

**Attachment D Site Plans revised
December 30, 2019**

GENERAL NOTES

- LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS, WHETHER OR NOT SHOWN HEREON.
- UNLESS OTHERWISE SHOWN, ALL NEW UTILITIES SHALL BE UNDERGROUND.
- CONTRACTOR SHALL FURNISH CONSTRUCTION LAYOUT OF BUILDING AND SITE IMPROVEMENTS. THIS WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR.
- SAFETY MEASURES, CONSTRUCTION METHODS AND CONTROL OF WORK SHALL BE RESPONSIBILITY OF CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND / OR REMOVAL HEREON. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.
- THIS PLAN IS NOT INTENDED TO SHOW AN ENGINEERED BUILDING FOUNDATION DESIGN, WHICH WOULD INCLUDE DETAILS AND FINAL ELEVATIONS OF FOOTINGS, WALLS AND SUBSURFACE DRAINAGE TO PREVENT INTERIOR FLOODING. SEE ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS.
- ANY INTENDED REVISION OF THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.
- RIM ELEVATIONS SHOWN FOR NEW STRUCTURES ARE APPROXIMATE AND ARE PROVIDED TO ASSIST CONTRACTOR WITH MATERIAL TAKEOFFS. FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- WHERE EXISTING UTILITY LINES/STRUCTURES ARE TO BE CUT/BROKEN DOWN/ ABANDONED, LINES/STRUCTURES SHALL BE PLUGGED/CAPPED/FILLED IN ACCORDANCE WITH OWNER REQUIREMENTS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATION OF BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
- PROPOSED BUILDING FOUNDATION CONFIGURATION AND LOCATION ON THE LOT AS SHOWN ARE CONCEPTUAL AND SHALL BE VERIFIED AS TO CONFORMANCE WITH FINAL ARCHITECTURAL PLANS AND ZONING ORDINANCES PRIOR TO CONSTRUCTION.

REGULATORY NOTES

- CONTRACTOR SHALL CONTACT DIG-SAFE FOR UNDERGROUND UTILITY MARKING AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.
- CONTRACTOR SHALL MAKE HIMSELF AWARE OF ALL CONSTRUCTION REQUIREMENTS, CONDITIONS, AND LIMITATIONS IMPOSED BY PERMITS AND APPROVALS ISSUED BY REGULATORY AUTHORITIES PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL COORDINATE AND OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY REGULATORY AUTHORITIES.
- ALL WORK OUTSIDE OF BUILDING THAT IS LESS THAN 10 FEET FROM THE INSIDE FACE OF BUILDING FOUNDATIONS SHALL CONFORM WITH THE UNIFORM STATE PLUMBING CODE OF MASSACHUSETTS, 248 CMR 2.00.
- IF DEWATERING IS REQUIRED THE CONTRACTOR SHALL PROVIDE A PLAN OF THE PROPOSED MEANS AND METHODS TO THE TOWN ENGINEER PRIOR TO THE START OF DEWATERING. ALL DEWATERING ACTIVITIES SHALL OCCUR ON THE UPGRADIENT SIDE OF THE EROSION CONTROL BARRIER.
- ALL STREET SIGNS AND MARKINGS TO BE PLACED WITHIN THE RIGHT OF WAY ARE REQUIRED TO MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES WITH THE APPROPRIATE MASSDOT AMENDMENTS.

LEGEND:

	EDGE OF PAVEMENT		DRILL HOLE
	CHAIN LINK FENCE WITH SIZE		DRILL HOLE IN STONE BOUND
	CURB WITH TOP AND BOTTOM ELEVATION AND TYPE		ESCUTCHEON PIN IN A LEAD PLUG
	RETAINING WALL WITH TYPE AND TOP AND BOTTOM ELEVATIONS		IRON ROD WITH CAP
	EDGE OF WOODED AREA		MAGNETIC NAIL
	RAILROAD TRACKS		MASS HIGHWAY BOUND
	SEWERLINE WITH PIPE SIZE, MATERIAL, FLOW DIRECTION AND CATCHBASIN		FOUND
	LOW PRESSURE SEWER		CALCULATED
	WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT		RECORD
	GAS MAIN WITH SIZE & GATE VALVE		ABOVE GRADE
	EXISTING UTILITY POLE WITH DESIGNATION, OVERHEAD WIRES & GUY POLE		ACRES
	UNDERGROUND ELECTRIC LINES		FINISH FLOOR ELEVATION
	TELEPHONE MANHOLE & UNDERGROUND TELEPHONE/COMMUNICATIONS LINES		SQUARE FEET
	100-FOOT WETLAND BUFFER ZONE		SUBURBAN MIXED-USE DISTRICT
	25' RIVER FRONT BUFFER		AIR CONDITIONING
	ISOLATED VEGETATED WETLAND WITH FLAG NUMBER AND ELEVATION		ASBESTOS CLAY PIPE
	SURFACE CONTOUR		BITUMINOUS CONCRETE
	LIMIT OF ISOLATED LAND SUBJECT TO FLOODING (LSF)		CAST IRON PIPE
	AREA OF ACTIVITY AND USE LIMITATION (AUL)		CONCRETE
	ZONING DISTRICT LINE WITH DESIGNATION		CORRUGATED METAL PIPE
	PROMINENT DECIDUOUS TREE		FOUNDATION
	BUSH		INVERT ELEVATION
	WETLAND		LANDSCAPED AREA
	SPOT ELEVATION		REINFORCED CONCRETE PIPE
	BOLLARD		RETAINING
	MANHOLE (UNKNOWN UTILITY)		VERTICAL GRANITE CURB
	MONITORING WELL		VINYL SIDING
	SIGN		VITRIFIED CLAY
			TYPICAL
			PROPOSED
			CAPE COD BERM
			INTEGRATED CONCRETE CURB
			SOLID WHITE LINE PAINT MARK

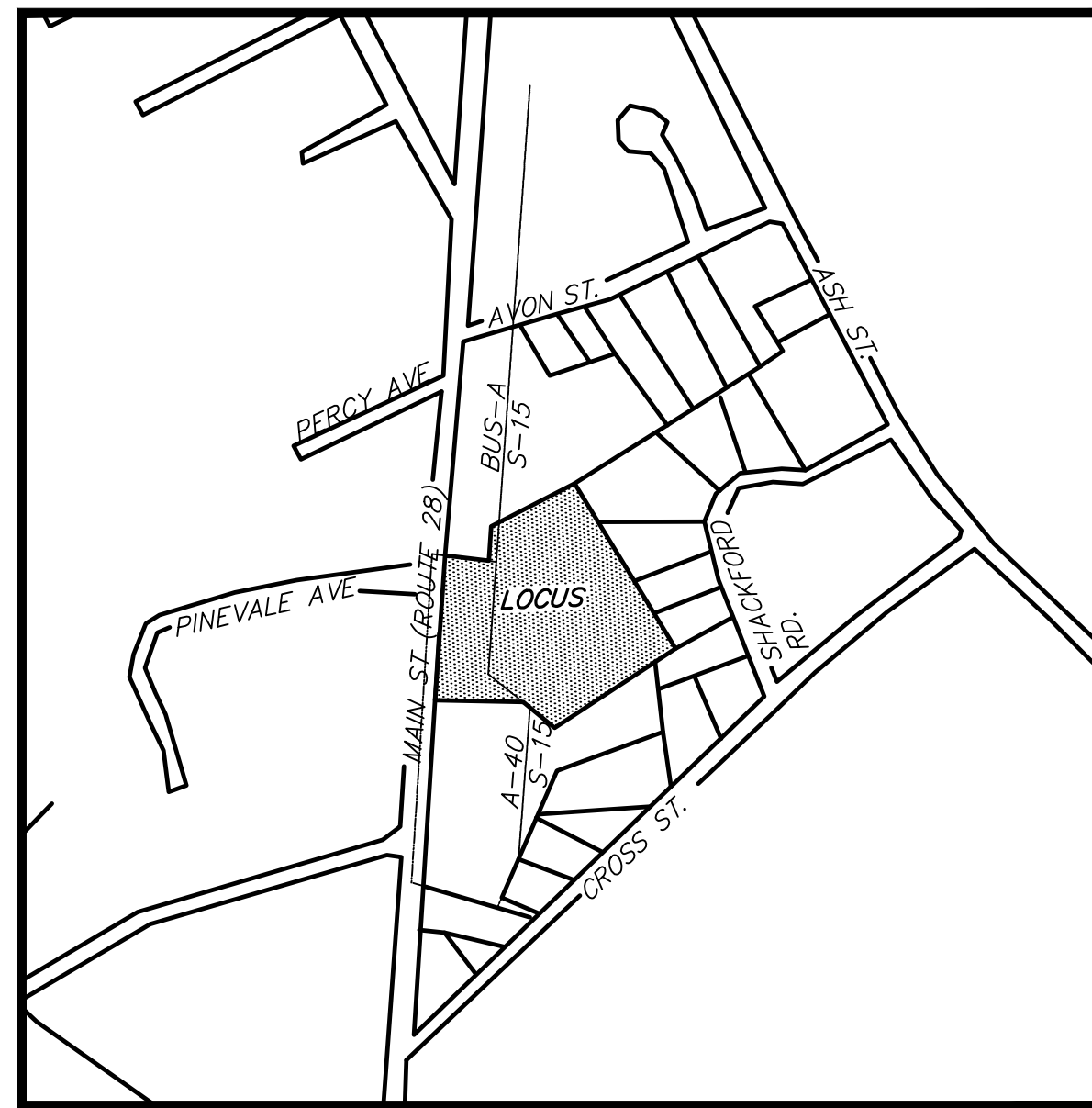
NOTICE OF INTENT

259 & 267 MAIN STREET

READING, MA 02180

FOR

STONEGATE CONSTRUCTION CORP.



LOCUS MAP
SCALE 1" = 400'

ASSESSORS:

MAP 12, LOTS 39 & 40

APPLICANT/OWNER

259-267 MAIN STREET LLC

REFERENCES:

DEED BOOK 47926, PAGE 241
PLAN BOOK 193, PLAN 21

CIVIL ENGINEER

HANCOCK ASSOCIATES
315 ELM STREET
MARLBOROUGH, MA 01752

RECORD OWNER:

259-267 MAIN STREET LLC

ZONING:

SINGLE FAMILY 15 (S-15)
APARTMENT 40 (A-40)

SHEET INDEX

SHEET 1	TITLE SHEET
SHEET 2	EXISTING CONDITIONS PLAN
SHEET 3	LAYOUT PLAN
SHEET 4	GRADING, DRAINAGE and UTILITY PLAN
SHEET 5	WETLAND RESTORATION and REPLICATION PLAN
SHEET 6	WETLAND RESTORATION and REPLICATION NOTES
SHEET 7	LANDSCAPING PLAN
SHEET 8	DETAIL (1 OF 4)
SHEET 9	DETAIL (2 OF 4)
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SHEET 13	PHOTOMETRIC PLAN BY PEMCO
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**PERMIT
SITE
PLAN**

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP 12 PARCEL 39 & 40

PREPARED FOR:

**Stonegate
Construction
Corp.**

33 Bedford Street
Reading, Massachusetts 02180

**HANCOCK
ASSOCIATES**

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
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1.	RLG	JP	12/30/19	REVISED PER RCC COMMENTS
1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
DATE:			10/8/19	DESIGN BY: RLG
SCALE:				DRAWN BY: RLG
APPRVD. BY:				CHECK BY: JP

**TITLE
SHEET**

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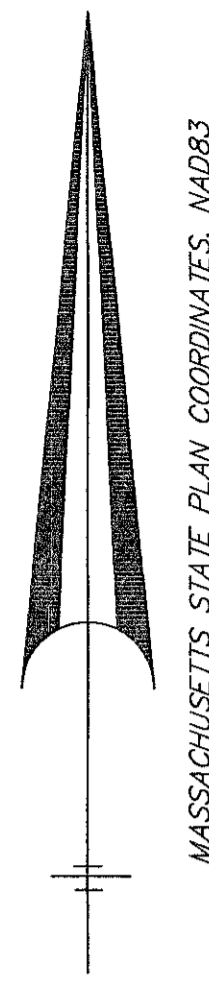
DWG: 21839SP4.dwg

LAYOUT: 75

SHEET: 1 OF 14

PROJECT NO.: **21839**

C1



ASSESSORS:

MAP 12, LOTS 39 & 40

REFERENCES:

DEED BOOK 72882, PAGE 488
DEED BOOK 72882, PAGE 496
PLAN BOOK 193, PLAN 21

RECORD OWNER:

259-267 MAIN STREET LLC

ZONING:

SINGLE FAMILY 15 (S-15)
APARTMENT 40 (A-40)
BUSINESS A (BUS A)

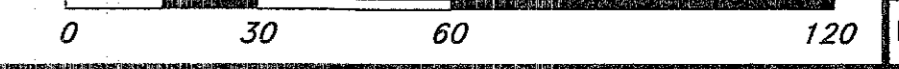
NOTES:

- ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED BY GPS OBSERVATIONS ON APRIL 1, 2019.
- UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE TOWN ENGINEERING OFFICES, TOWN D.P.W., MASS HIGHWAY DEPT. AND UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
- LIMITS OF BORDERING VEGETATED WETLANDS SHOWN HEREON WERE DELINEATED BY HANCOCK ASSOCIATES ON APRIL 3, 2019 AND WERE LOCATED BY FIELD SURVEY.

LEGEND

- - - 102 - - - SURFACE CONTOUR
- ⊖ - - - STONE WALL
- ⊖ - - - EDGE OF PAVEMENT
- ⊖ - - - CHAIN LINK FENCE
- ⊖ - - - PLASTIC FENCE
- ⊖ - - - CURB WITH TOP AND BOTTOM CURB ELEVATION
- ⊖ - - - EDGE OF WOODED AREA
- ⊖ - - - SEWERLINE & MANHOLE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION
- ⊖ - - - DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE & ROUND CATCHBASIN
- ⊖ - - - WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT
- ⊖ - - - GAS MAIN WITH SIZE & GATE VALVE
- ⊖ - - - EXISTING UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE
- ⊖ - - - ELECTRIC MANHOLE & UNDERGROUND ELECTRIC LINES
- ⊖ - - - TELEPHONE MANHOLE & UNDERGROUND TELEPHONE LINES
- ⊖ - - - HEDGE LINE
- ⊖ - - - LIMIT OF BORDERING VEGETATED WETLAND WITH FLAG NUMBER AND ELEVATION
- ⊖ - - - LIMIT OF 100-FOOT WETLAND BUFFER ZONE
- ⊖ - - - LIMIT OF 35-FOOT NO DISTURB ZONE
- ⊖ - - - LIMIT OF 100-FOOT INNER RIPARIAN ZONE
- ⊖ - - - LIMIT OF 200-FOOT RIVERFRONT AREA
- ⊖ - - - EDGE OF GRAVEL ROAD
- ⊖ - - - RETAINING WALL WITH TOP AND BOTTOM ELEVATIONS
- × 100.7 - - - SPOT ELEVATION
- ⊖ 93.7 12" M - - - PROMINENT DECIDUOUS TREE WITH ELEVATION, SIZE AND SPECIES
- RCP - - - REINFORCED CONCRETE PIPE
- CI - - - CAST IRON
- VC - - - VITRIFIED CLAY
- CLDI - - - CEMENT LINED DUCTILE PIPE
- SMH ⊖ - - - SEWER MANHOLE
- DMH ⊖ - - - DRAIN MANHOLE
- CB ⊖ - - - CATCH BASIN
- ⊖ EM - - - ELECTRIC METER
- ⊖ - - - SIGN
- ⊖ - - - MANHOLE (UNKNOWN UTILITY)
- (FD) - - - FOUND
- DH ⊖ - - - DRILL HOLE
- I.P.I.P.E. ⊖ - - - IRON PIPE
- I.ROD ⊖ - - - IRON ROD
- VGC - - - VERTICAL GRANITE CURB
- SBCB - - - STONE BOUND CENTER BACK
- BB - - - BITUMINOUS BERM
- BIT. CONC. - - - BITUMINOUS CONCRETE
- CLF - - - CHAIN LINK FENCE
- ▲ - - - ELEVATION BENCHMARK

SCALE: 1" = 30'



259 & 267 MAIN STREET

Reading, Massachusetts 01867

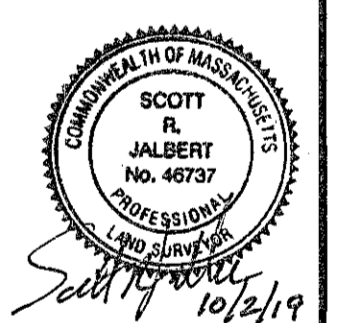
FINNEGAN COMMERCIAL DEVELOPMENT

875 Greenland Road, Massachusetts 03801

HANCOCK ASSOCIATES

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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	RDF	SRJ	10/1/19	ADDITIONAL TOPO
2	RDF	SRJ	8/13/19	WETLAND/BUFFERS
1	RDF	SRJ	8/6/19	PARKING AREAS, RECORD OWNERS

DATE: 6/26/2019 DRAWN BY: RDF
SCALE: AS SHOWN CHECK BY: SRJ

EXISTING CONDITIONS PLAN OF LAND IN READING, MA

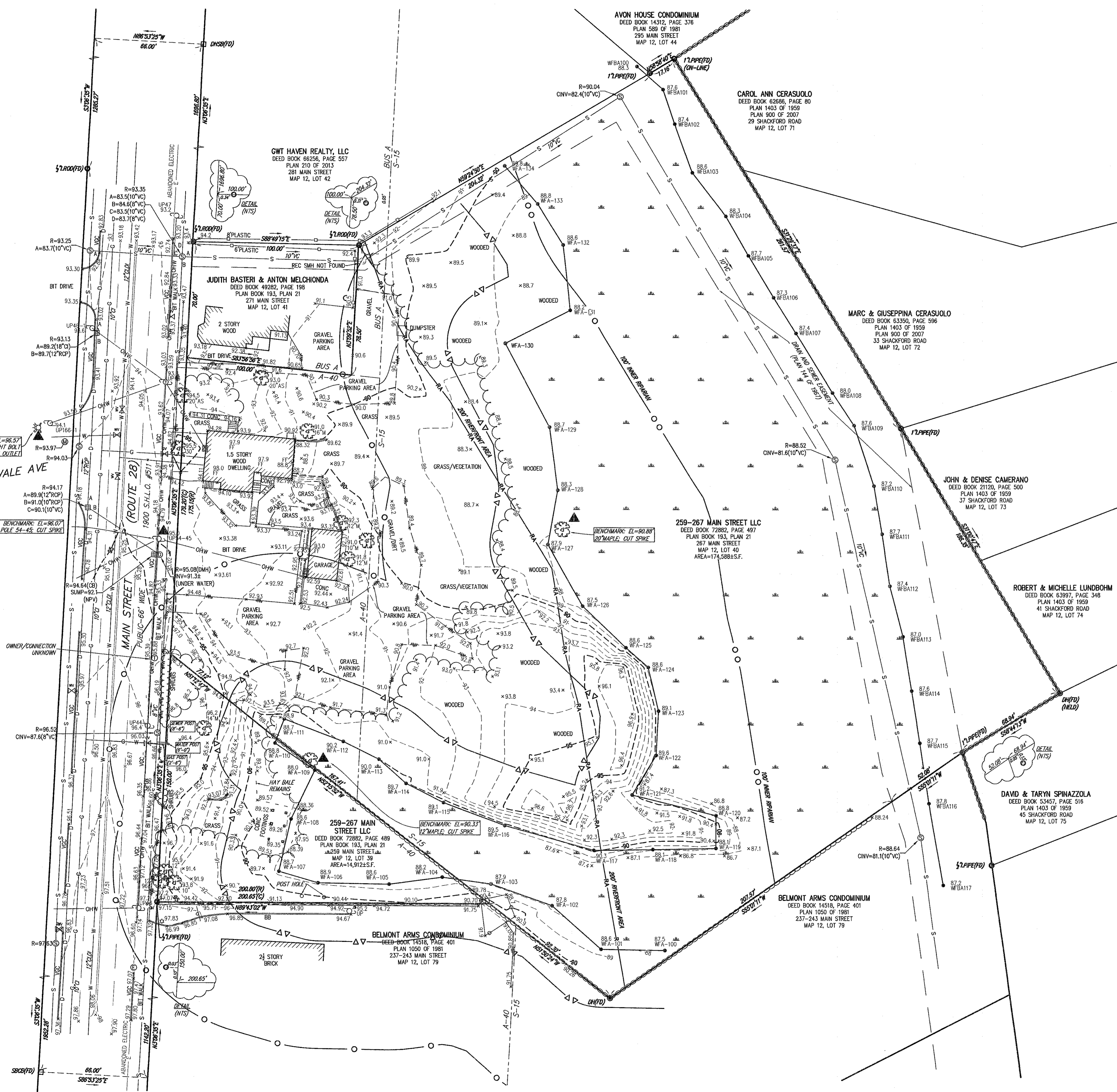
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PWS: I:\D\30 Projects\2019 Finnegan-Reading\DWG\

DWG: 21839ec.dwg

LAYOUT: EC

SHEET: 1 OF 1

PROJECT NO.: 21839



ZONING TABLE

ZONES	REQUIRED	PROPOSED
A-40 APARTMENT 40 DISTRICT (RESIDENCE)		
S-15 SINGLE FAMILY 15 DISTRICT (RESIDENCE)*		
USE		
MULTIFAMILY DWELLING (APARTMENT BUILDING)		
REQUIREMENT	REQUIRED	PROPOSED
LOT AREA	40,000 SQ.FT.	189,526 SQ.FT.±
FRONTAGE	80'	329'
FRONT YARD	30'	32±
SIDE YARD	30'	65± AT N YARD 31± AT S YARD
REAR YARD	30'	289±
MAX. HEIGHT	40 FEET	40'***
MAX STORIES	4	4***
MAX LOT COVERAGE	25%	7.7%

PARKING REQUIRED:
1.5 SPACES x 24 UNITS** = 36 PARKING SPACES

PROVIDED:
SURFACE = 13 PARKING SPACES
GARAGE = 35 PARKING SPACES
TOTAL = 48 PARKING SPACES

REQUIRED AISLE WIDTH = 26 FEET
PROVIDED AISLE WIDTH = 26 FEET
REQUIRED SURFACE PARKING SPACE SIZE = 9'X18'
PROVIDED SURFACE PARKING SPACE SIZE = 9'X18'
REQUIRED GARAGE PARKING SPACE SIZE = 8.5'X17'
PROVIDED GARAGE PARKING SPACE SIZE = 8.5'X17'

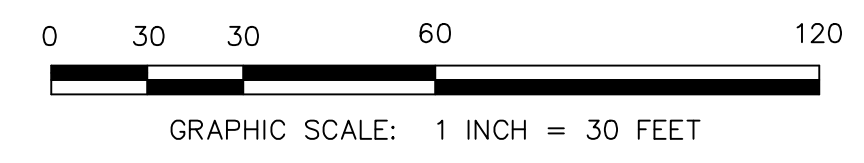
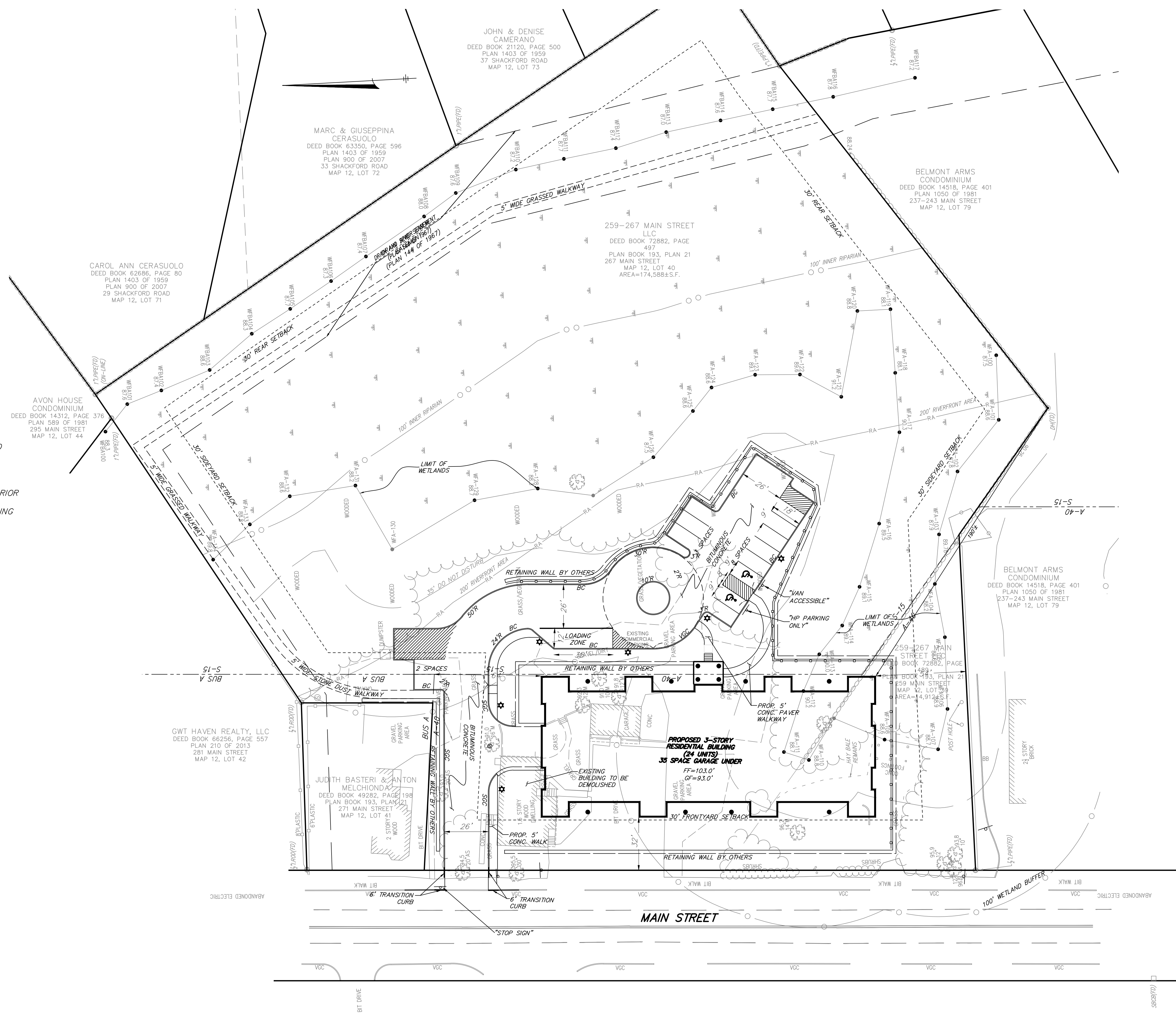
LOADING REQUIRED:
(1 SPACE / 20 UNITS) x 24 UNITS** = 1 LOADING SPACE

PROVIDED:
SURFACE = 1 LOADING SPACES

REQUIRED SURFACE LOADING SPACE SIZE = 12'X35'
PROVIDED SURFACE LOADING SPACE SIZE = 12'X35'

* ZONING RELIEF GRANTED BY READING ZONING BOARD OF APPEALS TO ALLOW 12 PARKING SPACES WITHIN THE S-15 DISTRICT
** PROVIDED BY ARCHITECT

- NOTES:**
- THE TWO LOTS WILL BE COMBINED VIA A LOT CONSOLIDATION PLAN PRIOR TO APPLICATION FOR A BUILDING PERMIT
 - BUILDING HEIGHT CALCULATED USING AVERAGE GRADE AROUND BUILDING (100.8±) TO BUILDING HEIGHT (139.25).



PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

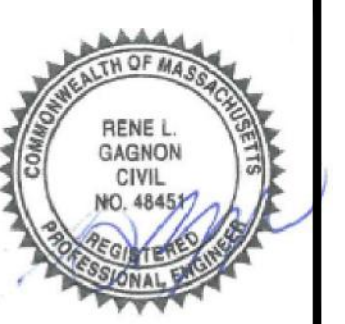
MAP	PARCEL
12	39 & 40

PREPARED FOR:
Stonegate Construction Corp.
33 Bedford Street
Reading, Massachusetts 02180

HANCOCK ASSOCIATES

- Civil Engineers
- Land Surveyors
- Wetland Scientists

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1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW

DATE: 10/8/19 DESIGN BY: RLG
SCALE: DRAWN BY: RLG
APPRVD. BY: CHECK BY: JP

LAYOUT AND MATERIALS PLAN

PLOT DATE: Dec 30, 2019 4:00 pm
PATH: F:\MSA\GIS 3D Projects\21839-Finnegan-Reading\DWG\

DWG: 21839SP4.dwg

LAYOUT: LM
SHEET: 3 OF 14

PROJECT NO.: 21839



PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP	PARCEL
12	39 & 40

PREPARED FOR:

**Stonegate
Construction
Corp.**

33 Bedford Street
Reading, Massachusetts 02180

HANCOCK ASSOCIATES

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1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW

DATE: 10/8/19 DESIGN BY: RLG
SCALE: DRAWN BY: RLG
APPRVD. BY: CHECK BY: JP

WETLAND RESTORATION AND REPLICATION PLAN

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DWG: 218.39SP4.dwg

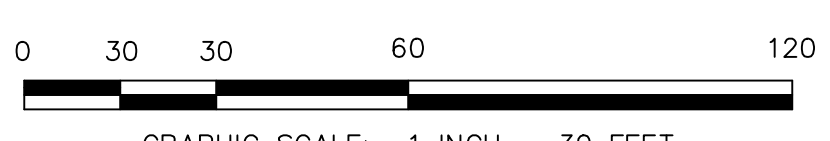
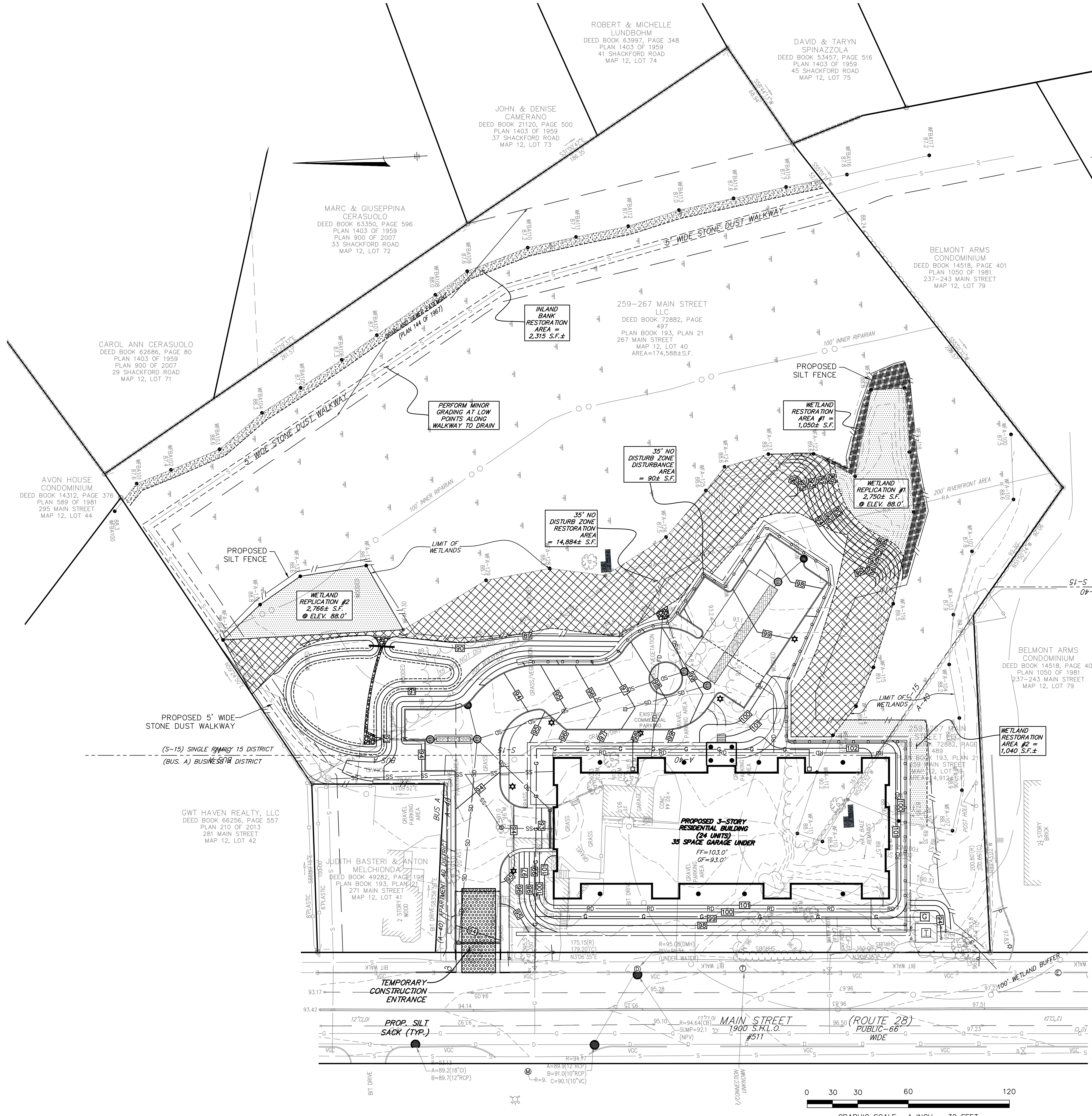
LAYOUT: WL

SHEET: 5 OF 14

PROJECT NO.:

C5

21839



PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP 12 PARCEL 39 & 40

PREPARED FOR:

Stonegate
Construction
Corp.

33 Bedford Street
Reading, Massachusetts 02180

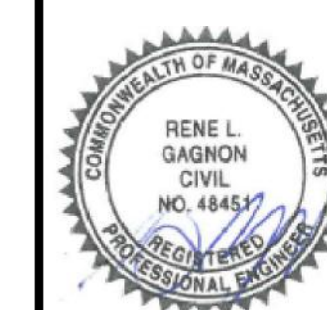
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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
DATE:	10/8/19	DESIGN BY:	RLG	
SCALE:		DRAWN BY:	RLG	
APPRVD. BY:		CHECK BY:	JP	

LANDSCAPE PLAN

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PATH: F:\VISA\GIS\30 Projects\21839 Finnegan-Reading\DWG\

DWG: 21839SP4.dwg

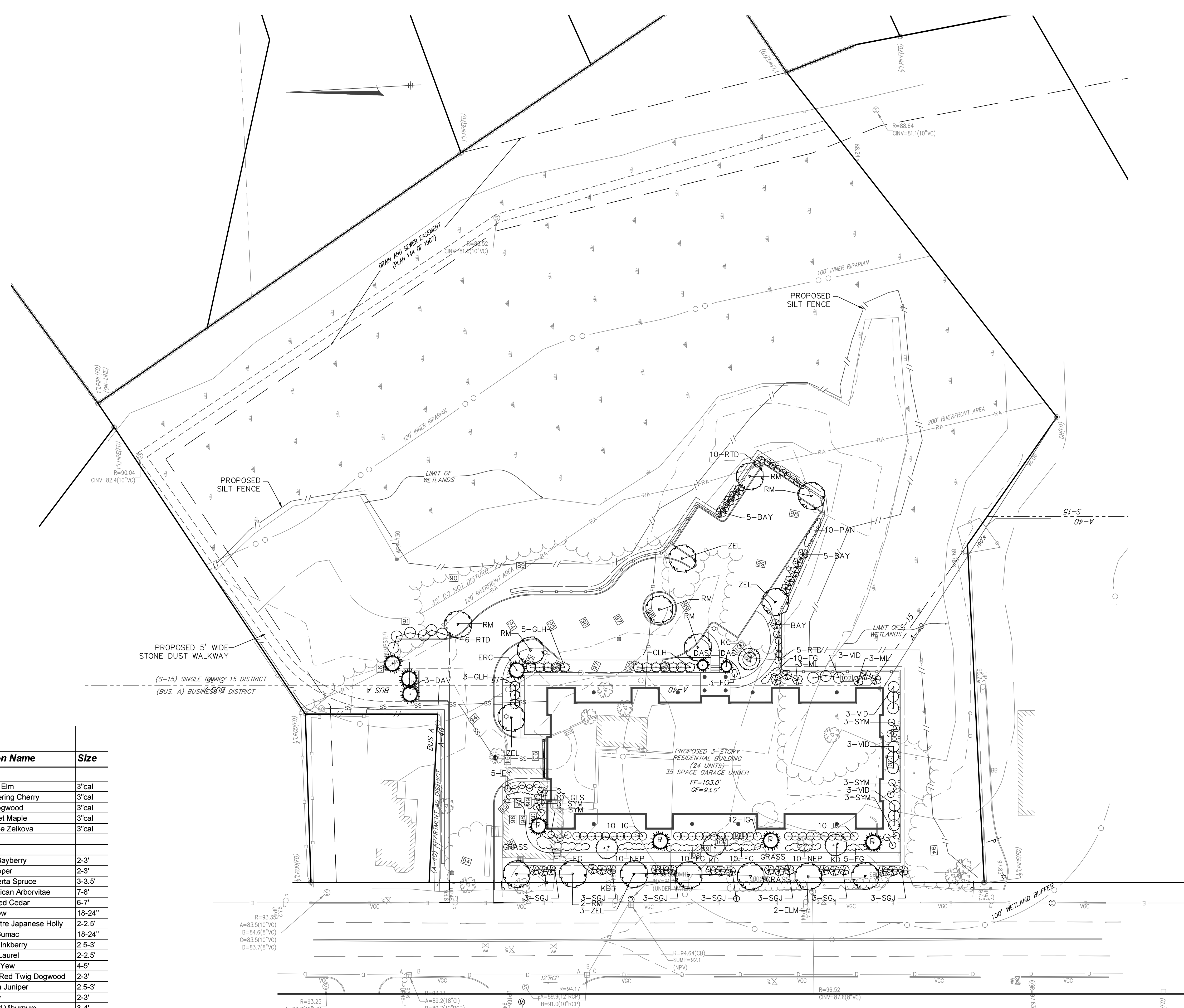
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SHEET: 7 OF 14

PROJECT NO.:

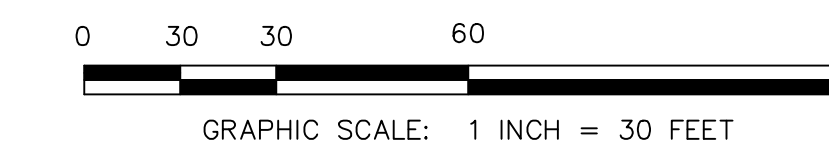
C7

21839



Plant Schedule

Qty	Key	Botanical Name	Common Name	Size
TREES:				
4	ELM	Ulmus americana 'Princeton'	Princeton Elm	3"cal
1	KC	Prunus serrulata 'Kwanzan'	Pink Flowering Cherry	3"cal
3	KD	Cornus kousa	Korean Dogwood	3"cal
8	RM	Acer rubrum 'Red Sunset'	Red Sunset Maple	3"cal
6	ZEL	Zelkova serrata 'Green Vase'	Green Vase Zelkova	3"cal
SHRUBS:				
11	BAY	Myrica pensylvanicum	Northern Bayberry	2-3'
1	CL	Clethra alnifolia	Sweet Pepper	2-3'
2	DAS	Picea abies glauca 'Conica'	Dwarf Alberta Spruce	3-3.5'
3	DAV	Thuja occidentalis 'Nigra'	Dark American Arborvitae	7-8'
1	ERC	Juniperus virginiana	Eastern Red Cedar	6-7'
5	EY	Taxus baccata 'Repandens'	English Yew	18-24"
15	GLH	Ilex 'Green Lustre'	Green Lustre Japanese Holly	2-2.5'
10	GLS	Rhus aromatica 'Gro Low'	Gro-Low Sumac	18-24"
32	IG	Ilex glabra 'Shamrock'	Shamrock Inkberry	2.5-3'
6	ML	Kalmia latifolia	Mountain Laurel	2-2.5'
4	P	Taxus cuspidata 'Capitata'	Pyramidal Yew	4-5'
21	RTD	Cornus alba 'Elegantissima'	Varigated Red Twig Dogwood	2-3'
21	SGJ	Juniperus chinensis 'Sea Green'	Sea Green Juniper	2.5-3'
15	SYM	Symphoricarpos albus	Snowberry	2-3'
12	VID	Viburnum dentatum	Arrowwood Viburnum	3-4'
GRASSES/PERENNIALS:				
53	FG	Pennisetum alopecuroides	Fountain Grass	1gal
20	NEP	Nepeta	Catmint	1gal
10	PAN	Panicum virgatum 'Heavy Metal'	Heavy Metal Switchgrass	1gal



PROJECT INFORMATION	
ENGINEER	DATE
PROJECT MANAGER	DATE
ASD SALES REP	SALES NAME
PROJECT NO.	SALES EMAIL



259 MAIN STREET
READING, MA



SC-740 STORMTECH CHAMBER SPECIFICATIONS

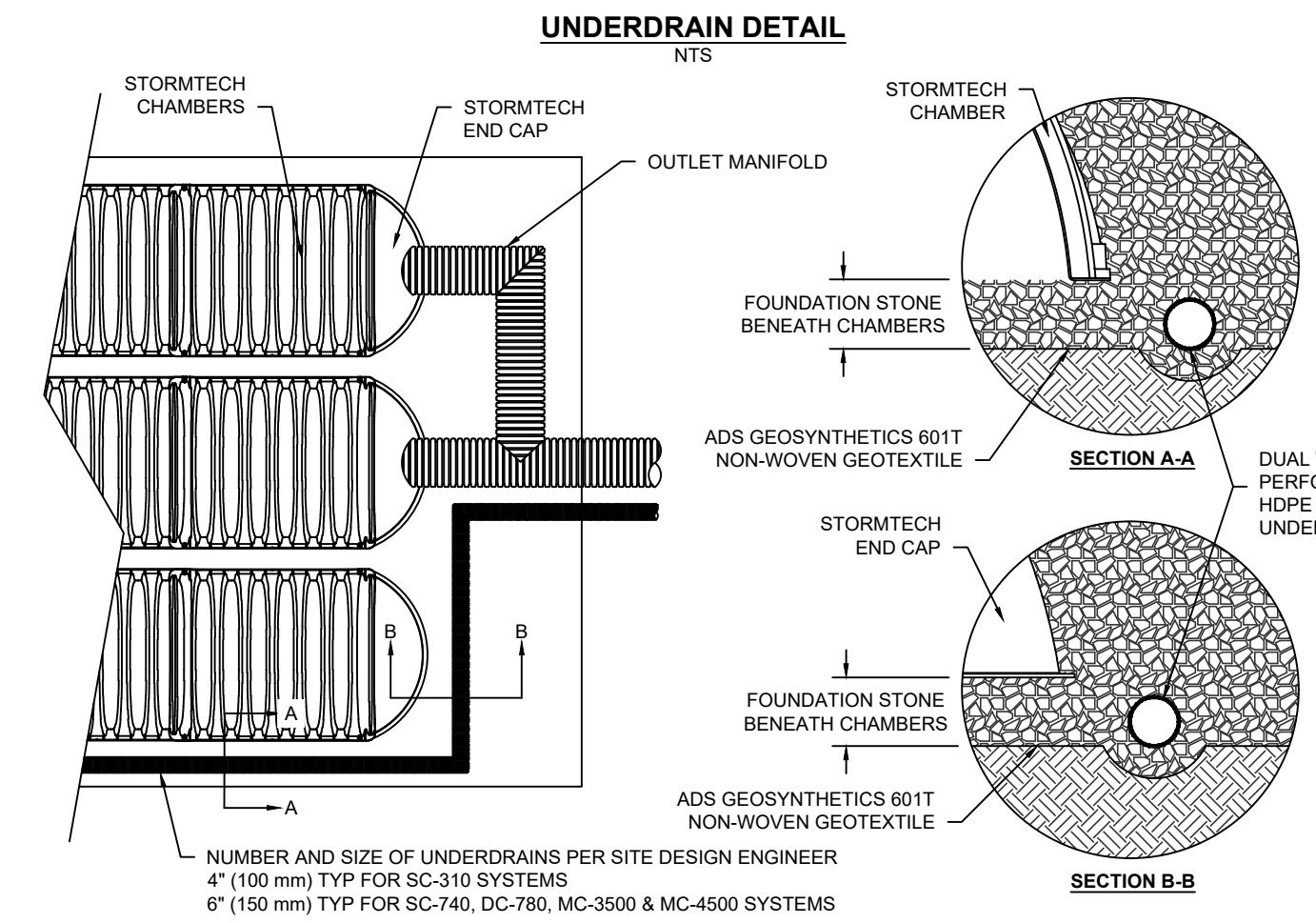
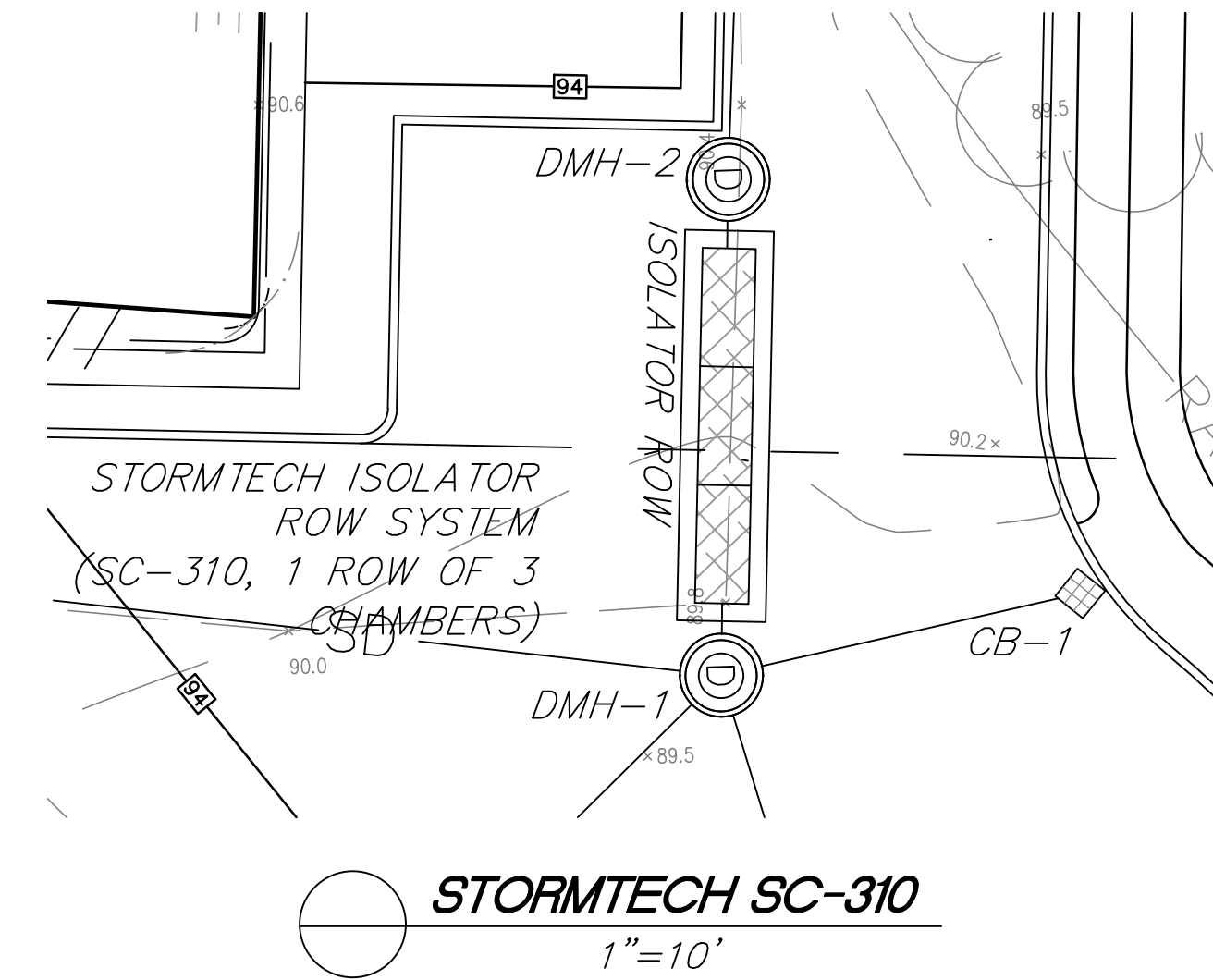
- CHAMBERS SHALL BE STORMTECH SC-740.
- CHAMBERS SHALL BE ARCH SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2419-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROSES SHALL PROVIDE CONTINUOUS UNSTRUCTURED INTERNAL SPACES WITH NO EXTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR 1) LONG-DURATION (DEAD LOAD) AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE TRUCK LOADS.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2922, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (1 MIN) AASHTO DESIGN TRUCK (LIVE LOAD ON MINIMUM COVER); 2) MAXIMUM PERMANENT (24 HOUR) LOAD AND 3) ALL LOWER ALLOWABLE LOADS AS SPECIFIED IN THE AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTERNAL, INTERLOCKING STANCHION LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.8 OF ASTM F2419 SHALL BE GREATER THAN OR EQUAL TO 300 LB-IN/IN, AND TO RESIST CHAMBER DEFORMATION DURING INSTALLATION, THE ELEVATION SURFACES ABOVE 7" (178 mm) CHAMBERS SHALL BE PRODUCED FROM POLYETHYLENE (PE) OR YELLOW POLYPROPYLENE (PP).
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.65 FOR LIVE LOAD AND 1.75 FOR DEAD LOAD. THE MINIMUM REQUIRED SAFETY FACTORS ARE 1.65 AND 1.75 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DEVICE SPECIFICATIONS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

- STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLER.
 - STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS BACKFILL METHODS:
 - STORMSCOOPER LOCATED OFF THE CHAMBER BED.
 - BACKFILL FROM INSIDE THE EXCAVATION ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LOW-BOTTOM HOE OR EXCAVATOR.
 - THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
 - JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEALED PRIOR TO PLACING STONE.
 - MINIMUM SPACING BETWEEN CHAMBER ROSES:
 - MINIMUM SPACING BETWEEN CHAMBER ROSES: 4" (102 mm).
 - EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE CLEAN, CRUSHED, ANGULAR STONE 3/4" (20.0 mm).
 - THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
 - ADD RECOMMEND THE USE OF FLEXICATCH™ IT™ INSERTS DURING CONSTRUCTION FOR ALL ALLEYS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- NOTES FOR CONSTRUCTION EQUIPMENT**
- STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRES, CRAWL TRACKS, OR EXCAVATORS ARE ALLOWED UNLESS PROPER FLAT DEPTHS ARE REACHED IN ACCORDANCE WITH THE STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE.
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE.
 - FULL 3P (200 mm) OF STABILIZED COVER MATERIAL OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL, OR DURING USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DOZER AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
 - CONTACT STORMTECH AT 1-800-892-2996 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

STORMTECH SC-310 SPECIFICATIONS

NTS



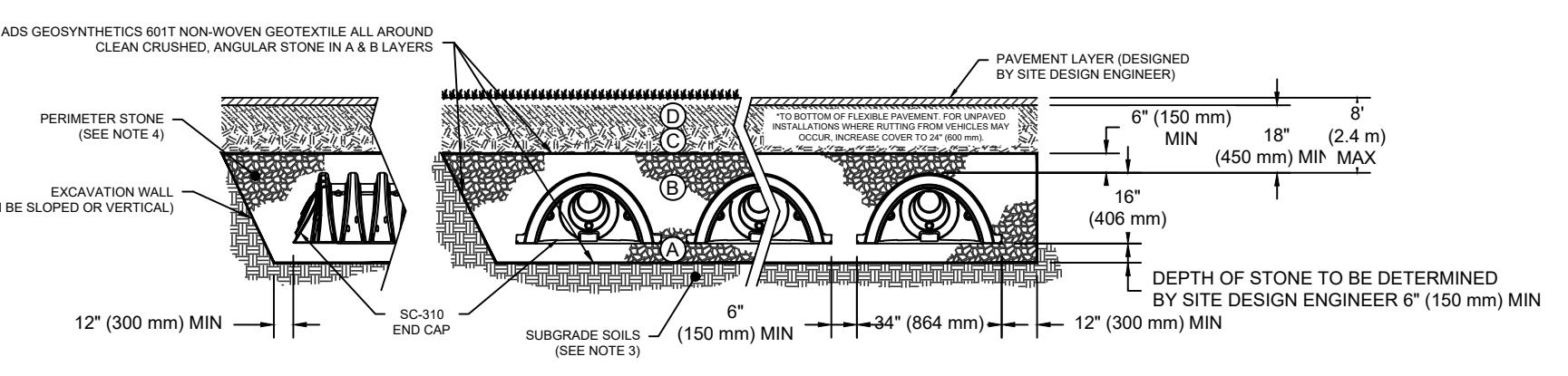
STORMTECH UNDERDRAIN

NTS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR IMPAVED GRADE ABOVE. NOTE THAT PAVEMENT SUBGRADE 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 BY LAYERS TO 18" (457 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBGRADE MAY BE A PART OF THE 'C' LAYER.	AASHTO M457 A-1, A-2, A-3 OR AASHTO M47 3, 3S7, 4, 4S7, 5, 5E, 5F, 6, 6E, 6F, 7, 7E, 8, 8E, 9, 10	BEGIN COMPACTIONS AFTER 12" (305 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. CONTACT ADDITIONAL LAYERS IN 6" (152 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 20,000 LB (9,072 kg). DYNAMIC FORCE NOT TO EXCEED 20,000 LB (9,072 kg).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M47 3, 3S7, 4, 4S7, 5, 5E, 5F	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M47 3, 3S7, 4, 4S7, 5, 5E, 5F	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ¹⁾

PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRANULATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "0.25, CRUSHED, ANGULAR NO. 4 (AASHTO M47) STONE".
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR A LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (152 mm) MAX LIFTS USING TWO FULL COVERSAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE THE INSTALLATION SURFACES MAY BE COMPROMISED BY COMPACTION FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAMPING OR DRAGGING WITHOUT COMPACTOR EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 4. ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBGRADE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2419-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2922 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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 WALLS FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STANCHION LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LB-IN/IN, AND TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 22° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW POLYPROPYLENE.

STORMTECH SC-310 FILL MATERIALS

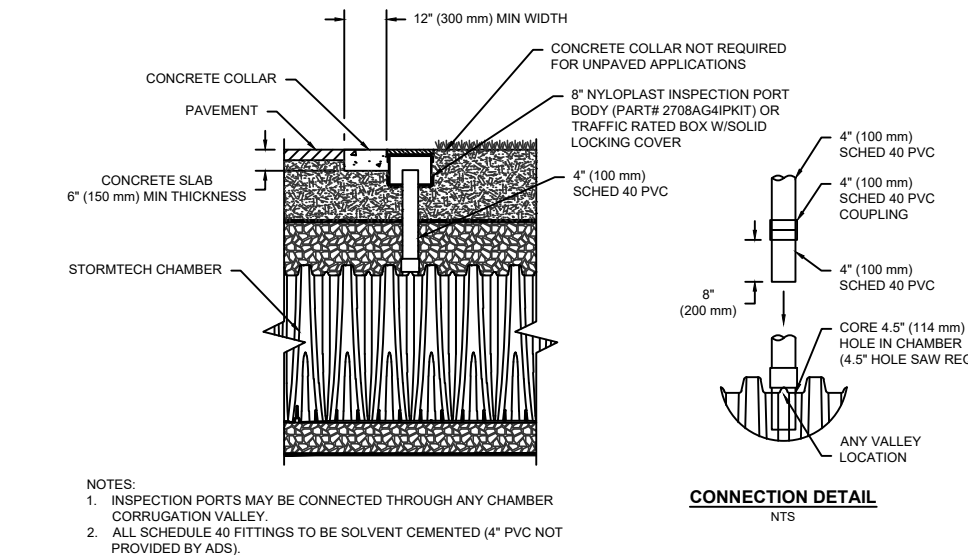
NTS

INSPECTION & MAINTENANCE

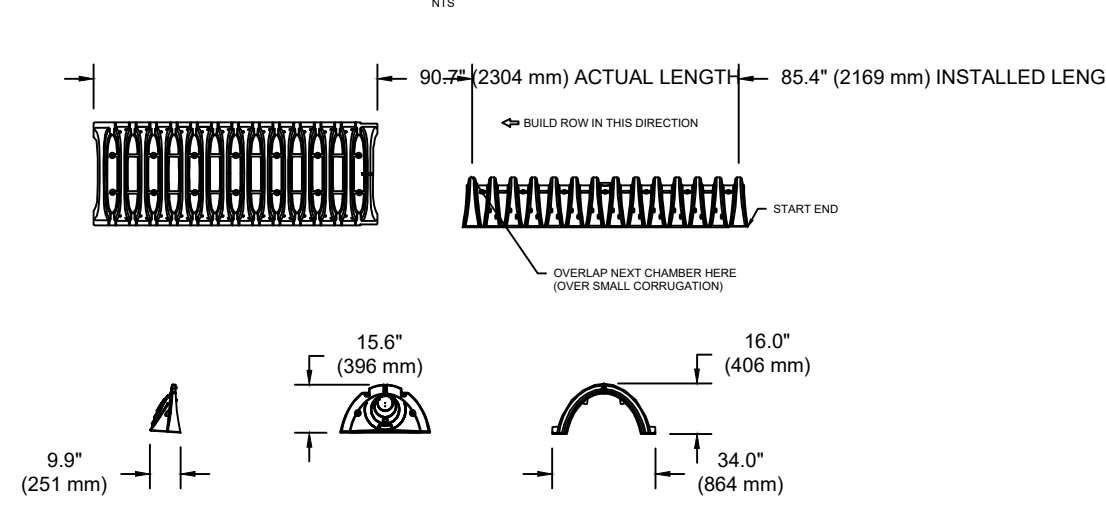
- STEP 1: INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECT PORTS (IF PRESENT).
 - REMOVE SEDIMENT BY HAND OR WITH A FLEXIBLE ROD.
 - USING A LASER LIGHT AND STADIUM, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL).
- IF SEDIMENT IS AT OR ABOVE 2" (51 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- IF SEDIMENT IS AT OR ABOVE 7" (178 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2: CLEAN OUT ISOLATOR ROW USING THE AT-100 PROCESS
- A FIBER OPTIC CLEANING MODULE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED.
 - APPLY BALL-TIRE FRUSES OF 3" (76 mm) DIAMETER TO REMOVE FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED.
 - VACUUM STRUCTURE SURFACE AS REQUIRED.
- STEP 3: REPLACE ALL COVERS, GRATES, FILTERS, AND LOGS. RECORD OBSERVATIONS AND ACTIONS.
- STEP 4: INSPECT AND CLEAN DURING AND MAINTENANCE UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER LEVELS.
- CONDUCT JETTING AND VICTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SC-310 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS	WEIGHT	HEIGHT
34" (864 mm) x 12" (305 mm) CHAMBER (STANDARD)	14.2 LB (6.4 kg)	32.00 FEET (9.75 m)
MINIMUM METALLIC STRAPAGE	35.5 lbs (16.1 kg)	

WEIGHTS 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS

PART #	STUB	A	B	C
SC-310-001	12" (305 mm)	12" (305 mm)	12" (305 mm)	12" (305 mm)
SC-310-002	12" (305 mm)	12" (305 mm)	12" (305 mm)	12" (305 mm)
SC-310-003	12" (305 mm)	12" (305 mm)	12" (305 mm)	12" (305 mm)
SC-310-004	12" (305 mm)	12" (305 mm)	12" (305 mm)	12" (305 mm)
SC-310-005	12" (305 mm)	12" (305 mm)	12" (305 mm)	12" (305 mm)

PRE-ASSEMBLED BOTTOM OF THE END CAP FOR PART NUMBERS ENDING WITH "B"
 PRE-ASSEMBLED BOTTOM OF THE END CAP FOR PART NUMBERS ENDING WITH "C"
 PRE-ASSEMBLED BOTTOM OF THE END CAP FOR PART NUMBERS ENDING WITH "D"

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
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SC-310 TECHNICAL SPECIFICATIONS

NTS

STORMTECH SC-310 ISOLATOR ROW

NTS

PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP 12 PARCEL 39 & 40

PREPARED FOR:

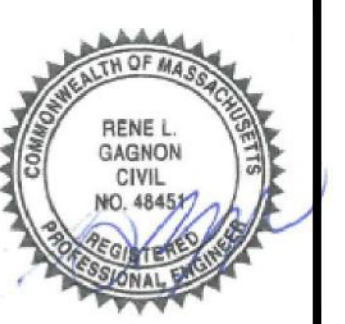
Stonegate Construction Corp.

33 Bedford Street
Reading, Massachusetts 02180

HANCOCK ASSOCIATES

Civil Engineers
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185 CENTRE STREET, DANVERS, MA 01923
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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1.	RLG	JP	12/30/19	REVISED PER RCC COMMENTS
1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW

DATE: 10/8/19 DESIGN BY: RLG
 SCALE: DRAWN BY: RLG
 APPROV. BY: CHECK BY: JP

DETAILS

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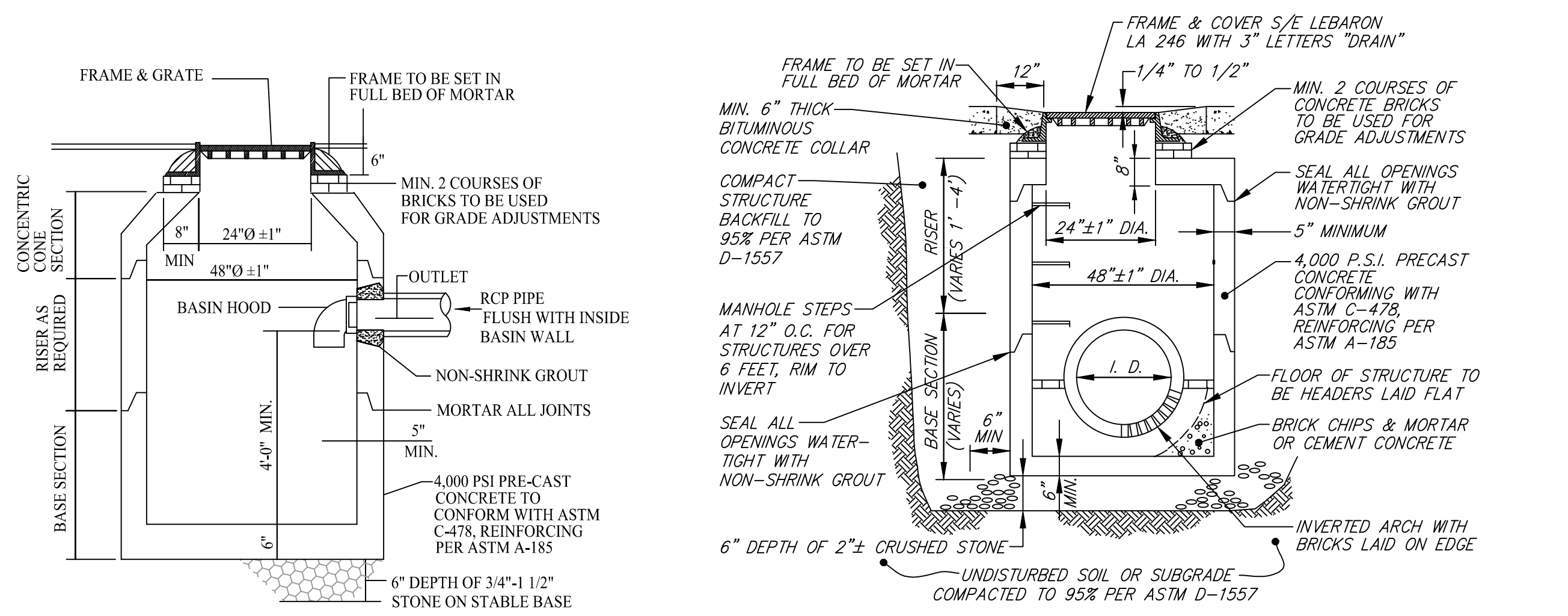
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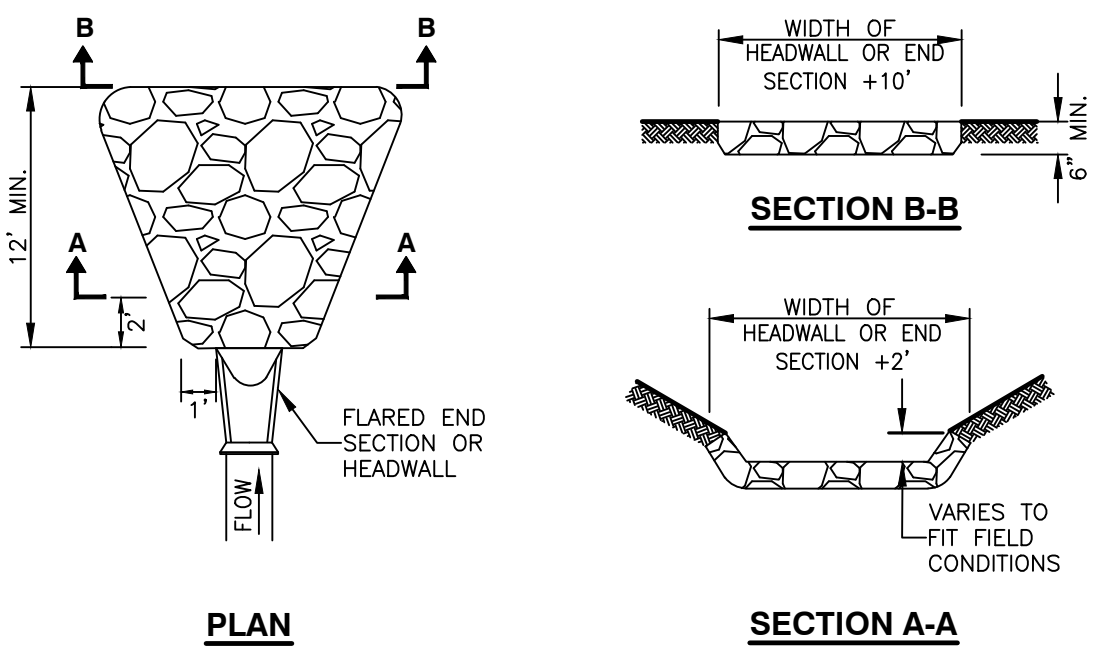
SHEET: 9 OF 14

PROJECT NO.: 21839

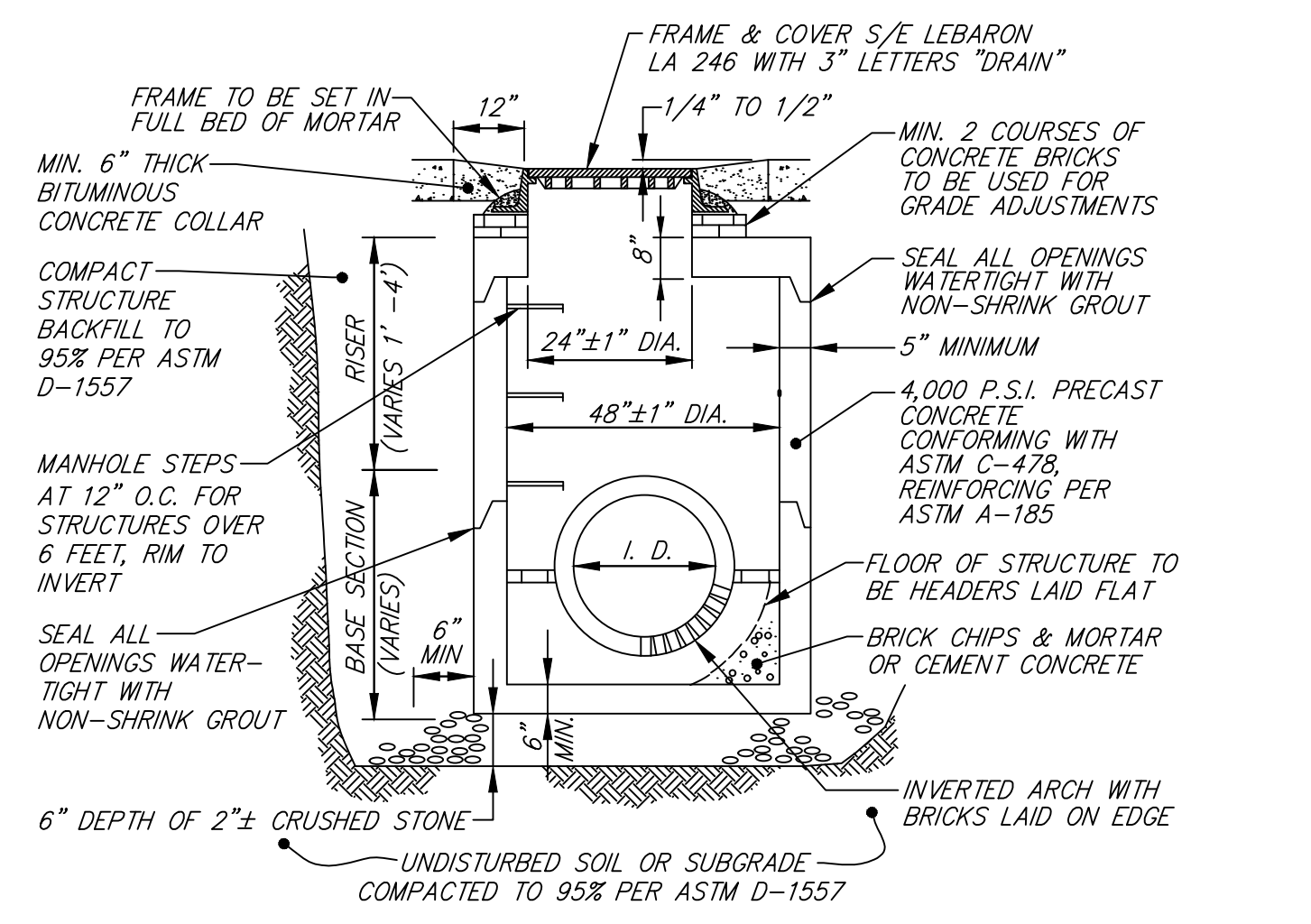




CATCH BASIN WITH HOOD
TYPICAL CROSS SECTION - NOT TO SCALE



FLARED END SECTION AND RIP-RAP
(NOT TO SCALE)



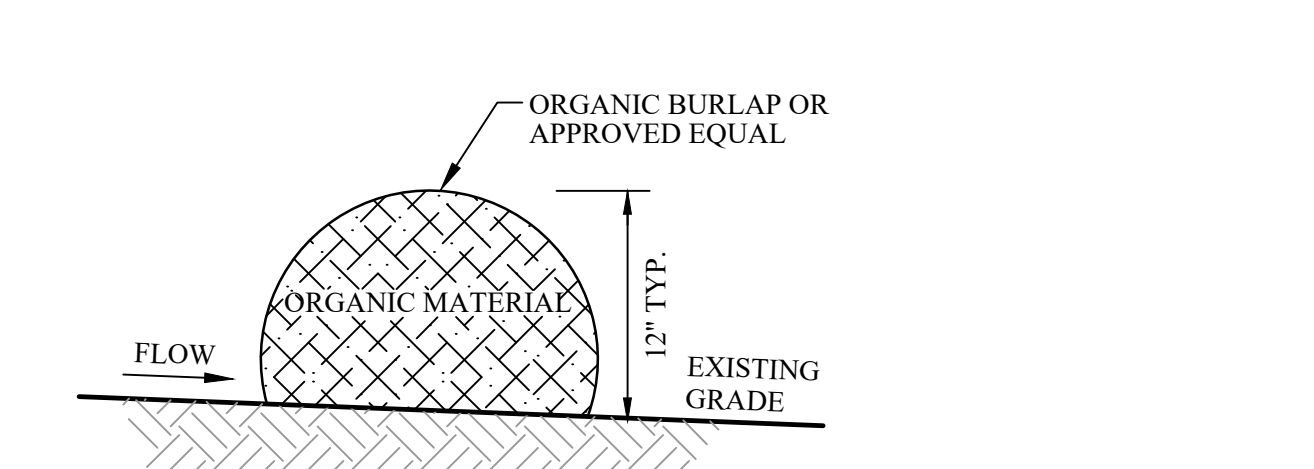
NOTE: CONICAL TOP MAY ALSO BE USED

DRAIN MANHOLE
TYPICAL CROSS SECTION NOT TO SCALE

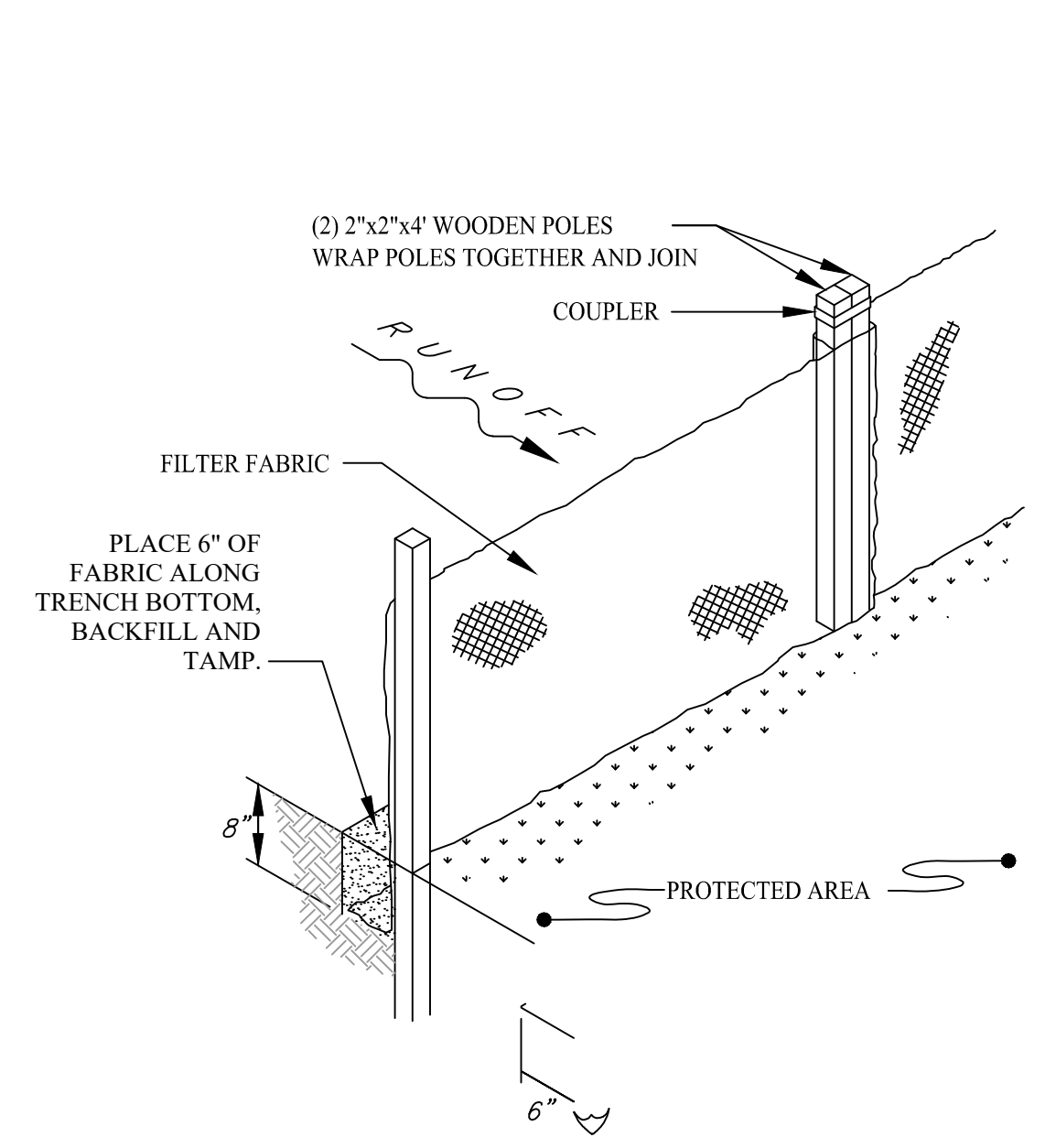
EMBANKMENT MATERIALS

LOCATION	MATERIAL	MAX PARTICLE SIZE (IN)	LOOSE LIFT THICKNESS (IN)	COMPACTION REQUIREMENT (% MOD [1])
KEY	NATIVE PARENT SOIL [2]	6	12 MAX	92 [3]
EMBANKMENT	NATIVE PARENT SOIL [2]	6	12 MAX	92 [3]
LOAM COVER	NATIVE TOPSOIL	1	8 MIN	80
IMPERVIOUS CORE	SOIL WITH AT LEAST 30% CLAY AND SILT CONTENT	6	12 MAX	92 [3]

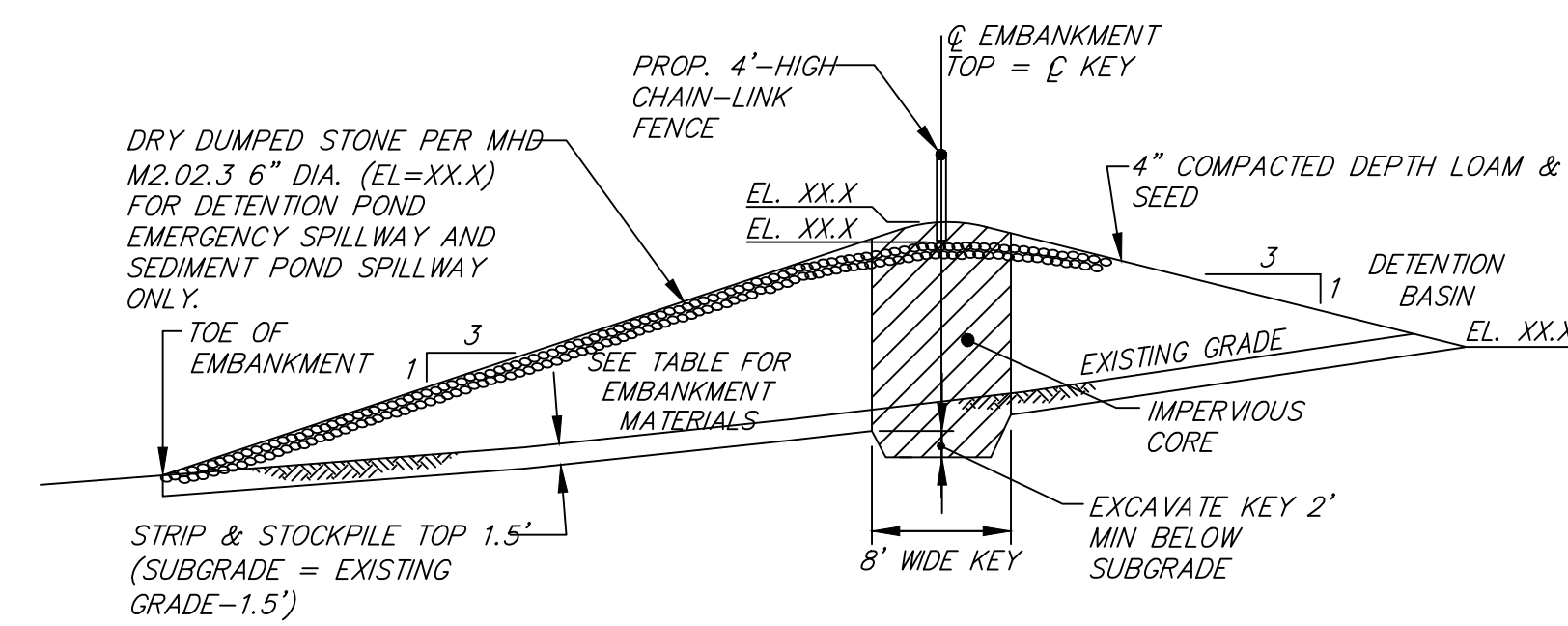
[1] MDD: MAXIMUM DRY DENSITY.
[2] ACCEPTABLE TO ENGINEER.
[3] COMPACT TO TEST AVERAGE OF 92%, NO TEST LESS THAN 90%.



SILT SOCK
CROSS SECTION - NOT TO SCALE
NOTES: ORGANIC MATTER CONTENT SHALL BE BETWEEN 200-100% AS DETERMINED BY ASTM D2974. MOISTURE CONTENT SHALL BE <150% BY DRY WEIGHT AS MEASURED BY ASTM D2216 & D2974. MAXIMUM PARTICLE SIZE 150mm. SOLUBLE SALTS <5mmhos/cm. pH SHALL BE BETWEEN 5.5 AND 8.0.



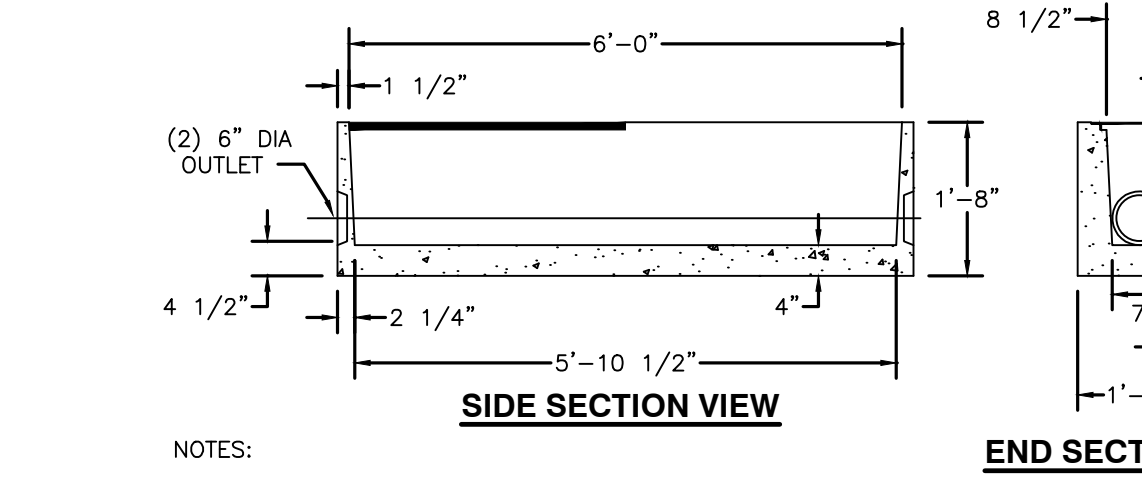
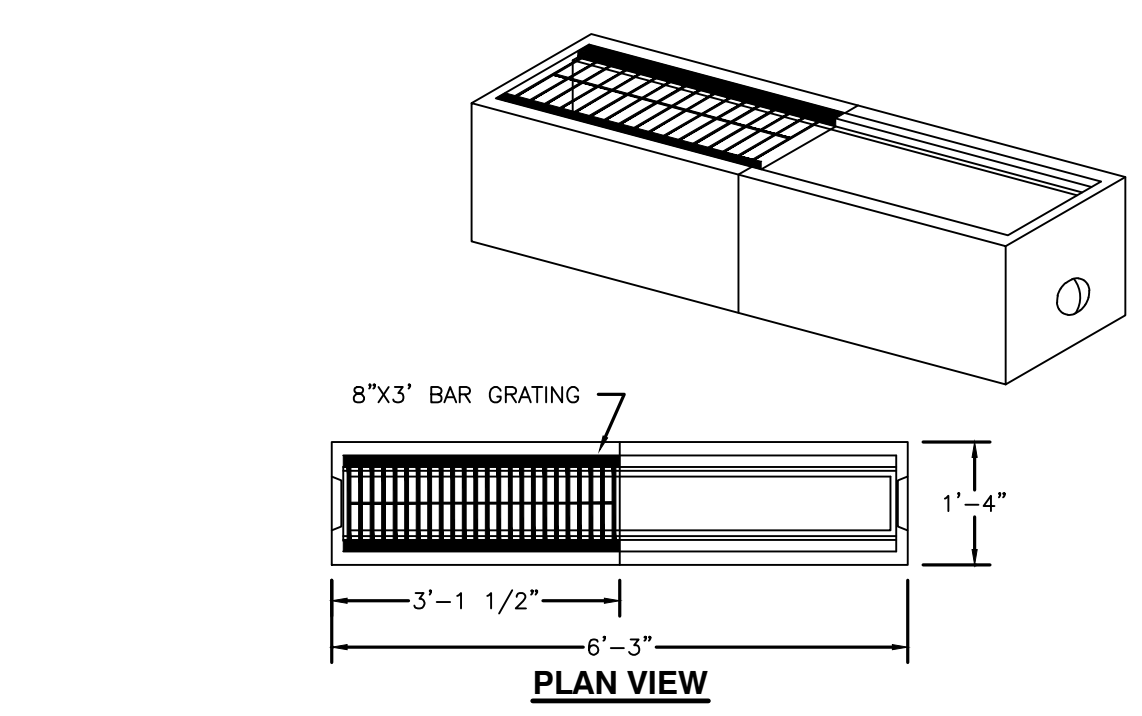
SILT FENCE BARRIER
ISOMETRIC VIEW NOT TO SCALE



DETENTION POND EMBANKMENT
TYPICAL CROSS SECTION NOT TO SCALE

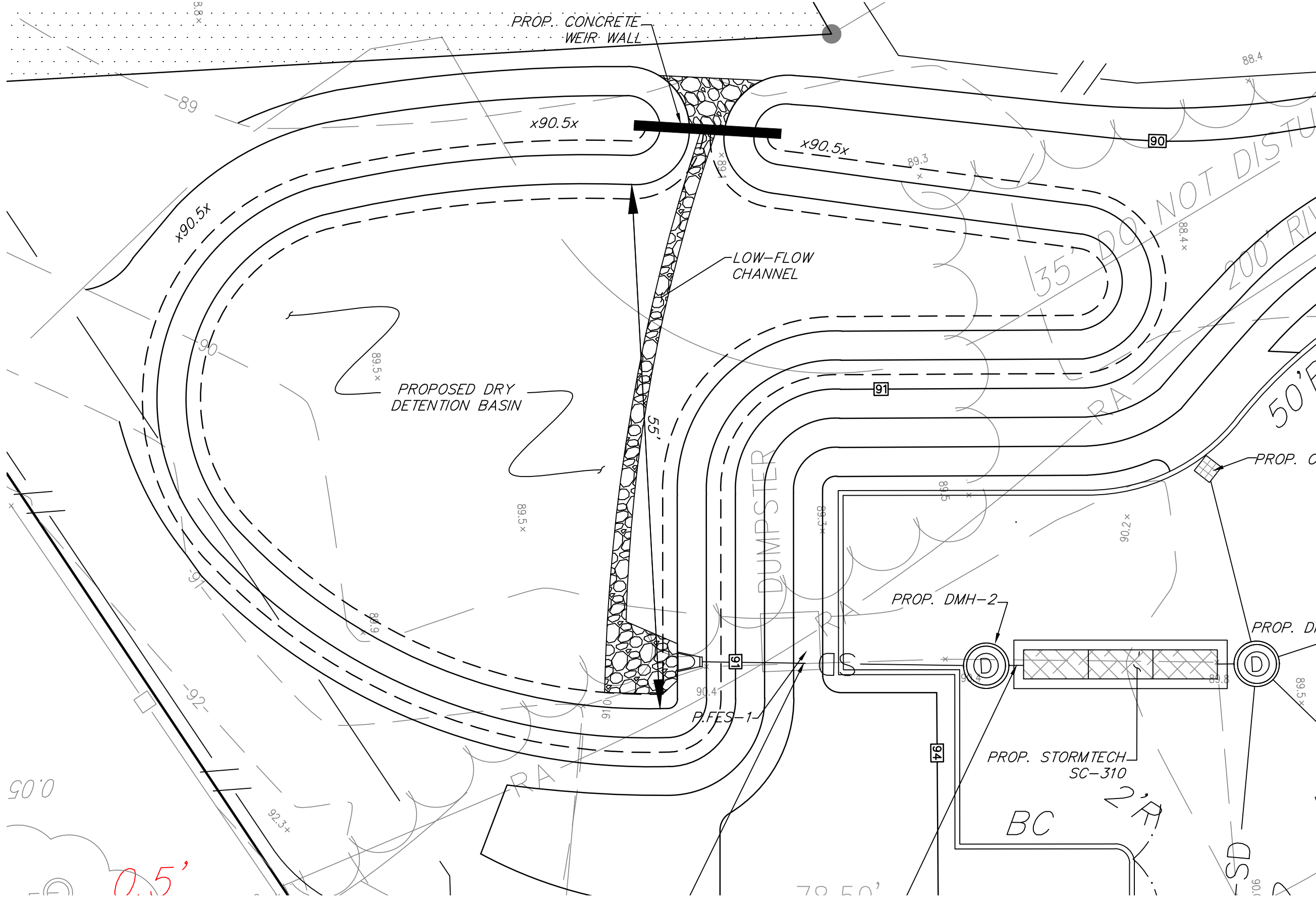
PIPING MATERIAL NOTES:

INLET	D	A	B
4"	3'-6"	3'-0"	2'-6"
5"	3'-6"	5'-0"	4'-0"
5"	3'-6"x3'-6"	4'-0"	3'-0"
5"	4'-0"	3'-0"	3'-0"
5"	4'-0"x4'-0"	3'-0"	2'-6"
5"	4'-6"	3'-0"	2'-6"
6"	4'-0"	5'-0"	4'-6"
6"	4'-0"x4'-0"	4'-0"	3'-6"
6"	4'-6"x4'-6"	3'-6"	3'-0"
6"	5'-0"	3'-6"	3'-0"
6"	5'-0"x5'-0"	3'-0"	2'-6"
8"	5'-0"	6'-0"	5'-0"
8"	5'-6"x5'-6"	4'-6"	4'-0"
8"	6'-0"	4'-0"	3'-6"
8"	6'-0"x6'-0"	3'-0"	2'-6"
8"	6'-6"	3'-6"	3'-0"
8"	6'-6"x6'-6"	3'-0"	2'-6"

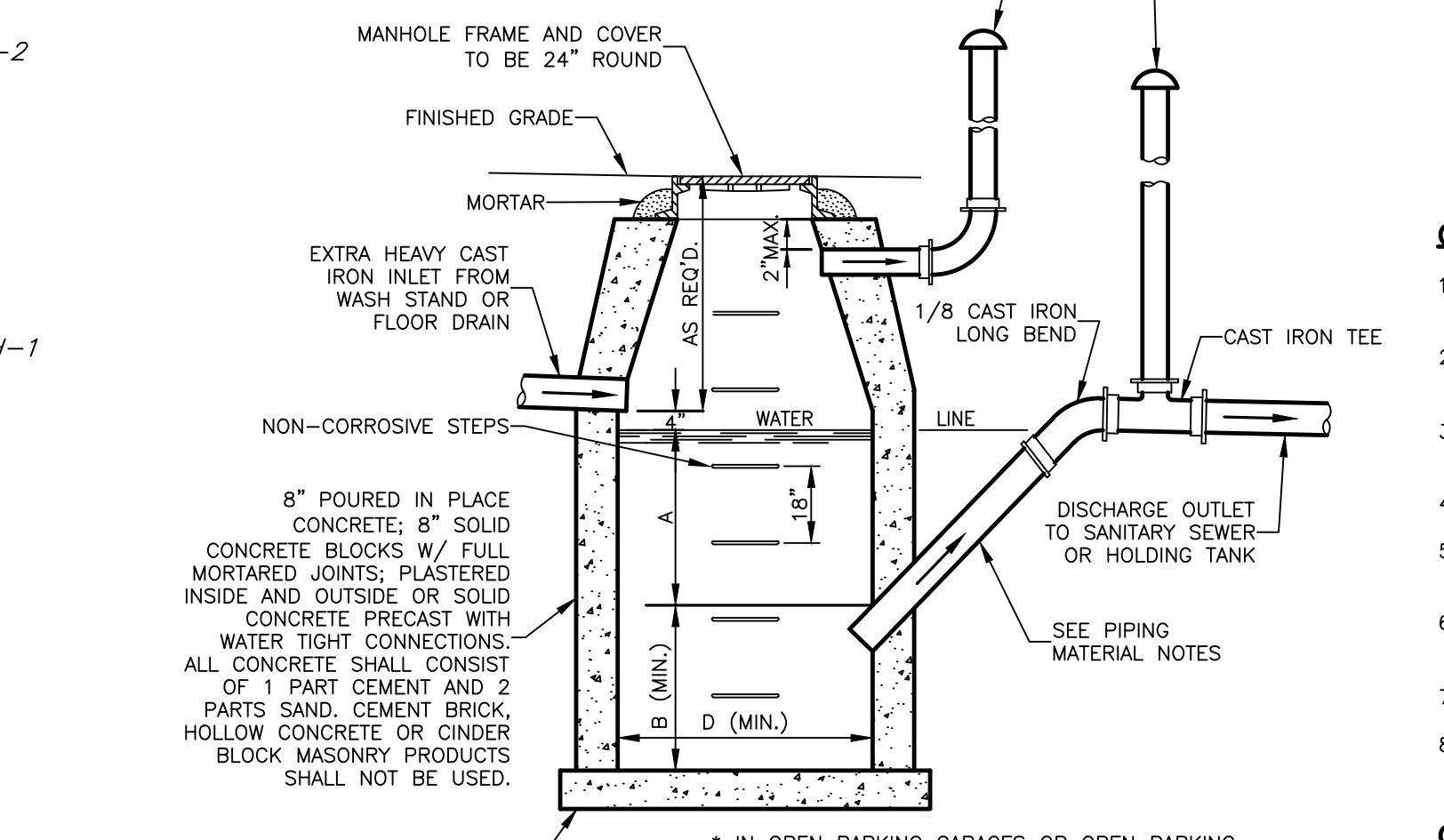


NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. AVAILABLE IN 3' AND 6' SECTIONS.
3. AVAILABLE IN END OR MIDDLE SECTIONS.
4. CONFORMS TO H-20 LOADING.
5. GRATE MUST CONFORM TO ADA REQUIREMENTS.

TRENCH DRAIN
(NOT TO SCALE)



DETENTION BASIN
1" = 10'



NOTE:
IN CITIES AND TOWNS WHERE THE SEWAGE DISPOSAL IS DISCHARGING INTO A MWRA SEWAGE SYSTEM, A NOTICE SHALL BE FILED WITH THE MWRA WHEN THE PLUMBING APPLICATION IS FILED WITH THE INSPECTOR, AND THE SEPARATOR INSTALLATION SHALL BE INSPECTED BY THE MWRA.

GASOLINE, OIL and SAND SEPARATOR
(NOT TO SCALE)

GENERAL CONSTRUCTION NOTES:

- THE SEPARATOR IS TO BE LOCATED OUTSIDE OF A BUILDING WHERE POSSIBLE AND THE COVER IS TO INCORPORATE A CENTER-HOLE.
- A SEALED TIGHT COVER IS TO BE USED IF THE SEPARATOR IS LOCATED INSIDE OF A BUILDING. THE COVER SHALL BE NO LESS THAN A 24" DIAMETER.
- THE SEPARATOR SHALL BE LOCATED AND CONSTRUCTED TO PREVENT SURFACE OR SUB-SURFACE WATER FROM ENTERING.
- THE INLET PIPE SHALL BE NO LESS THAN FOUR INCHES ABOVE THE WATER LINE LEVEL.
- WHEN THE SEPARATOR IS SUBJECT TO FREEZING IT SHALL BE SET A MINIMUM OF THREE FEET BELOW GRADE.
- THE SEPARATOR SHALL BE FILLED WITH WATER AND LEAK TESTED BEFORE BEING INTRODUCED INTO SERVICE.
- THE NON-CORROSIVE STEPS SHALL BE SPACED AT 18"-INCHES APART.
- THE CHAMBER VENT AND OUTLET VENT SHALL RETURN TO THE INSIDE OF THE BUILDING AND EXTEND THROUGH THE ROOF.

GENERAL NOTES:

- BASIN TO BE FILLED WITH CLEAN WATER BEFORE USING AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.
- ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING AND MUST NOT DISCHARGE INTO SEWER SYSTEM.
- BASIN AND APPURTENANCES MUST MEET MWRA AND MUNICIPAL PLUMBING INSPECTOR APPROVAL.
- FOR INLET LARGER THAN 8" THE DESIGN AND DIMENSIONS WILL BE DETERMINED FOR EACH PARTICULAR CASE.
- CIRCULAR BASINS ARE RECOMMENDED.

PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS: MAP 12 PARCEL 39 & 40

PREPARED FOR:
Stonegate Construction Corp.
33 Bedford Street
Reading, Massachusetts 02180

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists

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RENE E. GAGNON
CIVIL ENGINEER
NO. 48457
STATE OF MASSACHUSETTS

1.	RLG	JP	12/30/19	REVISED PER RCC COMMENTS
1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
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APPRVD. BY:				CHECK BY: JP

DETAILS

PLOT DATE: Dec 30, 2019 4:06 pm
PATH: C:\MSA\DWG_3D Projects\21839 Finnegan-Reading\DWG\

DWG: 21839SP4.dwg
LAYOUT: DETAILS 3
SHEET: 10 OF 14
PROJECT NO.: 21839

C10

PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP 12 PARCEL 39 & 40

PREPARED FOR:

Stonegate
Construction
Corp.

33 Bedford Street
Reading, Massachusetts 02180

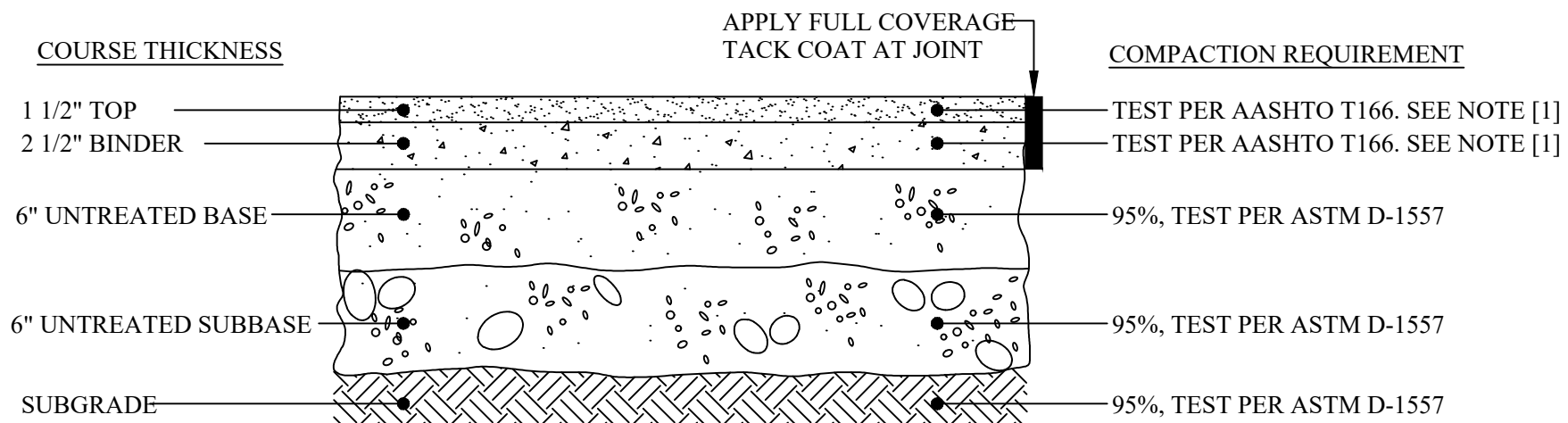
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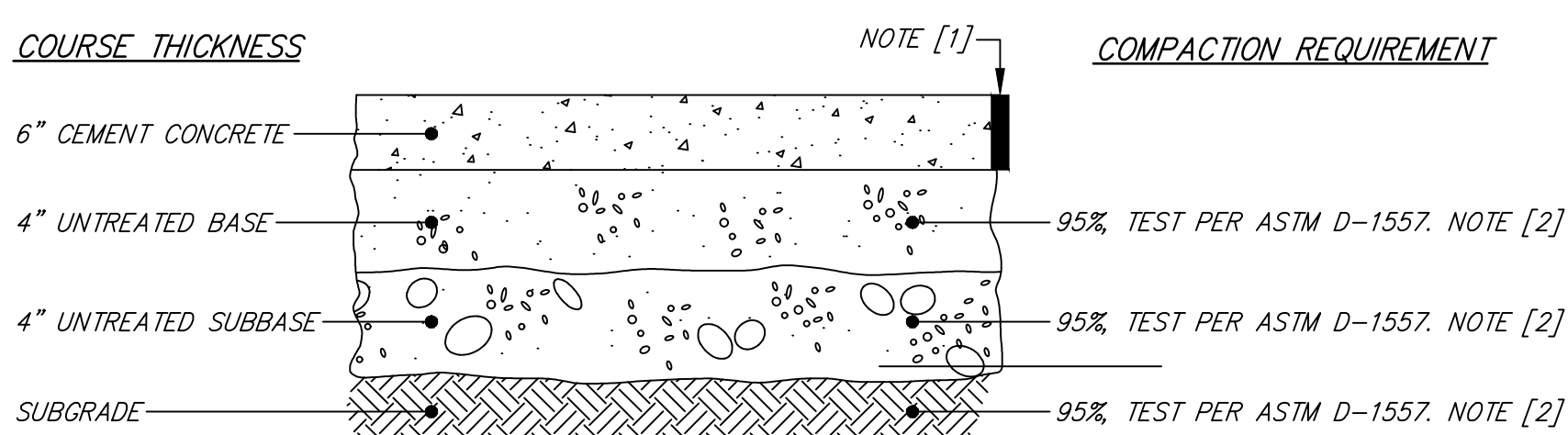


NOTES: [1] COMPACT TO TEST AVERAGE OF 96%, NO TEST LOWER THAN 94%

MATERIAL	SPECIFICATION	MAXIMUM AGGREGATE OR PARTICLE SIZE (IN.)
TOP - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS I, TYPE I-1	1/2
BINDER - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS I, TYPE I-1	1
BASE - GRAVEL BORROW	MHD M1.03.0 TYPE C	2
SUBBASE - GRAVEL BORROW	MHD M1.03.0 TYPE C	2
UNSUITABLE SUBGRADE - ORDINARY BORROW	MHD M1.01.0	12

BITUMINOUS CONCRETE PAVEMENT

TYPICAL CROSS SECTION-NOT TO SCALE

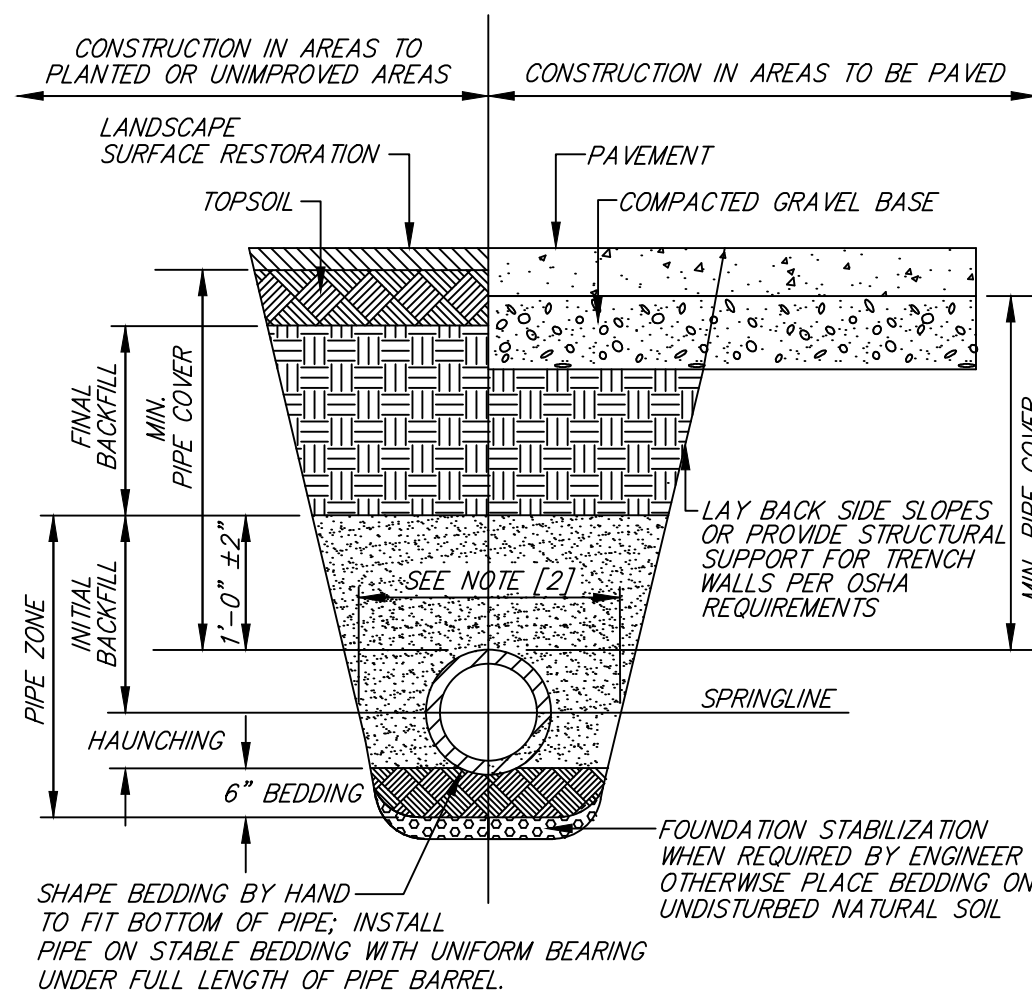
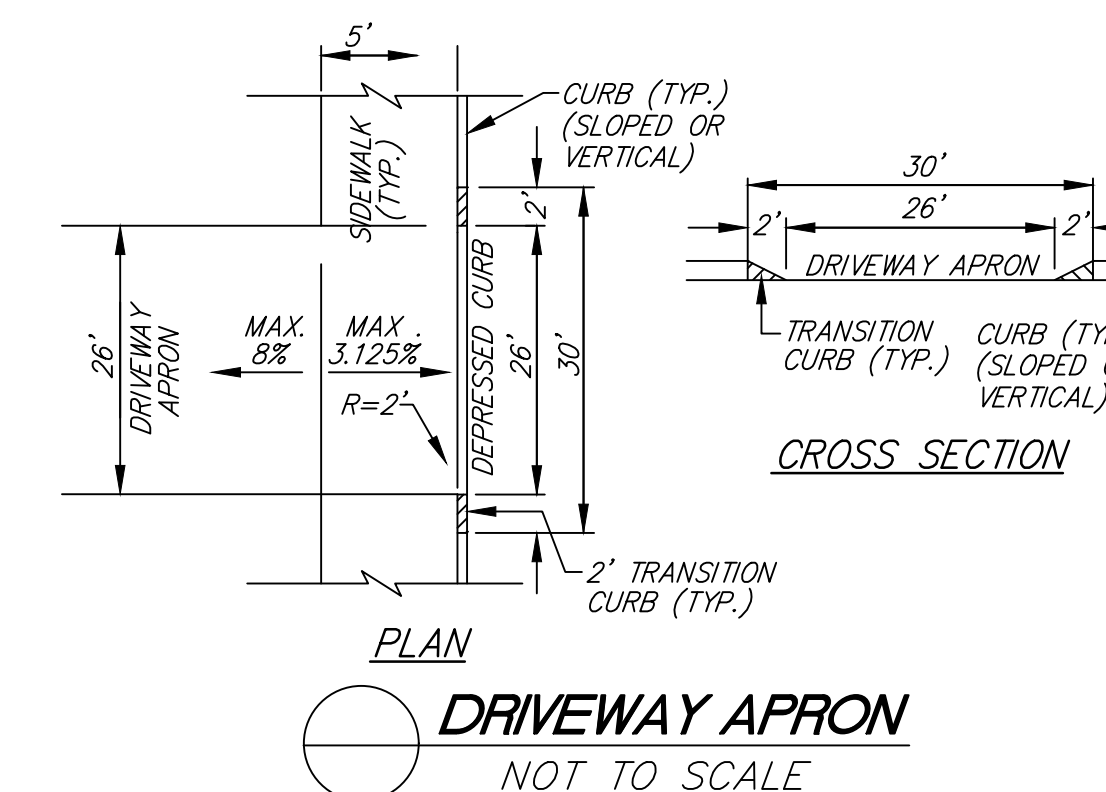


NOTES:
[1] CONTROL JOINT EVERY 10 FEET, EXPANSION JOINT EVERY 50 FEET.
[2] COMPACT TO TEST AVERAGE OF 95% NO TEST LOWER THAN 93%

MATERIAL	SPECIFICATION	MAXIMUM AGGREGATE OR PARTICLE SIZE (IN.)
TOP - CEMENT CONCRETE	MHD M4.02.00 4000 PSI AT 28 DAYS	3/4
BASE - SAND BORROW	MHD M1.04.0 TYPE b	3/8
SUBBASE - GRAVEL BORROW	MHD M1.03.0 TYPE c	2
UNSUITABLE SUBGRADE - ORDINARY BORROW	MHD M1.01.0	12

CEMENT CONCRETE PAVEMENT

TYPICAL CROSS SECTION
NOT TO SCALE



NOTES:
[1] PLACE 3/4\"/>

FOUNDATION, BEDDING, & BACKFILL MATERIALS	HDP, PVC	RC, DI
FOUNDATION STABILIZATION	[6]	[6]
BEDDING	[1]	[1]
HAUNCHING	[1]	[1]
INITIAL BACKFILL	[1]	[1]
FINAL BACKFILL	[4]	[4]
MIN. PIPE COVER	[5]	[5]

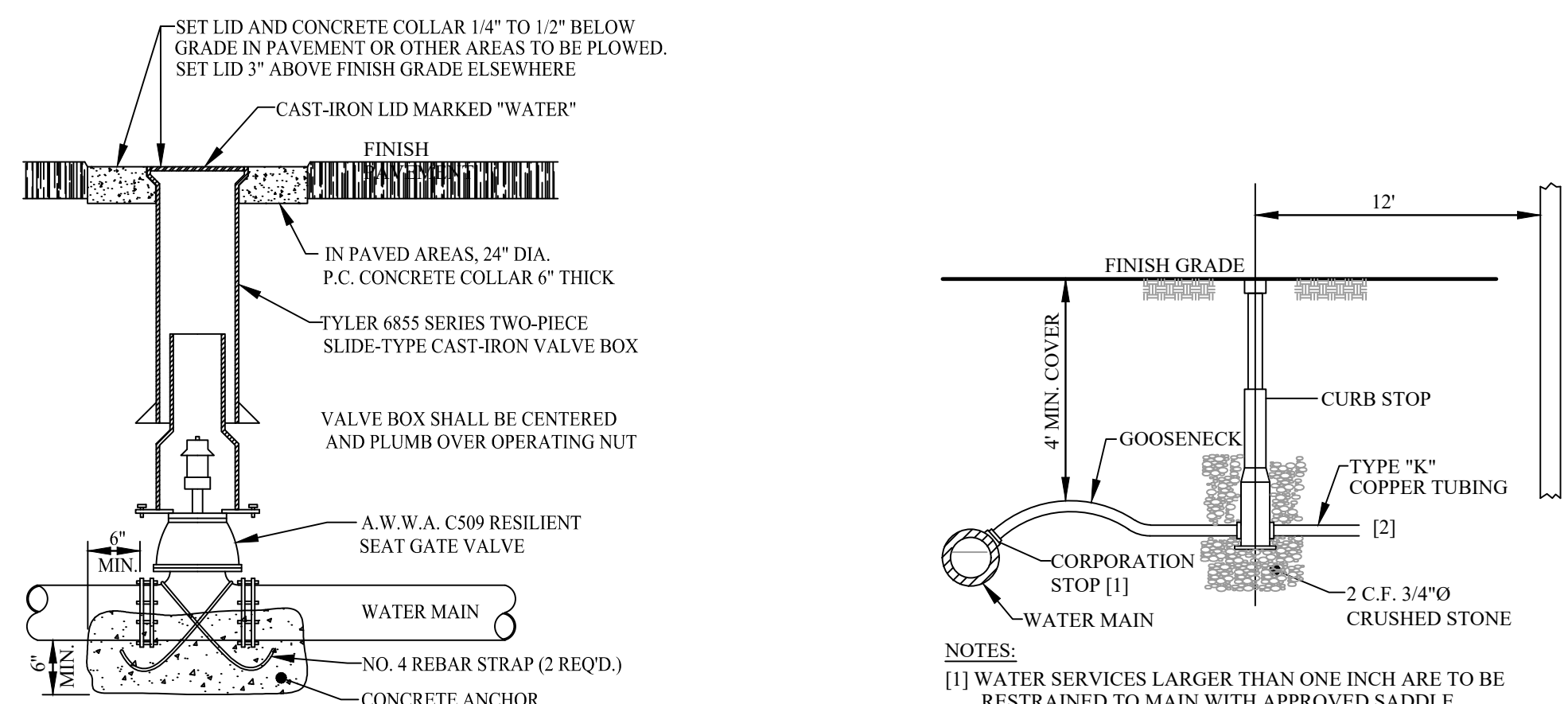
[3] INSTALL PIPE IN CENTER OF TRENCH.
[4] IN PLANTED OR UNIMPROVED AREAS, USE ON-SITE EXCAVATED MATERIAL FOR FINAL BACKFILL. COMPACT TO 95% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF ON-SITE EXCAVATED MATERIALS FOR USE AS FINAL BACKFILL.
[5] MINIMUM COVER OVER TOP OF PIPE:

PIPE MATERIAL	HDP, PVC	RC, DI
WATER	5'-0"	5'-0"
SEWER	4'-0"	4'-0"
DRAIN	1'-6"	1'-0"

[6] FOR FOUNDATION STABILIZATION, USE 2\"/>

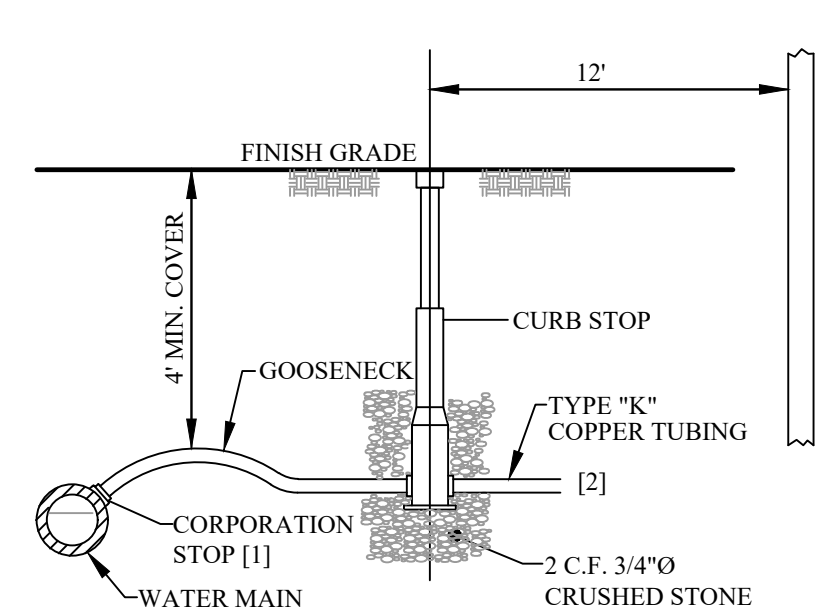
PIPE TRENCH

TYPICAL CROSS SECTION
NOT TO SCALE



GATE VALVE

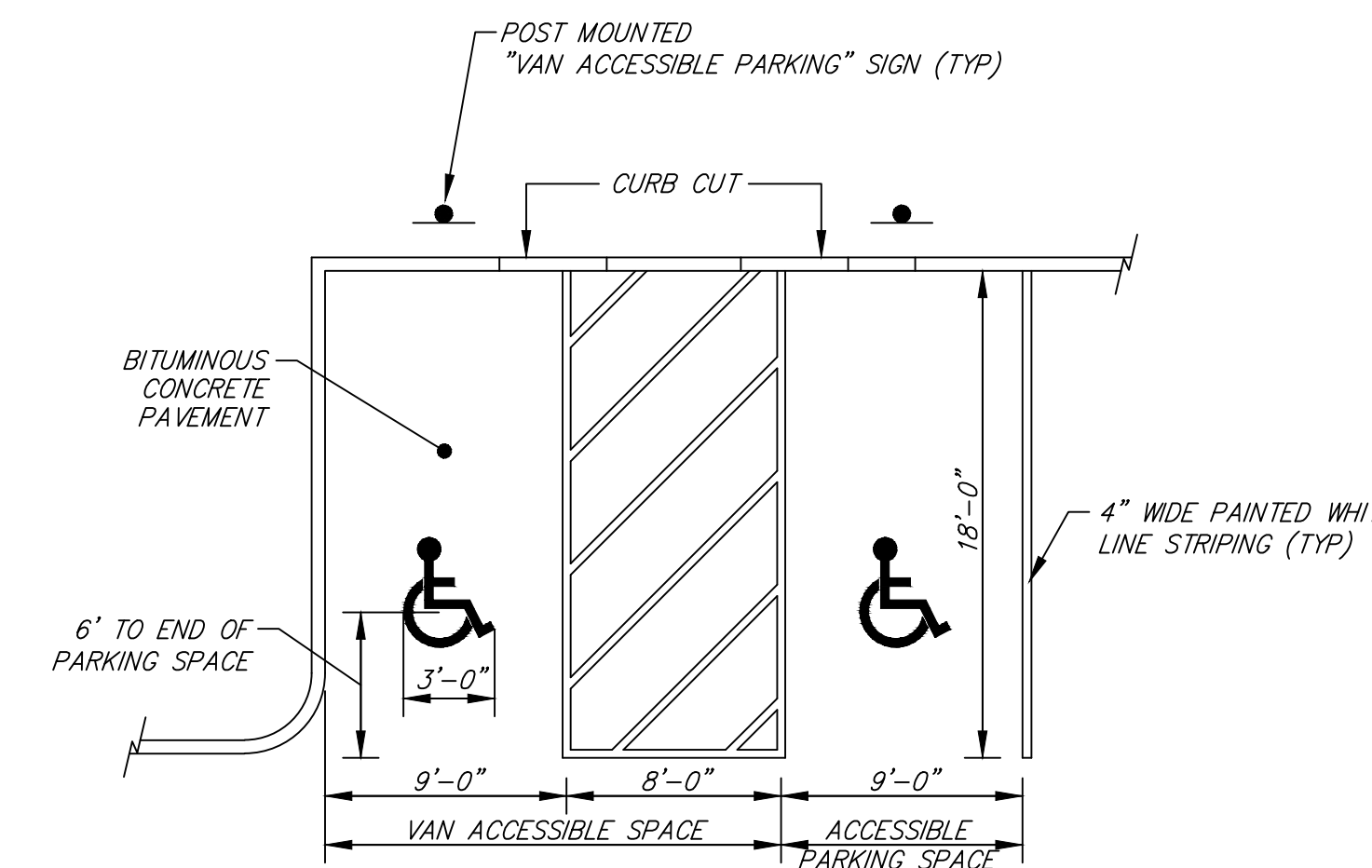
TYPICAL CROSS SECTION
NOT TO SCALE



NOTES:
[1] WATER SERVICES LARGER THAN ONE INCH ARE TO BE RESTRAINED TO MAIN WITH APPROVED SADDLE.
[2] COORDINATE BUILDING CONNECTION WITH PLUMBING DRAWINGS.

WATER SERVICE

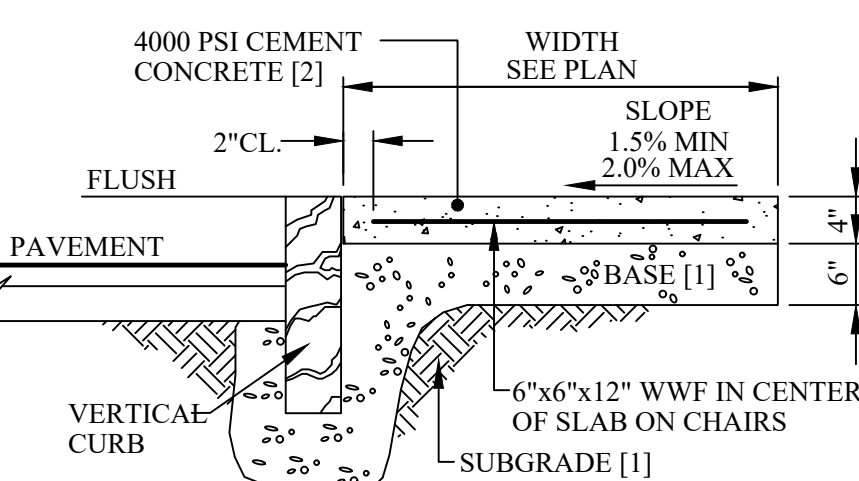
NOT TO SCALE



NOTES:
1. MAXIMUM SLOPE 2% IN ANY DIRECTION.
2. LOCATE SIGN WITHIN 10 FT OF ACCESSIBLE SPACE.
3. PROVIDE AN ACCESSIBLE CURB CUT AT EACH ACCESS AISLE BETWEEN ACCESSIBLE SPACES.

ACCESSIBLE PARKING STALL DETAIL

NOT TO SCALE



NOTES:
[1] COMPACT TO 95% PER ASTM D-1557
[2] CONTROL JOINT EVERY 5 LF, EXPANSION JOINT EVERY 50 LF.

CEMENT CONCRETE WALK

CROSS SECTION-NOT TO SCALE

DETAILS

PLOT DATE: Dec 30, 2019 4:06 pm
PATH: F:\VISA\GIS 3D Projects\21839-Finnegan-Reading\DWG\

DWG: 21839SP4.dwg

LAYOUT: DETAILS 4

SHEET: 11 OF 14

PROJECT NO.:

C11

21839

PERMIT SITE PLAN

259 & 267 Main Street
Reading, Massachusetts 02180

ASSESSORS:

MAP 12 PARCEL 39 & 40

PREPARED FOR:

Stonegate
Construction
Corp.

33 Bedford Street
Reading, Massachusetts 02180

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM



NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1.	RLG	JP	12/30/19	REVISED PER RCC COMMENTS
1.	RLG	JP	12/2/19	ISSUED FOR SITE PLAN REVIEW

DATE: 10/8/19 DESIGN BY: RLG
SCALE: DRAWN BY: RLG
APPRVD. BY: CHECK BY: JP

EMERGENCY ACCESS PLAN

PLOT DATE: Dec 30, 2019 4:07 pm
PATH: F:\MSA\DWG\30 Projects\21839 Final\Reading-Reading\DWG\

DWG: 21839SP4.dwg

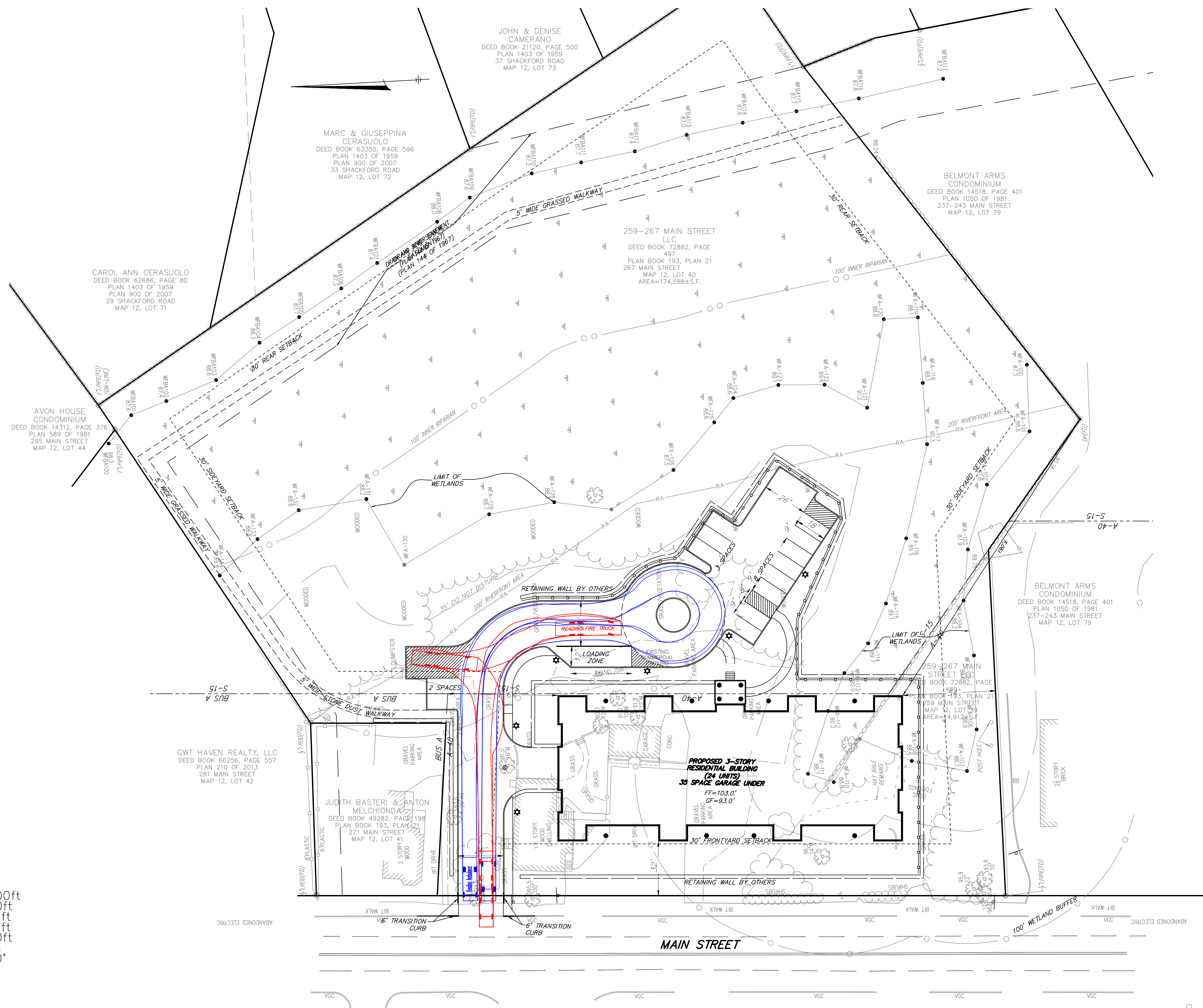
LAYOUT: EA

SHEET: 12 OF 14

PROJECT NO.:

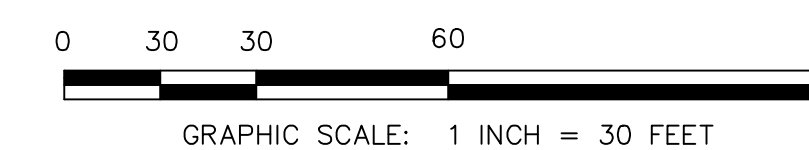
C12

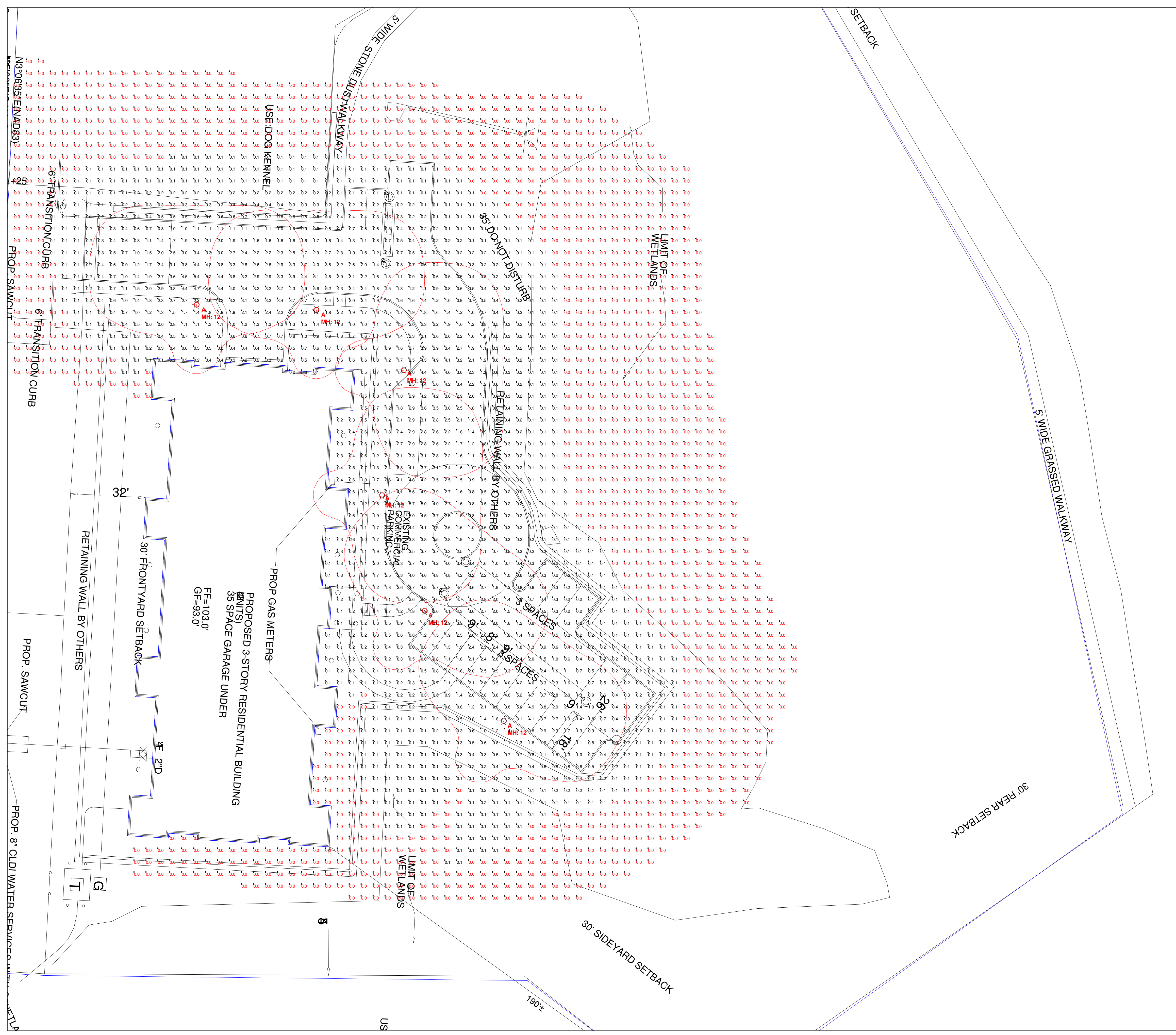
21839



Reading Fire Truck
Overall Length 38.000ft
Overall Width 8.000ft
Overall Body Height 7.471ft
Min Body Ground Clearance 0.721ft
Track Width 8.000ft
Lock-to-lock time 6.00s
Max Steering Angle (Virtual) 34.00°

Reading Ambulance
Overall Length 25.000ft
Overall Width 8.330ft
Overall Body Height 7.500ft
Min Body Ground Clearance 1.364ft
Track Width 8.167ft
Lock-to-lock time 5.00s
Curb to Curb Turning Radius 25.750ft





Luminaire Schedule	Qty	Label	Arrangement	LLF	Description	Lum. Watts	Lum. Lumens
Symbol	6	A	SINGLE	1.000	SLSNL70W5KU4NNXX	65,2198	7246

Calculation Summary	Calc Type	Units	Max	Avg/Min	Max/Min
Label	illum	Fc	5.8	0.55	N.A.
CalcPis	Planar	Fc	5.8	0.0	N.A.
Roadway	Parking	Fc	5.8	0.1	19.00
					58.00



#	Date	Comments
Revisions		

Drawn By: _____
 Checked By: _____
 Date: 12/30/2019
 Scale: _____

Main Street Reading 03

WJM ROUND STRAIGHT ALUMINUM (RA)

POLE SHAFT

The pole shaft is a seamless 6063-T6 aluminum alloy extrusion having a uniform wall thickness of 0.125". The sides of the shaft may be drilled for mounting luminaire fixtures. All aluminum alloys shall comply with metallurgical and mechanical properties set forth in the Aluminum Association Standards.

BASE PLATE

The anchor base is cast from A356 alloy aluminum. The anchor base telescopes the pole shaft and is circumferentially welded top and bottom. All welds are performed in accordance with the American Welding Society specification AWS D1.2, latest edition.

HANDHOLE

An oval reinforced gasketed handhole, having a nominal 2" x 4" or 3" x 5" inside opening, located 1'-6" above base, is standard on all poles. A grounding provision is located inside the handhole ring.

ANCHOR BOLT

Anchor bolts are fabricated from commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 55,000 psi. Four properly sized anchor bolts, each with two regular hex nuts and washers, are furnished and shipped with all poles unless otherwise specified.

FINISH

Color to be determined.

WJM RA4001115-[Finish]-3-BC



RA4001115-F-3-BC					
CATALOG LOGIC		CODE	DESCRIPTION		
Series:		RA	Round Straight Aluminum		
Base Diameter:		400	4.0" Base Bottom Diameter		
Thickness:		11	0.125" wall thickness		
Nominal Height:		15	15 feet tall		
Finish:		F	Color to be determined		
Mounting Designation:		3	2.7/8" OD Tenon		
Options:		BC	Base Cover		
HEIGHT (ft.)	POLE SHAFT (in.) x (ft.)	SHAFT THICKNESS (in.)	HANDHOLE SIZE (in.)	ANCHOR BOLT (in.) x (in.) x (in.)	BOLT CIRCLE (in.)
15	4.00 x 15.0	0.125	2" x 4"	0.75 x 17 x 3	8.75
EPA	80 MPH (ft.-)	90 MPH (ft.-)	100 MPH (ft.-)	110 MPH (ft.-)	WEIGHT (lbs.)
	4	2.5	1.5	1	33



Pemco SLS-NL-C6-70W5K-[Voltage]-4-N-N-[Finish]

SALINAS

FULL CUTOFF POST TOP



EPA: 1.4
WEIGHT: 22 lbs

Specifications and Features:

Radiant™ LED

- Conformal Coating LED light engine
- CCT: 2700K, 3000K, 4000K, 5000K
- IP66

Optical

- Types II, III, IV, V
- Full Cutoff

Electrical

- 0-10V Electronic Driver, 120-277V, 50/60Hz or 347/480V, 50/60Hz
- Dimmable Driver
- Surge Protection included
 - surge protection device meets IEEE C62.41 2002 C High 10kA

Options (Adder)

- Button eye photo control (PC)

Housing

- Spun aluminum roof, sand cast arms and capital

Finish

- Super durable polyester powder coat finish. Custom finishes available, including patinas and all RAL colors.

Listings & Ratings

- ETL listed to UL 1598 standard for wet location and IP66

Warranty

- 5 year limited warranty



ORDERING FORMAT

Example: SLS-NL-C6-70W4K-U-5-N-N-BK

SLS	NL	C6		
Model	Globe/Lens	Capital	LED Module	Voltage
SLS=Salinas Radiant™	NL=No Secondary Lens	C6=PL08	See Chart - LED Light Engine Specifications. 70W5K	U=120-277V H=347/480V
		N		
Distribution	Options	Finial	Finish	
2=Type II 3=Type III 4=Type IV 5=Type V	FS=Fuse, Single PC=Button eye photo control N=None	N=No Finial	Standard Colors BK=Black GR=Green CC=Custom (Consult Factory) BZ=Bronze SM=Silver Metallic DBZ=Dark Bronze GY=Light Grey WH=White TBK=Textured Black	

PEMCO Lighting Products 150 Pemco Way-Wilmington, DE 19804 Phone 302.892.9000 Fax 302.892.9005 www.pemcolighting.com info@pemcolighting.com Sls-pg1(2019)
Specifications subject to change without notice. Rev. 083019

Dimensions:



Lumen Output for Salinas

No Secondary Lens						
CCT	LED Module	Input Watts	Type 2	Type 3	Type 4	Type 5
5K	40WSK	40	4036	4110	4178	4288
	50WSK	50	5047	5091	5175	5312
	60WSK	60	6008	6060	6160	6323
	70WSK	70	7068	7130	7247	7439
	80WSK	80	8072	8142	8276	8496
	90WSK	90	9083	9162	9313	9559
	105WSK	105	10373	10463	10635	11159
120WSK	120	11672	11773	11967	12751	



#	Date	Comments

Revisions

Drawn By: _____
Checked By: _____
Date: 11/22/2019
Scale: _____

Main Street Reading 01