 INDICATES SNOW STORAGE AREA  
 SITE = 221,845 S.F. ( 5.09 AC +/- ) ( FROM R.O.W. )  
 BUILDINGS = 52,857 S.F. ( 1.213 AC +/- ) 24 %  
 PAVED AREAS = 37,382 ( 0.86 AC +/- ) 17%  
 GREEN AREAS = 131,606 S.F. ( 3.02 AC +/- ) 59%.

No.	Date	SYMBOL	DESCRIPTION

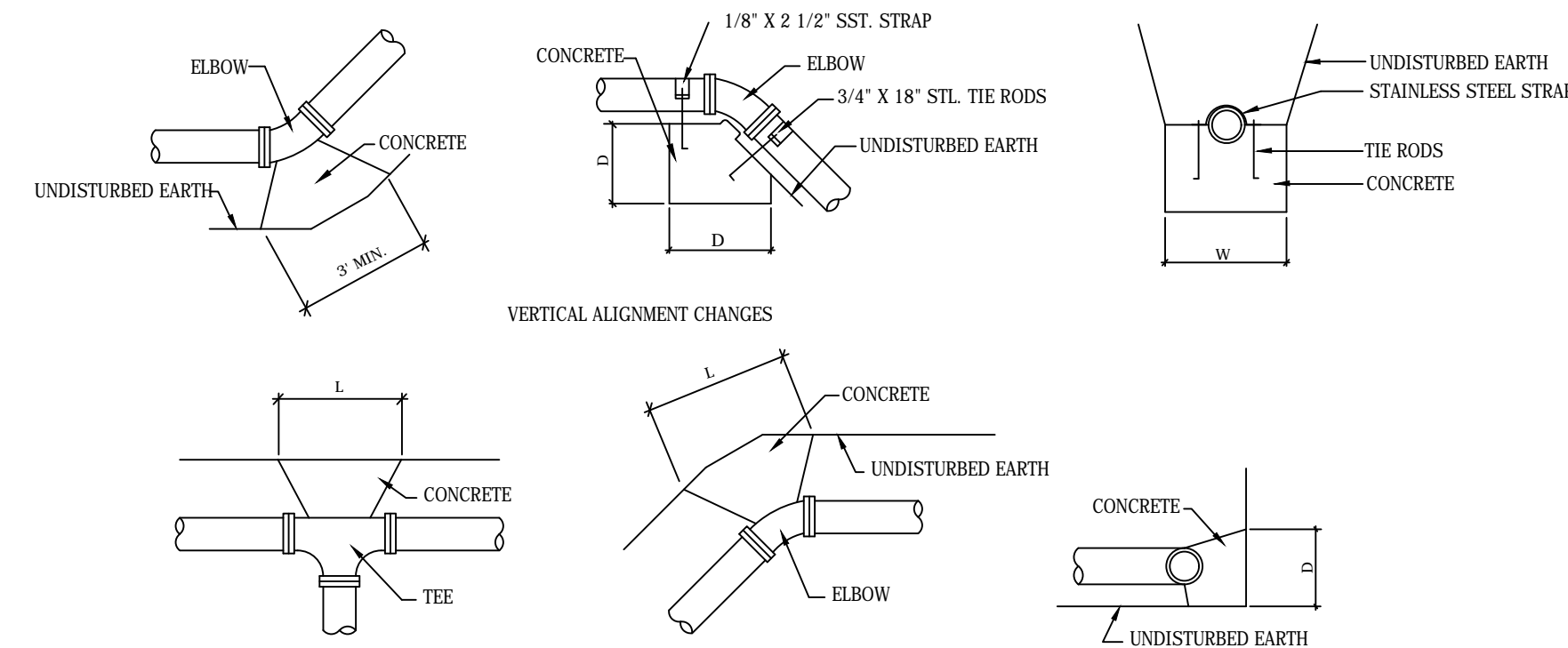
**PRELIMINARY SITE PLAN**

CORNERSTONE PROPERTIES  
 CORTLAND, LLC  
 14 HICKORY LANE  
 CORTLANDVILLE (T), N.Y. 13045



**TIMOTHY C. BUHL, P.E.**  
 35 FIRE LANE 24, AUBURN, NY 13021

DATE: SEPT. 19, 2020
SCALE: 1" = 40'
DRAWN: MB
JOB:
SHEET: ST-1



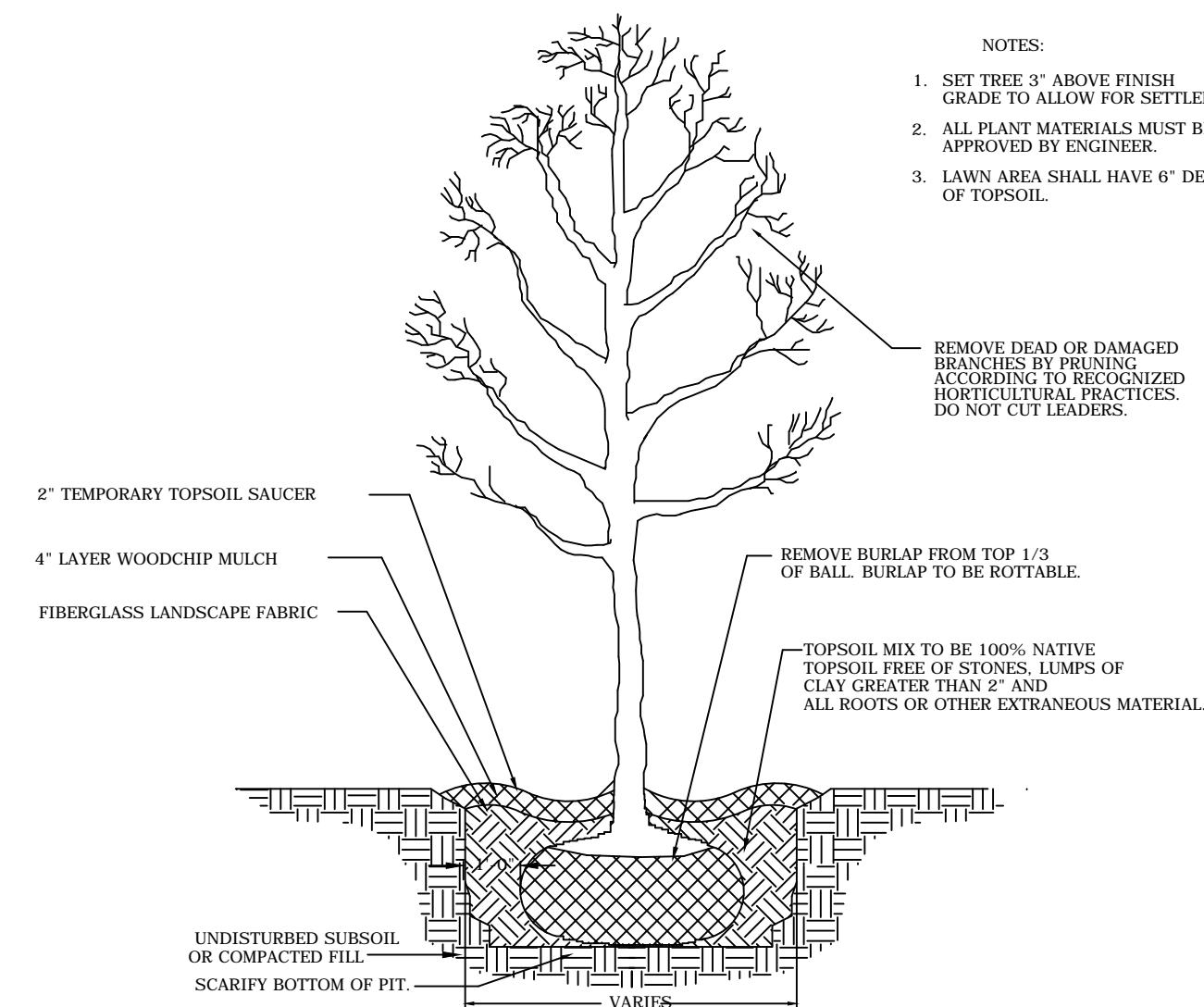
**HORIZONTAL ALIGNMENT CHANGE S**

TEE	45°						22 1/2°						11 1/4°					
	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D		
6"	2.5	1.5	2.0	1.5	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0	1.5	1.0		
8"	3.5	1.5	2.5	2.0	1.5	1.0	2.0	1.5	2.0	1.5	1.5	1.0	2.0	1.5	2.0	1.0		
10"	3.5	2.5	3.0	2.5	3.0	1.5	2.5	1.5	2.5	1.5	2.5	1.5	3.0	2.0	3.0	1.5		
12"	4.0	3.5	4.0	3.0	3.5	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0	1.5		

- NOTES:**
- INSTALL THRUST BLOCKS AT ALL TEES & ELBOWS
  - SIDES OF BLOCKS SHALL BE FORMED SO THAT NO CONCRETE CONTACTS BELLS, GLANDS, OR BOLTS
  - ALL CONC. FOR THRUST BLOCKS TO BE A MIN. OF 2500 P.S.I.

**THRUST BLOCK DETAILS**

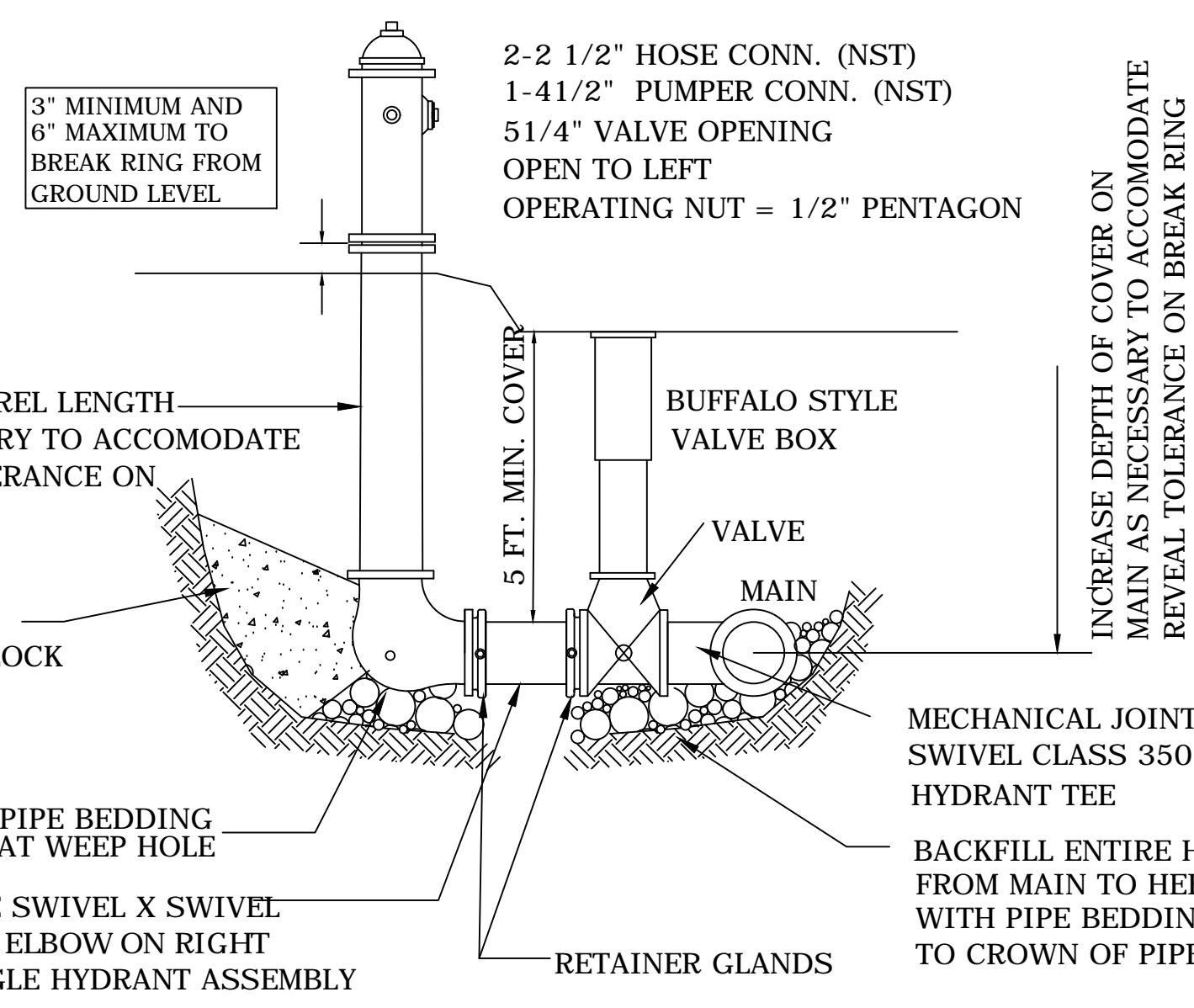
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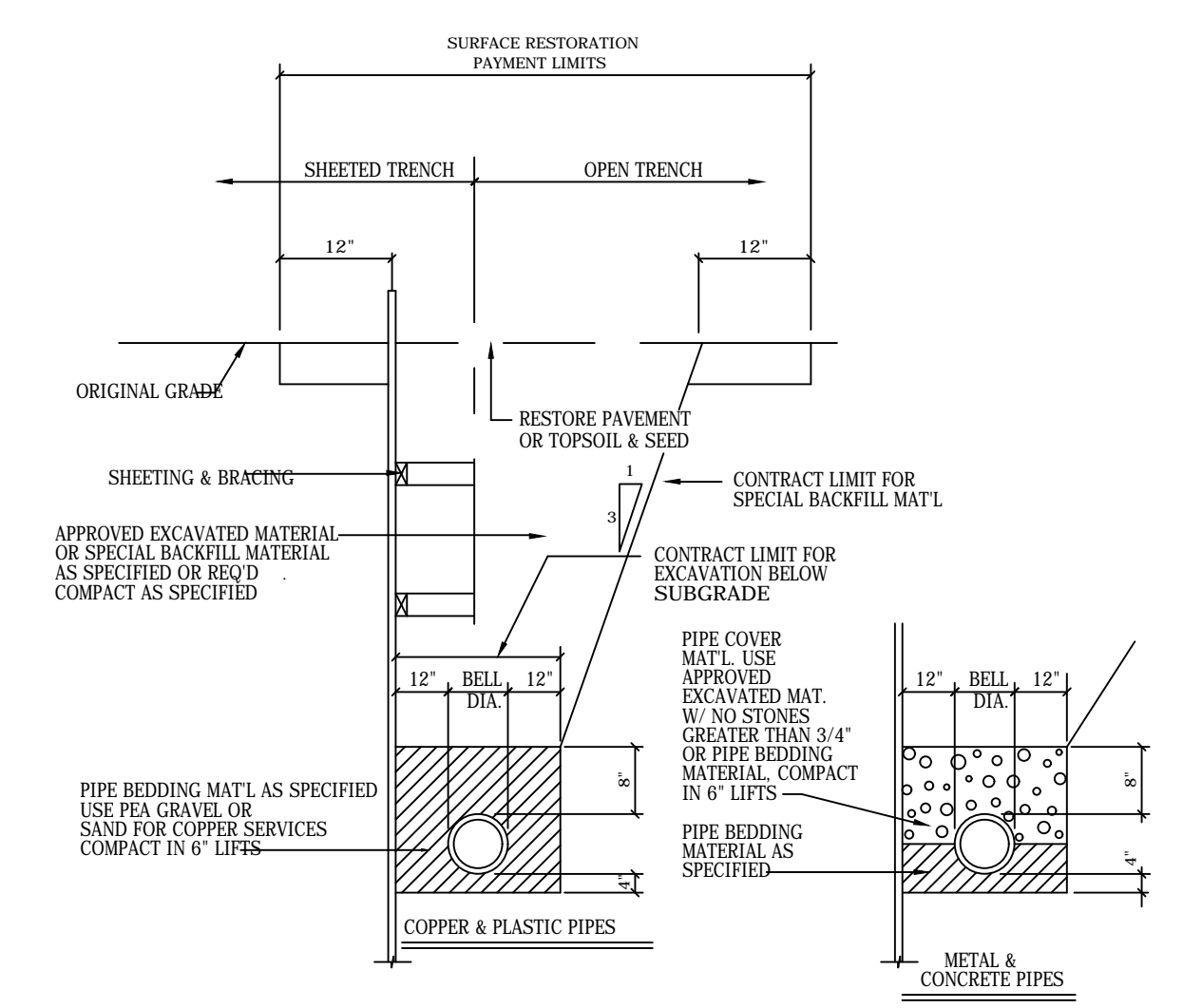
**TREE PLANTING**

- NOTES:**
- SET TREE 3\"/>

TOPSOIL MIX TO BE 100% NATIVE TOPSOIL FREE OF STONES, LUMPS OF CLAY GREATER THAN 2\"/>

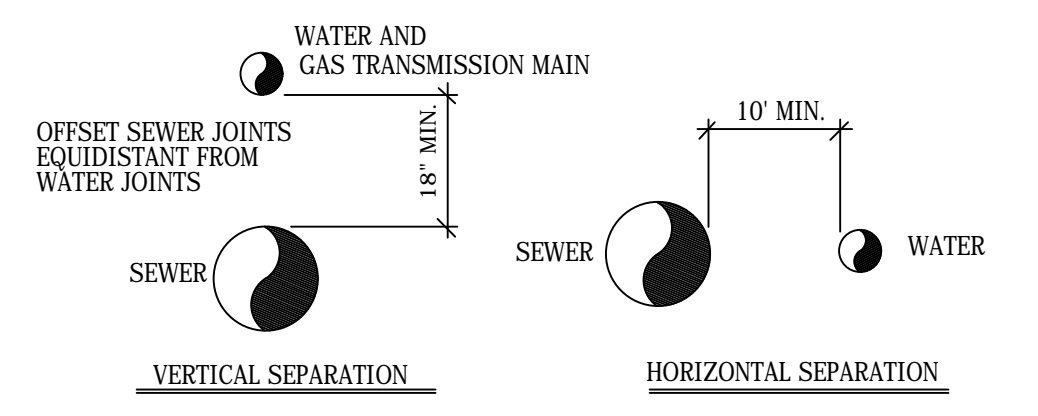


**HYDRANT AND VALVE ASSEMBLY**



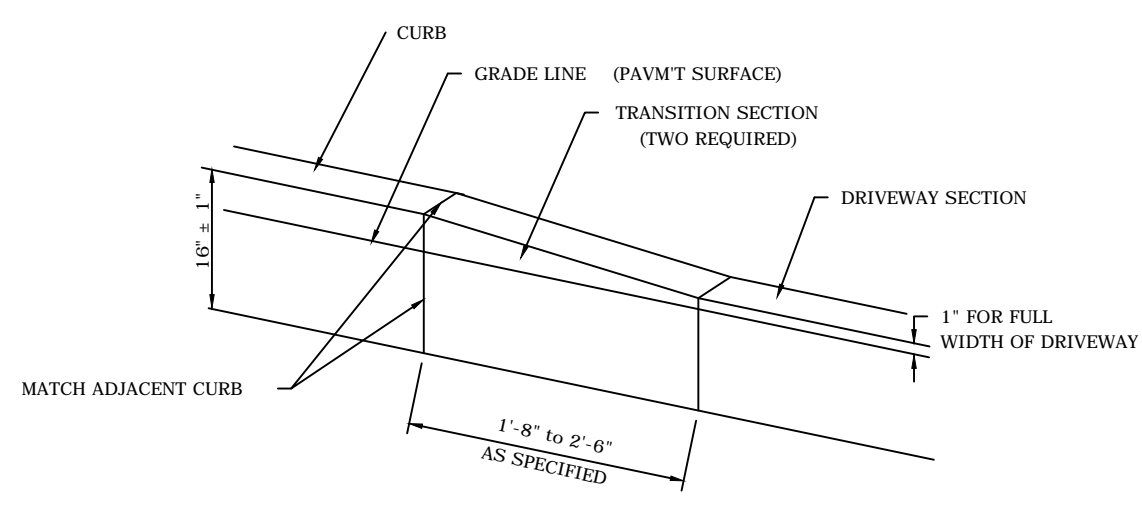
**TYPICAL TRENCH DETAIL**

N.T.S.



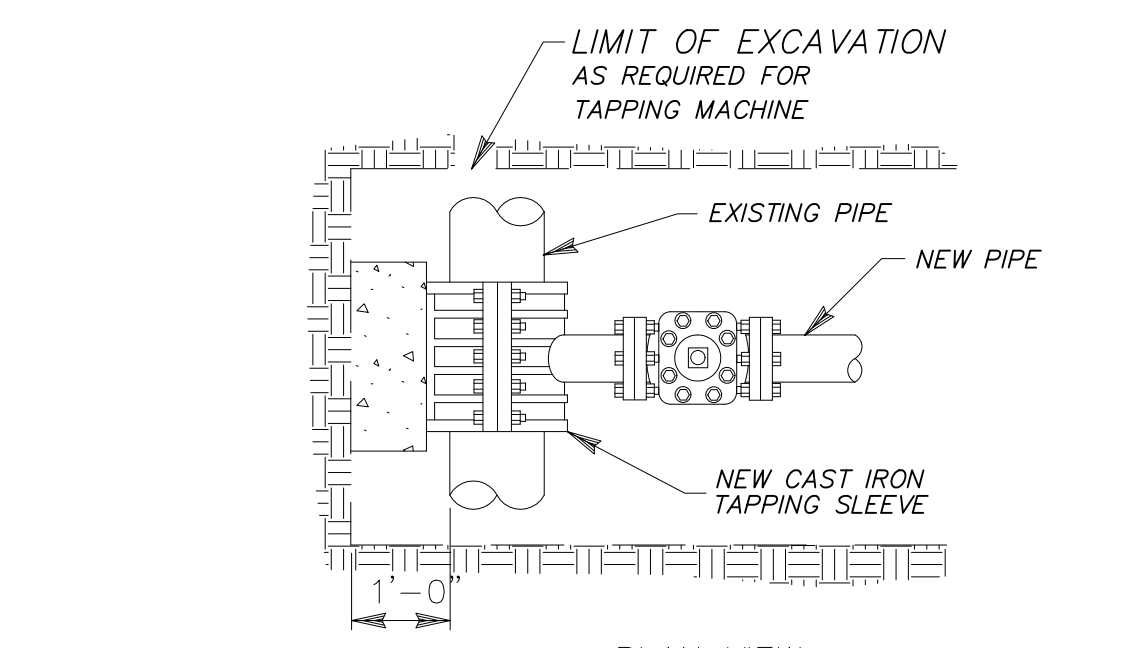
**TYPICAL SEPARATION**

N.T.S.

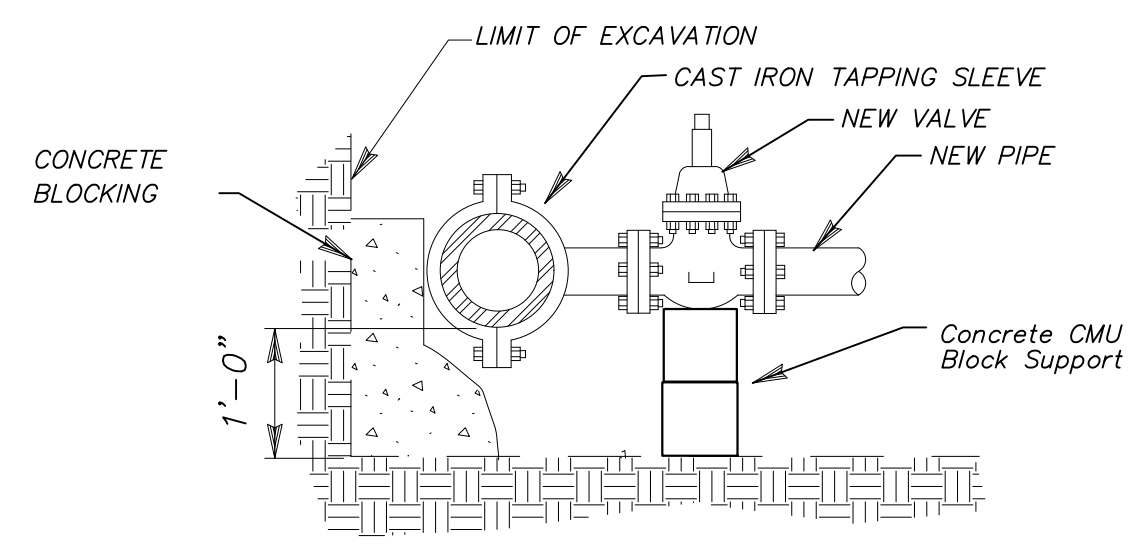


**CURB DRIVEWAY TRANSITION**

N.T.S.



**PLAN VIEW**

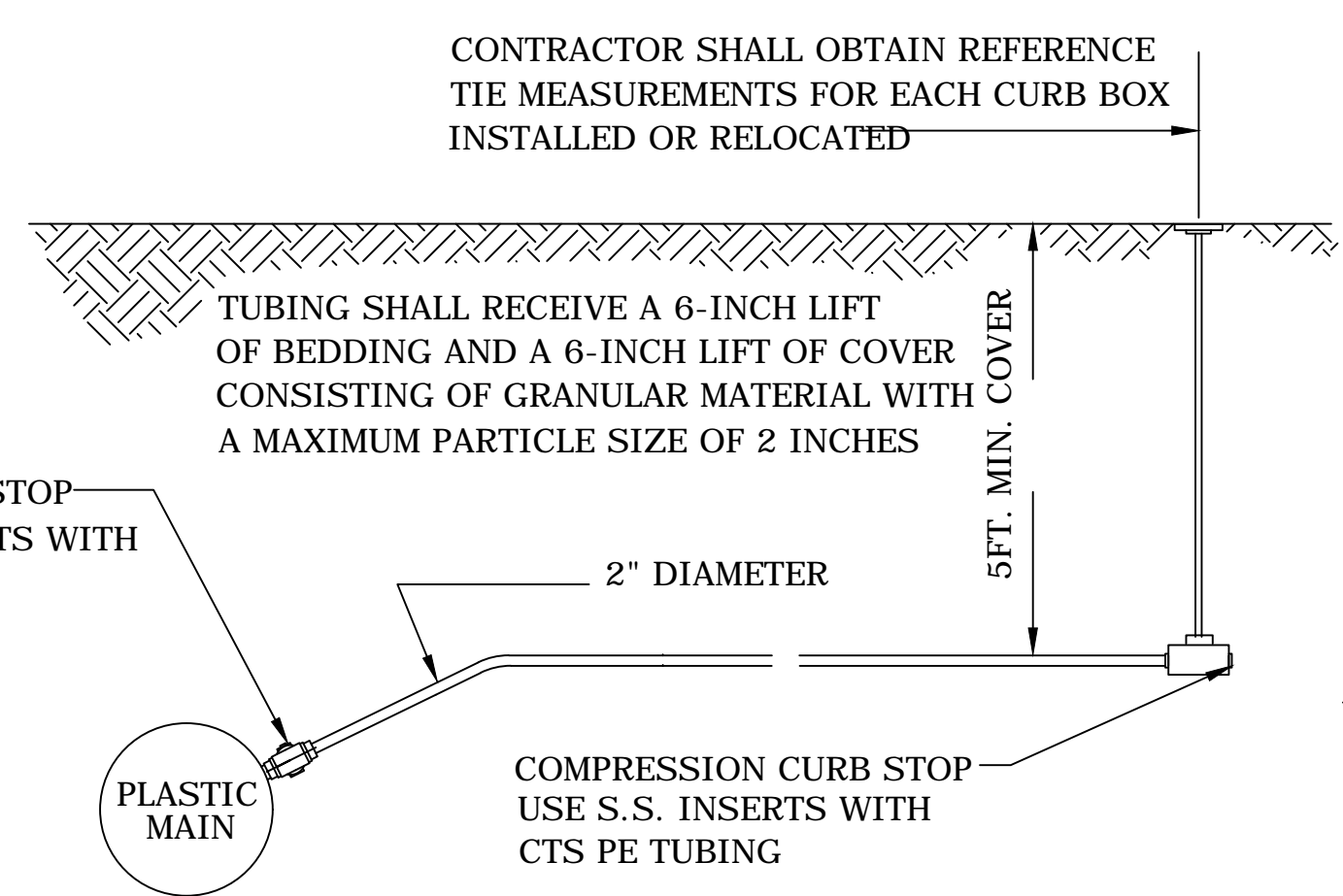


**SECTIONAL VIEW**

**TAPPING SLEEVE AND VALVE**

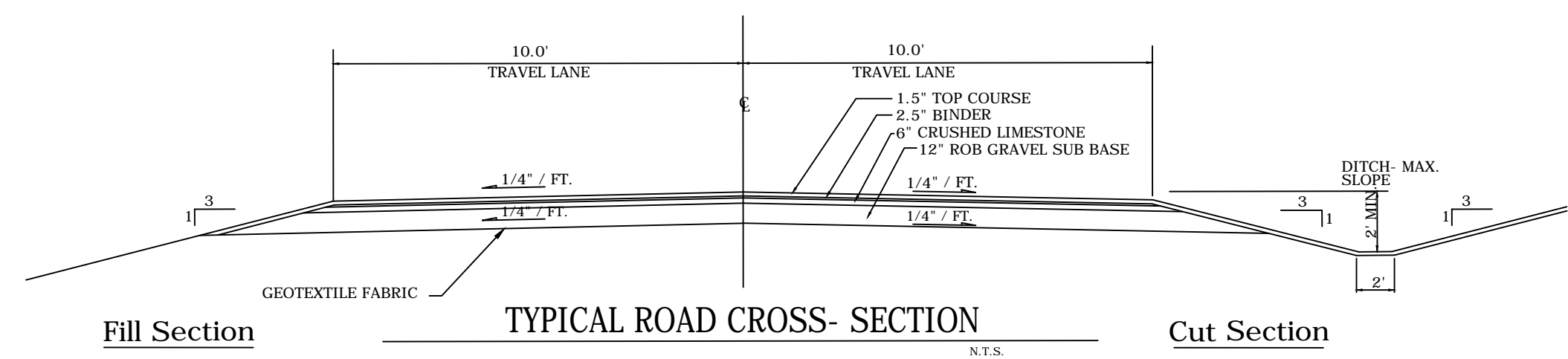
**INSTALLATION DETAIL**

N.T.S.



**MUNICIPLEX PASTIC WATER SERVICE**

N.T.S.

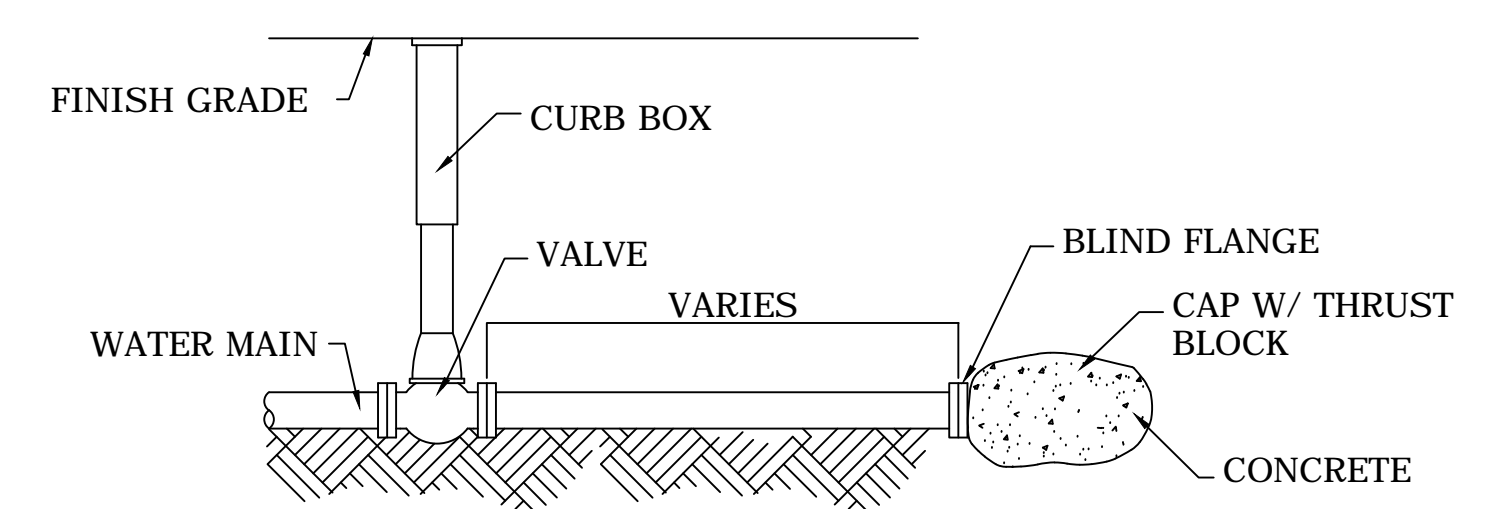


**TYPICAL ROAD CROSS- SECTION**

**Fill Section**

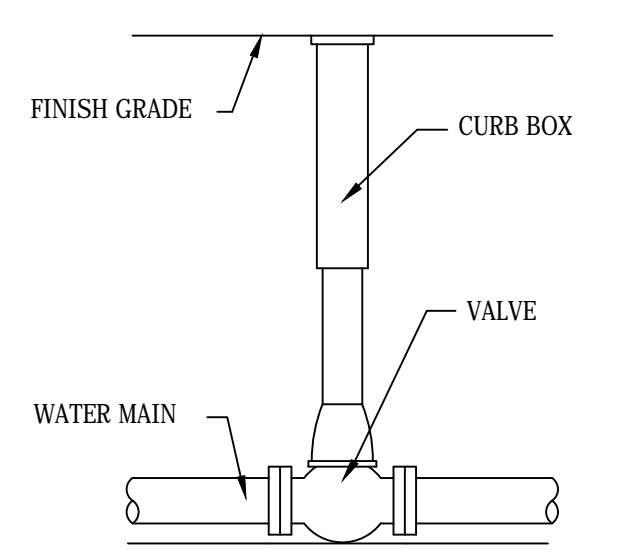
**Cut Section**

- NOTES:**
- SEE TOWN SPECIFICATIONS FOR TOWN HIGHWAYS ( NOT IN STATE RIGHT-of-WAY)



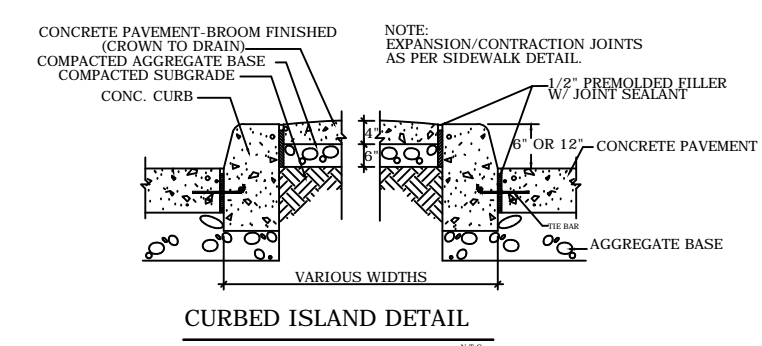
**TYPICAL END OF MAIN CAP DETAIL**

N.T.S.



**TYPICAL VALVE**

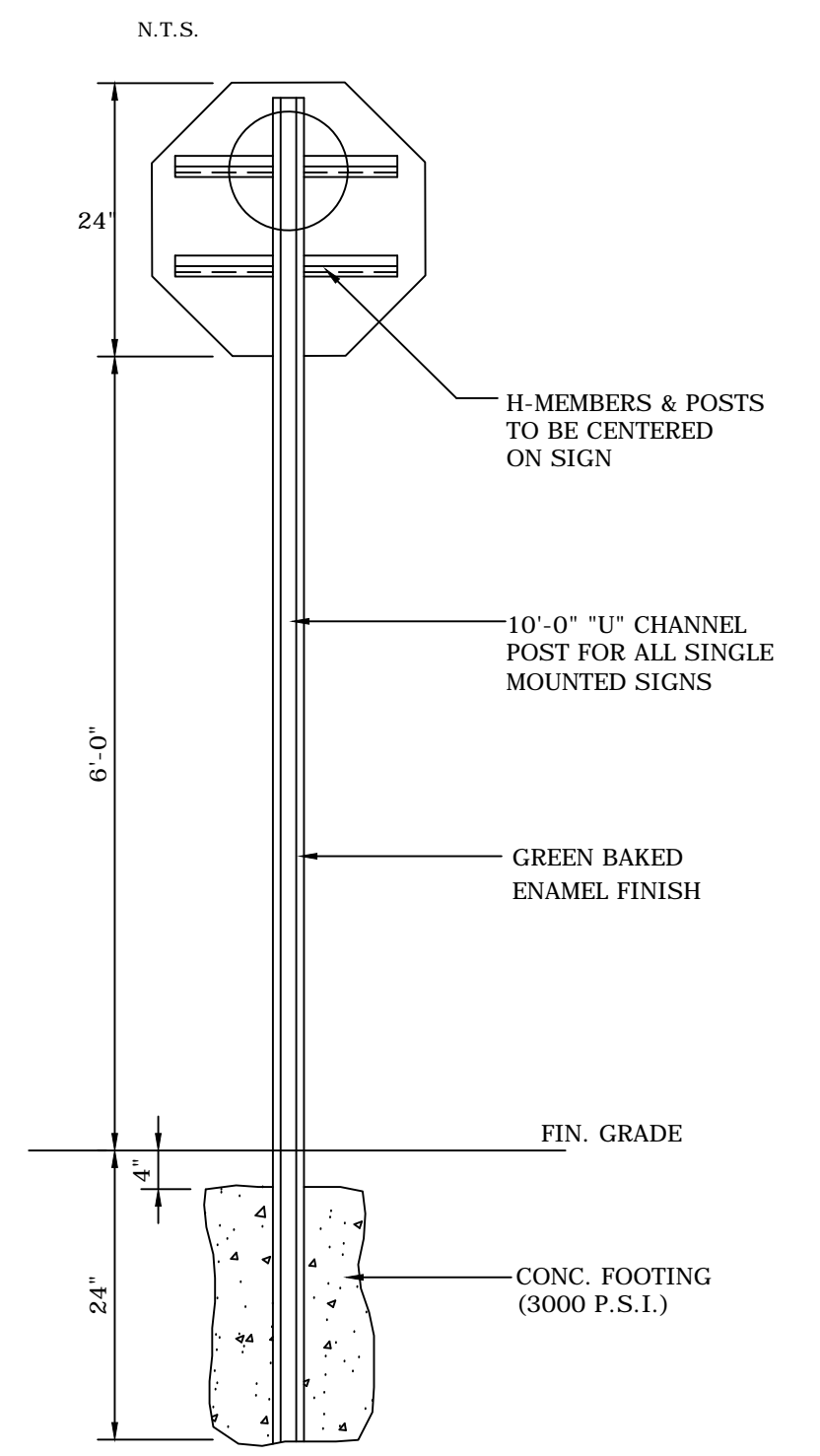
N.T.S.



**CURBED ISLAND DETAIL**

**NOTES ( WATER ):**

- DISINFECTION PROCEDURES FOR NEWLY INSTALLED WATER DISTRIBUTION LINES SHALL CONFORM WITH AWWA C651-05 AND NYS DEPARTMENT OF HEALTH STANDARDS IN PART 5, SUBPART 5-1. ALSO , TESTING MUST BE CONDUCTED IN A MANNER THAT MEETS BACKFLOW PROTECTION STANDARDS AS INDICATED IN AWWA C651. THE NEW WATER MAIN WILL NOT PLACED INTO SERVICE UNTIL AS-BUILTS ARE PROVIDED .
- THE DEVELOPER IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AS SPECIFIED BY THE LOCAL WATER DISTRICT.
- THE WATER MAIN MUST BE PRESSURE/LEAKAGE TESTED FLUSHED, DISINFECTED, AND BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH WATER MAIN TESTING SPECS.
- INSTALL RETAINING GLANDS ON ALL MECHANICAL JOINT FITTINGS.



**POLE MOUNTED SIGN DETAIL**

N.T.S.

**REVISIONS**

No.	Date	SYM.	Description

**WATER & SITE DETAILS**

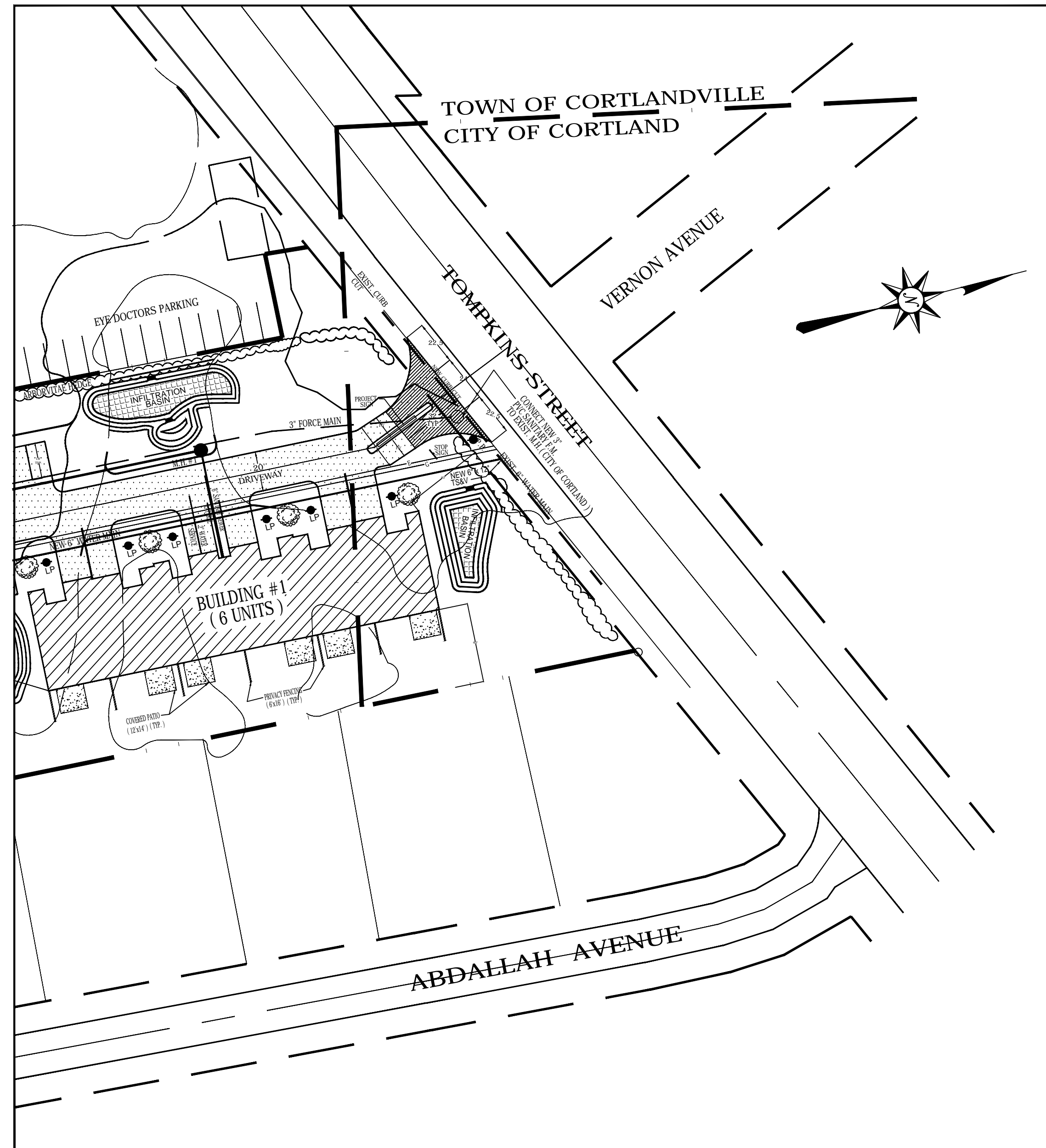
CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13045

PROP. WOODLAND COURT APTS.  
NYS RTE 13 (COMPKINS ST)  
CORTLANDVILLE (D. N.Y.



**TIMOTHY C. BUHL, P.E.**

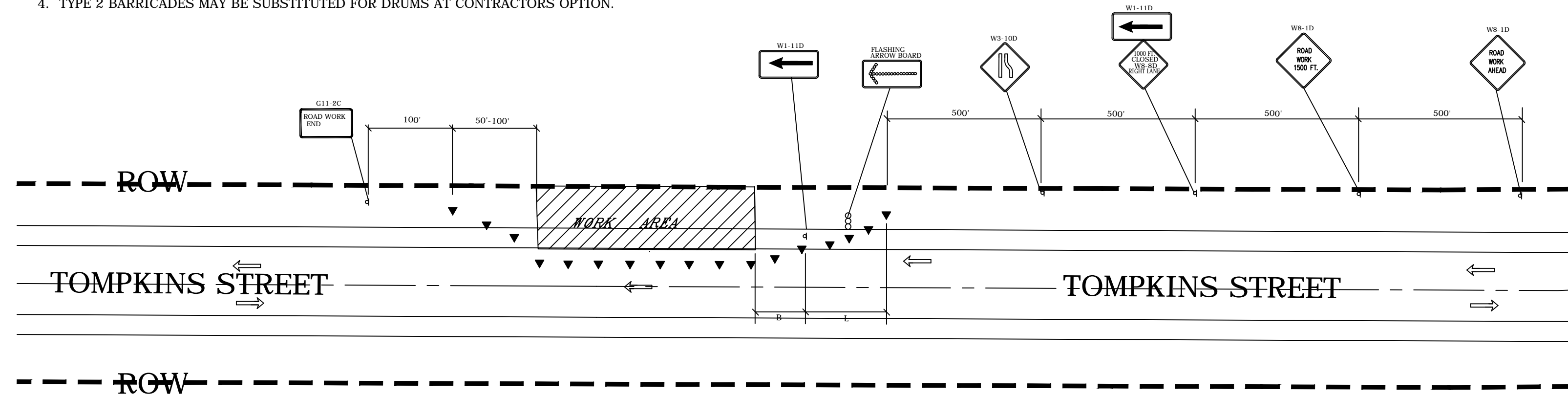
35 FIRE LANE 24, AUBURN, NY 13021



**PLAN: PROPOSED COMMERCIAL DRIVE ( TOMPKINS STREET )**

**NOTES:**

1. L= TAPER LENGTH. SEE SECTION 301.12 AND TABLE 262-2 OF THE M.U.T.C.D.  
L, APPROX. = 85% SPEED IN MPH TIMES LATERAL OFFSET IN FEET.
2. DISTANCE SHOULD BE ADAPTED TO PREVAILING CONDITIONS. THE TAPER LENGTH SHOULD REFLECT REALISTIC "WAVE THROUGH" SPEEDS.
3. REFER TO M.U.T.C.D. FOR SIGN WITH LISTED NUMBERS.
4. TYPE 2 BARRICADES MAY BE SUBSTITUTED FOR DRUMS AT CONTRACTORS OPTION.



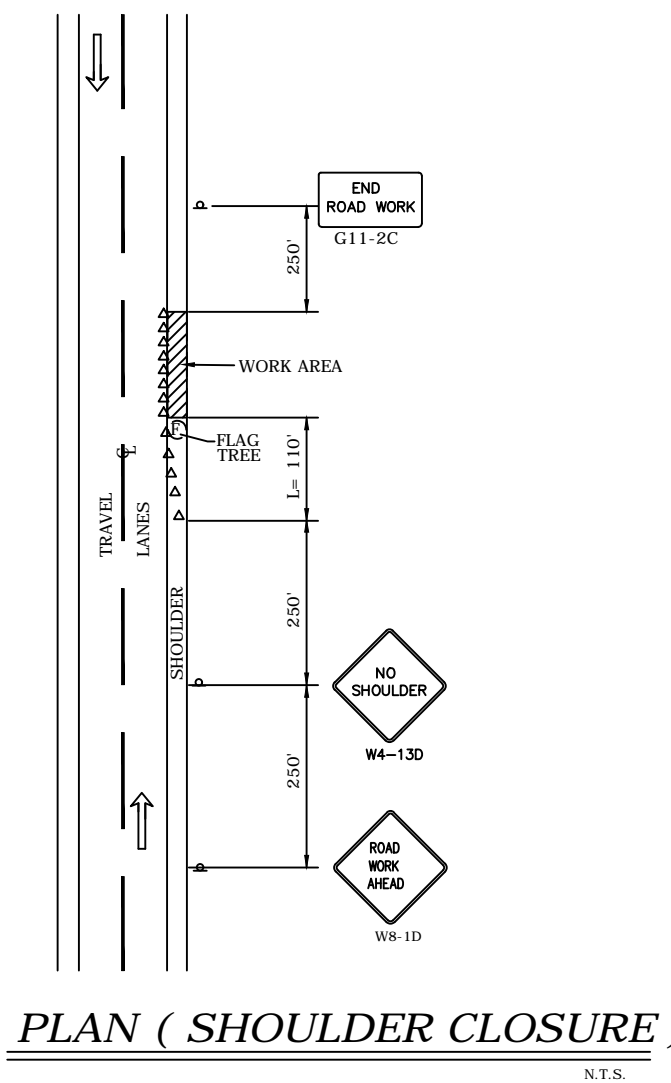
**PLAN: TOMPKINS STREET**

**N.Y.S.D.O.T. STANDARD GENERAL PLAN NOTES**

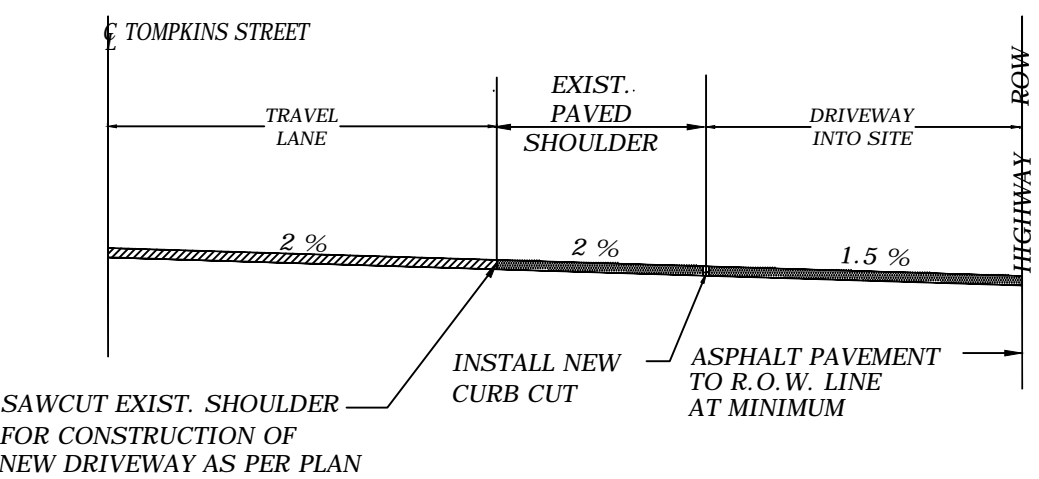
1. ROAD TO BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES
2. ROADSIDE DRAINAGE TO BE MAINTAINED AT ALL TIMES
3. MATERIALS, EQUIPMENT AND VEHICLES ARE NOT TO BE STORED OR PARKED WITHIN THE NEW YORK STATE RIGHT OF WAY
4. MAINTENANCE AND PROTECTION OF TRAFFIC MUST COMPLY WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," AND SECTION 619 OF THE NYS DOT'S STANDARD SPECIFICATIONS.
5. NOTIFY NEW YORK STATE DEPARTMENT OF TRANSPORTATION RESIDENT ENGINEER AT THE CAYUGA/SENECA RESIDENCY ( 315 ) 539-3112, 3 WORKING DAYS PRIOR TO WORKING IN THE STATE RIGHT OF WAY.
6. DIG SAFELY NEW YORK 3 WORKING DAYS PRIOR TO DIGGING, DRILLING OR BLASTING AT 1-800-962-7962 FOR A UTILITY STAKE "CUT".
7. ALL MATERIALS USED WITHIN THE STATE RIGHT OF WAY MUST COMPLY WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION 2002 SPECIFICATION BOOK AND THE CURRENT ADDENDAS, ALONG WITH ANY APPROPRIATE CURRENT NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SHEETS.
8. QUALITY CONTROL OF ASPHALT CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 402 OF THE STANDARD SPECIFICATIONS, ASPHALT COURSE DEPTHS SHOWN ON THE PLANS ARE COMPACTED DEPTHS.
9. NO NIGHT WORK WILL BE ALLOWED UNLESS PRIOR APPROVAL IS GIVEN BY THE DEPARTMENT. ADDITIONAL MAINTENANCE AND PROTECTION OF TRAFFIC WILL BE REQUIRED INCLUDING THE ADDITION OF REFLECTIVE MATERIALS AND LIGHTING.
10. HAZARDOUS WASTE NOTIFICATION - THE PERMITTEE ACCEPTS THE RIGHT-OF-WAY OF THE STATE HIGHWAY IN ITS AS IS CONDITION. THE DEPARTMENT OF TRANSPORTATION MAKES NO REPRESENTATION AS TO THE ABSENCE OF UNDERGROUND TANKS, STRUCTURES, FEATURES OR SIMILAR IMPEDIMENTS TO THE COMPLETION OF THE WORK PERMITTED HEREUNDER. SHOULD PERMITTEE FIND SOME PREVIOUSLY UNKNOWN UNDERGROUND IMPEDIMENTS TO ITS WORK, THE DEPARTMENT OF TRANSPORTATION SHALL HAVE NO OBLIGATION TO CURE, REMOVE, REMEDY OR OTHERWISE DEAL WITH SUCH PREVIOUSLY UNKNOWN UNDERGROUND IMPEDIMENTS. THE DEPARTMENT WILL PERMIT THE PERMITTEE TO REMOVE, MODIFY OR OTHERWISE DEAL WITH SUCH UNDERGROUND TANKS, STRUCTURE FEATURE OR IMPEDIMENT IF SUCH IS DONE IN A MANNER WHICH MEETS ACCEPTABLE ENGINEERING PRACTICE AND IS PRE-APPROVED BY THE DEPARTMENT OF TRANSPORTATION. SHOULD PERMITTEE DETERMINE THAT SUCH UNFORESEEN UNDERGROUND IMPEDIMENT REQUIRES PERMITTEE'S WORK AS AUTHORIZED BY THIS PERMIT UNLESS THE PERMITTEE SHALL HAVE THE OPTION OF RESTORING THE HIGHWAY TO ITS ORIGINAL CONDITION AND NOT PERFORMING SUCH WORK.
11. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE NYS DOT CONTRACT HIGHWAY WORK PERMIT DOCUMENTS AND AS DEEMED NECESSARY BY THE NYS ENGINEER IN CHARGE. DEPTHS SHOWN ON THE PLANS ARE COMPACTED DEPTHS.
12. ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS ( METRIC UNITS ) OF JAN. 2002, AND ANY SUBSEQUENT ADDENDUMS, EXCEPT AS MODIFIED IN THESE PLANS AND IN THE ITEMIZED PROPOSAL. METRIC UNITS MAY BE CONVERTED TO ENGLISH OPENING CUTTING OF THE ROADWAY SHALL NOT BE ALLOWED UNLESS PERMISSION IS GRANTED IN WRITING, BY THE REGIONAL TRAFFIC ENGINEER.
- 13.

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

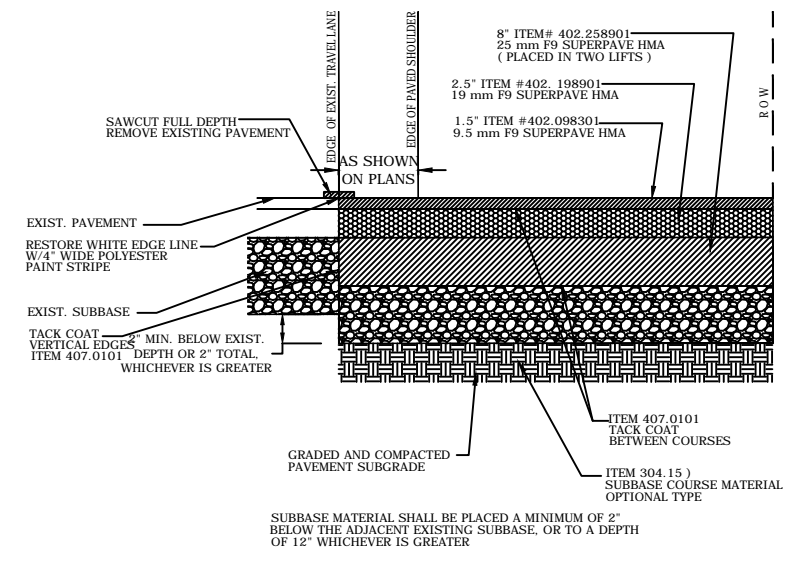
1. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619 OF THE JANUARY 2002 STANDARD SPECIFICATIONS, THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) DATED JULY 1, 1983, AND SUBSEQUENT ADDENDUMS OF EITHER AND ALL OTHER APPLICABLE PROVISIONS CONTAINED IN THIS CONTRACT. ALL SIGN NUMBERS REFER TO THE M.U.T.C.D.
2. THE FINAL RESPONSIBILITY FOR THE PROTECTION OF THE TRAVELING PUBLIC AND HIS OWN PERSONNEL SHALL REST WITH THE CONTRACTOR.
3. PRIOR TO THE START OF WORK, THE CONTRACTOR MAY SUBMIT ANY PROPOSED CHANGES TO THE TRAFFIC CONTROL PLAN TO THE ENGINEER FOR APPROVAL. ANY CHANGE WHICH ALTERS THE BASIC CONCEPT OF THE PLAN MUST BE APPROVED BY THE REGIONAL DIRECTOR OR HIS DESIGNEE.
4. VEHICLES AND CONSTRUCTION EQUIPMENT BELONGING TO THE CONTRACTOR OR THE CONTRACTOR'S EMPLOYEES SHALL BE MOVED A MINIMUM OF 50 FEET FROM THE EDGE OF PAVEMENT DURING NON-WORKING HOURS. PRIVATE VEHICLES OWNED BY THE CONTRACTOR OR HIS EMPLOYEES SHALL NOT BE PARKED ON THE PAVEMENT OR SHOULDERS.
5. NO CONSTRUCTION MATERIAL MAY BE STORED ON THE ROAD BED EXCEPT IN A PROTECTED WORK ZONE.
6. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES IN THE VICINITY OF THE PROJECT SITE AT ALL TIMES.
7. SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. ACTUAL LOCATION SHALL BE ADAPTED TO PREVAILING CONDITIONS AND SHALL PROVIDE OPTIMUM VISIBILITY. ACTUAL FIELD CONDITIONS MAY REQUIRE ADDITIONAL SIGNS AND OTHER ARRANGEMENTS.
8. SIGNS THAT ARE NOT APPLICABLE SHALL BE COVERED OR OBLISCURED FROM SIGHT.
9. THE FLAGGING STATION AND LANE CLOSURE SHOULD BE LOCATED TO ENSURE MAXIMUM VISIBILITY.
10. A W8-20C "WORKER" SIGN SHOULD PRECEDE THE INITIAL WORK ZONE ON EACH APPROACH TO THE PROJECT ( SHOWN ON PLAN ABOVE ). IT MAY HAVE TO BE RELOCATED AS THE LOCATION OF THE FIRST WORK ENCOUNTERED CHANGES. IT SHOULD BE LEFT UP DURING NON-WORKING HOURS WHENEVER EVIDENCE OF WORK IS PRESENT.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES REQUIRED DURING CONSTRUCTION AND MAKING SURE ALL SIGNS, CONES AND DRUMS ARE IN PLACE AND IN GOOD CONDITION.
12. WHENEVER CULDEBRATING IS REMOVED, THE CONTRACTOR SHALL INSTALL VERTICAL PANELS OR DRUMS IN ACCORDANCE WITH SECTION 292.3 & 292.4 OF M.U.T.C.D. THEY SHALL BE PLACED AT 50' INTERVALS & SHALL BE LEFT IN PLACE UNTIL THE NEW GUIDE RAIL IS INSTALLED OR THE SLOPE FLATTENING WORK IS COMPLETE. IF VERTICAL PANELS ARE LEFT OVERNIGHT, THEY SHALL BE PRECEDED BY A TYPE III BARRICADE WITH A TYPE A FLASHING LOW INTENSITY WARNING LIGHT.
13. THE W8-20C FLAGGERS SHALL BE USED WHENEVER FLAGGING OCCURS FOR MORE THAN A BRIEF PERIOD OF TIME. THE SIGN SHALL BE PROMPTLY REMOVED, COVERED OR FACED AWAY FROM TRAFFIC WHEN THE FLAGGING OPERATION CEASES.
14. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING SIGNS FOR THE DURATION OF THE PROJECT OR UNTIL NEW "REPLACEMENT" SIGNS ARE INSTALLED. ALL COSTS TO WORK AROUND, REPLACE ON TEMPORARY POSTS OR TO TEMPORARILY RELOCATE EXIST. SIGNS SHALL BE INCLUDED IN THE PRICE BID FOR 619.01 - BASIC MAINTENANCE AND PROTECTION OF TRAFFIC.
15. LENGTH OF TAPERS SHOWN ON THE MAINTENANCE AND PROTECTION OF TRAFFIC GENERAL PLAN SHALL BE DETERMINED FROM SECTION 292.1 (6) OF THE M.U.T.C.D. CONE SPACING SHALL BE DETERMINED FROM SECTION 292.1 (6) OF THE M.U.T.C.D.
16. AN ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ANY UNDERGROUND UTILITIES WHICH MAY EXIST WITHIN OR ADJACENT TO THE PROJECT AREA. PRIOR TO THE UTILIZATION OF THE INFORMATION SHOWN HEREON, U.F.P.O. SHOULD BE NOTIFIED ( 1-800-962-7962 ) FOR THE VERIFICATION OF THE EXISTENCE OF ANY AND ALL SUCH UTILITIES.
17. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY FOR ANY DAMAGE INCURRED DURING EXCAVATION OPERATIONS. ALL COSTS RELATED TO THE REPAIR OF DAMAGED UTILITIES SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL CHARGE TO THE OWNER.
18. ALL CONSTRUCTION SIGNS SHALL BE PAID FOR UNDER THE PAY ITEM MAINTENANCE & PROTECTION OF TRAFFIC AND FACILITIES. CONSTRUCTION SIGN MATERIALS SHALL COMPLY WITH SECTION 619-2.02 OF NYS DOT STANDARD SPECIFICATIONS, DATED JANUARY 2, 2002. CONSTRUCTION SIGNS SHALL HAVE BLACK TEXT ON ORANGE BACKGROUND.
19. WORK ZONES LEFT OVERNIGHT SHALL BE PROTECTED WITH THE APPROPRIATE WARNING SIGNS SUPPLEMENTED WITH TYPE "A" LOW INTENSITY WARNING SIGNS.
20. THE CONTRACTOR SHALL SCHEDULE HIS CONSTRUCTION OPERATIONS IN A MANNER SO AS TO MINIMIZE THE LENGTH OF TIME WHEN DROP-OFFS ADJACENT TO THE TRAVEL LANE OCCUR. THE CONTRACTOR SHALL DELINEATE AREAS WHERE THERE IS A DROP-OFF NEAR THE EDGE OF THE TRAVELED WAY AND WHICH IT IS UNSAFE TO TRAVEL. SEE SECTION 619-2.01C IN THE STANDARD SPECIFICATIONS OF JAN. 2, 2002 AND ADDENDUMS FOR REQUIRED TREATMENT OF TRAVELED EDGE DROP-OFFS. NO DROP-OFFS SHALL BE LEFT OVERNIGHT OR DURING NON-WORKING HOURS.



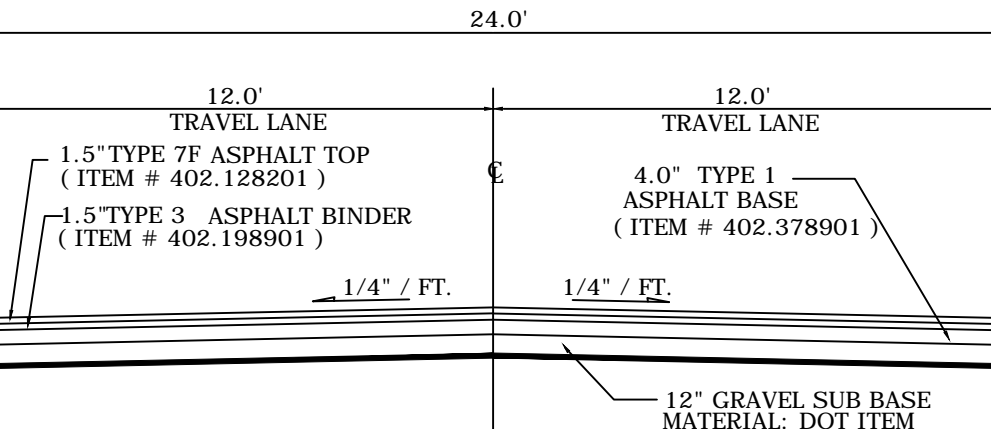
CONSTRUCTION SIGNS - ITEM 619.02					
TEXT	M.U.T.C.D. NO.	APPROX. AREA (SF)	TEXT	M.U.T.C.D. NO.	APPROX. AREA (SF)
	W8-1D	36" x 36" (9.0 SF)		G11-2C	36" x 24" (9.0 SF)
	W8-6D	36" x 36" (9.0 SF)		W4-22C	36" x 36" (9.0 SF)
	W8-1D	36" x 36" (9.0 SF)		W4-11D	36" x 36" (9.0 SF)
	W8-1D	36" x 36" (9.0 SF)		W3-11D	48" x 24" (9.0 SF)
	W8-1D	36" x 36" (9.0 SF)		W8-8D	36" x 36" (9.0 SF)



**DRIVEWAY PROFILE ( TOMPKINS STREET )**



**TYPICAL ROAD APRON SECTION ( IN N.Y.S. R.O.W. )**

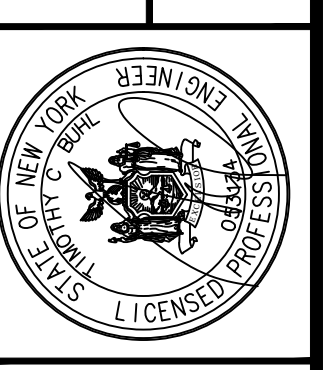


- NOTE:**
1. EXCAVATE EXISTING MATERIAL AS REQUIRED
  2. GRADE AND COMPACT ( 95% MODIFIED ) SUBGRADE
  3. PLACE, GRADE AND COMPACT ( 95% MODIFIED ) GRAVEL SUB-BASE MATERIAL
  4. PLACE AND ROLL NEW ASPHALT
  5. SUBBASE MATERIAL SHALL BE PLACED 2" BELOW ADJACENT EXISTING SUBBASE, OR TO A DEPTH OF 12", WHICHEVER IS GREATER.

**TYPICAL DRIVEWAY SECTION** N.T.S.

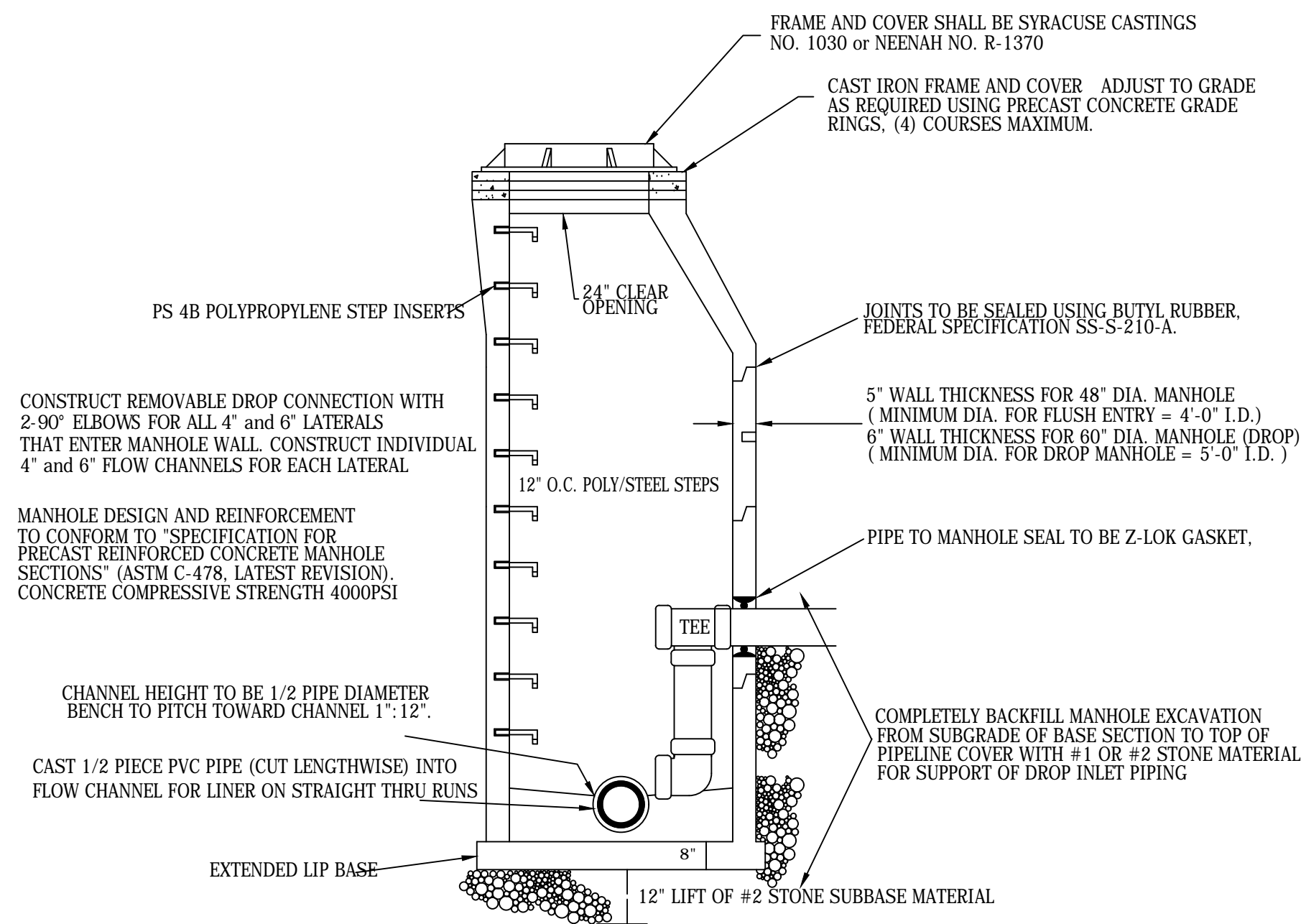
No.	Date	SWM

**MAINTENANCE & PROTECTION OF TRAFFIC PLAN**  
 PROP. WOODLAND COURT APTS.  
 NYS RTE 13 (TOMPKINS ST)  
 CORTLANDVILLE (T), N.Y.

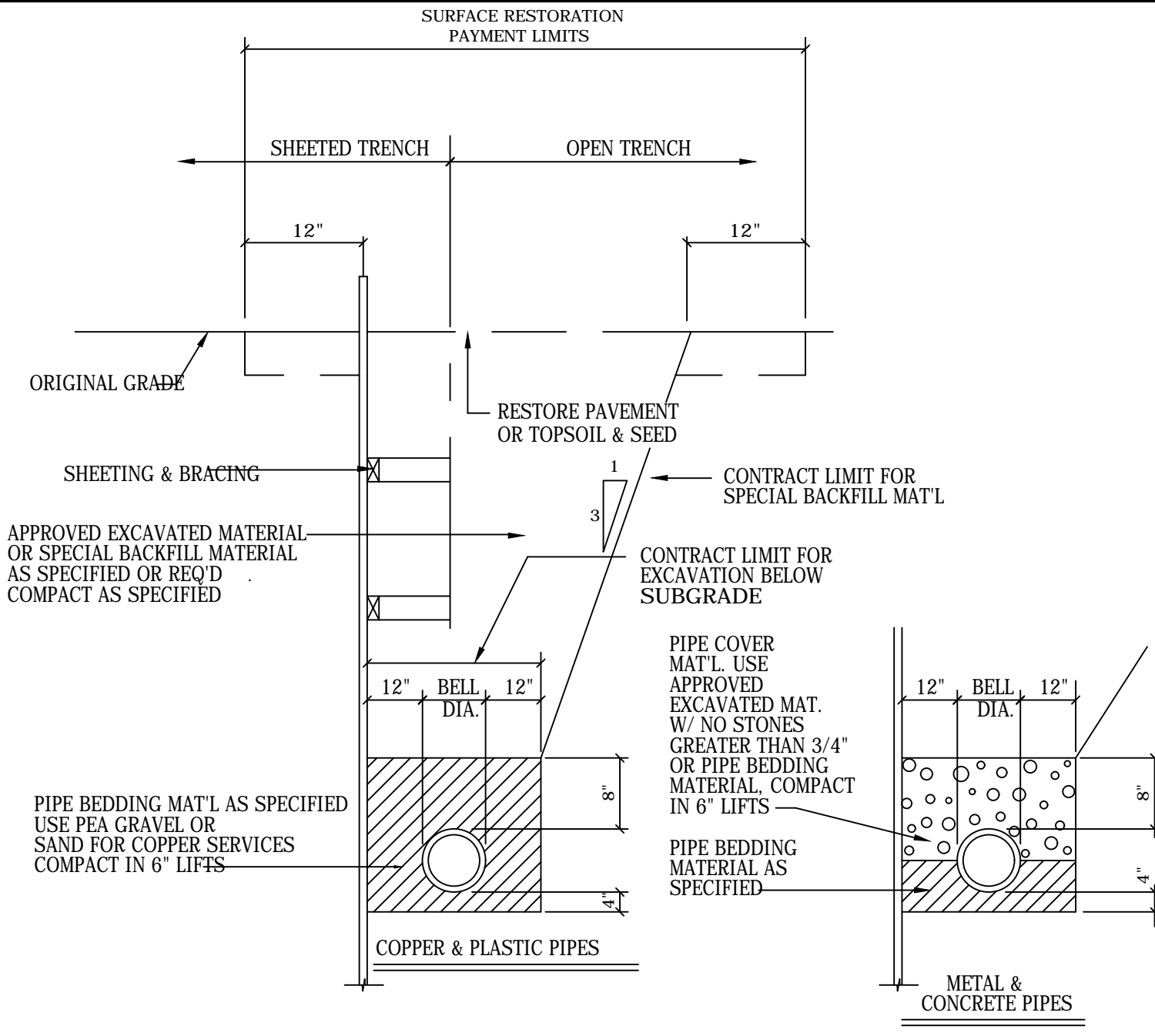


**TIMOTHY C. BUHL, P.E.**  
 35 FIRE LANE 24, AUBURN, NY 13021

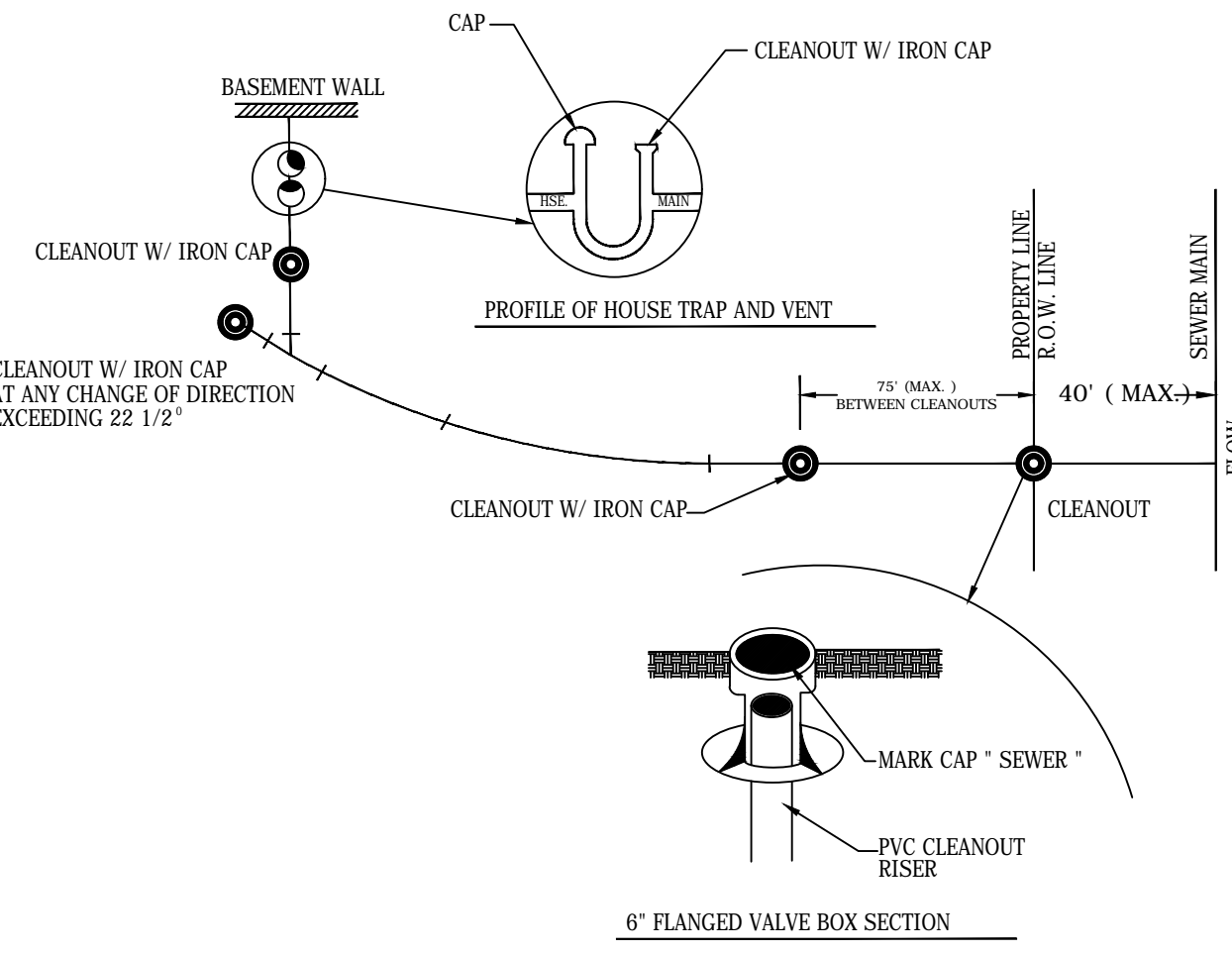
DATE: AUG. 27, 2020  
 SCALE: N.T.S.  
 DRAWN: MB  
 JOB:  
 SHEET:  
**ST-3**



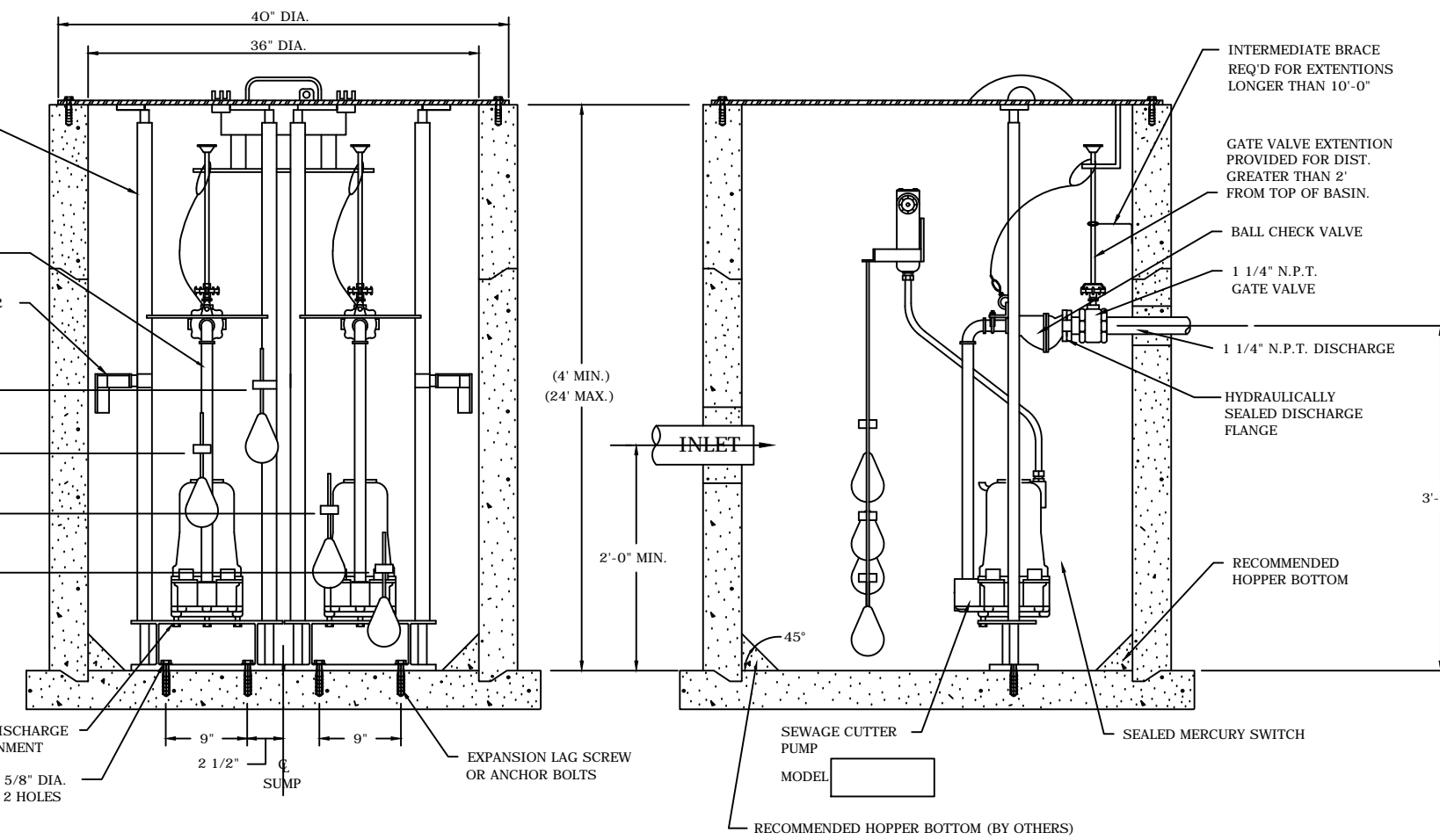
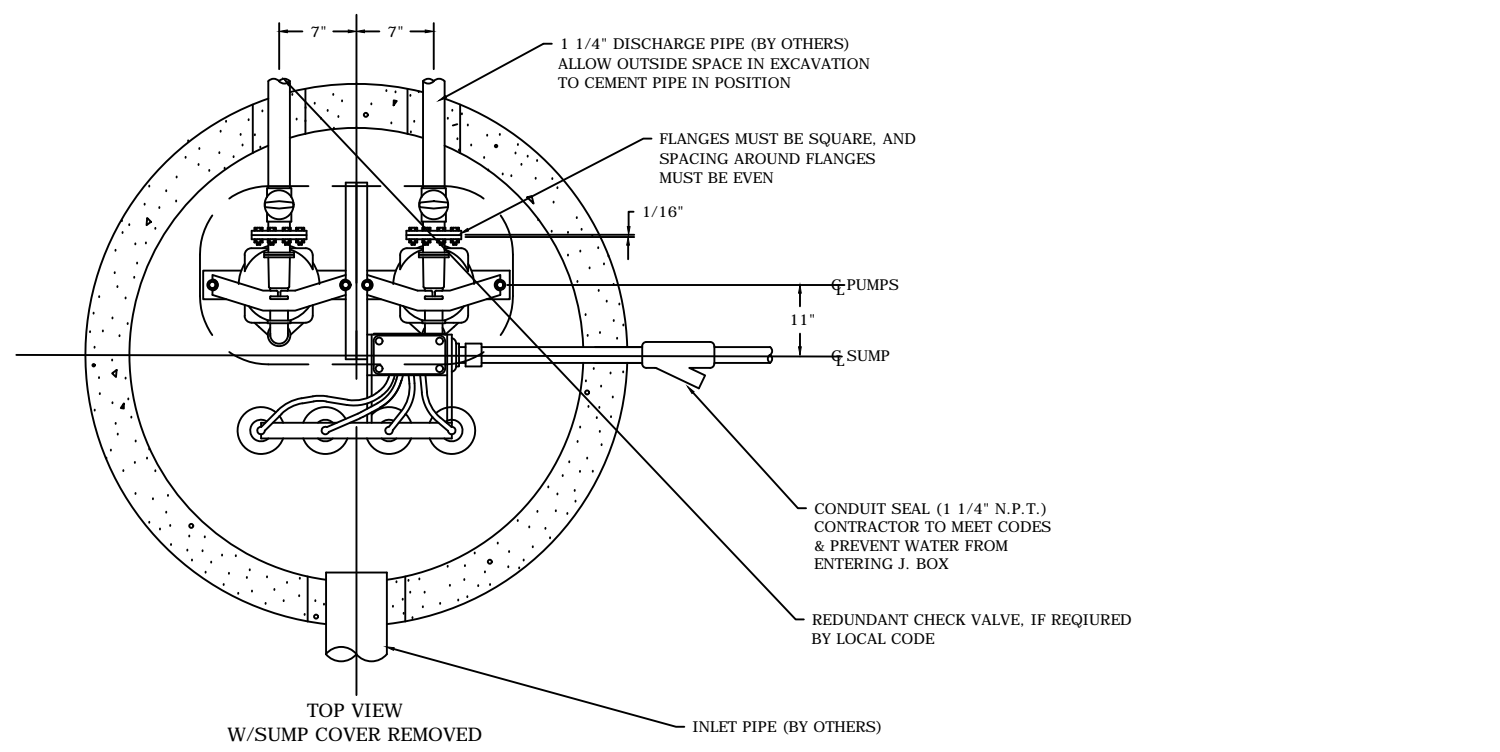
PRE-CAST SANITARY MANHOLE



TYPICAL TRENCH DETAIL

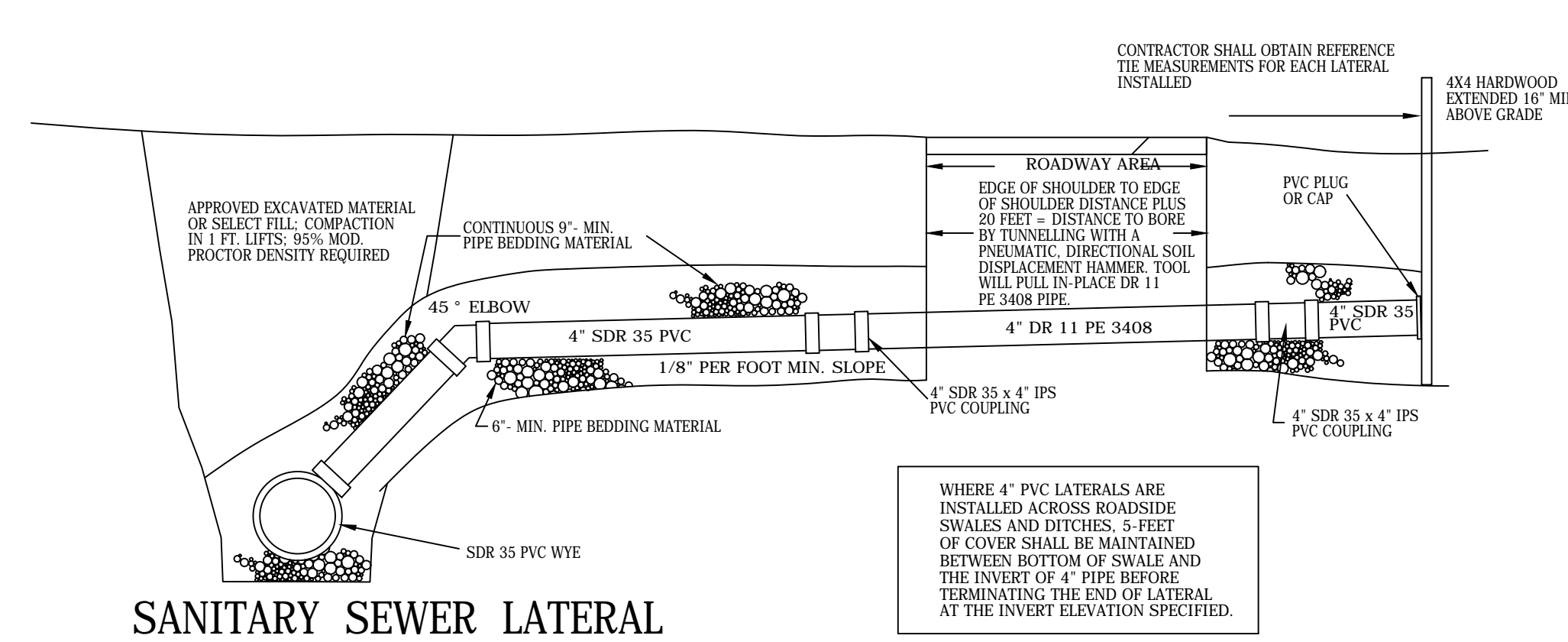


SANITARY SEWER SERVICE CLEANOUT PLACEMENT AND TRAP INSTALLATION

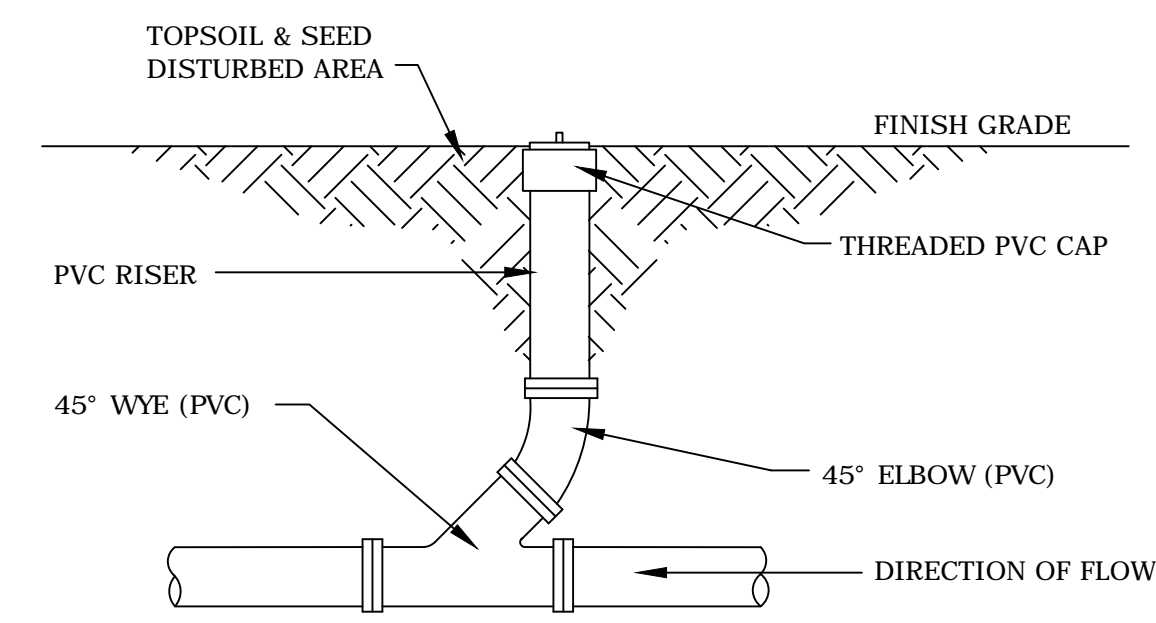


TYPICAL DUPLEX GRINDER PUMP

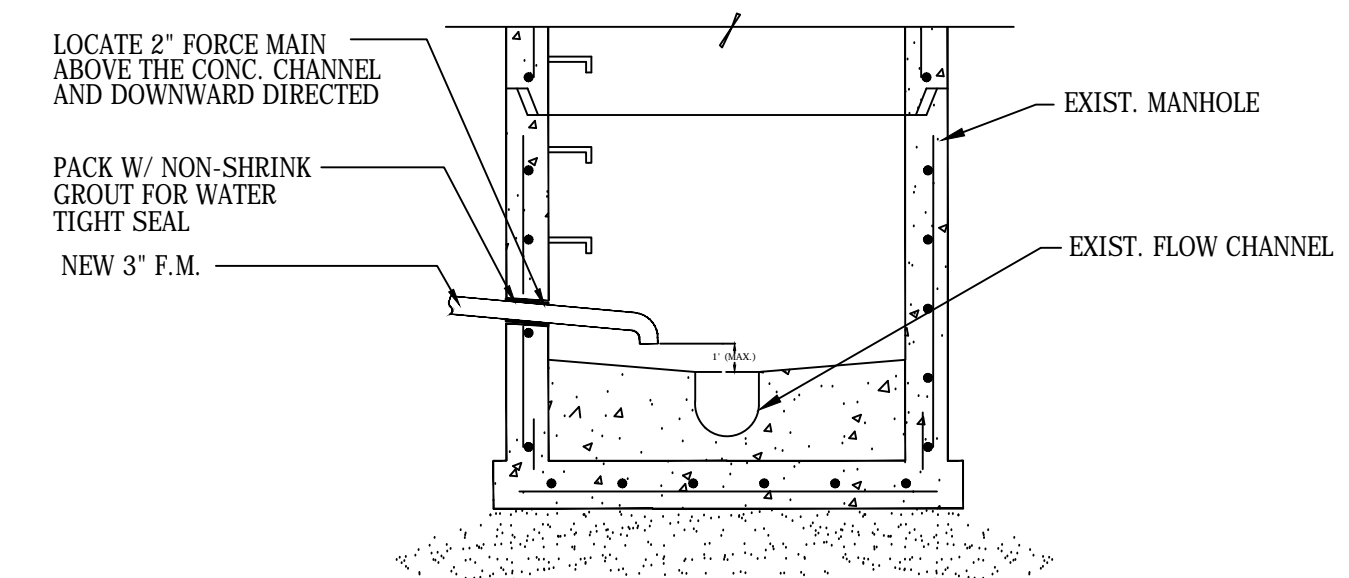
- NOTES ( SANITARY SEWER ) :
1. LEAK DETECTION PROCEDURES FOR GRAVITY SEWERS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM F 1417.
  2. LEAK DETECTION AND DEFLECTION TESTING PROCEDURES FOR FORCE MAIN SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C600 OR C900 ( LATEST VERSION ) STANDARD HYDROSTATIC TEST METHOD OF PVC SEWER FORCE MAINS.



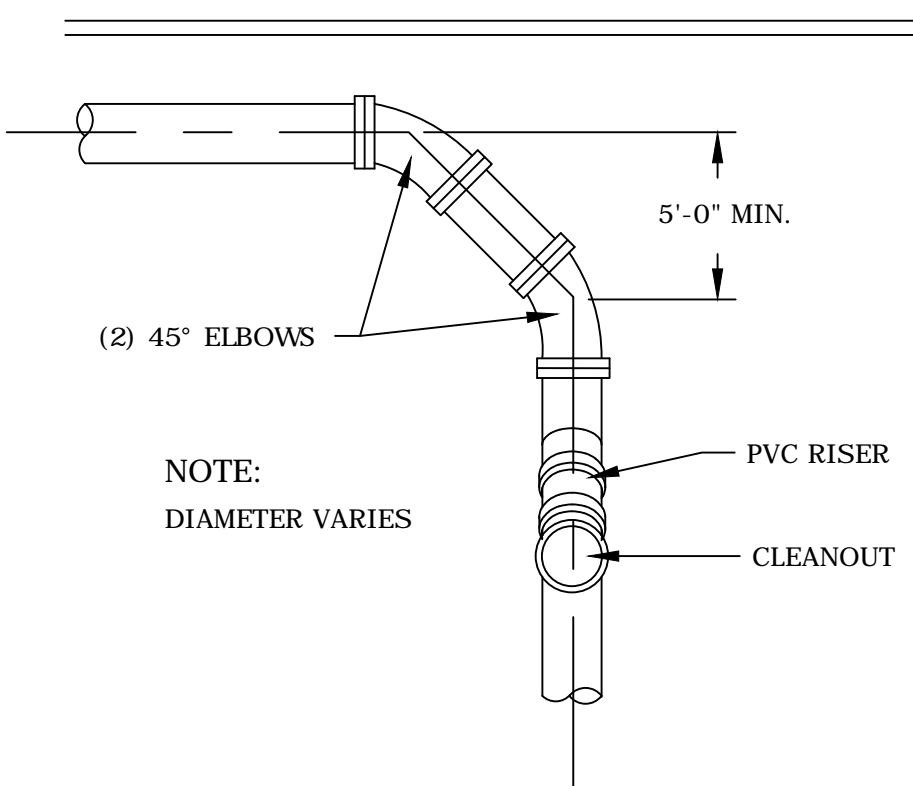
SANITARY SEWER LATERAL



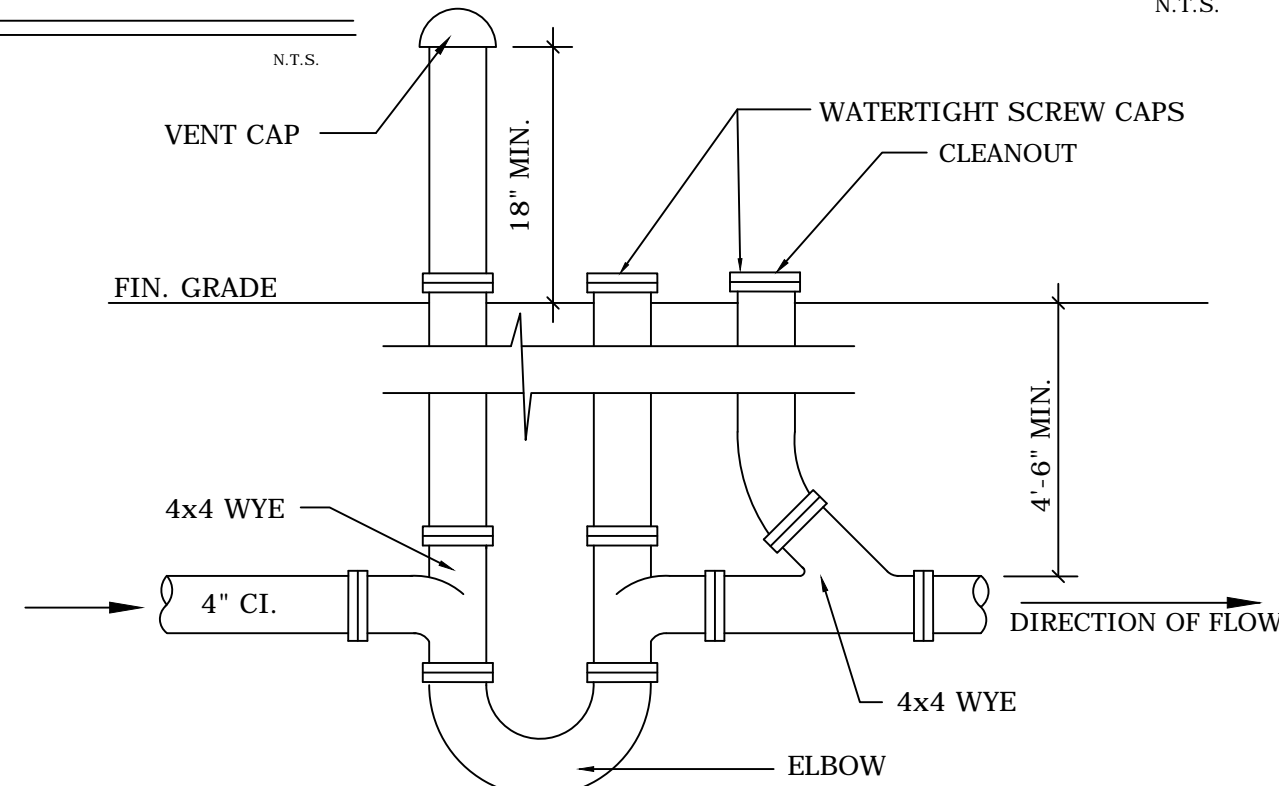
CLEANOUT DETAIL (NON-ROADWAY)



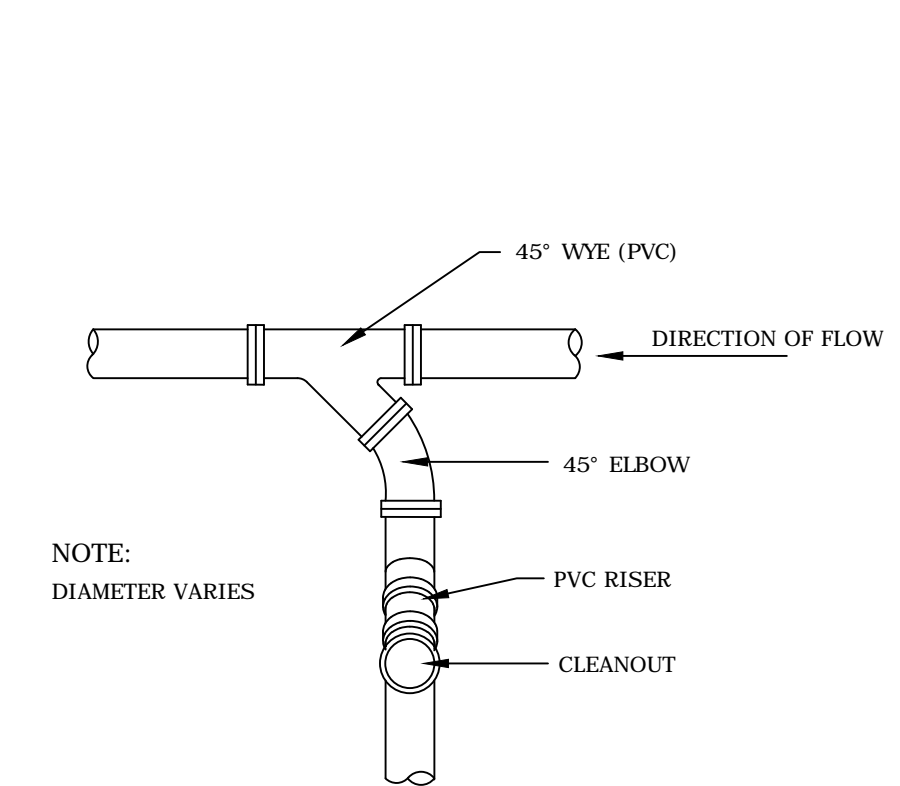
3" F.M. CONN. TO EXIST. MANHOLE



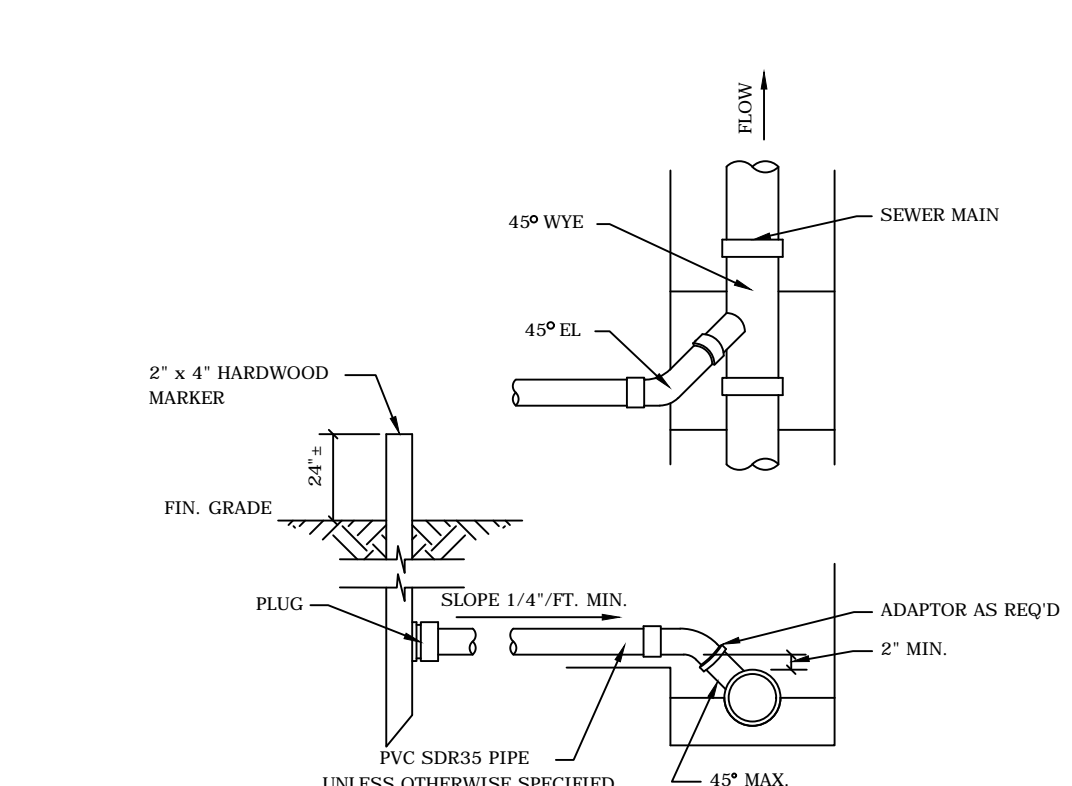
TYP. CORNER DETAIL (GRAVITY SYSTEM)



HOUSE TRAP DETAIL



TYP. "TEE INTERSECTION" (GRAVITY SYSTEM)



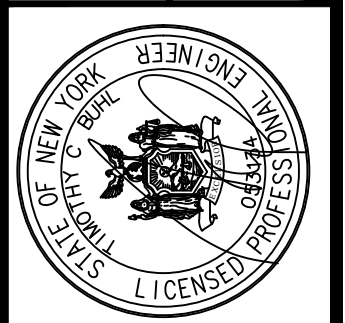
TYPICAL LATERALS

No.	Date	SYN.

SANITARY SEWER DETAILS

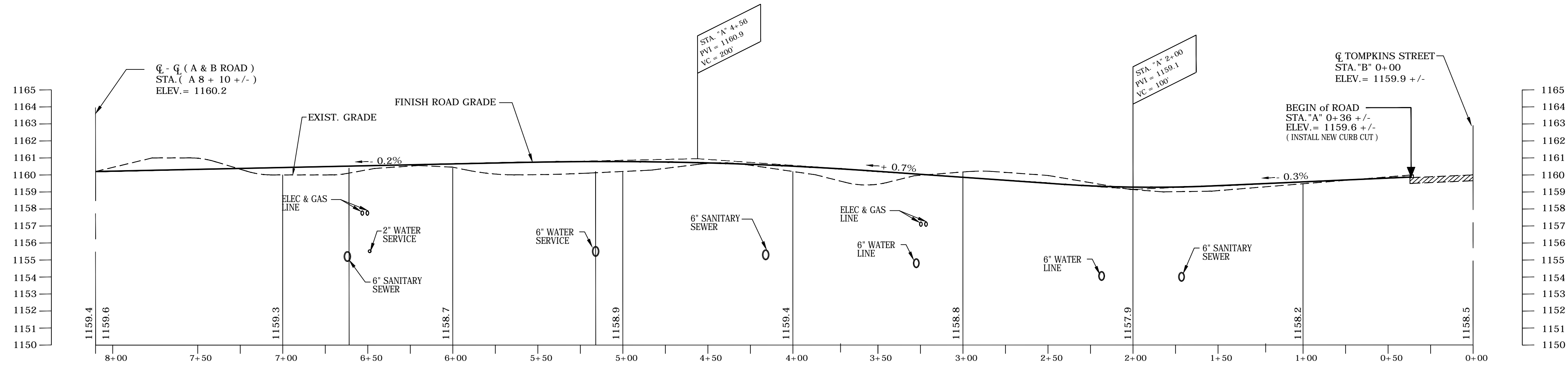
CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13045

PROF. WOODLAND COURT APTS.  
NYS RTE 13 (TOMPKINS ST)  
CORTLANDVILLE (TD), N.Y.

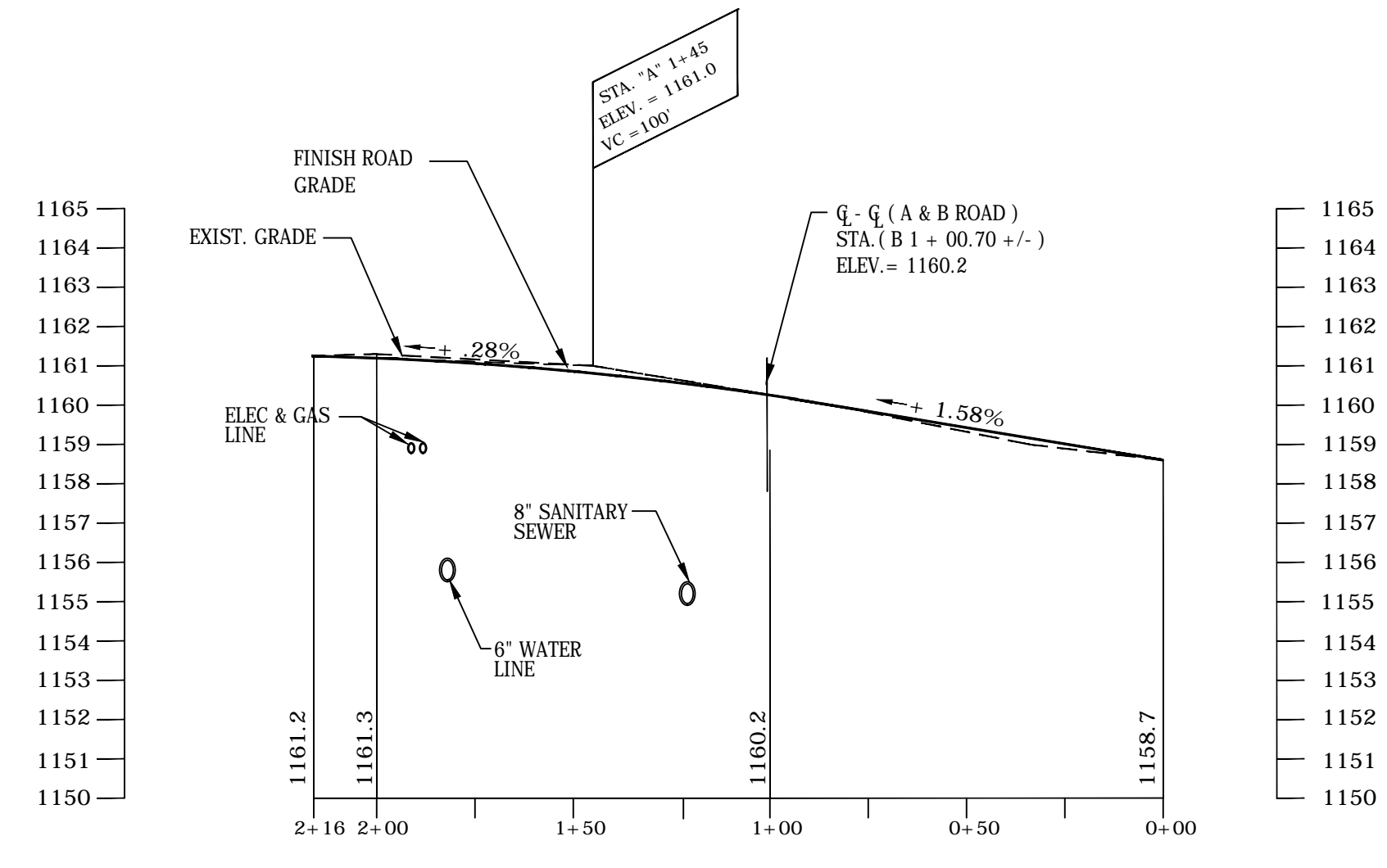


TIMOTHY C. BUHL, P.E.

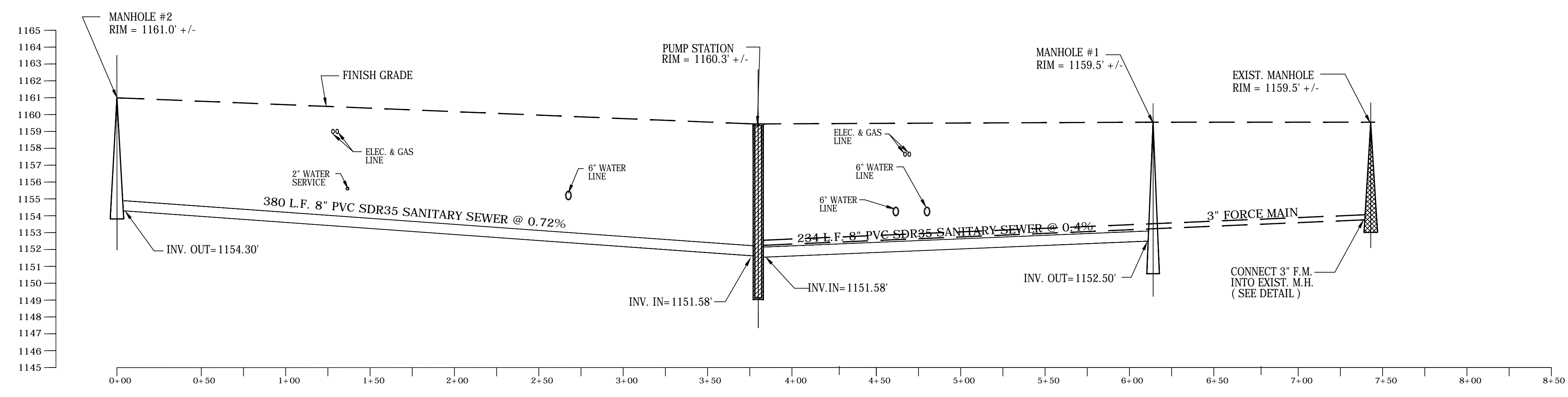
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SCALE: N.T.S.  
DRAWN: MB  
JOB:  
SHEET:



**"A" ROAD PROFILE: VERT. = 10x HOR.**



**"B" ROAD PROFILE: VERT. = 10x HOR.**

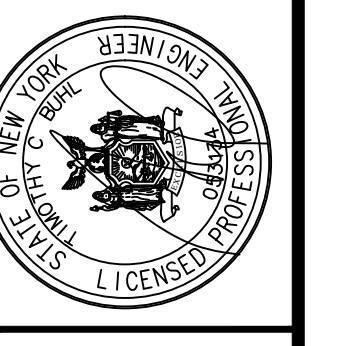


**SANITARY SEWER PROFILE : VERT. = 10x HOR.**

No.	Date	SYM.

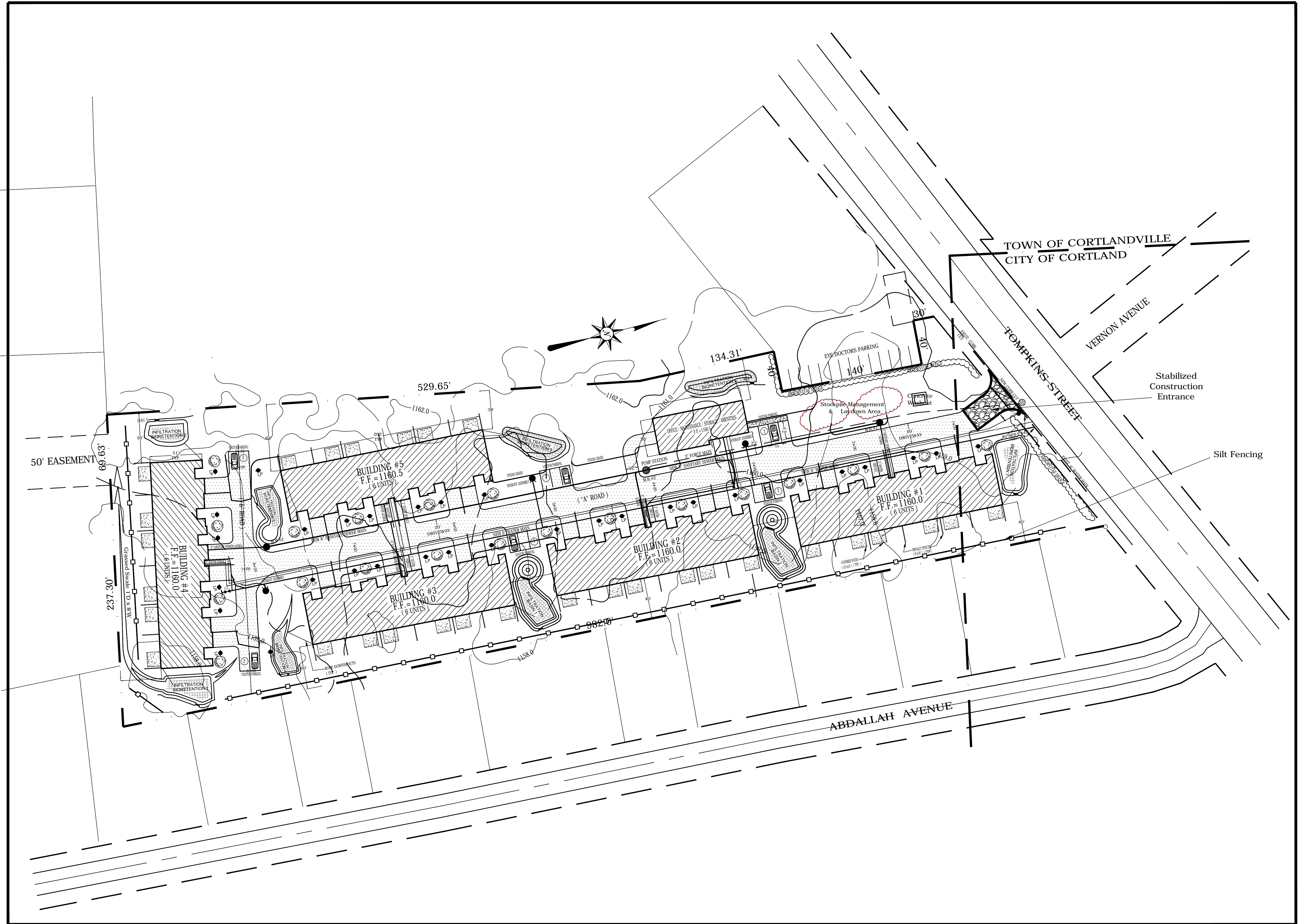
**ROAD & SANITARY SEWER PROFILES**  
 CORNERSTONE PROPERTIES  
 CORTLAND, LLC  
 14 HICKORY LANE  
 CORTLAND, N.Y. 13845

PROP. WOODLAND COURT APTS.  
 NYS RTE 13 (TOMPKINS ST)  
 CORTLANDVILLE (D), N.Y.



**TIMOTHY C. BUHL, P.E.**

DATE: AUG. 27, 2020  
 SCALE: 1" = 40'  
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 SHEET:  
**ST-5**

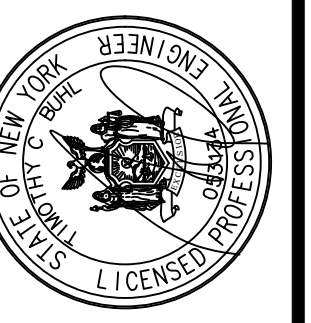


No.	Date	SYM.

**E&SC PLAN**

CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13845

PROP. WOODLAND COURT APTS.  
NYS RTE 13 (TOMPKINS ST)  
CORTLANDVILLE (D.), N.Y.



**TIMOTHY C. BUHL, P.E.**

DATE: SEPT. 11, 2020  
SCALE: 1" = 40'  
DRAWN: MB  
JOB:  
SHEET: **ST-6**

**GENERAL NOTES**

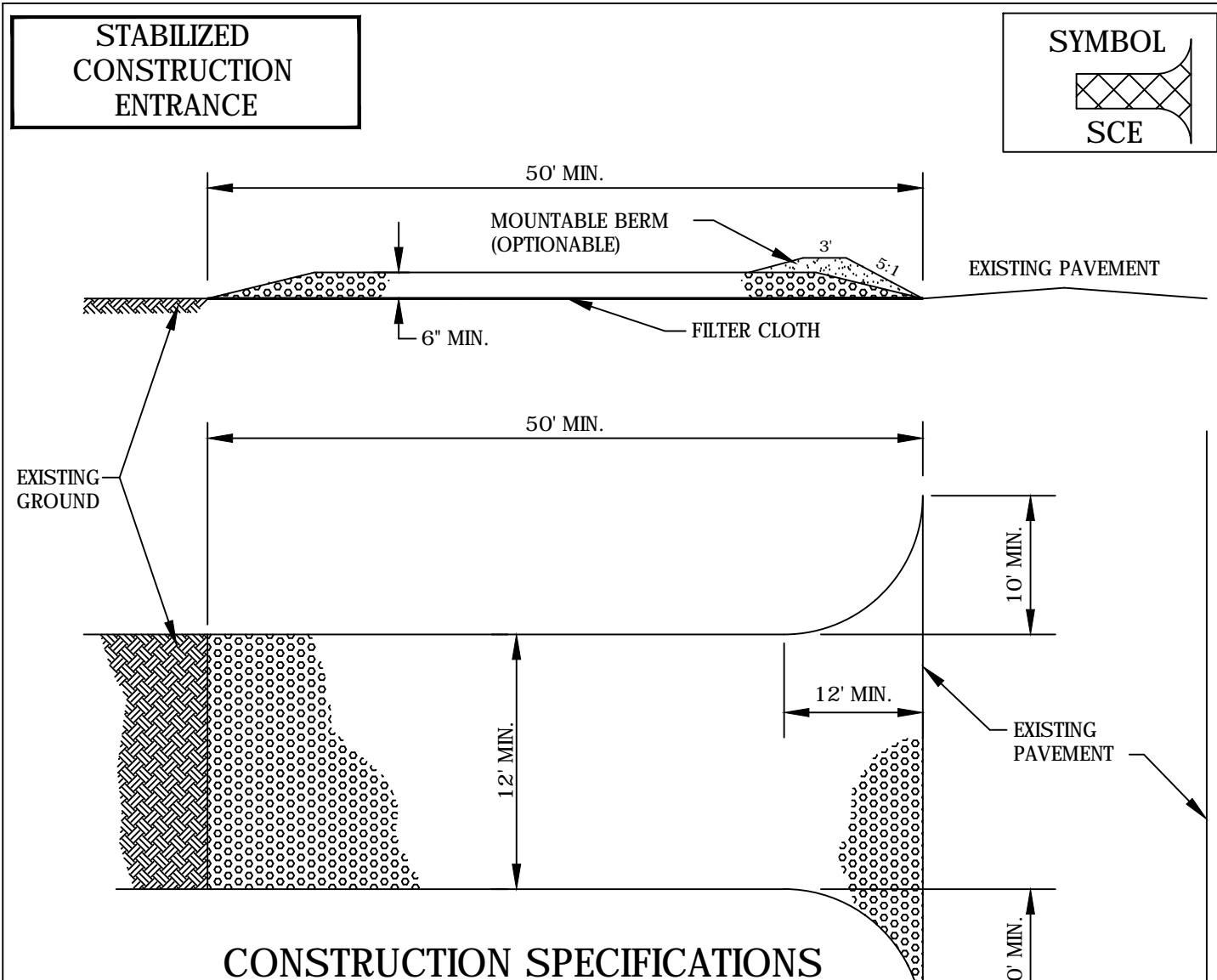
NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, NOVEMBER 2016

- PHYSICALLY MARK LIMITS OF LAND DISTURBANCE ON THE SITE WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE, SO THAT WORKERS CAN SEE THE AREAS TO BE PROTECTED.
- DIVERT OFF-SITE RUNOFF FROM HIGHLY ERODIBLE SOILS AND STEEP SLOPES TO STABLE AREAS.
- CLEAR ONLY WHAT IS REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITY. LARGE PROJECTS SHOULD BE CLEARED AND GRADED AS CONSTRUCTION PROGRESSES. AREAS EXCEEDING TWO ACRES IN SIZE SHOULD NOT BE DISTURBED WITHOUT A SEQUENCING PLAN THAT REQUIRES PRACTICES TO BE INSTALLED AND THE SOIL STABILIZED, AS DISTURBANCE BEYOND THE TWO ACRES CONTINUES. MASS CLEARINGS AND GRADING OF ENTIRE SITE SHOULD BE AVOIDED.
- RESTABILIZE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETED. ON SITES GREATER THAN TWO ACRES IN SIZE, WAITING UNTIL ALL DISTURBED AREAS ARE READY FOR SEEDING IS UNACCEPTABLE. FOURTEEN DAYS SHALL BE THE MAXIMUM EXPOSURE PERIOD. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. EXCEPT AS NOTED BELOW, ALL SITES SHALL BE SEEDED AND STABILIZED WITH EROSION CONTROL MATERIALS, SUCH AS STRAW MULCH, JUTE MESH, OR EXCELSIOR, INCLUDING AREAS WHERE CONSTRUCTION HAS BEEN SUSPENDED OR SECTIONS COMPLETED.
  - FOR ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 50 FT. OF A BUILDING UNDER CONSTRUCTION, A PERIMETER SEDIMENT CONTROL SYSTEM CONSISTING, FOR EXAMPLE, SILT FENCING, SHALL BE INSTALLED AND MAINTAINED TO CONTAIN SOIL. EXPOSED DISTURBED AREAS ADJACENT TO A CONVEYANCE THAT PROVIDES RAPID OFF-SITE DISCHARGE OF SEDIMENT, SUCH AS A CUT SLOPE AT AN ENTRANCE, SHALL BE COVERED WITH PLASTIC OR, GEOTEXTILE FABRIC TO PREVENT SOIL LOSS UNTIL IT CAN BE STABILIZED. STABILIZED CONSTRUCTION ENTRANCES WILL BE MAINTAINED TO CONTROL VEHICLE TRACKING MATERIAL OFF-SITE.
  - ON THE CUT SIDE OF ROADS, DITCHES SHALL BE STABILIZED IMMEDIATELY WITH ROCK RIP-RAP OR OTHER NON-ERODIBLE LINERS (EG. ROLLED EROSION PRODUCTS), OR WHERE APPROPRIATE, VEGETATIVE MEASURES SUCH AS SOD.
  - PERMANENT SEEDING SHOULD OPTIMALLY BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM SEPTEMBER TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICABLE, AN APPROPRIATE TEMPORARY MULCH SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE WATERING. TEMPORARY SEEDING WITH RYE CAN BE UTILIZED THROUGH NOVEMBER.
  - ALL SLOPES STEEPER THAN 3:1 (H:V), OR 33.3%, AS WELL AS PERIMETER DIKES, SEDIMENT BASINS AND TRAPS, AND EMBANKMENTS SHALL, UPON COMPLETION, BE IMMEDIATELY STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES. AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL NOT BE DISTURBED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
  - TEMPORARY SEDIMENT TRAPPING DEVICES SHALL NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS. SIMILARLY, STABILIZATION SHALL BE ESTABLISHED PRIOR TO CONVERTING SEDIMENT TRAPS/BASINS INTO PERMANENT (POST-CONSTRUCTION) STORMWATER MANAGEMENT PRACTICES.

- IF TEMPORARY WORK ROADS OR HAUL ROADS CROSS STREAM CHANNELS, ADEQUATE WATERWAY OPENINGS SHALL BE CONSTRUCTED USING SPANS, CULVERTS, WASHED ROCK BACKFILL, OR OTHER ACCEPTABLE, CLEAN METHODS THAT WILL ENSURE THAT ROAD CONSTRUCTION AND THEIR USE DO NOT RESULT IN TURBIDITY AND SEDIMENT DOWNSTREAM. ALL CROSSING ACTIVITIES AND APPURTENANCES ON STREAMS REGULATED BY ARTICLE 15 OF THE ENVIRONMENTAL CONSERVATION LAW SHALL BE IN COMPLIANCE WITH A PERMIT ISSUED PURSUANT TO ARTICLE 15 OF THE ECL.
- MAKE SURE THAT ALL CONTRACTORS AND SUB-CONTRACTORS UNDERSTAND THE ESC PLAN AND SIGN THE CERTIFICATION STATEMENT REQUIRED BY NYSDEC GP.
- DESIGNATE RESPONSIBILITY FOR THE ESC PLAN TO ONE INDIVIDUAL. THIS PERSON SHALL BE NAMED IN THE NOTICE OF INTENT.
- AN ESC PLAN INSPECTION PROGRAM MEETING THE REQUIREMENTS OF THE NYSDEC GP, IS NECESSARY TO DETERMINE WHEN ESC MEASURES NEED MAINTENANCE OR REPAIR. PAY PARTICULAR ATTENTION TO INSPECTIONS REQUIRED AFTER RAINFALL. THE INSPECTION PROGRAM SHALL ALSO STATE THE COMPLETION OF IDENTIFIED REPAIR AND MAINTENANCE ITEMS.
- IF CONSTRUCTION ACTIVITIES CONTINUE DURING WINTER, ACCESS POINTS SHOULD BE ENLARGED AND STABILIZED TO PROVIDE FOR SNOW STOCKPILING. IN ADDITION SNOW MANAGEMENT PLAN SHOULD BE PREPARED WITH ADEQUATE STORAGE AND CONTROL OF MELTWATER. A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCING. KEEP DRAINAGE STRUCTURES OPEN AND FREE OF SNOW AND ICE DAMS. INSPECTION AND MAINTENANCE ARE NECESSARY TO ENSURE THE FUNCTION OF THESE PRACTICES DURING RUNOFF EVENTS.

**LAND GRADING SPECIFICATIONS**

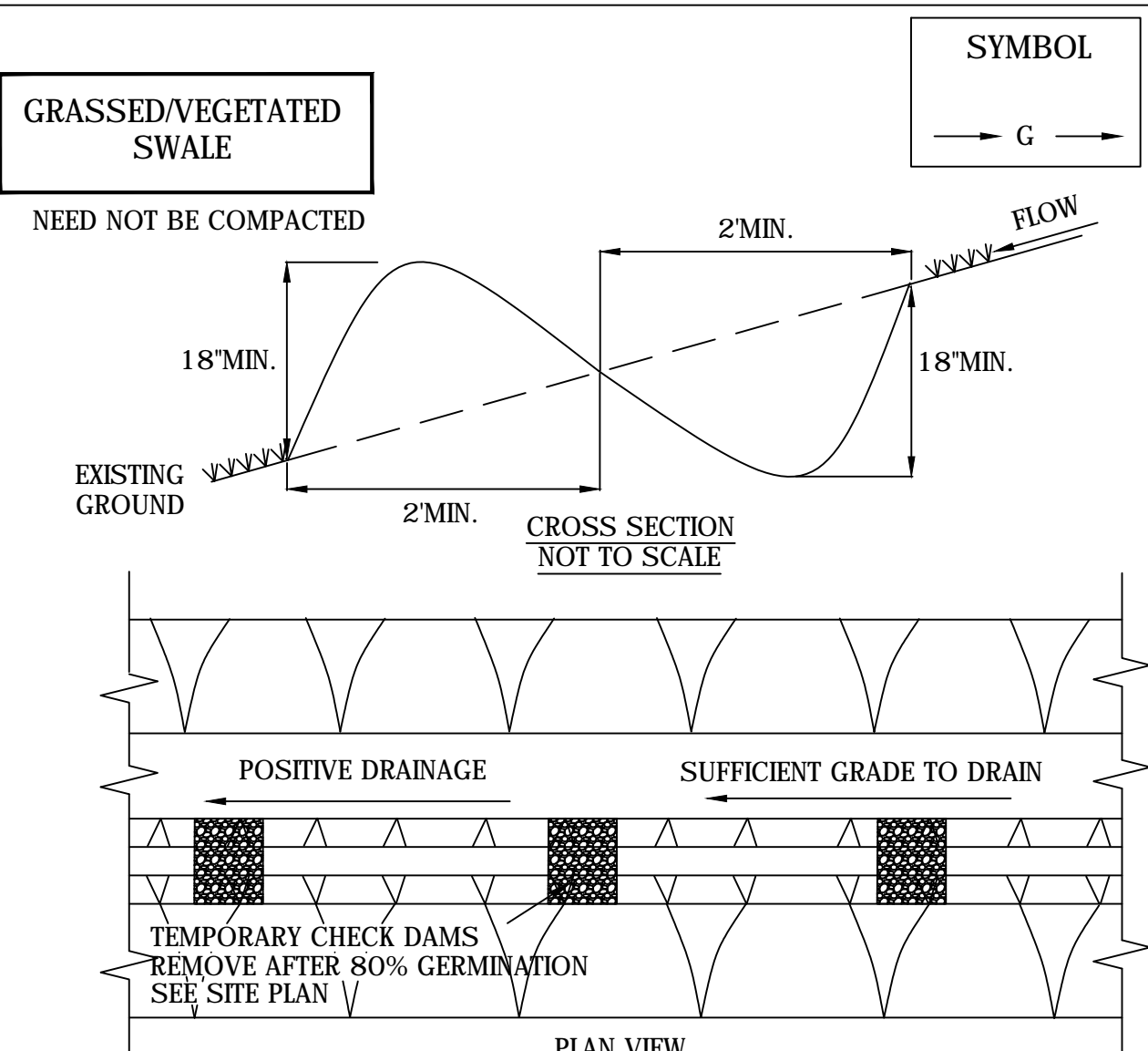
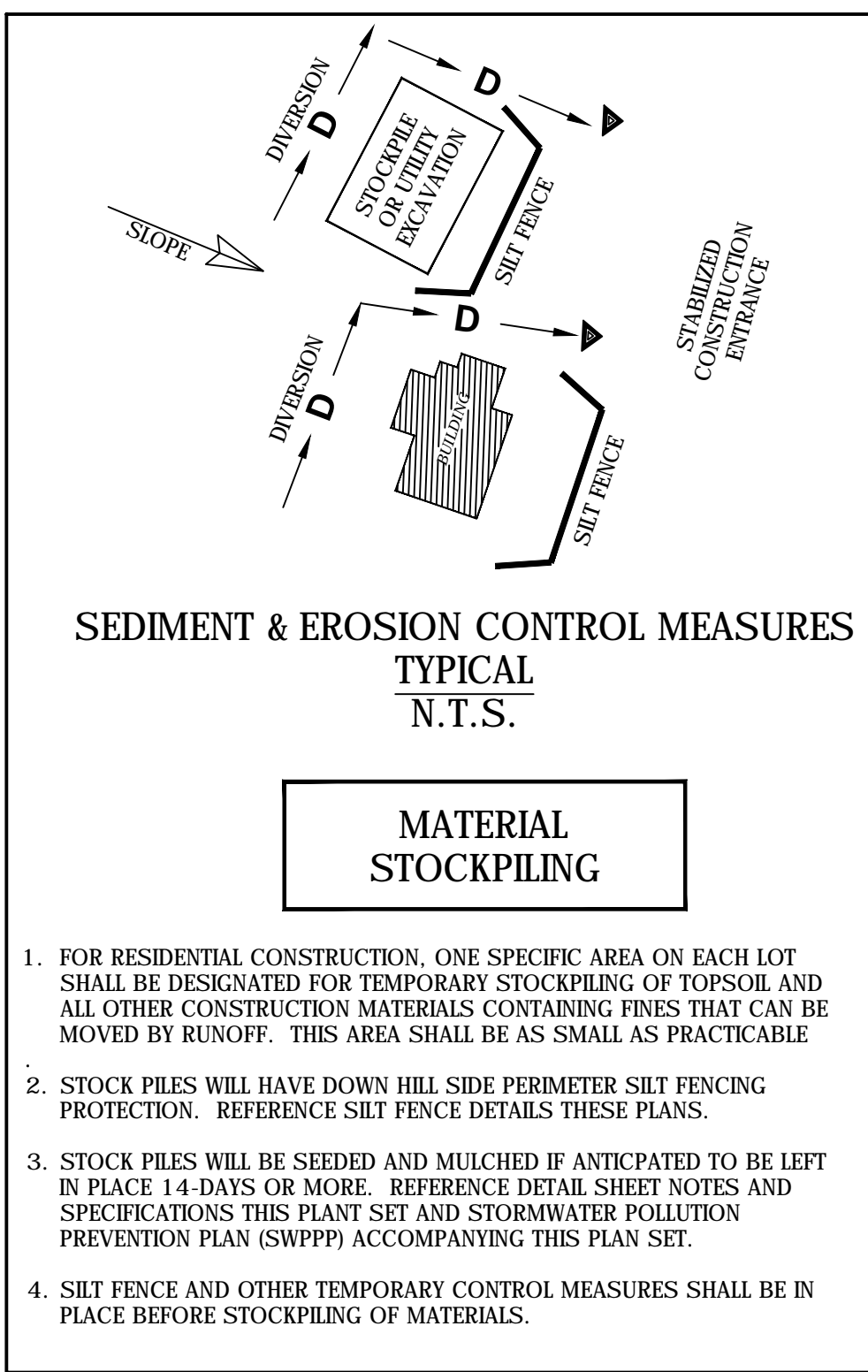
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL FILL TO BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATION.



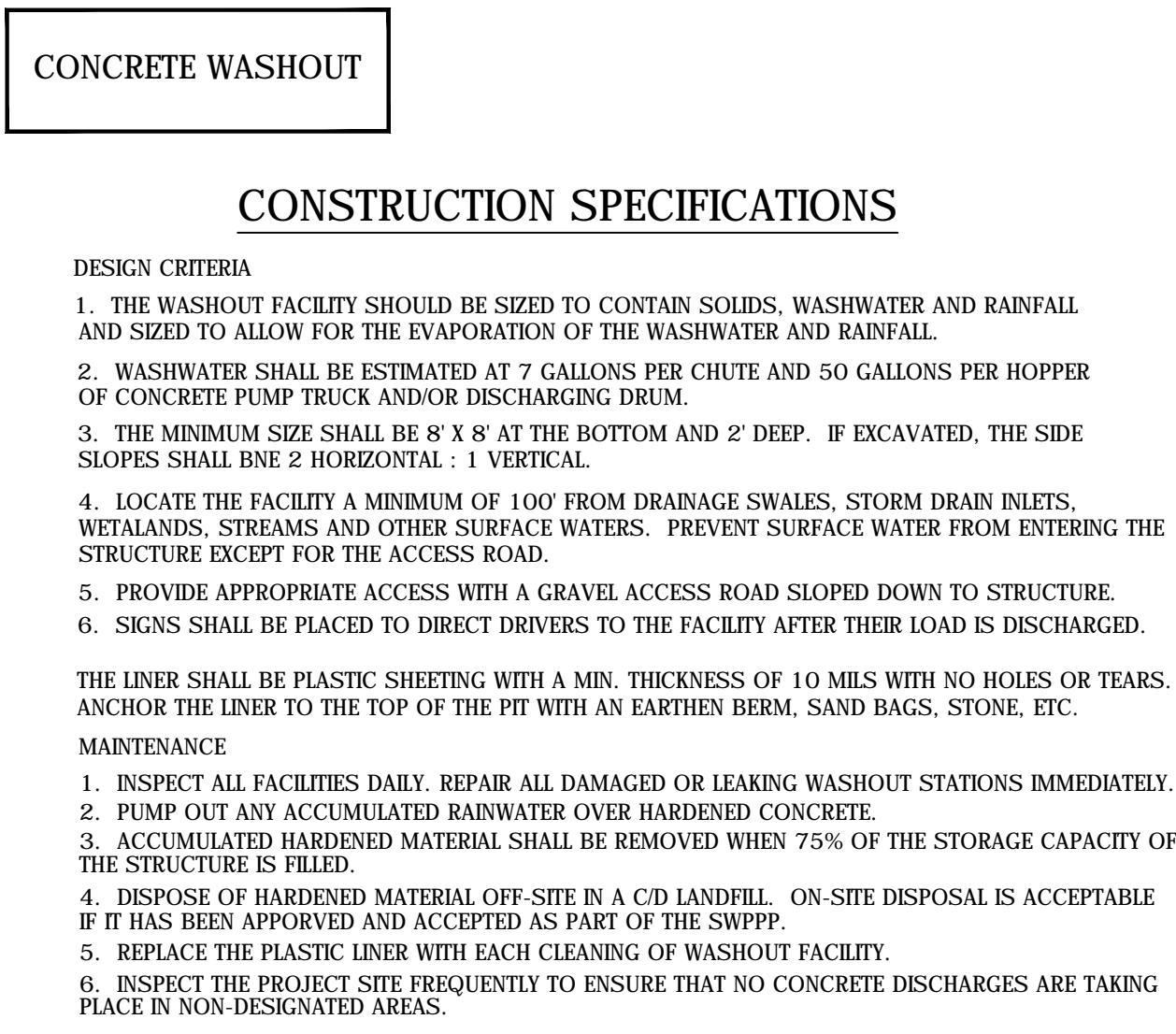
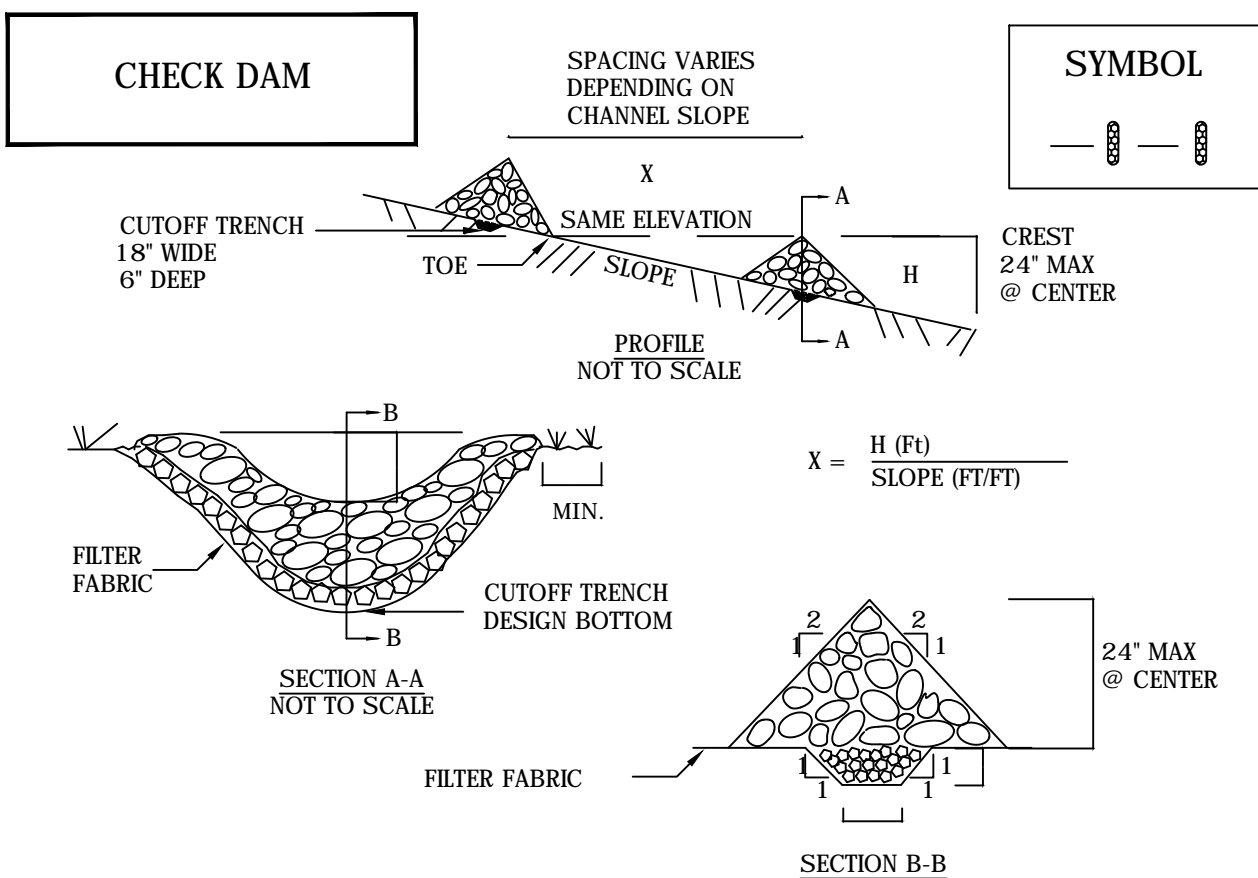
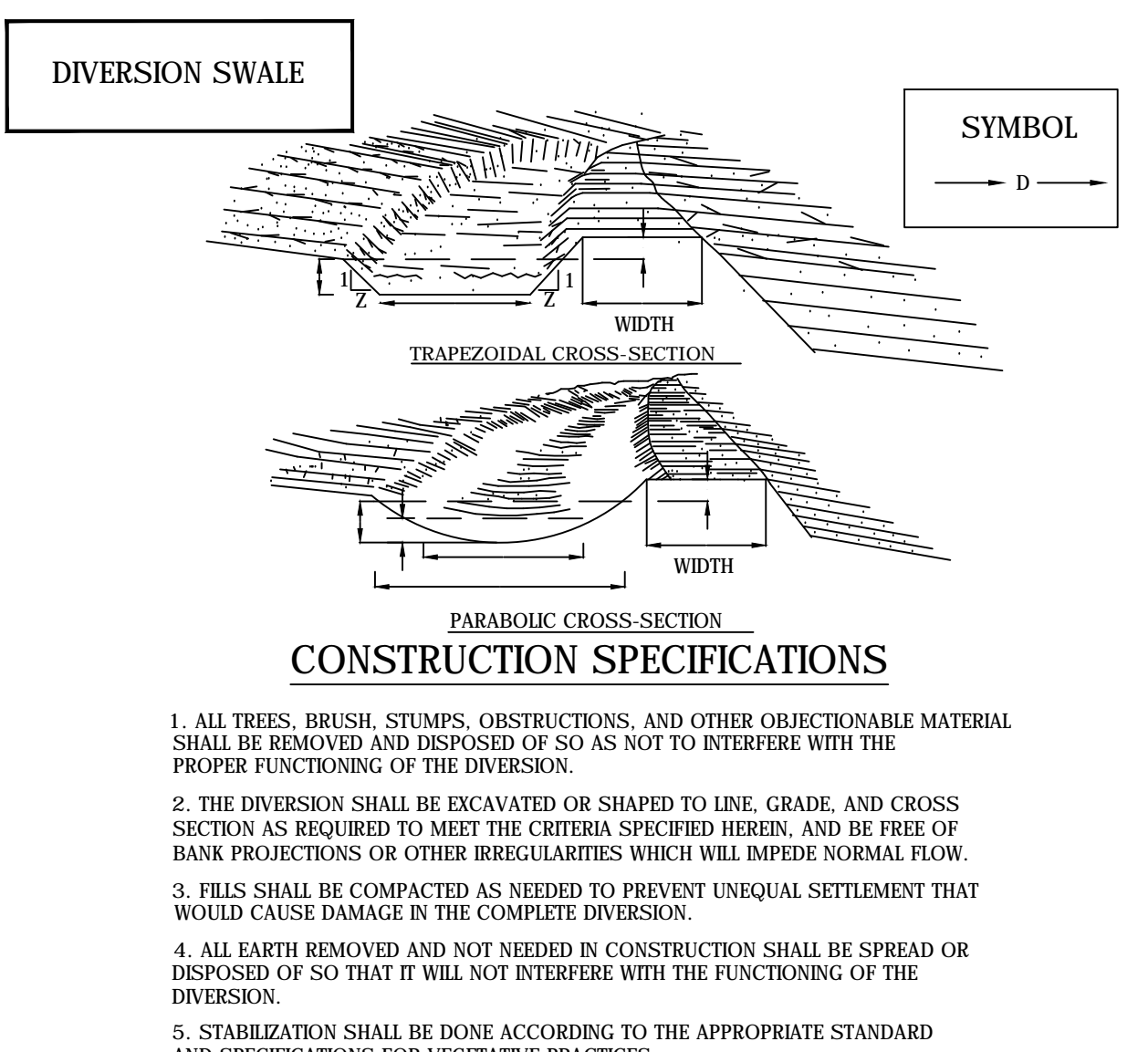
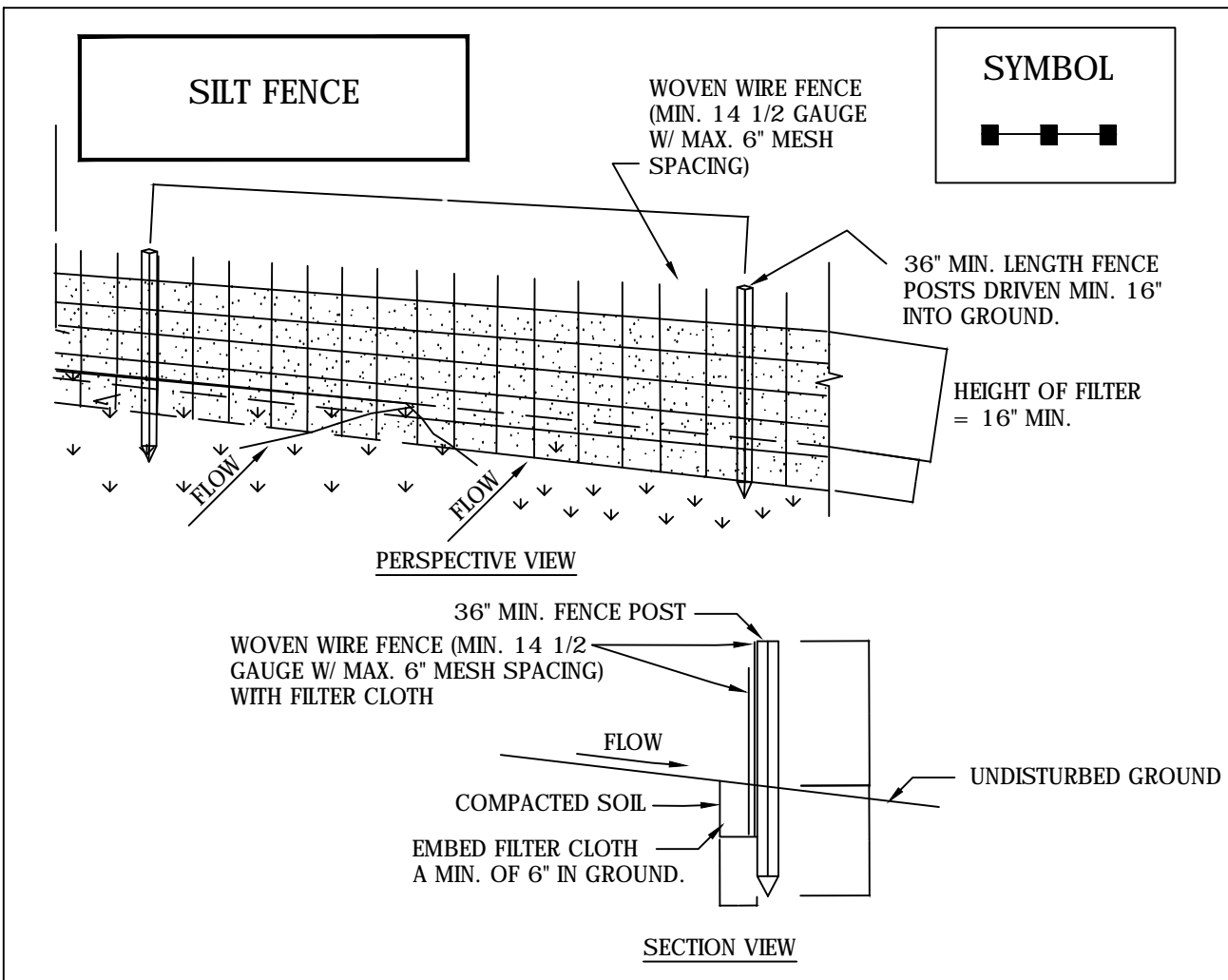
- CONSTRUCTION SPECIFICATIONS**
- STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  - LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MIN. LENGTH WOULD APPLY).
  - THICKNESS - NOT LESS THAN SIX (6) INCHES.
  - WIDTH - TWELVE (12) FOOT MIN. BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
  - FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
  - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
  - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICES.
  - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
  - TEMPORARY CONSTRUCTION ENTRANCES, EXITS AND TEMPORARY ACCESS SHALL BE SUBJECT TO THE APPROVAL OF THE APPROPRIATE AUTHORITIES.

**TOP SOILING SPECIFICATIONS**

- PRESERVE EXISTING TOPSOIL IN PLACE WHERE POSSIBLE, THEREBY REDUCING THE NEED FOR ADDED TOPSOIL.
- AS NEEDED, INSTALL EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, CHANNELS, SEDIMENT TRAPS, AND STABILIZING MEASURES, OR MAINTAIN IF ALREADY INSTALLED.
- COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED.
- SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%. AREAS THAT HAVE BEEN OVERLY COMPACTED SHALL BE DECOMPACTED TO A MINIMUM DEPTH OF 12-INCHES WITH A DEEP RIPPER OR CHISEL PLOW PRIOR TO TOPSOILING.
- REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3-INCHES IN DIAMETER, AND OTHER LITTER.
- TOPSOIL SHALL HAVE AT LEAST 6% BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN 20%. MUCK SOIL SHALL NOT BE CONSIDERED TOPSOIL.
- TOPSOIL SHALL HAVE NOT LESS THAN 20% FINE TEXTURED MATERIAL (PASSING THE NO. 200 SIEVE) AND NOT MORE THAN 15% CLAY.
- TOPSOIL TREATED WITH SOIL STERILANTS OR HERBICIDES SHALL BE SO IDENTIFIED TO THE PURCHASER.
- TOPSOIL SHALL BE RELATIVELY FREE OF STONES OVER 1 1/2-INCHES IN DIAMETER, TRASH, NOXIOUS WEEDS SUCH AS NUT SEDGE AND QUACKGRASS, AND WILL HAVE LESS THAN 10% GRAVEL.
- TOPSOIL CONTAINING SOLUBLE SALTS GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
- TOPSOIL SHALL BE DISTRIBUTED TO A UNIFORM DEPTH OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTIALLY FROZEN, MUDDY, OR ON FROZEN SLOPES OR OVER ICE, SNOW, OR STANDING WATER PUDDLES.
- TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDED, MULCHED, AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.



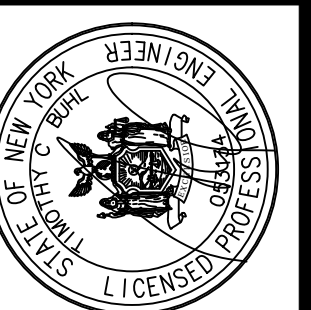
- CONSTRUCTION SPECIFICATIONS**
- GRASSED/VEGETATED SWALE**
- DRAINAGE AREA SHALL BE LESS THAN 5 ACRES.
  - HEIGHT SHALL BE NO LESS THAN 18-INCHES FROM BOTTOM OF SWALE TO TOP OF DIKE EVENLY DIVIDED BETWEEN DIKE HEIGHT AND SWALE DEPTH.
  - BOTTOM WIDTH OF DIKE SHALL BE NO LESS THAN 2-FEET.
  - WIDTH OF SWALE SHALL BE NO LESS THAN 2-FEET.
  - SWALE SHALL HAVE POSITIVE DRAINAGE TO AN ADEQUATELY STABILIZED OUTLET TO AN UNDISTURBED AREA. MAXIMUM ALLOWABLE GRADE NOT TO EXCEED 8%.
  - THE DISTURBED AREA OF THE DIKE AND SWALE SHALL BE STABILIZED WITHIN 7 DAYS OF INSTALLATION, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR TEMPORARY SWALES.
  - DIVERTED RUNOFF FROM A DISTURBED OR EXPOSED UPLAND AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A TRAP, BASIN, OR TO AN AREA PROTECTED BY ANY OF THESE PRACTICES.
  - PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



**E&S DETAILS**

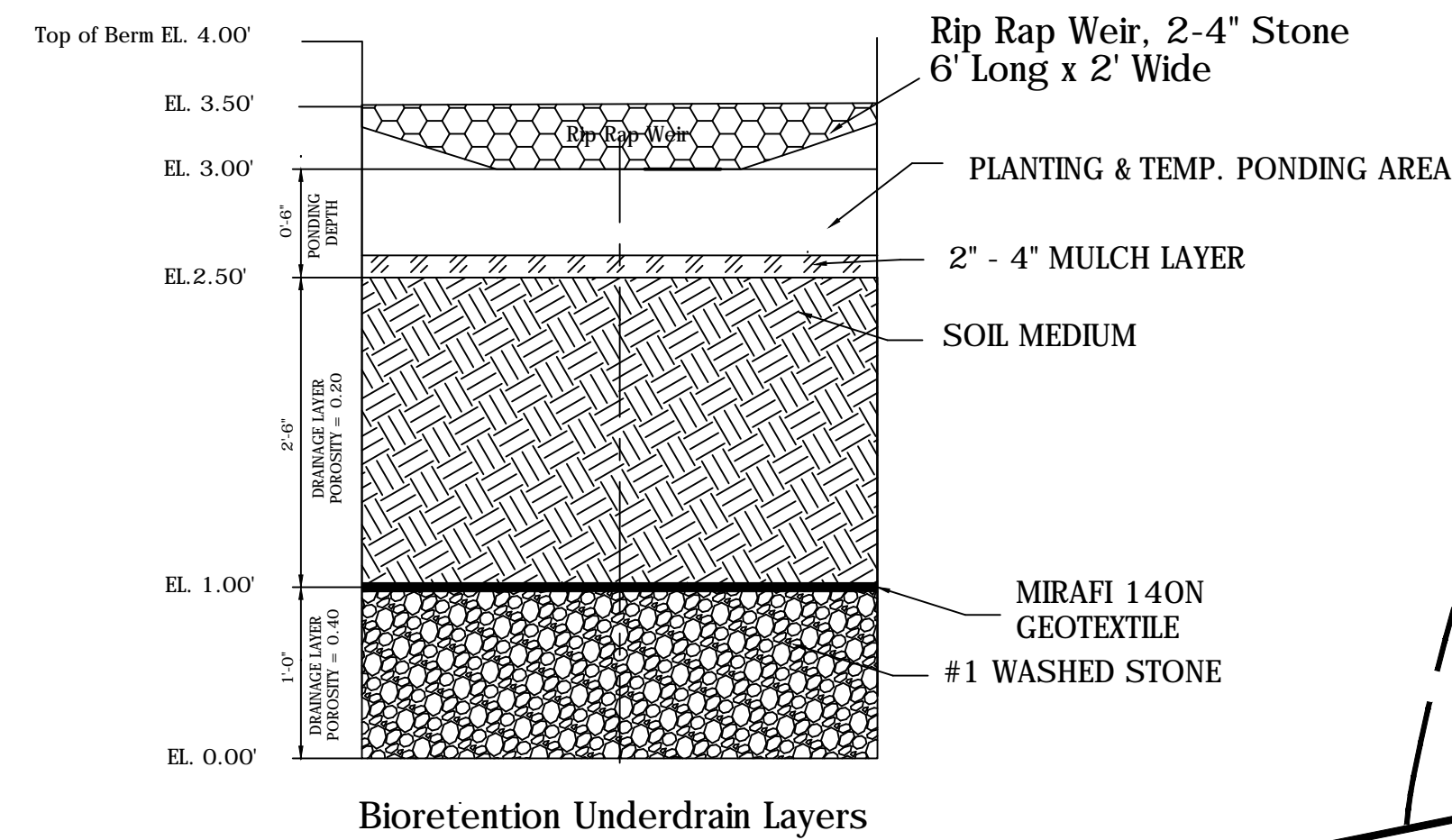
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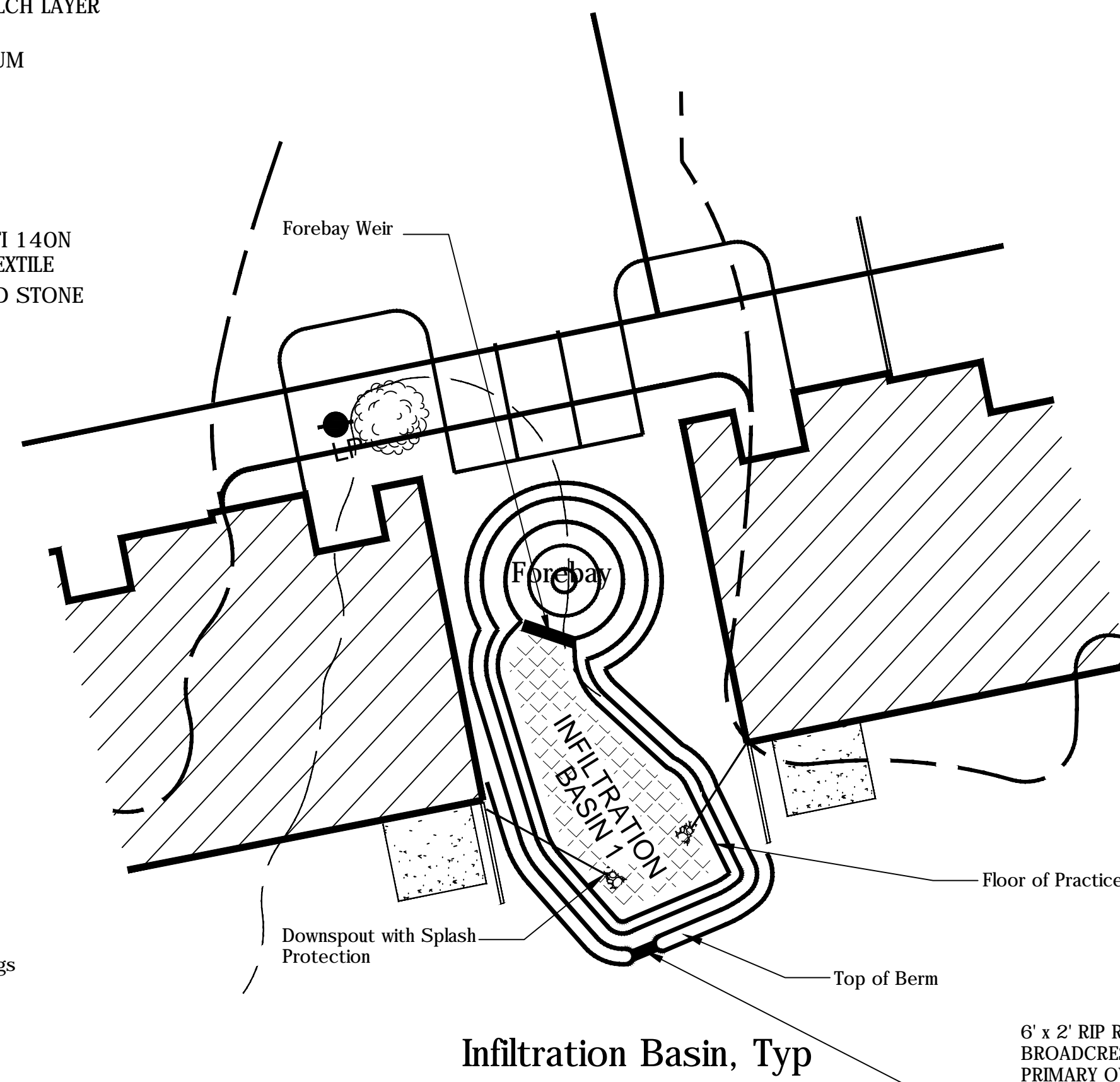


**TIMOTHY C. BUHL, P.E.**

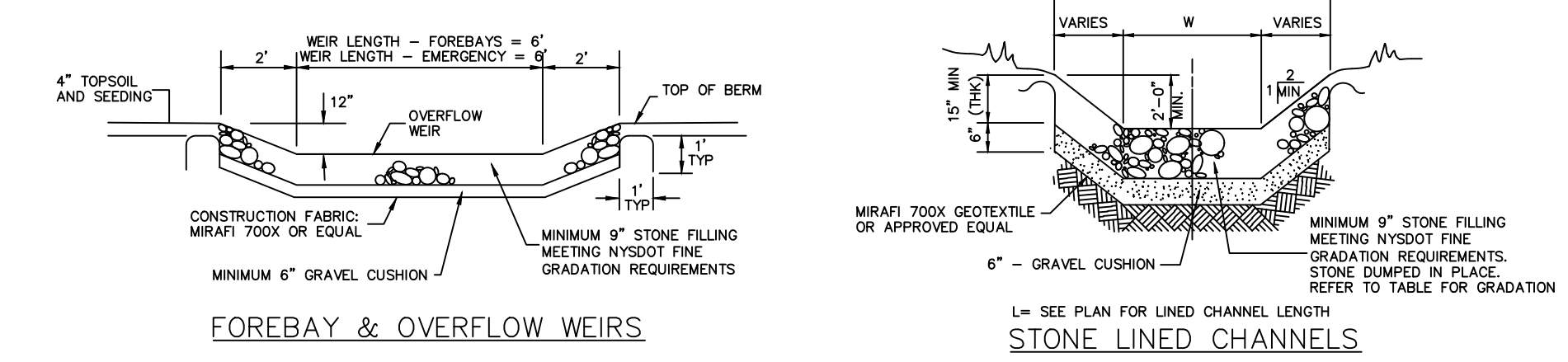
DATE: SEPT. 11, 2020  
SCALE: N.T.S.  
DRAWN: SDG  
JOB:  
SHEET:



Bioretention Area, Typ



Infiltration Basin, Typ



FOREBAY & OVERFLOW WEIRS

STONE LINED CHANNELS

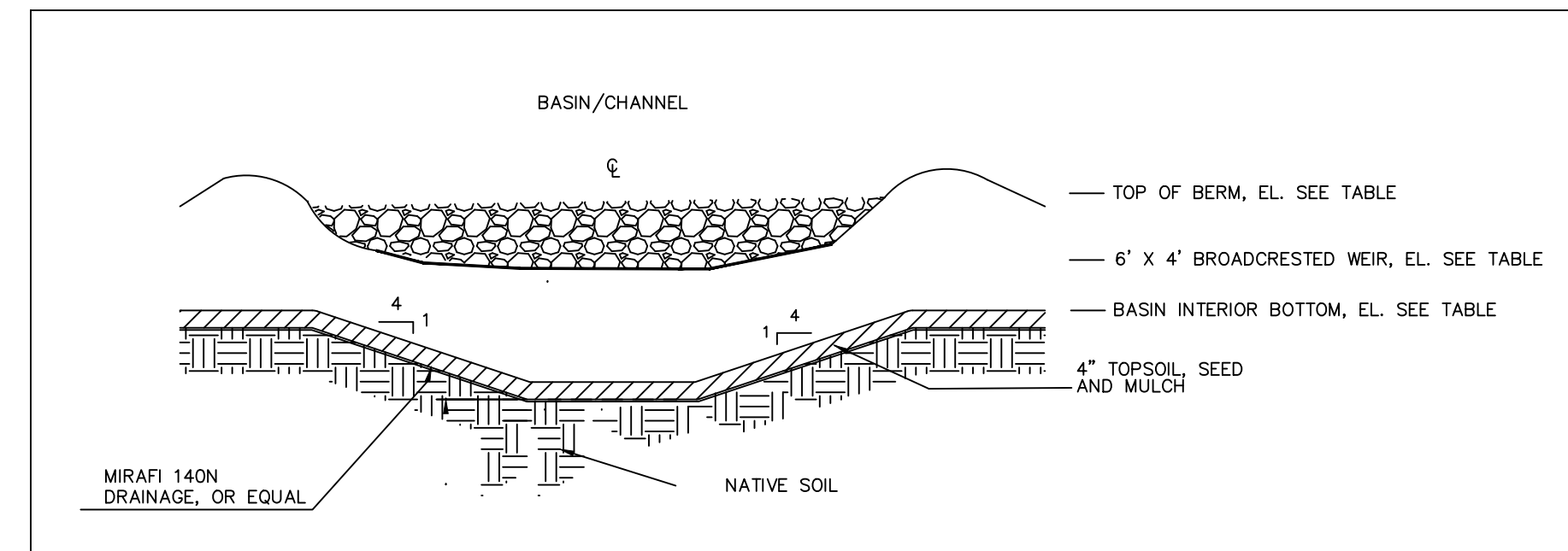
- NOTES:  
BASIN EMBANKMENT CONSTRUCTION:
- EMBANKMENT MATERIAL SPECIFICATIONS: EMBANKMENT CORE AND CUT OFF TRENCH MATERIAL SHALL BE MATERIAL CONFORMING TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL WITH AT LEAST 30% PASSING #200 SIEVE. CORE AND CUT OFF TRENCH MATERIAL SHALL BE STOCKPILED SEPARATELY FROM OUTER SHELL MATERIAL. MATERIAL SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6-INCHES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. STOCKPILED MATERIAL SHALL BE COVERED AND PROTECTED FROM WATER, TRAFFIC AND OTHER DELETERIOUS SUBSTANCES OR PROCESSES.
  - EMBANKMENT COMPACTION: EMBANKMENT FILL SHALL BE PLACED IN 12-INCH LIFTS MAXIMUM AND COMPACTED. THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2% OF OPTIMUM. ALL COMPACTION TO BE DETERMINED BY AASHTO METHOD 99 STANDARD PROCTOR.
  - EMBANKMENT CORE DIMENSIONS: THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP MOUTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10' HEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION COMPACTION EQUIPMENT, ROLLERS, OR TAMPS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. THE CORE SHALL BE CONSTRUCTED/PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.
  - EMBANKMENT SURFACE: A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON ENTIRE SURFACE AREA OF THE EMBANKMENT. GOOD GRASSSED COVER SHALL BE ESTABLISHED BY SEEDING, LIMING, FERTILIZING, MULCHING, ETC. IN ACCORDANCE WITH NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. EMBANKMENT SHALL BE KEPT FREE OF WOODY PLANT GROWTH AND TREES.

STONE LINING FOR STORMWATER CONVEYANCE SECTIONS						
MIN THICKNESS (INCH)	STONE FILLING ITEM	V MAX 2' DEPTH	SEE NOTES	STONE SIZE <sup>1</sup>	PERCENT OF TOTAL BY WEIGHT	MANNING'S ROUGHNESS COEFF. "N"
9"	FINE	11.0 FPS	2,3,4	SMALLER THAN 8" LARGER THAN 3" SMALLER THAN NO. 10 SIEVE	90-100 50-100 0-10	0.0314
15"	LIGHT	13.0 FPS	2,3,4	LIGHTER THAN 100 LBS LARGER THAN 6" SMALLER THAN 1/2"	90-100 50-100 0-10	0.0352
18"	MEDIUM	15.5 FPS	2,3,4	HEAVIER THAN 100 LBS SMALLER THAN 4"	50-100 0-10	0.0396
30"	HEAVY	17.0 FPS	2,3,4	HEAVIER THAN 100 LBS SMALLER THAN 6"	50-100 0-10	0.0423

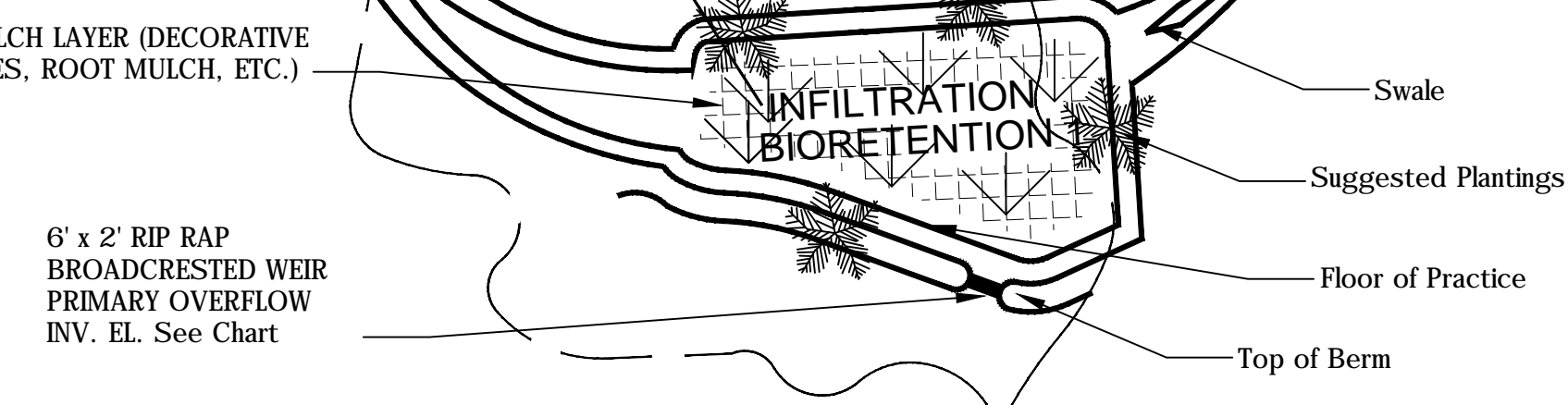
<sup>1</sup> SOURCE: HYDRAULIC ENGINEERING CIRCULAR NO. 15 DESIGN OF STABLE CHANNELS WITH FLEXIBLE LININGS  
<sup>2</sup> SOURCE: SOILS DESIGN PROCEDURE S022, BANK AND CHANNEL PROTECTIVE LINING DESIGN PROCEDURES

- NOTES:
- STONE SIZES, OTHER THAN WEIGHTS, REFER TO THE AVERAGE OF THE MAXIMUM AND MINIMUM DIMENSIONS GREATER THAN THREE.
  - MATERIALS SHALL CONTAIN LESS THAN 20 PERCENT OF STONES WITH A RATIO OF MAXIMUM TO MINIMUM DIMENSIONS GREATER THAN THREE.
  - AIR-COOLED BLAST FURNACE SLAG, COBBLES OR GRAVEL HAVING AT LEAST ONE FRACTURED FACE PER ACCEPTABLE SUBSTITUTES FOR STONE UNDER THESE ITEMS, PROVIDED THAT SOUNDNESS AND GRADATION REQUIREMENTS ARE MET.
  - MATERIALS SHALL CONTAIN A SUFFICIENT AMOUNT OF STONES SMALLER THAN THE AVERAGE STONE SIZE TO FILL THE SPACES BETWEEN THE STONES.

TYPICAL OUTLET, OVERFLOW, AND CHANNEL DETAILS  
REFERENCE THE BASIN PLAN & SECTION SHEETS FOR ELEVATIONS, DIMENSIONS, LINES & GRADES



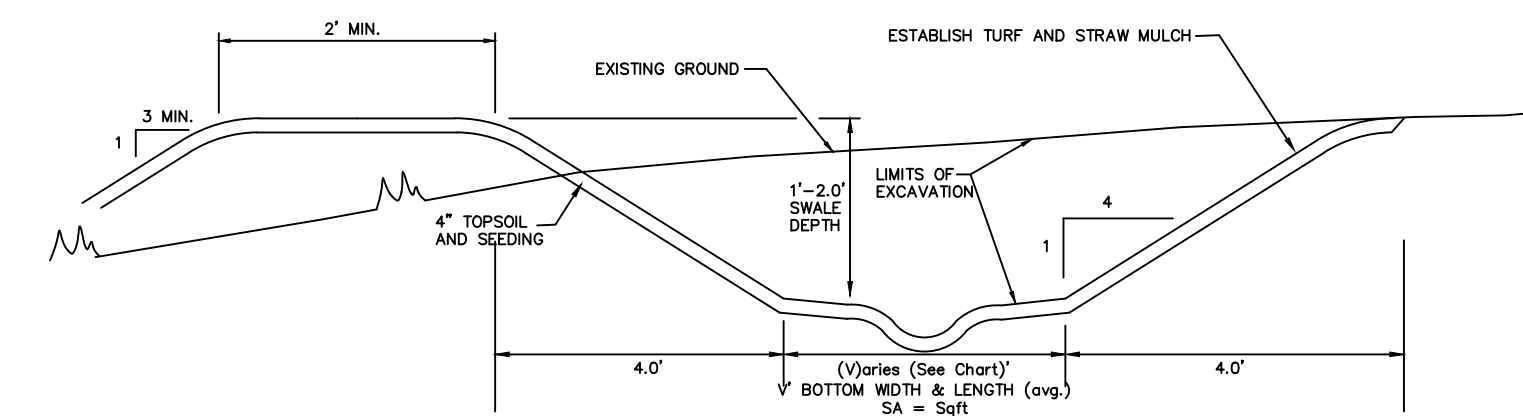
CROSS-SECTION - INFILTRATION BASIN, TYP.  
DIMENSIONS VARY AS PER PLAN



Bioretention Area, Typ



BROADCRESTED OUTLET WEIRS



Cross-Section Bioretention Area  
DIMENSIONS VARY AS PER PLAN

**SPECIFICATIONS FOR BIORETENTION SYSTEMS**

**Planting Soil**  
The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of noxious weeds.

**Planting soil** shall be of a sandy loam consistency containing approximately 75% concrete sand, 25% top soil and organics.

**Compaction**  
Minimum compaction of both the base of the bioretention area and the required backfill. Place soil in lifts 12" or greater. Do not use heavy equipment within the bioretention area basin.

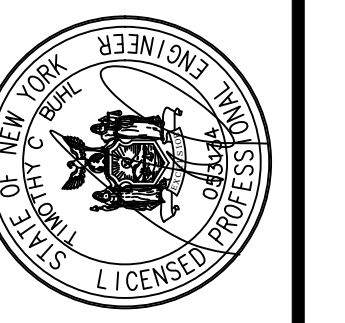
Bioretention Suggested Plantings - USDA Zone 5A	
SHRUBS	HERBACEOUS PLANTS
Witch Hazel <i>Hamamelis virginiana</i>	Cinnamon Fern <i>Osmunda cinnamomea</i>
Winterberry <i>Ilex verticillata</i>	Cutleaf Coneflower <i>Rudbeckia laciniata</i>
Arrowwood <i>Viburnum dentatum</i>	Woolgrass <i>Scirpus cyperinus</i>
Brook-side Alder <i>Alnus serrulata</i>	New England Aster <i>Aster novae-angliae</i>
Red-Osier Dogwood <i>Cornus stolonifera</i>	Fox Sedge <i>Carex vulpinoidea</i>
Sweet Pepperbush <i>Clethra alnifolia</i>	Spotted Joe-Pye Weed <i>Eupatorium maculatum</i>
	Switch Grass <i>Panicum virgatum</i>
	Great Blue Lobelia <i>Lobelia siphatica</i>
	Wild Bergamot <i>Mondarda fistulosa</i>
	Red Milkweed <i>Asclepias incarnata</i>

Bioretention Area and Infiltration Basin Details								
Location	Bottom Length (ft)	Bottom Width (ft)	Bottom Surface Area (Sqft)	Floor of Practice El. (ft)	Bottom of Practice El. (ft)	Berm El (ft)	Forebay Weir Overflow Inv. El. (ft)	Emergency Overflow Inv. El. (ft)
Bioretention Area 1	44	44	1068	1157.0	1153.5	1158.5	-NA-	1157.50
Bioretention Area 2	34	14	503	1160.5	1157.0	1162.0	-NA-	1161.00
Bioretention Area 3	51	15	800	1160.0	1156.5	1161.5	-NA-	1160.50
Bioretention Area 4	41	22	900	1158.0	1154.5	1372.5	-NA-	1159.50
Bioretention Area 5	55	8	450	1160.0	1156.5	1161.5	-NA-	1160.50
Bioretention Area 6	55	5	275	1159.5	1156.0	1161.0	-NA-	1160.00
Bioretention Area 7	50	24	1220	1158.0	1154.5	1159.5	-NA-	1158.50
Infiltration Basin 1	48	23	1079	1157.0	1157.0	1159.5	1157.50	1158.75
Infiltration Basin 2	48	23	1079	1157.0	1157.0	1159.5	1157.50	1158.50

No.	Date	SYM.

**STORMWATER CONTROL DETAILS**  
CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13845

PROP. WOODLAND COURT APTS,  
NYS RTE 13 (TOMPKINS ST)  
CORTLANDVILLE (D), N.Y.



**TIMOTHY C. BUHL, P.E.**

DATE: SEPT. 11, 2020  
SCALE: N.T.S.  
DRAWN: SDG  
JOB:  
SHEET:



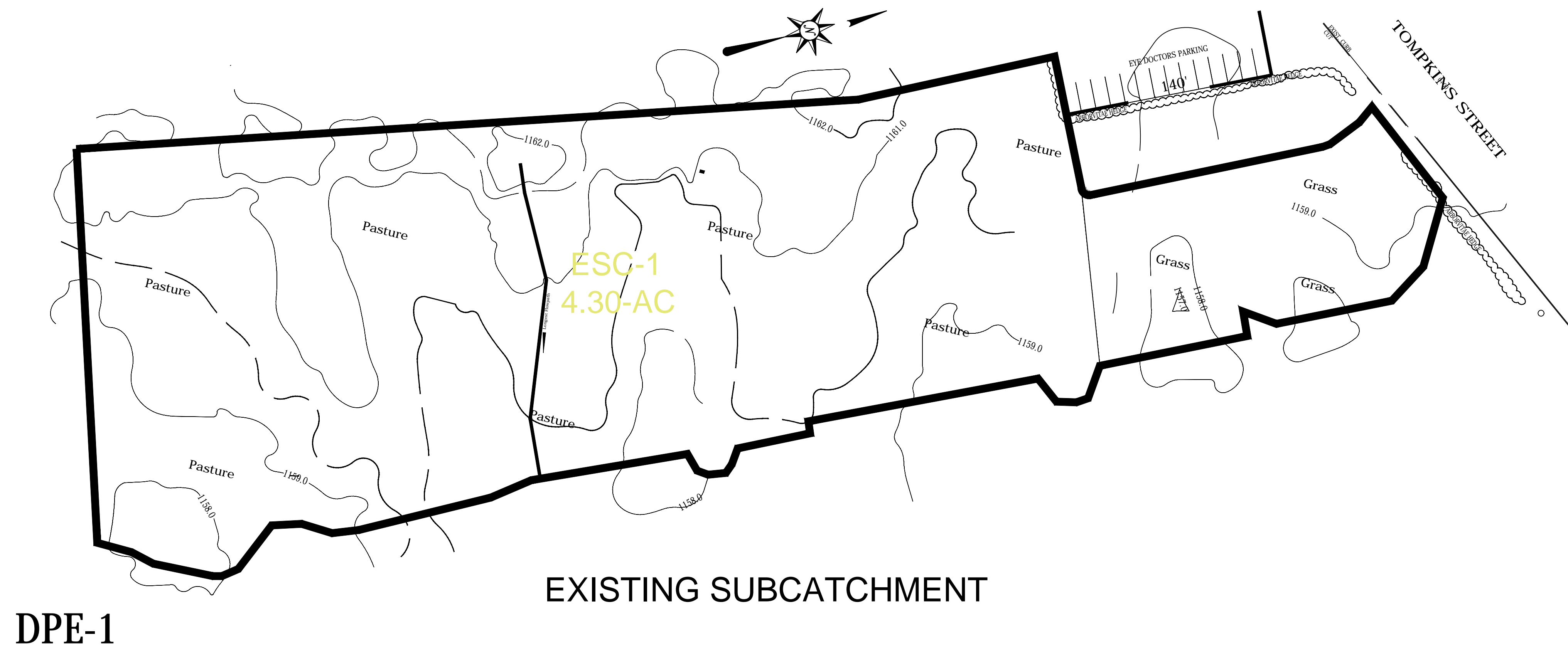
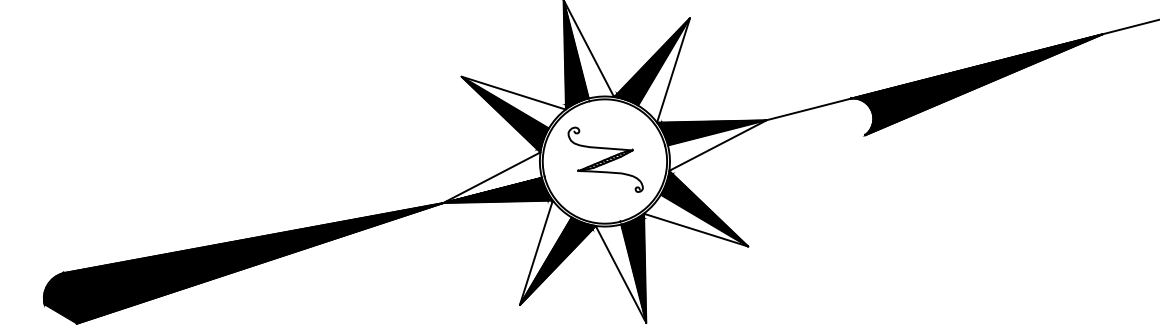
Existing Subcatchment-1 (ESC-1)  
 Existing Site Conditions - Area = 187,505-SF (4.30-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 39, Pasture/Grassland, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 214f +/-  
 Sheet Flow, Dense Grass - 100 LF @ S = 2.5% avg +/-  
 Shallow Conc. Flow, Grassed Waterway - 114 LF @ S = 1.60% avg. +/-

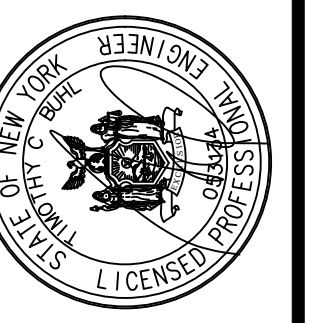
To Design Point - (DPE-1)



REFERENCE HYDROCAD (HYDRAULIC & HYDROLOGIC) MODELING RESULTS PRESENTED WITH THESE PLANS

No.	Date	SYM.

HYDRAULIC AND HYDROLOGIC  
 WORKSHEET - EXISTING CONDITIONS  
 CORNERSTONE PROPERTIES  
 CORTLAND, LLC  
 14 HICKORY LANE  
 CORTLAND, N.Y. 13845  
 PROP. WOODLAND COURT APTS,  
 NYS RTE 13 (TOMPKINS ST)  
 CORTLANDVILLE (D), N.Y.



TIMOTHY C. BUHL, P.E.

DATE: SEPT. 11, 2020  
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 DRAWN: SDG  
 JOB:  
 SHEET:

Proposed Subcatchment-1 (PSC-1)  
 Proposed Site Conditions - Area = 27,893-SF (0.64-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Paving, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 266f +/-  
 Sheet Flow, Dense Grass - 29 LF @ S = 0.5% avg +/-  
 Trap/Vee Channel Flow - 237 LF @ S = 1.67% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-3 (PSC-3)  
 Proposed Site Conditions - Area = 22,753-SF (0.52-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils  
 Runoff Curve Number = 30, Meadow, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 155lf +/-  
 Sheet Flow, Dense Grass - 100 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Grassed Waterway - 55 LF @ S = 1.0% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-4 (PSC-4)  
 Proposed Site Conditions - Area = 17,243-SF (0.40-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 170lf +/-  
 Sheet Flow, Smooth Surfaces - 100 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Grassed Waterway - 70 LF @ S = 1.0% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-6 (PSC-6)  
 Proposed Site Conditions - Area = 32,235-SF (0.74-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 215lf +/-  
 Sheet Flow, Dense Grass - 82 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Paved - 92 LF @ S = 1.0% avg. +/-  
 Shallow Conc. Flow, Grass - 41 LF @ S = 1.0% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-2 (PSC-2)  
 Proposed Site Conditions - Area = 8,024-SF (0.18-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 129lf +/-  
 Sheet Flow, Smooth Surfaces - 100 LF @ S = 1.0% avg +/-  
 Circular Pipe 4" - 29 LF @ S = 33% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-5 (PSC-5)  
 Proposed Site Conditions - Area = 16,907-SF (0.39-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils  
 Runoff Curve Number = 30, Meadow, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 126lf +/-  
 Sheet Flow, Smooth Surfaces - 100 LF @ S = 1.0% avg +/-  
 Circular Pipe 4" - 26 LF @ S = 33.0% avg. +/-

To Design Point - (DPP-1)

Proposed Subcatchment-7 (PSC-7)  
 Proposed Site Conditions - Area = 9,589-SF (0.22-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 147lf +/-  
 Sheet Flow, Smooth Surfaces - 100 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Paved - 27 LF @ S = 1.0% avg +/-  
 Circular Pipe 4" - 20 LF @ S = 33.0% avg. +/-

To Design Point - (DPP-1)

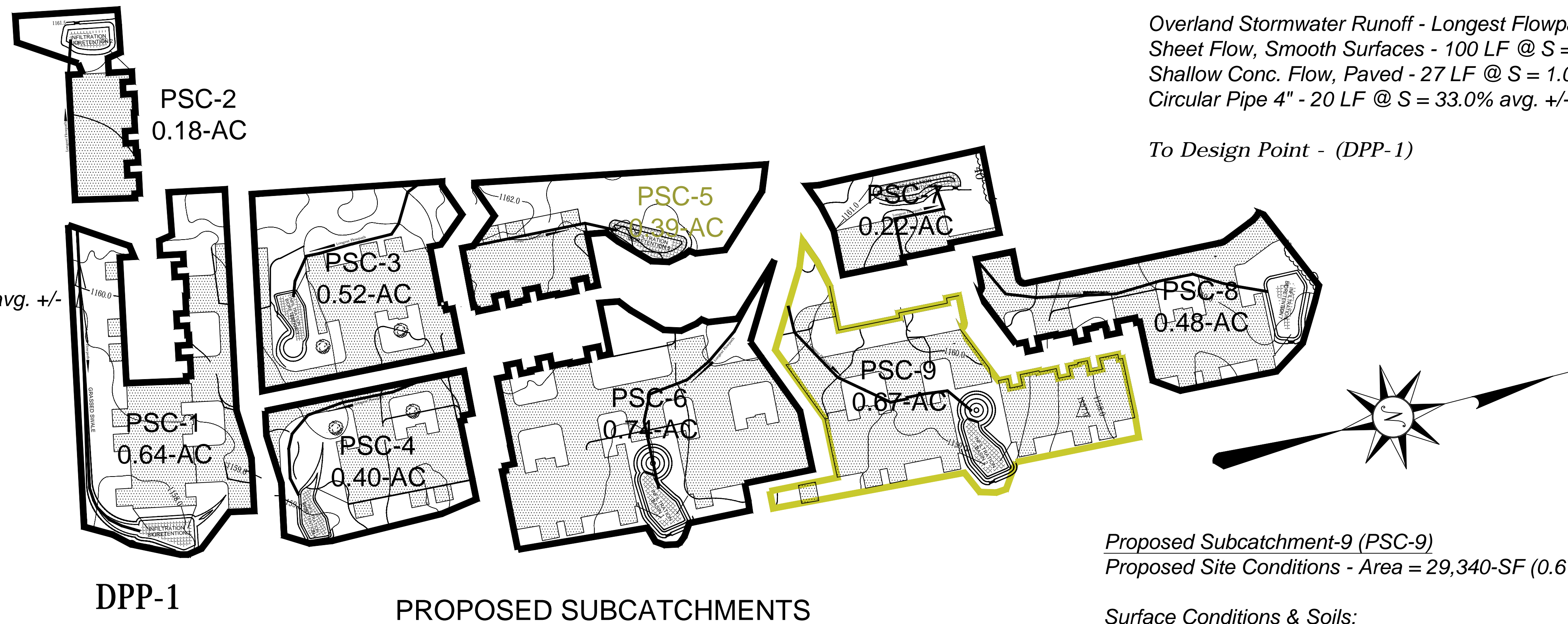
Proposed Subcatchment-9 (PSC-9)  
 Proposed Site Conditions - Area = 29,340-SF (0.67-AC)

Surface Conditions & Soils:  
 100.0% 125A, Howard - Hydrologic Soil Group (HSG) A

Runoff Curve Number = 98, Rooftops, HSG A Soils  
 Runoff Curve Number = 39, >75% Grass, HSG A Soils

Overland Stormwater Runoff - Longest Flowpath = 192lf +/-  
 Sheet Flow, Grass - 15 LF @ S = 1.0% avg +/-  
 Sheet Flow, Paved - 54 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Grass - 42 LF @ S = 1.0% avg +/-  
 Shallow Conc. Flow, Paved - 81 LF @ S = 1.0% avg +/-

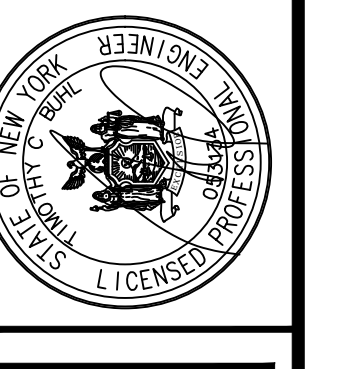
To Design Point - (DPP-1)



REFERENCE HYDROCAD (HYDRAULIC & HYDROLOGIC) MODELING RESULTS PRESENTED WITH THESE PLANS

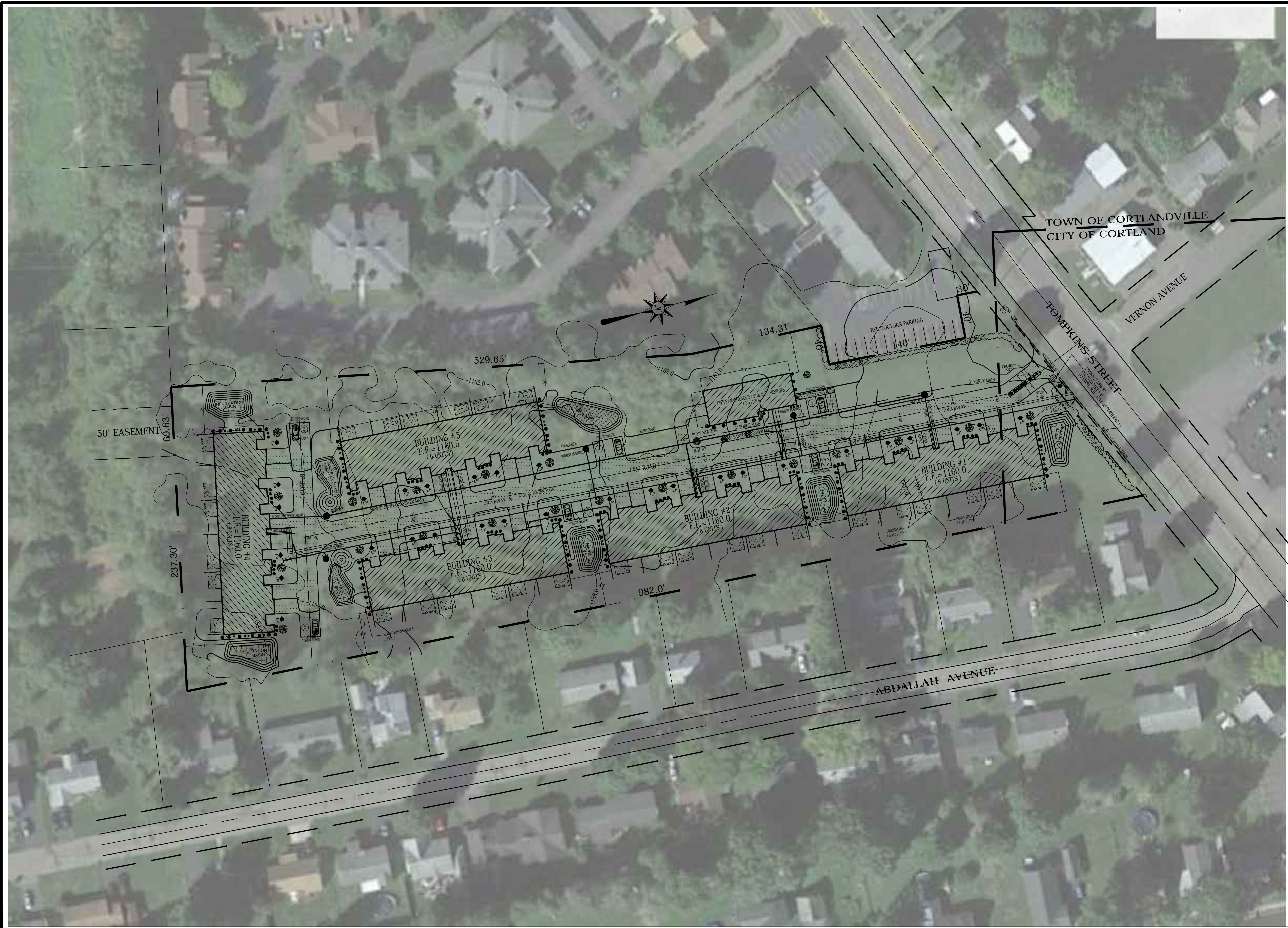
No.	Date	SYN.

HYDRAULIC AND HYDROLOGIC  
 WORKSHEET - PROPOSED CONDITIONS  
 CORNERSTONE PROPERTIES  
 CORTLAND, LLC  
 14 HICKORY LANE  
 CORTLAND, N.Y. 13845



TIMOTHY C. BUHL, P.E.

DATE: SEPT. 11, 2020  
 SCALE: N.T.S.  
 DRAWN: SDG  
 JOB:  
 SHEET:



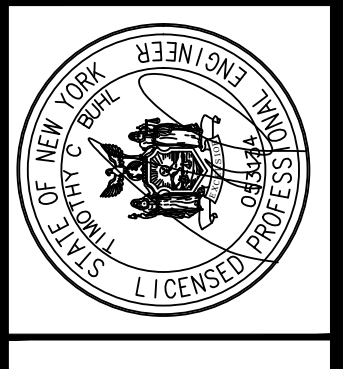
No.	Date	SYM.

**LANDSCAPING PLAN**

TOWN OF CORTLANDVILLE  
 CITY OF CORTLAND

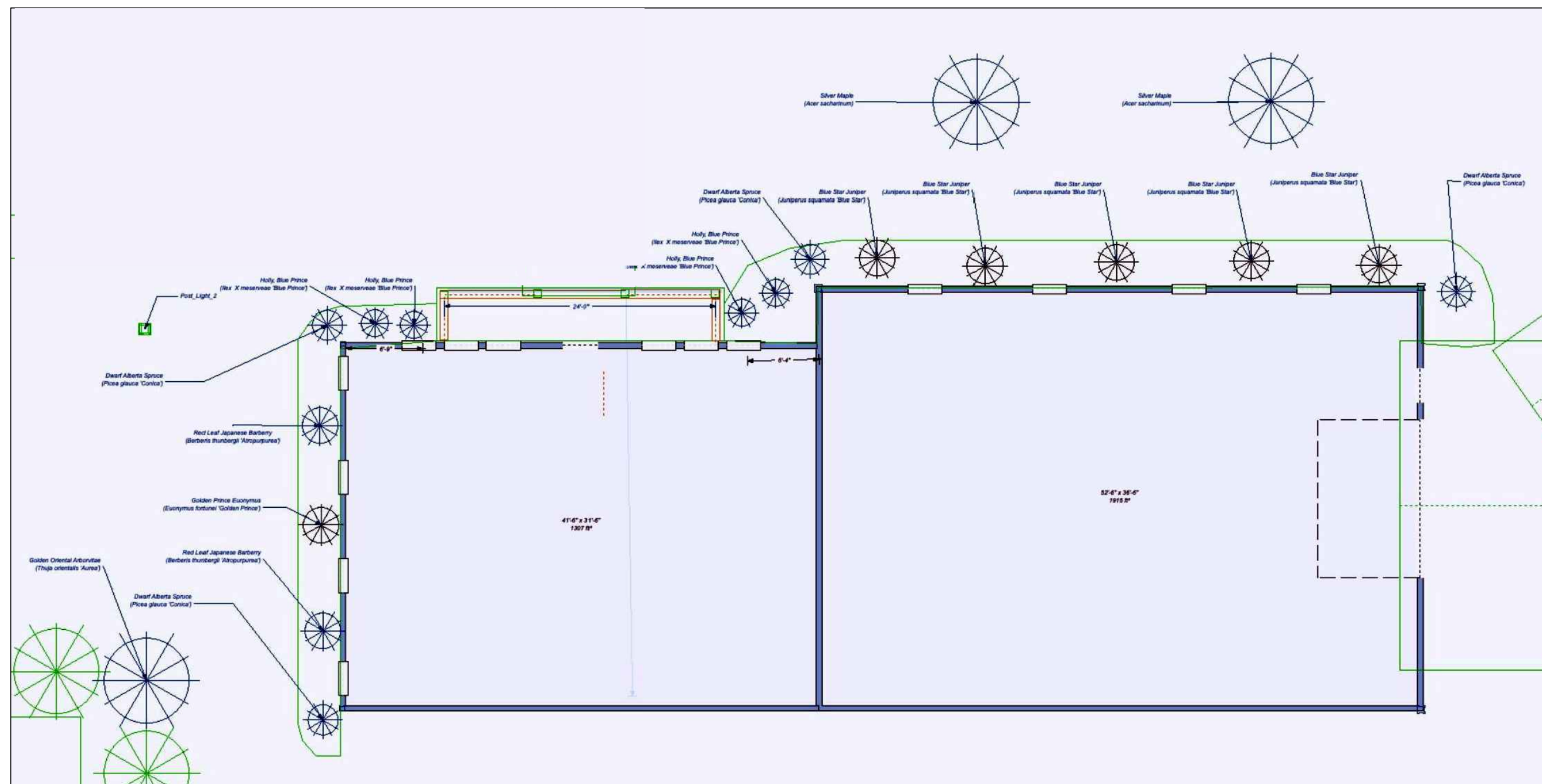
CORNERSTONE PROPERTIES  
 CORTLAND, LLC  
 14 HICKORY LANE  
 CORTLAND, N.Y. 13045

PROP. WOODLAND COURT APTS.  
 NYS RTE 13 (TOMPKINS ST)  
 CORTLANDVILLE (D. N.Y.)

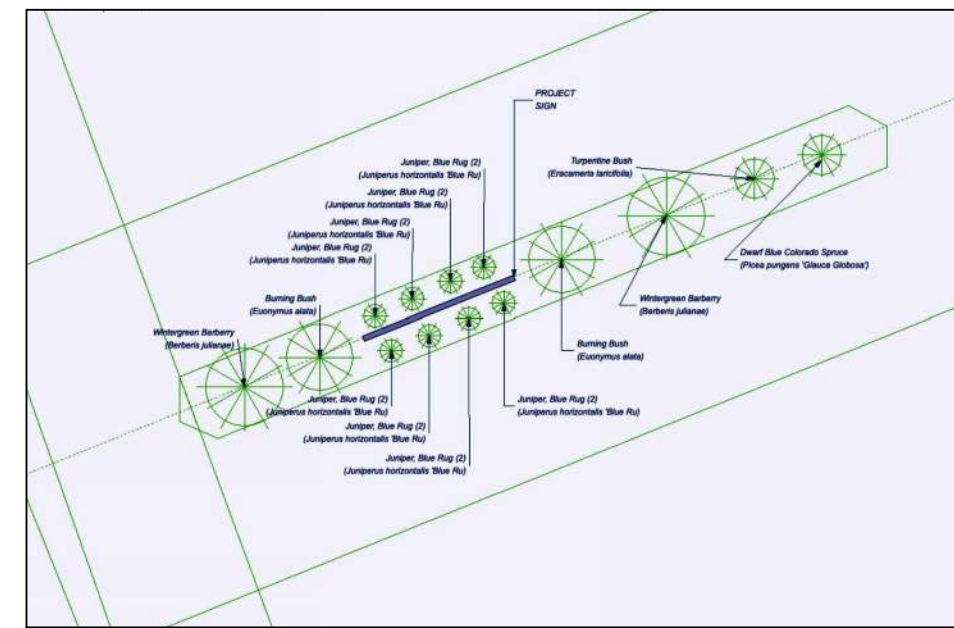


**TIMOTHY C. BUHL, P.E.**

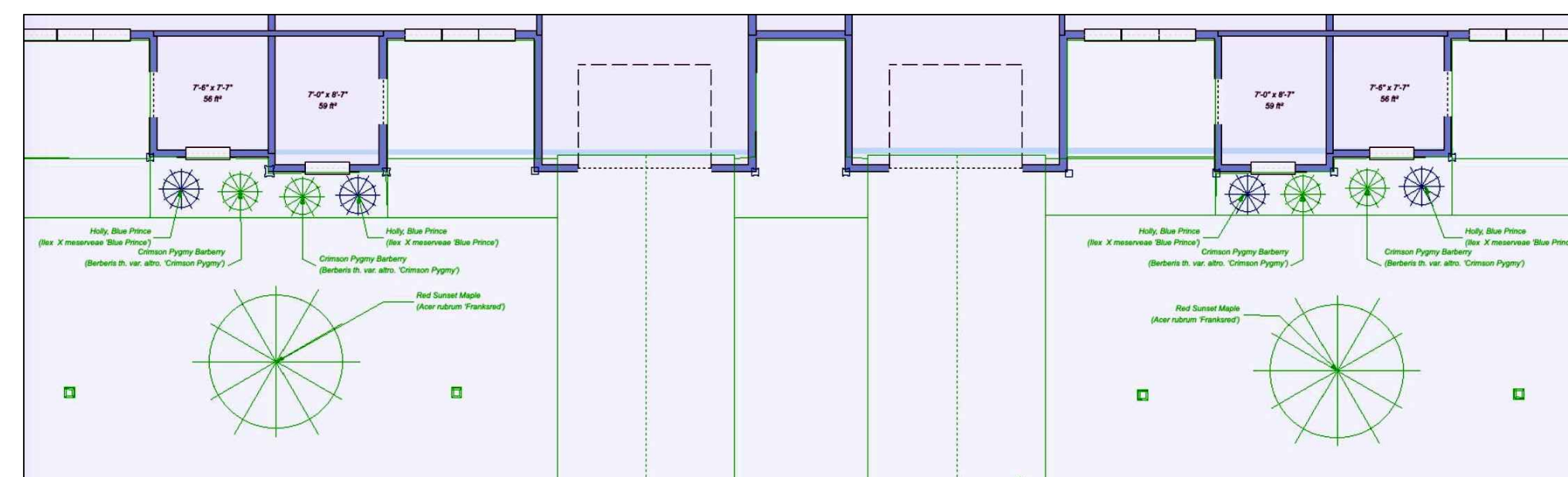
DATE: SEPT 11, 2020  
 SCALE: 1"=40'  
 DRAWN: MB  
 JOB:  
 SHEET:  
**ST-11**



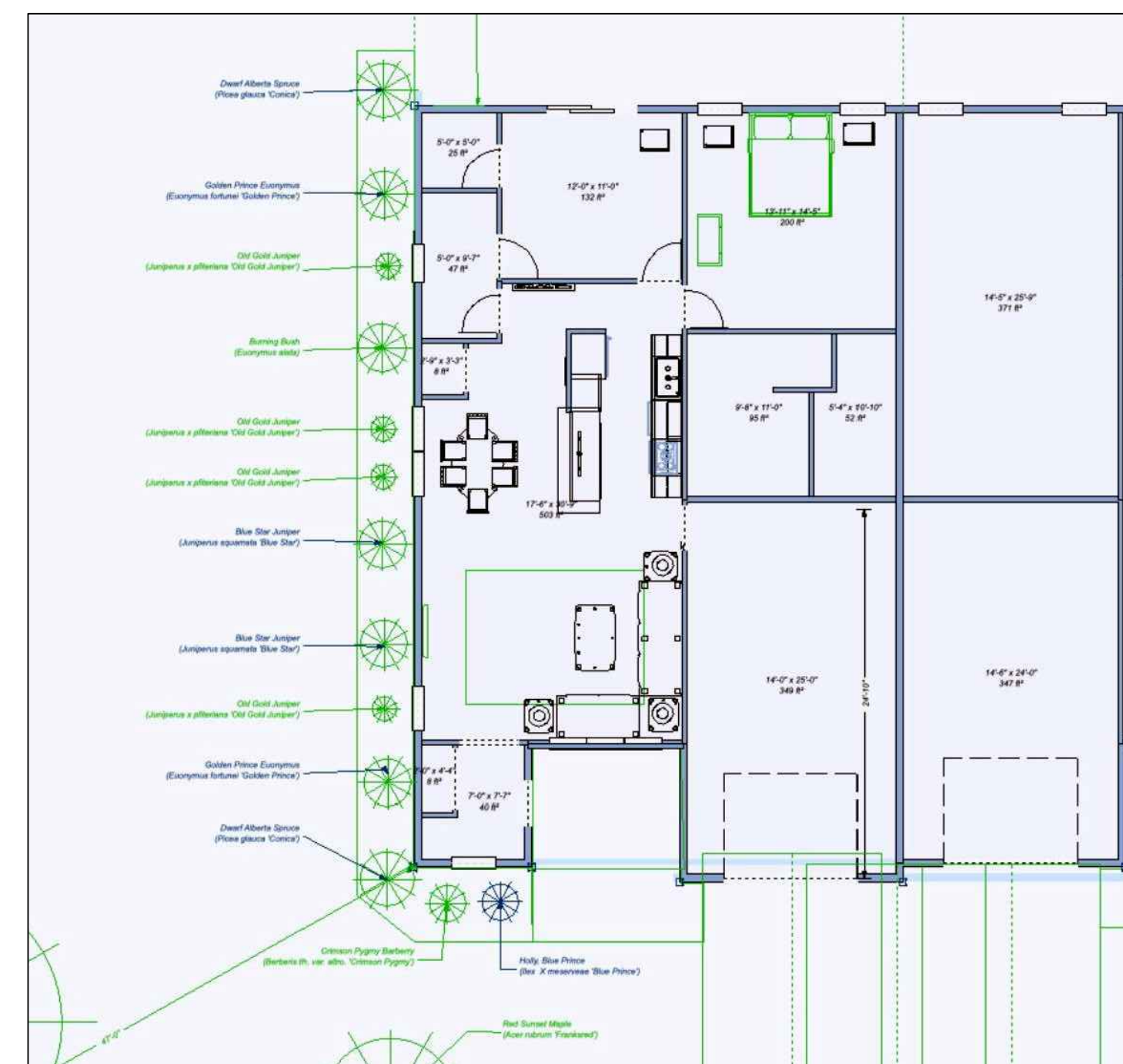
**COMMERCIAL BUILDING ( LANDSCAPE PLAN )**



**MEDIAN ( LANDSCAPE PLAN )**



**BUILDING FRONT & MIDDLE ( LANDSCAPE PLAN )**



**BUILDING NORTH END ( LANDSCAPE PLAN )**

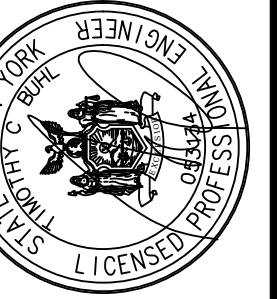
**PLANTING SCHEDULE**

BOTANICAL NAME	COMMON NAME	SIZE
<b>DECIDUOUS TREES</b>		
ACER RUBRUM ' FRANKSRED '	SUNSET MAPLE	2 1/2" - 3" CAL
<b>DECIDUOUS SHRUBS</b>		
EUONYMUS ALATA	BURNING BUSH	3' - 4' HT.
BERBERIS THUNBERGII ' ATROPURPUREA '	CRIMSON PYGMY BARBERRY	1' -2' HT.
EUONYMUS FORTUNE ' GOLDEN PRINCE '	GOLDEN PRINCE EUONYMUS	2' -3' HT.
BERBERIS JULIANAE	WINTERGREEN BARBERRY	1' -2' HT.
<b>EVERGREEN SHRUBS</b>		
JUNIPERUS SQUAMATA ' BLUE STAR '	BLUE STAR JUNIPER	2' -3' HT.
THUJA PLICATA X STANDISHII ' GREEN GIANT '	GREEN GIANT ARBORVITAE	3' - 4' HT.
PICEA GLAUCA ' CONICA '	DWARF ALBERTA SPRUCE	4' - 5' HT.
LLEX X MESERVEAE ' BLUE PRINCE '	HOLLY, BLUE PRINCE	2' -3' HT.
JUNIPERUS X PFITERIANA ' OLD GOLD JUNIPER '	OLD GOLD JUNIPER	1' -2' HT.
JUNIPERUS HORIZONTALIS ' BLUE RU '	JUNIPER, BLUE RUG	1' -2' HT.
PICEA PUNGENS ' GLAUCA GLOBOSA '	DWARF BLUE COLORADO SPRUCE	1' -2' HT.

No. Date SWM

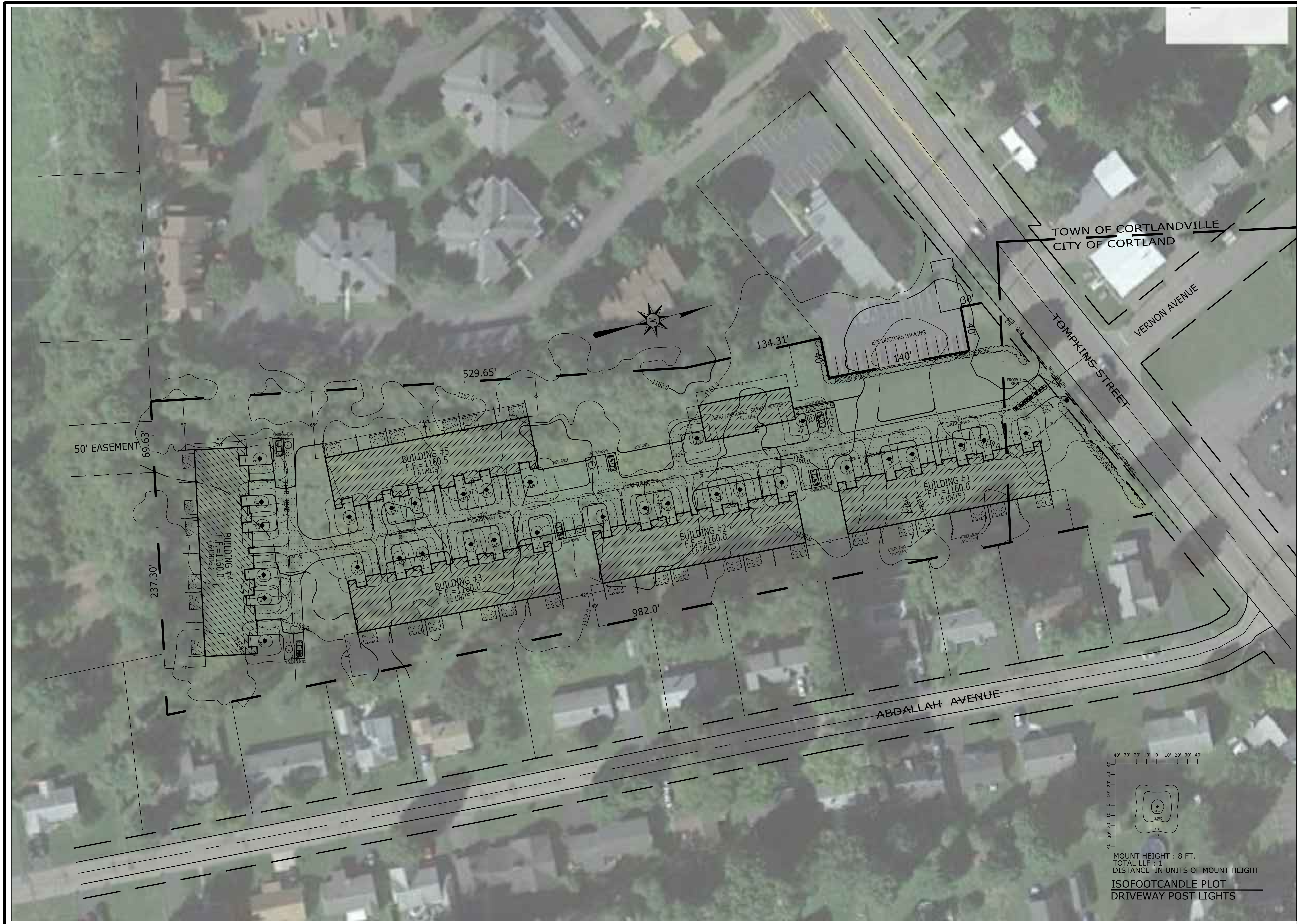
**LANDSCAPING PLANS**

CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13045



**TIMOTHY C. BUHL, P.E.**

DATE: SEPT. 11, 2020  
SCALE: 1" = 10' +/-  
DRAWN: MB  
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SHEET:

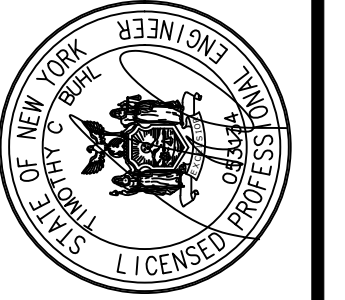


No.	Date	SYN

**LIGHTING PLAN**

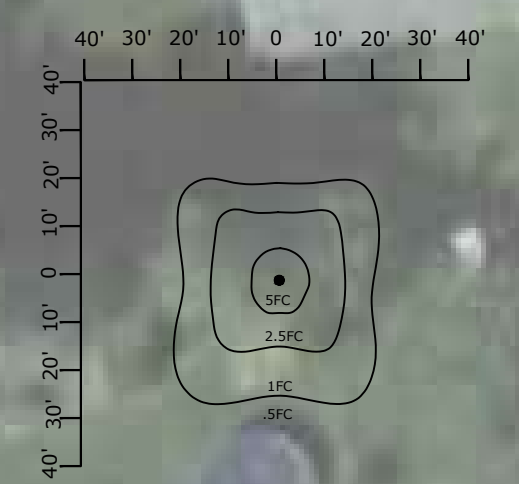
CORNERSTONE PROPERTIES  
CORTLAND, LLC  
14 HICKORY LANE  
CORTLAND, N.Y. 13045

PROP. WOODLAND COURT APTS.  
NY'S RTE 13 (TOMPKINS ST)  
CORTLANDVILLE (T), N.Y.



**TIMOTHY C. BUHL, P.E.**

DATE: SEPT. 11, 2020  
SCALE: 1"=40'  
DRAWN: MB  
JOB:  
SHEET:  
**ST-13**



MOUNT HEIGHT : 8 FT.  
TOTAL LLF : 1  
DISTANCE IN UNITS OF MOUNT HEIGHT

**ISOFOOTCANDLE PLOT**  
**DRIVEWAY POST LIGHTS**