

BOLTON AND BALFOUR LANE SINK HOLE REPAIR

TOWNSHIP OF WILLINGBORO, BURLINGTON COUNTY, NEW JERSEY

PREPARED FOR:

OWNER

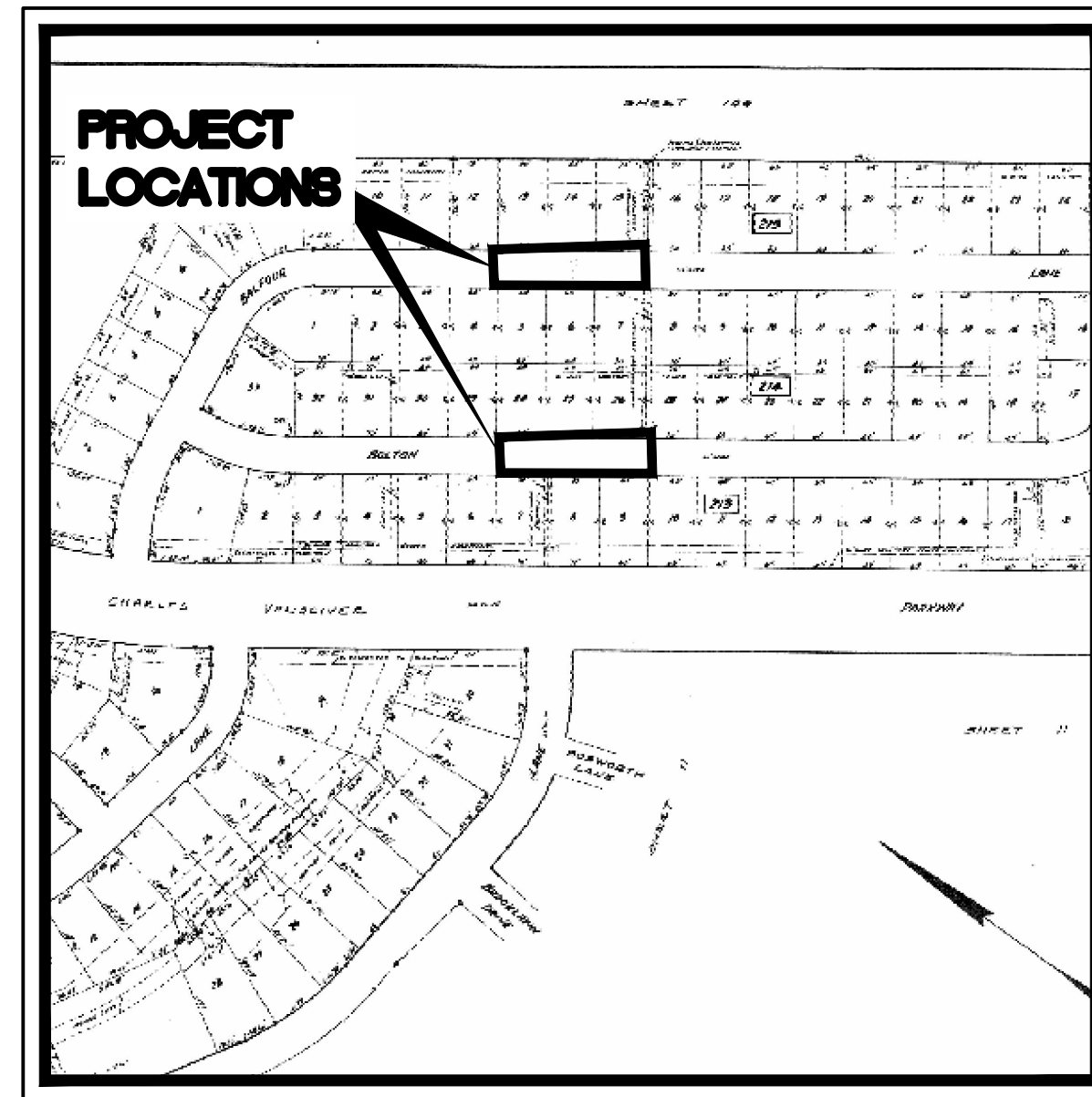
TOWNSHIP OF WILLINGBORO

1 REV DR MARTIN LUTHER KING JR DRIVE

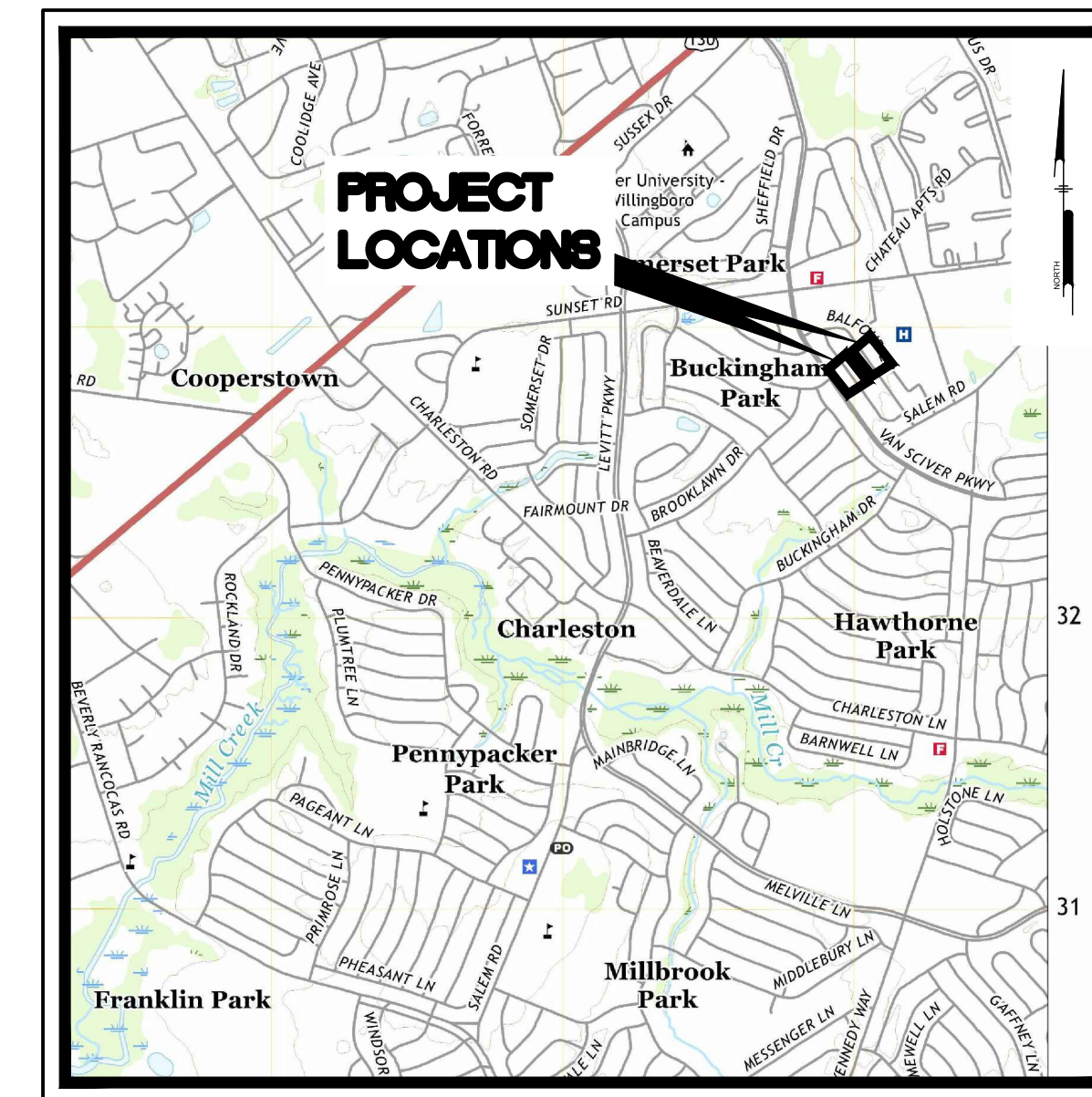
WILLINGBORO, NJ 08046



SOILS MAP
Scale: 1" = 1000'



LOCATION MAP
Scale: NTS



USGS MAP
Scale: 1" = 2000'

PREPARED BY:

PENNONI ASSOCIATES INC.



515 Grove Street, Suite 1B
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NEW JERSEY



CALL BEFORE YOU DIG
1-800-272-1000

CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY ONE-CALL DAMAGE PREVENTION SYSTEM AS STATED IN THE "UNDERGROUND FACILITY PROTECTION ACT".



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NJ COA. NO. G428033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

HUGH J. DOUGHERTY
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. GE34634

11/10/2022

Hugh Dougherty

BOLTON AND BALFOUR LANE SINK HOLE REPAIRS
WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY

COVER SHEET/ KEY PLAN

WILLINGBORO TOWNSHIP
1 REV DR MARTIN LUTHER KING JR RD
WILLINGBORO, NJ 08046

NO.	DATE	REVISIONS	BY

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PROJECT: WTCEX21040
DATE: JANUARY 10, 2022
DRAWING SCALE: AS NOTED
DRAWN BY: SMR
APPROVED BY: HJD

CM0001

SHEET 1 OF 8

LEGEND

GENERAL NOTES:

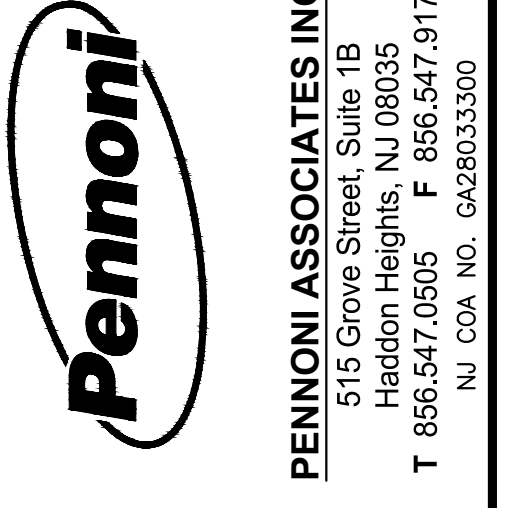
- CURB RAMPS AND SIDEWALKS THAT ARE CONSTRUCTED NOT IN COMPLIANCE WITH ADA ACCESSIBILITY REQUIREMENTS INCLUDING MAXIMUM RUNNING SLOPES, MAXIMUM CROSS SLOPES, LANDING AREA LOCATION AND SIZE, DIVERGING SIDEWALK DROP OFF PROTECTION, BLENDED TRANSITIONS, BLENDED TRANSITION RUNNING SLOPES AND CROSS SLOPES, FLARE WIDTHS, GRADE BREAKS AND GRADE BREAK DIRECTIONS, CLEAR SPACE SIZE AND LOCATION, WILL NOT BE ACCEPTED.
- NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2019 AND CURRENT AND SUPPLEMENTARY SPECIFICATIONS THERETO GOVERN.
- SUPPLEMENTARY SPECIFICATIONS FOR STATE AID PROJECTS APPLY.
- REFER TO CURRENT "NJDOT STANDARD ROADWAY CONSTRUCTION-TRAFFIC CONTROL-BRIDGE CONSTRUCTION DETAILS 2019" FOR ADDITIONAL GUIDANCE.
- ALL DIMENSIONS, QUANTITIES AND EXISTING PHYSICAL CHARACTERISTICS OF THE WORK AREA SHALL BE REVIEWED AND FIELD VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING A BID, MATERIAL ORDERING OR FABRICATION OF ANY PART OF THE WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- PRIOR TO THE START OF ANY OF THE CONSTRUCTION THE CONTRACTOR SHALL CALL THE "ONE CALL" NUMBER (1-800-272-1000) FOR UTILITY MARKOUT LOCATION AND NOTIFICATION. THE CONFIRMATION NUMBER SHALL BE GIVEN TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION.
- IT IS THE OBLIGATION AND COST OF THE CONTRACTOR TO CONDUCT HIS OWN SUBSURFACE INVESTIGATIONS AS HE MAY DEEM NECESSARY. THIS INVESTIGATION SHALL BE COMPLETED PRIOR TO BID SUBMITTAL TO DETERMINE ANY UNIQUE CONDITIONS OR MATERIALS THAT MAY EXIST WHICH COULD EFFECT THE CONSTRUCTION OR COST. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY SUCH FINDINGS.
- EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK PREMOLDED BITUMINOUS IMPREGNATED MATERIAL FOR THE FULL DEPTH OF THE THINNER MATERIAL. COST FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT COST OF EITHER SIDEWALK, CURB, OR APRON, WHICHEVER APPROPRIATE, IN THE BID PROPOSAL.
- WHERE NEW SIDEWALK IS TO BE INSTALLED ADJACENT TO EXISTING SIDEWALK, DRIVEWAY, POLE, ETC., AN EXPANSION JOINT SHALL BE PLACED BETWEEN EACH AND THE NEW SIDEWALK ELEVATION SHALL MATCH THAT OF THE EXISTING IMPROVEMENT.
- EXISTING ITEMS NOTED ON THE PLANS FOR REMOVAL ARE INTENDED TO BEGIN AND TERMINATE AT EXISTING JOINTS HOWEVER, WHERE A JOINT DOES NOT EXIST THEN THE CONTRACTOR WILL BE REQUIRED TO "SAW CUT" TO MAKE AN EVEN, STRAIGHT LINE SEPARATION. THE COST OF THIS ITEM SHALL BE INCLUDED IN THE COST FOR EACH UNIT LISTED IN THE APPROPRIATE BID PROPOSAL ITEM.
- EXTREME CARE SHALL BE EXERCISED BY THE CONTRACTOR WHEN REMOVING EXISTING SIDEWALK, CURB OR DRIVEWAY MATERIAL SO AS NOT TO DISTURB ADJACENT IMPROVEMENTS. ADJACENT IMPROVEMENTS DISTURBED DURING REMOVAL OF THE NOTED ITEMS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- ALL CONCRETE SHALL BE 28 DAY AIR ENTRAINED (3% TO 5%) CONCRETE. CONCRETE COMPRESSIVE STRENGTH OF (F'C) 4000 PSI MINIMUM SHALL BE DEVELOPED UNLESS NOTED OTHERWISE.
- ALL EDGES (VERTICAL/HORIZONTAL) BETWEEN EXISTING PAVEMENT OR NEW/EXISTING CURB AND NEW PAVEMENT SHALL HAVE TACKCOAT APPLIED. COST FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT COST FOR HMA SURFACE COURSE LISTED IN THE BID PROPOSAL.
- MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) AS DEFINED AND DESCRIBED IN THE SPECIFICATION'S SHALL BE STRICTLY FOLLOWED. A DETOUR PLAN SHALL NOT BE PERMITTED. COST FOR THIS ITEM SHALL BE INCLUDED IN THE COST FOR EACH UNIT LISTED IN THE BID PROPOSAL.
- SANITARY SEWER CLEANOUTS IN CONCRETE REPLACEMENT/INSTALLATION AREAS SHALL RECEIVE A CAST IRON STREET BOX WITH "SEWER" LETTERED IN THE UID.
- EXISTING UTILITIES INCLUDING PRIVATE LAWN SPRINKLER HEADS, WATER METER(S), VALVE BOXES, CLEAN OUTS, CURB STOPS, ETC. SHALL BE ADJUSTED TO MATCH THE FINISHED GRADE BY THE CONTRACTOR; COST FOR THIS ITEM SHALL BE INCLUDED IN AND DISTRIBUTED AMONG THE ITEMS IN THE BID PROPOSAL. WHERE UTILITIES OCCUR IN THE CONCRETE AREAS, THE ITEM SHALL BE EITHER "BOXED OUT" AND GROUTED WITH NON-SHRINK GROUT OR RAISED TO FINISHED GRADE THEN THE CONCRETE POURED. THE END RESULT REQUIRED IS THAT NO CHANGE IN ELEVATION SHALL REMAIN AFTER THE CONSTRUCTION IS COMPLETED.
- SIDEWALK AREAS THAT SHALL BE REMOVED AND REPLACED ARE GENERALLY NOTED PHYSICALLY WITH A PAINT SLOPCH. PRIOR TO THE REMOVAL OF ANY SIDEWALK THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER OR HIS REPRESENTATIVE THE EXACT EXTENT AND QUANTITY.
- CONCRETE SIDEWALK ADJACENT TO PROPOSED HANDICAP RAMPS SHALL BE REPLACED AS NEEDED TO PROVIDE AN ADA-COMPLIANT RAMP.
- CONTRACTOR IS RESPONSIBLE FOR SAW CUTTING ANY EXISTING CONCRETE (EX: FACE FORM POURS) THAT PROTRUDES INTO NEW ROADWAY.
- CONTRACTOR SHALL ENSURE THAT STORMWATER WILL NOT BECOME TRAPPED AT EXISTING DRIVEWAY APRONS.

LEGEND

LEGEND

Item #	Description	Quantity
Base Bid		
1	Mobilization	1 LS
2	Excavation (Unclassified)	73 CY
3	HMA 9.5M64 Surface Course, 2" Thick	257 SY
4	HMA 19M64 Base Course, 2" Thick	257 SY
5	Dense Graded Aggregate, 6" Thick	257 SY
6	Dense Graded Aggregate, Variable Thick	10 CY
7	Rolled Concrete Curb	61 LF
8	Clean & TV (15" to 42") Stormwater Line	330 LF
9	Install 15" CIPP Liner	20 LF
10	Install 18" CIPP Liner	20 LF
11	Install 42" CIPP Liner	290 LF

SHEET #	CM	TITLE	DATE	LAST REVISED
1	CM0001	COVER SHEET/KEY PLAN	1/10/2022	
2	CM0002	GENERAL NOTES	1/10/2022	
3	CM1001	BOLTON LANE - SITE PLAN	1/10/2022	
4	CM1002	BALFOUR LANE - SITE PLAN	1/10/2022	
5	CM6001	CONSTRUCTION NOTES	1/10/2022	
6	CM8501	SOIL EROSION AND SEDIMENT CONTROL PLAN	1/10/2022	



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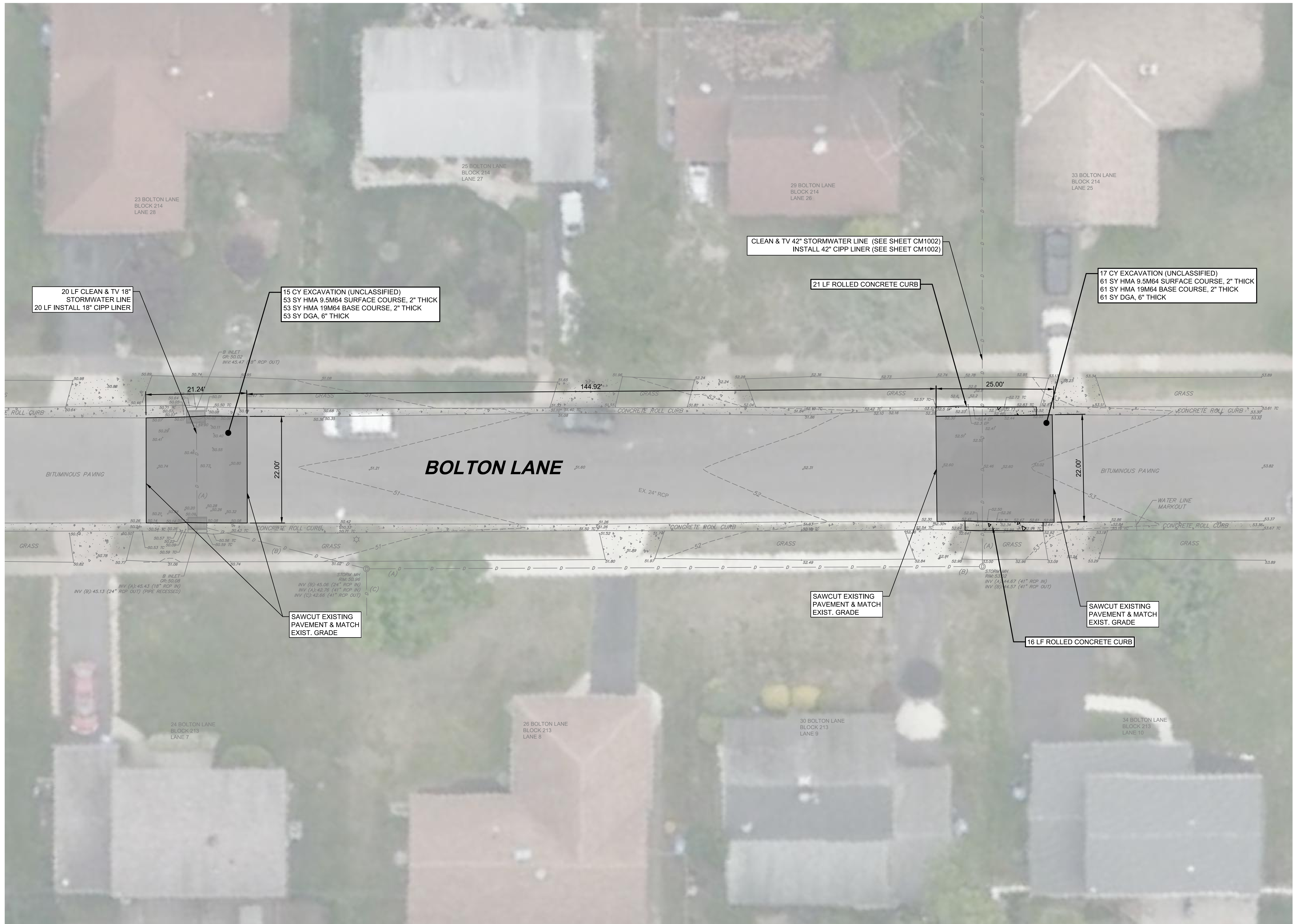
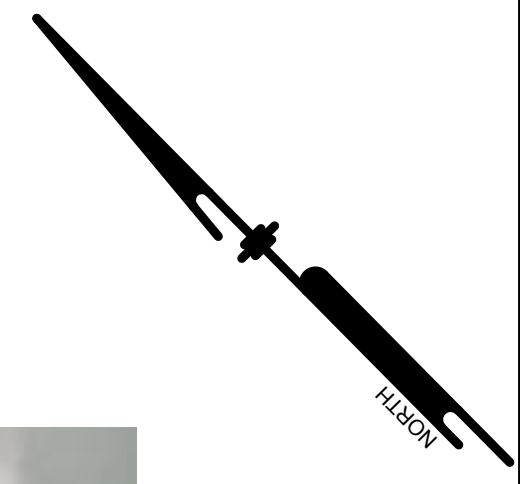
BOLTON AND BALFOUR LANE SINK HOLE REPAIRS
 WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY

NO.	DATE	REVISIONS	BY

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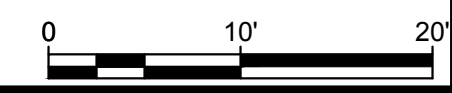
PROJECT: **WTCEX21040**
 DATE: JANUARY 10, 2022
 DRAWING SCALE: AS NOTED
 DRAWN BY: SMR
 APPROVED BY: HJD


PLOTTED: 1/10/2022 2:52 PM BY: Sean Reilly PROJECT STYLE: U:\Account\HJT\CEX\WTCEX21040 - Bolton and Balfour Lane Sink Hole Repair\CM0002_SHEETS\CM0001.dwg

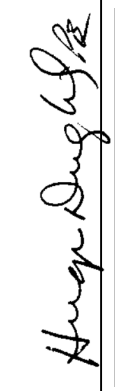


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 PLOTFILE: Pennon\NCS.dwg
 PROJECT STATUS:

BOLTON LANE SINK HOLE REPAIR
 SCALE: 1" = 10'




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 11/02/22

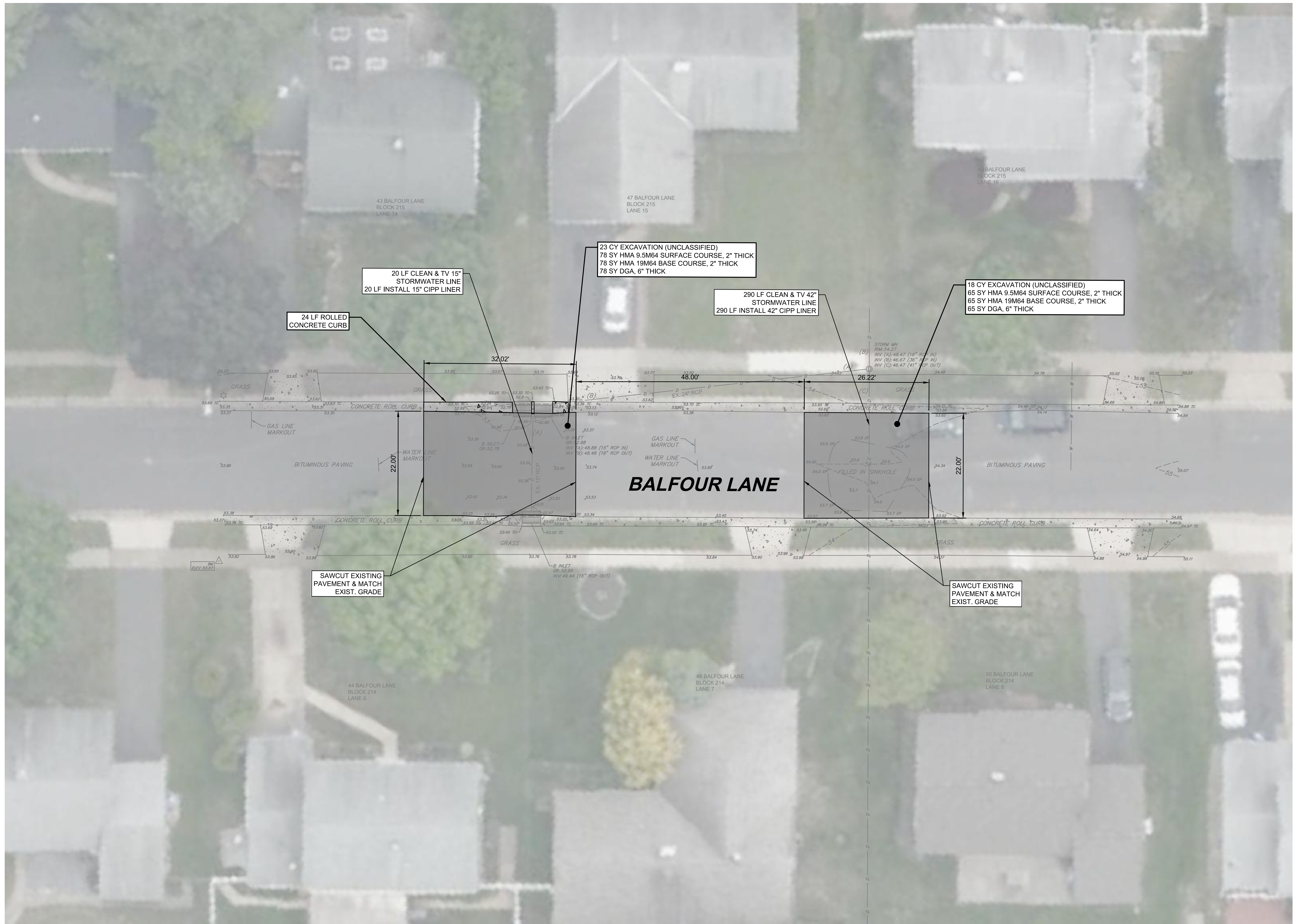
BOLTON AND BALFOUR LANE SINK HOLE REPAIRS
 WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY
3 - BOLTON LANE - SITE PLAN
 WILLINGBORO TOWNSHIP
 1 REV DR MARTIN LUTHER KING JR RD
 WILLINGBORO, NJ 08046

NO.	DATE	REVISIONS	BY

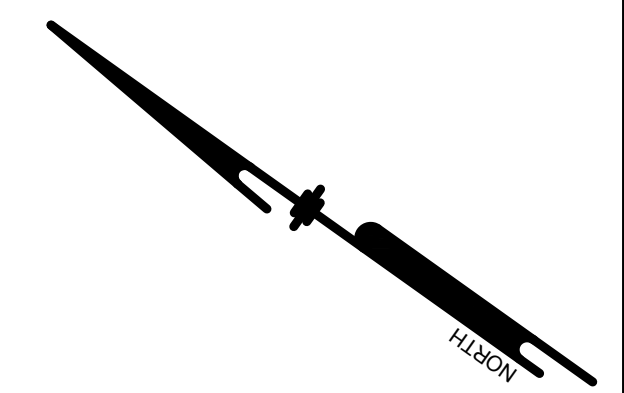
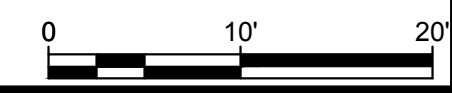
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PROJECT	WTCEX21040
DATE	JANUARY 10, 2022
DRAWING SCALE	1"=20'
DRAWN BY	SMR
APPROVED BY	HUD

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 PROJECT STATUS:

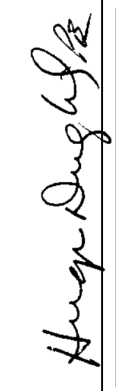


BALFOUR LANE SINK HOLE REPAIR
 SCALE: 1" = 10'



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 PROFESSIONAL ENGINEER
 NEW JERSEY LICENSE NO. GE34634

11/10/2022


BOLTON AND BALFOUR LANE SINK HOLE REPAIRS
 WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY

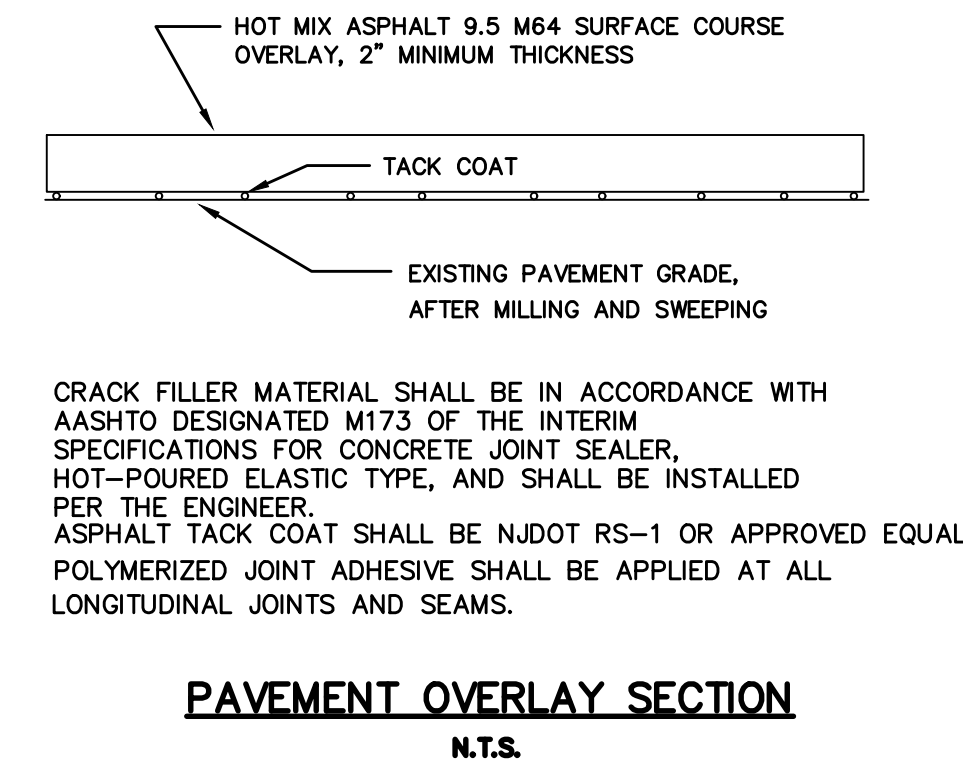
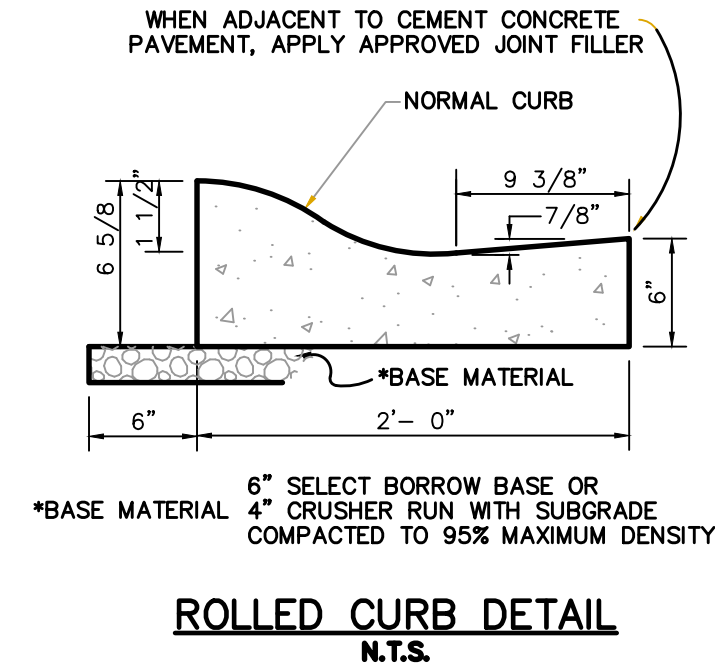
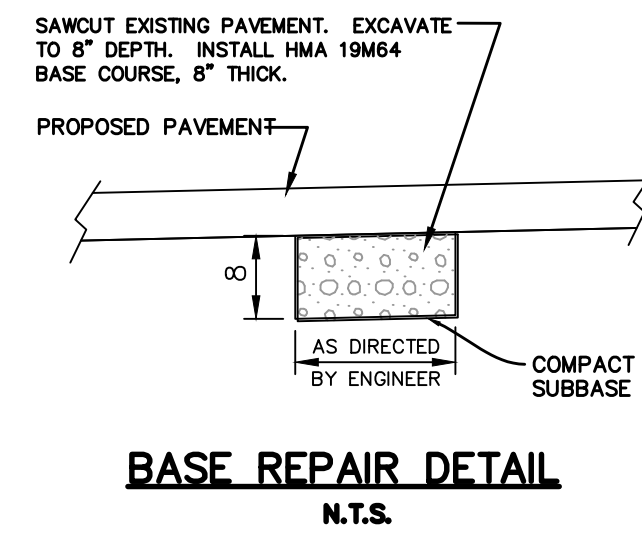
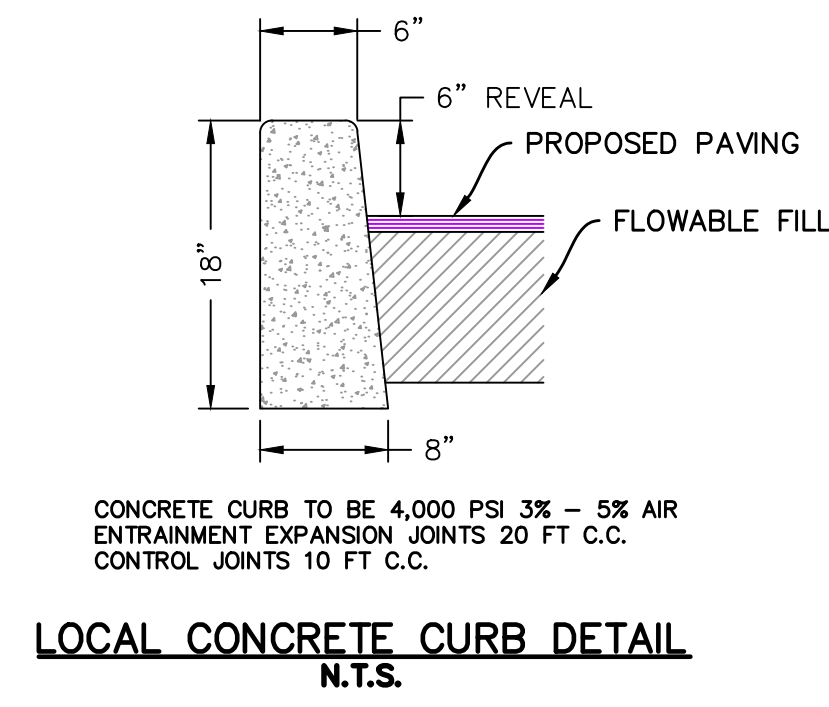
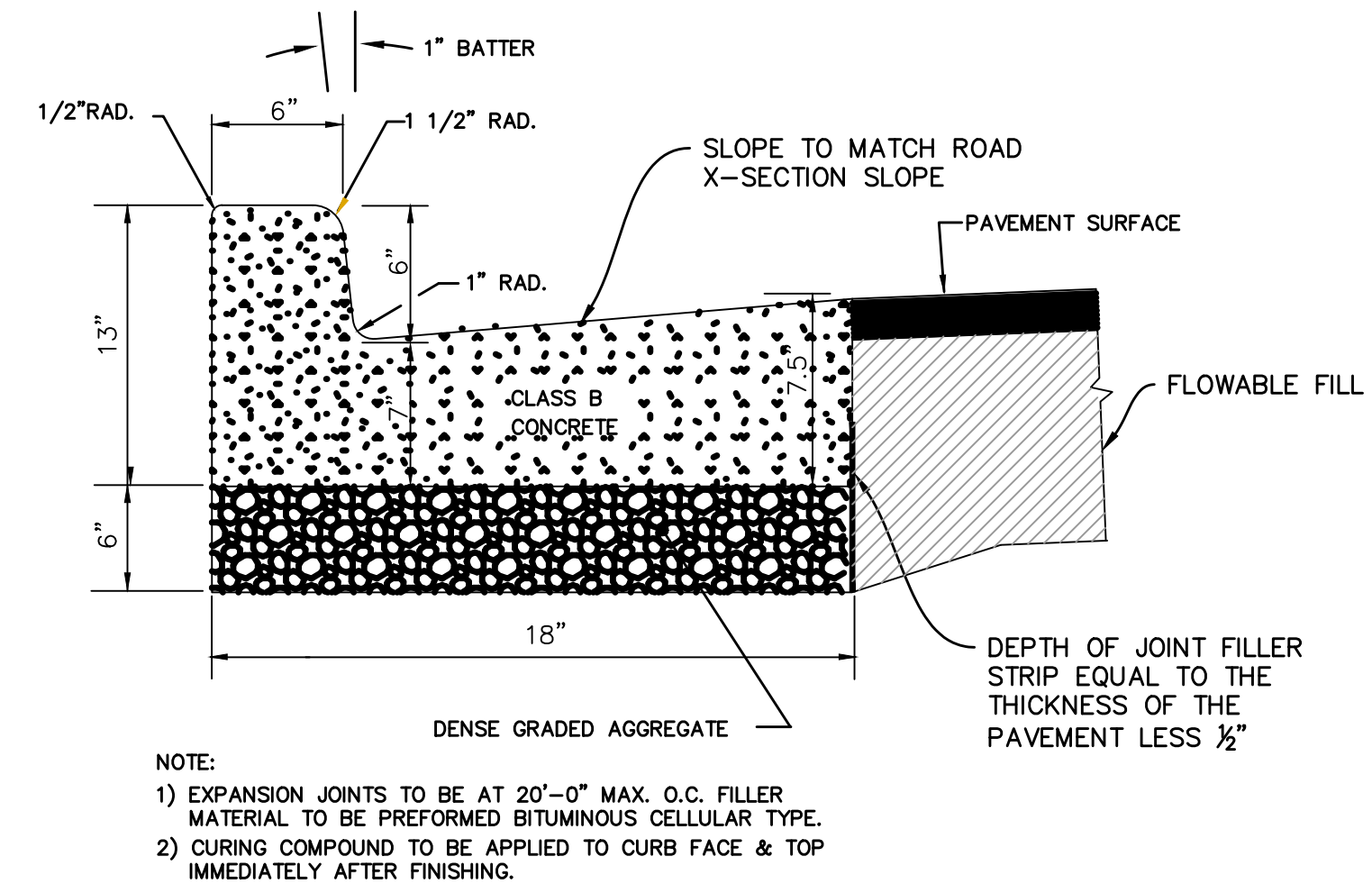
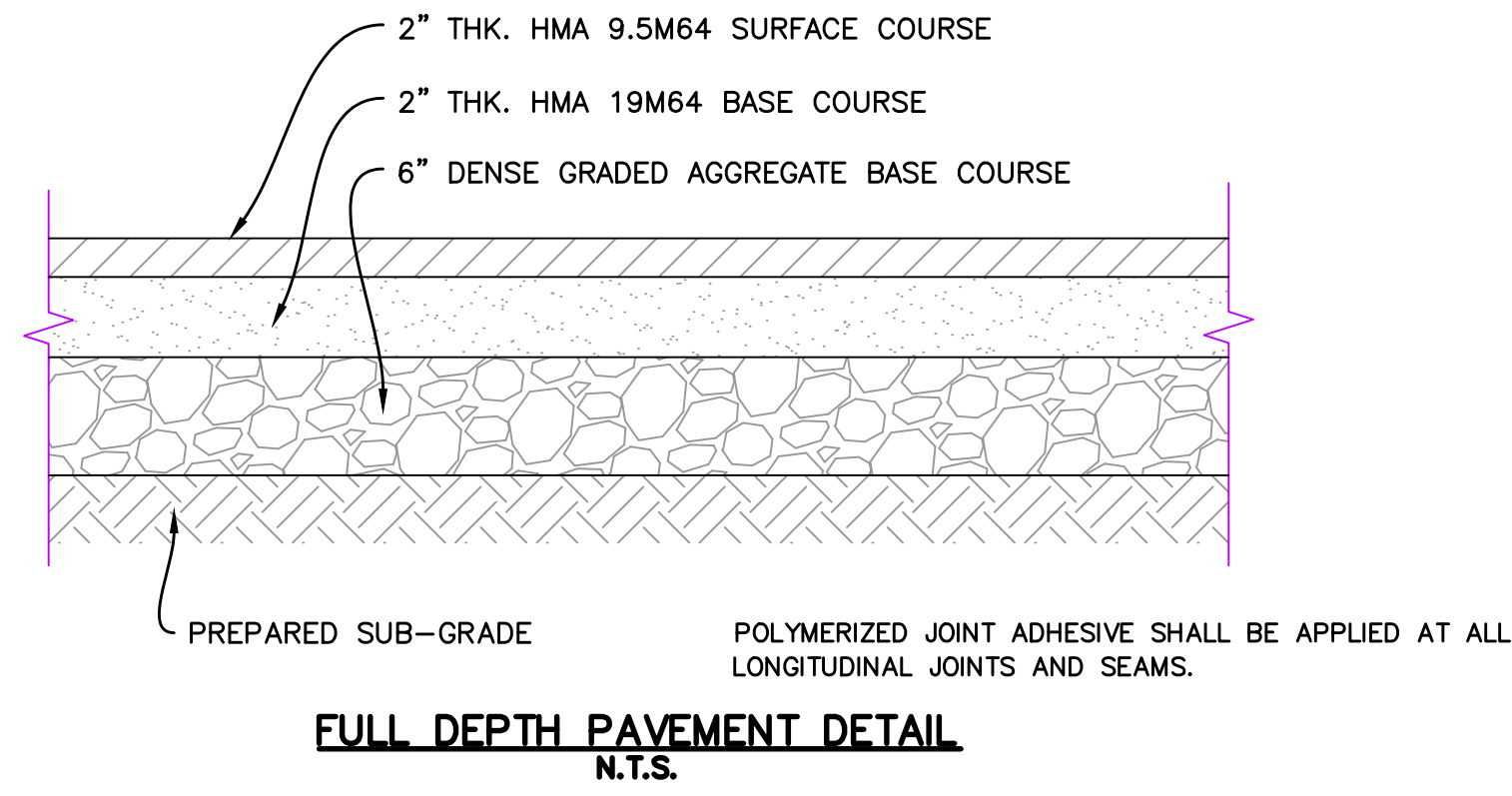
4 - BALFOUR LANE - SITE PLAN

WILLINGBORO TOWNSHIP
 1 REV DR MARTIN LUTHER KING JR RD
 WILLINGBORO, NJ 08046

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PROJECT: WTCEX21040
 DATE: JANUARY 10, 2022
 DRAWING SCALE: 1"=20'
 DRAWN BY: SMR
 APPROVED BY: HJD



Pennoni

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11/02/2022

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BOLTON AND BALFOUR LANE SINK HOLE REPAIRS
WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY

CONSTRUCTION DETAILS

WILLINGBORO TOWNSHIP
1 REV DR MARTIN LUTHER KING JR RD
WILLINGBORO, NJ 08046

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PROJECT: WTCEX21040
DATE: JANUARY 10, 2022
DRAWING SCALE: N.T.S.
DRAWN BY: SMR
APPROVED BY: HJD

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GENERAL

THE CONTRACTOR SHALL SCHEDULE AND CONDUCT HIS OPERATIONS TO MINIMIZE EROSION OF SOILS AND TO PREVENT SILTING AND MUDDYING OF STREAMS, RIVERS, IRRIGATION SYSTEMS AND IMPOUNDMENTS (LAKES, RESERVOIRS, ETC.). CONSTRUCTION OF DRAINAGE FACILITIES AND PERFORMANCE OF THEIR CONTRACT WORK WHICH WILL CONTRIBUTE TO THE CONTROL OF EROSION AND SEDIMENTATION SHALL BE CARRIED OUT IN CONJUNCTION WITH EARTHWORK OPERATIONS OR AS SOON THEREAFTER AS PRACTICABLE. THE AREA OF BARE SOIL EXPOSED AT ANY ONE TIME BY CONSTRUCTION OPERATIONS SHALL BE KEPT TO A MINIMUM.

PRIOR TO A SUSPENSION OF CONSTRUCTION OPERATIONS FOR A PERIOD OF 20 DAYS OR MORE, ANY AREA THAT HAS BEEN DISTURBED AND LEFT EXPOSED SHALL RECEIVE TEMPORARY STABILIZATION.

WHEN BORROW MATERIAL IS OBTAINED FROM OTHER THAN COMMERCIAL OPERATED SOURCES, EROSION OF THE BORROW SITE SHALL BE SO CONTROLLED BOTH DURING AND AFTER COMPLETION OF THE WORK THAT EROSION WILL BE MINIMIZED AND SEDIMENT WILL NOT ENTER STREAMS OR OTHER BODIES OF WATER. WASTE OR DISPOSAL AREAS AND CONSTRUCTION ROADS SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT WILL KEEP SEDIMENT FROM ENTERING STREAMS.

FREQUENT FORDING OF LIVE STREAMS WILL NOT BE PERMITTED; THEREFORE, TEMPORARY BRIDGES OR OTHER STRUCTURES SHALL BE USED WHEREVER AN APPRECIABLE NUMBER OF STREAM CROSSINGS ARE NECESSARY. UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEERS, MECHANIZED EQUIPMENT SHALL BE NOT OPERATED IN LIVE STREAMS.

WHEN WORK AREAS OR GRAVEL PITS ARE LOCATED IN OR ADJACENT TO LIVE STREAMS, SUCH AREAS SHALL BE SEPARATED FROM THE MAIN STREAM BY A DIKE OR OTHER BARRIER TO KEEP SEDIMENT FROM ENTERING A FLOWING STREAM. CARE SHALL BE TAKEN DURING THE CONSTRUCTION AND REMOVAL OF SUCH BARRIERS TO MINIMIZE THE MUDDYING OF A STREAM.

WATER FROM AGGREGATE WASHING OR OTHER OPERATIONS CONTAINING SEDIMENT SHALL BE TREATED BY FILTRATION, A SETTLING BASIN OR OTHER MEANS SUFFICIENT TO REDUCE THE SEDIMENT CONTENT TO NOT MORE THAN THAT OF THE STREAM INTO WHICH IT IS DISCHARGED.

POLLUTANTS SUCH AS FUELS, LUBRICANTS, BITUMENS, RAW SEWAGE AND OTHER HARMFUL MATERIALS SHALL NOT BE DISCHARGED INTO OR NEAR RIVERS, STREAMS AND IMPOUNDMENTS OR INTO NATURAL OR MANMADE CHANNELS LEADING THERETO. WASH WATER OR WASTE FROM CONCRETE MIXING OPERATIONS SHALL NOT BE ALLOWED TO ENTER LIVE STREAMS.

ALL APPLICABLE REGULATIONS OF FISH AND WILDLIFE AGENCIES AND STATUTES RELATING TO THE PREVENTION AND ABATEMENT OF POLLUTION SHALL BE COMPLIED WITH IN THE PERFORMANCE OF THE CONTRACT.

MAINTENANCE

ALL WATERWAYS SHALL BE CLEARED AS SOON AS PRACTICABLE OF FALSEWORK, PILING, DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS AND NOT A PART OF THE FINISHED WORK.

SEDIMENTATION COLLECTED IN THE DETENTION BASIN SHALL BE REMOVED AFTER IT HAS BUILT UP TO THE ELEVATION OF THE BEGINNING OF THE PERFORATIONS IN THE RISER PIPE. ALL SILT COLLECTED SHALL BE PLACED BACK UP ON THE SITE.

SEEDING AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED, AS NECESSARY, AND THEN RESEEDED. ADDITIONAL HAY MULCHING SHALL BE APPLIED TO RETAIN THE SEED UNTIL IT HAS A CHANCE TO ROOT PROPERLY.

AREAS THAT CONTAIN SOD SHALL BE CHECKED VERY CAREFULLY TO ENSURE THAT JOINTS BETWEEN THE SOD STRIPS ARE TIGHT AND SECURE. WHERE JOINT SEPARATION IS IN EVIDENCE, A CAREFUL INSPECTION OF EACH JOINT SHALL BE MADE TO DETERMINE WHETHER UNDERMINING OF THE STRIPS IS OCCURRING. IF IT IS, THE STRIPS SHALL BE ROLLED UP, THE SUBSURFACE SHALL BE FILLED AND GRADED, AS REQUIRED, AND THE SOD STRIPS SHALL BE RELAID WITH THE PROPER JOINTS AND PEGGING.

THE ABOVE PROCEDURE FOR SEEDING AND SODDED AREAS SHALL BE REPEATED AFTER EACH RUNOFF PRODUCING RAIN UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT.

A GOOD STAND OF VEGETATION SHALL BE DEFINED AS THE MANUFACTURER'S RECOMMENDED HEIGHT.

SHOULD UNFORESEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT. SPECIAL ATTENTION SHOULD BE GIVEN TO FROZEN SLOPES. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

DURING CONSTRUCTION THE CONTRACTOR WILL BE RESPONSIBLE FOR SOIL EROSION CONTROL MAINTENANCE. AFTER CONSTRUCTION THE OWNER WILL BE RESPONSIBLE FOR MAINTAINING THE FACILITIES.

TEMPORARY EROSION AND SEDIMENTATION CONTROL

TEMPORARY INLET PROTECTION SHALL BE APPLIED TO EACH INLET. THEY SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF VEGETATION HAS ESTABLISHED.

SEED SHALL BE APPLIED ACCORDING TO THE ENCLOSED CHART. THE CONTRACTOR SHALL ADHERE TO THE RECOMMENDED SEEDING DATES WHEN SELECTING TEMPORARY SEED TYPES. FERTILIZE, LIME AND MULCH IN ACCORDANCE WITH RATES AND MATERIALS INDICATED IN PERMANENT STABILIZATION SECTION.

TEMPORARY SEEDINGS AND SEEDING DATES

CROP	SEEDING RATES		SEEDING DATES SOUTH JERSEY
	PER ACRE	PER 1000 S.F.	
OATS (SPRING)	86 LBS.	2 LBS.	BEFORE APR. 1
RYE (WINTER CEREAL)	112 LBS.	2.8 LBS.	AUG. 1-NOV. 15
BARLEY (WINTER)	96 LBS.	2.2 LBS.	AUG. 15-OCT. 1
RYEGRASS (PERENNIAL)	100 LBS.	1.0 LBS.	BEFORE MAY 15 AUG. 15-OCT. 1
MILLET (GERMAN OR HUNGARIAN)	30 LBS.	0.5 LB.	MAY 1-AUG. 15
MILLET (PEARL)	20 LBS.	0.7 LB.	MAY 1-AUG. 15
WEEPING LOVEGRASS	3 LBS.	0.1 LB.	MAY 1-AUG. 15

DUST CONTROL SHALL BE ACCOMPLISHED BY PERIODIC SPRINKLING OF DISTURBED AREAS, AS REQUIRED.

PERMANENT STABILIZATION

ALL EXPOSED EARTH SURFACES SHALL BE PERMANENTLY STABILIZED AFTER COMPLETION OF CONSTRUCTION OF ALL SITE IMPROVEMENTS.

PERMANENT STABILIZATION SHALL BE ACCOMPLISHED BY THE FOLLOWING MATERIALS AND METHODS.

MATERIALS	TYPE	APPLICATION RATES
LIME	PULVERIZED DOLOMITIC SO ₃ CaO MgO	2 TONS/ACRE
FERTILIZER	P ₂ O ₅ K ₂ O	600 LB./ACRE
SEED	1) TURFTYPE TALL FESCUE 2) KENTUCKY BLUEGRASS 3) TURFTYPE PERENNIAL RYEGRASS	208 LB./ACRE 28 LB./ACRE 28 LB./ACRE
MULCH	STRAW MULCH	1.5 TO 2 TONS/ACRE
MULCH BINDER:	ORGANIC AND VEGETABLE BASED BINDERS	AS RECOMMENDED BY MANUFACTURER

METHODS

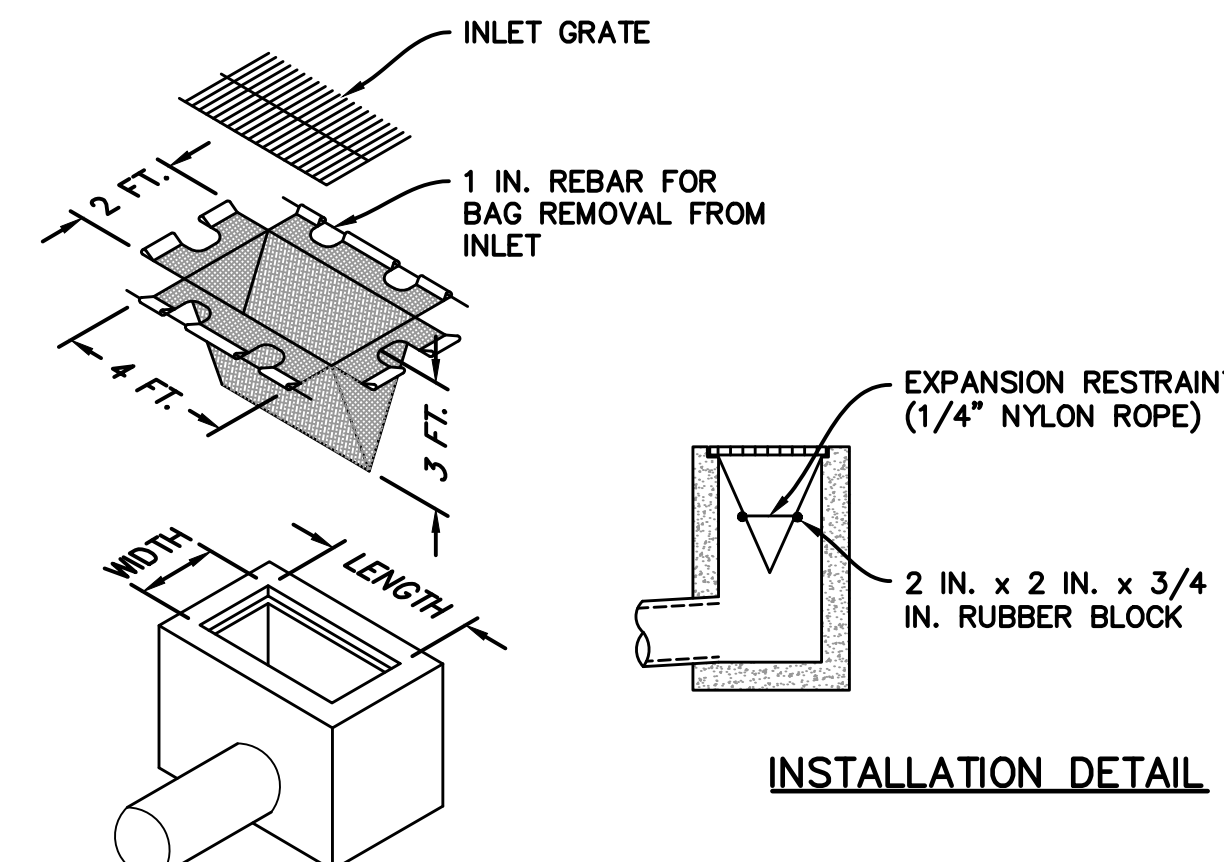
- WORK LIME AND FERTILIZER INTO SOIL WITH A SPRING TOOTH OR DISC HARROW.
 - APPLY SEED AT THE GIVEN RATE AND FIRM WITH A ROLLER OR LIGHT DRAG.
 - APPLY STRAW MULCH IN AN UNIFORM FASHION UNTIL 80% OF THE GROUND IS COVERED; A SLIGHTLY HEAVIER APPLICATION IS NECESSARY ON STEEP SLOPES.
 - ANCHOR STRAW MULCH IN PLACE BY SPRAYING MULCH BINDER AT GIVEN RATES.
- HYDROSEEDING : OPTIMUM GROWING SEASONS AND FLAT SLOPES ONLY.
- HYDRO SEEDING SHALL NOT BE PERMITTED FOR PERMANENT STABILIZATION OF THE MULTI-PURPOSE FIELD.
 - AS AN ALTERNATIVE TO THE PRECEDING, AREAS TO RECEIVE PERMANENT VEGETATIVE COVER CAN BE HYDROSEEDED USING THE PREVIOUS FERTILIZATION, SEEDING, AND LIMING RATES.
 - PAPER MULCH: 1500 LBS/ACRE NOT TO BE MIXED IN TANK WITH SEED SLURRY.
 - SLOPED AREAS OR SEEDING OUTSIDE THE OPTIMUM FALL AND SPRING SEASONS WILL REQUIRE THE APPLICATION OF STRAW MULCH AND MULCH ANCHOR, 70-90 LBS/1000 S.F.
- 4" OF CLEAN TOP SOIL SHALL BE PROVIDED ON ALL AREAS OF DISTURBANCE WHERE TOP SOIL DOES NOT EXIST.

SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION TO BE SEEDING OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THE PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING ALL CRITICAL AREAS SUBJECT TO EROSION (i.e.: STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (i.e.: SLOPES GREATER THAN 3:1)
- A CRUSHED STONE TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE RIP RAP PAD MUST BE 100 FEET IN LENGTH AND THE STONE MUST BE 1.5"-4" IN SIZE, PLACED 12" THICK AND FULL WIDTH OF THE ENTRANCE. IT SHOULD BE UNDERLAIN WITH A SUITABLE SYNTHETIC FILTER FABRIC AND MAINTAINED.
- IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION.
- THE GLOUCESTER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- PRIOR TO THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REQUEST, IN WRITING, A FINAL INSPECTION BY THE SOIL CONSERVATION DISTRICT. A SATISFACTORY REPORT OF COMPLIANCE IS MANDATORY PRIOR TO ANY PROJECT BEING DEEMED COMPLETE. (PURSUANT TO N.J.S.A. 4:24-39 ET SEQ.)
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ALL SUBSEQUENT OWNERS.
- OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
- A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
- THE SOIL EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
- ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
- ALL APPLICABLE EROSION CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- IT SHALL BE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION RATES AT THE REQUEST OF THE BURLINGTON COUNTY SOIL CONSERVATION DISTRICT.
- MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1.
- ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH IN ACCORDANCE WITH THE STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
- SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHOULD BE PROTECTED BY A HAY BALE BARRIER OR SEDIMENT FENCE.
- ALL CATCH BASIN INLETS WILL BE PROTECTED DURING CONSTRUCTION (FILTER DETAILS APPEAR ON PLAN).
- ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTRATION DEVICE. THE SEDIMENT FILTER MUST BE PLACED SO AS NOT TO CAUSE EROSION OF THE DOWNSTREAM AREA. FIELD PLACEMENT AND USE OF THE STRUCTURE MUST BE APPROVED BY THE DISTRICT EROSION CONTROL INSPECTOR PRIOR TO COMMENCEMENT OF DEWATERING ACTIVITIES.
- IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING TOPSOIL, THE STOCKPILE SHALL BE SEEDING WITH TEMPORARY VEGETATION. STABILIZE TOPSOIL STOCKPILES WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE ESTABLISHMENT OF TEMPORARY SEED.

CONSTRUCTION SEQUENCE

- | | |
|--|---------|
| 1. PLACEMENT OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES | 2 WEEKS |
| 2. CONCRETE SIDEWALK, CURB, AND DRIVEWAY APRON INSTALLATION | 3 WEEKS |
| 3. MILL ROADWAY AND INSTALL SURFACE COURSE | 5 WEEKS |
| 4. TOPSOIL AND PROVIDE PERMANENT STABILIZATION OF VEGETATED AREAS | 1 WEEK |
| 5. REMOVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, ONLY AFTER DISTURBED AREAS ARE STABILIZED | 1 WEEK |



ISOMETRIC VIEW

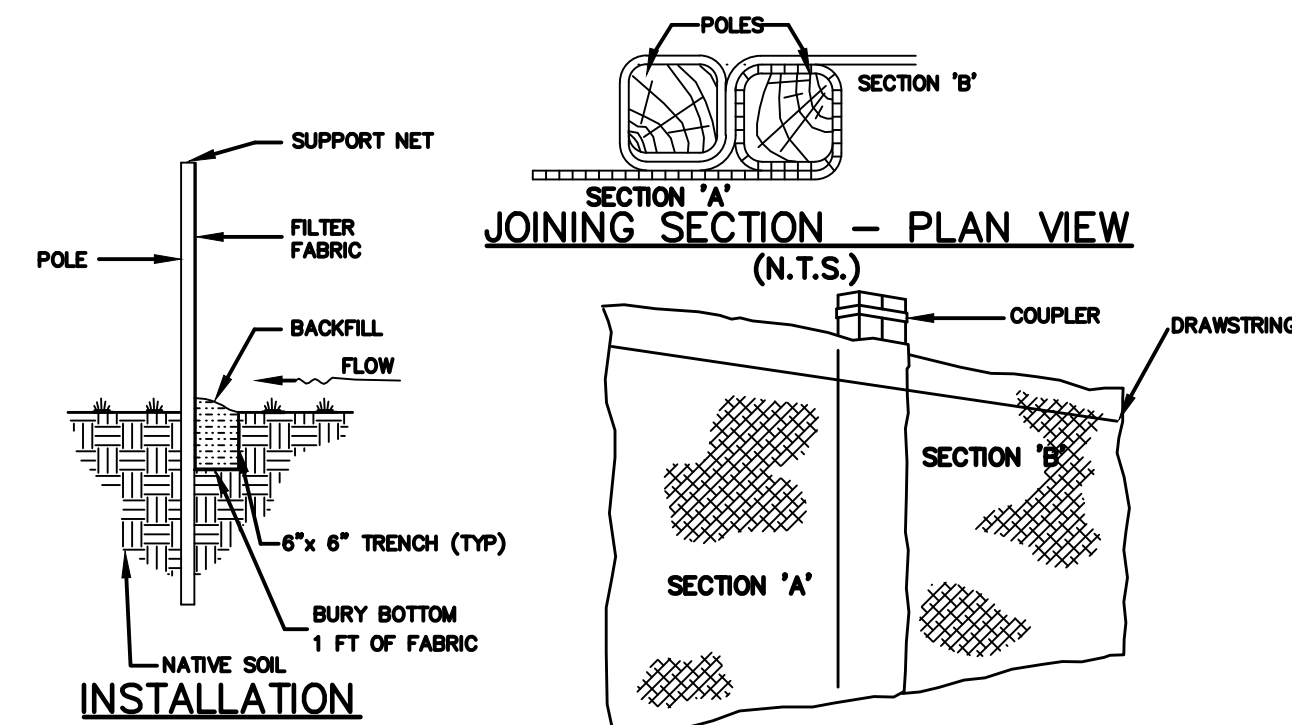
NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZODAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

INLET FILTER BAG PROTECTION DETAIL N.T.S.



SILT FENCE TO BE USED ON SITE SHALL BE "ENVROFENCE" PRECONSTRUCTED SILT FENCE OR EQUAL. SPECIFICATIONS ARE: LENGTH: 100 FT./FABRIC WIDTH: 3 FT./POLE LENGTH: 4.5 FT./POLE SPACING: 7.7 FT./INSTALLED HEIGHT: 2.5 FT./SEDIMENT FABRIC: MIRAFL 100/DRAWSTRING THROUGH FABRIC ALONG TOP OF FENCE.

NOTE: THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS AND STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.

SILT FENCE DETAIL N.T.S.

Pennoni
 PENNONI ASSOCIATES INC.
 515 Grove Street, Suite 1B
 Haddon Heights, NJ 08035
 T 856.547.0505 F 856.547.9174
 NJ COA NO. 0429033300

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.
SEAN M. RADAY
 PROFESSIONAL ENGINEER
 NEW JERSEY LICENSE NO. G657338
 11/02/2022

NJ DOT FY2021 MUNICIPAL AID PROGRAM
 WILLINGBORO TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY

SOIL EROSION AND SEDIMENT CONTROL PLAN

WILLINGBORO TOWNSHIP
 1 REV DR MARTIN LUTHER KING JR RD
 WILLINGBORO, NJ 08046

NO.	DATE	REVISIONS	BY

PROJECT	WTCEX21027
DATE	JANUARY 10, 2022
DRAWING SCALE	NTS
DRAWN BY	SMR
APPROVED BY	HJD

FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

PROJECT DETAILS: PLOTTED: 11/02/2022 2:53 PM BY: Sean Raday PLOTTED: Pennoni NCS.dwg
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