

NO DEVIATION FROM THE CONTRACT PLANS AND SPECIFICATIONS CAN BE MADE UNTIL A REQUEST FOR CONSTRUCTION CHANGE, HUD FORM 92437 HAS BEEN SUBMITTED AND APPROVED.

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Revision:

DATE	EDITS PER COMMENTS
5/22/17	
8/8/17	FIRE CISTERN AND PATH WIDTH EDITS
4/27/18	UPDATED SITE LAYOUT
9/26/18	UPDATED SITE LAYOUT
10/26/18	REV. PER TOWN COMMENTS
11/14/18	REV. PER FIRE DEPT.
8/10/21	REV. PER NEW WELL LAYOUT
1/13/22	DESIGN DEVELOPMENT
8/29/22	ISSUED FOR CONSTRUCTION

Architect of Record: The Architectural Team

Drawn: RWP

Checked: GSR

Scale: 1"=30'

Key Plan:

Project Name:

PLANTATION APARTMENTS I & II
Plantation II

Johnston Way
Stow, Ma 01775

Sheet Name:

GRADING & DRAINAGE PLAN

Project Number:

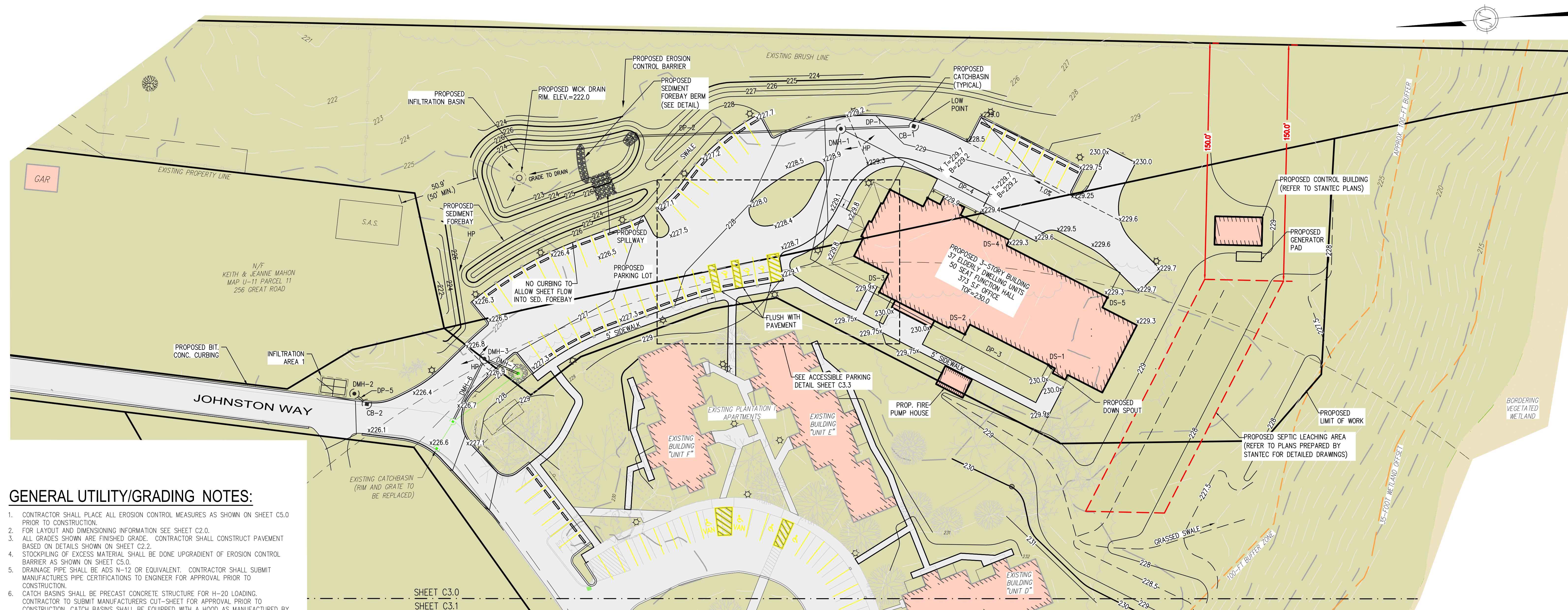
4644-2

Issue Date:

August 29, 2022

Sheet Number:

C3.0



GENERAL UTILITY/GRADING NOTES:

- CONTRACTOR SHALL PLACE ALL EROSION CONTROL MEASURES AS SHOWN ON SHEET C5.0 PRIOR TO CONSTRUCTION.
- FOR LAYOUT AND DIMENSIONING INFORMATION SEE SHEET C2.0.
- ALL GRADES SHOWN ARE FINISHED GRADE. CONTRACTOR SHALL CONSTRUCT PAVEMENT BASED ON DETAILS SHOWN ON SHEET C2.2.
- STOCKPILING OF EXCESS MATERIAL SHALL BE DONE UPGRADIENT OF EROSION CONTROL BARRIERS AS SHOWN ON SHEET C5.0.
- DRAINAGE PIPE SHALL BE ADS N-12 OR EQUIVALENT. CONTRACTOR SHALL SUBMIT MANUFACTURERS PIPE CERTIFICATIONS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- CATCH BASINS SHALL BE PRECAST CONCRETE STRUCTURE FOR H-20 LOADING. CONTRACTOR TO SUBMIT MANUFACTURERS OUT-SHEET FOR APPROVAL PRIOR TO CONSTRUCTION. CATCH BASINS SHALL BE EQUIPPED WITH A HOOD AS MANUFACTURED BY GENERAL FOUNDRIES, PRODUCT NUMBER 22563 (OR EQUAL).
- CONTRACTOR TO STRIP TOP AND SUB SOIL FROM UNDER ALL PAVEMENT AND BUILDING AREAS (SEE STRUCTURAL PLANS & SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS).
- CATCH BASIN SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO PLACING THE WEARING COURSE.
- THE PROPOSED WICK DRAIN SHALL BE INSTALLED USING A 30" DIA. ADS PERFORATED PIPE WITH A 30" NYLOPLAST MODEL 3099CGS DROP-IN GRATE. THE DRAIN SHALL BE SURROUNDED BY THREE FEET OF 1/2" CRUSHED STONE AS DETAILED ON SHEET C3.2. STONE RIPRAP TO BE 4"-6" ANGULAR STONE OVER FILTER FABRIC (MIRAFI 140N, OR EQUAL).
- FOREBAY STONE TO BE 2"-4" ANGULAR STONE (SEE DETAIL ON SHEET C3.2).

ROOF HEADER SCHEDULE

DS-1 ADS N-12 8" HDPE INV. IN=227.0 (DP-3)	8"	DS-4 ADS N-12 8" HDPE INV. OUT=227.0 (DP-4)	8"
DS-2 ADS N-12 8" HDPE INV. OUT=226.59 (DP-3)	8"	DS-5 ADS N-12 8" HDPE INV. OUT=226.29 (DP-5)	8"
DS-3 ADS N-12 8" HDPE INV. OUT=226.22 (DP-3)	8"	DS-6 ADS N-12 8" HDPE INV. OUT=225.63 (DP-6)	8"

DRAINAGE STRUCTURE SCHEDULE:

CB-1 PRECAST RC RIM = 228.7 12" HDPE INV. OUT=225.7 (DP-1)	4'	CB-2 PRECAST RC RIM = 226.0 12" HDPE INV. OUT=222.0 (DP-5)	4'
DMH-1 PRECAST RC RIM = 229.1 12" HDPE INV. IN=225.5 (DP-1) 8" HDPE INV. IN=225.5 (DP-3) 8" HDPE INV. IN=225.5 (DP-4) 12" HDPE INV. OUT=225.4 (DP-2)	4'	DMH-2 PRECAST RC RIM = 226.1 12" HDPE INV. IN=221.84 (DP-5) 12" HDPE INV. OUT=221.74 (INFIL. AREA 1)	4'
DMH-3 PRECAST RC RIM = 226.8 12" HDPE INV. IN=222.10 (DP-6) 12" HDPE INV. OUT=222.00 (DP-7)	4'		
DP-1 ADS N-12 SLOPE = 0.5% LENGTH = 44± INLET INV.=225.7 (CB-1) OUTLET INV.=225.5 (DMH-1)	12"	DP-2 ADS N-12 SLOPE = 0.7% LENGTH = 137± INLET INV.=225.4 (DMH-1) OUTLET INV.=224.5 (INFIL. BASIN)	12"
DP-3 ADS N-12 SLOPE = 0.6% LENGTH = 295± INLET INV.=227.0 (DS-1, DS-2, DS-3) OUTLET INV.=225.5 (DMH-1)	8"	DP-4 ADS N-12 SLOPE = 0.8% LENGTH = 200± INLET INV.=227.0 (DS-4, DS-5, DS-6) OUTLET INV.=225.5 (DMH-1)	8"
DP-5 ADS N-12 SLOPE = 2.0% LENGTH = 8± INLET INV.=222.00 (CB-2) OUTLET INV.=221.84 (DMH-2)	12"	DP-6 ADS N-12 SLOPE = 2.0% LENGTH = 42± INLET INV.=222.94 (EXISTING CB) OUTLET INV.=222.10 (DMH-3)	8"
DP-7 ADS N-12 SLOPE = 2.0% LENGTH = 21± INLET INV.=222.00 (DMH-3) OUTLET INV.=221.58 (LEACHING CB)	12"		

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Key Plan:

Project Name:

PLANTATION APARTMENTS I & II
Plantation I

Johnston Way
Stow, Ma 01775

Sheet Name:

GRADING & DRAINAGE PLAN 2

Project Number:

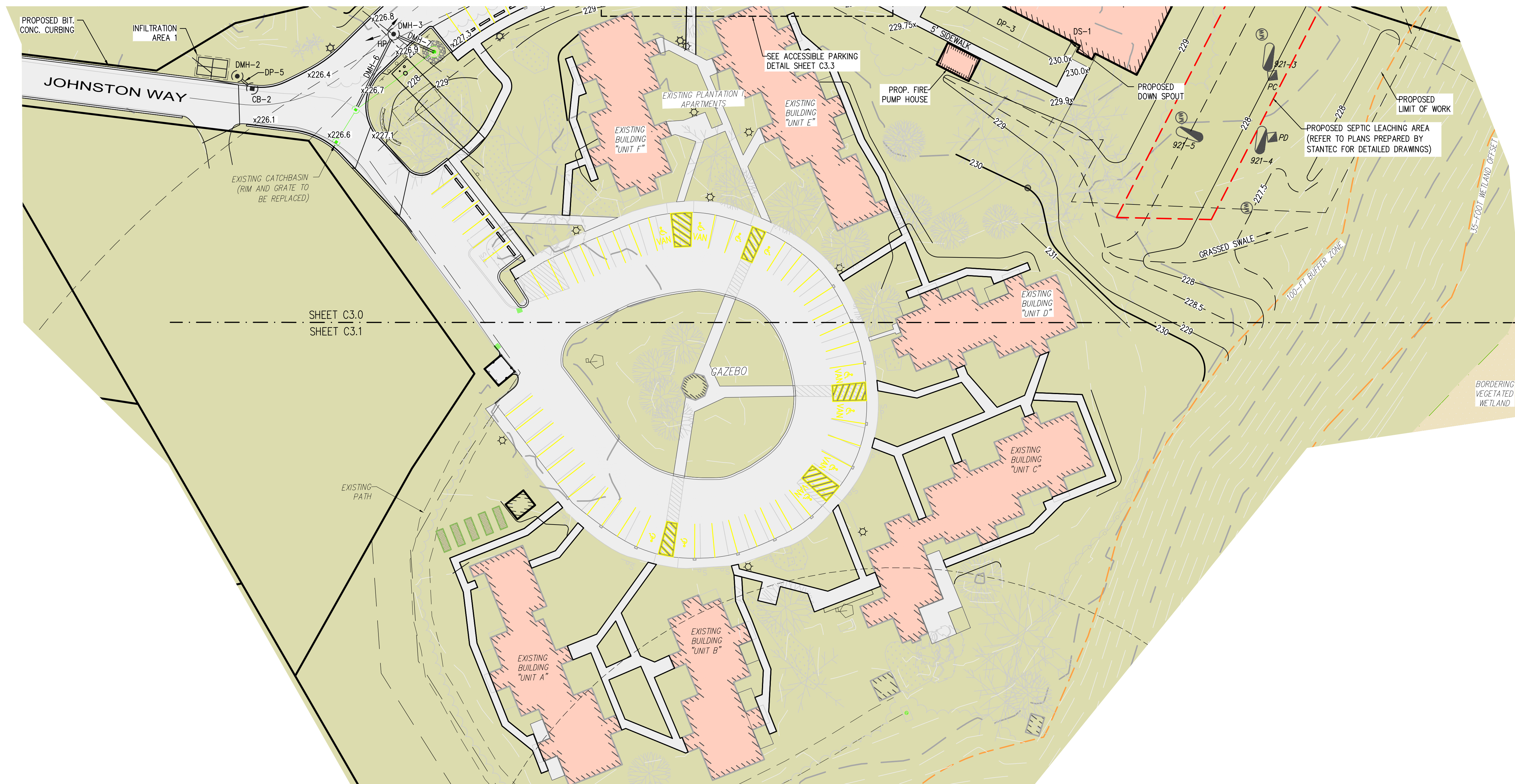
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Sheet Number:

C3.1



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PLANTATION APARTMENTS I & II
Plantation II

Johnston Way
Stow, Ma 01775

Sheet Name:

WASTEWATER

Project Number:

4644-2

Issue Date:

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Sheet Number:

C7.0

ISSUED FOR CONSTRUCTION



WASTEWATER CALCULATIONS:

EXISTING PLANTATION APARTMENTS:

HYDRAULIC LOADING:
FIFTY TWO (52) BEDROOMS AT 110 GPD PER BEDROOM = 5,720 GPD.
1,472 SF OFFICE AT 75 GPD PER 1,000 SF = 111 GPD

TOTAL = 5,831 GPD
(EXISTING PERMIT = 6,500 GPD)

PLANTATION II APARTMENTS:

HYDRAULIC LOADING:
THIRTY SEVEN (37) BEDROOMS AT 110 GPD PER BEDROOM = 4,070 GPD
FIFTY (50) SEAT FUNCTION HALL AT 15 GPD PER SEAT = 750 GPD
373 SF OFFICE AT 75 GPD PER 1,000 SF = 28 GPD

TOTAL = 4,848 GPD

252 GREAT ROAD (SINGLE FAMILY RESIDENCE):

HYDRAULIC LOADING:
THREE (3) BEDROOMS AT 110 GPD PER BEDROOM = 330 GPD

TOTAL FACILITY WASTEWATER FLOW = 11,009 GPD (CALCULATED)

TOTAL FACILITY WASTER FLOW = 11,500 (DESIGN)

PRIMARY LEACHING AREA:

DESIGN PERCOLATION RATE = 5 M.P.I. (SOIL CLASS I)

EFFLUENT LOADING RATE = 3.0 GALLONS/S.F.

LEACHING AREA REQUIRED = 11,500 GPD / 3.0 GPD/S.F. =

3,833 S.F.

TOTAL LEACHING AREA PROVIDED = (10) 60.0' TRENCHES, 6.4

S.F./F

(10 X 60 X 6.4) = 3,840 S.F.

(6.4 S.F./F BASED ON CULTREC RECHARGER 180HD CHAMBER

SPECIFICATIONS)

TOTAL DESIGN FLOW = 3,840 S.F. X 3.0 GALLON/S.F. =

11,520 GALLONS PER DAY

RESERVE LEACHING AREA:

DESIGN PERCOLATION RATE = 5 M.P.I. (SOIL CLASS I)

EFFLUENT LOADING RATE = 3.0 GALLONS/S.F.

LEACHING AREA REQUIRED = 11,500 GPD / 3.0 GPD/S.F. =

3,833 S.F.

TOTAL LEACHING AREA PROVIDED = (10) 60.0' TRENCHES, 6.4

S.F./F

(10 X 60 X 6.4) = 3,840 S.F.

(6.4 S.F./F BASED ON CULTREC RECHARGER 180HD CHAMBER

SPECIFICATIONS)

TOTAL DESIGN FLOW = 3,840 S.F. X 3.0 GALLON/S.F. =

11,520 GALLONS PER DAY

SEWER STRUCTURE SCHEDULE:

SMH-1	SMH-2	SMH-3
PRECAST RC RM = 229.04	PRECAST RC RM = 229.2	PRECAST RC RM = 231.9
2" PVC INV. IN=224.00 (SP-10)	6" PVC INV. IN=225.17 (SP-3, SP-4)	6" PVC INV. IN=227.24 (SP-1)
6" PVC INV. IN=224.00 (SP-9)	6" PVC INV. OUT=225.07 (SP-5)	6" PVC INV. OUT=227.14 (SP-2)
8" PVC INV. OUT=223.80		
SMH-4	SMH-5	SMH-6
PRECAST RC RM = 231.9	PRECAST RC RM = 229.6	PRECAST RC RM = 231.9
EXIST. 6" PVC INV. IN=227.83 (BLDG A&B)	6" PVC INV. IN=224.68 (SP-7)	6" PVC INV. IN=225.12 (SP-6)
6" PVC INV. OUT=227.73 (SP-1)	6" PVC INV. OUT=224.58 (SP-8)	6" PVC INV. OUT=225.02 (SP-7)
SMH-7	PC-1	
PRECAST RC RM = 231.9	PRECAST RC RM = 229.6	
6" PVC INV. IN=225.32 (BLDG C&D)	6" PVC INV. IN=225.72 (SP-2)	
6" PVC INV. OUT=225.22 (SP-6)	6" PVC INV. IN=224.45 (SP-5)	
	2" PVC INV. OUT=224.00 (SP-10)	

SEWER PIPE SCHEDULE:

SP-1	SP-2	SP-3
SDR-35 PVC SLOPE = 0.5%	SDR-35 PVC SLOPE = 1.0%	SDR-35 PVC SLOPE = 0.5%
LENGTH = 97'±	LENGTH = 142'±	LENGTH = 27'±
INLET INV.=227.73 (SMH-4)	INLET INV.=227.14 (SMH-3)	INLET INV.=225.31 (BLDG E)
OUTLET INV.=227.24 (SMH-3)	OUTLET INV.=225.72 (PC-1)	OUTLET INV.=225.17 (SMH-2)
SP-4	SP-5	SP-6
SDR-35 PVC SLOPE = 0.5%	SDR-35 PVC SLOPE = 0.6%	SDR-35 PVC SLOPE = 0.5%
LENGTH = 53'±	LENGTH = 109'±	LENGTH = 15'±
INLET INV.=225.44 (EXISTING SMH)	INLET INV.=225.07 (SMH-2)	INLET INV.=225.22 (SMH-7)
OUTLET INV.=225.17 (SMH-2)	OUTLET INV.=224.45 (PC-1)	OUTLET INV.=225.14 (SMH-6)
SP-7	SP-8	SP-9
SDR-35 PVC SLOPE = 0.5%	SDR-35 PVC SLOPE = 0.5%	SDR-35 PVC SLOPE = 3.0%
LENGTH = 67.02'±	LENGTH = 27'±	LENGTH = 33'±
INLET INV.=225 (SMH-6)	INLET INV.=224.58 (SMH-5)	INLET INV.=225.0 (PROP. BLDG)
OUTLET INV.=224.68 (SMH-5)	OUTLET INV.=224.45 (PC-1)	OUTLET INV.=224.0 (SMH-1)
SP-10	SP-11	
SDR-21 PVC LENGTH = 145'±	SDR-21 PVC LENGTH = 560'±	
INLET INV.=224.0 (PC-1)	INLET INV.=224.00 (PC-2)	
OUTLET INV.=224.0 (SMH-1)	OUTLET INV.=225.94 (EXISTING SMH)	