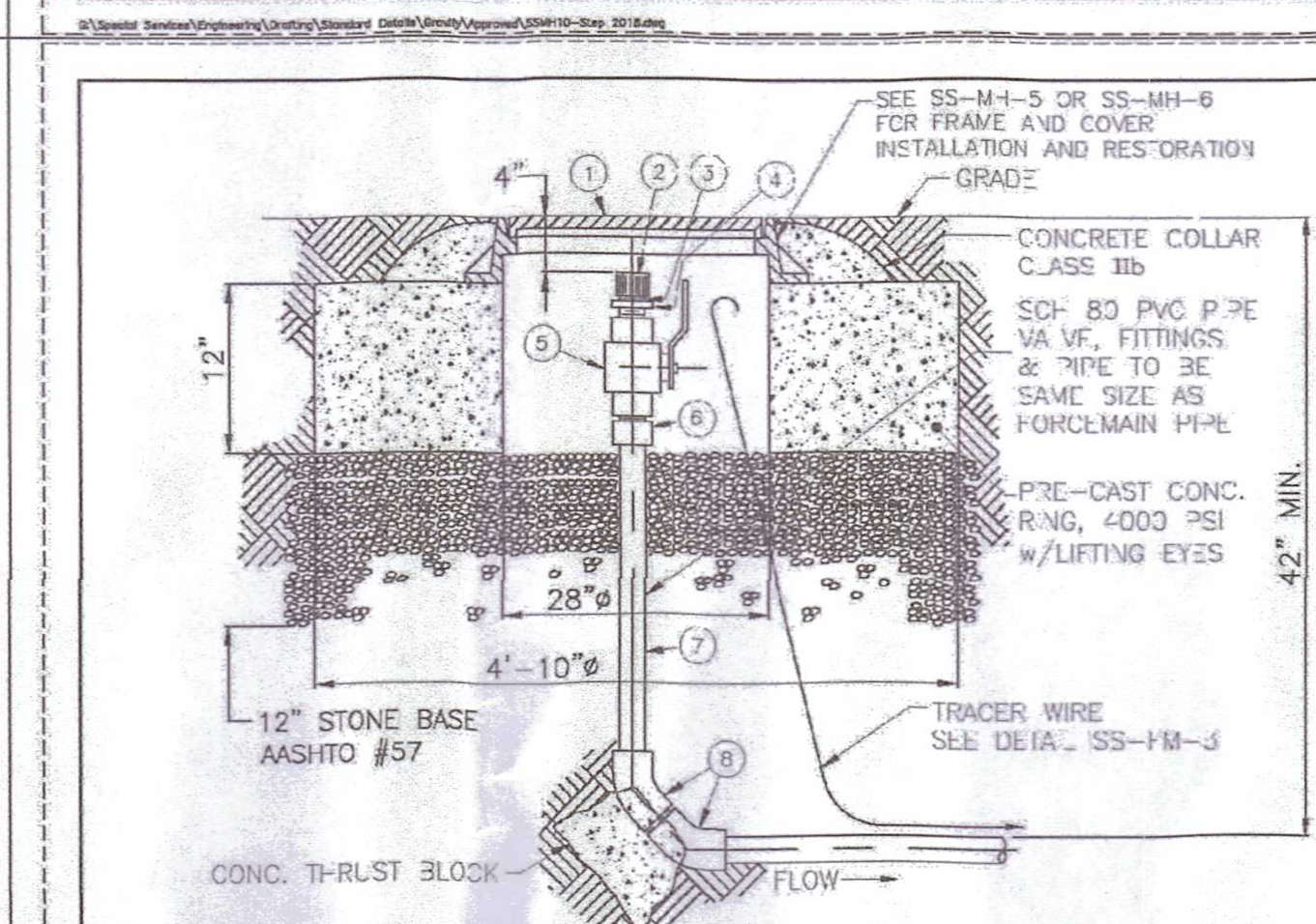
THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/10/2019



CROSS SECTION A-A

NOTES:
1. IF VERTICAL DISTANCE BETWEEN INVERT OF PROPOSED SANITARY SEWER INFLOW PIPE AND INVERT OF EXISTING CHANNEL IS 2' OR LESS, RECONSTRUCT EXISTING CHANNEL/TABLE TO MEET INVERT OF PROPOSED INFLOW PIPE.
2. THE MINIMUM DIAMETER OF AN INSIDE DROP MANHOLE SHALL BE 60". IF THE DIAMETER OF THE PROPOSED SANITARY SEWER INFLOW PIPE IS GREATER THAN 8" OR MULTIPLE DROP CONNECTIONS ARE PROPOSED, MANHOLE SHALL BE 72" IN DIAMETER. WHEN CONNECTING TO AN EXISTING MANHOLE LESS THAN 60", THE MANHOLE SHALL BE REPLACED.
3. STONE BEDDING SHALL CONFORM TO SECTION 20.04-1 OF THE NEW CASTLE COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | SANITARY SEWER DETAILS GRAVITY INSIDE DROP MANHOLE | ISSUED 5/27/10, REVISED 12/05/11, REVISED, DETAIL SS-MH-3



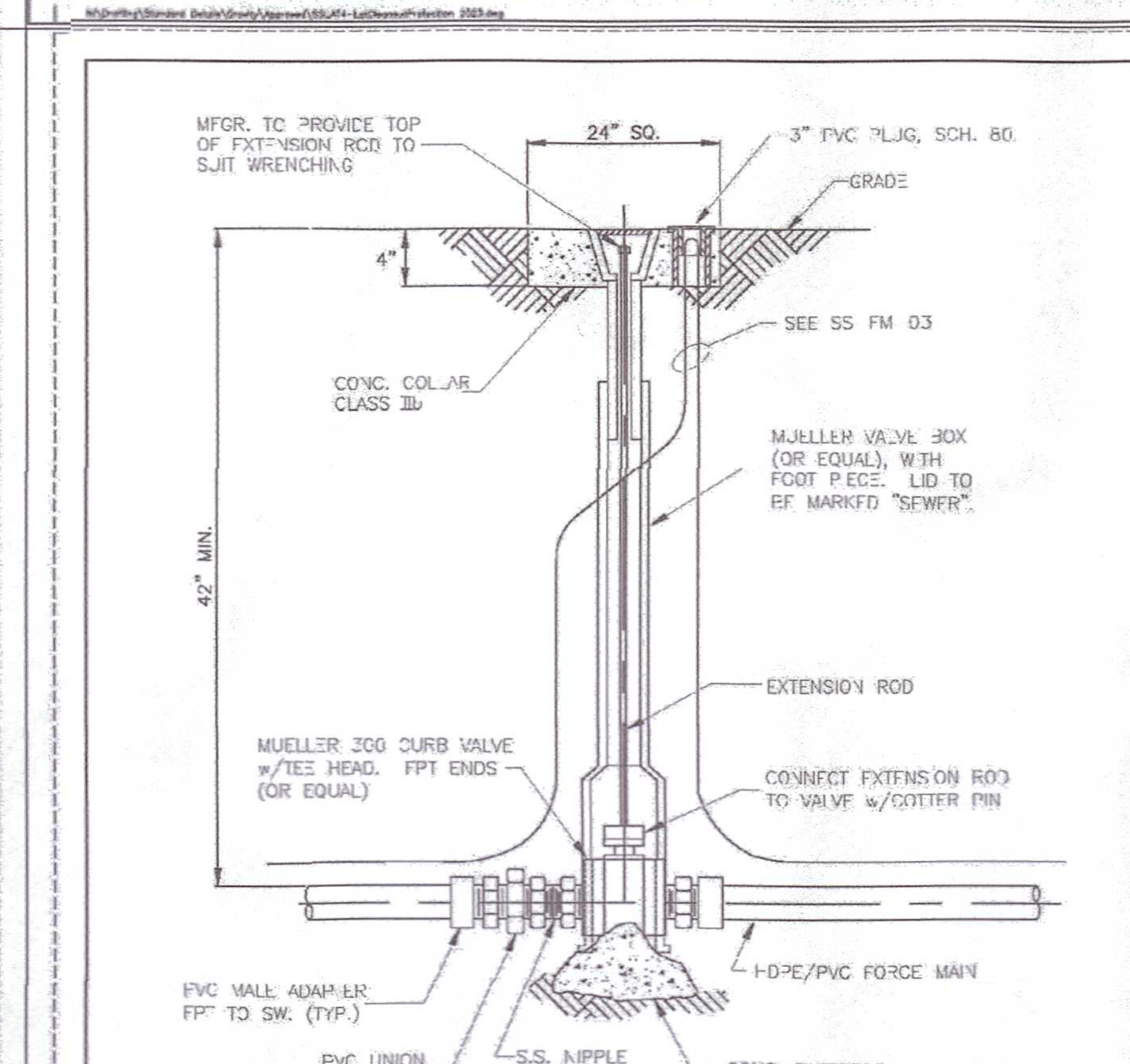
ITEM	DESCRIPTION
1.	NCCo STD. MANHOLE FRAME & COVER SEE DETAIL SS-MH-9
2.	#8 WATT VACUUM BREAKER, BRASS, WITH HOSE CONNECTION OR EQUAL
3.	3/4" CLOSE NIPPLE
4.	SCH 80 REDUCING BUSHING MPT TO FPT (VALVE SIZE TO 3/4")
5.	NIBCO/SCOTT FULL PORT BALL VALVE STN. STL. BALL FPT x FPT OR EQUAL
6.	SCH 80 PVC MALE ADAPTER MPT TO SOCKET
7.	SCH 80 PVC/HDPE PIPE, LENGTH TO SUIT
8.	PVC 45 DEGREE BEND, SOCKET WELD

NOTES:
1. INSTALL TERMINAL CLEANOUT AT BEGINNING OF EVERY BRANCH OR AT BENDS.
2. PLACE WARNING TAPE 12" BELOW GRADE ALONG ENTIRE LENGTH OF FORCEMAIN.
3. IF PRIVATELY OWNED AND LOCATED OUTSIDE ROAD RIGHT OF WAY IN GRASS AREA, PLASTIC METER BOX AND COVER MAY BE SUBSTITUTED FOR MANHOLE FRAME AND COVER. LID SHALL BE MARKED "SEWER".
4. IF PRIVATELY OWNED AND WITHIN VEHICULAR TRAFFIC AREA, MANHOLE COVER SHALL BE MARKED "SEWER".

(NOT TO SCALE)

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | TERMINAL/FLUSHING CLEANOUT FORCE MAIN UNDER 3"ø | NCC PLATE NO. SS-FM-7

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/24/2016

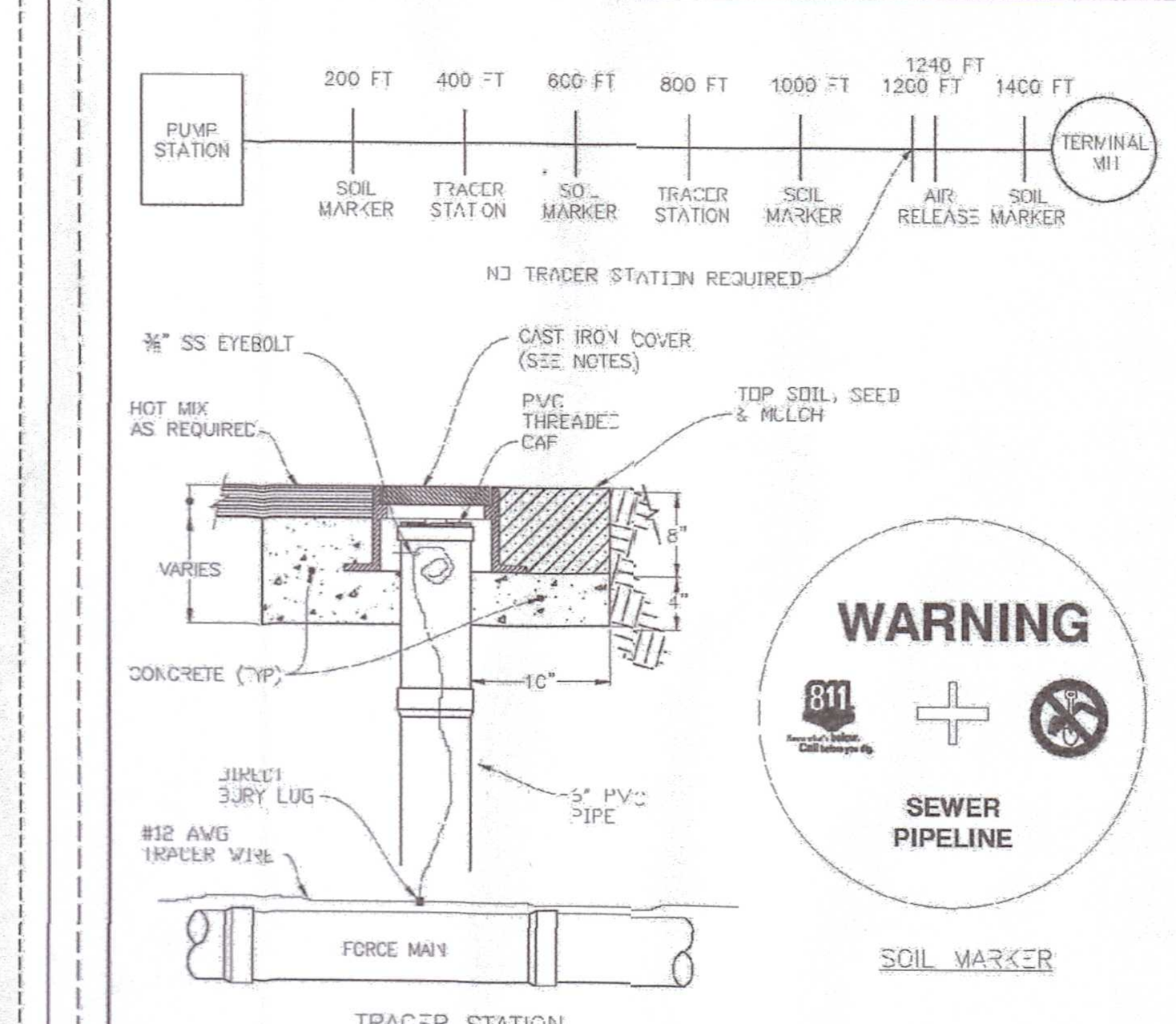


(NOT TO SCALE)

NOTE:
PLACE WARNING TAPE 12" BELOW GRADE ALONG ENTIRE LENGTH OF FORCE MAIN.

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | BURIED VALVE FORCE MAIN UNDER 3"ø | NCC PLATE NO. SS-FM-9

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 5/27/2010



NOTES:
1. INSTALL TRACER STATION EVERY 400 FEET ALONG FORCE MAIN
2. GRASS AREAS ONLY, PLACE SOIL MARKER EVERY 200 FEET BETWEEN TRACER STATIONS. RHINO 700 SERIES, P/N: SMSP-100-811 OR APPROVED EQUAL
3. TRACER STATION AND SOIL MARKERS ARE NOT REQUIRED IF WITHIN 100 FEET CLEANOUT OR AIR RELEASE MANHOLE.
3.1. MATERIAL: 6" SDR 26, PIPE AND FITTINGS
3.2. CASTINGS: EAST JORDAN IRON WORKS, MODEL 1574 OR APPROVED EQUAL.
3.3. COVER SHALL BE MARKED "SEWER" OR "S".
3.4. KNOT TRACER WIRE AROUND EYEBOLT AND COIL ENOUGH WIRE TO EXTEND 12" ABOVE GROUND
3.5. EYEBOLT SHALL BE WITHIN 3 INCHES OF THE PVC CAP

NEW CASTLE COUNTY, DELAWARE — DEPARTMENT OF PUBLIC WORKS | FORCE MAIN MARKERS | NCC PLATE NO. SS-FM-10

THIS DETAIL IS SUBJECT TO REVISION. VERIFY WITH NEW CASTLE COUNTY, DEPARTMENT OF PUBLIC WORKS, CORRECTNESS OF DETAIL PRIOR TO IMPLEMENTATION. LAST REVISED: 6/03/2013

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CHRISTOPHER D. DUKE — LICENSE No. 16378 — DELAWARE PROFESSIONAL ENGINEER

PROJECT TITLE

FOLEY CAT / BEAR

APPLICATION #: 2023-0225

CONSTRUCTION PLANS

720 PULASKI HIGHWAY
NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

CONSTRUCTION DETAILS

ISSUE BLOCK

MARK	DATE	DESCRIPTION
11.	1/10/24	AGENCY SUBMISSION
10.	1/9/24	AGENCY SUBMISSION
9.	1/4/24	AGENCY SUBMISSION
8.	12/19/23	AGENCY SUBMISSION
7.	11/28/23	AGENCY SUBMISSION
6.	11/02/23	AGENCY SUBMISSION
5.	10/11/23	BID SET
4.	9/22/23	AGENCY SUBMISSION

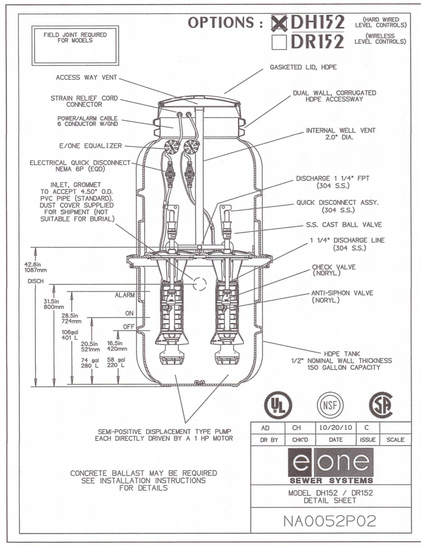
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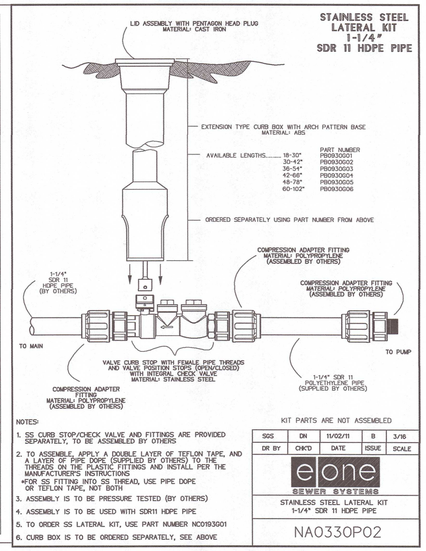
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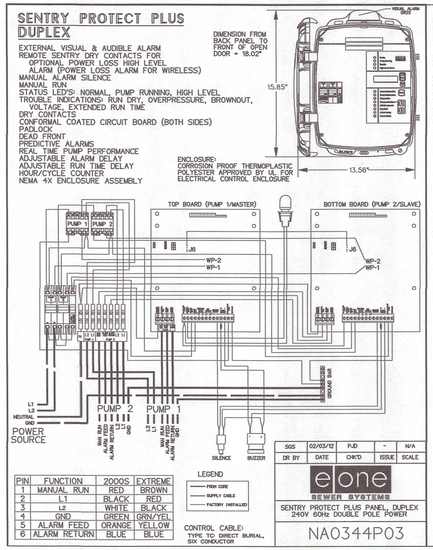
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C-901

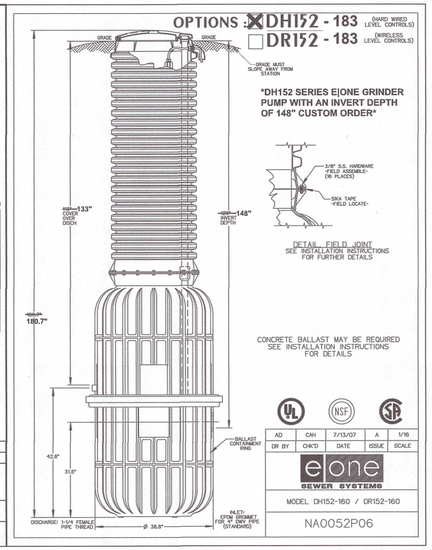
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PUMP STATION DESIGN SUMMARY:

Pump Design Data

* SEE DETAILED PUMP CALCULATIONS FOR MORE INFORMATION

Average Daily Flow=	(Site Specific Data - Fixture Count)	2,250 gpd
Average Daily Flow=		1.56 gpm
Peak Factor (New Castle County) =		4.0
Peak Flow =		6.25 gpm
Design Pump Rate =		13.51 gpm
Length of 1.25" PE Force Main (Includes Equivalent Length) =		660.6'
Velocity =		3.07 ft./sec

Pumping Station Design Summary

Ground Elevation at the Wet Well =	59.52'
Top of Wet Well Elevation =	59.52'
Force Main Discharge Elevation =	48.43'
Influent Pipe =	47.19'
High Level Alarm =	46.83'
Lead Pump On =	46.17'
Pump Off Elevation =	45.83'
Bottom of Wet Well Elevation =	44.46'
Total Depth of Wet Well =	15.06'
Pump Down Time (min.):	2.8
Wet Well Fill Time (min.):	3.3
Total Cycle Time (min.):	6.1
Number Starts per hour:	9.8
Seasonal High Groundwater Elevation:	37.00'
Pump Station Ballast Required:	YES

Pumps:	E-One D Series duplex Grinder Pump Station Package, 1 HP Semi-Displacement Grinder Pumps. Integrated Anti-Siphon and Check Valves, Quick Disconnect Piping and NEMA 4X Electrical
Motors :	1 Phase, 120/240 Volt, 1,725 RPM, 1 HP, 60Hz
Starter:	Capacitor Start
Controls:	Integrated Pressure Switch
Auxiliary Power:	Foley CAT / Bear Wash Building
External Alarms:	Audio and Visual Alarms at Station

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PROJECT TITLE

FOLEY CAT / BEAR

APPLICATION #: 2023-0225

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NEW CASTLE HUNDRED
NEW CASTLE COUNTY, DE

SHEET TITLE

SANITARY SEWER DETAILS

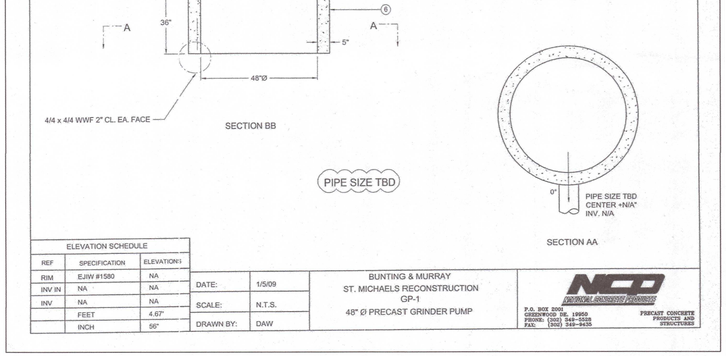
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MARK	DATE	DESCRIPTION

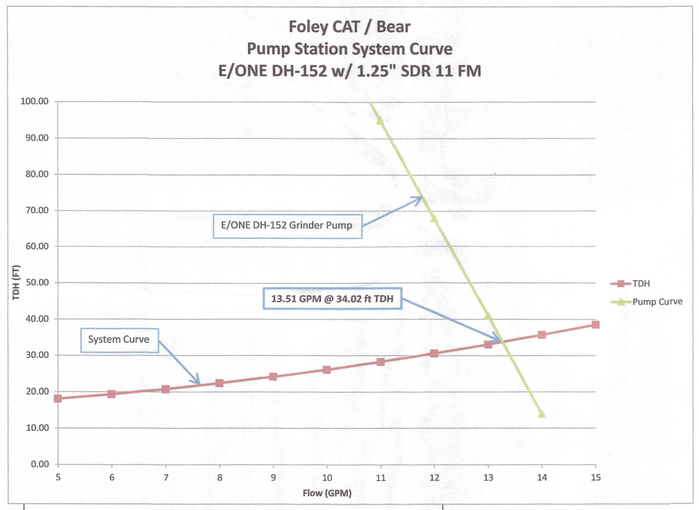
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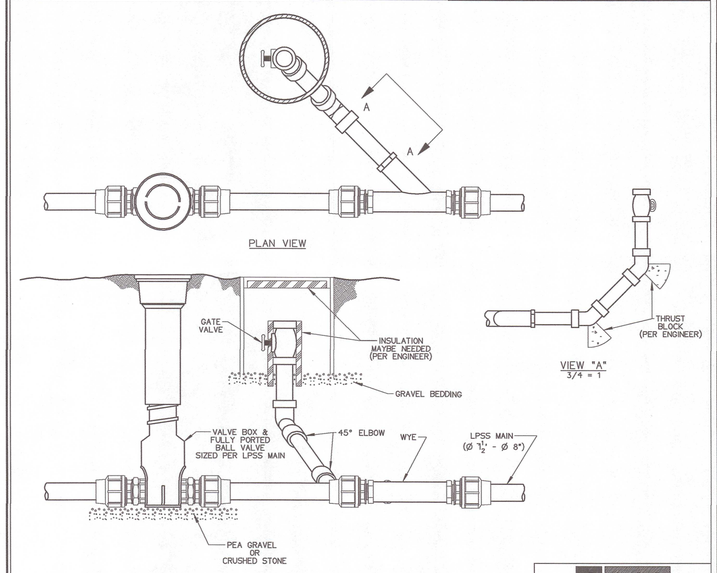
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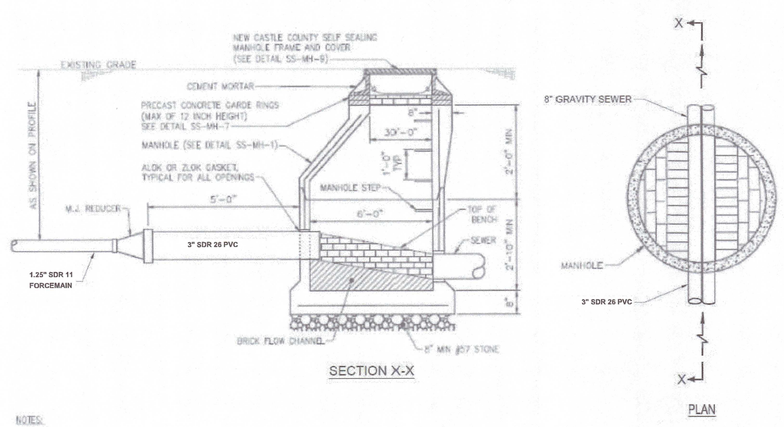
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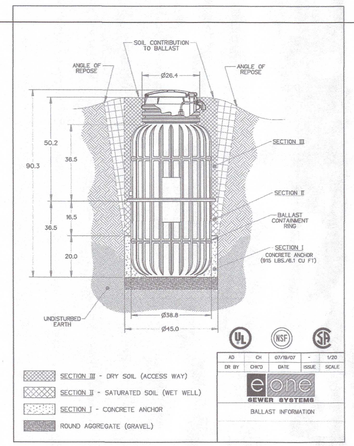






DETAIL OF FORCE MAIN DISCHARGE MANHOLE

N.T.S.



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