

# BELTA FARM SUBDIVISION

## 128 BAYBERRY LANE WESTPORT, CONNECTICUT

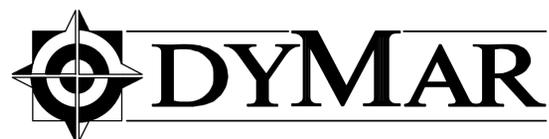
OWNER/APPLICANT:

Estate of Dina M. &  
James S. Belta  
128 Bayberry Lane  
Westport, CT 06880

LAND USE ATTORNEY

John F. Fallon, Esq.  
53 Sherman Street  
Fairfield, CT 06824  
(P) 203-256-3247  
(F) 203-256-8796

CIVIL ENGINEERS/LAND SURVEYOR:



800 Main Street South · Southbury, Ct. 06488 · (203) 267-1046 · Fax (203) 267-1547  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

SOIL SCIENTIST & BIOLOGIST:

Landtech  
518 Riverside Avenue  
Westport, CT 06880

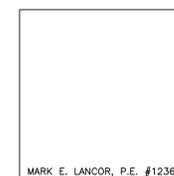
DRAWING PACKAGE:

SURVEY DRAWINGS

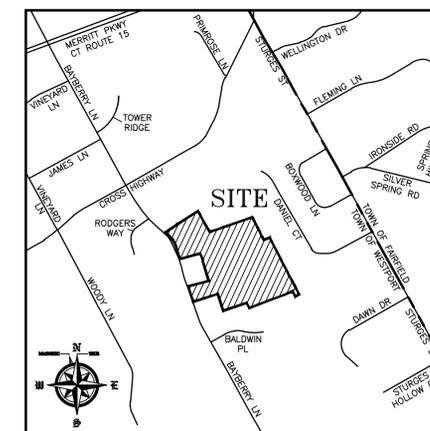
RECORD OPEN SPACE SUBDIVISION MAP  
PROPERTY LINE SURVEY (EXISTING CONDITIONS)

CIVIL ENGINEERING DRAWINGS

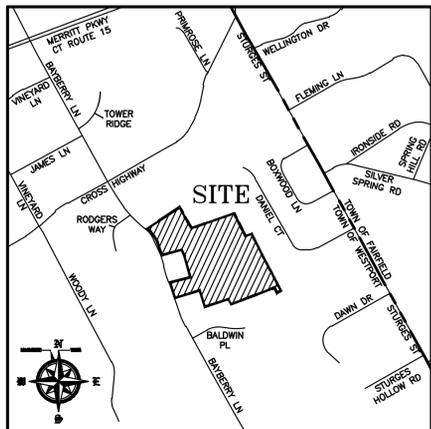
- C-1 GENERAL LEGEND, ABBREVIATIONS & NOTES
- C-2 EXISTING CONDITIONS SITE ANALYSIS MAP
- C-3 EXISTING CONDITIONS MAP - CONVENTIONAL LOT LAYOUT PLAN
- C-4 EXISTING CONDITIONS MAP - CLUSTER LOT LAYOUT PLAN
- C-5 (A&B) SITE DEVELOPMENT & GRADING PLANS
- C-5C TEST HOLE DATA
- C-5D TEST HOLE DATA & SEPTIC FEASIBILITY DATA
- C-6 (A&B) PHASE 1 - ROAD AND INFRASTRUCTURE SEDIMENT AND EROSION CONTROL PLAN
- C-6C SEDIMENT AND EROSION CONTROL NARRATIVE
- C-6D SEDIMENT AND EROSION CONTROL CONSTRUCTION STANDARDS AND MISCELLANEOUS DETAILS
- C-6E SEDIMENT AND EROSION CONTROL DETAILS
- C-7A CONSTRUCTION ROAD PLAN & PROFILE
- C-7B DRAINAGE PLAN & PROFILE
- C-8A PAVING, STORM SEWER & UTILITY DETAILS
- C-8B MISCELLANEOUS SITE DETAILS
- C-8C DETENTION BASIN, STORM SEWER AND EMBANKMENT DETAILS
- C-9A CONSTRUCTION SPECIFICATIONS & STANDARDS
- C-9B EARTHWORK SPECIFICATIONS
- C-10 INTERSECTION SIGHT LINE PLAN AND PROFILE
- C-11A STREET TREE LANDSCAPE PLAN
- C-11B WETLANDS BUFFER PLANTING PLAN
- C-12 DETENTION BASIN LANDSCAPE PLAN



Issued to	Date
Inland Wetlands	05-14-20
Conservation	06-01-20
Planning & Zoning	-
Last Revised	09-30-20

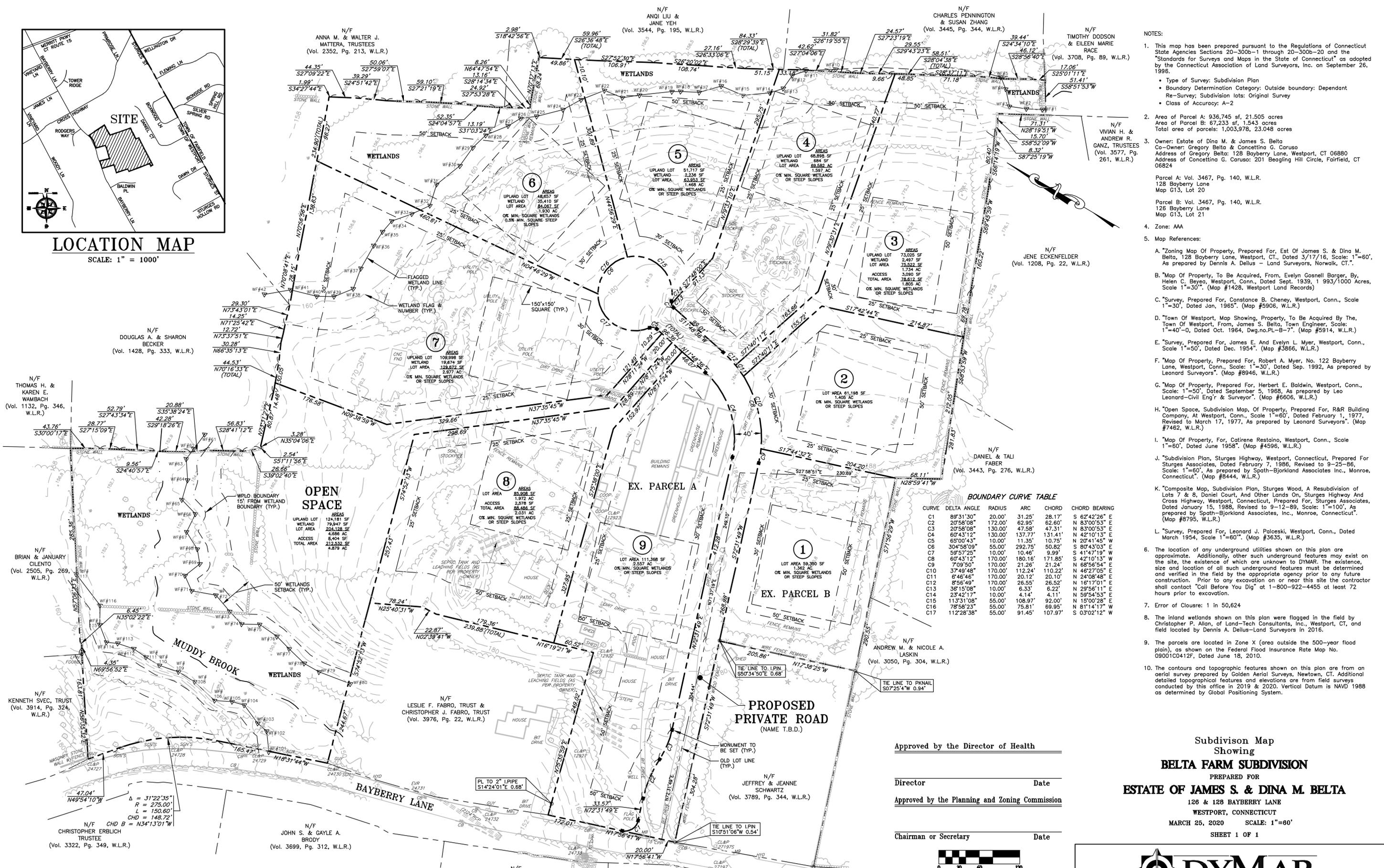


LOCATION MAP  
SCALE: 1"=1000'



**LOCATION MAP**

SCALE: 1" = 1000'



**BOUNDARY CURVE TABLE**

CURVE	DELTA ANGLE	RADIUS	ARC	CHORD	CHORD BEARING
C1	89°31'30"	20.00'	31.25'	28.17'	S 62°42'26" E
C2	20°58'08"	172.00'	62.95'	62.60'	N 83°00'53" E
C3	20°58'08"	130.00'	47.58'	47.31'	N 83°00'53" E
C4	60°43'12"	130.00'	137.77'	131.41'	N 42°10'13" E
C5	65°00'43"	10.00'	11.35'	10.75'	N 20°41'45" W
C6	30°45'09"	55.00'	29.275'	50.82'	S 80°43'03" E
C7	58°57'25"	10.00'	10.46'	9.99'	S 41°47'19" W
C8	60°43'12"	170.00'	180.16'	171.85'	S 42°10'13" W
C9	70°50'	170.00'	21.26'	21.24'	N 68°56'54" E
C10	37°49'48"	170.00'	112.24'	110.22'	N 48°27'05" E
C11	6°46'46"	170.00'	20.12'	20.10'	N 24°08'48" E
C12	8°56'49"	170.00'	26.55'	26.52'	N 16°17'01" E
C13	36°15'08"	10.00'	6.33'	6.22'	N 29°56'11" E
C14	23°42'17"	10.00'	4.14'	4.11'	N 59°54'53" E
C15	11°31'08"	55.00'	108.97'	92.00'	N 15°00'28" E
C16	78°58'23"	55.00'	75.81'	69.95'	N 81°14'17" W
C17	11°28'38"	55.00'	91.45'	107.97'	S 03°02'12" W

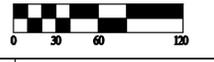
- NOTES:
- This map has been prepared pursuant to the Regulations of Connecticut State Agencies Sections 20-300b-1 through 20-300b-20 and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on September 26, 1998.
    - Type of Survey: Subdivision Plan
    - Boundary Determination Category: Outside boundary: Dependant
    - Re-Survey; Subdivision lots: Original Survey
    - Class of Accuracy: A-2
  - Area of Parcel A: 936,745 sf, 21,505 acres  
Area of Parcel B: 67,233 sf, 1,543 acres  
Total area of parcels: 1,003,978, 23,048 acres
  - Owner: Estate of Dina M. & James S. Belta  
Co-Owner: Gregory Belta & Concettina G. Caruso  
Address of Gregory Belta: 128 Bayberry Lane, Westport, CT 06880  
Address of Concettina G. Caruso: 201 Beagling Hill Circle, Fairfield, CT 06824  
Parcel A: Vol. 3467, Pg. 140, W.L.R.  
128 Bayberry Lane  
Map G13, Lot 20  
Parcel B: Vol. 3467, Pg. 140, W.L.R.  
126 Bayberry Lane  
Map G13, Lot 21
  - Zone: AAA
  - Map References:
    - "Zoning Map Of Property, Prepared For, Est Of James S. & Dina M. Belta, 128 Bayberry Lane, Westport, CT., Dated 3/17/16, Scale: 1"=60', As prepared by Dennis A. Deilus - Land Surveyors, Norwalk, CT."
    - "Map Of Property, To Be Acquired, From, Evelyn Gosnell Barger, By, Helen C. Beyer, Westport, Conn., Dated Sep. 1939, 1 993/1000 Acres, Scale 1"=30". (Map #1428, Westport Land Records)"
    - "Survey, Prepared For, Constance B. Cheney, Westport, Conn., Scale 1"=30', Dated Jan, 1965". (Map #5906, W.L.R.)"
    - "Town Of Westport, Map Showing, Property, To Be Acquired By The, Town Of Westport, From, James S. Belta, Town Engineer, Scale: 1"=40'-0", Dated Oct. 1964, Dwg.no.PL-B-7". (Map #5914, W.L.R.)"
    - "Survey, Prepared For, James E. And Evelyn L. Myer, Westport, Conn., Scale 1"=50', Dated Dec. 1954". (Map #3866, W.L.R.)"
    - "Map Of Property, Prepared For, Robert A. Myer, No. 122 Bayberry Lane, Westport, Conn., Scale: 1"=30', Dated Sep. 1992, As prepared by Leonard Surveyors". (Map #8946, W.L.R.)"
    - "Map Of Property, Prepared For, Herbert E. Baldwin, Westport, Conn., Scale: 1"=50', Dated September 5, 1988, As prepared by Leo Leonard-Civil Engr & Surveyor". (Map #6606, W.L.R.)"
    - "Open Space, Subdivision Map, Of Property, Prepared For, R&R Building Company, At Westport, Conn., Scale: 1"=60', Dated February 1, 1977, Revised to March 17, 1977, As prepared by Leonard Surveyors". (Map #7462, W.L.R.)"
    - "Map Of Property, For, Cotirone Restaino, Westport, Conn., Scale 1"=60', Dated June 1958". (Map #4596, W.L.R.)"
    - "Subdivision Plan, Sturges Highway, Westport, Connecticut, Prepared For Sturges Associates, Dated February 7, 1986, Revised to 9-25-86, Scale: 1"=60', As prepared by Spath-Bjorkland Associates Inc., Monroe, Connecticut". (Map #8444, W.L.R.)"
    - "Composite Map, Subdivision Plan, Sturges Wood, A Resubdivision of Lots 7 & 8, Daniel Court, And Other Lands On, Sturges Highway And Cross Highway, Westport, Connecticut, Prepared For, Sturges Associates, Dated January 15, 1988, Revised to 9-12-89, Scale: 1"=100', As prepared by Spath-Bjorkland Associates, Inc., Monroe, Connecticut". (Map #8795, W.L.R.)"
    - "Survey, Prepared For, Leonard J. Palcesi, Westport, Conn., Dated March 1954, Scale 1"=60". (Map #3635, W.L.R.)"
  - The location of any underground utilities shown on this plan are approximate. Additionally, other such underground features may exist on the site, the existence of which are unknown to DYMAR. The existence, size and location of all such underground features must be determined and verified in the field by the appropriate agency prior to any future construction. Prior to any excavation on or near this site the contractor shall contact "Call Before You Dig" at 1-800-922-4455 at least 72 hours prior to excavation.
  - Error of Closure: 1 in 50,624
  - The inland wetlands shown on this plan were flagged in the field by Christopher P. Allan, of Land-Tech Consultants, Inc., Westport, CT, and field located by Dennis A. Deilus-Land Surveyors in 2016.
  - The parcels are located in Zone X (area outside the 500-year flood plain), as shown on the Federal Flood Insurance Rate Map No. 09001C0412F, Dated June 18, 2010.
  - The contours and topographic features shown on this plan are from an aerial survey prepared by Golden Aerial Surveys, Newtown, CT. Additional detailed topographical features and elevations are from field surveys conducted by this office in 2019 & 2020. Vertical Datum is NAVD 1988 as determined by Global Positioning System.

Approved by the Director of Health

Director Date

Approved by the Planning and Zoning Commission

Chairman or Secretary Date



Subdivision Map  
Showing  
**BELTA FARM SUBDIVISION**  
PREPARED FOR  
**ESTATE OF JAMES S. & DINA M. BELTA**  
126 & 128 BAYBERRY LANE  
WESTPORT, CONNECTICUT  
MARCH 25, 2020 SCALE: 1"=60'  
SHEET 1 OF 1



To the best of my knowledge and belief, this map is substantially correct as noted hereon.

<b>Subdivision Approval</b>	Date
<b>Work Completion Date</b>	Date

#12326  
REG. NO.  
STEVEN M. GABRIELE  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED HERETO

N/F JOHN S. & GAYLE A. BRODY  
(Vol. 3699, Pg. 312, W.L.R.)

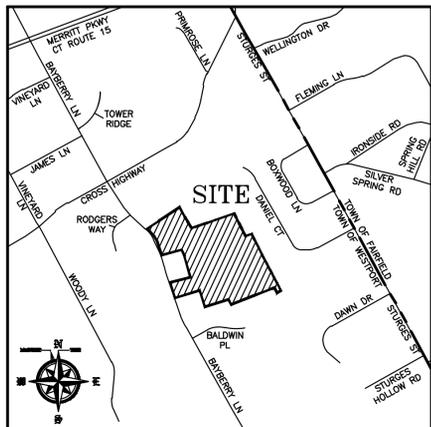
N/F ANDREW & KARIN SAWYER  
(Vol. 2442, Pg. 250, W.L.R.)

N/F DOUGLAS ROBINSON REVOCABLE TRUST  
(Vol. 3781, Pg. 79, W.L.R.)

N/F EDWARD & NANCY KIERSH  
(Vol. 2432, Pg. 312, W.L.R.)

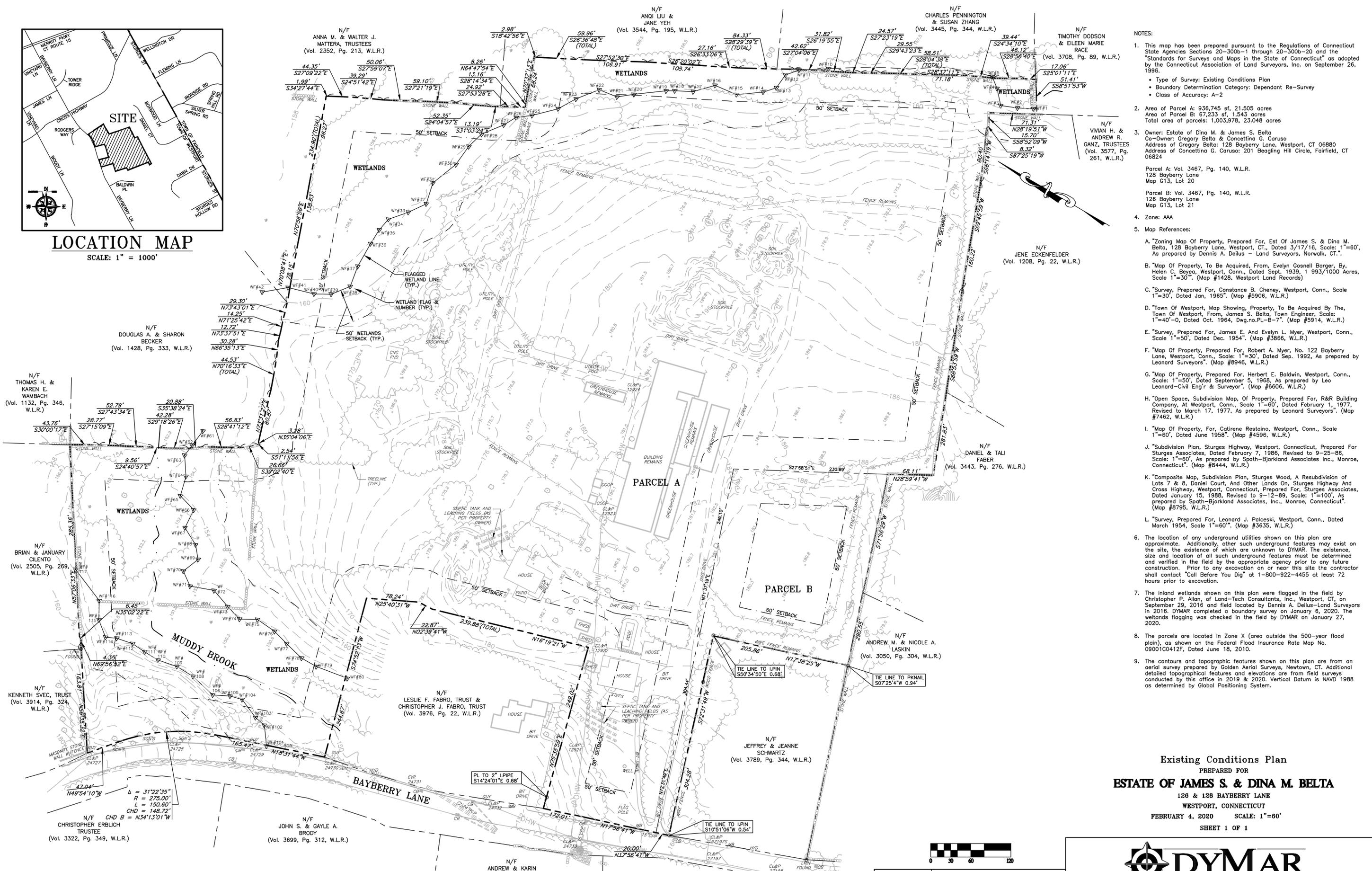
DATE	REVISION
06-01-20	Revised Cul-de-sac

FIELD BOOK NO. PROJECT NO. 0934



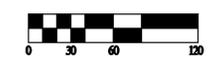
**LOCATION MAP**

SCALE: 1" = 1000'



- NOTES:
- This map has been prepared pursuant to the Regulations of Connecticut State Agencies Sections 20-300b-1 through 20-300b-20 and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on September 26, 1996.
    - Type of Survey: Existing Conditions Plan
    - Boundary Determination Category: Dependant Re-Survey
    - Class of Accuracy: A-2
  - Area of Parcel A: 936,745 sf, 21,505 acres  
Area of Parcel B: 67,233 sf, 1,543 acres  
Total area of parcels: 1,003,978, 23.048 acres
  - Owner: Estate of Dina M. & James S. Belta  
Co-Owner: Gregory Belta & Concettina G. Caruso  
Address of Gregory Belta: 128 Bayberry Lane, Westport, CT 06880  
Address of Concettina G. Caruso: 201 Beagling Hill Circle, Fairfield, CT 06824  
Parcel A: Vol. 3467, Pg. 140, W.L.R.  
128 Bayberry Lane  
Map G13, Lot 20  
Parcel B: Vol. 3467, Pg. 140, W.L.R.  
128 Bayberry Lane  
Map G13, Lot 21
  - Zone: AAA
  - Map References:
    - A. "Zoning Map Of Property, Prepared For, Est Of James S. & Dina M. Belta, 128 Bayberry Lane, Westport, CT., Dated 3/17/16, Scale: 1"=60', As prepared by Dennis A. Delius - Land Surveyors, Norwalk, CT."
    - B. "Map Of Property, To Be Acquired, From, Evelyn Gosnell Barger, By, Helen C. Beyer, Westport, Conn., Dated Sept. 1939, 1 993/1000 Acres, Scale 1"=30". (Map #1428, Westport Land Records)"
    - C. "Survey, Prepared For, Constance B. Cheney, Westport, Conn., Scale 1"=30', Dated Jan, 1965". (Map #5906, W.L.R.)"
    - D. "Town Of Westport, Map Showing, Property, To Be Acquired By The, Town Of Westport, From, James S. Belta, Town Engineer, Scale: 1"=60', Dated Oct. 1964, Dwg.no.PL-B-7". (Map #5914, W.L.R.)"
    - E. "Survey, Prepared For, James E. And Evelyn L. Myer, Westport, Conn., Scale 1"=50', Dated Dec. 1954". (Map #3866, W.L.R.)"
    - F. "Map Of Property, Prepared For, Robert A. Myer, No. 122 Bayberry Lane, Westport, Conn., Scale: 1"=30', Dated Sep. 1992, As prepared by Leonard Surveyors". (Map #8946, W.L.R.)"
    - G. "Map Of Property, Prepared For, Herbert E. Baldwin, Westport, Conn., Scale: 1"=50', Dated September 5, 1988, As prepared by Leo Leonard-Civil Eng'r & Surveyor". (Map #6066, W.L.R.)"
    - H. "Open Space, Subdivision Map, Of Property, Prepared For, R&R Building Company, At Westport, Conn., Scale 1"=60', Dated February 1, 1977, Revised to March 17, 1977, As prepared by Leonard Surveyors". (Map #7462, W.L.R.)"
    - I. "Map Of Property, For, Catirene Restaino, Westport, Conn., Scale 1"=60', Dated June 1958". (Map #4596, W.L.R.)"
    - J. "Subdivision Plan, Sturges Highway, Westport, Connecticut, Prepared For Sturges Associates, Dated February 7, 1986, Revised to 9-25-86, Scale: 1"=60', As prepared by Spath-Bjorkland Associates Inc., Monroe, Connecticut". (Map #8444, W.L.R.)"
    - K. "Composite Map, Subdivision Plan, Sturges Wood, A Resubdivision of Lots 7 & 8, Daniel Court, And Other Lands On, Sturges Highway And Cross Highway, Westport, Connecticut, Prepared For, Sturges Associates, Dated January 15, 1988, Revised to 9-12-89, Scale: 1"=100', As prepared by Spath-Bjorkland Associates, Inc., Monroe, Connecticut". (Map #8795, W.L.R.)"
    - L. "Survey, Prepared For, Leonard J. Palcesi, Westport, Conn., Dated March 1954, Scale 1"=60". (Map #3635, W.L.R.)"
  - The location of any underground utilities shown on this plan are approximate. Additionally, other such underground features may exist on the site, the existence of which are unknown to DYMAR. The existence, size and location of all such underground features must be determined and verified in the field by the appropriate agency prior to any future construction. Prior to any excavation on or near this site the contractor shall contact "Call Before You Dig" at 1-800-922-4455 at least 72 hours prior to excavation.
  - The inland wetlands shown on this plan were flagged in the field by Christopher P. Allan, of Land-Tech Consultants, Inc., Westport, CT, on September 29, 2016 and field located by Dennis A. Delius-Land Surveyors in 2016. DYMAR completed a boundary survey on January 6, 2020. The wetlands flagging was checked in the field by DYMAR on January 27, 2020.
  - The parcels are located in Zone X (area outside the 500-year flood plain), as shown on the Federal Flood Insurance Rate Map No. 0900100412F, Dated June 18, 2010.
  - The contours and topographic features shown on this plan are from an aerial survey prepared by Golden Aerial Surveys, Newtown, CT. Additional detailed topographical features and elevations are from field surveys conducted by this office in 2019 & 2020. Vertical Datum is NAVD 1988 as determined by Global Positioning System.

Existing Conditions Plan  
PREPARED FOR  
**ESTATE OF JAMES S. & DINA M. BELTA**  
128 & 128 BAYBERRY LANE  
WESTPORT, CONNECTICUT  
FEBRUARY 4, 2020 SCALE: 1"=60'  
SHEET 1 OF 1



DATE	REVISION	FIELD BOOK NO.	PROJECT NO.	9334
		81		

To the best of my knowledge and belief, this map is substantially correct as noted hereon.

**#12326**  
REG. NO.  
STEVEN M. GABRIELE  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED HEREON

N/F ANDREW & KARIN SAWYER (Vol. 2442, Pg. 250, W.L.R.)  
N/F DOUGLAS ROBINSON REVOCABLE TRUST (Vol. 3781, Pg. 79, W.L.R.)  
N/F EDWARD & NANCY KIERSH (Vol. 2432, Pg. 312, W.L.R.)  
N/F JOHN S. & GAYLE A. BRODY (Vol. 3699, Pg. 312, W.L.R.)  
N/F JEFFREY & JEANNE SCHWARTZ (Vol. 3789, Pg. 344, W.L.R.)  
N/F ANDREW M. & NICOLE A. LASKIN (Vol. 3050, Pg. 304, W.L.R.)  
N/F DANIEL & TALIA FABER (Vol. 3443, Pg. 276, W.L.R.)  
N/F JENE ECKENFELDER (Vol. 1208, Pg. 22, W.L.R.)  
N/F VIVIAN H. & ANDREW R. GANZ, TRUSTEES (Vol. 3577, Pg. 261, W.L.R.)  
N/F TIMOTHY DODSON & EILEEN MARIE RACE (Vol. 3708, Pg. 89, W.L.R.)  
N/F CHARLES PENNINGTON & SUSAN ZHANG (Vol. 3445, Pg. 344, W.L.R.)  
N/F ANQI LIU & JANE YEH (Vol. 3544, Pg. 195, W.L.R.)  
N/F ANNA M. & WALTER J. MATTERA, TRUSTEES (Vol. 2352, Pg. 213, W.L.R.)  
N/F THOMAS H. & KAREN E. WAMBACH (Vol. 1132, Pg. 346, W.L.R.)  
N/F DOUGLAS A. & SHARON BECKER (Vol. 1428, Pg. 333, W.L.R.)  
N/F THOMAS H. & KAREN E. WAMBACH (Vol. 1132, Pg. 346, W.L.R.)  
N/F BRIAN & JANUARY CILENTO (Vol. 2505, Pg. 269, W.L.R.)  
N/F KENNETH SVEC, TRUST (Vol. 3914, Pg. 324, W.L.R.)  
N/F CHRISTOPHER ERBLICH TRUSTEE (Vol. 3322, Pg. 349, W.L.R.)

PL TO 2" LIPE  
S14°24'01"E 0.68'

TIE LINE TO LPIN  
S10°51'06"W 0.54'

TIE LINE TO PKNAIL  
S07°25'4"W 0.94'

PL TO 2" LIPE  
S14°24'01"E 0.68'

TIE LINE TO LPIN  
S10°51'06"W 0.54'

TIE LINE TO PKNAIL  
S07°25'4"W 0.94'

PL TO 2" LIPE  
S14°24'01"E 0.68'

TIE LINE TO LPIN  
S10°51'06"W 0.54'

TIE LINE TO PKNAIL  
S07°25'4"W 0.94'

PL TO 2" LIPE  
S14°24'01"E 0.68'

TIE LINE TO LPIN  
S10°51'06"W 0.54'

TIE LINE TO PKNAIL  
S07°25'4"W 0.94'

PL TO 2" LIPE  
S14°24'01"E 0.68'

TIE LINE TO LPIN  
S10°51'06"W 0.54'

TIE LINE TO PKNAIL  
S07°25'4"W 0.94'

F:\0834 - Bayberry Lane-Westport\Survey\A-2-E-Conditions.dwg, Map, 10/7/2020 8:51:00 AM, gms, AutoCAD PDF (General Documentation) plot3, ARCTFull, based D:\A000\38-09-Inches, 1:1

# GENERAL LEGEND

DESCRIPTION	PLAN SYMBOLS	
	EXISTING	PROPOSED
PROPERTY LINE & IRON PIN		
PROPERTY LINE & MONUMENT		
SETBACK LINE		
BENCHMARK		
GRID LINE & COORDINATE		
BASILINE POINT		
CENTERLINE		
CONTOUR & ELEVATION		
SPOT ELEVATION		
GRANITE CURBING		
CONCRETE CURBING		
BITUMINOUS LIP CURBING		
EDGE OF ROAD (NO CURB)		
SIDEWALK		
WIRE FENCE		
RETAINING WALL		
STONE WALL		
WOOD PICKET FENCE		
CABLE GUIDE RAIL		
METAL BEAM RAIL		
BOX BEAM RAIL		
GUIDE POSTS		
EDGE OF WOODED AREA		
DECIDUOUS TREES		
EVERGREEN TREES		
EDGE OF WATER		
MARSH AREA		
WETLAND LINE		
ROCK OR ROCK OUTCROP		
BUILDINGS		
FORMER BUILDING		
RAILROAD TRACK		
LIGHT POLE		
UTILITY POLE		
HIGH TENSION TOWER		
TRAFFIC SIGNAL		
STREET MOUNTED SIGN		
POLICE OR FIRE CALL BOX		
SOIL BORING		
TEST HOLE & PERC TEST		
WELL		
HYDRANT		
WATER MAIN, VALVE & MANHOLE		
THRUST BLOCK		
GAS MAIN & GATE VALVE		
OVERHEAD ELECTRIC		
UNDERGROUND ELECTRIC		
UNDERGROUND TELEPHONE		
UNDERGROUND CABLE TV		
SANITARY SEWER & M.H.		
UTILITY TO BE REMOVED		
STORM SEWER, CATCH BASIN AND M.H.		
FLARED END SECTION		
HEADWALL		
GUTTER (TYPE-BIT, CONC., RIPRAP)		
OPEN DITCH		
UNDER DRAIN		

DESCRIPTION	PLAN SYMBOLS (CONTINUED)	
	EXISTING	PROPOSED
HAY BALES		
SILT FENCE		
ROCK LINED SWALE		
UNLINED GRASS SWALE		
ECRM REVEGETATION SWALE		
ROADWAY WATER BREAK		
RIPRAP OUTLET SPLASH PAD		
ANTI-TRACKING PAD		
SEEPAGE ENVELOPE		
PLUNGE POOL		
SEED & MULCH STABILIZATION		
DRAIN INLET SILTSACK TRAP		
CHECK DAM		
CONSTRUCTION LIMIT LINE		

- ### CONSTRUCTION
- NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. REFER TO PROJECT SPECIFICATION AND STANDARD NOTES IN ADDITION TO GENERAL NOTES. WHERE LAWS AND REGULATIONS OF PUBLIC AUTHORITY PRESCRIBE A HIGHER DEGREE OF PROTECTION THAN SPECIFIED HEREIN, THEN THE HIGHER DEGREE SO PRESCRIBED SHALL GOVERN.
  - UNLESS OTHERWISE INDICATED, DETAILS SHOWN ON ANY DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
  - THE WORD "CERTIFY" IS TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE ENGINEER, BY WHICH IS BASED ON HIS/BEST KNOWLEDGE, INFORMATION AND BELIEF; AS SUCH IT CONSTITUTES NEITHER A GUARANTEE OR WARRANTY.
  - CHANGES MADE TO THESE PLANS AND RELATED CONTRACT DOCUMENTS SINCE COMPLETED BY DYMAR MAY BE DETERMINED BY COMPARISON WITH RECORD PLANS AND RELATED DOCUMENTS FILED AT THE OFFICE OF DYMAR.
  - THE INFORMATION SHOWN ON THE FOLLOWING SHEETS IS LIMITED TO THE INFORMATION MADE AVAILABLE AT THE TIME OF THE DESIGN SERVICES WERE RENDERED.
  - LOCATIONS OF EXISTING UTILITIES HAVE BEEN TAKEN FROM UTILITY MAPS OR BY OTHER MEANS. ACTUAL FIELD LOCATIONS AND ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ALL UTILITY COMPANIES AFFECTED BY THE WORK ON OR NEAR THE PROJECT AREA SHALL BE CONTACTED PRIOR TO COMMENCEMENT OF THE WORK.
  - ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD, AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. THE ENGINEER SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS BY WHICH TO CONSTRUCT. NO ALLOWANCES SHALL BE MADE FOR DIFFERENCES BETWEEN ACTUAL MEASUREMENTS AND THOSE SHOWN ON THE DRAWINGS.
  - THE CONTRACTOR SHALL PROCURE ALL NECESSARY PERMITS AND LICENSES REQUIRED BY FEDERAL, STATE OR LOCAL AUTHORITIES TO PERFORM THE WORK, PAY ALL FEES IN CONNECTION THEREWITH, AND ABIDE BY ALL REGULATIONS, ORDINANCES, CODES AND OTHER RULES OF SUCH AUTHORITIES HAVING JURISDICTION.
  - THE CONTRACTOR SHALL STRICTLY COMPLY WITH THE NATIONAL FIRE CODES, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 USC SECTION 1926 AND THE OCCUPATIONAL HEALTH AND SAFETY ACT IN ORDER TO SAFELY AND ADEQUATELY PROTECT ALL EMPLOYEES AND PROPERTY DURING CONSTRUCTION.
  - THE CONSTRUCTION SITE MUST BE KEPT CLEAN AND ORDERLY, AND COMBUSTIBLES KEPT TO AN ABSOLUTE MINIMUM AT ALL TIMES. ALL RUBBISH AND COMBUSTIBLE DEBRIS MUST BE CONTINUOUSLY REMOVED FROM THE PROPERTY. FACILITIES FOR ADEQUATE FIRE PROTECTION MUST BE PROVIDED TO KEEP PACE WITH THE PROGRESS OF WORK REQUIRING THE USE OF COMBUSTIBLE MATERIALS. ALL CONTAINERS OF FLAMMABLE LIQUIDS MUST BE PROVIDED WITH APPROPRIATE WARNING LABELS AND DESCRIPTION OF THEIR CONTENTS.
  - ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD, AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. THE ENGINEER SHALL HAVE FINAL SAY AS TO THE ACTUAL DIMENSIONS BY WHICH TO CONSTRUCT. NO ALLOWANCES SHALL BE MADE FOR DIFFERENCES BETWEEN ACTUAL MEASUREMENTS AND THOSE SHOWN ON THE DRAWINGS.
  - THE LOCAL FIRE AND POLICE DEPARTMENT SHALL BE PROMPTLY NOTIFIED OF ANY FIRE, EXPLOSION, LEAKAGE OR SPILLAGE OF FLAMMABLE LIQUIDS, REGARDLESS OF HOW SMALL IT MAY HAVE BEEN.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE LAYOUT OF ALL CONSTRUCTION LIMIT LINES, EASEMENTS AND PROPERTY LINES WHERE REQUIRED, AND CONTINUING THE CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS. HE IS ALSO REQUIRED TO HAVE A REGISTERED ENGINEER OR LAND SURVEYOR LAYOUT ALL ROADS, STORM DRAINAGE, AND SIDEWALKS. AS BUILTS SHALL BE PREPARED AND FURNISHED TO THE CONTROLLING AUTHORITY FOR ALL ROADS, DRIVEWAYS, PARKING AREAS, STORMWATER SYSTEMS, AND SIDEWALKS.
  - SLOPES AND INVERTS OF ALL SANITARY PIPES ARE CRITICAL AND MUST BE CONSTRUCTED AS SHOWN.
  - HORIZONTAL LOCATIONS OF PROPOSED STORM SEWERS MAY BE VARIED SLIGHTLY IN THE FIELD TO FIT EXISTING CONDITIONS WHERE APPROVED BY THE ENGINEER.
  - MAINTAIN TEN FOOT (10') MINIMUM HORIZONTAL SEPARATION AND EIGHTEEN INCH (1 1/2") MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS OR STORM DRAINS. WHERE VERTICAL SEPARATION CAN NOT BE MAINTAINED A CONCRETE ENCASEMENT OR GRADLE SHALL BE CONSTRUCTED. REFER TO DETAILS FOR TYPE.
  - THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
  - ALL EXISTING UTILITIES TO BE RELOCATED, RESET AND/OR RECONNECTED, IF IN CONFLICT WITH THE PROPOSED WORK ACTIVITIES, SHALL BE MADE AT NO DIRECT PAYMENT TO THE CONTRACTOR BUT SHALL BE INCLUDED IN VARIOUS ITEMS OF WORK UNDER THE CONTRACT.
  - WHERE EXISTING UTILITY POLES NEED TO BE RELOCATED OR REMOVED BY OTHERS, SUCH WORK SHALL BE AT THE CONTRACTOR'S EXPENSE UNLESS OTHERWISE SPECIFIED BY THE OWNER OR INDICATED ELSEWHERE. THE RELOCATION OF SAME OR REMOVAL THEREOF MAY NOT CONFLICT WITH THE CONTRACTOR'S WORK SCHEDULE AND, THEREFORE, THE CONTRACTOR SHOULD ANTICIPATE IN HIS BID THE COST OF SUCH WORK WITHIN THE PROJECTS LIMITS TO PROJECT COMPLETION.
  - ALL UTILITY LINES DAMAGED BY CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE PERTINENT UTILITY COMPANY IMMEDIATELY. COST OF WORK TO REPAIR THE UTILITY SHALL BE BORNE BY THE CONTRACTOR, UNLESS OTHERWISE ACCEPTED UNDER OTHER TERMS BY THE UTILITY IN AGREEMENT FORM.
  - ALL EXISTING WATER, STORM OR SANITARY SEWER LINES NOTED TO BE ABANDONED ARE TO BE EITHER REMOVED OR SAND FILLED AND PLUGGED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL EXPENSE TO THE OWNER. REUSE OF EXISTING PIPE AND STRUCTURES MUST BE APPROVED BY THE DESIGN ENGINEER AND TOWN'S CONTROLLING AUTHORITY. DISPOSAL OF UNAPPROVED MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE.
  - ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH THE STANDARD PRACTICES OF THE STATE, COUNTY OR LOCAL AGENCY HAVING JURISDICTION OVER THE MINIMUM REQUIREMENTS OF THE PROJECT, UNLESS OTHERWISE INDICATED ON THE DRAWING.
  - ALL FILL REQUIRED UNDER UTILITY LINES FOR BELOW GRADE EXCAVATIONS, SHALL BE SELECT GRANULAR MATERIAL PLACED IN TWELVE INCH (12") LIFTS AND PROPERLY COMPACTED TO 95% OF OPTIMUM DRY DENSITY.
  - PROVIDE WELL-BRACED SHORING AT EXCAVATIONS NEAR EXISTING STRUCTURES TO PREVENT DISPLACEMENT OR SETTLEMENT. ANY DAMAGES BORNE BY THE CONTRACTOR SHALL BE BROUGHT TO THE OWNERS ATTENTION AND REPAIRED AT THE CONTRACTOR'S OWN EXPENSE.
  - BELOW GRADE PRECAST STRUCTURES ARE TO BE CONSTRUCTED TO RESIST HYDROSTATIC UPLIFT BASED ON TOTAL COMPLETION OF THESE STRUCTURES INCLUDING PLACEMENT OF ALL BACKFILL. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN GROUNDWATER LEVELS BELOW LOWEST REQUIRED EXCAVATION UNTIL SATISFACTORY COMPLETION OF REQUIRED CONSTRUCTION.
  - PROVIDE SIX INCH (6") MINIMUM OF CRUSHED STONE OR PIPE BEDDING IN EARTH UNDER ALL STRUCTURES, INCLUDING MANHOLES, DRAINAGE STRUCTURES AND RETAINING WALLS, UNLESS DIRECTED BY THE ENGINEER OR AS DETAILED ELSEWHERE IN THE DRAWINGS.
  - THE CONTRACTOR SHALL PROPERLY PROTECT ADJOINING PROPERTY OUTSIDE THE PROJECT LIMITS FROM DAMAGE. ANY DAMAGE TO THE SAME SHALL BE SUBJECT TO REPAIRS BY THE CONTRACTOR WITHOUT COST TO THE OWNER.

- ### CONSTRUCTION - CONT'D
- ALL DRIVEWAYS, ROADS, SIDEWALK AND YARD AREAS DISTURBED BY CONSTRUCTION IN OR OUTSIDE THE PROJECT AREA SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER, AND SHALL BE GRADED TO MEET PROPOSED FINISHED GRADES. GRASSED AREAS DISTURBED BY CONSTRUCTION SHALL BE LOAMED, FERTILIZED AND SEEDED OR SODDED, AS IT APPLIES.
  - THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR UNDERTAKING ALL MEASURES NECESSARY TO PREVENT EROSION AND SILTATION, REGARDLESS OF THE METHOD USED IN ACCORDANCE WITH THE APPLICABLE LOCAL, COUNTY, AND STATE GUIDELINES. AT A MINIMUM, INSPECTIONS OF THE SITE BY A QUALIFIED INDIVIDUAL SHALL BE DONE WEEKLY AND WITHIN 24 HOURS OF ANY STORM EVENT GREATER THAN 1/2 INCH OF RAIN. PROPER ADJUSTMENTS AND MEASURES SHALL BE MADE AND REPORTS PREPARED AND KEPT ON SITE WITH A SOIL AND EROSION CONTROL PLAN PREPARED BY A REGISTERED ENGINEER. WETLAND AND WATER COURSE ELEVATIONS SHALL BE RESTORED AND CHANNELS CLEANED AND CLEARED OF CONSTRUCTION DEBRIS AND EXCESS EXCAVATED SEDIMENT THROUGHOUT THE PROJECT. ALL AFFECTED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. PENALTIES IMPOSED BY AGENCIES HAVING JURISDICTION SHALL BE BORNE BY THE CONTRACTOR.
  - THE CONTRACTOR SHALL TAKE SPECIAL CAUTION TO PRESERVE AND PROTECT FROM INJURY ALL TREES AND VEGETATION LOCATED WITHIN WETLANDS AND AS INDICATED TO REMAIN. NO UNNECESSARY CUTTING OR TRIMMING OF TREES WILL BE PERMITTED, UNLESS AUTHORIZED BY THE OWNER.
  - THE CONTRACTOR IS FURTHER RESTRICTED FROM CAUSING ANY UNNECESSARY EXCAVATIONS WITHIN THE DESIGNATED WETLAND AREA AND UNDER NO CIRCUMSTANCES SHALL THE WETLAND SOILS BE REMOVED FROM THE SITE UNLESS OTHERWISE PERMITTED OR DIRECTED BY THE OWNER OR ITS AUTHORIZED AGENT.
  - ALL CONSTRUCTION MATERIALS, PRACTICES AND PROCEDURES SHALL CONFORM TO THE MUNICIPALITY'S CONSTRUCTION STANDARDS FOR STREETS, HIGHWAYS, DRIVEWAYS AND UTILITIES AS LAST AMENDED AND WHERE THE MUNICIPALITY'S REGULATION IS SILENT, THE FOLLOWING REFERENCE MANUALS SHALL GOVERN AS THE "STANDARD" SPECIFICATION FOR THE PROJECT, LATEST REVISED EDITION:
    - A.) STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION - FORM 816, AS AMENDED TO DATE.
    - B.) STATE OF CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL 2002, AS AMENDED TO DATE.
    - C.) CONNECTICUT DEPARTMENT OF TRANSPORTATION DRAINAGE MANUAL - 2000, AS AMENDED TO DATE.
    - D.) CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION CONNECTICUT STORMWATER QUALITY MANUAL - 2004, AS AMENDED TO DATE.
    - E.) CONN. DEEP GUIDANCE DOCUMENTS FOR LARGE-SCALE ON-SITE WASTEWATER RENOVATION SYSTEMS, FEBRUARY, 2006.

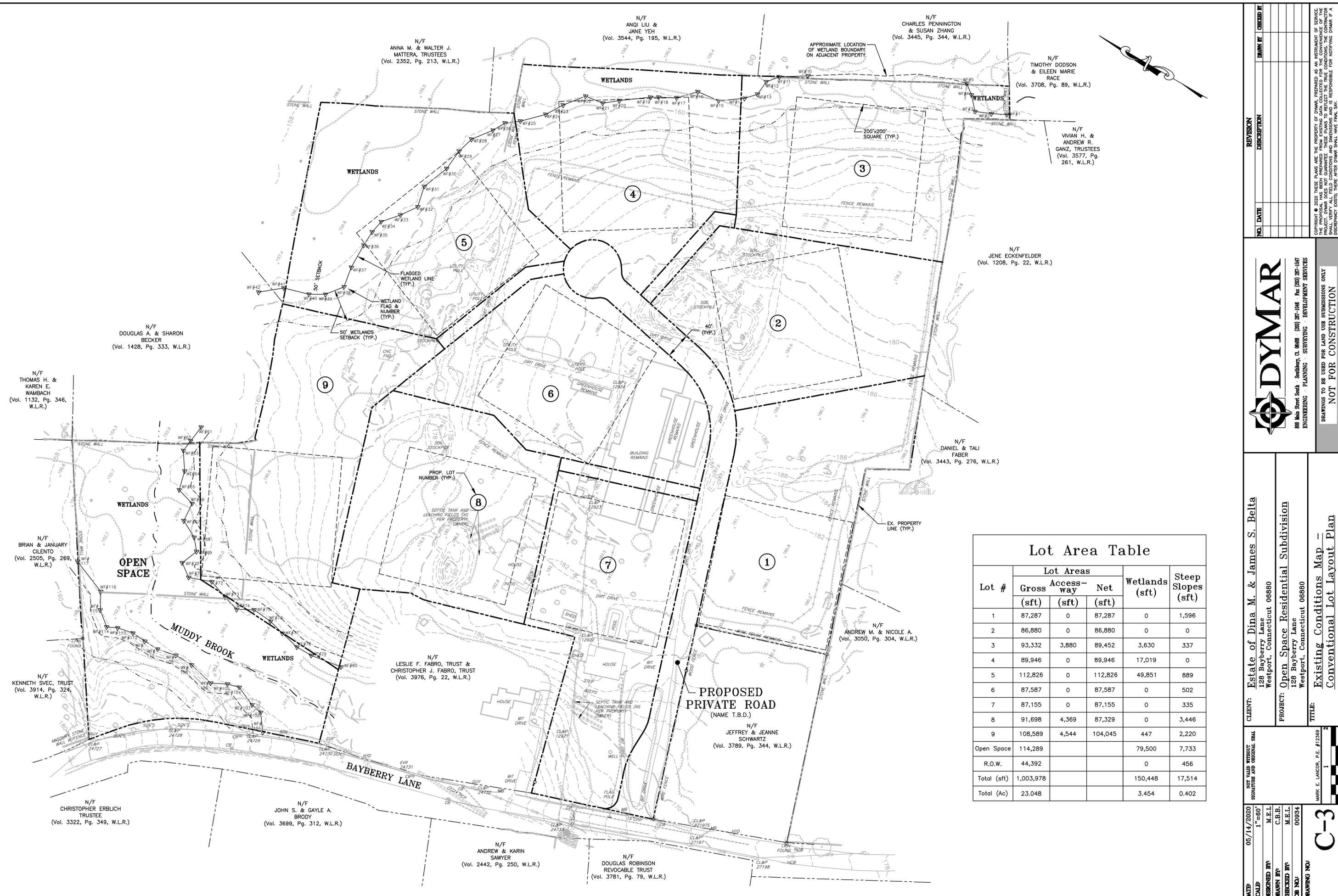
- ### PROJECT RELATED
- TOTAL AREA OF PARCELS = 23 ACRES +/-.
  - THE PROPERTY IS ZONED AAA; PROPOSAL IS FOR AN "OPEN SPACE SUBDIVISION" UNDER SECTION 5.8 OF THE ZONING REGULATIONS.
  - PARCELS ARE LOCATED IN ZONE X (AREA OF MINIMAL FLOOD HAZARD), AS SHOWN ON THE FEDERAL FLOOD INSURANCE RATE MAP NO. 09001C0412F, DATED JUNE 18, 2010.
  - THE CONTOURS AND TOPOGRAPHIC FEATURES SHOWN ARE FROM AN AERIAL SURVEY PREPARED BY GOLDEN AERIAL SURVEYS, NEWTOWN, CT. VERTICAL DATUM IS NAVD 1988.
  - ALL PROPOSED UTILITIES ON-SITE SHALL BE INSTALLED UNDERGROUND.
  - ALL CONSTRUCTION MATERIALS, PRACTICES AND PROCEDURES SHALL CONFORM TO THE TOWN OF WESTPORT ZONING REGULATIONS.
  - TOWN OF WESTPORT MAP - G13; LOTS - 20 & 21
  - THE INLAND WETLANDS SHOWN WERE FLAGGED IN THE FIELD BY CHRISTOPHER P. ALLAN, RPSS, OF LAND-TECH CONSULTANTS, INC., WESTPORT, CT ON SEPTEMBER 29, 2016 AND FIELD REVIEWED BY CHRISTOPHER P. ALLAN, RPSS AND JAY FAY, RPSS ON JANUARY 28, 2020. THE WETLAND FLAGGING WAS FIELD CHECKED BY DENNIS DELUSI-LAND SURVEYORS IN 2016. THE WETLAND FLAGGING WAS CHECKED IN THE FIELD BY DYMAR ON JANUARY 27, 2020.

### ABBREVIATIONS

ACQ'D.	ACQUIRED	MON.	MONUMENT
APPROX.	APPROXIMATE	N.	NORTH
ARCH.	ARCHITECT	N.B.	NORTH BOUND
ACOMP.	ASPHALT COATED CORRUGATED METAL PIPE	NO., #	NUMBER
B.L.	BASE LINE	O.T.	OIL TRAP
B.M.	BENCH MARK	P	PERCOLATION TEST
BIT.	BITUMINOUS	P.E.	PERMANENT EASEMENT
B.C.L.C.	BITUMINOUS CONCRETE LIP CURBING	P.C.C.	POINT OF COMPOUND CURVATURE
B.	BORING	P.C.	POINT OF CURVATURE
B.B.	BOTTOM OF BANK	P.I.	POINT OF INTERSECTION
BDRY.	BOUNDARY	P.T.	POINT OF TANGENCY
C.I.P.	CAST IRON PIPE	P.R.C.	POINT OF REVERSE CURVATURE
C.B.	CATCH BASIN	P.V.C.C.	POINT OF VERTICAL COMPOUND CURVATURE
CTR.	CENTER	P.V.C.	POINT OF VERTICAL CURVATURE
C.C.	CENTER TO CENTER	P.V.I.	POINT OF VERTICAL INTERSECTION
CL	CENTER LINE	P.V.R.C.	POINT OF VERTICAL REVERSE CURVATURE
CH.	CHORD	P.V.T.	POINT OF VERTICAL TANGENCY
CH.B.	CHORD BEARING	P.O.C.	POINT ON CURVATURE
CONC.	CONCRETE	P.O.T.	POINT ON TANGENT
CONST.	CONSTRUCT	P.V.C.	POLYVINYL CHLORIDE PIPE
CTR. LN.	CONTOUR LINE	PD	POND
CT.	CONTRACT	PROJ.	PROJECT
C.M.P.	CORRUGATED METAL PIPE	PL	PROPERTY LINE
C.P.P.	CORRUGATED PLASTIC PIPE	PROP.	PROPOSED
CULV.	CULVERT	PUB. UTIL.	PUBLIC UTILITY
CO.	COUNTY	P.B.	PULL BOX
Δ	DELTA	P.S.	PUMP STATION
Δ	DEPARTMENT OF TRANSPORTATION	R.	RAILROAD
DIA.	DIAMETER	R.R.	RAILROAD
D.B.	DISTRIBUTION BOX	REINF.	REINFORCED
D.C.P.C.	DOWELED CONCRETE PARK CURBING	R.C.P.	REINFORCED CONCRETE PIPE
DMH	DRAIN MANHOLE	RELOC.	RELOCATED OR RELOCATION
D.H.	DRILL HOLE	REQ'D.	REQUIRED
DR.	DRIVE OR DRIVEWAY	RET.	RETAINING
D.I.	DROP INLET	R.W.	RETAINING WALL
D.I.P.	DUCTILE IRON PIPE	RT/	RIGHT
ESMT.	EASEMENT	R.O.W.	RIGHT OF WAY
E.	EAST	RD.	ROAD
E.B.	EAST BOUND	R.W.Y.	ROADWAY
E.O.R.	EDGE OF ROAD	R.D.	ROOF DRAIN
E.O.W.	EDGE OF WATER	SAN.	SANITARY
ELEC.	ELECTRIC	S.M.H.	SANITARY MANHOLE
EL.	ELEVATION	SECT.	SECTION
E.W.	END WALL	S.T.	SEPTIC TANK
E.S.	END SECTION	S.S.	SHOULDER
ENG.	ENGINEER	S.W.	SIDEWALK
EVGN.	EVERGREEN	S.F.	SILT FENCE
EX.	EXISTING	S.	SOUTH OR SLOPE
F.B.	FIRE BOX	S.B.	SOUTH BOUND
F.E.	FLARED END	SPEC.	SPECIFICATION
FLR.	FLOOR	SPK.	SPRINKLER
FT.	FOOT OR FEET	SP. ELEV.	SPOT ELEVATION
FND.	FOUNDATION	STK.	STAKE
FR.	FRAME	STD.	STANDARD
GALY.	GALLEY	STA.	STATION
G.P.D.	GALLONS PER DAY	ST. W.	STONE WALL
GALL.	GALVANIZED IRON	S.S.	STORM DRAIN OR SEWER
GAR.	GARAGE	STY.	STORY
G.G.	GAS GATE	ST.	STREET
GRAV.	GRAVEL	S.L.J.	SUPER LOCK JOINT
G.S.C.	GRANITE SLOPE CURBING	SYC.	SYCAMORE
G.S.T.C.	GRANITE STONE CURBING	TAN.	TANGENT
G.P.S.	GROSS PARTICLE SEPARATOR	TEL.	TELEPHONE
GRD.	GROUND	T.CTV	TELEPHONE & CABLE TV
GD. RL.	GUIDE RAIL	TEMP.	TEMPORARY
H.B.	HAY BALE	T.E.	TEMPORARY EASEMENT
H.W.	HEADWALL	T.H.	TEST HOLE
HGT.	HEIGHT	T.C.G.R.	THREE CABLE GUIDE RAILING
HEM.	HEMLOCK	TMBR.	TIMBER
HICK.	HICKORY	T.S.	TOE OF SLOPE
HWY.	HIGHWAY	T.B.	TOP OF BANK
HWY. MON.	HIGHWAY MONUMENT	T.F.	TOP OF FRAME
HORIZ.	HORIZONTAL	T.G.	TOP OF GRATE
HO.	HOUSE	TRANS.	TRANSITION
H.R.	HANDICAP RAMP	T.P.	TRAVERSE POINT
HYD.	HYDRANT	TW.	TWIN
IN.	INCH OR INCHES	TW. C.G.R.	TWO CABLE GUIDE RAILING
I.F.O.C.	INSIDE FACE OF CURB	U.D.	UNDER DRAIN
I.P.	IRON PIPE	V.I.F.	VERIFY IN FIELD
INVERT.	INVERT	VERT.	VERTICAL
INT.	INTER	V.C.	VERTICAL CURVE
L.	LENGTH	V.C.P.	VITRIFIED CLAY PIPE
L.V.C.	LENGTH OF VERTICAL CURVE	W.BK.	WATER BREAK
LIM.	LIMIT	W.G.	WATER GATE
L.F.	LINEAR FEET	W.M.	WATER MAIN
MAC.	MACADAM	W.S.E.	WATER SURFACE ELEVATION
M.B.	MAIL BOX	W.	WEST
M.H.	MANHOLE	W.B.	WEST BOUND
MPL.	MAPLE	WL.	WETLAND
MAX.	MAXIMUM	W.W.	WINGWALL
M.H.W.	MEAN HIGH WATER	W.R.R.	WIRE ROPE RAILING
M.J.	MECHANICAL JOINT	W/O	WITHOUT
M.B.R.	METAL BEAM RAIL	WD.	WOOD
MIN.	MINIMUM	W.I.	WROUGHT IRON
MISC.	MISCELLANEOUS	YD.	YARD
		Y.D.	YARD DRAIN

CLIENT: Estate of Dina M. & James S. Belta 128 Bayberry Lane Westport, Connecticut 06880	
PROJECT: Open Space Residential Subdivision 128 Bayberry Lane Westport, Connecticut 06880	
TITLE:	
DATE: 05/14/2020	NO. 1
SCALE: NO SCALE	M.L.E.
DESIGNED BY: M.L.E.	C.B.B.
DRAWN BY: M.L.E.	M.L.E.
CHECKED BY: M.L.E.	M.L.E.
JOB NO: 00934	00934
DRAWING NO:	00934
NO. 1	2
NO. 2	1
NO. 3	1
NO. 4	1
NO. 5	1
NO. 6	1
NO. 7	1
NO. 8	1
NO. 9	1
NO. 10	1
NO. 11	1
NO. 12	1
NO. 13	1
NO. 14	1
NO. 15	1
NO. 16	1
NO. 17	1
NO. 18	1
NO. 19	1
NO. 20	1
NO. 21	1
NO. 22	1
NO. 23	1
NO. 24	1
NO. 25	1
NO. 26	1
NO. 27	1
NO. 28	1
NO. 29	1
NO. 30	1
NO. 31	





### Lot Area Table

Lot #	Lot Areas			Wetlands (sft)	Steep Slopes (sft)
	Gross (sft)	Access-way (sft)	Net (sft)		
1	87,287	0	87,287	0	1,596
2	86,880	0	86,880	0	0
3	93,332	3,880	89,452	3,630	337
4	89,946	0	89,946	17,019	0
5	112,826	0	112,826	49,851	889
6	87,587	0	87,587	0	502
7	87,155	0	87,155	0	335
8	91,698	4,369	87,329	0	3,446
9	108,589	4,544	104,045	447	2,220
Open Space	114,289			79,500	7,733
R.O.W.	44,392			0	456
<b>Total (sft)</b>	<b>1,003,978</b>			<b>150,448</b>	<b>17,514</b>
<b>Total (Ac)</b>	<b>23.048</b>			<b>3.454</b>	<b>0.402</b>

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY

**DYMAR**

800 Main Street South · Southbury, Ct. 06488 · (800) 287-1046 · Fax (800) 287-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
 128 Bayberry Lane  
 Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane  
 Westport, Connecticut 06880

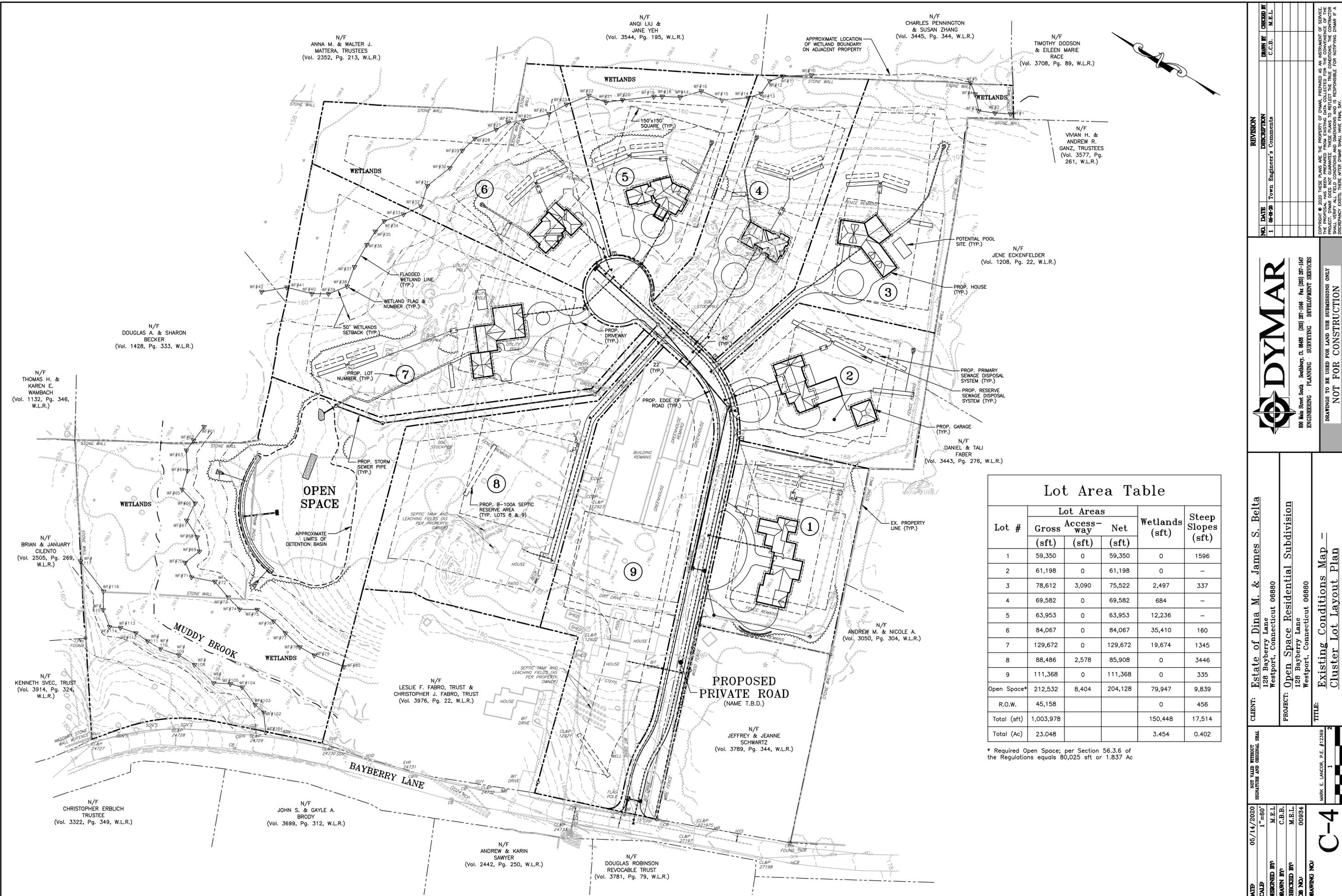
TITLE: Existing Conditions Map - Conventional Lot Layout Plan

DATE: 05/14/2020  
 SCALE: 1"=60'  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.B.B.  
 CHECKED BY: M.E.L.  
 JOB NO: 00984  
 DRAWING NO: C-3

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

F:\00984 - Bayberry Lane-Westport\Civil\DWG\003.dwg, CS, 10/17/2020 8:57:06 AM, gents, AutoCAD PDF (General Documentation).pc3, ARCTH full bleed D (24.00 x 36.00 inches), 1:1



### Lot Area Table

Lot #	Lot Areas			Wetlands (sft)	Steep Slopes (sft)
	Gross (sft)	Access-way (sft)	Net (sft)		
1	59,350	0	59,350	0	1596
2	61,198	0	61,198	0	-
3	78,612	3,090	75,522	2,497	337
4	69,582	0	69,582	684	-
5	63,953	0	63,953	12,236	-
6	84,067	0	84,067	35,410	160
7	129,672	0	129,672	19,674	1345
8	88,486	2,578	85,908	0	3446
9	111,368	0	111,368	0	335
Open Space*	212,532	8,404	204,128	79,947	9,839
R.O.W.	45,158			0	456
Total (sft)	1,003,978			150,448	17,514
Total (Ac)	23.048			3.454	0.402

\* Required Open Space; per Section 56.3.6 of the Regulations equals 80,025 sft or 1.837 Ac

NO.	DATE	REVISION	DESCRIPTION	DESIGNED BY	CHECKED BY
1	06-09-20		Town Engineer's Comments	C.C.B.	M.E.L.

**DYMAR**

800 Main Street South · Southbury, Ct. 06488 · (800) 287-1046 Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane  
Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

TITLE: Existing Conditions Map - Cluster Lot Layout Plan

DATE: 05/14/2020  
SCALE: 1"=60'  
DESIGNED BY: M.E.L.  
DRAWN BY: C.C.B.  
CHECKED BY: M.E.L.  
JOB NO: 00954  
DRAWING NO: C-4

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

N/F THOMAS H. & KAREN E. WAMBACH  
(Vol. 1132, Pg. 346, W.L.R.)

N/F BRIAN & JANUARY CILENTO  
(Vol. 2505, Pg. 269, W.L.R.)

N/F KENNETH SVEC, TRUST  
(Vol. 3914, Pg. 324, W.L.R.)

N/F CHRISTOPHER ERBLICH TRUSTEE  
(Vol. 3322, Pg. 349, W.L.R.)

N/F ANNA M. & WALTER J. MATTERA, TRUSTEES  
(Vol. 2352, Pg. 213, W.L.R.)

N/F ANQI LIU & JANE YEH  
(Vol. 3544, Pg. 195, W.L.R.)

N/F CHARLES PENNINGTON & SUSAN ZHANG  
(Vol. 3445, Pg. 344, W.L.R.)

N/F TIMOTHY DODSON & EILEEN MARIE RACE  
(Vol. 3708, Pg. 89, W.L.R.)

N/F VIVIAN H. & ANDREW R. GANZ, TRUSTEES  
(Vol. 3577, Pg. 261, W.L.R.)

N/F JENE ECKENFELDER  
(Vol. 1208, Pg. 22, W.L.R.)

N/F DANIEL & TALI FABER  
(Vol. 3443, Pg. 276, W.L.R.)

N/F ANDREW M. & NICOLE A.  
(Vol. 3050, Pg. 304, W.L.R.)

N/F JEFFREY & JEANNE SCHWARTZ  
(Vol. 3789, Pg. 344, W.L.R.)

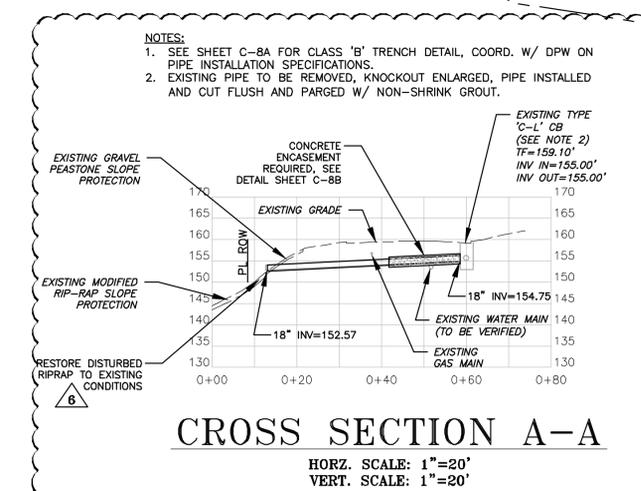
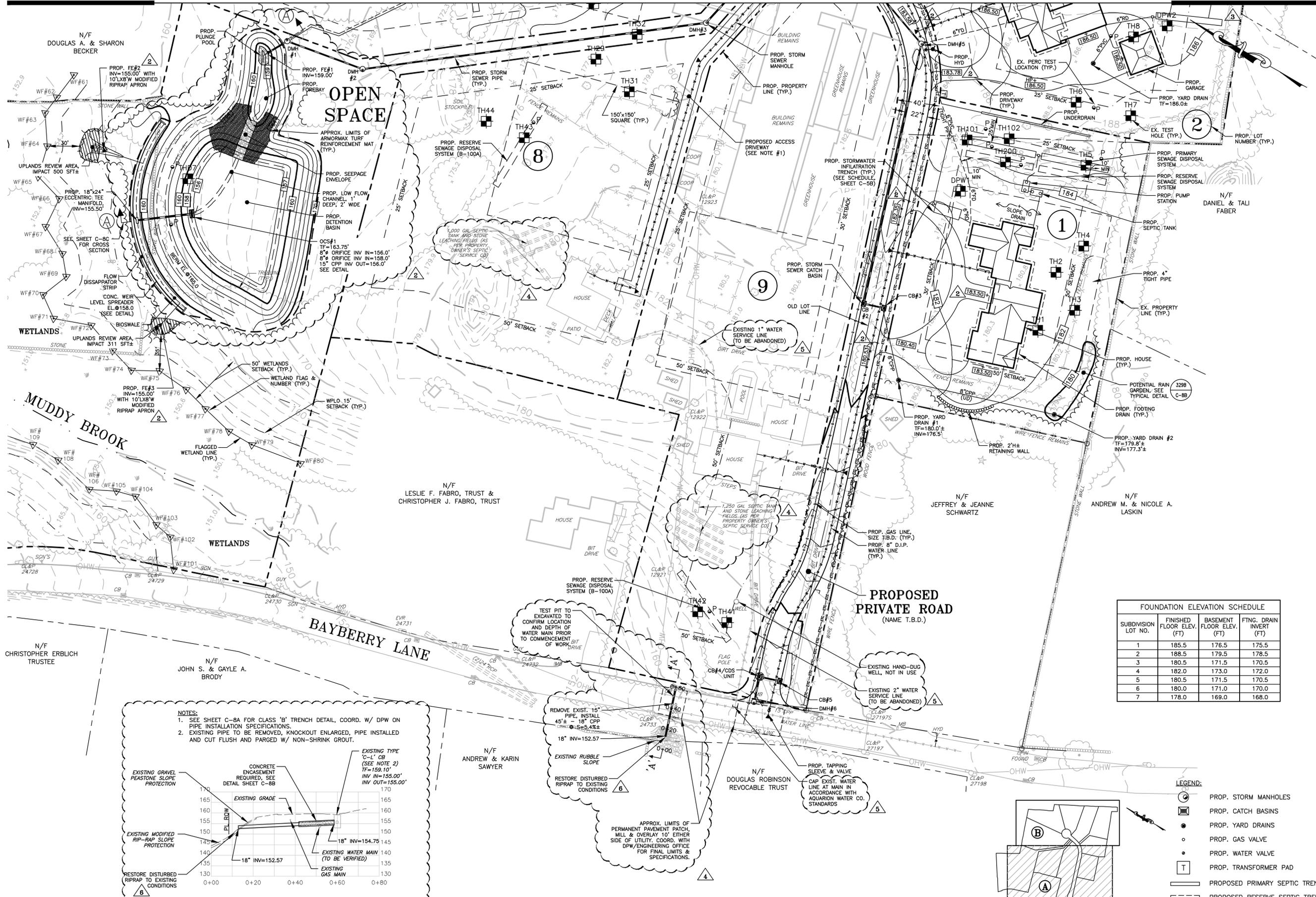
N/F LESLIE F. FABRO, TRUST & CHRISTOPHER J. FABRO, TRUST  
(Vol. 3976, Pg. 22, W.L.R.)

N/F ANDREW & KARIN SAWYER  
(Vol. 2442, Pg. 250, W.L.R.)

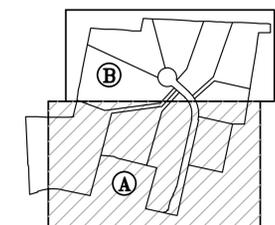
N/F DOUGLAS ROBINSON REVOCABLE TRUST  
(Vol. 3781, Pg. 79, W.L.R.)

F:\00954 - Bayberry Lane-Westport\CD\DWG\004.dwg, 4, 10/7/2020 8:57:09 AM, gsmas, AutoCAD PDF (General Documentation).pc3, ARCH full based D (14.00x 36.00 inches), 1:1

MATCH LINE - SEE SHEET C-5B



SUBDIVISION LOT NO.	FINISHED FLOOR ELEV. (FT)	BASEMENT FLOOR ELEV. (FT)	FNCG. DRAIN INVERT (FT)
1	185.5	176.5	175.5
2	188.5	179.5	178.5
3	180.5	171.5	170.5
4	182.0	173.0	172.0
5	180.5	171.5	170.5
6	180.0	171.0	170.0
7	178.0	169.0	168.0



**CLIENT:** Estate of Dina M. & James S. Beita  
128 Bayberry Lane  
Westport, Connecticut 06880

**PROJECT:** Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

**TITLE:** Site Development & Grading Plan

**DATE:** 05/14/2020

**SCALE:** 1"=40'

**DESIGNED BY:** M.E.L.

**DRAWN BY:** C.C.B.

**CHECKED BY:** M.E.L.

**JOB NO.:** 00954

**DRAWING NO.:** 1

800 Main Street South · Southbury, Ct. 06488 · (800) 287-0466 · Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

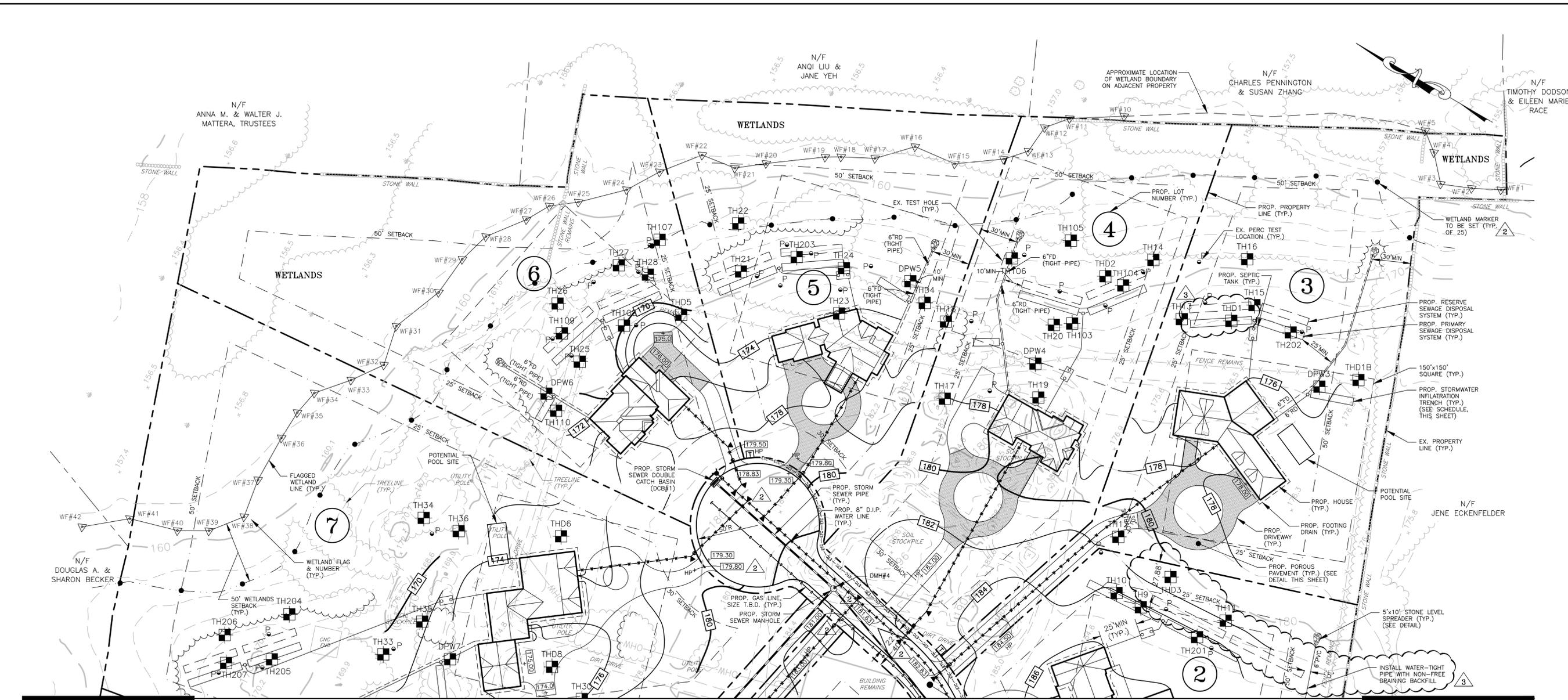
MARK E. LANCOR, P.E. #12389

**REVISION:**

NO.	DATE	DESCRIPTION	BY	CHECKED BY
1	05-05-20	Town Engineer's Comments	C.C.B.	M.E.L.
2	05-17-20	Town Engineer's Comments	S.A.L.	M.E.L.
3	05-20-20	Town Engineer's Comments	S.A.L.	M.E.L.
4	05-27-20	Added ex. septic, cross culvert design	S.A.L.	M.E.L.
5	05-28-20	Added ex. water service lines	S.A.L.	M.E.L.
6	05-28-20	Added callout for riprap restoration	S.A.L.	M.E.L.

**NOTE:**  
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**



MATCH LINE - SEE SHEET C-5A

**PROPOSED PRIVATE ROAD**  
(NAME T.B.D.)

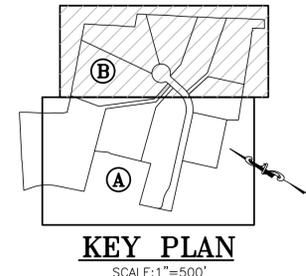
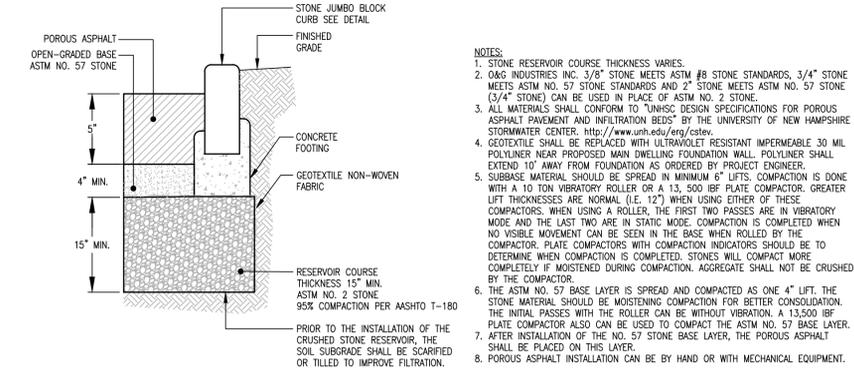
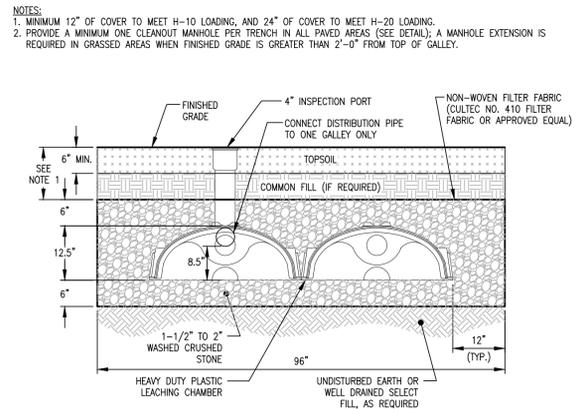
**Notes:**

- For all building footprints of intermediate size, the contractor shall install next larger system.
- For all installations within travelways, refer to manufacturer's specifications for H-20 loading.
- Infiltration systems denoted by letter correspond to columns below.

Infiltration Systems	Storage Vol. (cft)	Layup Length (ft)	(Type specified on drawings are boxed below)
A	3.90	7.40	(Single Trench 12" High Cutcut. Contactor 100 backfill min 6" stone)
B	4.67	6.25	(Single Trench 16" High Cutcut. Contactor 125 backfill min 6" stone)
C	4.89	10.25	(Single Trench 16" High Cutcut. Recharger 150 backfill min 6" stone)
D	5.59	6.33	(Single Trench 21.5" High Cutcut. Recharger 180 backfill min 6" stone)
E	9.21	7.00	(Single Trench 33.6" High Cutcut. Recharger 280 backfill min 6" stone)
F	11.32	7.00	(Single Trench Cutcut. Recharger 330 30.5" High Gallery backfill 1" stone)
G	2.40	6.25	(Single Trench 16" High Std. Infiltrator backfill native material)
H	4.70	6.25	(Single Trench 16" High Std. Infiltrator backfill 1" stone)
I	7.00	7.40	(Double Trench 16" High Std. Infiltrator backfill native material)

RCV = Q<sub>x</sub>R<sub>x</sub>A  
 Q = Rainfall (in) = 1  
 R = Recharge factor = 0.05+0.009<sup>H</sup>  
 I = Impermeousness (%) = 100  
 A = Area of Drainage (sf)

Lot No.	Foot Print Area (sf)	RCV (cft)	Required Trench Length per Infiltration System Type								
			A (ft)	B (ft)	C (ft)	D (ft)	E (ft)	F (ft)	G (ft)	H (ft)	I (ft)
1	5,880	465.50	125.80	100.00	102.50	88.62	56.00	42.00	200.00	100.00	66.60
2	8,320	658.67	170.20	143.75	143.50	120.27	77.00	63.00	275.00	143.75	96.20
3	4,030	319.04	88.80	68.75	71.75	63.30	35.00	35.00	137.50	68.75	51.80
4	2,300	182.08	51.80	43.75	41.00	37.98	21.00	21.00	81.25	43.75	29.60
5	3,400	269.17	74.00	62.50	61.50	50.64	35.00	28.00	112.50	62.50	44.40
6	2,990	236.71	66.60	56.25	51.25	44.31	28.00	21.00	100.00	56.25	37.00
7	4,592	363.53	96.20	81.25	82.00	69.63	42.00	35.00	156.25	81.25	59.20



STRM 316 **STORMWATER ROOF RUNOFF RECHARGE SCHEDULE** N.T.S.

STRM 285K **12" SIDE-BY-SIDE RECHARGE SYSTEM DETAIL** N.T.S.

CRS 001 **POROUS ASPHALT PAVEMENT DETAIL** N.T.S.

**DYMAR**  
800 Main Street South - Southbury, CT 06488 - (800) 287-1046 - Fax (800) 287-1847  
ENGINEERING - PLANNING - SURVEYING - DEVELOPMENT SERVICES

**CLIENT:** Estate of Dina M. & James S. Belta  
128 Bayberry Lane  
Westport, Connecticut 06880

**PROJECT:** Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

**TITLE:** Site Development & Grading Plan

**DATE:** 05/14/2020  
**SCALE:** 1"=40'

**DESIGNED BY:** M.E.L.  
**DRAWN BY:** C.C.B.  
**CHECKED BY:** M.E.L.  
**JOB NO.:** 00934  
**DRAWING NO.:** C-5B

**REVISION:**

NO.	DATE	DESCRIPTION
1	06-01-20	Town Engineer's Comments
2	06-17-20	Town Engineer's Comments
3	06-30-20	Town Engineer's Comments

**CREATED BY:** M.E.L.  
**DRAWN BY:** C.C.B.  
**CHECKED BY:** M.E.L.  
**DATE:** 06-30-20

APPROVED BY: THESE PLANS ARE THE PROPERTY OF DYMAR. REVISIONS OR AMENDMENTS TO THE PROPOSAL HAVE BEEN MADE FROM EXISTING DATA COLLECTED FOR THE CONVENIENCE OF THE PROJECT. DYMAR DOES NOT GUARANTEE THESE PLANS TO REFLECT THE TRUE CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING DYMAR IF A DISCREPANCY EXISTS. THESE PLANS SHALL HAVE FINAL AUTHORITY.

**NOT FOR CONSTRUCTION**

TEST HOLE DATA:

TESTING PERFORMED BY DYMAR, 2/5/18, 2/6/18, 2/15/18, 7/5/19, 7/16/19, 5/6/2020 & 5/8/2020 128 BAYBERRY LANE, WESTPORT, CT JOB #934

LOT #1

TEST HOLE #1
0'-15" TOPSOIL
16"-62" LOAM SILTY, TRACE GRAVEL
62"-96" SAND & GRAVEL TILL, FIRM

ROOTS: NONE
GROUNDWATER: 62' SEEP
LEGE: NONE
MOTTLING: 36'
COMMENTS: NONE

TEST HOLE #2

0'-13" TOPSOIL
13"-40" LOAM TIGHT
40"-98" GLACIAL TILL

ROOTS: NONE
GROUNDWATER: 87'
LEGE: NONE
MOTTLING: 21'
COMMENTS: NONE

TEST HOLE #3

0'-12" TOPSOIL
12"-48" LOAM TIGHT
48"-93" GLACIAL TILL

ROOTS: NONE
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 21'
COMMENTS: NONE

TEST HOLE #4

0'-13" TOPSOIL
13"-36" LOAM TIGHT, SANDY MIX
36"-106" GLACIAL TILL

ROOTS: NONE
GROUNDWATER: 80' SEEP
LEGE: NONE
MOTTLING: 24'
COMMENTS: NONE

TEST HOLE #5

0'-15" BLACK BROWN TOPSOIL
15"-39" LIGHT BROWN LOAM, SILTY FINE SAND
39"-108" BROWN FINE SAND WITH SILT, TRACE TO LITTLE GRAVEL, FEW TO SOME STONES, TRACE TO FEW BOULDERS

LEGE: VERY FEW TO 5"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 35'
COMMENTS: NONE

TEST HOLE #101

0'-16" DARK BROWN TOPSOIL
16"-33" SILTY LOAM
33"-98" SILTY SAND, TRACE TO LITTLE GRAVEL, AND TRACE COBBLE

ROOTS: 12'
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 33'
COMMENTS: NONE

TEST HOLE #102

0'-4" DARK BROWN TOPSOIL
4"-37" SILTY LOAM
37"-80" SILTY SAND COMPACT, TRACE TO LITTLE GRAVEL AND TRACE TO FEW COBBLES

ROOTS: 15'
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 38'
COMMENTS: NONE

TEST HOLE #200

0'-18" TOPSOIL
18"-29" LOAM, SILTY SAND, DAMP
29"-96" SILTY SAND WITH FINE TO COARSE SAND, LITTLE TO SOME GRAVEL, TRACE TO FEW COBBLE, DAMP

ROOTS: 18"
WATER: 93"
MOTTLING: 19"
NOTE: SEEP AT 60"
COMMENTS: NONE

PERCOLATION TEST HOLE #5

DEPTH: 18"
DATE: 2/5/18
STARTING TIME: 12:21

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 7", 10 MIN 7-1/8", 15 MIN 7-1/8", 20 MIN 7-1/4", 25 MIN 7-3/4", 30 MIN 7-3/4", 40 MIN 8", 50 MIN 8-1/8", 60 MIN 8-1/8"

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST-BETWEEN TEST HOLES #5 & #7

DEPTH: 18"
DATE: 2/5/18
STARTING TIME: 12:21

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 7", 10 MIN 7-1/8", 15 MIN 7-1/8", 20 MIN 7-1/4", 25 MIN 7-3/4", 30 MIN 7-3/4", 40 MIN 8", 50 MIN 8-1/8", 60 MIN 8-1/8"

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST-BETWEEN TEST HOLES #6 & #8

DEPTH: 18"
DATE: 2/5/18
STARTING TIME: 12:21

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 7", 10 MIN 7-1/8", 15 MIN 7-1/8", 20 MIN 7-1/4", 25 MIN 7-3/4", 30 MIN 7-3/4", 40 MIN 8", 50 MIN 8-1/8", 60 MIN 8-1/8"

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST-BETWEEN TEST HOLES #101 & #102

DEPTH: 18"
DATE: 11/1/19
STARTING TIME: 1:15

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.53", 5 MIN 0.56", 10 MIN 0.59", 15 MIN 0.62", 20 MIN 0.65", 25 MIN 0.67", 30 MIN 0.69", 40 MIN 0.71", 50 MIN 0.72", 60 MIN 0.72"

SEEPAGE RATE: 1 1/110 MIN

PERCOLATION TEST -TEST HOLE #101

DEPTH: 24"
DATE: 5/6/20
STARTING TIME: 12:10

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.99", 5 MIN 1.02", 10 MIN 1.04", 15 MIN 1.06"

20 MIN 1.09'

25 MIN 1.11'
30 MIN 1.13'
40 MIN 1.16'
50 MIN 1.19'
60 MIN 1.22'

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST -TEST HOLE #200

DEPTH: 24"
DATE: 5/6/20
STARTING TIME: 12:10

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.60", 5 MIN 0.62", 10 MIN 0.64", 15 MIN 0.66", 20 MIN 0.68", 25 MIN 0.70", 30 MIN 0.71", 40 MIN 0.74", 50 MIN 0.77", 60 MIN 0.80"

SEEPAGE RATE: 1 1/27 MIN

LOT #2

TEST HOLE #6
0'-16" DARK BROWN TOPSOIL
16"-42" LIGHT BROWN LOAM, VERY FINE SAND WITH SILT, TRACE TO LITTLE GRAVEL

42"-108" BROWN FINE SILTY SAND, TRACE TILL, LITTLE GRAVEL, FEW COBBLES, FEW TO SOME STONES, TRACE TO FEW BOULDERS

ROOTS: VERY FEW TO 5"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 33'
COMMENTS: NONE

TEST HOLE #7

0'-13" DARK BROWN TOPSOIL
13"-38" LIGHT BROWN LOAM, VERY FINE SAND WITH SILT, TRACE TO FEW COBBLES

36"-102" BROWN FINE SILTY SAND, TRACE TO LITTLE GRAVEL, FEW TO SOME COBBLES

ROOTS: VERY FEW TO 6"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 32'
COMMENTS: NONE

TEST HOLE #8

0'-13" DARK BROWN TOPSOIL
13"-27" LIGHT BROWN LOAM, VERY COARSE SAND WITH SILT, TRACE TO FEW COBBLES

27"-102" BROWN FINE SILTY SAND, TRACE TO LITTLE GRAVEL, FEW TO SOME COBBLES

ROOTS: 5'
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 35'
COMMENTS: NONE

TEST HOLE #9

0'-12" DARK BROWN TOPSOIL
12"-26" LIGHT BROWN LOAM, FINE SAND, TRACE SILT, TRACE GRAVEL

26"-92" BROWN FINE SAND, LITTLE GRAVEL, TRACE COBBLES

ROOTS: 5"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 24'
COMMENTS: NONE

TEST HOLE #10

0'-10" DARK BROWN TOPSOIL
11"-25" LIGHT BROWN LOAM, FINE SAND, TRACE SILT, TRACE GRAVEL

25"-108" BROWN FINE SAND, LITTLE GRAVEL, TRACE COBBLES

ROOTS: 5"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 27'
COMMENTS: NONE

TEST HOLE #11

0'-14" DARK BROWN TOPSOIL
14"-27" LIGHT BROWN LOAM, VERY FINE SAND WITH SILT, TRACE TO FEW COBBLES

27"-108" BROWN FINE SILTY SAND, TRACE TO LITTLE GRAVEL, FEW TO SOME COBBLES

ROOTS: 5"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 32'
COMMENTS: NONE

TEST HOLE #12

0'-13" DARK BROWN TOPSOIL
13"-27" LIGHT BROWN LOAM, VERY FINE SAND

27"-102" BROWN FINE TO MEDIUM SAND, NO SILT, TRACE TO LITTLE GRAVEL, TRACE COBBLES, TRACE BOULDERS

ROOTS: 6"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 32'
COMMENTS: NONE

PERCOLATION TEST-BETWEEN TEST HOLES #9 & #11

DEPTH: 18"
DATE: 2/5/18
STARTING TIME: 12:29

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 7", 5 MIN 7-1/8", 10 MIN 7-1/4", 15 MIN 8", 20 MIN 8", 25 MIN 8-3/4", 30 MIN 8-7/8", 40 MIN 8-7/8", 50 MIN 9-1/8", 60 MIN 9-1/8"

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST - NEAR TEST HOLE #14

DEPTH: 18"
DATE: 11/1/19
STARTING TIME: 1:25

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.65", 5 MIN 0.68", 10 MIN 0.72", 15 MIN 0.75", 20 MIN 0.78", 25 MIN 0.81", 30 MIN 0.84", 40 MIN 0.90", 50 MIN 0.93", 60 MIN 0.95"

SEEPAGE RATE: 1 1/27 MIN

PERCOLATION TEST-BETWEEN HOLES #10 & #11

DEPTH: 18"
DATE: 2/5/18
STARTING TIME: 12:36

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 6", 5 MIN 6-1/4", 10 MIN 6-1/2", 15 MIN 6-1/2", 20 MIN 6-3/4", 25 MIN 6-3/4", 30 MIN 7", 40 MIN 7", 50 MIN 7-1/8", 60 MIN 7-1/4"

SEEPAGE RATE: 1 1/80 MIN

PERCOLATION TEST - BETWEEN TEST HOLES #10 & #12

DEPTH: 24"
DATE: 11/1/19
STARTING TIME: 2:50

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 1.01", 5 MIN 1.23", 10 MIN 1.35", 15 MIN 1.46", 20 MIN 1.54", 25 MIN 1.61", 30 MIN 1.67", 40 MIN 1.78", 50 MIN DRY, 60 MIN DRY

SEEPAGE RATE: 1 1/10 MIN

PERCOLATION TEST -TEST HOLE #201

DEPTH: 24"
DATE: 5/6/20
STARTING TIME: 1:25

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.89", 5 MIN 0.94", 10 MIN 0.98", 15 MIN 1.01", 20 MIN 1.04", 25 MIN 1.07", 30 MIN 1.09", 40 MIN 1.13", 50 MIN 1.17", 60 MIN 1.21"

SEEPAGE RATE: 1 1/20 MIN

LOT #3

TEST HOLE #13
0'-13" DARK BROWN TOPSOIL
13"-30" ORANGE BROWN LOAM, WITH FINE TO MED SAND, TRACE TO LITTLE GRAVEL

30"-32" SEAM OF GRAVEL AND STONE
32"-93" BLACK FINE SAND WITH TRACE GRAVEL, FEW TO SOME COBBLES

ROOTS: 6"
GROUNDWATER: SEEP AT 72'
LEGE: NONE
MOTTLING: 36'
COMMENTS: NONE

TEST HOLE #15

0'-13" DARK BROWN TOPSOIL
13"-24" LIGHT BROWN LOAM, LOOSE, LITTLE GRAVEL, SOME COBBLES

24"-76" BROWN COURSE SAND, SOME GRAVEL, SOME COBBLES, STONE, BOULDERS

ROOTS: 4"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 24'
COMMENTS: NONE

TEST HOLE #16

0'-15" DARK BROWN TOPSOIL
15"-32" BROWN LOAM, STONY VERY LOOSE, TRACE TO LITTLE GRAVEL

32"-108" BROWN COURSE SAND, SOME GRAVEL, SOME COBBLES, FEW TO SOME STONES, SOME BOULDERS, LOOSE IN PLACE

ROOTS: 15'
GROUNDWATER: 105'
LEGE: NONE
MOTTLING: 35'
COMMENTS: NONE

TEST HOLE #202

0'-14" DARK BROWN SILT LOAM TOPSOIL
14"-29" BROWN/GRAY LOAM
29"-104" BROWN COMPACT TILL FINE TO COARSE SAND, SOME GRAVEL, FEW TO SOME COBBLE, TRACE STONE, TRACE TO FEW BOULDERS, VERY FIRM TO FIRM IN PLACE, VERY FRIABLE TO LOOSE IN HAND, DRY

ROOTS: 14"
WATER: NONE
LEGE: NONE
MOTTLING: 43'
COMMENTS: NONE

PERCOLATION TEST-BETWEEN TEST HOLES #13 & #15 PRIMARY

DEPTH: 24"
DATE: 2/15/18
STARTING TIME: 1:25

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.92", 5 MIN 0.98", 10 MIN 1.03", 15 MIN 1.07", 20 MIN 1.10", 25 MIN 1.13", 30 MIN 1.16", 40 MIN 1.21", 50 MIN 1.26", 60 MIN 1.31"

SEEPAGE RATE: 1 1/17 MIN

PERCOLATION TEST-BETWEEN TEST HOLES 14 & 16 RESERVE

DEPTH: 24"
DATE: 2/15/18
STARTING TIME: 1:25

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.82", 5 MIN 0.87", 10 MIN 0.92", 15 MIN 0.96", 20 MIN 0.99", 25 MIN 1.03", 30 MIN 1.06", 40 MIN 1.12", 50 MIN 1.17", 60 MIN 1.23"

SEEPAGE RATE: 1 1/15 MIN

PERCOLATION TEST - NEAR TEST HOLE #14

DEPTH: 18"
DATE: 11/1/19
STARTING TIME: 1:25

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.65", 5 MIN 0.68", 10 MIN 0.72", 15 MIN 0.75", 20 MIN 0.78", 25 MIN 0.81", 30 MIN 0.84", 40 MIN 0.90", 50 MIN 0.93", 60 MIN 0.95"

SEEPAGE RATE: 1 1/14 MIN

SEEPAGE RATE: 1 1/33 MIN

PERCOLATION TEST - TEST HOLE #202

DEPTH: 24"
DATE: 5/6/20
STARTING TIME: 1:28

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.88", 5 MIN 0.90", 10 MIN 0.92", 15 MIN 0.95", 20 MIN 0.97", 25 MIN 0.99", 30 MIN 1.00", 40 MIN 1.05", 50 MIN 1.09", 60 MIN 1.13"

SEEPAGE RATE: 1 1/20 MIN

LOT #4

TEST HOLE #14
0'-10" DARK BROWN TOPSOIL
10"-33" LIGHT BROWN LOAM
33"-84" BROWN COARSE SAND WITH GRAVEL

ROOTS: 6"
GROUNDWATER: 82"
LEGE: NONE
MOTTLING: 31" BLACK COLOR
COMMENTS: 10' WEST OF ORIGINAL STAKEOUT

TEST HOLE #17

0'-7" DARK BROWN TOPSOIL
7"-29" DISTURBED LOAM, SOME GRAVEL, SOME COBBLE, SOME STONE
29"-78" MEDIUM TO COURSE SAND, RESTRICTED BOTTOM

ROOTS: NONE
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: NONE
COMMENTS: NONE

TEST HOLE #18

0'-10" DARK BROWN TOPSOIL
10"-84" GRAY LOOSE SAND, SOME GRAVEL, SOME COBBLE, SOME STONE AND BOULDERS

ROOTS: 12"
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 36'
COMMENTS: NONE

TEST HOLE #19

0'-12" DARK BROWN TOPSOIL
12"-33" LIGHT BROWN LOAM, SANDY FIRM SAND, LITTLE SILT, TRACE GRAVEL

33"-89" BROWN COARSE SAND, MEDIUM SAND, MEDIUM FINES, SOME GRAVEL, SOME COBBLES, SOME STONE, FEW BOULDERS

ROOTS: NONE
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 27'
COMMENTS: NONE

TEST HOLE #20

0'-17" DARK BROWN TOPSOIL
17"-27" LIGHT BROWN LOAM, SANDY FIRM SAND, LITTLE SILT, TRACE GRAVEL

27"-102" BROWN COURSE SAND, MEDIUM SAND, MEDIUM FINES, SOME GRAVEL, SOME COBBLES, SOME STONE, FEW BOULDERS

ROOTS: 12"
GROUNDWATER: 90'
LEGE: NONE
MOTTLING: 24'
COMMENTS: SEEP AT 90' NORTH SIDE

TEST HOLE #103

0'-17" DARK BROWN TOPSOIL
17"-41" LOAMY, SOME GRAVEL, LOOSE IN HAND, FIRM IN PLACE

41"-92" TRACE TO LITTLE GRAVEL COMPACT, SOME COBBLE AND SOME STONES, LOOSE IN HAND, FIRM IN PLACE

ROOTS: 10"
GROUNDWATER: NONE
LEGE: 92'
MOTTLING: NONE
COMMENTS: ROOTS AT 80'

TEST HOLE #104

0'-17" DARK BROWN TOPSOIL
17"-31" BROWN SILTY LOAM
31"-90" FIRM SAND AND GRAVEL COMPACT

ROOTS: 12"
GROUNDWATER: 100'
LEGE: NONE
MOTTLING: 23'
COMMENTS: NONE

TEST HOLE #105

0'-14" DARK BROWN TOPSOIL
14"-32" GRAY LITTLE TO SOME GRAVEL AND SAND, FEW COBBLES

32"-102" GRAY LITTLE TO SOME GRAVEL AND SAND, FEW COBBLES AND TRACE STONE, LOOSE IN HAND

ROOTS: 12"
GROUNDWATER: 100'
LEGE: NONE
MOTTLING: 23'
COMMENTS: NONE

TEST HOLE #106

0'-18" DARK BROWN TOPSOIL
18"-34" LIGHT BROWN COMPACT LOAM
34"-92" GRAY LITTLE TO SOME GRAVEL AND SAND, FEW TO SOME COBBLES LOOSE IN HAND

ROOTS: 12"
GROUNDWATER: 88'
LEGE: NONE
MOTTLING: 39'
COMMENTS: NONE

PERCOLATION TEST-BETWEEN TEST HOLES #17 & #19 PRIMARY

DEPTH: 18"
DATE: 2/15/18
STARTING TIME: 1:35

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 0.57", 5 MIN 0.68", 10 MIN 0.75", 15 MIN 0.81", 20 MIN 0.87", 25 MIN 0.93", 30 MIN 0.99", 40 MIN 1.07", 50 MIN 1.14", 60 MIN 1.20"

SEEPAGE RATE: 1 1/14 MIN

PERCOLATION TEST - BETWEEN HOLES #18 & #20 RESERVE

DEPTH: 24"
DATE: 2/15/18
STARTING TIME: 1:35

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 1.03", 5 MIN 1.15", 10 MIN 1.24", 15 MIN 1.32", 20 MIN 1.39", 25 MIN 1.45", 30 MIN 1.50", 40 MIN 1.59"

SEEPAGE RATE: 1 1/20 MIN

50 MIN 1.67'

60 MIN 1.74'

SEEPAGE RATE: 1 1/12 MIN

PERCOLATION TEST-BETWEEN TEST HOLES #106 & #105

DEPTH: 24"
DATE: 11/1/19
STARTING TIME: 2:45

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 1.15", 5 MIN 1.25", 10 MIN 1.31", 15 MIN 1.36", 20 MIN 1.40", 25 MIN 1.45", 30 MIN 1.50", 40 MIN 1.59", 50 MIN 1.68", 60 MIN 1.75"

SEEPAGE RATE: 1 1/14 MIN

PERCOLATION TEST - BETWEEN TEST HOLES #103 & #104

DEPTH: 24"
DATE: 11/1/19
STARTING TIME: 2:45

Table with 2 columns: TIME, DEPTH. Rows: 0 MIN 1.1", 5 MIN 1.2", 10 MIN 1.3", 15 MIN 1.38", 20 MIN 1.43", 25 MIN 1.50", 30 MIN 1.55", 40 MIN 1.61", 50 MIN 1.65", 60 MIN 1.69"

SEEPAGE RATE: 1 1/21 MIN

LOT #5

TEST HOLE #21
0'-10" DARK BROWN TOPSOIL
10"-35" BROWN FINE TO MEDIUM SAND, SILTY, TRACE TO LITTLE GRAVEL, FEW TO SOME COBBLES, LOOSE IN PLACE, LOOSE IN HAND

ROOTS: 10'
GROUNDWATER: NONE
LEGE: NONE
MOTTLING: 29'
COMMENTS: NONE

**TEST HOLE DATA:**

TESTING PERFORMED BY DYMAR, 2/5/18, 2/6/18, 2/15/18, 7/5/19, 7/16/19, 5/6/2020 & 5/8/2020 128 BAYBERRY LANE, WESTPORT, CT JOB #934

**LOT #7 (CONT.)**

**TEST HOLE #33**  
 0"-14" DARK BROWN TOPSOIL  
 14"-36" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL AND TRACE TO FEW COBBLES.  
 36"-96" GLACIAL TILL, TRACE TO LITTLE AND VERY COMPACT SAND AND GRAVEL, WITH FEW COBBLES AND FEW STONES  
 ROOTS: 15"  
 GROUNDWATER: 100"  
 LEDGE: NONE  
 MOTTLING: NONE  
 COMMENTS: RESTRICTIVE LAYER AT 48"

**TEST HOLE #34**  
 0"-15" DARK BROWN TOPSOIL  
 15"-35" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL AND TRACE TO FEW COBBLES  
 35"-97" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES  
 ROOTS: 12"  
 GROUNDWATER: NONE  
 LEDGE: NONE  
 MOTTLING: 31"  
 COMMENTS: NONE

**TEST HOLE #35**  
 0"-18" DARK BROWN TOPSOIL  
 18"-36" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL AND TRACE TO FEW COBBLES  
 36"-98" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES  
 ROOTS: 18"  
 GROUNDWATER: 98"  
 LEDGE: NONE  
 MOTTLING: 50' +/-  
 COMMENTS: NONE

**TEST HOLE #36**  
 0"-12" DARK BROWN TOPSOIL  
 12"-72" BROWN LOAM  
 72"-105" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES  
 ROOTS: 12"  
 GROUNDWATER: 105"  
 LEDGE: NONE  
 MOTTLING: 62"  
 COMMENTS: NONE

**TEST HOLE #204**  
 0"-20" DARK BROWN TOPSOIL  
 20"-28" LIGHT BROWN LOAM  
 28"-90" BROWN COMPACT TILL, SOME GRAVEL, FEW TO SOME COBBLE, TRACE TO SOME STONE, VERY FIRM IN PLACE, VERY FRIABLE IN HAND, DAMP  
 ROOTS: 20"  
 WATER: 75"  
 LEDGE: NONE  
 MOTTLING: 55"  
 COMMENTS: SEEP AT 57"

**TEST HOLE #205**  
 0"-15" DARK BROWN TOPSOIL  
 15"-37" LIGHT BROWN LOAM, SILTY  
 37"-84" BROWN COMPACT TILL, SILTY SAND, FINE TO COARSE, SOME GRAVEL AND COBBLE, FEW STONES, FIRM IN PLACE, VERY FRIABLE IN HAND  
 ROOTS: 70"  
 WATER: 93"  
 LEDGE: NONE  
 MOTTLING: 25"  
 COMMENTS: NONE

**TEST HOLE #206**  
 0"-14" DARK BROWN TOPSOIL  
 14"-27" LIGHT BROWN LOAM, SANDY WITH GRAVEL  
 27"-90" BROWN COMPACT TILL, FINE TO COARSE SAND, SOME GRAVEL, FEW TO SOME COBBLE, FEW TO SOME STONE, FIRM IN PLACE, VERY FRIABLE IN HAND  
 ROOTS: 34"  
 WATER: 66"  
 LEDGE: NONE  
 MOTTLING: 53"  
 COMMENTS: SEEP AT 84"

**TEST HOLE #207**  
 0"-11" DARK BROWN TOPSOIL  
 11"-21" LIGHT BROWN LOAM, SANDY WITH GRAVEL  
 21"-96" BROWN COMPACT TILL, FINE TO COARSE SAND, SOME GRAVEL, FEW TO SOME COBBLE, FEW TO SOME STONE, FIRM IN PLACE, VERY FRIABLE IN HAND  
 ROOTS: 24"  
 WATER: 88"  
 LEDGE: NONE  
 MOTTLING: 46"  
 COMMENTS: SEEP AT 81"

**PERCOLATION TEST-TEST HOLE #33**  
 DEPTH: 18"  
 DATE: 11/4/19  
 STARTING TIME: 4:10  
 TIME DEPTH  
 0 MIN 0.47'  
 5 MIN 0.50'  
 10 MIN 0.53'  
 15 MIN 0.55'  
 20 MIN 0.57'  
 25 MIN 0.59'  
 30 MIN 0.60'  
 40 MIN 0.61'  
 50 MIN 0.62'  
 60 MIN 0.62'  
 SEEPAGE RATE: 1"/166 MIN

**PERCOLATION TEST-TEST HOLE #34**  
 DEPTH: 24"  
 DATE: 11/4/19  
 STARTING TIME: 4:10  
 TIME DEPTH  
 0 MIN 0.97'  
 5 MIN 1.11'  
 10 MIN 1.21'  
 15 MIN 1.30'  
 20 MIN 1.39'  
 25 MIN 1.46'  
 30 MIN 1.50'  
 40 MIN 1.53'  
 50 MIN 1.55'  
 60 MIN 1.57'  
 SEEPAGE RATE: 1"/42 MIN

**PERCOLATION TEST-TEST HOLE #35**  
 DEPTH: 24"  
 DATE: 11/4/19  
 STARTING TIME: 4:10  
 TIME DEPTH  
 0 MIN 0.92'  
 5 MIN 1.09'  
 10 MIN 1.15'  
 15 MIN 1.20'  
 20 MIN 1.24'  
 25 MIN 1.27'  
 30 MIN 1.29'  
 40 MIN 1.35'  
 50 MIN 1.39'  
 60 MIN 1.43'  
 SEEPAGE RATE: 1"/20 MIN

**PERCOLATION TEST-TEST HOLE #36**  
 DEPTH: 24"  
 DATE: 11/4/19  
 STARTING TIME: 4:15  
 TIME DEPTH  
 0 MIN 0.84'  
 5 MIN 0.87'  
 10 MIN 0.89'  
 15 MIN 0.91'  
 20 MIN 0.93'  
 25 MIN 0.95'  
 30 MIN 0.97'  
 40 MIN 1.00'  
 50 MIN 1.03'  
 60 MIN 1.05'  
 SEEPAGE RATE: 1"/27 MIN

**PERCOLATION TEST-TEST HOLE #41**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.40'  
 5 MIN 1.52'  
 10 MIN 1.55'  
 15 MIN 1.58'  
 20 MIN 1.60'  
 25 MIN 1.62'  
 30 MIN 1.64'  
 40 MIN 1.67'  
 50 MIN 1.70'  
 60 MIN 1.73'  
 SEEPAGE RATE: 1"/27 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-TEST HOLE #204**  
 DEPTH: 24"  
 DATE: 5/6/20  
 STARTING TIME: 3:01  
 TIME DEPTH  
 0 MIN 0.92'  
 5 MIN 1.09'  
 10 MIN 1.15'  
 15 MIN 1.20'  
 20 MIN 1.24'  
 25 MIN 1.27'  
 30 MIN 1.29'  
 40 MIN 1.35'  
 50 MIN 1.39'  
 60 MIN 1.43'  
 SEEPAGE RATE: 1"/20 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #204 & #206**  
 DEPTH: 24"  
 DATE: 5/6/20  
 STARTING TIME: 3:01  
 TIME DEPTH  
 0 MIN 0.92'  
 5 MIN 1.09'  
 10 MIN 1.15'  
 15 MIN 1.20'  
 20 MIN 1.24'  
 25 MIN 1.27'  
 30 MIN 1.29'  
 40 MIN 1.35'  
 50 MIN 1.39'  
 60 MIN 1.43'  
 SEEPAGE RATE: 1"/20 MIN

**PERCOLATION TEST-TEST HOLE #207**  
 DEPTH: 24"  
 DATE: 5/6/20  
 STARTING TIME: 3:00  
 TIME DEPTH  
 0 MIN 0.72'  
 5 MIN 0.85'  
 10 MIN 0.98'  
 15 MIN 0.92'  
 20 MIN 0.95'  
 25 MIN 0.98'  
 30 MIN 1.01'  
 40 MIN 1.07'  
 50 MIN 1.11'  
 60 MIN 1.15'  
 SEEPAGE RATE: 1"/20 MIN

**LOT #8**

**TEST HOLE #28**  
 0"-14" DARK BROWN TOPSOIL  
 14"-36" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL  
 36"-96" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES  
 ROOTS: 6"  
 GROUNDWATER: NONE  
 LEDGE: NONE  
 MOTTLING: NONE  
 COMMENTS: MOTLE AT 36"

**TEST HOLE #29**  
 0"-14" DARK BROWN TOPSOIL  
 14"-36" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL  
 36"-96" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES  
 ROOTS: 9"  
 GROUNDWATER: 98"  
 LEDGE: NONE  
 MOTTLING: 35"  
 COMMENTS: NONE

**TEST HOLE #31**  
 0"-14" DARK BROWN TOPSOIL  
 14"-33" BROWN LOAM, WITH TRACE TO LITTLE GRAVEL  
 33"-84" GLACIAL TILL, TRACE TO LITTLE SAND AND GRAVEL, VERY COMPACT, TRACE TO FEW COBBLES, TRACE TO FEW STONES AND ROCKS AT BOTTOM  
 ROOTS: NONE  
 GROUNDWATER: 90"  
 LEDGE: NONE  
 MOTTLING: 33"  
 COMMENTS: SEEP AT 62"

**TEST HOLE #43**  
 0"-15" DARK BROWN TOPSOIL  
 15"-57" BROWN LOAM  
 57"-99" TRACE TO LITTLE AND FIRM SAND AND GRAVEL, WITH FEW COBBLES AND TRACE TO FEW STONES  
 ROOTS: 9"  
 GROUNDWATER: 98"  
 LEDGE: NONE  
 MOTTLING: 35"  
 COMMENTS: NONE

**TEST HOLE #44**  
 0"-10" DARK BROWN TOPSOIL  
 10"-37" BROWN SILTY LOAM  
 37"-101" FIRM SAND AND GRAVE, COMPACT  
 ROOTS: 36"  
 GROUNDWATER: NONE  
 LEDGE: NONE  
 MOTTLING: 29"  
 COMMENTS: NONE

**PERCOLATION TEST-TEST HOLE #43**  
 DEPTH: 24"  
 DATE: 5/6/20  
 STARTING TIME: 4:15  
 TIME DEPTH  
 0 MIN 0.84'  
 5 MIN 0.87'  
 10 MIN 0.89'  
 15 MIN 0.91'  
 20 MIN 0.93'  
 25 MIN 0.95'  
 30 MIN 0.97'  
 40 MIN 1.00'  
 50 MIN 1.03'  
 60 MIN 1.05'  
 SEEPAGE RATE: 1"/27 MIN

**PERCOLATION TEST-TEST HOLE #44**  
 DEPTH: 24"  
 DATE: 5/6/20  
 STARTING TIME: 4:15  
 TIME DEPTH  
 0 MIN 0.84'  
 5 MIN 0.87'  
 10 MIN 0.89'  
 15 MIN 0.91'  
 20 MIN 0.93'  
 25 MIN 0.95'  
 30 MIN 0.97'  
 40 MIN 1.00'  
 50 MIN 1.03'  
 60 MIN 1.05'  
 SEEPAGE RATE: 1"/27 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-TEST HOLE #41**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-TEST HOLE #41**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-TEST HOLE #41**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-TEST HOLE #41**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-BETWEEN TEST HOLES #41 & #42**  
 DEPTH: 24"  
 DATE: 5/8/20  
 STARTING TIME: 1:40  
 TIME DEPTH  
 0 MIN 1.08'  
 5 MIN 1.18'  
 10 MIN 1.25'  
 15 MIN 1.31'  
 20 MIN 1.35'  
 25 MIN 1.38'  
 30 MIN 1.43'  
 40 MIN 1.47'  
 50 MIN 1.50'  
 60 MIN 1.54'  
 SEEPAGE RATE: 1"/21 MIN

**PERCOLATION TEST-DETENTION BASIN, 30 FEET NORTH AND EAST TO TH #DZ**  
 DEPTH: 18"  
 DATE: 11/4/19  
 STARTING TIME: 4:10  
 TIME DEPTH  
 0 MIN 0.63'  
 5 MIN 0.68'  
 10 MIN 0.73'  
 15 MIN 0.76'  
 20 MIN 0.78'  
 25 MIN 0.80'  
 30 MIN 0.82'  
 40 MIN 0.84'  
 50 MIN 0.86'  
 60 MIN 0.88'  
 SEEPAGE RATE: 1"/42 MIN

**TEST HOLE #D-1**

0"-9" DARK BROWN SILT LOAM TOPSOIL 09"-30" LIGHT BROWN TO ORANGE BROWN LOAM TO VERY FINE SANDY LOAM W/ TRACE FINE TO MEDIUM GRAVEL, TRACE BROKEN STONE, FIRM TO FRIABLE IN PLACE TO VERY FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 30"-96" BROWN TO OLIVE BROWN - MASSIVE STRUCTURE - FIRM COMPACTED SILTY GRANULAR TILL, NESTED WITH SHARP ANGULAR STONE AND MICA SCHIST, LITTLE FINE TO MEDIUM SAND, LITTLE SILT AND TRACE 3-6 INCH COBBLES; VERY FIRM TO FIRM IN PLACE AND FRIABLE TO VERY FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", FINE TO MEDIUM AND STRONG  
 NOTE: FEW MOTTLES IN B HORIZON CONCENTRATED IN TIGHTER SOILS, IRON STAINING.

**TEST HOLE #D-2**  
 0"-9" DARK BROWN SILT LOAM TOPSOIL  
 09"-34" LIGHT BROWN TO LIGHT ORANGE FINE SANDY LOAM W/ TRACE FINE TO COARSE GRAVEL, TRACE BROKEN MICA SCHIST STONE, FIRM TO FRIABLE IN PLACE TO VERY FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-102" DARK BROWN TO OLIVE BROWN - MASSIVE STRUCTURE - FIRM COMPACTED SILTY GRANULAR TILL, NESTED WITH SHARP ANGULAR STONE AND MICA SCHIST, LITTLE FINE TO MEDIUM SAND, LITTLE SILT AND TRACE 3-6 INCH COBBLES; VERY FIRM TO FIRM IN PLACE AND FRIABLE TO VERY FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 48", DIFFICULT TO CONFIRM DUE TO MASSIVE STRUCTURE

**TEST HOLE #D-3**  
 0"-9" DARK BROWN SILT LOAM TOPSOIL  
 9"-50" LIGHT BROWN TO OLIVE BROWN VERY FINE GRANULAR TILL WITH LITTLE FINE TO COARSE GRAVEL, LITTLE SILT, VERY FIRM TO FIRM IN PLACE TO FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 50"-62" LIGHT BROWN TO YELLOW BROWN POORLY GRADED MEDIUM SAND, HEAVILY IRON STAINED, FIRM IN PLACE TO LOOSE IN HAND, GRANULAR AND DRY  
 62"-78" LIGHT BROWN TO OLIVE BROWN POORLY GRADED VERY FINE SAND WITH TRACE SILT, HEAVILY MOTTLED, FIRM TO FRIABLE IN PLACE AND LOOSE IN HAND, DRY  
 78"-90" ORANGE BROWN TO OLIVE BROWN FIRM GRANULAR TILL, LITTLE FINE TO COARSE GRAVEL, LITTLE COBBLES, VERY FIRM IN PLACE AND FRIABLE IN HAND, DRY  
 ROOTS: 18"  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 48", DIFFICULT TO CONFIRM DUE TO MASSIVE STRUCTURE

**TEST HOLE #D-4**  
 0"-9" DARK BROWN SILT LOAM TOPSOIL  
 9"-32" LIGHT BROWN TO LIGHT ORANGE FINE SANDY LOAM W/ TRACE FINE TO COARSE GRAVEL, TRACE BROKEN MICA SCHIST STONE, FIRM TO FRIABLE IN PLACE TO VERY FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 32"-44" BROWN FRIABLE MASSIVE FRIABLE TILL WITH SOME ROUNDED FINE TO COARSE GRAVEL, TRACE COBBLES; FIRM TO FRIABLE IN PLACE, FRIABLE IN HAND, GRANULAR TO SUBANGULAR BLOCKY, DRY  
 44"-88" BROWN TO OLIVE BROWN - MASSIVE STRUCTURE - FIRM COMPACTED SILTY GRANULAR TILL, NESTED WITH SHARP ANGULAR STONE AND MICA SCHIST, LITTLE FINE TO MEDIUM SAND, LITTLE SILT AND TRACE 3-6 INCH COBBLES; VERY FIRM TO FIRM IN PLACE AND FRIABLE TO VERY FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: 32"  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 72" STRONG AND COARSE

**TEST HOLE #D-5**  
 0"-8" DARK BROWN SILT LOAM TOPSOIL  
 8"-32" LIGHT BROWN TO ORANGE BROWN SILT LOAM W/ TRACE FINE TO MEDIUM SAND, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 32"-96" BROWN TO OLIVE BROWN - MASSIVE STRUCTURE - FIRM COMPACTED FINE SILTY GRANULAR TILL, TRACE FINE TO MEDIUM GRAVEL, TRACE MEDIUM TO COARSE GRAVEL, TRACE COBBLES; VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 48"  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-6**  
 0"-12" DARK BROWN SILT LOAM TOPSOIL  
 8"-32" LIGHT BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 32"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SILTY GRANULAR TILL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 83", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-7**  
 0"-14" DARK BROWN SILT LOAM TOPSOIL  
 14"-39" LIGHT BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 39"-87" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SILTY GRANULAR TILL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-8**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-9**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-10**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-11**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-12**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

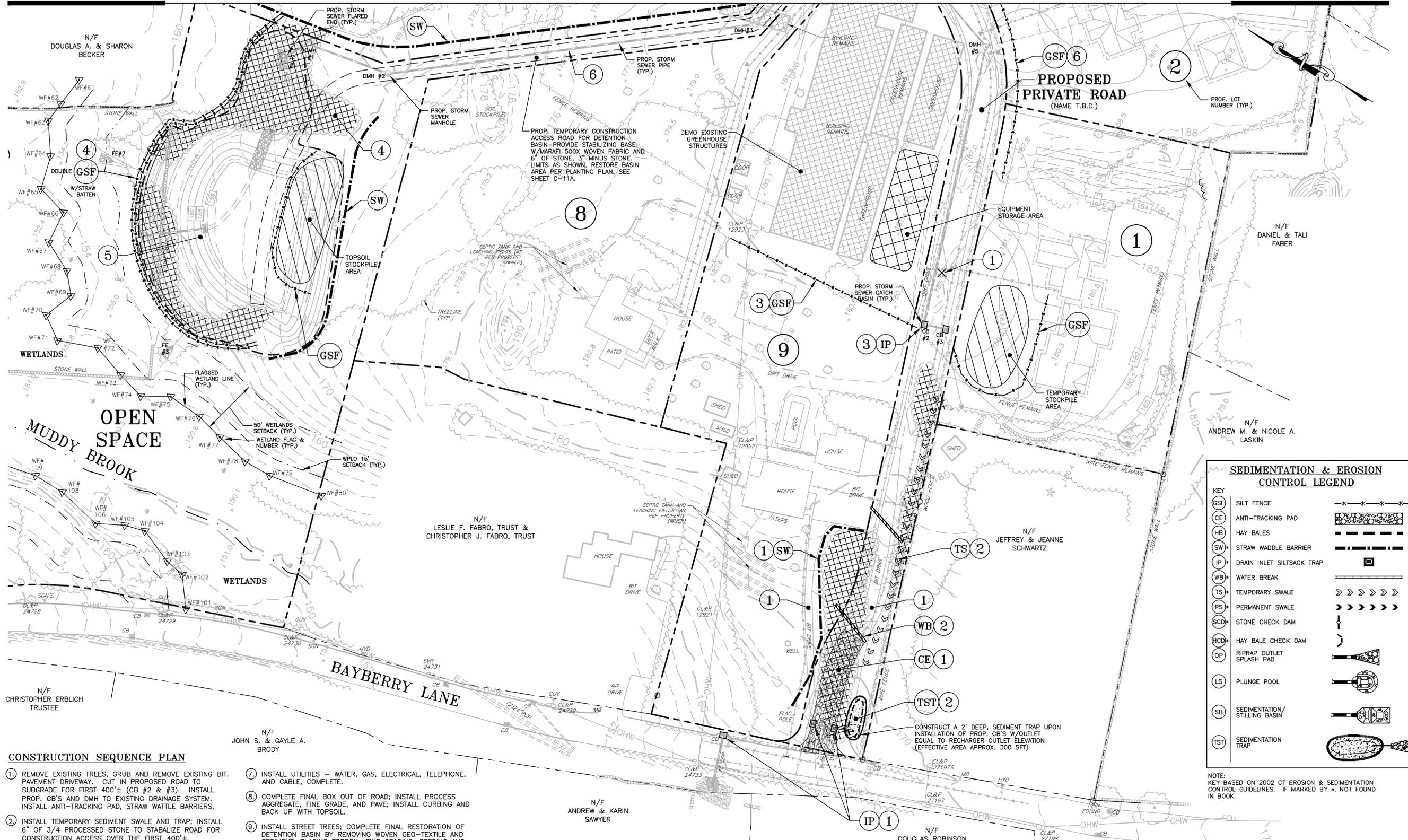
**TEST HOLE #D-13**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-14**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-15**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

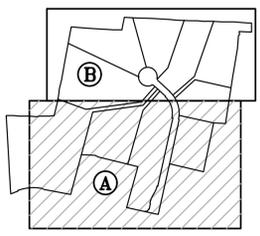
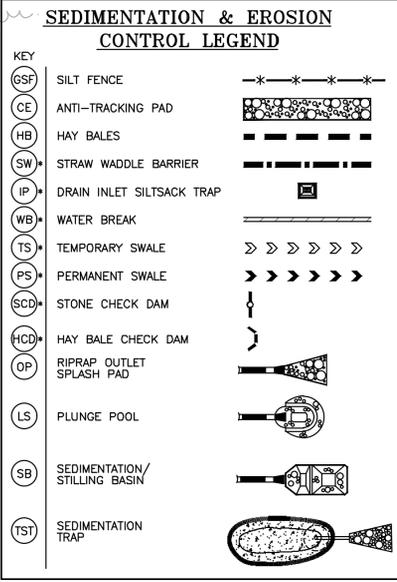
**TEST HOLE #D-16**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE: NONE  
 MOTTLING: 56", COARSE AND STRONG  
 COMMENTS: RELATIVELY TIGHT SOIL

**TEST HOLE #D-17**  
 0"-12" DARK BROWN LOAM TOPSOIL  
 12"-34" BROWN TO ORANGE BROWN VERY FINE SANDY SILT LOAM W/ TRACE GRAVEL, VERY FIRM TO FIRM IN PLACE, FRIABLE IN HAND, SUBANGULAR BLOCKY AND DRY  
 34"-96" BROWN TO OLIVE BROWN FIRM COMPACTED FINE SANDY GRANULAR TILL WITH TRACE FINE TO MEDIUM GRAVEL, VERY FIRM TO FIRM IN PLACE AND FRIABLE IN HAND, SUBANGULAR TO ANGULAR STRUCTURE.  
 ROOTS: NONE  
 WATER: NONE  
 LEDGE



**CONSTRUCTION SEQUENCE PLAN**

1. REMOVE EXISTING TREES, GRUB AND REMOVE EXISTING BIT PAVEMENT DRIVEWAY. CUT IN PROPOSED ROAD TO SUBGRADE FOR FIRST 400'± (CB #2 & #3). INSTALL PROP. CB'S AND DMH TO EXISTING DRAINAGE SYSTEM. INSTALL ANTI-TRACKING PAD, STRAW WATTLE BARRIERS.
2. INSTALL TEMPORARY SEDIMENT SWALE AND TRAP; INSTALL 6" OF 3/4 PROCESSED STONE TO STABILIZE ROAD FOR CONSTRUCTION ACCESS OVER THE FIRST 400'±.
3. DEMO EXISTING GREENHOUSE AND FARMING SHED STRUCTURES AND HAUL OFF-SITE. USE AREA FOR CONSTRUCTION EQUIPMENT STAGING AREA.
4. REMOVE EXISTING TREES & GRUB FOR DETENTION BASIN; REMOVE & STOCKPILE EXISTING STONEWALL FOR REUSE. STRIP TOPSOIL & STOCKPILE. INSTALL SEDIMENTATION & EROSION CONTROLS; AND MAINTAIN UNTIL FINAL RESTORATION.
5. COMPLETE DETENTION BASIN TO FINAL SUBGRADE AND INSTALL WOVEN GEOTEXTILE FABRIC LINER AT SUBGRADE.
6. REMOVE/RELOCATE EXISTING STOCKPILE FOR REUSE. COMPLETE STORM DRAINAGE SYSTEM FROM FE#1 TO DMH#4; COMPLETE ROAD EARTHWORK CUTS & FILLS TO SUBGRADE FROM STA 14+00 TO STA 19+58; COMPLETE REMAINING DRAINAGE SYSTEM, INCLUDING REQUIRED FOOTING DRAIN CONNECTIONS TO SERVE LOTS 1 & 2. STUB AT STREET LINE.
7. INSTALL UTILITIES - WATER, GAS, ELECTRICAL, TELEPHONE, AND CABLE, COMPLETE.
8. COMPLETE FINAL BOX OUT OF ROAD; INSTALL PROCESS AGGREGATE, FINE GRADE, AND PAV; INSTALL CURBING AND BACK UP WITH TOPSOIL.
9. INSTALL STREET TREES; COMPLETE FINAL RESTORATION OF DETENTION BASIN BY REMOVING WOVEN GEO-TEXTILE AND SEDIMENT; PLACING TOPSOIL, FINE GRADING, SEEDING AND MULCHING AS INDICATED ON SHEET C-12. MAINTAIN SILT FENCE BARRIER UNTIL AREA STABILIZES.
10. INSPECT STORM SYSTEM UPON SITE STABILIZATION; REMOVE SEDIMENTATION AND EROSION CONTROLS, VACUUM ALL CB SUMPS.
11. SET PINS AND MONUMENTS. PROVIDE RECORD AS-BUILT TO TOWN WITH APPLICABLE CERTIFICATIONS.
12. AS A GENERAL NOTE; MONITOR SEDIMENTATION AND EROSION CONTROLS WEEKLY BY AN APPROVED SITE MONITOR AND PROVIDE REPORT TO REQUIRED TOWN OFFICIALS; STREET SWEEP BAYBERRY LANE DAILY.



NO.	DATE	REVISION	DESCRIPTION	DESIGNED BY	CHECKED BY
1	06-01-20		Town Engineer's Comments	C.C.B.	M.E.L.

**DYMAR**  
800 Main Street South - Southbury, Ct. 06488 - (800) 287-1046 Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane Westport, Connecticut 06880

TITLE: Phase 1 - Road and Infrastructure Sediment and Erosion Control Plan

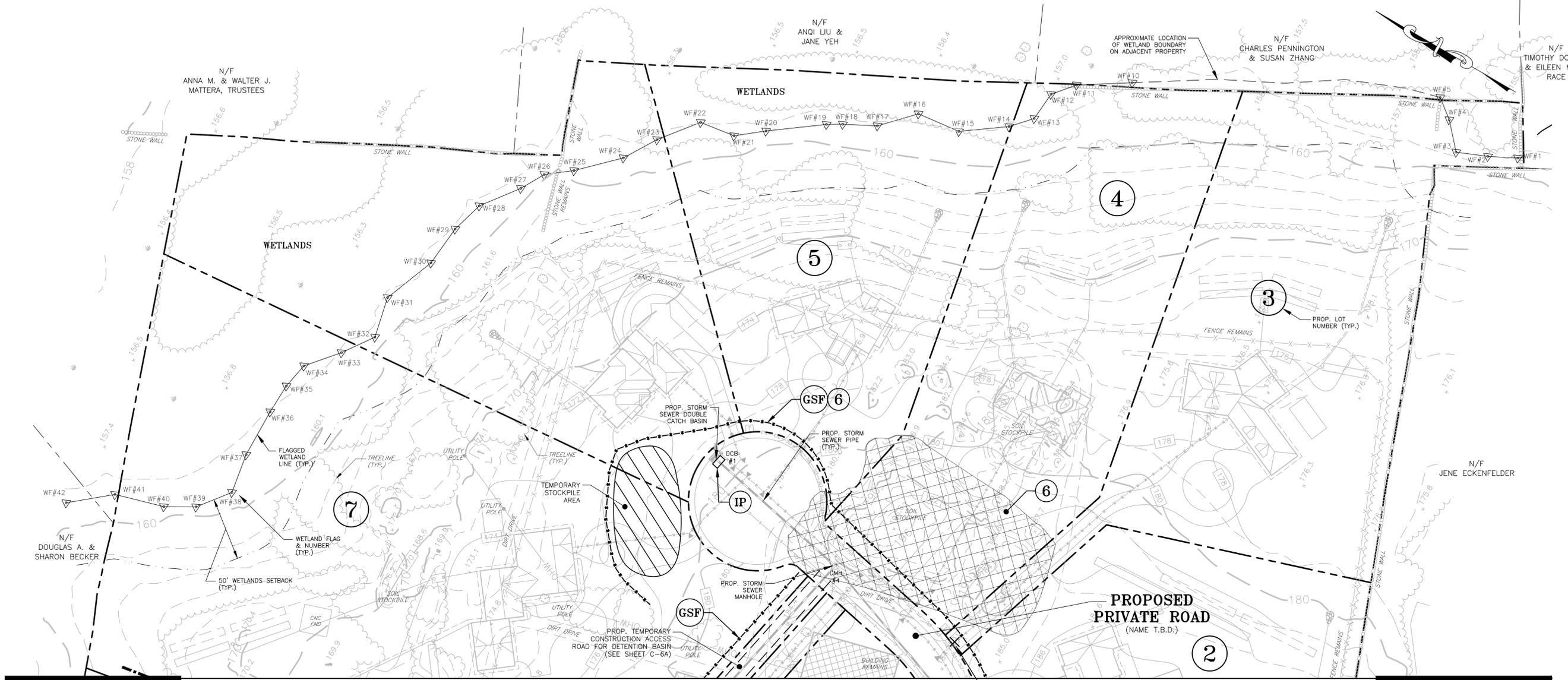
DATE: 05/14/2020  
SCALE: 1"=40'  
DESIGNED BY: M.E.L.  
DRAWN BY: C.B.B.  
JOB NO.: 00954  
DRAWING NO.: 1

MARK E. LANCOR, P.E. #12369

**C-6A**

NOT FOR CONSTRUCTION

NOTE: THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.



MATCH LINE - SEE SHEET C-6A

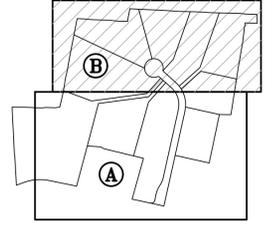
**SEDIMENTATION & EROSION CONTROL LEGEND**

KEY	DESCRIPTION
GSF	SILT FENCE
CE	ANTI-TRACKING PAD
HB	HAY BALES
SW	STRAW WADDLE BARRIER
IP	DRAIN INLET SILTSACK TRAP
WB	WATER BREAK
TS	TEMPORARY SWALE
PS	PERMANENT SWALE
SCD	STONE CHECK DAM
HCD	HAY BALE CHECK DAM
OP	RIPRAP OUTLET SPLASH PAD
LS	PLUNGE POOL
SB	SEDIMENTATION/STILLING BASIN
TST	SEDIMENTATION TRAP

NOTE: KEY BASED ON 2002 CT EROSION & SEDIMENTATION CONTROL GUIDELINES. IF MARKED BY \*, NOT FOUND IN BOOK.

**CONSTRUCTION SEQUENCE PLAN**

- REMOVE EXISTING TREES, GRUB AND REMOVE EXISTING BIT PAVEMENT DRIVEWAY. CUT IN PROPOSED ROAD TO SUBGRADE FOR FIRST 400'± (CB #2 & #3). INSTALL PROP. CB'S AND DMH TO EXISTING DRAINAGE SYSTEM. INSTALL ANTI-TRACKING PAD, STRAW WATTLE BARRIERS.
- INSTALL TEMPORARY SEDIMENT SWALE AND TRAP; INSTALL 6" OF 3/4 PROCESSED STONE TO STABILIZE ROAD FOR CONSTRUCTION ACCESS OVER THE FIRST 400'±.
- DEMO EXISTING GREENHOUSE AND FARMING SHED STRUCTURES AND HAUL OFF-SITE. USE AREA FOR CONSTRUCTION EQUIPMENT STAGING AREA.
- REMOVE EXISTING TREES & GRUB FOR DETENTION BASIN; REMOVE & STOCKPILE EXISTING STONEWALL FOR REUSE, STRIP TOPSOIL & STOCKPILE. INSTALL SEDIMENTATION & EROSION CONTROLS; AND MAINTAIN UNTIL FINAL RESTORATION.
- COMPLETE DETENTION BASIN TO FINAL SUBGRADE AND INSTALL WOVEN GEOTEXTILE FABRIC LINER AT SUBGRADE.
- REMOVE/RELOCATE EXISTING STOCKPILE FOR REUSE. COMPLETE STORM DRAINAGE SYSTEM FROM FE#1 TO DMH#4; COMPLETE ROAD EARTHWORK CUTS & FILLS TO SUBGRADE FROM STA 14+00 TO STA 19+58; COMPLETE REMAINING DRAINAGE SYSTEM, INCLUDING REQUIRED FOOTING DRAIN CONNECTIONS TO SERVE LOTS 1 & 2. STUB AT STREET LINE.
- INSTALL UTILITIES - WATER, GAS, ELECTRICAL, TELEPHONE, AND CABLE, COMPLETE.
- COMPLETE FINAL BOX OUT OF ROAD; INSTALL PROCESS AGGREGATE, FINE GRADE, AND PAVE; INSTALL CURBING AND BACK UP WITH TOPSOIL.
- INSTALL STREET TREES; COMPLETE FINAL RESTORATION OF DETENTION BASIN BY REMOVING WOVEN GEO-TEXTILE AND SEDIMENT; PLACING TOPSOIL, FINE GRADING, SEEDING AND MULCHING AS INDICATED ON SHEET C-12, MAINTAIN SILT FENCE BARRIER UNTIL AREA STABILIZES.
- INSPECT STORM SYSTEM UPON SITE STABILIZATION; REMOVE SEDIMENTATION AND EROSION CONTROLS, VACUUM ALL CB SUMPS.
- SET PINS AND MONUMENTS. PROVIDE RECORD AS-BUILT TO TOWN WITH APPLICABLE CERTIFICATIONS.
- AS A GENERAL NOTE: MONITOR SEDIMENTATION AND EROSION CONTROLS WEEKLY BY AN APPROVED SITE MONITOR AND PROVIDE REPORT TO REQUIRED TOWN OFFICIALS; STREET SWEEP BAYBERRY LANE DAILY.



**KEY PLAN**  
SCALE: 1"=500'

NOTE:  
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION
1	06-06-20		Town Engineer's Comments

**DYMAR**  
800 Main Street South · Southbury, CT 06488 · (803) 267-1046 · Fax (803) 267-1547  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Belta  
128 Bayberry Lane  
Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

TITLE: Phase 1 - Road and Infrastructure  
Sediment and Erosion Control Plan

DATE: 05/14/2020	SCALE: 1"=40'	DESIGNED BY: M.E.L.	CHECKED BY: M.E.L.	JOB NO: 00934	DRAWING NO: C-6B
NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL		DATE: 05/14/2020	SCALE: 1"=500'	DESIGNED BY: M.E.L.	CHECKED BY: M.E.L.

F:\00934 - Bayberry Lane-Westport\CD\DWG\006.dwg, 06\_10/2020 8:57:21 AM, genns, AutoCAD PDF (General Documentation).pc3, ARCH Full bleed D (24.00 x 36.00 inches), 1:1



**SOIL EROSION AND SEDIMENT CONTROL CONSTRUCTION STANDARDS:**

**A. PREAMBLE**

The management goals of controlling anticipated impacts to surficial bedrock and soils during and immediately after construction are to reduce the transport and deposition of exposed surficial materials to wetlands and watercourses. A typical erosion control plan has been prepared for the subdivision lots utilizing both temporary and permanent devices to minimize impacts. The plan includes limitations on the duration of soil exposure, criteria and specifications for placement and installation of erosion control devices, a maintenance schedule, and enforcement suggestions to mitigate concerns over its implementation. The primary aim of the erosion and sedimentation control measures will be to reduce soil erosion from areas stripped of vegetation during construction and to prevent siltation of the wetland areas. The erosion and sedimentation control plans are based on the Connecticut Department of Environmental Guidelines and that of the General Permit for Stormwater Protection Discharges.

**B. OBJECTIVES AND PRINCIPLES**

The objectives of the Soil Erosion and Sediment Control Plan are to manage both runoff and the earthwork operations by utilizing a collective approach to managing their impacts before critical areas are affected. These objectives are as follows:

- Control erosion at its source with temporary control structures, minimize the runoff from areas of disturbance, and deconcentrate and distribute stormwater runoff through natural vegetation before discharge to critical zones such as streams or wetlands.
- Keep land disturbances to a minimum – The building sites have been located with consideration given to the natural topography and the soil type. This design approach minimizes the required earthwork, thereby lowering the erosion potential.
- Time grading and construction to minimize soil exposure – The development will be phased to minimize the extent of cleared soil at any particular time. Within the scheduled phasing, only areas under active construction will be provided along residential lots, for example, will remain undisturbed until actual construction of the house is to begin.
- Retain existing vegetation wherever feasible – Silt fencing will be used to physically define the limit of work. Substantial buffers of existing vegetation will be provided along the existing public ways.
- Stabilize disturbed areas as soon as possible – in areas where work will not occur for periods longer than two weeks, soil stabilization by hydroseeding or mulching will be done within 48 hours after the land has been cleared.
- Minimize the length and steepness of slopes – The project has engineered the steepness and length of slopes to minimize runoff velocities and to control concentrated flow. Where concentrated (swale) flow from exposed surfaces is expected to be greater than three feet per second, hay bale or stone check dams will be installed in the swale. The check dams will be placed so that unchecked flow lengths will not be greater than 100 feet.
- Maintain low runoff velocities – To protect disturbed areas from stormwater runoff, hay bale and/or soil diversion berms will be installed wherever runoff is likely to traverse newly exposed soil. Immediately following the clearing and stripping of topsoil, rough grading for the post-construction swales will take place. The swales will direct runoff so that it can be checked or impounded. Stormwater outlets will be designed to reduce velocities and dissipate energy.
- Trap sediment on-site and prior to reaching critical areas such as wetlands. Silt fences, hay bale check dams, filter strips, sediment traps, and catch basin filters will be used to either impound sediment-laden runoff or to filter the runoff as it flows through an area. Reference is made to the sedimentation and erosion control drawings, sheet C-6A-F for location of silt fences, hay bales, etc. Silt fencing, augmented by hay bale berms installed on the upgradient side of the silt fencing, will be used wherever land disturbance occurs within 100 feet of wetlands. Stabilized construction entrances will be installed at all construction entrances to prevent construction vehicles from tracking sediment onto off-site roadways. All temporary erosion control devices will be installed prior to the commencement of construction.
- Establish a thorough maintenance and repair program – Erosion control measures will be inspected weekly during the spring months, monthly during the dry summer months and/or following rainfall storms of greater than 1/2 inch, and repaired as needed to ensure that they function properly.
- Assign responsibility for the maintenance program – The responsibility for the maintenance program will be assigned to the contractor who shall designate one of its supervisory personnel to be the liaison to the Owner's representative. The Owner will retain the services of a licensed professional who shall inspect and monitor the contractor's methods and have the authority to require modifications to the E&S controls. The Town will be copied on all inspection reports prepared on behalf of the project.

**C. TEMPORARY E&S CONTROL DEVICES, DESIGN CRITERIA, AND MAINTENANCE**

The devices provided below are typical controls which may or may not be required for the site. However, when site conditions arise which the Engineer, Site Monitor or Town warrant are necessary, the Contractor is to follow the guidelines specified as follows.

- Silt Fences** – Silt fences consist of wire-bound woodroll snow fence covered with a filter fabric. The fence will be four feet high and made of 3/8-inch by 1 1/2-inch wide pickets, approximately two inches apart, bound together by 13-gauge galvanized steel wire. Fences will be secured in place by galvanized steel posts set a maximum of five feet on-center. The filter fabric will be stapled to the upgradient face of each fence. Twine will be used to secure the fence on the uphill side to prevent overturning. The purpose of silt fences is to intercept and detain sediment contained in overland runoff from disturbed areas of limited extent. In addition, the silt fencing will physically delineate the limit of work. (Envirotech by Mirafi, Inc. is an acceptable alternative to the above described system).  
Installation and Maintenance:  
a. Silt fences will be installed where the disturbed land is located 200 feet or less from critical areas (streams and wetlands).  
b. Silt fences will be installed on downslope of work areas as close to the disturbed areas as possible.  
c. At the base of drainage ways or where the disturbance will remove natural vegetation within 100 feet of critical areas, the silt fencing will be augmented by a single row of staked haybales.

- Hay Bale Diversion Berm – Hay bale diversion berms will be utilized to intercept sediment and reduce runoff velocities around stockpiled erodible materials and divert runoff away from disturbed areas of limited extent. This device will be used both upgradient/downgradient of grading operations.  
Installation and Maintenance:  
a. The contributory drainage area will be one acre or less; the area may be larger if inaccessible to construction equipment and to preserve existing trees and vegetation.  
b. The bales will be tightly bound, pin anchored, and imbedded four inches below grade, with ends tightly abutting each other.  
c. The hay bale berms shall be inspected periodically and deteriorated bales replaced until such time as construction is completed and exposed slopes have been stabilized.

- Hydroseeding – Hydroseeding will be the primary means of stabilizing areas of disturbed earth. Hydroseeding will not be permitted, however, within cut areas or steep slopes. The seed mix, fertilizer, water, and mulch will be applied as a mixture utilizing power equipment. Fertilizer will not be included in the mix for disturbance within the regulated area adjacent to wetlands. The mix will be applied in two equal applications. Dyes will be used to determine the extent of coverage upon application. After grass has appeared, those areas which fail to show a uniform stand of grass will be reseeded. This process will be repeated until all areas are covered with satisfactory growth. Hydroseeding will be completed within 48 hours following completion of rough grading. Seed mixtures appropriate to the soils, slopes and uses will be selected in accordance with the Connecticut Soil and Water Conservation District Guidelines.

- Erosion Control Blankets – Blankets will be utilized for slopes > 4:1 to stabilize areas of disturbed earth. The type of blanket shall be as manufactured by North American Green or approved equal in accordance with the following schedule:  
a. For slopes from 4:1 to 3:1 and low flow swales use S75 Straw Blankets.  
b. For slopes from 3:1 to 2:1 and moderate flow swales use S150 Straw Blankets.  
c. For slopes from 2:1 to 1:1 and discharge grass channels use SC150 Coconut Fiber and Straw Blankets.  
d. For slopes steeper than 1:1 and engineered channels use C125 Coconut Fiber Blankets.

- Install all blankets in accordance with all the manufactures recommendations.
- Dust Control – Water will be applied by sprinkler or water truck as necessary during grading operations to minimize sediment transport and maintain acceptable air quality conditions. Repetitive treatments will be done as needed until grades are paved.
- Stabilized Construction Entrance – A ramp of crushed stone extending a minimum distance of 100 feet will be installed at each point of ingress and egress to the site. The purpose of the device is to minimize the potential of tracking mud from the site onto public rights-of-way.  
Installation and Maintenance:  
a. Minimum length will be 100 feet  
b. Stone size will be 1.5 to 2.5 inches  
c. Stone will be placed upon the full width of the entrance roads  
d. Thickness of stone will be six inches or greater  
e. Additions of stone will be done periodically to maintain the entrance  
f. All sediment spilled, dropped, washed, or tracked onto public rights-of-way will be removed immediately.

- Roadway Interceptor Swales – This temporary device consists of a crushed stone-filled swale constructed across proposed roadways. The purpose of this device is to direct runoff away from the road surface and minimize sediment from entering the drainage system. This shortens the length of disturbed slope by intercepting runoff and diverting it away from the roadway catch basins.  
Installation:  
a. Swales will be placed across roads, which are to be constructed in fill:  
i. every 200 feet on slopes of five to ten percent, and  
ii. every 300 feet on slopes less than five percent.  
b. Contributory drainage area less than five acres.  
c. Swales drain to sediment traps or sedimentation basins.

- Hay Bale Check Dams – Hay bale check dams consist of tightly bound, steel pin anchored hay bales embedded four inches below grade in drainage swales adjacent to roadways or against diversion berms at the toe of an exposed slope. The purpose of a hay bale check dam is to reduce runoff velocity and promote deposition and filtering of sediment from runoff.  
Installation and Maintenance:  
a. Check dams will be placed in drainage swales or against diversion berms at the toe of an exposed slope:  
i. every 100 feet on slopes greater than ten percent,  
ii. every 200 feet on slopes of five to ten percent, and  
iii. every 300 feet on slopes less than five percent.  
b. Sediment shall be removed from hay bale check dams when sediment has accumulated to 50 percent of the original height.

- Sediment Traps – At appropriate intervals, runoff collected in roadway interceptor swales or other swales will be directed, via a small dike or ditch, to a sediment trap. The trap consists of a small excavation and/or embankment. The purpose of the trap is to collect runoff, promote settling of sediment and deconcentrate and distribute clean runoff overland through vegetation before entering watercourses and wetlands.  
Installation and Maintenance:  
a. Contributory drainage areas less than or equal to five acres.

- Utilized as part of swales prior to discharge to natural slopes.
- Traps will be placed such that runoff discharging from the trap will flow at least 30 feet overland through natural vegetation before entering stream channels or wetlands.
- Traps will be designed for a minimum of 1.9 cubic feet of storage/acre of drainage area received by the trap.
- Maximum depth of trap will be five feet.
- Trap embankments shall not exceed five feet in height. Top width shall be four feet and sides shall have a 2:1 or flatter slope.
- Trap sides shall be compacted during construction.
- The trap outlet shall have crushed stone rip-rap hand placed over the trap.
- Traps will be cleaned when sediment has accumulated to 50 percent of design volume and removed sediment deposited so it will not erode.

- Diversion/Interceptor – Both grassed swales and rock-lined swales will be utilized (depending on grade) to convey runoff during construction. Swales generally will be located adjacent to roads. At frequent intervals, runoff in the roadway swales will pass through hay bale check dams and sediment traps to reduce velocities and remove sediment. As often as possible, runoff in the swales will be directed overland and allowed to filter through natural vegetation.  
Installation:  
a. Grassed swales on slopes less than five percent.  
b. Rock-lined swales on slopes greater than five percent.  
c. Swales will be temporary.

- Catch Basin Filters – Temporary catch basin filters will be utilized to prevent the deposition of sediment into the storm sewer system prior to the stabilization of exposed areas with vegetation and/or pavement. These filters will consist of tightly bound, pin-anchored hay bales embedded four inches below grade, surrounding each catch basin inlet.  
Installation and Maintenance:  
a. Placed around each catch basin inlet prior to paving or stabilization with vegetation.  
b. Sediment shall be removed from the filters when it has accumulated to 50 percent of the filter's original height.

- Diversion Berm (Soil) – This is a temporary raised berm of compacted soil, placed across a disturbed slope, that intercepts runoff from disturbed areas and directs it to an appropriate outlet. This device will be used mostly on steep slopes above deep excavations.  
Installation:  
a. Diversion berms may be placed on cut and fill slopes exceeding ten feet in height.  
b. Contributory drainage area should not be greater than one acre.  
c. Runoff will be diverted overland by the berms to sediment traps, sedimentation basins, swales, or check dams.  
d. On slopes over five percent, additional stabilization is required in the form of stone rip-rap eight inches vertically along the upslope side of the berm and seven feet upslope from the upslope toe of the berm.  
e. Top width of berm will be two feet. Side slopes will be 2:1 or flatter.  
f. All berms shall be machine compacted.

- Rock Check Dams – Temporary rock check dams are small dikes (approximately three feet high) constructed at frequent intervals in drainage ways where silt fences and hay bale check dams are impractical due to high flow velocities. The primary function of these devices is to promote deposition of sediment and provide some filtering of runoff water. Check dams will be constructed with a 1.5 to 2.0 inch crushed stone core and a layer of peastone on the upstream face.  
Installation:  
a. Check dams will be placed in drainage ways:  
b. downstream of stream crossing where high flow velocities make other sediment filtering devices impractical.  
c. Sediment shall be removed from rock check dams when sediment has accumulated to 50 percent of original height.  
d. Peat or other wetlands material will be excavated and stockpiled prior to rock check dam installation and replaced once construction is complete.

- Sediment Basins – This is a temporary embankment/impoundment area, excavated pit or used as part of a permanent detention device with a controlled outlet(s), that is a combination of wet and dry storage areas or created. The purpose is to intercept and retain sediment during construction, reduce or abate undesirable deposition of sediment to the waters of the state and downstream properties.  
Installation and Maintenance:  
a. Contributory drainage area less than 100 acres.  
b. Effective height of the basin is 15 feet or less.  
c. The product of the storage times the effective height should be less than 3,000.  
d. A minimum residence storage time of 10 hours for a 10 year frequency, 24 hour, Type III storm.  
e. Flood Routing by TR-55.  
f. Sediment storage volume shall be calculated by the Universal Soil Loss equation with an 80% trap efficiency for a predicted one year load.  
g. Minimum capacity volumes shall be 134 cubic yards of water storage per acre drained of disturbed area contributing to the basin.  
h. Sediment basins shall be cleaned when sediment accumulates to 50% of the net storage capacity. Dewater basin through pumping means prior to removing sediment. Material shall be removed and left to dry to an approved location.

- Energy Dissipaters – Outlet Protection Level Spreaders – This is a permanent device used to reduce depth and velocity of concentrated runoff and release it uniformly into a stable area. Except as otherwise noted, they shall be constructed of rip-rap stone.  
Installation and Maintenance:  
a. Design flows for 10 year storms or less than 20 cfs.  
b. Length, width, and detail is as shown on the site plans and detail sheets.  
c. To be constructed on undisturbed earth.  
d. Inspect annually and repair immediately where erosion occurs.

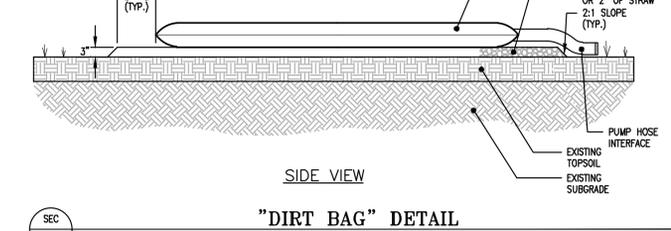
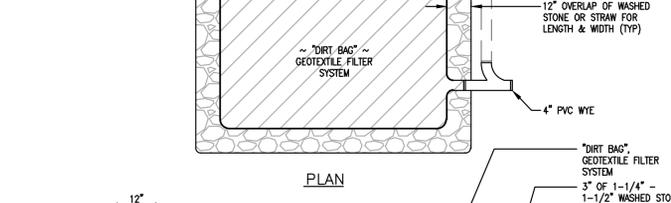
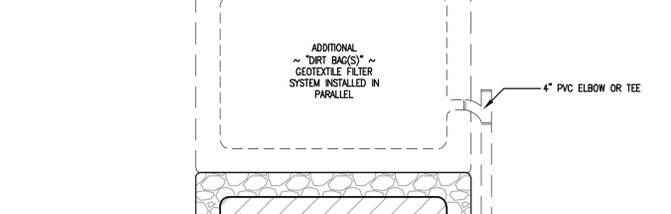
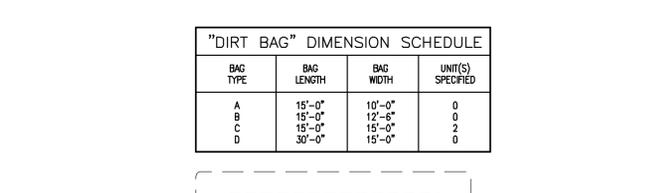
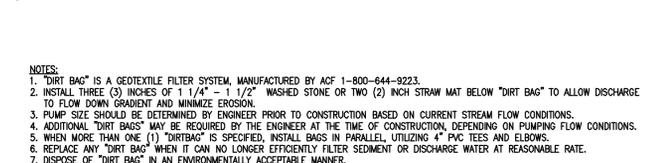
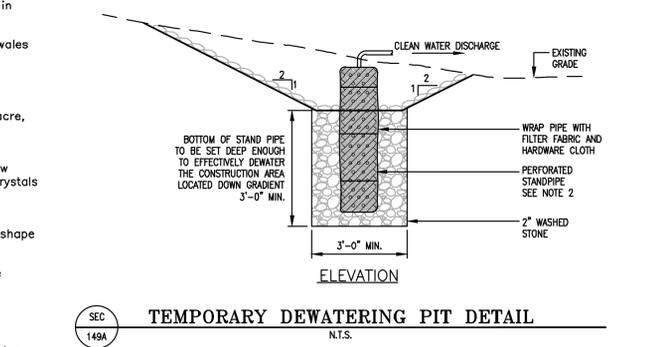
- Hydrograss And Floc Log Specifications:  
a. Pre-Construction:  
Send a soil sample directly to Applied Polymer Systems, Inc., 519 Industrial Drive, Woodstock, GA 30189, Attn: Steve Iwinski (678-494-5998) to determine the log, liquid, and crystal types most appropriate for the site soil type.  
b. Construction Phase Applications:  
(1) Swales and Sedimentation Basins  
i. Two Floc Logs shall be placed at each check dam throughout the swale system.  
ii. Logs should be applied via 3 FT wood stakes and placed in running water areas of the swale.  
iii. 25 LBS/150 LF of Clarifying Crystal shall be applied to swales in a one time only application to jump start the logs.  
(2) Disturbed Soil Areas  
i. Apply wood fiber slurry to all disturbed areas. Slurry shall consist of 1,500 LBS of red wood fiber per acre, 2.5 gallons of Silt Stop Liquid Emulsion per acre, and 100 LBS of Gum Guar per acre.  
ii. An alternative to wood fiber slurry is to apply hay or straw mulch and cover with 25 LBS/AC of Silt Stop Clarifying Crystals with a mulch spreader.

- Check Dam Construction:  
(1) Dams should consist of 1-3 inch stone formed in a U or V shape towards the sedimentation basin.  
(2) Three layers of Coconut Jute Matting should be applied to the inside of the check dam and secured with staples.  
d. Maintenance:  
(1) Floc Logs shall be inspected after each major storm event.  
(2) Sediment buildup around Floc Logs shall be removed and the log reset when 50% of the log is no longer exposed.  
(3) Logs shall be replaced when the log is no longer performing as intended as specified by the manufacturer's technical representative.

- D. CONTROL PLAN IMPLEMENTATION**
- In addition to the devices and schedules outlined in this soil erosion and sediment control plan, the following procedures will be followed by the earthwork contractor:
- The contractor shall inspect the effectiveness and condition of erosion control devices during storm events, after each rainfall of one-half inch magnitude or greater, prior to weekends, and prior to forecasted storm events.
  - The contractor shall repair or replace damaged erosion control devices immediately, and in no case, more than four hours after observing such deficiencies.
  - The contractor shall be prepared to implement interim drainage controls and erosion control measures as may be necessary during the course of construction.
  - The contractor shall make available on-site all equipment, materials and labor necessary to effect emergency erosion control and drainage improvement within four hours of any impending emergency situation.
  - The contractor shall have on call at all times a responsible representative who, when authorized, will mobilize the necessary personnel, materials and equipment and otherwise provide the required action when notified of any impending emergency situation.
  - The contractor shall supply a telephone number to the MUNICIPAL Engineer and IW enforcement officer so that the contractor may be contacted during the evenings and on weekends, if necessary.

- E. PERMANENT CONTROL DEVICES**
- Following construction, erosion will be prevented by established vegetation cover and by permanent devices which include catch basins with sediment traps, grassed swales, natural filter traps, and outlet protection.
- Through the strict implementation of this proposed soil erosion and sediment control plan, erosion of soils on the site will be minimized and contained to prevent sedimentation of site wetlands and adjacent and downstream properties and watercourses.

- NOTE:**  
1. CAN BE USED ON ANY SITE UNDERGOING ACTIVE CONSTRUCTION, ESPECIALLY EXCAVATION, BUT GENERALLY ARE NOT SUITABLE FOR LARGE VOLUMES OF RUNOFF, WATER PUMPED FROM EXCAVATIONS OR DIVERTED FROM STOCKPILE OR TRACKING AREAS MAY BE DIRECTED TO DEWATERING PITS FOR PRIMARY SEDIMENT REMOVAL. THIS PRACTICE IS PARTICULARLY APPLICABLE TO SMALL SITES OR URBAN AREAS WHERE THERE IS INSUFFICIENT ROOM FOR MULTIPLE SILT TRAPS OR SEDIMENT BASINS.  
**INSTALLATION NOTES:**  
1. PIT DIMENSIONS ARE VARIABLE.  
2. THE STANDPIPE SHOULD BE A PERFORATED 12" TO 18" DIAMETER CORRUGATED METAL, PVC OR HDPE PIPE.  
3. A BASE OF 2" WASHED STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12" BELOW THE STANDPIPE. THE PIT SURROUNDING THE STANDPIPE SHOULD THEN BE BACKFILLED WITH 2" WASHED STONE. THE STANDPIPE SHOULD EXTEND 12"-18" ABOVE THE LIP OF THE PIT.  
4. IF DISCHARGE WILL BE PUMPED DIRECTLY TO A STORM DRAINAGE SYSTEM, THE STANDPIPE SHOULD BE WRAPPED WITH FILTER FABRIC BEFORE INSTALLATION.  
5. IF DESIRED, 1/4"-1/2" HARDWARE CLOTH MAY BE PLACED AROUND THE STANDPIPE, PRIOR TO ATTACHING THE FILTER FABRIC. THIS WILL INCREASE THE RATE OF WATER SEEPAGE INTO THE PIPE.



**NOTE:**  
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY

**DYMAR**

800 Main Street South - Southbury, Ct. 06488 (800) 287-1046 Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane Westport, Connecticut 06880

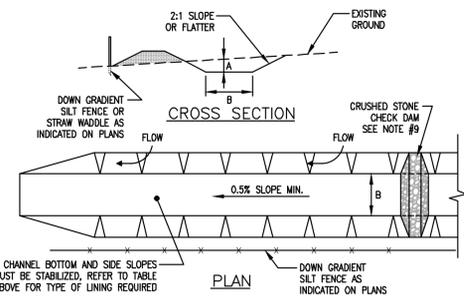
TITLE: Sediment and Erosion Control Construction Standards & Misc. Details

DATE: 05/14/2020	SCALE: N.T.S.	DESIGNED BY: M.E.L.	DRAWN BY: C.B.B.	CHECKED BY: M.E.L.	JOB NO: 00954	DRAWING NO: 1
<b>C-6D</b>						

- NOTES:**
1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
  2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
  3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
  4. ALL TREES, BRUSH, STUMPS OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
  5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPED NORMAL FLOW.
  6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
  7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
  8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
  9. CHANNEL STABILIZATION SHALL BE INSPECTED AND REPLACED IN KIND AS NEEDED.
  10. INSTALL ROCK CHECK DAMS AT 100' INTERVALS WHERE CHANNEL SLOPE EXCEEDS 5%.
  11. STABILIZATION SHALL BE AS PER THE CHART BELOW.

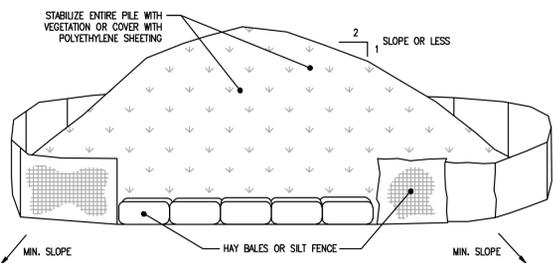
**CHANNEL STABILIZATION TABLE**

TYPE OF TREATMENT	CHANNEL GRADE	A=1'-0" MIN B=4'-0" MIN (5 AC OR LESS)	A=1'-6" MIN B=6'-0" MIN (5 AC - 10AC)
1	0.5% - 3%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1% - 5%	SEED AND STRAW MULCH	SEED W/ JUTE NETTING OR EQUAL
3	5.1% - 8%	SEED WITH JUTE NETTING OR APPROV EQUAL	LINED RIP-RAP 4-8" OR RECYCLED CONCRETE EQUIVALENT ENGINEERED DESIGN
4	8.1% - 20%	LINED 4-8" RIP-RAP	



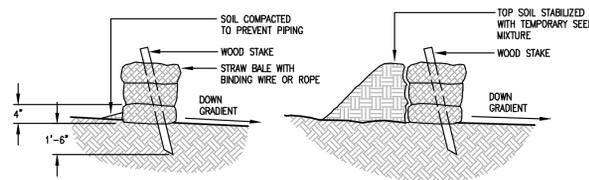
**TEMPORARY DRAINAGE OR DIVERSION CHANNEL**  
N.T.S.

- NOTES:**
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
  2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
  3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED WITH POLYETHYLENE SHEETING.
  4. TO BE USED WHERE TOPSOIL IS NECESSARY FOR REGRADING AND VEGETATING DISTURBED AREAS. TOPSOIL IS APPLIED TO SUBSOILS THAT ARE DRAUGHTY (HAVING LOW AVAILABLE MOISTURE FOR PLANTS), STONEY, SALTY, HAVE LOW PERMEABILITY, OR ARE EXTREMELY ACID. IT IS ALSO USED TO BACKFILL AROUND SHRUB AND TREE TRANSPLANTS. PRESERVATION OF EXISTING TOPSOIL IS BENEFICIAL FOR ALL TYPES OF LAWN OR ORNAMENTAL PLANTINGS.
  5. TEMPORARY STOCKPILE STABILIZATION MEASURES INCLUDE VEGETATIVE COVER, MULCH, NONVEGETATIVE COVER, AND PERIPHERAL SEDIMENT TRAPPING BARRIERS. THE STABILIZATION MEASURE(S) SELECTED SHOULD BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND REQUIRED PERIOD OF USE.
  6. SEE EROSION AND SEDIMENT CONTROL PLAN FOR LOCATIONS.



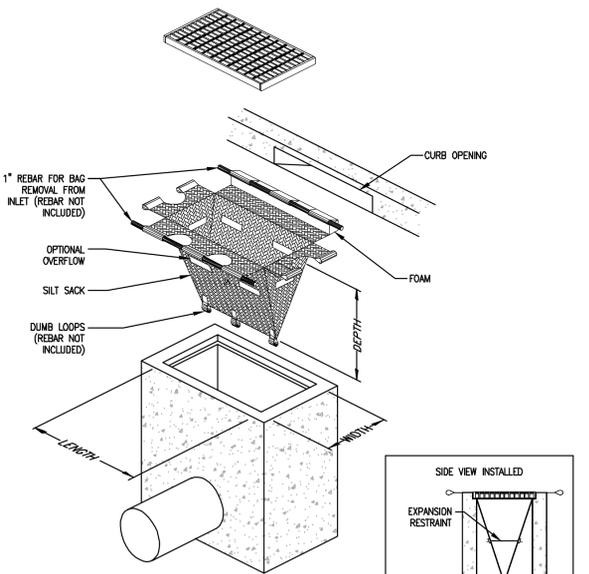
**SOIL STOCKPILE DETAIL**  
N.T.S.

- NOTES:**
1. MAX. AREA DRAINAGE TO A BARRIER IS ONE ACRE OR LESS WITH SLOPE GRADIENT BEHIND A BARRIER LIMITED TO 2H:1V.
  2. MAX. DISTANCE ON SLOPES BETWEEN BARRIERS IS 100' WITH ALLOWABLE FLOWS RECEIVED AT CHECK DAMS UP TO ONE C.F.S.
  3. STRAW BALES SHALL BE INSPECTED PERIODICALLY AND SHALL BE REMOVED AND REPLACED AFTER 3 MONTHS EXCEPT AS OTHERWISE DIRECTED BY THE ENGINEER OR ENFORCEMENT OFFICIAL. BALES SHALL NOT BE REMOVED UNTIL UP-SLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.



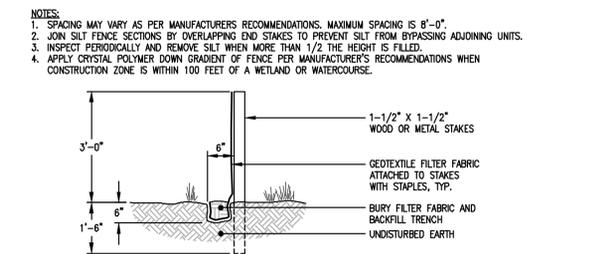
**TYPICAL STRAW BALE INSTALLATION DETAIL**  
N.T.S.

**TYPICAL STRAW BALE INSTALLATION DETAIL**  
N.T.S.



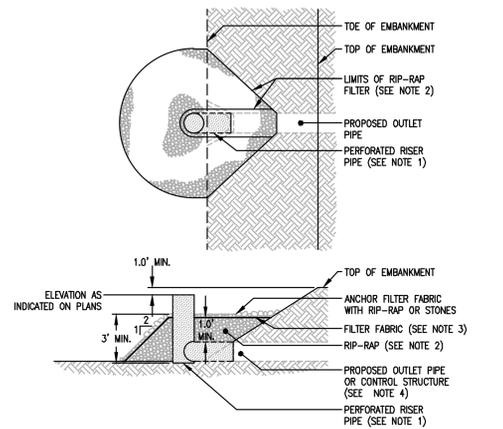
**INLET SEDIMENT CONTROL DEVICE WITH CURB DEFLECTOR DETAIL**  
N.T.S.

**INLET SEDIMENT CONTROL DEVICE WITH CURB DEFLECTOR DETAIL**  
N.T.S.



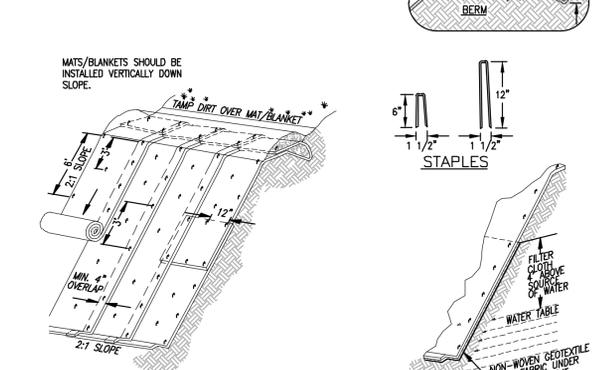
**FILTER FABRIC FENCE DETAIL**  
N.T.S.

- NOTES:**
1. THE RISER PIPE DIAMETER TO BE THE SAME AS THE OUTLET PIPE DIAMETER.
  2. USE MODIFIED RIP-RAP UNLESS AS SPECIFIED ELSEWHERE ON PLANS.
  3. USE MARFI 100X WOVEN FILTER FABRIC LINED AS MANUFACTURED BY MARFI INC. (800-438-1855), OR APPROVED EQUAL. SILT TO BE REMOVED PERIODICALLY FROM LINER TO PREVENT CLOSING AS DIRECTED BY ENGINEER.
  4. WHEN OUTLET FILTER IS INSTALLED ADJACENT TO AN OUTLET CONTROL STRUCTURE, PIPE SHALL BE BUTTED UP AGAINST THE CONTROL STRUCTURE INLET ORIFICE.



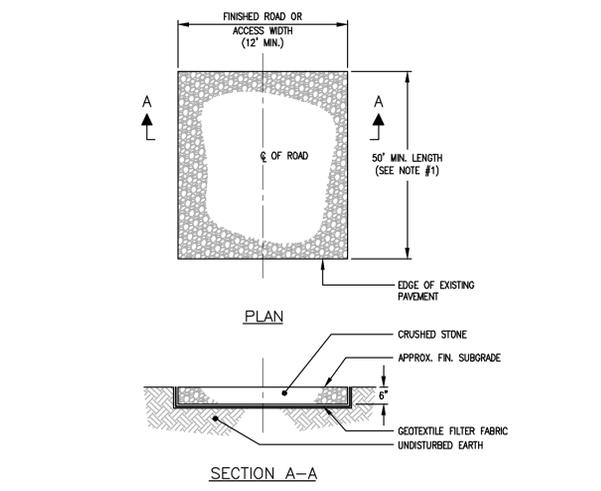
**TEMPORARY SEDIMENT TRAP OUTLET FILTER DETAIL**  
N.T.S.

- NOTES:**
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
  2. LAY MATS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.



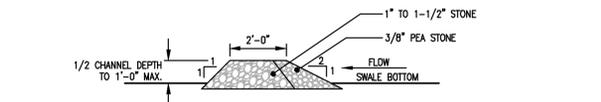
**EROSION BLANKET & REINFORCEMENT MAT SLOPE INSTALLATION**  
N.T.S.

- NOTES:**
1. LENGTH EQUAL TO 50' MINIMUM WHERE SOILS ARE SAND AND GRAVEL; PROVIDE 100' WHERE SOILS ARE PREDOMINANTLY CLAYS OR SILTS.
  2. SPECIFICATIONS: CRUSHED STONE - ASTM C-33, GRADE NO. 2; GEOTEXTILE FILTER FABRIC - MARFI 500X OR APPROVED EQUAL.

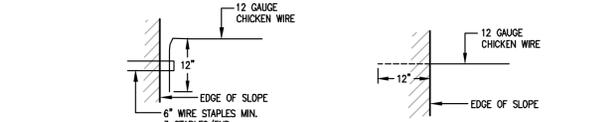


**ANTI-TRACKING PAVEMENT DETAIL**  
N.T.S.

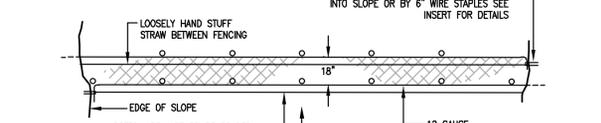
- NOTES:**
1. INSTALL CRUSHED STONE CHECK DAMS ON SWALES WITH SLOPES GREATER THAN 5% AT 100' INTERVALS.
  2. SWALE SLOPES AS NOTED ON PLANS ARE MINIMUM SLOPES.
  3. SWALE DEPTH AS NOTED ON PLANS (1'-6" MIN).



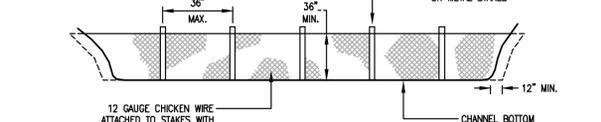
**TYPICAL CRUSHED STONE CHECK DAM**  
N.T.S.



**STAPLE END**



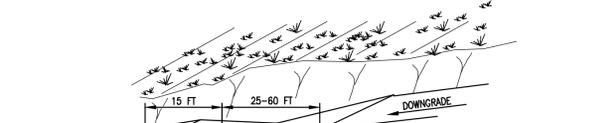
**EMBEDDING END**



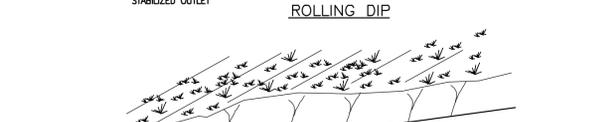
**WIRE & STRAW SEDIMENTATION BARRIER**  
N.T.S.

- NOTES:**
1. INSTALL WATER BREAKS / ROLLING DIPS (DIVERSIONS) AS SOON AS THE RIGHT-OF-WAY HAS BEEN CLEARED AND GRADED.
  2. ROLLING DIPS ARE TO BE INSTALLED IF THE ROAD IS INTENDED FOR WINTER USE OR USE BY VEHICLES WITH LOW CLEARANCE. THE HEIGHT FROM CHANNEL BOTTOM TO THE TOP OF THE SETTLED RIDGE SHALL BE 12"-18" AND THE SIDE SLOPES OF THE RIDGE SHALL BE 2:1 OR FLATTER.
  3. THE OVERFLOW END OF THE DIVERSIONS SHALL HAVE A NATURAL OR CONSTRUCTED STABLE OUTLET TO CLEAN THE SEDIMENT OUT OF THE WATER AND PREVENT EROSION. NEVER END OUTLET DIVERSIONS ONTO UNPROTECTED HILL SLOPES.
  4. SPACING BETWEEN DIVERSIONS MAY NEED TO BE ADJUSTED TO FIELD CONDITIONS SO AS TO USE THE MOST SUITABLE AREAS FOR WATER DISPOSAL. THESE CHANGES SHALL BE APPROVED PRIOR TO THEIR INSTALLATION BY THE DESIGN ENGINEER.
  5. USE GRAVEL TO STABILIZE THE DIVERSIONS WHERE SIGNIFICANT VEHICULAR TRAFFIC IS ANTICIPATED.
  6. DIVERSIONS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY HEAVY RAIN STORM FOR EROSION DAMAGE. REMOVE SEDIMENT IMMEDIATELY FROM THE FLOW AREA AND MAKE TIMELY REPAIRS AS NEEDED.
  7. DRAIN TRENCH TO BE INSTALLED FOR PERMANENT GRAVEL SURFACES.

ROAD GRADE	SPACING BETWEEN WATER BREAKS (AVERAGE SOIL)	SPACING BETWEEN WATER BREAKS (HIGH ERODIBLE)
0-1 %	400'	200'
1-2 %	245'	125'
2-5 %	125'	100'
5-10 %	100'	75'
10-20%	75'	50'
20-35%	50'	25'
>35%	25'	25'



**ROLLING DIP**



**WATERBREAK**

**WATER BREAK/ROLLING DIP DETAIL**  
N.T.S.

- NOTE:**
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY

**DYMAR**  
800 Main Street South - Southbury, Ct. 06488 - (800) 287-1046 Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane  
Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

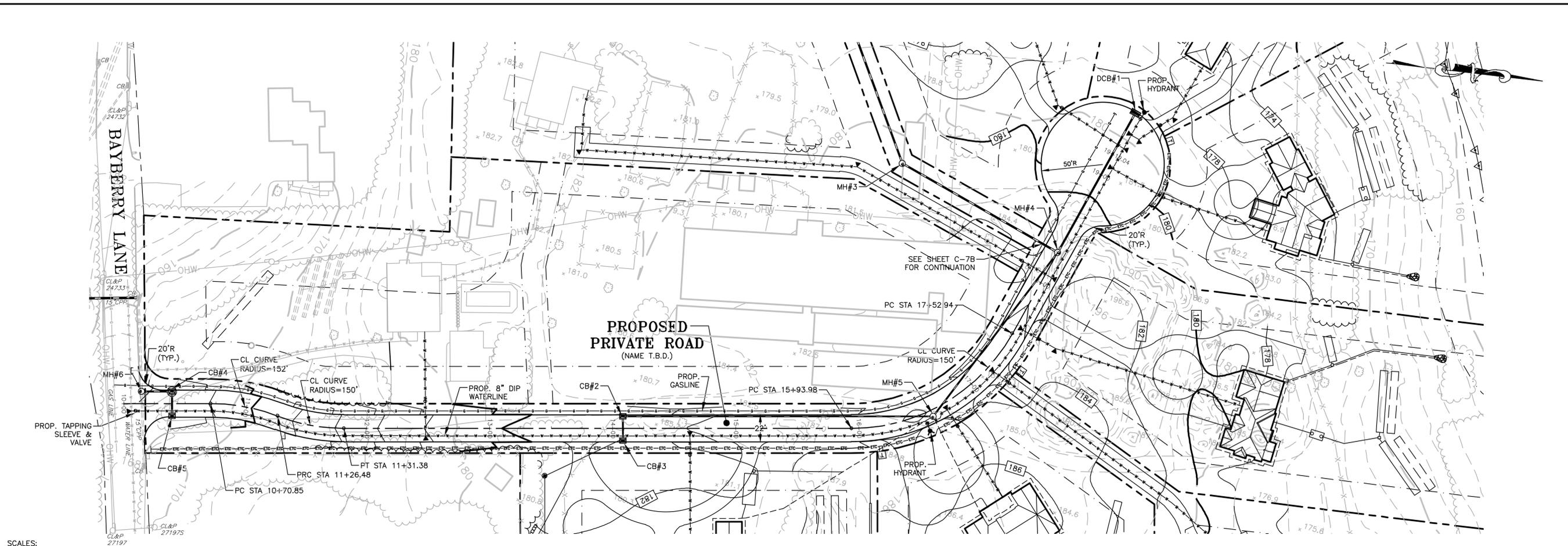
TITLE: Sediment and Erosion Control Details

DATE: 05/14/2020  
SCALE: AS NOTED  
DESIGNED BY: M.E.L.  
DRAWN BY: C.B.B.  
CHECKED BY: M.E.L.  
JOB NO: 00954  
DRAWING NO: 00980

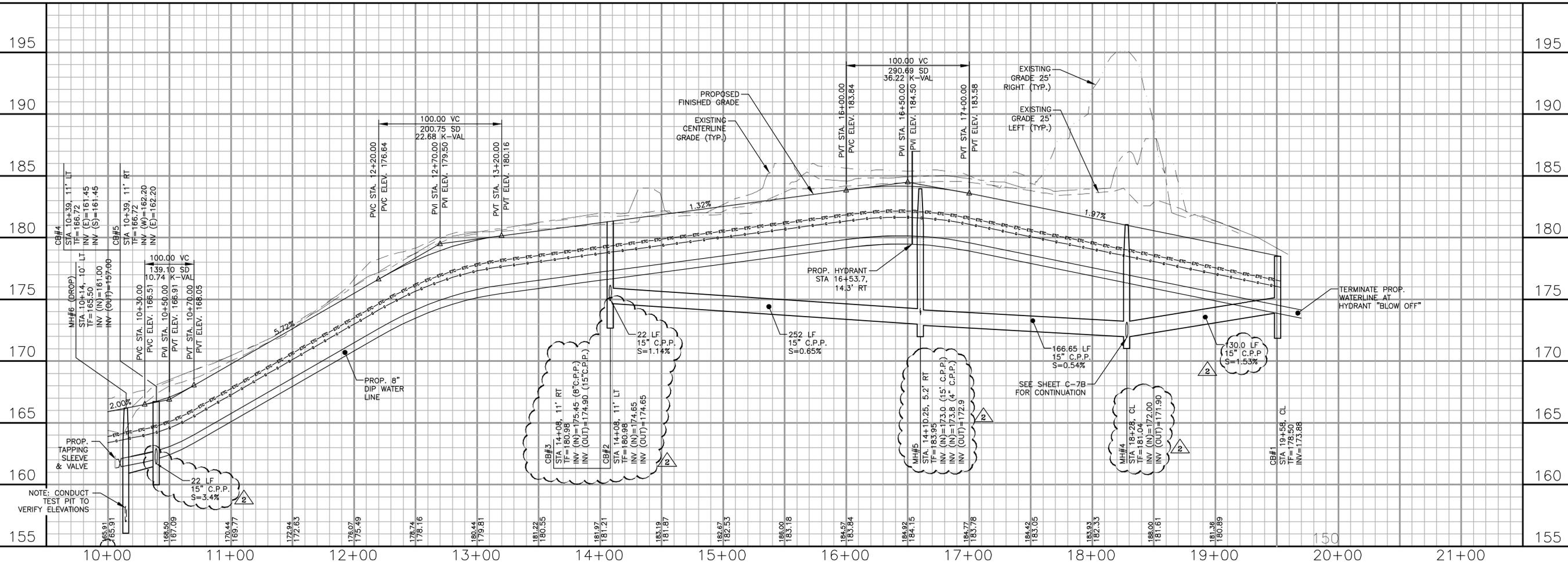
NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

**C-6E**



SCALES:  
 1" = 40' HOR  
 1" = 4' VER



NOTE: CONDUCT TEST PIT TO VERIFY ELEVATIONS

NO.	DATE	REVISION	DESCRIPTION	DESIGNED BY	CHECKED BY
1	06-08-20		Town Engineer's Comments	C.C.B.	M.E.L.
2	08-27-20		Town Engineer's Comments	S.A.L.	M.E.L.

**DYMAR**  
 800 Main Street South · Southbury, CT 06488 · (860) 287-1046 Fax (860) 287-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

DATE: 05/14/2020  
 SCALE: AS NOTED  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.C.B.  
 CHECKED BY: M.E.L.  
 JOB NO: 00934  
 DRAWING NO: C-7A

CLIENT: Estate of Dina M. & James S. Belita  
 128 Bayberry Lane  
 Westport, Connecticut 06880

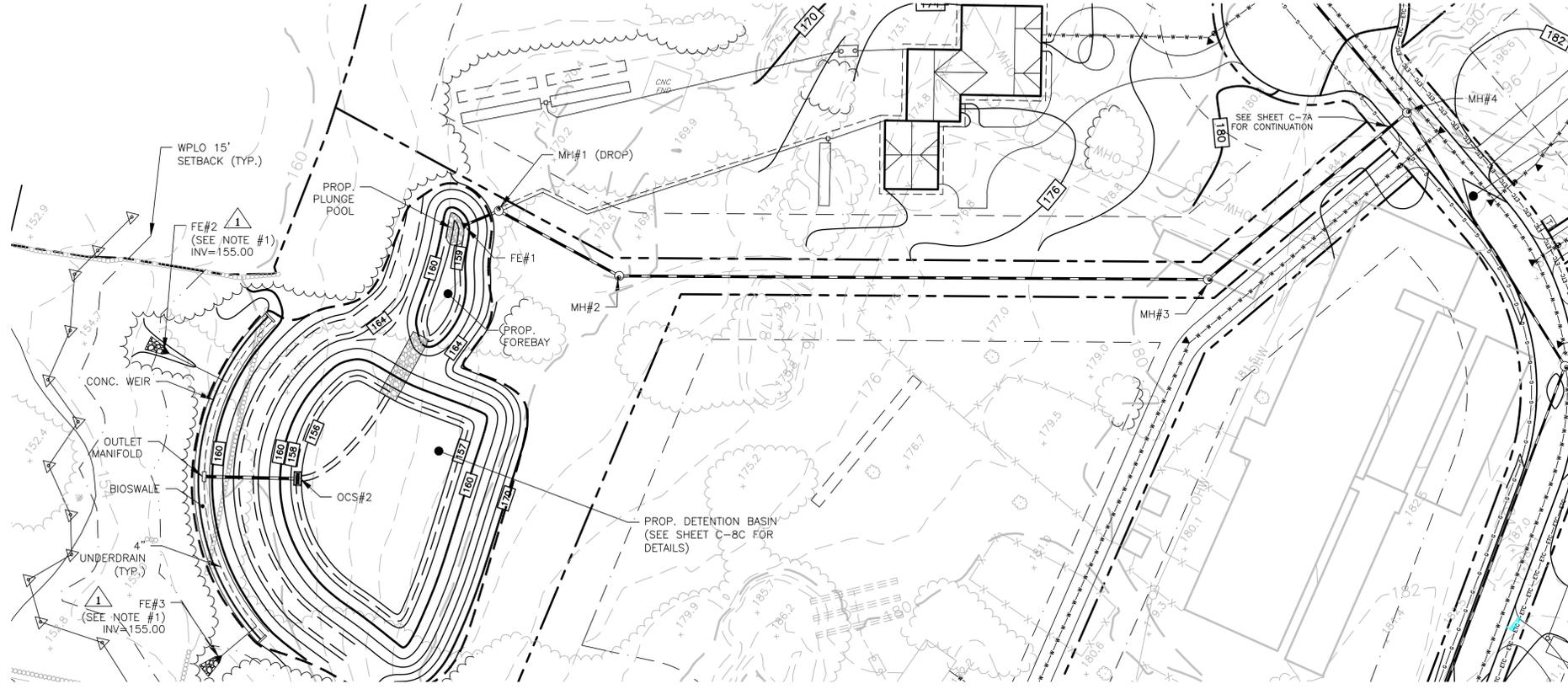
PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane  
 Westport, Connecticut 06880

TITLE: Plan and Profile Drawing

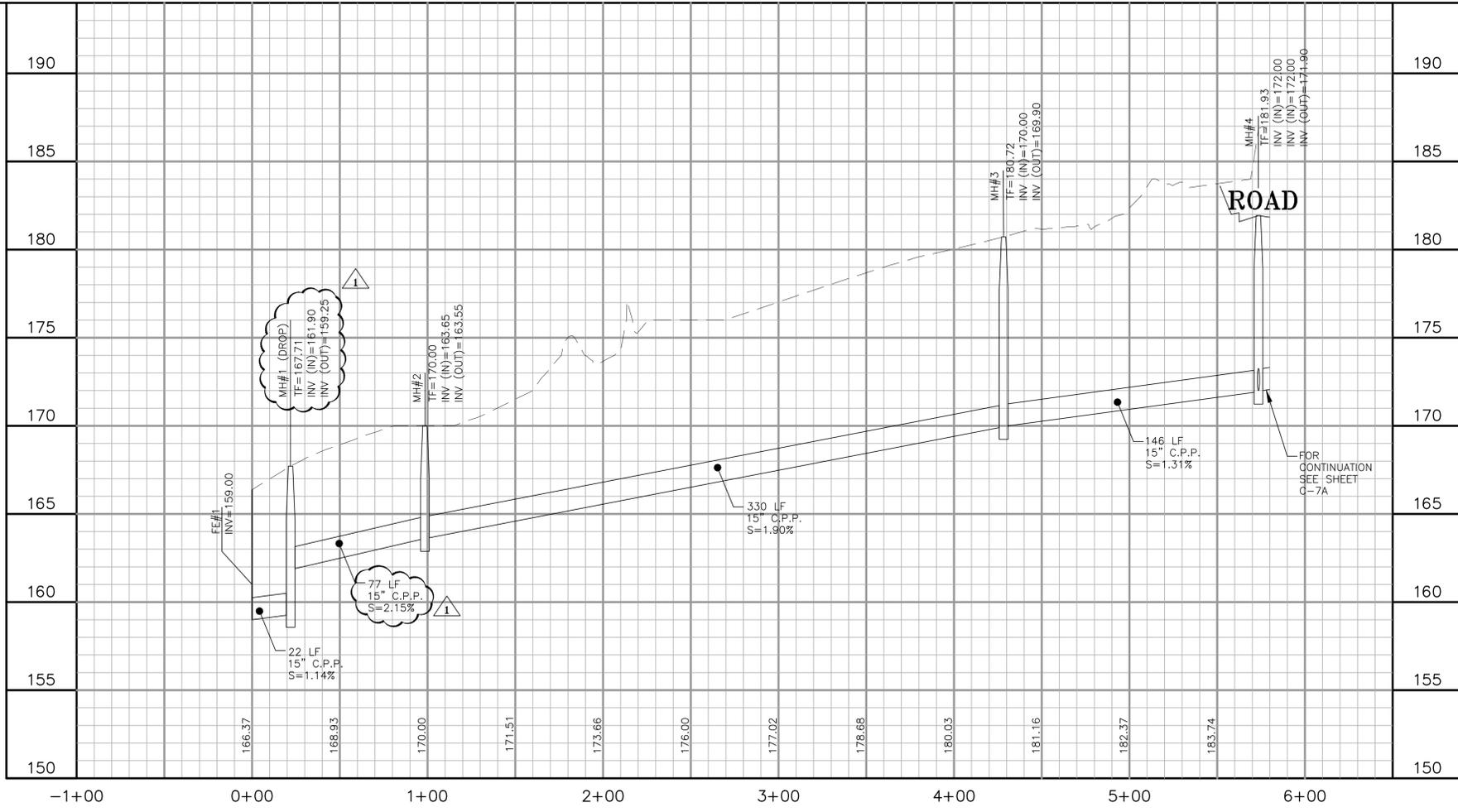
NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12369

NOTE:  
 1. PROVIDE NATURAL FIELD STONE OUTLET PROTECTION (3'W x 5'L) TYPICAL AT FE #2, #3).  
 2. REFER TO SHEET C-8B FOR DETAILS FOR CONCRETE WEIR, BIOSWALE AND UNDERDRAIN.



SCALES:  
 1" = 40' HOR  
 1" = 4' VER



NOTE:  
 THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION DESCRIPTION	DRAWN BY	CHECKED BY
1	8-7-20	Revised Inverts.	S.A.L.	M.E.L.

**DYMAR**  
 800 Main Street South · Southbury, Ct. 06488 · (803) 267-1066 · Fax (803) 267-1617  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

DATE: 05/14/2020  
 SCALE: AS NOTED  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.B.B.  
 CHECKED BY: M.E.L.  
 JOB NO: 00934  
 DRAWING NO: C-7B

NOT MADE WITHOUT SIGNATURE AND ORIGINAL SEAL

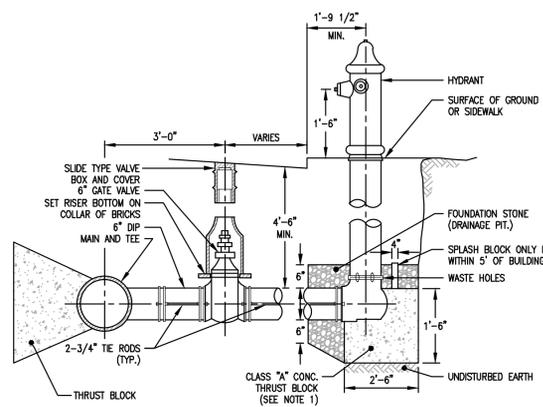
CLIENT: Estate of Dina M. & James S. Bella  
 128 Bayberry Lane  
 Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane  
 Westport, Connecticut 06880

TITLE: Drainage Plan & Profile

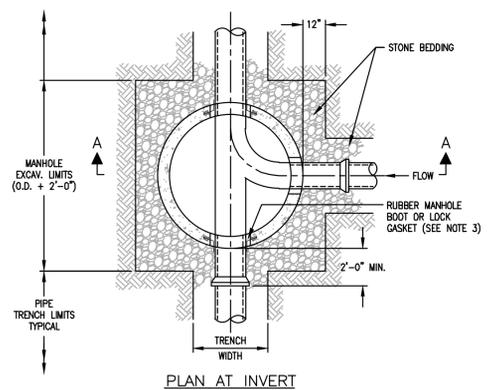
MARK E. LANCOR, P.E. #12369

- NOTES:**
- THRUST BLOCK TO BE 1'-6" HIGH, 2'-0" WIDE AND LENGTH AS REQUIRED TO MEET UNDISTURBED EARTH (2'-6" MIN.). DO NOT ENCASE JOINTS.
  - LENGTH AND WIDTH OF DRAINAGE PIT SUFFICIENT TO PROVIDE 10 CUBIC FEET OF FOUNDATION STONE (MINIMUM) BELOW WASTE OPENINGS.
  - COVER FOUNDATION STONE WITH 6 MIL. POLYETHYLENE.
  - RESTRAIN ALL JOINTS FROM MAIN TO HYDRANT.
  - PIPE, FITTINGS, AND HYDRANT VALVES TO BE AS PER WATER COMPANY SPECIFICATIONS FOR THE SIZE AND PRESSURE RATING.

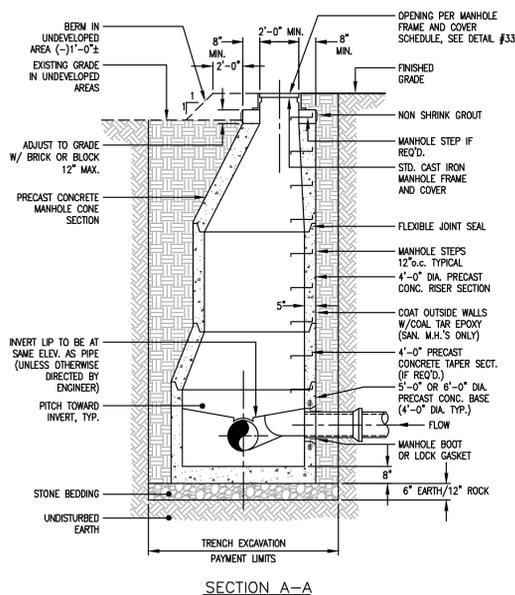


UTIL 122 TYPICAL HYDRANT AND GATE VALVE DETAIL N.T.S.

- NOTES:**
- 4000 PSI CONCRETE SHALL BE USED FOR ALL PRECAST BASES, SUMPS, TRANSITION, RISER AND CORBEL SECTIONS.
  - REINFORCING AND SPECIFICATIONS SHALL CONFORM TO ASTM C-478, LATEST REVISED EDITION. UNUSED KNOCKOUTS SHALL BE BROCKED UP. RUBBER BOOTS OR LOCK GASKETS SHALL BE PROVIDED WHERE PIPE ENTERS OR LEAVES MANHOLE.
  - MANHOLE PIPE STUDS SHALL NOT EXCEED 2'-0" IN LENGTH AND SHALL BE PLUGGED WATER TIGHT.
  - FRAMES AND COVERS SHALL BE SPECIFIED FOUNDRY OR APPROVED EQUAL AS SPECIFIED BY THE MUNICIPAL STANDARDS. CASTINGS SHALL BE PROVIDED WITH THE LETTERS "DRAIN" OR "SEWER", AS REQUIRED.

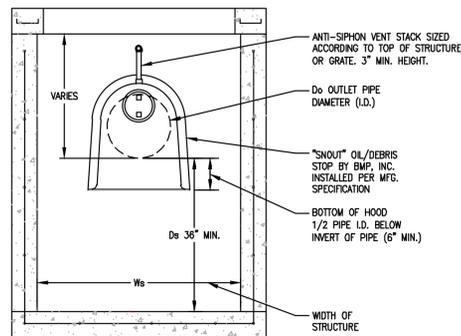


PLAN AT INVERT



STRM 060 PRECAST CONCRETE MANHOLE DETAIL N.T.S.

DESIGN PARAMETER GUIDELINES FOR WATER QUALITY IMPROVEMENT



**RULE #1-** AT AN ABSOLUTE MINIMUM, STRUCTURE INTERNAL DIMENSIONS MUST BE AT LEAST LARGE ENOUGH TO ACCOMMODATE EXTERNAL DIMENSIONS OF THE SNOOT, AND ALLOW FOR A PERSON TO INSTALL IT. REFER TO BMP, INC. CAD DETAILS FOR PART DIMENSIONS.

**RULE #2-** USE ONLY "r" SERIES SNOOTS FOR RECTANGULAR OR SQUARE STRUCTURES, AVAILABLE IN 12", 18", 24", 30", 48", AND 96" SIZES. USE ONLY "R" SERIES SNOOTS FOR ROUND STRUCTURES, AVAILABLE IN 12", 18", 24", AND, 30" SIZES.

**SUMP DEPTH (D<sub>s</sub>)** - SUMP DEPTH SHOULD BE A MINIMUM OF 36" FOR ANY NEW CONSTRUCTION FOR PIPES 12" AND LESS. FOR 15"-18" PIPE MIN. DEPTH SHOULD BE 48". OPTIMAL SIZING IS AT LEAST 2.5X TO 3X OUTLET PIPE DIAMETER (D<sub>p</sub>) FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY.

**STRUCTURE DIMENSIONS** - PLAN DIMENSIONS FOR A STRUCTURE SHOULD BE APPROX. 7X AREA OF OUTLET PIPE FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY. (SEE MAINTENANCE FREQUENCY CALCULATION SHEET FOR MORE INFORMATION)

**IMPORTANT NOTICE:** DO NOT CONFUSE PIPE O.D. WITH PIPE I.D. A SNOOT FITS OVER A PIPE, NOT IN IT. THIS, SNOOT MUST BE SIZED TO FIT OVER PIPE OPENING IN STRUCTURE. SNOOTS ARE AVAILABLE FOR ROUND STRUCTURES TO ACCOMMODATE PIPES OF 30" O.D. MAX. FOR PIPES 30" O.D. AND ABOVE, USE SQUARE OR RECTANGULAR STRUCTURES.

SIZING EXAMPLES:

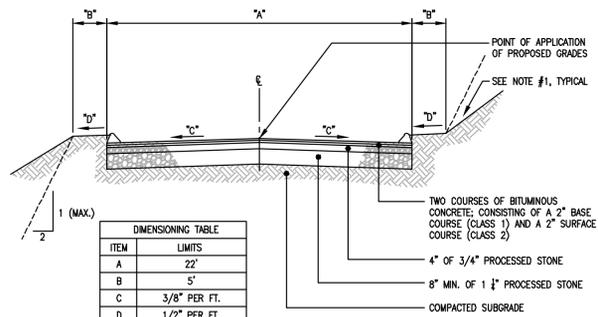
STRUCTURE OUTLET HOLE SIZE	SNOOT SIZE
11.9" O.D. OR LESS	12 F or R
12.0"-17.9" O.D.	18 F or R
18.0"-23.9" O.D.	24 F or R
24.0"-29.9" O.D.	30 F or R
30.0"-47.9" O.D.	48 F
48.0"-95.9" O.D.	96 F

U. S. Patent # 6126817

BMP, INC.		
53 MT. ARCHER ROAD, LYME, CT. 06371		
(800) 504-8008 FAX: (860) 434-3195		
DESCRIPTION	DATE	SCALE
SNOOT SIZING CHART	04/24/00	NONE
	DRAWING NUMBER	SP-SI

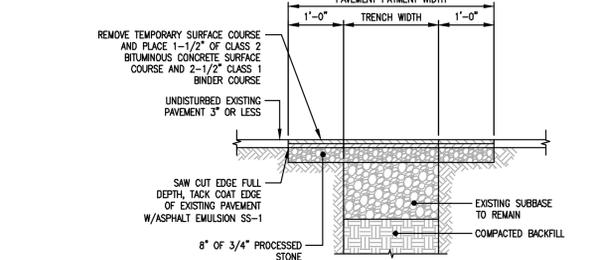
STRM 314B BMP SNOOT TYPICAL DETAIL N.T.S.

- NOTES:**
- SIDE SLOPES TO BE STABILIZED WITH AN APPROVED METHOD AS SPECIFIED BY THE ENGINEER.



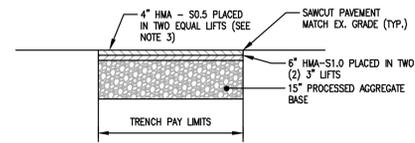
ITEM	LIMITS
A	22'
B	5'
C	3/8" PER FT.
D	1/2" PER FT.

PV/VEH 0030 TYPICAL ROAD SECTION N.T.S.



PV/VEH 0620 PERMANENT PAVEMENT REPLACEMENT DETAIL N.T.S.

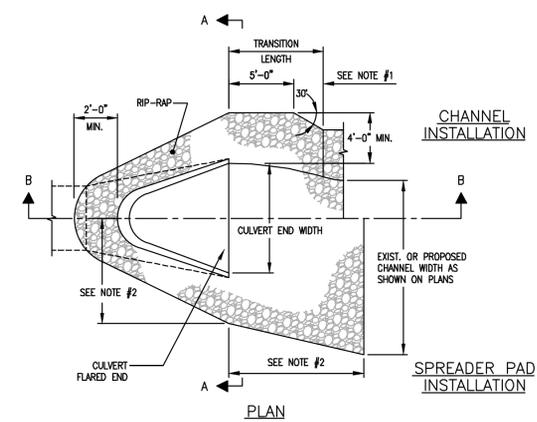
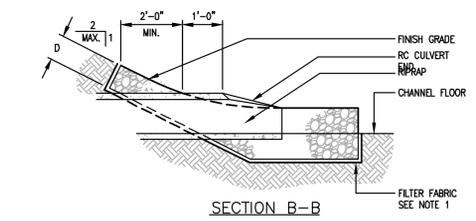
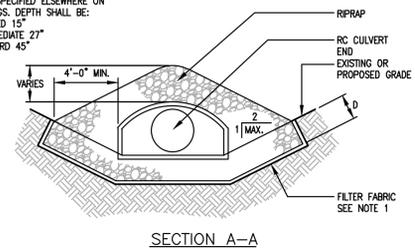
- NOTES:**
- MAINTAIN EXISTING PAVEMENT PROFILE FOR ALL DISTURBED LIMITS.
  - TACK COAT BETWEEN BITUMINOUS COURSES AT 0.4 GAL/SY MIN.
  - SAW CUTS MUST BE STRAIGHT AND TO SQUARE LINES AT TRANSITIONS.
  - SPECIFICATIONS SHALL SATISFY STATE DOT MANUAL OF PRACTICE.



PV/VEH 061B TEMPORARY PAVEMENT TRENCH REPAIR DETAIL N.T.S.

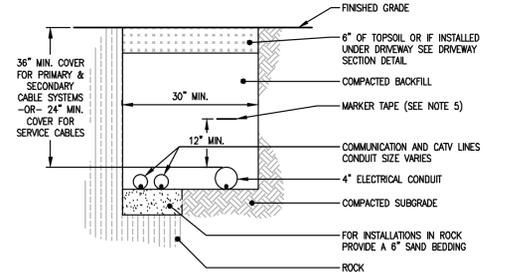
- NOTES:**
- TAPER TRANSITION FOR CHANNEL INSTALLATIONS AS REQUIRED TO MATCH CHANNEL WIDTH, OR AS INDICATED ON THE PLANS.
  - ALL TOTAL WIDTHS AND LENGTHS FOR SPREADER PAD INSTALLATIONS ARE AS INDICATED ON PLANS.
  - FILTER FABRIC SHALL BE A WOVEN MONOFILAMENT FABRIC AS MANUFACTURED BY MIRAFI FABRIC 600X OR AMOCO FABRICS CO PROPEX 132S.

RIPRAP AS SPECIFIED ELSEWHERE ON THE DRAWINGS. DEPTH SHALL BE:  
 D = MODIFIED 15"  
 = INTERMEDIATE 27"  
 = STANDARD 45"



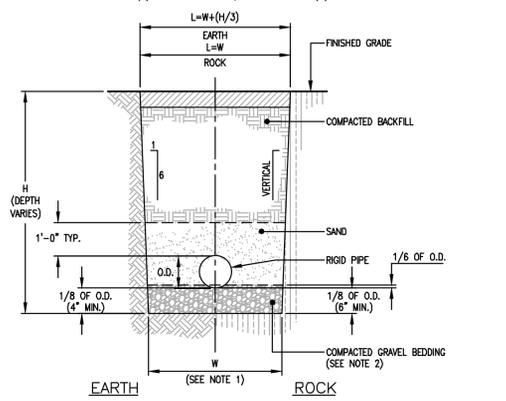
STRM 004 RIPRAP SPLASHPAD DETAIL N.T.S.

- NOTES:**
- CALL "BEFORE YOU DIG" (1-800-922-4456).
  - PROVIDE P.V.C. CONDUIT WITH NYLON PULL CORD AS REQUIRED FOR EACH INDIVIDUAL UTILITY LINE. CONTRACTOR TO COORDINATE WITH INDIVIDUAL UTILITY COMPANIES THE DIAMETER OF CONDUIT REQUIRED.
  - CONTRACTOR TO COORDINATE WITH EACH INDIVIDUAL UTILITY COMPANY AND THE DESIGN ENGINEER, ALL REQUIRED INSPECTIONS.
  - MACHINE DIGGING SHALL STOP NOT LESS THAN 18" FROM VAULTS, FOUNDATIONS, EQUIPMENT, CABLES AND POLES. TRENCHING SHALL BE COMPLETED BY HAND THEREAFTER.
  - ALL ELEC. BURIED CONDUITS SHALL BE IDENTIFIED BY A RED PLASTIC FILM MARKER TAPE, AS SPEC. BY THE UTIL. CO. THE MARKER TAPE SHALL RUN DIRECTLY ABOVE THE ENTIRE LENGTH OF EACH CONDUIT SECTION AND SHALL HAVE MINIMUM VERTICAL SEPARATION OF 12".
  - A MINIMUM SEPARATION OF 30" SHALL BE MAINTAINED BETWEEN ELECTRICAL CONDUIT AND WATER SERVICE LINES. SEPARATION BETWEEN ELECTRICAL CONDUIT AND WATER MAIN SHALL BE 36".
  - A MINIMUM SEPARATION OF 30" SHALL BE MAINTAINED BETWEEN ELECTRICAL CONDUIT AND GAS SERVICE LINES. JOINT TRENCHING IS NOT PERMITTED FOR GAS LINES.



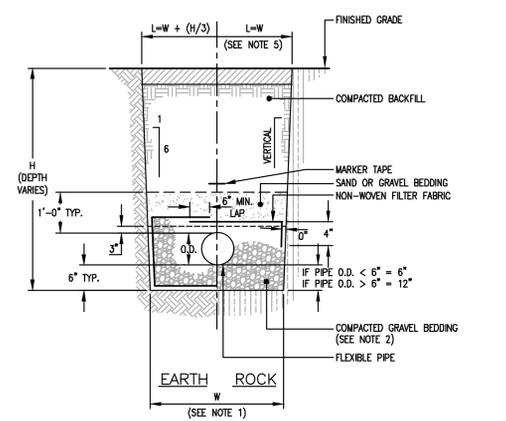
UTIL 014 UTILITY LINE TRENCHING DETAIL N.T.S.

- NOTES:**
- FOR UNSHEETED TRENCH WHERE PIPE O.D. IS 6" OR LESS THAN, WIDTH (W) = 2'-6", WHERE PIPE O.D. IS GREATER THAN 6" BUT LESS THAN OR EQUAL TO 36" THEN, W = O.D. + 2'-0", WHERE PIPE O.D. IS GREATER THAN 36" THEN W = O.D. + 3'-0". PAYMENT FOR TRENCHING, BEDDING AND BACKFILL TO BE INCLUDED IN THE COST PER LINEAR FOOT OF THE PIPE.
  - IF SUITABLE GRANULAR PIPE BEDDING MATERIAL IS AVAILABLE FROM SITE EXCAVATIONS, IT SHALL BE UTILIZED PROVIDED IT CONFORMS WITH THE "STANDARD SPECIFICATIONS" AND IS APPROVED BY THE ENGINEER.
  - TYPICAL FOR PIPE MATERIALS SPECIFIED, AS CAST IRON (C.I.), CONCRETE PIPE, VITRIFIED CLAY PIPE, DUCTILE IRON PIPE OR STEEL PIPE.
  - SHEETING OR SHORING OF TRENCH WALLS, WHERE UNSUITABLE CONDITIONS EXIST, IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
  - FOR ROCK REMOVAL DEPTHS (H) GREATER THAN 10', INCREASE WIDTH (W) BY 6".



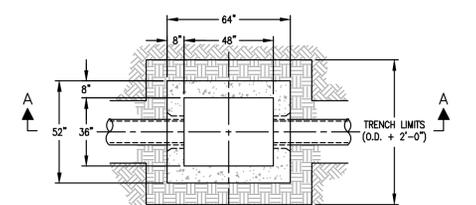
STRM 016 CLASS 'C' TRENCH DETAIL N.T.S.

- NOTES:**
- FOR UNSHEETED TRENCH WHERE PIPE O.D. IS 6" OR LESS THAN, WIDTH (W) = 2'-6", WHERE PIPE O.D. IS GREATER THAN 6" BUT LESS THAN OR EQUAL TO 36" THEN, W = O.D. + 2'-0", WHERE PIPE O.D. IS GREATER THAN 36" THEN, W = O.D. + 3'-0". PAYMENT FOR THE TRENCHING, BEDDING, FILTER FABRIC AND BACKFILL TO BE INCLUDED IN THE COST PER LINEAR FOOT OF THE PIPE.
  - IF SUITABLE GRANULAR PIPE BEDDING MATERIAL IS AVAILABLE FROM SITE EXCAVATIONS, IT SHALL BE UTILIZED PROVIDED IT CONFORMS WITH THE "STANDARD SPECIFICATIONS", AND IS APPROVED BY THE TOWN ENGINEER.
  - TYPICAL FOR ALL FLEXIBLE PIPE MATERIALS I.E. C.P.P., P.V.C., POLYETHYLENE F.P.P. AND A.B.S. TRUSS.
  - SHEETING OR SHORING OF TRENCH WALLS, WHERE UNSUITABLE CONDITIONS EXIST, IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
  - FOR ROCK REMOVAL DEPTHS GREATER THAN 10', INCREASE WIDTH (W) BY 6".

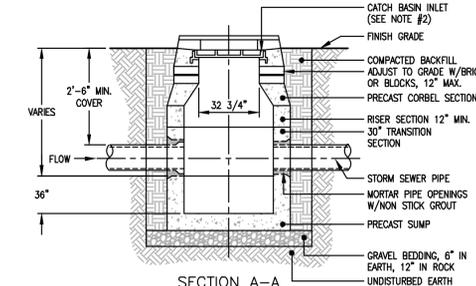


STRM 017 CLASS 'B' TRENCH DETAIL N.T.S.

- NOTES:**
- 4000 PSI CONCRETE SHALL BE USED FOR ALL PRECAST BASES, SUMPS, TRANSITION, RISER AND CORBEL SECTIONS. REINFORCING AND SPECIFICATIONS SHALL CONFORM TO ASTM C-478, LATEST REVISED EDITION.
  - STYLE INLET SHALL BE AS SPECIFIED ON THE DRAWINGS OR INDICATED ELSEWHERE IN THE CONSTRUCTION SPECIFICATIONS.



PLAN AT RISER SECTION



STRM 058 PRECAST CONCRETE CATCH BASIN DETAIL N.T.S.

- NOTE:**
- THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY

**DYMAR**  
 800 Main Street South · Southbury, Ct. 06488 · (800) 287-1046 Fax (800) 287-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
 128 Bayberry Lane Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane Westport, Connecticut 06880

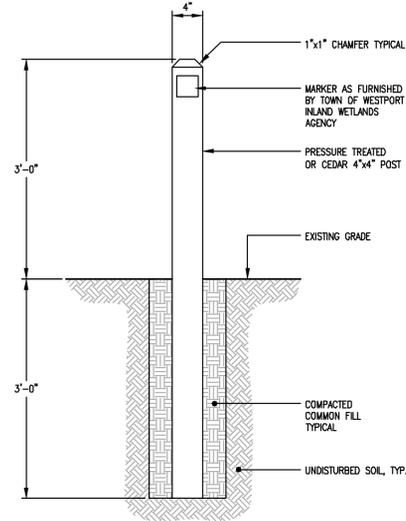
TITLE: Paving, Storm Sewer and Utility Details

DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY	JOB NO.	DRAWING NO.
05/14/2020	AS NOTED	M.E.L.	C.B.B.	M.E.L.	00954	

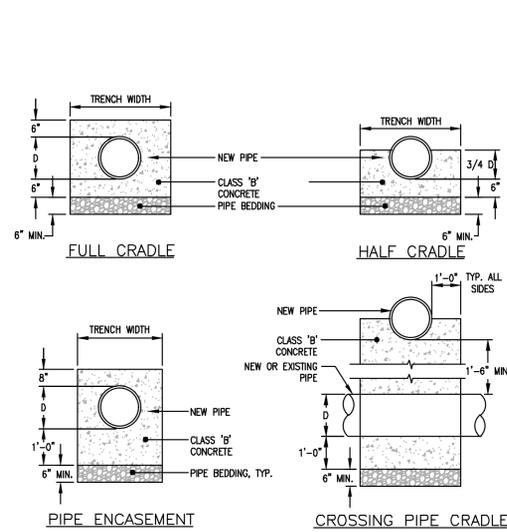
MARK E. LANCOR, P.E. #12389

**C-8A**

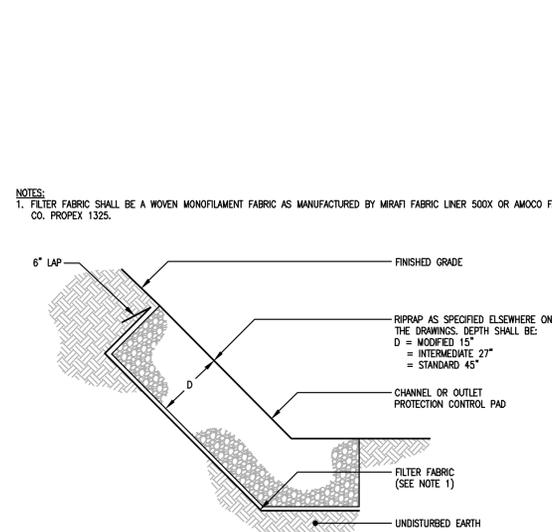
NOTES:  
 1. MARKER TO BE LOCATED AT MAXIMUM 100' INTERVALS AT LOCATIONS AS APPROVED BY THE TOWN OF WESTPORT'S INLAND WETLANDS ENFORCEMENT OFFICER.



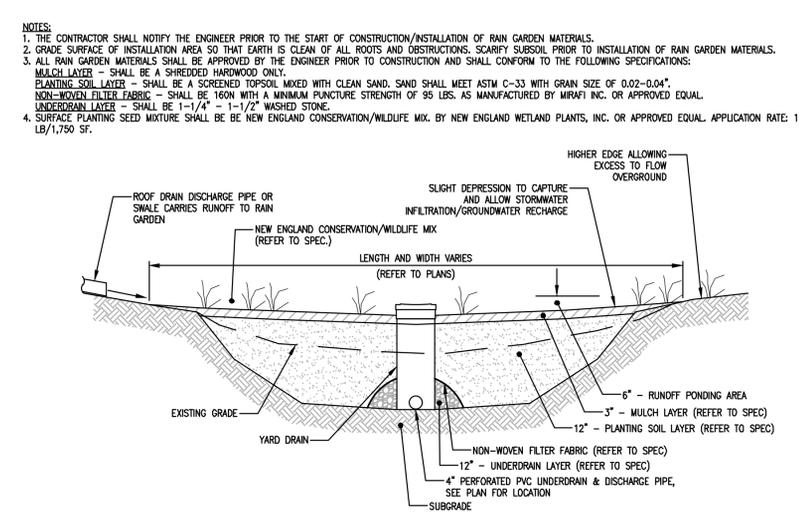
WETL 092 WETLANDS REGULATED AREA MARKER DETAIL N.T.S.



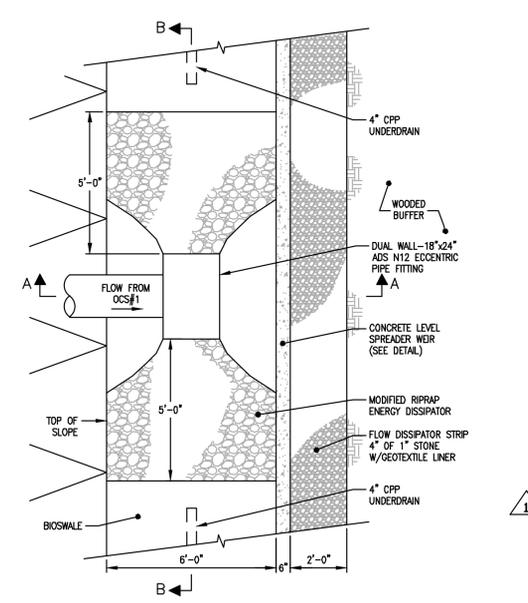
UTL 018 PIPE CRADLE & ENCASEMENT DETAIL N.T.S.



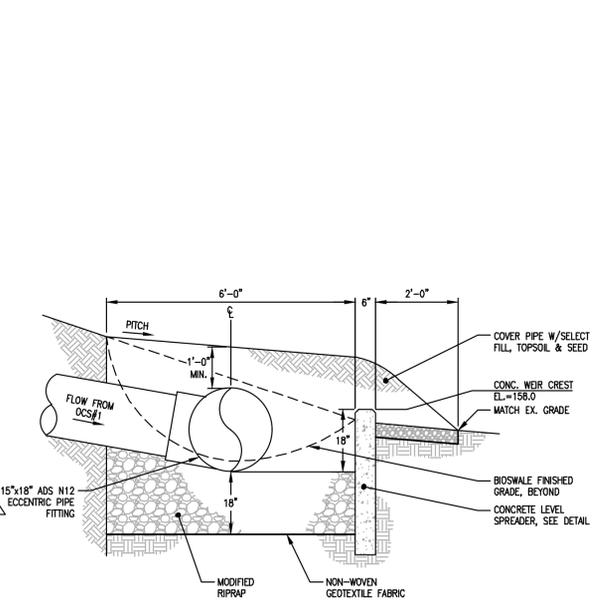
SEC 038 TYPICAL RIPRAP INSTALLATION DETAIL N.T.S.



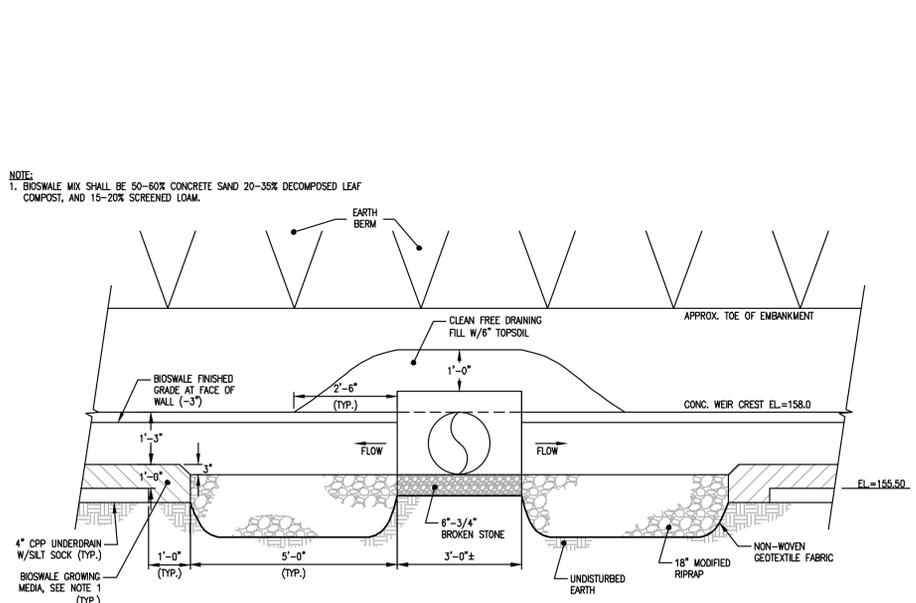
STRM 3296 TYPE 'A' RAIN GARDEN DETAIL IN A SUMP CONDITION N.T.S.



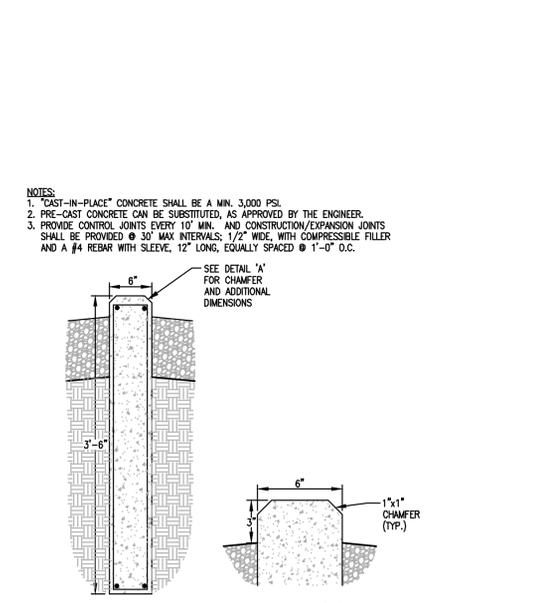
STRM 320H LEVEL SPREADER PLAN VIEW & DISCHARGE N.T.S.



STRM 320I LEVEL SPREADER & MANIFOLD PIPE OUTLET SECTION A-A N.T.S.



STRM 320J LEVEL SPREADER & MANIFOLD PIPE OUTLET SECTION B-B N.T.S.



STRM 421B CONCRETE WEIR DETAIL N.T.S.

NOTES:  
 1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION/INSTALLATION OF RAIN GARDEN MATERIALS.  
 2. GRADE SURFACE OF INSTALLATION AREA SO THAT EARTH IS CLEAN OF ALL ROOTS AND OBSTRUCTIONS. SCARIFY SUBSOIL PRIOR TO INSTALLATION OF RAIN GARDEN MATERIALS.  
 3. ALL RAIN GARDEN MATERIALS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:  
 MULCH LAYER - SHALL BE A SHREDDED HARDWOOD ONLY.  
 PLANTING SOIL LAYER - SHALL BE A SCREENED TOPSOIL MIXED WITH CLEAN SAND. SAND SHALL MEET ASTM C-33 WITH GRAIN SIZE OF 0.02-0.04\"/>

**DYMAR**  
 800 Main Street South · Southbury, Ct. 06488 · (860) 267-1046 · Fax (860) 267-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

CLIENT: Estate of Dina M. & James S. Belita  
 128 Bayberry Lane Westport, Connecticut 06880  
 PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane Westport, Connecticut 06880  
 TITLE: Miscellaneous Site Details

DATE: 05/14/2020  
 SCALE: N.T.S.  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.B.E.  
 CHECKED BY: M.E.L.  
 JOB NO: 00954  
 DRAWING NO: C-8B

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY
1	8-17-20		Revised Detail 302I.	S.A.L.	M.E.L.

RESPONSE TO RFP: THESE PLANS ARE THE PROPERTY OF DYMAR. REVIEWERS OF AN INSTRUMENT OF SERVICE PROJECT, DYMAR DOES NOT GUARANTEE, THESE PLANS TO REFLECT THE TRUE CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING DYMAR IF A DISCREPANCY EXISTS; THESE PLANS SHALL HAVE FINAL SAY.

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

# FORMATION OF EMBANKMENT FOR BASINS/PONDS

Note: Prior to the commencement of construction, the developer shall hire a Soils Engineer to review the design drawings and specifications pertaining to detention embankment construction.

The Soils Engineer shall be responsible for inspection and approval of the following:

- The existing soils along the sides of Detention Basins that will remain in place after the detention basins have been excavated. The Soils Engineer shall determine if the material meets the requirements for the pervious embankment core, and if not what measures will need to be implemented.
- The existing soils down gradient of the Detention Basins to determine if any modifications need to be implemented.
- The suitability of all embankment foundations prior to placement of any embankment fill.

## 1. MATERIALS

a. All fill materials shall be obtained from required excavations of designated borrow areas. Fill material shall contain no frozen material, sod, brush, roots, or other organic material. Earth embankments shall contain no stones or rock particles over six inches in diameter. The material used in the core portion of the embankment shall be the most impervious material obtained from the borrow areas, as required. The more pervious materials shall be used in the outer fill portion of the embankment as shown on the plans.

b. The impervious core fill material shall be glacial till, to be provided from either on-site or off-site sources in the quantities required for completion of the work. Fill to be approved by the Engineer prior to placement. Glacial till shall consist of hard and durable particles or fragments and shall be free from organic matter and other objectionable materials. Glacial till shall generally conform to the following gradation limits:

U.S. Standard Sieve Size	Percentage Passing By Weight
3 inch	100
No. 4	60-95
No. 10	50-95
No. 40	30-95
No. 100	20-65
No. 200	10-40

## 2. EMBANKMENT FOUNDATION PREPARATION

a. Areas where embankments are to be formed shall be cleared and grubbed of all topsoil and other organic materials to a depth of at least 24 inches. Design Engineer to inspect and approve the suitability of the embankment foundation. Unless otherwise specified on the drawings, embankment foundation areas shall be scarified to a depth of three inches minimum prior to placement of fill material.

## 3. PLACEMENT

a. No fill shall be placed until the foundation preparation and excavations in the foundation have been completed and approved by the Soils Engineer. No fill shall be placed on a frozen surface nor shall frozen material be incorporated.

b. Embankment material shall be placed in 12 inch thick loose lifts. Lifts should be placed in flat, horizontal layers. During construction, the surface of the fill shall be sloped to drain. Each layer or lift shall extend over the entire area of the fill.

c. The fill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture or gradation from the surrounding material. The more pervious material shall be placed in the outside portion of the embankment or as indicated on the drawings. The finished fill shall be shaped and graded to the lines and grade shown on the drawings.

d. Pipe backfill shall be placed in 6-8 inch loose lifts. Lifts should be placed in flat, horizontal layers. Backfill shall be brought up uniformly around the outlet pipe and flared end section.

## 4. MOISTURE CONTROL

a. The moisture content of materials in the embankment shall be controlled to meet the requirements of Section 5, "Compaction of Embankment". When necessary, moisture shall be added by use of approved sprinkling equipment. Water shall be added uniformly and each layer shall be thoroughly disked or harrowed to provide proper mixing. Any layer found too wet for proper compaction shall be allowed to dry before rolling. Placing or rolling of material on earth fills will not be permitted during or immediately after rainfalls which increase the moisture content beyond the limit of satisfactory compaction. The earth fill shall be brought up uniformly and its top shall be kept graded and sloped so that a minimum of rainwater will be retained thereon. Compacted earth fill damaged by washing shall be acceptably replaced by the contractor.

## 5. COMPACTION OF EMBANKMENT

a. Embankment material shall be compacted to 95% of the standard proctor density at near optimum moisture content and by the compaction equipment specified herein. The compaction equipment shall traverse the entire surface of each layer of fill material.

b. Approved tamping rollers shall be used for compacting all parts of the embankments which they can effectively reach. The contractor shall demonstrate the effectiveness of the roller by actual soil compaction results of the soil to be used in the embankment with laboratory work performed by an approved soil testing laboratory. Compaction tests shall include modified proctor and nuclear density tests made at the engineer's discretion. A minimum of three proctors shall be performed and density tests shall be randomly provided every 1,500 square feet.

c. Pipe backfill shall be compacted by hand tamping with mechanical tampers. Heavy equipment shall not be operated within two feet of any structure. Equipment shall not be allowed to operate over the outlet conduits until there is 24 inches of fill over the pipe conduits.

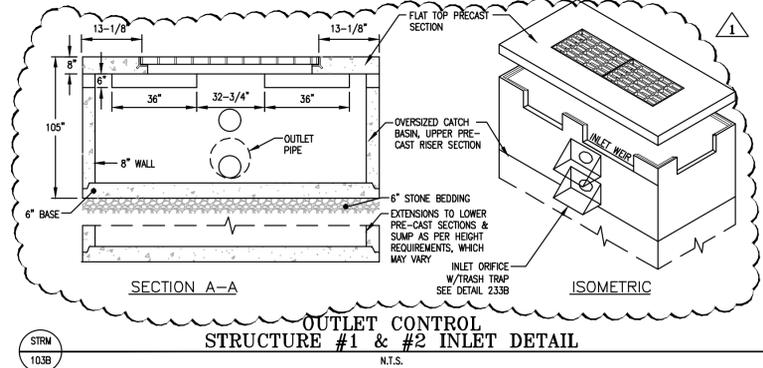
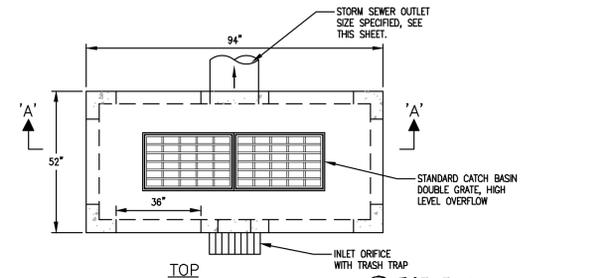
## 6. FINISHING EMBANKMENTS

a. The embankments shall be constructed to the elevations, lines, grades and cross sections as shown on the drawings. The embankments shall be maintained in a manner satisfactory to the Engineer and Town and surfaces shall be compact and accurately graded before topsoil is placed on them. The contractor shall check the embankment slopes with stringlines to insure that they conform to the slopes given on the plans and are uniform for the entire length of the slope.

## 7. MISCELLANEOUS CONDITIONS

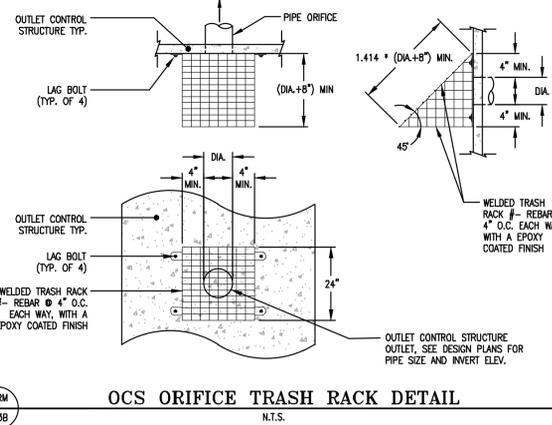
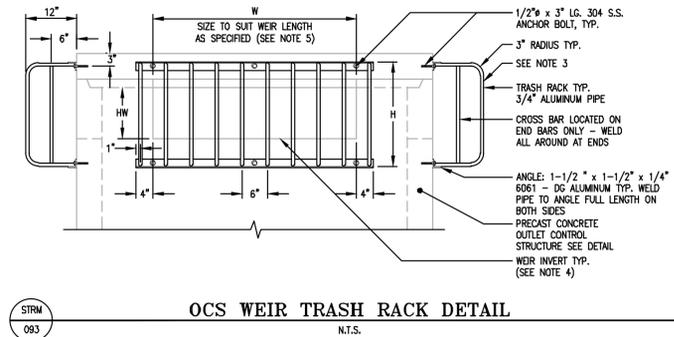
- Clearing limits for dike embankment areas shall extend 25 feet from the toe of the slope, unless otherwise directed by the Engineer.
- The area at the toe of the dike is to be dewatered prior to placement of embankment fill. If field conditions warrant, a toe drain trench shall be installed for dewatering when directed by the Engineer.
- Test pits can be ordered by the Engineer or Town to locate or confirm the elevation and condition of existing soils or the content of the embankment fill at any time during construction. This work shall be done at no additional cost to the Owner.
- No rock or deleterious material shall be placed within the core area or water side of the fill area. Disposal of rock at the fill outlet side shall only be permitted at the toe and they shall not be nested. The fill in-between shall be placed and compacted as specified within the standard specifications.
- If apparent changes occur in the fill material, additional sieve analyses of the fill can be ordered by the Engineer at no additional cost to the Owner.
- Engineer to inspect pond construction, certify that pond was constructed as designed, and provide an asbuilt.

NOTES:  
1. DETAIL IS FOR ILLUSTRATION PURPOSES ONLY OF UPPER PRECAST SECTION. INSTALL STRUCTURE IN ACCORDANCE WITH STANDARD CATCH BASIN DETAIL.  
2. CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OF THE STRUCTURE.  
3. THE STRUCTURE SHALL BE INSTALLED WATER TIGHT WITH ALL JOINTS PARGED WITH WATER PLUG, AND FROM 6" BELOW THE INLET WEIR AND DOWN THE EXTERIOR WALLS AND BOTTOM SHALL BE EPOXY COATED.

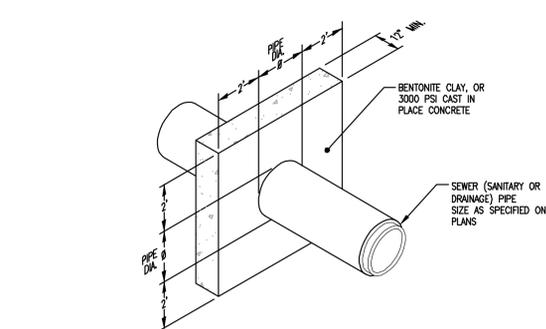


NOTES:  
1. CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OF THE STRUCTURE.  
2. TRASH RACK TO BE PROVIDED WITH A MINIMUM OF SIX STAINLESS STEEL ANCHOR BOLTS PER RACK. RACK TO BE DELIVERED WITH 5/8" DIAMETER HOLES PREDRILLED IN THE APPROPRIATE LOCATIONS.  
3. TRASH RACK FOR ALL WEIRS. SIDE VIEW FOR ILLUSTRATION ONLY. REFER TO SCHEDULE FOR HEIGHT AND WIDTH FOR EACH STRUCTURE.  
4. RELEASE RATES ARE BASED ON AN ANALYSIS WITH 50% OF THE EFFECTIVE AREA PLUGGED.  
5. REFERENCE IS MADE TO DETAIL 103B FOR STRUCTURE INLET DETAILS.

STRUCTURE	H	W	HW
OCS#1	18"	36"	6"

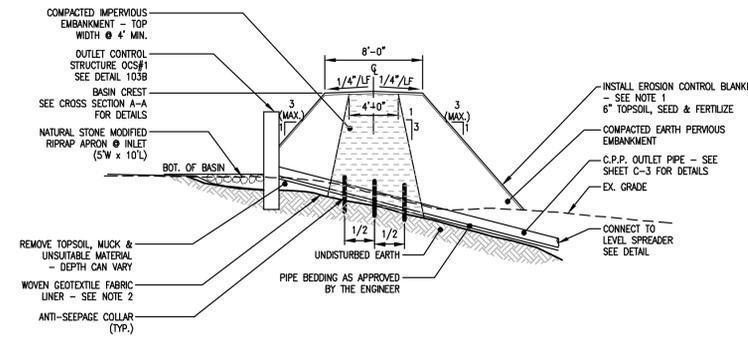


NOTES:  
1. INSTALL ON STEEPLY SLOPING PIPE. SEE PLANS FOR INSTALLATION LOCATIONS OR AT ENGINEER'S DIRECTION.  
2. RIPLEY'S DAM (AS MANUFACTURED BY MORP MANUFACTURING, DUNHAM NH, TEL. 603-868-5176) IS AN ACCEPTABLE ALTERNATE SUBSTITUTION.

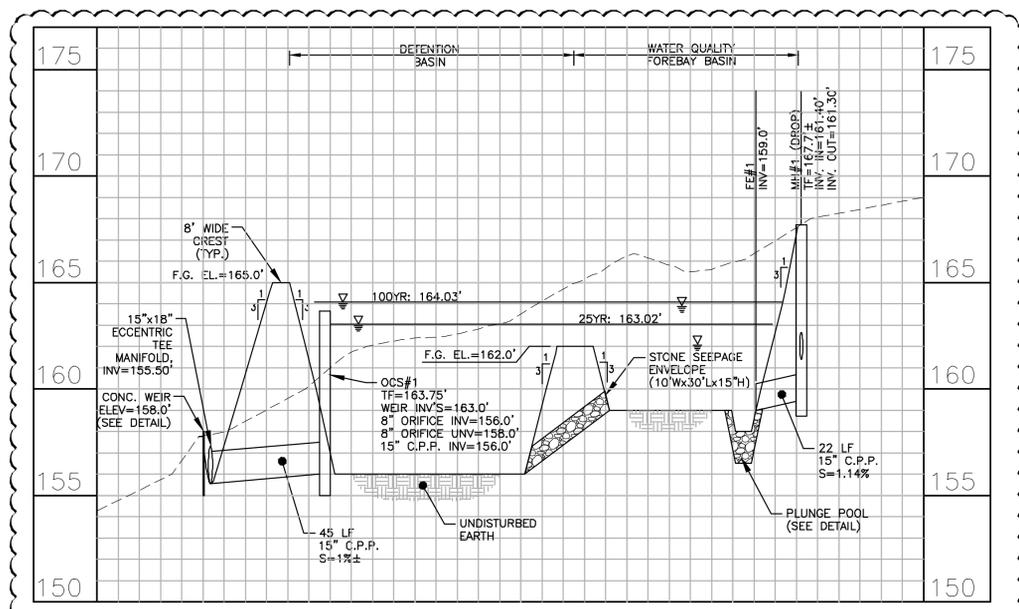


STRM 095 TRENCH ANTI-SEEPAGE COLLAR DETAIL N.T.S.

NOTES:  
1. STRAW BLANKETS SHALL BE S150, AS MANUFACTURED BY NORTH AMERICAN GREEN, OR APPROVED EQUAL. REFER TO LANDSCAPE PLAN FOR ADDITIONAL SEED APPLICATION MIXTURES.  
2. GEOTEXTILE FABRIC LINER SHALL BE MIRAFI 500X, OR APPROVED EQUAL, AND IS TO BE USED AT THE DISCRETION OF THE ENGINEER UPON INSPECTION OF THE SOIL CONDITIONS.  
3. MIRAFAT SHALL BE AS MANUFACTURED BY MIRAFI, INC., OR APPROVED EQUAL. INSTALL TO MODIFIED RIPRAP AS PER MANUFACTURER'S INSTRUCTIONS. MODIFIED RIPRAP OR ROCK REINEMENT UTILIZING ON-SITE MATERIALS SHALL BE ACCEPTABLE AS PER THE ENGINEER'S INSTRUCTIONS. INSTALL LANDLOCK STITCH-BONDED TRM (AS MANUFACTURED BY PROPEX GEOSOLUTIONS, 1-800-621-1273 OR APPROVED EQUAL) ALONG WET SIDE OF BASIN.

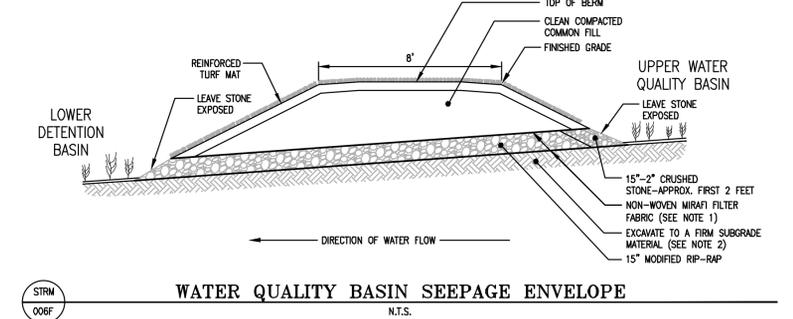


STRM 255P TYPICAL DETENTION BASIN EMBANKMENT DETAIL N.T.S.

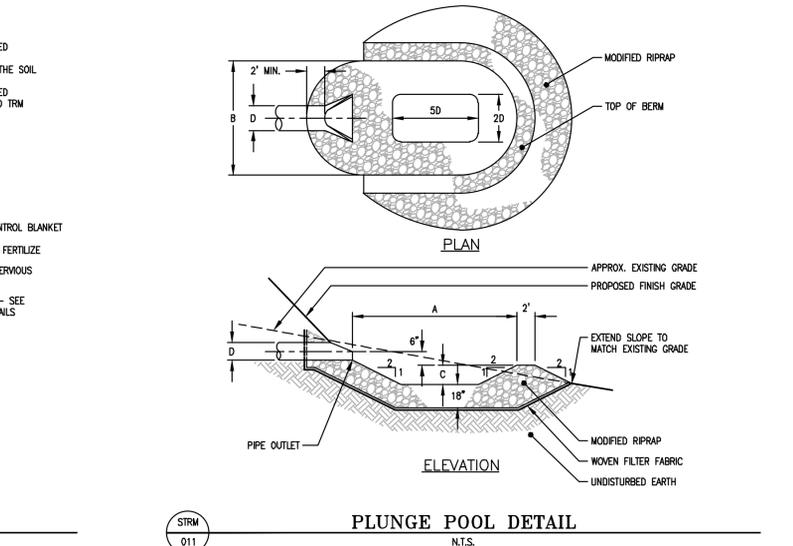


DETENTION/WATER QUALITY BASIN CROSS SECTION A-A  
HORZ. SCALE: 1"=40'  
VERT. SCALE: 1"=4'

NOTES:  
1. FILTER FABRIC SHALL BE PLACED ON TOP, BOTTOM, AND SIDES OF SEEPAGE ENVELOPE. MIN. FLOW RATE @ 130 GALLONS/SFT.  
2. WHERE THE CONTRACTOR IS REQUIRED TO OVER EXCAVATE TO ACCEPTABLE SUBGRADE MATERIAL, THE VOLUME MAY BE REPLACED WITH A CLEAN FREE DRAINING MATERIAL IN LIEU OF STONE AS APPROVED BY THE ENGINEER.  
3. REINFORCED TURF MAT SHALL BE ARMOR-MERION-EROSION CONTROL BY PROPEX GEOSOLUTIONS, 1-800-621-1273 OR MIRAFI TM145 BY TENCATE GEOSYNTHETICS, 1-706-693-2226.



DIMEN.	PIPE DIAMETER "D"							
	15"	18"	21"	24"	30"	36"	42"	48"
A	11.25'	12.50'	15.75'	17.00'	21.50'	24.00'	30.50'	33.00'
B	6.50'	8.00'	9.50'	10.00'	13.00'	14.00'	19.00'	20.00'
C	1.00'	1.00'	1.50'	1.50'	2.00'	2.00'	3.00'	3.00'



STRM 011 PLUNGE POOL DETAIL N.T.S.

NO.	DATE	REVISION	DESCRIPTION	DESIGNED BY	CHECKED BY
1	8-17-20		Revised cross-section and details.	S.A.L.	M.E.L.



CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF ASBUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF ASBUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF ASBUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF ASBUILT DRAWINGS.

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane  
Westport, Connecticut 06880  
PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880  
TITLE: Detention Basin, Storm Sewer and Embankment Details

DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	JOB NO.:	DRAWING NO.:
05/14/2020	N.T.S.	M.E.L.	S.A.L.	M.E.L.	00954	00954



# CONSTRUCTION SPECIFICATIONS AND STANDARDS

## A. MANHOLES, CATCH BASINS AND STRUCTURES:

- Catch basins and manholes shall be constructed of class "A" concrete, prefabricated of precast sections in accordance with ASTM C-148, latest revised edition. The minimum compressive strength shall be 4,000 psi. Structures can be constructed in the field at the contractor's option if built in accordance with the standard specifications and drawings. Leveling courses may be constructed to ensure that the frame meets the proposed grade at the design gradient, to a maximum of twelve inches (12"). A maximum two inch (2") thick layer of mortar may also be used to adjust the top slab. The cost of the welded wire fabric and bar reinforcement shall be included in the price bid for manhole(s) and catch basins.
- All catch basins shall be CONNECTICUT STATE HIGHWAY DEPARTMENT STANDARD TYPE "C" concrete curbed unless otherwise specified. Any catch basins in town roads shall be TYPE "C" for bituminous curbed inlets unless otherwise specified. All basin frames and grates shall be galvanized as per current ConnDot requirements.
- All proposed catch basins shall have a minimum of three foot (3') sumps below the invert of the outlet pipe to trap silt and sand from roads or parking areas, except as otherwise specified on the drawings.
- Manholes shall have concrete aprons and inverts constructed to one-half the diameter of the outlet pipe with aprons sloped to drain.
- Manhole steps will be required in all manholes deeper than four feet (4'). Spacing will be twelve inches (12") center to center with the top rung within a minimum of two feet (2') to the top of frame and cover and lower rung within eighteen inches (18") of the apron. The steps shall be ALCOA #6005-T5, drop front design, or a copolymer polypropylene conforming to ASTM 2146, type II, grade 43758 with a grade 60, half inch (1/2") steel rod or an approved equal.
- Provide a minimum of six inches (6") of gravel bedding under all catch basins, manholes and outlet structures in earth and twelve inches (12") for rock excavations.
- Knockout panels, stubs and/or manhole drops and accommodating invert channels shall be constructed to meet line and grade of future construction, as required. Main line and lateral future connections shall be suitably capped or plugged for water tightness. Contractor to provide a 1/2" inch metal rod with a two inch square plate top placed four inches below grade at the end of all capped utilities.
- The contractor may elect to interchange rectangular manholes for circular manholes with the engineer's approval. The size substituted thereof shall be determined by the engineer. The cost of the new structure shall be the same cost bid per vertical lineal foot as the original structure. Shop drawings shall be submitted to the engineer for review.
- Storm MH, Frames and grates shall be per detail 337 entitled "Schedule for Covers in Easements, Roads and Shallow Manholes". Sanitary manhole frame and grates shall be per local WPCA standards.
- All head walls shall be Wing Type Endwalls as detailed by The Connecticut D.O.T. Standard Specifications and drawings, and as manufactured by Connecticut Precast Corp. Monroe CT or approved equal.
- Non-shrink grout shall satisfy ASTM C109, C877 and CRD-C621 - metallic aggregate, free of horizontal and vertical shrinkage.

## B. STORM SEWER PIPES:

- All R.C.P. Storm Sewer Drainage Pipe specified shall be Reinforced Concrete Pipe ASTM C76. Joints shall be rubber compression gasketed STM C443. Classifications shall be, CLASS IV in streets and CLASS III in unimproved areas, except fifteen inch (15") catch basin laterals shall be CLASS V, or approved equal.
- All C.P.P. specified (3"-60") shall be "N-12" smooth wall interior Corrugated High Density Polyethylene Pipe as manufactured by Advanced Drainage Systems (ADS), Inc., or approved equal. Reference is made to Product Note 3.115 as prepared by ADS for manufactures installation recommendations. The pipe shall meet or exceed the requirements as follows:
  - AASHTO M 252 = Standard specifications for corrugated polyethylene drainage tubing 3"-10" dia.
  - AASHTO M 294 = Standard specifications for corrugated polyethylene pipe 12"-48" dia.
  - AASHTO MP 7-97 = Standard specifications for corrugated polyethylene pipe 54" and 60" dia.
  - AASHTO Section 30 = Construction standards, Thermoplastic pipe.
  - AASHTO D 2321 = Standard practice for underground installation of Thermoplastic pipe for sewers and other gravity flow applications.
  - ASTM D 3212 = Standard specification for joints for drain and sewer plastic pipe using flexible elastomeric joints.
  - ASTM F 1417 = Standard test method for installation acceptance of plastic gravity sewer lines using low-pressure air.
  - ASTM F 477 = Elastomeric seals (gaskets) for joining plastic pipe.
  - ASTM F 677 = Standard specification for large diameter corrugated polyethylene pipe and fittings.
- All "Tight Pipe" specified shall be "N-12 WT IB" smooth wall interior Corrugated High Density Polyethylene Pipe with a ceramic composite joint as manufactured by ADS, or approved equal. The joints shall have a bell and spigot or bell-bell design and incorporate an ASTM F 477 elastomeric rubber gasket. The joints shall meet or exceed the requirements of ASTM 3212 lab pressure test of 10.8 psi, and ASTM 1417 watertight field test. After the pipe is installed it shall be air tested in conformance with ASTM F 1417.
- All curtain and footing drain pipe shall be 4", 6" or 8" (as specified on the drawings) perforated polyvinyl chloride plastic pipe (PVC) conforming to ASTM D 1785 with couplings and elbows shall conform to the requirements of ASTM D 2466 or D 2467. Class "I" heavy duty type, minimum slots 1/4" clear opening, except as otherwise shown on the plans. Pipe shall exit to a gravel lined drainage swale or drainage structure. All aggregate for underdrain shall be washed as specified.
- Pipe lengths for the storm drainage system are measured from centerline of structure to centerline of structure with the exception of flored ends which are measured from the outer most edge.
- All piping shall be founded on a stone bedding in CLASS "B" and "C" trench installations for either earth or rock excavations, unless otherwise directed by the engineer. Refer to details.
- All pipe backfill shall be placed in compacted twelve inch (12") max. lifts to an AASHTO T-99 density of 95% to proposed subgrade.

- Pipes shall be cut flush to the inside walls of all structures. Openings at knockouts shall be mortared tight with a non-shrink grout. Concrete inverts and aprons shall be constructed to one-half the diameter of the existing pipe within manholes. Aprons shall slope to drain. Smaller pipe sizes entering structures shall, at a minimum, match the crown of the outgoing pipe, except as otherwise specified for critical elevations for upstream structures or in the case of significant grade changes.
- All footing drain discharge piping located in excess of twenty five (25) feet from any sewage disposal system shall be constructed of solid pipe. Any footing drain discharge piping located within twenty five (25) of any sewage disposal system shall be tight pipe and conform to the standards of Table 2-C of the State of CT Health code.
- All roof drains shall discharge to collector pipe, to be conveyed to recharger basins. Size as shown on plans.

## C. SANITARY SEWER PIPES:

- Sanitary collector sewers, unless labeled differently on the design drawings, shall be eight inch diameter SDR-35 P.V.C. pipe, conforming to ASTM D3034, latest revised edition, laid at such depth below finished grade so as to provide adequate sewage facilities from first floor elevations.
- Sanitary collector sewers with cover deeper than 15' shall be DR18, class 150 P.V.C. pipe, bell and spigot end push-on joints conforming to AWWA C900 standards, latest revised edition.
- Sanitary collector sewers crossing inland wetland areas and streams shall be Class 52, cement lined ductile cast iron with push-on joints (unless otherwise noted), conforming to ANSI A21.51, latest revised edition, for the full distance from manhole to manhole. See drawings for sizes.
- All sanitary sewer service piping shall be six (6) inch cast iron pipe, ductile iron pipe, or schedule 40 PVC pipe, for a five foot minimum distance from the foundation wall. Pipe shall be laid at a minimum grade of 1/4" inch per foot. Contractor to concrete encase pipe from foundation wall to suitable soil bearing area when backfill around house has not been fully compacted. From 5' outside of the building to the sanitary sewer collection main, the pipe shall be six (6") inch SDR-35 P.V.C. pipe, or approved equal. Connection between the pipes shall be by integral rubber compression gasket conforming to ASTM D312, as furnished by Fernco (style to be determined by type of pipe materials installed), or approved equal.
- Pipe joints to be Neoprene ribbed gasket meeting ASTM F-477.
- Pipe lengths for the sanitary sewer system are measured from centerline of structure to centerline of structure.
- All piping shall be founded on a 3/4" inch crushed stone bedding as either CLASS "B" or "C" trench installations for either earth or rock excavations, unless otherwise directed by the engineer. Refer to details, Sheet C-14C.
- All pipe backfill shall be placed in compacted twelve inch (12") loose lifts to an AASHTO T-99 density of 95% to proposed subgrade.
- Pipes shall be cut flush to the inside walls of all structures. Openings at knockouts shall be mortared tight with a non-shrink grout. Brick and concrete inverts and aprons shall be constructed to one-half the diameter of the effluent pipe within manholes. Aprons shall slope to drain.
- Air testing of all sanitary sewer piping shall be performed in accordance with the State health code's recommended testing procedures for sanitary sewer pipe. The test shall result in an infiltration loss rate of no more than 25 GPD/inch-DIAMETER/mile. Reference is made to sanitary pipe test requirements for further details.
- All sanitary sewer construction shall be inspected by the design engineer, or a representative of the Municipality's WPCA, as determined necessary. A 72-hour advance notice required. Do Not backfill lines until inspections are completed.
- All sanitary sewer construction shall be in accordance with the Municipality's WPCA standards and practices and as specified in NEWPCC TR-16 Guidelines, whichever is the stricter. Contractors are to be familiar with same before initiating work. Significant changes to the sanitary sewer system design shall require WPCA prior approval.
- Groundwater anti-seep collars shall be installed at locations shown on the plans and where ordered by the Engineer. Anti-seep collars shall be "Ripley Dams" as manufactured by McRip Manufacturing, Durham, MA, phone (603) 868-5176, e-mail info@trenchdam.com or approved equal. Average size is 3' high x 40" wide. Made of ABS plastic.

## D. SANITARY SEWER GRAVITY PIPE AIR TESTING:

- All sanitary sewer gravity pipe shall be air tested to demonstrate an infiltration loss rate of no more than 25 GPD/inch-DIAMETER/mile. The following procedure shall be considered acceptable.
- Test is to be conducted between two consecutive manholes. Where a building connection is involved, the connection shall be plugged within five feet of the building.
  - The test section of the sewer line is plugged at each end. One of the plugs used at the manhole must be tapped and equipped for the air inlet connection for filling the line from the air compressor.
  - All service laterals, stubs and fittings into the sewer test section should be properly capped or plugged and carefully braced against the internal pressure to prevent air leakage by slippage and blowouts.
  - Connect air hole to tapped plug selected for the air inlet. Then connect the other end of the air hose to the portable air control equipment which consists of valves and pressure gauges used to control:
    - The air entry rate to the sewer test section; and
    - To monitor the air pressure in the pipe line more specifically, the air control equipment includes a shut-off valve, pressure regulating valve, and a monitoring pressure gate having a pressure range from 0 to 5 psi. The gauge shall have minimum divisions of 0.10 psi and an accuracy of +/- 0.04 psi.
  - Connect another air hose between the air compressor (or other source of compressed air) and the air control equipment.
  - Supply air to the test section slowly, filling the pipe line until a constant pressure of 3.5 psi is maintained. The air pressure must be regulated to prevent the pressure inside the pipe from exceeding 5.0 psi.

- When constant pressure of 3.5 psi is reached, throttle the air supply to maintain the internal pressure above 3.0 psi for at least 5 minutes. This time permits the temperature of the entering air to equalize with the temperature of the pipe wall. During this stabilization period, check all capped and plugged fittings with a soap solution to detect any leakage at these connections. If leakage is detected at any cap or plug, release the pressure in the line and tighten all leaky caps and plugs. Then start the test operation again by supplying air. When it is necessary to bleed off the air to tighten or repair a faulty plug, new five minute interval must be allowed after the pipe line has been re-filled.
- After the stabilization period, adjust the air pressure to 3.5 psi and shut off or disconnect the air supply. Observe the gauge until the air pressure reaches 3.0 psi. At 3.0 psi, commence timing with a stop watch which is allowed to run until the line pressure drops to 2.5 psi at which time the stop watch is stopped. The time required, as shown on the stop watch, for a pressure loss of 0.5 psi is used to compute the air loss.
- If the time, in minutes and seconds, for the air pressure to drop from 3.0 to 2.5 psi is greater than that shown on the schedule below for the designated pipe size, the section undergoing test shall have passed and shall be presumed to be free of defects. The test may be discontinued at that time.
- If the time, in minutes and seconds, for the 0.5 psi drop is less than that schedule for the designated pipe size, the section of pipe shall not have passed the test; therefore, adequate repairs must be made and the line retested.
- For eight inch and smaller pipe, only: if, during the five minute saturation period, pressure drops less than 0.5 psi after the initial pressurization and air is not added, the pipe section undergoing tests shall have passed.
- Multi Pipe Sizes:** When the sewer line undergoing test is eight inches or larger diameter pipe and includes four inch or six inch laterals, the figures in Table 3 for uniform sewer main sizes will not give reliable or accurate criteria for the test. Where multi-pipe sizes are to undergo the air test, compute the "average" size in inches which is then multiplied by 38.2 seconds. The results will give the minimum time in seconds acceptable for a pressure drop of 0.5 psi for the "averaged" diameter of pipe.

### SCHEDULE OF TIME REQUIREMENTS FOR AIR TESTING

PIPE SIZE (IN INCHES)	TIME MIN.	SEC.
4	2	32
6	3	50
8	5	6
10	6	22
12	7	39
14	8	56
15	9	35
16	10	12
18	11	34
20	12	45
21	13	30

- NOTE:** For larger diameter pipe use the following:  
Minimum time in seconds = 462 x pipe diameter in feet
- All tests must be witnessed by the Design Engineer or representative of the local WPCA.

## E. WATER MAINS:

- All water main installations shall be installed in accordance with the standard specifications of local water company. The minimum cover over the pipe shall be four feet, six inches (4'6"). The pipe shall be eight inch class 52 cement lined ductile iron unless otherwise specified on the drawings or ordered by the Water Company. ALL dead ends shall terminate with a hydrant or approved blow off for flushing purposes and shall be capped.
- All subgrade and backfill materials to be approved by water company prior to placing of facilities.
- Hydrants and valve assemblies to be standard materials used by the water company.
- Proposed water mains and service lines shall be disinfected in accordance with the A.W.W.A. standards C601, latest revised edition and as may be amended by the water company.
- Acceptable results of bacteriological analysis from water samples collected from the new distribution main after disinfection and before use of the mains, shall be submitted to the engineer and water company.
- Water mains to maintain a ten foot (10') minimum horizontal separation or an eighteen inch (18") minimum vertical separation over sanitary sewers or storm drains. Where neither separation can be maintained, either the sanitary sewer pipe shall be placed in a collar to a minimum ten feet (10') horizontal distance from the waterline, or a concrete encasement or cradle shall be constructed. Refer to details for type.
- Thrust blocks to be installed at all plugs, tees and bends greater than or equal to 11.25 degrees. Refer to detail.
- Water service lines to be one inch (1") "K" copper tubing, unless otherwise specified by the water company.
- Restrained joints shall be 3/4" threaded rods or lugged retainer glands, placed a minimum of two pipe lengths at T's, crosses, and pipe ends ends or as ordered by the local water company inspector.

## F. GENERAL NOTES:

- All work associated with gas, telephone, data, cable TV and electric power including primary conduit, secondary conduits and vaults and any other underground conduits or appurtenances are included as part of the Site Work, whether this Work is shown on the drawings or not. Contractor to provide a fully operable project. The Contractor shall have performed due diligence and investigation with the responsible local utility companies associated with the aforementioned items and has familiarized themselves with all requirements for the furnishing and installing of these utilities in accordance with the utility companies and all authorities having jurisdiction and has included all those costs in their contract price and this Agreement. Contractor is not responsible for service connection fees.
- Contractor shall provide traffic control as required by the Town and CTDOT that may include plans, traffic control officers, flag person, traffic signs, lighting and delineators as necessary to ensure the safe movement of Contractor's and Subcontractor's equipment into and out of the Site.
- Contractor is responsible to minimize dust migration resulting from his operations including cutting, blowing, hammering, trucking, digging, drilling, etc., and must comply to keep construction debris and dust within the project limits in accordance with the local and state codes.
- Onsite parking may or may not be available. Contractor shall be responsible for providing parking for the workers and equipment for the project. Owner shall take no responsibility for damage or loss to any vehicles parked in any locations regardless of their use for this Project. Contractor shall insure only authorized project vehicles and / or delivery vehicles have access. Contractor will be responsible for making sure any truck leaving the Site does not track dirt onto the streets. If Contractor's or subcontractor's trucks or delivery vehicles track dirt onto the street, Contractor will be responsible for cleaning the street by hand or street sweeper as necessary. If Contractor refuses to clean the street in a timely manner, Owner shall provide any necessary street cleaning services at Contractor's cost.
- All site monument signs and permanent building signage are the responsibility of the CONTRACTOR. Contractor shall obtain permits required for the installation. Monument sign(s) shall be installed after fine grade to prevent damage to sign(s), so that the maximum amount of time exposure can be obtained from the sign for marketing purposes. All monuments signs to have lighting on both sides of the sign. Signage, permits, scheduling and documentation shall be coordinated with Owner.
- Paving shall be installed in two lifts. The first lift may be placed at any time during construction to help facility site access. The second lift shall be placed four to six weeks prior to the substantial completion of the building. (Weather/season permitting) cutting and/or patching of second lift pavement will not be accepted and grounds for removal and replacement of the entire surface of paving.
- Provide trenching, backfilling and reconditioning of trench for gas, water, CATV and other utility services from the property line to the meter or point of connection into the building for the mechanical/utility closet. Exception is where the gas and Water Company are under separate contract with the Owner to complete specific portions of the work by their forces.
- Work includes demolition and disposal of all and any existing materials on site. The Contractor acknowledges that they have visited the site and are responsible for all existing items on site that require removal and disposal for the proper building of this project.
- Contractor shall provide all layout of lines and grade in accordance with the drawings.



800 Main Street South - Southbury, Ct. 06488 - (800) 287-1046 Fax (800) 287-1047  
ENGINEERING - PLANNING - SURVEYING - DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane  
Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

TITLE: Construction Specifications & Standards

DATE: 05/14/2020	NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL	MARK E. LANCOR, P.E. #12369
SCALE:		1
DESIGNED BY: N.T.S.		2
DRAWN BY: M.E.L.		
CHECKED BY: C.B.E.		
JOB NO: M.E.L. 00954		
DRAWING NO: 00954		

**C-9A**

**NOTE:**  
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

**EARTHWORK SPECIFICATIONS**

**PART 1 GENERAL**

**1.1 WORK INCLUDED**

- A. Layout limits of all construction and stake all lines and levels.
B. Strip and remove topsoil and stockpile for later use. Remove excess from site.
C. Earthwork and trench excavation, preparation of sub-grade for foundations, utilities, pavements, and drainage systems.
D. Formation of sub-base with select fill under structures, utilities, piping, and pavements.
E. Below grade excavation and refill when unsuitable materials are encountered.
F. Backfilling of trenches for utilities.
G. Compaction Control.
H. Use of explosives to assist rock removal.
I. Testing of earth foundations.
J. Grade and rough contour site. Finish grade subsoil, proof roll site, and place, level and compact topsoil.
K. All construction operations are to include ground water control, stormwater control, furnishing additional fill as required, compaction and/or off-site disposal of spoil.
L. Protection of existing buildings, pavements and utilities to remain.
M. Submittals.

**1.2 QUALITY ASSURANCE**

- A. Testing and Inspection Services:
1) Employ at Contractor's expense, a state certified testing laboratory to perform soil testing inspection and lab services, and related work for quality control testing during earthwork operations.
2) Tests and analysis of fill materials will be performed in accordance with ANSI/ASTM D698, Method "C", and ASTM D2922, Method "B".
B. Protection:
1) Use all means necessary to protect property, adjacent utilities, and the proposed facilities and materials considered herein, before, during, and after installation. Any damages incurred by the Contractor shall be repaired or replaced, as ordered by the Owner or its designated representative, and at the Contractor's expense.
2) In the event of damages, immediately notify the Owner.

**1.3 STANDARDS**

- A. ANSI/ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates.
B. ANSI/ASTM D698 - Moisture Density Relations of Soils and Soil Aggregate Mixture Using 5.5lb (2.49 kg) hammer and twelve inch (305 mm) Drop.
C. ANSI/ASTM D1556 - Density of Soil in Place by the Sand Cone Method.
D. ANSI/ASTM D1557 - Moisture Density Relations of Soils and Soil Aggregate Mixture Using ten lb. (4.54 kg) hammer and eighteen inch (457 mm) Drop.

**1.4 SUBMITTALS**

- A. As Built Drawings: Contractor shall maintain "Red Line" drawings, recording the completion of the work, noting all deviations from the contract requirements, in particular underground utilities and pertinent notations.
B. Test Reports:
1) As directed by the Owner or their representative, submit three copies of the following directly to the Engineer from an approved testing laboratory for approval:
a. Test reports on borrow, select fill and refill materials.
b. Controlled field density test reports.
c. Gradation and moisture-density characteristics for all granular, sand, and select fill materials.
C. Samples: Submit 40-50 Lb. sample of each type of fill, sand filter and granular material to testing laboratory, in airtight containers.
D. Test Reports:
1) As directed by the Owner or their representative, submit three copies of the following directly to the Engineer from an approved testing laboratory for approval:
a. Test reports on borrow, select fill and refill materials.
b. Controlled field density test reports.
c. Gradation and moisture-density characteristics for all granular, sand, and select fill materials.

**1.5 LAWS AND REGULATIONS**

- A. All work under this contract shall be accomplished in accordance with regulation of the local, county, state, and federal agencies and national or utility company standards as they apply. Where laws and regulations of public authority prescribe higher degree of protection than specified herein, then the higher degree so prescribed shall govern.

**1.6 JOB CONDITIONS**

- A. Subsurface Data: Any bidders deemed it necessary to satisfy themselves of the existing ground conditions, should do so at their expense.
B. No warranty, either expressed or implied, is made as to the accuracy of the subsurface information as it relates to the specific location of the work.
C. Variations in existing ground conditions differing from those indicated on the drawings and subsurface logs shall not, under any conditions, constitute grounds for changes in contract price or completion dates of this Contract.
D. Upon notification, and as approved by the Owner and those having jurisdiction, the bidders will be allowed the right to make any subsurface explorations they deem necessary to satisfy themselves of the existing ground conditions at their own expense.
E. Existing Utilities:

- 1) Contractor to place Call-Before-U-Dig prior to starting work and locate existing underground utilities in areas of work by test pit for uncharted areas at contractor's expense.
2) If utilities are to remain in place, provide adequate means of protection during earthwork operations.
3) Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions.
4) Demolish and completely remove from site existing underground utilities indicated to be removed, unless otherwise approved.
5) Dust Control:

- 1) Barricade open excavations occurring as part of this work and post with warning lights.
2) Provide the necessary safeguards to prevent accidents, to avoid all unnecessary hazards and protect the public, the work and the property at all times, including Saturdays, Sundays and holidays.
3) Be responsible for any and all damages which may arise or occur to any party whatsoever by reason of the neglect in providing proper lights, guards, barriers, or any other safeguards to prevent damage to property, life and limb.
4) Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

**1.7 EXCAVATION CLASSIFICATIONS**

- A. Earth Excavation:
1) Earth excavation shall include the excavation, removal and satisfactory disposal of all materials of whatever nature encountered from within the limits indicated, specified or as directed in writing that are not classified as rock or unauthorized excavation.
2) It shall include, but not necessarily limited to, earth materials such as peats, organic or inorganic silts, clay, sand and gravel; pavement; cobbles and boulders less than one cubic yard in volume; soft or disintegrated rock which, in the opinion of the Owner, can be removed with the Contractor's excavation equipment not specifically included in other classifications.
3) The removal of underground obstructions such as pipe lines, manholes, tanks etc., to be abandoned, and foundations, foundation walls or other existing structures which are not considered rock excavation, shall be paid for as earth excavation.
4) The shaping of slopes during excavations to retain soil repose, including maintenance of sides and slopes of excavations until completion of backfilling.
5) The stockpiling of excavation materials classified as suitable material where directed, until required for fill. Placement, grading and shaping of stockpiles for proper drainage as approved by the Owner's representative.

**B. Rock Excavation:**

- 1) Trench rock shall be all rock excavation required for the installation of pipes, foundations and structures below grade.
2) Any rock material shall be considered rock excavation, which in the opinion of the Owner, cannot be excavated except by drilling, wedging, chipping, and/or blasting.
3) When a question arises as to whether material encountered is to be considered rock, the Owner shall have the right to instruct the Contractor to make a vigorous effort to remove it with his excavation machinery.
4) Solid rock, boulders, and concrete or brick foundations greater than one cubic yard, in the opinion of the Owner, requiring drilling, wedging, chipping, or blasting shall be considered as Rock Excavation.
5) Intermittent drilling or ripping performed to increase production will be classified as Earth Excavation.
C. Below Grade Excavation:
1) Below grade excavation shall include the excavation and removal of all foundation materials below the limits of excavation sub-grades which, because of their character, are considered unsuitable and unsatisfactory materials for providing suitable bearing capacity to receive the work included under this contract.
2) Below grade excavation shall be paid for as Earth Excavation at the levels in which the work is being performed and as approved by the Owner.
D. Unauthorized Excavation: consists of removal of materials beyond indicated sub-grade elevations or dimensions without specific direction from the Owner.

**E. Structure Excavation:**

- 1) Structure excavation shall include the excavation for building and construction areas involving below grade foundation units, pre-cast and cast-in-place tanks and vaults, abutments, and retaining wall systems not considered as trench site excavations.
2) Structure excavation shall not be classified for payment, but considered as Earth and/or Rock Excavation as it applies to the excavation work encountered.

**F. Pavement Excavation:**

- 1) This shall be considered as the cut surface under pavements to comply with cross sections, profiles, elevations and grades as shown on the drawings or ordered by the Engineer.
2) Pavement excavation shall not be classified for payment but considered as Earth and/or Rock Excavation as it applies to the excavation work encountered.

**L.8 SUB-GRADES**

- A. Buried Utilities and Structures: Defined as that plane which is coincident with the bottom of the bedding layer beneath the utility, sewer manholes, footings or slabs within the limits as described elsewhere, and as shown on the drawings.
B. Paving Area:
1) The paving area sub-grade is defined as that plane which is coincident with the bottom of:
a. The rolled gravel sub-base for roads, access drives, and parking areas; and
b. The rolled gravel base for bituminous concrete and concrete walkways described within the construction drawings.

**PART 2 PRODUCTS**

**2.1 COMMON FILL MATERIALS**

- A. Subsoil: Reused; Imported; free of stones larger than twelve inch size, debris, and unsuitable materials.
B. Select Backfill: Free of stones larger than two inch size, debris, clogs of clay and, unsuitable material having no more than 70 percent passing a No. 40 sieve and no more than 20 percent finer by weight passing a No. 200 sieve.
C. Free Draining Material: Free of stones larger than two inch size, debris, clogs of clay and, unsuitable material consisting of sands, gravel and rock fragments having no more than 70 percent passing a No. 40 sieve and no more than ten percent finer by weight passing a No. 200 sieve.
D. Cold Weather Protection: bottoms of excavations shall be protected from frost and water, whatever the source.

**2.2 SELECT FILL MATERIALS**

- A. Type A - Coarse Stone: Gravel, Pit Run, Angular, Crushed, natural stone; free of shale, clay friable materials and debris; graded in accordance with ANSI/ASTM C136 within the following limits: Sieve Size/Percent Passing - 2 inches/100, 1 inch/90-100, 3/4 inch/15-25, #40/0-10 and #100/0-5.
B. Type B - Pea Gravel: Screened natural stone; sub-rounded, washed, free of clay, shale, organic matter graded in accordance with ANSI/ASTM C136 as follows: Sieve Size/Percent Passing - 1/2 inch/100, 3/8 inch/85-100, #4/5-30 and #8/0-10.
C. Type C - Bank Run Gravel: Shall consist of sound, tough durable particles of crushed or uncrushed gravel meeting the following gradation to be used primarily for refill and pavement sub-base; graded in accordance with ANSI/ASTM C136, within the following limits: Sieve Size/Percent Passing - 3-1/2 inches/100, 1-1/2 inches/55-100, 1/4 inch/25-60, #10/15-45, #40/5-25 and #100/0-10 and #200/0-5.
D. Type D - Processed Gravel: Shall consist of sound, tough durable particles of crushed or uncrushed gravel primarily used as an aggregate subbase for pavements, graded in accordance with ANSI/ASTM C136 and Standard Specification, Section M.05.01 conforming to the following limits: D1 3/4 Process Sieve Size/Percent Passing - 2 inches/100, 3/4 inch/50-75, 1/4 inch/25-45, #40/5-20 and #100/2-12.
E. Type E - Sand: Clear medium to fine natural river or bank sand; free of silt clay, loam friable or soluble materials, and organic matter; graded in accordance with ANSI/ASTM C136 within the following limits: Sieve Size/Percent Passing - 3/8 inch/95-100, #4/80-100, #50/10-30, #100/0-10 and #200/0-3.
F. Type F - Riprap: Shall consist of sound, tough, durable and angular rock, free from decomposed stones or other defects impairing its durability.
G. Type G - Trap-rock: Shall consist of sound, tough, durable and angular crushed or broken stone conforming to the following gradation: Sieve Size/Percent Passing - 2-1/2 inches/100, 2 inches/95-100, 1-1/2 inches/35-70, 1-1/4 inches/0-25, 1 inch/0-10.

**2.3 ACCESSORIES**

- A. Marker Tape: ITT Blackburn, Type Y16 imprinted with "Buried Electric Line Below".
B. Geotextile Woven Filter Fabric: Mirafit 500x Soil Stabilization Fabric or Approved Equal.

**2.4 LABORATORY TESTS**

- A. Cost for sampling, transporting and making all laboratory test required to obtain characteristics of materials to be used under this Contract, including gradation tests and determination of moisture-density relationships, shall be borne by the Contractor.
B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

**PART 3 EXECUTION**

**3.1 LIMITS OF EXCAVATION**

- A. Excavation shall be made only to such lines and grades as are shown upon the drawings, described herein, or as may be directed by the Owner.
B. If material is removed below or beyond the limits finally prescribed for by any excavation, it shall be replaced at the Contractor's expense with suitable fill and/or fill and refill materials, as directed and approved by the Owner.
C. Limits of excavation for structures and footings shall be to the limits prescribed on the drawings measured from the outside of the outer walls and footings and made as nearly vertical as possible except as otherwise directed and/or approved by the Owner.
D. The trenches for pipes shall not be less than six inches wider in the clear, on each side, measured over the limbs of the pipe, and the total width of the trench measured at the top of the pipe shall not exceed the external diameter of the pipe by more than twelve inches on either side unless directed otherwise.
E. Where the Contractor elects to use a steel trenching box, as approved by the Owner, in lieu of sheeting and shoring, as required, no allowance will be made for additional payment for its use.
F. Excavations in close proximity to the drip-line of large trees (greater than twelve inches in diameter) shall be excavated by hand.

**3.2 STRIPPING, STOCKPILING AND REPLACING TOPSOIL**

- A. Stripping (Removal) of Topsoil:
1) Topsoil shall be carefully removed to the depths and within the limits indicated or directed for removal and replacing of topsoil.
2) Topsoil shall be transported and deposited in storage piles in approved locations convenient to the areas from which it is removed.
3) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.
B. Stripping operation shall be completed prior to excavation, filling, compacting or grading operations.

**3.3 EXCAVATION**

- A. General:
1) The Contractor shall perform all site excavation, fill and backfill and compaction as required for the various utilities, structures, conduits, embankments, road and appurtenances, thereto, and for all site or miscellaneous grading.
2) All excavations shall be described in accordance with the classifications defined elsewhere herein.
B. Site and Underground Utility Excavation:
1) Excavate subsoil required for finished grades and utility systems.
2) All excavation for pipes, manholes, tanks, and underground utility structures shall be made by either open trenches or vertically sheeted trenches.
3) Machine slope banks to angle of repose or less until shored.
4) Stockpile excavated material in area designated on site and remove from site excess subsoil, unsuitable and blasted materials not being reused.
5) Special care shall be used to protect existing trees to be saved in the proximity of the trench and site excavation.
6) Not more than 200 feet of any open trench can advance the end of the pipe, unless otherwise directed.
7) Excavated material which cannot be stored along side of the trench shaft to maintain traffic conditions shall be removed from the work area and stored at an approved stockpile area until backfilling can take place.
8) No excessive trench widths will be allowed to avoid the use of sheeting.
9) During backfilling operations for foundation, pre-cast structures and retaining walls, care shall be exercised so that the use of compaction equipment does not damage the walls.
10) If suitable bearing capacity for foundations cannot be obtained at the depth indicated on the Drawings, or within the excavations required by these Specifications, the Contractor shall immediately notify the Owner and Engineer.
11) The Contractor shall remove any remaining unsuitable material as directed.
12) Rock Encountered: If rock is encountered at the required elevations, the rock shall be over-excavated to eighteen inches below bottom of foundations and replaced with a minimum of twelve inches of compacted Type D fill and six inches of Type A gravel to the sub-base elevation.
D. Cold Weather Protection: bottoms of excavations shall be protected from frost and water, whatever the source.
E. Rock Excavation:
1) Rock occurring within the lines indicated for excavation for pipe lines and structures shall be excavated to the lines indicated, unless otherwise directed in writing by the Owner.
2) Where boulders are exposed on the sides of or in the bottom of excavations, they shall be wholly or partially removed.
3) Rock encountered within a road right-of-way shall be removed to a minimum of 12 inches below subgrade pavement section and refilled to sub-grade with Type "C" fill, or as approved by the Engineer and will be classified as open face mass rock excavation.
4) Unless otherwise directed, rock shall be fully taken out at least 25 feet in advance of the laying of pipe.
5) Unless otherwise directed, rock shall be removed sufficiently to joints so they may be properly made.
6) All excavated rock larger than 3/4 cubic foot, which is not crushed on site, shall be removed from the site under this item.
7) Clean, select material, satisfactory to the Owner, shall be used for backfill to replace any removed trench or structure excavated rock and shall be furnished at no additional cost to the Owner.

- A. Excavations shall not be backfilled or concrete placed for footings or slabs until all required tests and inspections have been satisfactorily performed.
1) Acceptance of construction below finish grade including, where applicable, foundations, damp proofing, waterproofing, and perimeter insulation.
2) Inspection, testing, approval, and recording locations of underground utilities and foundations.
3) Removal and inspection of concrete formwork after concrete has attained its 28 day design strength.
4) Removal of trash and debris.
5) Permanent or temporary horizontal bracing, constructed in place for horizontally supported walls.
B. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, as so stated herein.
C. Backfill all excavations as soon as practicable with approved excavated material.
D. Trench Areas:
1) All backfill placed in trenches at a level twelve inches above the top of pipe shall consist of SELECT BACKFILL, placed in layers not exceeding the placement limits specified herein.
2) The balance of backfill in trenches shall be compactable materials as approved by the Engineer, not frozen and without any stones larger than twelve inches in their greatest dimensions.
E. Structure Perimeters:
1) Backfilling against masonry or concrete work shall only be done after inspection of work and when approved by the Engineer.
2) Where earth is on one side of walls only, backfilling and compaction shall not start until floor slabs or adequate bracing is provided to laterally support top and bottom of walls.

- F. Fill and Embankment Areas:
1) The Contractor is to provide earth fill as required, to the lines, grades and limits as shown or directed by the Engineer.
2) The Contractor shall maintain the filled surfaces in good condition with a smooth surface level with adjacent undisturbed surfaces.
3) No rock fill or reclaimed waste containing fragments over twelve inches (12") in their greatest dimension shall be placed above an elevation two feet (2') below the top of the embankment or fragments over eight inches (8") within three feet (3') of finished road grade.
4) Rock and reclaimed waste nests shall be prohibited.
5) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.

- A. Excavations shall be made only to such lines and grades as are shown upon the drawings, described herein, or as may be directed by the Owner.
B. If material is removed below or beyond the limits finally prescribed for by any excavation, it shall be replaced at the Contractor's expense with suitable fill and/or fill and refill materials, as directed and approved by the Owner.
C. Limits of excavation for structures and footings shall be to the limits prescribed on the drawings measured from the outside of the outer walls and footings and made as nearly vertical as possible except as otherwise directed and/or approved by the Owner.
D. The trenches for pipes shall not be less than six inches wider in the clear, on each side, measured over the limbs of the pipe, and the total width of the trench measured at the top of the pipe shall not exceed the external diameter of the pipe by more than twelve inches on either side unless directed otherwise.
E. Where the Contractor elects to use a steel trenching box, as approved by the Owner, in lieu of sheeting and shoring, as required, no allowance will be made for additional payment for its use.
F. Excavations in close proximity to the drip-line of large trees (greater than twelve inches in diameter) shall be excavated by hand.

- A. Excavations shall not be backfilled or concrete placed for footings or slabs until all required tests and inspections have been satisfactorily performed.
1) Acceptance of construction below finish grade including, where applicable, foundations, damp proofing, waterproofing, and perimeter insulation.
2) Inspection, testing, approval, and recording locations of underground utilities and foundations.
3) Removal and inspection of concrete formwork after concrete has attained its 28 day design strength.
4) Removal of trash and debris.
5) Permanent or temporary horizontal bracing, constructed in place for horizontally supported walls.
B. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, as so stated herein.
C. Backfill all excavations as soon as practicable with approved excavated material.
D. Trench Areas:
1) All backfill placed in trenches at a level twelve inches above the top of pipe shall consist of SELECT BACKFILL, placed in layers not exceeding the placement limits specified herein.
2) The balance of backfill in trenches shall be compactable materials as approved by the Engineer, not frozen and without any stones larger than twelve inches in their greatest dimensions.
E. Structure Perimeters:
1) Backfilling against masonry or concrete work shall only be done after inspection of work and when approved by the Engineer.
2) Where earth is on one side of walls only, backfilling and compaction shall not start until floor slabs or adequate bracing is provided to laterally support top and bottom of walls.

- F. Fill and Embankment Areas:
1) The Contractor is to provide earth fill as required, to the lines, grades and limits as shown or directed by the Engineer.
2) The Contractor shall maintain the filled surfaces in good condition with a smooth surface level with adjacent undisturbed surfaces.
3) No rock fill or reclaimed waste containing fragments over twelve inches (12") in their greatest dimension shall be placed above an elevation two feet (2') below the top of the embankment or fragments over eight inches (8") within three feet (3') of finished road grade.
4) Rock and reclaimed waste nests shall be prohibited.
5) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.

- A. Excavations shall be made only to such lines and grades as are shown upon the drawings, described herein, or as may be directed by the Owner.
B. If material is removed below or beyond the limits finally prescribed for by any excavation, it shall be replaced at the Contractor's expense with suitable fill and/or fill and refill materials, as directed and approved by the Owner.
C. Limits of excavation for structures and footings shall be to the limits prescribed on the drawings measured from the outside of the outer walls and footings and made as nearly vertical as possible except as otherwise directed and/or approved by the Owner.
D. The trenches for pipes shall not be less than six inches wider in the clear, on each side, measured over the limbs of the pipe, and the total width of the trench measured at the top of the pipe shall not exceed the external diameter of the pipe by more than twelve inches on either side unless directed otherwise.
E. Where the Contractor elects to use a steel trenching box, as approved by the Owner, in lieu of sheeting and shoring, as required, no allowance will be made for additional payment for its use.
F. Excavations in close proximity to the drip-line of large trees (greater than twelve inches in diameter) shall be excavated by hand.

- A. Excavations shall not be backfilled or concrete placed for footings or slabs until all required tests and inspections have been satisfactorily performed.
1) Acceptance of construction below finish grade including, where applicable, foundations, damp proofing, waterproofing, and perimeter insulation.
2) Inspection, testing, approval, and recording locations of underground utilities and foundations.
3) Removal and inspection of concrete formwork after concrete has attained its 28 day design strength.
4) Removal of trash and debris.
5) Permanent or temporary horizontal bracing, constructed in place for horizontally supported walls.
B. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, as so stated herein.
C. Backfill all excavations as soon as practicable with approved excavated material.
D. Trench Areas:
1) All backfill placed in trenches at a level twelve inches above the top of pipe shall consist of SELECT BACKFILL, placed in layers not exceeding the placement limits specified herein.
2) The balance of backfill in trenches shall be compactable materials as approved by the Engineer, not frozen and without any stones larger than twelve inches in their greatest dimensions.
E. Structure Perimeters:
1) Backfilling against masonry or concrete work shall only be done after inspection of work and when approved by the Engineer.
2) Where earth is on one side of walls only, backfilling and compaction shall not start until floor slabs or adequate bracing is provided to laterally support top and bottom of walls.

- F. Fill and Embankment Areas:
1) The Contractor is to provide earth fill as required, to the lines, grades and limits as shown or directed by the Engineer.
2) The Contractor shall maintain the filled surfaces in good condition with a smooth surface level with adjacent undisturbed surfaces.
3) No rock fill or reclaimed waste containing fragments over twelve inches (12") in their greatest dimension shall be placed above an elevation two feet (2') below the top of the embankment or fragments over eight inches (8") within three feet (3') of finished road grade.
4) Rock and reclaimed waste nests shall be prohibited.
5) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.

- A. Excavations shall be made only to such lines and grades as are shown upon the drawings, described herein, or as may be directed by the Owner.
B. If material is removed below or beyond the limits finally prescribed for by any excavation, it shall be replaced at the Contractor's expense with suitable fill and/or fill and refill materials, as directed and approved by the Owner.
C. Limits of excavation for structures and footings shall be to the limits prescribed on the drawings measured from the outside of the outer walls and footings and made as nearly vertical as possible except as otherwise directed and/or approved by the Owner.
D. The trenches for pipes shall not be less than six inches wider in the clear, on each side, measured over the limbs of the pipe, and the total width of the trench measured at the top of the pipe shall not exceed the external diameter of the pipe by more than twelve inches on either side unless directed otherwise.
E. Where the Contractor elects to use a steel trenching box, as approved by the Owner, in lieu of sheeting and shoring, as required, no allowance will be made for additional payment for its use.
F. Excavations in close proximity to the drip-line of large trees (greater than twelve inches in diameter) shall be excavated by hand.

- A. Excavations shall not be backfilled or concrete placed for footings or slabs until all required tests and inspections have been satisfactorily performed.
1) Acceptance of construction below finish grade including, where applicable, foundations, damp proofing, waterproofing, and perimeter insulation.
2) Inspection, testing, approval, and recording locations of underground utilities and foundations.
3) Removal and inspection of concrete formwork after concrete has attained its 28 day design strength.
4) Removal of trash and debris.
5) Permanent or temporary horizontal bracing, constructed in place for horizontally supported walls.
B. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, as so stated herein.
C. Backfill all excavations as soon as practicable with approved excavated material.
D. Trench Areas:
1) All backfill placed in trenches at a level twelve inches above the top of pipe shall consist of SELECT BACKFILL, placed in layers not exceeding the placement limits specified herein.
2) The balance of backfill in trenches shall be compactable materials as approved by the Engineer, not frozen and without any stones larger than twelve inches in their greatest dimensions.
E. Structure Perimeters:
1) Backfilling against masonry or concrete work shall only be done after inspection of work and when approved by the Engineer.
2) Where earth is on one side of walls only, backfilling and compaction shall not start until floor slabs or adequate bracing is provided to laterally support top and bottom of walls.

- F. Fill and Embankment Areas:
1) The Contractor is to provide earth fill as required, to the lines, grades and limits as shown or directed by the Engineer.
2) The Contractor shall maintain the filled surfaces in good condition with a smooth surface level with adjacent undisturbed surfaces.
3) No rock fill or reclaimed waste containing fragments over twelve inches (12") in their greatest dimension shall be placed above an elevation two feet (2') below the top of the embankment or fragments over eight inches (8") within three feet (3') of finished road grade.
4) Rock and reclaimed waste nests shall be prohibited.
5) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.

- A. Excavations shall be made only to such lines and grades as are shown upon the drawings, described herein, or as may be directed by the Owner.
B. If material is removed below or beyond the limits finally prescribed for by any excavation, it shall be replaced at the Contractor's expense with suitable fill and/or fill and refill materials, as directed and approved by the Owner.
C. Limits of excavation for structures and footings shall be to the limits prescribed on the drawings measured from the outside of the outer walls and footings and made as nearly vertical as possible except as otherwise directed and/or approved by the Owner.
D. The trenches for pipes shall not be less than six inches wider in the clear, on each side, measured over the limbs of the pipe, and the total width of the trench measured at the top of the pipe shall not exceed the external diameter of the pipe by more than twelve inches on either side unless directed otherwise.
E. Where the Contractor elects to use a steel trenching box, as approved by the Owner, in lieu of sheeting and shoring, as required, no allowance will be made for additional payment for its use.
F. Excavations in close proximity to the drip-line of large trees (greater than twelve inches in diameter) shall be excavated by hand.

- A. Excavations shall not be backfilled or concrete placed for footings or slabs until all required tests and inspections have been satisfactorily performed.
1) Acceptance of construction below finish grade including, where applicable, foundations, damp proofing, waterproofing, and perimeter insulation.
2) Inspection, testing, approval, and recording locations of underground utilities and foundations.
3) Removal and inspection of concrete formwork after concrete has attained its 28 day design strength.
4) Removal of trash and debris.
5) Permanent or temporary horizontal bracing, constructed in place for horizontally supported walls.
B. Each layer of backfill material shall be moistened and compacted in such manner as to permit the proper and desired compaction of the backfill, as so stated herein.
C. Backfill all excavations as soon as practicable with approved excavated material.
D. Trench Areas:
1) All backfill placed in trenches at a level twelve inches above the top of pipe shall consist of SELECT BACKFILL, placed in layers not exceeding the placement limits specified herein.
2) The balance of backfill in trenches shall be compactable materials as approved by the Engineer, not frozen and without any stones larger than twelve inches in their greatest dimensions.
E. Structure Perimeters:
1) Backfilling against masonry or concrete work shall only be done after inspection of work and when approved by the Engineer.
2) Where earth is on one side of walls only, backfilling and compaction shall not start until floor slabs or adequate bracing is provided to laterally support top and bottom of walls.

- F. Fill and Embankment Areas:
1) The Contractor is to provide earth fill as required, to the lines, grades and limits as shown or directed by the Engineer.
2) The Contractor shall maintain the filled surfaces in good condition with a smooth surface level with adjacent undisturbed surfaces.
3) No rock fill or reclaimed waste containing fragments over twelve inches (12") in their greatest dimension shall be placed above an elevation two feet (2') below the top of the embankment or fragments over eight inches (8") within three feet (3') of finished road grade.
4) Rock and reclaimed waste nests shall be prohibited.
5) The Contractor shall take all necessary precautions to prevent other excavated materials or objectionable materials from becoming intermixed with topsoil during any operations.

**G. Placement and Compaction:**

- 6) Document soil conditions and compaction requirements prior to placing concrete for pads, slabs, pavements and footing foundations.
7) Place backfill and fill materials in layers not more than eight to twelve inches (8-12") in loose state for material compacted by heavy compaction equipment, and not more than six to eight inches (6-8") in loose state for material compacted by hand-operated tampers.
8) Each embankment left shall be leveled off by suitable grading equipment and shall be compacted to the specified dry density for roads.
9) Before compaction, moisture or aerate each layer as necessary to provide optimum moisture content.
10) The contractor shall make sure that adequate moisture is present in the subbase material under all foundations while it cures so that the concrete does not lose any of its water content.
11) Place backfill and fill materials evenly adjacent to structures.
12) No subsequent layer shall be placed until the specified compaction is obtained for the previous lift.

**3.5 UNSUITABLE MATERIALS**

- A. The Contractor's attention is directed to the fact that unsuitable materials such as organic material, peat, silt or combinations thereof, having unsuitable bearing properties may be encountered at the depths indicated for excavations.
B. If unsuitable material is encountered at the depths indicated on the drawings for bottom limit of excavation, the Contractor shall immediately notify the Owner and shall not proceed further until instructions are given.
C. The Contractor shall satisfactorily excavate and remove all unsuitable material to lines, grades and limits indicated on the drawings or as directed in writing by the Owner and shall satisfactorily dispose of such material, off the site.
D. Where pile support of utilities or foundation systems is indicated or directed, complete removal of unsuitable material is not required.
E. The resulting excavations shall be refilled with thoroughly compacted gravel or crushed stone refill or other materials suitable for fill or refill as so ordered by the Owner.
F. The removal of unsuitable bearing materials shall be paid for at the Contractor's unit price per cubic yard, for "Removal of Unsuitable Materials and Refill".

**3.6 OVEREXCAVATION**

- A. Excavation of earth beyond limits, indicated or authorized, shall be refilled, at no additional expense to the Owner, with Type A or D gravel or other approved materials compacted to the maximum dry density requirements specified elsewhere herein.

**3.7 SHEETING AND SHORING**

- A. Excavations shall be adequately sheeted, shored and braced, as necessary, to permit proper excavation of the work and to protect other structures, utilities, all slopes and earth banks.
B. Care shall be taken to prevent voids in removing sheeting or bracing.
C. The installation of sheeting, shoring and bracing shall comply with the safety precautions as outlined in the Associated General Contractors of America "Manual of Accident Prevention in Construction", and all local, state and Federal regulations.
D. The Contractor may elect to employ a steel trenching box for pipe trenching in lieu of using sheeting or shoring techniques as approved by the Owner.
E. At locations where temporary sheeting is indicated or is directed to be used, the Contractor shall use caution to limit the width of the excavation to no more than is necessary to accommodate the sheeting and bracing.

**3.8 SUBSURFACE REMOVALS**

- A. Foundation walls, retaining walls and other existing structures shall be protected from frost and water, whatever the source.
B. Old paved cellar floors shall be broken up where buildings have been removed.
C. Cellars, manholes, etc., left-in-place shall be filled with an approved material as specified as required.
D. The Contractor's pumping and dewatering operations shall be carried out in such a manner that the ground water table in nearby private water supply wells, where applicable, is unaffected.
E. Any water removed from earthwork operations by pumping or other means shall be disposed of in such a manner as to avoid interference with vehicular or pedestrian traffic, and as to prevent damage to adjacent property, construction and not cause erosion of the soil.
F. All excavated rock larger than 3/4 cubic foot, which is not crushed on site, shall be removed from the site under this item.

**3.9 Dewatering, CONTROL AND DIVERSION OF WATER**

- A. The excavations for work required under this contract are to some extent below existing ground water levels.
B. The Contractor shall submit a proposed dewatering plan to the Engineer for review describing its methods and means and suitability for the existing conditions prior to excavation activities.
C. Any damage to existing facilities or new work resulting from the failure of the Contractor to maintain the work areas in a dry condition shall be repaired by the Contractor at no additional expense to the Owner.
D. Dewatering systems for excavations situated below the ground water table shall be capable of lowering and maintaining the ground water level in the vicinity of the excavation at an elevation at least six inches below the invert of the pipes and bottom of structures, and maintain this depressed water level until the pipes or structures to be constructed therein are completed and backfilled.
E. Any water removed from earthwork operations by pumping or other means shall be disposed of in such a manner as to avoid interference with vehicular or pedestrian traffic, and as to prevent damage to adjacent property, construction and not cause erosion of the soil.
F. All excavated rock larger than 3/4 cubic foot, which is not crushed on site, shall be removed from the site under this item.

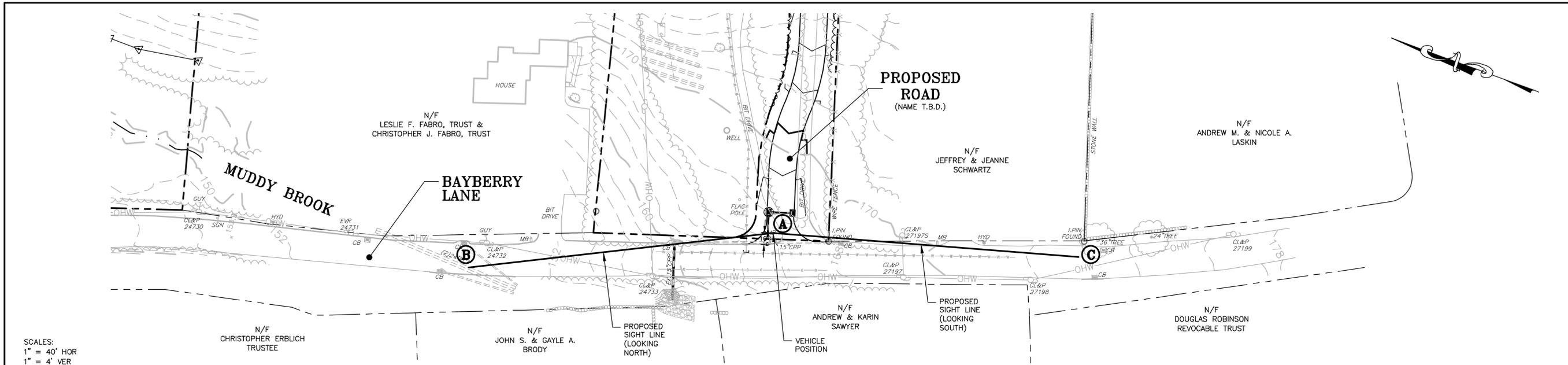
**3.10 COMPACTION**

- A. Control soil compaction during construction providing minimum percentage of density specified for each area classification.
B. Percentage of Maximum Density Requirements - Compact fills, refills, backfills and undisturbed soils to not less than the following percentages of maximum dry density for soils which exhibit a well-defined moisture density relationship determined in accordance with ASTM D1557 Method D.
C. It is the intent of these compaction requirements that the minimum in-place dry density of the compacted materials resulting from the compacting equipment will be equal to or greater than the minimum percentages specified herein.
D. Testing:
1) Laboratory and field density test to determine the actual in-place densities being attained shall be made at the Contractor's expense by an independent state certified testing laboratory and in sufficient quantity to determine that the required compaction is being attained.
2) Frequency in Fills, Refills and Backfilling: One test per lift per 2,000 SFT, not less than two tests per lift, unless otherwise directed by the Engineer.
3) Frequency at Final Subgrade: Field density tests shall be required under every spread footing and small equipment foundation, a minimum of three for large equipment foundations, (i.e., boilers, engines, oil storage tanks, exhaust stacks, etc.), and one at every building corner and at intervals of 30-40 linear feet for exterior wall footings.
4) The Contractor shall in no case build or install any pavement concrete, masonry or other structure on an earth foundation until it shall have been tested and approved by the testing laboratory.
5) In case the material encountered at any point in excavation is not suitable, in the opinion of the Engineer and Owner, for carrying the loads to be placed upon it, the foundation shall be made suitable in the manner directed, as approved.

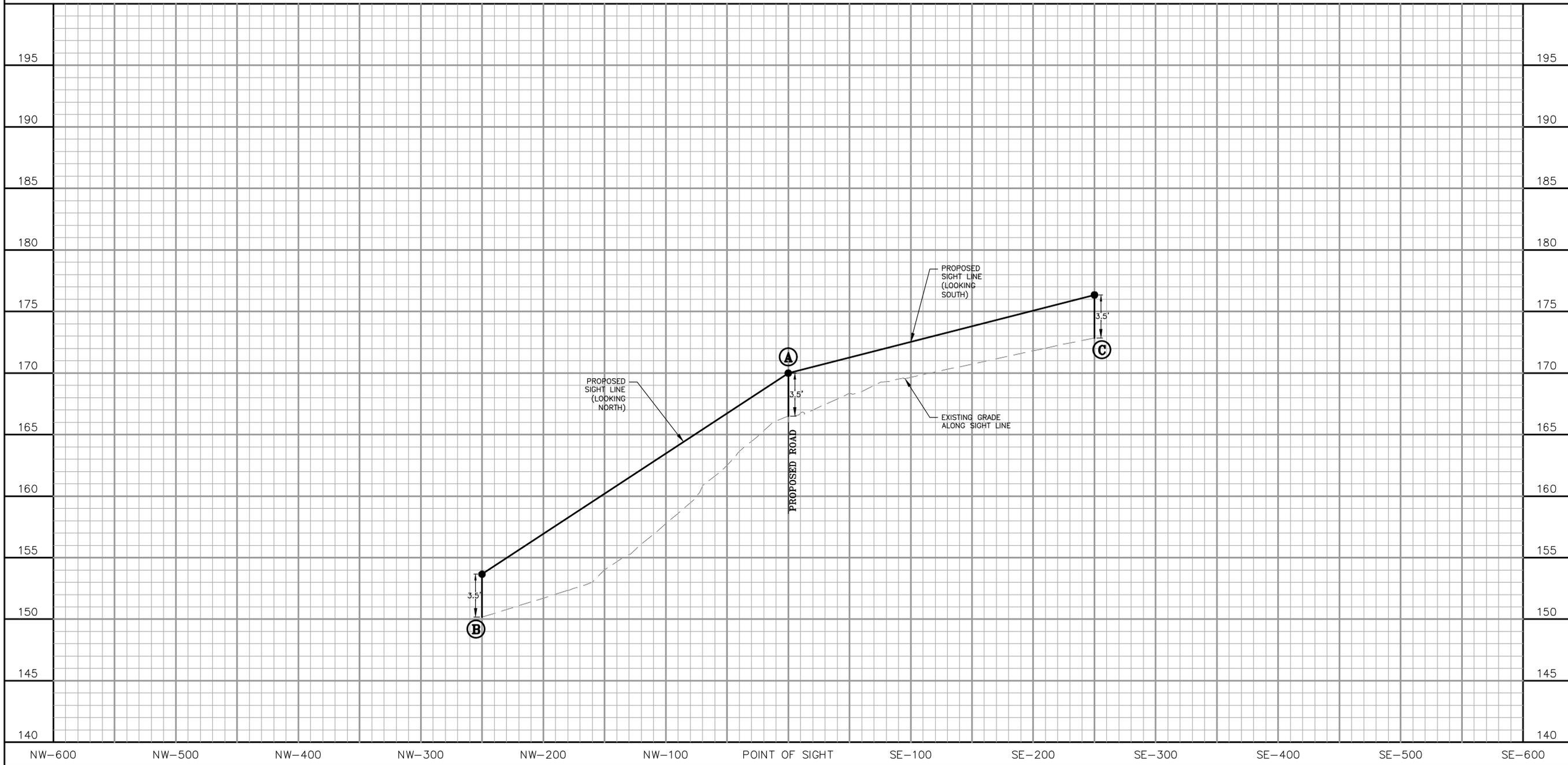
**3.11 DISPOSAL EXCESS AND WASTE MATERIALS**

- A. Remove waste materials, including unacceptable excavated earth and rock material, trash and debris, and dispose of it off Owner's property at Contractor's expense. Contractor is to leave site clean and free of all deleterious and excess materials.

Table with 4 columns: NO., DATE, REVISION, DESCRIPTION. Includes revision history for



SCALES:  
 1" = 40' HOR  
 1" = 4' VER



NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY

**DYMAR**  
 800 Main Street South · Southbury, CT 06488 · (833) 287-1046 · Fax (833) 287-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**

DATE: 05/14/2020  
 SCALE: AS NOTED  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.B.B.  
 CHECKED BY: M.E.L.  
 JOB NO: 00954  
 DRAWING NO: C-10

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

CLIENT: Estate of Dina M. & James S. Beita  
 128 Bayberry Lane  
 Westport, Connecticut 06880

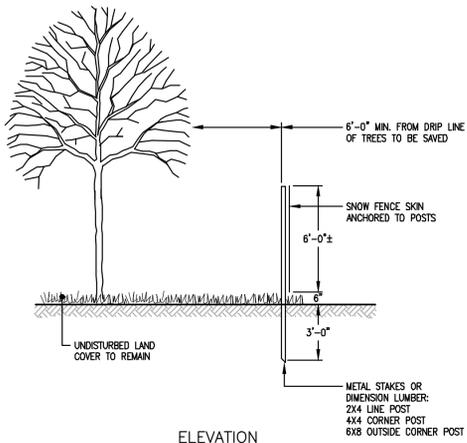
PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane  
 Westport, Connecticut 06880

TITLE: Sight Line Drawing

MARK E. LANCOR, P.E. #12389

1 2

DESIGNER & DRAWER SHALL BE THE PROPERTY OF DYNAMAR. DYNAMAR IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE PROJECT. DYNAMAR DOES NOT GUARANTEE THESE PLANS TO REFLECT THE TRUE CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DISCREPANCIES BEFORE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING DYNAMAR IF A DISCREPANCY EXISTS. THESE PLOTS SHALL HAVE FINAL SIZE.



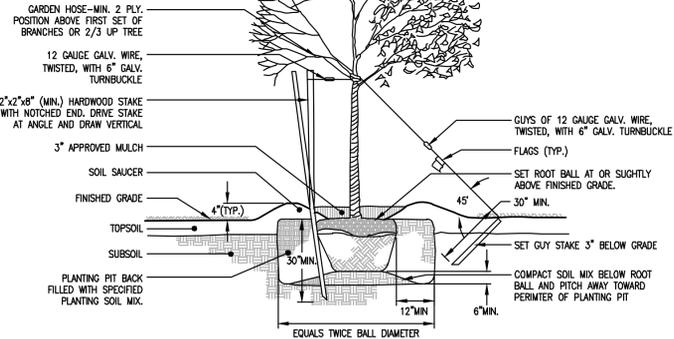
ELEVATION

**TREE PROTECTION DETAIL**  
N.T.S.

LD 072

- NOTES:
- WHERE PLANTING PITS ARE DUG WITH AUGERING DEVICES, RESULTANT GLAZING OR HARDENING OF PIT SURFACES SHALL BE SCAR SCARIFIED PRIOR TO PLANTING.
  - DECIDUOUS TREES OF 3" CAL. OR LESS AND EVERGREEN TREES OF 8' OR LESS, SHALL BE STAKED; MIN. 2 PER TREE OF THIS SIZE RANGE.
  - DECIDUOUS TREES OVER 3" CAL. AND EVERGREEN TREES OVER 8' SHALL BE GUYED; MIN. 3 PER TREE OF THIS SIZE RANGE; 4 GUYS PER TREE IF OVER 3 1/2" CAL.
  - WHERE SPACE PROHIBITS GUYING: 3 STAKES PER TREE FOR 3 1/2" CAL., 4 STAKES PER TREE IF OVER 3 1/2" CAL.
  - DETAIL MEANT AS GENERAL EXAMPLE OF PROPER PLANTING METHOD; WHERE DETAIL AND SPECIFICATIONS DIFFER THE LATTER SHALL PREVAIL.
  - CUT BURLAP AND WIRE BASKETS FROM TOP THIRD OF ROOT BALL; REMOVE ALL SYNTHETIC WRAPS, ROPES AND TWINES ENTIRELY FROM ROOT BALL.

PRUNING SHALL BE IN ACCORDANCE WITH APPROVED HORTICULTURAL STANDARDS IN ORDER TO PRESERVE THE NATURAL FORM OF THE SPECIFIC PLANT. IF APPROPRIATE AND APPROVED BY THE LANDSCAPE ARCHITECT ONE FOURTH TO ONE THIRD OF THE WOOD MAY BE REMOVED BY SELECTIVE THINNING TO BALANCE ROOT LOSS DURING TRANSPLANTING. NEVER CUT CENTRAL LEADER.

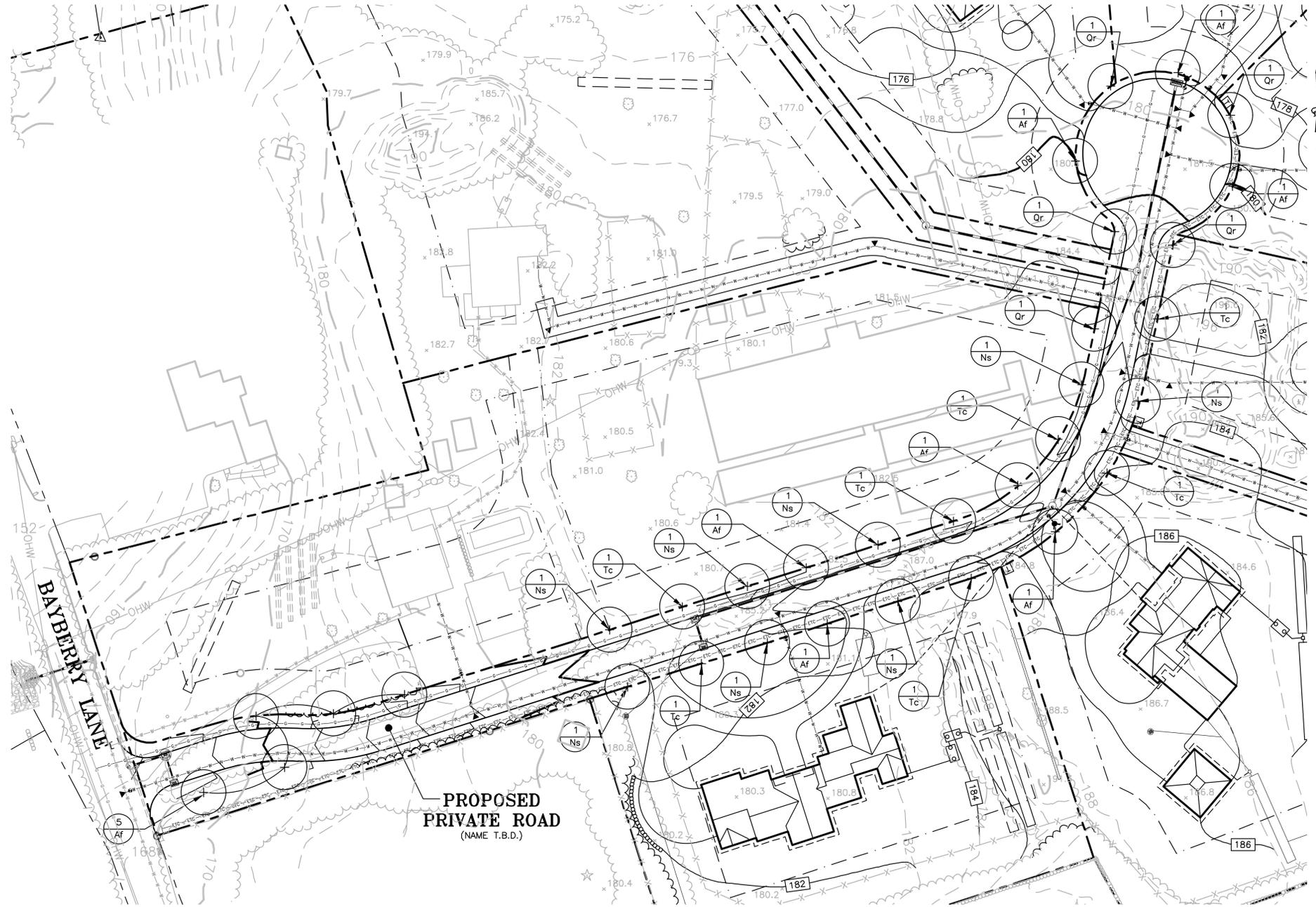


**TREE PLANTING DETAIL**  
N.T.S.

LD 074

TREE AND SHRUB PLANTING LIST					
KEY	COMMON NAME	BOTANICAL NAME	QUAN.	SIZE	REMARKS
Af	FREEMAN MAPLE	Freeman: "Autumn Blaze"	13	2 - 2-1/2", Cal.	B&B
Ns	TUPELO/SOUR GUM	Nyssa Sylvatica "Wildfire"	13	2 - 2-1/2", Cal.	B&B
Tc	WHITE SPRUCE	Picea Glauca	22	6'-7" HT, 15" O.C.	B&B
Qr	NORTHERN RED OAK	Quercus rubra	12	2 - 2-1/2", Cal.	B&B

NOTE: PLANT LOCATIONS CAN VARY BASED ON FIELD CONDITIONS.



**PROPOSED PRIVATE ROAD**  
(NAME T.B.D.)



800 Main Street South · Southbury, Ct. 06488 · (800) 287-1046 · Fax (800) 287-1847  
ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

CLIENT: Estate of Dina M. & James S. Belita  
128 Bayberry Lane  
Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane  
Westport, Connecticut 06880

TITLE: Street Tree Landscape Plan

DATE: 05/14/2020  
SCALE: 1"=40'

DESIGNED BY: M.E.L.  
DRAWN BY: C.B.B.  
CHECKED BY: M.E.L.  
JOB NO: 00954

DRAWING NO: C-11A

MARK E. LANCOR, P.E. #12389

REVISION

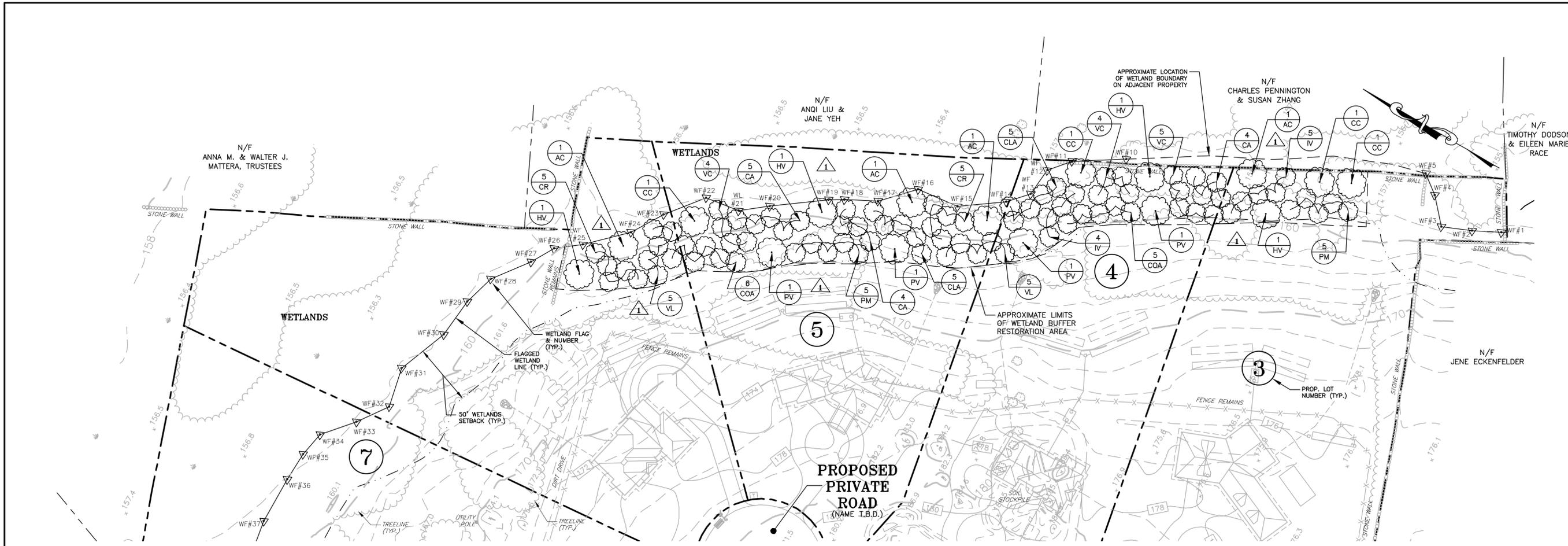
NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	06-08-20	Town Engineer's Comments	C.C.B.	M.E.L.

PROVIDER OF DATA THESE PLANS USE THE PROPERTY OF DYMAR. PROPERTY OF AN INDENTURED PARTY AS SERVICE THE PROGRAM HAS BEEN PREPARED FROM EXISTING DATA COLLECTED FOR THE CONVENIENCE OF THE PROJECT. DYMAR DOES NOT GUARANTEE THESE PLANS TO REFLECT THE TRUE CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL DATA AND CONDITIONS. WHERE DISCREPANCY EXISTS, THESE FIELD DATA SHALL HAVE FINAL SAY.

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY

**NOT FOR CONSTRUCTION**

NOTE:  
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.



**WETLAND BUFFER RESTORATION NARRATIVE**

THE PROPOSED WETLAND BUFFER RESTORATION AREA CONSISTS MAINLY OF SCRUB-SHRUB HABITAT AT THE TRANSITION AREA BETWEEN ABANDONED AGRICULTURAL FIELDS AND ADJACENT FORESTED AND EMERGENT WETLAND HABITATS. THE SCRUB-SHRUB HABITAT CONTAINS NON-NATIVE INVASIVE PLANT SPECIES INCLUDING MULTIFLORA ROSE (ROSA MULTIFLORA), ORIENTAL BITTERSWEET (CELASTRUS ORBICULATUS) AND JAPANESE STILT GRASS (ALLARIA PETIOLATA). THE FOLLOWING ACTIVITIES ARE PROPOSED TO REMOVE NON-NATIVE INVASIVE PLANT AND REVEGETATE THE AREA WITH NATIVE SHRUBS AND SMALL TREES. RECOMMENDED NON-CHEMICAL REMOVAL METHODS SHALL BE USED TO REMOVE INVASIVE PLANTS. IF THESE PRIMARY METHODS ARE UNSUCCESSFUL, HERBICIDE TREATMENTS MAY BE USED IN DESIGNATED AREAS IF SPECIFICALLY APPROVED BY THE WESTPORT CONSERVATION DEPARTMENT. IF APPROVED, ALL HERBICIDE APPLICATIONS MUST BE DONE LICENSED APPLICATORS.

1. YOUNG STEM OF MULTIFLORA ROSE CAN BE REMOVED THROUGH HAND PULLING. BUT TOTAL ERADICATION IS BEST ACCOMPLISHED THROUGH THE USE OF HERBICIDES (GLYPHOSATE). GLYPHOSATE IS MOST EFFECTIVE WHEN APPLIED AFTER FLOWERING (EARLY SUMMER) UNTIL EARLY FALL. CUT-STUMP TREATMENTS WITH BOTH HERBICIDES ALSO PROVIDE CONTROL, BUT CUTTING STUMPS IN ESTABLISHED THICKETS IS VERY DIFFICULT BECAUSE OF THE NUMEROUS THORNY BRANCHES.
2. LIGHT INFESTATIONS OF ORIENTAL BITTERSWEET CAN BE CONTROLLED BY MOWING OR CUTTING VINES AND HAND PULLING ROOTS. VINES WITH FRUITS SHOULD BE BAGGED AND DISPOSED OF IN THE TRASH TO PREVENT SEED DISPERSAL. HEAVY INFESTATIONS CAN BE CONTROLLED BY CUTTING VINES AND IMMEDIATELY TREATING CUT STEMS WITH HERBICIDE. CUTTING VINES WITHOUT REMOVING OR KILLING THE ROOTS WILL STIMULATE VIGOROUS RE-GROWTH RESULTING IN LARGER PATCHES. CARE SHOULD BE TAKEN TO CUT AND TREAT ONLY BITTERSWEET VINES AND NOT NATIVE PLANTS. IN LATE SUMMER, CUT VINES AND APPLY A SYSTEMIC HERBICIDE LIKE TRICLOPYR (GARLON 3A™) OR GLYPHOSATE (ROUNDUP™) TO THE CUT. TO ENSURE UPTAKE OF THE HERBICIDE BEFORE THE PLANT SEALS OFF THE CUT, APPLY IMMEDIATELY AFTER CUTTING, WITHIN 5-15 MINUTES, APPLY WITH A SPONGE OR PAINT BRUSH. ANY VINES LEFT HANGING IN THE TREES WILL DECOMPOSE AND FALL WITHIN TWO TO THREE YEARS.
3. HAND REMOVAL OF GARLIC MUSTARD IS POSSIBLE FOR LIGHT INFESTATIONS AND WHEN DESIRABLE NATIVE SPECIES CO-OCCUR. CARE MUST BE TAKEN TO REMOVE THE PLANT WITH ITS ENTIRE ROOT SYSTEM BECAUSE NEW PLANTS CAN SPROUT FROM ROOT FRAGMENTS. THIS IS BEST ACHIEVED WHEN THE SOIL IS MOIST, BY GRASPING LOW AND FIRMLY ON THE PLANT AND TUGGING GENTLY UNTIL THE MAIN ROOT LOOSENS FROM THE SOIL AND THE ENTIRE PLANT PULLS OUT. PULLED PLANTS SHOULD BE REMOVED FROM SITE IF AT ALL POSSIBLE, ESPECIALLY IF FLOWERS ARE PRESENT. FOR VERY HEAVY INFESTATIONS, WHERE THE RISK TO DESIRABLE PLANT SPECIES IS MINIMAL, APPLICATION OF THE SYSTEMIC HERBICIDE GLYPHOSATE (E.G., ROUNDUP) IS ALSO EFFECTIVE. HERBICIDE MAY BE APPLIED AT ANY TIME OF YEAR, INCLUDING WINTER (TO KILL OVER WINTERING ROSETTES), AS LONG AS THE TEMPERATURE IS ABOVE 50 DEGREES F. AND RAIN IS NOT EXPECTED FOR ABOUT 8 HOURS. EXTREME CARE MUST BE TAKEN NOT TO GET GLYPHOSATE ON DESIRABLE PLANTS AS THE PRODUCT IS NON-SELECTIVE AND WILL KILL ALMOST ANY PLANT IT CONTACTS. SPRAY SHIELDS MAY BE USED TO BETTER DIRECT HERBICIDE AND LIMIT NON-INTENTIONAL DRIFT.
4. UPON REMOVAL OF NON-NATIVE INVASIVE PLANTS, NATIVE SHRUBS AND SMALL TREES ARE TO BE PLANTED PER THE PLANTING TABLE BELOW.
5. ALL DISTURBED OR UN-VEGETATED SOIL AREAS SHALL BE SEEDED WITH NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX AS AVAILABLE FROM NEW ENGLAND WETLAND PLANTS, INC. OR AN EQUIVALENT SEED MIX.
6. THE RESTORATION AREA IS TO BE MONITORED FOR A MINIMUM OF THREE (3) GROWING SEASONS. ANY REESTABLISHMENT OF INVASIVE PLANT SPECIES WILL BE CONTROLLED THROUGH REPEATED TREATMENT/REMOVAL AS NEEDED.

PROPOSED PLANTING LIST				
KEY	SPECIES	COMMON NAME	QUAN.	SIZE
AC	AMELANCHIER CANADENSIS	SHADBLOW	4	3-4'
CC	CARPINUS CAROLINIANA	HORNBEAM	4	3-4'
CA	CORNUS ANOMUM	SILKY DOGWOOD	13	3-4'
COA	CORNUS ALTERNIFLORA	ALTERNATE LEAVED DOGWOOD	11	3-4'
CR	CORNUS RACEMOSA	GRAY DOGWOOD	10	3-4'
CLA	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	10	3-4'
HV	HAMAMELIS VIRGINIANA	WITCH HAZEL	4	3-4'
IV	ILEX VERTICILLATA	WINTERBERRY	9	3-4'
PM	PHOTONIA MELANOCARPA	BLACK CHOKEBERRY	10	3-4'
PV	PRUNUS VIRGINIANA	CHOKEBERRY	4	3-4'
VC	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	13	3-4'
VL	VIBURNUM LENTAGO	NANNYBERRY	10	3-4'

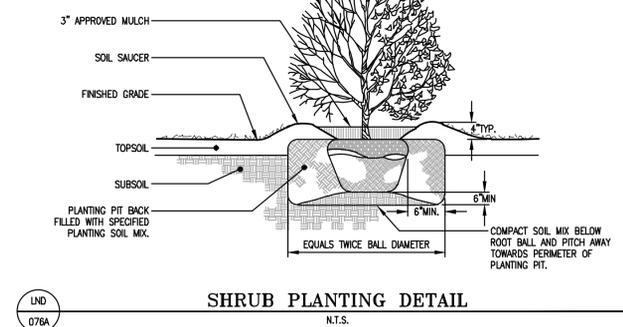
**PLANTING NOTES**

1. ALL PLANT MATERIALS SHALL BE INSPECTED FOR DEFECTS OR DAMAGE BEFORE PLANTING. SUBSTANDARD PLANTS SHALL BE RETURNED TO, AND REPLACED BY THE NURSERY. ACCEPTABLE PLANTS ARE TO BE PLANTED PER THE SPECIFICATIONS OF THE PLANTING PLAN. IT IS THE RESPONSIBILITY OF THE PLANTING CONTRACTOR TO PROVIDE FOR THE SAFEKEEPING AND MAINTENANCE OF THESE PLANTS FOR THE DURATION OF SITE CONSTRUCTION ACTIVITY. PROVISIONS FOR REGULAR WATERING SHALL BE MADE BY THE PLANTING CONTRACTOR FOR THE DURATION OF THE PLANT'S FIRST YEAR IN THE GROUND.
2. PLANT LOCATIONS ARE SUBJECT TO FIELD REVISION BASED ON LOCATIONS OF EXISTING DESIRABLE PLANT SPECIES AND OTHER EXISTING CONDITIONS. ANY CHANGES TO PLANT LOCATION OR SPECIES SELECTION ARE TO BE REVIEWED BY THE ENVIRONMENTAL CONSULTANTS AND APPROVED BY CONSERVATION COMMISSION STAFF.
3. ALL PLANTINGS SHALL BE PERFORMED AND COMPLETED BETWEEN OCTOBER 1 AND THE DATE AT WHICH FROZEN SOIL CONDITIONS EXIST, AND/OR BETWEEN APRIL 15 AND JUNE 15.
4. PLANT NURSERY STOCK BY EXCAVATING A SUFFICIENTLY LARGE ENOUGH HOLE TO ACCOMMODATE THE PLANTS AND ROOTS. THE PLANTING HOLE SHALL THEN BE FILLED WITH WATER SUFFICIENT TO SATURATE THE SURROUNDING SOIL. THE ROOTS SHALL BE SPREAD OUT ADEQUATELY TO PROMOTE GOOD GROWTH. ALL PLANTS SHALL BE SET AT THE LEVEL OF THE EXISTING GRADE.
5. THE PLANTING HOLE SHALL BE FILLED WITH SOIL AND FIRMED BY TAMPING TO FILL ANY VOIDS. APPLY ADEQUATE DEPTH OF MULCH AROUND SHRUBS AND TREES TO INHIBIT WEED GROWTH DURING THE PLANTS FIRST YEAR OF GROWTH.
6. AN ADEQUATE DEPTH OF MULCH IS TO BE PLACED AROUND THE PLANTED SHRUBS AND TREES TO INHIBIT WEED GROWTH DURING THE PLANTS FIRST YEAR OF GROWTH.
7. PROVIDE ADEQUATE IRRIGATION AND PROTECTION FROM DEER UNTIL PLANTED AREAS ARE ESTABLISHED.

**NOTES:**

1. WHERE PLANTING PITS ARE DUG WITH AUGERING DEVICES, RESULTANT GLAZING OR HARDENING OF PIT SURFACES SHALL BE SCARIFIED PRIOR TO PLANTING.
2. CUT BURLAP FROM TOP THIRD OF ROOT BALL (FOR ALL BALLED AND BURLAPPED MATERIAL), REMOVE ALL SYNTHETIC WRAPS, ROPES AND TWINES ENTIRELY FROM THE ROOT BALL OR PLANT.
3. DETAIL MEANT AS GENERAL EXAMPLE OF PROPER PLANTING METHOD, WHERE DETAIL AND SPECIFICATIONS DIFFER, THE LATTER SHALL PREVAIL.

PRUNING SHALL BE IN ACCORDANCE WITH APPROVED HORTICULTURAL STANDARDS IN ORDER TO PRESERVE THE NATURAL FORM OF THE SPECIFIC PLANT. IF APPROPRIATE AND APPROVED BY THE LANDSCAPE ARCHITECT ONE FOURTH TO ONE THIRD OF THE WOOD MAY BE REMOVED BY SELECTIVE TRIMMING TO BALANCE ROOT LOSS DURING TRANSPLANTING.



UND 076A

**SHRUB PLANTING DETAIL**

- NOTE:**
1. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION
1	08-17-20		Wetland Buffer planting revisions as per Town comments

**DYMAR**  
 800 Main Street South · Southbury, Ct. 06488 · (803) 287-1046 · Fax (803) 287-1847  
 ENGINEERING · PLANNING · SURVEYING · DEVELOPMENT SERVICES

**NOT FOR CONSTRUCTION**

CLIENT: Estate of Dina M. & James S. Beita  
 128 Bayberry Lane  
 Westport, Connecticut 06880

PROJECT: Open Space Residential Subdivision  
 128 Bayberry Lane  
 Westport, Connecticut 06880

TITLE: Wetlands Buffer Planting Plan

DATE: 05/14/2020  
 SCALE: 1"=40'  
 DESIGNED BY: M.E.L.  
 DRAWN BY: C.B.B.  
 CHECKED BY: M.E.L.  
 JOB NO: 00954  
 DRAWING NO: C-11B

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

# PLANTING NOTES:

## A. GENERAL PLANTING NOTES

- All plant materials shall be inspected for defects or damage before planting. Substandard plants shall be returned to, and replaced by the contractor. Acceptable plants are to be planted per the specifications of the planting plan. It is the responsibility of the general contractor to provide for the safekeeping and maintenance of these plants for the duration of site construction activity. Once planted, all machinery shall avoid these planted areas, which should be demarcated clearly by flagged field stakes.
- All plant material placement is subject to field adjustment in response to site conditions. These adjustments shall be at the discretion of the Landscape Architect, Environmental Monitor, or Wetland Scientist.
- All plant materials are subject to replacement by suitable alternatives per agreement between Owner, Wetland Scientist, Nursery contractor, and appropriate regulatory agencies.
- Plant materials are to be planted in accordance with requirements specified in the planting specifications.
- An application of lime may be required in addition to standard application of a complete fertilizer at the discretion of the Landscape Architect, Site Supervisor, Environmental Monitor or Wetland Scientist. Testing of the soil by an acceptable laboratory prior to planting will be the responsibility of the site contractor.

## B. GRASS & WILDFLOWER ESTABLISHMENT

The work under this item shall conform to the requirements of Section 9.50 of the CTDOT standards, supplemented and amended as follows.

- The work included in this item shall consist of providing an accepted stand of established grass by furnishing and placing seed and mulch on all areas to be treated as shown on the plans or where designated by the Environmental Monitor or Site Supervisor.
- Grass and wildflower seed shall be from commercial seed suppliers with appropriate composition for the transition slopes and detention basin and be approved by the Wetland Scientist and Site Supervisor.

### a. UPLAND & TRANSITIONAL SLOPES AND ACCESS

- New England Conservation/Showy Wildlife Mix - 25 lbs./ac.

INCLUDING *Adropogon gerardii*, *Panicum virgatum*, *Schizachyrium scoparium*, *Elymus canadensis* and *Aster laevis*.

This mixture, or approved equal, can be obtained commercially from New England Wetland Plants, 820 West St. Amherst, MA 01102 (413) 548-8000 www.newp.com

### b. DETENTION BASIN

- New England Erosion Control/Restoration Mix - 35 lbs./ac.

INCLUDING *Panicum virgatum*, *Festuca rubra*, *Carex vulpinoidea*, *Bidens cernua*, *Juncus effusus*, and *Eupatorium maculatum*.

This mixture, or approved equal, can be obtained commercially from New England Wetland Plants, 820 West St., Amherst, MA 01102. (413) 548-8000 www.newp.com

- Northeast Wetland Hummock Seed Mix - 3.25 lbs./ac.

INCLUDING *Scirpus atrovirens*, *Juncus effusus*, *Carex vulpinoidea*, *Leersia oryzoides*, *Carex comosa*, *Carex lurida*, *Carex lupulina*.

This mixture, or approved equal, can be obtained commercially from Southern Tier Consulting, Inc. 2701-A Route 305, P.O. Box 30, West Clarksville, NY 14786. (716) 968-3129 Fax (716) 968-3122, www.southern-tierconsulting.com.

## C. WATER QUALITY BASIN & WETLANDS SEED BED PREPARATION

- The water quality basin / wetland areas shall be made friable and receptive to seeding by approved methods, which will not disrupt the line and grades for such surface as shown in the plans or as directed by the Environmental Monitor or Wetland Scientist and Project Engineer. In no event will seeding be permitted on hard or crusted soil surfaces. Fine grade and rake soil surface to remove stones larger than 2 inches in diameter.
- Due to the nature of the site, general application rates will not be used. An acceptable laboratory will analyze representative samples of soil prepared seedbeds to determine the need for lime and fertilizer. The soil shall be tested for fertility, pH, bulk density, and textural analysis. Samples shall be collected at a rate of one composite sample (three samples per composite sample) per 15,000 square feet.
- Based on the results of the soil analysis, work the specified quantities of soil amendments (lime, nitrogen, phosphorus, trace chemicals, organic) into the soil uniformly to a depth of 4 inches with suitable equipment following the contour lines.

## D. SEED APPLICATION AND SCHEDULING

The calendar dates for seeding shall be within 7 days following final grading between the dates of April 15 and June 15, and August 15 and October 15. The grass seed mixture shall be applied by an agronomically acceptable procedure. The rate of application shall be as specified in plans or according to manufacturer's specifications unless otherwise directed by the Wetland Scientist. Increase seed mixture by 50% if hydroseeder is used.

## E. MULCHING

Materials for this work shall conform to the requirements of Article M.13.05. Immediately following seeding, mulch the seeded surface with sterile straw at a rate of 1.5 to 2 tons/ac. or a minimum depth of 1 inch. Spread mulch by hand or mulch blower. Use appropriate tack to hold mulch in place, as needed. Do not use a harrow or grouser or track machine to punch mulch into place.

## F. TOPSOIL

- If the soil contains between 50 and 80% sand a minimum of 20% organic matter should be present.
- Soils containing greater than 80% sand are not acceptable for use as topsoil in the detention basin / wetland; and topsoil must otherwise meet the criteria defined in Section M.13.01 of the CTDOT's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 814A/815), specifically as described below.
  - COMPOSITION**  
The topsoil to be furnished by the contractor must be loose and friable and free from refuse, stumps, roots, brush, weeds, rocks and stones over one and one-quarter (1-1/4) inches in diameter. The topsoil must also be free from any material that will prevent the formation of a suitable seedbed or prevent seed germination and plant growth.
  - NOTIFICATION**  
The Contractor will notify the engineer of the location from which the Contractor proposes to furnish topsoil to the project at least 15 calendar days prior to delivery.
  - INSPECTION AND APPROVAL**  
The topsoil and its source will be inspected and approved by the engineer before the material is delivered to the project. Any material delivered to the project which does not meet specifications, or which has become mixed with undue amounts of subsoil during any operation at the source or during placing and spreading, will be rejected and must be replaced by the contractor with acceptable material at no additional cost.

- If soil must be supplemented with organic material, the following sources are acceptable:
  - NATURAL WETLAND SOIL**  
Natural wetland soil from another source must be inspected at least 6 months prior to excavation and determined by Wetland Scientist to be free from seeds and roots of invasive species such as purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*).
  - COMPOST**  
Municipal or commercial compost from a source approved by CTDOT Office of Environmental Planning may be used.
  - PEAT**  
To be acceptable, peat must be commercially packaged peat from sedge, sphagnum or reed sources. Material must be in such physical condition that it may be riddled through a one-half (1/2) inch mesh screen, and may be readily mixed with soil material. It must be free from sticks, roots, stones and other objectionable material. It must be delivered to the project in clean, new, sealed containers bearing the brand, net bulk, and name and address of the packer. The material must have an acidity that falls in the pH range of 3.0 to 7.0, a minimum organic content of 90%, and a minimum water-absorbing capacity of 1000%. The Engineer reserves the right to draw such samples and perform such tests as may be deemed necessary to assure that the material conforms to these specifications.

## G. COMPOST

To be composed of well-composted leaves and free from trash or other debris and in compliance with the specifications provided by the CTDOT, Supplemental Specifications, Section M.13 Roadside Development, July 1998, M.13.06 Compost. Compost to be a minimum of 4 inches in depth.

## H. SALVAGING OF PLANT MATERIALS

Salvaging of plant materials is not anticipated as part of this project.

## I. TREE AND SHRUB PLANTING

Introduction of nursery stock shall be in compliance with the typical planting details for trees and shrubs as indicated.

## J. PLANTING AND MULCHING OF TREES, SHRUBS, AND GROUND COVER PLANTS

The work under this item shall conform to the requirements of Section 9.49 of the CTDOT standards, supplemented and amended as follows.

- The work under these items shall consist of furnishing, planting and mulching trees and shrubs of the type and size indicated in the planting schedule and planting plan for the detention basin transition slopes and wetlands zones. It shall also include all incidental operations, such as care of the living plants and replacement of dead and unsatisfactory plants or unsatisfactory materials before final acceptance of the contract.
- The material for this work shall conform to the requirements of Section M.13.07. The shrubs and trees shall be as listed in the planting schedule.
- The construction methods shall be performed in accordance with the specifications of Section 9.49.03 of the CTDOT standards except as specified in this section.

### a. PLANTING SEASON

All tree, shrub and herbaceous plantings shall be performed and completed between October 1 and the date at which frozen soil conditions exist, and/or April 15 and June 15, and must begin at least one year after wetland grading and seeding, or otherwise specified by the Wetland Scientist. Plant locations shall be as generally depicted in the planting plan or as modified by the Wetland Scientist. Planting methods shall be as detailed in general planting notes above.

### b. SETTING OF TREE AND SHRUB PLANTS

All tree and shrub plants shall be set at the level of the existing grade. Excavated soils from the pit shall be placed around the root ball, creating a gradual slope of at least 1.5 feet from the plant to the normal ground level. No tree or shrub plant shall be placed within an area of standing water. For each species of shrub or tree, the number of plants shall be evenly distributed on an areal basis between each planting zone area of the same type and designation, or at the discretion of the Wetland Scientist. Trees shall be planted a minimum of 15 feet from other trees or shrubs and shrubs shall be planted a minimum of 5 feet from other shrubs, or as otherwise directed by the Wetland Scientist. The species, numbers of individual plants, number of plants within zones, and sizes shall be as indicated in the Wetlands Mitigation Plan prepared by DYMAR.

### c. REPLACEMENT OF DEAD SHRUBS AND TREES

The Contractor shall replace all dead trees and shrubs at the recommendation of Wetland Scientist and Project Engineer.

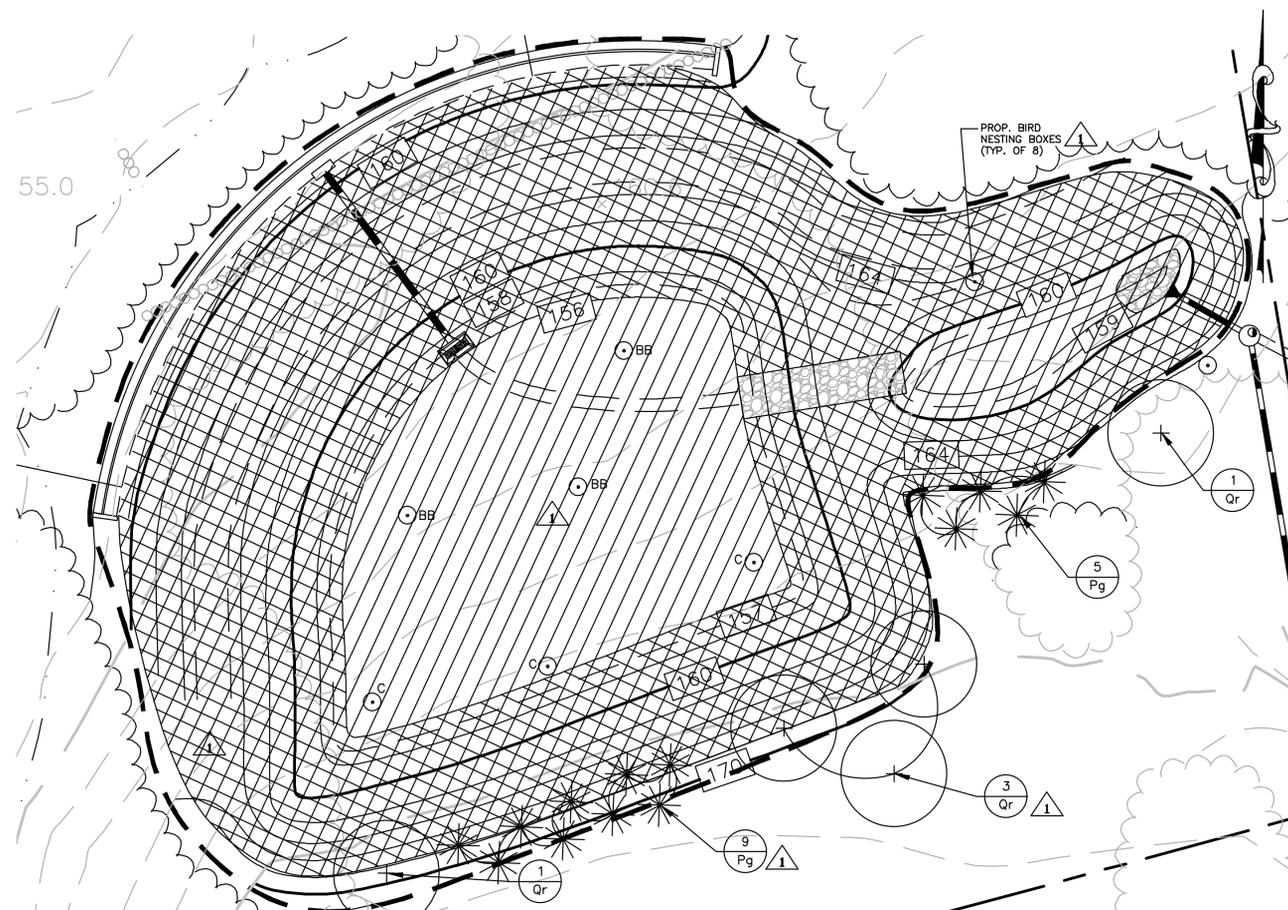
- YEAR 1: Follow DOT Standards 814A Section 9.49.03.17 with the exception that the dead plants need not be removed.
- YEARS 2&3: At the end of the second and third full growing seasons, all dead trees and shrubs will be replaced, if the total number of woody species is more than 80% of the originally identified woody plantings in the plans. Replacement shrubs may be of varying species depending upon emerging site-specific conditions and reasonable expectations of viability, with the approval of the Wetland Scientist and Project Engineer.

## K. STORMWATER TREATMENT WETLAND OPERATION

- Regular inspections of the water quality basin are required during the start up phase to insure that equal distribution of water is reaching all segments of the system. Make adjustments to the flow path as needed.
- Regular inspections are required for the first two years of operation to insure the system is not short-circuiting.
- Shrubs and trees are to be removed from the bottom of the basin. Removal of invasive species shall be hand pulled annually and disposed of properly. Weeding of other herbaceous plants is not necessary.
- Pesticides and herbicides are not to be used in the basin or on the adjacent slope areas of the basin.
- The forebays and micro-pools, if provided, shall be cleaned when accumulated sediment reaches 50% of the depth of the pools.

## L. MONITORING PLAN

- For each of the first three full growing seasons following construction of the water quality basin / wetland, the site will be monitored and monitoring reports will be submitted to the Southbury Inland Wetlands Commission no later than December 15 of the year being monitored. The first year of monitoring will be the first year that the site has been through a full growing season after completion of construction and any required plantings. For these special conditions, a "growing season" starts no later than May 31.
- Dead or diseased plants will be noted and recommendations for replacement provided. The development of the wetland, plant survival and presence of invasive species will be indicated in the report. At the end of three growing seasons, a final report will be filed with the Commission summarizing the successes and failures of basin development and providing recommendations to improve upon future designs and construction.

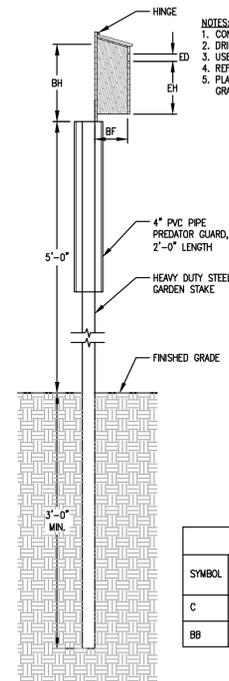


DETENTION BASIN  
SCALE: 1"=20'

TREE AND SHRUB PLANTING LIST

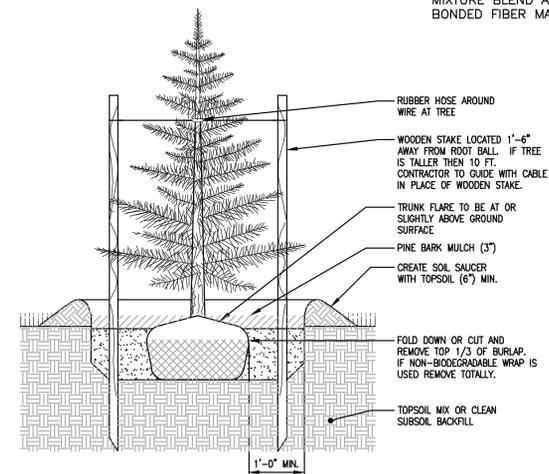
KEY	COMMON NAME	BOTANICAL NAME	QUAN.	SIZE	REMARKS
Pg	WHITE SPRUCE	<i>Picea glauca</i>	14	6'-7' HT, 15' O.C.	B&B
Qr	NORTHERN RED OAK	<i>Quercus rubra</i>	5	2 - 2-1/2", Cal.	B&B

NOTE: PLANT LOCATIONS CAN VARY BASED ON FIELD CONDITIONS.



BIRD NESTING BOX DETAIL  
N.T.S.

BIRD NESTING BOX DIMENSIONS					
SYMBOL	SPECIES	BOX FLOOR (BF)	BOX HEIGHT (BH)	ENTRANCE HEIGHT (EH)	ENTRANCE DIAMETER (ED)
C	BLACK-CAPPED CHICKADEES	4"x4"	8"-10"	6"-8"	1-1/8"
BB	BLUEBIRD	4"x4"	9"	6"	1-1/2"



EVERGREEN TREE PLANTING DETAIL  
N.T.S.

## PROPOSED MEADOW SEED MIXES

- NEW ENGLAND CONSERVATION/SHOWY WILDLIFE MIX
- NEW ENGLAND EROSION CONTROL/RESTORATION MIX

## NOTES:

- ALL OTHER DISTURBED AREAS TO BE SEEDING WITH A MIXTURE OF CREEPING RED FESCUE (20 LBS/AC), REDTOP (2 LBS/AC), AND PERENNIAL RYE GRASS (20 LBS/AC)
- ALL SLOPES TO BE PROVIDED WITH A BIODEGRADABLE EROSION BLANKET OR SEED MIXTURE BLEND APPLIED WITH SPRAY ON BONDED FIBER MATERIAL WITH TACKIFIER.

## NOTE:

- THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT LEAST 72 HOURS PRIOR TO THE START OF EXCAVATION, BY CALLING 1-800-922-4455.

NO.	DATE	REVISION	DESCRIPTION	DRAWN BY	CHECKED BY
1	8-7-20		Revised planting layout.	S.A.L.	M.E.L.

**DYMAR**  
800 Main Street South - Southbury, Ct. 06488 (800) 287-1046 Fax (800) 287-1847  
ENGINEERING - PLANNING - SURVEYING - DEVELOPMENT SERVICES

CLIENT: Estate of Dina M. & James S. Beita  
128 Bayberry Lane Westport, Connecticut 06880  
PROJECT: Open Space Residential Subdivision  
128 Bayberry Lane Westport, Connecticut 06880  
TITLE: Detention Basin Landscape Plan

DATE: 05/14/2020  
SCALE: AS NOTED  
DESIGNED BY: M.E.L.  
DRAWN BY: C.B.B.  
CHECKED BY: M.E.L.  
JOB NO: 00954  
DRAWING NO: C-12

NOT VALID WITHOUT SIGNATURE AND ORIGINAL SEAL

MARK E. LANCOR, P.E. #12389

CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PREPARATION OF DRAWINGS, PREPARATION OF MATERIALS, AND SERVICE TO THE PROJECT. DYMAR DOES NOT GUARANTEE THESE PLANS TO REFLECT THE TRUE CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING DYMAR IF A DISCREPANCY EXISTS; THESE FIELD DRAWINGS SHALL HAVE FINAL SAY.

DRAWINGS TO BE USED FOR LAND USE SUBMISSIONS ONLY  
**NOT FOR CONSTRUCTION**