

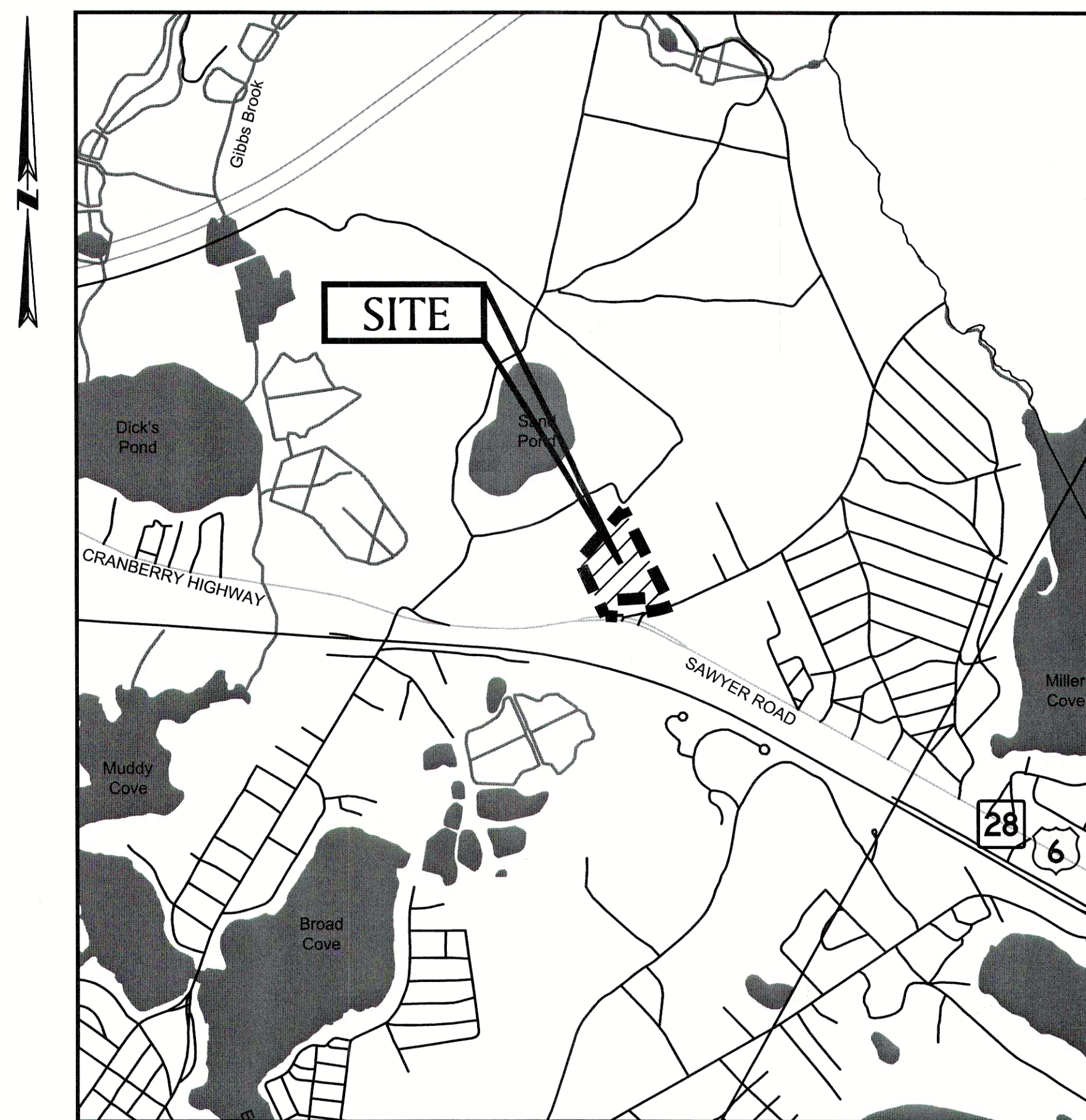
WOODLAND COVE

COMPREHENSIVE PERMIT

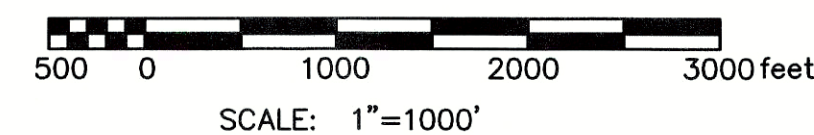
3102 CRANBERRY HIGHWAY WAREHAM, MASSACHUSETTS

JANUARY 12, 2018

REVISED: AUGUST 10, 2018



SITE MAP



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-	FLOOR PLANS
-	ELEVATIONS

PREPARED FOR:

DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

PREPARED BY:



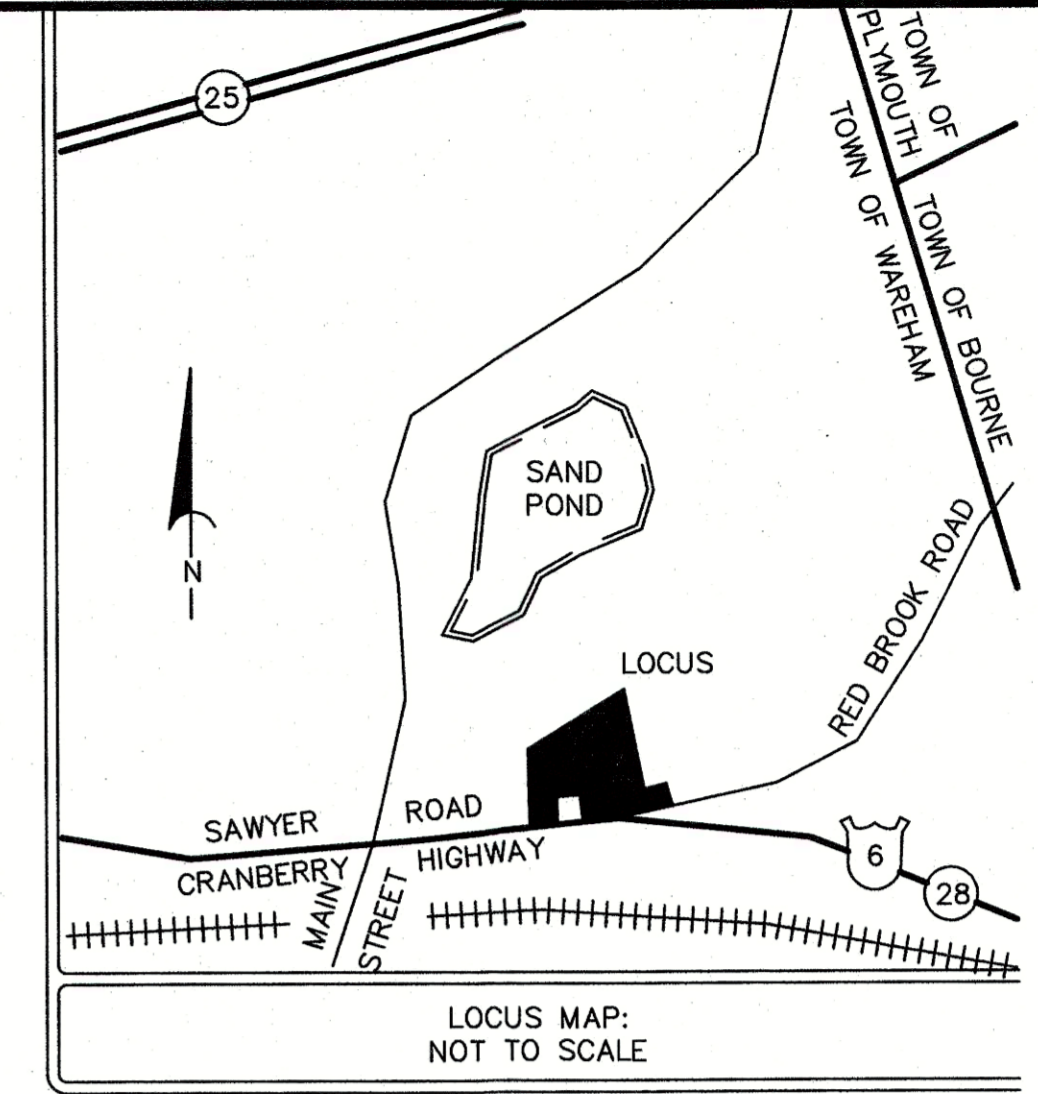
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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LOCUS INFORMATION

ASSESSORS MAP: 131
 PARCEL'S: Q1
 CURRENT OWNER: BOSTON LAND GROUP LLC
 TITLE REFERENCE: DEED BOOK 20829, PAGE 286
 PLAN REFERENCE: BOOK 44, PAGE 1076
 ZONING DISTRICT: STRIP COMMERCIAL R-130
 SETBACKS: FRONT 20' FRONT 20'
 SIDE 10' SIDE 10'
 REAR 10' REAR 10'
 LOT AREA WITHOUT 30' R-130 STRIP: 260,568± S.F. (5.98± AC.)
 LOT AREA WITH 30' R-130 STRIP: 277,420± S.F. (6.36± AC.)
 MAX. BUILDING COVERAGE: 40%
 MAX. LOT COVERAGE (IMPERVIOUS): 65%
 NITROGEN SENSITIVE ZONE (ZONE II): YES
 FEMA FLOOD ZONE DISTRICT: "X"

NOTE:
 THIS PLAN WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 28 AND MARCH 29, 2017.

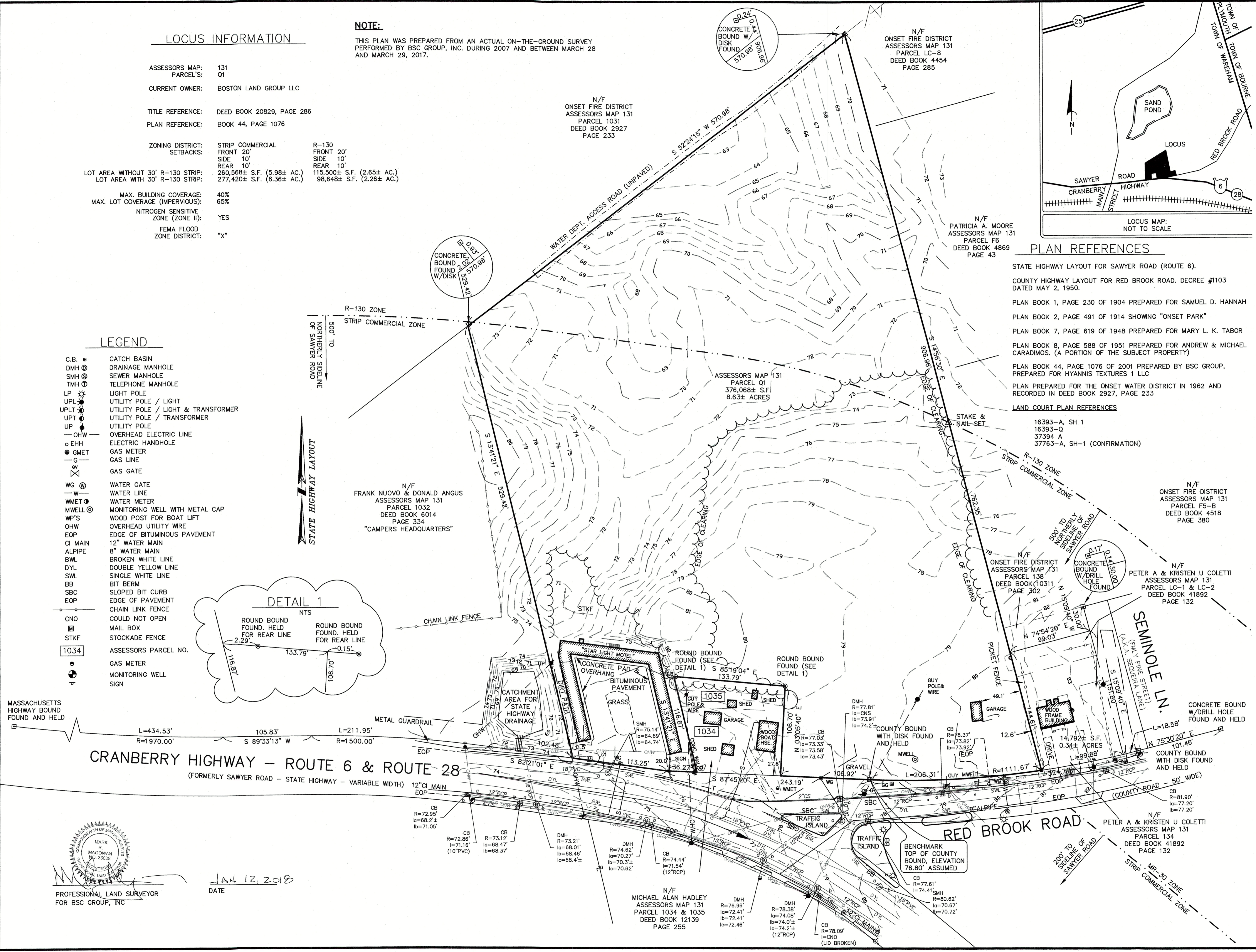
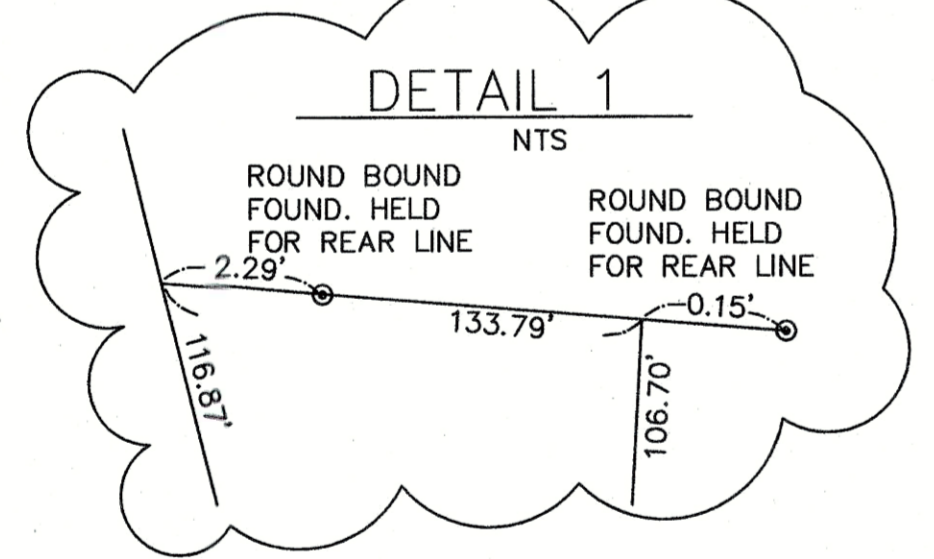


PLAN REFERENCES

- STATE HIGHWAY LAYOUT FOR SAWYER ROAD (ROUTE 6).
 - COUNTY HIGHWAY LAYOUT FOR RED BROOK ROAD. DECREE #1103 DATED MAY 2, 1950.
 - PLAN BOOK 1, PAGE 230 OF 1904 PREPARED FOR SAMUEL D. HANNAH
 - PLAN BOOK 2, PAGE 491 OF 1914 SHOWING "ONSET PARK"
 - PLAN BOOK 7, PAGE 619 OF 1948 PREPARED FOR MARY L. K. TABOR
 - PLAN BOOK 8, PAGE 588 OF 1951 PREPARED FOR ANDREW & MICHAEL CARADIMOS. (A PORTION OF THE SUBJECT PROPERTY)
 - PLAN BOOK 44, PAGE 1076 OF 2001 PREPARED BY BSC GROUP, PREPARED FOR HYANNIS TEXTURES 1 LLC
 - PLAN PREPARED FOR THE ONSET WATER DISTRICT IN 1962 AND RECORDED IN DEED BOOK 2927, PAGE 233
- LAND COURT PLAN REFERENCES**
- 16393-A, SH 1
 - 16393-Q
 - 37394 A
 - 37763-A, SH-1 (CONFIRMATION)

LEGEND

- C.B. ■ CATCH BASIN
- DMH ⊙ DRAINAGE MANHOLE
- SMH ⊙ SEWER MANHOLE
- TMH ⊙ TELEPHONE MANHOLE
- LP ☆ LIGHT POLE
- UPLT ☆ UTILITY POLE / LIGHT
- UPTL ☆ UTILITY POLE / LIGHT & TRANSFORMER
- UP ☆ UTILITY POLE / TRANSFORMER
- UP ○ UTILITY POLE
- OHW — OVERHEAD ELECTRIC LINE
- EHH ○ ELECTRIC HANDHOLE
- GMET ⊙ GAS METER
- G — GAS LINE
- G — GAS GATE
- WG ⊙ WATER GATE
- W — WATER LINE
- WMET ⊙ WATER METER
- MWELL ⊙ MONITORING WELL WITH METAL CAP
- WP'S ○ WOOD POST FOR BOAT LIFT
- OHW — OVERHEAD UTILITY WIRE
- EOP — EDGE OF BITUMINOUS PAVEMENT
- CI MAIN 12" WATER MAIN
- ALPIPE 8" WATER MAIN
- BWL BROKEN WHITE LINE
- DYL DOUBLE YELLOW LINE
- SWL SINGLE WHITE LINE
- BIT BERM
- SBC SLOPED BIT CURB
- EOP — EDGE OF PAVEMENT
- CLF CHAIN LINK FENCE
- CNO ○ COULD NOT OPEN
- MB MAIL BOX
- STKF STOCKADE FENCE
- 1034 ASSESSORS PARCEL NO.
- GAS METER
- MONITORING WELL
- SIGN



WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

EXISTING CONDITIONS PLAN

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESC.

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MASSACHUSETTS 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts 02127-1601
 860 652 8227

© 2017 BSC Group, Inc.
 SCALE: 1" = 50'
 0 6.25 12.5 25 METERS
 0 25 50 100 FEET
 FILE: \\BSCBOS\GLA\PROJECTS-GLA\B366900\SURVEY\DRAWINGS
 DWG: 8366901EC
 JOB. NO: 83669.00
EC-1.0



JAN 12, 2018
 DATE

PROFESSIONAL LAND SURVEYOR
 FOR BSC GROUP, INC

N/F
 MICHAEL ALAN HADLEY
 ASSESSORS MAP 131
 PARCEL 1034 & 1035
 DEED BOOK 12139
 PAGE 255

LOCUS INFORMATION

ASSESSORS MAP: 131
 PARCEL'S: Q1
 CURRENT OWNER: BOSTON LAND GROUP LLC

TITLE REFERENCE: DEED BOOK 20829, PAGE 286
 PLAN REFERENCE: BOOK 44, PAGE 1076

ZONING DISTRICT: STRIP COMMERCIAL R-130
 SETBACKS: FRONT 20' FRONT 20'
 SIDE 10' SIDE 10'
 REAR 10' REAR 10'

LOT AREA WITHOUT 30' R-130 STRIP: 260,568± S.F. (5.98± AC.)
 LOT AREA WITH 30' R-130 STRIP: 277,420± S.F. (6.36± AC.)

MAX. BUILDING COVERAGE: 40%
 MAX. LOT COVERAGE (IMPERVIOUS): 65%
 NITROGEN SENSITIVE ZONE (ZONE II): YES
 FEMA FLOOD ZONE DISTRICT: "X"

NOTE:

THIS PLAN WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 28 AND MARCH 29, 2017.

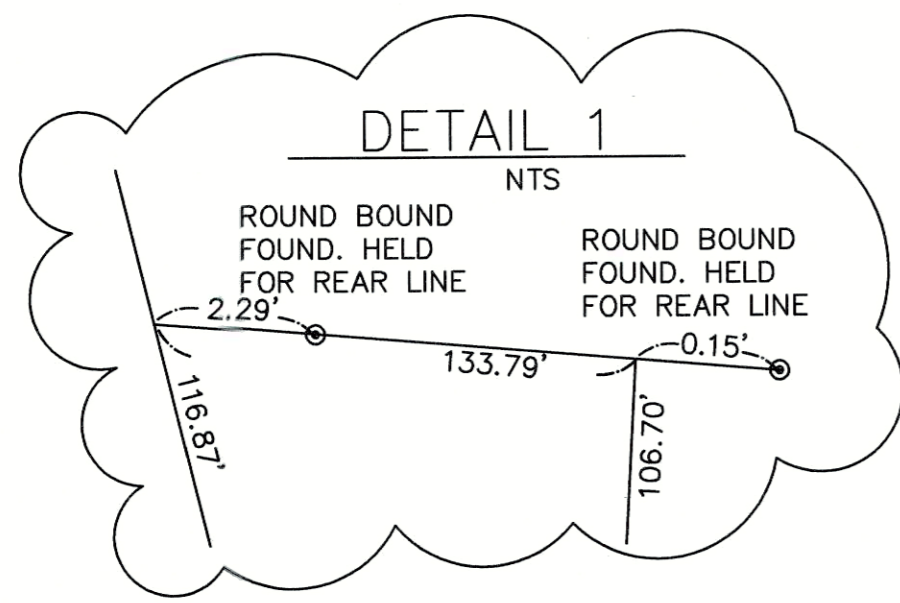
LEGEND

- LP LIGHT POLE
- UPL UTILITY POLE / LIGHT
- UPL UTILITY POLE / LIGHT & TRANSFORMER
- UPT UTILITY POLE / TRANSFORMER
- UP UTILITY POLE
- OHW OVERHEAD ELECTRIC LINE
- CLF CHAIN LINK FENCE
- STKF STOCKADE FENCE
- 1034 ASSESSORS PARCEL NO.

APPROVED BY THE WAREHAM ZONING BOARD OF APPEALS PURSUANT TO THE COMPREHENSIVE PERMIT, IN CASE # ISSUED UNDER M.G.L. CHAPTER 40B, SECTIONS 20-23

COMPREHENSIVE PERMIT:
 DATE OF DECISION: RECORDED WITH PLYMOUTH COUNTY REGISTRY OF DEEDS IN BOOK # PAGE
 DATE OF PLAN ENDORSEMENT: 2018

WAREHAM ZONING BOARD OF APPEALS:

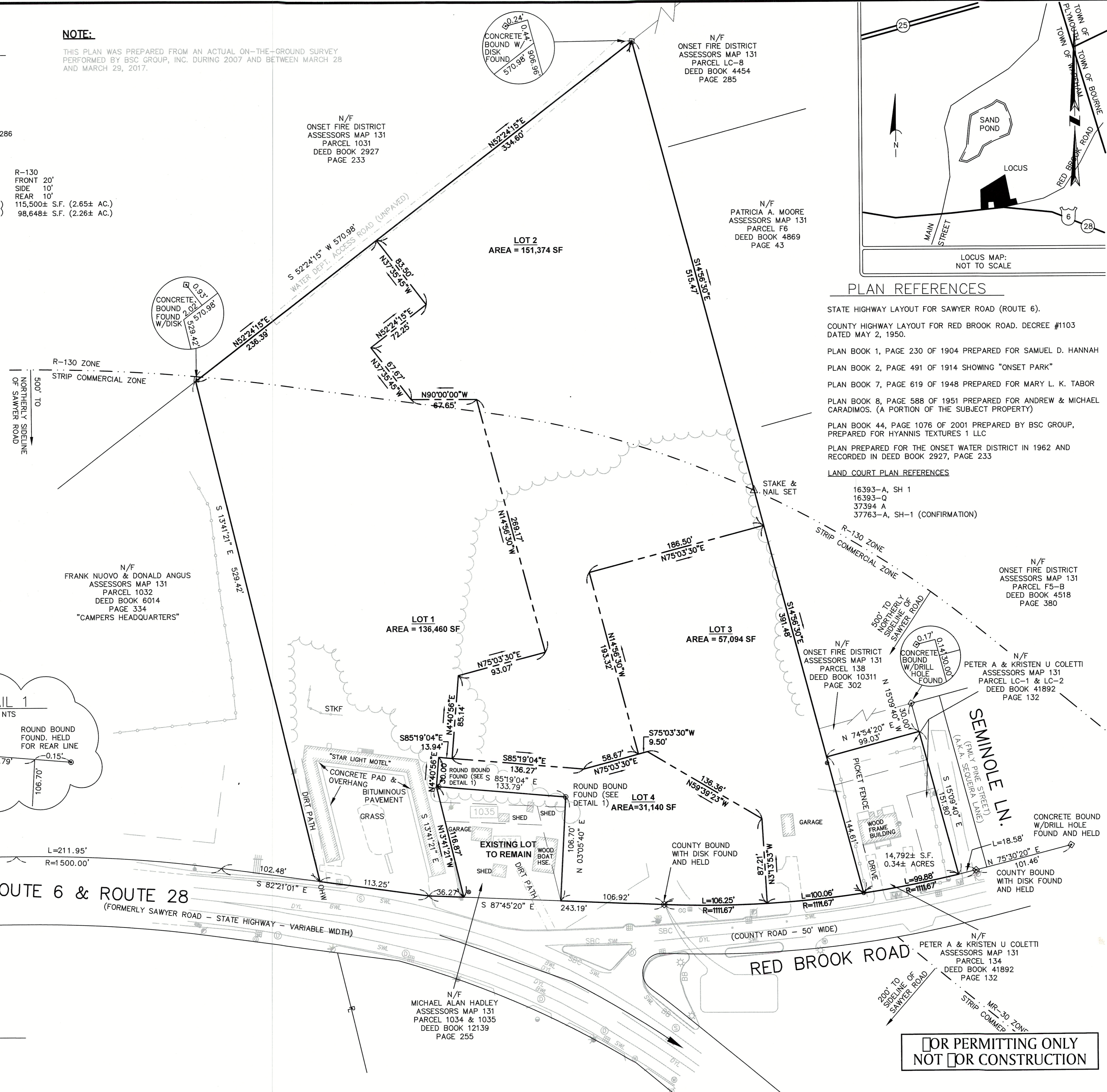


MASSACHUSETTS HIGHWAY BOUND FOUND AND HELD

CRANBERRY HIGHWAY - ROUTE 6 & ROUTE 28
 (FORMERLY SAWYER ROAD - STATE HIGHWAY - VARIABLE WIDTH)

PROFESSIONAL LAND SURVEYOR FOR BSC GROUP, INC

DATE



PLAN REFERENCES

- STATE HIGHWAY LAYOUT FOR SAWYER ROAD (ROUTE 6).
- COUNTY HIGHWAY LAYOUT FOR RED BROOK ROAD. DECREE #1103 DATED MAY 2, 1950.
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- LAND COURT PLAN REFERENCES: 16393-A, SH 1; 16393-Q; 37394 A; 37763-A, SH-1 (CONFIRMATION)

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

PLAN O LAND

JANUARY 12, 2018

REVISIONS:		
1	07/20/18	REVISED LAYOUT

PREPARED FOR: DAKOTA PARTNERS 1264 MAIN STREET WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts 02127-1601
 860 612 8227

© 2017 BSC GROUP, INC.

SCALE: 1" = 50'
 0 25 50 100 FEET

FILE: 8366900-SBDV.DWG

DWG. NO:

JOB. NO: 83669.00

SV-1.0

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 FOR CONSTRUCTION

ZONING TABLE

	REQUIRED		LOT 1	LOT 2	LOT 3	TOTAL
	COMMERCIAL STRIP	R-130 ⁽¹⁾				
MINIMUM LOT AREA (SF)	20,000	N/A	136,460	151,374	57,094	344,928
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3	25.2	10.0	-
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	11.7	8.7	20.0	-
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52	0	100.06	-
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5	16.4	16.8	16.1
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8	45.7	54.3	48.0
DISTANCE FROM RESIDENTIAL (FT)	40	-	166.7 ⁽²⁾	166.7 ⁽³⁾	166.7	-
MAXIMUM HEIGHT (FT)	40	N/A	44	44	34	-

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXISTS.
 (2) DISTANCE FROM PHASE I BUILDING TO PHASE II BUILDING IS 62'.
 (3) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 51'.

PARKING TABLE

	LOT 1	LOT 2	LOT 3	TOTAL
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 121	(11) 1BDRM + (52) 2+BDRM = 121	(5) 1BDRM + (19) 2+BDRM = 46	(27) 1BDRM + (123) 2+BDRM = 287
PARKING SPACES PROVIDED	106	117	41	264

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

ZONING CONFORMANCE PLAN

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

BSC GROUP

803 Summer Street
 Boston, Massachusetts 02127-1601
 860 622 8227

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 SCALE: 1" = 50'

FILE: 8366900-SBDV.DWG
 DWG. NO:
 JOB. NO: 83669.00

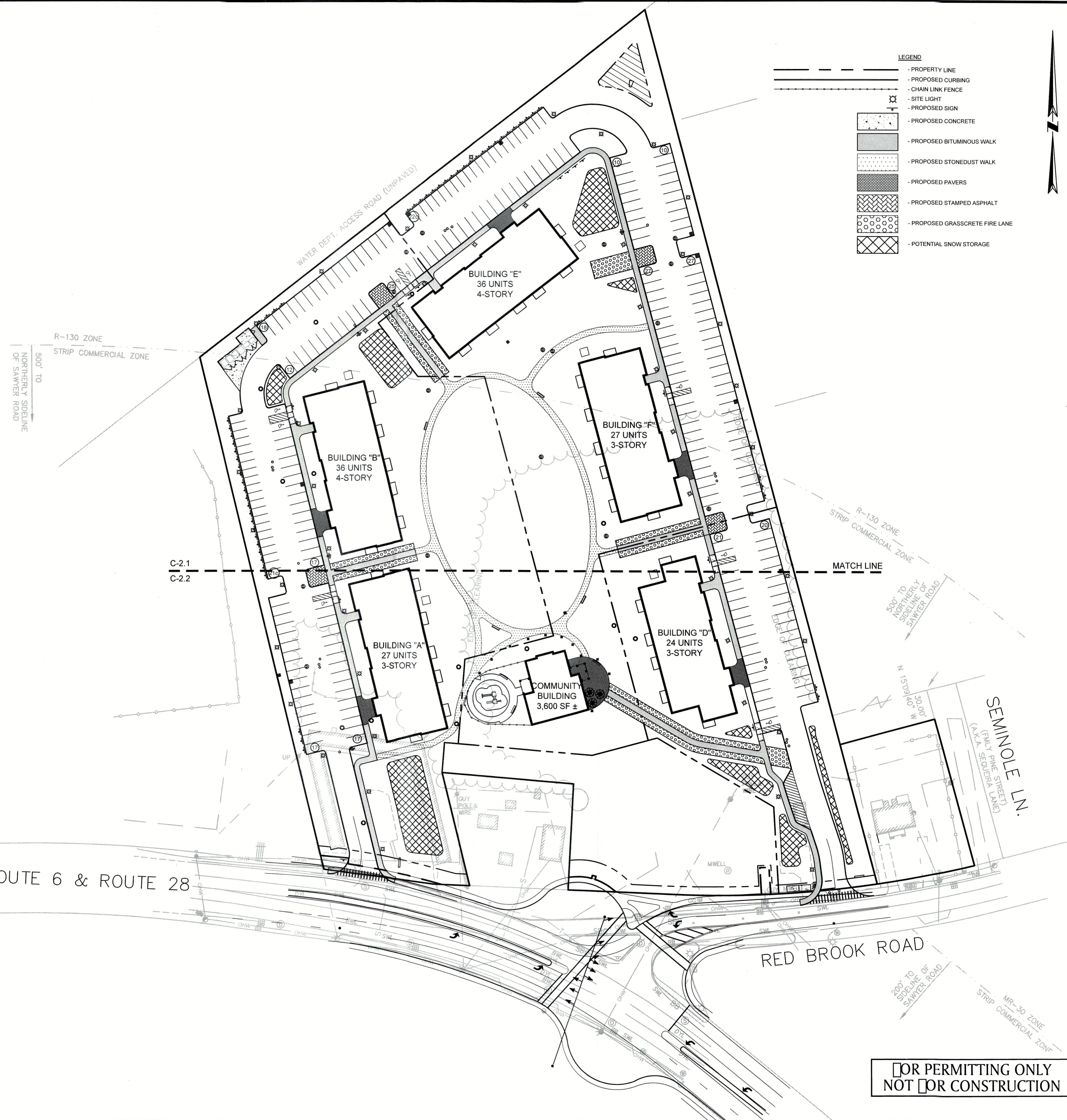
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NOTE: THE INTENT OF THIS PLAN IS TO DEMONSTRATE HOW THE OVERALL DEVELOPMENT AND EACH PHASE CONFORMS TO BULK AND DIMENSIONAL ZONING REQUIREMENTS AND PARKING REQUIREMENTS OF THE TOWN OF WAREHAM.

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 NOT FOR CONSTRUCTION

NOTES

1. THE TOPOGRAPHY AND DETAIL SHOWN HEREON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 29, 2017.
2. FUTURE ROUTE 6/28 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS "WAREHAM CRANBERRY HIGHWAY (ROUTES 6 & 28) SIGNING AND STRIPING PLANS" THE CONTRACTOR SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1963, MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HEREON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
4. NOTIFY "DIG SAFE" (1-888-344-7233) AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED.
6. NOTIFY THE ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
7. THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
8. THE DIMENSIONS SHOWN ON THE PLANS, INCLUDING THE INTENDED DIMENSIONS OF THE WORK, MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS AS WELL AS OTHER DIMENSIONS HE MAY DEEM APPROPRIATE TO FACILITATE THE COMPLETION OF THE WORK. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
9. IMPLEMENTING WORKER SAFETY AND/OR HEALTH PROTOCOLS THAT ADDRESS COMPLIANCE WITH RULES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY AND/OR THE POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC PHYSICAL OR CHEMICAL HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
10. THIS DRAWING IS INTENDED TO DEPICT THE LOCATION, LAYOUT, AND MATERIALS OF CONSTRUCTION AND IS INTENDED TO BE USED IN CONJUNCTION WITH THE DETAILS AND APPLICABLE SPECIFICATION SECTIONS.
11. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEEDED, FERTILIZED, AND MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.
12. ALL CURBING ADJACENT TO SIDEWALKS SHALL BE EXTRUDED CONCRETE CURB (SEE DETAILS) UNLESS OTHERWISE INDICATED. ALL OTHER CURBING SHALL BE CAPE COD BERM (SEE DETAILS) UNLESS OTHERWISE INDICATED.
13. THE CROSS-SLOPE OF ANY SIDEWALK, WALKWAY, OR OTHER PEDESTRIAN SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
14. ALL WALKWAYS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) REGULATIONS (521 CMR). THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20 (5%). THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
15. CONSTRUCTION AND CONTROL JOINTS: SIDEWALK REINFORCEMENT SHALL NOT CONTINUE THROUGH CONSTRUCTION JOINTS. AT CONTROL JOINTS, CUT REINFORCEMENT WIRES.
16. PRIOR TO INITIATION OF CONCRETE FLATWORK, SUBMIT PROPOSED CONSTRUCTION JOINT PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL. COORDINATE SUCH PLAN WITH THE JOINT PATTERNS DEPICTED ON THE DRAWINGS.
17. UNLESS OTHERWISE SPECIFIED, MISCELLANEOUS CONCRETE PADS SHALL BE CONSTRUCTED PER SIDEWALK DETAIL.
18. ALL NON-ACCESSIBLE STANDARD PARKING SPACES ARE 9'5" X 19'. ALL NON-ACCESSIBLE COMPACT PARKING SPACES ARE 8' X 15'. VERIFY OVERALL LAYOUT DIMENSIONS BASED ON THESE DIMENSIONS AND THE NUMBER OF SPACES INDICATED. FIELD-ADJUST OVERALL LAYOUT DIMENSION IN CONCERT WITH THE ENGINEER IF REQUIRED.
19. DIMENSIONS INDICATED ARE TO FACE OF CURB, PAVEMENT EDGE, EDGE OR CENTERLINE OF IMPROVEMENT, OR AS OTHERWISE NOTED.
20. ENGAGE A MASSACHUSETTS-LICENSED PROFESSIONAL LAND SURVEYOR TO PERFORM LAND-SURVEYING SERVICES REQUIRED, INCLUDING, BUT NOT LIMITED TO VERIFICATION AND LAYOUT OF BASELINES, PROPOSED IMPROVEMENTS, DIMENSIONS AND ELEVATIONS. REPORT DISCREPANCIES TO THE ENGINEER.
21. PROVIDE FOR THE LAYOUT AND STAKING/MARKING OF THE PROPOSED LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING FURNISHINGS. OBTAIN ENGINEER'S APPROVAL OF THE LAYOUT PRIOR TO PROCEEDING WITH THE WORK.
22. UNLESS OTHERWISE INDICATED, LINES ARE PARALLEL OR PERPENDICULAR TO LINE FROM WHICH THEY ARE MEASURED.



LEGEND

	- PROPERTY LINE
	- PROPOSED CURBING
	- CHAIN LINK FENCE
	- SITE LIGHT
	- PROPOSED SIGN
	- PROPOSED CONCRETE
	- PROPOSED BITUMINOUS WALK
	- PROPOSED STONEDUST WALK
	- PROPOSED PAVERS
	- PROPOSED STAMPED ASPHALT
	- PROPOSED GRASSCRETE FIRE LANE
	- POTENTIAL SNOW STORAGE

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY
HIGHWAY
IN
WAREHAM
MASSACHUSETTS

OVERALL LAYOUT AND
MATERIALS PLAN

JANUARY 12, 2018

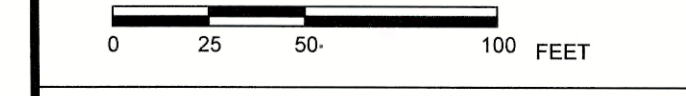
REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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SCALE: 1" = 50'



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DWG. NO.:
JOB. NO.: 83669.00

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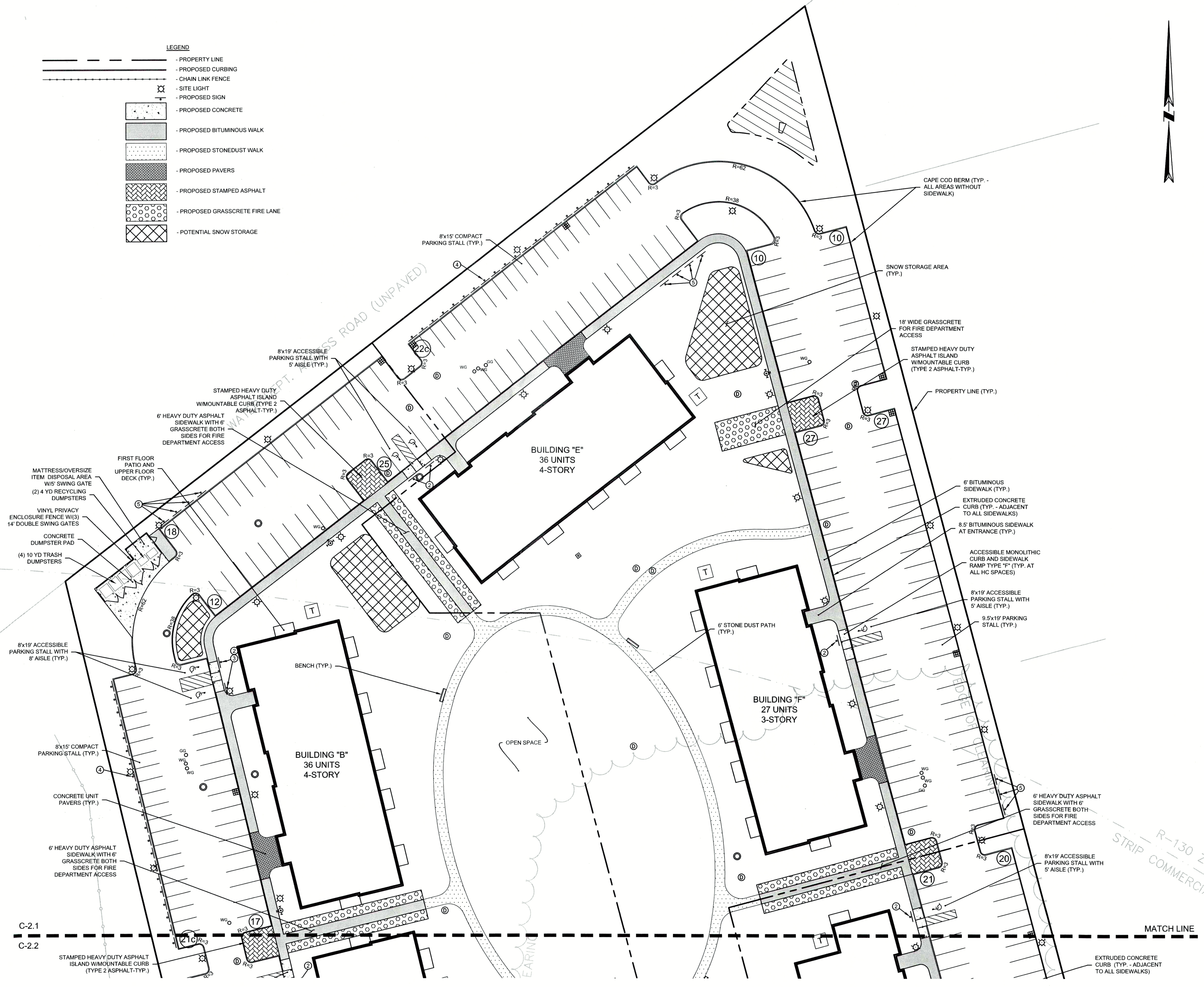
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WOODLAND COVE - JANUARY 12, 2018

SIGN NUMBER	MUTCD NUMBER	SIGN
1	R1-1	
2	R7-8	
3	R7-8P	
4	SP-1 (CUSTOM SIGN)	
5	SP-2 (CUSTOM SIGN)	

LEGEND

- PROPERTY LINE
- PROPOSED CURBING
- CHAIN LINK FENCE
- SITE LIGHT
- PROPOSED SIGN
- PROPOSED CONCRETE
- PROPOSED BITUMINOUS WALK
- PROPOSED STONEDUST WALK
- PROPOSED PAVERS
- PROPOSED STAMPED ASPHALT
- PROPOSED GRASSCRETE FIRE LANE
- POTENTIAL SNOW STORAGE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

LAYOUT AND MATERIALS PLAN (NORTH)

JANUARY 12, 2018

REVISIONS:

1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1284 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

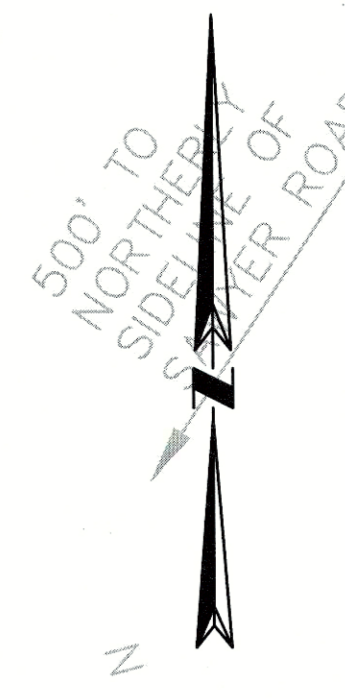
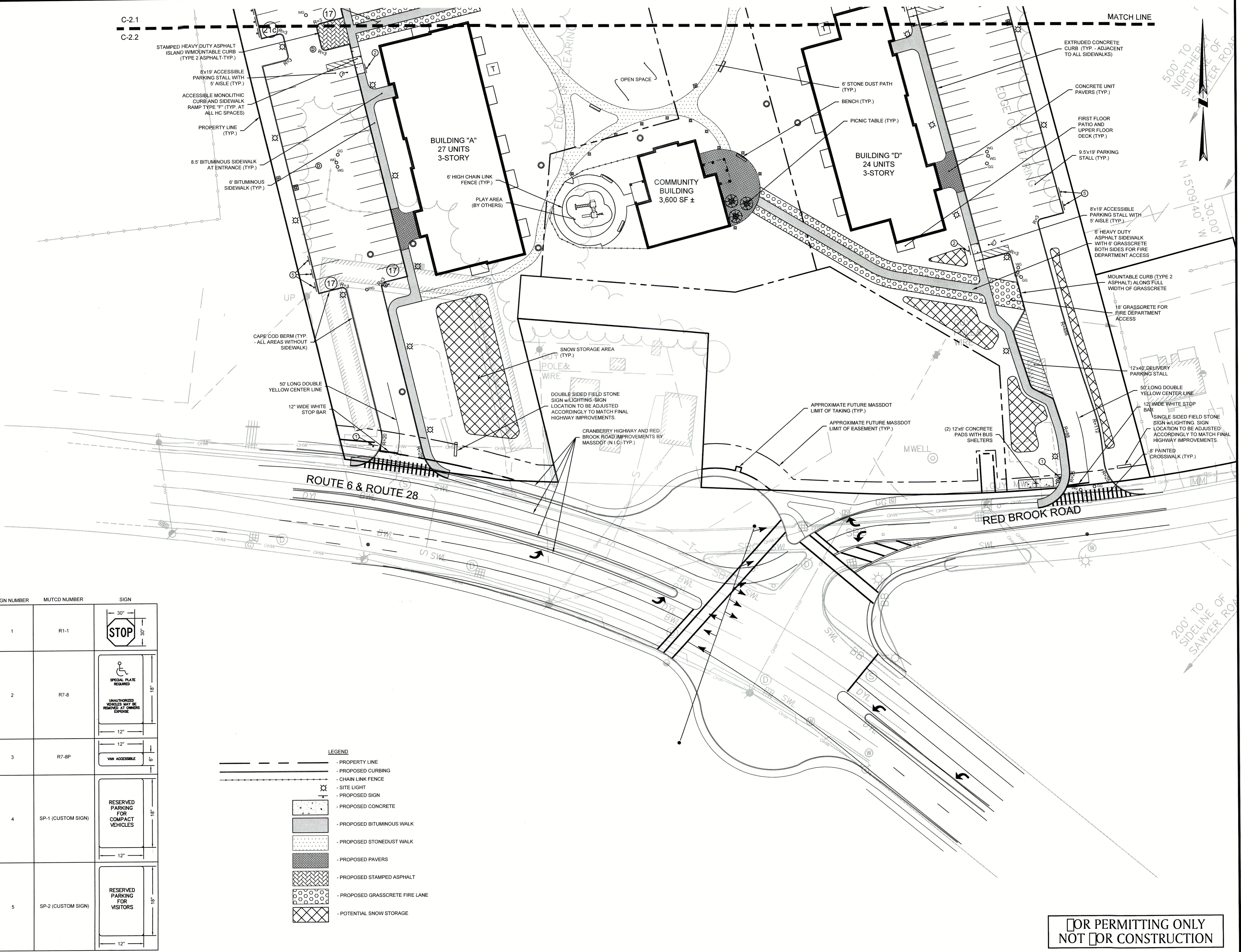
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SCALE: 1"=30'
0 15 30 60 FEET

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DWG. NO.:
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C-2.1

WOODLAND COVE - JANUARY 12, 2018



SIGN NUMBER	MUTCD NUMBER	SIGN
1	R1-1	
2	R7-8	
3	R7-8P	
4	SP-1 (CUSTOM SIGN)	
5	SP-2 (CUSTOM SIGN)	

- LEGEND**
- - - - - PROPERTY LINE
 - - - - - PROPOSED CURBING
 - - - - - CHAIN LINK FENCE
 - ⊙ SITE LIGHT
 - ⊕ PROPOSED SIGN
 - ▨ PROPOSED CONCRETE
 - ▩ PROPOSED BITUMINOUS WALK
 - ▧ PROPOSED STONEDUST WALK
 - ▦ PROPOSED PAVERS
 - ▤ PROPOSED STAMPED ASPHALT
 - ▥ PROPOSED GRASSCRETE FIRE LANE
 - ▩ (with cross-hatch) POTENTIAL SNOW STORAGE

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

LAYOUT AND MATERIALS PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: 1"=30'
0 15 30 60 FEET
FILE: 8366900-LM.dwg
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GRADING & DRAINAGE NOTES

1. THE TOPOGRAPHY AND DETAIL SHOWN HERON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 28, 2017.
2. FUTURE ROUTE 6/28 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS "WAREHAM, CRANBERRY HIGHWAY (ROUTES 6 & 28), SIGNING AND STRIPING PLANS PROVIDED BY OTHERS. THE CONTRACTOR SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1963 MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HERON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTOR SHALL NOTIFY "DIG SAFE" (888-DIG-SAFE) AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
7. THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
8. THE DIMENSIONS SHOWN ON THE PLANS, INCLUDING THE INTENDED DIMENSIONS OF THE WORK, MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS AS WELL AS OTHER DIMENSIONS HE MAY DEEM APPROPRIATE TO FACILITATE THE COMPLETION OF THE WORK.
9. ENGAGE A MASSACHUSETTS-LICENSED PROFESSIONAL LAND SURVEYOR TO PERFORM LAND-SURVEYING SERVICES REQUIRED, INCLUDING, BUT NOT LIMITED TO VERIFICATION AND LAYOUT OF PROPOSED IMPROVEMENTS, DIMENSIONS, AND ELEVATIONS. REPORT DISCREPANCIES TO THE ENGINEER.
10. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEED, FERTILIZED, AND MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.
11. THE CROSS-SLOPE OF ANY SIDEWALK, WALKWAY, OR OTHER PEDESTRIAN SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
12. ACCESSIBLE ROUTES SHALL COMPLY WITH ADA GUIDELINES (SEE SHEET C-3.0). THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20 (5%). THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
13. VERIFY ALL GRADES AND SLOPES PRIOR TO CONCRETE PLACEMENT. REPORT DISCREPANCIES IN WRITING TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
14. PROPOSED GRADES INDICATE DESIGN INTENT. VERIFY ELEVATIONS AND MAKE ADJUSTMENTS TO MEET FIELD CONDITIONS. DO NOT PROCEED WITH ANY ADJUSTMENT OR FIELD MODIFICATION UNTIL APPROVED BY THE ENGINEER.
15. GRADE TRANSITION BETWEEN TOPOGRAPHIC LINES AND SPOT GRADES SHALL BE UNIFORM UNLESS OTHERWISE INDICATED.
16. UNLESS OTHERWISE INDICATED, BLEND TRANSITIONS IN ELEVATION BETWEEN NEW WORK AND AREAS TO REMAIN AT A MAXIMUM SLOPE OF 1V:2H AND RESTORE WITH SIX (6) INCHES OF LOAM AND SEED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED. COORDINATE WITH ENGINEER IF DIMENSIONAL CONSTRAINTS REQUIRE STEEPER SLOPES.
17. ALL DRAINAGE PIPE SHALL BE HIGH DENSITY POLYETHYLENE, UNLESS OTHERWISE INDICATED. SEE SPECIFICATIONS.
18. UPON REACHING PROPOSED SUBGRADE ELEVATIONS WITHIN THE FIELD, ENGINEER WILL REVIEW SUBGRADE PRIOR TO INSTALLATION OF DRAINAGE SYSTEM. SEE SPECIFICATIONS.
19. ALL CATCH BASIN TOPS SET AGAINST CURBS SHALL BE STANDARD CURB INLETS.
20. ALL UNDERDRAINS SHALL BE 6-INCH HDPE. SEE SPECIFICATIONS.
21. THE TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) OF ALL UTILITY STRUCTURES THAT ARE TO REMAIN SHALL BE ADJUSTED TO MATCH FINAL GRADE IN A FLUSH CONDITION. ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.
22. AT THE CONCLUSION OF THE WORK, CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT MATERIAL FROM ALL PORTIONS OF THE STORM DRAINAGE SYSTEM, INCLUDING NEW WORK AND EXISTING WORK THAT REMAINS OR IS INCORPORATED INTO THE NEW SYSTEM.

SITE PREPARATION NOTES

1. ALL EXISTING UTILITY STRUCTURES, CONDUITS, AND APPURTENANCES OF ANY KIND SHALL BE COMPLETELY REMOVED WITHIN THE LIMITS OF EXCAVATION FOR NEW BUILDINGS, UNLESS NOTED OTHERWISE ON THE DRAWINGS. OUTSIDE THE LIMITS OF EXCAVATION FOR NEW BUILDINGS, ALL ABANDONED AND TO-BE-ABANDONED UTILITIES GREATER THAN 8 INCHES IN DIAMETER SHALL BE SEALED BY FILLING WITH HIGH SLUMP CONCRETE (FLOWABLE FILL) AT THE LIMIT OF EXCAVATION. ALL UTILITY STRUCTURES TO BE REMOVED SHALL HAVE THE ASSOCIATED PIPES REMOVED TO A DISTANCE OF 15 FEET FROM THE STRUCTURE AND SEALED.
2. EROSION AND SEDIMENTATION CONTROLS TO BE APPROPRIATELY SIZED AND LOCATED/RELOCATED BY THE CONTRACTOR DURING EARTHWORK OPERATIONS.
3. CONTRACTOR SHALL WORK WITH LANDSCAPE ARCHITECT TO DETERMINE SCOPE OF TREE WORK.
4. ALL CONSTRUCTION FENCING AND WARNING SIGNS SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. INSTALL CONSTRUCTION FENCING AT THE LIMIT OF WORK.
5. PRIOR TO THE TERMINATION, ABANDONMENT, OR REMOVAL OF ANY UTILITY, VERIFY THAT APPLICABLE NOTIFICATIONS HAVE BEEN MADE TO THE UTILITY OWNER/OPERATOR AND THAT THE UTILITY HAS BEEN PROPERLY TERMINATED, CAPPED, OR PLUGGED AS REQUIRED.
6. PROTECT ALL IMPROVEMENTS NOT INCLUDED IN THE SCOPE OF SITE DEMOLITION. ANY IMPROVEMENT WHICH IS DAMAGED SHALL BE REPAIRED OR REPLACED IN-KIND TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST.

EROSION AND SEDIMENT CONTROL NOTES

1. THE PROJECT WORK SHALL COMPLY WITH THE 2017 NPDES CONSTRUCTION GENERAL PERMIT FOR MASSACHUSETTS (CGP). A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED AND THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE SWPPP. THE CONTRACTOR SHALL PROVIDE EVIDENCE THAT A NOTICE OF INTENT (NOI) HAS BEEN FILED FOR CONVEYER UNDER THE CGP AT LEAST 14 DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITIES. NO EARTH DISTURBING ACTIVITIES SHALL OCCUR UNTIL THE CONTRACTOR HAS OBTAINED COVERAGE UNDER THE CGP.
2. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SOIL DISTURBANCE. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA.
3. MINIMIZE TOTAL AREA OF DISTURBANCE AND PROTECT NATURAL FEATURES AND SOIL.
4. THE CONTRACTOR SHALL SEQUENCE ALL ACTIVITIES TO MINIMIZE SIMULTANEOUS AREAS OF DISTURBANCE. MASS CLEARING AND GRADING OF THE ENTIRE SITE SHALL BE AVOIDED.
5. MINIMIZE SOIL EROSION AND CONTROL SEDIMENTATION DURING CONSTRUCTION.
6. DIVERT UNCONTAMINATED WATER AROUND DISTURBED AREAS.
7. INSTALL AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES OR IN ACCORDANCE WITH THE 2017 EPA CONSTRUCTION GENERAL PERMIT FOR MASSACHUSETTS.
8. PROTECT AND MANAGE ON AND OFF-SITE MATERIAL STORAGE AREAS (OVERBURDEN AND STOCKPILES OF DIRT, BORROW AREAS, OR OTHER AREAS USED SOLELY BY THE PERMITTED PROJECT ARE CONSIDERED A PART OF THE PROJECT).
9. COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS INCLUDING WASTE DISPOSAL, SANITARY OR SEWER REGULATIONS, AND AIR QUALITY REQUIREMENTS, INCLUDING DUST CONTROL.
10. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES HALF THE HEIGHT OF THE EROSION CONTROL DEVICE. SEDIMENT SHALL BE REMOVED BELOW PRIOR TO REACHING THE LOAD-BEARING CAPACITY OF THE SILT FENCE WHICH MAY BE LOWER THAN HALF THE HEIGHT.
11. BMPs TO BE USED FOR INFILTRATION AFTER CONSTRUCTION SHALL NOT BE USED AS BMPs DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER. MANY INFILTRATION TECHNOLOGIES ARE NOT DESIGNED TO HANDLE THE HIGH CONCENTRATIONS OF SEDIMENTS TYPICALLY FOUND IN CONSTRUCTION RUNOFF, AND THIS MUST BE PROTECTED FROM CONSTRUCTION RELATED SEDIMENT LOADINGS.
12. SOIL STOCKPILE SIDE SLOPES SHALL NOT BE GREATER THAN 2H:1V. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
13. A TRACKING PAD OR OTHER APPROVED STABILIZATION METHOD SHALL BE CONSTRUCTED AT ALL CONSTRUCTION ENTRANCE/EXIT POINTS OF THE SITE TO REDUCE THE AMOUNT OF SOIL CARRIED ONTO ROADWAYS AND OFF THE SITE.
14. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM AUGUST TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICAL, APPROPRIATE TEMPORARY STABILIZATION SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE MULCHING AND WATERING.
15. TEMPORARY SEDIMENT TRAPPING DEVICES MUST NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS.
16. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
17. DUST SHALL BE CONTROLLED AT THE SITE.
18. ALL PREVIOUSLY DISTURBED LAND SHALL BE STABILIZED BY APPROVED METHODS AFTER 14 DAYS IF LEFT UNDISTURBED. THIS INCLUDES STOCKPILES, CONSTRUCTION ENTRANCES, GRADED AREAS AND OTHER CONSTRUCTION ACTIVITY RELATED CLEARING.
19. IF WORK IS HALTED OVER WINTER MONTHS THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING THE AREA THROUGH GROUND COVER PRACTICES.

TEMPORARY E&S MEASURES MAINTENANCE SCHEDULE

E&S MEASURE	MAINTENANCE MEASURES	SCHEDULE
CONSTRUCTION ENTRANCE	SWEEP PAVED ROADWAY ADJACENT TO SITE ENTRANCE AS NECESSARY. REFRESH STONE AS NECESSARY. REMOVE SILTED GRAVEL.	WEEKLY
MOISTEN EXPOSED SOILS	PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS AND KEEP TRAVELWAYS DAMP.	DAILY

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF WORK
- TOPOGRAPHY: MAJOR INTERVAL
- TOPOGRAPHY: MINOR INTERVAL
- TOPOGRAPHY: INTERMEDIATE INTERVAL
- TOPOGRAPHY: SPOT ELEVATION
- STORMWATER PIPE
- ROOF LEADER
- DRAINAGE MANHOLE (DMH)
- WATER QUALITY MANHOLE
- CATCH BASIN WITH CURB INLET (CB)
- AREA DRAIN (AD)
- FLARED END SECTION (FES)
- DRAINAGE SLOPE DIRECTION
- SOIL TEST PIT LOCATION
- UNDERGROUND INFILTRATION SYSTEM
- BIO-RETENTION AREA



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

OVERALL GRADING AND DRAINAGE PLAN

JANUARY 12, 2018

REVISIONS	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR: DAKOTA PARTNERS 1264 MAIN STREET WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts
 02127 617 896 4300

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DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

GRADING AND DRAINAGE PLAN (NORTH)

JANUARY 12, 2018

REVISIONS:	
1	04/09/18 PEER REVIEW COMMENTS
2	07/20/18 REVISED LAYOUT
3	08/10/18 PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1284 MAIN STREET
WALTHAM, MA 02451

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Boston, Massachusetts
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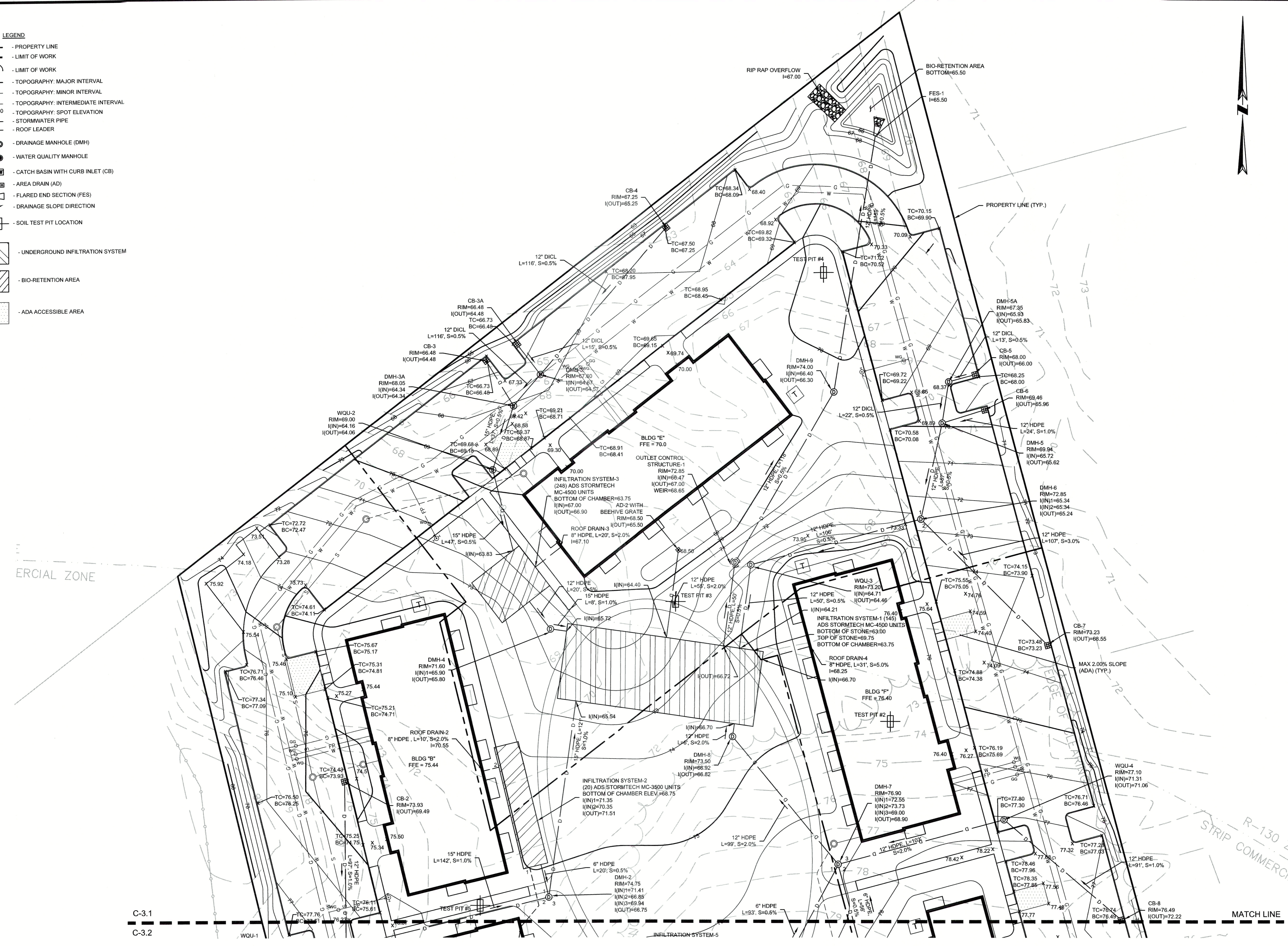
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DWG. NO:
JOB. NO: 83669.00 **C-3.1**

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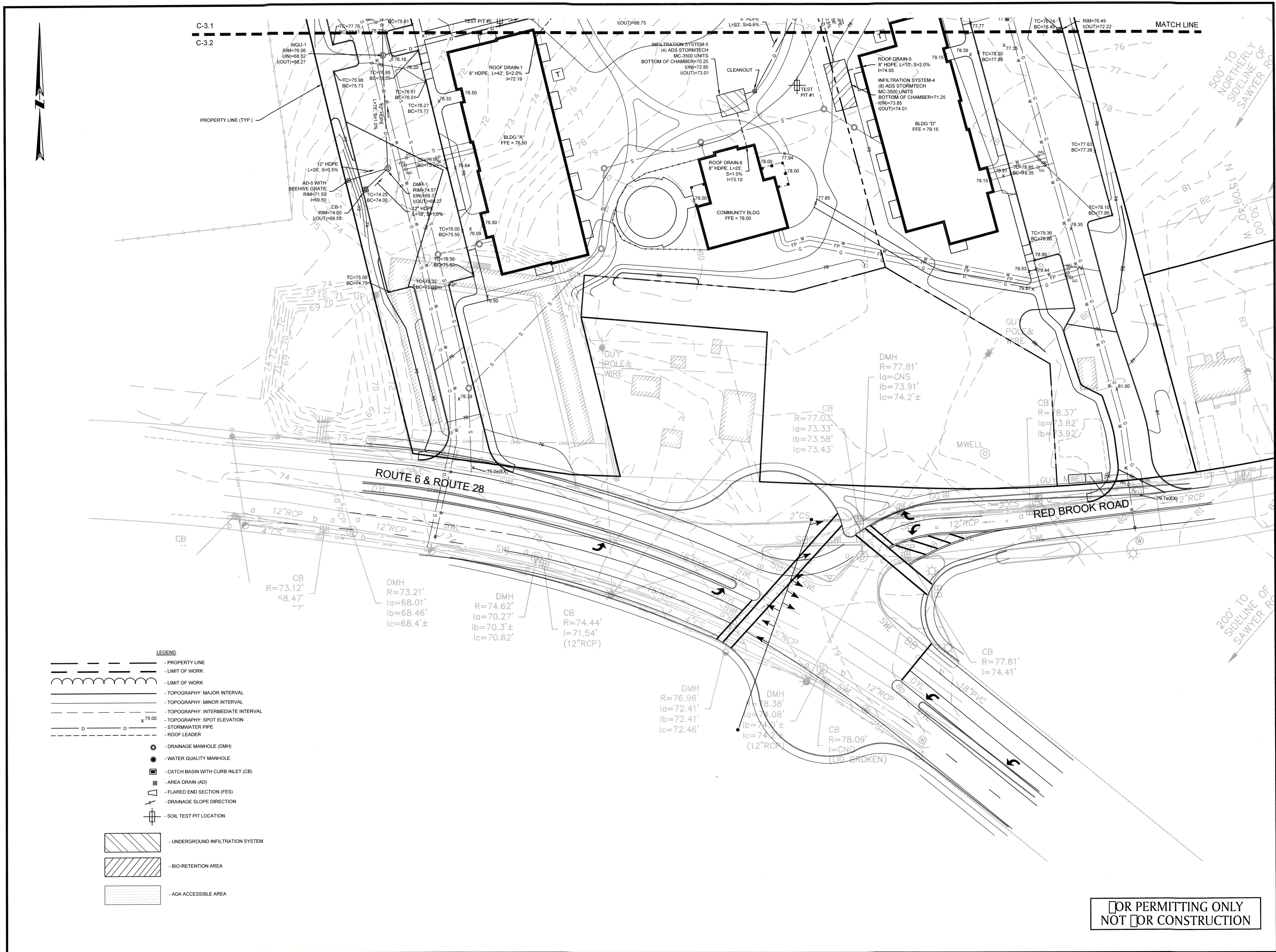
LEGEND

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- FLARED END SECTION (FES)
- DRAINAGE SLOPE DIRECTION
- SOIL TEST PIT LOCATION
- UNDERGROUND INFILTRATION SYSTEM
- BIO-RETENTION AREA
- ADA ACCESSIBLE AREA



C-3.1
C-3.2

MATCH LINE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

GRADING AND DRAINAGE PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS:

NO.	DATE	REVISION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

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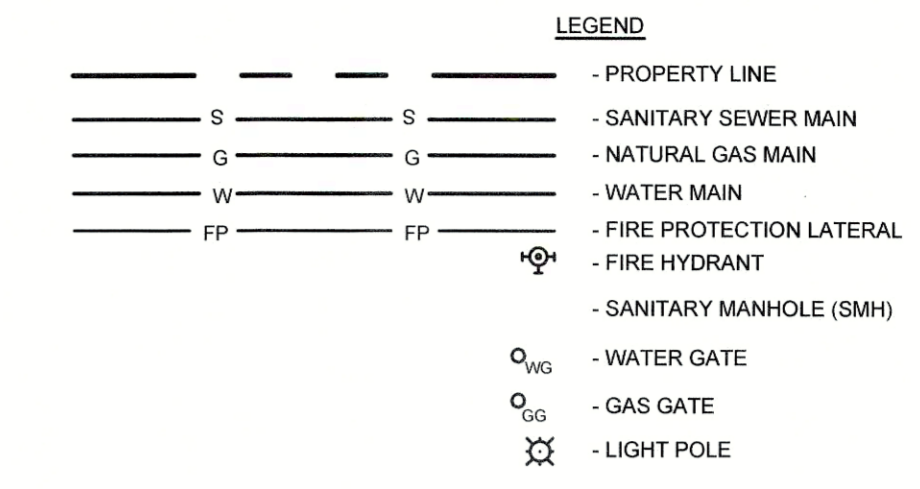
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DWG. NO: **C-3.2**
JOB. NO: 83689.00

- LEGEND**
- PROPERTY LINE
 - LIMIT OF WORK
 - TOPOGRAPHY: MAJOR INTERVAL
 - TOPOGRAPHY: MINOR INTERVAL
 - TOPOGRAPHY: INTERMEDIATE INTERVAL
 - TOPOGRAPHY: SPOT ELEVATION
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 - - AREA DRAIN (AD)
 - △ - FLARED END SECTION (FES)
 - DRAINAGE SLOPE DIRECTION
 - ⊕ - SOIL TEST PIT LOCATION
 - ▨ - UNDERGROUND INFILTRATION SYSTEM
 - ▩ - BIO-RETENTION AREA
 - ▤ - ADA ACCESSIBLE AREA

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NOTES:

- 1. THE TOPOGRAPHY AND DETAIL SHOWN HEREON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 29, 2017.
- 2. FUTURE ROUTE 628 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS WAREHAM, CRANBERRY HIGHWAY (ROUTES 6 & 28), SIGNING AND STRIPING PLANS PROVIDED BY OTHERS. THE CONTROLLER SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
- 3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1963, MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HEREON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- 4. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED. VERIFY ALL TIE-IN POINTS, ROUTING, CONFLICTS, CROSSINGS, AND BUILDING CONNECTION POINTS TO FACILITATE THE COMPLETION OF THE WORK.
- 5. PERFORM EXPLORATORY EXCAVATIONS AS REQUIRED TO VERIFY THE AS-BUILT LOCATION OF EXISTING SUBSURFACE UTILITIES WHERE CROSSINGS OR OTHER POTENTIAL CONFLICTS ARE PRESENT.
- 6. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
- 7. THE TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) OF ALL UTILITY STRUCTURES THAT ARE TO REMAIN SHALL BE ADJUSTED TO MATCH FINAL GRADE IN A FLUSH CONDITION. ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.
- 8. ALL LIGHTING ELECTRICAL SUPPLIES SHALL BE INSTALLED IN MINIMUM 1-INCH PVC CONDUIT PER APPLICABLE SPECIFICATIONS. PLASTIC MARKING TAPE SHALL BE USED ON ALL CONDUIT RUNS.
- 9. THE ROUTING OF LIGHTING ELECTRICAL SUPPLIES SHOWN IS CONCEPTUAL. CONTRACTOR SHALL DETERMINE THE SPECIFIC ROUTING OF ALL LIGHTING SYSTEMS BASED ON THE ACTUAL LOCATION OF TIE-INS) TO EXISTING LIGHTING FEEDS AND AS REQUIRED TO AVOID CONFLICTS WITH OTHER CONSTRUCTION OR SUBSURFACE FACILITIES. PRIOR TO INSTALLATION, PROVIDE SHOP DRAWING SHOWING THE ROUTING OF ALL CONDUIT, LOCATIONS OF HANDHOLES, AND DETAILS OF TIE-INS TO EXISTING SYSTEM.
- 10. THE SCOPE OF ELECTRICAL FACILITIES SHOWN HEREON IS DIAGRAMMATIC. NOT ALL COMPONENTS OF EXISTING FACILITIES OR THE NEW CIRCUIT ARE SHOWN. CONTRACTOR SHALL ASSESS AND DOCUMENT EXISTING ELECTRICAL SERVICE AS TO CAPACITY AND OTHER PERTINENT PARAMETERS AS REQUIRED TO ACCOMMODATE THE NEW ELECTRICAL FACILITIES SHOWN HEREON. PROVIDE ALL REQUIRED BREAKERS, CONDUCTORS, GROUNDING, AND OTHER ANCILLARY COMPONENTS TO PROVIDE A NEW, COMPLETE CODE-COMPLIANT CIRCUIT.
- 11. CONDUIT: RIGID PVC ELECTRICAL CONDUIT, NEMA TC 2 AND UL -651; FITTINGS AND CONDUIT BODIES: PVC TO MATCH CONDUIT, NEMA TC-3. PRIMER/SOLVENT CEMENT: ASTM F856/ASTM D2564; PULL ROPE: 3/8-INCH DOUBLE BRAIDED, LOW STRETCH POLYESTER COMPOSITE ROPE.
- 12. TRACER WIRE REQUIRED FOR TELECOMMUNICATIONS AND ELECTRIC ONLY. PROVIDE APPROPRIATE WIRE ACCESS POINTS.
- 13. ALL UNDERGROUND TELECOMMUNICATIONS AND ELECTRIC CONDUITS SHALL BE ENCASED IN CONCRETE EXCEPT BRANCH DISTRIBUTION FOR LIGHTING. WORK CONCRETE TO REMOVE ALL TRAPPED AIR AND INSURE EACH CONDUIT IS COMPLETELY SURROUNDED BY A MINIMUM 2" OF CONCRETE. ALLOW CONCRETE TO CURE FOR AT LEAST ONE HOUR BEFORE BACKFILLING.
- 14. FOR TELECOMMUNICATIONS AND ELECTRIC, WARNING TAPE SHALL BE INSTALLED 12-INCHES BELOW GRADE.
- 15. SEAL ALL CONDUIT ENDS WITH BLANK DUCT PLUGS. SECURE PULL ROPE TO DUCT PLUG.
- 16. ALL WORK ASSOCIATED WITH FIRE PROTECTION AND DOMESTIC WATER SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE LOCAL WATER UTILITY.
- 17. ALL WORK ASSOCIATED WITH ELECTRICAL SERVICE SHALL CONFORM TO THE STANDARDS OF NATIONAL GRID. IF THERE ARE ANY CONFLICTS BETWEEN THE REQUIREMENTS INDICATED HEREON AND NATIONAL GRID STANDARDS, NATIONAL GRID STANDARDS SHALL PREVAIL.
- 18. ALL WORK ASSOCIATED WITH TELECOMMUNICATIONS SHALL CONFORM TO THE STANDARDS OF THE LOCAL PROVIDER.
- 19. INSTALL CONDUIT, PULL ROPE, CAPS, WARNING TAPE, AND TRACER WIRE PER APPLICABLE SPECIFICATIONS, STANDARDS, AND CODES.
- 20. ALTHOUGH NOT SHOWN ON THE DRAWINGS, PROVIDE FOR THE INSTALLATION OF ALL JOINTS, COUPLINGS, RESTRAINTS, BENDS, ANGLES, AND OTHER APPURTENANCES TO ACHIEVE A COMPLETE, FUNCTIONAL WATER SUPPLY SYSTEM.
- 21. SANITARY SEWER PIPING AND FITTINGS SHALL BE TYPE PSM SDR-35. ALL SANITARY SEWER JOINTS ARE TO BE ELASTOMERIC GASKET JOINTS, WHICH PROVIDE A WATER TIGHT SEAL. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. CONNECTIONS TO HOUSE SERVICES SHALL BE A FLEXIBLE COUPLING OF THE PROPER SIZE EQUIPPED WITH STAINLESS STEEL FASTENERS.
- 22. FIRE HYDRANT LOCATIONS SHOWN FOR REFERENCE ONLY. FINAL HYDRANT LOCATIONS SHALL BE DETERMINED BY ONSET FIRE DISTRICT PRIOR TO ISSUANCE OF BUILDING PERMIT.
- 23. AT ALL SEWER AND WATER CROSSINGS, BOTH PIPES SHALL BE ENCASED IN CONCRETE 10' TO EITHER SIDE OF CROSSING.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

OVERALL UTILITY PLAN

JANUARY 12, 2018

REVISIONS:	
1	04/09/18 PEER REVIEW COMMENTS
2	07/20/18 REVISED LAYOUT
3	08/10/18 PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
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Boston, Massachusetts
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DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

UTILITY PLAN (NORTH)

JANUARY 12, 2018

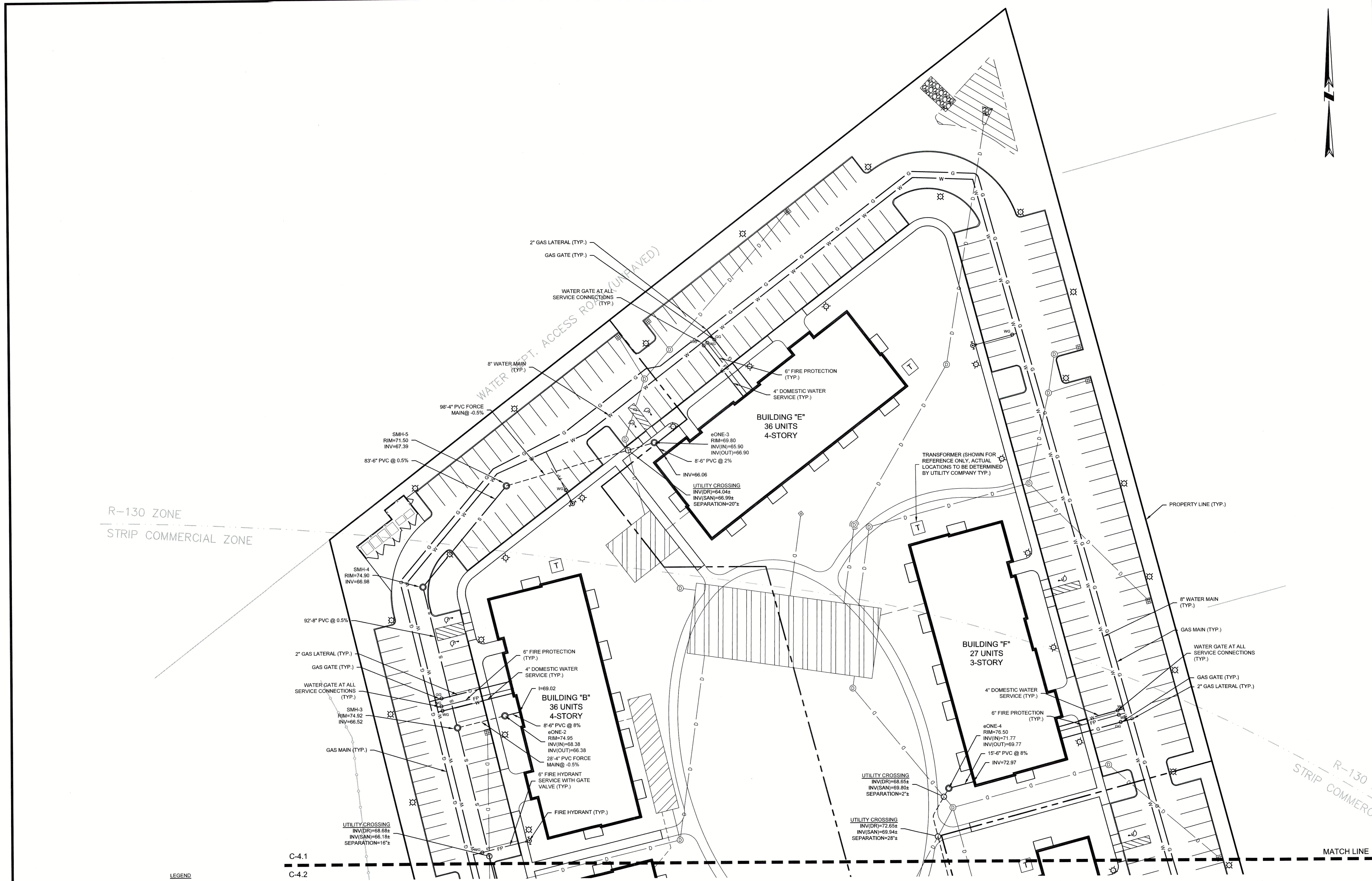
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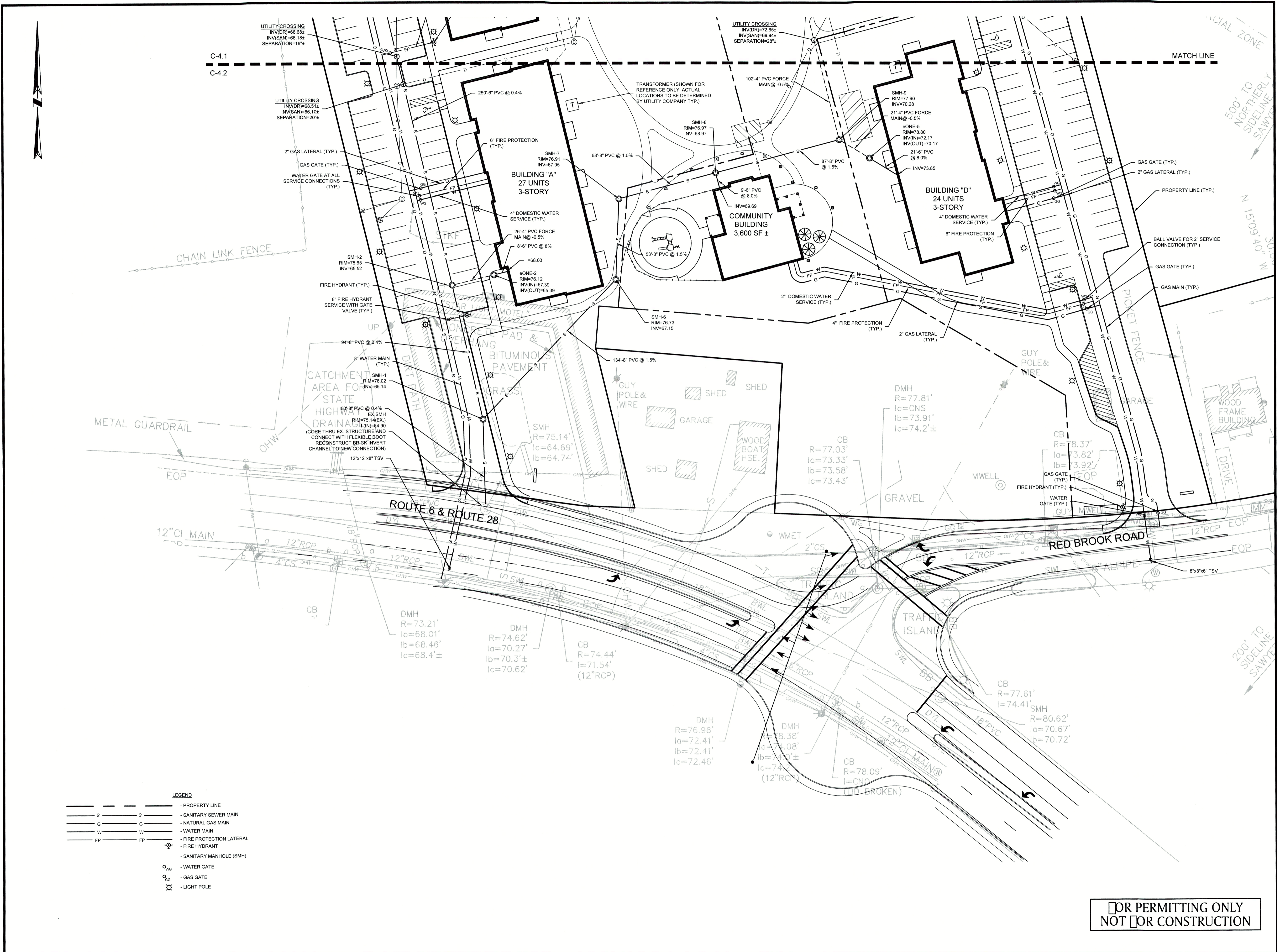
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- LEGEND**
- - - - - PROPERTY LINE
 - S - - - - - SANITARY SEWER MAIN
 - G - - - - - NATURAL GAS MAIN
 - W - - - - - WATER MAIN
 - FP - - - - - FIRE PROTECTION LATERAL
 - - - - - - FIRE HYDRANT
 - - - - - - SANITARY MANHOLE (SMH)
 - - - - - - WATER GATE
 - - - - - - GAS GATE
 - - - - - - LIGHT POLE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

UTILITY PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS:

1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

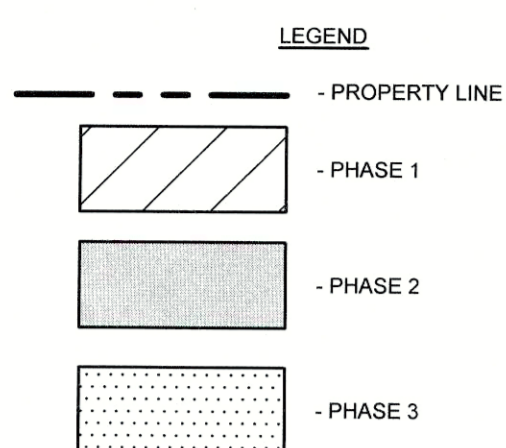
PREPARED FOR: DAKOTA PARTNERS 1264 MAIN STREET WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts
 02127 617 896 4300

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FILE: 8366900-UT.DWG DWG NO: C-4.2 JOB NO: 8366900

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NOTES

1. THE PHASING PLANS ARE INTENDED TO SHOW THE GENERAL SEQUENCE OF CONSTRUCTION. THEY ARE NOT TO BE USED FOR CONSTRUCTION, NOR ARE THEY INTENDED TO SHOW THE EXACT LIMIT OF WORK PERFORMED DURING EACH PHASE.

ZONING TABLE

	REQUIRED		LOT 1	LOT 2	LOT 3	TOTAL
	COMMERCIAL STRIP	R-130 ⁽¹⁾				
MINIMUM LOT AREA (SF)	20,000	N/A	136,460	151,374	57,094	344,928
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3	25.2	10.0	-
MINIMUM SIDE/REAR SETBACK (FT)	20	N/A	11.7	8.7	20.0	-
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52	0	100.06	-
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5	16.4	16.8	16.1
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8	45.7	54.3	48.0
DISTANCE FROM RESIDENTIAL (FT)	40	-	166.7 ⁽²⁾	166.7 ⁽²⁾	166.7	-
MAXIMUM HEIGHT (FT)	40	N/A	44	44	34	-

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE I BUILDING TO PHASE II BUILDING IS 82'.
 (3) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 51'.

PARKING TABLE

	LOT 1	LOT 2	LOT 3	TOTAL
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 121	(11) 1BDRM + (52) 2+BDRM = 121	(5) 1BDRM + (19) 2+BDRM = 46	(27) 1BDRM + (123) 2+BDRM = 297
PARKING SPACES PROVIDED	106	117	41	264

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
 DAKOTA PARTNERS
 1284 MAIN STREET
 WALTHAM, MA 02451

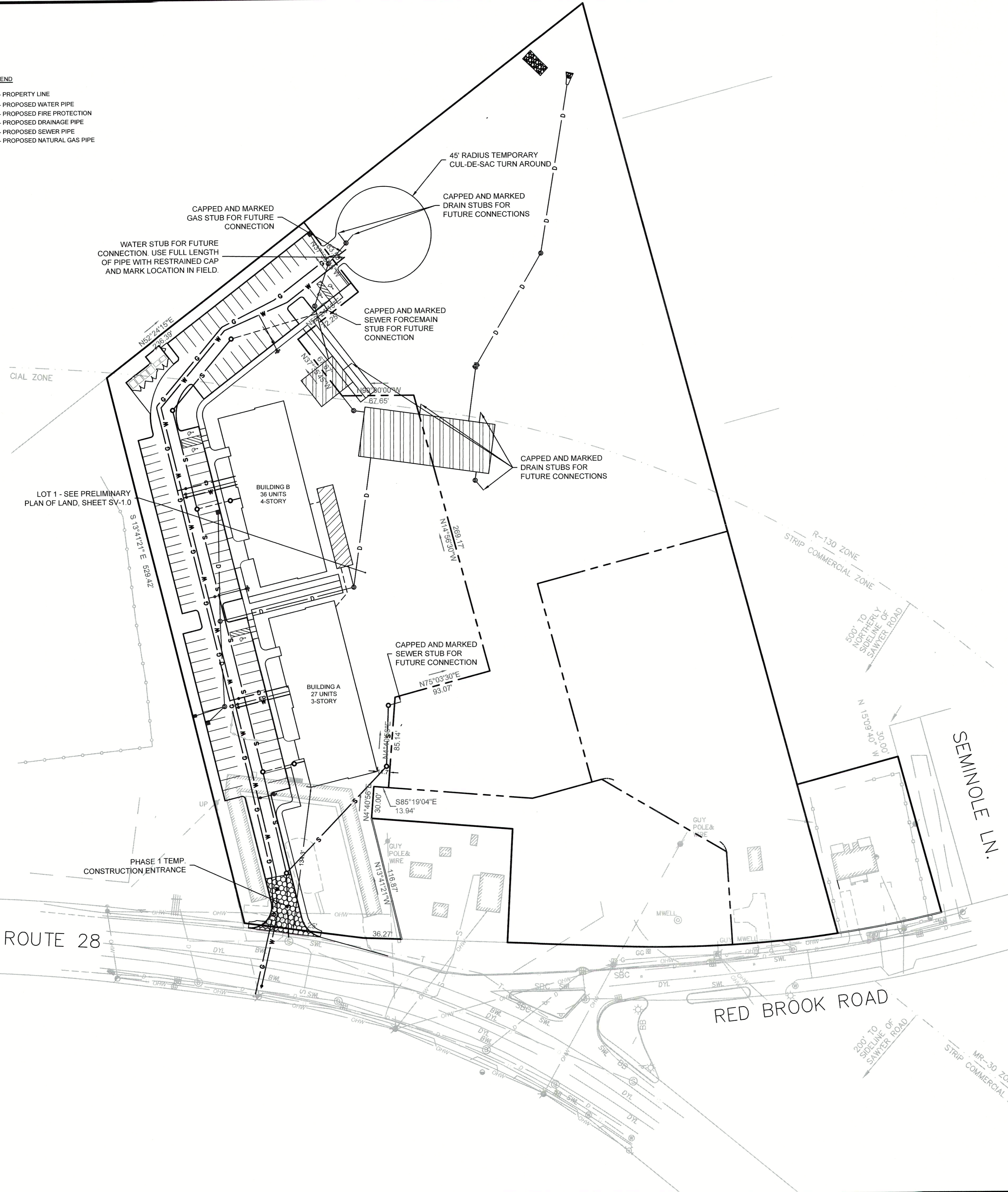
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 SCALE: 1" = 50'

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FILE: 8386900-PHASE.DWG
 DWG. NO.:
 JOB. NO.: 83869.00 **C-1.0**

- LEGEND**
- - - - - PROPERTY LINE
 - W - - - - - PROPOSED WATER PIPE
 - --- PROPOSED FIRE PROTECTION
 - D - - - - - PROPOSED DRAINAGE PIPE
 - --- PROPOSED SEWER PIPE
 - --- PROPOSED NATURAL GAS PIPE



ZONING TABLE

	REQUIRED		PHASE 1
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	136,460
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	11.7
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8
DISTANCE FROM RESIDENTIAL (FT)	40	--	166.7 ⁽²⁾
MAXIMUM HEIGHT (FT)	40	N/A	44

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE 1 BUILDING TO PHASE II BUILDING IS 82'

PARKING TABLE

	PHASE 1
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 121
PARKING SPACES PROVIDED	106

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE
 IN
WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 1)

JANUARY 12, 2018

REVISIONS:

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3	08/10/18	PEER REVIEW COMMENTS

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 0 25 50 100 FEET

FILE: 8366900-PHASE.DWG
 DWG. NO.
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C-1.1

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LEGEND

- - - - - PROPERTY LINE
- W - - - - - PROPOSED WATER PIPE
- PROPOSED FIRE PROTECTION
- D - - - - - PROPOSED DRAINAGE PIPE
- PROPOSED SEWER PIPE
- PROPOSED NATURAL GAS PIPE

ZONING TABLE

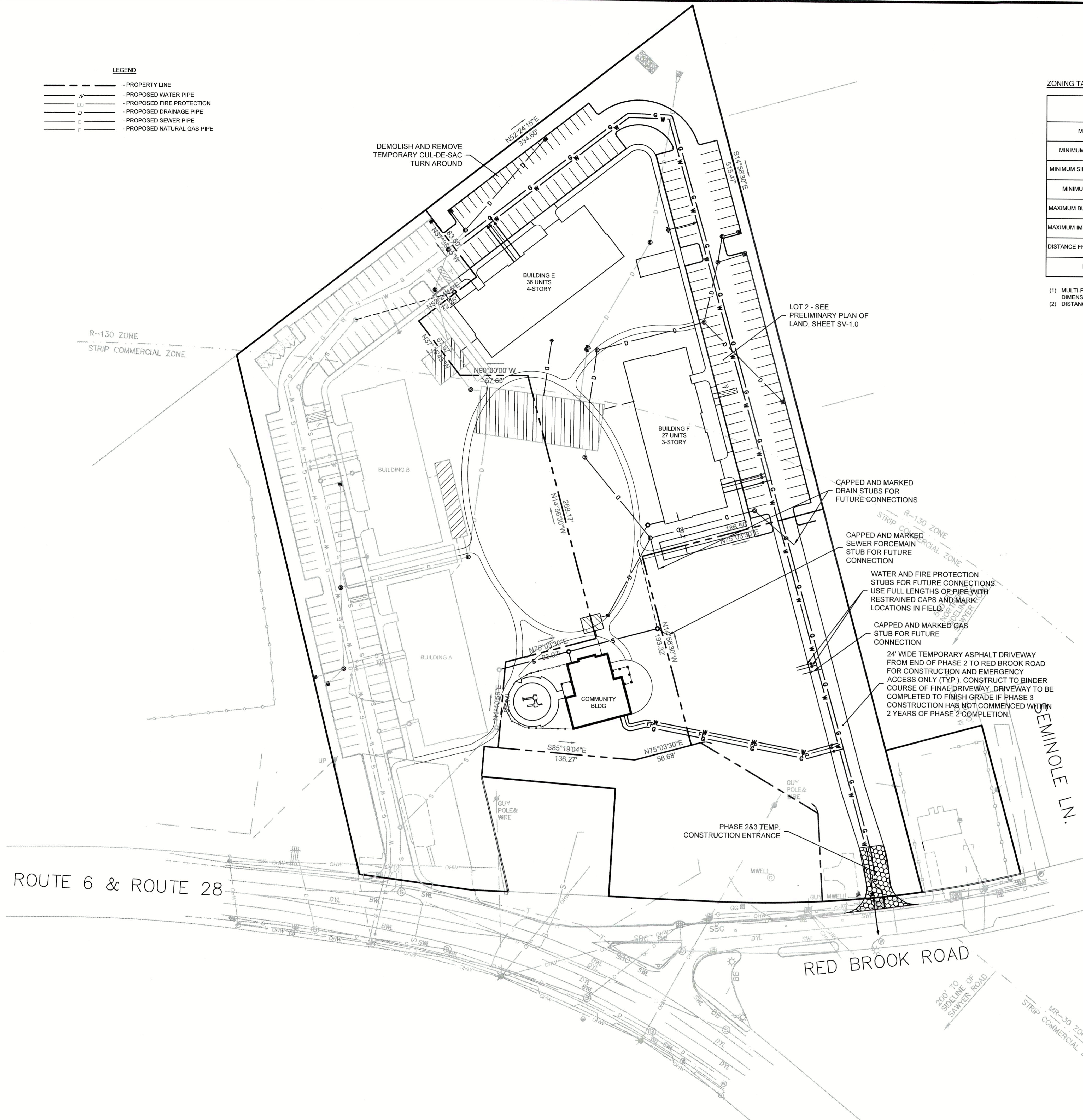
	REQUIRED		PHASE 2
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	151,374
MINIMUM FRONT SETBACK (FT)	30	N/A	25.2
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	8.7
MINIMUM LOT FRONTAGE (FT)	250	N/A	0
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	16.4
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	45.7
DISTANCE FROM RESIDENTIAL (FT)	40	--	168.7 ⁽²⁾
MAXIMUM HEIGHT (FT)	40	N/A	44

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 51'.

PARKING TABLE

	PHASE 2
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 122
PARKING SPACES PROVIDED	117

(1) 1BDRM REQUIRES 1.5 SPACES
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 2)

JANUARY 12, 2018

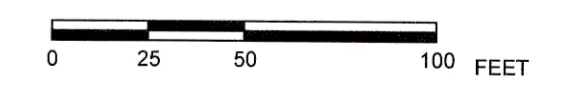
REVISIONS:

NO.	DATE	REVISION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

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C-02

LEGEND

- — — — — PROPERTY LINE
- W — — — — — PROPOSED WATER PIPE
- — — — — PROPOSED FIRE PROTECTION
- D — — — — — PROPOSED DRAINAGE PIPE
- — — — — PROPOSED SEWER PIPE
- — — — — PROPOSED NATURAL GAS PIPE

ZONING TABLE

	REQUIRED		PHASE 3
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	57,094
MINIMUM FRONT SETBACK (FT)	30	N/A	10.0
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	20.0
MINIMUM LOT FRONTAGE (FT)	250	N/A	100.06
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	16.8
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	54.3
DISTANCE FROM RESIDENTIAL (FT)	40	—	166.7
MAXIMUM HEIGHT (FT)	40	N/A	34

(1) MULTI-FAMILY RESIDENTIAL APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.

PARKING TABLE

	PHASE 3
PARKING SPACES REQUIRED	(5) 1BDRM + (19) 2+4BDRM = 46
PARKING SPACES PROVIDED	41

(1) 1BDRM REQUIRES 1.5 SPACES.
(2) 2+4BDRM REQUIRES 2 SPACES.



WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 3)

JANUARY 12, 2018

REVISIONS:

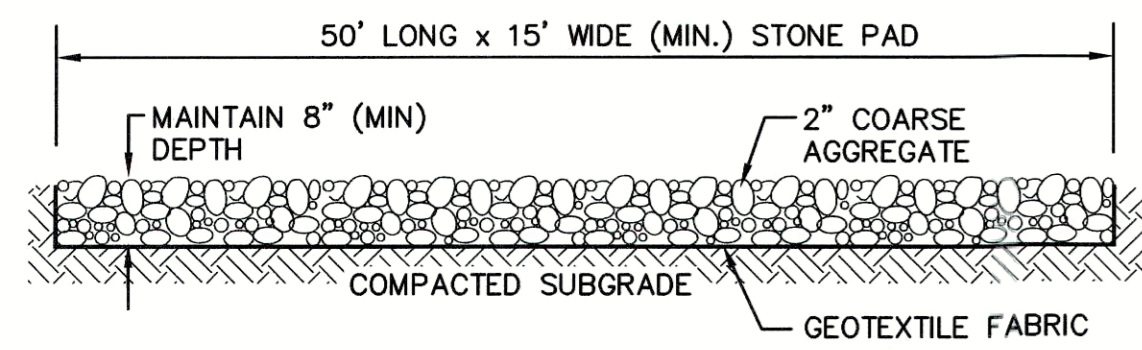
NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1284 MAIN STREET
WALTHAM, MA 02451

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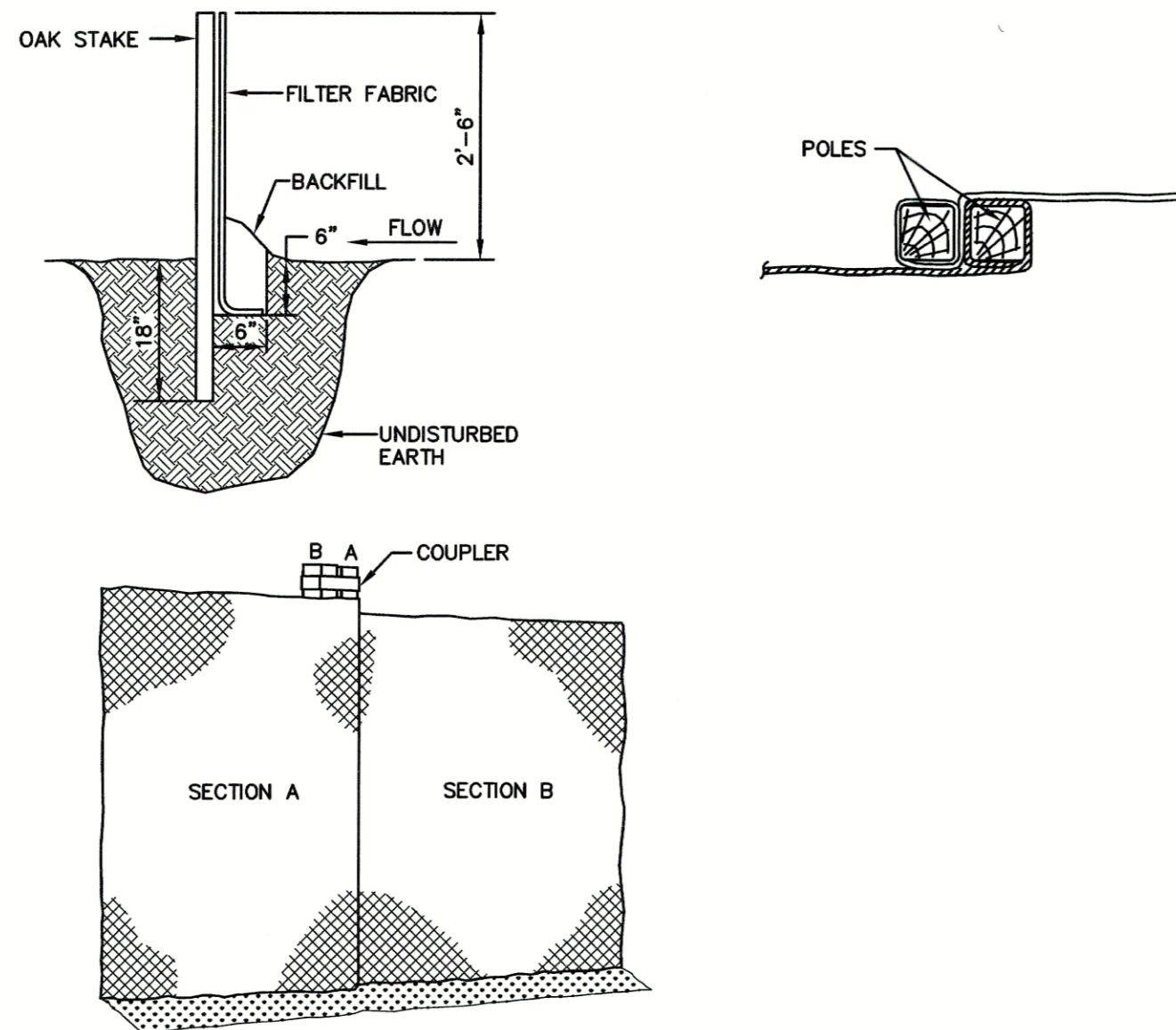
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SCALE: 1" = 50'
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DWG NO:
JOB NO: 83669.00
C-3

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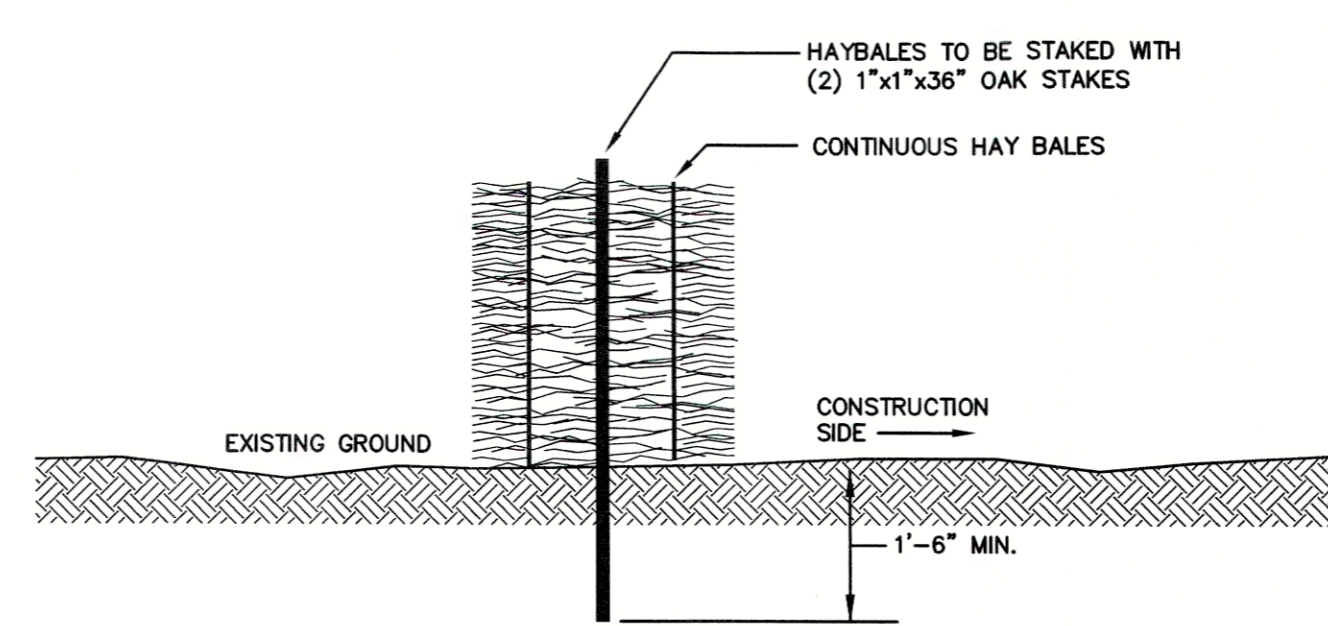
TEMPORARY CONSTRUCTION ENTRANCE

SCALE: NONE



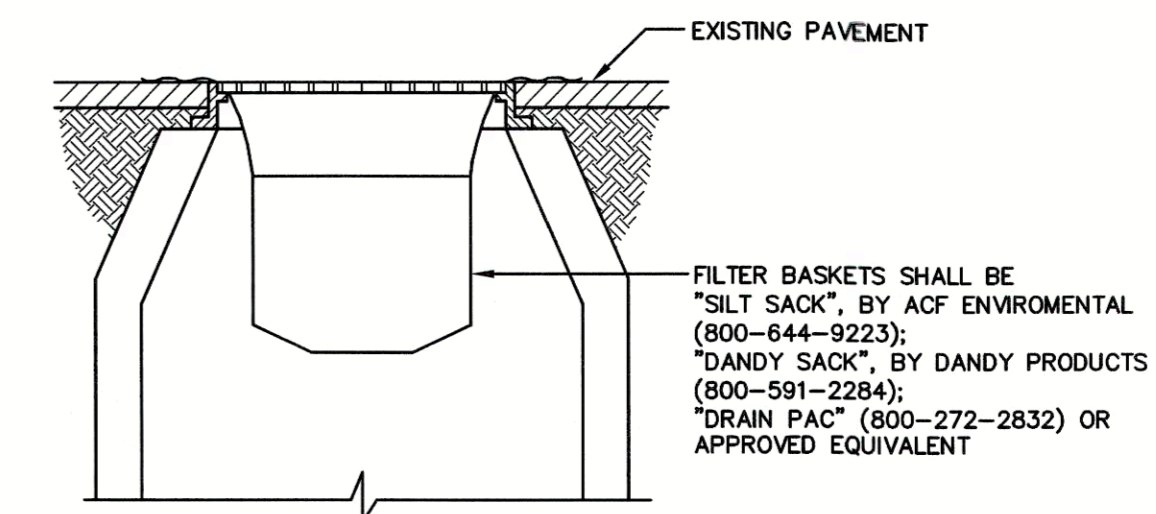
SILT FENCE

SCALE: NONE



SINGLE ROW HAYBALE

SCALE: NONE



SEDIMENT FILTER INLET PROTECTION

SCALE: NONE

- NOTES:**
1. BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 1"x1"x36" WOODEN STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
 3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 4. BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
 5. BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
 6. BALES TO BE TWINE BOUND.

NOTE: FILTER BASKETS TO BE PLACED IN ALL CATCH BASINS IN THE VICINITY OF NEW CONSTRUCTION. CATCH BASINS ARE TO BE PROTECTED AS SHOWN, WITH MINIMUM WEEKLY MAINTENANCE, OR AS REQUIRED AND REPLACED IF NECESSARY.

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

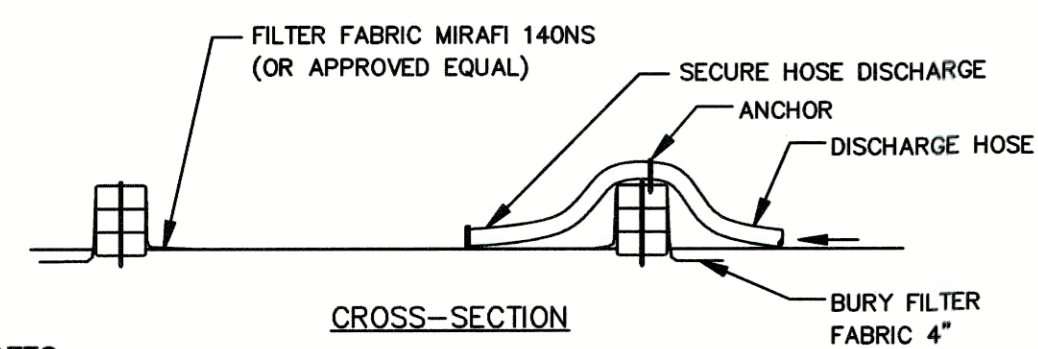
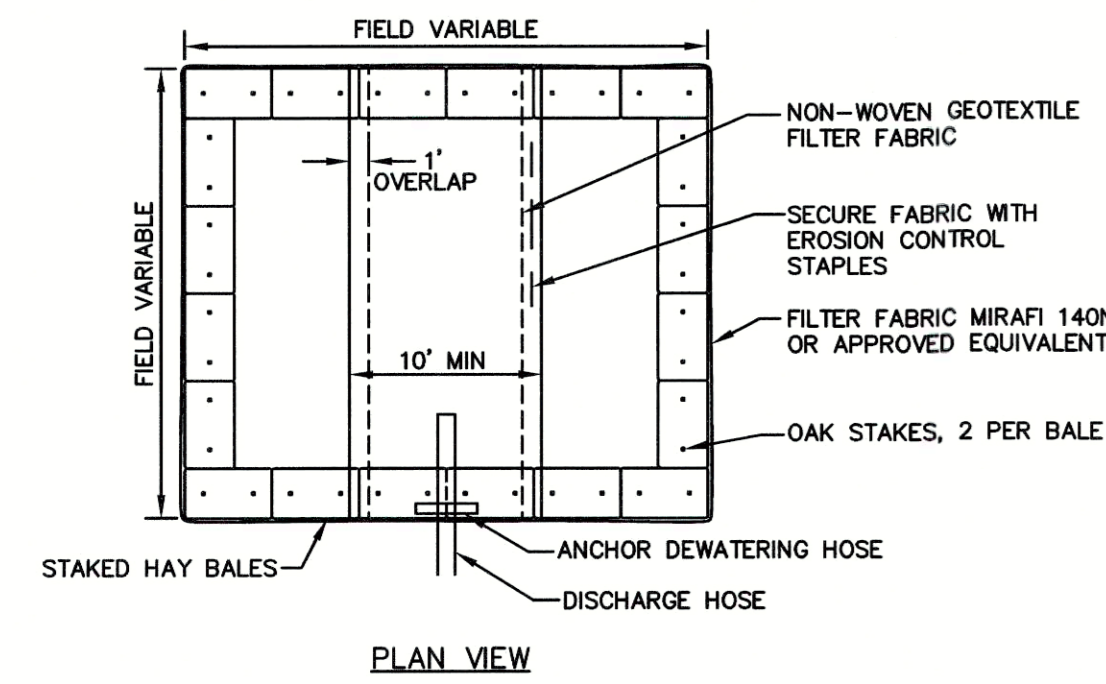
3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:

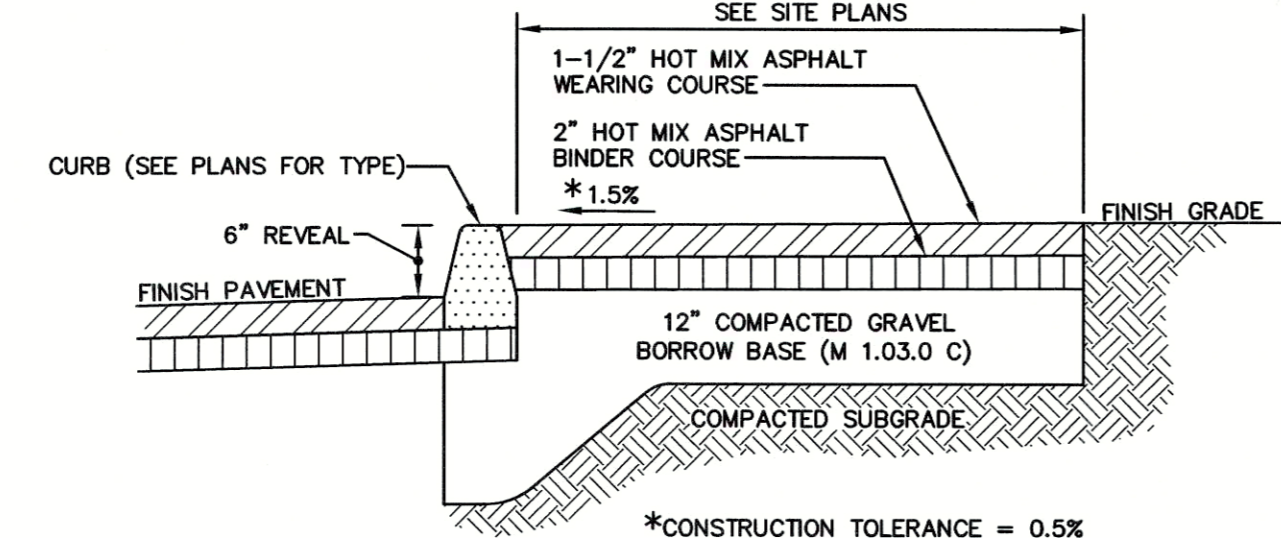
1	04/09/18	PEER REVIEW COMMENTS
1	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS



- NOTES:**
1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
 2. THE BASIN TO BE SIZED ACCORDING TO: CUBIC FEET OF STORAGE = PUMP DISCHARGE RATE (gpm) x 16
 3. SIZE SHOWN ON PLANS SHALL BE ADJUSTED AS REQUIRED FOR THE ACTUAL PUMPING RATE.

DEWATERING HAYBALE BASIN (TYPE 1)

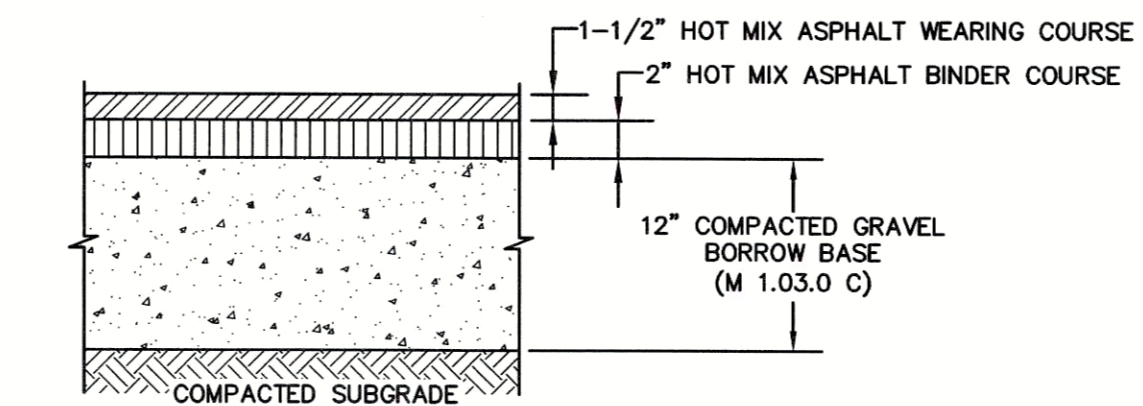
SCALE: NONE



NOTE: HEAVY DUTY ASPHALT SIDEWALK TO BE INSTALLED AT ALL LOCATIONS ADJACENT TO STAMPED ASPHALT ISLANDS AND BETWEEN GRASSCRETE FOR FIRE DEPARTMENT ACCESS.

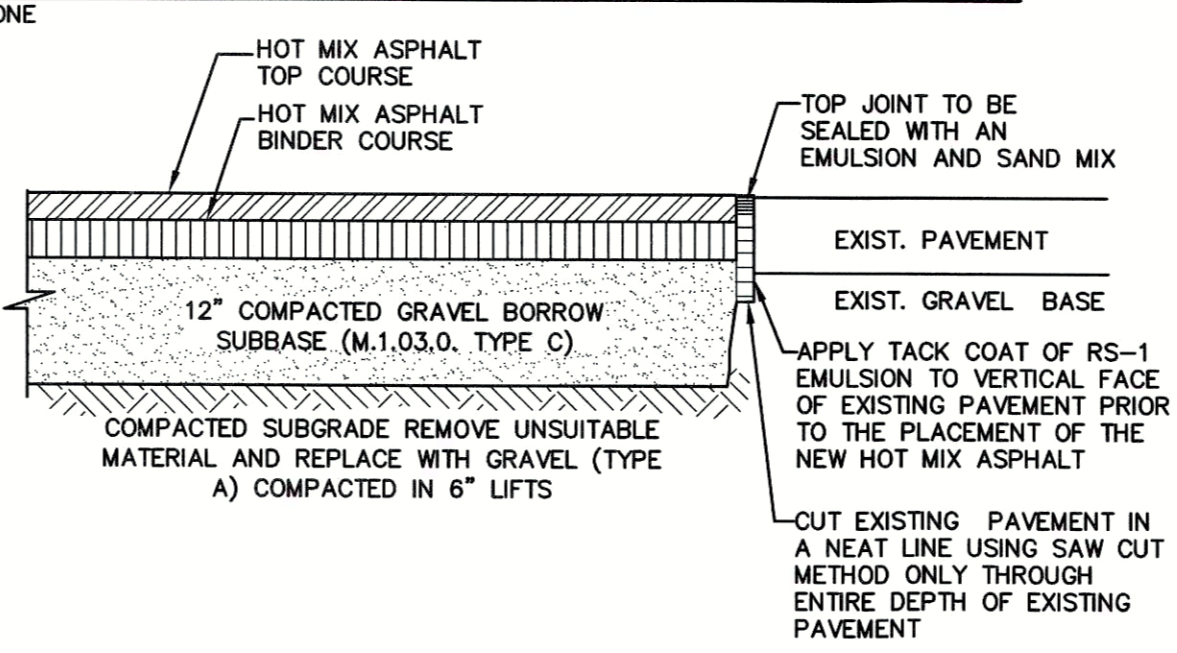
HEAVY DUTY ASPHALT SIDEWALK

SCALE: NONE



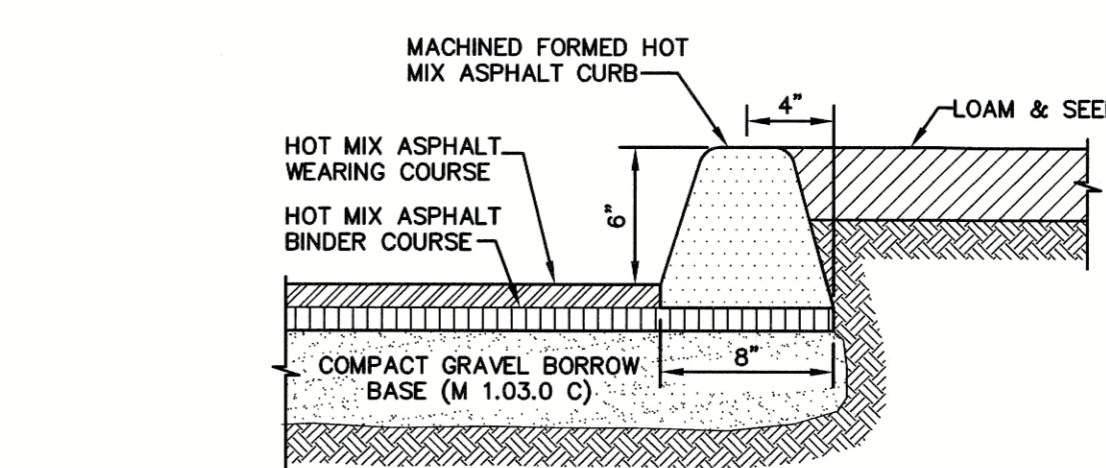
HOT MIX ASPHALT PAVEMENT SECTION

SCALE: NONE



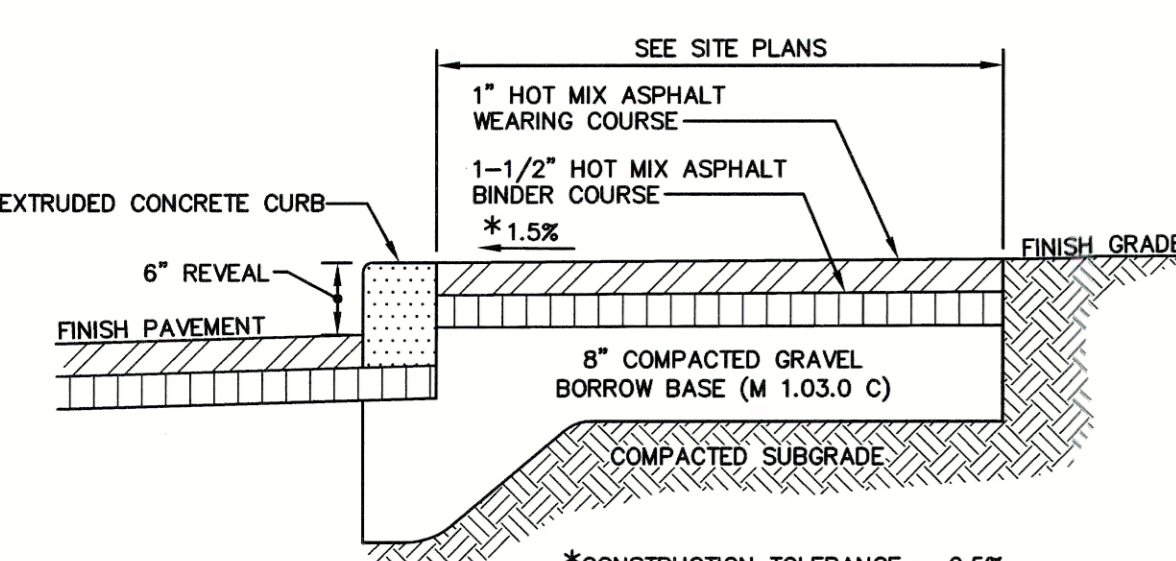
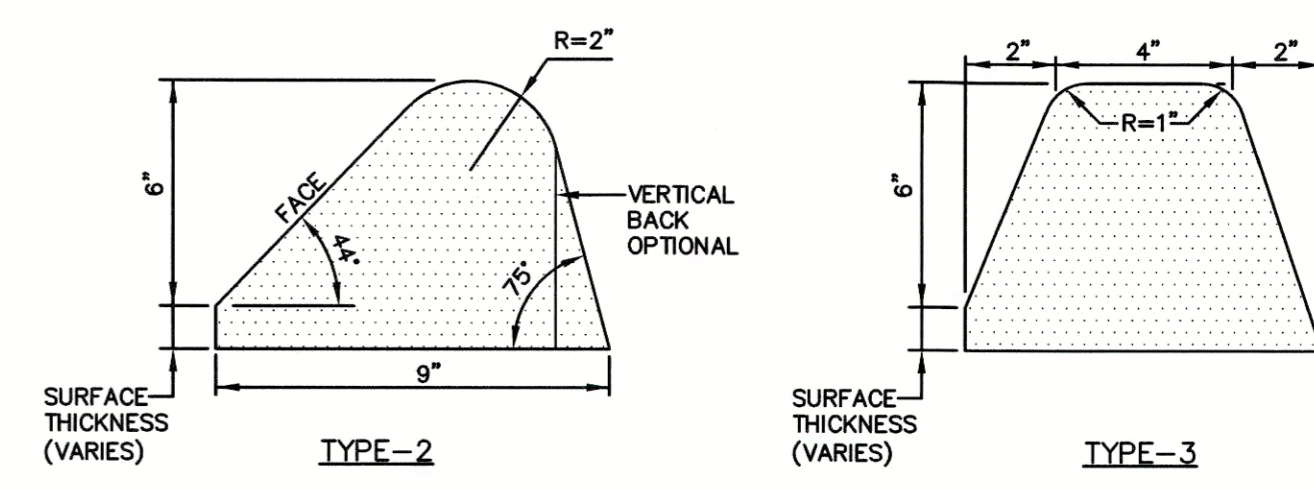
HOT MIX ASPHALT PAVEMENT JOINTS

SCALE: NONE



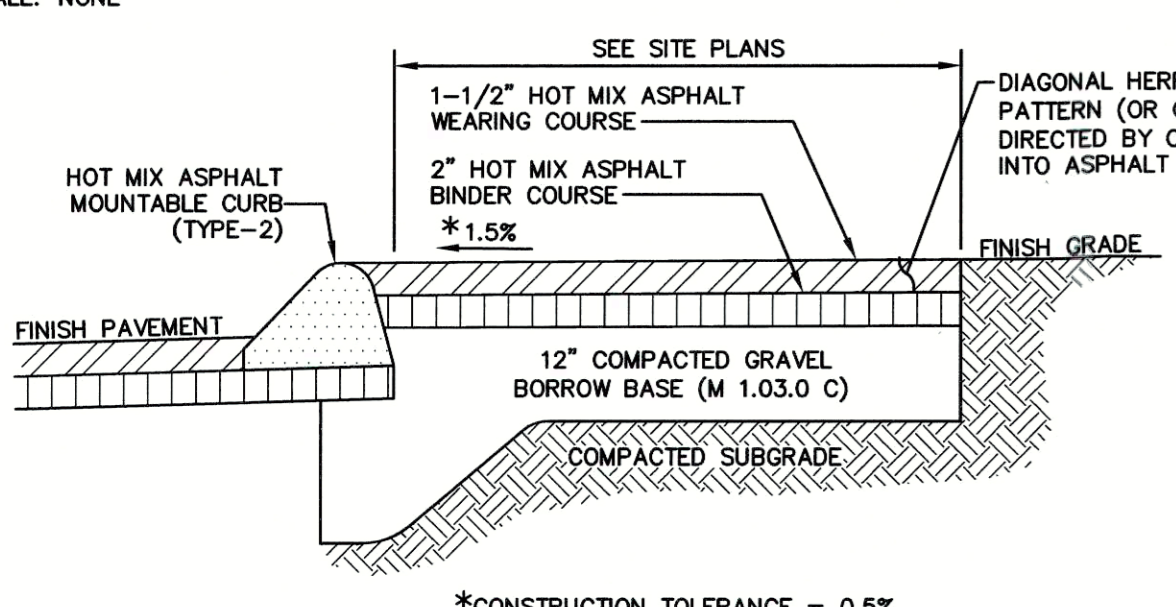
HOT MIX ASPHALT CURB

SCALE: NONE



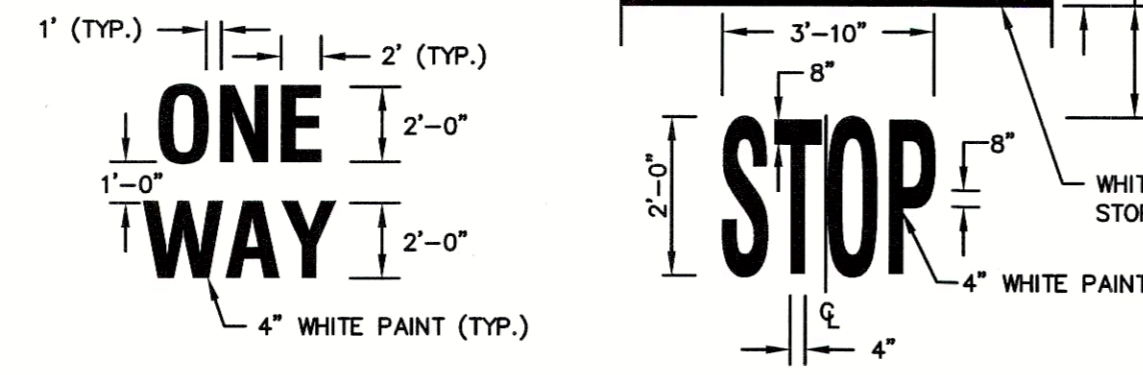
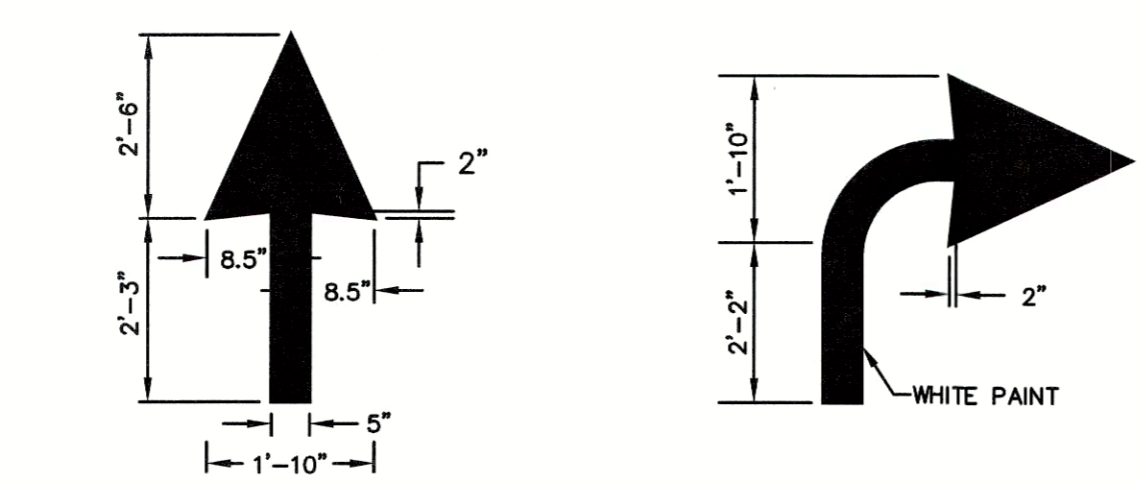
BITUMINOUS CONCRETE SIDEWALK

SCALE: NONE



STAMPED HOT MIX ASPHALT PAVEMENT

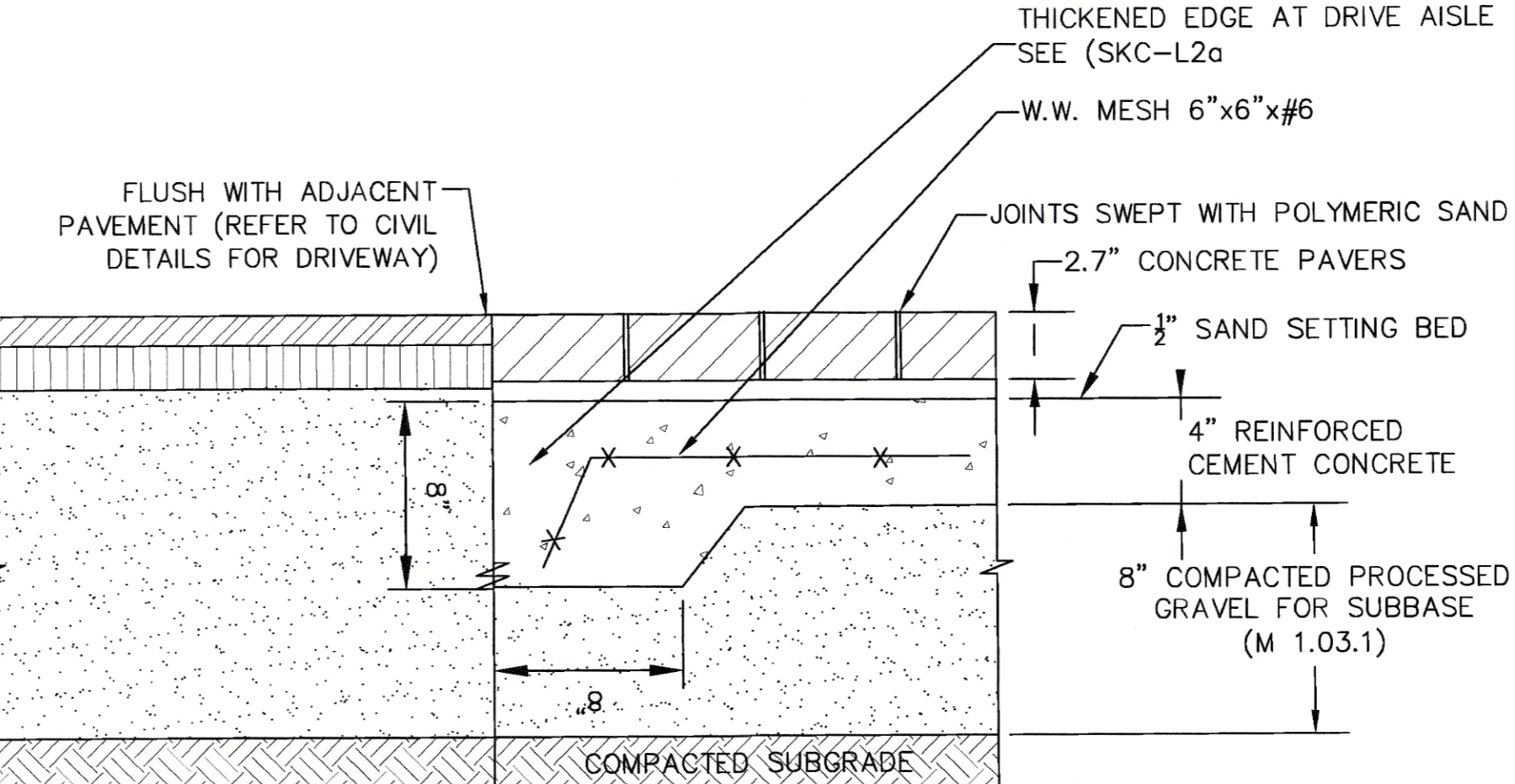
SCALE: NONE



NOTE: PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS SHOWN ON THE PLANS

PAINTED PAVEMENT MARKINGS

SCALE: NONE



PAVERS ON CONCRETE BASE

SCALE: NONE

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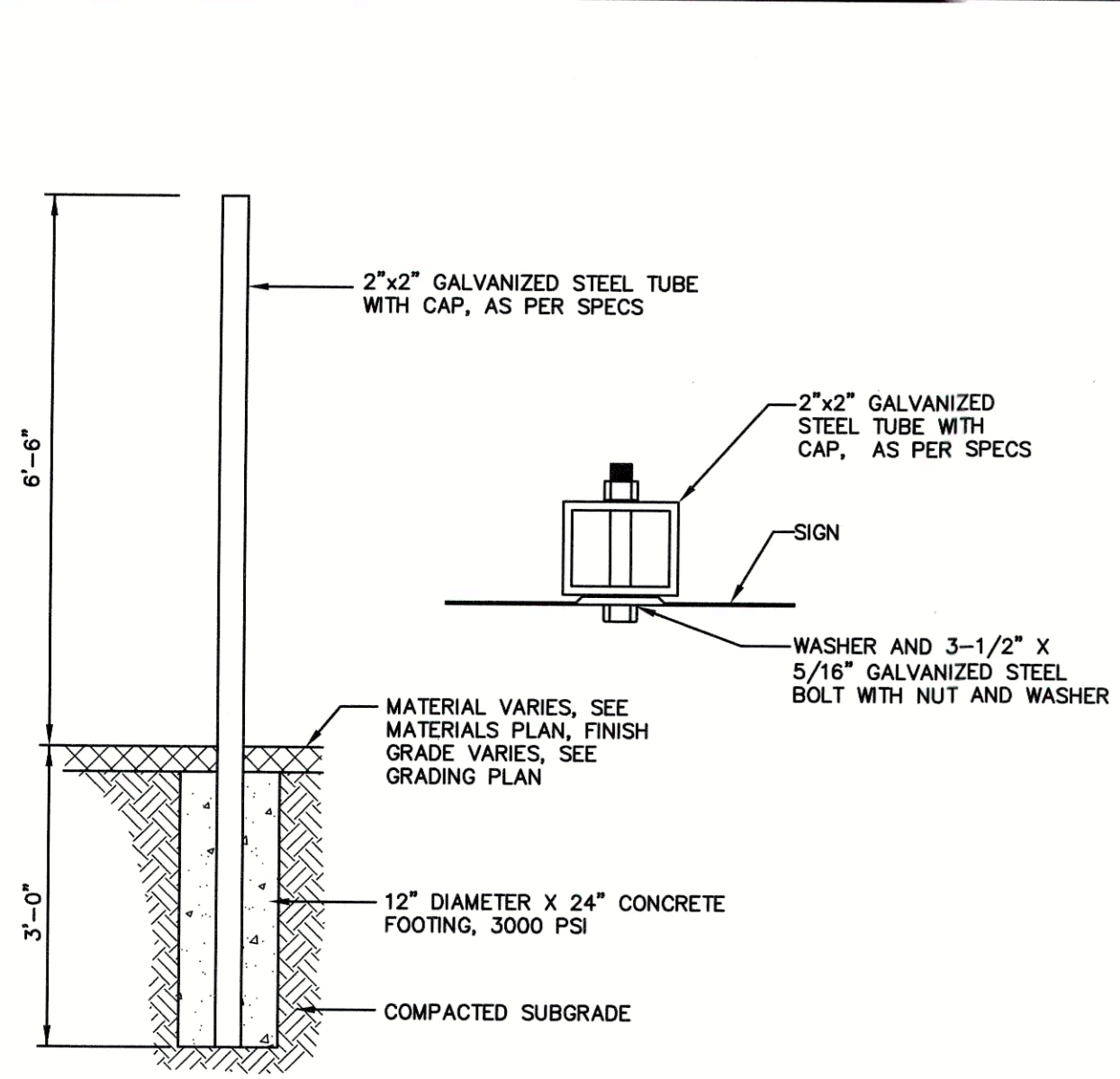
PREPARED FOR:
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1264 MAIN STREET
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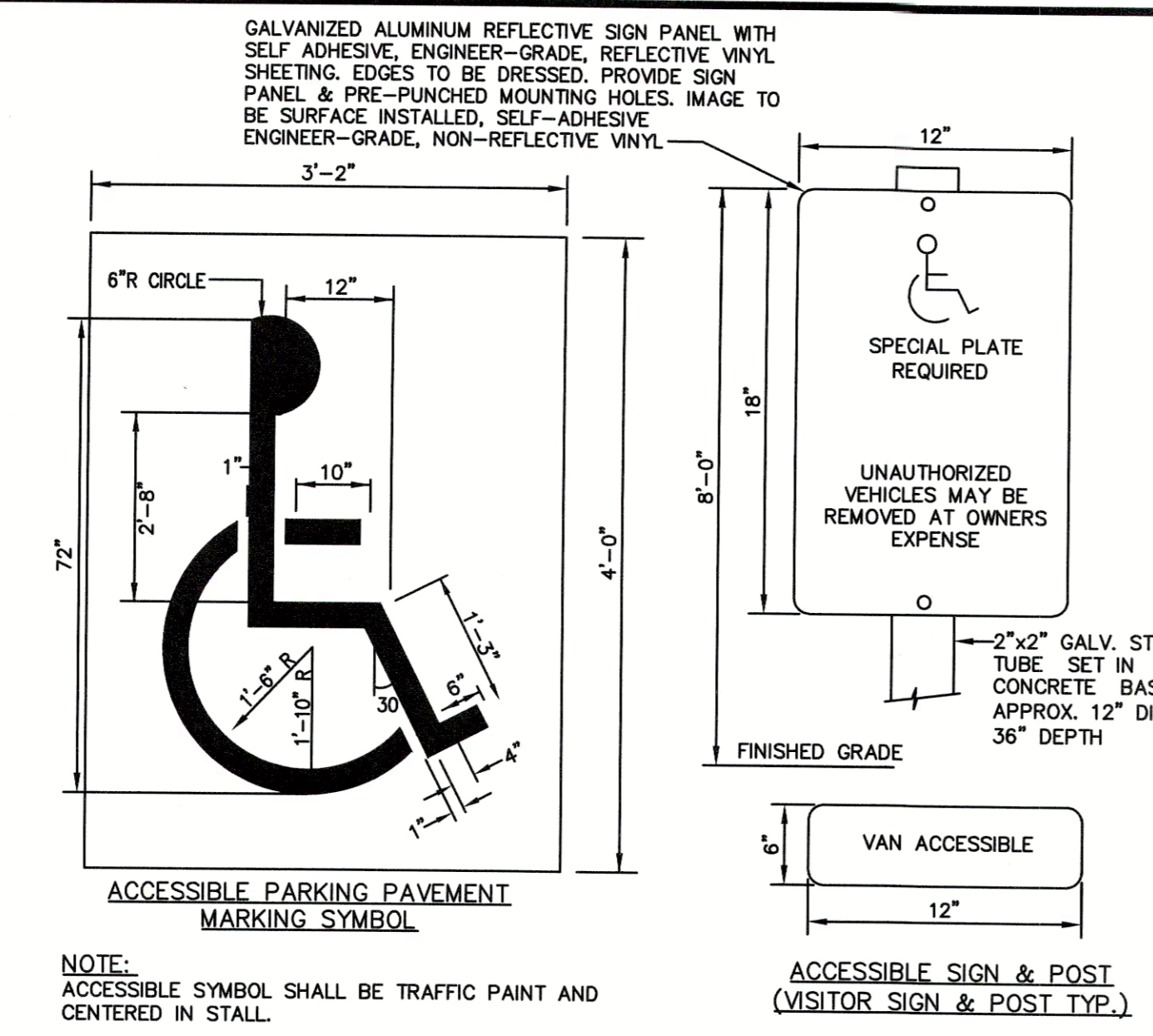
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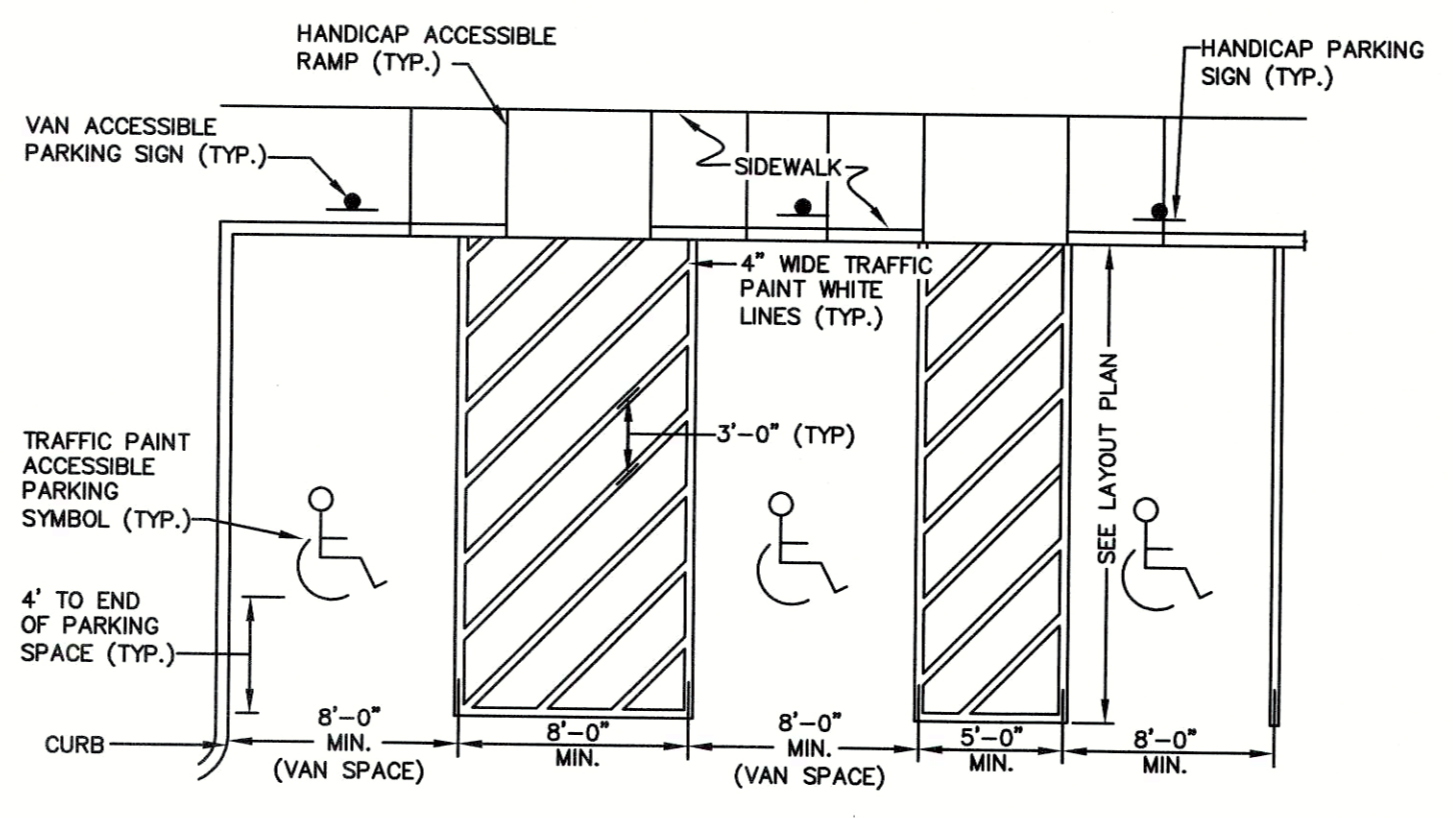
WOODLAND COVE - JANUARY 12, 2018



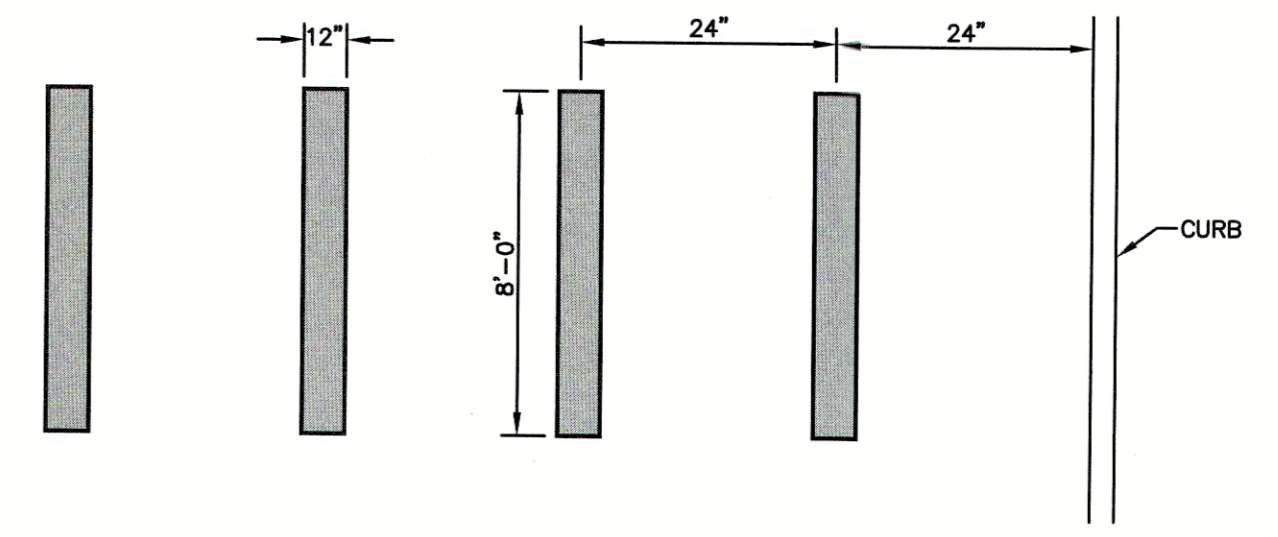
TYPICAL SIGN SUPPORT
SCALE: NONE



PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SYMBOL & ACCESSIBLE PARKING SIGN
SCALE: NONE

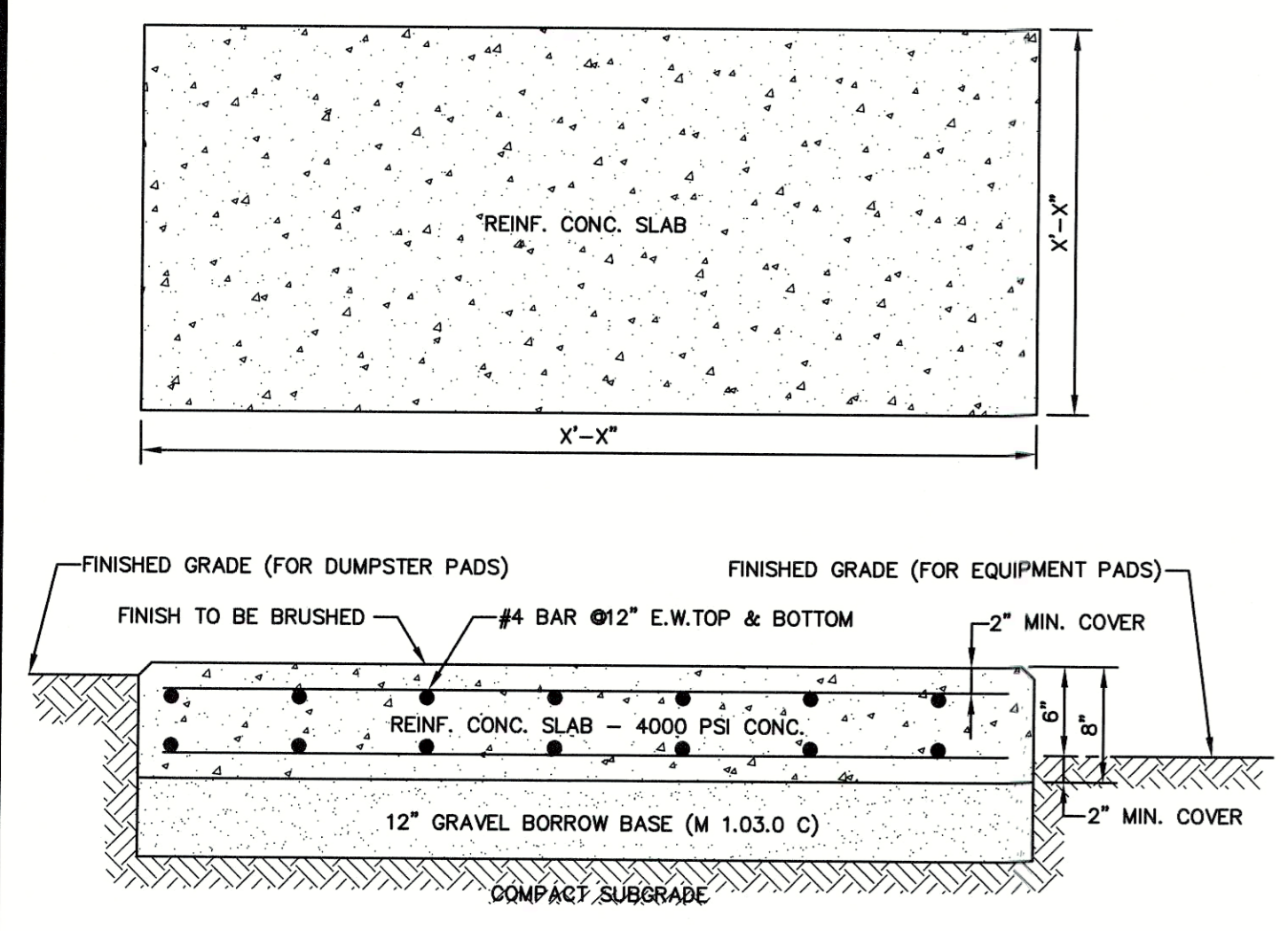


PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SPACE
SCALE: NONE

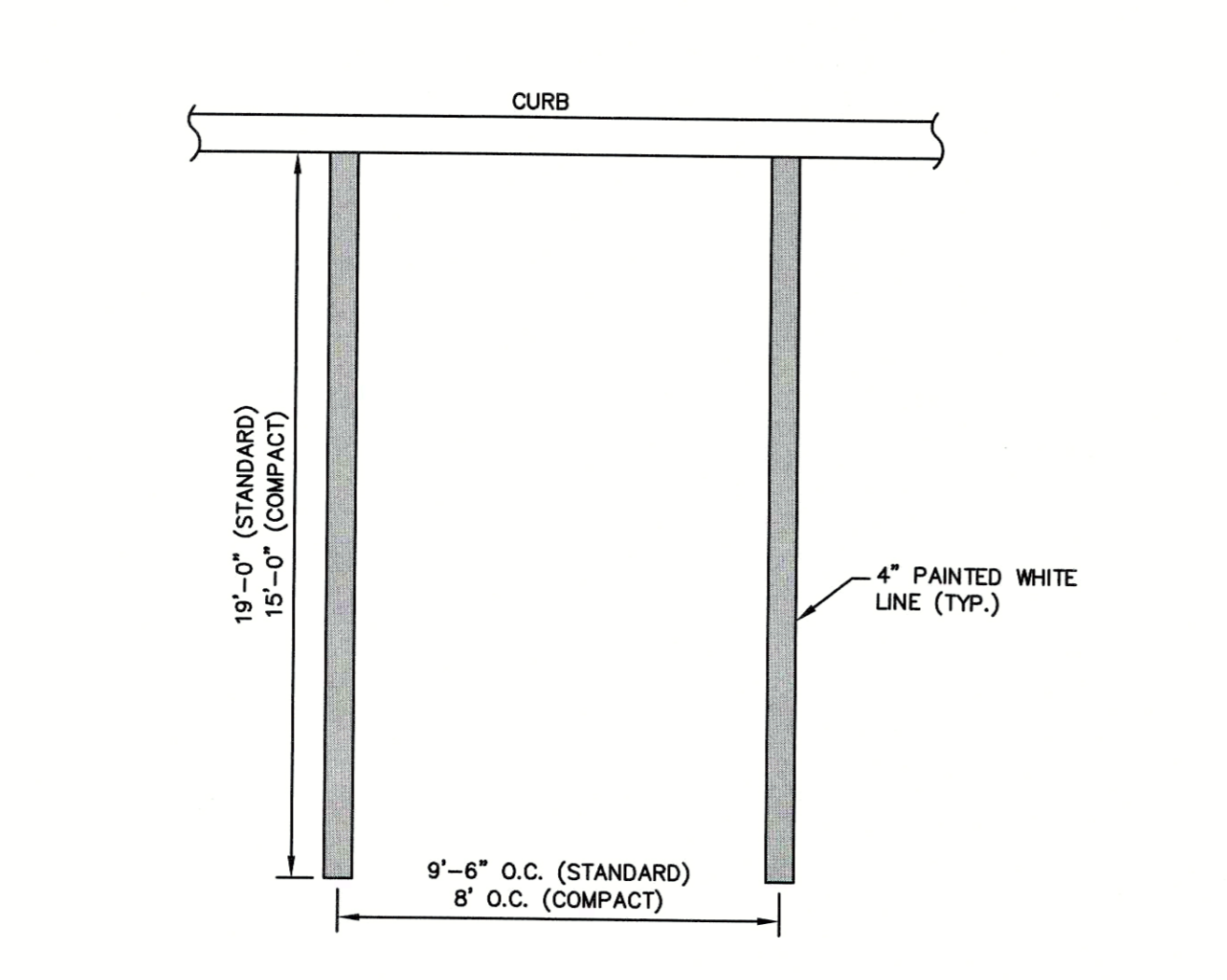


PEDESTRIAN CROSSWALK MARKINGS
SCALE: NONE

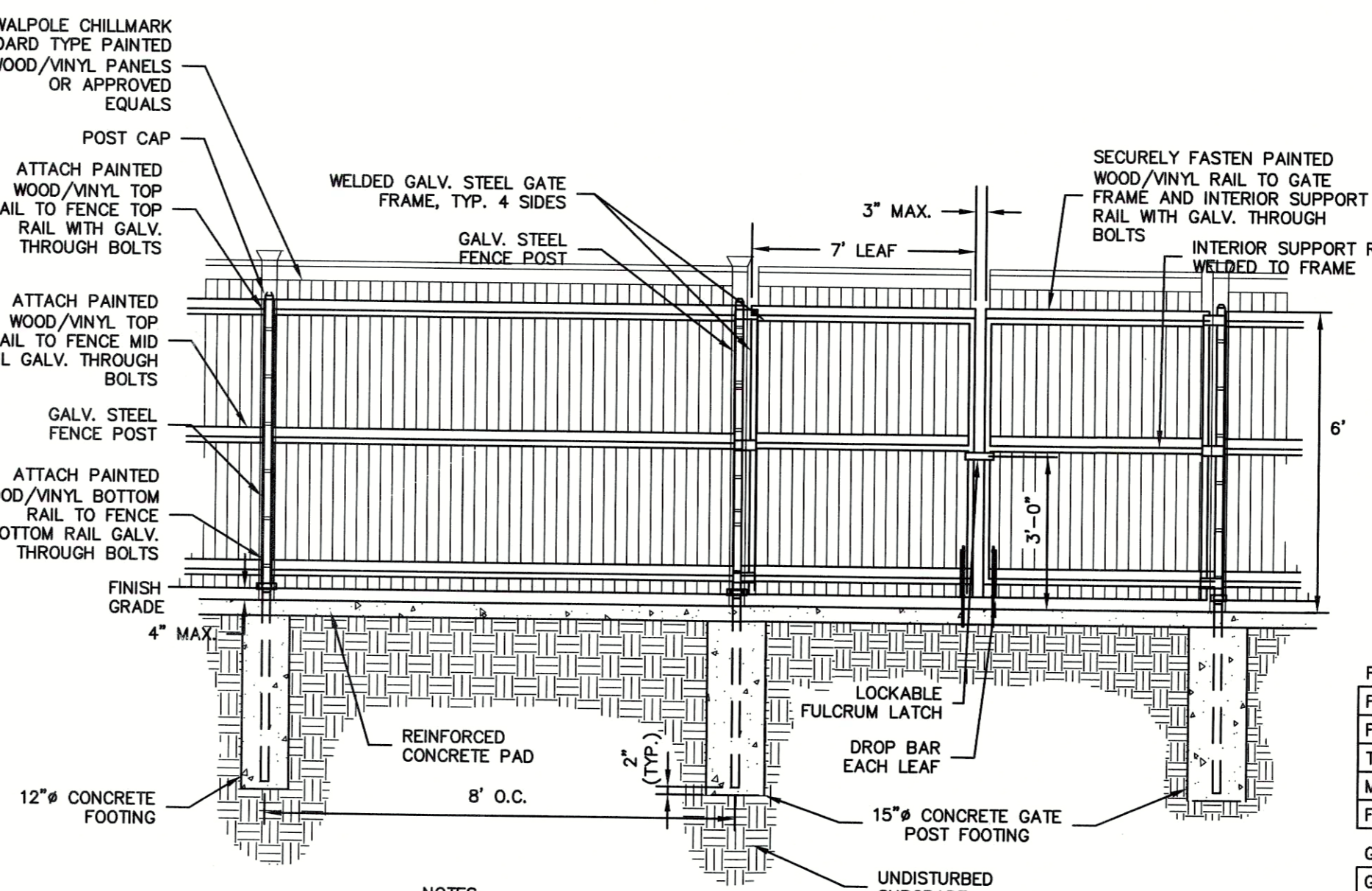
- NOTES:**
- ALL TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - SIX INCH LINES) WILL BE ACCEPTED.
 - ALL PAVEMENT MARKING MATERIALS WHETHER THERMOPLASTIC OR WATERBORNE PAINT TO BE REFLECTORIZED WITH GLASS BEADS.
 - LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
 - ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY DRESSED.
 - STRIPES TO BE SOLID WHITE.



REINFORCED CONCRETE PAD
SCALE: NONE

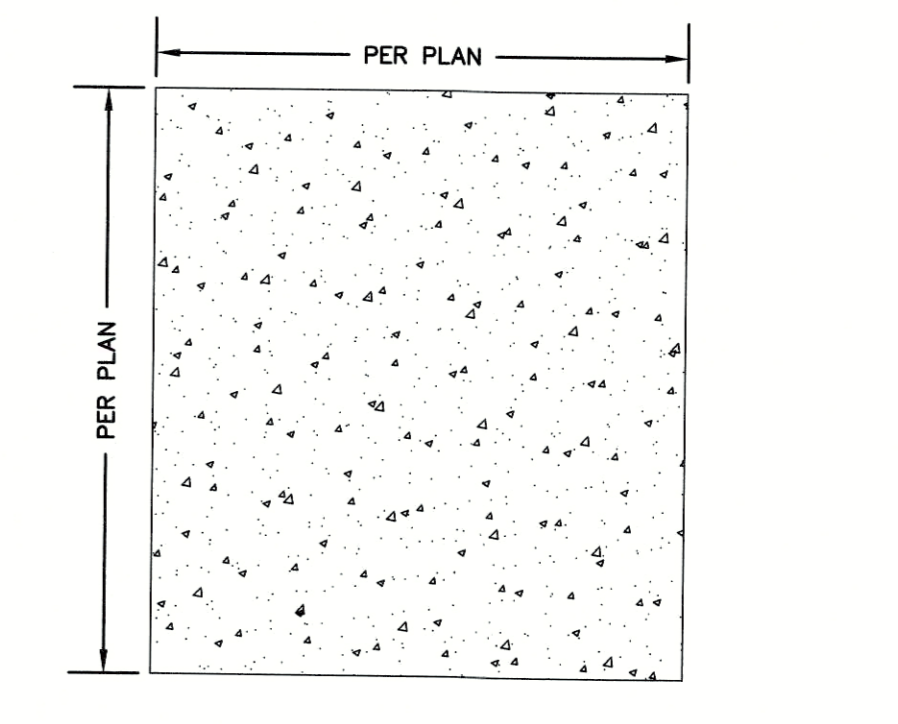


STANDARD PAINTED PARKING MARKINGS
SCALE: NONE



DUMPSTER ENCLOSURE
SCALE: NONE

- NOTES:**
- INSTALL FENCE FOOTINGS PRIOR TO INSTALLATION OF REINFORCED CONCRETE PAD.
 - INSTALL FENCE POSTS 6" FROM THE EDGE OF THE CONCRETE PAD.
 - INSTALL STOCKADE ON OUTSIDE OF POSTS.
 - ALL FENCE POSTS SHALL BE SCHEDULE 80 GALV. STEEL.
 - STEEL POSTS SHALL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.



FENCE FRAMEWORK SCHEDULE

FENCE HEIGHT	UP TO 4'	5' TO 6'	8' TO 10'
FENCE POST	2.375" O.D.	2.875" O.D.	3.5" O.D.
TOP AND BOTTOM RAIL	1.6" O.D.	2.375"	2.375"
MIDDLE RAIL	NONE	2.375"	2.375"
FOOTING	12" DIA.	12" DIA.	15" DIA.

GATE FRAMEWORK SCHEDULE

GATE LEAF WIDTH	6'H OR LESS	>6'H - <12'H	12'H OR MORE
GATE POST	2.875" O.D.	4" O.D.	4" O.D.
GATE FRAME (4 SIDES)	2"	2.375"	2.375"
INTERIOR SUPPORT	NONE	2.375"	2.375"
HEAVY DUTY HINGE	3 PER LEAF	3 PER LEAF	4 PER LEAF
FOOTING	12" DIA.	15" DIA.	15" DIA.

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

JANUARY 12, 2018

REVISIONS:

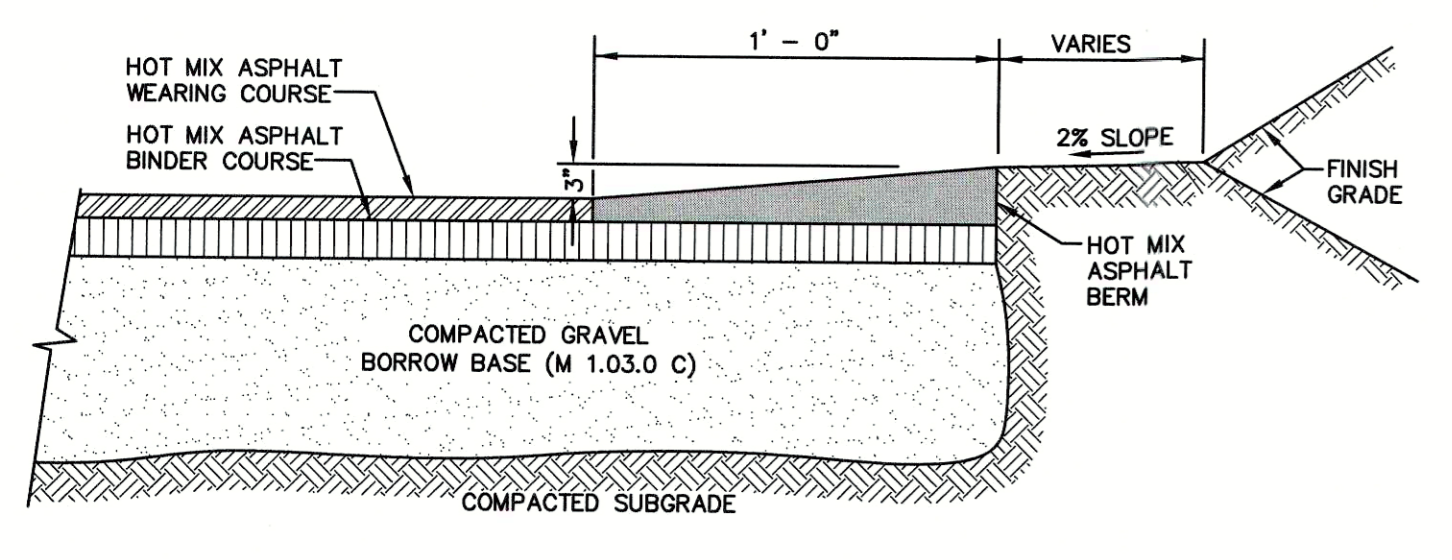
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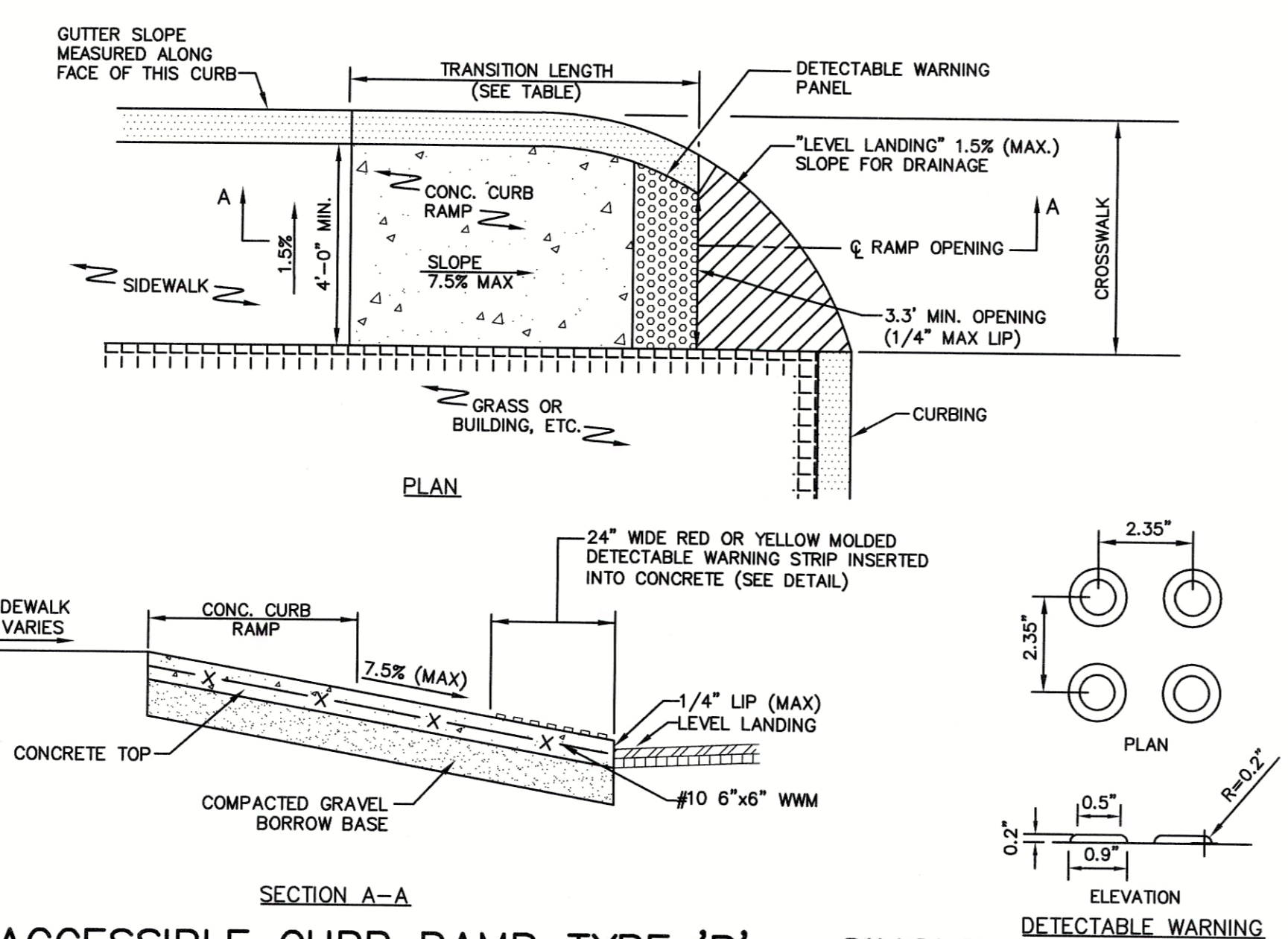
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SCALE: AS SHOWN

FILE: 8366900-DET.DWG
DWG NO:
JOB NO: 83669.00



MODIFIED CAPE COD BERM
SCALE: NONE



ACCESSIBLE CURB RAMP TYPE 'B' - SINGLE DIRECTION WITH LEVEL ENTRANCE
SCALE: NONE

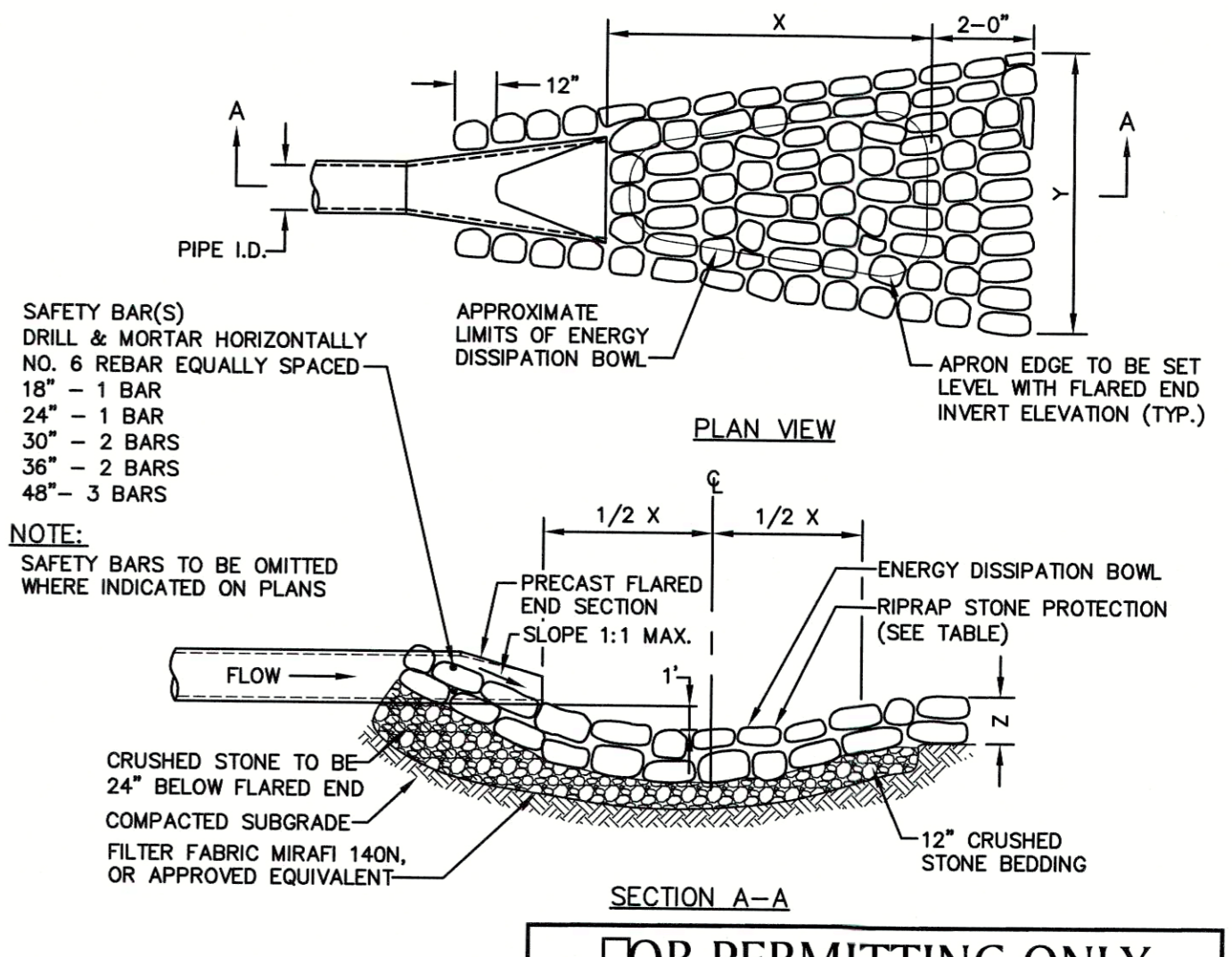
CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS

ROADWAY PROFILE GRADE (%)	TRANSITION LENGTH ROUNDED TO THE NEAREST 4"
0 OR LOW SIDE	6'-6"
>0 - 1	7'-8"
>1 - 2	9'-0"
>2 - 3	11'-0"
>3 - 4	14'-0"
>4	15'-0" (MAX)

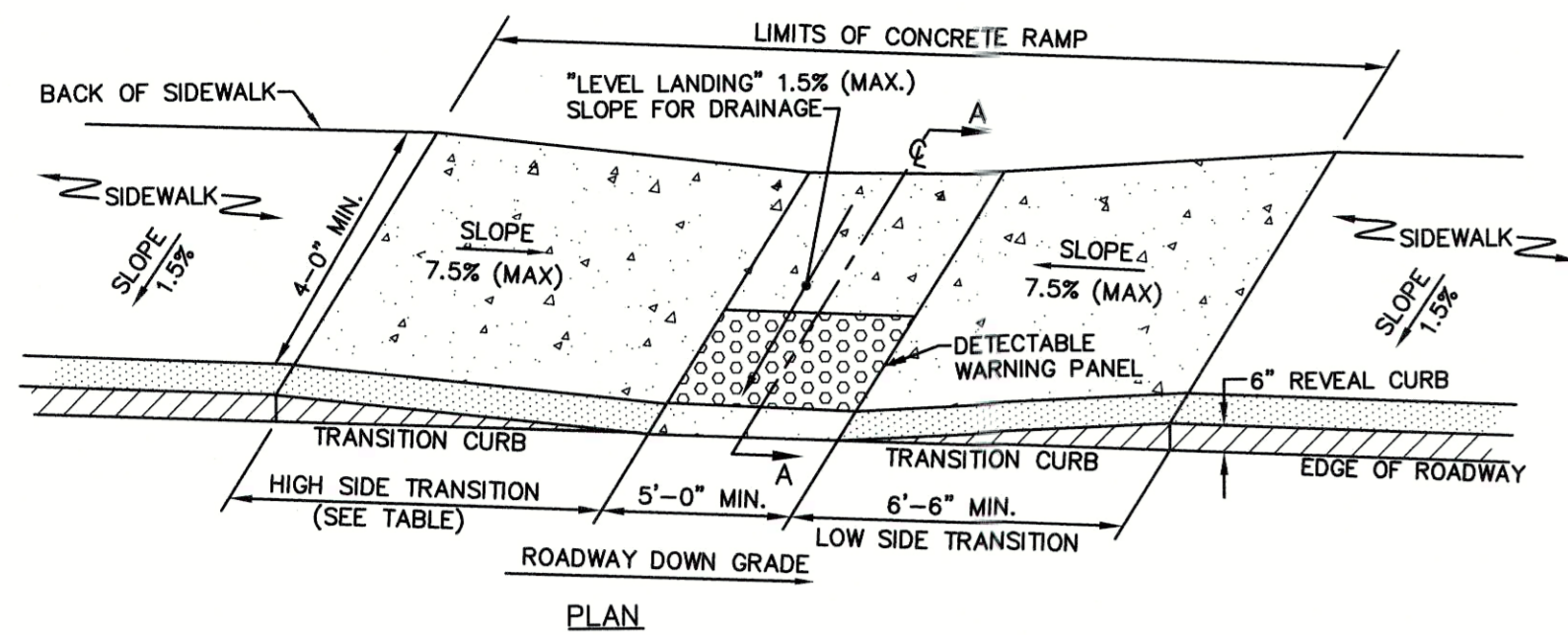
- NOTES:**
- SLOPE TOLERANCE FOR RAMP AND SIDEWALK CONSTRUCTION = ± 0.50%
 - THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%
 - THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%
 - A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
 - BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.

OUTLET NO. X Y Z STONE DIA. (D50)

FES-1	5'	6.3'	16.5"	4"
-------	----	------	-------	----

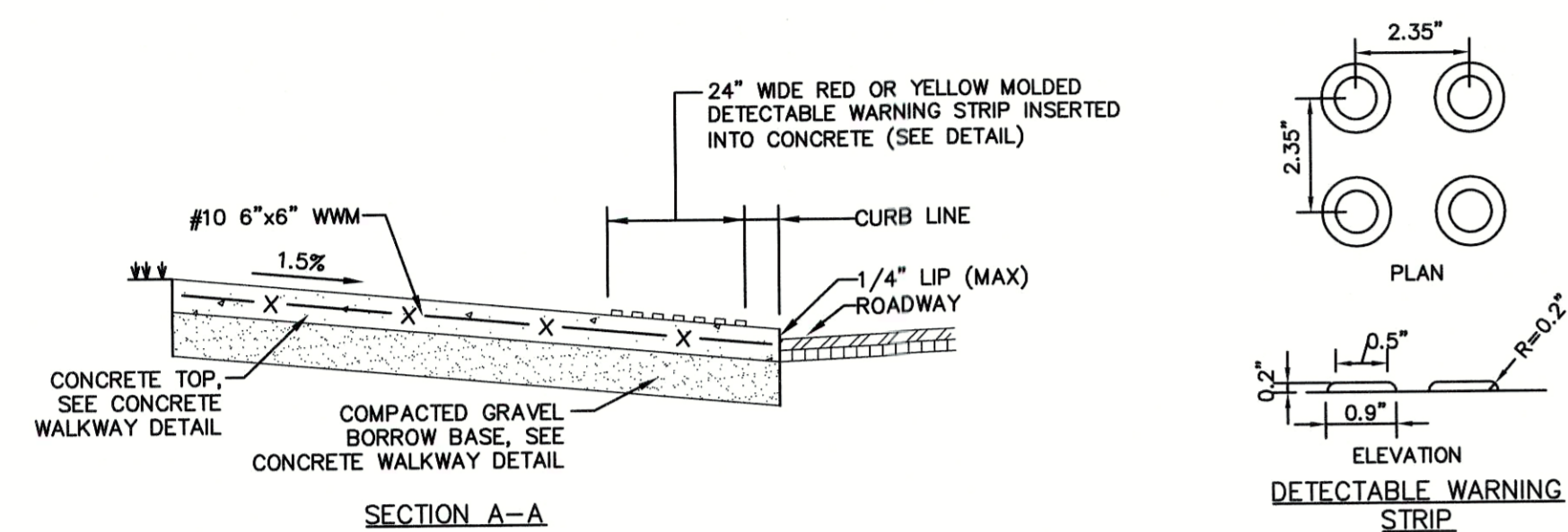


FLARED END SECTION FOR PERMITTED ONLY PROTECTION (DISSIPATION BOWL)
SCALE: NONE



CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS	
ROADWAY PROFILE GRADE (%)	HIGH SIDE TRANSITION LENGTH ROUNDED TO THE NEAREST 4"
0 OR LOW SIDE	6'-6"
>0 - 1	7'-8"
>1 - 2	9'-0"
>2 - 3	11'-0"
>3 - 4	14'-0"
>4	15'-0" (MAX)

- NOTES:**
- SLOPE TOLERANCE FOR RAMP AND SIDEWALK CONSTRUCTION = ± 0.50%
 - THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
 - THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
 - A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
 - BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.



ACCESSIBLE CURB RAMP TYPE 'F' - NARROW SIDEWALK

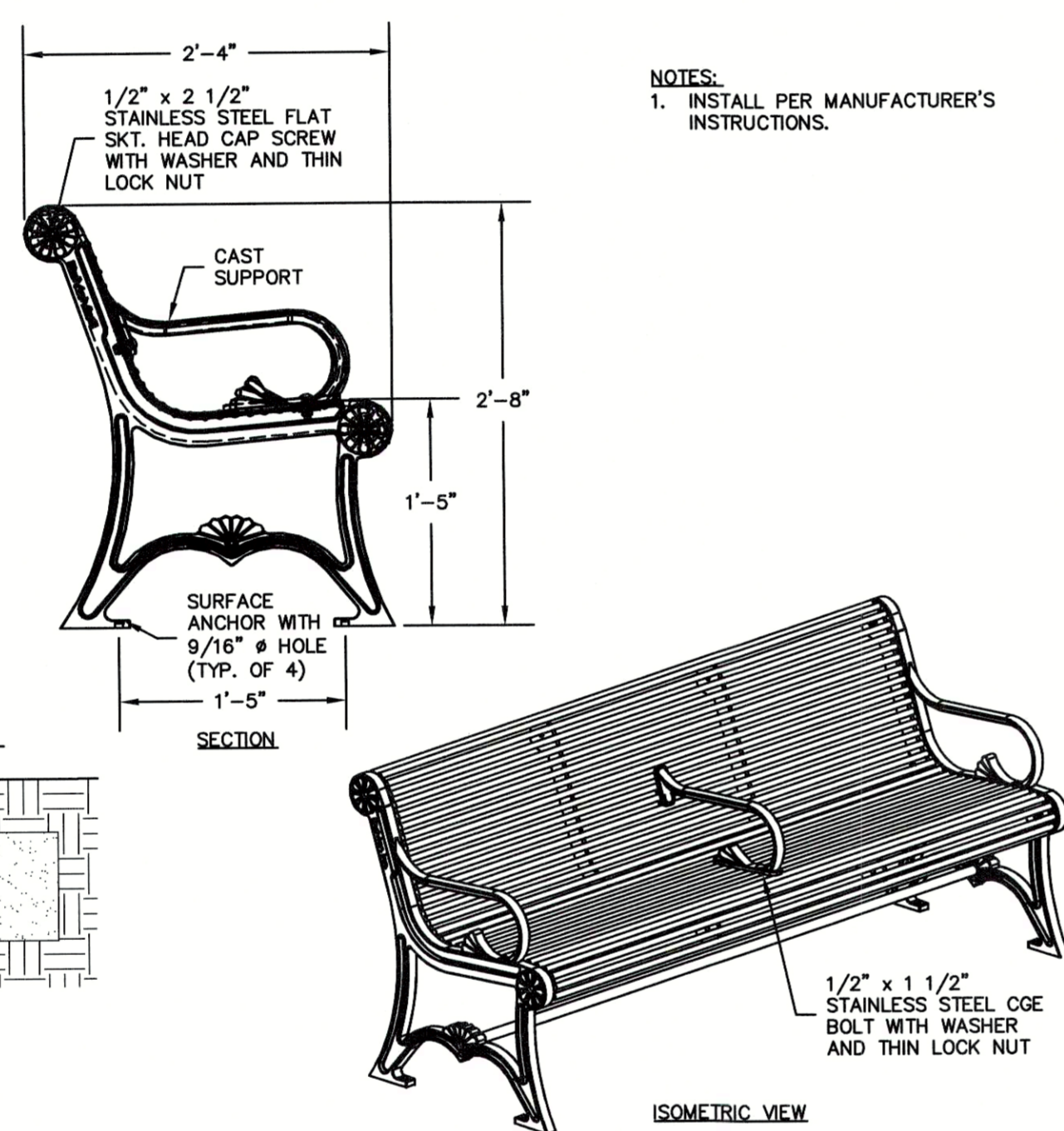
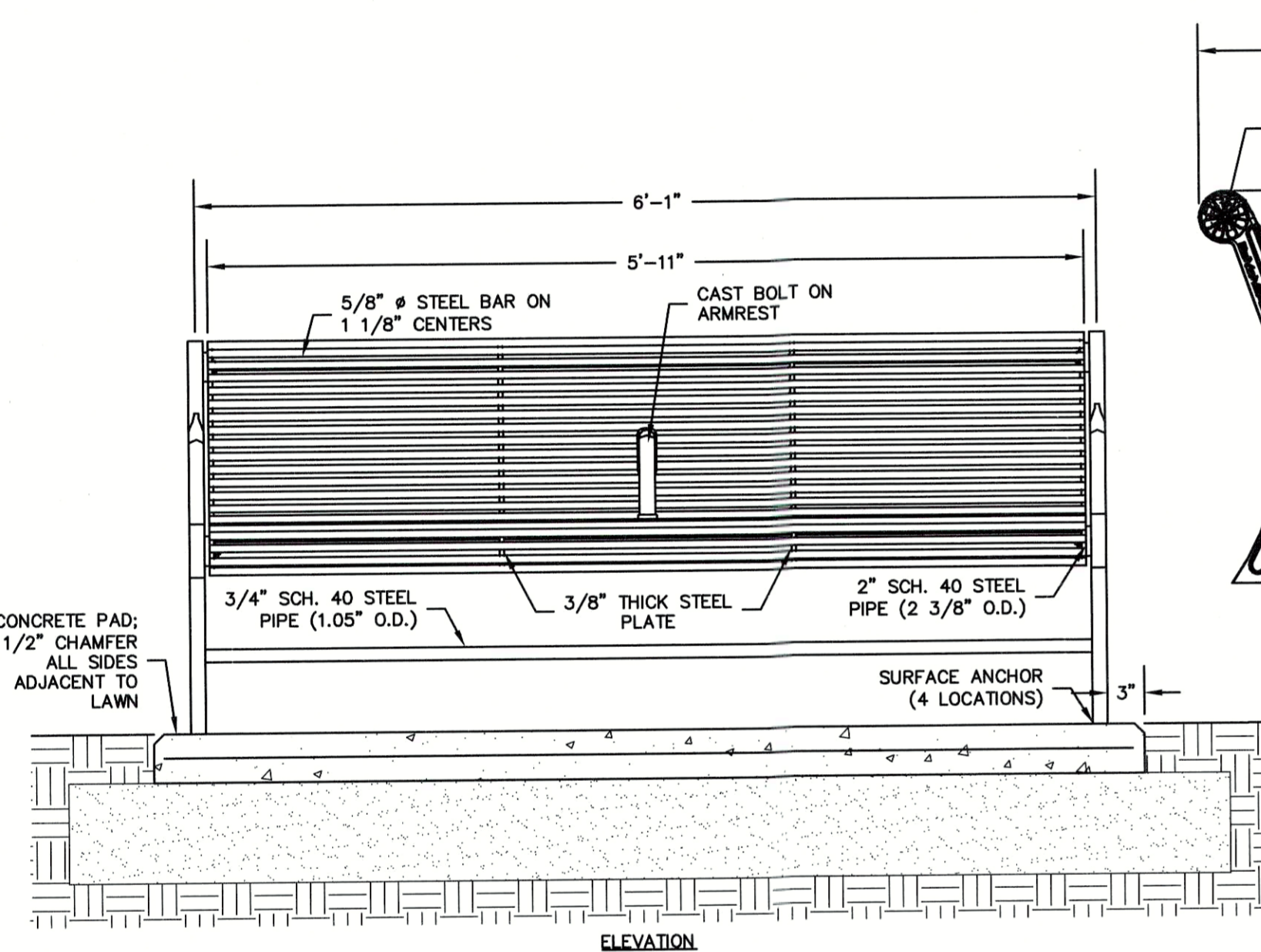
SCALE: NONE

STONE DUST WALK

SCALE: NONE

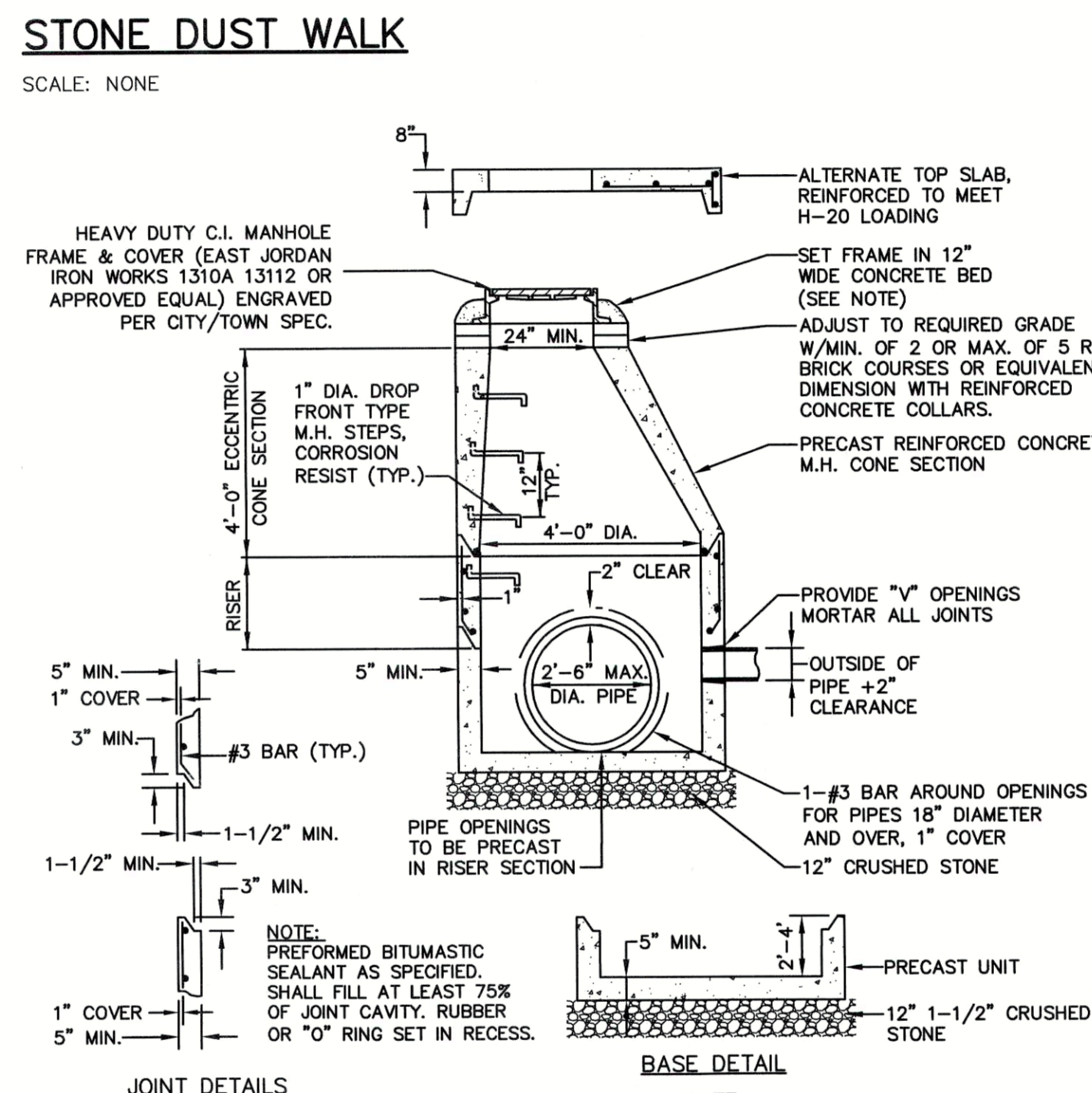
WASTE AND RECYCLING RECEPTACLE

SCALE: NONE



BENCH

SCALE: NONE

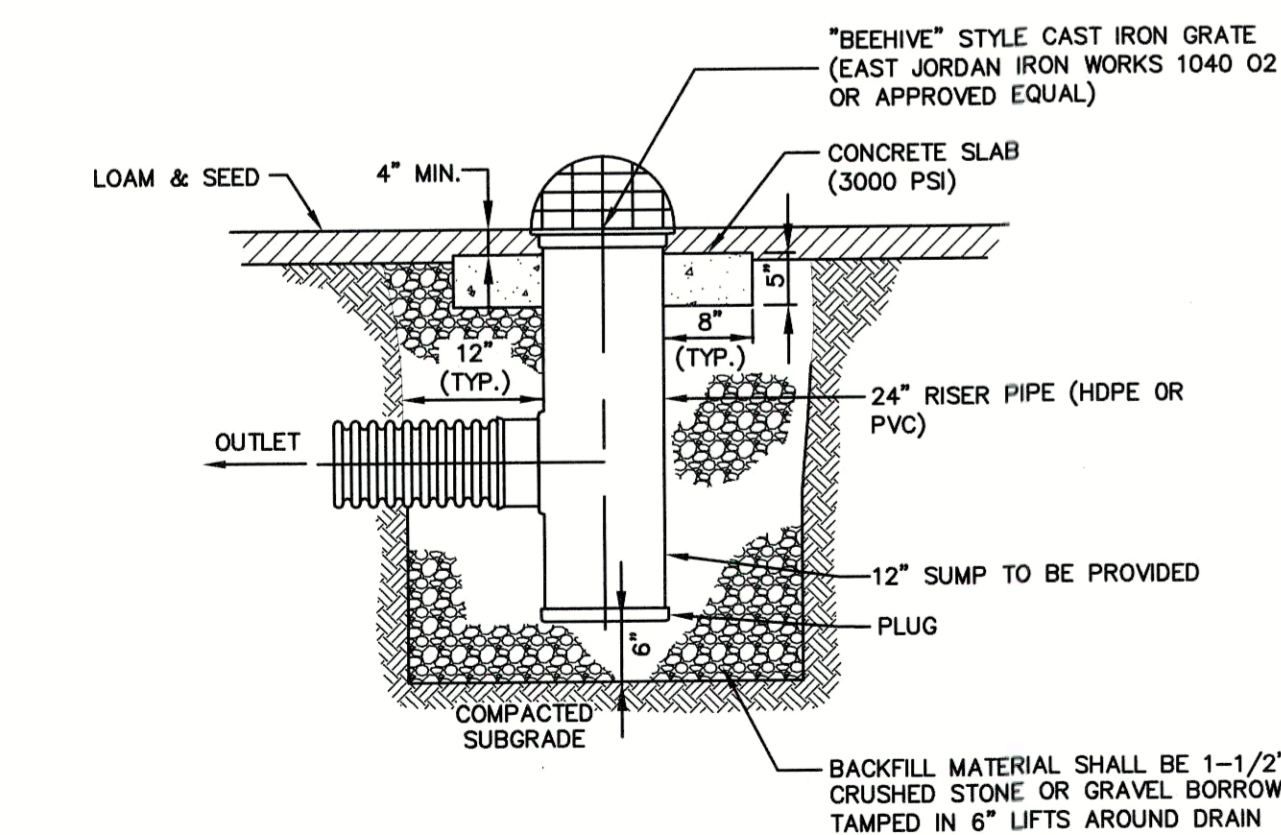


PRECAST CONCRETE DMH

SCALE: NONE

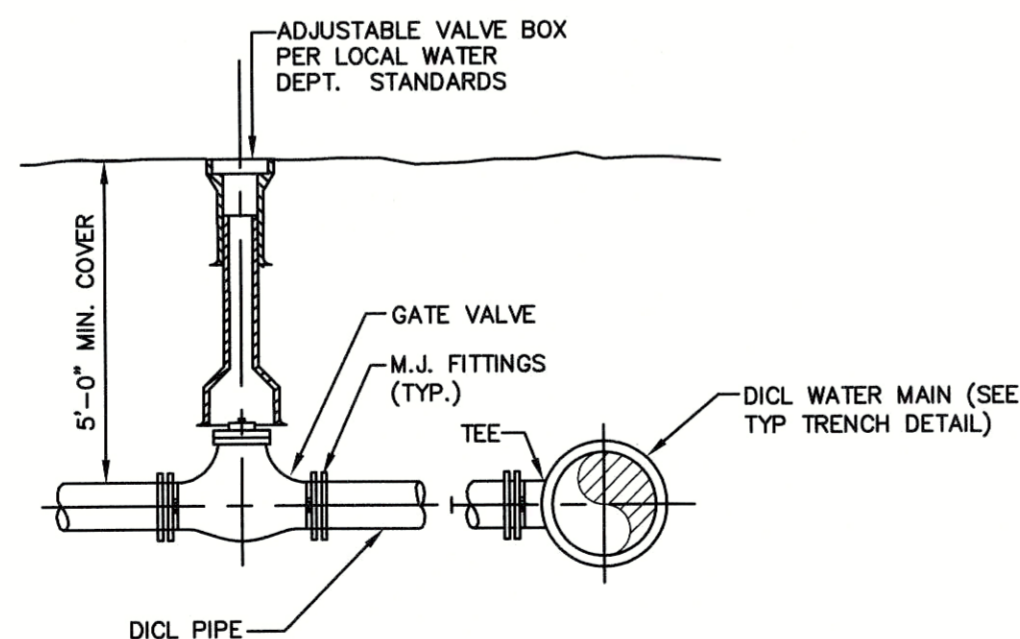
PRECAST CONCRETE CATCH BASIN

SCALE: NONE



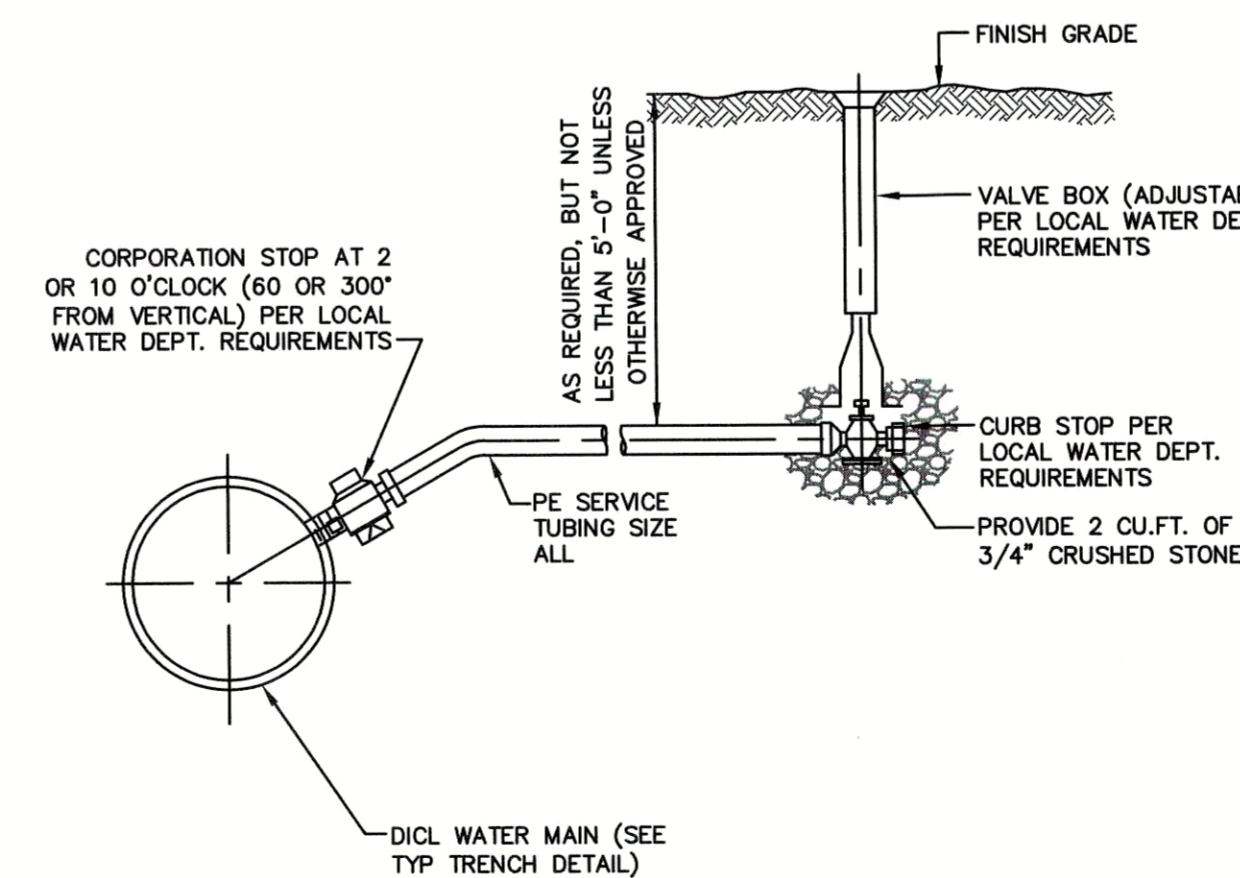
AREA DRAIN (HDPE OR PVC)

SCALE: NONE



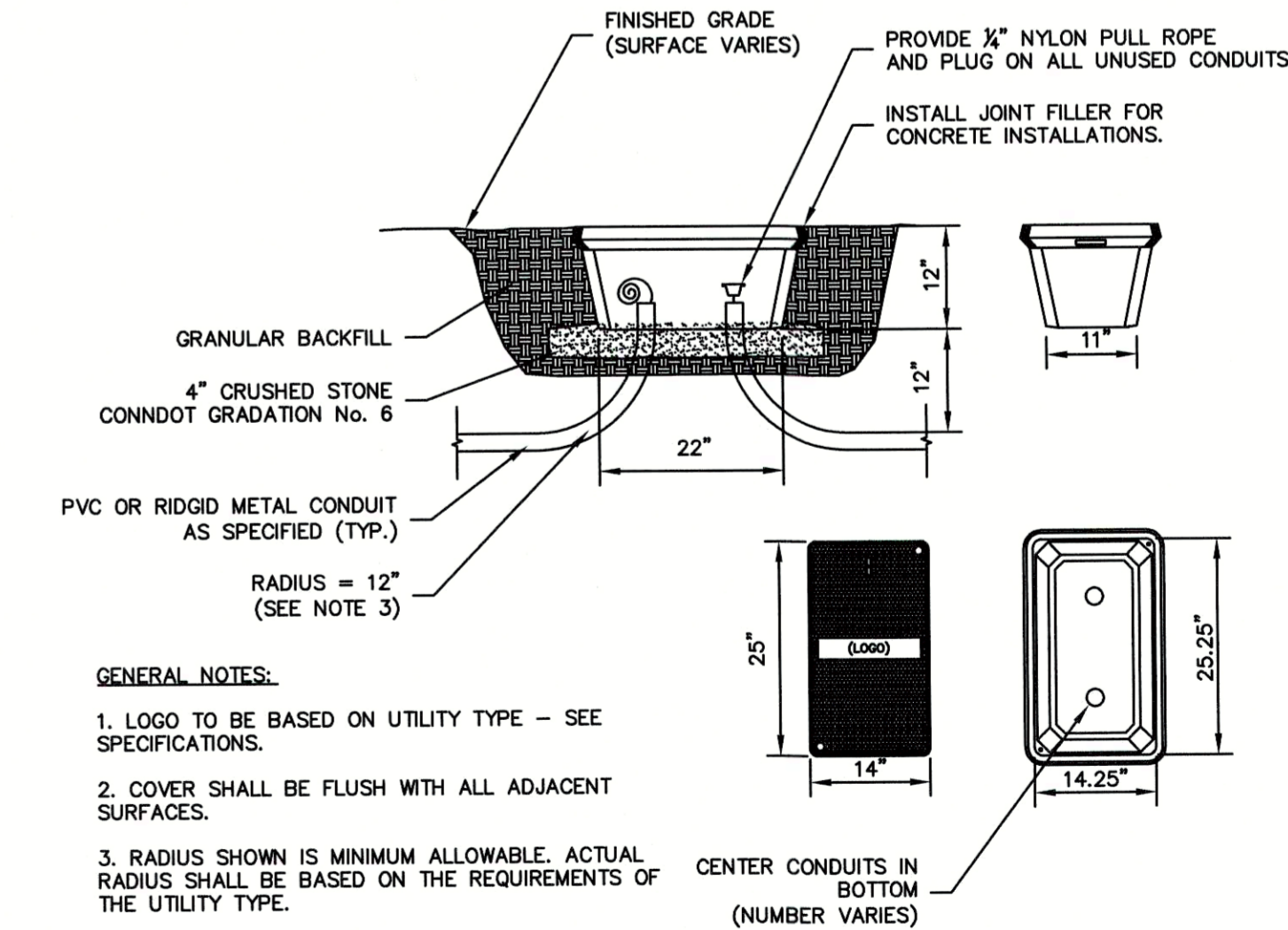
WATER SERVICE CONNECTION (4" AND LARGER)

SCALE: NONE



WATER SERVICE CONNECTION (2" AND LESS)

SCALE: NONE



HAND HOLE

SCALE: NONE

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NOT FOR CONSTRUCTION**

WOODLAND COVE

DOMINIC RINALDI, PE No. 45074

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:		
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/09/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

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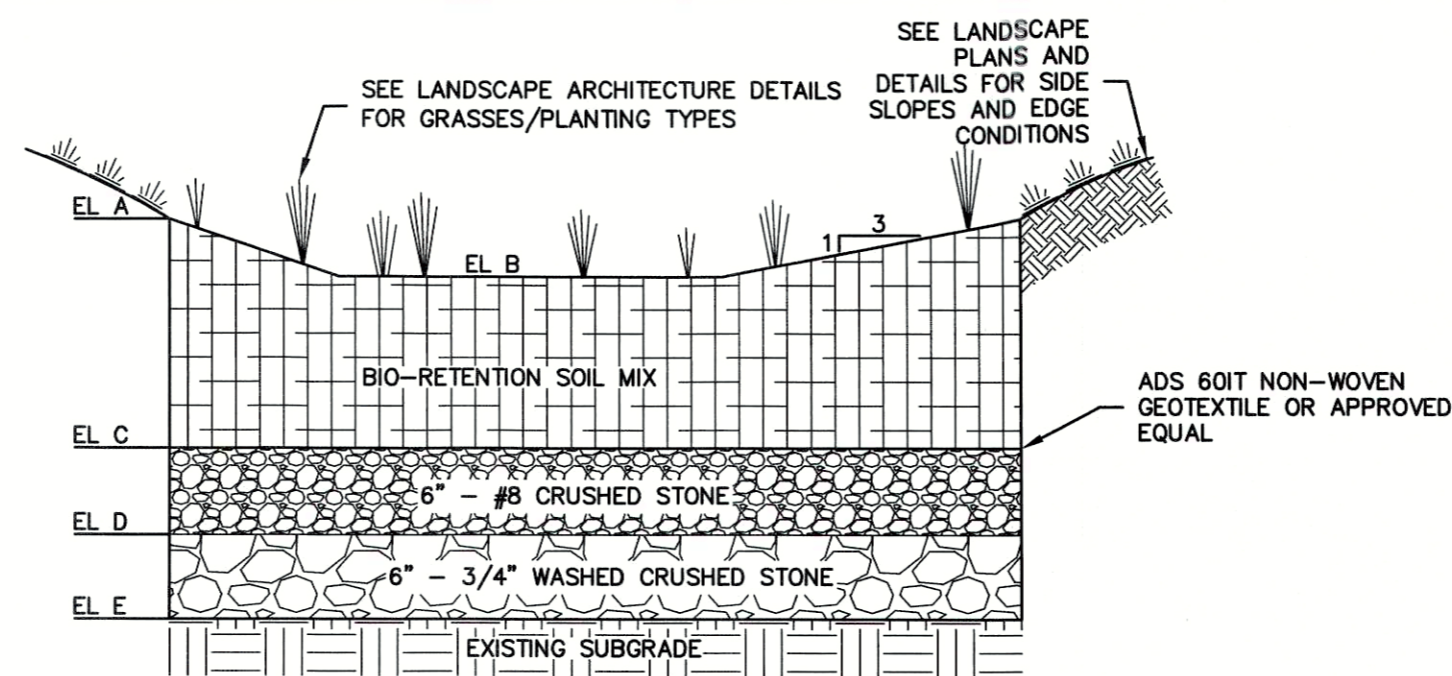
FILE: 8368900-DET.DWG
DWG. NO:
JOB. NO: 83689.00

C-6.2

ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL, AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE.
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) LIFTS USING TWO FULL COVERS WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



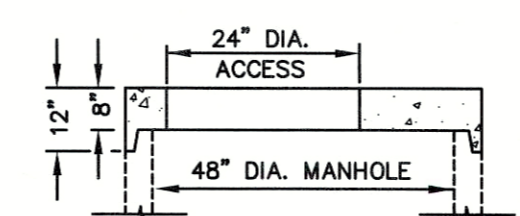
RAIN GARDEN ID	EL A	EL B	EL C	EL D	EL E
1	70.00	65.50	63.50	63.00	62.50

- PLANTING MEDIUM NOTES:**
- PARTICLE SIZE DISTRIBUTION SHALL BE TESTED IN ACCORDANCE WITH ASTM D422.
 - PARTICLE SIZE DISTRIBUTION BY SEPARATES:
 - EXCLUDE ALL MATERIAL THAT DOES NOT PASS A STANDARD #4 SIEVE (LARGER THAN 4.75mm)
 - VERY COARSE SAND/GRAVEL (2.0-4.75mm): 5% MAX. (% BY DRY WEIGHT)
 - SAND (0.42mm-2.0mm): 60-80% (% BY DRY WEIGHT)
 - SILT (0.075mm-0.42mm): 20% MAX. (% BY DRY WEIGHT)
 - CLAY (LESS THAN 0.075mm): 5% MAX. (% BY DRY WEIGHT)
 - ORGANIC MATTER SHALL BE 5-8% BY VOLUME WITH MAXIMUM 500 ppm SOLUBLE SALTS
 - SOIL SHALL HAVE A pH BETWEEN 5.5 AND 7.0
 - CEC OF TOTAL SOIL: MIN. 10 meq/100 ml at pH OF 7.0
 - NO COMPOST SHALL BE INCLUDED IN THE PLANTING MEDIUM

PLANTING MIX PARTICLE SIZE DISTRIBUTION

SIEVE #	PERCENT PASSING
4	100
10	95-100
40	15-45
200	10-20
<200 (PAN)	0-5

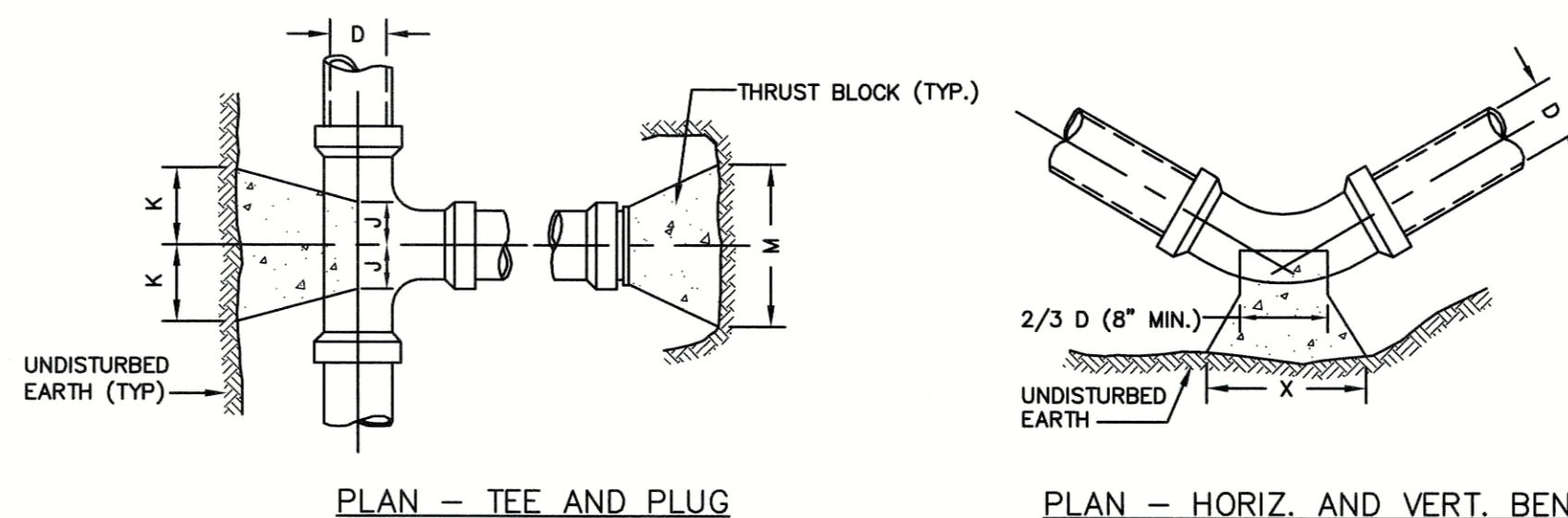
BIO-RETENTION AREAS
SCALE: NONE



ALTERNATE TOP SLAB
(STEEL REINFORCED FOR H-20 LOADING)

- NOTES:**
- ALL SECTIONS SHALL BE DESIGNED FOR H-20 LOADING.
 - COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
 - ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PERFORMED BUTYL RUBBER.
 - SEWER MANHOLE FRAME AND COVER SHALL BE SET IN 12" WIDE 12" THICK CONCRETE BED, ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYP., 5 BRICK COURSES MAX.) SEWER FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS 12672PT 1267APT OR APPROVED EQUAL.)
 - 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER OR FOR INTERIOR DROP CONNECTIONS AND ALL FORCE MAIN CONNECTION MANHOLES.
 - 6" MINIMUM WALL THICKNESS AND 7" MINIMUM BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
 - 4" TO 6" VERTICAL SURFACE AT THE TOP OF THE TRANSITION OR CONE SECTION REQUIRED TO ALLOW AIR-VACUUM TESTING OF THE MANHOLE DURING INSTALLATION.
 - MAXIMUM FIRST PIPE LENGTH FROM MANHOLE 3'-0".

SANITARY SEWER MANHOLE
SCALE: NONE



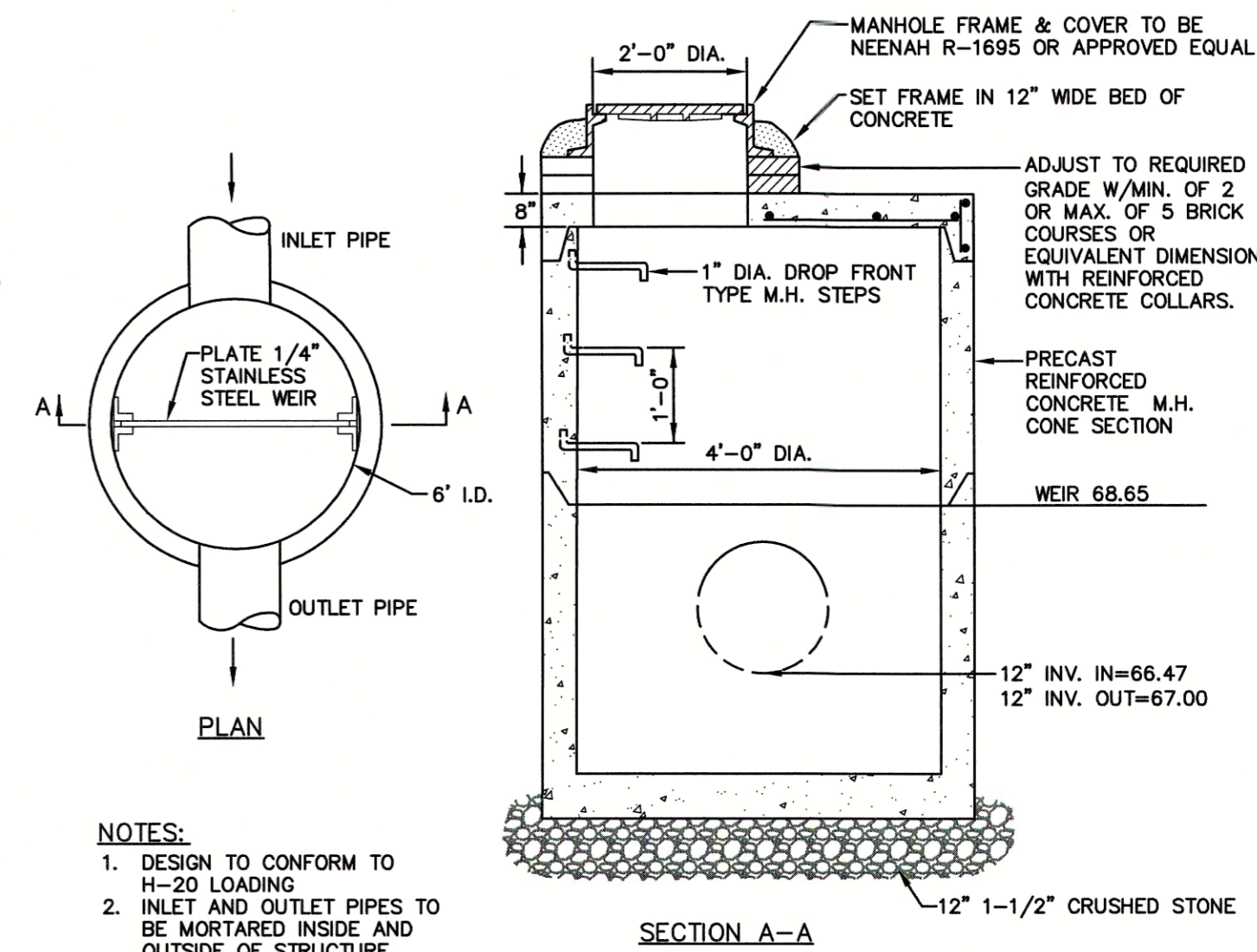
TEES AND PLUGS

SIZE OF BRANCH	J	K	L	M	N	O
4" THRU 8"	10"	10"	1'-0"	2'-0"	1'-6"	10"
10" THRU 16"	1'-0"	1'-6"	1'-8"	3'-10"	2'-10"	1'-6"
24"	1'-4"	2'-0"	2'-6"	5'-0"	3'-6"	1'-8"

BENDS

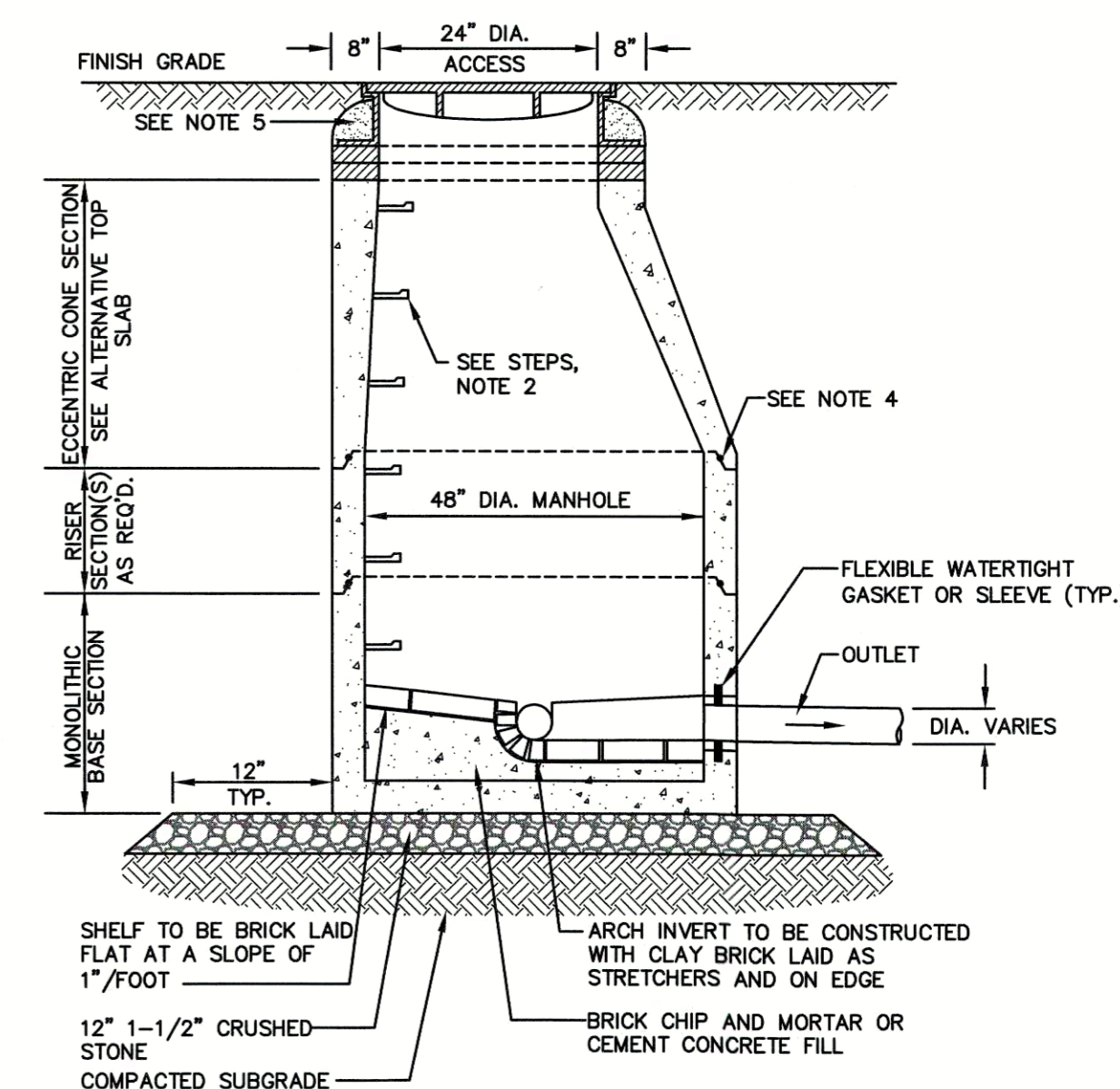
	90 & 45 BENDS	22 1/2 & 11 1/4
D	4" TO 8"	10" TO 16"
X	1'-8"	3'-4"
Y	1'-2"	1'-8"

CONCRETE THRUST BLOCK FOR PRESSURE PIPE
SCALE: NONE



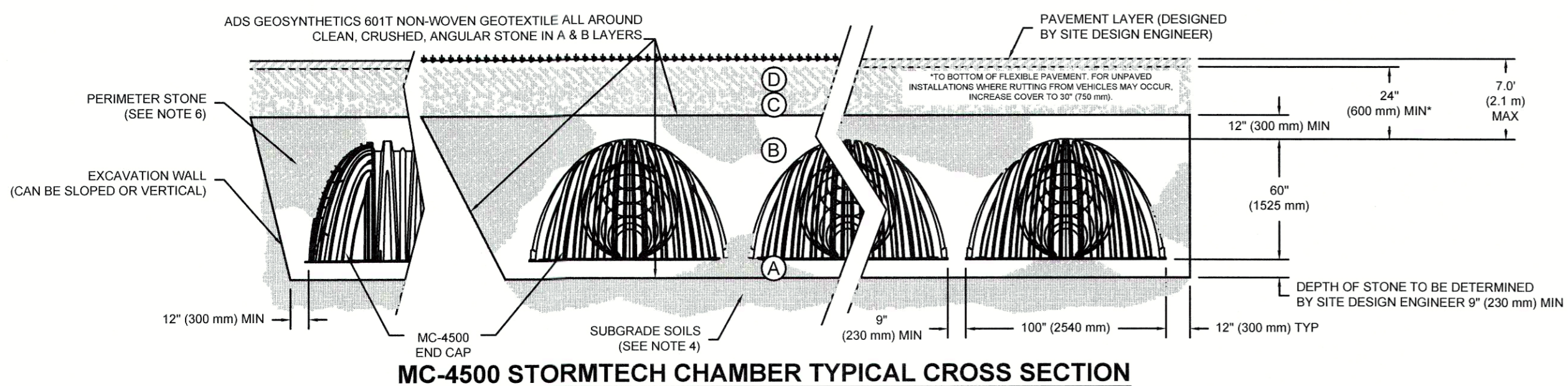
- NOTES:**
- DESIGN TO CONFORM TO H-20 LOADING
 - INLET AND OUTLET PIPES TO BE MORTARED INSIDE AND OUTSIDE OF STRUCTURE.

OUTLET CONTROL STRUCTURE
SCALE: NONE

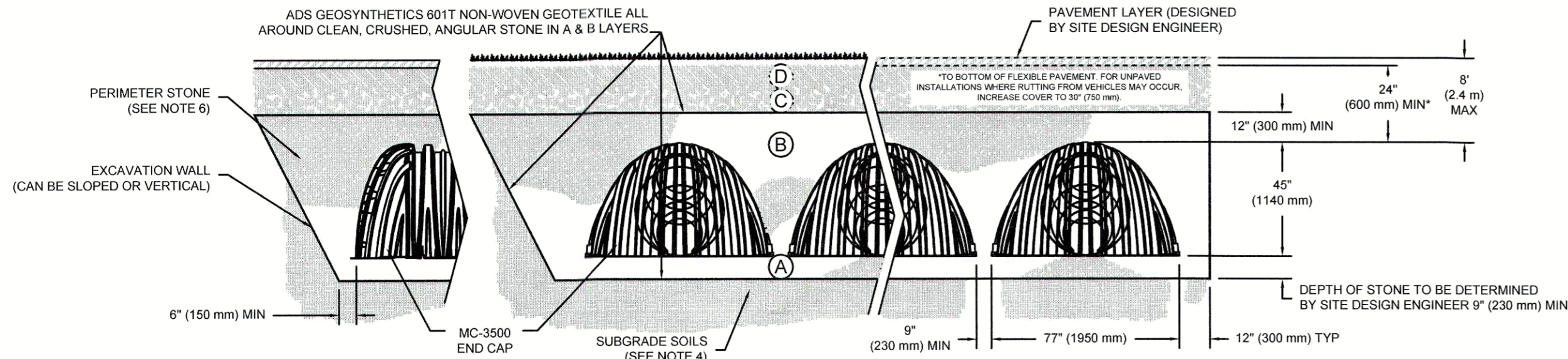


- NOTES:**
- PROVIDE 3000 psi CONCRETE THRUST BLOCKS AT ALL BENDS, DEAD ENDS, & TEES UNLESS OTHERWISE DIRECTED. CONCRETE FOR ALL THRUST BLOCKS TO BE PLACED AGAINST FIRM, UNDISTURBED SOIL. PROVIDE APPROVED ANCHOR HARNESS RODS & SOCKET CLAMPS AS SPECIFIED & IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATIONS WHERE SOIL HAS BEEN DISTURBED OR THRUST BLOCKS CANNOT BE USED, AS DIRECTED BY THE ENGINEER.
 - ALL SOCKET CLAMP METAL SHALL BE COATED WITH BLACK ASPHALTUM OR OTHER WATER DEPARTMENT APPROVED COATINGS.
 - CONCRETE THRUST BLOCKS POURED BEHIND 3-WAY TEE & HYDRANT SHOE TO BE USED WITH SOCKET CLAMPS.
 - NO CONCRETE SHALL COVER PIPE JOINTS, FITTING JOINTS, BOLTS OR HYDRANT DRAINS.
 - ALL WATER MAIN BENDS, DEAD ENDS, AND TEES SHALL HAVE MECHANICAL JOINTS WITH RETAINER GLANDS.
 - A MINIMUM OF ONE (1) PIPE TO PIPE JOINT BEFORE AND AFTER ALL WATER MAIN FITTINGS SHALL BE MECHANICALLY RESTRAINED.

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MC-4500 STORMTECH CHAMBER TYPICAL CROSS SECTION

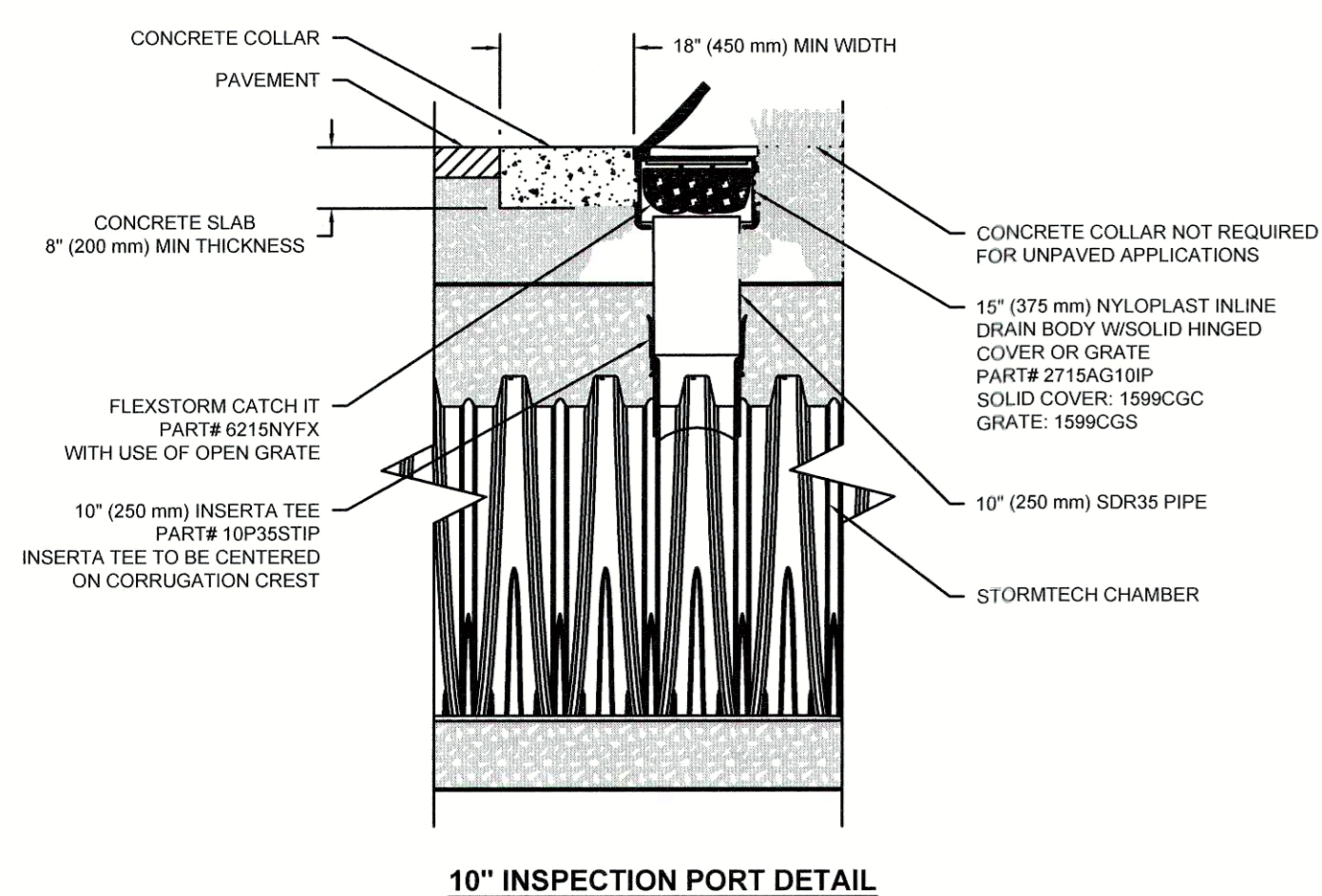


MC-3500 STORMTECH CHAMBER TYPICAL CROSS SECTION

SYSTEM	BOTTOM STONE ELEVATION	BOTTOM CHAMBER ELEVATION	TOP CHAMBER ELEVATION	TOP STONE ELEVATION
1 (MC-4500)	63.00	63.75	68.75	69.75
2 (MC-3500)	68.00	68.75	72.50	73.50
3 (MC-3500)	65.00	65.75	69.50	70.50
4 (MC-3500)	70.50	71.25	75.00	76.00
5 (MC-3500)	69.50	70.25	74.00	75.00

- NOTES:**
- CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
 - CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
 - "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

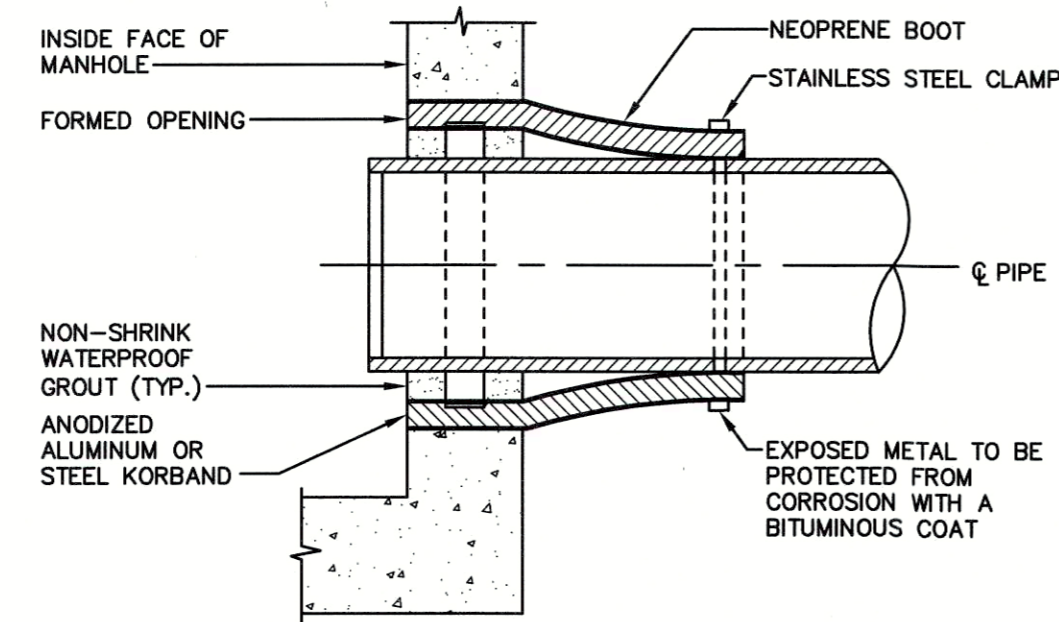
STORMTECH UNDERGROUND INFILTRATION SYSTEM (OR APPROVED EQUAL)
SCALE: NONE



NOTE:
ONE INSPECTION PORT SHALL BE INSTALLED ON EACH ROW OF SYSTEM AND SHALL BE STAGGERED THROUGHOUT THE LENGTH OF THE SYSTEM

INSPECTION PORT
SCALE: NONE

FLEXIBLE PIPE TO MANHOLE CONNECTION (NEOPRENE BOOT)
SCALE: NONE



- NOTES:**
- THE LENGTH OF THE FIRST PIPE SECTION SHALL NOT EXCEED 5'.

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

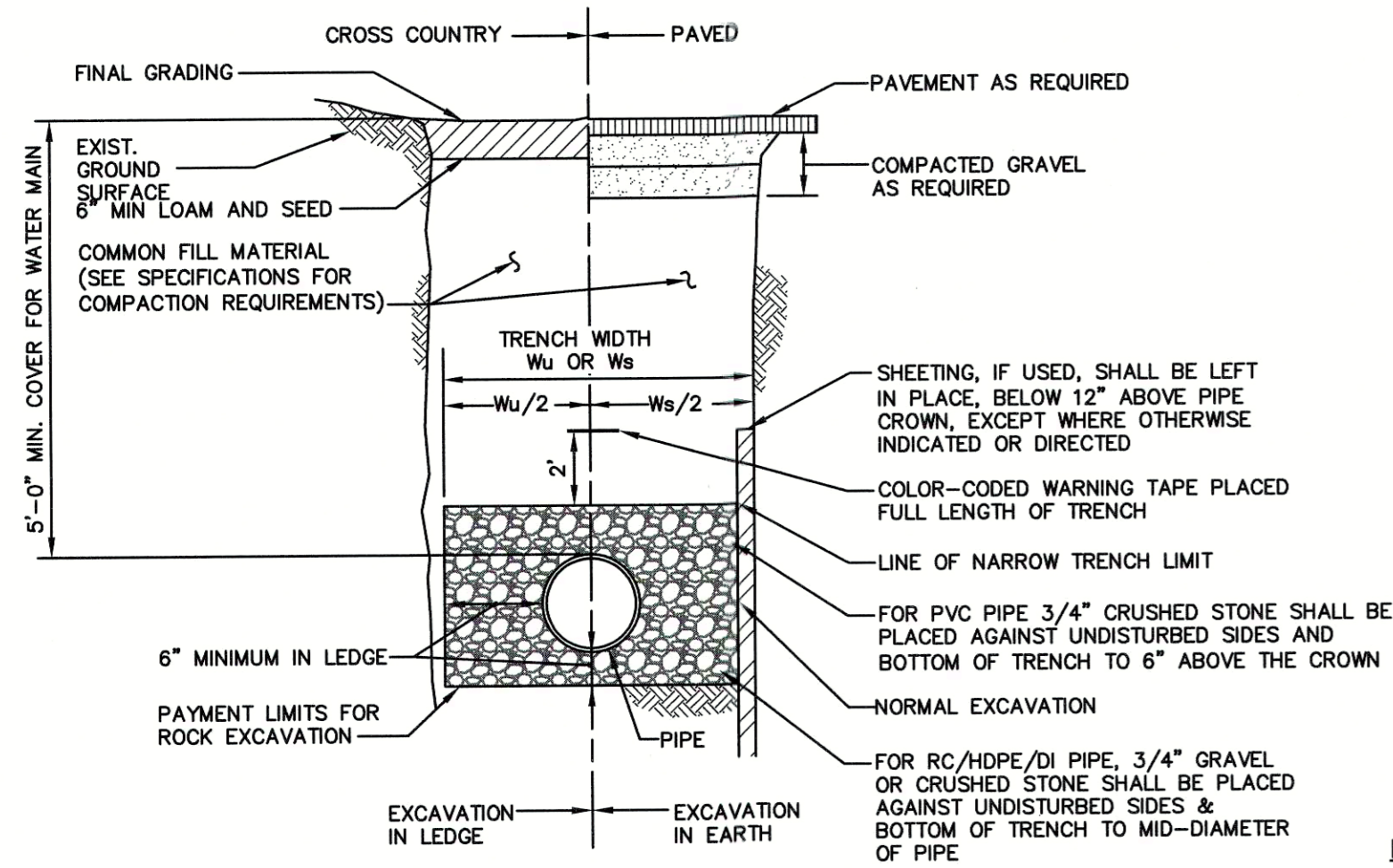
PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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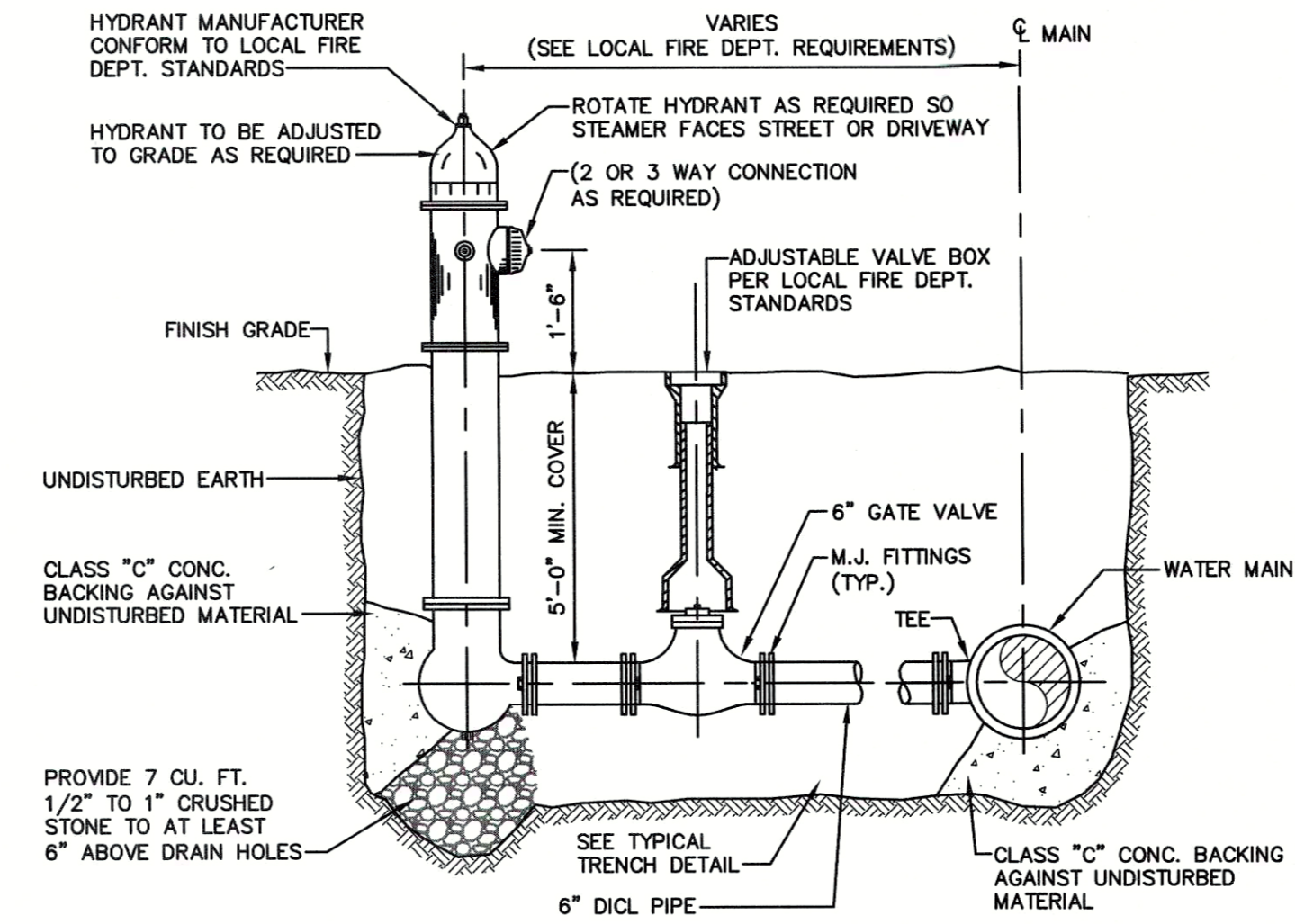
FILE: 8366900-DET.DWG
DWG. NO:
JOB. NO: 83669.00

C-6.3

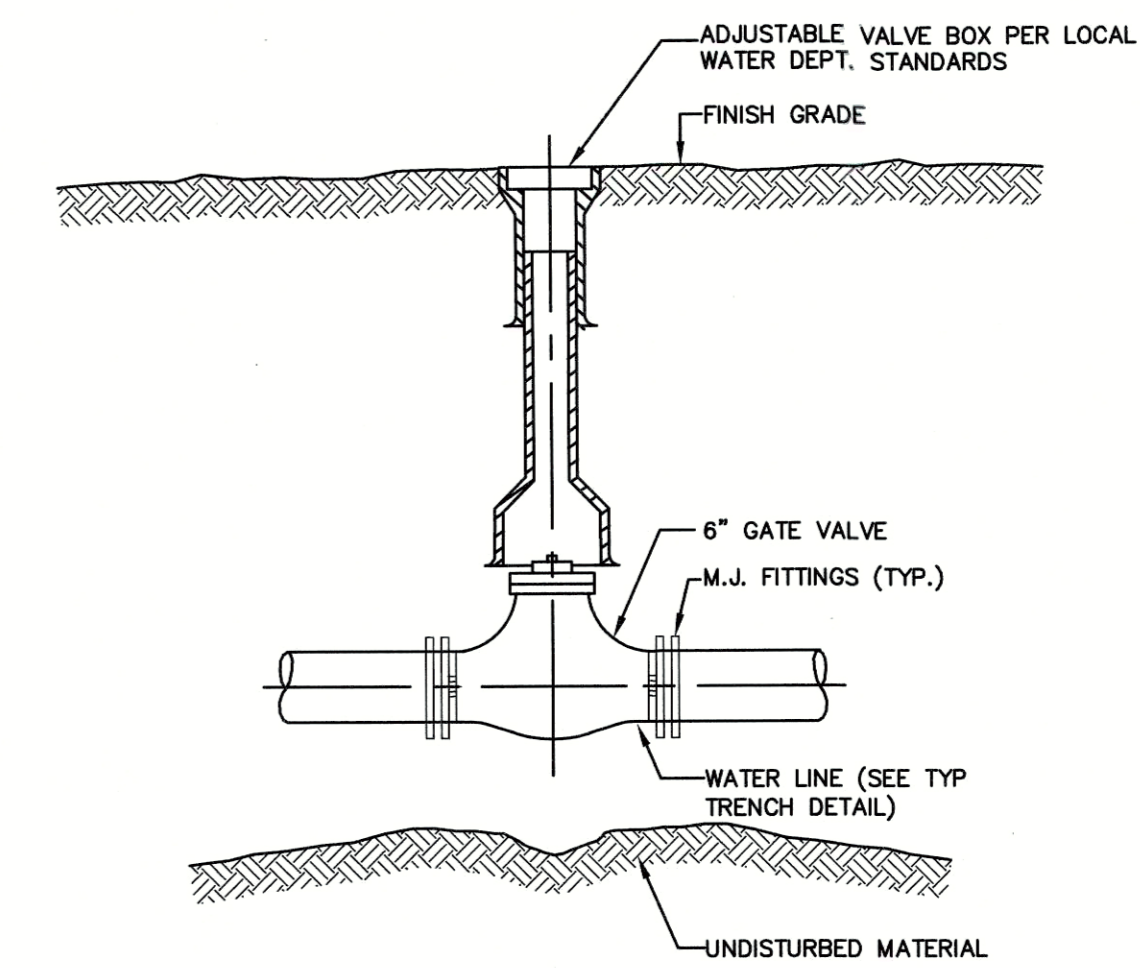


TRENCH WIDTH, Ws OR Wu		
D DIAMETER OF PIPE	Ws UNSHEATED	Wu SHEATED
12" AND SMALLER	3'-0"	4'-2"
15"	3'-2"	4'-4"
18"	3'-6"	4'-8"
21"	3'-10"	5'-0"
24"	4'-2"	5'-4"
27"	4'-6"	5'-8"
30"	4'-10"	6'-0"
36"	5'-6"	6'-8"
42"	6'-2"	7'-4"
48"	6'-10"	8'-0"

NOTES:
 1. ALL TRENCHES IN PUBLIC WAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AGENCY HAVING JURISDICTION OVER SAID PUBLIC WAY.
 2. TRENCHES IN EXISTING PAVEMENT SHALL HAVE PAVEMENT SAWCUT AND REMOVED 12" BEYOND LIMIT OF TRENCH PRIOR TO PAVING. PAVEMENT AND TRENCHES SHALL MATCH EXISTING PAVEMENT BOX WITH MINIMUMS AS SHOWN ON PAVING DETAIL.



NOTES:
 1. HYDRANTS SHALL BE PAINTED ONSET FIRE DISTRICT RED WITH SCOTCHLITE REFLECTIVE PAINT.
 2. FOR HYDRANTS INSTALLED AT DEAD ENDS OF WATER MAINS: INSTALL VALVES WITH RETRAINED JOINTS ON BOTH SIDES OF HYDRANT TEE AND ONE (1) FULL LENGTH OF PIPE BETWEEN VALVE AND MECHANICALLY RESTRAINED CAP OR PLUG.



GATE VALVE
SCALE: NONE

TYPICAL PIPE TRENCH SECTION
SCALE: NONE

FIRE HYDRANT & VALVE
SCALE: NONE

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:

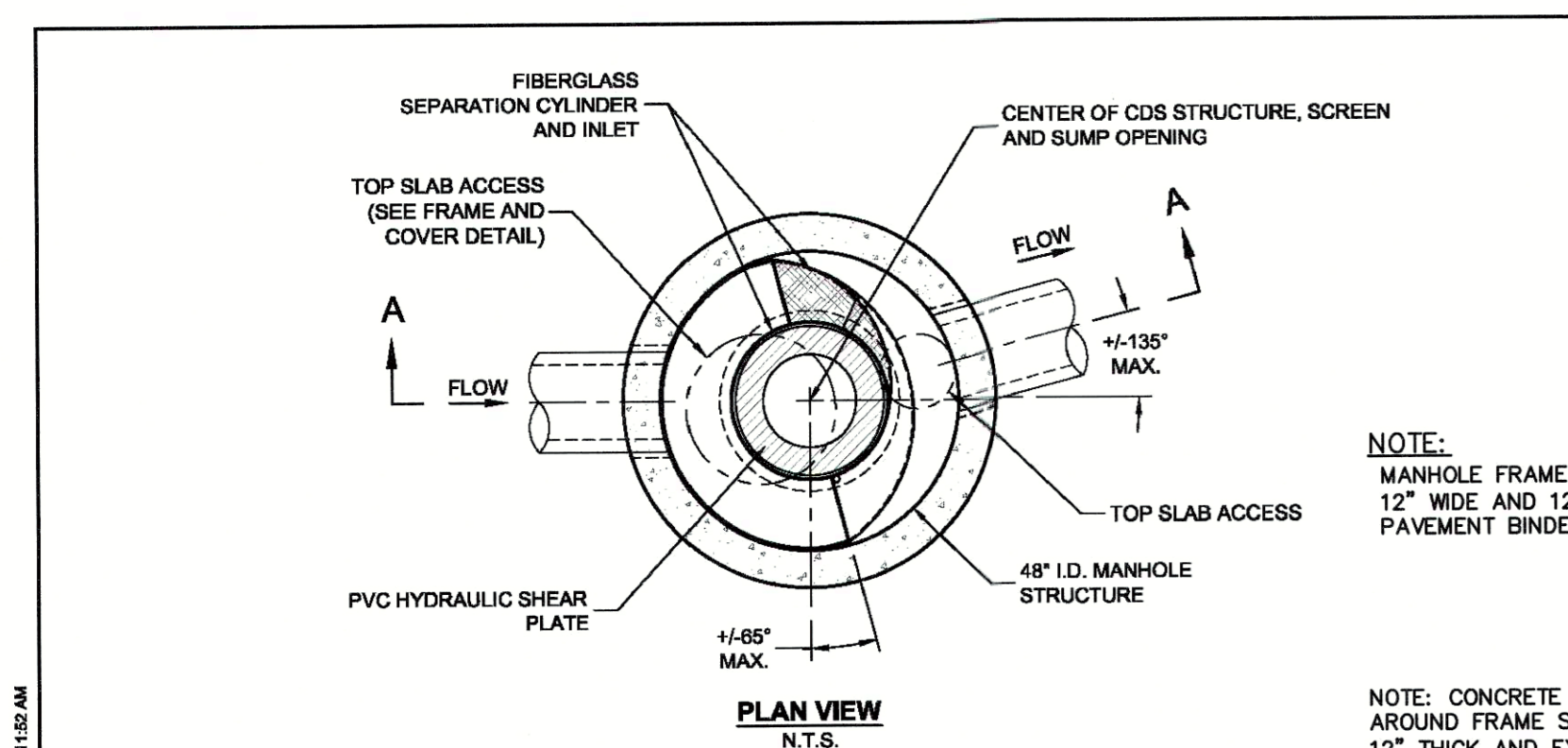
1	04/09/18	PEER REVIEW COMMENTS
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JOB. NO: 83669.00



CDS2015-4 DESIGN NOTES
 CDS2015-4 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS. IF THE SITE CONDITIONS EXCEED 10.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
 THE STANDARD CDS2015-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES

NOTE:
 MANHOLE FRAME SHALL BE SET IN A CONCRETE BED 12" WIDE AND 12" THICK AND EXTEND TO TOP OF PAVEMENT BINDER COURSE.

NOTE:
 CONCRETE BED AROUND FRAME SHALL BE 12" THICK AND EXTEND TO TOP OF PAVEMENT BINDER COURSE OR 12" THICK IN NON-PAVED AREAS.



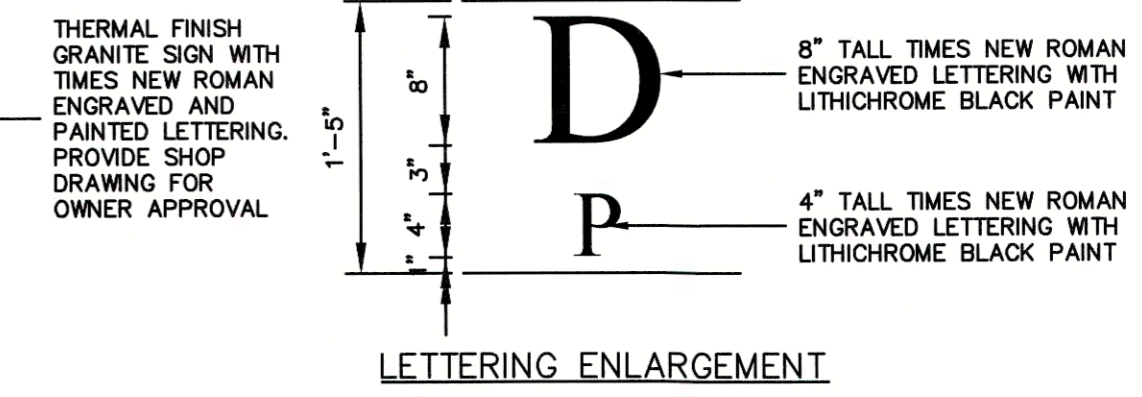
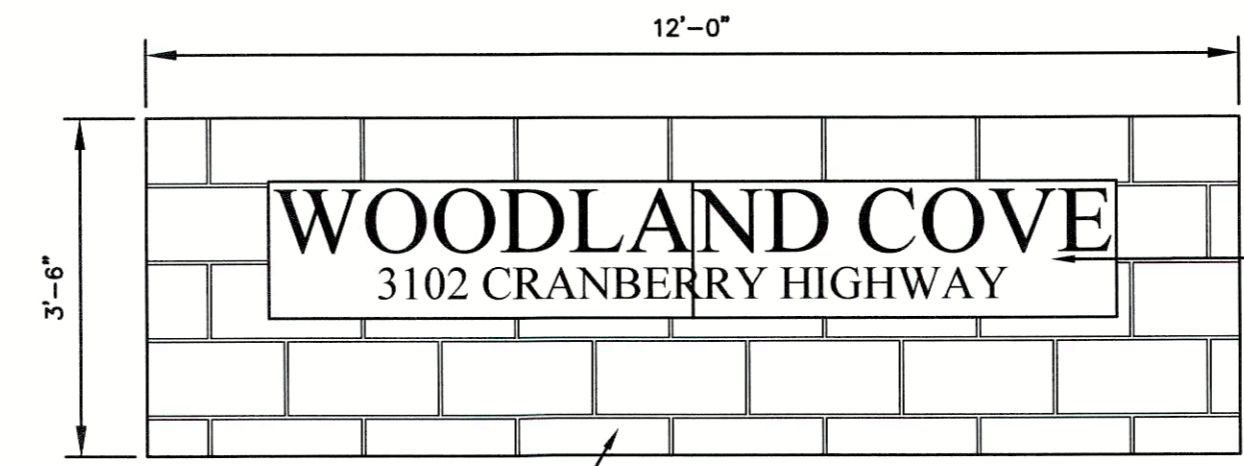
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS)	*
PEAK FLOW RATE (CFS)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*
PIPE DATA:	
INLET PIPE 1	I.E. MATERIAL DIAMETER
INLET PIPE 2	" " " "
OUTLET PIPE	" " " "
RIM ELEVATION	
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

GENERAL NOTES
 1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
 4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
 6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

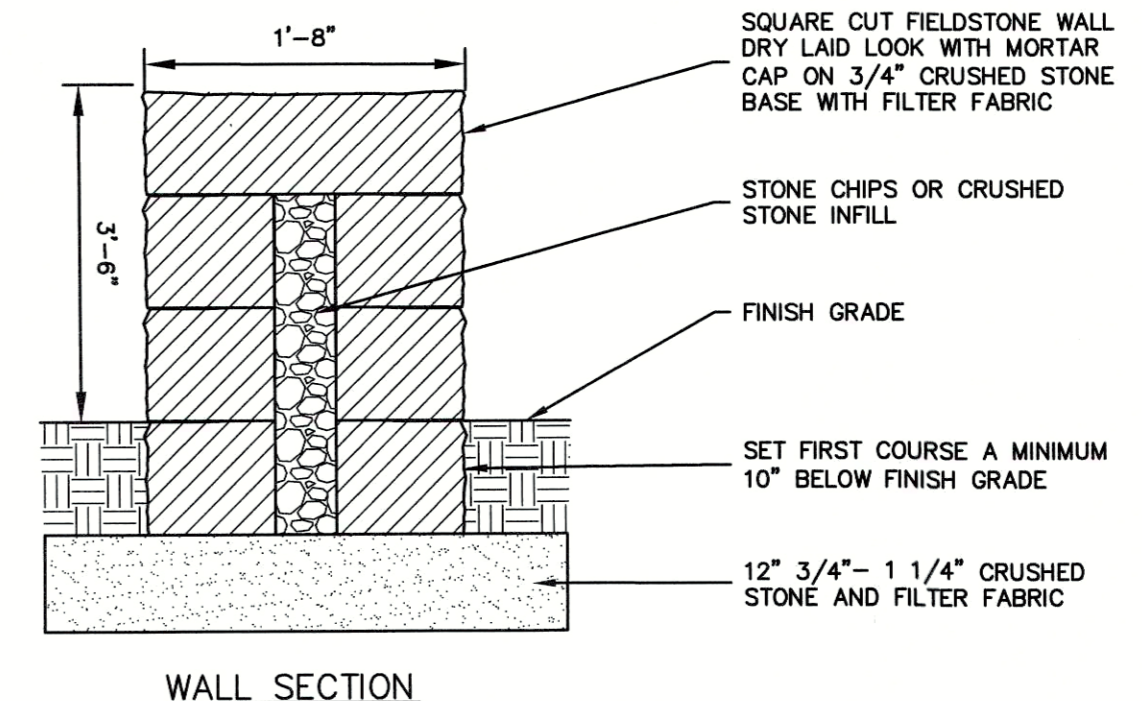
INSTALLATION NOTES
 1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS2015-4 PRECAST CONCRETE WATER QUALITY SYSTEM STANDARD DETAIL

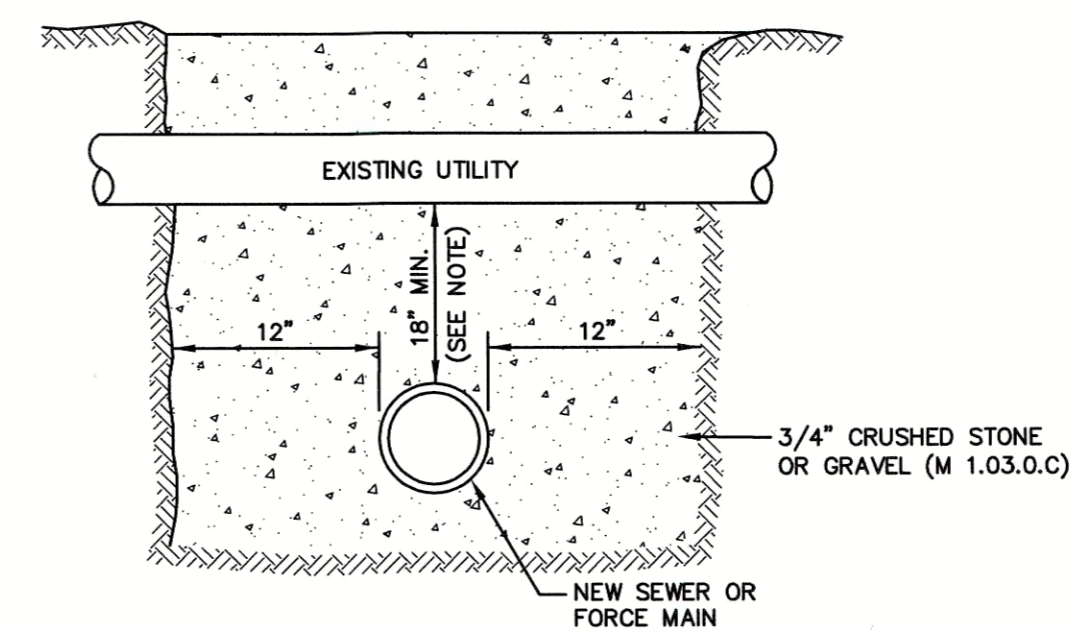


SQUARE CUT FIELDSTONE WALL DRY LAID LOCK WITH MORTAR CAP ON 3/4" CRUSHED STONE BASE WITH FILTER FABRIC

NOTES:
 1. CONTRACTOR SHALL PROVIDE FULL SHOP DRAWING DEPICTING MATERIALS, DIMENSIONS, COMPONENTS, AND ACCESSORIES FOR OWNER APPROVAL.
 2. SHOWN FOR REFERENCE ONLY. FINAL SIGN SHALL BE DESIGNED BY CONTRACTORS SIGN VENDOR/SUBCONTRACTOR.



FIELD STONE SIGN
SCALE: NONE



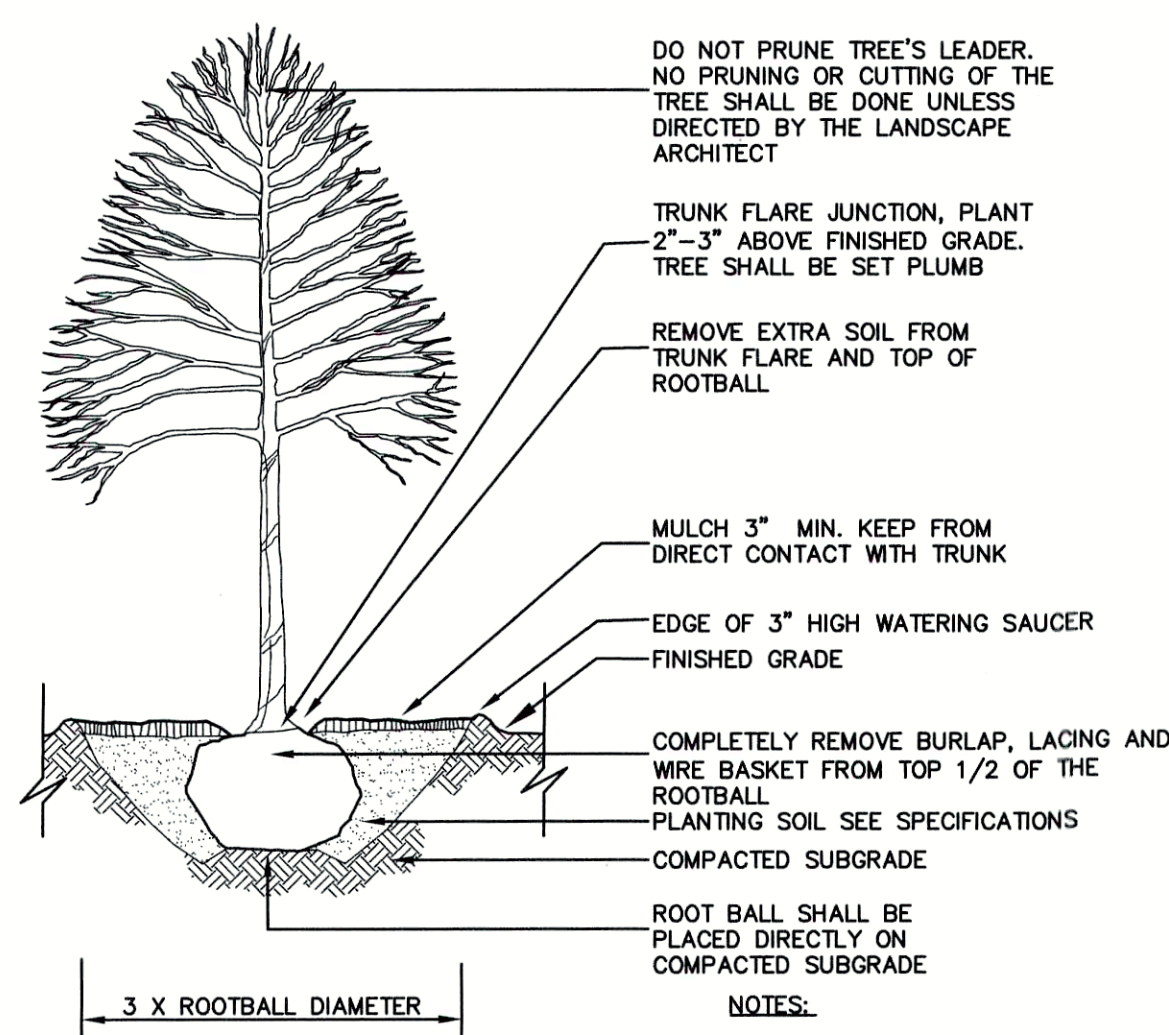
NOTES:
 1. 3000 PSI CONCRETE IS TO BE USED TO ENCASE ALL SANITARY SEWERS AND SERVICE CONNECTIONS WHICH ARE WITHIN 18 INCHES OF A WATERLINE. ENCASEMENT SHALL BE A MINIMUM OF 6 INCHES AROUND THE SANITARY SEWER AND EXTEND A MINIMUM OF 10 FEET BEYOND THE WATER PIPE.

TYPICAL UTILITY CROSSING
SCALE: NONE

CONTECH WATER QUALITY UNIT (OR APPROVED EQUAL)
SCALE: NONE

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

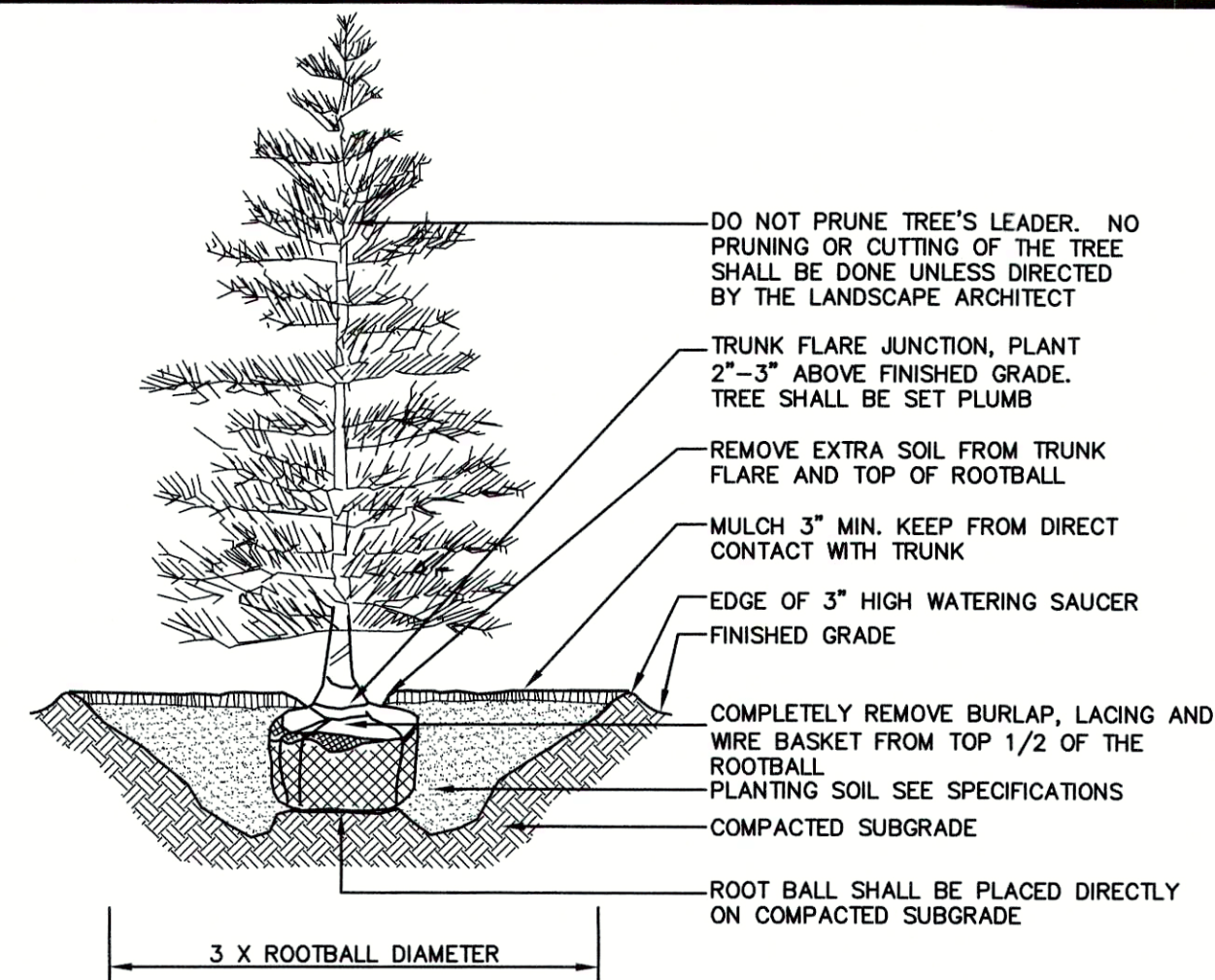
WOODLAND COVE - JANUARY 12, 2018



- NOTES:**
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.
 - DO NOT STAKE OR WRAP TREE UNLESS NOTED OTHERWISE.
 - TREE WATERING BAG SHALL BE INSTALLED AND MAINTAINED UNTIL ACCEPTANCE BY OWNER.

DECIDUOUS TREE PLANTING

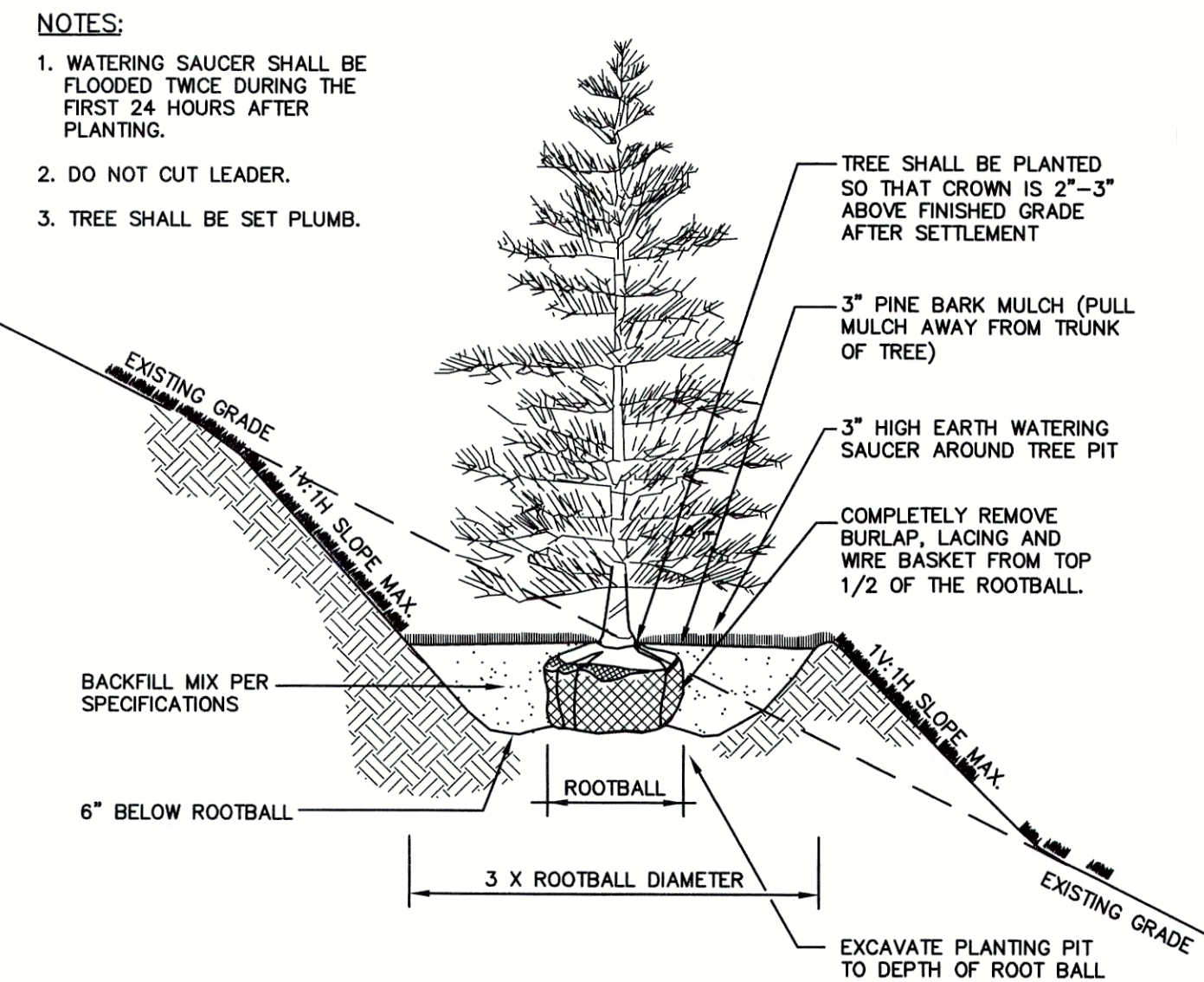
SCALE: NONE



- NOTES:**
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.
 - TREE WATERING BAG SHALL BE INSTALLED AND MAINTAINED UNTIL ACCEPTANCE BY OWNER.

EVERGREEN TREE PLANTING

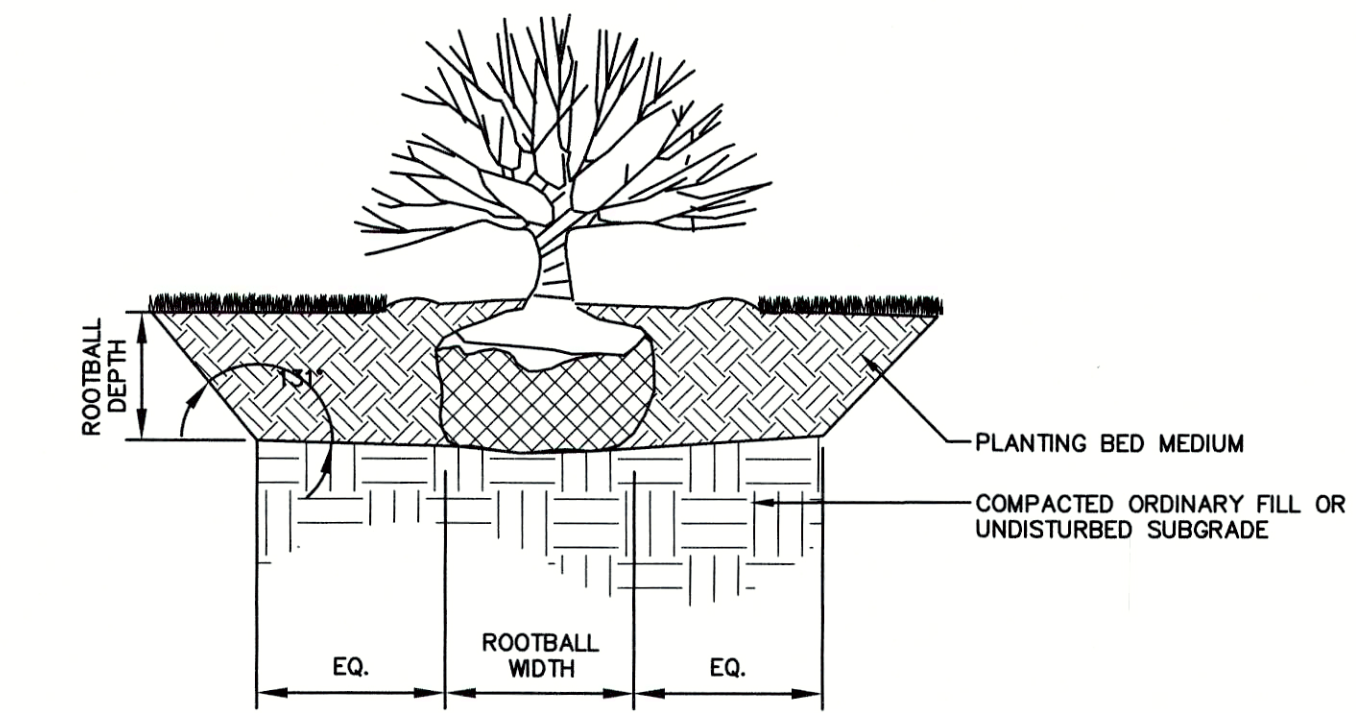
SCALE: NONE



TREE (SLOPE PLANTING)

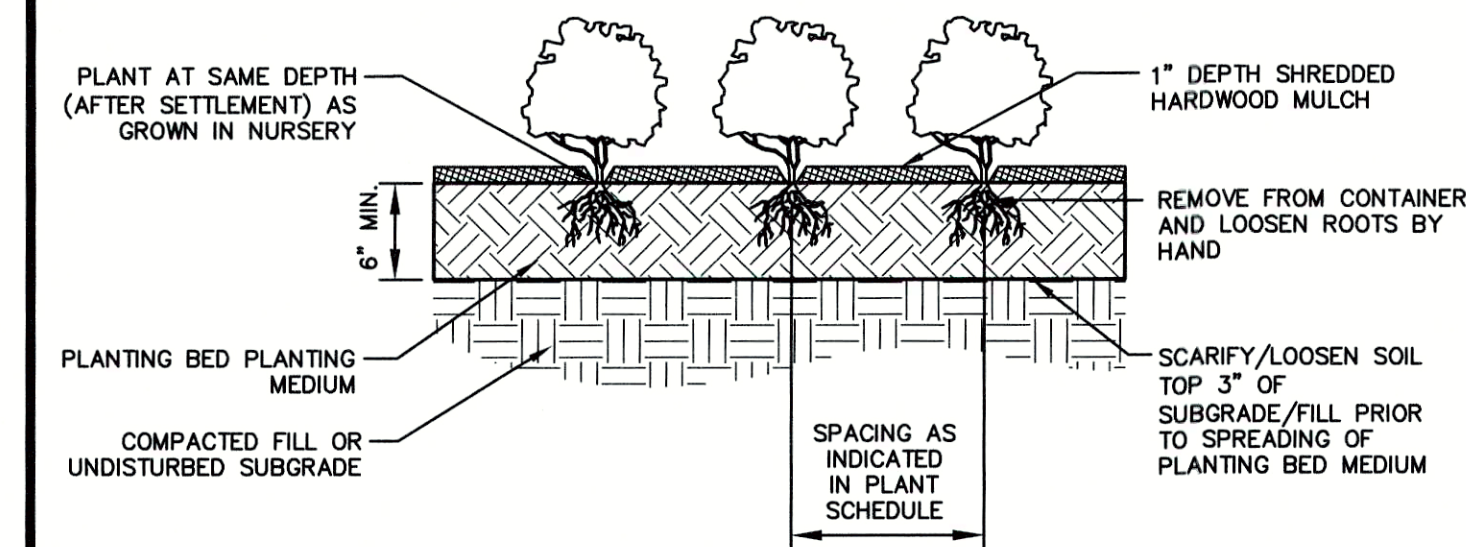
SCALE: NONE

- NOTES:**
- LOOSE OR CRACKED ROOT BALLS ARE UNACCEPTABLE.
 - EXCAVATE TO REQUIRED DEPTH AND DO NOT EXCAVATE BELOW ROOT BALL DEPTH.
 - SET SHRUBS PLUMB WITH ROOT FLARE 1" ABOVE FINISHED GRADE, BACKFILL WITH PLANTING MIX.
 - FLOOD WATERING SAUCER TWICE IN FIRST 24 HOURS AFTER PLANTING.
 - RAISE AND REPLANT ANY SHRUBS THAT SETTLE AFTER PLANTING & WATERING.
 - REMOVE 1/3 BURLAP PRIOR TO BACKFILL. SYNTHETIC BURLAP UNACCEPTABLE.
 - 2" DEPTH MULCH (KEEP MULCH 1" AWAY FROM SHRUB BASE) 3" HIGH EARTH WATERING SAUCER 1"-0" BEYOND ROOT BALL. PLANTING MIXTURE.
 - FOR CONTAINERIZED PLANTS: REMOVE CONTAINER PRIOR TO PLANTING, SCARIFY ROOT BALL BELOW EDGE 1/2" DEEP IN FOUR LOCATIONS.



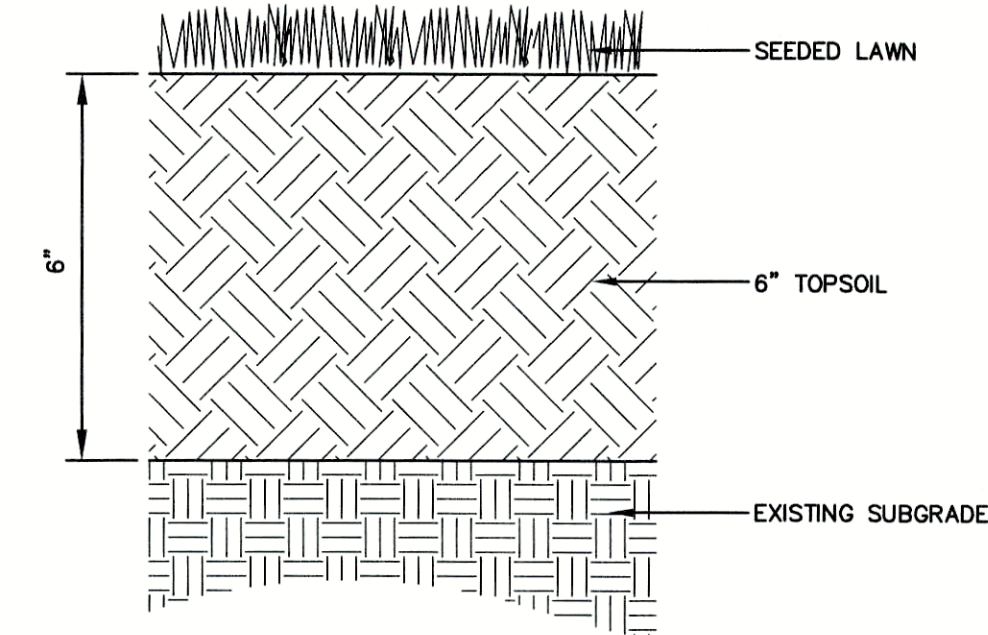
SHRUB PLANTING TYP.

SCALE: NONE



GROUNDCOVER & PERENNIAL PLANTING TYP.

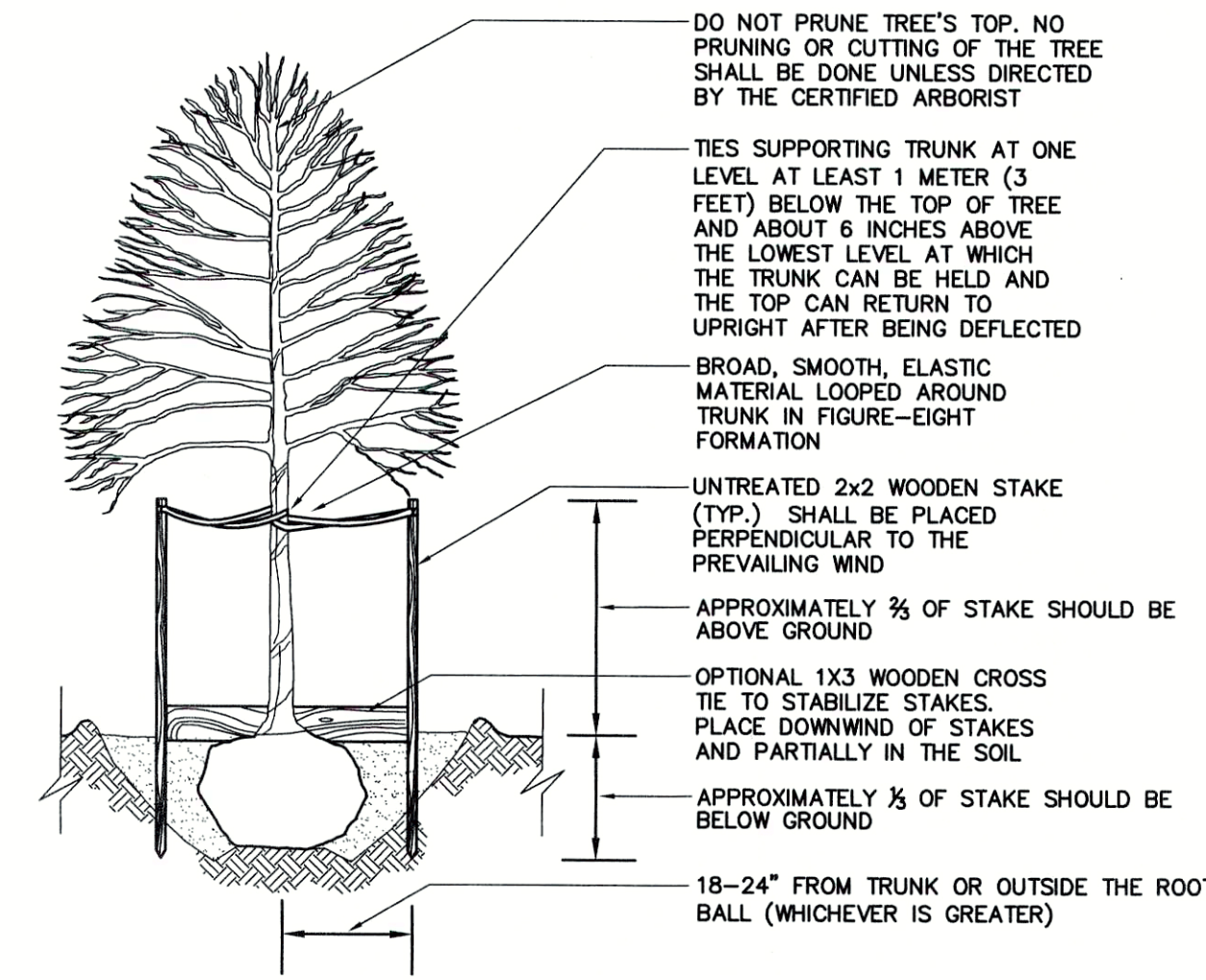
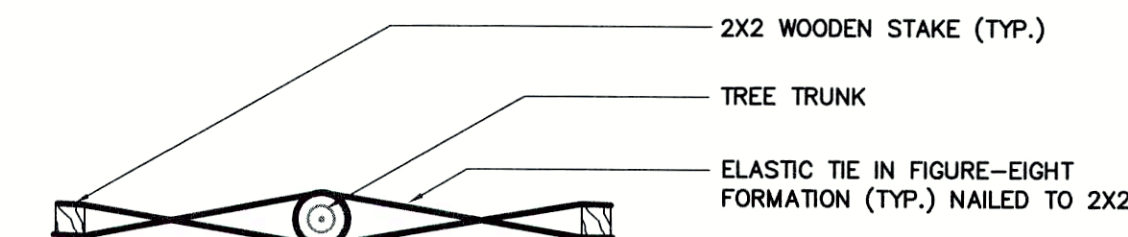
SCALE: NONE



- NOTES:**
- CONTRACTOR SHALL PREPARE SOILS IN ALL DISTURBED AREAS AND AREAS USED FOR EQUIPMENT ACCESS.

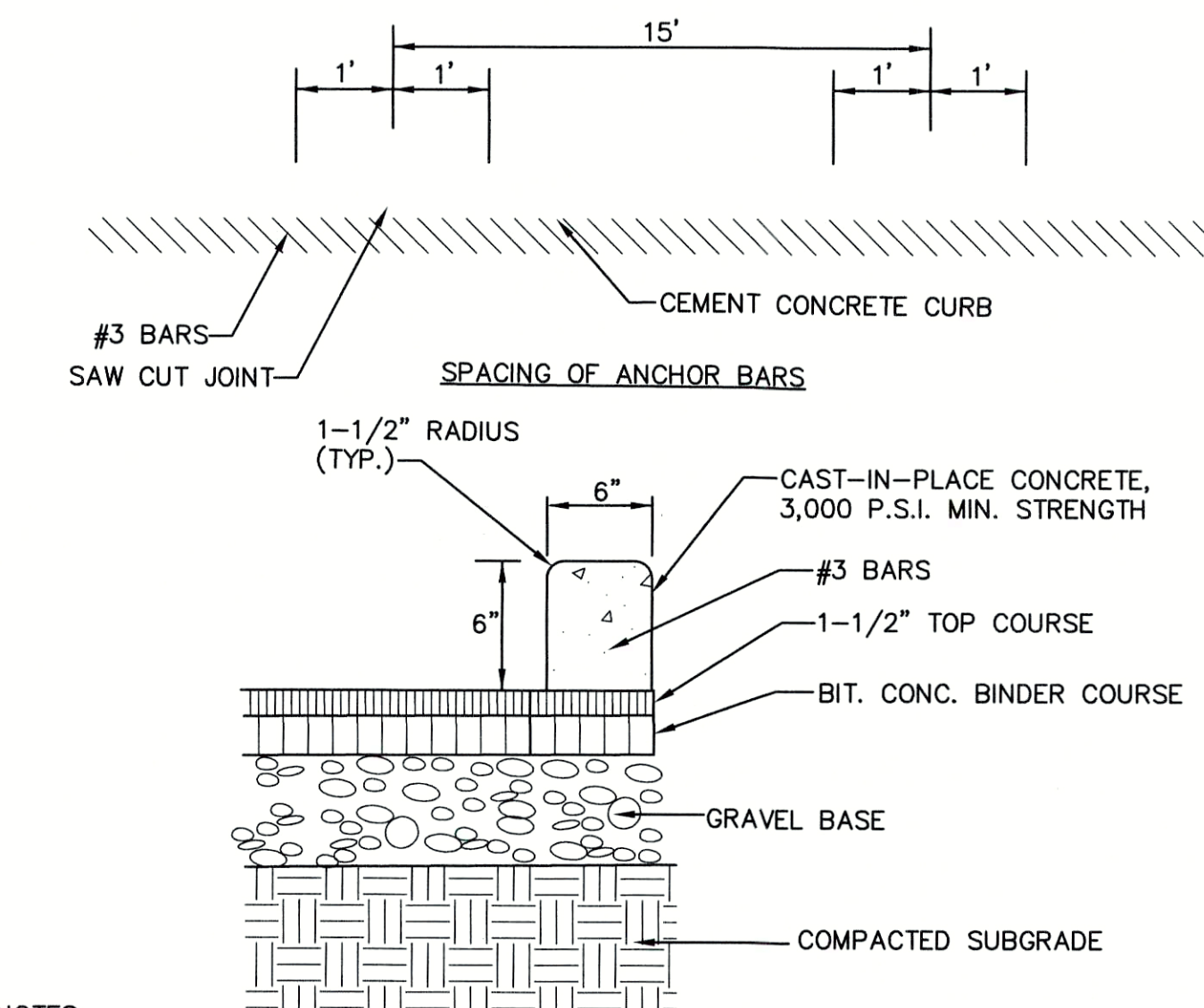
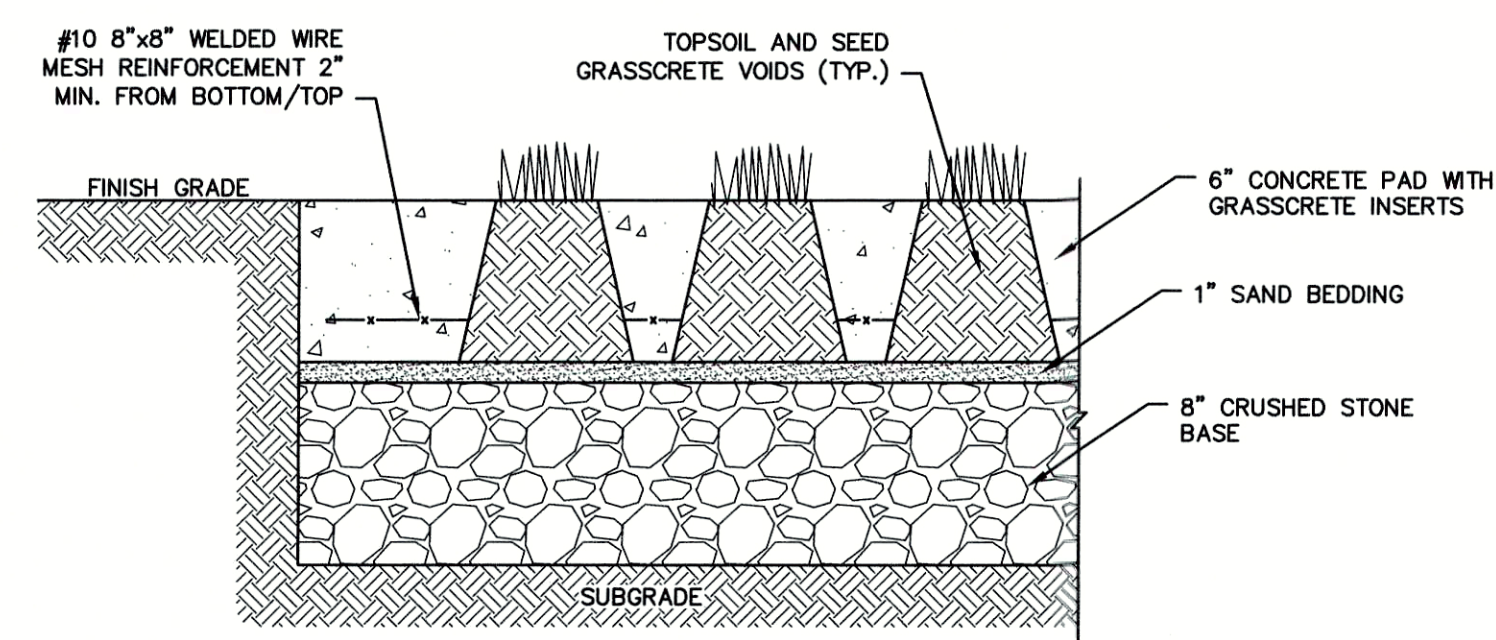
LAWN

SCALE: NONE



TREE STAKING DETAIL

SCALE: NONE



- NOTES:**
- CONCRETE CURBS SHALL BE ANCHORED TO THE EXISTING PAVEMENT EITHER BY PLACING STEEL TIE BARS 1 FOOT ON EACH SIDE OF EVERY JOINT, OR BY USING AN ADHESIVE. THE ADHESIVE SHALL MEET THE REQUIREMENTS OF SECTION 9-20 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR TYPE II EPOXY RESIN.

EXTRUDED CEMENT CONCRETE CURB

SCALE: NONE

GRASSCRETE FIRE LANE

SCALE: NONE

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NOT FOR CONSTRUCTION

DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:		
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: AS SHOWN

FILE: 8366900-DET.DWG
DWG. NO.
JOB. NO: 83669.00

C-6.1

WOODLAND COVE - JANUARY 12, 2018

WH484/WR484

General Features

The model WH484 or WR484 grinder pump station is a complete unit that includes: four grinder pumps, check valve, polyethylene tank, controls, and alarm panel. Designed for higher flow applications where local codes dictate higher storage requirements. The lower portion of the tank has a smaller diameter, tapered down to a dish-shaped bottom. The large tank access opening easily accommodates installation of the grinder pumps and equipment.

- Rated for flows of 7000 gpd (26,498 lpd)
- 486 gallons (1802 liters) of capacity
- Standard outdoor heights range from 75 inches to 122 inches

The WH484 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrations.

The WR484 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.

Operational Information

Motor

1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections

4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

Discharge Connections

Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge

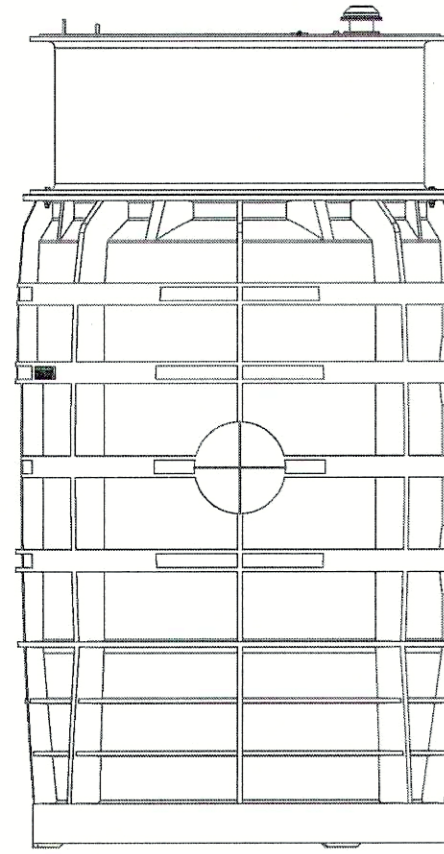
15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 28 m)
7.8 gpm at 80 psig (0.49 lps at 56 m)

Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

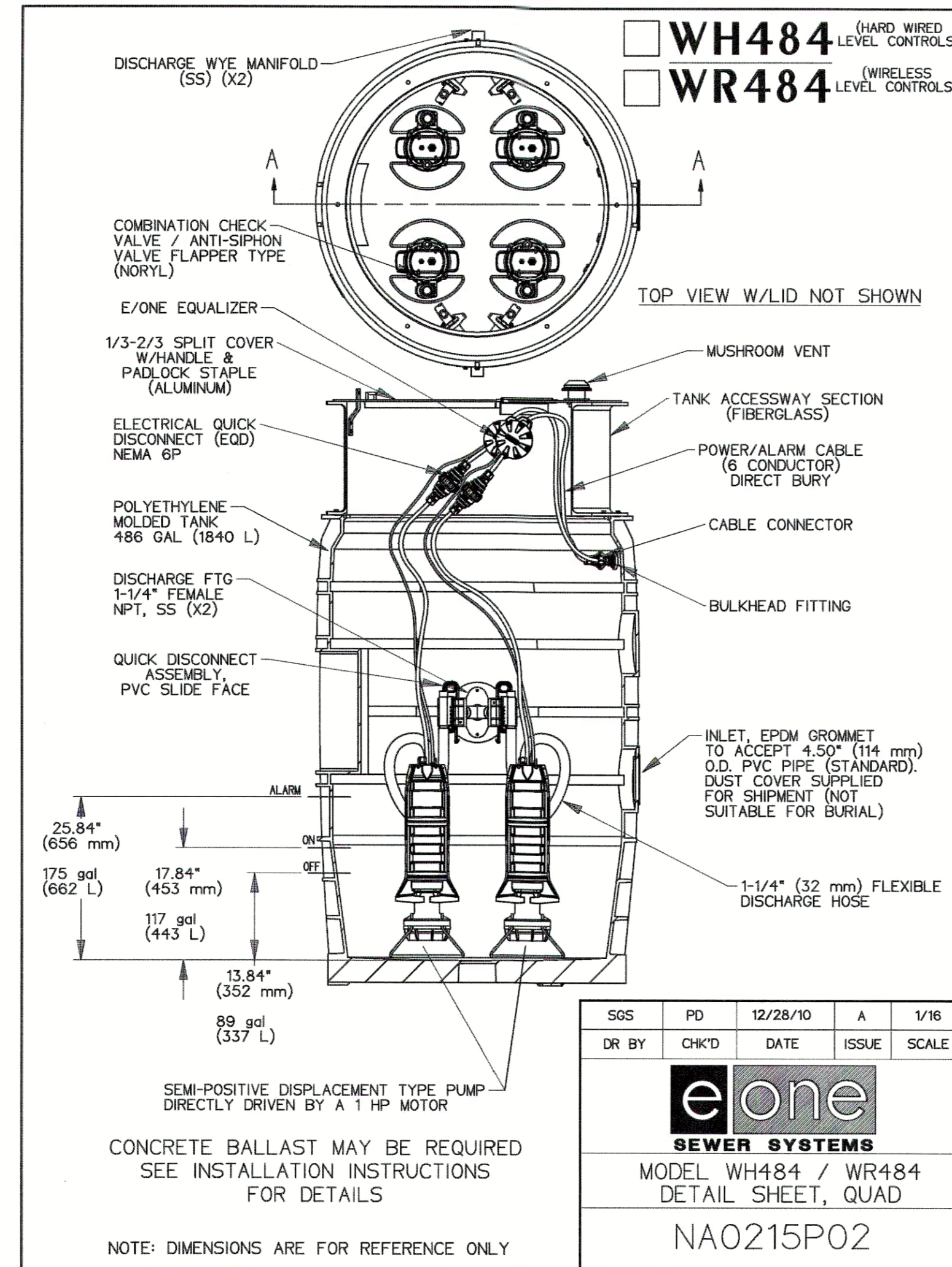


Patent Numbers: 5,752,315
5,562,254 5,439,180

NA0215P01 Rev C

TYPICAL eONE GRINDER PUMP SYSTEM

SCALE: NONE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:

1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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SCALE: AS SHOWN

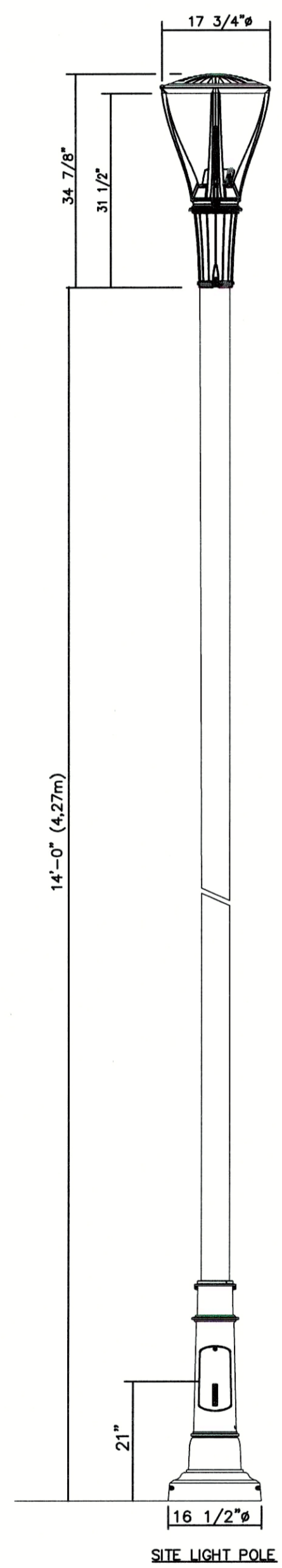
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 FOR CONSTRUCTION

FILE: 8366900-DET.DWG
DWG NO:
JOB NO: 83669.00 **C-6.6**

JOB NAME: MULTI FAMILY RESIDENCE - CRANBERRY PARTNERS - WAREHAM, MA
 APPRO LIGHTING SOLUTIONS
 PROFESSIONAL SEAL: BY FINISH GROUP
 PERMITTING HEIGHT: SEE DIMENSION SCHEDULE
 NOTES: SEE SCHEDULE
 SCALE: 1/8" = 1'-0"

Qty	Label	Arrangement	Fixture	Input Watts	L.P.F.	Ballasting	Description
11	01	STAGLE	201	17.1	0.85	0-10V-DIM	2000K 10W-12-35-100-20-10V-DIM-170000
4	02	STAGLE	202	55.9	0.85	0-10V-DIM	1000K 40W-12-35-100-20-10V-DIM-559000
4	03	STAGLE	410	55.9	0.85	0-10V-DIM	1000K 40W-12-35-100-20-10V-DIM-559000
35	04	STAGLE	303	55.9	0.85	0-10V-DIM	1000K 40W-12-35-100-20-10V-DIM-559000

Category	Label	Grid Height	Avg	Max	Min	Area/Fc	Max/Fc
RECESSED LIGHTING	0	2.45	5.8	0.4	6.43	14.00	
OUTDOOR 1	0	0.21	4.8	0.0	3.61	3.61	
WALKWAY	0	1.02	2.4	0.4	2.55	4.00	



WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

OVERALL PHOTOMETRICS PLAN

JANUARY 12, 2018

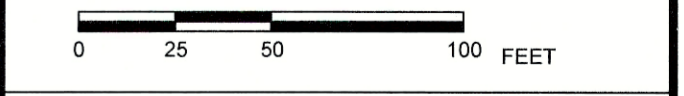
REVISIONS:

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2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

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 803 Summer Street
 Boston, Massachusetts
 02127
 617 896 4300

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 SCALE: 1" = 50'



FILE: 8366900-PHOTO.DWG
 DWG NO:
 JOB NO: 83669.00

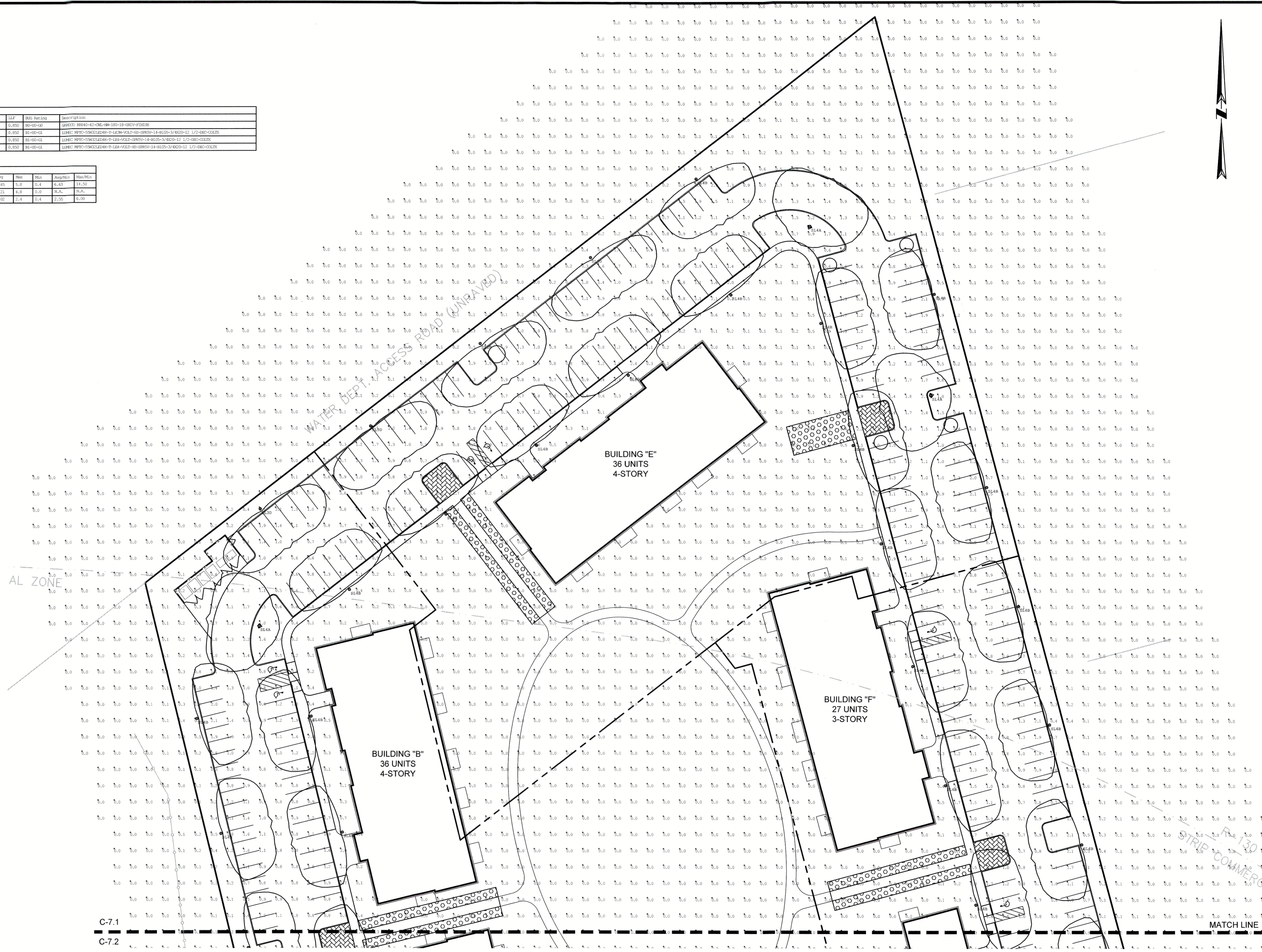
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C-7.0

JOB NAME: MULTI-FAMILY HOUSING - DAKOTA PARTNERS - WAREHAM, MA
 ASSESSMENT SOLUTIONS
 PROFESSIONAL ENGINEER: JAMES R. FINNELL
 REGISTERED ENGINEER: SEE LICENSE NUMBER
 PROJECT NO.: 8366900

UNIT	TYPE	AREA	PERMITS	DATE	DESCRIPTION
01	RES	271	17.1	0.850	04-15-18
02	RES	276	17.1	0.850	04-15-18
03	RES	1149	35.9	0.850	04-15-18
04	RES	900	35.9	0.850	04-15-18

Label	Field Height	Min	Max	Avg	StdDev
INDICATED LIGHTING	0	2.45	3.8	3.4	6.43
Observed	0	0.21	1.8	0.8	0.84
DIFFERENCE		1.02	2.4	2.6	5.59



WOODLAND COVE

3102 CRANBERRY
 HIGHWAY
 IN
 WAREHAM
 MASSACHUSETTS

**PHOTOMETRICS PLAN
 (NORTH)**

JANUARY 12, 2018

REVISIONS:	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

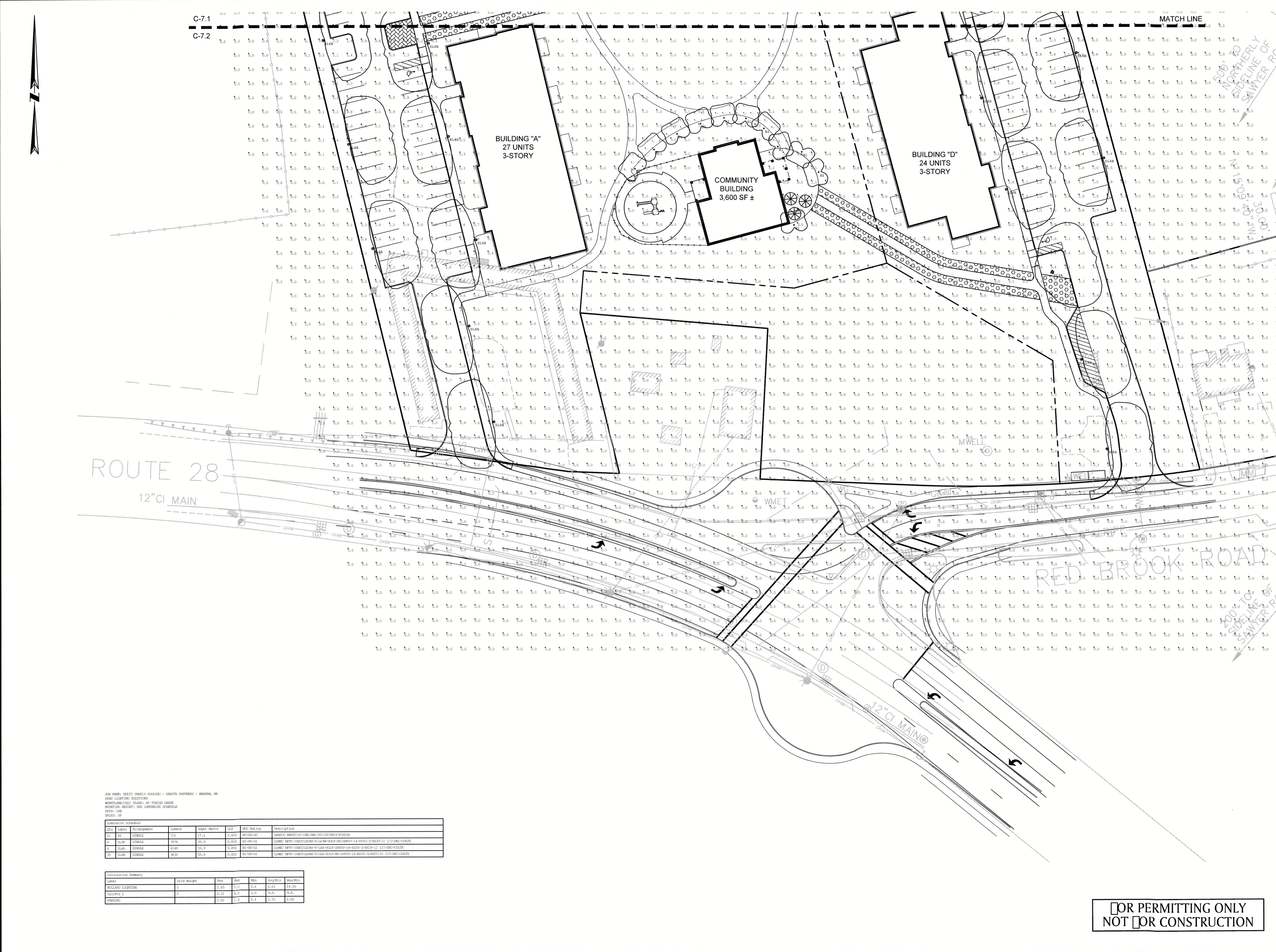
BSC GROUP
 803 Summer Street
 Boston, Massachusetts
 02127
 617 896 4300

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 SCALE: 1" = 30'
 0 15 30 60 FEET

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 FOR CONSTRUCTION

FILE: 8366900-PHOTO.DWG
 DWG. NO.:
 JOB. NO.: 8366900

C-7.1



WOODLAND COVE

3102 CRANBERRY
HIGHWAY
IN
WAREHAM
MASSACHUSETTS

PHOTOMETRICS PLAN
(SOUTH)

JANUARY 12, 2018

REVISIONS:

1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

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803 Summer Street
Boston, Massachusetts
02127

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SCALE: 1" = 30'
0 15 30 60 FEET

FILE: 8366900-PHOTO.DWG
DWG NO:
JOB NO: 83669.00

C-7.2

JOB NAME: SHEET FAMILY HOUSING - DAKOTA PARTNERS - WAREHAM, MA
ARCH LIGHTING SOLUTIONS
WORKING DRAWING PLANS: 03 FINISH GRADE
MEASUREMENTS: SEE LANDSCAPE SCHEDULE
ASST. LDR: [Name]
SCALE: 1" = 30'

ITEM	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
1	CONCRETE	100	YD	120.00	12000.00
2	STEEL	50	TON	100.00	5000.00
3	CEMENT	200	TON	80.00	16000.00
4	AGGREGATE	500	YD	40.00	20000.00
5	PAVING	1000	SQ YD	10.00	10000.00

Calculation Summary

Label	Grid Height	Avp	Min	Max	Avp/Min	Max/Min
WORLD LEADER	0	2.65	2.1	3.4	6.63	16.19
CHINA 1	0	0.21	0.0	0.6	6.00	6.00
FINISH	0	1.00	0.4	2.50	6.25	6.25

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NOT FOR CONSTRUCTION

- NOTES:
1. THE CONTRACTOR SHALL CLEARLY MARK LIMITS OF CLEARING AND LIMITS OF TREE REMOVAL. SELECTIVE PRUNING AND THINNING FOR REVIEW BY THE LANDSCAPE ARCHITECT PRIOR TO ANY CLEARING OPERATIONS. ALL TREE WORK SHALL BE SUPERVISED BY A LICENSED ARBORIST.
 2. ALL TREES TO BE SAVED SHALL BE PROTECTED. SEE SPECIFICATION FOR TREE PROTECTION REQUIREMENTS.
 3. THE EXISTING SITE CONSISTS OF SANDY SOILS WHICH HAVE BEEN PREVIOUSLY DISTURBED. THERE IS A TYPICAL OAK, PINE, AND BAYBERRY FOREST COMMUNITY AT THE SITE.
 4. THE LANDSCAPE CONTRACTOR SHALL FURNISH LOAM. EXISTING LOAM-TOP SOIL MAY BE REUSED UPON APPROVAL BY THE LANDSCAPE ARCHITECT. LOAM SHALL BE FERTILE, FRIABLE, NATURAL AND PRODUCTIVE TOPSOIL OF GOOD SILT-LOAM TO SANDY-LOAM TYPE. LOAM SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND SHALL BE REASONABLY FREE OF STONES, LUMPS, ROOTS, STICKS, INVASIVE SEED OR STOCK AND OTHER FOREIGN MATTER. LOAM SHALL NOT BE WORKED OR APPLIED IN A MUDDY OR WET CONDITION.
 5. PROVIDE SOIL TEST REPORTS FOR ONSITE LOAN TO BE REUSED AND FOR LOAM BORROW TO BE IMPORTED. SOIL TEST REPORT SHALL INCLUDE USDA TEXTURAL CLASSIFICATION TEXTURAL SIEVE ANALYSIS, pH, PERCENT ORGANIC, AS WELL AS NUTRIENT ANALYSIS, AND MICRO-NUTRIENTS.
 6. ANY FERTILIZER APPLICATION SHALL CONFORM TO THE PROVISIONS OF 330 CMR 31.00-31.11
 7. PROVIDE SOIL AMENDMENTS AS DIRECTED BY THE LANDSCAPE ARCHITECT BASED UPON THE FINDINGS OF SOIL TESTS PROVIDED FOR EXISTING LOAM-TOPSOIL AND IMPORTED LOAM. AT A MINIMUM TREE AND SHRUB PLANTINGS SHALL RECEIVE MYCORRHIZAE INOCULATION, AND POLYACRYLAMIDE COIL CONDITIONER.
 8. REMOVE ALL ROCKS AND DEBRIS FROM SOIL SURFACE AND GRADE TO AN EVEN SURFACE - SEE SPECIFICATIONS.
 9. COMPLETE QUANTITIES OF PLANTS FOR EACH AREA TO BE AVAILABLE ON SITE AT THE TIME OF PLANTING FOR FIELD LAYOUT BY OWNER'S REPRESENTATIVE. NO PARTIAL LAYOUT AND PLANTING OF AREAS WILL BE ACCEPTABLE.
 10. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. - SEE SPECIFICATION FOR DETAILED REQUIREMENTS.
 11. ANY PROPOSED SUBSTITUTIONS OF PLANT MATERIAL SHALL BE MADE WITH MATERIAL EQUIVALENT TO THE DESIRED MATERIAL IN OVERALL EFFECT AND CULTURE. NO SUBSTITUTION OF PLANT SPECIES OR VARIETIES WILL BE ACCEPTABLE WITHOUT LANDSCAPE ARCHITECT'S WRITTEN APPROVAL.
 12. OWNER'S REPRESENTATIVE TO APPROVE PLANT MATERIAL PRIOR TO DELIVERY TO SITE AND AGAIN AT THE PROJECT SITE PRIOR TO PLANTING.
 13. VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND REPORT ANY CONFLICTS TO THE OWNER OR HIS REPRESENTATIVE.
 14. NO PLANTING SHALL OCCUR PRIOR TO ACCEPTANCE OF FINAL GRADING.
 15. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH GRADE. IMMEDIATELY REPLANT PLANTS WHICH SETTLE OUT OF PLUMB OR BELOW FINISH GRADE.
 16. SEE SPECIFICATIONS FOR PLANTING MAINTENANCE AND GUARANTEE REQUIREMENTS.
 17. THE LANDSCAPE ARCHITECT OR ENGINEER RESERVES THE RIGHT TO ADJUST FINAL GRADES IN THE FIELD TO SAVE EXISTING VEGETATION.
 18. PLANT QUANTITIES NOTED IN THE PLANT SCHEDULE ARE APPROXIMATE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING AND INSTALLATION OF ALL PLANT MATERIALS NOTED ON THE PLANTING PLAN.
 19. PROVIDE FOUR (4) FOOT DIAMETER MULCH CIRCLE AROUND ALL INDIVIDUAL TREE PLANTINGS AND CONTINUOUS MULCH BED AROUND SHRUB, PERENNIAL AND GROUNDCOVER PLANTINGS, UNLESS OTHERWISE NOTED. DO NOT MOUND SOIL OR MULCH AT TRUNKS.
 20. LOOSE OR CRACKED ROOTBALLS SHALL BE REJECTED.
 21. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEEDED, AMENDED, AND/OR MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.
 22. ALL SEEDED AREAS SHALL BE WATERED AND MAINTAINED UNTIL A UNIFORM TURF IS ESTABLISHED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
 23. THE CONTRACTOR SHALL MAINTAIN ALL PLANTINGS FOR A PERIOD OF 60 DAYS FROM THE DATE OF APPROVAL OF COMPLETED PLANTING INSTALLATION. PRIOR TO CLOSE OF MAINTENANCE PERIOD THE CONTRACTOR SHALL REQUEST REVIEW OF COMPLETED PLANTINGS FROM THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES PRIOR TO MAINTENANCE PERIOD APPROVAL.
 24. ALL PLANTINGS SHALL RECEIVE THE EQUIVALENT OF ONE INCH OF RAIN PER WEEK DURING THE MAINTENANCE PERIOD. THE CONTRACTOR SHALL SUBMIT A WATERING SCHEDULE AT THE BEGINNING OF THE MAINTENANCE PERIOD, AND A WATERING LOG AT THE END OF THE MAINTENANCE PERIOD. ANY ADJUSTMENT TO WATERING MUST REFERENCE NWS REPORTS.
 25. UPON COMPLETION OF MAINTENANCE PERIOD ALL PLANTINGS SHALL BE GUARANTEED FOR AN ESTABLISHMENT PERIOD OF 1 YEAR. THE CONTRACTOR SHALL PROVIDE WATER AND SUCH MAINTENANCE AS NEEDED TO ALLOW PLANTS TO ACHIEVE STABLE HEALTHY GROWTH DURING ESTABLISHMENT.
 26. PRIOR TO FINAL APPROVAL THE CONTRACTOR SHALL REPLACE ANY PLANTING THAT FAILS TO MEET THE CONDITION APPROVED AT THE END OF THE MAINTENANCE PERIOD.



WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

OVERALL PLANTING PLAN

JANUARY 12, 2018

REVISIONS:		
1	04/09/18	PEER REVIEW COMMENTS
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3	08/10/18	PEER REVIEW COMMENTS

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SCALE: 1" = 50'
0 25 50 100 FEET

FILE: 8366900-PLANT.DWG
DWG. NO:
JOB. NO: 83669.00
L-1.0

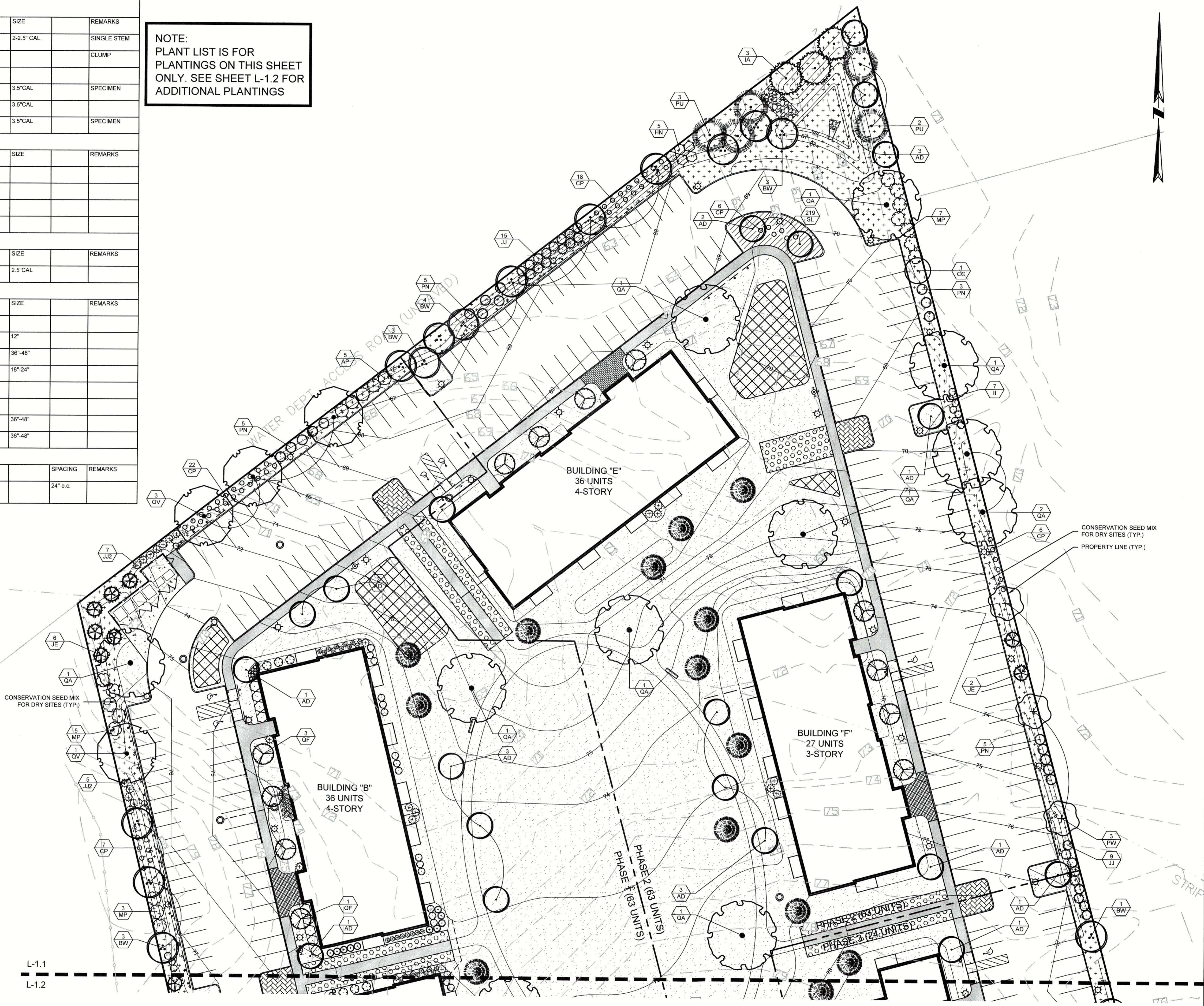
LEGEND

	- PROPERTY LINE
	- PROPOSED CURBING
	- CHAIN LINK FENCE
	- SITE LIGHT
	- PROPOSED SIGN
	- PROPOSED CONCRETE
	- PROPOSED BITUMINOUS WALK
	- PROPOSED STONEDUST WALK
	- PROPOSED PAVERS
	- PROPOSED STAMPED ASPHALT
	- PROPOSED GRASSCRETE FIRE LANE
	- POTENTIAL SNOW STORAGE

PLANT SCHEDULE NORTH

DECIDUOUS TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AD	21	AMELANCHIER ARBOREA / DOWNY SERVICEBERRY	B & B	2-2.5" CAL.	SINGLE STEM
BW	14	BETULA POPULIFOLIA 'WHITESPIRE' / WHITESPIRE BIRCH	8-10' HT	B & B	CLUMP
PW	3	PRUNUS SEROTINA / WILD BLACK CHERRY	B & B		
QA	10	QUERCUS ALBA / WHITE OAK	B & B	3.5" CAL.	SPECIMEN
QF	12	QUERCUS ROBUR 'FASTIGIATA' / PYRAMIDAL ENGLISH OAK	B & B	3.5" CAL.	
QV	4	QUERCUS VELUTINA / BLACK OAK	B & B	3.5" CAL.	SPECIMEN
5-6' HT.					
EVERGREEN TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
IA	3	ILEX OPACA / AMERICAN HOLLY	B & B		
JE	8	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	10 GAL		
PF	13	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF'S PYRAMID PINE	B & B		
PU	5	PINUS STROBUS 'UCONN' / UCONN WHITE PINE	B & B		
FLOWERING TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
CC	1	CORNUS FLORIDA 'CHEROKEE CHIEF' / CHEROKEE CHIEF DOGWOOD	B & B	2.5" CAL.	
SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AP	5	AESCLUSUS PARVIFLORA / BOTTLEBRUSH BUCKEYE	5 GAL		
CP	59	COMPTONIA PEREGRINA / SWEET FERN	1 GAL	12"	
HN	5	HYDRANGEA MACROPHYLLA 'NIKKO BLUE' / NIKKO BLUE HYDRANGEA	5 GAL	36"-48"	
II	10	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	3 GAL	18"-24"	
JJ2	18	JUNIPERUS COMMUNIS / JUNIPER	B & B		
JJ	24	JUNIPERUS PFITZERIANA 'SEA GREEN' / JUNIPER SEA GREEN	3 GAL		
MP	15	MYRICA PENNSYLVANICA / NORTHERN BAYBERRY	3 GAL	36"-48"	
PN	18	PHYSOCARPUS OPULEFOLIUS / NINEBARK	3 GAL	36"-48"	
GRASSES	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	REMARKS
	219	SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM GRASS	PLUG	24" o.c.	

NOTE:
PLANT LIST IS FOR
PLANTINGS ON THIS SHEET
ONLY. SEE SHEET L-1.2 FOR
ADDITIONAL PLANTINGS



WOODLAND COVE

3102 CRANBERRY
HIGHWAY
IN
WAREHAM
MASSACHUSETTS

PLANTING PLAN (NORTH)

JANUARY 12, 2018

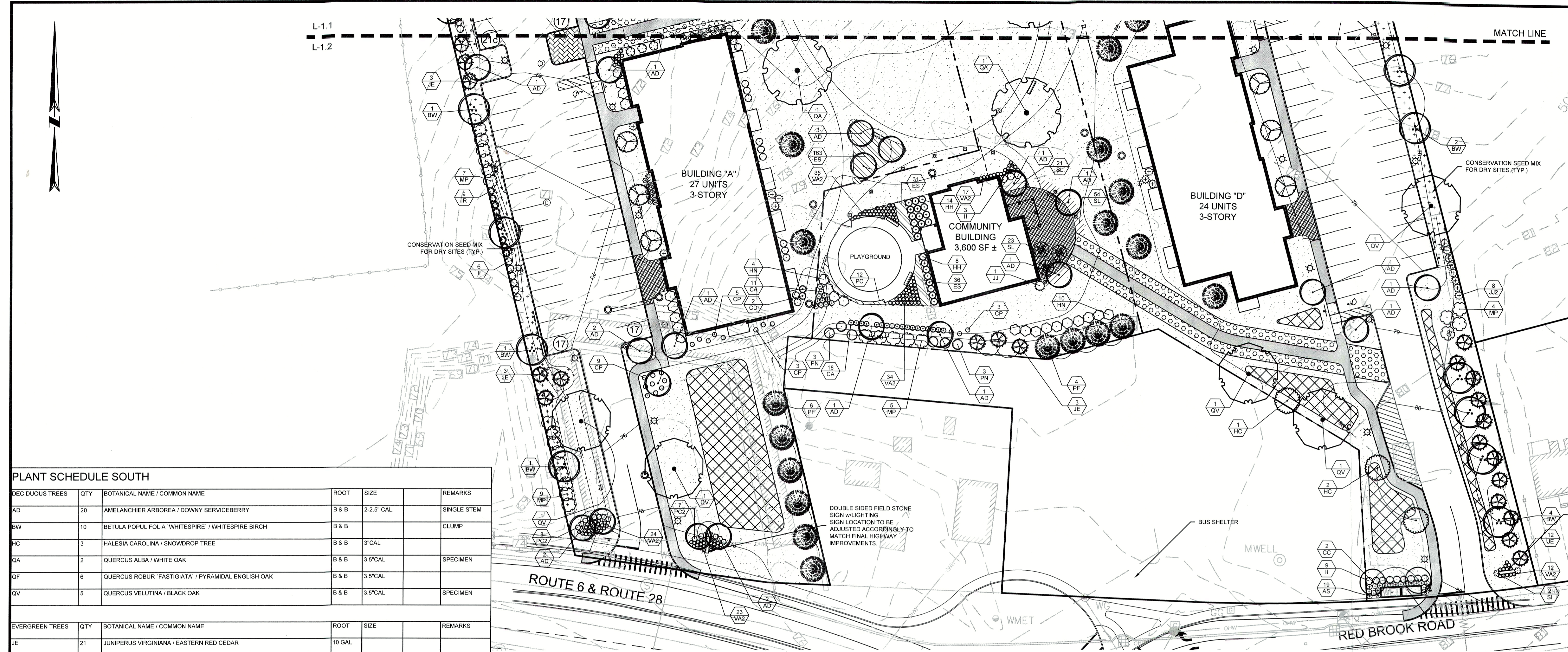
REVISIONS:	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127

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SCALE: 1" = 30'
0 15 30 60 FEET

FILE: 8366900-PLANT.DWG
DWG. NO:
JOB. NO: 83669.00



PLANT SCHEDULE SOUTH

DECIDUOUS TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AD	20	AMELANCHIER ARBOREA / DOWNY SERVICEBERRY	B & B	2-2.5' CAL	SINGLE STEM
BW	10	BETULA POPULIFOLIA 'WHITESPIRE' / WHITESPIRE BIRCH	B & B		CLUMP
FC	3	HALESIA CAROLINA / SNOWDROP TREE	B & B	3" CAL	
QA	2	QUERCUS ALBA / WHITE OAK	B & B	3.5" CAL	SPECIMEN
QF	6	QUERCUS ROBUR 'FASTIGIATA' / PYRAMIDAL ENGLISH OAK	B & B	3.5" CAL	
QV	5	QUERCUS VELUTINA / BLACK OAK	B & B	3.5" CAL	SPECIMEN

EVERGREEN TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
JE	21	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	10 GAL		
PF	18	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF'S PYRAMID PINE	B & B		

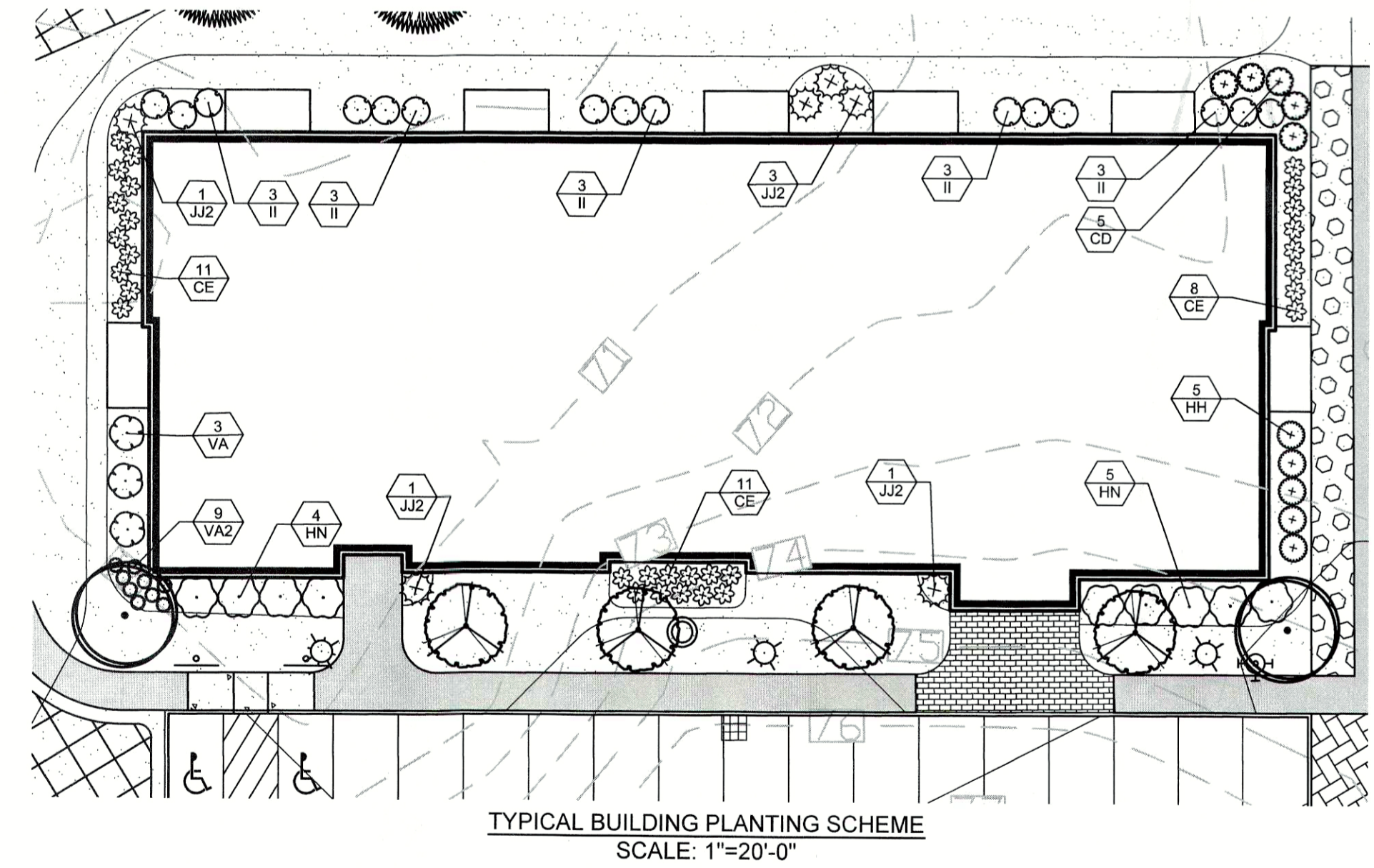
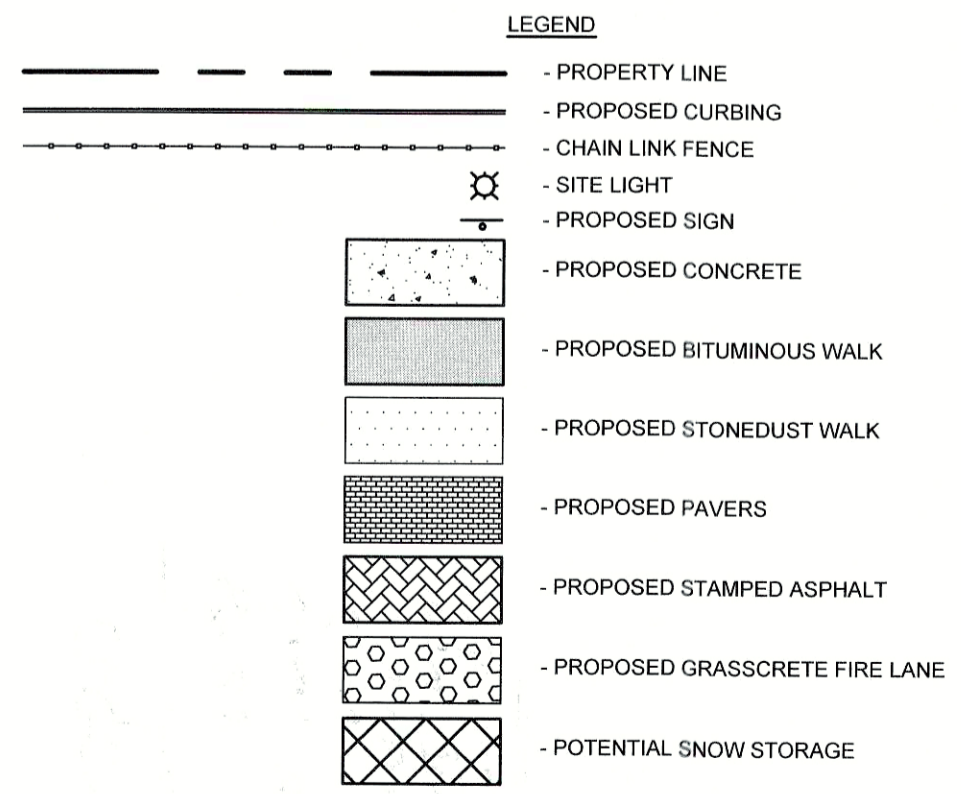
FLOWERING TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
CC	2	CORNUS FLORIDA 'CHEROKEE CHIEF' / CHEROKEE CHIEF DOGWOOD	B & B	2.5" CAL 8-10' HT	

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
CD	2	CALLYCARPA DICHOTOMA / BEAUTYBERRY	3 GAL	2-2.5' HT	
CE	13	CEANOTHUS AMERICANUS / NEW JERSEY TEA	1 GAL		
CP	20	COMPTONIA PEREGRINA / SWEET FERN	1 GAL	12"	
CA	29	CORNUS SERICEA 'FARRO' / ARCTIC FIRE DOGWOOD	3 GAL	18"-24" 5-6' HT 8-10' HT	
HN	23	HYDRANGEA MACROPHYLLA 'NIKKO BLUE' / NIKKO BLUE HYDRANGEA	5 GAL	36"-48"	
HH	22	HYPERICUM X 'HIDCOTE' / HIDCOTE ST. JOHN'S WORT	3 GAL	15"-18"	
II	31	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	3 GAL	18"-24"	
IR	9	ILEX VERTICILLATA 'RED SPRITE' / RED SPRITE WINTERBERRY	3 GAL	36"-48"	
JJ2	16	JUNIPERUS COMMUNIS / JUNIPER	B & B		
JJ	1	JUNIPERUS PFITZERIANA 'SEA GREEN' / JUNIPER SEA GREEN	3 GAL		
MP	25	MYRICA PENNSYLVANICA / NORTHERN BAYBERRY	3 GAL	36"-48"	
PN	6	PHYSOCARPUS OPULEFOLIUS / NINEBARK	3 GAL	36"-48"	
VA2	154	VACCINIUM ANGUSTIFOLIUM / LOWBUSH BLUEBERRY	1 GAL	12"	
VA	3	VIBURNUM DENTATUM / VIBURNUM	3 GAL	24"-36" 18"-24"	

GRASSES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AS	19	ANDROPOGON SCOPARIUM / LITTLE BLUE STEM	1 GAL		
PC2	15	PANICUM VIRGATUM 'CLOUD NINE' / TALL SWITCH GRASS	1 GAL		
SI	2	SORGHASTRUM NUTANS 'INDIAN STEEL' / INDIAN GRASS	1 GAL		

GRASSES	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	REMARKS
	230	ERAGROSTIS SPECTABILIS / PURPLE LOVE GRASS	PLUG	24" o.c.	
	12	PANICUM VIRGATUM 'CLOUD NINE' / TALL SWITCH GRASS	1 GAL	40" o.c.	
	98	SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM GRASS	PLUG	24" o.c.	

NOTE:
PLANT LIST IS FOR PLANTINGS ON THIS SHEET ONLY. SEE SHEET L-1.2 FOR ADDITIONAL PLANTINGS



PLANT SCHEDULE TYP BLDG LAYOUT

SHRUBS	QTY	BOTANICAL NAME	ROOT	SIZE	REMARKS
CD	5	CALLYCARPA DICHOTOMA BEAUTYBERRY	3 GAL	2-2.5' HT	
CE	30	CEANOTHUS AMERICANUS NEW JERSEY TEA	1 GAL		
HN	9	HYDRANGEA MACROPHYLLA 'NIKKO BLUE' / NIKKO BLUE HYDRANGEA	5 GAL	36"-48"	
HH	5	HYPERICUM X 'HIDCOTE' / HIDCOTE ST. JOHN'S WORT	3 GAL	15"-18"	
II	15	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	3 GAL	18"-24"	
JJ2	6	JUNIPERUS COMMUNIS JUNIPER	B & B		
VA2	9	VACCINIUM ANGUSTIFOLIUM / LOWBUSH BLUEBERRY	1 GAL	12"	
VA	3	VIBURNUM DENTATUM / VIBURNUM	3 GAL	24"-36"	

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

PLANTING PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT
3	08/10/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: 1" = 30'
0 15 30 60 FEET

FILE: 8366900-PLANT.DWG
DWG. NO:
JOB. NO: 83669.00 **L-1.2**

WOODLAND COVE

COMPREHENSIVE PERMIT

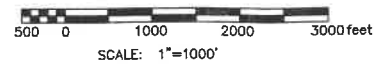
3102 CRANBERRY HIGHWAY WAREHAM, MASSACHUSETTS

JANUARY 12, 2018

REVISED: JULY 20, 2018



SITE MAP



INDEX OF DRAWINGS

T-1.0	TITLE SHEET
EC-1.0	EXISTING CONDITIONS PLAN
SV-1.0	PLAN OF LAND
C-1.0	ZONING CONFORMANCE PLAN
C-2.0-2.2	LAYOUT & MATERIALS PLAN
C-3.0-3.2	GRADING & DRAINAGE PLAN
C-4.0-4.2	UTILITY PLAN
C-5.0-5.3	PRELIMINARY PHASING PLAN
C-6.0-6.5	DETAILS
C-7.0-7.2	PHOTOMETRICS PLAN
L-1.0-1.2	PLANTING PLAN
-	FLOOR PLANS
-	ELEVATIONS

PREPARED FOR:

DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

PREPARED BY:

BSC GROUP

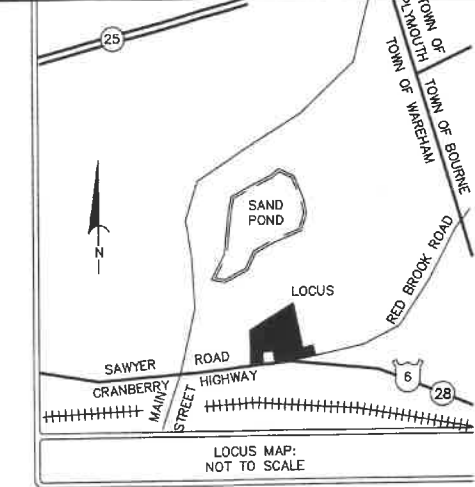
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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NOT FOR CONSTRUCTION

LOCUS INFORMATION

ASSESSORS MAP: 131
 PARCEL'S: Q1
 CURRENT OWNER: BOSTON LAND GROUP LLC
 TITLE REFERENCE: DEED BOOK 20829, PAGE 286
 PLAN REFERENCE: BOOK 44, PAGE 1076
 ZONING DISTRICT: STRIP COMMERCIAL R-130
 SETBACKS: FRONT 20' FRONT 20'
 SIDE 10' SIDE 10'
 REAR 10' REAR 10'
 LOT AREA WITHOUT 30' R-130 STRIP: 260,568± S.F. (5.98± AC.) 115,500± S.F. (2.65± AC.)
 LOT AREA WITH 30' R-130 STRIP: 277,420± S.F. (6.36± AC.) 98,648± S.F. (2.26± AC.)
 MAX. BUILDING COVERAGE: 40%
 MAX. LOT COVERAGE (IMPERVIOUS): 65%
 NITROGEN SENSITIVE ZONE (ZONE II): YES
 FEMA FLOOD ZONE DISTRICT: "X"

NOTE:
 THIS PLAN WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 28 AND MARCH 29, 2017.



PLAN REFERENCES
 STATE HIGHWAY LAYOUT FOR SAWYER ROAD (ROUTE 6).
 COUNTY HIGHWAY LAYOUT FOR RED BROOK ROAD. DECREE #1103 DATED MAY 2, 1950.
 PLAN BOOK 1, PAGE 230 OF 1904 PREPARED FOR SAMUEL D. HANNAH
 PLAN BOOK 2, PAGE 491 OF 1914 SHOWING "ONSET PARK"
 PLAN BOOK 7, PAGE 619 OF 1948 PREPARED FOR MARY L. K. TABOR
 PLAN BOOK 8, PAGE 588 OF 1951 PREPARED FOR ANDREW & MICHAEL CARADIMOS. (A PORTION OF THE SUBJECT PROPERTY)
 PLAN BOOK 44, PAGE 1076 OF 2001 PREPARED BY BSC GROUP, PREPARED FOR HYANNIS TEXTURES 1 LLC
 PLAN PREPARED FOR THE ONSET WATER DISTRICT IN 1962 AND RECORDED IN DEED BOOK 2927, PAGE 233

LAND COURT PLAN REFERENCES
 16393-A, SH 1
 16393-Q
 37394 A
 37763-A, SH-1 (CONFIRMATION)

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

EXISTING CONDITIONS PLAN

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESC.

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MASSACHUSETTS 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts 02127-1601
 860 652 8227

© 2017 BSC Group, Inc.
 SCALE: 1" = 50'
 0 6.25 12.5 25 METERS
 0 25 50 100 FEET

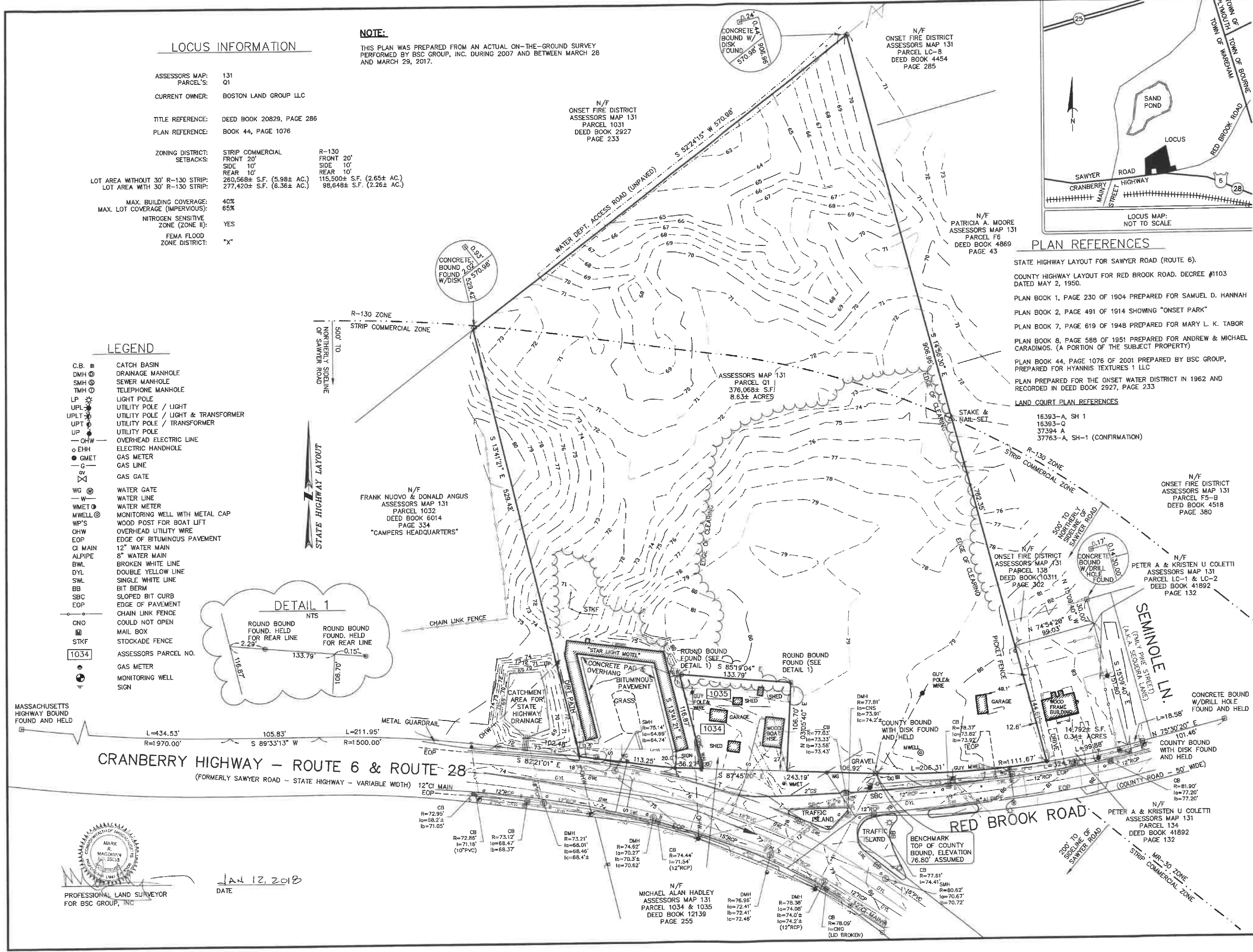
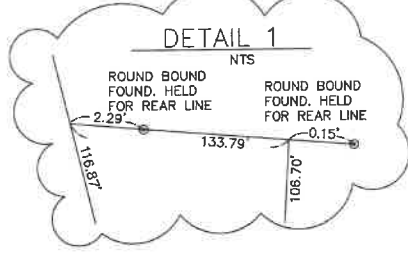
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 DWG: B366901EC
 JOB. NO: B3669.00

EC-1.0

WOODLAND COVE - JANUARY 12, 2018

LEGEND

- C.B. @ CATCH BASIN
- DMH @ DRAINAGE MANHOLE
- SMH @ SEWER MANHOLE
- TMH @ TELEPHONE MANHOLE
- LP * LIGHT POLE
- UPL * UTILITY POLE / LIGHT
- UPLT * UTILITY POLE / LIGHT & TRANSFORMER
- UPT * UTILITY POLE / TRANSFORMER
- UP * UTILITY POLE
- OH-W OVERHEAD ELECTRIC LINE
- EHH ○ ELECTRIC HANDHOLE
- GMET ● GAS METER
- G GAS LINE
- G-GATE GAS GATE
- WG @ WATER GATE
- W WATER LINE
- WMET @ WATER METER
- MWELL @ MONITORING WELL WITH METAL CAP
- WP'S WOOD POST FOR BOAT LIFT
- OHW OVERHEAD UTILITY WIRE
- EOP EDGE OF BITUMINOUS PAVEMENT
- CI MAIN 12" WATER MAIN
- ALPIPE 8" WATER MAIN
- BWL BROKEN WHITE LINE
- DYL DOUBLE YELLOW LINE
- SWL SINGLE WHITE LINE
- BB BIT BERM
- SBC SLOPED BIT CURB
- EOP EDGE OF PAVEMENT
- CL MAIN CHAIN LINK FENCE
- CNO COULD NOT OPEN
- MB MAIL BOX
- STKF STOCKADE FENCE
- 1034 ASSESSORS PARCEL NO.
- GAS METER
- MONITORING WELL
- SIGN



CRANBERRY HIGHWAY - ROUTE 6 & ROUTE 28
 (FORMERLY SAWYER ROAD - STATE HIGHWAY - VARIABLE WIDTH)

RED BROOK ROAD

SEMINOLE LN.
 (AKA A. SEQUOIA LANE)

PROFESSIONAL LAND SURVEYOR
 FOR BSC GROUP, INC.

JAN 12, 2018
 DATE

N/F
 MICHAEL ALAN HADLEY
 ASSESSORS MAP 131
 PARCEL 1034 & 1035
 DEED BOOK 12139
 PAGE 255

N/F
 PETER A & KRISTEN U COLETTI
 ASSESSORS MAP 131
 PARCEL 134
 DEED BOOK 41892
 PAGE 132

BENCHMARK
 TOP OF COUNTY BOUND,
 ELEVATION 76.80' ASSUMED

LOCUS INFORMATION

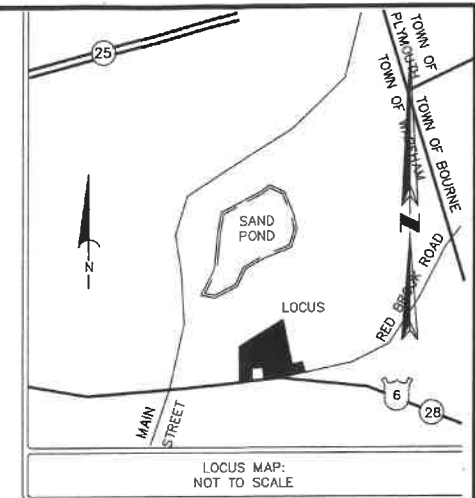
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 SETBACKS: FRONT 20' FRONT 20'
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 LOT AREA WITHOUT 30' R-130 STRIP: 260,568± S.F. (5.98± AC.) 115,500± S.F. (2.65± AC.)
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 MAX. BUILDING COVERAGE: 40%
 MAX. LOT COVERAGE (IMPERVIOUS): 65%
 NITROGEN SENSITIVE ZONE (ZONE II): YES
 FEMA FLOOD ZONE DISTRICT: "X"

NOTE:
 THIS PLAN WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 29 AND MARCH 29, 2017.

LEGEND

- LP LIGHT POLE
- UPL UTILITY POLE / LIGHT
- UPLT UTILITY POLE / LIGHT & TRANSFORMER
- UPT UTILITY POLE / TRANSFORMER
- UP UTILITY POLE
- OHW OVERHEAD ELECTRIC LINE
- CLF CHAIN LINK FENCE
- STKF STOCKADE FENCE
- 1034 ASSESSORS PARCEL NO.

APPROVED BY THE WAREHAM ZONING BOARD OF APPEALS PURSUANT TO THE COMPREHENSIVE PERMIT, IN CASE # ISSUED UNDER M.G.L. CHAPTER 40B, SECTIONS 20-23
 COMPREHENSIVE PERMIT: _____
 DATE OF DECISION: _____ RECORDED WITH PLYMOUTH COUNTY REGISTRY OF DEEDS IN BOOK # _____
 DATE OF PLAN ENDORSEMENT: _____ 2018
 WAREHAM ZONING BOARD OF APPEALS:



PLAN REFERENCES

- STATE HIGHWAY LAYOUT FOR SAWYER ROAD (ROUTE 6).
 COUNTY HIGHWAY LAYOUT FOR RED BROOK ROAD. DECREE #1103 DATED MAY 2, 1950.
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 37394 A
 37763-A, SH-1 (CONFIRMATION)

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM
 MASSACHUSETTS

PLAN OF LAND

JANUARY 12, 2018

REVISIONS	DATE	DESCRIPTION
1	07/20/18	REVISED LAYOUT

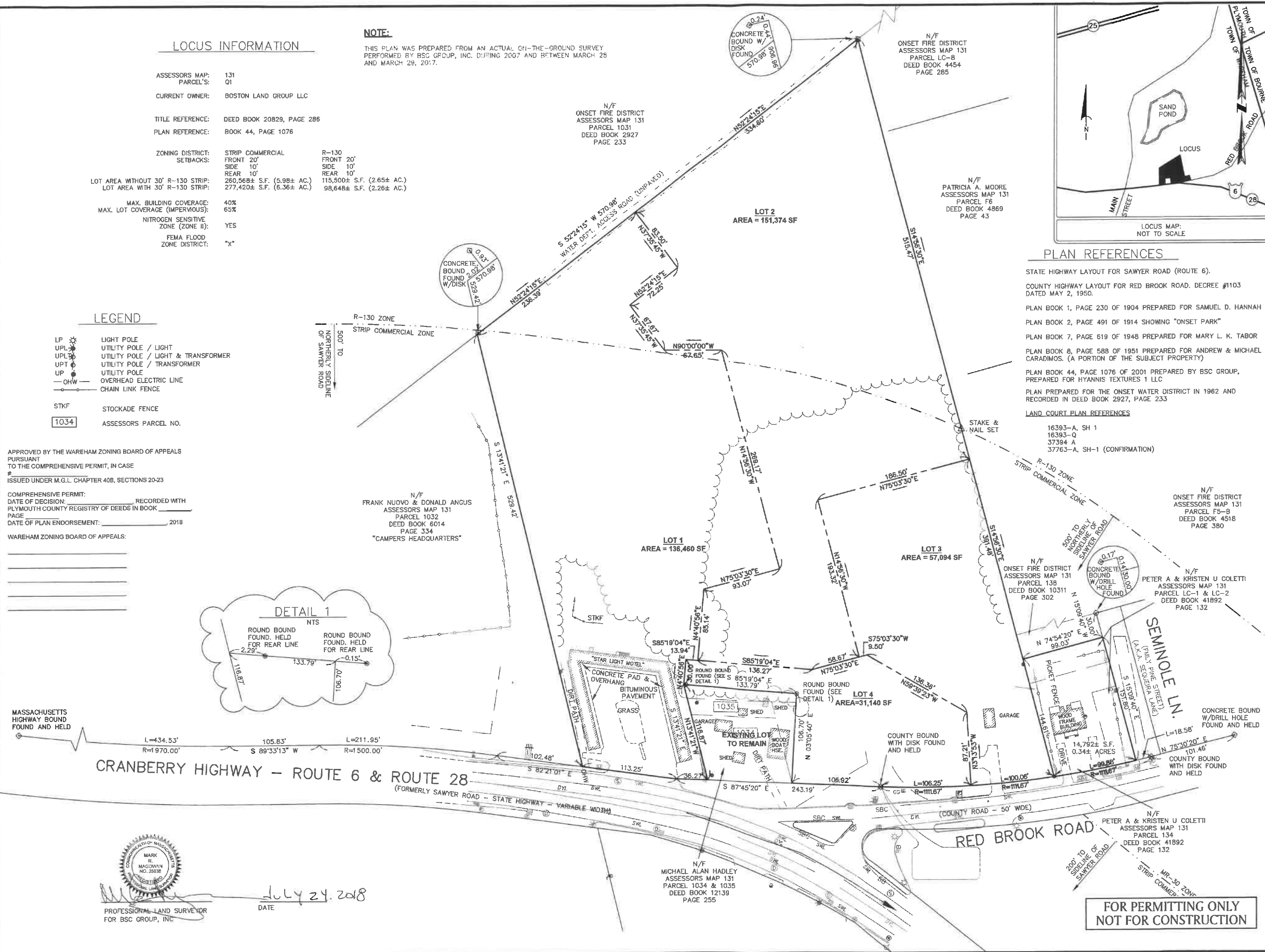
PREPARED FOR:
 DAKOTA PARTNERS
 1284 MAIN STREET
 WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts 02127-1601
 860 652 8227

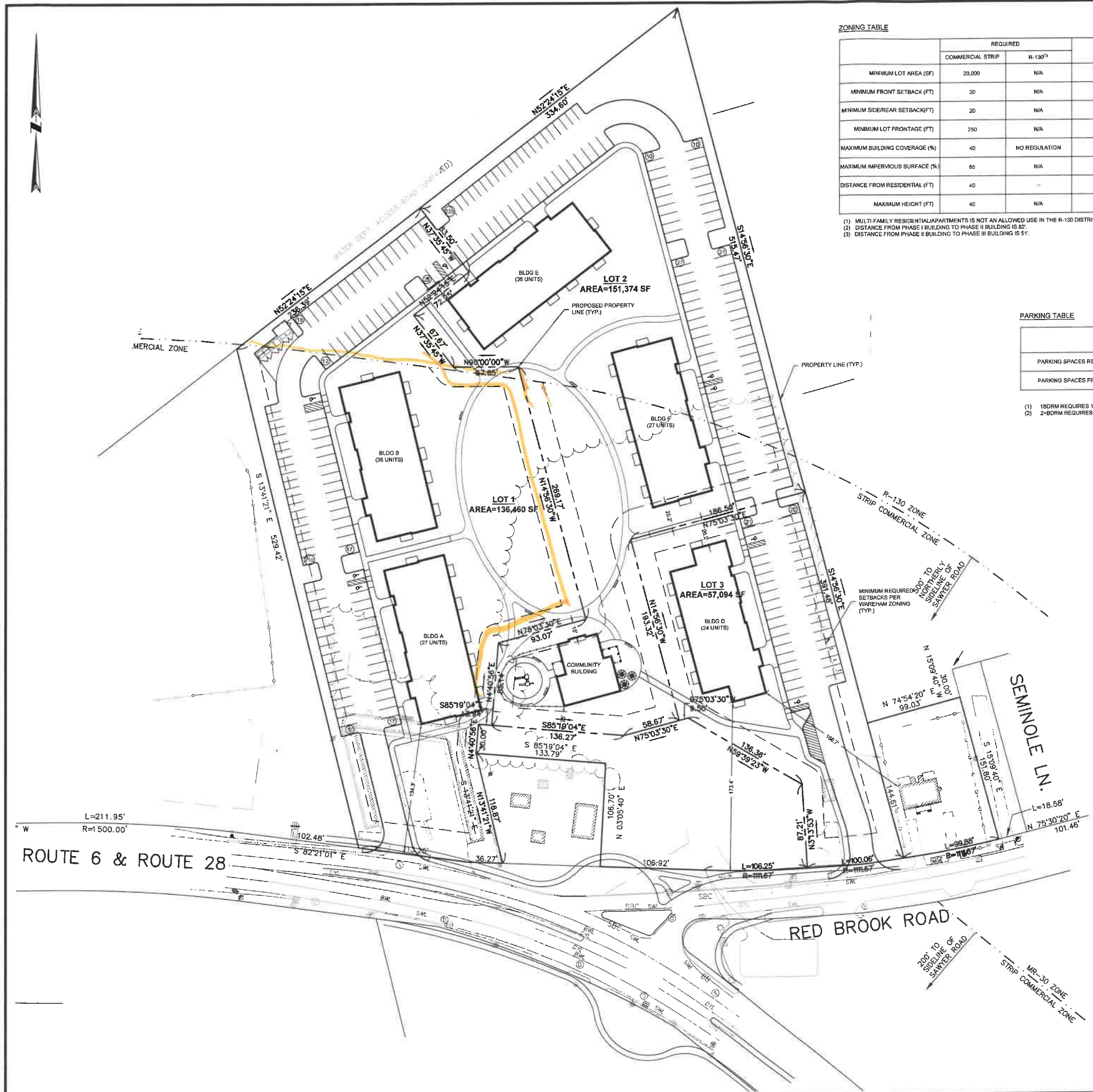
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 SCALE: 1" = 50'
 0 25 50 100 FEET

FILE: 8366900-SBDV.DWG
 DWG. NO.:
 JOB. NO.: 83668.00

SV-1.0



**FOR PERMITTING ONLY
 NOT FOR CONSTRUCTION**



ZONING TABLE

	REQUIRED		LOT 1	LOT 2	LOT 3	TOTAL
	COMMERCIAL STRIP	R-130 ⁽¹⁾				
MINIMUM LOT AREA (SF)	20,000	N/A	136,460	151,374	87,094	374,928
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3	25.2	10.0	-
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	11.7	8.7	20.0	-
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52	0	100.06	-
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5	18.4	16.8	15.1
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8	45.7	54.3	48.0
DISTANCE FROM RESIDENTIAL (FT)	40	-	166.7 ⁽²⁾	166.7 ⁽³⁾	166.7	-
MAXIMUM HEIGHT (FT)	40	N/A	44	44	34	-

(1) MULTI-FAMILY RESIDENTIAL APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE I BUILDING TO PHASE II BUILDING IS 82'.
 (3) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 51'.

PARKING TABLE

	LOT 1	LOT 2	LOT 3	TOTAL
PARKING SPACES REQUIRED	(1) 1BDRM + (5) 2+BDRM = 121	(11) 1BDRM + (5) 2+BDRM = 121	(5) 1BDRM + (19) 2+BDRM = 46	(27) 1BDRM + (123) 2+BDRM = 287
PARKING SPACES PROVIDED	106	117	41	264

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

ZONING CONFORMANCE PLAN

JANUARY 12, 2018

REVISIONS	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts 02127-1601
 860 652 8227

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 SCALE: 1" = 50'
 FILE: 8366900-SBDV.DWG
 DWG. NO:
 JOB. NO: 83669.00 **C-1.0**

NOTE: THE INTENT OF THIS PLAN IS TO DEMONSTRATE HOW THE OVERALL DEVELOPMENT AND EACH PHASE CONFORMS TO BULK AND DIMENSIONAL ZONING REQUIREMENTS AND PARKING REQUIREMENTS OF THE TOWN OF WAREHAM.

**FOR PERMITTING ONLY
 NOT FOR CONSTRUCTION**

NOTES:

1. THE TOPOGRAPHY AND DETAIL SHOWN HEREON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 29, 2017.
2. FUTURE ROUTE 6/28 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS "WAREHAM, CRANBERRY HIGHWAY (ROUTES 6 & 28), SIGNING AND STRIPING PLANS". THE CONTRACTOR SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1963, MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HEREON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
4. NOTIFY "DIG SAFE" (1-888-344-7233) AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED.
6. NOTIFY THE ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
7. THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
8. THE DIMENSIONS SHOWN ON THE PLANS, INCLUDING THE INTENDED DIMENSIONS OF THE WORK, MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS AS WELL AS OTHER DIMENSIONS HE MAY DEEM APPROPRIATE TO FACILITATE THE COMPLETION OF THE WORK. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
9. IMPLEMENTING WORKER SAFETY AND/OR HEALTH PROTOCOLS THAT ADDRESS COMPLIANCE WITH RULES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY AND/OR THE POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC PHYSICAL OR CHEMICAL HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
10. THIS DRAWING IS INTENDED TO DEPICT THE LOCATION, LAYOUT, AND MATERIALS OF CONSTRUCTION AND IS INTENDED TO BE USED IN CONJUNCTION WITH THE DETAILS AND APPLICABLE SPECIFICATION SECTIONS.
11. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEED, FERTILIZED, AND MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.
12. ALL CURBING IS HOT MIX ASPHALT UNLESS OTHERWISE INDICATED.
13. THE CROSS-SLOPE OF ANY SIDEWALK, WALKWAY, OR OTHER PEDESTRIAN SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
14. ALL WALKWAYS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) REGULATIONS (821 CMR). THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20 (5%). THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
15. CONSTRUCTION AND CONTROL JOINTS, SIDEWALK REINFORCEMENT SHALL NOT CONTINUE THROUGH CONSTRUCTION JOINTS AT CONTROL JOINTS, CUT REINFORCEMENT WIRES.
16. PRIOR TO INITIATION OF CONCRETE FLATWORK, SUBMIT PROPOSED CONSTRUCTION JOINT PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL. COORDINATE SUCH PLAN WITH THE JOINT PATTERNS DEPICTED ON THE DRAWINGS.
17. UNLESS OTHERWISE SPECIFIED, MISCELLANEOUS CONCRETE PADS SHALL BE CONSTRUCTED PER SIDEWALK DETAIL.
18. ALL NON-ACCESSIBLE STANDARD PARKING SPACES ARE 9'5" X 19'. ALL NON-ACCESSIBLE COMPACT PARKING SPACES ARE 8' X 15'. VERIFY OVERALL LAYOUT DIMENSIONS BASED ON THESE DIMENSIONS AND THE NUMBER OF SPACES INDICATED. FIELD-ADJUST OVERALL LAYOUT DIMENSION IN CONCERT WITH THE ENGINEER IF REQUIRED.
19. DIMENSIONS INDICATED ARE TO FACE OF CURB, PAVEMENT EDGE, EDGE OR CENTERLINE OF IMPROVEMENT, OR AS OTHERWISE NOTED.
20. ENGAGE A MASSACHUSETTS-LICENSED PROFESSIONAL LAND SURVEYOR TO PERFORM LAND-SURVEYING SERVICES REQUIRED, INCLUDING, BUT NOT LIMITED TO VERIFICATION AND LAYOUT OF BASELINES, PROPOSED IMPROVEMENTS, DIMENSIONS AND ELEVATIONS. REPORT DISCREPANCIES TO THE ENGINEER.
21. PROVIDE FOR THE LAYOUT AND STAKING/MARKING OF THE PROPOSED LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING FURNISHINGS. OBTAIN ENGINEER'S APPROVAL OF THE LAYOUT PRIOR TO PROCEEDING WITH THE WORK.
22. UNLESS OTHERWISE INDICATED, LINES ARE PARALLEL OR PERPENDICULAR TO LINE FROM WHICH THEY ARE MEASURED.

NORTHERLY SUDLINE OF SAMTER ROAD

C-2.1
C-2.2

CRANBERRY HIGHWAY - ROUTE 6 & ROUTE 28

RED BROOK ROAD

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LEGEND

- PROPERTY LINE
- PROPOSED CURBING
- CHAIN LINK FENCE
- SITE LIGHT
- PROPOSED SIGN
- PROPOSED CONCRETE
- PROPOSED BITUMINOUS WALK
- PROPOSED STONEDUST WALK
- PROPOSED PAVERS
- PROPOSED STAMPED ASPHALT
- PROPOSED GRASSCRETE FIRE LANE
- POTENTIAL SNOW STORAGE



WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

OVERALL LAYOUT AND MATERIALS PLAN

JANUARY 12, 2018

REVISIONS	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT

PREPARED FOR:
DAKOTA PARTNERS
1284 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: 1" = 50'



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JOB. NO: 83868.00

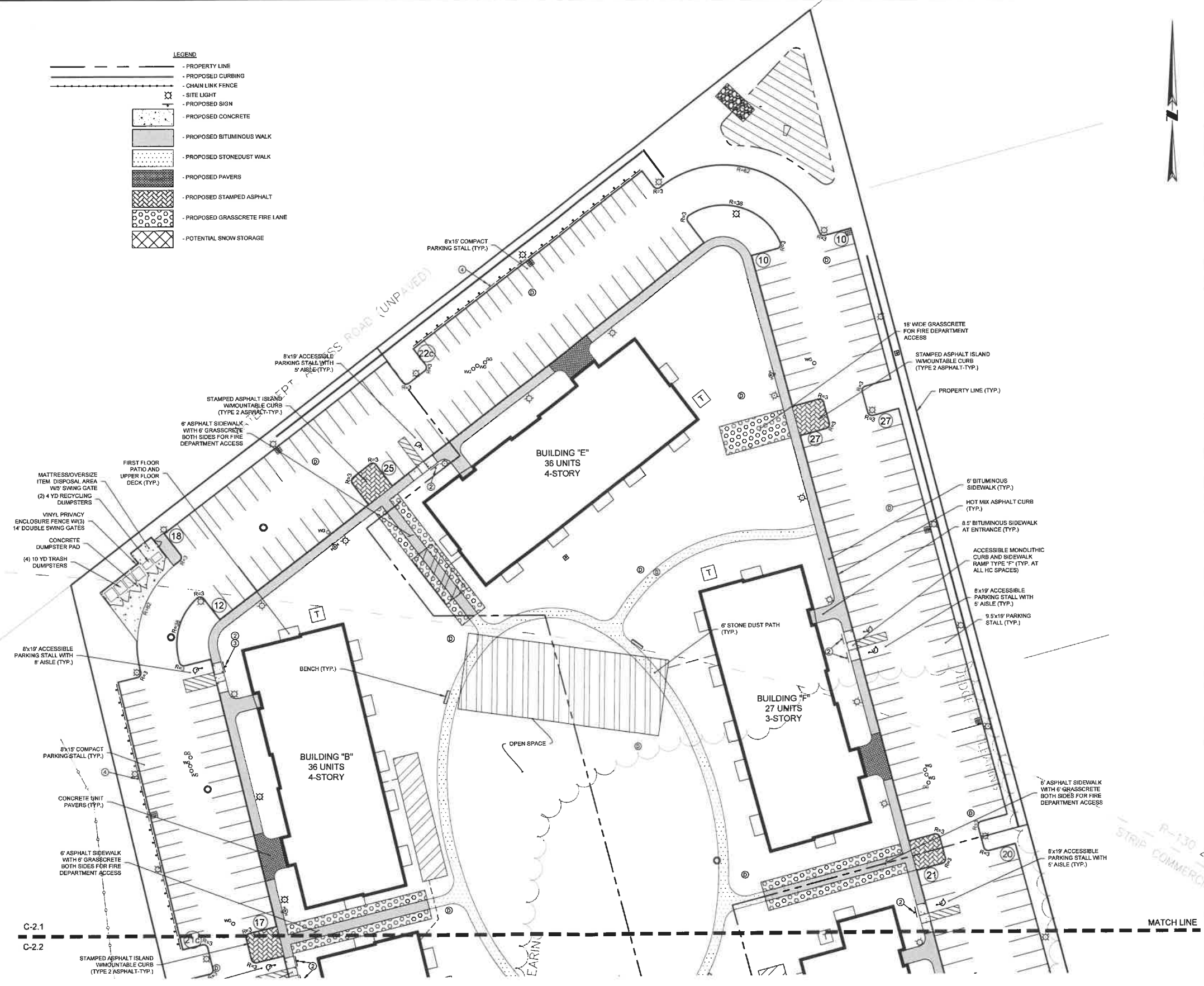
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SIGN NUMBER	MUTCD NUMBER	SIGN
1	R1-1	
2	R7-8	
3	R7-SP	
4	SP-1 (CUSTOM SIGN)	

LEGEND

- PROPERTY LINE
- PROPOSED CURBING
- CHAIN LINK FENCE
- SITE LIGHT
- PROPOSED SIGN
- PROPOSED CONCRETE
- PROPOSED BITUMINOUS WALK
- PROPOSED STONEDUST WALK
- PROPOSED PAVERS
- PROPOSED STAMPED ASPHALT
- PROPOSED GRASSCRETE FIRE LANE
- POTENTIAL SNOW STORAGE

R-130 ZONE
STRIP COMMERCIAL ZONE



WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

LAYOUT AND MATERIALS PLAN (NORTH)

JANUARY 12, 2018

REVISIONS

NO.	DATE	DESCRIPTION
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2	07/20/18	REVISED LAYOUT

PREPARED FOR:
DAKOTA PARTNERS
1254 MAIN STREET
WALTHAM, MA 02451

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02127 617 896 4300

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NOT FOR CONSTRUCTION**



WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

LAYOUT AND MATERIALS PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS:		
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

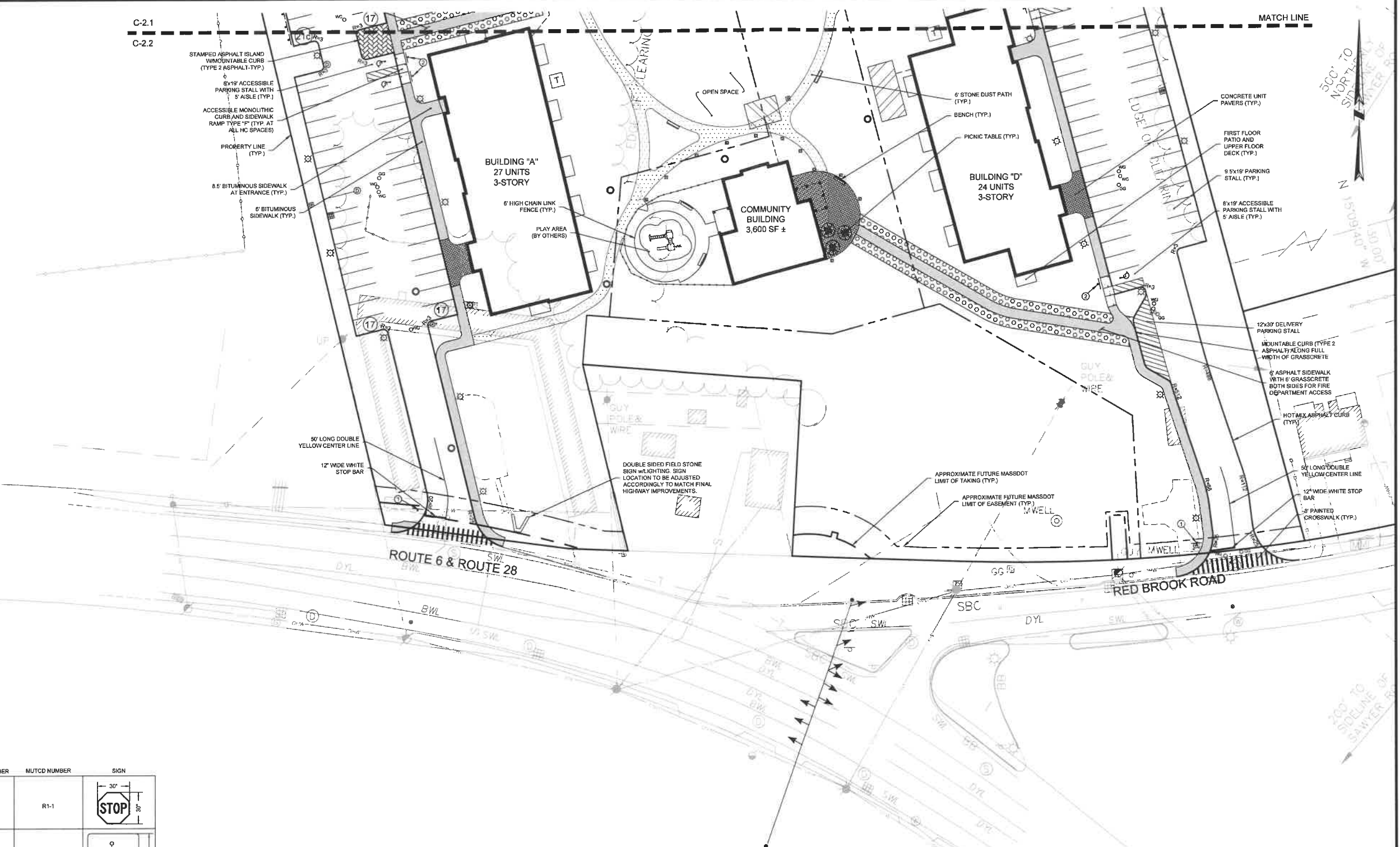
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SIGN NUMBER	MUTCD NUMBER	SIGN
1	R1-1	
2	R7-8	
3	R7-8P	
4	SP-1 (CUSTOM SIGN)	

- LEGEND**
- PROPERTY LINE
 - PROPOSED CURBING
 - CHAIN LINK FENCE
 - SITE LIGHT
 - PROPOSED SIGN
 - PROPOSED CONCRETE
 - PROPOSED BITUMINOUS WALK
 - PROPOSED STONEDUST WALK
 - PROPOSED PAVERS
 - PROPOSED STAMPED ASPHALT
 - PROPOSED GRASSCRETE FIRE LANE
 - POTENTIAL SNOW STORAGE

GRADING & DRAINAGE NOTES:

1. THE TOPOGRAPHY AND DETAIL SHOWN HEREON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 28, 2017.
2. FUTURE ROUTE 628 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS "WAREHAM CRANBERRY HIGHWAY (ROUTES 8 & 28), SIGNING AND STRIPING PLANS" PROVIDED BY OTHERS. THE CONTRACTOR SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1968, MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HEREON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTOR SHALL NOTIFY "DIG SAFE" (888-DIG-SAFE) AND VERIFY UTILITY MARK-OUT WITH THE OWNER PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE LOCATION AND NATURE OF ALL SUBSURFACE UTILITIES AT THE PROJECT WHICH MAY BE AFFECTED BY THE WORK. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
7. THE LOCATIONS OF EXISTING SITE FEATURES AS SHOWN HAVE BEEN OBTAINED FROM MAPS, SURVEYS, FIELD INSPECTIONS, AND OTHER AVAILABLE INFORMATION. THEY MUST BE CONSIDERED APPROXIMATE BOTH TO LOCATION, SIZE, AND AS-BUILT CONDITION AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL FIELD CONDITIONS.
8. THE DIMENSIONS SHOWN ON THE PLANS, INCLUDING THE INTENDED DIMENSIONS OF THE WORK, MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS AS WELL AS OTHER DIMENSIONS HE MAY DEEM APPROPRIATE TO FACILITATE THE COMPLETION OF THE WORK.
9. ENGAGE A MASSACHUSETTS-LICENSED PROFESSIONAL LAND SURVEYOR TO PERFORM LAND-SURVEYING SERVICES REQUIRED, INCLUDING, BUT NOT LIMITED TO VERIFICATION AND LAYOUT OF PROPOSED IMPROVEMENTS, DIMENSIONS, AND ELEVATIONS. REPORT DISCREPANCIES TO THE ENGINEER.
10. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RESTORED WITH SIX (6) INCHES OF LOAM, SEED, FERTILIZED, AND MULCHED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED.
11. THE CROSS-SLOPE OF ANY SIDEWALK, WALKWAY, OR OTHER PEDESTRIAN SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
12. ACCESSIBLE ROUTES SHALL COMPLY WITH ADA GUIDELINES (SEE SHEET C-3.0). THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20 (5%). THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:50 (2%).
13. VERIFY ALL GRADES AND SLOPES PRIOR TO CONCRETE PLACEMENT. REPORT DISCREPANCIES IN WRITING TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
14. PROPOSED GRADES INDICATE DESIGN INTENT. VERIFY ELEVATIONS AND MAKE ADJUSTMENTS TO MEET FIELD CONDITIONS. DO NOT PROCEED WITH ANY ADJUSTMENT OR FIELD MODIFICATION UNTIL APPROVED BY THE ENGINEER.
15. GRADE TRANSITION BETWEEN TOPOGRAPHIC LINES AND SPOT GRADES SHALL BE UNIFORM UNLESS OTHERWISE INDICATED.
16. UNLESS OTHERWISE INDICATED, BLEND TRANSITIONS IN ELEVATION BETWEEN NEW WORK AND AREAS TO REMAIN AT A MAXIMUM SLOPE OF 1V:2H AND RESTORE WITH SIX (6) INCHES OF LOAM AND SEED. PROVIDE ADDITIONAL EROSION CONTROLS AS REQUIRED. COORDINATE WITH ENGINEER IF DIMENSIONAL CONSTRAINTS REQUIRE STEEPER SLOPES.
17. ALL DRAINAGE PIPE SHALL BE HIGH DENSITY POLYETHYLENE, UNLESS OTHERWISE INDICATED. SEE SPECIFICATIONS.
18. UPON REACHING PROPOSED SURGRADE ELEVATIONS WITHIN THE FIELD, ENGINEER WILL REVIEW SURGRADE PRIOR TO INSTALLATION OF DRAINAGE SYSTEM. SEE SPECIFICATIONS.
19. ALL CATCH BASIN TOPS SET AGAINST CURBS SHALL BE STANDARD CURB INLETS.
20. ALL UNDERDRAINS SHALL BE 4-INCH HDPE. SEE SPECIFICATIONS.
21. THE TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) OF ALL UTILITY STRUCTURES THAT ARE TO REMAIN SHALL BE ADJUSTED TO MATCH FINAL GRADE IN A FLUSH CONDITION. ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.
22. AT THE CONCLUSION OF THE WORK, CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT MATERIAL FROM ALL PORTIONS OF THE STORM DRAINAGE SYSTEM, INCLUDING NEW WORK AND EXISTING WORK THAT REMAINS OR IS INCORPORATED INTO THE NEW SYSTEM.

SITE PREPARATION NOTES:

1. ALL EXISTING UTILITY STRUCTURES, CONDUITS, AND APPURTENANCES OF ANY KIND SHALL BE COMPLETELY REMOVED WITHIN THE LIMITS OF EXCAVATION FOR NEW BUILDINGS, UNLESS NOTED OTHERWISE ON THE DRAWINGS. OUTSIDE THE LIMITS OF EXCAVATION FOR NEW BUILDINGS, ALL ABANDONED UTILITIES GREATER THAN 8 INCHES IN DIAMETER SHALL BE SEALED BY FILLING WITH HIGH SLUMP CONCRETE (FLOWABLE FILL) AT THE LIMIT OF EXCAVATION. ALL UTILITY STRUCTURES TO BE REMOVED SHALL HAVE THE ASSOCIATED PIPES REMOVED TO A DISTANCE OF 15 FEET FROM THE STRUCTURE AND SEALED.
2. EROSION AND SEDIMENTATION CONTROLS TO BE APPROPRIATELY SIZED AND LOCATED/RELOCATED BY THE CONTRACTOR DURING EARTHWORK OPERATIONS.
3. CONTRACTOR SHALL WORK WITH LANDSCAPE ARCHITECT TO DETERMINE SCOPE OF TREE WORK.
4. ALL CONSTRUCTION FENCING AND WARNING SIGNS SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. INSTALL CONSTRUCTION FENCING AT THE LIMIT OF WORK.
5. PRIOR TO THE TERMINATION, ABANDONMENT, OR REMOVAL OF ANY UTILITY, VERIFY THAT APPLICABLE NOTIFICATIONS HAVE BEEN MADE TO THE UTILITY OWNER/OPERATOR AND THAT THE UTILITY HAS BEEN PROPERLY TERMINATED, CAPPED, OR PLUGGED AS REQUIRED.
6. PROTECT ALL IMPROVEMENTS NOT INCLUDED IN THE SCOPE OF SITE DEMOLITION. ANY IMPROVEMENT WHICH IS DAMAGED SHALL BE REPAIRED OR REPLACED IN-KIND TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST.

EROSION AND SEDIMENT CONTROL NOTES:

1. THE PROJECT WORK SHALL COMPLY WITH THE 2017 NPDES CONSTRUCTION GENERAL PERMIT FOR MASSACHUSETTS (CGP). A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED AND THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE SWPPP. THE CONTRACTOR SHALL PROVIDE EVIDENCE THAT A NOTICE OF INTENT (NOI) HAS BEEN FILED FOR CONVERGE UNDER THE CGP AT LEAST 14 DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITIES. NO EARTH DISTURBING ACTIVITIES SHALL OCCUR UNTIL THE CONTRACTOR HAS OBTAINED COVERAGE UNDER THE CGP.
2. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SOIL DISTURBANCE. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA.
3. MINIMIZE TOTAL AREA OF DISTURBANCE AND PROTECT NATURAL FEATURES AND SOIL.
4. THE CONTRACTOR SHALL SEQUENCE ALL ACTIVITIES TO MINIMIZE SIMULTANEOUS AREAS OF DISTURBANCE. MASS CLEARING AND GRADING OF THE ENTIRE SITE SHALL BE AVOIDED.
5. MINIMIZE SOIL EROSION AND CONTROL SEDIMENTATION DURING CONSTRUCTION.
6. DIVERT UNCONTAMINATED WATER AROUND DISTURBED AREAS.
7. INSTALL AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES OR IN ACCORDANCE WITH THE 2017 EPA CONSTRUCTION GENERAL PERMIT FOR MASSACHUSETTS.
8. PROTECT AND MANAGE ON AND OFF-SITE MATERIAL STORAGE AREAS (OVERBURDEN AND STOCKPILES OF DIRT, BORROW AREAS, OR OTHER AREAS USED SOLELY BY THE PERMITTED PROJECT ARE CONSIDERED A PART OF THE PROJECT).
9. COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS INCLUDING WASTE DISPOSAL, SANITARY OR SEWER REGULATIONS, AND AIR QUALITY REQUIREMENTS, INCLUDING DUST CONTROL.
10. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES HALF THE HEIGHT OF THE EROSION CONTROL DEVICE. SEDIMENT SHALL BE REMOVED BELOW PRIOR TO REACHING THE LOAD-BEARING CAPACITY OF THE SILT FENCE WHICH MAY BE LOWER THAN HALF THE HEIGHT.
11. BMPs TO BE USED FOR INFILTRATION AFTER CONSTRUCTION SHALL NOT BE USED AS BMPs DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER. MANY INFILTRATION TECHNOLOGIES ARE NOT DESIGNED TO HANDLE THE HIGH CONCENTRATIONS OF SEDIMENTS TYPICALLY FOUND IN CONSTRUCTION RUNOFF, AND THIS MUST BE PROTECTED FROM CONSTRUCTION RELATED SEDIMENT LOADINGS.
12. SOIL STOCKPILE SIDE SLOPES SHALL NOT BE GREATER THAN 2H:1V. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
13. A TRACKING PAD OR OTHER APPROVED STABILIZATION METHOD SHALL BE CONSTRUCTED AT ALL CONSTRUCTION ENTRANCE/EXIT POINTS OF THE SITE TO REDUCE THE AMOUNT OF SOIL CARRIED ONTO ROADWAYS AND OFF THE SITE.
14. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM AUGUST TO OCTOBER 15, DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICAL. APPROPRIATE TEMPORARY STABILIZATION SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE MULCHING AND WATERING.
15. TEMPORARY SEDIMENT TRAPPING DEVICES MUST NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS.
16. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
17. DUST SHALL BE CONTROLLED AT THE SITE.
18. ALL PREVIOUSLY DISTURBED LAND SHALL BE STABILIZED BY APPROVED METHODS AFTER 14 DAYS IF LEFT UNDISTURBED, THIS INCLUDES STOCKPILES, CONSTRUCTION ENTRANCES, GRADED AREAS AND OTHER CONSTRUCTION ACTIVITY RELATED CLEARING.
19. IF WORK IS HALTED OVER WINTER MONTHS THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING THE AREA THROUGH GROUND COVER PRACTICES.

TEMPORARY EAS MEASURES MAINTENANCE SCHEDULE

ESS MEASURE	MAINTENANCE MEASURES	SCHEDULE
CONSTRUCTION ENTRANCE	SWEEP PAVED ROADWAY ADJACENT TO SITE ENTRANCE AS NECESSARY, REFRESH STONE AS NECESSARY, REMOVE SILTED GRAVEL.	WEEKLY
MOISTEN EXPOSED SOILS	PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS AND KEEP TRAVELWAYS DAMP.	DAILY



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF WORK
- TOPOGRAPHY: MAJOR INTERVAL
- TOPOGRAPHY: MINOR INTERVAL
- TOPOGRAPHY: INTERMEDIATE INTERVAL
- TOPOGRAPHY: SPOT ELEVATION
- STORMWATER PIPE
- ROOF LEADER
- DRAINAGE MANHOLE (DMH)
- WATER QUALITY MANHOLE
- CATCH BASIN WITH CURB INLET (CB)
- AREA DRAIN (AD)
- FLARED END SECTION (FES)
- DRAINAGE SLOPE DIRECTION
- SOIL TEST PIT LOCATION
- UNDERGROUND INFILTRATION SYSTEM



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

OVERALL GRADING AND DRAINAGE PLAN

JANUARY 12, 2018

REVISIONS

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT

PREPARED FOR: DAKOTA PARTNERS 1264 MAIN STREET WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

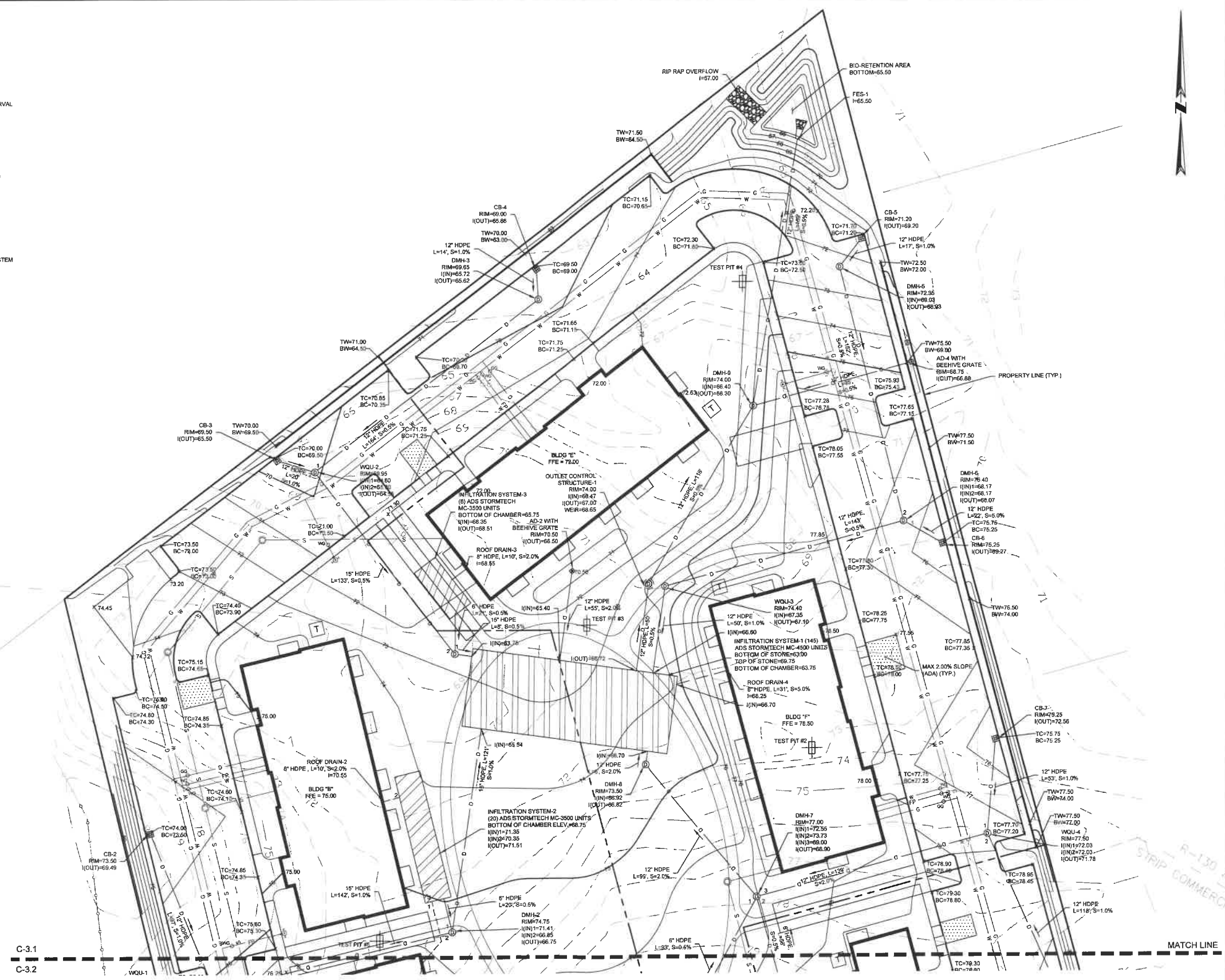
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LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- TOPOGRAPHY: MAJOR INTERVAL
- TOPOGRAPHY: MINOR INTERVAL
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- FLARED END SECTION (FES)
- DRAINAGE SLOPE DIRECTION
- SOIL TEST PIT LOCATION
- UNDERGROUND INFILTRATION SYSTEM
- ADA ACCESSIBLE AREA



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

GRADING AND DRAINAGE PLAN (NORTH)

JANUARY 12, 2018

REVISIONS:

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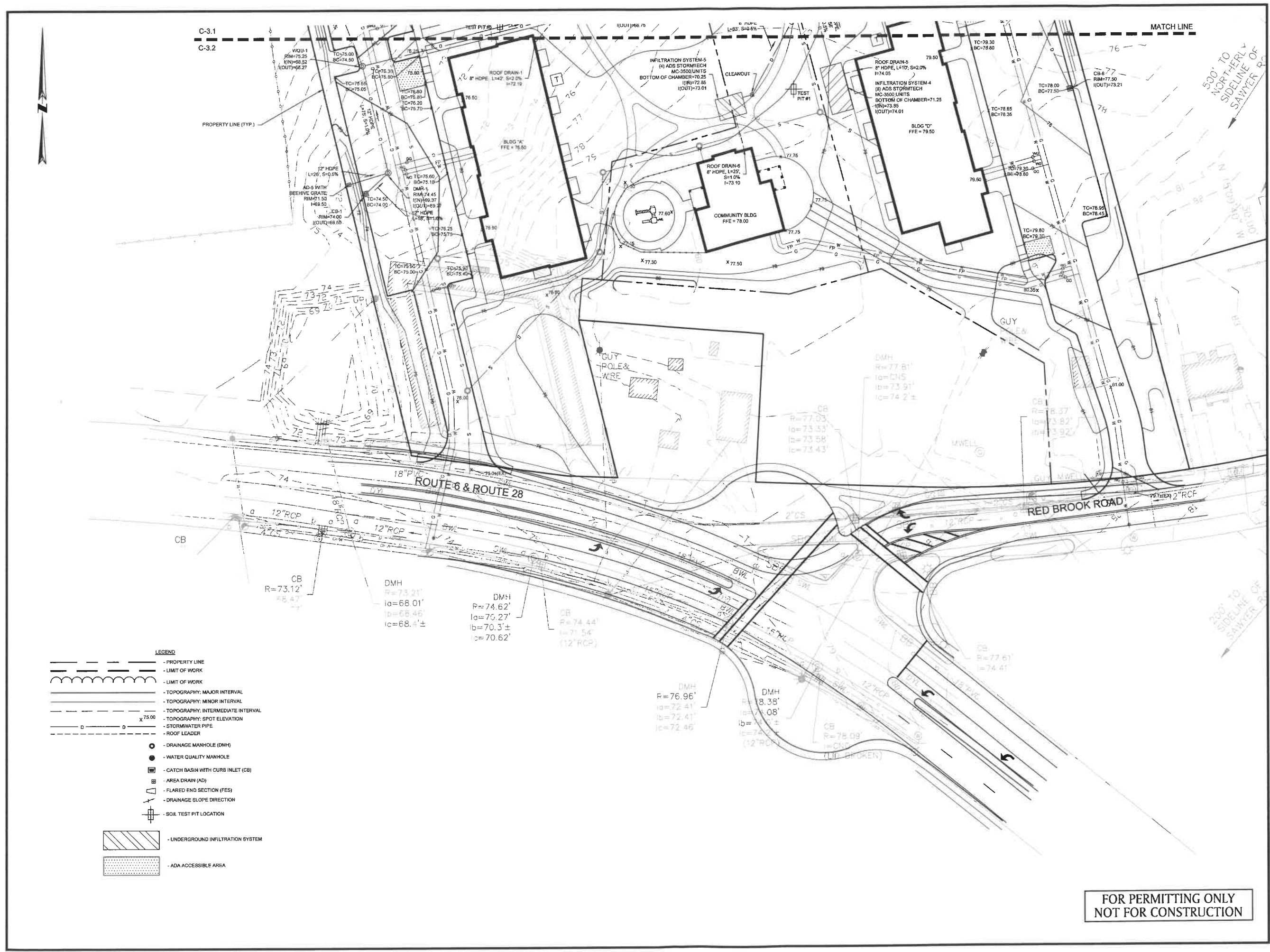
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DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

GRADING AND DRAINAGE PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS:		
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PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
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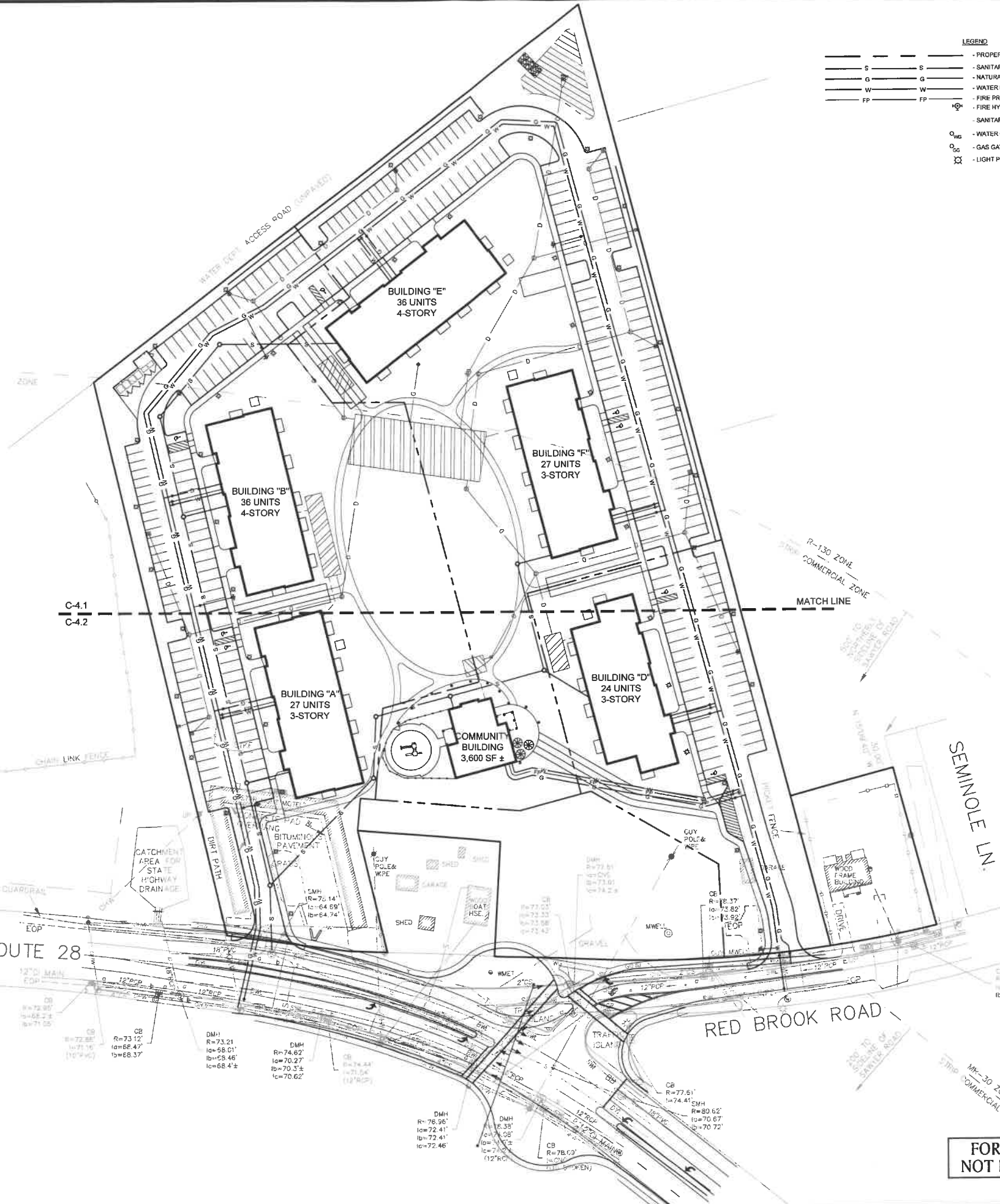
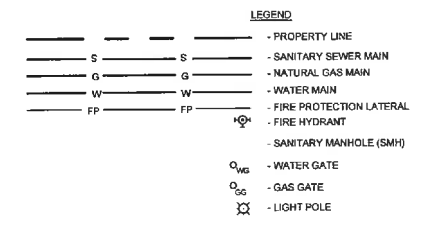
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**FOR PERMITTING ONLY
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- LEGEND**
- PROPERTY LINE
 - LIMIT OF WORK
 - TOPOGRAPHY: MAJOR INTERVAL
 - TOPOGRAPHY: MINOR INTERVAL
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 - TOPOGRAPHY: SPOT ELEVATION
 - STORMWATER PIPE
 - ROOF LEADER
 - - DRAINAGE MANHOLE (DMH)
 - - WATER QUALITY MANHOLE
 - ▣ - CATCH BASIN WITH CURB INLET (CB)
 - ▢ - AREA DRAIN (AD)
 - ▤ - FLARED END SECTION (FES)
 - - DRAINAGE SLOPE DIRECTION
 - ⊕ - SOIL TEST PIT LOCATION
 - ▨ - UNDERGROUND INFILTRATION SYSTEM
 - ▩ - ADA ACCESSIBLE AREA

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1. THE TOPOGRAPHY AND DETAIL SHOWN HEREON ARE FROM ACTUAL ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. DURING 2007 AND BETWEEN MARCH 25 AND 29, 2017.
 2. FUTURE ROUTE 628 AND RED BROOK ROAD LAYOUT INFORMATION TAKEN FROM MASSDOT HIGHWAY IMPROVEMENT PLANS "WAREHAM CRANBERRY HIGHWAY (ROUTES 6 & 28) SIGNING AND STRIPING PLANS" PROVIDED BY OTHERS. THE CONTRACTOR SHALL VERIFY CURRENT PLANS WITH APPLICABLE MASSDOT DISTRICT PRIOR TO PERFORMING ANY WORK AFFECTING OR AFFECTED BY THESE ROADWAY LAYOUTS.
 3. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND ARE APPROXIMATE ONLY. SEE CHAPTER 370 ACTS OF 1963, MASSACHUSETTS GENERAL LAWS. THE UNDERGROUND UTILITIES SHOWN HEREON WERE NOT INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 92, SECTION 40, AT 1489-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERTS OF UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
 4. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS MAY VARY FROM ACTUAL EXISTING CONDITIONS IN THE FIELD. COORDINATE WITH RESPECTIVE UTILITY OWNERS AND PERFORM VERIFICATION OF TYPE, LOCATION AND INVERTS AS REQUIRED. VERIFY ALL TIE-IN POINTS, ROUTING, CONFLICTS, CROSSINGS, AND BUILDING CONNECTION POINTS TO FACILITATE THE COMPLETION OF THE WORK.
 5. PERFORM EXPLORATORY EXCAVATIONS AS REQUIRED TO VERIFY THE AS-BUILT LOCATION OF EXISTING SUBSURFACE UTILITIES WHERE CROSSINGS OR OTHER POTENTIAL CONFLICTS ARE PRESENT.
 6. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
 7. THE TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) OF ALL UTILITY STRUCTURES THAT ARE TO REMAIN SHALL BE ADJUSTED TO MATCH FINAL GRADE IN A FLUSH CONDITION. ALL NEW UTILITY STRUCTURES SHALL BE INSTALLED WITH TOPS, RIMS, FRAMES, GRATES, AND COVERS (AS APPLICABLE) TO FINAL GRADE IN A FLUSH CONDITION.
 8. ALL LIGHTING ELECTRICAL SUPPLIES SHALL BE INSTALLED IN MINIMUM 1-INCH PVC CONDUIT PER APPLICABLE SPECIFICATIONS. PLASTIC MARKING TAPE SHALL BE USED ON ALL CONDUIT RUNS.
 9. THE ROUTING OF LIGHTING ELECTRICAL SUPPLIES SHOWN IS CONCEPTUAL. CONTRACTOR SHALL DETERMINE THE SPECIFIC ROUTING OF ALL LIGHTING SYSTEMS BASED ON THE ACTUAL LOCATION OF TIE-INS TO EXISTING LIGHTING FEEDS AND AS REQUIRED TO AVOID CONFLICTS WITH OTHER CONSTRUCTION OR SUBSURFACE FACILITIES. PRIOR TO INSTALLATION, PROVIDE SHOP DRAWING SHOWING THE ROUTING OF ALL CONDUIT, LOCATIONS OF HANDHOLES, AND DETAILS OF TIE-INS TO EXISTING SYSTEM.
 10. THE SCOPE OF ELECTRICAL FACILITIES SHOWN HEREON IS DIAGRAMMATIC. NOT ALL COMPONENTS OF EXISTING FACILITIES OR THE NEW CIRCUIT ARE SHOWN. CONTRACTOR SHALL ASSESS AND DOCUMENT EXISTING ELECTRICAL SERVICE AS TO CAPACITY AND OTHER PERTINENT PARAMETERS AS REQUIRED TO ACCOMMODATE THE NEW ELECTRICAL FACILITIES SHOWN HEREON. PROVIDE ALL REQUIRED BREAKERS, CONDUCTORS, GROUNDING, AND OTHER ANCILLARY COMPONENTS TO PROVIDE A NEW, COMPLETE CODE-COMPLIANT CIRCUIT.
 11. CONDUIT: RIGID PVC ELECTRICAL CONDUIT, NEMA TC 2 AND UL 451; FITTINGS AND CONDUIT BODIES: PVC TO MATCH CONDUIT, NEMA TC-3. PRIMER/SOLVENT CEMENT: ASTM F558/ASTM D2564; PULL ROPE: 3/8-INCH DOUBLE BRAIDED, LOW STRETCH POLYESTER COMPOSITE ROPE.
 12. TRACER WIRE REQUIRED FOR TELECOMMUNICATIONS AND ELECTRIC ONLY. PROVIDE APPROPRIATE WIRE ACCESS POINTS.
 13. ALL UNDERGROUND TELECOMMUNICATIONS AND ELECTRIC CONDUITS SHALL BE ENCASED IN CONCRETE EXCEPT BRANCH DISTRIBUTION FOR LIGHTING. WORK CONCRETE TO REMOVE ALL TRAPPED AIR AND INSURE EACH CONDUIT IS COMPLETELY SURROUNDED BY A MINIMUM 2" OF CONCRETE. ALLOW CONCRETE TO CURE FOR AT LEAST ONE HOUR BEFORE BACKFILLING.
 14. FOR TELECOMMUNICATIONS AND ELECTRIC, WARNING TAPE SHALL BE INSTALLED 12-INCHES BELOW GRADE.
 15. SEAL ALL CONDUIT ENDS WITH BLANK DUCT PLUGS. SECURE PULL ROPE TO DUCT PLUG.
 16. ALL WORK ASSOCIATED WITH FIRE PROTECTION AND DOMESTIC WATER SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE LOCAL WATER UTILITY.
 17. ALL WORK ASSOCIATED WITH ELECTRICAL SERVICE SHALL CONFORM TO THE STANDARDS OF NATIONAL GRID. IF THERE ARE ANY CONFLICTS BETWEEN THE REQUIREMENTS INDICATED HEREON AND NATIONAL GRID STANDARDS, NATIONAL GRID STANDARDS SHALL PREVAIL.
 18. ALL WORK ASSOCIATED WITH TELECOMMUNICATIONS SHALL CONFORM TO THE STANDARDS OF THE LOCAL PROVIDER.
 19. INSTALL CONDUIT, PULL ROPE, CAPS, WARNING TAPE, AND TRACER WIRE PER APPLICABLE SPECIFICATIONS, STANDARDS, AND CODES.
 20. ALTHOUGH NOT SHOWN ON THE DRAWINGS, PROVIDE FOR THE INSTALLATION OF ALL JOINTS, COUPLINGS, RESTRAINTS, BENDS, ANGLES, AND OTHER APPURTENANCES TO ACHIEVE A COMPLETE, FUNCTIONAL WATER SUPPLY SYSTEM.
 21. SANITARY SEWER PIPING AND FITTINGS SHALL BE TYPE PSM 80R-35. ALL SANITARY SEWER JOINTS ARE TO BE ELASTOMERIC GASKET JOINTS, WHICH PROVIDE A WATER TIGHT SEAL. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. CONNECTIONS TO HOUSE SERVICES SHALL BE A FLEXIBLE COUPLING OF THE PROPER SIZE EQUIPPED WITH STAINLESS STEEL FASTENERS.
 22. FIRE HYDRANT LOCATIONS SHOWN FOR REFERENCE ONLY. FINAL HYDRANT LOCATIONS SHALL BE DETERMINED BY ONSET FIRE DISTRICT PRIOR TO ISSUANCE OF BUILDING PERMIT.
 23. AT ALL SEWER AND WATER CROSSINGS, BOTH PIPES SHALL BE ENCASED IN CONCRETE 10' TO EITHER SIDE OF CROSSING.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY
HIGHWAY
IN
WAREHAM
MASSACHUSETTS

OVERALL UTILITY PLAN

JANUARY 12, 2018

REVISIONS

NO.	DATE	REVISION
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	REVISED LAYOUT

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: 1" = 50'
0 25 50 100 FEET

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DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

UTILITY PLAN (NORTH)

JANUARY 12, 2018

REVISIONS:		
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2	07/20/18	REVISED LAYOUT

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1284 MAIN STREET
WALTHAM, MA 02451

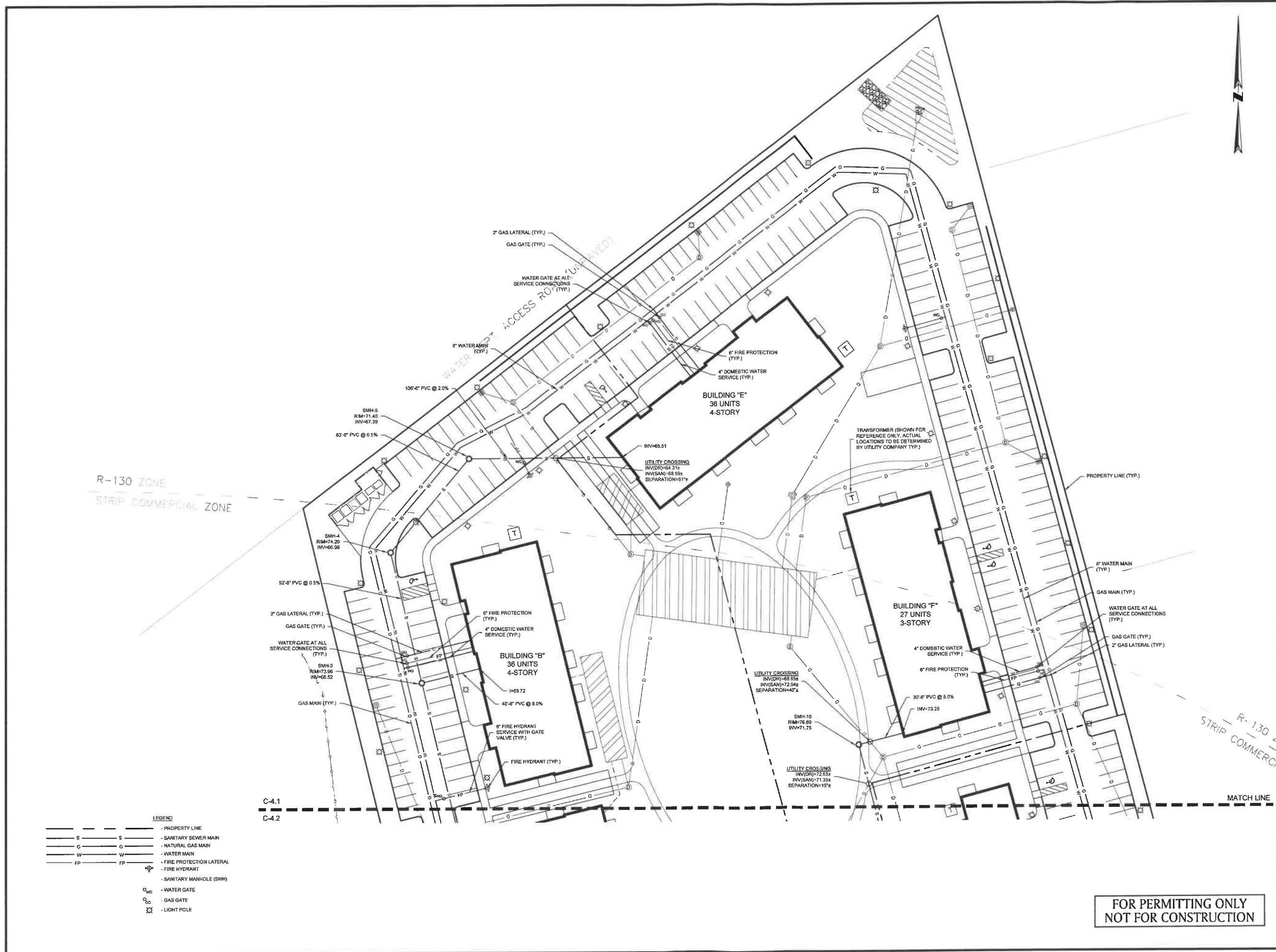
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- LEGEND**
- - - - - PROPERTY LINE
 - S S SANITARY SEWER MAIN
 - G G NATURAL GAS MAIN
 - W W WATER MAIN
 - FP FP FIRE PROTECTION LATERAL
 - ⊕ FIRE HYDRANT
 - SMH SANITARY MANHOLE (SMH)
 - WATER GATE
 - GAS GATE
 - ⊙ LIGHT POLE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

UTILITY PLAN (SOUTH)

JANUARY 12, 2018

REVISIONS	DATE	PEER REVIEW COMMENTS
1	04/09/18	
2	07/20/18	REVISED LAYOUT

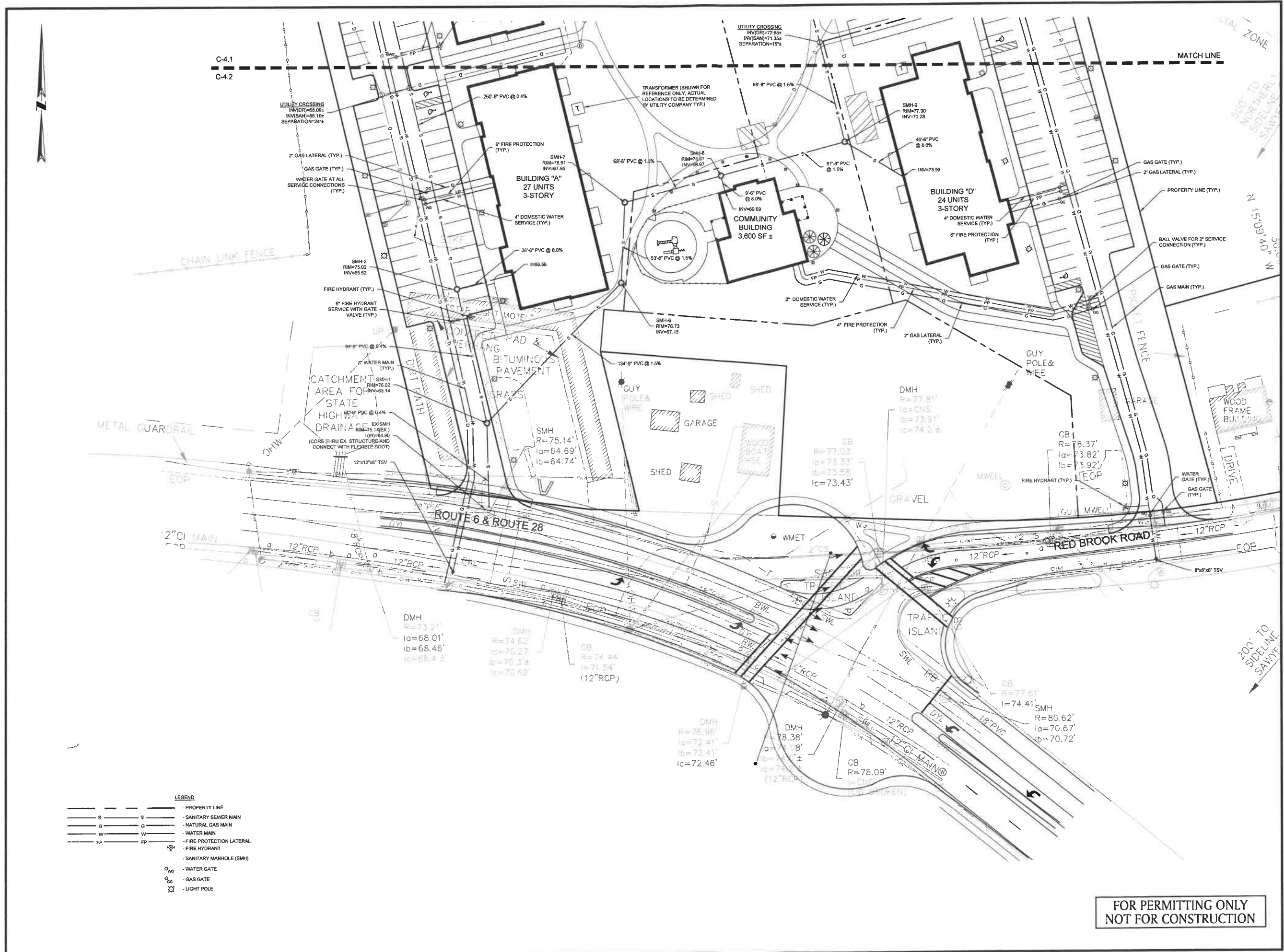
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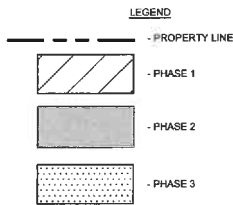
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SCALE: 1" = 30'
0 15 30 60 FEET

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JOB. NO: 83689.00 **C-4.2**

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- LEGEND**
- — — — — PROPERTY LINE
 - S — S — — — — SANITARY SEWER MAIN
 - G — G — — — — NATURAL GAS MAIN
 - W — W — — — — WATER MAIN
 - FP — FP — — — — FIRE PROTECTION LATERAL
 - ⊙ — — — — FIRE HYDRANT
 - ⊙ — — — — SANITARY MANHOLE (SMH)
 - ⊙ — — — — WATER GATE
 - ⊙ — — — — GAS GATE
 - ⊙ — — — — LIGHT POLE



NOTES

1. THE PHASING PLANS ARE INTENDED TO SHOW THE GENERAL SEQUENCE OF CONSTRUCTION. THEY ARE NOT TO BE USED FOR CONSTRUCTION, NOR ARE THEY INTENDED TO SHOW THE EXACT LIMIT OF WORK PERFORMED DURING EACH PHASE.

ZONING TABLE

	REQUIRED		LOT 1	LOT 2	LOT 3	TOTAL
	COMMERCIAL STRIP	R-130 ⁽¹⁾				
MINIMUM LOT AREA (SF)	20,000	N/A	136,460	151,374	57,094	344,928
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3	25.2	10.0	-
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	11.7	8.7	20.0	-
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52	0	100.06	-
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5	16.4	16.8	16.1
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8	45.7	54.3	48.0
DISTANCE FROM RESIDENTIAL (FT)	40	-	156.7 ⁽²⁾	166.7 ⁽³⁾	166.7	-
MAXIMUM HEIGHT (FT)	40	N/A	44	44	34	-

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE I BUILDING TO PHASE II BUILDING IS 82'.
 (3) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 51'.

PARKING TABLE

	LOT 1	LOT 2	LOT 3	TOTAL
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 121	(11) 1BDRM + (52) 2+BDRM = 121	(5) 1BDRM + (19) 2+BDRM = 46	(27) 1BDRM + (123) 2+BDRM = 250
PARKING SPACES PROVIDED	106	117	41	264

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN

JANUARY 12, 2018

REVISIONS

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
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PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts
 02127 617 896 4300

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LEGEND

- - - - - PROPERTY LINE
- W - - - - - PROPOSED WATER PIPE
- FP - - - - - PROPOSED FIRE PROTECTION
- D - - - - - PROPOSED DRAINAGE PIPE
- S - - - - - PROPOSED SEWER PIPE
- G - - - - - PROPOSED NATURAL GAS PIPE

ZONING TABLE

	REQUIRED		PHASE 1
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	136,460
MINIMUM FRONT SETBACK (FT)	30	N/A	134.3
MINIMUM SIDE/REAR SETBACK(FT)	20	N/A	11.7
MINIMUM LOT FRONTAGE (FT)	250	N/A	149.52
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.5
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	47.8
DISTANCE FROM RESIDENTIAL (FT)	40		166.7 ⁽²⁾
MAXIMUM HEIGHT (FT)	40	N/A	44

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE 1 BUILDING TO PHASE II BUILDING IS 62'

PARKING TABLE

	PHASE 1
PARKING SPACES REQUIRED	(1) 1BDRM = (52) 2+BDRM = 121
PARKING SPACES PROVIDED	106

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 1)

JANUARY 12, 2018

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 DAKOTA PARTNERS
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LEGEND

- - - - - PROPERTY LINE
- W - - - - - PROPOSED WATER PIPE
- FP - - - - - PROPOSED FIRE PROTECTION
- D - - - - - PROPOSED DRAINAGE PIPE
- S - - - - - PROPOSED SEWER PIPE
- G - - - - - PROPOSED NATURAL GAS PIPE

ZONING TABLE

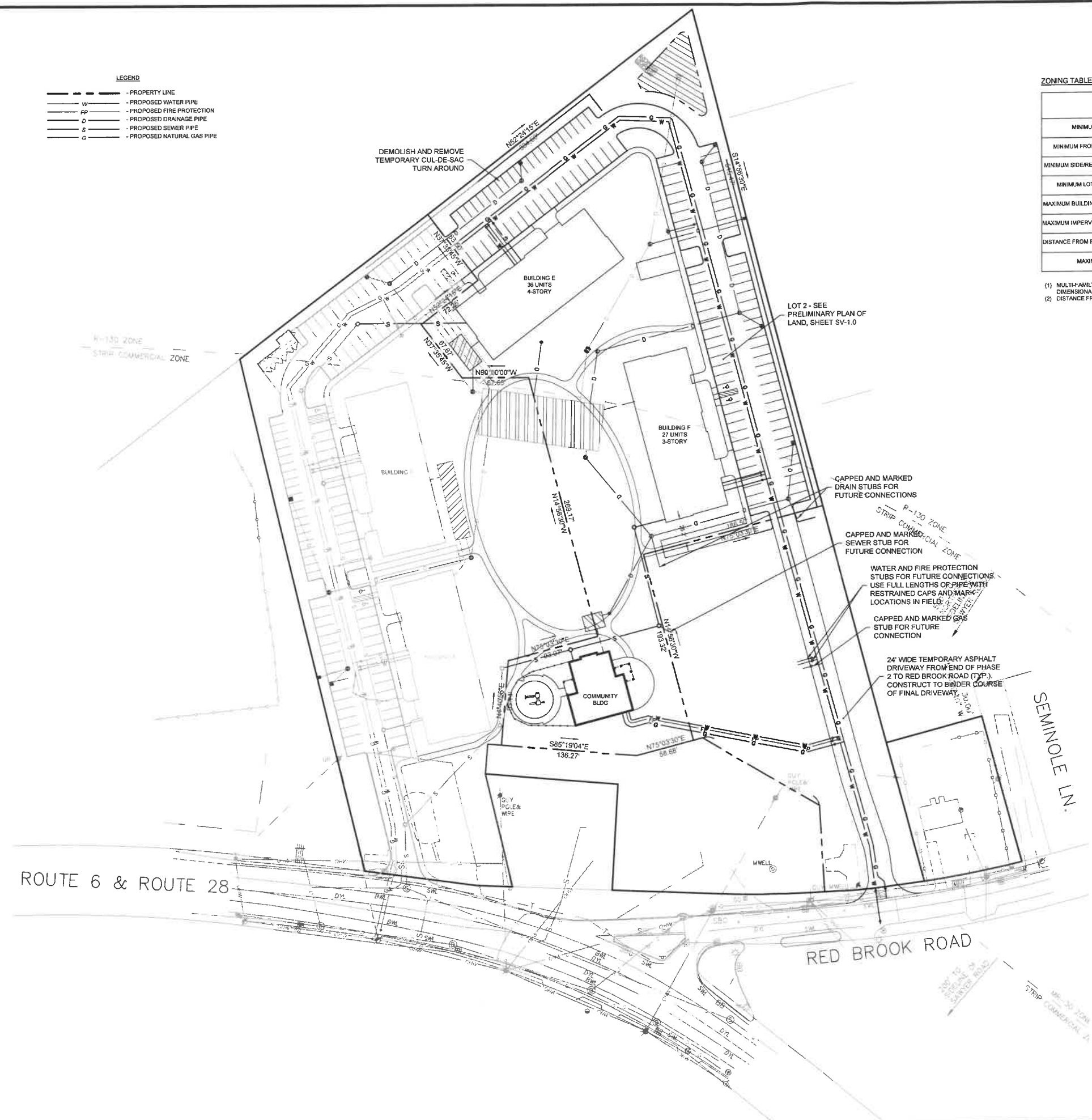
	REQUIRED		PHASE 2
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	151,374
MINIMUM FRONT SETBACK (FT)	30	N/A	25.2
MINIMUM SIDEREAR SETBACK(FT)	20	N/A	8.7
MINIMUM LOT FRONTAGE (FT)	250	N/A	0
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	15.4
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	45.7
DISTANCE FROM RESIDENTIAL (FT)	40	-	166.7 ⁽²⁾
MAXIMUM HEIGHT (FT)	40	N/A	44

(1) MULTI-FAMILY RESIDENTIAL/APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.
 (2) DISTANCE FROM PHASE II BUILDING TO PHASE III BUILDING IS 5'.

PARKING TABLE

	PHASE 2
PARKING SPACES REQUIRED	(11) 1BDRM + (52) 2+BDRM = 122
PARKING SPACES PROVIDED	117

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 2)

JANUARY 12, 2018

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- LEGEND**
- - - - - PROPERTY LINE
 - W - - - - - PROPOSED WATER PIPE
 - FP - - - - - PROPOSED FIRE PROTECTION
 - D - - - - - PROPOSED DRAINAGE PIPE
 - S - - - - - PROPOSED SEWER PIPE
 - G - - - - - PROPOSED NATURAL GAS PIPE

ZONING TABLE

	REQUIRED		PHASE 3
	COMMERCIAL STRIP	R-130 ⁽¹⁾	
MINIMUM LOT AREA (SF)	20,000	N/A	57,064
MINIMUM FRONT SETBACK (FT)	30	N/A	10.0
MINIMUM SIDE/REAR SETBACK (FT)	20	N/A	20.0
MINIMUM LOT FRONTAGE (FT)	250	N/A	100.06
MAXIMUM BUILDING COVERAGE (%)	40	NO REGULATION	16.6
MAXIMUM IMPERVIOUS SURFACE (%)	65	N/A	54.3
DISTANCE FROM RESIDENTIAL (FT)	40	-	166.7
MAXIMUM HEIGHT (FT)	40	N/A	34

(1) MULTI-FAMILY RESIDENTIAL APARTMENTS IS NOT AN ALLOWED USE IN THE R-130 DISTRICT. THEREFORE, NO DIMENSIONAL ZONING REQUIREMENTS EXIST.

PARKING TABLE

	PHASE 3
PARKING SPACES REQUIRED	(5) 1BDRM + (19) 2+BDRM = 46
PARKING SPACES PROVIDED	41

(1) 1BDRM REQUIRES 1.5 SPACES.
 (2) 2+BDRM REQUIRES 2 SPACES.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

PRELIMINARY PHASING PLAN (PHASE 3)

JANUARY 12, 2018

REVISIONS:

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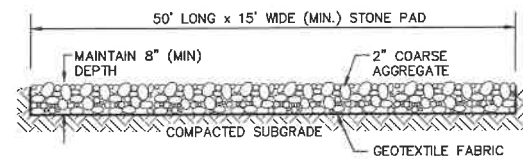
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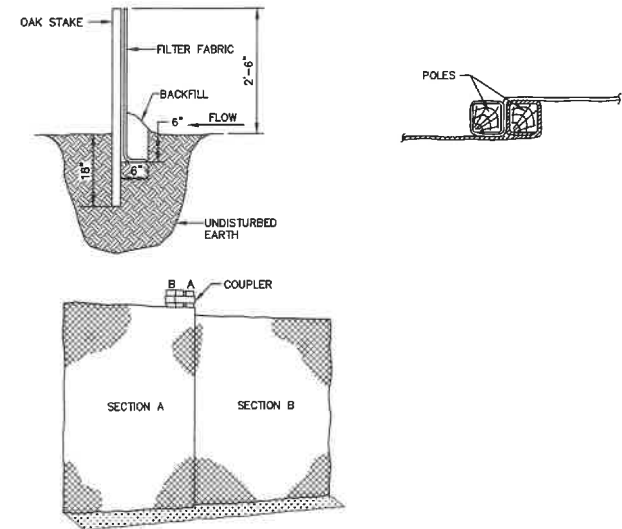
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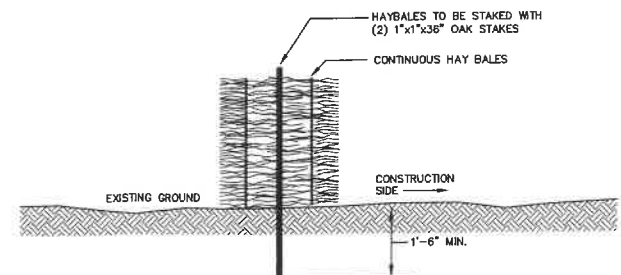
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TEMPORARY CONSTRUCTION ENTRANCE
SCALE: NONE

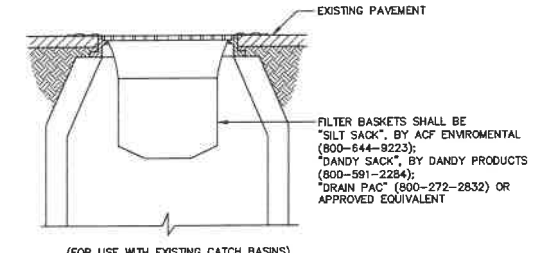


SILT FENCE
SCALE: NONE



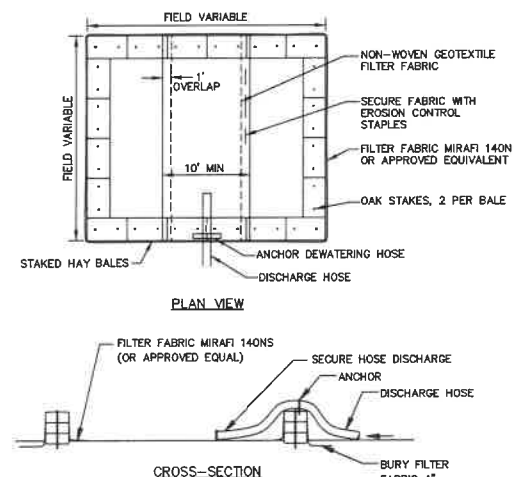
- NOTES:**
- BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 - BALES SHALL BE SECURELY ANCHORED IN PLACE BY 1"x1"x36" WOODEN STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
 - BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
 - BALES TO BE TWINE BOUND.

SINGLE ROW HAYBALE
SCALE: NONE



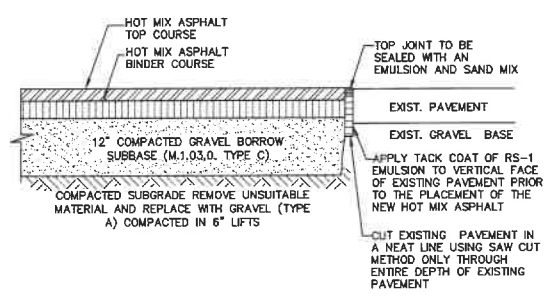
- NOTE:**
FILTER BASKETS TO BE PLACED IN ALL CATCH BASINS IN THE VICINITY OF NEW CONSTRUCTION. CATCH BASINS ARE TO BE PROTECTED AS SHOWN, WITH MINIMUM WEEKLY MAINTENANCE, OR AS REQUIRED AND REPLACED IF NECESSARY.

SEDIMENT FILTER INLET PROTECTION
SCALE: NONE

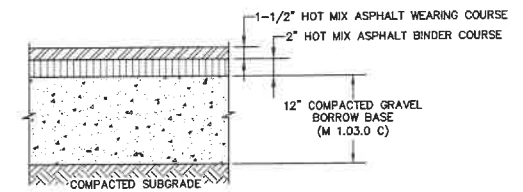


- NOTES:**
- NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
 - THE BASIN TO BE SIZED ACCORDING TO: CUBIC FEET OF STORAGE = PUMP DISCHARGE RATE (gpm) x 16
 - SIZE SHOWN ON PLANS SHALL BE ADJUSTED AS REQUIRED FOR THE ACTUAL PUMPING RATE.

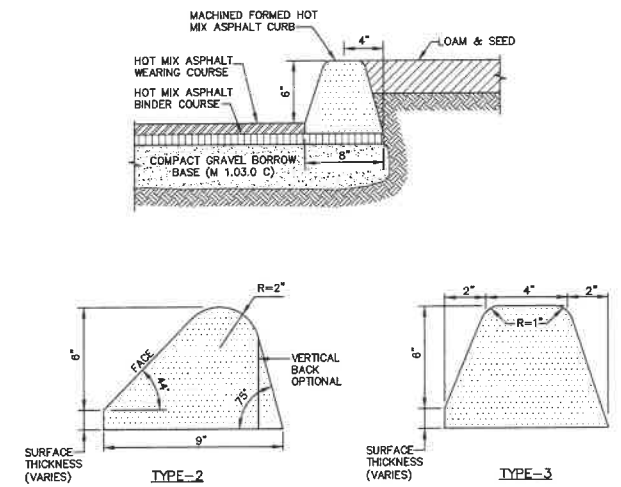
DEWATERING HAYBALE BASIN (TYPE 1)
SCALE: NONE



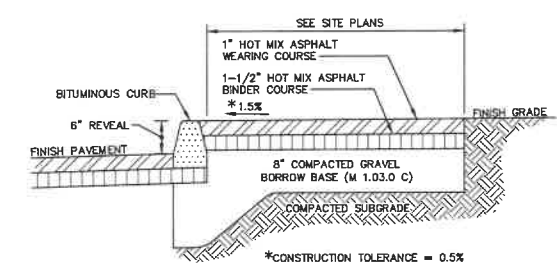
HOT MIX ASPHALT PAVEMENT JOINTS
SCALE: NONE



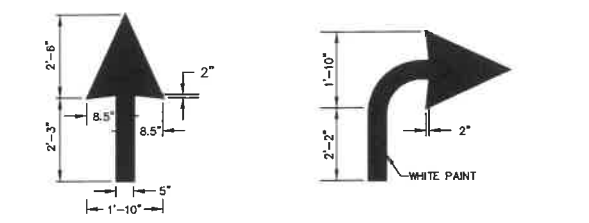
HOT MIX ASPHALT PAVEMENT SECTION
SCALE: NONE



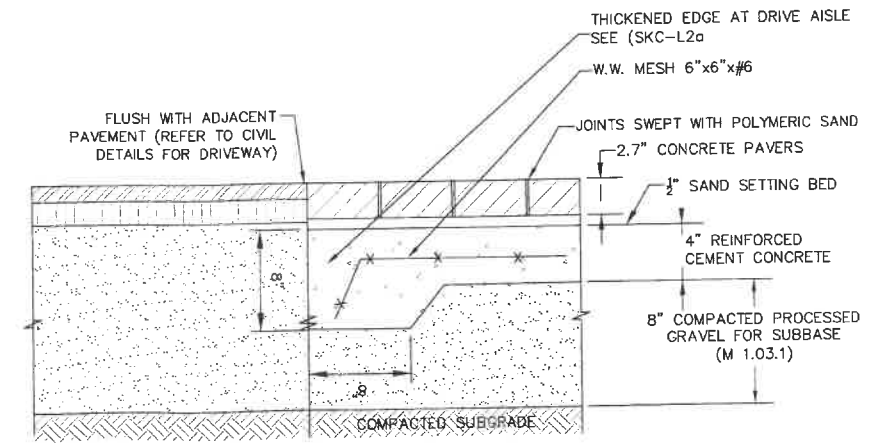
HOT MIX ASPHALT CURB
SCALE: NONE



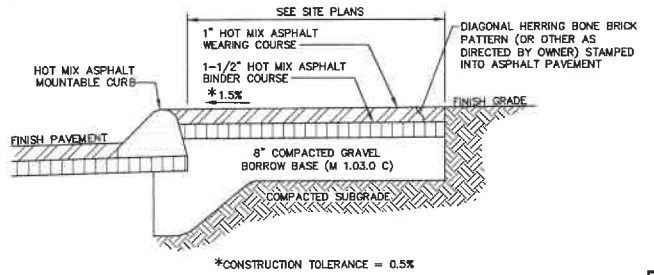
BITUMINOUS CONCRETE SIDEWALK
SCALE: NONE



PAINTED PAVEMENT MARKINGS
SCALE: NONE



PAVERS ON CONCRETE BASE
SCALE: NONE



STAMPED HOT MIX ASPHALT PAVEMENT
SCALE: NONE

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DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:		
NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: AS SHOWN

FILE: 8366900-DET.DWG
DWG. NO:
JOB. NO: 83669.00

C-6.0



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

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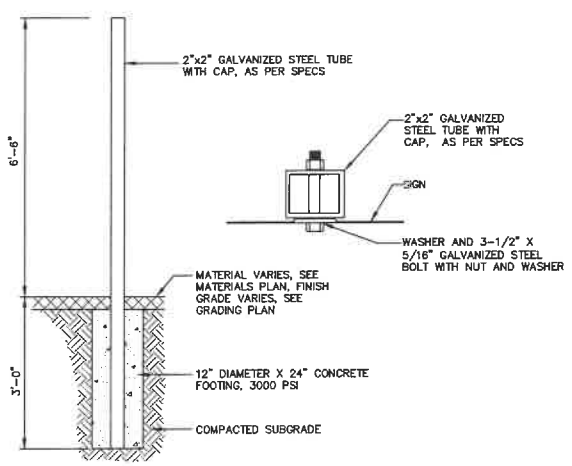
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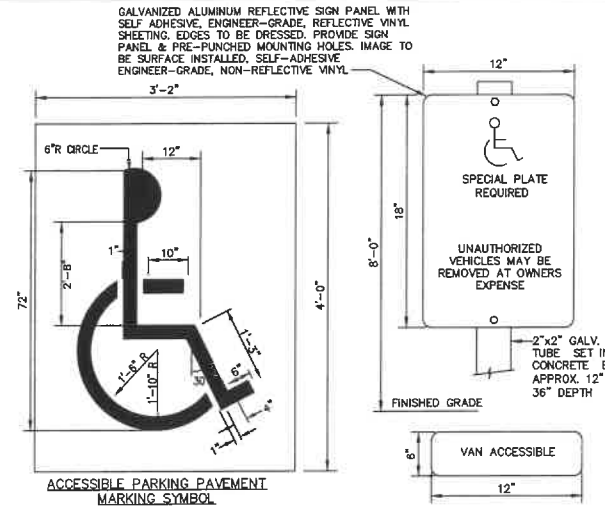
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DWG. NO:
JOB. NO: 83669.00

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TYPICAL SIGN SUPPORT

SCALE: NONE

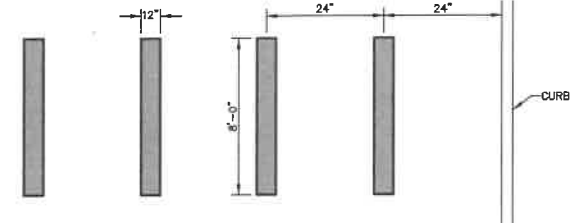
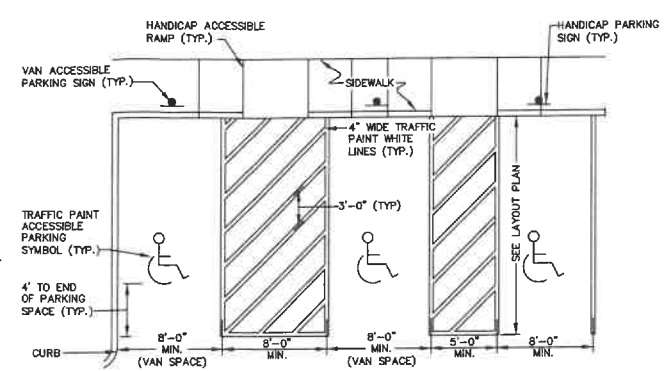


PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SYMBOL & ACCESSIBLE PARKING SIGN

SCALE: NONE

PAINTED PAVEMENT MARKINGS ACCESSIBLE PARKING SPACE

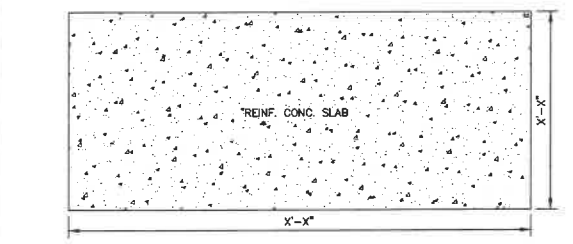
SCALE: NONE



PEDESTRIAN CROSSWALK MARKINGS

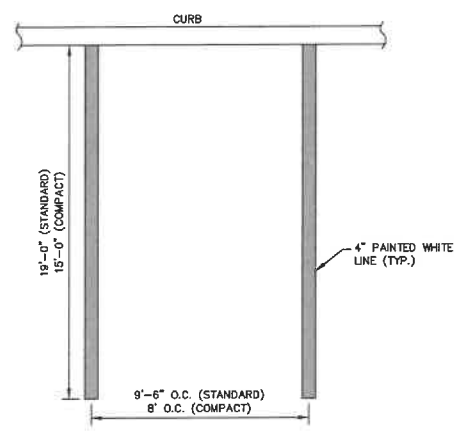
SCALE: NONE

- NOTES:
1. ALL TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6 INCH LINES) WILL BE ACCEPTED.
 2. ALL PAVEMENT MARKING MATERIALS WHETHER THERMOPLASTIC OR WATERBORNE PAINT TO BE REFLECTORIZED WITH GLASS BEADS.
 3. LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
 4. ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY DRESSED.
 5. STRIPES TO BE SOLID WHITE.



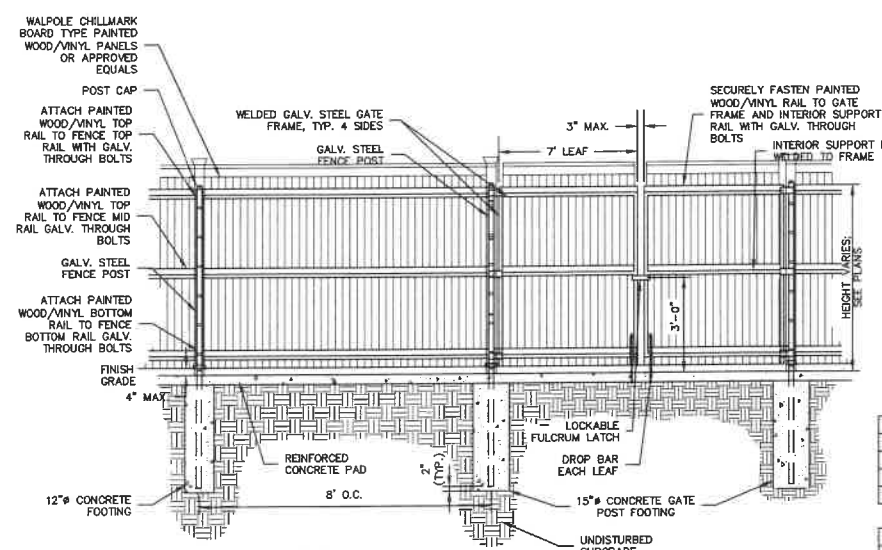
REINFORCED CONCRETE PAD

SCALE: NONE



STANDARD PAINTED PARKING MARKINGS

SCALE: NONE



DUMPSTER ENCLOSURE

SCALE: NONE

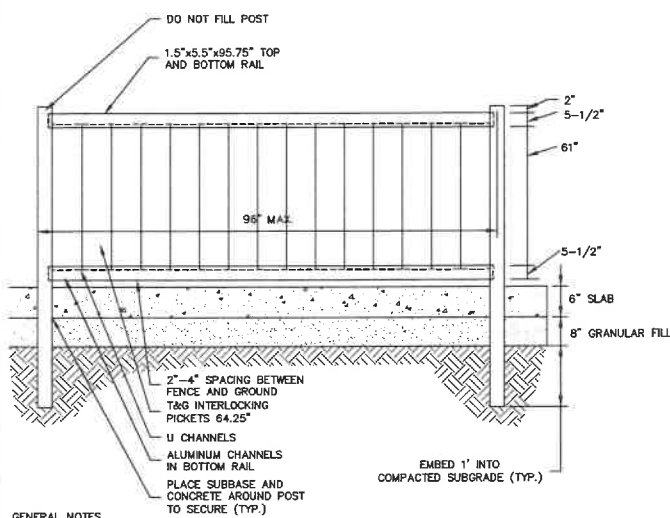
FENCE FRAMEWORK SCHEDULE

FENCE HEIGHT	UP TO 4'	5' TO 6'	8' TO 10'
FENCE POST	2.375" O.D.	2.875" O.D.	3.5" O.D.
TOP AND BOTTOM RAIL	1.6" O.D.	2.375"	2.375"
MIDDLE RAIL	NONE	2.375"	2.375"
FOOTING	12" DIA.	12" DIA.	15" DIA.

GATE FRAMEWORK SCHEDULE

GATE LEAF WIDTH	6'H OR LESS	>6'H - <12'H	12'H OR MORE
GATE POST	2.875" O.D.	4" O.D.	4" O.D.
GATE FRAME (4 SIDES)	2"	2.375"	2.375"
INTERIOR SUPPORT	NONE	2.375"	2.375"
HEAVY DUTY HINGE	3 PER LEAF	3 PER LEAF	4 PER LEAF
FOOTING	12" DIA.	15" DIA.	15" DIA.

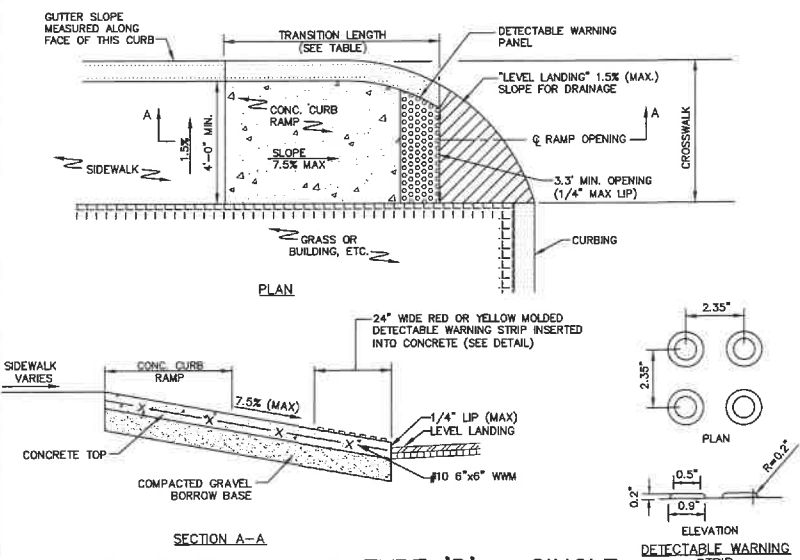
- NOTES:
1. INSTALL FENCE FOOTINGS PRIOR TO INSTALLATION OF REINFORCED CONCRETE PAD.
 2. INSTALL FENCE POSTS 6" FROM THE EDGE OF THE CONCRETE PAD.
 3. INSTALL STOCKADE ON OUTSIDE OF POSTS.
 4. ALL FENCE POSTS SHALL BE SCHEDULE 80 GALV. STEEL.
 5. STEEL POSTS SHALL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.



6' VINYL PRIVACY FENCE

SCALE: NONE

- GENERAL NOTES:
1. FENCE SHALL BE "THE SAVANNAH PRIVACY FENCE" AS MANUFACTURED BY USA VINYL FENCE COMPANY OR ENGINEER-APPROVED EQUAL.
 2. COLOR SHALL BE WOOD-GRAIN KANYON. SUBMIT CONFIGURING COLOR SAMPLE FOR APPROVAL.



ACCESSIBLE CURB RAMP TYPE 'B' - SINGLE DIRECTION WITH LEVEL ENTRANCE

SCALE: NONE

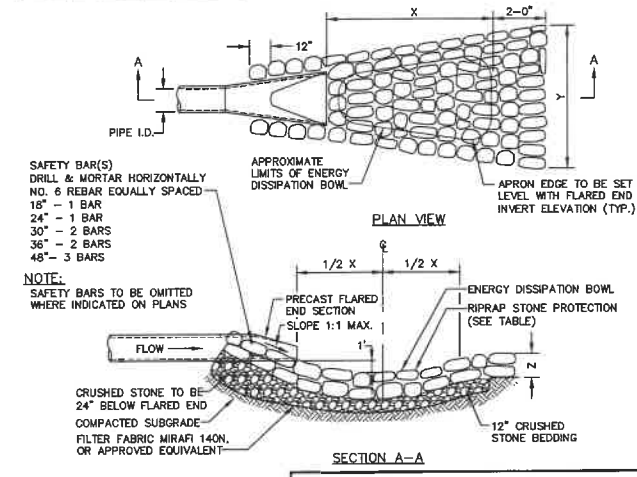
CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS

ROADWAY PROFILE GRADE (%)	TRANSITION LENGTH ROUNDED TO THE NEAREST 4"
0 OR LOW SIDE	6'-6"
>0 - 1	7'-8"
>1 - 2	9'-0"
>2 - 3	11'-0"
>3 - 4	14'-0"
>4	15'-0" (MAX)

- NOTES:
1. SLOPE TOLERANCE FOR RAMP AND SIDEWALK CONSTRUCTION = ± 0.50%
 2. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
 3. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
 4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
 5. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.

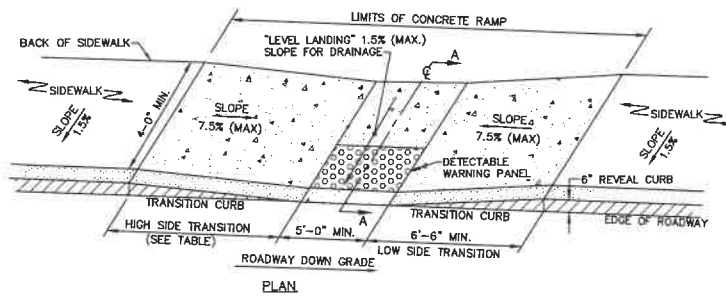
OUTLET NO. X Y Z STONE DIA. (D50)

FES-1	5'	6.3'	16.5'	4"
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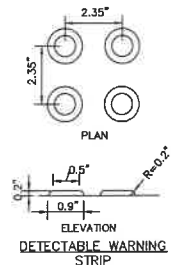
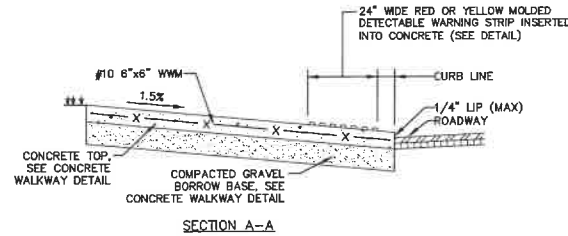
FLARED END SECTION FOR CONSTRUCTION PROTECTION (DISSIPATION BOWL)

SCALE: NONE



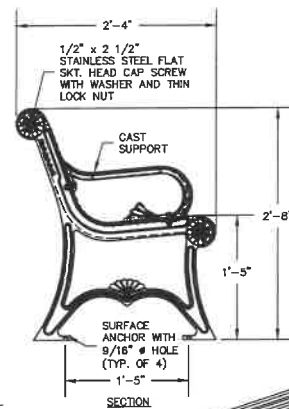
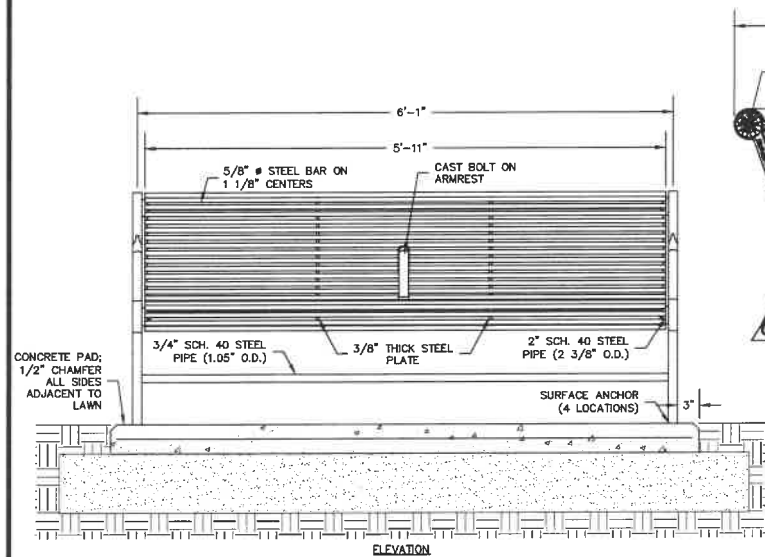
ROADWAY PROFILE GRADE (%)	HIGH SIDE TRANSITION LENGTH ROUNDED TO THE NEAREST 4"
0 OR LOW SIDE	6'-8"
>0 - 1	7'-8"
>1 - 2	9'-0"
>2 - 3	11'-0"
>3 - 4	14'-0"
>4	15'-0" (MAX)

- NOTES:
1. SLOPE TOLERANCE FOR RAMP AND SIDEWALK CONSTRUCTION = ± 0.50%
 2. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%
 3. THE MAX. ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%
 4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E. HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
 5. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.

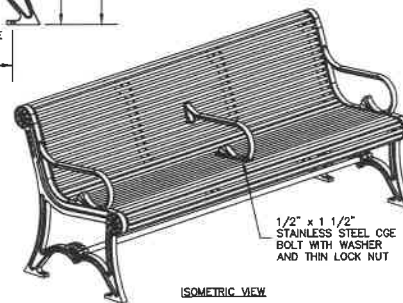


ACCESSIBLE CURB RAMP TYPE 'F' - NARROW SIDEWALK

SCALE: NONE



- NOTES:
1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

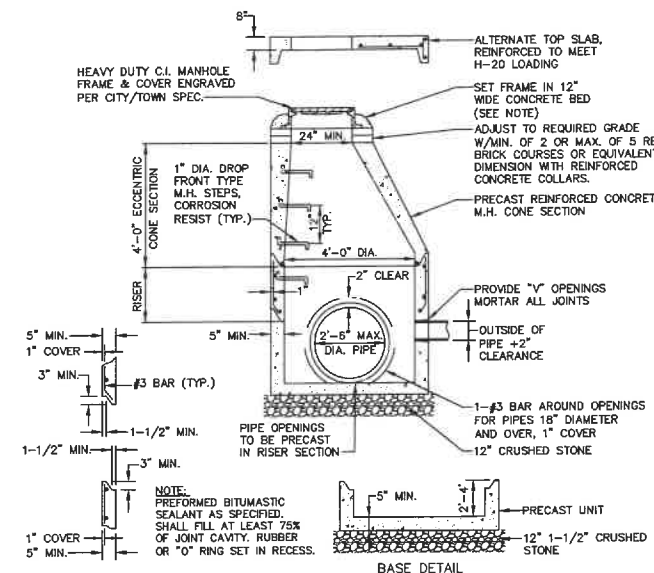


BENCH

SCALE: NONE

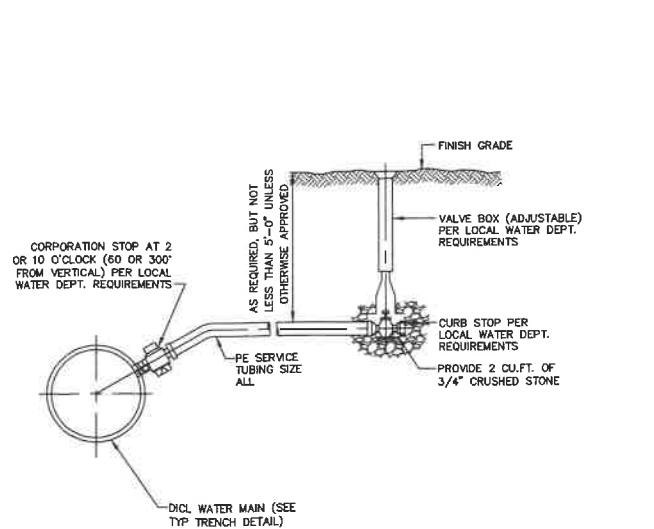
STONE DUST WALK

SCALE: NONE



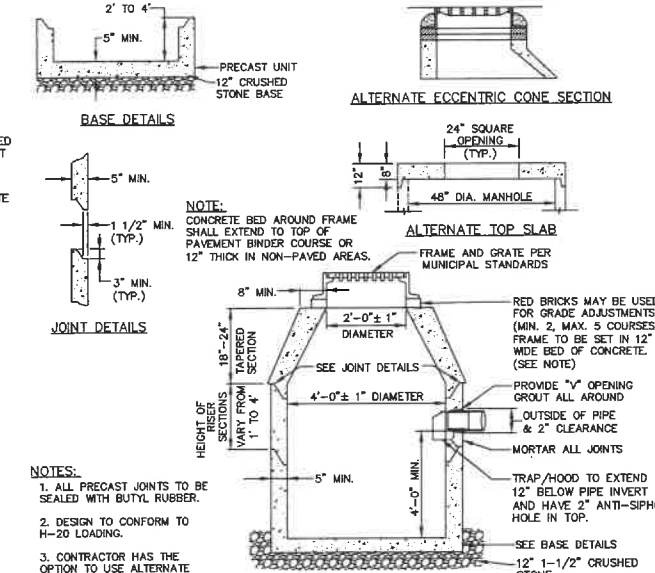
PRECAST CONCRETE DMH

SCALE: NONE



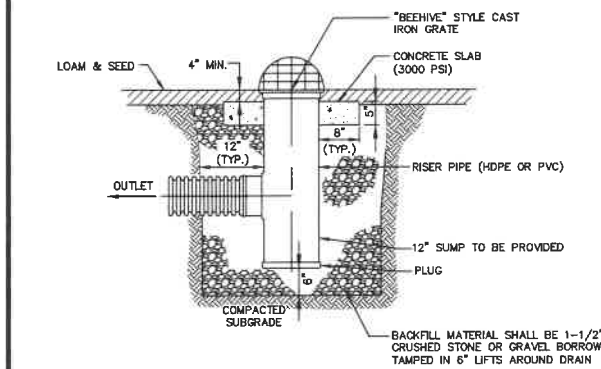
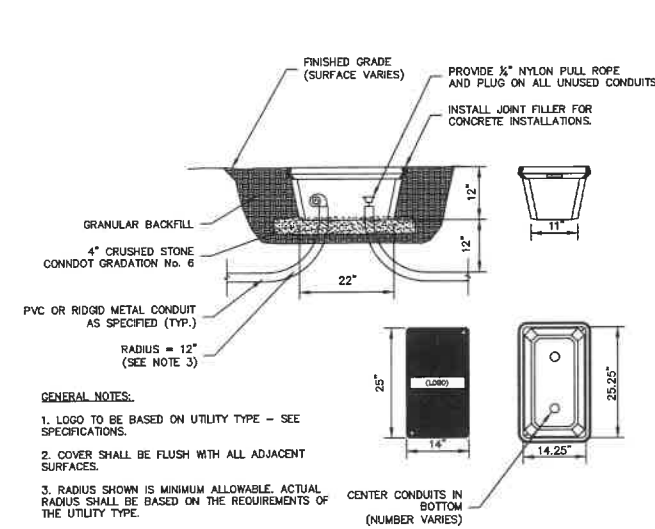
WASTE AND RECYCLING RECEPTACLE

SCALE: NONE



PRECAST CONCRETE CATCH BASIN

SCALE: NONE



AREA DRAIN (HDPE OR PVC)

SCALE: NONE

WATER SERVICE CONNECTION (4" AND LARGER) WATER SERVICE CONNECTION (2" AND LESS)

SCALE: NONE

WATER SERVICE CONNECTION (2" AND LESS)

SCALE: NONE

HAND HOLE

SCALE: NONE

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WOODLAND COVE

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IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	06/25/18	PEER REVIEW COMMENTS

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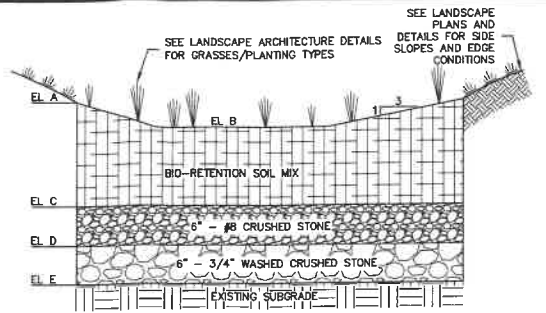
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DWG. NO:
JOB. NO: 83669.00

C-6.2

ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M14S ¹ A-1, A-2.4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 487, 5, 58, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL COVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS @ 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL-GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE."
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 8" (200 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



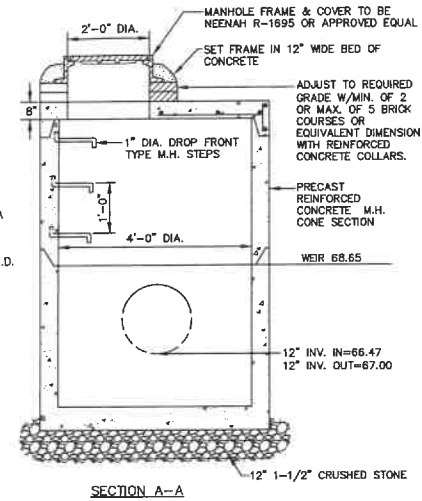
RAIN GARDEN ID	EL A	EL B	EL C	EL D	EL E
1	70.00	65.50	63.50	63.00	62.50

- PLANTING MEDIUM NOTES:**
- PARTICLE SIZE DISTRIBUTION SHALL BE TESTED IN ACCORDANCE WITH ASTM D422.
 - PARTICLE SIZE DISTRIBUTION BY SEPARATES:
 - EXCLUDE ALL MATERIAL THAT DOES NOT PASS A STANDARD #4 SIEVE (LARGER THAN 4.75mm)
 - VERY COARSE SAND/GRAVEL (2.0-4.75mm): 5% MAX. (% BY DRY WEIGHT)
 - SAND (0.425mm-2.0mm): 60-80% (% BY DRY WEIGHT)
 - SILT (0.075mm-0.425mm): 20% MAX. (% BY DRY WEIGHT)
 - CLAY (LESS THAN 0.075mm): 5% MAX. (% BY DRY WEIGHT)
 - ORGANIC MATTER SHALL BE 5-9% BY VOLUME WITH MAXIMUM 500 ppm SOLUBLE SALTS
 - SOIL SHALL HAVE A pH BETWEEN 5.5 AND 7.0
 - SEC. OF TOTAL SOL: MIN. 10 mg/100 ml at pH of 7.0
 - NO COMPOST SHALL BE INCLUDED IN THE PLANTING MEDIUM

PLANTING MIX PARTICLE SIZE DISTRIBUTION

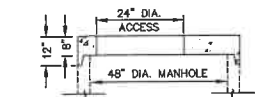
SEIVE #	PERCENT PASSING
4	100
10	95-100
40	15-45
200	10-20
<200 (PAN)	0-5

- NOTES:**
- DESIGN TO CONFORM TO H-20 LOADING
 - INLET AND OUTLET PIPES TO BE MORTARED INSIDE AND OUTSIDE OF STRUCTURE.



OUTLET CONTROL STRUCTURE
SCALE: NONE

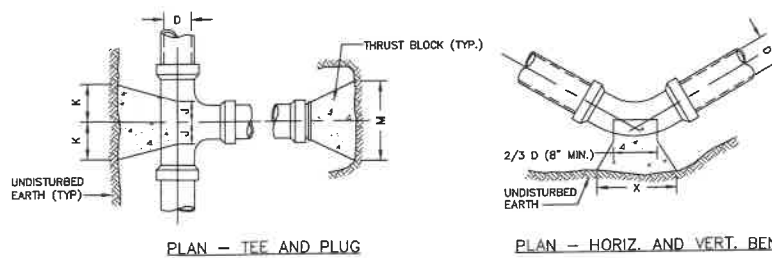
BIO-RETENTION AREAS
SCALE: NONE



ALTERNATE TOP SLAB
(STEEL REINFORCED FOR H-20 LOADING)

- NOTES:**
- ALL SECTIONS SHALL BE DESIGNED FOR H-20 LOADING.
 - COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
 - ALL EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 - MUNICIPAL STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN 12" WIDE CONCRETE BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYP., 5 BRICK COURSES MAX.)
 - 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER OR FOR INTERIOR DROP CONNECTIONS AND ALL FORCE MAIN CONNECTION MANHOLES.
 - 6" MINIMUM WALL THICKNESS AND 7" MINIMUM BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
 - 4" TO 6" VERTICAL SURFACE AT THE TOP OF THE TRANSITION OR CONE SECTION REQUIRED TO ALLOW AIR-VACUUM TESTING OF THE MANHOLE DURING INSTALLATION.
 - MAXIMUM FIRST PIPE LENGTH FROM MANHOLE 3'-0".

SANITARY SEWER MANHOLE
SCALE: NONE



TEES AND PLUGS

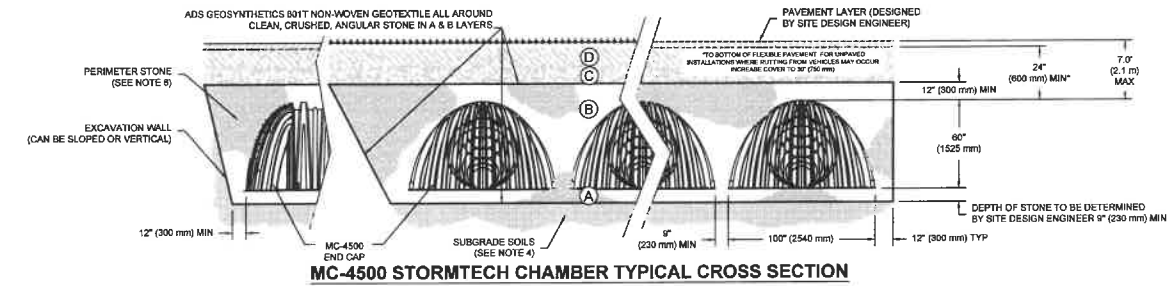
SIZE OF BRANCH	J	K	L	M	N	O
4" THRU 8"	10"	10"	1'-0"	2'-0"	1'-6"	10"
10" THRU 16"	1'-0"	1'-6"	1'-8"	3'-10"	2'-10"	1'-6"
24"	1'-4"	2'-0"	2'-6"	5'-0"	3'-6"	1'-8"

BENDS

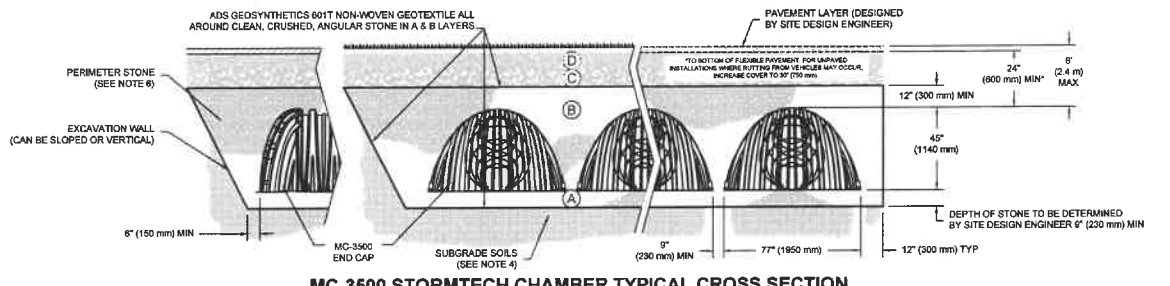
90 & 45 BENDS	22 1/2 & 11 1/4
D	4" TO 8" 10" TO 16" 24" 4" TO 8" 10" TO 16" 24"
X	1'-8" 3'-4" 3'-8" 1'-4" 2'-0" 3'-6"
Y	1'-2" 1'-8" 2'-4" 1'-0" 1'-2" 2'-4"

- NOTES:**
- PROVIDE 3000 psi CONCRETE THRUST BLOCKS AT ALL BENDS, DEAD ENDS, & TEES UNLESS OTHERWISE DIRECTED. CONCRETE FOR ALL THRUST BLOCKS TO BE PLACED AGAINST FIRM, UNDISTURBED SOIL. PROVIDE APPROVED ANCHOR HARNESS RODS & SOCKET CLAMPS AS SPECIFIED & IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATIONS WHERE SOIL HAS BEEN DISTURBED OR THRUST BLOCKS CANNOT BE USED, AS DIRECTED BY THE ENGINEER.
 - ALL SOCKET CLAMP METAL SHALL BE COATED WITH BLACK ASPHALTUM OR OTHER WATER DEPARTMENT APPROVED COATINGS.
 - CONCRETE THRUST BLOCKS POURED BEHIND 3-WAY TEE & HYDRANT SHOE TO BE USED WITH SOCKET CLAMPS.
 - NO CONCRETE SHALL COVER PIPE JOINTS, FITTING JOINTS, BOLTS OR HYDRANT DRAINS.
 - ALL WATER MAIN BENDS, DEAD ENDS, AND TEES SHALL HAVE MECHANICAL JOINTS WITH RETAINER GLANDS.
 - A MINIMUM OF ONE (1) PIPE TO PIPE JOINT BEFORE AND AFTER ALL WATER MAIN FITTINGS SHALL BE MECHANICALLY RESTRAINED.

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MC-4500 STORMTECH CHAMBER TYPICAL CROSS SECTION

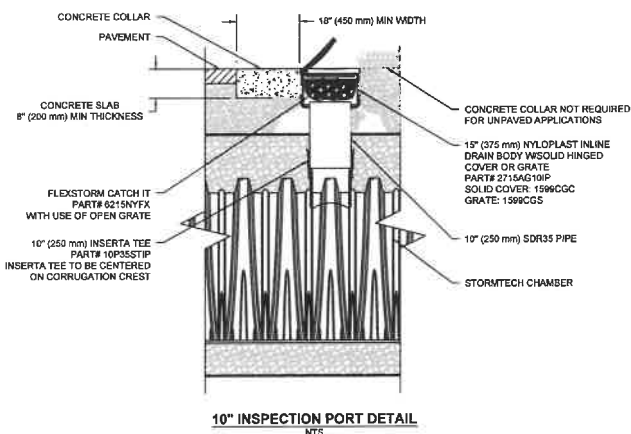


MC-3500 STORMTECH CHAMBER TYPICAL CROSS SECTION

SYSTEM	BOTTOM STONE ELEVATION	BOTTOM CHAMBER ELEVATION	TOP CHAMBER ELEVATION	TOP STONE ELEVATION
1 (MC-4500)	63.00	63.75	68.75	69.75
2 (MC-3500)	68.00	68.75	72.50	73.50
3 (MC-3500)	65.00	65.75	69.50	70.50
4 (MC-3500)	70.50	71.25	75.00	76.00
5 (MC-3500)	69.50	70.25	74.00	75.00

- NOTES:**
- CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

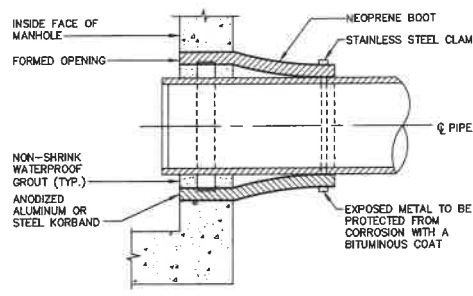
STORMTECH UNDERGROUND INFILTRATION SYSTEM (OR APPROVED EQUAL)
SCALE: NONE



NOTE:
ONE INSPECTION PORT SHALL BE INSTALLED ON EACH ROW OF SYSTEM AND SHALL BE STAGGERED THROUGHOUT THE LENGTH OF THE SYSTEM

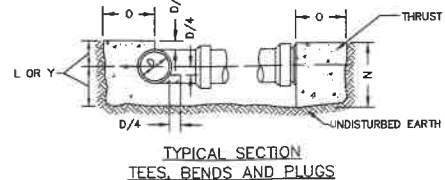
INSPECTION PORT
SCALE: NONE

FLEXIBLE PIPE TO MANHOLE CONNECTION (NEOPRENE BOOT)
SCALE: NONE



NOTES:
1. THE LENGTH OF THE FIRST PIPE SECTION SHALL NOT EXCEED 5'.

CONCRETE THRUST BLOCK FOR PRESSURE PIPE
SCALE: NONE



TYPICAL SECTION TEES, BENDS AND PLUGS



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY IN WAREHAM MASSACHUSETTS

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JANUARY 12, 2018

REVISIONS

NO.	DATE	REVISION
1	04/09/18	PEER REVIEW COMMENTS
2	06/25/18	PEER REVIEW COMMENTS

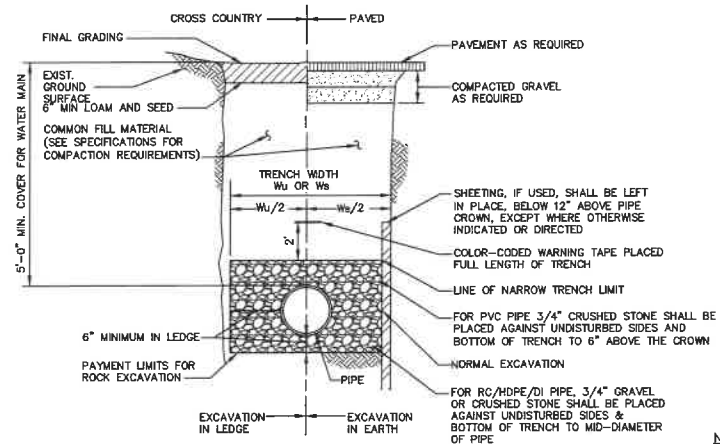
PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127 617 896 4300

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SCALE: AS SHOWN

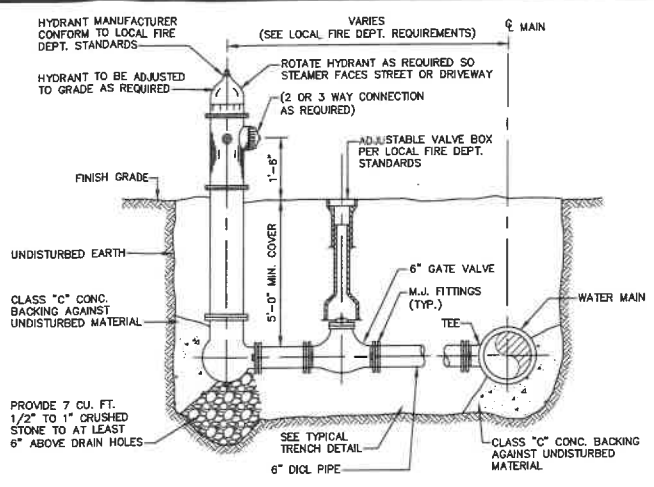
FILE: 836J00-DET.DWG
DWG. NO:
JOB. NO: 83698.00

C-6.3

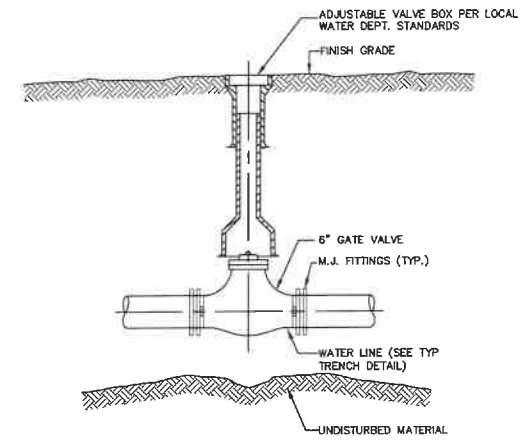


TRENCH WIDTH, Ws OR Wu		
D DIAMETER OF PIPE	Ws UNSHEETED	Wu SHEETED
12" AND SMALLER	3'-0"	4'-2"
15"	3'-2"	4'-4"
18"	3'-6"	4'-8"
21"	3'-10"	5'-0"
24"	4'-2"	5'-4"
27"	4'-6"	5'-8"
30"	4'-10"	6'-0"
36"	5'-6"	6'-8"
42"	6'-2"	7'-4"
48"	6'-10"	8'-0"

NOTES:
 ALL TRENCHES IN PUBLIC WAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AGENCY HAVING JURISDICTION OVER SAID PUBLIC WAY.



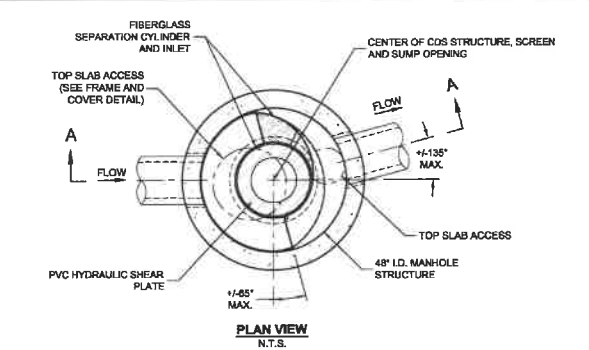
NOTES:
 1. HYDRANTS SHALL BE PAINTED ONSET FIRE DISTRICT RED WITH SCOTCHLITE REFLECTIVE PAINT.
 2. FOR HYDRANTS INSTALLED AT DEAD ENDS OF WATER MAINS: INSTALL VALVES WITH RETRAINED JOINTS ON BOTH SIDES OF HYDRANT TEE AND ONE (1) FULL LENGTH OF PIPE BETWEEN VALVE AND MECHANICALLY RESTRAINED CAP OR PLUG.



GATE VALVE
 SCALE: NONE

TYPICAL PIPE TRENCH SECTION
 SCALE: NONE

FIRE HYDRANT & VALVE
 SCALE: NONE



CDS2015-4 DESIGN NOTES
 CDS2015-4 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS. IF THE SITE CONDITIONS EXCEED 10.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
 THE STANDARD CDS2015-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL NUMBER)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WATER QUALITY FLOW RATE (CFS)	PEAK FLOW RATE (CFS)	RETURN PERIOD OF PEAK FLOW (YRS)	SCREEN APERTURE (200 OR 475)
	*	*	*	*

PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
*	*	*

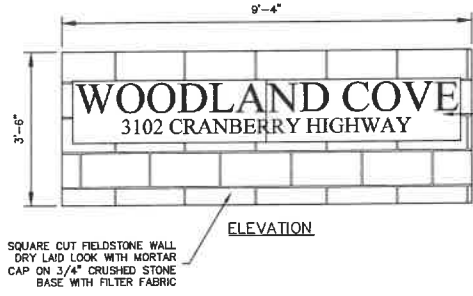
NOTES/SPECIAL REQUIREMENTS:
 * PER ENGINEER OF RECORD



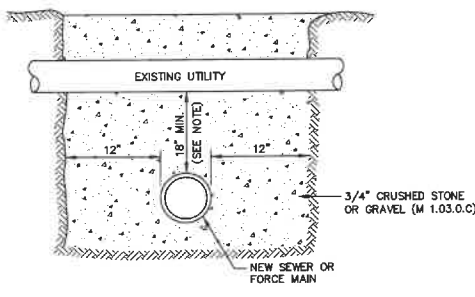
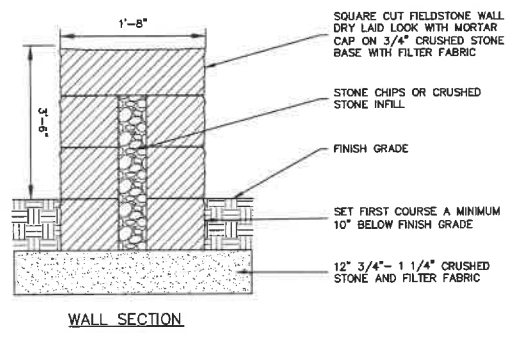
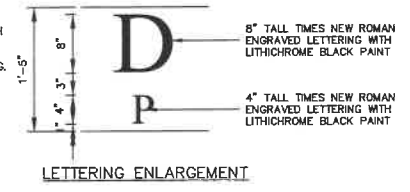
GENERAL NOTES
 1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
 4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 5. STRUCTURE AND CASTINGS SHALL MEET AASHTO H200 LOAD RATING.
 6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
 1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE COS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS2015-4 PRECAST CONCRETE WATER QUALITY SYSTEM STANDARD DETAIL



FIELD STONE SIGN
 SCALE: NONE



NOTES:
 1. 3000 PSI CONCRETE IS TO BE USED TO ENCASE ALL SANITARY SEWERS AND SERVICE CONNECTIONS WHICH ARE WITHIN 18 INCHES OF A WATERLINE. ENCASEMENT SHALL BE A MINIMUM OF 6 INCHES AROUND THE SANITARY SEWER AND EXTEND A MINIMUM OF 10 FEET BEYOND THE WATER PIPE.

TYPICAL UTILITY CROSSING
 SCALE: NONE



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
 IN
 WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS
2	06/25/18	PEER REVIEW COMMENTS

PREPARED FOR:
 DAKOTA PARTNERS
 1264 MAIN STREET
 WALTHAM, MA 02451

BSC GROUP
 803 Summer Street
 Boston, Massachusetts
 02127 617 896 4300

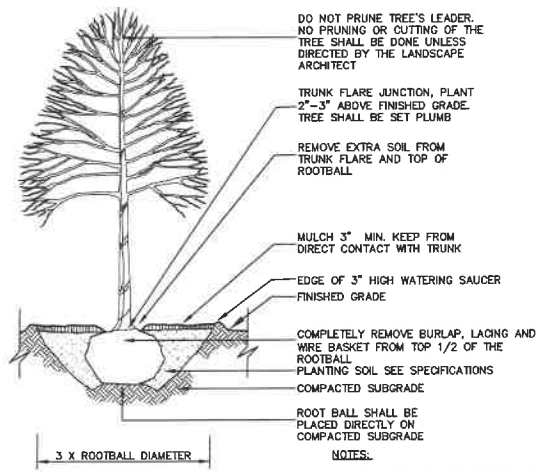
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FILE: 8368900-DET.DWG	C-6.4
DWG. NO:	
JOB. NO: 83689.00	

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CONTECH WATER QUALITY UNIT (OR APPROVED EQUAL)
 SCALE: NONE

UNIFORM WATER QUALITY STANDARDS FOR TREATMENT PLANTS (UWQS) SUBMITTAL DRAWINGS (CURRENT EDITIONS) DETAIL CDS2015-4-470.DWG 7/21/2015 11:52 AM

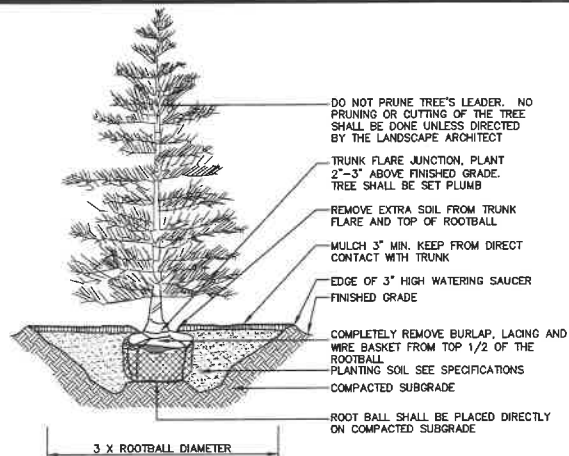


NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.
3. DO NOT STAKE OR WRAP TREE UNLESS NOTED OTHERWISE.

DECIDUOUS TREE PLANTING

SCALE: NONE

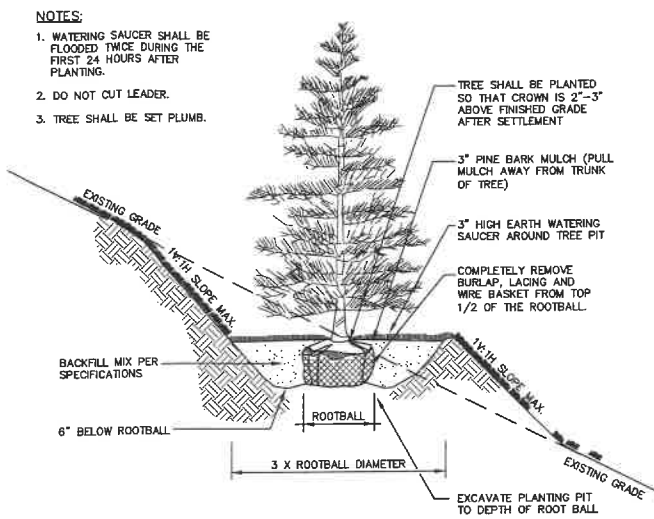


NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.

EVERGREEN TREE PLANTING

SCALE: NONE

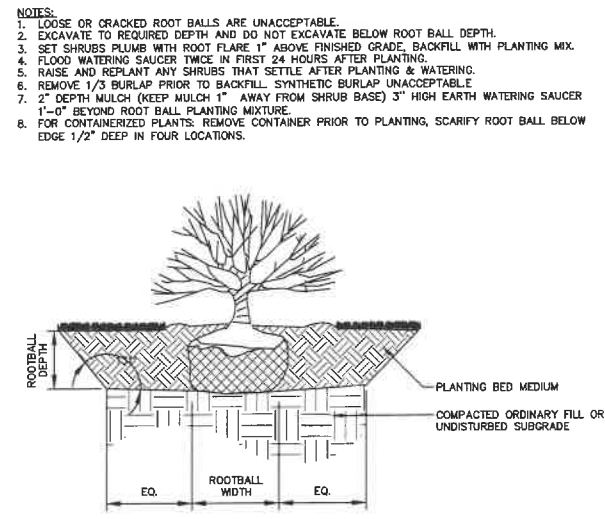


NOTES:

1. WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.
2. DO NOT CUT LEADER.
3. TREE SHALL BE SET PLUMB.

TREE (SLOPE PLANTING)

SCALE: NONE

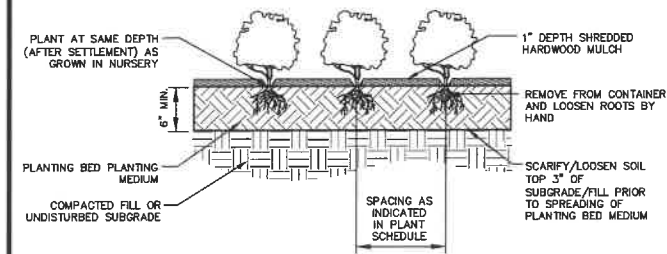


NOTES:

1. LOOSE OR CRACKED ROOT BALLS ARE UNACCEPTABLE.
2. EXCAVATE TO REQUIRED DEPTH AND DO NOT EXCAVATE BELOW ROOT BALL DEPTH.
3. SET SHRUBS PLUMB WITH ROOT FLARE 1" ABOVE FINISHED GRADE. BACKFILL WITH PLANTING MIX.
4. FLOOD WATERING SAUCER TWICE IN FIRST 24 HOURS AFTER PLANTING.
5. RAISE AND REPLANT ANY SHRUBS THAT SETTLE AFTER PLANTING & WATERING.
6. REMOVE 1/3 BURLAP PRIOR TO BACKFILL. SYNTHETIC BURLAP UNACCEPTABLE.
7. 2" DEPTH MULCH (KEEP MULCH 1" AWAY FROM SHRUB BASE) 3" HIGH EARTH WATERING SAUCER 1'-0" BEYOND ROOT BALL PLANTING MIXTURE.
8. FOR CONTAINERIZED PLANTS. REMOVE CONTAINER PRIOR TO PLANTING, SCARIFY ROOT BALL BELOW EDGE 1/2" DEEP IN FOUR LOCATIONS.

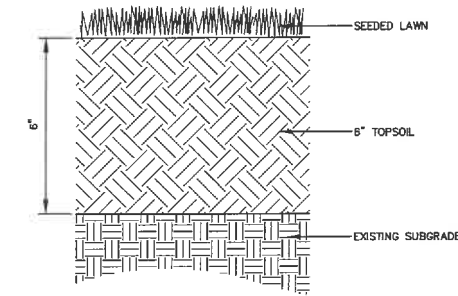
SHRUB PLANTING TYP.

SCALE: NONE



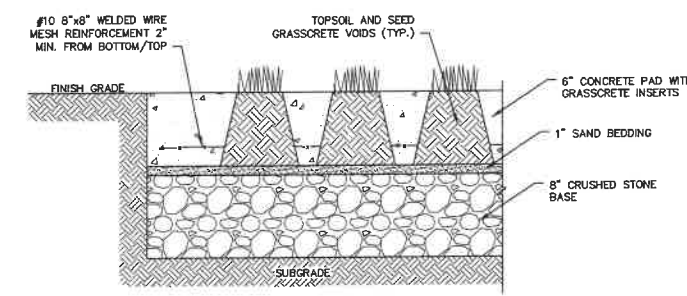
GROUNDCOVER & PERENNIAL PLANTING TYP.

SCALE: NONE



LAWN

SCALE: NONE



GRASSCRETE FIRE LANE

SCALE: NONE

- NOTES:**
1. CONTRACTOR SHALL PREPARE SOILS IN ALL DISTURBED AREAS AND AREAS USED FOR EQUIPMENT ACCESS.



DOMINIC RINALDI, PE No. 45074

WOODLAND COVE

3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

DETAILS

JANUARY 12, 2018

REVISIONS:		
1	04/09/18	PEER REVIEW COMMENTS
2	07/20/18	ADD GRASSCRETE & STAMPED

PREPARED FOR:
DAKOTA PARTNERS
1264 MAIN STREET
WALTHAM, MA 02451

BSC GROUP
803 Summer Street
Boston, Massachusetts
02127
617 896 4300

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FILE: 8366900-DET.DWG
DWG. NO:
JOB. NO: 83669.00

C-6.5

WOODLAND COVE - JANUARY 12, 2018

PLANT SCHEDULE NORTH

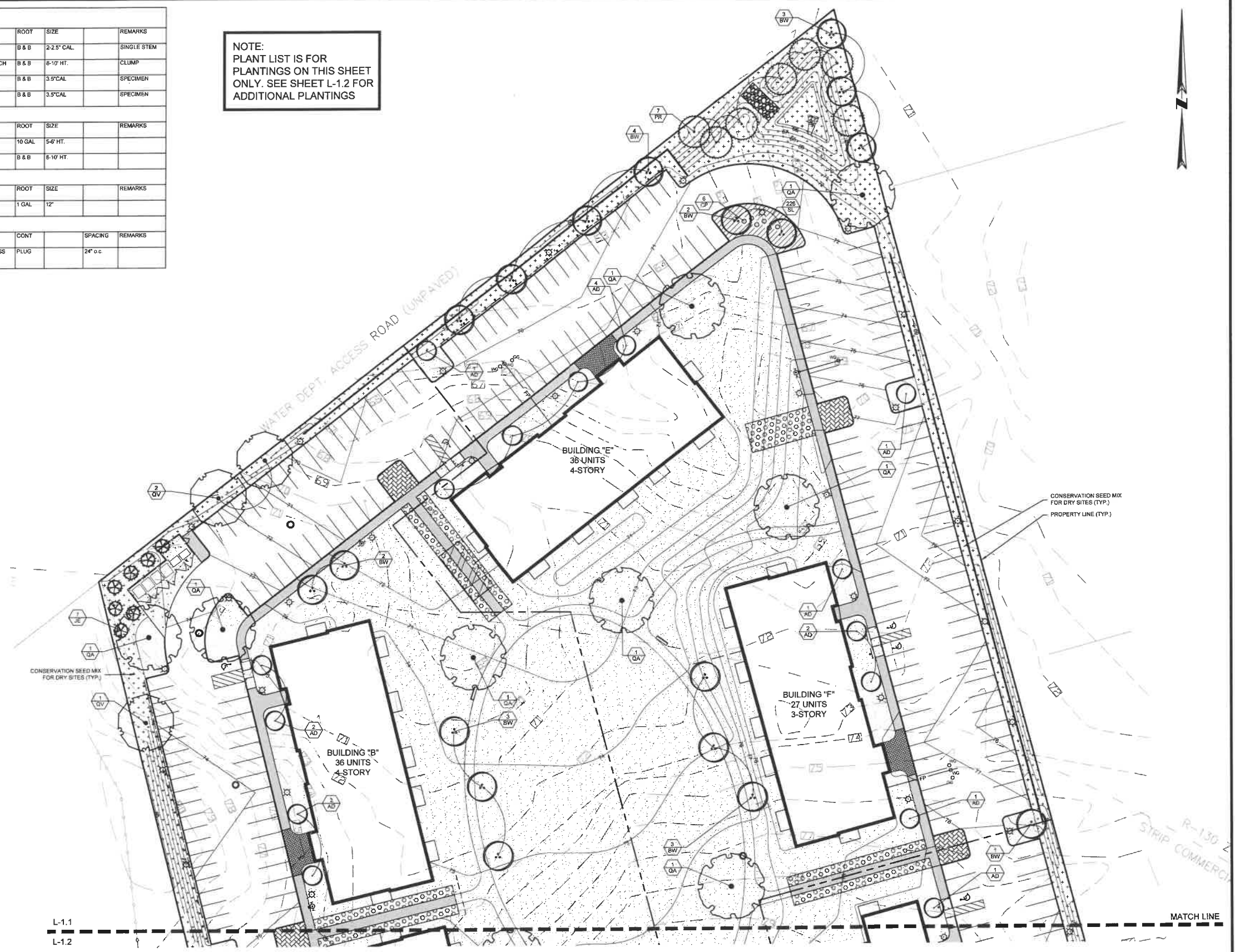
DECIDUOUS TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AD	15	AMELANCHIER ARBOREA / DOWNY SERVICEBERRY	B & B	2-2.5' CAL.	SINGLE STEM
BW	18	BETULA POPULIFOLIA 'WHITESPIRE' / WHITESPIRE BIRCH	B & B	8-10' HT.	CLUMP
QA	8	QUERCUS ALBA / WHITE OAK	B & B	3.5' CAL.	SPECIMEN
OV	3	QUERCUS VELUTINA / BLACK OAK	B & B	3.5' CAL.	SPECIMEN

EVERGREEN TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
JE	7	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	10 GAL	5-6' HT.	
PR	7	PINUS RIGIDA / PITCH PINE	B & B	8-10' HT.	

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
CP	6	COMPTONIA PEREGRINA / SWEET FERN	1 GAL	12"	

GRASSES	QTY	BOTANICAL NAME / COMMON NAME	CONT.	SPACING	REMARKS
Z26		SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM GRASS	PLUG	24" o.c.	

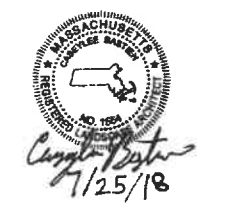
NOTE:
PLANT LIST IS FOR
PLANTINGS ON THIS SHEET
ONLY. SEE SHEET L-1.2 FOR
ADDITIONAL PLANTINGS



LEGEND

- - - - - PROPERTY LINE
- - - - - PROPOSED CURBING
- - - - - CHAIN LINK FENCE
- ⊙ SITE LIGHT
- ⊙ PROPOSED SIGN
- ▨ PROPOSED CONCRETE
- ▩ PROPOSED BITUMINOUS WALK
- ▧ PROPOSED STONEDUST WALK
- ▦ PROPOSED PAVERS
- ▤ PROPOSED STAMPED ASPHALT
- ▣ PROPOSED GRASSCRETE FIRE LANE
- ▢ POTENTIAL SNOW STORAGE
- LAWN AREA
- ⋄ CONSERVATION SEED MIX FOR DRY SITES

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CASEYLEE BASTIEN RLA #1554

WOODLAND COVE

3102 CRANBERRY
HIGHWAY
IN
WAREHAM
MASSACHUSETTS

PLANTING PLAN (NORTH)

JANUARY 12, 2018

REVISIONS:

NO.	DATE	DESCRIPTION
1	04/09/18	PEER REVIEW COMMENTS

PREPARED FOR:
DAKOTA PARTNERS
1284 MAIN STREET
WALTHAM, MA 02451

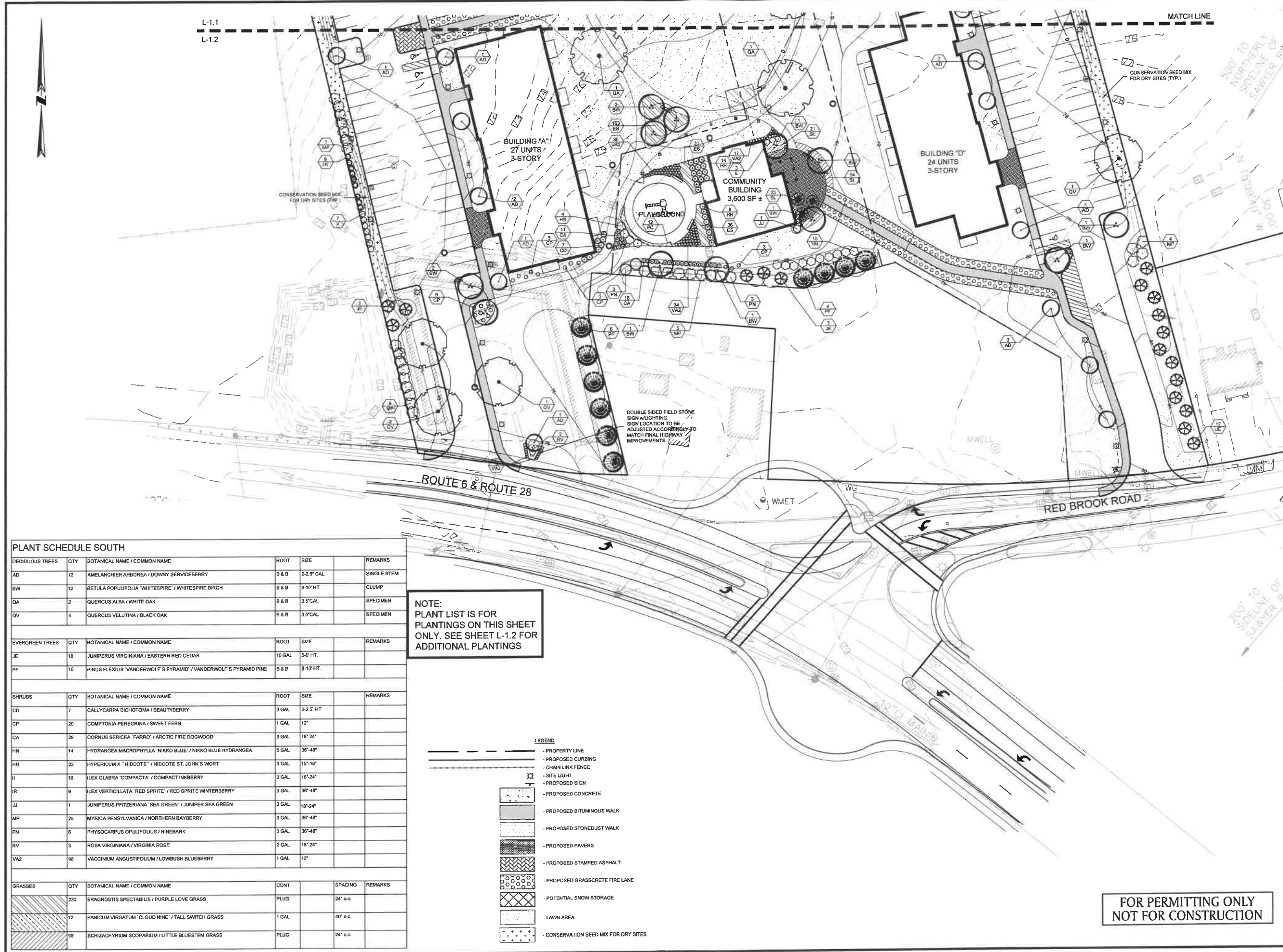
BSC GROUP
803 Summer Street
Boston, Massachusetts
02127

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SCALE: 1" = 30'
0 15 30 60 FEET

FILE: 8366900-PLANT.DWG
DWG. NO:
JOB. NO: 83669.00

L-1.1

WOODLAND COVE - JANUARY 12, 2018



PLANT SCHEDULE SOUTH

DECIDUOUS TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
AD	12	AMELANCHIER ARBOREA / DOWNY SERVICEBERRY	B & B	2-2.5' CAL.	SINGLE STEM
BW	12	BETULA POPULIFOLIA 'WHITESPIRE' / WHITESPIRE BIRCH	B & B	8-10' HT.	CLUMP
QA	2	QUERCUS ALBA / WHITE OAK	B & B	3.5' CAL.	SPECIMEN
QV	4	QUERCUS VELUTINA / BLACK OAK	B & B	3.5' CAL.	SPECIMEN

EVERGREEN TREES	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
JE	16	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	10 GAL	5-6' HT.	
PF	10	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID' / VANDERWOLF'S PYRAMID PINE	B & B	8-10' HT.	

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	ROOT	SIZE	REMARKS
CD	7	CALYCARPA DICHOTOMA / BEAUTYBERRY	3 GAL	2-2.5' HT	
CP	20	COMPTONIA PEREGRINA / SWEET FERN	1 GAL	12"	
CA	29	CORNUS SERICEA 'FARRO' / ARCTIC FIRE DOGWOOD	3 GAL	18"-24"	
HN	14	HYDRANGEA MACROPHYLLA 'NIKKO BLUE' / NIKKO BLUE HYDRANGEA	5 GAL	36"-48"	
HH	22	HYPERICUM X 'HIDCOTE' / HIDCOTE ST. JOHN'S WORT	3 GAL	15"-18"	
IJ	10	ILEX GLABRA 'COMPACTA' / COMPACT INKBERRY	3 GAL	18"-24"	
IR	9	ILEX VERTICILLATA 'RED SPRITE' / RED SPRITE WINTERBERRY	3 GAL	36"-48"	
JJ	1	JUNIPERUS PRITZERIANA 'SEA GREEN' / JUNIPER SEA GREEN	3 GAL	18"-24"	
MP	25	MYRICA PENNSYLVANICA / NORTHERN BAYBERRY	3 GAL	36"-48"	
PN	6	PHYSOCARPUS OPULIFOLIUS / NINEBARK	3 GAL	36"-48"	
RV	3	ROSA VIRGINIANA / VIRGINIA ROSE	2 GAL	18"-24"	
VA2	98	VACCINIUM ANGSTIFOLIUM / LOWBUSH BLUEBERRY	1 GAL	12"	

GRASSES	QTY	BOTANICAL NAME / COMMON NAME	CONT	SPACING	REMARKS
	230	ERAGROSTIS SPECTABILIS / PURPLE LOVE GRASS	PLUG	24" o.c.	
	12	PANICUM VIRGATUM 'CLOUD NINE' / TALL SWITCH GRASS	1 GAL	40" o.c.	
	98	SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM GRASS	PLUG	24" o.c.	

NOTE:
PLANT LIST IS FOR PLANTINGS ON THIS SHEET ONLY. SEE SHEET L-1.2 FOR ADDITIONAL PLANTINGS

- LEGEND**
- PROPERTY LINE
 - PROPOSED CURBING
 - CHAIN LINK FENCE
 - ⊗ - SITE LIGHT
 - ⊕ - PROPOSED SIGN
 - ▨ - PROPOSED CONCRETE
 - ▩ - PROPOSED BITUMINOUS WALK
 - ▧ - PROPOSED STONEDUST WALK
 - ▦ - PROPOSED PAVERS
 - ▥ - PROPOSED STAMPED ASPHALT
 - ▤ - PROPOSED GRASSCRETE FIRE LANE
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 - ⊙ - CONSERVATION SEED MIX FOR DRY SITES

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3102 CRANBERRY HIGHWAY
IN
WAREHAM MASSACHUSETTS

PLANTING PLAN (SOUTH)

JANUARY 12, 2018

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0 15 30 60 FEET

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DWG. NO:
JOB. NO: 83669.00 **L-1.2**