AMBIT ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS

200 Griffin Road, Unit 3, Portsmouth, NH 03801
Phone (603) 430-9282 Fax 436-2315

22 November 2021

Peter Stith, Technical Advisory Committee Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Application for Site Plan Approval, Tax Map 125, Lot 3, 238 Deer Street

Dear Peter and TAC Members:

On behalf of 238 Deer Street, LLC we present this submission based on the November 2, TAC Committee meeting. The plans have been revised to address the Committee's comments as follows:

- Note 8 has been added to Sheet C3 regarding private trash pickup.
- The existing domestic water service size has been corrected on Sheet C4.
- A Public Access Easement Plan has been added to the Plan Set. Also see Note 9 on Sheet C3.
- Sheet C3 has been revised to include curb and granite wall protections for the landscape areas. Details have been included on Sheet C5 and Sheet D2.
- Sheet C5 includes added details to grading as well as the off-site drainage system. The curb detail has been added. The roof drain exit point has been identified.

Included in the submission is a complete Drainage Analysis.

We look forward to the TAC review of this submission and ask that we be scheduled for Planning Board review at the December meeting.

Sincerely,

John Chagnon

John R. Chagnon, PE
238 Deer Street Team

238 DEER STREET MIXED USE BUILDING

238 DEER STREET, LLC

238 DEER STREET
PORTSMOUTH, NEW HAMPSHIRE

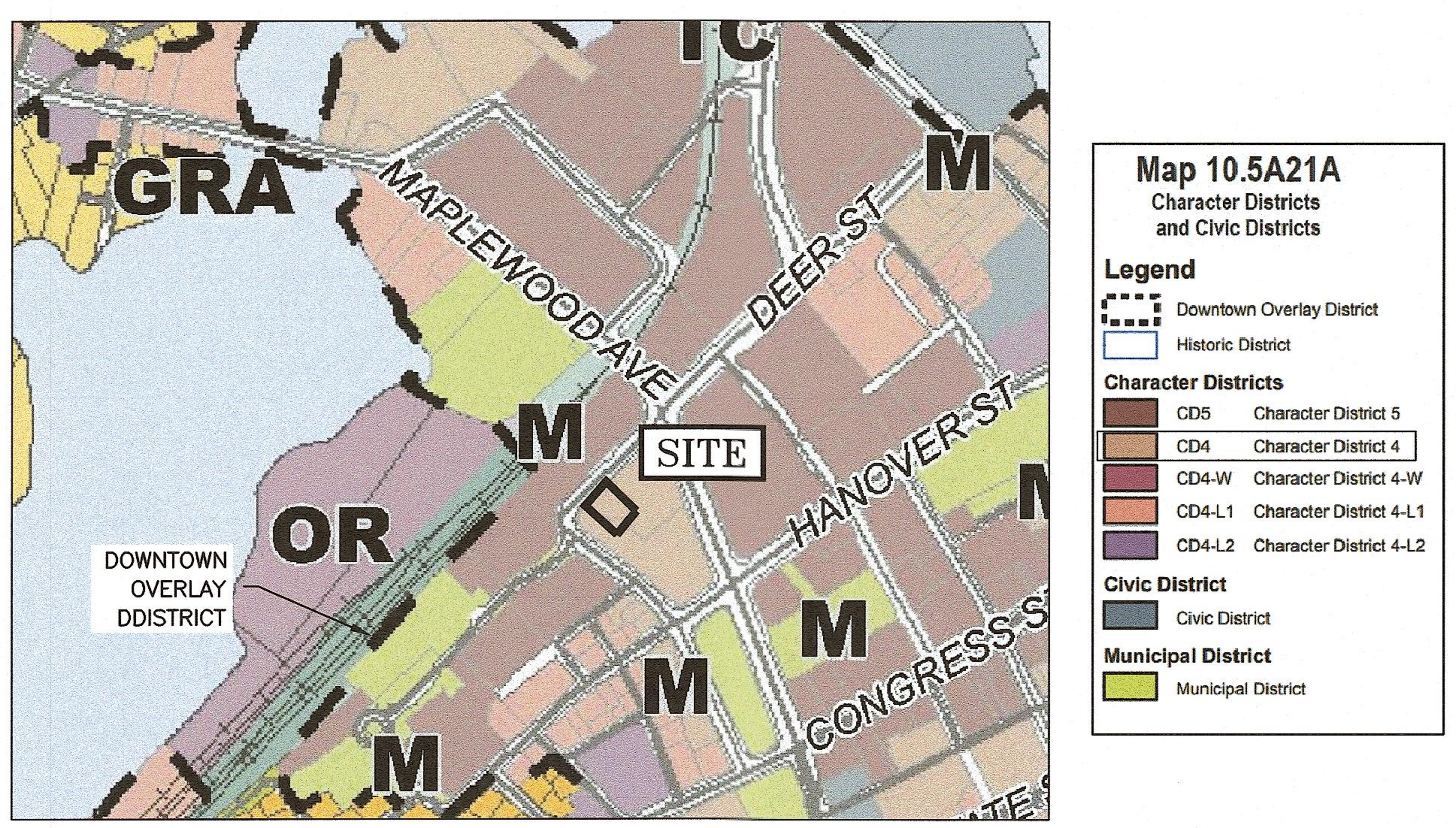
PERMIT PLANS

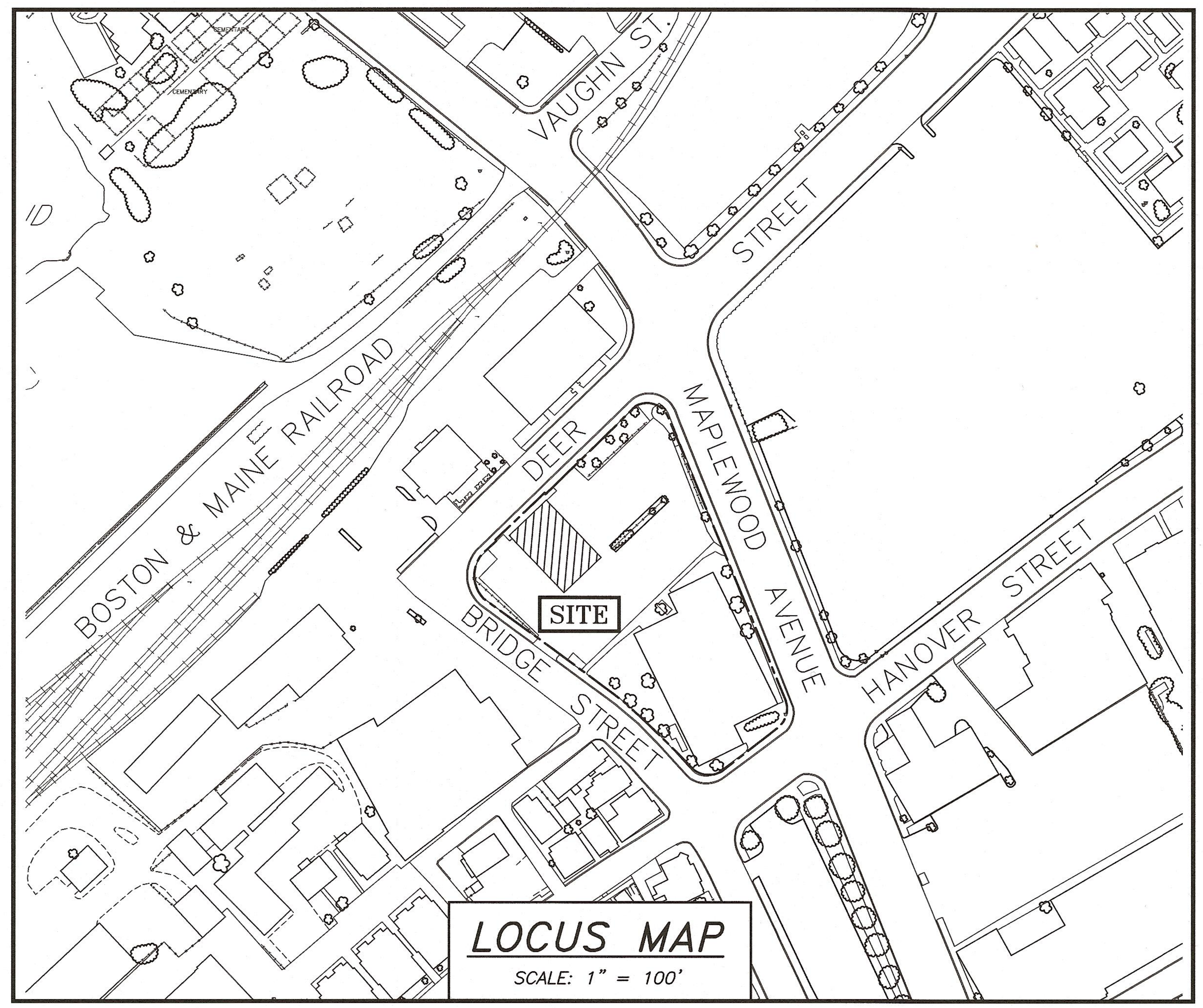
OWNER/APPLICANT:
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H. 03801
Tel. (978) 479-1718

CIVIL ENGINEER & LAND SURVEYOR:
AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
Tel. (603) 430-9282
Fax (603) 436-2315

ARCHITECT:
McHENRY ARCHITECTURE
4 MARKET STREET
PORTSMOUTH, N.H. 03801
TEL. (603) 430-0274

PARKING CONSULTANT
GORRILL PALMER
707 SABLE OAKS DRIVE,
SUITE 30
SOUTH PORTLAND, ME 04106
TEL. (207) 772-2515





PERMIT LIST:
PORTSMOUTH HDC: GRANTED 11/3/21
PORTSMOUTH ZONING BOARD: GRANTED 9/28/21
PORTSMOUTH SITE REVIEW: PENDING
PORTSMOUTH CONDITIONAL USE PERMIT: APPROVED 2/18/21

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
WSO GSO	WSO GSO	SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
	SMH	SEWER MANHOLE
	DMH	DRAIN MANHOLE
	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

DIG SAFE
MA – ME – NH – RI – VT
1-888-344-7233
CALL TOLL FREE

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436-7708, Ext. 555.5678
ATTN: MICHAEL BUSBY, P.E. (MANAGER)

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294-5144
ATTN: DAVE BEAULIEU

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679-5695 (X1037)
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427-1530
ATTN: JIM TOW

COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
JOE CONSIDINE
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427-5525

INDEX OF SHEETS

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

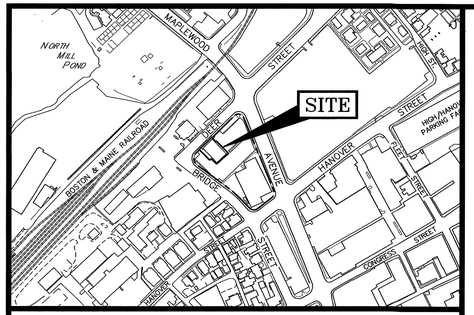
CHAIRMAN ______________ DATE ______________

PERMIT PLANS
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

PLAN SET SUBMITTAL DATE: 18 NOVEMBER 2021

2916



LOCATION MAP SCALE: 1" = 300'

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY
	SETBACK
	RAILROAD SPIKE FOUND
	IRON ROD/PIPE FOUND
	DRILL HOLE FOUND
	STONE/CONCRETE BOUND FOUND
	RAILROAD SPIKE SET
	IRON ROD SET
	DRILL HOLE SET
	GRANITE BOUND SET
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
G W E	METER (GAS, WATER, ELECTRIC)
TYP.	TYPICAL
LSA	LANDSCAPED AREA

PLAN REFERENCES:

1. SUBDIVISION PLAN TAX MAP 125 – LOT 2, OWNER: 30 MAPLEWOOD, LLC, 30–46 MAPLEWOOD AVENUE, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, PREPARED BY AMBIT ENGINEERING, INC., SCALE 1" = 20', DATED OCTOBER 2015 REVISED 4/18/17, RCRD D–40246
2. PLAN OF LAND NO. 238 DEER ST. PORTSMOUTH, N.H., SCALE: 1IN = 10 FT., DATED MAY 1954 PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS RCRD #02164

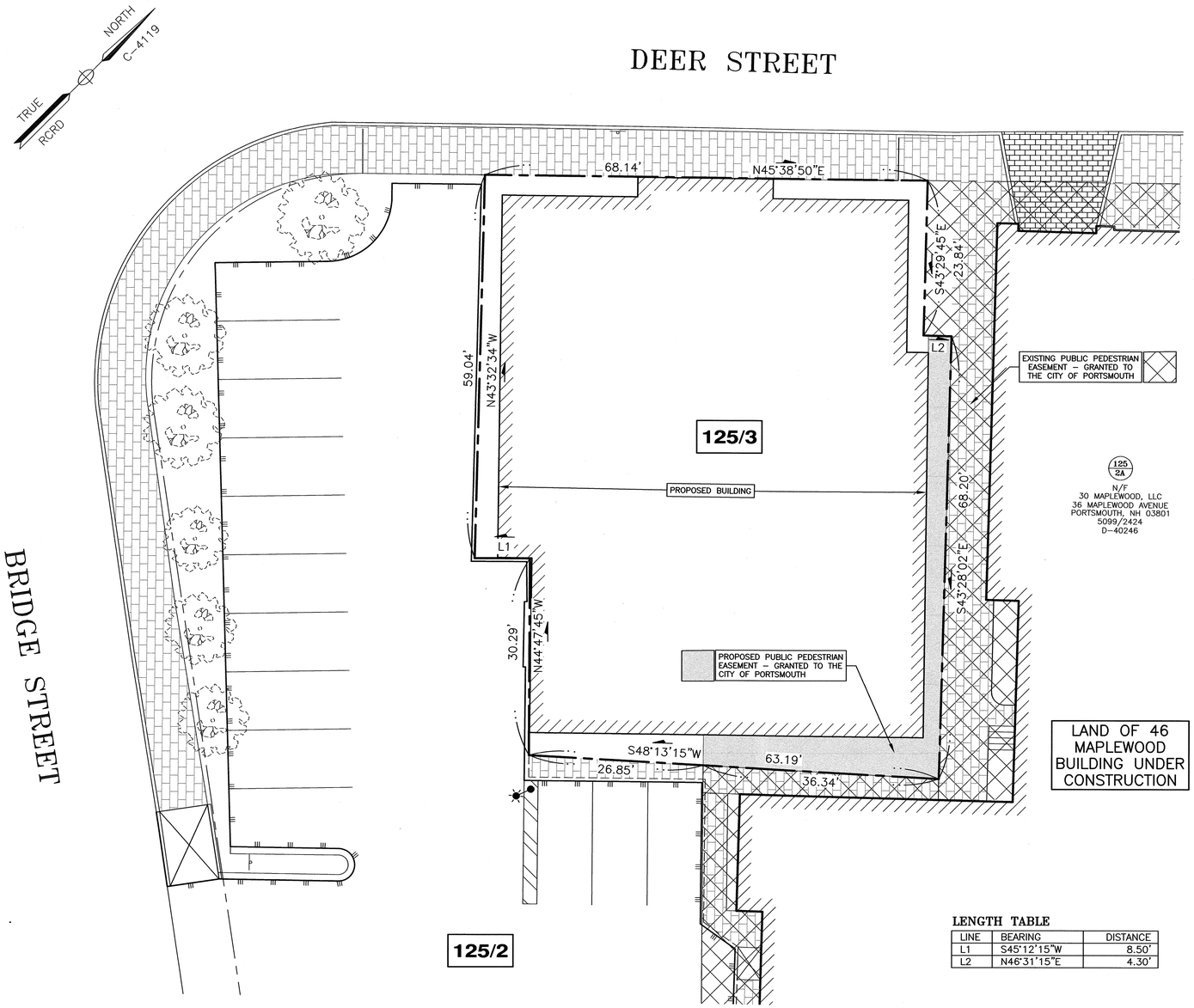
I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

JOHN R. CHAGNON, LLS 738

11.18.21
DATE

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 738 JOHN R. CHAGNON



LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S45°12'15"W	8.50'
L2	N46°31'15"E	4.30'

GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 125 AS LOT 3.

2) OWNER OF RECORD:

238 DEER STREET, LLC.
238 DEER STREET
PORTSMOUTH, NH 03801
5890/1712
RCRD #02164

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4, HISTORIC DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

4) DIMENSIONAL REQUIREMENTS:
CHARACTER DISTRICT 4 (CD4):

MIN. LOT AREA:	NO REQUIREMENT
FRONTAGE:	NO REQUIREMENT
SETBACKS:	
FRONT (MAX.)	10 FEET (PRIMARY)
FRONT (MAX.)	15 FEET (SECONDARY)
SIDE	NO REQUIREMENT
REAR	5 FEET
MAXIMUM STRUCTURE HEIGHT:	45 FEET
MAXIMUM STRUCTURE COVERAGE:	90%
MAXIMUM BUILDING FOOTPRINT:	15,000 S.F.
MINIMUM OPEN SPACE:	10%
MINIMUM FRONT LOT LINE BUILDOUT:	50%

5) LOT AREAS:
6,181 S.F.
0.1419 ACRES

6) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F, JANUARY 29, 2021.

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED EXPANDED PUBLIC ACCESS EASEMENT ON ASSESSOR'S MAP 125 LOT 3.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	11/18/21

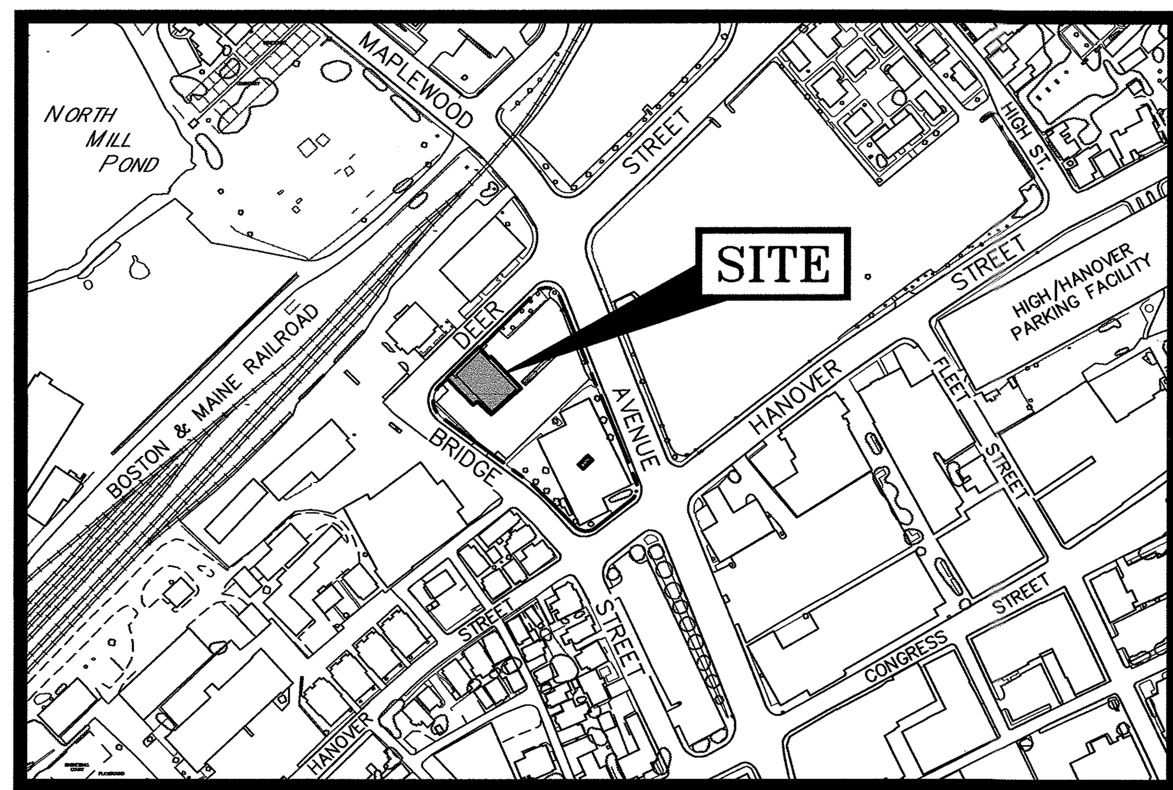
REVISIONS

PROPOSED EASEMENT PLAN
LAND OF
238 DEER STREET, LLC
FOR THE BENEFIT OF:
THE CITY OF PORTSMOUTH
TAX MAP 125 – LOT 3
238 DEER STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 10' NOVEMBER 2021

FB 410 & PG 75 2916

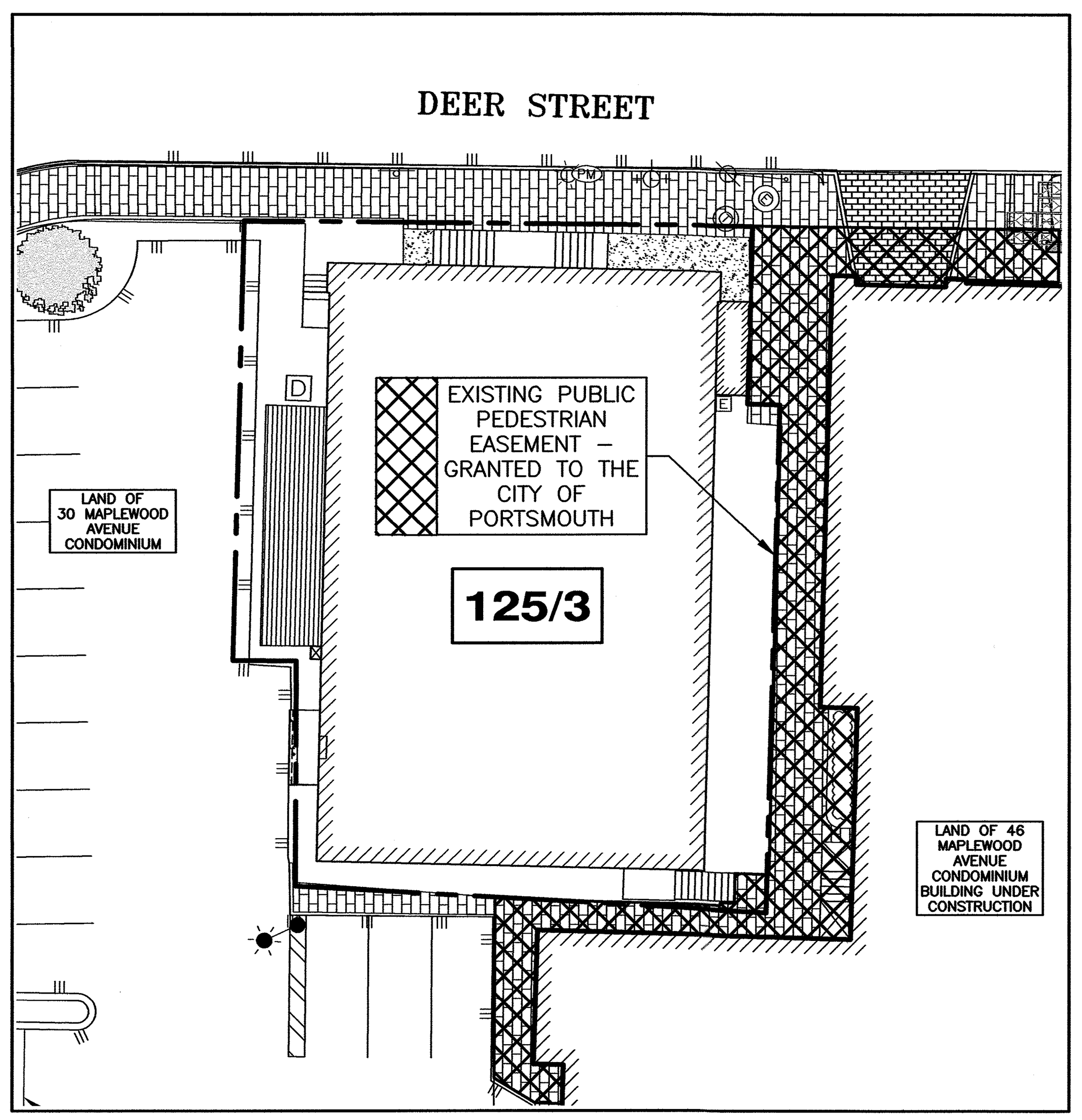
J:\JOBS2\JN2900's\JN 2910's\JN 2916\2020 Site Plan\Plans & Specs\Site\2916 PUBLIC ACCESS EASEMENT 2021.dwg, 11/18/2021 11:35:17 AM, Canon TX-3000.pc3



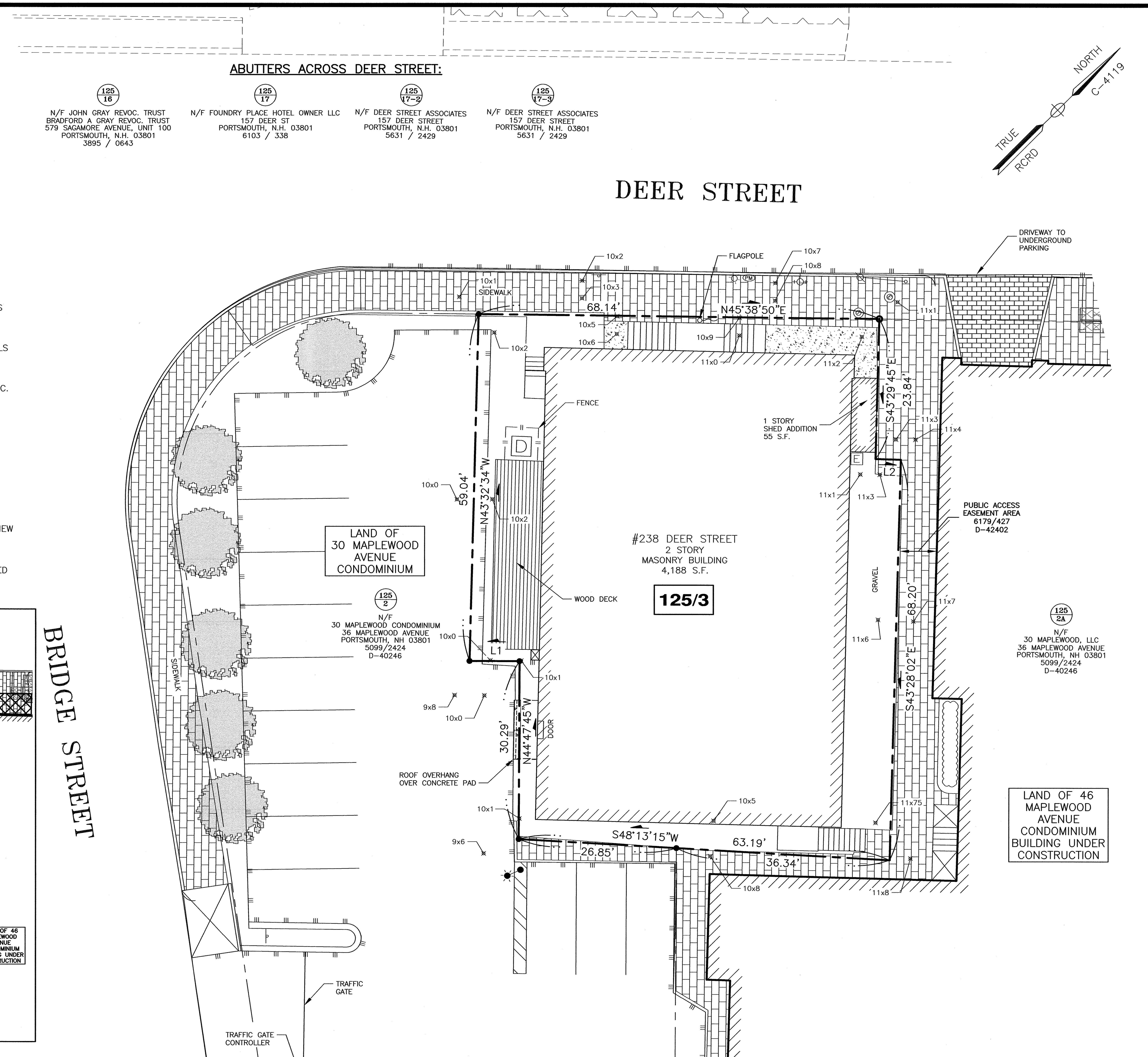
LOCATION MAP SCALE: 1" = 300'

PLAN REFERENCES:

1. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 7. DATED OCT. 1973 BY ANDERSON–NIHOLS & CO., INC. RCRD #D–4119.
2. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 10. DATED OCT. 1973 BY ANDERSON–NIHOLS & CO., INC. RCRD #D–4125.
3. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION MAP. DATED NOV. 1969 BY ANDERSON–NIHOLS & CO., INC. RCRD #D–2408.
4. EASEMENT SITE PLAN, TAX MAP 125 – LOT 2, 30 MAPLEWOOD, LLC TO PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (PSNH), SCALE: 1" = 20', OCTOBER 2013 BY AMBIT ENGINEERING. RCRD D–38148.
5. PROPOSED EASEMENT TO CITY OF PORTSMOUTH, SCALE: 1" = 10', 9/18/13 BY AMBIT ENGINEERING. BK 5512, PG 1046.
6. CONDOMINIUM SITE PLAN, TAX MAP 125 – LOT 2, BY AMBIT ENGINEERING. RCRD D–38936; AMENDED AT RCRD D–39005.
7. SUBDIVISION PLAN TAX MAP 125 – LOT 2, OWNER: 30 MAPLEWOOD, LLC, 30–46 MAPLEWOOD AVENUE, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, PREPARED BY AMBIT ENGINEERING, INC., SCALE 1" = 20', DATED OCTOBER 2015 REVISED 4/18/17, RCRD D–40246
8. PLAN OF LAND NO. 238 DEER ST. PORTSMOUTH, N.H., SCALE: 1IN = 10 FT., DATED MAY 1954 PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS RCRD #02164



PUBLIC WALKWAY EASEMENT 1"=20'



LENGTH TABLE

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L2	N46°31'15"E	4.30'

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

JOHN R. CHAGNON, LLS 738 — DATE 9·1·21

STATE OF NEW HAMPSHIRE — JOHN R. CHAGNON No. 738 — LICENSED LAND SURVEYOR

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 125 AS LOT 3.

2) OWNER OF RECORD:
238 DEER STREET, LLC.
238 DEER STREET
PORTSMOUTH, NH 03801
5890/1712
RCRD #02164

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4, HISTORIC DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

4) DIMENSIONAL REQUIREMENTS:
CHARACTER DISTRICT 4 (CD4):

MIN. LOT AREA:	NO REQUIREMENT
FRONTAGE:	NO REQUIREMENT
SETBACKS:	
FRONT (MAX.)	10 FEET (PRIMARY)
SIDE	NO REQUIREMENT
REAR	5 FEET
MAXIMUM STRUCTURE HEIGHT:	40 FEET
MAXIMUM STRUCTURE COVERAGE:	90%
MAXIMUM BUILDING FOOTPRINT:	15,000 S.F.
MINIMUM OPEN SPACE:	10%
MINIMUM FRONT LOT LINE BUILDOUT:	50%

5) LOT AREA: 6,181 S.F., 0.1419 ACRES.

6) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F, JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE BOUNDARY AND EXISTING CONDITIONS ON MAP 125, LOT 3.

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	9/1/21

REVISIONS

SCALE: 1" = 10' AUGUST 2021

EXISTING CONDITIONS PLAN — C1

FB 410 PG 75 — 2916

DEMOLITION NOTES:

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.

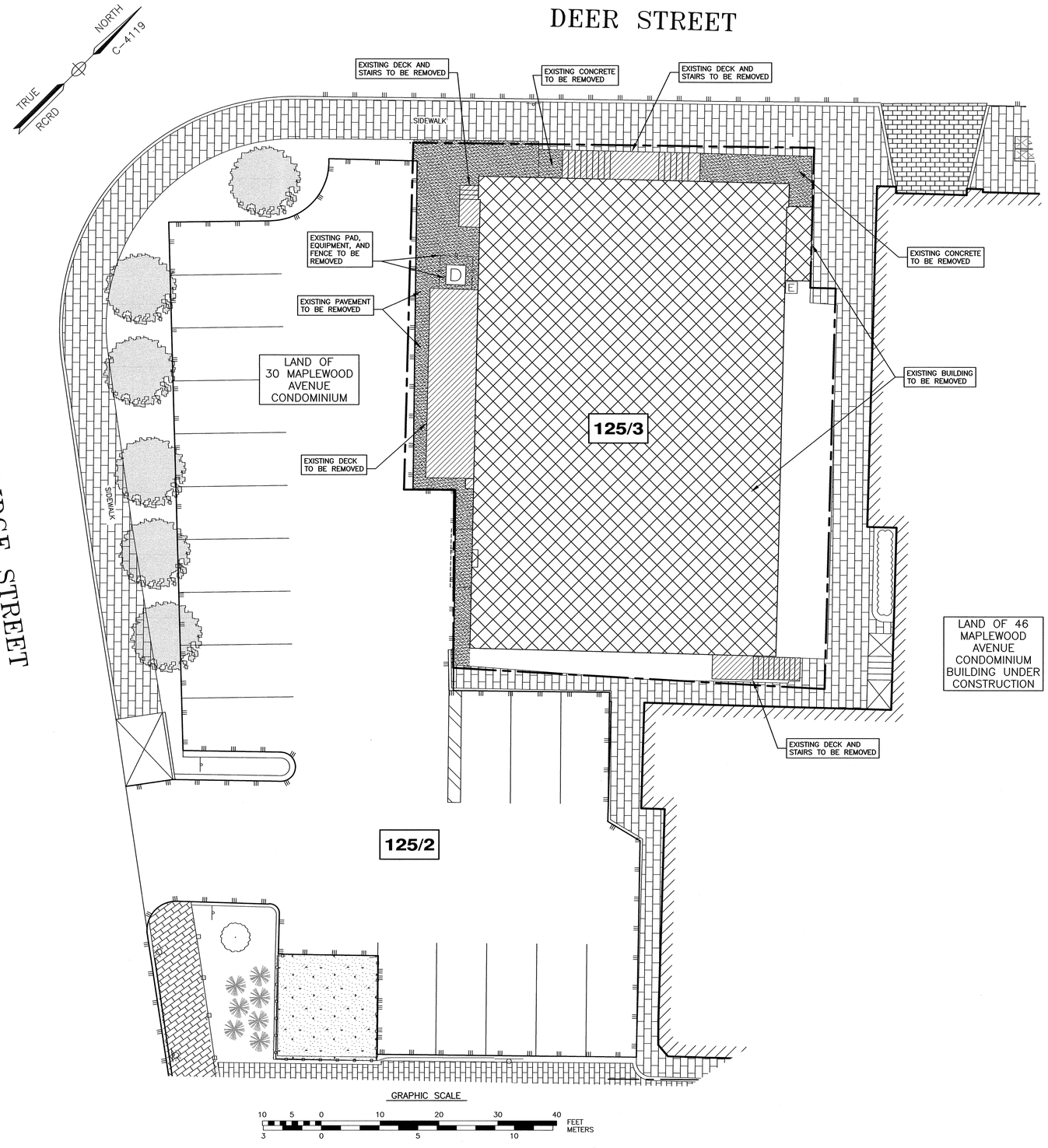
I) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

J) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A NH LICENSED LAND SURVEYOR TO REPLACE THEM.

K) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

L) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

M) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



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Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	TAC WORKSHOP	3/2/21

REVISIONS

STATE OF NEW HAMPSHIRE · JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 10' NOVEMBER 2020

DEMOLITION PLAN C2

FB & PG 2916

ZONING DEVELOPMENT STANDARD

CD4: CHARACTER DISTRICT 4

BUILDING PLACEMENT (PRINCIPLE):

		238 DEER STREET	
	REQUIRED	EXISTING	PROPOSED
MAX. PRINCIPLE FRONT YARD:	10.0'	1'	0'
MAX. SECONDARY FRONT YARD:	N/A	N/A	N/A
MIN. SIDE YARD:	NR	0'	0'
MIN. REAR YARD:	5.0'	3.5'	3.5'
FRONT LOT LINE BUILDOUT:	50% MIN.	78%	92%

BUILDING TYPES:

ALLOWED BUILDING TYPES: ROWHOUSE, APARTMENT, LIVE/WORK, SMALL/LARGE COMMERCIAL
PROHIBITED: HOUSE & DUPLEX

ALLOWED FACADE TYPE: STOOP, STEP, SHOPFRONT, OFFICEFRONT, RECESSED-ENTRY
PROHIBITED: PORCH & FORECOURT

BUILDING FORM:

	REQUIRED	EXISTING	PROPOSED
MAX STRUCTURE HEIGHT:	40.0' + 2.0' PENTHOUSE	23' +/-	42'
STRUCTURE HEIGHT (IN STORIES):	3	1	3 + PENTHOUSE
PENTHOUSE AREA:	50% MAX. OF STORY BELOW	N/A	3,206 S.F.-60% 1,907 S.F.-35.6%
PENTHOUSE SETBACK:	15.0'	N/A	8.0'
MAX. FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 INCHES	6'	1'
MIN. GROUND STORY HEIGHT:	12.0'	14.0'	12.0'
MIN. SECOND STORY HEIGHT:	10.0'	N/A	10.5'
FACADE GLAZING (OTHER):	20% MIN. TO 50% MAX.	N/A	42%

ROOF TYPE ALLOWED: FLAT, GABLE, HIP, GAMBREL, MANSARD

LOT OCCUPATION:

	REQUIRED	EXISTING	PROPOSED
MAX BUILDING BLOCK:	200'	53'	63'
MAX FACADE MOD. LENGTH:	80'	53'	21'
MIN. ENTRANCE SPACING:	50'	N/A	N/A
MAX BUILDING COVERAGE:	90%	74%	85%
MAX BUILDING FOOTPRINT:	15,000 SF	4,243 S.F.	5,286 S.F.
GROSS BUILDING:		8,346 S.F.	19,190 S.F.
MIN. LOT AREA:	NR	6,181 S.F.	6,181 S.F.
MIN. LOT AREA/DWELLING (LOT AREA/# OF UNITS):	NR	N/A	N/A
MIN. OPEN SPACE :	10%	9.67%	2.7%

IMPERVIOUS SURFACE AREAS

(TO PROPERTY LINE)

STRUCTURE	PRE-CONSTRUCTION IMPERVIOUS (S.F.)	POST-CONSTRUCTION IMPERVIOUS (S.F.)
BUILDING	4,243	5,286
DECKS	264	0
STAIRS	194	0
CONCRETE	137	0
PAVEMENT	458	70
BRICK WALKWAY	104	559
GRAVEL	531	0
TOTAL	5931	5915
LOT SIZE	6,181	6,181
% LOT COVERAGE	96.0%	95.7%

LANDSCAPE SCHEDULE

No.	ITEM	SIZE	QTY
1	PURPLE LOVEGRASS ERGAROSTIS SPECTABILIS	2 GAL.	31
2	PINK SPIRES CRABAPPLE MALUS "PINK SPIRES"	$1\frac{1}{2}$" CAL.	2
3	EVER-LOW YEW TAXUS MEDIA "EVER-LOW"	18"-24" SPD.	4

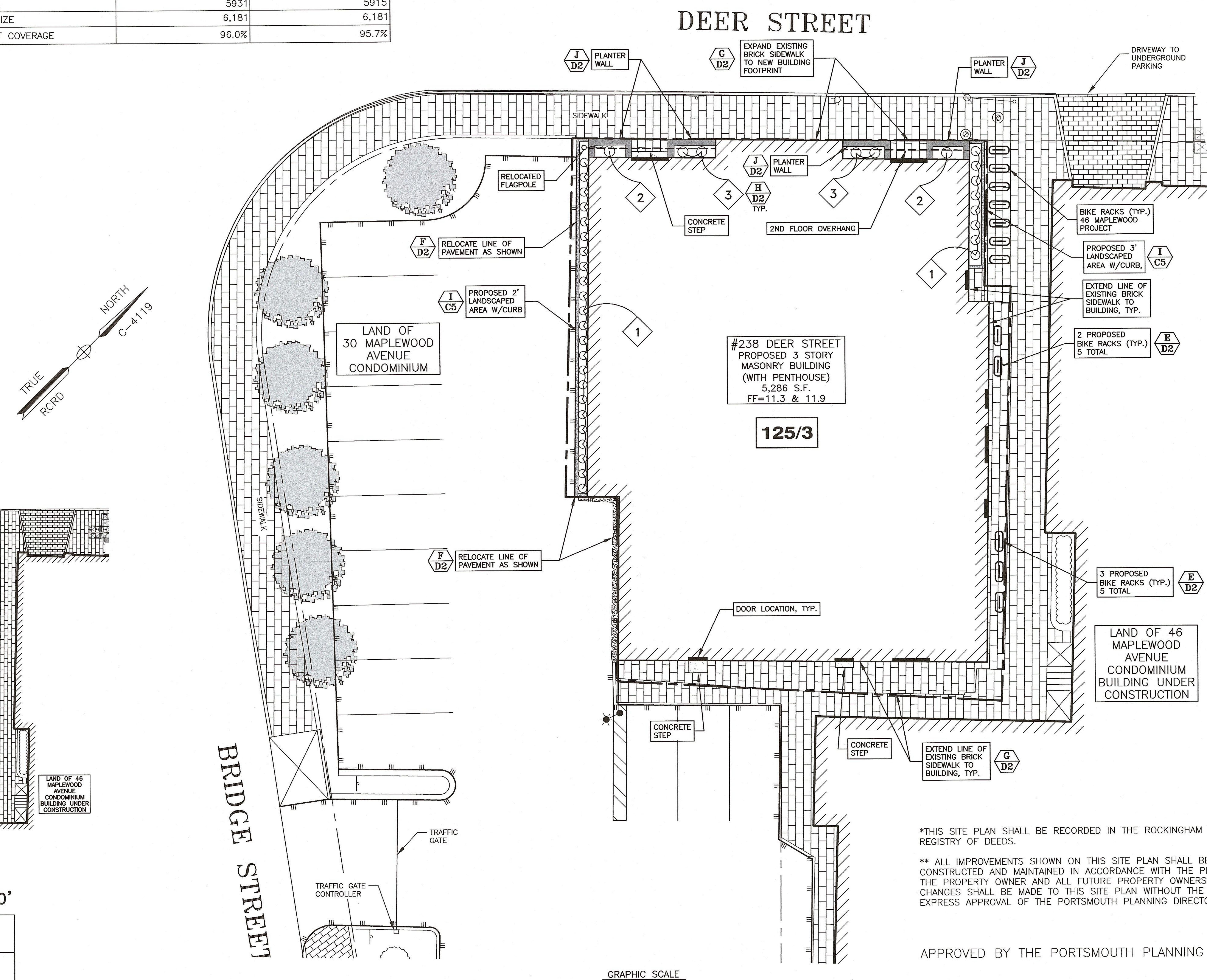
PLANNING BOARD CUP APPROVAL CONDITIONS:

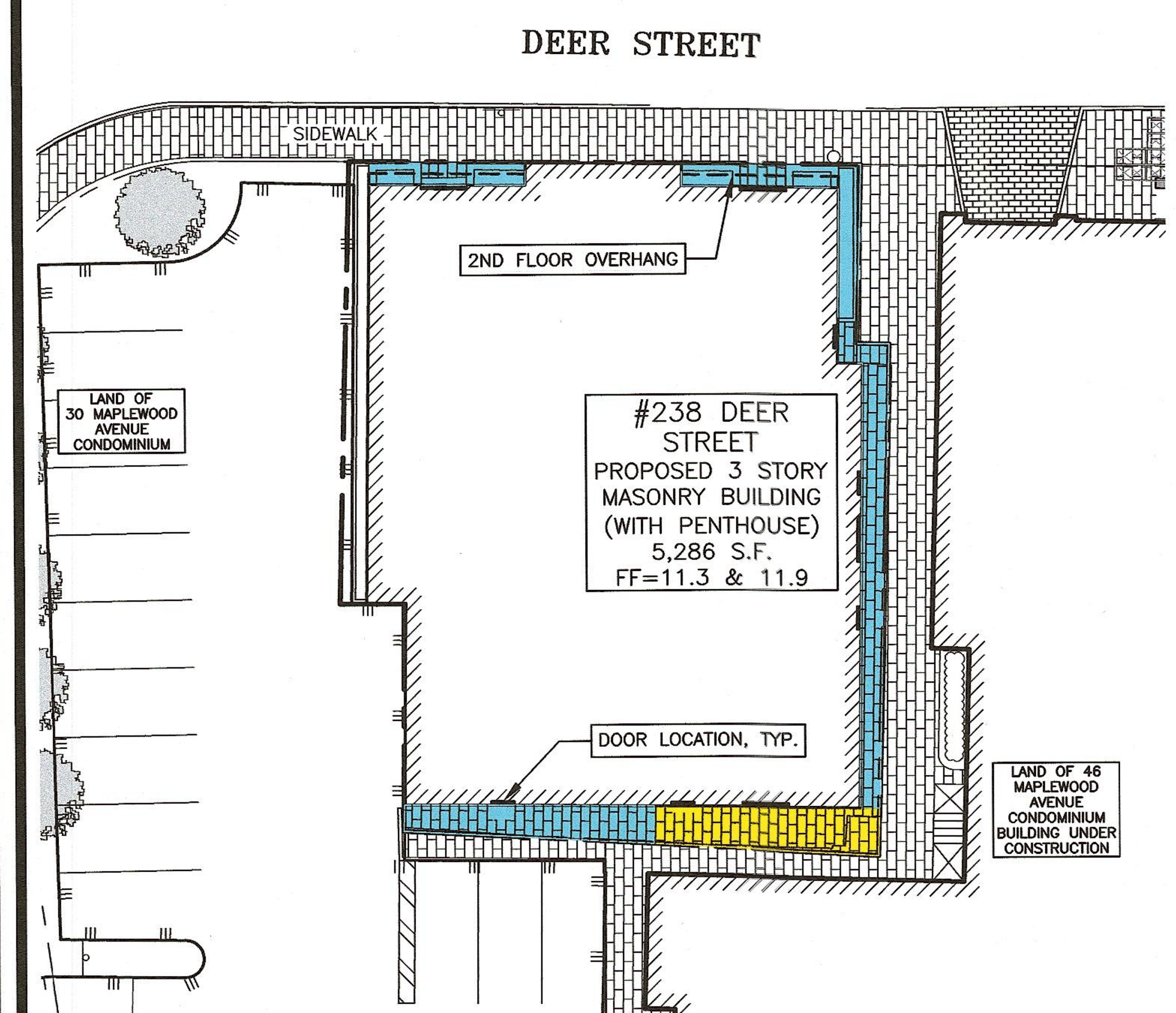
1) A minimum of 7 off-street parking spaces shall be provided via a long-term lease, shared parking agreement or option to enter into a long-term lease or share parking agreement with a property owner in the vicinity of the project. The lease, shared parking agreement or option for the off-site parking spaces shall be reviewed annually with the property owner and Planning Director and shall be renewed as needed for a period of up to 5 years from the issuance of the final certificate of occupancy for the property.

2) Revise the draft lease agreement related to the tenants' obligation to secure off-site parking if the tenant owns a car by removing paragraph 2 of the draft lease agreement presented by the applicant. The final lease agreement shall be reviewed and approved by the Planning Director and City Attorney.

BOARD OF ADJUSTMENT APPROVAL CONDITIONS:

1) Penthouse-level units shall not exceed 500 square feet.





OPEN SPACE EXHIBIT 1"=20'

MEETS ORDINANCE CRITERIA	(yellow)	169 S.F. (2.7%)
MEETS ORDINANCE INTENT	(blue)	536 S.F. (8.7%)
TOTAL		705 S.F. (11.4%)

*THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

** ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 125 AS LOT 3.

2) OWNER OF RECORD:
238 DEER STREET, LLC.
238 DEER STREET
PORTSMOUTH, NH 03801
5890/1712
RCRD #02164

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4, HISTORIC DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

4) DIMENSIONAL REQUIREMENTS:
CHARACTER DISTRICT 4 (CD4):

MIN. LOT AREA:	NO REQUIREMENT
FRONTAGE:	NO REQUIREMENT
SETBACKS:	
FRONT (MAX.)	10 FEET (PRIMARY)
SIDE	NO REQUIREMENT
REAR	5 FEET
MAXIMUM STRUCTURE HEIGHT:	40 FEET
MAXIMUM STRUCTURE COVERAGE:	90%
MAXIMUM BUILDING FOOTPRINT:	15,000 S.F.
MINIMUM OPEN SPACE:	10%
MINIMUM FRONT LOT LINE BUILDOUT:	50%

5) LOT AREA: 6,181 S.F., 0.1419 ACRES.

6) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F, JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED REPLACEMENT STRUCTURE ON MAP 125, LOT 3.

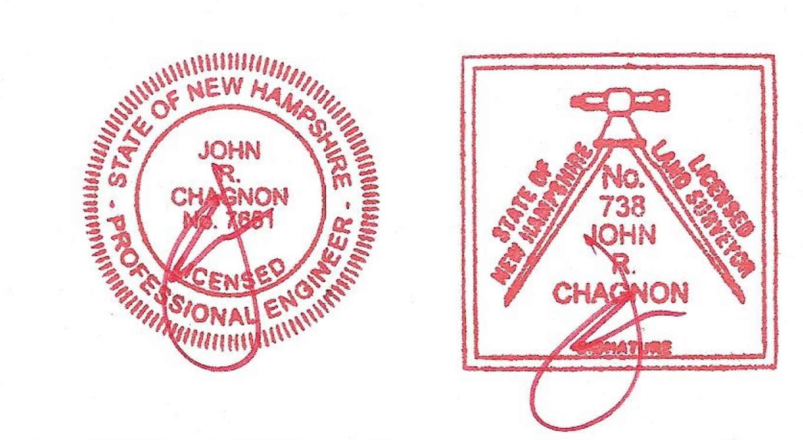
8) SOLID WASTE PICKUP SHALL BE PROVIDED BY A PRIVATE WASTE HAULING COMPANY.

9) DEVELOPER SHALL PROVIDE PUBLIC ACCESS EASEMENTS WHERE ADJACENT TO EXISTING PUBLIC ACCESS EASEMENTS (EAST AND SOUTH SIDES).

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	CURB, PLANTER WALL	11/18/21
1	NOTES 8 & 9	11/2/21
0	ISSUED FOR COMMENT	9/1/21

REVISIONS



SCALE: 1" = 10'   AUGUST 2021

SITE PLAN   C3

FB 410 PG 75   2916

UTILITY NOTES:

1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.

2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.

3) CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.

4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.

5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.

6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.

7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH

8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.

9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.

10) EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.

11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.

12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.

13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.

16) THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THESE DRAWING TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.

17) CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.

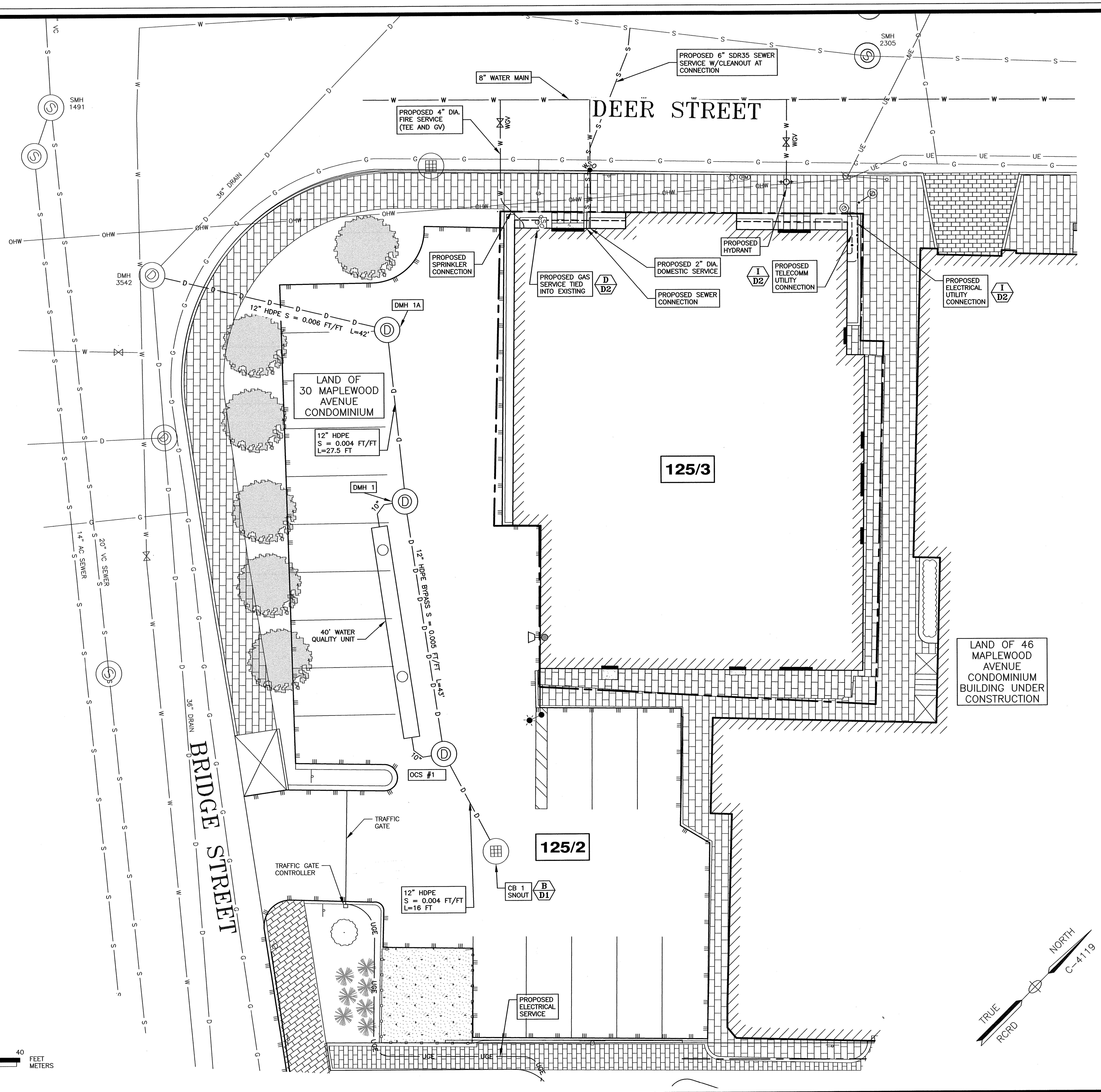
18) A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS WATER ABOVE SEWER.

19) SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.

20) GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.

21) COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.

22) ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) INSTALL CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED CATCH BASINS UNTIL CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED.

5) ALL WATER MAIN AND SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE NEW HAMPSHIRE STATE PLUMBING CODE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

6) UTILITY AS-BUILTS SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS UPON COMPLETION OF THE PROJECT.

7) EVERSOURCE WORK ORDER #6893710

8) PROPOSED SEWER FLOW:
21 UNITS X 170 GPD/UNITS = 3,570 GPD
2,585 S.F. COMMERCIAL X 5 GPD/100 S.F. = 130 GPD
TOTAL FLOW: 3,700 GPD

9) THE APPLICANT SHALL HAVE A COMMUNICATIONS SITE SURVEY CONDUCTED BY A MOTOROLA COMMUNICATIONS CARRIER APPROVED BY THE PORTSMOUTH'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE PORTSMOUTH POLICE AND FIRE RADIO SYSTEMS CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER WILL BE REQUIRED TO MAINTAIN ANY INSTALLED EQUIPMENT. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES THAT EQUIPMENT IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR PORTSMOUTH. THE SURVEY SHALL BE COMPLETED AND ANY REQUIRED EQUIPMENT INSTALLED, TESTED, AND ACCEPTED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

10) FINAL CONDUIT LOCATION SUBJECT TO CONFIRMATION FROM UTILITY PROVIDERS.

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
3	WATER SERVICE	11/2/21
2	TAC SUBMISSION	10/18/21
1	UPDATE UTILITIES	3/23/21
0	TAC WORKSHOP	3/2/21

REVISIONS

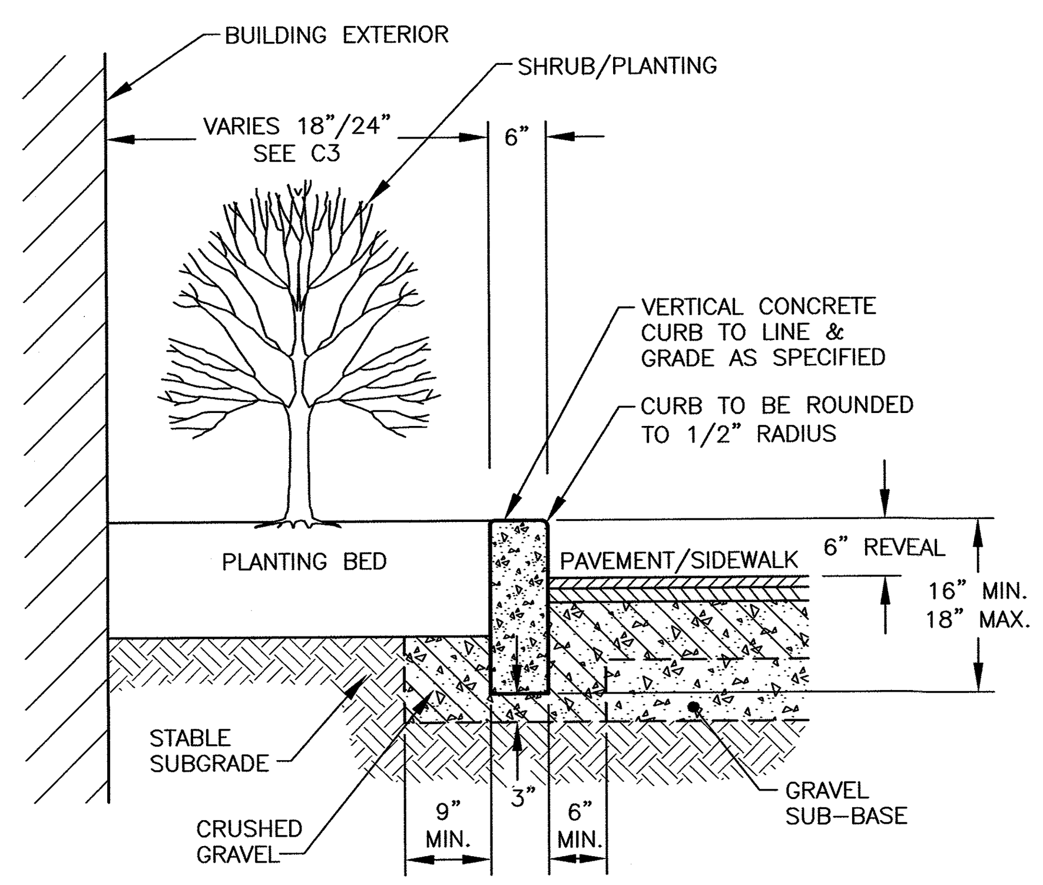
STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 10'
NOVEMBER 2020

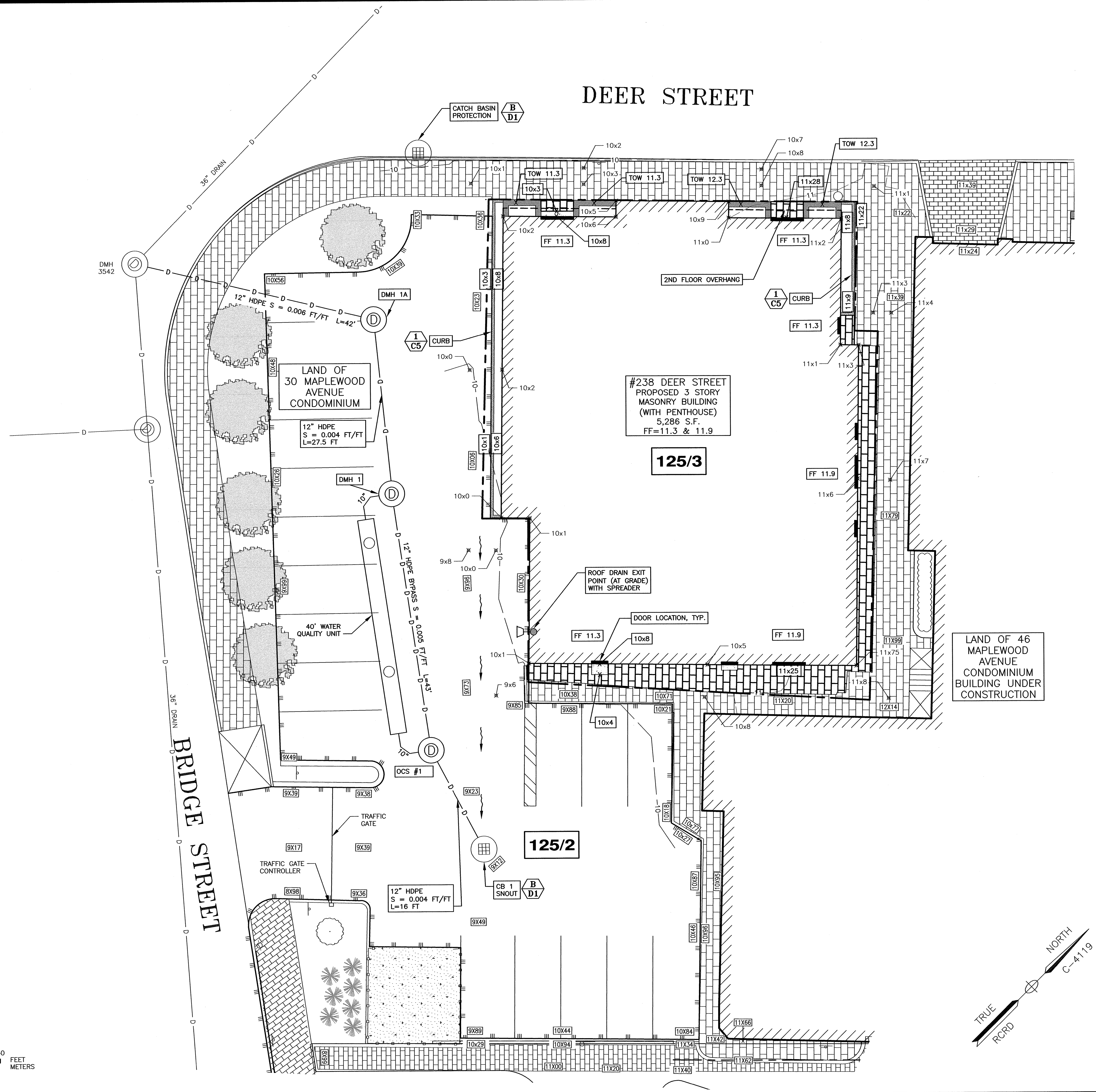
UTILITY PLAN

C4

FB 410 PG 75
2916



I C5 VERTICAL CONCRETE CURB
NTS



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
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NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) OFF SITE DRAINAGE IMPROVEMENTS INSTALLED BY OTHERS.

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DRAINS/GRADES	11/18/21
0	TAC SUBMISSION	10/18/21

REVISIONS

STATE OF NEW HAMPSHIRE JOHN CHAGNON No. 7351 LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 10' NOVEMBER 2020

GRADING PLAN C5

FB 410 PG 75 2916

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

IF REQUIRED THE CONTRACTOR SHALL OBTAIN AN **NPDES** PHASE II STORMWATER PERMIT AND SUBMIT A NOTICE OF INTENT (N.O.I) BEFORE BEGINNING CONSTRUCTION AND SHALL HAVE ON SITE A STORMWATER POLLUTION PREVENTION PLAN (**S.W.P.P.P.**) AVAILABLE FOR INSPECTION BY THE PERMITTING AUTHORITY DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE **S.W.P.P.P.** AND INSPECTING AND MAINTAINING ALL BMP'S CALLED FOR BY THE PLAN. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (**N.O.T.**) FORM TO THE REGIONAL EPA OFFICE WITHIN 30 DAYS OF FINAL STABILIZATION OF THE ENTIRE SITE OR TURNING OVER CONTROL OF THE SITE TO ANOTHER OPERATOR.

INSTALL PERIMETER CONTROLS, CATCH BASIN PROTECTION ON ALL CATCH BASINS IN PROJECT AREA BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAYBALES IS NOT ALLOWED.

PLACE FODS AS NEEDED THROUGHOUT PROJECT.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED. DEMOLISH EXISTING BUILDING, REMOVE IMPACTED UTILITIES.

ROUGH GRADE SITE.

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES UP TO 10' OF THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING FOUNDATION.

CONNECT UTILITIES.

CONSTRUCT BUILDING.

PLACE BINDER LAYER OF PAVEMENT FOR SIDEWALKS.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING LANDSCAPED WORK.

CONSTRUCT SIDEWALKS AND INSTALL BIKE RACKS.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

DUST CONTROL: IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILT FENCES AND SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT FENCES AND SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

AVOID THE USE OF FUTURE OPEN SPACES (LOAM AND SEED AREAS) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ACCESS DRIVES AND PARKING AREAS.

ADDITIONAL TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS--CONSTRUCT SILT FENCE OR SILTSOXX AROUND TOPSOIL STOCKPILE.

AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. STUMPS SHALL BE DISPOSED OF IN AN APPROVED FACILITY.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
- EROSION CONTROL BLANKETS HAVE BEEN INSTALLED

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE.

FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER.

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE:

GENERAL COVER	PROPORTION	SEEDING RATE
CREEPING RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	
SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)		
CREEPING RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFOIL	16%	

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL SEED LAWS.

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:
PERENNIAL RYE: 0.7 LBS/1,000 S.F.
MULCH: 1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THEN TEN (10) DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2 1/2 TO 3 INCHES HIGH. ALL BARE AND DEAD SPOTS WHICH BECOME APPARENT SHALL BE PROPERLY PREPARED, LIMED AND FERTILIZED, AND RESEEDED BY THE CONTRACTOR AT HIS EXPENSE AS MANY TIMES AS NECESSARY TO SECURE GOOD GROWTH. THE ENTIRE AREA SHALL BE MAINTAINED, WATERED AND CUT UNTIL ACCEPTANCE OF THE LAWN BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS DEVELOPING.

TO BE ACCEPTABLE, SEEDED AREAS SHALL CONSIST OF A UNIFORM STAND OF AT LEAST 90 PERCENT ESTABLISHED PERMANENT GRASS SPECIES, WITH UNIFORM COUNT OF AT LEAST 100 PLANTS PER SQUARE FOOT.

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.

THE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

THE SILT FENCE OR SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

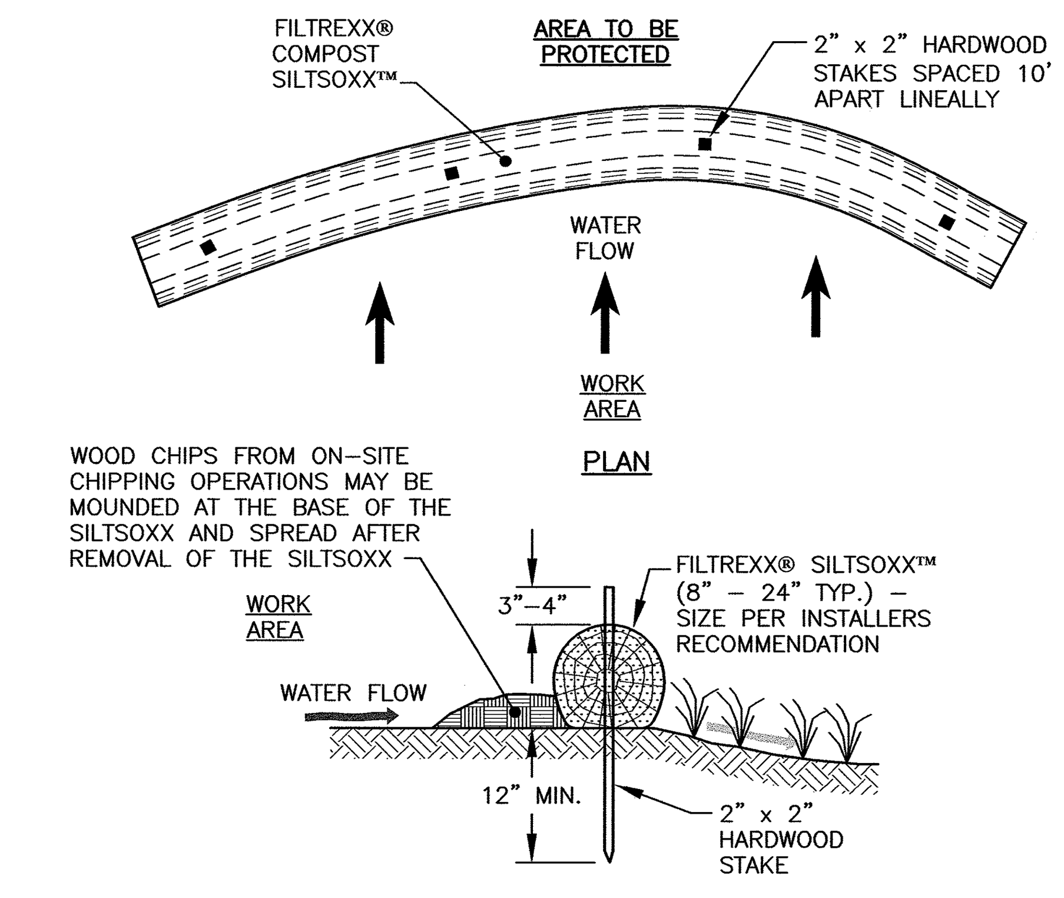
SILT FENCING AND SILTSOXX SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE AND SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

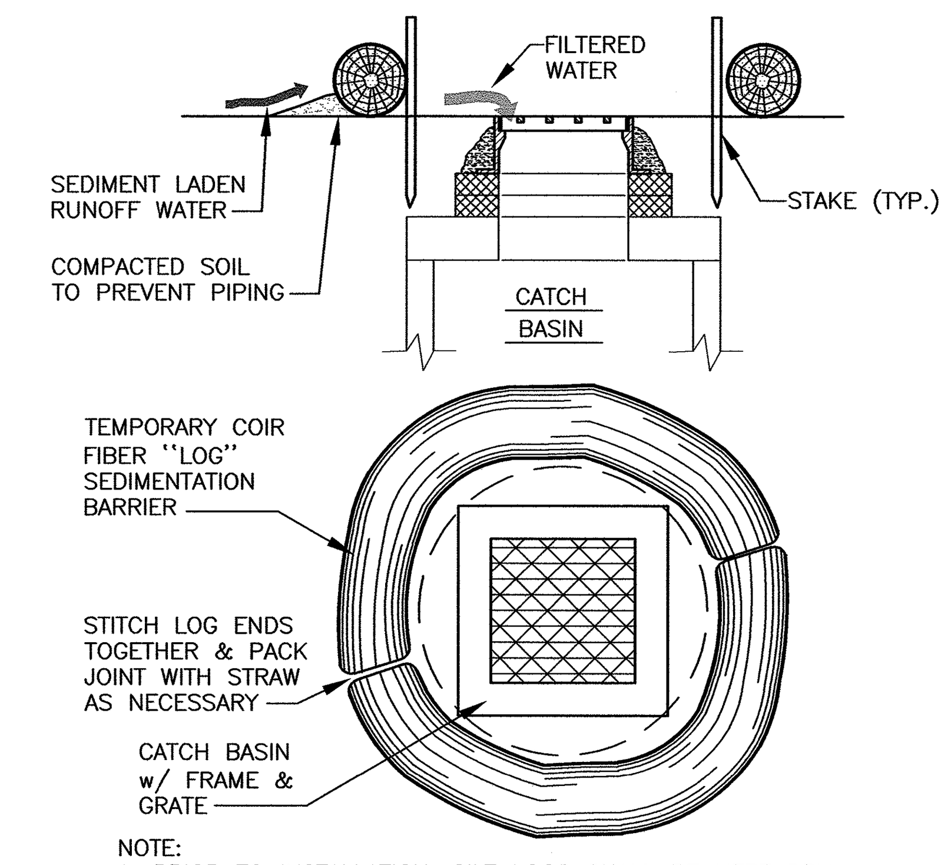
ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

A / –
FILTREXX®
SILTSOXX™ FILTRATION SYSTEM
(AS NEEDED) NTS



NOTE:
1. PRIOR TO INSTALLATION, SILT LOGS SHALL BE KEPT DRY AND STORED IN THEIR ORIGINAL WRAPPING.
2. MINIMUM CROSS SECTIONAL DIAMETER OF SILT LOGS: 12".
3. SILT LOGS MAY BE CUT AND RE-STITCHED AS NEEDED PER MANUFACTURERS RECOMMENDATIONS.
4. SILT LOGS SHALL BE INSPECTED AFTER EACH STORM EVENT.
5. REMOVE ACCUMULATED SILT WHEN DEPTH REACHES ONE HALF OF SILT LOG DIAMETER.
6. IF LOGS ARE TOO STIFF TO BEND AROUND CATCH BASIN INLET, THEY MAY BE CUT AND LAID SQUARE.

B / C5
"SILT LOG" BARRIER
AT CATCH BASIN INLET
(AS NEEDED) NTS

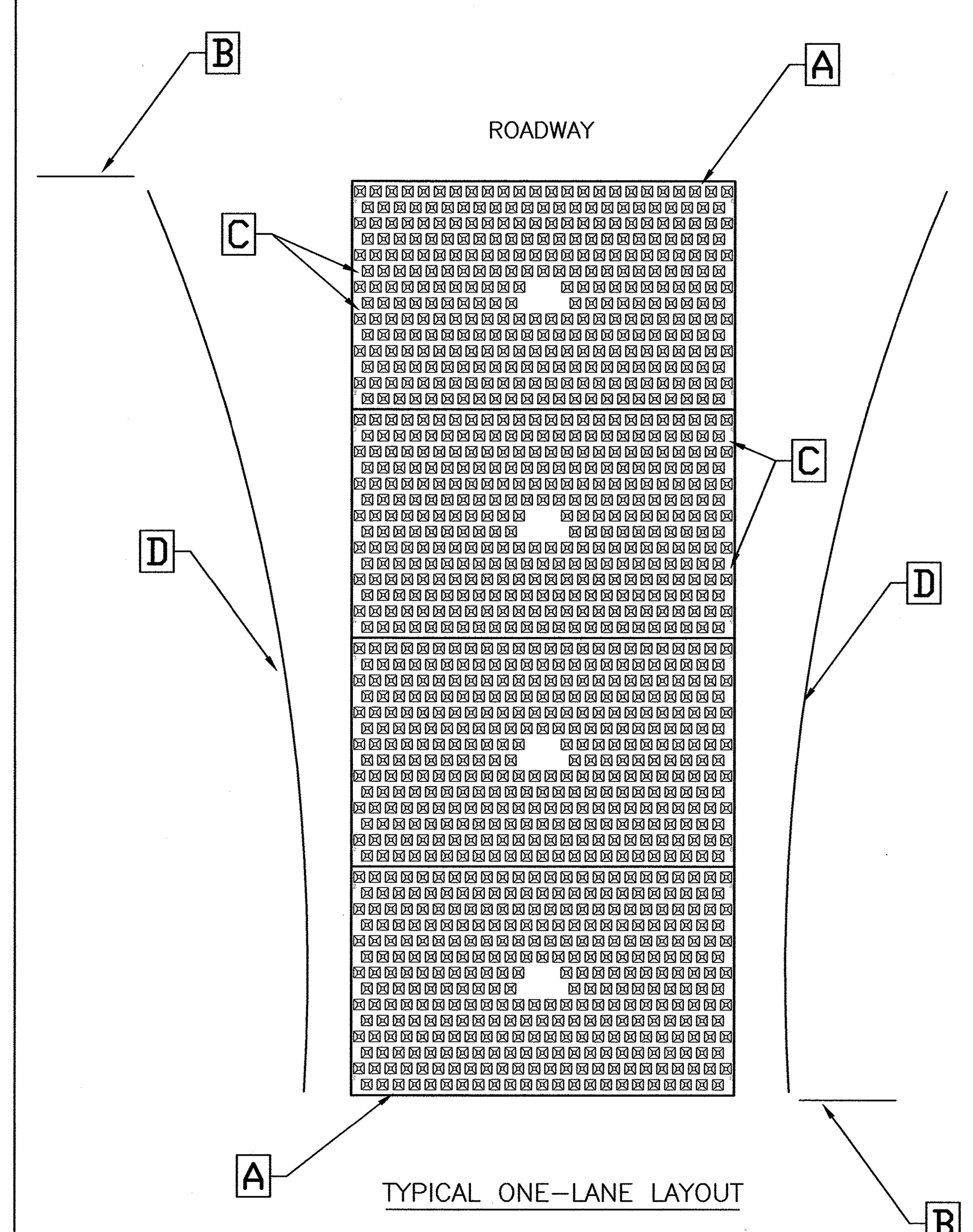
FODS TRACKOUT CONTROL SYSTEM

INSTALLATION:

THE PURPOSE AND DESIGN OF THE FODS TRACKOUT CONTROL SYSTEM IS TO EFFECTIVELY REMOVE MOST SEDIMENT FROM VEHICLE TIRES AS THEY EXIT A DISTURBED LAND AREA ONTO A PAVED STREET. THIS MANUAL IS A PLATFORM FROM WHICH TO INSTALL A FODS TRACKOUT CONTROL SYSTEM. (NOTE: THIS IS NOT A ONE SIZE FITS ALL GUIDE.) THE INSTALLATION MAY NEED TO BE MODIFIED TO MEET THE EXISTING CONDITIONS, EXPECTATIONS, OR DEMANDS OF A PARTICULAR SITE. THIS IS A GUIDELINE. ULTIMATELY THE FODS TRACKOUT CONTROL SYSTEM SHOULD BE INSTALLED SAFELY WITH PROPER ANCHORING AND SIGNS PLACED AT THE ENTRANCE AND EXIT TO CAUTION USERS AND OTHERS.

KEY NOTES:

A. FODS TRACKOUT CONTROL SYSTEM MAT.
B. FODS SAFETY SIGN.
C. ANCHOR POINT.
D. SILT OR ORANGE CONSTRUCTION FENCE.



TYPICAL ONE-LANE LAYOUT

INSTALLATION:
1. THE SITE WHERE THE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED SHOULD CORRESPOND TO BEST MANAGEMENT PRACTICES AS MUCH AS POSSIBLE. THE SITE WHERE FODS TRACKOUT CONTROL SYSTEM IS PLACED SHOULD ALSO MEET OR EXCEED THE LOCAL JURISDICTION OR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.
2. CALL FOR UTILITY LOCATES 3 BUSINESS DAYS IN ADVANCE OF THE OF FODS TRACKOUT CONTROL SYSTEM INSTALLATION FOR THE MARKING OF UNDERGROUND UTILITIES. CALL THE UTILITY NOTIFICATION CENTER AT 811.
3. ONCE THE SITE IS ESTABLISHED WHERE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED, ANY EXCESSIVE UNEVEN TERRAIN SHOULD BE LEVELED OUT OR REMOVED SUCH AS LARGE ROCKS, LANDSCAPING MATERIALS, OR SUDDEN ABRUPT CHANGES IN ELEVATION.
4. THE INDIVIDUAL MATS CAN START TO BE PLACED INTO POSITION. THE FIRST MAT SHOULD BE PLACED NEXT TO THE CLOSEST POINT OF EGRESS. THIS WILL ENSURE THAT THE VEHICLE WILL EXIT STRAIGHT FROM THE SITE ONTO THE PAVED SURFACE.
8. AFTER THE FIRST MAT IS PLACED DOWN IN THE PROPER LOCATION, MATS SHOULD BE ANCHORED TO PREVENT THE POTENTIAL MOVEMENT WHILE THE ADJOINING MATS ARE INSTALLED. ANCHORS SHOULD BE PLACED AT EVERY ANCHOR POINT (IF FEASIBLE) TO HELP MAINTAIN THE MAT IN ITS CURRENT POSITION.
9. AFTER THE FIRST MAT IS ANCHORED IN ITS PROPER PLACE, AN H BRACKET SHOULD BE PLACED AT THE END OF THE FIRST MAT BEFORE ANOTHER MAT IS PLACED ADJACENT TO THE FIRST MAT.
10. ONCE THE SECOND MAT IS PLACED ADJACENT TO THE FIRST MAT, MAKE SURE THE H BRACKET IS CORRECTLY SITUATED BETWEEN THE TWO MATS, AND SLIDE MATS TOGETHER.
11. NEXT THE CONNECTOR STRAPS SHOULD BE INSTALLED TO CONNECT THE TWO MATS TOGETHER.
12. UPON PLACEMENT OF EACH NEW MAT IN THE SYSTEM, THAT MAT SHOULD BE ANCHORED AT EVERY ANCHOR POINT TO HELP STABILIZE THE MAT AND ENSURE THE SYSTEM IS CONTINUOUS WITH NO GAPS IN BETWEEN THE MATS.
13. SUCCESSIVE MATS CAN THEN BE PLACED TO CREATE THE FODS TRACKOUT CONTROL SYSTEM REPEATING THE ABOVE STEPS.

USE AND MAINTENANCE
1. VEHICLES SHOULD TRAVEL DOWN THE LENGTH OF THE TRACKOUT CONTROL SYSTEM AND NOT CUT ACROSS THE MATS.
2. DRIVERS SHOULD TURN THE WHEEL OF THEIR VEHICLES SUCH THAT THE VEHICLE WILL MAKE A SHALLOW S-TURN ROUTE DOWN THE LENGTH OF THE FODS TRACKOUT CONTROL SYSTEM.
3. MATS SHOULD BE CLEANED ONCE THE VOIDS BETWEEN THE PYRAMIDS BECOME FULL OF SEDIMENT. TYPICALLY THIS WILL NEED TO BE PERFORMED WITHIN TWO WEEKS AFTER A STORM EVENT. BRUSHING IS THE PREFERRED METHOD OF CLEANING, EITHER MANUALLY OR MECHANICALLY.
4. THE USE OF ICE MELT, ROCK SALT, SNOW MELT, DE-ICER, ETC. SHOULD BE UTILIZED AS NECESSARY DURING THE WINTER MONTHS AND AFTER A SNOW EVENT TO PREVENT ICE BUILDUP.

REMOVAL
1. REMOVAL OF FODS TRACKOUT CONTROL SYSTEM IS REVERSE ORDER OF INSTALLATION.
2. STARTING WITH THE LAST MAT, THE MAT THAT IS PLACED AT THE INNERMOST POINT OF THE SITE OR THE MAT FURTHEST FROM THE EXIT OR PAVED SURFACE SHOULD BE REMOVED FIRST.
3. THE ANCHORS SHOULD BE REMOVED.
4. THE CONNECTOR STRAPS SHOULD BE UNBOLTED AT ALL LOCATIONS IN THE FODS TRACKOUT CONTROL SYSTEM.
5. STARTING WITH THE LAST MAT IN THE SYSTEM, EACH SUCCESSIVE MAT SHOULD THEN BE MOVED AND STACKED FOR LOADING BY FORKLIFT OR EXCAVATOR ONTO A TRUCK FOR REMOVAL FROM THE SITE.

C / C5
FODS (USE AS REQUIRED)
NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

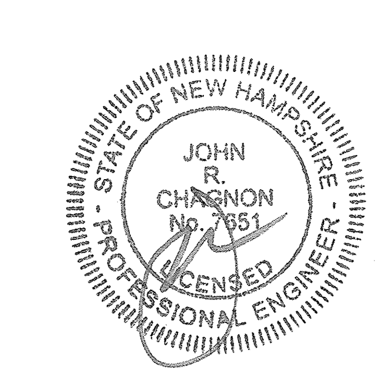
2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	10/18/21

REVISIONS



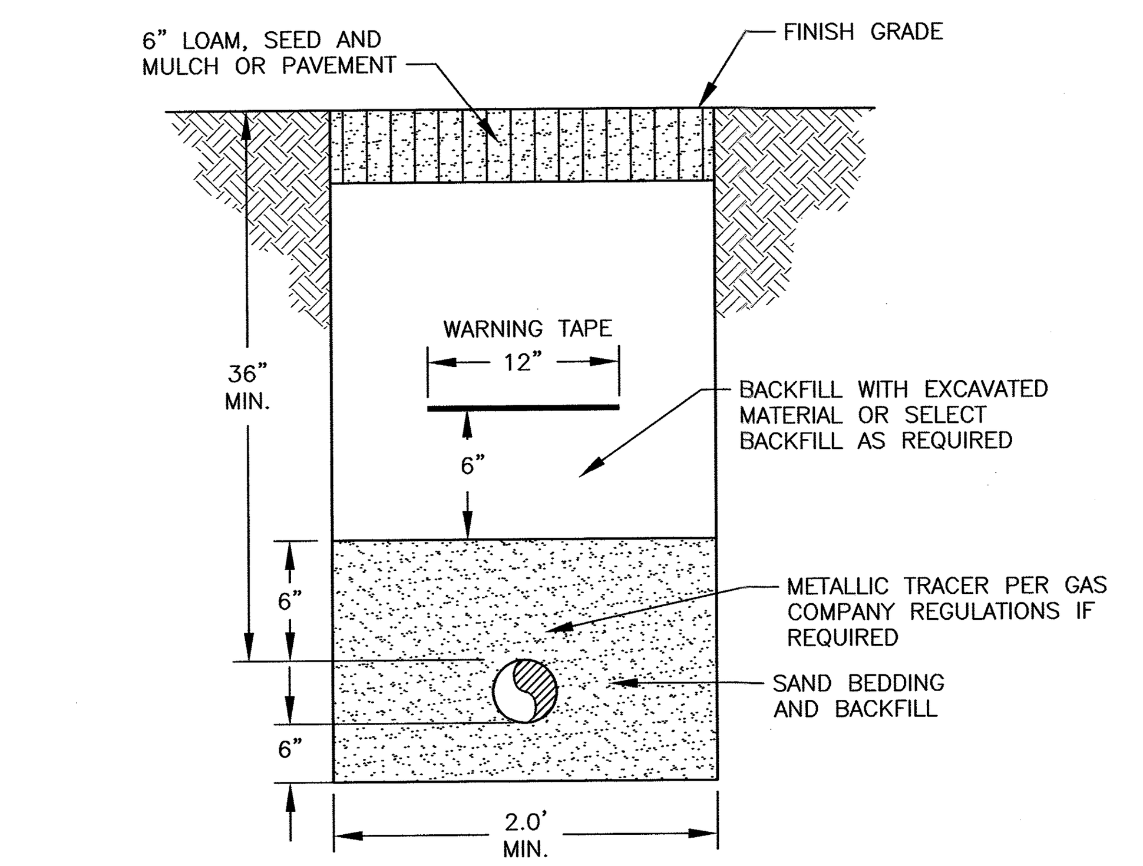
SCALE: AS SHOWN | OCTOBER 2021

EROSION PROTECTION NOTES AND DETAILS

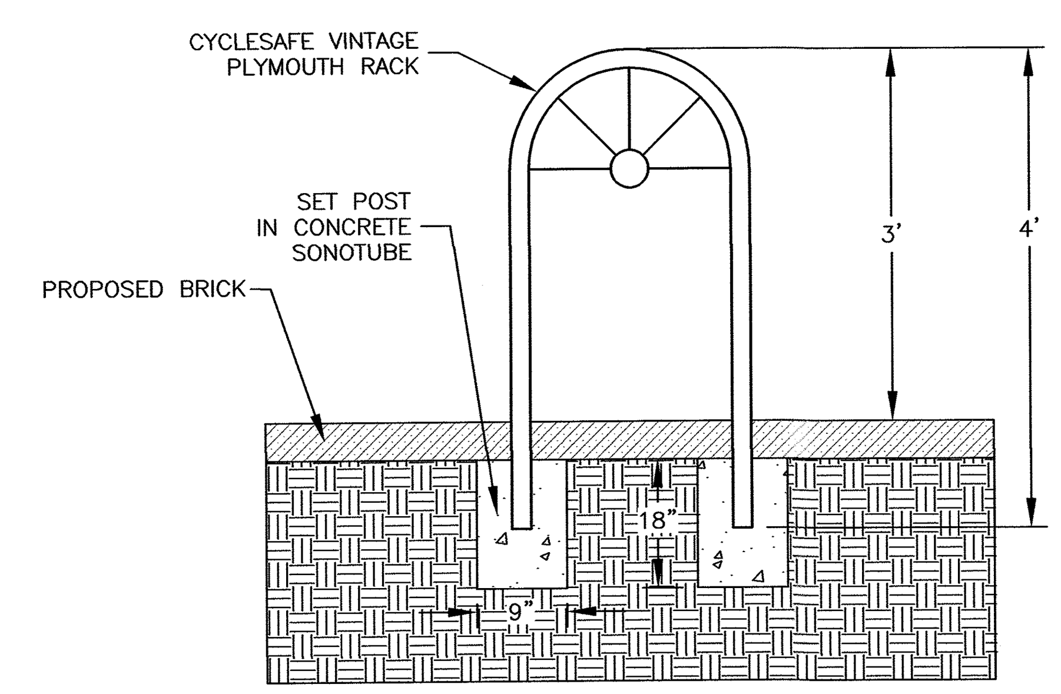
D1

FB 410 PG 75

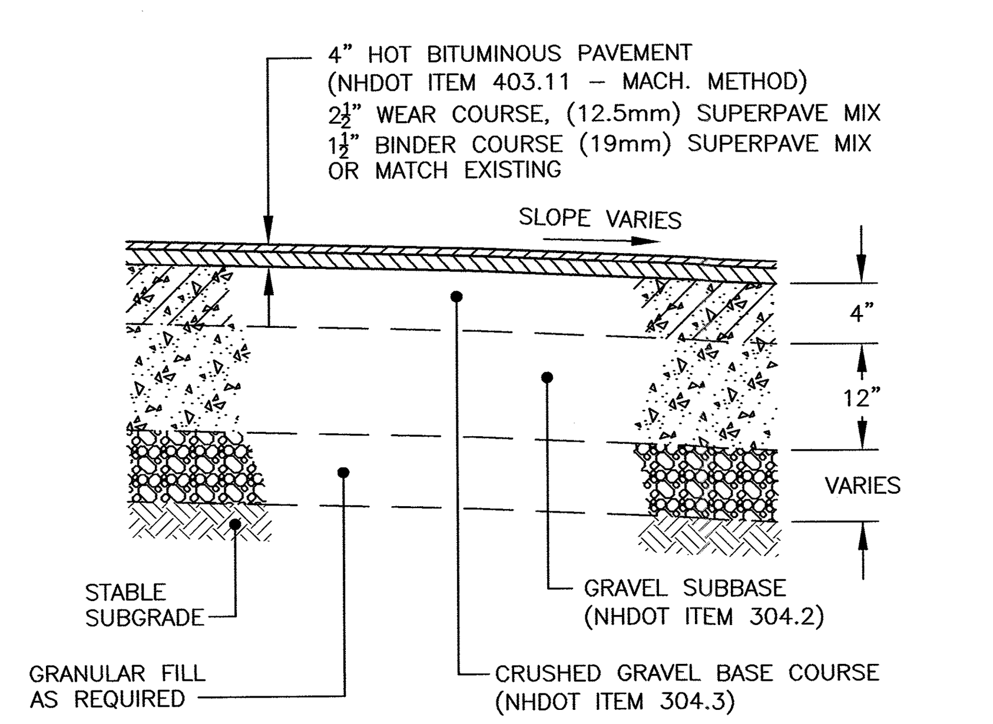
2916



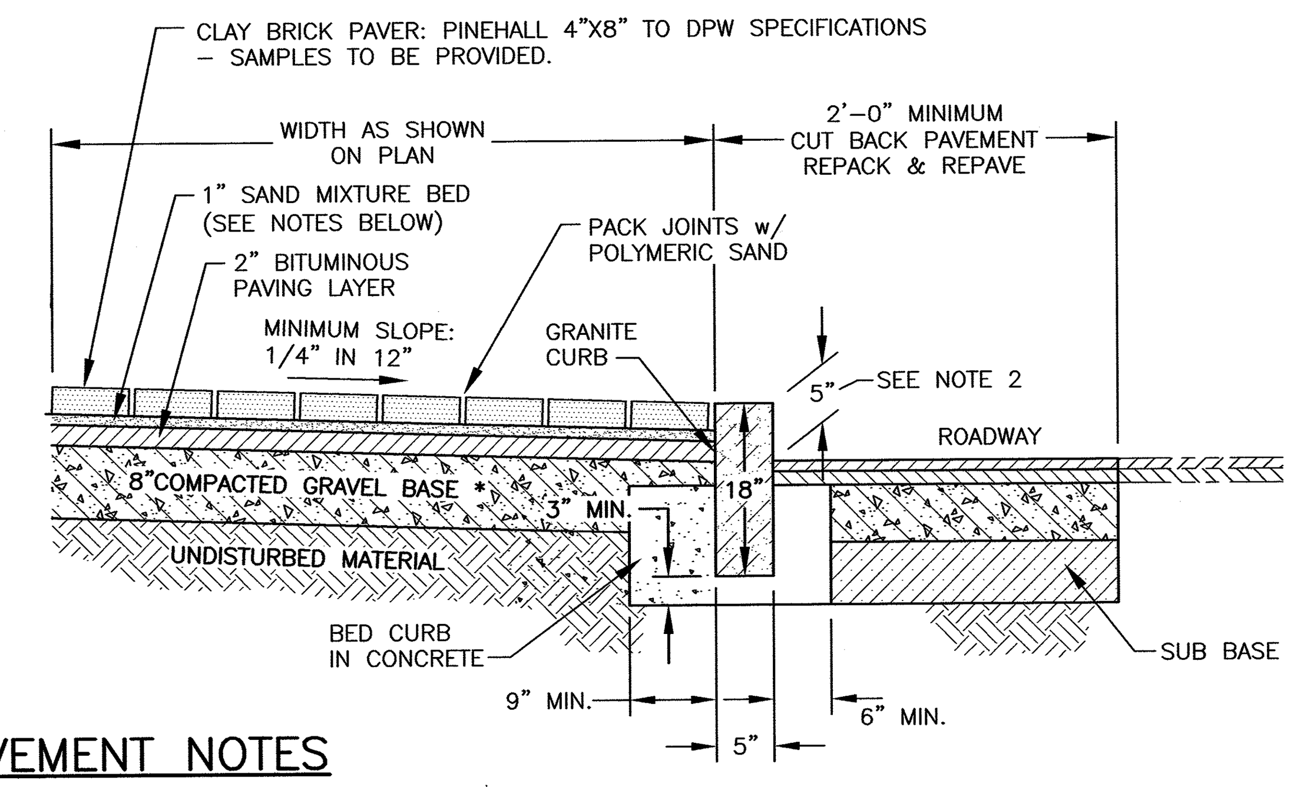
D / C4 GAS SERVICE TRENCH
NTS



E / C3 BIKE RACK
NTS



F / C3 TYPICAL PAVEMENT CROSS–SECTION
NTS



BRICK PAVEMENT NOTES

SCOPE OF WORK:

1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB–BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER.
2) REVEAL SHALL BE 5" (COORDINATE WITH PORTSMOUTH DPW).

METHODS OF CONSTRUCTION:

A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.

B) ALL BRICKS SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR BUILDING BRICKS: CLASS SX, TYPE 1, APPLICATION PX. THE BRICKS SHALL BE NO. 1, WIRE CUT TYPE FOR PAVING, WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 POUNDS PER SQUARE INCH. THE BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE OF A STANDARD SIZE (2.25" X 4 X 8").

C) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF–SITE AT THE CONTRACTOR'S OWN EXPENSE.

D) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.

E) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.

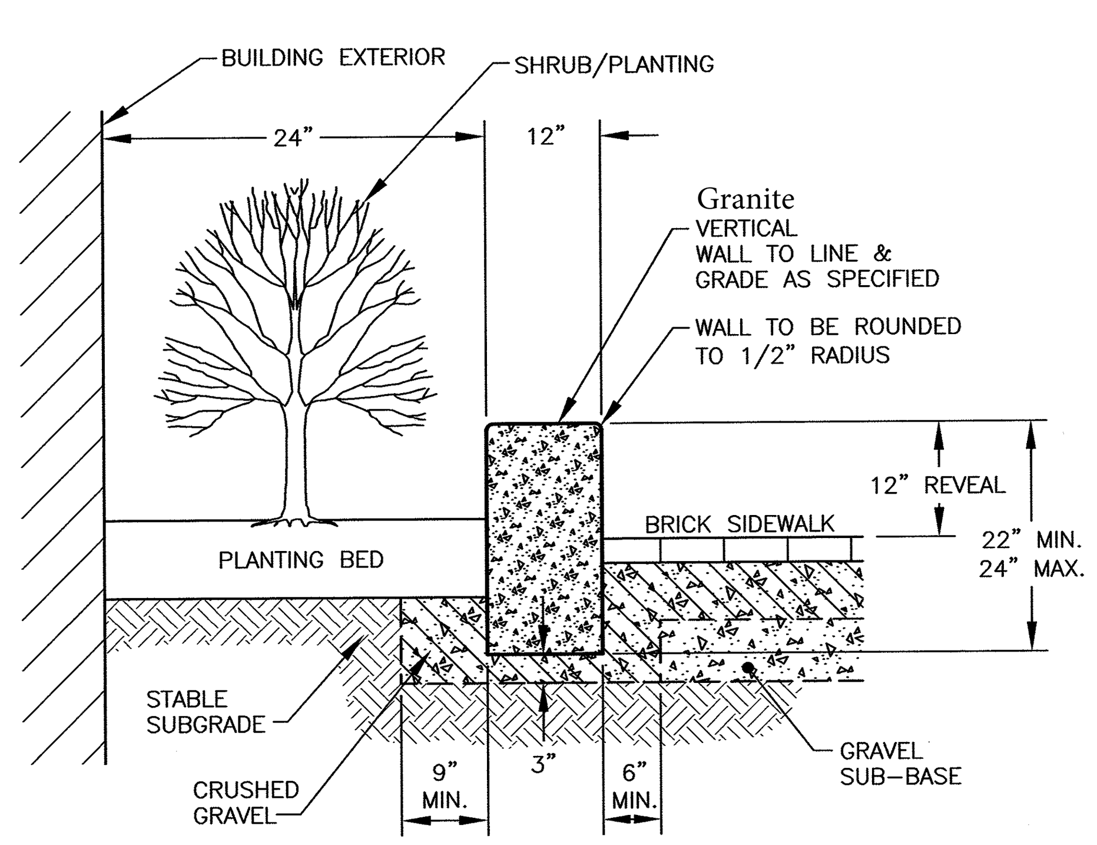
F) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 4.5 BRICKS SHALL COVER ONE SQUARE FOOT.

G) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.

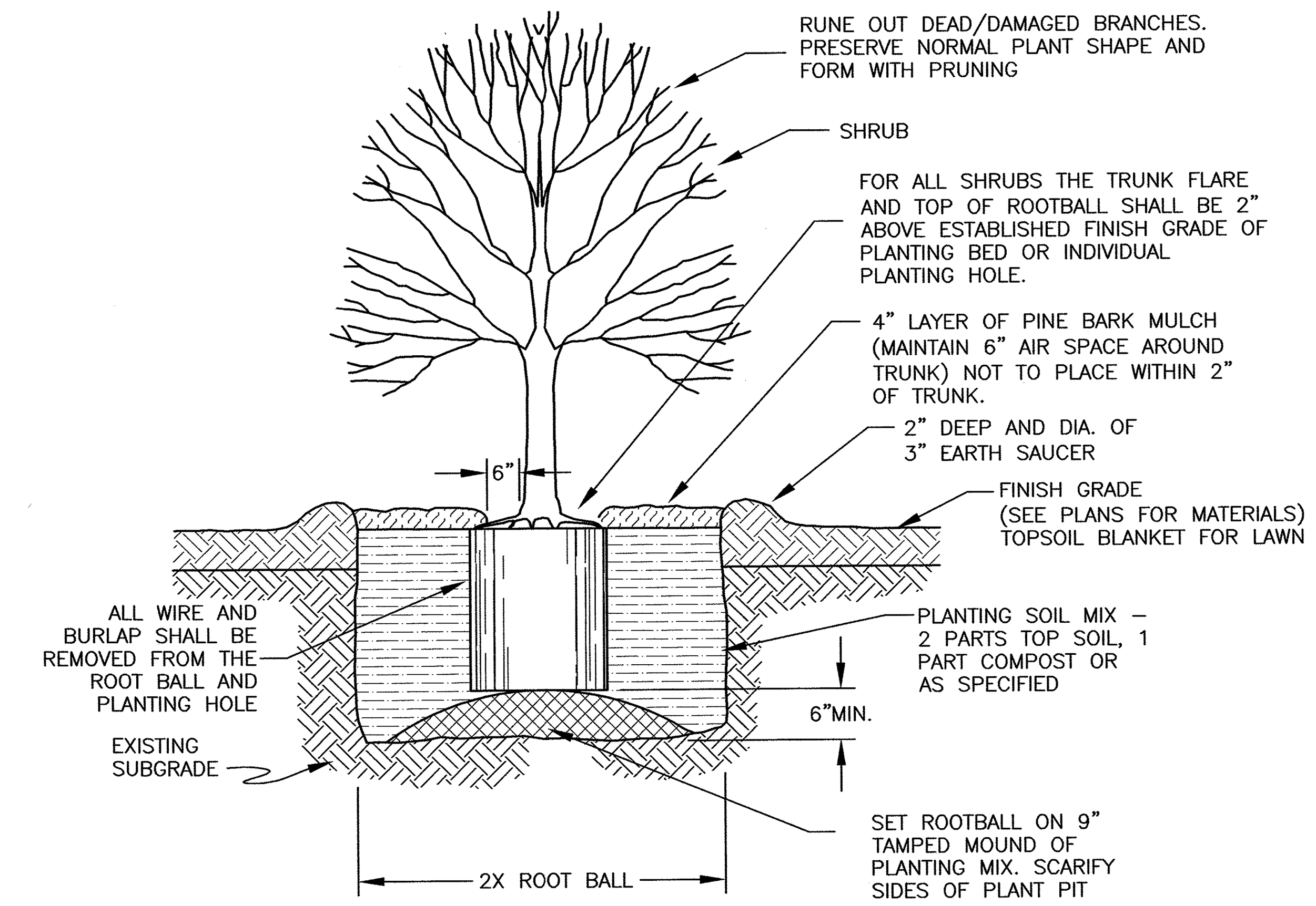
H) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

I) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

G / C3 BRICK SIDEWALK w/ VERTICAL GRANITE CURB
(STONE DUST BEDDING OVER BITUMINOUS PAVING)
NTS

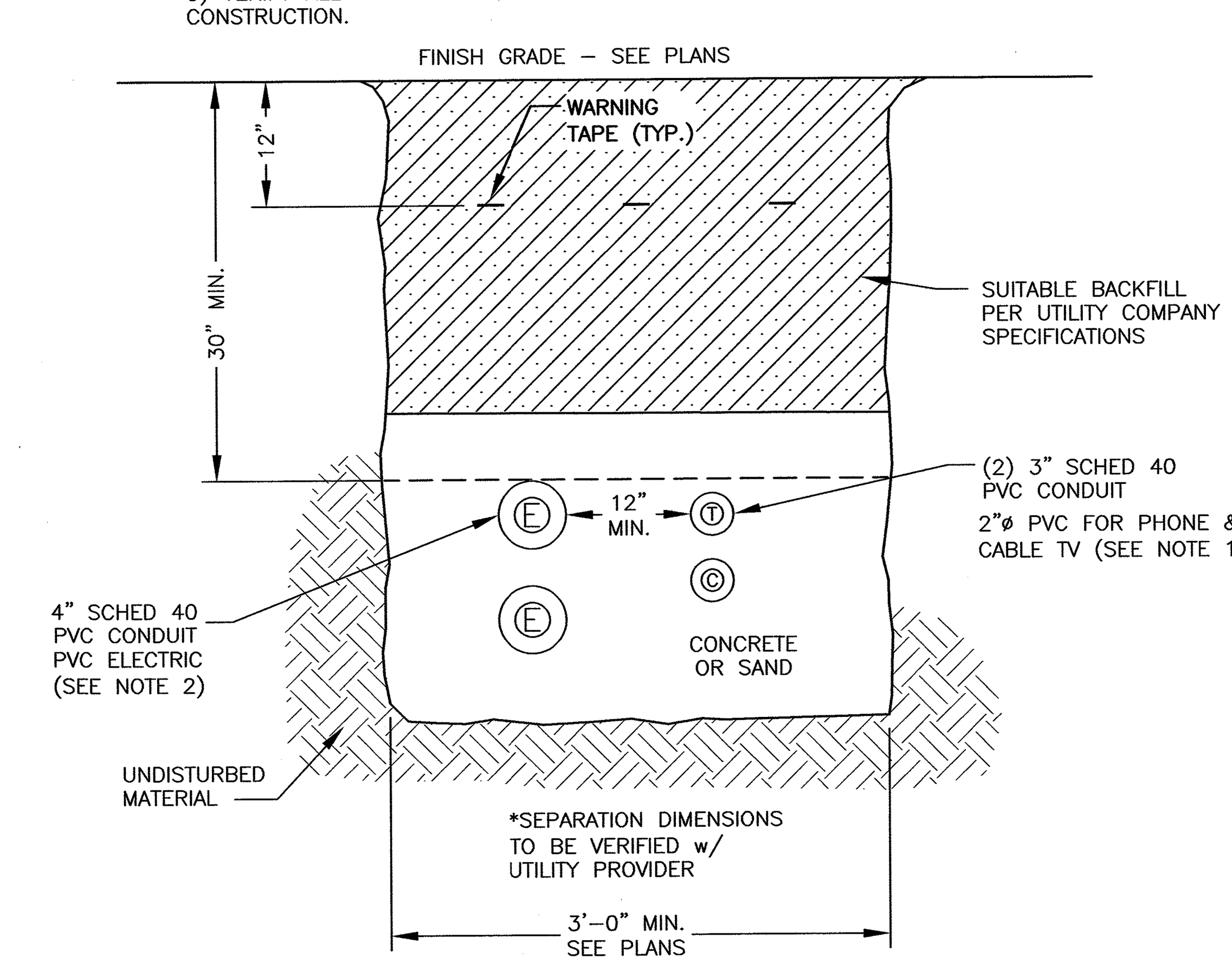


J / C3 GRANITE PLANTER WALL
NTS



H / C3 PLANTING DETAIL
NTS

NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCHED. 40 FOR THE REMAINDER.
2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT
5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANY'S PRIOR TO ANY CONSTRUCTION.



I / C4 BURIED ELEC/COMM CABLE
NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

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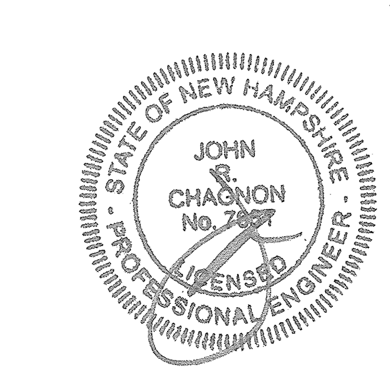
SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAIL J	11.18.21
0	ISSUED FOR COMMENT	10/18/21

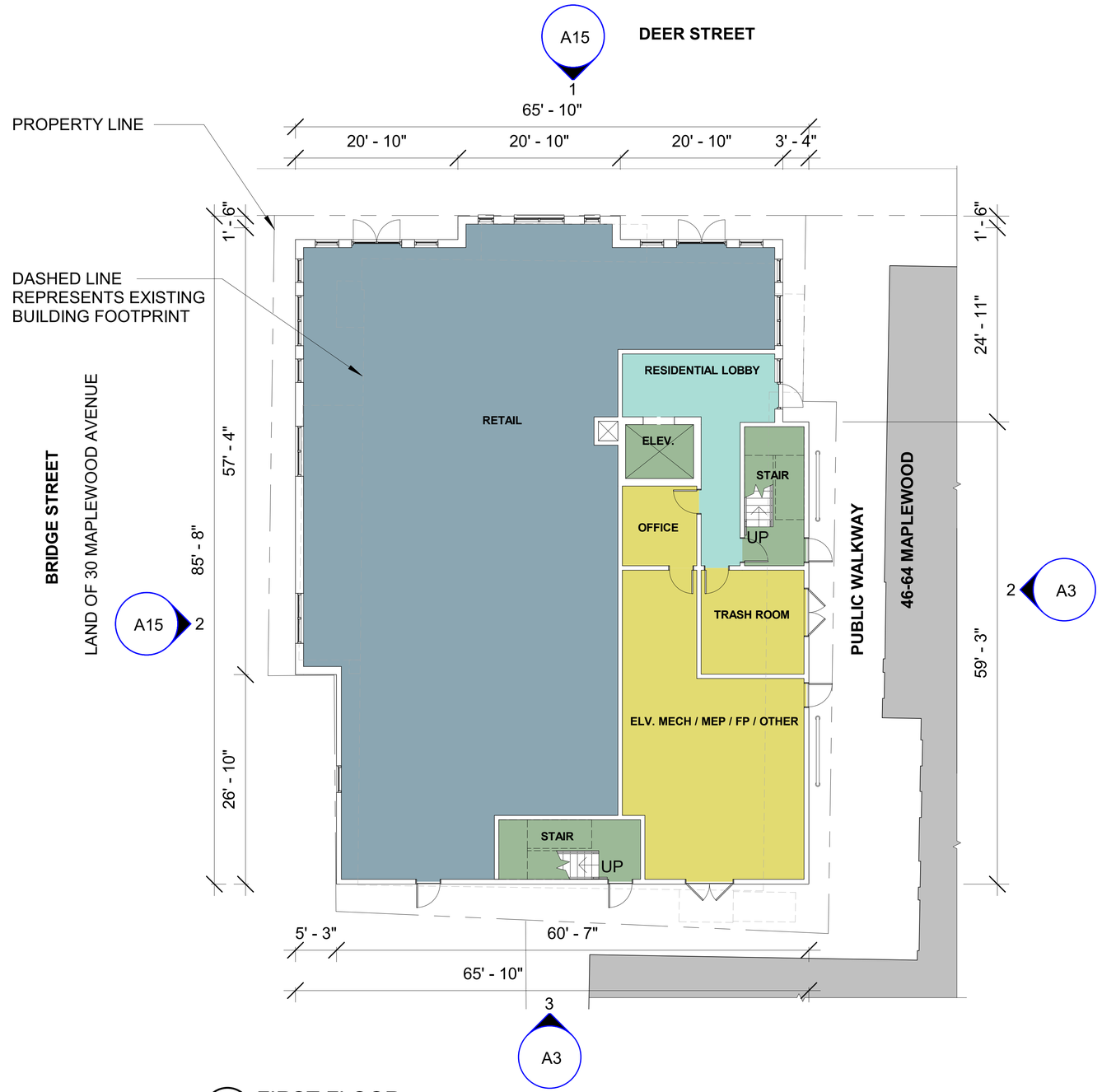
REVISIONS



SCALE: AS SHOWN
OCTOBER 2021

DETAILS
D2

FB 410 PG 75
2916



1 FIRST FLOOR
1/16" = 1'-0"

COLOR LEGEND

- CIRCULATION
- COMMON SPACE
- MECH / STORAGE
- MICRO-APARTMENT
- RETAIL

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

FLOOR PLANS

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A1

10/18/2021
McHA: SM/RD/MG
Scale: 1/16" = 1'-0"

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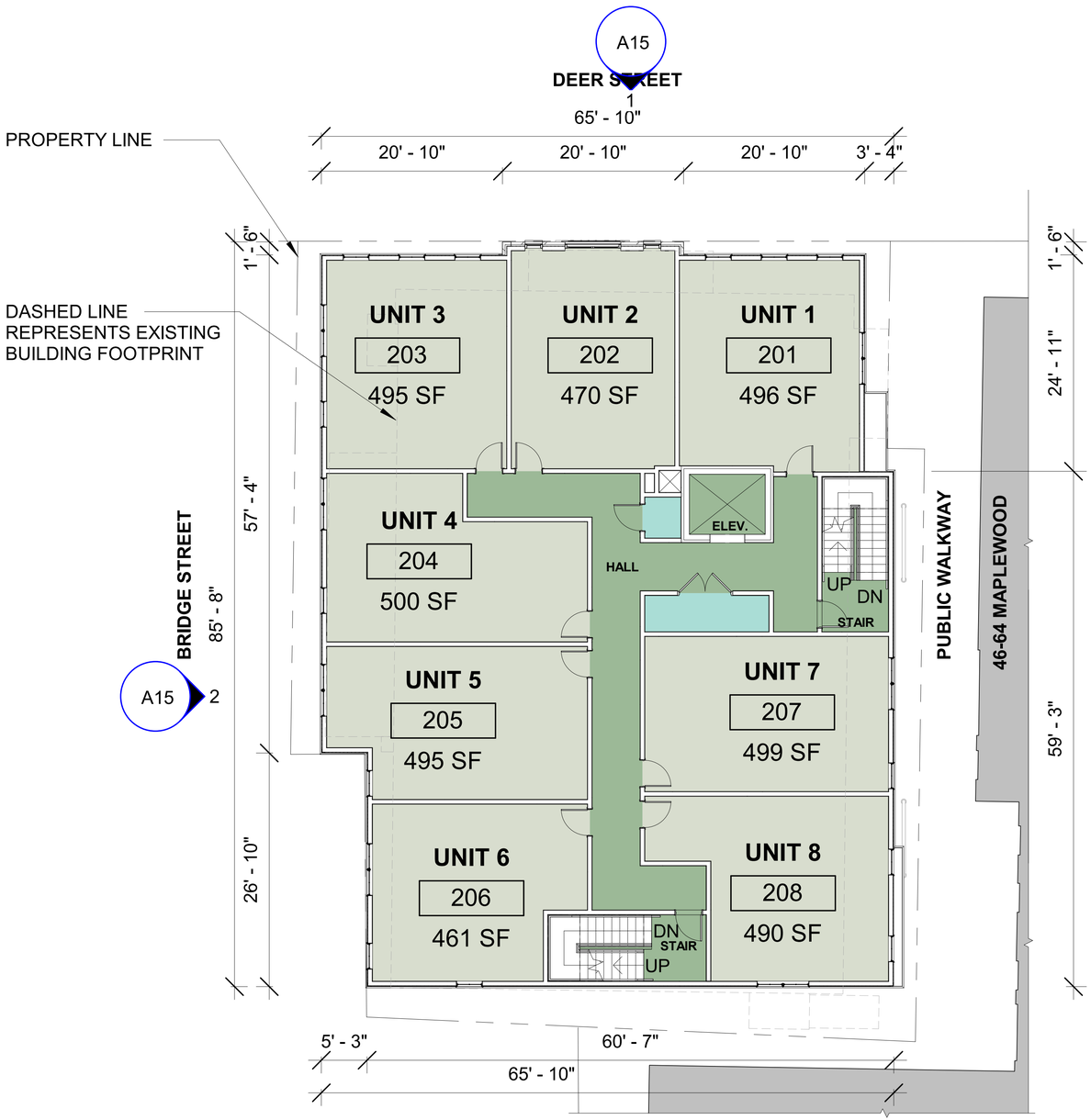
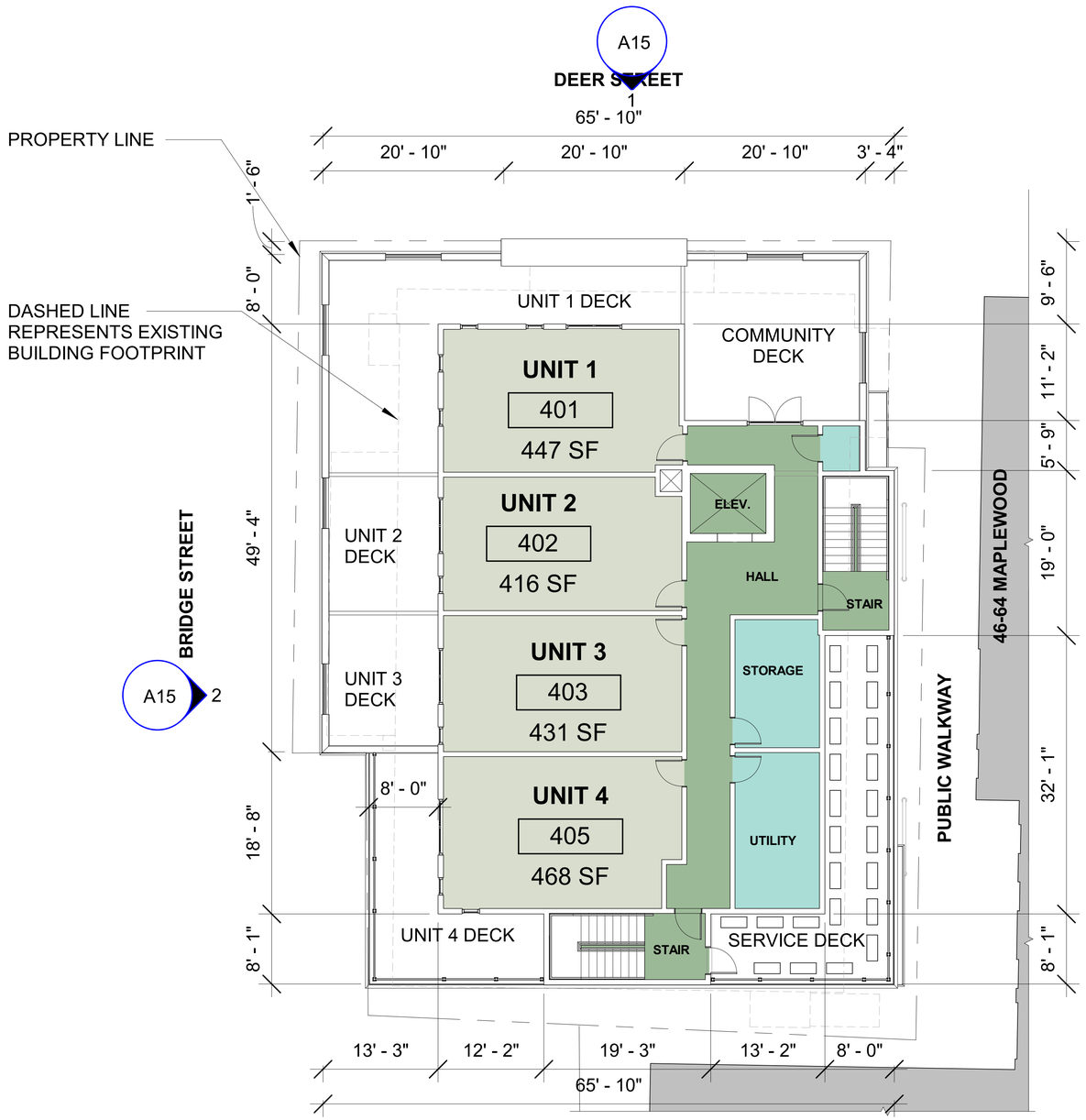


1 SECOND AND THIRD FLOOR
1/16" = 1'-0"



2 FOURTH FLOOR
1/16" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

FLOOR PLANS

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A2

10/18/2021
McHA: SM/RD/MG
Scale: 1/16" = 1'-0"

1 NORTH ELEVATION (DEER STREET)
1/16" = 1'-0"

2 EAST ELEVATION (PUBLIC WALKWAY)
1/16" = 1'-0"

3 SOUTH ELEVATION (REAR)
1/16" = 1'-0"

4 WEST ELEVATION (BRIDGE STREET)
1/16" = 1'-0"

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

OVERALL ELEVATIONS

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A3

10/18/2021
McHA: SM/RD/MG
Scale: 1/16" = 1'-0"

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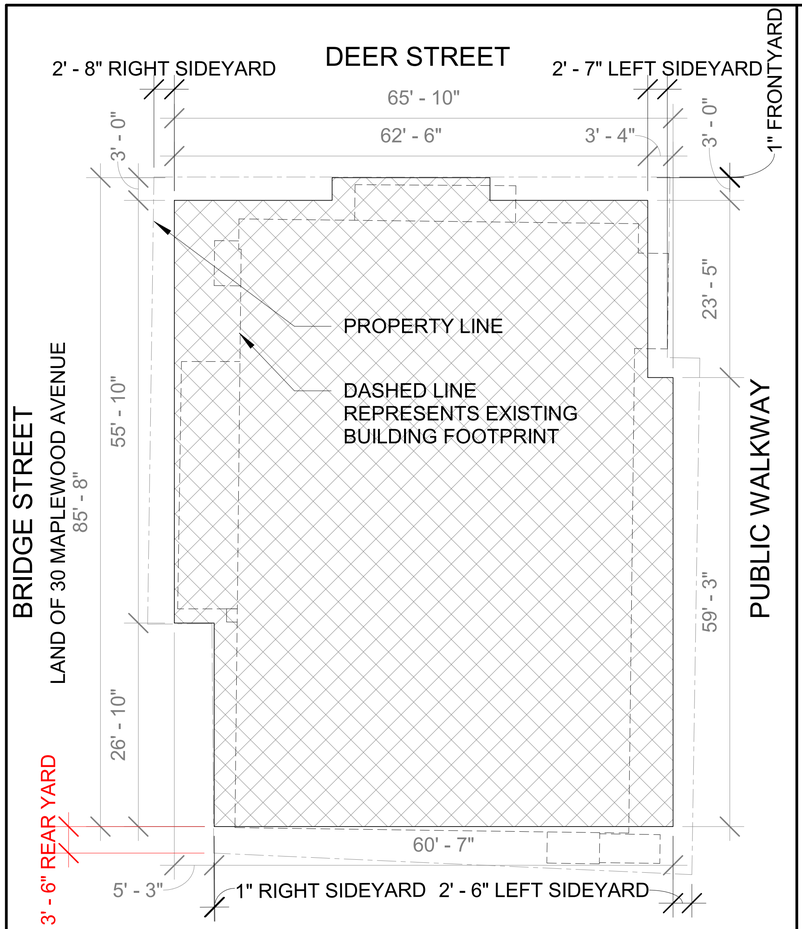
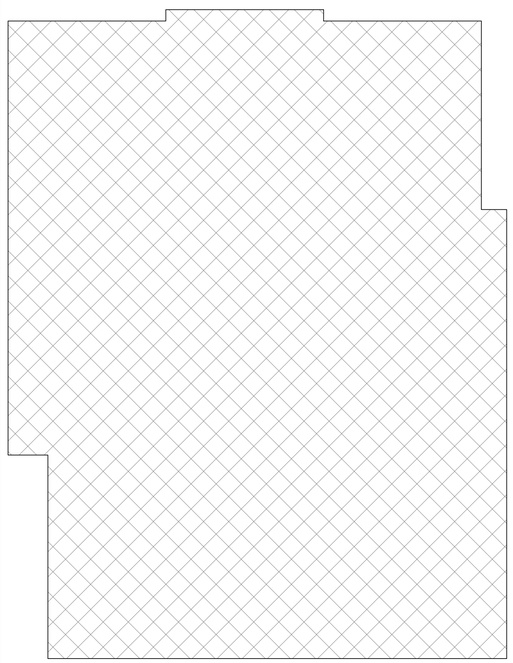
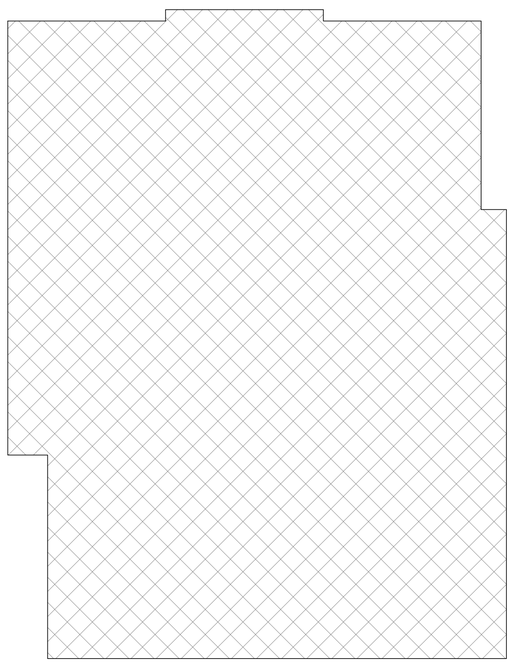


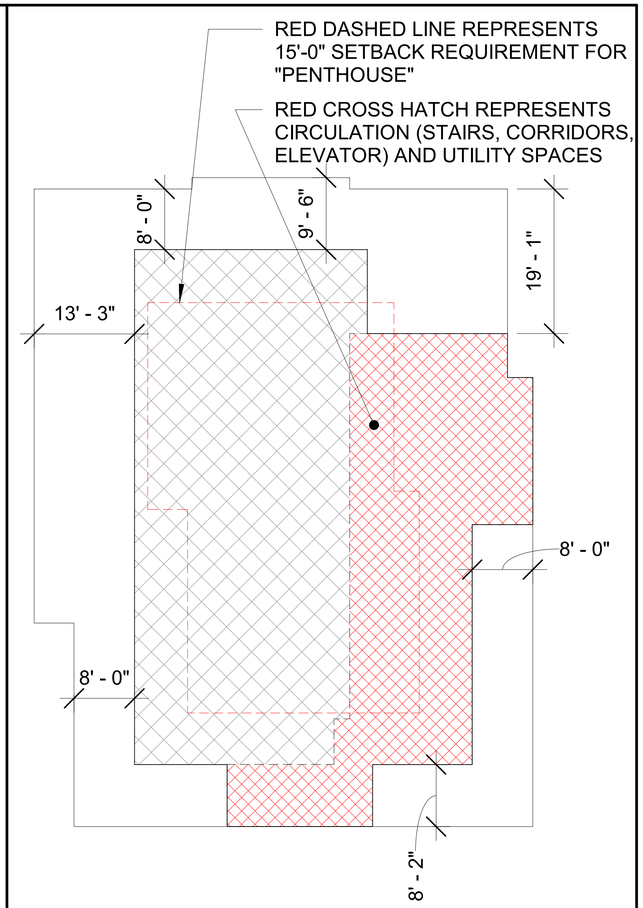
GROUND FLOOR: 5,286 SF
RETAIL: 3,500 SF



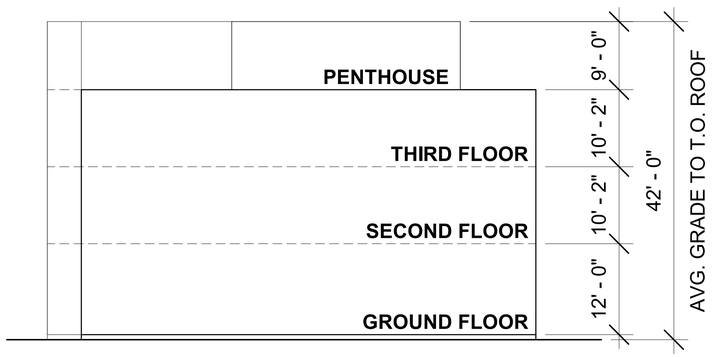
SECOND FLOOR: 5,349 SF
NINE UNITS: 3,989 SF



THIRD FLOOR: 5,349 SF
EIGHT UNITS: 3,989 SF



PENTHOUSE: 3,206 SF
FOUR UNITS: 1,907 SF



DEER STREET ELEVATION PROFILE

238 DEER STREET:	0.14 ACRES = 6,181 SF
BUILDING FOOTPRINT:	5,286 SF - 85% BUILDING COVERAGE
OPEN SPACE:	169 SF - 2.7% (DEFINED BY ZONING)
	536 SF - 8.7% (MEETS ORDINANCE INTENT)
	705 SF - 11.4% TOTAL
BUILDING STORIES:	3 STORIES + PENTHOUSE
BUILDING HEIGHT:	42' - 0"
PENTHOUSE WITH CIRCULATION AND UTILITY SPACES:	3,206 SF / 5,349 SF = 60%
PENTHOUSE WITHOUT CIRCULATION AND UTILITY SPACES:	1,907 SF / 5,349 SF = 35.6%

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

BUILDING DATA

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A4

10/18/2021
McHA: SM/RD/MG
NOT TO SCALE

DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

AERIAL RENDERING

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A5

10/18/2021
McHA: SM/RD/MG
NOT TO SCALE

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DEER ST. MIXED-USE BUILDING

238 DEER STREET
PORTSMOUTH, NH 03801

DEER STREET RENDERING

HISTORIC DISTRICT COMMISSION, OCTOBER 2021

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A6

10/18/2021
McHA: SM/RD/MG
NOT TO SCALE

EXAMPLE EFFICIENCY UNIT FLOOR PLAN - 400SF

EXAMPLE EFFICIENCY UNIT

EXAMPLE EFFICIENCY UNIT

EXAMPLE EFFICIENCY UNIT

OWNER CONCEPT PRECEDENT:
EXAMPLE EFFICIENCY UNIT

DEER ST. MIXED-USE BUILDING
238 DEER STREET
PORTSMOUTH, NH 03801

INTERIOR CONCEPT / OWNER INSPIRATION

McHENRY ARCHITECTURE
4 Market Street
Portsmouth, New Hampshire

A7

10/18/2021
McHA: SM/RD/MG
NOT TO SCALE

AMBIT ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS

200 Griffin Road, Unit 3, Portsmouth, NH 03801
Phone (603) 430-9282 Fax 436-2315

25 November 2020

Dexter Legg, Planning Board Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Application for CUP Approval, Tax Map 125, Lot 3, 238 Deer Street

Dear Chair Legg and Planning Board members:

On behalf of 238 Deer Street, LLC we submit herewith the attached Application for Conditional Use Permit. In support thereof, we are submitting a proposed Site Plan set including an Architectural Concept Plan as well as a Parking Assessment prepared by Gorrill Palmer, Transportation Engineers.

The following plans are included in our submission:

- Cover Sheet – This shows the Development Team, Legend, Site Location, and Site Zoning.
- Standard Boundary Survey (2018)
- Existing Conditions Plan C1 – This plan shows the current property improvements (updated existing and approved to be constructed features) on the property.
- Site Layout Plan C2 – This plan shows layout of the proposed features.
- Conceptual Architectural Plans A1 – The plan show the proposed building Architectural Features and Location Context.

238 Deer Street, LLC is committed to providing much needed micro housing units to the Portsmouth downtown. This proposed new building will add 21 additional housing units, all under 500 square feet in size. The unit concept is shown on the attached Architectural Concept Plan. The minimum parking required for this project is 7-8 spaces. 238 Deer Street, LLC proposes to provide no on site spaces. Due to site constraints (a lack of space to get to a basement parking level) the only parking that could be provided would have to be at first floor level; which would not allow for a vibrant commercial first floor use. Pursuant to Section 10.1112.52, a conditional use permit may be granted to permit less than the minimum parking required, and that is our request for this project.

The Gorrill Palmer report indicates the current parking requirements and shows that parking is available in close proximity to the site. This demonstrates that the parking for this development, although not on site, is easily accommodated within walking distance.

We look forward to your review of this submission, and for the forgoing reasons, we respectfully request the Board grant the Conditional Use Permit. Thank you for your attention.

Sincerely,

John R. Chagnon, PE
CC: 238 Deer Street Team

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

PARKING ASSESSMENT FOR
238 DEER STREET MIXED-USE BUILDING
PORTSMOUTH, NH

Date: **November 23, 2020**

Subject: **Parking Assessment**
238 Deer Street Mixed-Use Building – Portsmouth, NH

To: **Buz Couilard**

From: **Randy Dunton PE, PTOE, Gorrill Palmer (GP)**

Copied: **John Chagnon, Ambit Engineering;**
Jeremiah Johnson, McHenry Architecture

Introduction:

Gorrill Palmer (GP) has prepared the following parking assessment for the proposed mixed-use building to be located at 238 Deer Street. On the first floor, the building will include approximately 2,629 square feet of retail space with additional space on the first floor dedicated for a lobby area and accesses to upper floors. The second through fourth floors include 7 micro (less than 500 square feet) apartments per floor for a total of 21 micro apartments. The proposed mixed-use building does not have enough area on-site to accommodate vehicular parking and will rely on the parking availability in the immediate vicinity of the proposed building to satisfy the parking requirements.

This parking assessment will review the parking requirements, parking needs and availability of parking spaces within the immediate area.

Parking Requirement:

The location of the proposed building is within an Overlay District. As such, it has specific parking requirements as identified in the "City of Portsmouth, New Hampshire – Zoning Ordinance" amended through December 16, 2019. The parking requirements for this use at this location are as follows (see attached for sections of the ordinance):

- ***Retail Space: Section 10.1115.21 –*** Identifies that nonresidential uses within the Downtown Overlay District have no Off-Street parking requirement. Therefore, the first-floor retail space does not require any parking spaces.

- ***Residential Units: Section 10.1112.311 –*** Requires that for dwelling units in a mixed-use development, the number of off-street parking spaces required is 0.5 spaces per unit for dwelling units less than 500 square feet. This would yield the need for 11 off-street parking spaces (rounded up from 10.5).

- ***Section 10.1112.312 –*** Requires that any group of dwelling units on a lot containing more than 4 dwelling units provide one visitor parking space for every 5 dwelling units or portion thereof. This would yield the need for 5 off-street parking spaces.

- ***Section 10.1115.23 –*** Because the site is located within the Overlay District, the number of required off-street parking spaces can be reduced by 4 spaces.

The following summarizes the number of required off-street parking spaces for the proposed mixed-use building (calculations attached):

Off-Street Parking Requirements	
Section	**Spaces Required**
Section 10.1115.21 (Retail)	0
Section 10.1112.311 (Residential – Occupant)	11
Section 10.1112.312 (Residential – Visitor)	5
Section 10.1115.23 (Overlay Dist. Reduction)	-4
Total Required Spaces	**12**

As the table summarizes, the proposed mixed-use building by ordinance would require 12 off-street parking spaces.

Other Modes of Transportation:

The previous section identified what the off-street parking requirement would be based on the City Zoning Ordinance. The downtown location of this site makes it ideal to take advantage of other modes of transportation, thus reducing the need for a car and therefore parking demand. The following identifies numerous advantages to the site's location and supporting amenities:

- Pedestrian Accommodations:

  - Proximity to downtown – the location of the site is ideal in that residents of the units can easily walk from the apartment to the downtown on the existing sidewalk network without needing a car.
  - Sidewalks – A robust sidewalk network is provided in the area that allows for easy walking from the site to the downtown for the purpose of business or personal.

- Bicycle Accommodations:

  Per Section 10.1116.11 of the Zoning Ordinance (see attached ordinance section), 1 bicycle space for each 5 dwelling units or portion thereof is required for a multifamily dwelling. The developers will provide internal individual storage units that will be sized to accommodate bicycles. These units will be accessible from street level and will have easy access. A bicycle rack with space for a minimum of 5 bicycles will be provided outside.

- Transit:

  Within 650 feet of the site, there are three bus stops, providing direct access to Routes 40, 41, 42, & 43. This availability further allows residents of the apartments to not have a car and still be able to travel via bus.

- Ride Share:

  A ride share waiting area will be provided that includes a bulletin board to share postings of those offering and needing a ride.

Locations to Park:

To evaluate parking in the area that could potentially be used by the residents / visitors of the proposed apartments, GP reviewed both the City's Park Portsmouth web site as well as completing field reviews of the immediate area around the site (approximately 650 feet). The field reviews were completed at approximately 9:30 AM on Tuesday, November 17, 2020 and again that evening at approximately 9:30 PM. The daytime field review was intended to review parking while businesses were open, and the evening field review was intended to review with most businesses closed, but with most of the residents home for the evening. Included in the field reviews were a walk through the Foundry Place and Hanover Street Parking Garages to get an approximation of the percent occupied. We also field reviewed the Portwalk Garage but the number of spaces that would be available to residents was limited and was full during our reviews. Included with the on-street and parking garage field review, we also reviewed the Bridge Street and Worth surface parking lots. The following summarizes our field observations of parking in the immediate area with the locations shown on the attached location plan:

Observed Percent Occupied (approximate)		
Location	**Day Time**	**Evening**
Foundry Place Parking Garage (600 spaces)	20%	10%
Hanover Street Parking Garage (900 spaces)	40-50%	20%
Bridge Street Surface Lot (62 spaces)	10-15%	Less than 10%
Worth Surface Lot (79 spaces)	70-80%	40-50%

It should be noted that this was a snapshot in time and based on general observation only. However, it provides a clear picture that there is considerable availability of parking in the immediate area for both residents / visitors of the proposed building to park their vehicles. The above does not include on-street metered parking which is available for short term guests. On-street parking is available on Deer Street, Bridge Street and Portwalk Place. Visitors could also use the parking garages and surface lots identified above.

It should be noted that the pandemic could be a factor in the low parking demand; however, even with a significant increase in demand, there still appears to be sufficient parking availability.

Conclusions and Findings:

The following is a summary of the parking assessment's conclusions and findings:

1. By ordinance, the proposed mixed-use building requires 12 off-street parking spaces. Due to the limited on-site area, the required 12 off-street parking spaces cannot be accommodated on-site, and therefore need to be accommodated via satellite locations such as parking garages and surface lots.

2. The proposed mixed-use building will require a minimum of 5 bicycle parking spaces. This requirement will be satisfied by both an internal storage area for bicycles as well as a proposed on-site bicycle rack.

3. Given the close proximity to downtown and available other modes of transportation such as pedestrian accommodations, abilities for bicycles and access to transit, it could be expected that some residents will not own a vehicle and therefore not require a parking space. In addition, a bulletin board will be provided for those offering and needing ride share.

4. There are a considerable number of choices and availability for parking in the immediate area of the site, both during the day and at night. This includes two parking garages and two surface lots, in addition to metered parking spaces in the area for short term parking. These other sources of parking show more than adequate availability to accommodate the needs of the proposed mixed-use building.

5. Based on this assessment, it is our opinion that the required parking can easily be accommodated by the two existing parking garages and two surface parking lots within walking distance of the proposed use.

Prepared by:

Randy Dunton, PE, PTOE
Gorrill Palmer Consulting Engineers
rdunton@gorrillpalmer.com

u:\3768_268 deer street_portsmouth\n traffic\final - deer street - parking assessment_11.23.2020.docx

JN 3768
Computed By: RED
11/23/2020
Parking Requirements for:
238 Mixed Use Building
Portsmouth, NH

Task: Calculate the required number of parking spaces

Reference: City of Portsmouth, New Hampshire
Zoning Ordinance (Amended Through December 16, 2019)
Section 10.1115.21 - Identifies Retail Space in Downtown Overlay District has no requirement for off-street parking
Section 10.1112.311 - Residential Units
Section 10.1112.312 - Visitor Parking Requirement
Section 10.1115.23 - Reduction in spaces due to Overlay District
Section 10.1116.11 - Bicycle Space Requirements

Given: 21 Micro Units (less than 500 sf)

Calculations :

Vehicle Off-Street Parking Requirements:

Section 10.1112.311
(21 units less than 500 sf) X (0.5 spaces per unit) = 10.5 spaces **(round up to 11 spaces)**

Section 10.1112.312
(21 units) / (5 spaces per dwelling unit) = 4.2 spaces **(round up to 5 spaces)**

Section 10.1115.23
Reduction of 4 spaces due to location within Downtown Overlay District

Summary of Off-Street parking Spaces Required	
Section 10.1115.21	0 Spaces
Section 10.1112.311	11 Spaces
Section 10.1112.312	5 Spaces
Section 10.1115.23	-4 Spaces
Total Required Spaces	**12 Spaces**

Bicycle Parking Requirement:

Section 10.1116.11
(21 units) X (1 bicycle space per 5 units) = 4.2 Bicycle spaces **(round to 5 bicycle spaces)**

CITY OF PORTSMOUTH, NEW HAMPSHIRE

ZONING ORDINANCE

Adopted by Portsmouth City Council: December 21, 2009
Effective Date: January 1, 2010

As Amended Through: December 16, 2019

10.1112.30 Off-Street Parking Requirements

10.1112.31 Parking Requirements for Residential Uses

10.1112.311 The required minimum number of **off-street parking** spaces for **use**s 1.10 through 1.90, including **dwelling unit**s in mixed-use developments, shall be based on the gross floor area of each **dwelling unit**, as follows:

Dwelling Unit Floor Area	Required Parking Spaces
Less than 500 sq. ft.	0.5 spaces per unit
500-750 sq. ft.	1.0 space per unit
Over 750 sq. ft.	1.3 spaces per unit

10.1112.312 In addition to the **off-street parking** spaces provided in accordance with Sec. 10.1112.311, any **dwelling** or group of **dwelling**s on a **lot** containing more than 4 **dwelling unit**s shall provide one visitor parking space for every 5 **dwelling unit**s or portion thereof.

10.1112.32 Parking Requirements for Nonresidential Uses

10.1112.321 The required minimum number of **off-street parking** spaces for **use**s other than 1.10 through 1.90 shall be based on the following table.

Table of Minimum Off-Street Parking Requirements for Nonresidential Uses

Use No.	Use	Requirement
2. Institutional Residence or Care Facilities		
2.10-2.20	**Assisted living facility** or **Residential care facility**	0.5 per bed or resident
3. Educational, Religious, Charitable, Cultural and Public Uses		
3.10	**Place of assembly**	0.4 per seat (fixed seating), or 1 per 4 persons **maximum occupancy** of assembly area, or Parking demand analysis
3.20	School	Parking demand analysis
3.30	**Historic preservation building**	No requirement
3.40	**Museum**	Parking demand analysis
3.50	**Performance facility**	0.4 per seat (fixed seating), or Parking demand analysis
3.60	Cemetery	No requirement
3.70	**Club, fraternal or service organization**	Greater of: - 1 per 4 persons **maximum occupancy** - 1 per 200 sf GFA

10.1114.42 Pedestrian areas shall be clearly distinguished from vehicular and bicycle traffic areas through the use of paving materials, **landscaping** buffers, or other means.

10.1114.43 Continuous off-**street** vehicle routes shall be no more than 200 feet in length before interruption by pedestrian crosswalks over speed tables, T-intersections or other design elements to calm vehicle movement on site.

10.1115 Off-Street Parking Provisions in the Downtown Overlay District

10.1115.10 Purpose

10.1115.11 This Section 10.1115 establishes modified **off-street parking** standards for **lot**s in the Downtown Overlay District in recognition of the availability of municipal on-**street** and **off-street parking** facilities, private shared parking facilities, and public transit, and the pedestrian-oriented pattern of **lot**s and **use**s.

10.1115.12 Except as specifically modified by this Section 10.1115, **lot**s in the Downtown Overlay District shall comply with all other provisions of Section 10.1110.

10.1115.20 Number of Required Off-Street Parking Spaces

10.1115.21 The following requirements shall apply in the Downtown Overlay District in lieu of the requirements in Section 10.1112.30:

Use	Required Parking Spaces
Residential **use** (**dwelling**)	Same as Section 10.1112.30
Hotel or **motel**	0.75 space per guest room, plus 1 space per 25 sf of conference or banquet facilities
Other nonresidential **use**	No requirement

10.1115.22 The requirements in Section 10.1115.21 shall be applied to all **use**s on a **lot**, and not to individual **use**s.

10.1115.23 For any **lot**, the number of **off-street parking** spaces that would be required by applying the ratios in Section 10.1115.21 shall be reduced by 4 spaces. (Therefore, any **lot** that would be required to provide 4 or fewer **off-street parking** spaces shall not be required to provide any spaces.)

10.1115.24 The provisions of Section 10.1112.50, Maximum Number of Parking Facilities, shall not apply to **building**s and **use**s within the Downtown Overlay District.

10.1116 Bicycle Parking

10.1116.10 Number of Bicycle Parking Spaces Required

10.1116.11 Off-street parking of bicycles shall be provided as follows, up to a maximum of 30 bicycle spaces:

Multifamily dwellings	1 bicycle space for each 5 dwelling units or portion thereof
Elementary, middle and high schools	1 bicycle space for each 4 students
All other uses, except as exempted in Section 10.1116.14	1 bicycle space for each 10 automobile parking spaces or fraction thereof required by Section 10.1112.30 or Section 10.1115.21, as applicable

10.1116.12 When the Planning Board approves the construction of fewer **off-street parking** spaces than would normally be required under Section 10.1112.30 or Section 10.1115.21 (for example, when a Reserve Parking Area is provided under Section 10.1112.40), or when Board of Adjustment grants a variance from the required number of **off-street parking** spaces, the required number of bicycle parking spaces shall be based on the number of such spaces that would be required without such reduction or variance.

10.1116.13 In addition to the number of bicycle parking spaces required under Section 10.1116.11 and 10.1116.12, any nonresidential use may substitute bicycle parking spaces for up to 5 percent of the required automobile parking spaces at the following ratios: 1 required automobile space may be replaced by 6 bicycle spaces or by 2 bicycle lockers.

10.1116.14 The following uses are exempt from providing bicycle parking spaces:

Use No.	Use
1.10	Single-family dwelling
1.20	Accessory dwelling unit
1.25	Garden cottage
1.30	Two-family dwelling
2.10	Assisted living facility
2.20	Residential care facility
7.10	Day care
7.70	Undertaking establishment
11.10-11.60	Motor vehicle related uses
12.10-12.40	Marine craft related uses
13.10-13.40	Wholesale trade, warehousing and distribution
14.70	Recycling facility or recycling plant
14.80	High hazard use
17.10-17.20	Agricultural uses
19.10-19.40	Accessory uses

NORTH

GRAPHIC SCALE

0 75 150 300

1 inch = 150 ft.

FOUNDRY PLACE PARKING GARAGE

SITE

BRIDGE STREET PARKING LOT

WORTH PARKING LOT

HANOVER STREET PARKING GARAGE

Deer St

Vaughan St

Green St

Russell St

Market St

Brewster St

Sudbury St

Hanover St

Hill St

Autumn

Pearl St

Parker St

Tanner Ct

Tanner St

Bridge St

Islington St

Maplewood Ave

Middle Street

Portwalk Pl

Garden Way

Vaughan Mall

Haven Ct

Congress Street

High St

Ladd St

Ceres St

B = BUS STOP

U:\3768_268 Deer Street_Portsmouth\Z - CAD\DWG\3768-PBASE.dwg chuck.dube 11/19/2020 5:07 PM

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Client/Project

238 DEER STREET MIXED-USE BUILDING
PORTSMOUTH, NEW HAMPSHIRE

Title

AVAILABLE PARKING / BUS STOPS

File Name: 3768-PBASE	CDD	-	-	20.11.19
	DWN.	CHKD.	DSGN.	DATE

Figure No.

1

238 DEER STREET MIXED USE BUILDING

238 DEER STREET, LLC

238 DEER STREET
PORTSMOUTH, NEW HAMPSHIRE

CUP PERMIT APPLICATION PLANS

CIVIL ENGINEER & LAND SURVEYOR:

AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
Tel. (603) 430-9282
Fax (603) 436-2315

ARCHITECT:

McHENRY ARCHITECTURE
4 MARKET STREET
PORTSMOUTH, N.H. 03801
TEL. (603) 430-0274

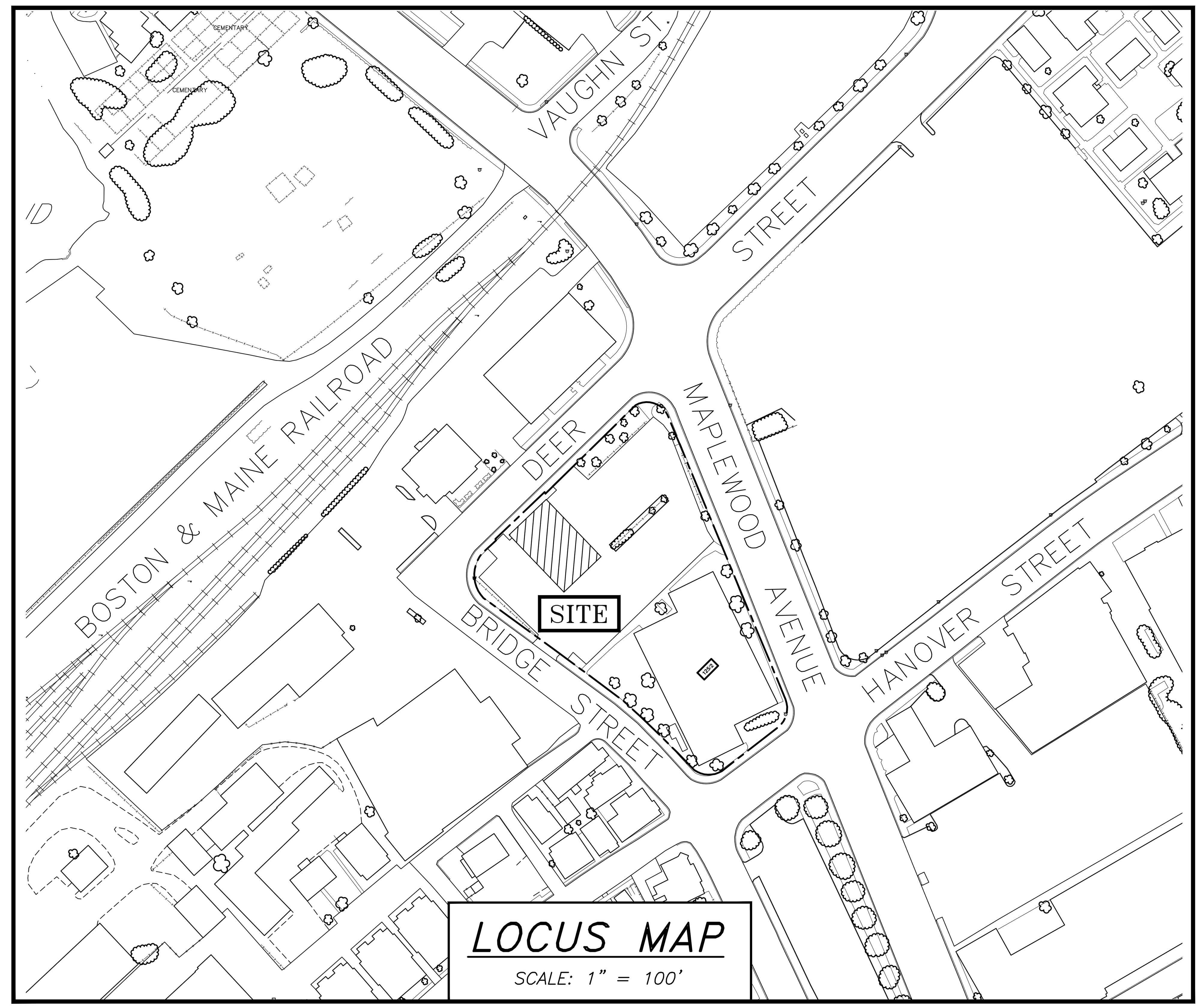
PARKING CONSULTANT

GORRILL PALMER
707 SABLE OAKS DRIVE,
SUITE 30
SOUTH PORTLAND, ME 04106
TEL. (207) 772-2515

PERMIT LIST:
PORTSMOUTH HDC: PENDING
PORTSMOUTH ZONING BOARD: TBD
PORTSMOUTH SITE REVIEW: PENDING
PORTSMOUTH CONDITIONAL USE PERMIT:PENDING

LEGEND:

EXISTING	*PROPOSED*	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
WSO GSO	WSO GSO	SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
S	SMH	SEWER MANHOLE
D	DMH	DRAIN MANHOLE
T	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL



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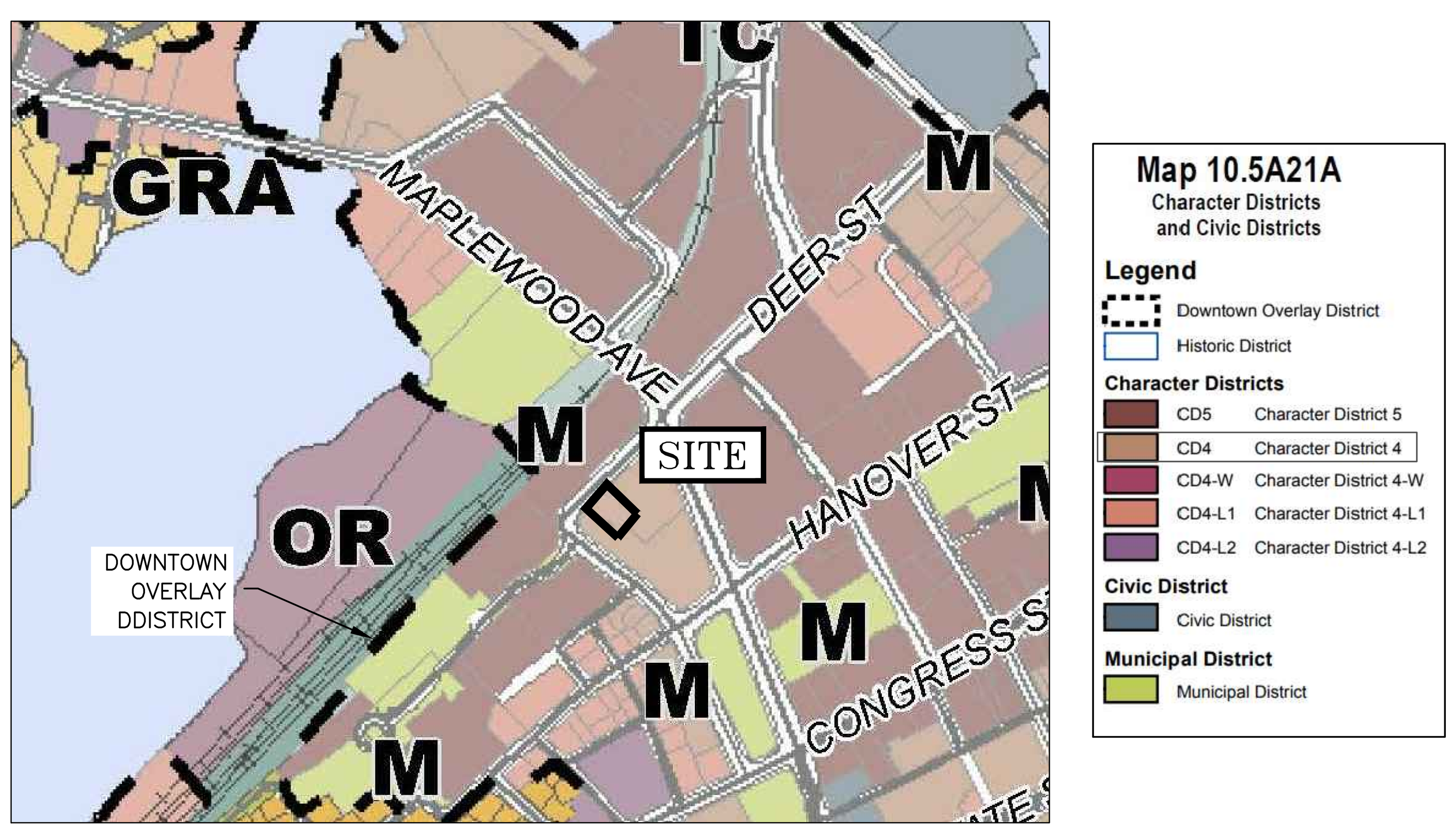


UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436-7708, Ext. 555.5678
ATTN: MICHAEL BUSBY, P.E. (MANAGER)

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294-5144
ATTN: DAVE BEAULIEU

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679-5695 (X1037)
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427-1530
ATTN: JIM TOW

COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
JOE CONSIDINE
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427-5525

INDEX OF SHEETS

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

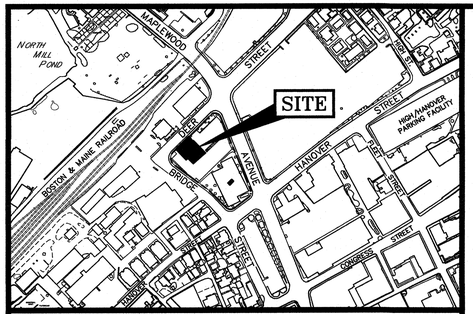
CHAIRMAN　　　　　DATE

CUP PERMIT APPLICATION PLANS
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

PLAN SET SUBMITTAL DATE: 25 NOVEMBER 2020

2916



LOCATION MAP SCALE: 1" = 300'

PLAN REFERENCES:

1. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 7. DATED OCT. 1973 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-4119.
2. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 10. DATED OCT. 1973 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-4125.
3. VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION MAP. DATED NOV. 1969 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-2408.
4. EASEMENT SITE PLAN, TAX MAP 125 - LOT 2, 30 MAPLEWOOD, LLC TO PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (PSNH), SCALE: 1" = 20', OCTOBER 2013 BY AMBIT ENGINEERING. RCRD D-38148.
5. PROPOSED EASEMENT TO CITY OF PORTSMOUTH, SCALE: 1" = 10', 9/18/13 BY AMBIT ENGINEERING. BK 5512, PG 1046.
6. CONDOMINIUM SITE PLAN, TAX MAP 125 - LOT 2, BY AMBIT ENGINEERING. RCRD D-38936; AMENDED AT RCRD D-39005.
7. SUBDIVISION PLAN TAX MAP 125 - LOT 2, OWNER: 30 MAPLEWOOD, LLC, 30-46 MAPLEWOOD AVENUE, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, PREPARED BY AMBIT ENGINEERING, INC., SCALE 1" = 20', DATED OCTOBER 2015 REVISED 4/18/17, RCRD D-40246
8. PLAN OF LAND NO. 238 DEER ST. PORTSMOUTH, N.H., SCALE: 1IN = 10 FT., DATED MAY 1954 PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS RCRD #02164

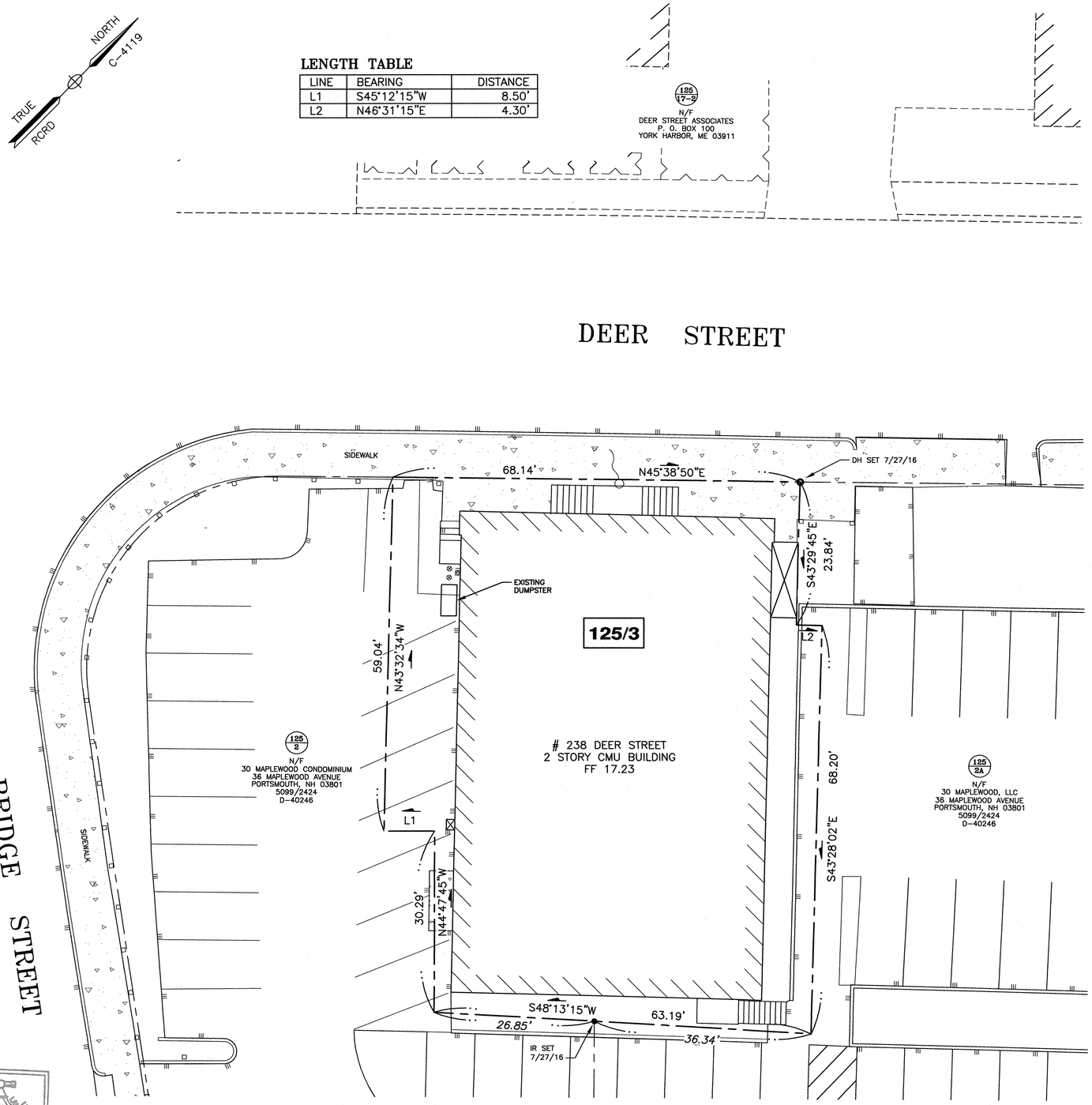
I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

JOHN R. CHAGNON, LLS 738

4-9-18
DATE

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON LAND SURVEYOR



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 125 AS LOT 3.

2) OWNER OF RECORD:
238 DEER STREET, LLC.
238 DEER STREET
PORTSMOUTH, NH 03801
5890/1712
RCRD #02164

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4, HISTORIC DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

4) DIMENSIONAL REQUIREMENTS:
CHARACTER DISTRICT 4 (CD4):

MIN. LOT AREA:	NO REQUIREMENT	
FRONTAGE:	NO REQUIREMENT	
SETBACKS:		
FRONT (MAX.)	10 FEET (PRIMARY)	
FRONT (MAX.)	15 FEET (SECONDARY)	
SIDE	NO REQUIREMENT	
REAR	5 FEET	
MAXIMUM STRUCTURE HEIGHT:		45 FEET
MAXIMUM STRUCTURE COVERAGE:		90%
MAXIMUM BUILDING FOOTPRINT:		15,000 S.F.
MINIMUM OPEN SPACE:		10%
MINIMUM FRONT LOT LINE BUILDOUT:		50%

5) EXISTING LOT AREA:
6181 S.F.
0.1419 AC.

6) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259E, MAY 17, 2005.

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE BOUNDARY OF TAX MAP 125 LOT 3.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	4/9/18

REVISIONS

STANDARD BOUNDARY SURVEY
TAX MAP 125 - LOT 3
OWNER:
238 DEER STREET, LLC.
238 DEER STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 10' APRIL 2018

FB 220, PG 8

2916

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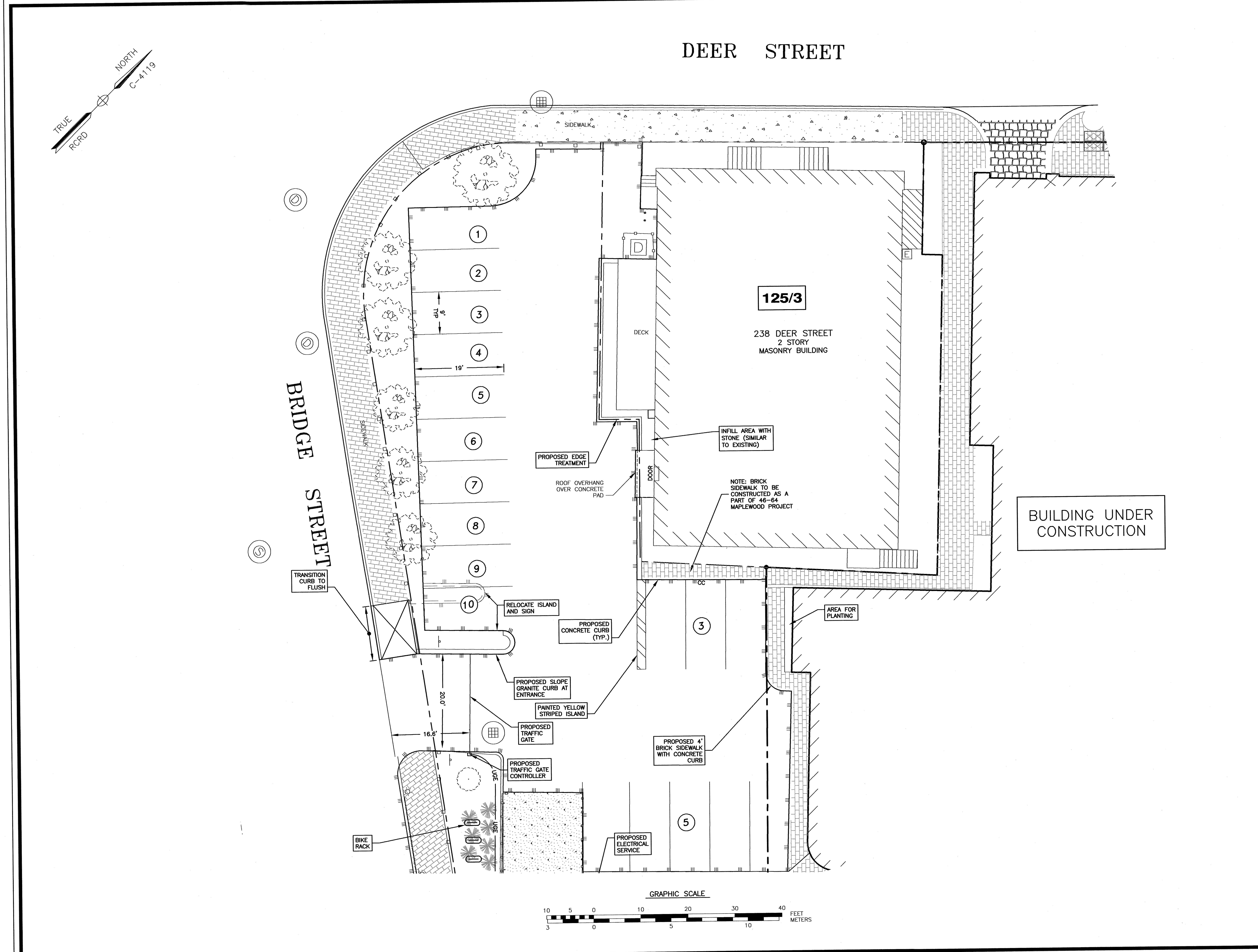


AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 125 AS LOT 3.

2) OWNER OF RECORD:
238 DEER STREET, LLC.
238 DEER STREET
PORTSMOUTH, NH 03801
5890/1712
RCRD #02164

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4, HISTORIC DISTRICT, AND DOWNTOWN OVERLAY DISTRICT.

4) DIMENSIONAL REQUIREMENTS:
CHARACTER DISTRICT 4 (CD4):

MIN. LOT AREA:	NO REQUIREMENT
FRONTAGE:	NO REQUIREMENT
SETBACKS:	
FRONT (MAX.)	10 FEET (PRIMARY)
FRONT (MAX.)	15 FEET (SECONDARY)
SIDE	NO REQUIREMENT
REAR	5 FEET
MAXIMUM STRUCTURE HEIGHT:	45 FEET
MAXIMUM STRUCTURE COVERAGE:	90%
MAXIMUM BUILDING FOOTPRINT:	15,000 S.F.
MINIMUM OPEN SPACE:	10%
MINIMUM FRONT LOT LINE BUILDOUT:	50%

5) LOT AREA:
6,181 S.F., 0.1419 ACRES

6) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259E, MAY 17, 2005.

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON MAP 125, LOT 3

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER ST
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUE FOR COMMENT	11/28/20

REVISIONS

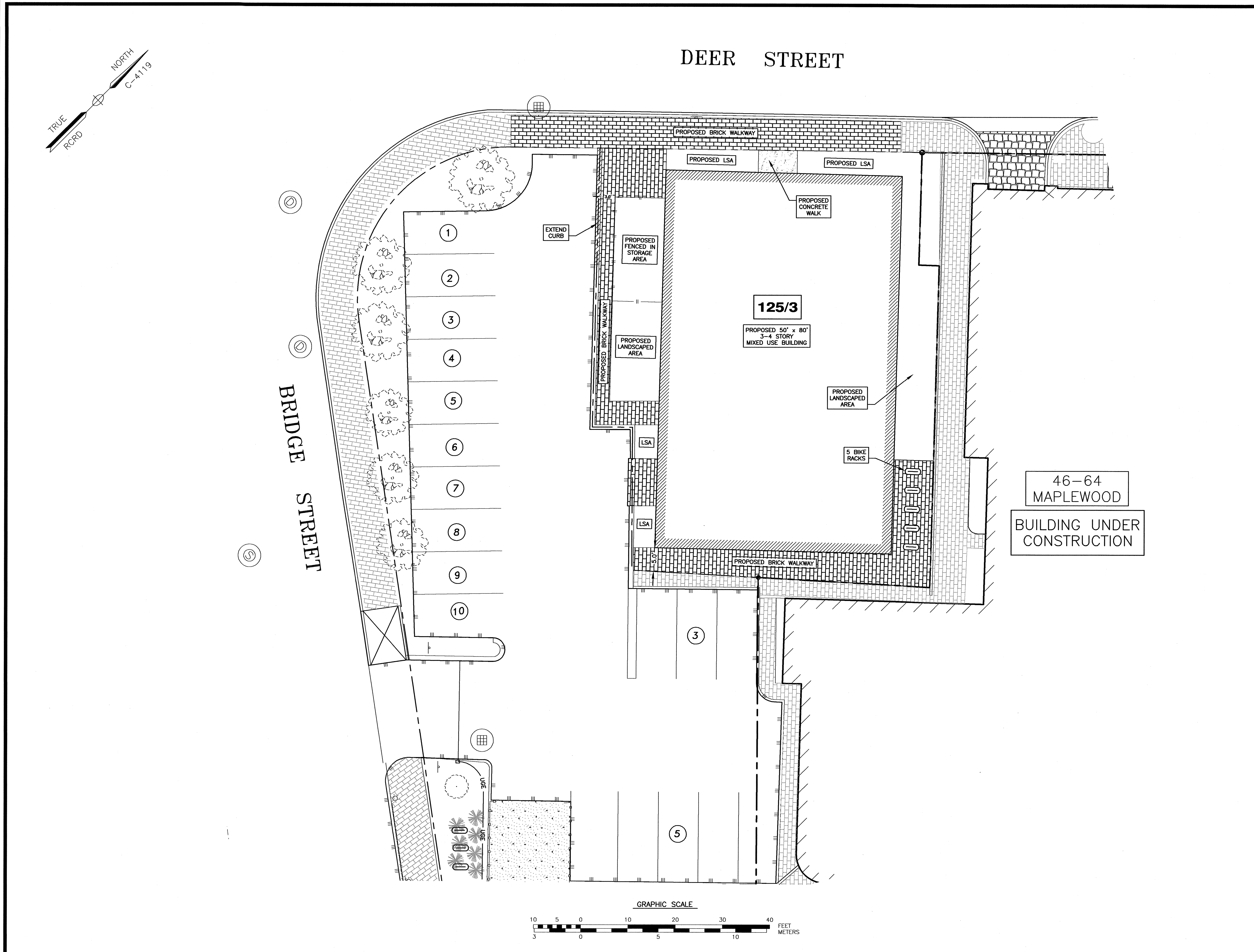
STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR
No. 738
JOHN R. CHAGNON
SIGNATURE

SCALE: 1" = 10'   NOVEMBER 2020

EXISTING CONDITIONS PLAN

C1

FB & PG   2916



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED LAYOUT OF A NEW STRUCTURE ON THE LOT IN COORDINATION OF A REQUEST FOR A PARKING CONDITIONAL USE PERMIT TO ALLOW NO ON SITE PARKING TO BE PROVIDED WHERE 8 SPACES ARE REQUIRED.

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER ST
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUE FOR COMMENT	11/28/20

REVISIONS

STATE OF NEW HAMPSHIRE · JOHN R. CHAGNON No. 7851 · LICENSED · PROFESSIONAL ENGINEER

SCALE: 1" = 10'

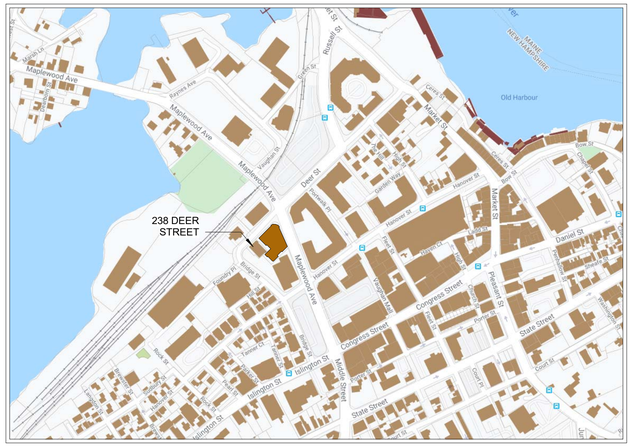
NOVEMBER 2020

SITE PLAN

C2

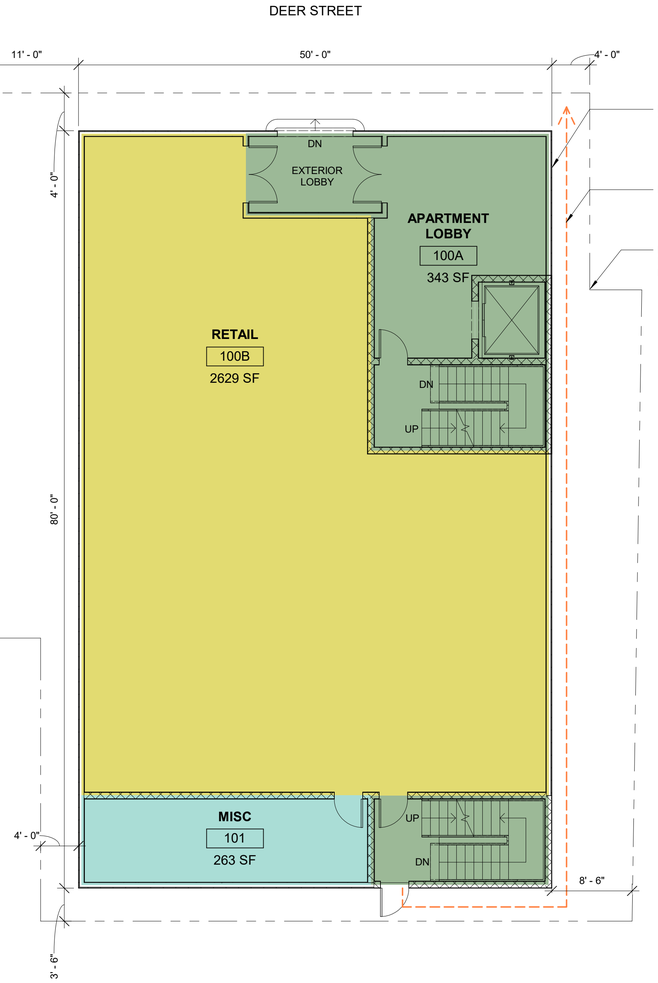
FB & PG

2916



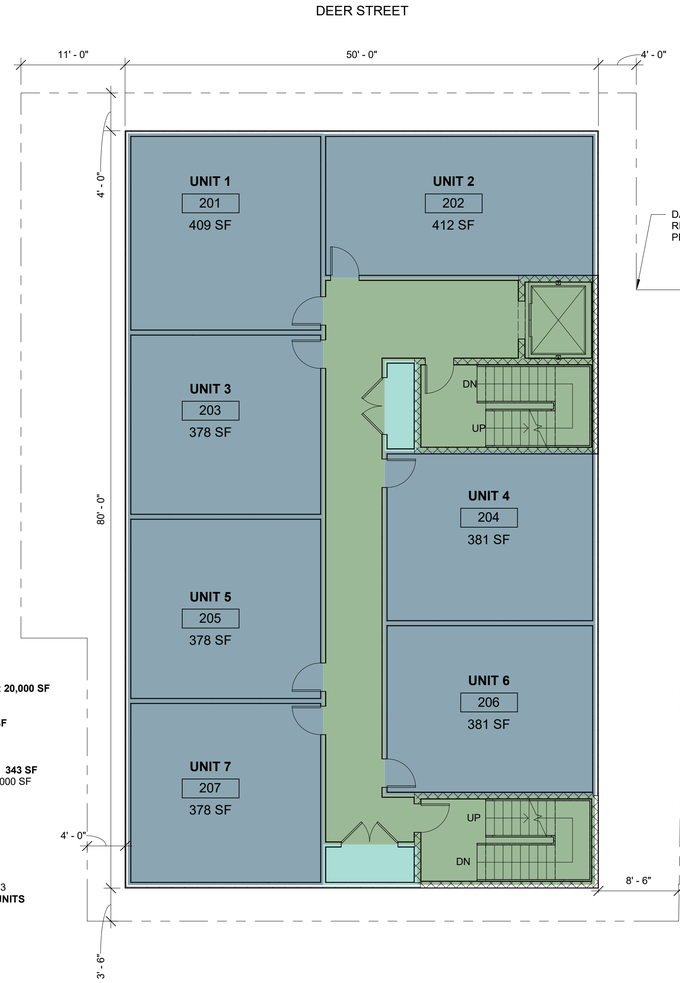
LOCUS MAP

DESCRIPTION:
3-4 STORY MIXED USE BUILDING WITH GROUND FLOOR RETAIL AND 21 MICRO APARTMENTS UNDER 500 SF. USE WILL REQUIRE APPROXIMATELY 7-8 PARKING SPACES, AND SITE DOES NOT HAVE ADEQUATE AREA OR ACCESS TO CREATE NEW PARKING. MAIN PURPOSE OF REQUEST FOR CONCEPTUAL REVIEW IS TO GET FEEDBACK ON NEARBY OFF-SITE PARKING OPTIONS, BUILDING USE AND SIZE.



1 FIRST FLOOR
1/8" = 1'-0"

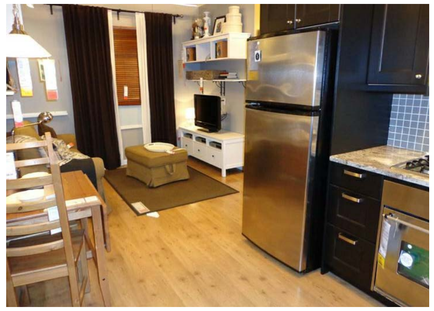
PROPOSED BUILDING DATA:
BUILDING SQUARE FOOTAGE: **20,000 SF**
BASEMENT: 4,000 SF
STORAGE AND MECHANICAL - **4,000 SF**
GROUND FLOOR: 4,000 SF
RETAIL - **2,629 SF**
MISC. - **263 SF**
APARTMENT LOBBY - **343 SF**
SECOND - FOURTH FLOOR: 4,000 SF
EACH - 12,000 TOTAL
UNIT 1 - **409 SF**
UNIT 2 - **412 SF**
UNIT 3 - **378 SF**
UNIT 4 - **381 SF**
UNIT 5 - **378 SF**
UNIT 6 - **381 SF**
UNIT 7 - **378 SF**
7 UNITS PER FLOOR * 3 FLOORS = **21 TOTAL UNITS**



2 SECOND - FOURTH FLOOR PLAN
1/8" = 1'-0"

Department Legend
- CIRCULATION
- MISC - A
- RESIDENTIAL UNITS
- RETAIL

IKEA EFFICIENCY UNIT FLOOR PLAN - 400SF



IKEA BROOKLYN EFFICIENCY UNIT - 391SF

OWNER CONCEPT PRECEDENT: IKEA EFFICIENCY UNIT

238 DEER STREET MIXED-USE 238 DEER STREET PORTSMOUTH, NH 03801	CONCEPTUAL ARCHITECTURAL CUP PERMIT APPLICATION	McHENRY ARCHITECTURE 4 Market Street Portsmouth, New Hampshire	12/17/2020 AS INDICATED RD/ JJ A1

DRAINAGE ANALYSIS

SITE DEVELOPMENT

238 DEER STREET
PORTSMOUTH, NH

FOR
238 DEER STREET, LLC.

16 NOVEMBER 2021

Ambit Engineering, Inc.
Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 603.436.2315
E-mail: jrc@ambitengineering.com
(Ambit Job Number 2916)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This analysis is meant to be used by City officials, the developer, builders, earthwork contractors and other interested parties to better understand the assumptions and intent of the proposed stormwater management system. This drainage analysis examines and compares the existing and proposed conditions stormwater drainage patterns for a Site Development at 238 Deer Street in the City of Portsmouth, at Assessor's Map 125, Lot 3. The total lot size is 6,181 square-feet. The point of analysis is a downstream manhole located on Deer Street (DMH 3540). The existing site is primarily impervious surface of pavement and buildings. The small areas of porous surfaces are mulch.

The Existing Conditions site plan show the condition immediately before development (i.e., as it exists today). Runoff amounts from this existing state are a function of the land cover, vegetation and soils; together those factors produce what is known as the Curve Number. The existing, or pre-developed curve number for the entire site (excluding offsite subcatchments) is 98. Typically, highly developed areas with lots of impervious area will have curve numbers approaching 90, whereas undisturbed or undeveloped areas can have curve numbers as low as 30 if the soils are well-drained and covered with forest. The proposed development's curve number remains at 98 as there is no increase in impervious surface (pavement, walkway, and rooftop), therefore post development peak runoff is unchanged. A *Hancor Water Quality Treatment Unit* was provided within the parking lot of the adjacent 30 Maplewood Condominium development, in the parking area between the site and Bridge Street. This unit is designed to divert low flows from up to the 2-Year Storm Event to provide treatment of surface runoff from the parking lot, and adjacent drainage areas. This was a part of the original design analysis for the adjacent site development known as 46 Maplewood Avenue.

There is one design point on this parcel which is used to compare pre and post-developed runoff amounts. This is the drain manhole in Deer Street (DMH 3540). This design point is labeled DP1. The system downstream from this manhole has been modeled for analysis as well.

INTRODUCTION / PROJECT DESCRIPTION

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the Town of Portsmouth, NH Assessor's Tax Map 125 as Lot 3. Bounding the site to north is Deer Street. Bounding the site to the south is 30 Maplewood and east 46 Maplewood. Bounding the site to the west, on the other side of a surface parking area, is Bridge Street. A vicinity map is included in the Appendix to this report.

The proposed development will include a new building. This report includes information about the existing site and the proposed building necessary to analyze stormwater runoff and to design any required mitigation. The report includes maps of pre-development and post-development watersheds, subcatchment areas and calculations of runoff. The report will provide a narrative of the stormwater runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

METHODOLOGY

"Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) have been used for modeling purposes. These values have been used in this analysis.

This report uses the US Soil Conservation Service (SCS) Method for estimating stormwater runoff. The SCS method is published in The National Engineering Handbook (NEH), Section 4 "Hydrology" and includes the Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release No. 55 (TR-55) "Urban Hydrology for Small Watersheds" methods. This report uses the HydroCAD version 10.0 program,

written by HydroCAD Software Solutions LLC, Chocorua, N.H., to apply these methods for the calculation of runoff and for pond modeling. Rainfall data and runoff curve numbers are taken from "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire."

Time of Concentration (Tc) is calculated by entering measured flow path data such as flow path type, length, slope and surface characteristics into the HydroCAD program. For the purposes of this report, a minimum time of concentration of 5 minutes is used.

The storm events used for the calculations in this report are the 2-year, 10-year, 25-year, and 50-year (24-hour) storms. Watershed basin boundaries have been delineated using topographic maps prepared by Ambit Engineering and field observations to confirm.

SITE SPECIFIC INFORMATION

Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Soil Survey of Rockingham County, New Hampshire the site is made up of one soil type:

Soil Symbol	Soil Name and Slopes
699	Urban Land

All existing and proposed site development takes place on one soil type:

Urban Land: The soil report provides little useful information on the site, but since the entire site is already developed and impervious, this information is of no consequence.

The existing site is developed. The only vegetation on the site is in small patches of landscaped area.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 33015C0259F (effective date January 29, 2021), the project site is located in Zone X and is determined to be outside of the 0.2% annual chance floodplain. A copy of the FIRM map is included in the Appendix.

PRE-DEVELOPMENT DRAINAGE

There are eleven subcatchments in the proposed analysis. The same Design Point (DP 1) is utilized for the developed condition. All eleven subcatchments flow to the same Design Point (DP 1). The following is a description of the various subcatchments:

Subcatchment ES1: This Subcatchment defines the existing building to the southerly end of the site near Hanover Street. It is primarily the rooftop and is unchanged in the proposed conditions.

Subcatchment ES2: This Subcatchment defines the existing parking lot to the northerly end of the site near Deer Street. It is reduced in area due to the construction of the proposed building and regrading of the parking lot itself. It is primarily impervious surface with very little landscape surface.

Subcatchment ES2a: This Subcatchment is primarily a westerly portion of 46-64 Maplewood Ave.

Subcatchment ES2b: This Subcatchment defines the existing parking lot to the northerly end of the site near Deer Street.

Subcatchment ES3: This Subcatchment defines a northerly portion of 46-64 Maplewood Ave.

Subcatchment ES3a: This Subcatchment defines a southerly portion of 46-64 Maplewood Ave. It is primarily the rooftop and discharges to the Silva Cells along Maplewood Avenue via a roof drain.

Subcatchment ES4: This Subcatchment defines 238 Deer Street. It has an increase in overall footprint in the proposed design.

Subcatchment ES5: This subcatchment defines the runoff area from the sidewalk and roadway on the south and west sides of the site along Hanover Street and Bridge Street.

Subcatchment ES6: This subcatchment defines the runoff area from the sidewalk and roadway in the northeast corner of the site near Deer Street and Maplewood Ave.

Subcatchment ES7: This subcatchment defines the runoff area from the sidewalk and roadway on the east side of the site along Maplewood Ave.

Subcatchment ES8: This subcatchment defines the runoff area from the sidewalk and roadway on the east side of the site along Maplewood Ave.

The following table shows the results of the pre-development drainage model.

Table 1: Pre-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	2-Year Runoff (CFS)	10-Year Runoff (CFS)	25-Year Runoff (CFS)	50-Year Runoff (CFS)	Location
ES1	16,738	5	98	1.23	1.89	2.40	2.88	30 Maplewood
ES2	7,730	5	97	0.56	0.87	1.10	1.33	Parking lot north
ES2a	2,509	5	98	0.19	0.28	0.36	0.43	46-64 Maplewood west
ES2b	5,028	5	98	0.37	0.57	0.72	0.86	Parking lot south
ES3	8,542	5	98	0.63	0.97	1.23	1.47	46-64 Maplewood north
ES3a	4,848	5	98	0.36	0.55	0.70	0.83	46-64 Maplewood south
ES4	4,188	5	98	0.31	0.47	0.60	0.72	238 Deer Street
ES5	20,107	5	97	1.46	2.26	2.87	3.45	Bridge Street/Hanover Street
ES6	12,323	5	98	0.91	1.39	1.77	2.12	Deer Street
ES7	8,519	5	98	0.63	0.96	1.22	1.47	Maplewood Ave north
ES8	7,456	5	97	0.54	0.83	1.07	1.28	Maplewood Ave south

POST-DEVELOPMENT DRAINAGE

There are 11 subcatchments in the post-development analysis. Existing subcatchments ES1, ES2, ES2a, ES2b, ES3, ES3a, ES4, ES5, ES6, ES7, and ES8 correspond to proposed subcatchments PS1, PS2, PS2a, PS2b, PS3, PS3a, PS4, PS5, PS6, PS7, and PS8, respectively. The only significant change in subcatchments is the slight increase in area of subcatchment PS4, and the slight decreases in area of subcatchments PS2 and PS6, representative of the change in area of the building footprint. The following table shows the results of the post-development drainage model.

Table 2: Post-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	2-Year Runoff (CFS)	10-Year Runoff (CFS)	25-Year Runoff (CFS)	50-Year Runoff (CFS)	Location
PS1	16,738	5	98	1.23	1.89	2.40	2.88	30 Maplewood
PS2	7,207	5	97	0.52	0.81	1.03	1.24	Parking lot north
PS2a	2,509	5	98	0.19	0.28	0.36	0.43	46-64 Maplewood west
PS2b	5,028	5	98	0.37	0.57	0.72	0.86	Parking lot south
PS3	8,542	5	98	0.63	0.97	1.23	1.47	46-64 Maplewood north
PS3a	4,848	5	98	0.36	0.55	0.70	0.83	46-64 Maplewood south
PS4	5,286	5	98	0.39	0.60	0.76	0.91	238 Deer Street
PS5	20,107	5	97	1.46	2.26	2.87	3.45	Bridge Street/Hanover Street
PS6	11,745	5	98	0.87	1.33	1.69	2.02	Deer Street
PS7	8,519	5	98	0.63	0.96	1.22	1.47	Maplewood Ave north
PS8	7,456	5	97	0.54	0.83	1.07	1.28	Maplewood Ave south

The overall impervious coverage of the area analyzed in this report for all basins decreases from 5,931 square-feet (96.0%) in the pre-development condition to 5,915 square-feet (95.7%) in the post-development condition.

Table 3 shows a summary of the comparison between pre-developed flows and post-developed flows for each design point. The comparison shows a slightly reduced flow in the 2 year storm as a result of infiltration in some proposed landscape areas.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (CFS)		Q10 (CFS)		Q25 (CFS)		Q50 (CFS)		
Design Point	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Description**
DP1	7.18	7.17	11.02	11.02	14.02	14.02	16.81	16.81	DMH 3540

Note that all drainage points of interest in the development area experience equal or lower peak flows.

OFFSITE INFRASTRUCTURE CAPACITY

City stormwater drainage is utilized exclusively with the existing and proposed site. As such, the stormwater system is designed as to create no additional resultant burden on city infrastructure due to the proposed development.

EROSION AND SEDIMENT CONTROL PRACTICES

The erosion potential for this site as it exists is low due to the impervious nature of the site. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform to "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire." Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Catch Basin Baskets
- Silt Soxx during excavations
- Stabilized construction entrance, or Fods at access point to the site
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by permanent landscaping and surfacing the access drives and parking areas with asphalt paving and other areas with brick and concrete walkways.

CONCLUSION

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. The proposed project disturbs significantly less than 15,000 square-feet, meaning the site does not require additional treatment as required by the city stormwater regulations for redevelopment projects. The site does not include any additional impervious surfaces, so peak flows from the site will not require mitigation. Stormwater treatment is being provided by the adjacent Hancor Treatment Device in the abutting parking area. Erosion and sediment control practices will be implemented for both the temporary condition during construction and for final stabilization after construction. Therefore, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

REFERENCES

1. Comprehensive Environmental Inc. and New Hampshire Department of Environmental Services. *New Hampshire Stormwater Manual (Volumes 1, 2 and 3)*, December 2008 (Revision 1.0).
2. Minnick, E.L. and H.T. Marshall. *Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire*, prepared by Rockingham County Conservation District, prepared for New Hampshire Department of Environmental Services, in cooperation with USDA Soil Conservation Service, August 1992.
3. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.0* copyright 2013.

APPENDIX A

VICINITY (TAX) MAP

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/1/2019
Data updated 7/17/2019

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

APPENDIX B

TABLES, CHARTS, ETC.

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.762 degrees West
Latitude	43.077 degrees North
Elevation	0 feet
Date/Time	Tue, 09 Nov 2021 15:32:03 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.65	2.92	**1yr**	2.35	2.81	3.22	3.94	4.54	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.48	3.20	3.57	**2yr**	2.84	3.43	3.93	4.67	5.32	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.06	4.57	**5yr**	3.59	4.40	5.03	5.93	6.69	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.72	2.23	2.89	3.74	4.86	5.52	**10yr**	4.30	5.31	6.07	7.09	7.96	**10yr**
25yr	0.48	0.76	0.97	1.33	1.77	2.33	**25yr**	1.53	2.14	2.77	3.62	4.73	6.16	7.09	**25yr**	5.45	6.81	7.78	9.00	10.03	**25yr**
50yr	0.53	0.86	1.10	1.53	2.07	2.75	**50yr**	1.78	2.52	3.28	4.31	5.65	7.37	8.57	**50yr**	6.53	8.24	9.40	10.79	11.95	**50yr**
100yr	0.59	0.96	1.24	1.76	2.41	3.25	**100yr**	2.08	2.97	3.90	5.15	6.75	8.83	10.36	**100yr**	7.82	9.96	11.35	12.93	14.24	**100yr**
200yr	0.67	1.10	1.42	2.04	2.82	3.82	**200yr**	2.43	3.51	4.60	6.11	8.06	10.58	12.52	**200yr**	9.37	12.04	13.71	15.50	16.98	**200yr**
500yr	0.80	1.31	1.71	2.48	3.47	4.75	**500yr**	2.99	4.37	5.75	7.68	10.19	13.45	16.11	**500yr**	11.90	15.49	17.61	19.72	21.44	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.92	1.33	1.68	2.23	2.48	**1yr**	1.97	2.39	2.86	3.18	3.88	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.45	**2yr**	2.70	3.31	3.82	4.54	5.07	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.78	4.18	**5yr**	3.34	4.02	4.71	5.52	6.23	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.36	4.85	**10yr**	3.86	4.66	5.42	6.39	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.76	3.54	4.70	5.87	**25yr**	4.16	5.64	6.62	7.76	8.65	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.34	3.07	3.93	5.31	6.77	**50yr**	4.70	6.51	7.68	9.00	9.98	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.42	4.35	5.96	7.81	**100yr**	5.28	7.51	8.92	10.45	11.52	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.79	4.79	6.68	9.01	**200yr**	5.91	8.66	10.34	12.15	13.31	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.32	5.46	7.76	10.87	**500yr**	6.87	10.45	12.58	14.86	16.11	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.21	2.98	3.16	**1yr**	2.64	3.04	3.58	4.37	5.04	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.70	**2yr**	3.03	3.56	4.08	4.83	5.62	**2yr**
5yr	0.40	0.62	0.76	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.53	3.25	4.33	4.96	**5yr**	3.84	4.77	5.37	6.37	7.15	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.97	**10yr**	1.39	1.93	2.28	3.11	3.95	5.33	6.20	**10yr**	4.72	5.96	6.82	7.83	8.74	**10yr**
25yr	0.57	0.87	1.09	1.55	2.04	2.57	**25yr**	1.76	2.51	2.95	4.07	5.15	7.77	8.34	**25yr**	6.88	8.02	9.15	10.33	11.40	**25yr**
50yr	0.67	1.02	1.27	1.82	2.46	3.12	**50yr**	2.12	3.05	3.59	5.00	6.32	9.73	10.46	**50yr**	8.62	10.06	11.45	12.71	13.95	**50yr**
100yr	0.79	1.19	1.49	2.15	2.95	3.80	**100yr**	2.55	3.72	4.37	6.15	7.76	12.18	13.11	**100yr**	10.78	12.61	14.32	15.68	17.08	**100yr**
200yr	0.92	1.39	1.76	2.54	3.55	4.64	**200yr**	3.06	4.54	5.33	7.58	9.53	15.29	16.45	**200yr**	13.53	15.82	17.94	19.34	20.91	**200yr**
500yr	1.14	1.70	2.19	3.18	4.52	6.02	**500yr**	3.90	5.89	6.92	10.01	12.54	20.67	22.22	**500yr**	18.29	21.37	24.18	25.50	27.33	**500yr**

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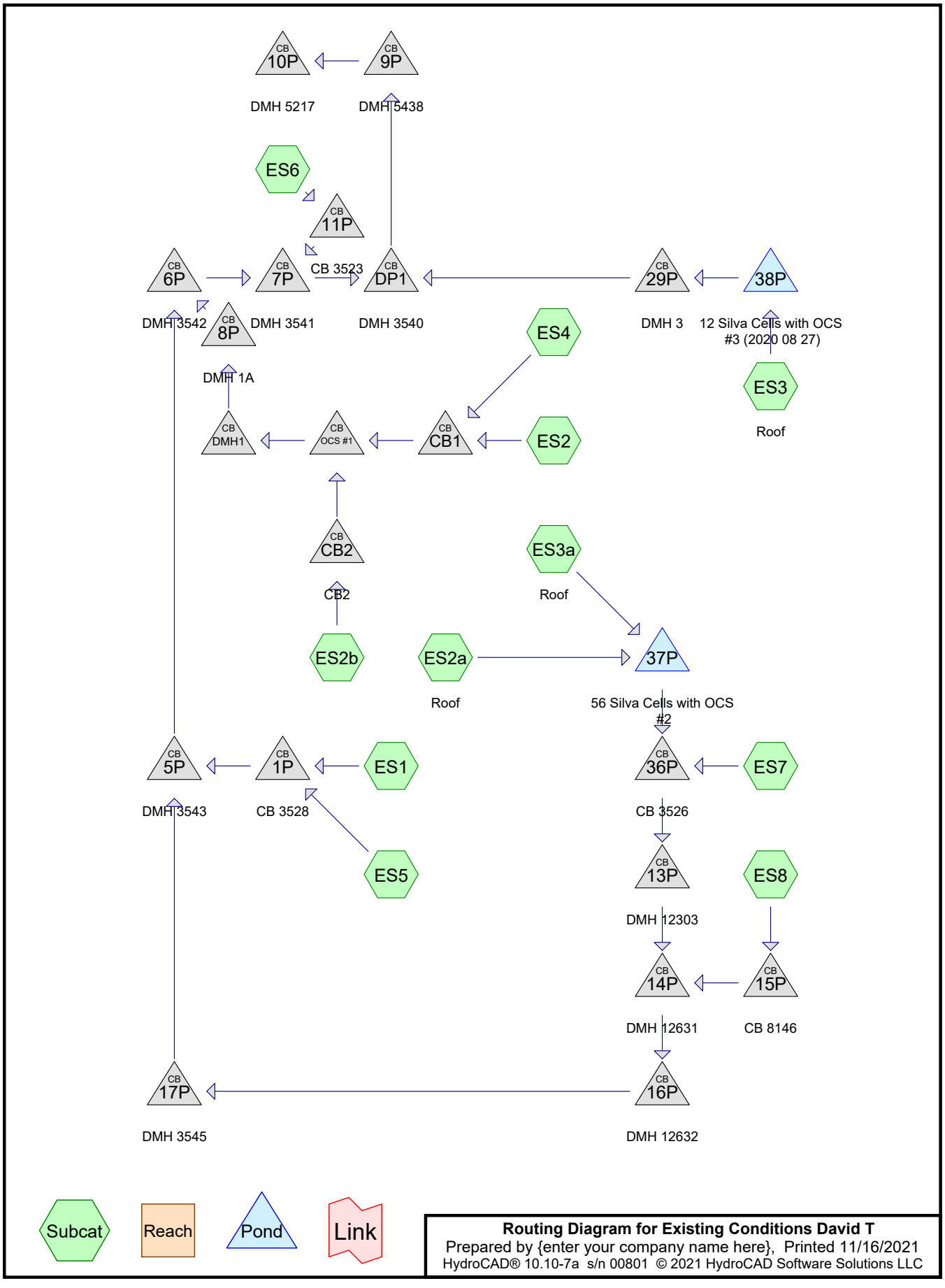
APPENDIX C

HYDROCAD DRAINAGE

ANALYSIS CALCULATIONS



Routing Diagram for Existing Conditions David T

Prepared by {enter your company name here}, Printed 11/16/2021

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year X	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year X	Type III 24-hr		Default	24.00	1	4.86	2
3	25-Year X	Type III 24-hr		Default	24.00	1	6.16	2
4	50-Year X	Type III 24-hr		Default	24.00	1	7.37	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.114	91	Fallow, bare soil, HSG C (ES2, ES2b, ES5, ES8)
0.009	98	Gravel roads, HSG C (ES5, ES8)
0.261	98	Paved parking, HSG C (ES2, ES2b, ES5)
1.020	98	Paved roads w/curbs & sewers, HSG C (ES5, ES6, ES7, ES8)
0.845	98	Roofs, HSG C (ES1, ES2a, ES3, ES3a, ES4)
2.249	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.249	HSG C	ES1, ES2, ES2a, ES2b, ES3, ES3a, ES4, ES5, ES6, ES7, ES8
0.000	HSG D	
0.000	Other	
2.249		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.114	0.000	0.000	0.114	Fallow, bare soil	ES2, ES2b, ES5, ES8
0.000	0.000	0.009	0.000	0.000	0.009	Gravel roads	ES5, ES8
0.000	0.000	0.261	0.000	0.000	0.261	Paved parking	ES2, ES2b, ES5
0.000	0.000	1.020	0.000	0.000	1.020	Paved roads w/curbs & sewers	ES5, ES6, ES7, ES8
0.000	0.000	0.845	0.000	0.000	0.845	Roofs	ES1, ES2a, ES3, ES3a, ES4
0.000	**0.000**	**2.249**	**0.000**	**0.000**	**2.249**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	4.40	4.13	9.0	0.0300	0.012	0.0	12.0	0.0
2	5P	2.91	2.61	160.0	0.0019	0.012	0.0	36.0	0.0
3	6P	2.21	2.10	74.0	0.0015	0.012	0.0	36.0	0.0
4	7P	1.96	1.68	80.0	0.0035	0.012	0.0	36.0	0.0
5	8P	2.66	2.41	42.0	0.0060	0.012	0.0	36.0	0.0
6	9P	0.94	1.67	100.0	-0.0073	0.012	0.0	48.0	0.0
7	10P	1.67	-4.20	254.0	0.0231	0.012	0.0	48.0	0.0
8	11P	6.32	7.52	35.0	-0.0343	0.012	0.0	12.0	0.0
9	13P	6.09	5.24	170.0	0.0050	0.012	0.0	12.0	0.0
10	14P	5.24	5.08	32.0	0.0050	0.012	0.0	12.0	0.0
11	15P	5.32	5.24	16.0	0.0050	0.012	0.0	12.0	0.0
12	16P	5.08	4.39	139.0	0.0050	0.012	0.0	12.0	0.0
13	17P	4.34	2.91	166.0	0.0086	0.012	0.0	36.0	0.0
14	29P	2.43	1.63	60.0	0.0133	0.012	0.0	18.0	0.0
15	36P	6.19	6.09	18.5	0.0054	0.012	0.0	12.0	0.0
16	37P	8.30	8.26	9.0	0.0044	0.012	0.0	12.0	0.0
17	38P	6.63	6.48	30.0	0.0050	0.012	0.0	12.0	0.0
18	CB1	4.72	4.66	16.0	0.0037	0.012	0.0	12.0	0.0
19	CB2	5.40	5.29	30.0	0.0037	0.012	0.0	12.0	0.0
20	DMH1	4.24	3.99	41.0	0.0061	0.012	0.0	12.0	0.0
21	DP1	1.68	0.94	216.0	0.0034	0.012	0.0	48.0	0.0
22	OCS #1	4.56	4.34	44.0	0.0050	0.012	0.0	12.0	0.0
23	OCS #1	3.62	4.51	40.0	-0.0222	0.013	0.0	10.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=1.23653 cfs 0.095 af

Subcatchment ES2: Runoff Area=7,730 sf 80.78% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=0.56245 cfs 0.042 af

Subcatchment ES2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.18535 cfs 0.014 af

Subcatchment ES2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.37145 cfs 0.029 af

Subcatchment ES3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.63104 cfs 0.048 af

Subcatchment ES3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.35815 cfs 0.028 af

Subcatchment ES4: Runoff Area=4,188 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.30939 cfs 0.024 af

Subcatchment ES5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=1.46303 cfs 0.110 af

Subcatchment ES6: Runoff Area=12,323 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.91037 cfs 0.070 af

Subcatchment ES7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.62935 cfs 0.048 af

Subcatchment ES8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=0.54251 cfs 0.041 af

Pond 1P: CB 3528 Peak Elev=5.30' Inflow=2.69955 cfs 0.205 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=2.69955 cfs 0.205 af

Pond 5P: DMH 3543 Peak Elev=3.96' Inflow=4.39523 cfs 0.326 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=4.39523 cfs 0.326 af

Pond 6P: DMH 3542 Peak Elev=3.55' Inflow=5.63850 cfs 0.421 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=5.63850 cfs 0.421 af

Pond 7P: DMH 3541 Peak Elev=3.33' Inflow=6.54886 cfs 0.491 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=6.54886 cfs 0.491 af

Pond 8P: DMH 1A Peak Elev=3.58' Inflow=1.24329 cfs 0.095 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=1.24329 cfs 0.095 af

Pond 9P: DMH 5438 Peak Elev=2.71' Inflow=7.17531 cfs 0.539 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=7.17531 cfs 0.539 af

Pond 10P: DMH 5217 Peak Elev=2.49' Inflow=7.17531 cfs 0.539 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=7.17531 cfs 0.539 af

Pond 11P: CB 3523 Peak Elev=7.95' Inflow=0.91037 cfs 0.070 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=0.91037 cfs 0.070 af

Pond 13P: DMH 12303 Peak Elev=6.79' Inflow=1.15330 cfs 0.080 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=1.15330 cfs 0.080 af

Pond 14P: DMH 12631 Peak Elev=6.13' Inflow=1.69576 cfs 0.121 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=1.69576 cfs 0.121 af

Pond 15P: CB 8146 Peak Elev=6.16' Inflow=0.54251 cfs 0.041 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.54251 cfs 0.041 af

Pond 16P: DMH 12632 Peak Elev=5.86' Inflow=1.69576 cfs 0.121 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=1.69576 cfs 0.121 af

Pond 17P: DMH 3545 Peak Elev=4.86' Inflow=1.69576 cfs 0.121 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=1.69576 cfs 0.121 af

Pond 29P: DMH 3 Peak Elev=3.12' Inflow=0.62646 cfs 0.048 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=0.62646 cfs 0.048 af

Pond 36P: CB 3526 Peak Elev=6.95' Inflow=1.15330 cfs 0.080 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=1.15330 cfs 0.080 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.49' Storage=142 cf Inflow=0.54350 cfs 0.042 af
Discarded=0.01868 cfs 0.010 af Primary=0.52423 cfs 0.032 af Outflow=0.54291 cfs 0.042 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.11' Storage=33 cf Inflow=0.63104 cfs 0.048 af
Discarded=0.00457 cfs 0.000 af Primary=0.62646 cfs 0.048 af Outflow=0.63103 cfs 0.048 af

Pond CB1: Peak Elev=5.40' Inflow=0.87184 cfs 0.066 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=0.87184 cfs 0.066 af

Pond CB2: CB2 Peak Elev=5.76' Inflow=0.37145 cfs 0.029 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.37145 cfs 0.029 af

Pond DMH1: Peak Elev=4.88' Inflow=1.24329 cfs 0.095 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=1.24329 cfs 0.095 af

Pond DP1: DMH 3540 Peak Elev=3.06' Inflow=7.17531 cfs 0.539 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=7.17531 cfs 0.539 af

Pond OCS #1: Peak Elev=5.28' Inflow=1.24329 cfs 0.095 af
Outflow=1.24329 cfs 0.095 af

Total Runoff Area = 2.249 ac Runoff Volume = 0.549 af Average Runoff Depth = 2.93"
5.08% Pervious = 0.114 ac 94.92% Impervious = 2.135 ac

Summary for Subcatchment ES1:

Runoff = 1.23653 cfs @ 12.07 hrs, Volume= 0.095 af, Depth= 2.97"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2:

Runoff = 0.56245 cfs @ 12.07 hrs, Volume= 0.042 af, Depth= 2.86"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
6,244	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
261	91	Fallow, bare soil, HSG C
7,730	97	Weighted Average
1,486		19.22% Pervious Area
6,244		80.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2a: Roof

Runoff = 0.18535 cfs @ 12.07 hrs, Volume= 0.014 af, Depth= 2.97"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2b:

Runoff = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af, Depth= 2.97"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3: Roof

Runoff = 0.63104 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 2.97"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3a: Roof

Runoff = 0.35815 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 2.97"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES4:

Runoff = 0.30939 cfs @ 12.07 hrs, Volume= 0.024 af, Depth= 2.97"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
4,188	98	Roofs, HSG C
4,188		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES5:

Runoff = 1.46303 cfs @ 12.07 hrs, Volume= 0.110 af, Depth= 2.86"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES6:

Runoff = 0.91037 cfs @ 12.07 hrs, Volume= 0.070 af, Depth= 2.97"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
12,323	98	Paved roads w/curbs & sewers, HSG C
12,323		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES7:

Runoff = 0.62935 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 2.97"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES8:

Runoff = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af, Depth= 2.86"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 5.30' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 2.91" for 2-Year X event
Inflow = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af
Outflow = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.30' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.69898 cfs @ 12.07 hrs HW=5.30' TW=3.96' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.69898 cfs @ 4.78 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 3.96' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 2.83" for 2-Year X event
Inflow = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af
Outflow = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af, Atten= 0%, Lag= 0.0 min
Primary = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.96' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert** L= 160.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=4.37415 cfs @ 12.07 hrs HW=3.96' TW=3.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.37415 cfs @ 2.94 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 3.55' (Flood elevation advised)

Inflow Area = 1.771 ac, 93.55% Impervious, Inflow Depth = 2.85" for 2-Year X event
Inflow = 5.63850 cfs @ 12.07 hrs, Volume= 0.421 af
Outflow = 5.63850 cfs @ 12.07 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min
Primary = 5.63850 cfs @ 12.07 hrs, Volume= 0.421 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.55' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=5.57677 cfs @ 12.07 hrs HW=3.55' TW=3.33' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.57677 cfs @ 2.70 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.33' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 6.54886 cfs @ 12.07 hrs, Volume= 0.491 af
Outflow = 6.54886 cfs @ 12.07 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.0 min
Primary = 6.54886 cfs @ 12.07 hrs, Volume= 0.491 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.33' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=6.53082 cfs @ 12.07 hrs HW=3.33' TW=3.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.53082 cfs @ 3.04 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 3.58' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Outflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.58' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.15948 cfs @ 12.07 hrs HW=3.57' TW=3.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.15948 cfs @ 0.96 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 2.71' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.71' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.17223 cfs @ 12.07 hrs HW=2.71' TW=2.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.17223 cfs @ 2.78 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.49' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 2.49' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.17223 cfs @ 12.07 hrs HW=2.49' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 7.17223 cfs @ 3.86 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 7.95' (Flood elevation advised)

Inflow Area = 0.283 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.91037 cfs @ 12.07 hrs, Volume= 0.070 af
Outflow = 0.91037 cfs @ 12.07 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.91037 cfs @ 12.07 hrs, Volume= 0.070 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.91028 cfs @ 12.07 hrs HW=7.95' TW=3.33' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.91028 cfs @ 2.80 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 6.79' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 2.65" for 2-Year X event
Inflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Outflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.79' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.14988 cfs @ 12.07 hrs HW=6.79' TW=6.13' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.14988 cfs @ 2.76 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 6.13' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.01' @ 12.03 hrs (0.30827 cfs 0.000 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.13' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.69416 cfs @ 12.07 hrs HW=6.13' TW=5.86' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.69416 cfs @ 3.04 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 6.16' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 2.86" for 2-Year X event
Inflow = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af
Outflow = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.16' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.51132 cfs @ 12.07 hrs HW=6.15' TW=6.13' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.51132 cfs @ 0.99 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 5.86' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.86' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.69416 cfs @ 12.07 hrs HW=5.86' TW=4.86' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.69416 cfs @ 3.56 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 4.86' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.86' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.69073 cfs @ 12.07 hrs HW=4.86' TW=3.96' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.69073 cfs @ 3.15 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.12' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 2.94" for 2-Year X event
Inflow = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Outflow = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.12' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.61969 cfs @ 12.07 hrs HW=3.12' TW=3.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.61969 cfs @ 1.15 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 6.95' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 2.65" for 2-Year X event
Inflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Outflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.14957 cfs @ 12.07 hrs HW=6.95' TW=6.79' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.14957 cfs @ 2.49 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.54350 cfs @ 12.07 hrs, Volume= 0.042 af
Outflow = 0.54291 cfs @ 12.07 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.99 hrs, Volume= 0.010 af
Primary = 0.52423 cfs @ 12.07 hrs, Volume= 0.032 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 11.49' @ 12.07 hrs Surf.Area= 403 sf Storage= 142 cf

Plug-Flow detention time= 4.8 min calculated for 0.042 af (100% of inflow)
Center-of-Mass det. time= 4.8 min (760.2 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.99 hrs HW=11.04' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=0.52318 cfs @ 12.07 hrs HW=11.49' TW=6.95' (Dynamic Tailwater)
├**1=Culvert** (Passes 0.38559 cfs of 7.75474 cfs potential flow)
│ └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.38559 cfs @ 0.85 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13758 cfs @ 8.41 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=569)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.63104 cfs @ 12.07 hrs, Volume= 0.048 af
Outflow = 0.63103 cfs @ 12.07 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.67 hrs, Volume= 0.000 af
Primary = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.11' @ 12.07 hrs Surf.Area= 99 sf Storage= 33 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.8 min (756.2 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.67 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=0.62601 cfs @ 12.07 hrs HW=10.11' TW=3.12' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.62601 cfs of 7.21726 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.14386 cfs @ 8.79 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.48215 cfs @ 0.91 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.40' (Flood elevation advised)

Inflow Area = 0.274 ac, 87.53% Impervious, Inflow Depth = 2.90" for 2-Year X event
Inflow = 0.87184 cfs @ 12.07 hrs, Volume= 0.066 af
Outflow = 0.87184 cfs @ 12.07 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87184 cfs @ 12.07 hrs, Volume= 0.066 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.40' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.87164 cfs @ 12.07 hrs HW=5.40' TW=5.28' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.87164 cfs @ 2.17 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.76' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af
Outflow = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.37141 cfs @ 12.07 hrs HW=5.76' TW=5.28' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.37141 cfs @ 2.18 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 4.88' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Outflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.88' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.24304 cfs @ 12.07 hrs HW=4.88' TW=3.57' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.24304 cfs @ 3.36 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.06' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17531 cfs @ 12.07 hrs, Volume= 0.539 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.06' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.14777 cfs @ 12.07 hrs HW=3.06' TW=2.71' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.14777 cfs @ 2.77 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.28' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Outflow = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.24329 cfs @ 12.07 hrs, Volume= 0.095 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.28' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.24305 cfs @ 12.07 hrs HW=5.28' TW=4.88' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.00000 cfs of 1.44861 cfs potential flow)
  - **3=Sharp-Crested Rectangular Weir** (Controls 0.00000 cfs)
- **2=Culvert** (Inlet Controls 1.24305 cfs @ 2.36 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=1.89195 cfs 0.148 af

Subcatchment ES2: Runoff Area=7,730 sf 80.78% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=0.86734 cfs 0.067 af

Subcatchment ES2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.28360 cfs 0.022 af

Subcatchment ES2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.56833 cfs 0.044 af

Subcatchment ES3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.96553 cfs 0.076 af

Subcatchment ES3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.54798 cfs 0.043 af

Subcatchment ES4: Runoff Area=4,188 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.47338 cfs 0.037 af

Subcatchment ES5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=2.25610 cfs 0.173 af

Subcatchment ES6: Runoff Area=12,323 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=1.39290 cfs 0.109 af

Subcatchment ES7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.96293 cfs 0.075 af

Subcatchment ES8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=0.83660 cfs 0.064 af

Pond 1P: CB 3528 Peak Elev=5.75' Inflow=4.14804 cfs 0.321 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=4.14804 cfs 0.321 af

Pond 5P: DMH 3543 Peak Elev=4.31' Inflow=6.75952 cfs 0.515 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=6.75952 cfs 0.515 af

Pond 6P: DMH 3542 Peak Elev=3.93' Inflow=8.66856 cfs 0.664 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=8.66856 cfs 0.664 af

Pond 7P: DMH 3541 Peak Elev=3.70' Inflow=10.06145 cfs 0.773 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=10.06145 cfs 0.773 af

Pond 8P: DMH 1A Peak Elev=3.95' Inflow=1.90905 cfs 0.148 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=1.90905 cfs 0.148 af

Pond 9P: DMH 5438 Peak Elev=2.97' Inflow=11.02239 cfs 0.848 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=11.02239 cfs 0.848 af

Pond 10P: DMH 5217 Peak Elev=2.70' Inflow=11.02239 cfs 0.848 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=11.02239 cfs 0.848 af

Pond 11P: CB 3523 Peak Elev=8.07' Inflow=1.39290 cfs 0.109 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=1.39290 cfs 0.109 af

Pond 13P: DMH 12303 Peak Elev=7.08' Inflow=1.77505 cfs 0.130 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=1.77505 cfs 0.130 af

Pond 14P: DMH 12631 Peak Elev=6.49' Inflow=2.61158 cfs 0.194 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=2.61158 cfs 0.194 af

Pond 15P: CB 8146 Peak Elev=6.52' Inflow=0.83660 cfs 0.064 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.83660 cfs 0.064 af

Pond 16P: DMH 12632 Peak Elev=6.14' Inflow=2.61158 cfs 0.194 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=2.61158 cfs 0.194 af

Pond 17P: DMH 3545 Peak Elev=5.03' Inflow=2.61158 cfs 0.194 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=2.61158 cfs 0.194 af

Pond 29P: DMH 3 Peak Elev=3.42' Inflow=0.96094 cfs 0.075 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=0.96094 cfs 0.075 af

Pond 36P: CB 3526 Peak Elev=7.25' Inflow=1.77505 cfs 0.130 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=1.77505 cfs 0.130 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.53' Storage=145 cf Inflow=0.83158 cfs 0.065 af
Discarded=0.01868 cfs 0.011 af Primary=0.81242 cfs 0.054 af Outflow=0.83110 cfs 0.065 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.15' Storage=34 cf Inflow=0.96553 cfs 0.076 af
Discarded=0.00457 cfs 0.001 af Primary=0.96094 cfs 0.075 af Outflow=0.96552 cfs 0.076 af

Pond CB1: Peak Elev=5.77' Inflow=1.34072 cfs 0.104 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=1.34072 cfs 0.104 af

Pond CB2: CB2 Peak Elev=5.87' Inflow=0.56833 cfs 0.044 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.56833 cfs 0.044 af

Pond DMH1: Peak Elev=5.07' Inflow=1.90905 cfs 0.148 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=1.90905 cfs 0.148 af

Pond DP1: DMH 3540 Peak Elev=3.38' Inflow=11.02239 cfs 0.848 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=11.02239 cfs 0.848 af

Pond OCS #1: Peak Elev=5.67' Inflow=1.90905 cfs 0.148 af
Outflow=1.90905 cfs 0.148 af

Total Runoff Area = 2.249 ac Runoff Volume = 0.859 af Average Runoff Depth = 4.58"
5.08% Pervious = 0.114 ac 94.92% Impervious = 2.135 ac

Summary for Subcatchment ES1:

Runoff = 1.89195 cfs @ 12.07 hrs, Volume= 0.148 af, Depth= 4.62"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2:

Runoff = 0.86734 cfs @ 12.07 hrs, Volume= 0.067 af, Depth= 4.51"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
6,244	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
261	91	Fallow, bare soil, HSG C
7,730	97	Weighted Average
1,486		19.22% Pervious Area
6,244		80.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2a: Roof

Runoff = 0.28360 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 4.62"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2b:

Runoff = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 4.62"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3: Roof

Runoff = 0.96553 cfs @ 12.07 hrs, Volume= 0.076 af, Depth= 4.62"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3a: Roof

Runoff = 0.54798 cfs @ 12.07 hrs, Volume= 0.043 af, Depth= 4.62"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES4:

Runoff = 0.47338 cfs @ 12.07 hrs, Volume= 0.037 af, Depth= 4.62"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
4,188	98	Roofs, HSG C
4,188		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES5:

Runoff = 2.25610 cfs @ 12.07 hrs, Volume= 0.173 af, Depth= 4.51"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES6:

Runoff = 1.39290 cfs @ 12.07 hrs, Volume= 0.109 af, Depth= 4.62"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
12,323	98	Paved roads w/curbs & sewers, HSG C
12,323		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES7:

Runoff = 0.96293 cfs @ 12.07 hrs, Volume= 0.075 af, Depth= 4.62"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES8:

Runoff = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af, Depth= 4.51"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 5.75' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 4.56" for 10-Year X event
Inflow = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af
Outflow = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min
Primary = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.75' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=4.14784 cfs @ 12.07 hrs HW=5.75' TW=4.31' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.14784 cfs @ 5.28 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.31' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 4.48" for 10-Year X event
Inflow = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af
Outflow = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min
Primary = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.31' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert** L= 160.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=6.71271 cfs @ 12.07 hrs HW=4.31' TW=3.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.71271 cfs @ 3.06 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 3.93' (Flood elevation advised)

Inflow Area = 1.771 ac, 93.55% Impervious, Inflow Depth = 4.50" for 10-Year X event
Inflow = 8.66856 cfs @ 12.07 hrs, Volume= 0.664 af
Outflow = 8.66856 cfs @ 12.07 hrs, Volume= 0.664 af, Atten= 0%, Lag= 0.0 min
Primary = 8.66856 cfs @ 12.07 hrs, Volume= 0.664 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.93' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=8.55502 cfs @ 12.07 hrs HW=3.93' TW=3.70' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.55502 cfs @ 2.95 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.70' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 4.51" for 10-Year X event
Inflow = 10.06145 cfs @ 12.07 hrs, Volume= 0.773 af
Outflow = 10.06145 cfs @ 12.07 hrs, Volume= 0.773 af, Atten= 0%, Lag= 0.0 min
Primary = 10.06145 cfs @ 12.07 hrs, Volume= 0.773 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.70' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.03196 cfs @ 12.07 hrs HW=3.70' TW=3.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.03196 cfs @ 3.41 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 3.95' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 4.57" for 10-Year X event
Inflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Outflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.95' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.68129 cfs @ 12.07 hrs HW=3.95' TW=3.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.68129 cfs @ 0.86 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 2.97' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.97' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=11.01953 cfs @ 12.07 hrs HW=2.97' TW=2.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.01953 cfs @ 3.12 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.70' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 2.70' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=11.01953 cfs @ 12.07 hrs HW=2.70' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 11.01953 cfs @ 4.31 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.07' (Flood elevation advised)

Inflow Area = 0.283 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 1.39290 cfs @ 12.07 hrs, Volume= 0.109 af
Outflow = 1.39290 cfs @ 12.07 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39290 cfs @ 12.07 hrs, Volume= 0.109 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.07' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.39289 cfs @ 12.07 hrs HW=8.07' TW=3.70' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.39289 cfs @ 3.15 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 7.08' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 4.27" for 10-Year X event
Inflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.08' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.76365 cfs @ 12.07 hrs HW=7.08' TW=6.49' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.76365 cfs @ 2.83 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 6.49' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.49' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.60969 cfs @ 12.07 hrs HW=6.49' TW=6.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.60969 cfs @ 3.42 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 6.52' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 4.51" for 10-Year X event
Inflow = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af
Outflow = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.52' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.72107 cfs @ 12.07 hrs HW=6.51' TW=6.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.72107 cfs @ 0.92 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 6.14' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.14' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.60965 cfs @ 12.07 hrs HW=6.14' TW=5.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.60965 cfs @ 3.89 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.03' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.03' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.59822 cfs @ 12.07 hrs HW=5.03' TW=4.31' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.59822 cfs @ 3.22 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.42' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 4.59" for 10-Year X event
Inflow = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Outflow = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min
Primary = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.42' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.94339 cfs @ 12.07 hrs HW=3.42' TW=3.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.94339 cfs @ 1.08 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 7.25' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 4.27" for 10-Year X event
Inflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.25' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.76330 cfs @ 12.07 hrs HW=7.25' TW=7.08' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.76330 cfs @ 2.64 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.83158 cfs @ 12.07 hrs, Volume= 0.065 af
Outflow = 0.83110 cfs @ 12.07 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.85 hrs, Volume= 0.011 af
Primary = 0.81242 cfs @ 12.07 hrs, Volume= 0.054 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 11.53' @ 12.07 hrs Surf.Area= 403 sf Storage= 145 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.4 min (752.0 - 747.6)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.85 hrs HW=11.04' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=0.81092 cfs @ 12.07 hrs HW=11.53' TW=7.25' (Dynamic Tailwater)
├**1=Culvert** (Passes 0.67242 cfs of 7.81349 cfs potential flow)
│└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.67242 cfs @ 1.02 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13850 cfs @ 8.46 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=556)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.96553 cfs @ 12.07 hrs, Volume= 0.076 af
Outflow = 0.96552 cfs @ 12.07 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.54 hrs, Volume= 0.001 af
Primary = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.15' @ 12.07 hrs Surf.Area= 99 sf Storage= 34 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.7 min (748.2 - 747.6)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.54 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=0.96044 cfs @ 12.07 hrs HW=10.15' TW=3.42' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.96044 cfs of 7.27806 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.14481 cfs @ 8.85 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.81563 cfs @ 1.09 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.77' (Flood elevation advised)

Inflow Area = 0.274 ac, 87.53% Impervious, Inflow Depth = 4.55" for 10-Year X event
Inflow = 1.34072 cfs @ 12.07 hrs, Volume= 0.104 af
Outflow = 1.34072 cfs @ 12.07 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34072 cfs @ 12.07 hrs, Volume= 0.104 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.77' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.33492 cfs @ 12.07 hrs HW=5.77' TW=5.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.33492 cfs @ 2.02 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.87' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.87' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.56710 cfs @ 12.07 hrs HW=5.87' TW=5.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.56710 cfs @ 2.32 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.07' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 4.57" for 10-Year X event
Inflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Outflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.07' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.90898 cfs @ 12.07 hrs HW=5.07' TW=3.95' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.90898 cfs @ 3.72 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.38' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02239 cfs @ 12.07 hrs, Volume= 0.848 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.38' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=10.97823 cfs @ 12.07 hrs HW=3.38' TW=2.97' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 10.97823 cfs @ 3.19 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.67' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 4.57" for 10-Year X event
Inflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Outflow = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90905 cfs @ 12.07 hrs, Volume= 0.148 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.67' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.90897 cfs @ 12.07 hrs HW=5.67' TW=5.07' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.30221 cfs of 2.72488 cfs potential flow)
  - **3=Sharp-Crested Rectangular Weir** (Weir Controls 0.30221 cfs @ 0.87 fps)
- **2=Culvert** (Inlet Controls 1.60676 cfs @ 2.95 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=2.40352 cfs 0.190 af

Subcatchment ES2: Runoff Area=7,730 sf 80.78% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=1.10468 cfs 0.086 af

Subcatchment ES2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.36028 cfs 0.028 af

Subcatchment ES2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.72200 cfs 0.057 af

Subcatchment ES3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.22660 cfs 0.097 af

Subcatchment ES3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.69616 cfs 0.055 af

Subcatchment ES4: Runoff Area=4,188 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.60138 cfs 0.047 af

Subcatchment ES5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=2.87346 cfs 0.223 af

Subcatchment ES6: Runoff Area=12,323 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.76954 cfs 0.140 af

Subcatchment ES7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.22330 cfs 0.097 af

Subcatchment ES8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=1.06553 cfs 0.083 af

Pond 1P: CB 3528 Peak Elev=6.15' Inflow=5.27698 cfs 0.413 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=5.27698 cfs 0.413 af

Pond 5P: DMH 3543 Peak Elev=4.56' Inflow=8.60258 cfs 0.664 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=8.60258 cfs 0.664 af

Pond 6P: DMH 3542 Peak Elev=4.20' Inflow=11.03063 cfs 0.854 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=11.03063 cfs 0.854 af

Pond 7P: DMH 3541 Peak Elev=3.95' Inflow=12.80016 cfs 0.994 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=12.80016 cfs 0.994 af

Pond 8P: DMH 1A Peak Elev=4.22' Inflow=2.42807 cfs 0.190 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=2.42807 cfs 0.190 af

Pond 9P: DMH 5438 Peak Elev=3.14' Inflow=14.02217 cfs 1.090 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=14.02217 cfs 1.090 af

Pond 10P: DMH 5217 Peak Elev=2.84' Inflow=14.02217 cfs 1.090 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=14.02217 cfs 1.090 af

Pond 11P: CB 3523 Peak Elev=8.15' Inflow=1.76954 cfs 0.140 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=1.76954 cfs 0.140 af

Pond 13P: DMH 12303 Peak Elev=8.06' Inflow=2.26026 cfs 0.168 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=2.26026 cfs 0.168 af

Pond 14P: DMH 12631 Peak Elev=7.33' Inflow=3.32571 cfs 0.251 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=3.32571 cfs 0.251 af

Pond 15P: CB 8146 Peak Elev=7.37' Inflow=1.06553 cfs 0.083 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=1.06553 cfs 0.083 af

Pond 16P: DMH 12632 Peak Elev=6.76' Inflow=3.32571 cfs 0.251 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=3.32571 cfs 0.251 af

Pond 17P: DMH 3545 Peak Elev=5.16' Inflow=3.32571 cfs 0.251 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=3.32571 cfs 0.251 af

Pond 29P: DMH 3 Peak Elev=3.64' Inflow=1.22202 cfs 0.096 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=1.22202 cfs 0.096 af

Pond 36P: CB 3526 Peak Elev=8.29' Inflow=2.26026 cfs 0.168 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=2.26026 cfs 0.168 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.56' Storage=147 cf Inflow=1.05644 cfs 0.083 af
Discarded=0.01868 cfs 0.011 af Primary=1.03727 cfs 0.072 af Outflow=1.05595 cfs 0.083 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.18' Storage=34 cf Inflow=1.22660 cfs 0.097 af
Discarded=0.00457 cfs 0.001 af Primary=1.22202 cfs 0.096 af Outflow=1.22659 cfs 0.097 af

Pond CB1: Peak Elev=5.88' Inflow=1.70607 cfs 0.133 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=1.70607 cfs 0.133 af

Pond CB2: CB2 Peak Elev=5.94' Inflow=0.72200 cfs 0.057 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.72200 cfs 0.057 af

Pond DMH1: Peak Elev=5.22' Inflow=2.42807 cfs 0.190 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=2.42807 cfs 0.190 af

Pond DP1: DMH 3540 Peak Elev=3.60' Inflow=14.02217 cfs 1.090 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=14.02217 cfs 1.090 af

Pond OCS #1: Peak Elev=5.75' Inflow=2.42807 cfs 0.190 af
Outflow=2.42807 cfs 0.190 af

Total Runoff Area = 2.249 ac Runoff Volume = 1.102 af Average Runoff Depth = 5.88"
5.08% Pervious = 0.114 ac 94.92% Impervious = 2.135 ac

Summary for Subcatchment ES1:

Runoff = 2.40352 cfs @ 12.07 hrs, Volume= 0.190 af, Depth= 5.92"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2:

Runoff = 1.10468 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 5.80"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
6,244	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
261	91	Fallow, bare soil, HSG C
7,730	97	Weighted Average
1,486		19.22% Pervious Area
6,244		80.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2a: Roof

Runoff = 0.36028 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 5.92"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2b:

Runoff = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 5.92"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3: Roof

Runoff = 1.22660 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 5.92"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3a: Roof

Runoff = 0.69616 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 5.92"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES4:

Runoff = 0.60138 cfs @ 12.07 hrs, Volume= 0.047 af, Depth= 5.92"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
4,188	98	Roofs, HSG C
4,188		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES5:

Runoff = 2.87346 cfs @ 12.07 hrs, Volume= 0.223 af, Depth= 5.80"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES6:

Runoff = 1.76954 cfs @ 12.07 hrs, Volume= 0.140 af, Depth= 5.92"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
12,323	98	Paved roads w/curbs & sewers, HSG C
12,323		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES7:

Runoff = 1.22330 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 5.92"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES8:

Runoff = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 5.80"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 6.15' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 5.86" for 25-Year X event
Inflow = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af
Outflow = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af, Atten= 0%, Lag= 0.0 min
Primary = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.15' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=5.27696 cfs @ 12.07 hrs HW=6.15' TW=4.55' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.27696 cfs @ 6.72 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.56' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 5.77" for 25-Year X event
Inflow = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af
Outflow = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af, Atten= 0%, Lag= 0.0 min
Primary = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.56' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert** L= 160.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=8.52861 cfs @ 12.07 hrs HW=4.55' TW=4.19' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.52861 cfs @ 3.12 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 4.20' (Flood elevation advised)

Inflow Area = 1.771 ac, 93.55% Impervious, Inflow Depth = 5.79" for 25-Year X event
Inflow = 11.03063 cfs @ 12.07 hrs, Volume= 0.854 af
Outflow = 11.03063 cfs @ 12.07 hrs, Volume= 0.854 af, Atten= 0%, Lag= 0.0 min
Primary = 11.03063 cfs @ 12.07 hrs, Volume= 0.854 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.20' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.87218 cfs @ 12.07 hrs HW=4.19' TW=3.94' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.87218 cfs @ 3.11 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.95' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 12.80016 cfs @ 12.07 hrs, Volume= 0.994 af
Outflow = 12.80016 cfs @ 12.07 hrs, Volume= 0.994 af, Atten= 0%, Lag= 0.0 min
Primary = 12.80016 cfs @ 12.07 hrs, Volume= 0.994 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=12.76123 cfs @ 12.07 hrs HW=3.94' TW=3.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.76123 cfs @ 3.65 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 4.22' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Outflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.22' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.04695 cfs @ 12.07 hrs HW=4.21' TW=4.19' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.04695 cfs @ 0.81 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 3.14' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.14' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=14.01948 cfs @ 12.07 hrs HW=3.14' TW=2.84' (Dynamic Tailwater)
1=Culvert (Inlet Controls 14.01948 cfs @ 3.34 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.84' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 2.84' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=14.01948 cfs @ 12.07 hrs HW=2.84' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 14.01948 cfs @ 4.60 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.15' (Flood elevation advised)

Inflow Area = 0.283 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.76954 cfs @ 12.07 hrs, Volume= 0.140 af
Outflow = 1.76954 cfs @ 12.07 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min
Primary = 1.76954 cfs @ 12.07 hrs, Volume= 0.140 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.15' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.76946 cfs @ 12.07 hrs HW=8.15' TW=3.94' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.76946 cfs @ 3.38 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 8.06' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 5.54" for 25-Year X event
Inflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Outflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.06' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.22251 cfs @ 12.07 hrs HW=8.04' TW=7.33' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.22251 cfs @ 2.83 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 7.33' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.25' @ 12.04 hrs (2.36966 cfs 0.006 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.33' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.32358 cfs @ 12.07 hrs HW=7.33' TW=6.76' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.32358 cfs @ 4.23 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 7.37' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 5.80" for 25-Year X event
Inflow = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.37' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.70647 cfs @ 12.07 hrs HW=7.35' TW=7.33' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.70647 cfs @ 0.90 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 6.76' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.32358 cfs @ 12.07 hrs HW=6.76' TW=5.16' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.32358 cfs @ 4.23 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.16' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.16' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=3.30044 cfs @ 12.07 hrs HW=5.16' TW=4.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.30044 cfs @ 3.18 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.64' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 5.88" for 25-Year X event
Inflow = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.64' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.19442 cfs @ 12.07 hrs HW=3.64' TW=3.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.19442 cfs @ 1.07 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 8.29' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 5.54" for 25-Year X event
Inflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Outflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.20981 cfs @ 12.07 hrs HW=8.26' TW=8.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.20981 cfs @ 2.81 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.05644 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.05595 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.1 min
Discarded = 0.01868 cfs @ 11.77 hrs, Volume= 0.011 af
Primary = 1.03727 cfs @ 12.07 hrs, Volume= 0.072 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 11.56' @ 12.07 hrs Surf.Area= 403 sf Storage= 147 cf

Plug-Flow detention time= 4.3 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (748.1 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.77 hrs HW=11.02' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=1.03549 cfs @ 12.07 hrs HW=11.56' TW=8.27' (Dynamic Tailwater)
├**1=Culvert** (Passes 0.89637 cfs of 7.85330 cfs potential flow)
│└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.89637 cfs @ 1.12 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13913 cfs @ 8.50 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.22660 cfs @ 12.07 hrs, Volume= 0.097 af
Outflow = 1.22659 cfs @ 12.07 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.28 hrs, Volume= 0.001 af
Primary = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 10.18' @ 12.07 hrs Surf.Area= 99 sf Storage= 34 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.6 min (744.5 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.28 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=1.22148 cfs @ 12.07 hrs HW=10.18' TW=3.64' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.22148 cfs of 7.31949 cfs potential flow)
  └**2=Orifice/Grate** (Orifice Controls 0.14547 cfs @ 8.89 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 1.07601 cfs @ 1.19 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.88' (Flood elevation advised)

Inflow Area = 0.274 ac, 87.53% Impervious, Inflow Depth = 5.85" for 25-Year X event
Inflow = 1.70607 cfs @ 12.07 hrs, Volume= 0.133 af
Outflow = 1.70607 cfs @ 12.07 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.70607 cfs @ 12.07 hrs, Volume= 0.133 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.88' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert**

L= 16.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.70055 cfs @ 12.07 hrs HW=5.88' TW=5.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.70055 cfs @ 2.35 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.94' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af
Outflow = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min
Primary = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.94' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.72038 cfs @ 12.07 hrs HW=5.94' TW=5.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.72038 cfs @ 2.40 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.22' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Outflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.22' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.42804 cfs @ 12.07 hrs HW=5.22' TW=4.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.42804 cfs @ 3.93 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.60' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02217 cfs @ 12.07 hrs, Volume= 1.090 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.60' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=13.96427 cfs @ 12.07 hrs HW=3.59' TW=3.14' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 13.96427 cfs @ 3.44 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.75' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Outflow = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 2.42807 cfs @ 12.07 hrs, Volume= 0.190 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.75' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.42804 cfs @ 12.07 hrs HW=5.75' TW=5.22' (Dynamic Tailwater)
├**1=Culvert** (Passes 0.91963 cfs of 2.92330 cfs potential flow)
│└**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.91963 cfs @ 1.26 fps)
└**2=Culvert** (Inlet Controls 1.50841 cfs @ 2.77 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=2.87902 cfs 0.228 af

Subcatchment ES2: Runoff Area=7,730 sf 80.78% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=1.32501 cfs 0.104 af

Subcatchment ES2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.43156 cfs 0.034 af

Subcatchment ES2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.86484 cfs 0.069 af

Subcatchment ES3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=1.46927 cfs 0.117 af

Subcatchment ES3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.83388 cfs 0.066 af

Subcatchment ES4: Runoff Area=4,188 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.72036 cfs 0.057 af

Subcatchment ES5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=3.44657 cfs 0.270 af

Subcatchment ES6: Runoff Area=12,323 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=2.11962 cfs 0.168 af

Subcatchment ES7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=1.46531 cfs 0.116 af

Subcatchment ES8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=1.27804 cfs 0.100 af

Pond 1P: CB 3528 Peak Elev=6.69' Inflow=6.32559 cfs 0.498 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=6.32559 cfs 0.498 af

Pond 5P: DMH 3543 Peak Elev=4.78' Inflow=10.31325 cfs 0.802 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=10.31325 cfs 0.802 af

Pond 6P: DMH 3542 Peak Elev=4.43' Inflow=13.22343 cfs 1.032 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=13.22343 cfs 1.032 af

Pond 7P: DMH 3541 Peak Elev=4.16' Inflow=15.34303 cfs 1.200 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=15.34303 cfs 1.200 af

Pond 8P: DMH 1A Peak Elev=4.45' Inflow=2.91021 cfs 0.229 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=2.91021 cfs 0.229 af

Pond 9P: DMH 5438 Peak Elev=3.29' Inflow=16.80767 cfs 1.316 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=16.80767 cfs 1.316 af

Pond 10P: DMH 5217 Peak Elev=2.95' Inflow=16.80767 cfs 1.316 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=16.80767 cfs 1.316 af

Pond 11P: CB 3523 Peak Elev=8.23' Inflow=2.11962 cfs 0.168 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=2.11962 cfs 0.168 af

Pond 13P: DMH 12303 Peak Elev=9.23' Inflow=2.70987 cfs 0.204 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=2.70987 cfs 0.204 af

Pond 14P: DMH 12631 Peak Elev=8.18' Inflow=3.98781 cfs 0.304 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=3.98781 cfs 0.304 af

Pond 15P: CB 8146 Peak Elev=8.24' Inflow=1.27804 cfs 0.100 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=1.27804 cfs 0.100 af

Pond 16P: DMH 12632 Peak Elev=7.36' Inflow=3.98781 cfs 0.304 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=3.98781 cfs 0.304 af

Pond 17P: DMH 3545 Peak Elev=5.29' Inflow=3.98781 cfs 0.304 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=3.98781 cfs 0.304 af

Pond 29P: DMH 3 Peak Elev=3.82' Inflow=1.46465 cfs 0.116 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=1.46465 cfs 0.116 af

Pond 36P: CB 3526 Peak Elev=9.56' Inflow=2.70987 cfs 0.204 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=2.70987 cfs 0.204 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.59' Storage=149 cf Inflow=1.26544 cfs 0.100 af
Discarded=0.01868 cfs 0.012 af Primary=1.24497 cfs 0.088 af Outflow=1.26365 cfs 0.100 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.21' Storage=35 cf Inflow=1.46927 cfs 0.117 af
Discarded=0.00457 cfs 0.001 af Primary=1.46465 cfs 0.116 af Outflow=1.46922 cfs 0.117 af

Pond CB1: Peak Elev=5.99' Inflow=2.04537 cfs 0.161 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=2.04537 cfs 0.161 af

Pond CB2: CB2 Peak Elev=6.01' Inflow=0.86484 cfs 0.069 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.86484 cfs 0.069 af

Pond DMH1: Peak Elev=5.37' Inflow=2.91021 cfs 0.229 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=2.91021 cfs 0.229 af

Pond DP1: DMH 3540 Peak Elev=3.78' Inflow=16.80767 cfs 1.316 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=16.80767 cfs 1.316 af

Pond OCS #1: Peak Elev=5.81' Inflow=2.91021 cfs 0.229 af
Outflow=2.91021 cfs 0.229 af

Total Runoff Area = 2.249 ac Runoff Volume = 1.329 af Average Runoff Depth = 7.09"
5.08% Pervious = 0.114 ac 94.92% Impervious = 2.135 ac

Summary for Subcatchment ES1:

Runoff = 2.87902 cfs @ 12.07 hrs, Volume= 0.228 af, Depth= 7.13"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2:

Runoff = 1.32501 cfs @ 12.07 hrs, Volume= 0.104 af, Depth= 7.01"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
6,244	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
261	91	Fallow, bare soil, HSG C
7,730	97	Weighted Average
1,486		19.22% Pervious Area
6,244		80.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2a: Roof

Runoff = 0.43156 cfs @ 12.07 hrs, Volume= 0.034 af, Depth= 7.13"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES2b:

Runoff = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af, Depth= 7.13"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3: Roof

Runoff = 1.46927 cfs @ 12.07 hrs, Volume= 0.117 af, Depth= 7.13"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES3a: Roof

Runoff = 0.83388 cfs @ 12.07 hrs, Volume= 0.066 af, Depth= 7.13"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES4:

Runoff = 0.72036 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 7.13"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
4,188	98	Roofs, HSG C
4,188		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES5:

Runoff = 3.44657 cfs @ 12.07 hrs, Volume= 0.270 af, Depth= 7.01"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES6:

Runoff = 2.11962 cfs @ 12.07 hrs, Volume= 0.168 af, Depth= 7.13"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
12,323	98	Paved roads w/curbs & sewers, HSG C
12,323		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES7:

Runoff = 1.46531 cfs @ 12.07 hrs, Volume= 0.116 af, Depth= 7.13"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment ES8:

Runoff = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af, Depth= 7.01"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 6.69' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 7.07" for 50-Year X event
Inflow = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af
Outflow = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af, Atten= 0%, Lag= 0.0 min
Primary = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.69' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=6.32537 cfs @ 12.07 hrs HW=6.69' TW=4.77' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 6.32537 cfs @ 8.05 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.78' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 6.97" for 50-Year X event
Inflow = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af
Outflow = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.78' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert** L= 160.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.20904 cfs @ 12.07 hrs HW=4.77' TW=4.42' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 10.20904 cfs @ 3.16 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 4.43' (Flood elevation advised)
[80] Warning: Exceeded Pond 8P by 0.01' @ 12.02 hrs (1.46295 cfs 0.007 af)

Inflow Area = 1.771 ac, 93.55% Impervious, Inflow Depth = 6.99" for 50-Year X event
Inflow = 13.22343 cfs @ 12.07 hrs, Volume= 1.032 af
Outflow = 13.22343 cfs @ 12.07 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min
Primary = 13.22343 cfs @ 12.07 hrs, Volume= 1.032 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.43' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=13.02111 cfs @ 12.07 hrs HW=4.42' TW=4.16' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.02111 cfs @ 3.24 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 4.16' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 7.01" for 50-Year X event
Inflow = 15.34303 cfs @ 12.07 hrs, Volume= 1.200 af
Outflow = 15.34303 cfs @ 12.07 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min
Primary = 15.34303 cfs @ 12.07 hrs, Volume= 1.200 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.16' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=15.29515 cfs @ 12.07 hrs HW=4.16' TW=3.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 15.29515 cfs @ 3.84 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 4.45' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Outflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
Primary = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.45' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.35712 cfs @ 12.07 hrs HW=4.44' TW=4.42' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.35712 cfs @ 0.78 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 3.29' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.29' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.80522 cfs @ 12.07 hrs HW=3.29' TW=2.95' (Dynamic Tailwater)
1=Culvert (Inlet Controls 16.80522 cfs @ 3.51 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.95' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 2.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.80479 cfs @ 12.07 hrs HW=2.95' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 16.80479 cfs @ 4.82 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.23' (Flood elevation advised)

Inflow Area = 0.283 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 2.11962 cfs @ 12.07 hrs, Volume= 0.168 af
Outflow = 2.11962 cfs @ 12.07 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.11962 cfs @ 12.07 hrs, Volume= 0.168 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.23' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.11948 cfs @ 12.07 hrs HW=8.23' TW=4.16' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.11948 cfs @ 3.58 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 9.23' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 6.73" for 50-Year X event
Inflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Outflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 9.23' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.66458 cfs @ 12.07 hrs HW=9.20' TW=8.18' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.66458 cfs @ 3.39 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 8.18' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.31' @ 12.02 hrs (2.63468 cfs 0.010 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.18' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.98620 cfs @ 12.07 hrs HW=8.18' TW=7.36' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.98620 cfs @ 5.08 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 8.24' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 7.01" for 50-Year X event
Inflow = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.24' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.84012 cfs @ 12.07 hrs HW=8.21' TW=8.18' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.84012 cfs @ 1.07 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 7.36' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.36' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.98522 cfs @ 12.07 hrs HW=7.36' TW=5.28' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.98522 cfs @ 5.07 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.29' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=3.94520 cfs @ 12.07 hrs HW=5.28' TW=4.77' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.94520 cfs @ 3.10 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.82' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 7.07" for 50-Year X event
Inflow = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Outflow = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.82' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.42762 cfs @ 12.07 hrs HW=3.82' TW=3.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.42762 cfs @ 1.09 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 9.56' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 6.73" for 50-Year X event
Inflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Outflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 9.56' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.65311 cfs @ 12.07 hrs HW=9.52' TW=9.20' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.65311 cfs @ 3.38 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 1.26544 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.26365 cfs @ 12.07 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.71 hrs, Volume= 0.012 af
Primary = 1.24497 cfs @ 12.07 hrs, Volume= 0.088 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 11.59' @ 12.07 hrs Surf.Area= 403 sf Storage= 149 cf

Plug-Flow detention time= 4.3 min calculated for 0.100 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (745.6 - 741.3)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.71 hrs HW=11.02' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=1.23987 cfs @ 12.07 hrs HW=11.59' TW=9.52' (Dynamic Tailwater)
├**1=Culvert** (Passes 1.12675 cfs of 6.78706 cfs potential flow)
│ └**3=Broad-Crested Rectangular Weir** (Weir Controls 1.12675 cfs @ 1.21 fps)
└**2=Orifice/Grate** (Orifice Controls 0.11312 cfs @ 6.91 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 1.46927 cfs @ 12.07 hrs, Volume= 0.117 af
Outflow = 1.46922 cfs @ 12.07 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.08 hrs, Volume= 0.001 af
Primary = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 10.21' @ 12.07 hrs Surf.Area= 99 sf Storage= 35 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.7 min (742.0 - 741.3)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.08 hrs HW=8.40' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=1.46409 cfs @ 12.07 hrs HW=10.21' TW=3.82' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.46409 cfs of 7.35462 cfs potential flow)
  └**2=Orifice/Grate** (Orifice Controls 0.14602 cfs @ 8.92 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 1.31807 cfs @ 1.28 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.99' (Flood elevation advised)

Inflow Area = 0.274 ac, 87.53% Impervious, Inflow Depth = 7.05" for 50-Year X event
Inflow = 2.04537 cfs @ 12.07 hrs, Volume= 0.161 af
Outflow = 2.04537 cfs @ 12.07 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min
Primary = 2.04537 cfs @ 12.07 hrs, Volume= 0.161 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.99' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert**

L= 16.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.03896 cfs @ 12.07 hrs HW=5.99' TW=5.81' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.03896 cfs @ 2.60 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 6.01' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.01' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.86225 cfs @ 12.07 hrs HW=6.01' TW=5.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.86225 cfs @ 2.48 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.37' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Outflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
Primary = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.37' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.91010 cfs @ 12.07 hrs HW=5.37' TW=4.44' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.91010 cfs @ 4.09 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.78' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.92% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80767 cfs @ 12.07 hrs, Volume= 1.316 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.78' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.73614 cfs @ 12.07 hrs HW=3.78' TW=3.29' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 16.73614 cfs @ 3.65 fps)

Summary for Pond OCS #1:

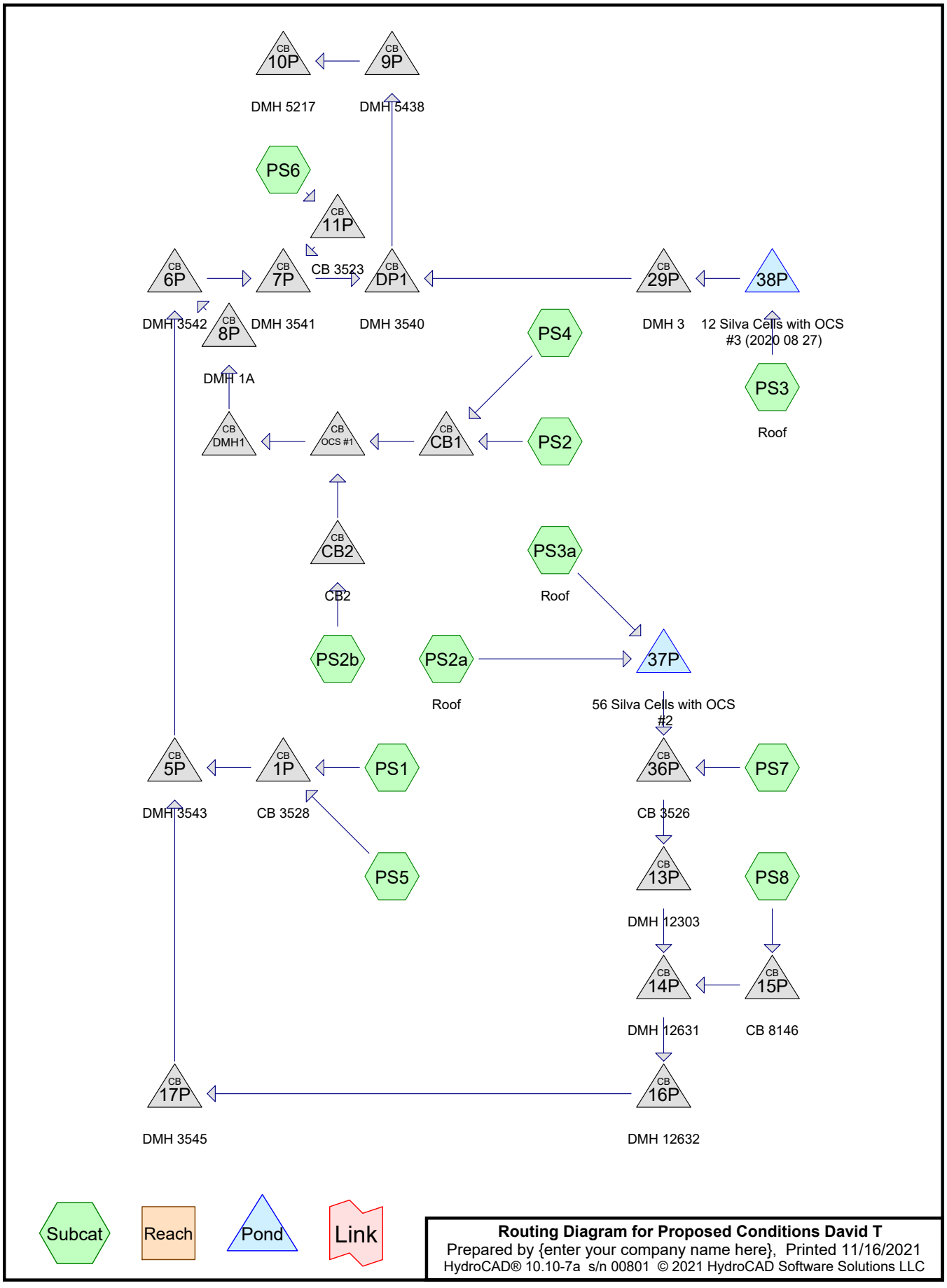
[57] Hint: Peaked at 5.81' (Flood elevation advised)

Inflow Area = 0.389 ac, 90.26% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Outflow = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min
Primary = 2.91021 cfs @ 12.07 hrs, Volume= 0.229 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.81' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.91009 cfs @ 12.07 hrs HW=5.81' TW=5.37' (Dynamic Tailwater)
├**1=Culvert** (Passes 1.54065 cfs of 2.75437 cfs potential flow)
│└**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.54065 cfs @ 1.49 fps)
└**2=Culvert** (Inlet Controls 1.36944 cfs @ 2.51 fps)



Routing Diagram for Proposed Conditions David T

Prepared by {enter your company name here}, Printed 11/16/2021

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year X	Type III 24-hr		Default	24.00	1	3.20	2
2	10-Year X	Type III 24-hr		Default	24.00	1	4.86	2
3	25-Year X	Type III 24-hr		Default	24.00	1	6.16	2
4	50-Year X	Type III 24-hr		Default	24.00	1	7.37	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.114	91	Fallow, bare soil, HSG C (PS2, PS2b, PS4, PS5, PS8)
0.009	98	Gravel roads, HSG C (PS5, PS8)
0.253	98	Paved parking, HSG C (PS2, PS2b, PS5)
1.007	98	Paved roads w/curbs & sewers, HSG C (PS5, PS6, PS7, PS8)
0.867	98	Roofs, HSG C (PS1, PS2a, PS3, PS3a, PS4)
2.249	**98**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.249	HSG C	PS1, PS2, PS2a, PS2b, PS3, PS3a, PS4, PS5, PS6, PS7, PS8
0.000	HSG D	
0.000	Other	
2.249		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.114	0.000	0.000	0.114	Fallow, bare soil	PS2, PS2b, PS4, PS5, PS8
0.000	0.000	0.009	0.000	0.000	0.009	Gravel roads	PS5, PS8
0.000	0.000	0.253	0.000	0.000	0.253	Paved parking	PS2, PS2b, PS5
0.000	0.000	1.007	0.000	0.000	1.007	Paved roads w/curbs & sewers	PS5, PS6, PS7, PS8
0.000	0.000	0.867	0.000	0.000	0.867	Roofs	PS1, PS2a, PS3, PS3a, PS4
0.000	**0.000**	**2.249**	**0.000**	**0.000**	**2.249**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	4.40	4.13	9.0	0.0300	0.012	0.0	12.0	0.0
2	5P	2.91	2.61	160.0	0.0019	0.012	0.0	36.0	0.0
3	6P	2.21	2.10	74.0	0.0015	0.012	0.0	36.0	0.0
4	7P	1.96	1.68	80.0	0.0035	0.012	0.0	36.0	0.0
5	8P	2.66	2.41	42.0	0.0060	0.012	0.0	36.0	0.0
6	9P	0.94	1.67	100.0	-0.0073	0.012	0.0	48.0	0.0
7	10P	1.67	-4.20	254.0	0.0231	0.012	0.0	48.0	0.0
8	11P	6.32	7.52	35.0	-0.0343	0.012	0.0	12.0	0.0
9	13P	6.09	5.24	170.0	0.0050	0.012	0.0	12.0	0.0
10	14P	5.24	5.08	32.0	0.0050	0.012	0.0	12.0	0.0
11	15P	5.32	5.24	16.0	0.0050	0.012	0.0	12.0	0.0
12	16P	5.08	4.39	139.0	0.0050	0.012	0.0	12.0	0.0
13	17P	4.34	2.91	166.0	0.0086	0.012	0.0	36.0	0.0
14	29P	2.43	1.63	60.0	0.0133	0.012	0.0	18.0	0.0
15	36P	6.19	6.09	18.5	0.0054	0.012	0.0	12.0	0.0
16	37P	8.30	8.26	9.0	0.0044	0.012	0.0	12.0	0.0
17	38P	6.63	6.48	30.0	0.0050	0.012	0.0	12.0	0.0
18	CB1	4.72	4.66	16.0	0.0037	0.012	0.0	12.0	0.0
19	CB2	5.40	5.29	30.0	0.0037	0.012	0.0	12.0	0.0
20	DMH1	4.24	3.99	41.0	0.0061	0.012	0.0	12.0	0.0
21	DP1	1.68	0.94	216.0	0.0034	0.012	0.0	48.0	0.0
22	OCS #1	4.56	4.34	44.0	0.0050	0.012	0.0	12.0	0.0
23	OCS #1	3.62	4.51	40.0	-0.0222	0.013	0.0	10.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=1.23653 cfs 0.095 af

Subcatchment PS2: Runoff Area=7,207 sf 81.45% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=0.52440 cfs 0.039 af

Subcatchment PS2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.18535 cfs 0.014 af

Subcatchment PS2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.37145 cfs 0.029 af

Subcatchment PS3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.63104 cfs 0.048 af

Subcatchment PS3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.35815 cfs 0.028 af

Subcatchment PS4: Runoff Area=5,286 sf 97.22% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.39051 cfs 0.030 af

Subcatchment PS5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=1.46303 cfs 0.110 af

Subcatchment PS6: Runoff Area=11,745 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.86767 cfs 0.067 af

Subcatchment PS7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.62935 cfs 0.048 af

Subcatchment PS8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=0.54251 cfs 0.041 af

Pond 1P: CB 3528 Peak Elev=5.30' Inflow=2.69955 cfs 0.205 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=2.69955 cfs 0.205 af

Pond 5P: DMH 3543 Peak Elev=3.97' Inflow=4.39523 cfs 0.326 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=4.39523 cfs 0.326 af

Pond 6P: DMH 3542 Peak Elev=3.55' Inflow=5.68156 cfs 0.424 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=5.68156 cfs 0.424 af

Pond 7P: DMH 3541 Peak Elev=3.34' Inflow=6.54922 cfs 0.491 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=6.54922 cfs 0.491 af

Pond 8P: DMH 1A Peak Elev=3.58' Inflow=1.28635 cfs 0.098 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=1.28635 cfs 0.098 af

Pond 9P: DMH 5438 Peak Elev=2.71' Inflow=7.17567 cfs 0.539 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=7.17567 cfs 0.539 af

Pond 10P: DMH 5217 Peak Elev=2.49' Inflow=7.17567 cfs 0.539 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=7.17567 cfs 0.539 af

Pond 11P: CB 3523 Peak Elev=7.94' Inflow=0.86767 cfs 0.067 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=0.86767 cfs 0.067 af

Pond 13P: DMH 12303 Peak Elev=6.79' Inflow=1.15330 cfs 0.080 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=1.15330 cfs 0.080 af

Pond 14P: DMH 12631 Peak Elev=6.13' Inflow=1.69576 cfs 0.121 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=1.69576 cfs 0.121 af

Pond 15P: CB 8146 Peak Elev=6.16' Inflow=0.54251 cfs 0.041 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.54251 cfs 0.041 af

Pond 16P: DMH 12632 Peak Elev=5.86' Inflow=1.69576 cfs 0.121 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=1.69576 cfs 0.121 af

Pond 17P: DMH 3545 Peak Elev=4.86' Inflow=1.69576 cfs 0.121 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=1.69576 cfs 0.121 af

Pond 29P: DMH 3 Peak Elev=3.12' Inflow=0.62646 cfs 0.048 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=0.62646 cfs 0.048 af

Pond 36P: CB 3526 Peak Elev=6.95' Inflow=1.15330 cfs 0.080 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=1.15330 cfs 0.080 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.49' Storage=142 cf Inflow=0.54350 cfs 0.042 af
Discarded=0.01868 cfs 0.010 af Primary=0.52423 cfs 0.032 af Outflow=0.54291 cfs 0.042 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.11' Storage=33 cf Inflow=0.63104 cfs 0.048 af
Discarded=0.00457 cfs 0.000 af Primary=0.62646 cfs 0.048 af Outflow=0.63103 cfs 0.048 af

Pond CB1: Peak Elev=5.42' Inflow=0.91490 cfs 0.069 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=0.91490 cfs 0.069 af

Pond CB2: CB2 Peak Elev=5.76' Inflow=0.37145 cfs 0.029 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.37145 cfs 0.029 af

Pond DMH1: Peak Elev=4.89' Inflow=1.28635 cfs 0.098 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=1.28635 cfs 0.098 af

Pond DP1: DMH 3540 Peak Elev=3.06' Inflow=7.17567 cfs 0.539 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=7.17567 cfs 0.539 af

Pond OCS #1: Peak Elev=5.31' Inflow=1.28635 cfs 0.098 af
Outflow=1.28635 cfs 0.098 af

Total Runoff Area = 2.249 ac Runoff Volume = 0.549 af Average Runoff Depth = 2.93"
5.07% Pervious = 0.114 ac 94.93% Impervious = 2.135 ac

Summary for Subcatchment PS1:

Runoff = 1.23653 cfs @ 12.07 hrs, Volume= 0.095 af, Depth= 2.97"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2:

Runoff = 0.52440 cfs @ 12.07 hrs, Volume= 0.039 af, Depth= 2.86"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
5,870	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
112	91	Fallow, bare soil, HSG C
7,207	97	Weighted Average
1,337		18.55% Pervious Area
5,870		81.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2a: Roof

Runoff = 0.18535 cfs @ 12.07 hrs, Volume= 0.014 af, Depth= 2.97"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2b:

Runoff = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af, Depth= 2.97"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3: Roof

Runoff = 0.63104 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 2.97"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3a: Roof

Runoff = 0.35815 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 2.97"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS4:

Runoff = 0.39051 cfs @ 12.07 hrs, Volume= 0.030 af, Depth= 2.97"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
5,139	98	Roofs, HSG C
147	91	Fallow, bare soil, HSG C
5,286	98	Weighted Average
147		2.78% Pervious Area
5,139		97.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS5:

Runoff = 1.46303 cfs @ 12.07 hrs, Volume= 0.110 af, Depth= 2.86"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS6:

Runoff = 0.86767 cfs @ 12.07 hrs, Volume= 0.067 af, Depth= 2.97"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
11,745	98	Paved roads w/curbs & sewers, HSG C
11,745		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS7:

Runoff = 0.62935 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 2.97"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS8:

Runoff = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af, Depth= 2.86"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year X Rainfall=3.20"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 5.30' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 2.91" for 2-Year X event
Inflow = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af
Outflow = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.69955 cfs @ 12.07 hrs, Volume= 0.205 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.30' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.69898 cfs @ 12.07 hrs HW=5.30' TW=3.96' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.69898 cfs @ 4.78 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 3.97' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 2.83" for 2-Year X event
Inflow = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af
Outflow = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af, Atten= 0%, Lag= 0.0 min
Primary = 4.39523 cfs @ 12.07 hrs, Volume= 0.326 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.97' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert**

L= 160.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=4.37415 cfs @ 12.07 hrs HW=3.96' TW=3.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.37415 cfs @ 2.94 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 3.55' (Flood elevation advised)

Inflow Area = 1.784 ac, 93.60% Impervious, Inflow Depth = 2.85" for 2-Year X event
Inflow = 5.68156 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.68156 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min
Primary = 5.68156 cfs @ 12.07 hrs, Volume= 0.424 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.55' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=5.61995 cfs @ 12.07 hrs HW=3.55' TW=3.33' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.61995 cfs @ 2.71 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.34' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 6.54922 cfs @ 12.07 hrs, Volume= 0.491 af
Outflow = 6.54922 cfs @ 12.07 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.0 min
Primary = 6.54922 cfs @ 12.07 hrs, Volume= 0.491 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.34' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=6.53119 cfs @ 12.07 hrs HW=3.33' TW=3.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.53119 cfs @ 3.04 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 3.58' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Outflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.58' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.20451 cfs @ 12.07 hrs HW=3.58' TW=3.55' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.20451 cfs @ 0.99 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 2.71' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.71' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.17260 cfs @ 12.07 hrs HW=2.71' TW=2.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.17260 cfs @ 2.78 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.49' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.49' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.17260 cfs @ 12.07 hrs HW=2.49' (Free Discharge)
1=Culvert (Inlet Controls 7.17260 cfs @ 3.86 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 7.94' (Flood elevation advised)

Inflow Area = 0.270 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.86767 cfs @ 12.07 hrs, Volume= 0.067 af
Outflow = 0.86767 cfs @ 12.07 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86767 cfs @ 12.07 hrs, Volume= 0.067 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.94' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.86758 cfs @ 12.07 hrs HW=7.94' TW=3.33' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.86758 cfs @ 2.76 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 6.79' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 2.65" for 2-Year X event
Inflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Outflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 6.79' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.14988 cfs @ 12.07 hrs HW=6.79' TW=6.13' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.14988 cfs @ 2.76 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 6.13' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.01' @ 12.03 hrs (0.30827 cfs 0.000 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.13' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.69416 cfs @ 12.07 hrs HW=6.13' TW=5.86' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.69416 cfs @ 3.04 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 6.16' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 2.86" for 2-Year X event
Inflow = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af
Outflow = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54251 cfs @ 12.07 hrs, Volume= 0.041 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.16' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900

n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.51132 cfs @ 12.07 hrs HW=6.15' TW=6.13' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.51132 cfs @ 0.99 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 5.86' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.86' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.69416 cfs @ 12.07 hrs HW=5.86' TW=4.86' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.69416 cfs @ 3.56 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 4.86' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 2.71" for 2-Year X event
Inflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.69576 cfs @ 12.07 hrs, Volume= 0.121 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.86' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.69072 cfs @ 12.07 hrs HW=4.86' TW=3.96' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.69072 cfs @ 3.15 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.12' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 2.94" for 2-Year X event
Inflow = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Outflow = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.12' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.61969 cfs @ 12.07 hrs HW=3.12' TW=3.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.61969 cfs @ 1.15 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 6.95' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 2.65" for 2-Year X event
Inflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Outflow = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15330 cfs @ 12.07 hrs, Volume= 0.080 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.14957 cfs @ 12.07 hrs HW=6.95' TW=6.79' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.14957 cfs @ 2.49 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.54350 cfs @ 12.07 hrs, Volume= 0.042 af
Outflow = 0.54291 cfs @ 12.07 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.99 hrs, Volume= 0.010 af
Primary = 0.52423 cfs @ 12.07 hrs, Volume= 0.032 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 11.49' @ 12.07 hrs Surf.Area= 403 sf Storage= 142 cf

Plug-Flow detention time= 4.8 min calculated for 0.042 af (100% of inflow)
Center-of-Mass det. time= 4.8 min (760.2 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.99 hrs HW=11.04' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=0.52318 cfs @ 12.07 hrs HW=11.49' TW=6.95' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.38559 cfs of 7.75474 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.38559 cfs @ 0.85 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13758 cfs @ 8.41 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=569)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.63104 cfs @ 12.07 hrs, Volume= 0.048 af
Outflow = 0.63103 cfs @ 12.07 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.67 hrs, Volume= 0.000 af
Primary = 0.62646 cfs @ 12.07 hrs, Volume= 0.048 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.11' @ 12.07 hrs Surf.Area= 99 sf Storage= 33 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.8 min (756.2 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.67 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=0.62601 cfs @ 12.07 hrs HW=10.11' TW=3.12' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.62601 cfs of 7.21726 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.14386 cfs @ 8.79 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.48215 cfs @ 0.91 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.42' (Flood elevation advised)

Inflow Area = 0.287 ac, 88.12% Impervious, Inflow Depth = 2.90" for 2-Year X event
Inflow = 0.91490 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.91490 cfs @ 12.07 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.91490 cfs @ 12.07 hrs, Volume= 0.069 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.42' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.91470 cfs @ 12.07 hrs HW=5.42' TW=5.31' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.91470 cfs @ 2.18 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.76' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 2.97" for 2-Year X event
Inflow = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af
Outflow = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.37145 cfs @ 12.07 hrs, Volume= 0.029 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.37141 cfs @ 12.07 hrs HW=5.76' TW=5.31' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.37141 cfs @ 2.18 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 4.89' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Outflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.89' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.28611 cfs @ 12.07 hrs HW=4.89' TW=3.58' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.28611 cfs @ 3.38 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.06' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 2.87" for 2-Year X event
Inflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af
Outflow = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af, Atten= 0%, Lag= 0.0 min
Primary = 7.17567 cfs @ 12.07 hrs, Volume= 0.539 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.06' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=7.14813 cfs @ 12.07 hrs HW=3.06' TW=2.71' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.14813 cfs @ 2.77 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.31' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 2.92" for 2-Year X event
Inflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Outflow = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.28635 cfs @ 12.07 hrs, Volume= 0.098 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 5.31' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.28611 cfs @ 12.07 hrs HW=5.31' TW=4.89' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.00000 cfs of 1.53098 cfs potential flow)
  - **3=Sharp-Crested Rectangular Weir** (Controls 0.00000 cfs)
- **2=Culvert** (Inlet Controls 1.28611 cfs @ 2.40 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=1.89195 cfs 0.148 af

Subcatchment PS2: Runoff Area=7,207 sf 81.45% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=0.80866 cfs 0.062 af

Subcatchment PS2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.28360 cfs 0.022 af

Subcatchment PS2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.56833 cfs 0.044 af

Subcatchment PS3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.96553 cfs 0.076 af

Subcatchment PS3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.54798 cfs 0.043 af

Subcatchment PS4: Runoff Area=5,286 sf 97.22% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.59749 cfs 0.047 af

Subcatchment PS5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=2.25610 cfs 0.173 af

Subcatchment PS6: Runoff Area=11,745 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=1.32757 cfs 0.104 af

Subcatchment PS7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=4.62"
Tc=5.0 min CN=98 Runoff=0.96293 cfs 0.075 af

Subcatchment PS8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=0.83660 cfs 0.064 af

Pond 1P: CB 3528 Peak Elev=5.75' Inflow=4.14804 cfs 0.321 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=4.14804 cfs 0.321 af

Pond 5P: DMH 3543 Peak Elev=4.31' Inflow=6.75952 cfs 0.515 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=6.75952 cfs 0.515 af

Pond 6P: DMH 3542 Peak Elev=3.93' Inflow=8.73399 cfs 0.669 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=8.73399 cfs 0.669 af

Pond 7P: DMH 3541 Peak Elev=3.70' Inflow=10.06155 cfs 0.773 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=10.06155 cfs 0.773 af

Pond 8P: DMH 1A Peak Elev=3.96' Inflow=1.97448 cfs 0.153 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=1.97448 cfs 0.153 af

Pond 9P: DMH 5438 Peak Elev=2.97' Inflow=11.02248 cfs 0.848 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=11.02248 cfs 0.848 af

Pond 10P: DMH 5217 Peak Elev=2.70' Inflow=11.02248 cfs 0.848 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=11.02248 cfs 0.848 af

Pond 11P: CB 3523 Peak Elev=8.05' Inflow=1.32757 cfs 0.104 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=1.32757 cfs 0.104 af

Pond 13P: DMH 12303 Peak Elev=7.08' Inflow=1.77505 cfs 0.130 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=1.77505 cfs 0.130 af

Pond 14P: DMH 12631 Peak Elev=6.49' Inflow=2.61158 cfs 0.194 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=2.61158 cfs 0.194 af

Pond 15P: CB 8146 Peak Elev=6.52' Inflow=0.83660 cfs 0.064 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.83660 cfs 0.064 af

Pond 16P: DMH 12632 Peak Elev=6.14' Inflow=2.61158 cfs 0.194 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=2.61158 cfs 0.194 af

Pond 17P: DMH 3545 Peak Elev=5.03' Inflow=2.61158 cfs 0.194 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=2.61158 cfs 0.194 af

Pond 29P: DMH 3 Peak Elev=3.42' Inflow=0.96094 cfs 0.075 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=0.96094 cfs 0.075 af

Pond 36P: CB 3526 Peak Elev=7.25' Inflow=1.77505 cfs 0.130 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=1.77505 cfs 0.130 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.53' Storage=145 cf Inflow=0.83158 cfs 0.065 af
Discarded=0.01868 cfs 0.011 af Primary=0.81242 cfs 0.054 af Outflow=0.83110 cfs 0.065 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.15' Storage=34 cf Inflow=0.96553 cfs 0.076 af
Discarded=0.00457 cfs 0.001 af Primary=0.96094 cfs 0.075 af Outflow=0.96552 cfs 0.076 af

Pond CB1: Peak Elev=5.78' Inflow=1.40615 cfs 0.109 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=1.40615 cfs 0.109 af

Pond CB2: CB2 Peak Elev=5.87' Inflow=0.56833 cfs 0.044 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.56833 cfs 0.044 af

Pond DMH1: Peak Elev=5.09' Inflow=1.97448 cfs 0.153 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=1.97448 cfs 0.153 af

Pond DP1: DMH 3540 Peak Elev=3.38' Inflow=11.02248 cfs 0.848 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=11.02248 cfs 0.848 af

Pond OCS #1: Peak Elev=5.68' Inflow=1.97448 cfs 0.153 af
Outflow=1.97448 cfs 0.153 af

Total Runoff Area = 2.249 ac Runoff Volume = 0.859 af Average Runoff Depth = 4.58"
5.07% Pervious = 0.114 ac 94.93% Impervious = 2.135 ac

Summary for Subcatchment PS1:

Runoff = 1.89195 cfs @ 12.07 hrs, Volume= 0.148 af, Depth= 4.62"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2:

Runoff = 0.80866 cfs @ 12.07 hrs, Volume= 0.062 af, Depth= 4.51"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
5,870	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
112	91	Fallow, bare soil, HSG C
7,207	97	Weighted Average
1,337		18.55% Pervious Area
5,870		81.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2a: Roof

Runoff = 0.28360 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 4.62"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2b:

Runoff = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 4.62"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3: Roof

Runoff = 0.96553 cfs @ 12.07 hrs, Volume= 0.076 af, Depth= 4.62"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3a: Roof

Runoff = 0.54798 cfs @ 12.07 hrs, Volume= 0.043 af, Depth= 4.62"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS4:

Runoff = 0.59749 cfs @ 12.07 hrs, Volume= 0.047 af, Depth= 4.62"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
5,139	98	Roofs, HSG C
147	91	Fallow, bare soil, HSG C
5,286	98	Weighted Average
147		2.78% Pervious Area
5,139		97.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS5:

Runoff = 2.25610 cfs @ 12.07 hrs, Volume= 0.173 af, Depth= 4.51"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS6:

Runoff = 1.32757 cfs @ 12.07 hrs, Volume= 0.104 af, Depth= 4.62"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
11,745	98	Paved roads w/curbs & sewers, HSG C
11,745		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS7:

Runoff = 0.96293 cfs @ 12.07 hrs, Volume= 0.075 af, Depth= 4.62"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS8:

Runoff = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af, Depth= 4.51"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year X Rainfall=4.86"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 5.75' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 4.56" for 10-Year X event
Inflow = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af
Outflow = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min
Primary = 4.14804 cfs @ 12.07 hrs, Volume= 0.321 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.75' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=4.14784 cfs @ 12.07 hrs HW=5.75' TW=4.31' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.14784 cfs @ 5.28 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.31' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 4.48" for 10-Year X event
Inflow = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af
Outflow = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min
Primary = 6.75952 cfs @ 12.07 hrs, Volume= 0.515 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.31' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert**

L= 160.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=6.71268 cfs @ 12.07 hrs HW=4.31' TW=3.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.71268 cfs @ 3.05 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 3.93' (Flood elevation advised)

Inflow Area = 1.784 ac, 93.60% Impervious, Inflow Depth = 4.50" for 10-Year X event
Inflow = 8.73399 cfs @ 12.07 hrs, Volume= 0.669 af
Outflow = 8.73399 cfs @ 12.07 hrs, Volume= 0.669 af, Atten= 0%, Lag= 0.0 min
Primary = 8.73399 cfs @ 12.07 hrs, Volume= 0.669 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.93' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=8.62077 cfs @ 12.07 hrs HW=3.93' TW=3.70' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.62077 cfs @ 2.96 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.70' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 10.06155 cfs @ 12.07 hrs, Volume= 0.773 af
Outflow = 10.06155 cfs @ 12.07 hrs, Volume= 0.773 af, Atten= 0%, Lag= 0.0 min
Primary = 10.06155 cfs @ 12.07 hrs, Volume= 0.773 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.70' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.03206 cfs @ 12.07 hrs HW=3.70' TW=3.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.03206 cfs @ 3.41 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 3.96' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 4.58" for 10-Year X event
Inflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Outflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.96' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=1.75350 cfs @ 12.07 hrs HW=3.95' TW=3.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.75350 cfs @ 0.89 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 2.97' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.97' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=11.01963 cfs @ 12.07 hrs HW=2.97' TW=2.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.01963 cfs @ 3.12 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.70' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.70' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=11.01963 cfs @ 12.07 hrs HW=2.70' (Free Discharge)
1=Culvert (Inlet Controls 11.01963 cfs @ 4.31 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.05' (Flood elevation advised)

Inflow Area = 0.270 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 1.32757 cfs @ 12.07 hrs, Volume= 0.104 af
Outflow = 1.32757 cfs @ 12.07 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 1.32757 cfs @ 12.07 hrs, Volume= 0.104 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.05' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.32756 cfs @ 12.07 hrs HW=8.05' TW=3.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.32756 cfs @ 3.11 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 7.08' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 4.27" for 10-Year X event
Inflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 7.08' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.76365 cfs @ 12.07 hrs HW=7.08' TW=6.49' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.76365 cfs @ 2.83 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 6.49' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.49' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.60969 cfs @ 12.07 hrs HW=6.49' TW=6.14' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 2.60969 cfs @ 3.42 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 6.52' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 4.51" for 10-Year X event
Inflow = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af
Outflow = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83660 cfs @ 12.07 hrs, Volume= 0.064 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.52' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.72107 cfs @ 12.07 hrs HW=6.51' TW=6.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.72107 cfs @ 0.92 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 6.14' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.14' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.60965 cfs @ 12.07 hrs HW=6.14' TW=5.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.60965 cfs @ 3.89 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.03' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 4.35" for 10-Year X event
Inflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Outflow = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.61158 cfs @ 12.07 hrs, Volume= 0.194 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.03' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.59818 cfs @ 12.07 hrs HW=5.03' TW=4.31' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.59818 cfs @ 3.22 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.42' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 4.59" for 10-Year X event
Inflow = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Outflow = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min
Primary = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.42' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.94340 cfs @ 12.07 hrs HW=3.42' TW=3.38' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.94340 cfs @ 1.08 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 7.25' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 4.27" for 10-Year X event
Inflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77505 cfs @ 12.07 hrs, Volume= 0.130 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.25' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.76330 cfs @ 12.07 hrs HW=7.25' TW=7.08' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.76330 cfs @ 2.64 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.83158 cfs @ 12.07 hrs, Volume= 0.065 af
Outflow = 0.83110 cfs @ 12.07 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.85 hrs, Volume= 0.011 af
Primary = 0.81242 cfs @ 12.07 hrs, Volume= 0.054 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 11.53' @ 12.07 hrs Surf.Area= 403 sf Storage= 145 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.4 min (752.0 - 747.6)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.85 hrs HW=11.04' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=0.81092 cfs @ 12.07 hrs HW=11.53' TW=7.25' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.67242 cfs of 7.81349 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.67242 cfs @ 1.02 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13850 cfs @ 8.46 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=556)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.96553 cfs @ 12.07 hrs, Volume= 0.076 af
Outflow = 0.96552 cfs @ 12.07 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.54 hrs, Volume= 0.001 af
Primary = 0.96094 cfs @ 12.07 hrs, Volume= 0.075 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.15' @ 12.07 hrs Surf.Area= 99 sf Storage= 34 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.7 min (748.2 - 747.6)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.54 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=0.96044 cfs @ 12.07 hrs HW=10.15' TW=3.42' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.96044 cfs of 7.27806 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.14481 cfs @ 8.85 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 0.81563 cfs @ 1.09 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.78' (Flood elevation advised)

Inflow Area = 0.287 ac, 88.12% Impervious, Inflow Depth = 4.56" for 10-Year X event
Inflow = 1.40615 cfs @ 12.07 hrs, Volume= 0.109 af
Outflow = 1.40615 cfs @ 12.07 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Primary = 1.40615 cfs @ 12.07 hrs, Volume= 0.109 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.78' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.40057 cfs @ 12.07 hrs HW=5.78' TW=5.68' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.40057 cfs @ 2.08 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.87' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 4.62" for 10-Year X event
Inflow = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56833 cfs @ 12.07 hrs, Volume= 0.044 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.87' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.56709 cfs @ 12.07 hrs HW=5.87' TW=5.68' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.56709 cfs @ 2.29 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.09' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 4.58" for 10-Year X event
Inflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Outflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.09' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.97441 cfs @ 12.07 hrs HW=5.09' TW=3.95' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.97441 cfs @ 3.75 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.38' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 4.52" for 10-Year X event
Inflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af
Outflow = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af, Atten= 0%, Lag= 0.0 min
Primary = 11.02248 cfs @ 12.07 hrs, Volume= 0.848 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.38' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=10.97833 cfs @ 12.07 hrs HW=3.38' TW=2.97' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.97833 cfs @ 3.19 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.68' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 4.58" for 10-Year X event
Inflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Outflow = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97448 cfs @ 12.07 hrs, Volume= 0.153 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 5.68' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.97441 cfs @ 12.07 hrs HW=5.68' TW=5.09' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.37742 cfs of 2.75605 cfs potential flow)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.37742 cfs @ 0.93 fps)
└─**2=Culvert** (Inlet Controls 1.59699 cfs @ 2.93 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=2.40352 cfs 0.190 af

Subcatchment PS2: Runoff Area=7,207 sf 81.45% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=1.02994 cfs 0.080 af

Subcatchment PS2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.36028 cfs 0.028 af

Subcatchment PS2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.72200 cfs 0.057 af

Subcatchment PS3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.22660 cfs 0.097 af

Subcatchment PS3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.69616 cfs 0.055 af

Subcatchment PS4: Runoff Area=5,286 sf 97.22% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=0.75905 cfs 0.060 af

Subcatchment PS5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=2.87346 cfs 0.223 af

Subcatchment PS6: Runoff Area=11,745 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.68654 cfs 0.133 af

Subcatchment PS7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=5.92"
Tc=5.0 min CN=98 Runoff=1.22330 cfs 0.097 af

Subcatchment PS8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=1.06553 cfs 0.083 af

Pond 1P: CB 3528 Peak Elev=6.15' Inflow=5.27698 cfs 0.413 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=5.27698 cfs 0.413 af

Pond 5P: DMH 3543 Peak Elev=4.56' Inflow=8.60258 cfs 0.664 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=8.60258 cfs 0.664 af

Pond 6P: DMH 3542 Peak Elev=4.20' Inflow=11.11356 cfs 0.861 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=11.11356 cfs 0.861 af

Pond 7P: DMH 3541 Peak Elev=3.95' Inflow=12.80009 cfs 0.994 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=12.80009 cfs 0.994 af

Pond 8P: DMH 1A Peak Elev=4.22' Inflow=2.51100 cfs 0.197 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=2.51100 cfs 0.197 af

Pond 9P: DMH 5438 Peak Elev=3.14' Inflow=14.02210 cfs 1.090 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=14.02210 cfs 1.090 af

Pond 10P: DMH 5217 Peak Elev=2.84' Inflow=14.02210 cfs 1.090 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=14.02210 cfs 1.090 af

Pond 11P: CB 3523 Peak Elev=8.13' Inflow=1.68654 cfs 0.133 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=1.68654 cfs 0.133 af

Pond 13P: DMH 12303 Peak Elev=8.06' Inflow=2.26026 cfs 0.168 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=2.26026 cfs 0.168 af

Pond 14P: DMH 12631 Peak Elev=7.33' Inflow=3.32571 cfs 0.251 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=3.32571 cfs 0.251 af

Pond 15P: CB 8146 Peak Elev=7.37' Inflow=1.06553 cfs 0.083 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=1.06553 cfs 0.083 af

Pond 16P: DMH 12632 Peak Elev=6.76' Inflow=3.32571 cfs 0.251 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=3.32571 cfs 0.251 af

Pond 17P: DMH 3545 Peak Elev=5.16' Inflow=3.32571 cfs 0.251 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=3.32571 cfs 0.251 af

Pond 29P: DMH 3 Peak Elev=3.64' Inflow=1.22202 cfs 0.096 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=1.22202 cfs 0.096 af

Pond 36P: CB 3526 Peak Elev=8.29' Inflow=2.26026 cfs 0.168 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=2.26026 cfs 0.168 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.56' Storage=147 cf Inflow=1.05644 cfs 0.083 af
Discarded=0.01868 cfs 0.011 af Primary=1.03727 cfs 0.072 af Outflow=1.05595 cfs 0.083 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.18' Storage=34 cf Inflow=1.22660 cfs 0.097 af
Discarded=0.00457 cfs 0.001 af Primary=1.22202 cfs 0.096 af Outflow=1.22659 cfs 0.097 af

Pond CB1: Peak Elev=5.90' Inflow=1.78899 cfs 0.140 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=1.78899 cfs 0.140 af

Pond CB2: CB2 Peak Elev=5.95' Inflow=0.72200 cfs 0.057 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.72200 cfs 0.057 af

Pond DMH1: Peak Elev=5.24' Inflow=2.51100 cfs 0.197 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=2.51100 cfs 0.197 af

Pond DP1: DMH 3540 Peak Elev=3.60' Inflow=14.02210 cfs 1.090 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=14.02210 cfs 1.090 af

Pond OCS #1: Peak Elev=5.76' Inflow=2.51100 cfs 0.197 af
Outflow=2.51100 cfs 0.197 af

Total Runoff Area = 2.249 ac Runoff Volume = 1.102 af Average Runoff Depth = 5.88"
5.07% Pervious = 0.114 ac 94.93% Impervious = 2.135 ac

Summary for Subcatchment PS1:

Runoff = 2.40352 cfs @ 12.07 hrs, Volume= 0.190 af, Depth= 5.92"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2:

Runoff = 1.02994 cfs @ 12.07 hrs, Volume= 0.080 af, Depth= 5.80"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
5,870	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
112	91	Fallow, bare soil, HSG C
7,207	97	Weighted Average
1,337		18.55% Pervious Area
5,870		81.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2a: Roof

Runoff = 0.36028 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 5.92"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2b:

Runoff = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 5.92"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3: Roof

Runoff = 1.22660 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 5.92"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3a: Roof

Runoff = 0.69616 cfs @ 12.07 hrs, Volume= 0.055 af, Depth= 5.92"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS4:

Runoff = 0.75905 cfs @ 12.07 hrs, Volume= 0.060 af, Depth= 5.92"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
5,139	98	Roofs, HSG C
147	91	Fallow, bare soil, HSG C
5,286	98	Weighted Average
147		2.78% Pervious Area
5,139		97.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS5:

Runoff = 2.87346 cfs @ 12.07 hrs, Volume= 0.223 af, Depth= 5.80"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS6:

Runoff = 1.68654 cfs @ 12.07 hrs, Volume= 0.133 af, Depth= 5.92"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
11,745	98	Paved roads w/curbs & sewers, HSG C
11,745		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS7:

Runoff = 1.22330 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 5.92"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS8:

Runoff = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 5.80"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year X Rainfall=6.16"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 6.15' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 5.86" for 25-Year X event
Inflow = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af
Outflow = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af, Atten= 0%, Lag= 0.0 min
Primary = 5.27698 cfs @ 12.07 hrs, Volume= 0.413 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.15' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=5.27696 cfs @ 12.07 hrs HW=6.15' TW=4.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.27696 cfs @ 6.72 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.56' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 5.77" for 25-Year X event
Inflow = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af
Outflow = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af, Atten= 0%, Lag= 0.0 min
Primary = 8.60258 cfs @ 12.07 hrs, Volume= 0.664 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.56' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert**

L= 160.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=8.52856 cfs @ 12.07 hrs HW=4.56' TW=4.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.52856 cfs @ 3.11 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 4.20' (Flood elevation advised)

Inflow Area = 1.784 ac, 93.60% Impervious, Inflow Depth = 5.79" for 25-Year X event
Inflow = 11.11356 cfs @ 12.07 hrs, Volume= 0.861 af
Outflow = 11.11356 cfs @ 12.07 hrs, Volume= 0.861 af, Atten= 0%, Lag= 0.0 min
Primary = 11.11356 cfs @ 12.07 hrs, Volume= 0.861 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.20' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.95564 cfs @ 12.07 hrs HW=4.20' TW=3.94' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.95564 cfs @ 3.13 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 3.95' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 12.80009 cfs @ 12.07 hrs, Volume= 0.994 af
Outflow = 12.80009 cfs @ 12.07 hrs, Volume= 0.994 af, Atten= 0%, Lag= 0.0 min
Primary = 12.80009 cfs @ 12.07 hrs, Volume= 0.994 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=12.76116 cfs @ 12.07 hrs HW=3.94' TW=3.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.76116 cfs @ 3.65 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 4.22' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Outflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.22' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.14234 cfs @ 12.07 hrs HW=4.21' TW=4.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.14234 cfs @ 0.84 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 3.14' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.14' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=14.01941 cfs @ 12.07 hrs HW=3.14' TW=2.84' (Dynamic Tailwater)
1=Culvert (Inlet Controls 14.01941 cfs @ 3.34 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.84' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.84' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=14.01941 cfs @ 12.07 hrs HW=2.84' (Free Discharge)
1=Culvert (Inlet Controls 14.01941 cfs @ 4.60 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.13' (Flood elevation advised)

Inflow Area = 0.270 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.68654 cfs @ 12.07 hrs, Volume= 0.133 af
Outflow = 1.68654 cfs @ 12.07 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.68654 cfs @ 12.07 hrs, Volume= 0.133 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.13' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.68647 cfs @ 12.07 hrs HW=8.13' TW=3.94' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.68647 cfs @ 3.33 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 8.06' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 5.54" for 25-Year X event
Inflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Outflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 8.06' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.22251 cfs @ 12.07 hrs HW=8.04' TW=7.33' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 2.22251 cfs @ 2.83 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 7.33' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.25' @ 12.04 hrs (2.36966 cfs 0.006 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.33' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.32358 cfs @ 12.07 hrs HW=7.33' TW=6.76' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 3.32358 cfs @ 4.23 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 7.37' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 5.80" for 25-Year X event
Inflow = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 1.06553 cfs @ 12.07 hrs, Volume= 0.083 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.37' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900

n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.70647 cfs @ 12.07 hrs HW=7.35' TW=7.33' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.70647 cfs @ 0.90 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 6.76' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.32358 cfs @ 12.07 hrs HW=6.76' TW=5.16' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.32358 cfs @ 4.23 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.16' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 5.63" for 25-Year X event
Inflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Outflow = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32571 cfs @ 12.07 hrs, Volume= 0.251 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.16' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=3.30035 cfs @ 12.07 hrs HW=5.16' TW=4.56' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.30035 cfs @ 3.18 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.64' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 5.88" for 25-Year X event
Inflow = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.64' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.19443 cfs @ 12.07 hrs HW=3.64' TW=3.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.19443 cfs @ 1.07 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 8.29' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 5.54" for 25-Year X event
Inflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Outflow = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.26026 cfs @ 12.07 hrs, Volume= 0.168 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.20981 cfs @ 12.07 hrs HW=8.26' TW=8.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.20981 cfs @ 2.81 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.05644 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.05595 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.1 min
Discarded = 0.01868 cfs @ 11.77 hrs, Volume= 0.011 af
Primary = 1.03727 cfs @ 12.07 hrs, Volume= 0.072 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 11.56' @ 12.07 hrs Surf.Area= 403 sf Storage= 147 cf

Plug-Flow detention time= 4.3 min calculated for 0.083 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (748.1 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.77 hrs HW=11.02' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=1.03549 cfs @ 12.07 hrs HW=11.56' TW=8.27' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.89637 cfs of 7.85330 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.89637 cfs @ 1.12 fps)
└**2=Orifice/Grate** (Orifice Controls 0.13913 cfs @ 8.50 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 1.22660 cfs @ 12.07 hrs, Volume= 0.097 af
Outflow = 1.22659 cfs @ 12.07 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.28 hrs, Volume= 0.001 af
Primary = 1.22202 cfs @ 12.07 hrs, Volume= 0.096 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.18' @ 12.07 hrs Surf.Area= 99 sf Storage= 34 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.6 min (744.5 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.28 hrs HW=8.41' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=1.22148 cfs @ 12.07 hrs HW=10.18' TW=3.64' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.22148 cfs of 7.31949 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.14547 cfs @ 8.89 fps)
  └**3=Broad-Crested Rectangular Weir** (Weir Controls 1.07601 cfs @ 1.19 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 5.90' (Flood elevation advised)

Inflow Area = 0.287 ac, 88.12% Impervious, Inflow Depth = 5.85" for 25-Year X event
Inflow = 1.78899 cfs @ 12.07 hrs, Volume= 0.140 af
Outflow = 1.78899 cfs @ 12.07 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.0 min
Primary = 1.78899 cfs @ 12.07 hrs, Volume= 0.140 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.90' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.78349 cfs @ 12.07 hrs HW=5.90' TW=5.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.78349 cfs @ 2.27 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 5.95' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 5.92" for 25-Year X event
Inflow = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af
Outflow = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min
Primary = 0.72200 cfs @ 12.07 hrs, Volume= 0.057 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.72028 cfs @ 12.07 hrs HW=5.95' TW=5.76' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.72028 cfs @ 2.37 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.24' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Outflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.24' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.51096 cfs @ 12.07 hrs HW=5.24' TW=4.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.51096 cfs @ 3.96 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.60' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 5.81" for 25-Year X event
Inflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af
Outflow = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af, Atten= 0%, Lag= 0.0 min
Primary = 14.02210 cfs @ 12.07 hrs, Volume= 1.090 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.60' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=13.96420 cfs @ 12.07 hrs HW=3.59' TW=3.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.96420 cfs @ 3.44 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.76' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 5.87" for 25-Year X event
Inflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Outflow = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51100 cfs @ 12.07 hrs, Volume= 0.197 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 5.76' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.51096 cfs @ 12.07 hrs HW=5.76' TW=5.24' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.02240 cfs of 2.93580 cfs potential flow)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.02240 cfs @ 1.30 fps)
└─**2=Culvert** (Inlet Controls 1.48856 cfs @ 2.73 fps)

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=16,738 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=2.87902 cfs 0.228 af

Subcatchment PS2: Runoff Area=7,207 sf 81.45% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=1.23536 cfs 0.097 af

Subcatchment PS2a: Roof Runoff Area=2,509 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.43156 cfs 0.034 af

Subcatchment PS2b: Runoff Area=5,028 sf 96.72% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.86484 cfs 0.069 af

Subcatchment PS3: Roof Runoff Area=8,542 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=1.46927 cfs 0.117 af

Subcatchment PS3a: Roof Runoff Area=4,848 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.83388 cfs 0.066 af

Subcatchment PS4: Runoff Area=5,286 sf 97.22% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=0.90922 cfs 0.072 af

Subcatchment PS5: Runoff Area=20,107 sf 88.74% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=3.44657 cfs 0.270 af

Subcatchment PS6: Runoff Area=11,745 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=2.02020 cfs 0.160 af

Subcatchment PS7: Runoff Area=8,519 sf 100.00% Impervious Runoff Depth=7.13"
Tc=5.0 min CN=98 Runoff=1.46531 cfs 0.116 af

Subcatchment PS8: Runoff Area=7,456 sf 85.80% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=1.27804 cfs 0.100 af

Pond 1P: CB 3528 Peak Elev=6.69' Inflow=6.32559 cfs 0.498 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0300 '/' Outflow=6.32559 cfs 0.498 af

Pond 5P: DMH 3543 Peak Elev=4.78' Inflow=10.31325 cfs 0.802 af
36.0" Round Culvert n=0.012 L=160.0' S=0.0019 '/' Outflow=10.31325 cfs 0.802 af

Pond 6P: DMH 3542 Peak Elev=4.43' Inflow=13.32264 cfs 1.040 af
36.0" Round Culvert n=0.012 L=74.0' S=0.0015 '/' Outflow=13.32264 cfs 1.040 af

Pond 7P: DMH 3541 Peak Elev=4.16' Inflow=15.34283 cfs 1.200 af
36.0" Round Culvert n=0.012 L=80.0' S=0.0035 '/' Outflow=15.34283 cfs 1.200 af

Pond 8P: DMH 1A Peak Elev=4.45' Inflow=3.00942 cfs 0.237 af
36.0" Round Culvert n=0.012 L=42.0' S=0.0060 '/' Outflow=3.00942 cfs 0.237 af

Pond 9P: DMH 5438 Peak Elev=3.29' Inflow=16.80747 cfs 1.316 af
48.0" Round Culvert n=0.012 L=100.0' S=-0.0073 '/' Outflow=16.80747 cfs 1.316 af

Pond 10P: DMH 5217 Peak Elev=2.95' Inflow=16.80747 cfs 1.316 af
48.0" Round Culvert n=0.012 L=254.0' S=0.0231 '/' Outflow=16.80747 cfs 1.316 af

Pond 11P: CB 3523 Peak Elev=8.21' Inflow=2.02020 cfs 0.160 af
12.0" Round Culvert n=0.012 L=35.0' S=-0.0343 '/' Outflow=2.02020 cfs 0.160 af

Pond 13P: DMH 12303 Peak Elev=9.23' Inflow=2.70987 cfs 0.204 af
12.0" Round Culvert n=0.012 L=170.0' S=0.0050 '/' Outflow=2.70987 cfs 0.204 af

Pond 14P: DMH 12631 Peak Elev=8.18' Inflow=3.98781 cfs 0.304 af
12.0" Round Culvert n=0.012 L=32.0' S=0.0050 '/' Outflow=3.98781 cfs 0.304 af

Pond 15P: CB 8146 Peak Elev=8.24' Inflow=1.27804 cfs 0.100 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=1.27804 cfs 0.100 af

Pond 16P: DMH 12632 Peak Elev=7.36' Inflow=3.98781 cfs 0.304 af
12.0" Round Culvert n=0.012 L=139.0' S=0.0050 '/' Outflow=3.98781 cfs 0.304 af

Pond 17P: DMH 3545 Peak Elev=5.29' Inflow=3.98781 cfs 0.304 af
36.0" Round Culvert n=0.012 L=166.0' S=0.0086 '/' Outflow=3.98781 cfs 0.304 af

Pond 29P: DMH 3 Peak Elev=3.82' Inflow=1.46465 cfs 0.116 af
18.0" Round Culvert n=0.012 L=60.0' S=0.0133 '/' Outflow=1.46465 cfs 0.116 af

Pond 36P: CB 3526 Peak Elev=9.56' Inflow=2.70987 cfs 0.204 af
12.0" Round Culvert n=0.012 L=18.5' S=0.0054 '/' Outflow=2.70987 cfs 0.204 af

Pond 37P: 56 Silva Cells with OCS #2 Peak Elev=11.59' Storage=149 cf Inflow=1.26544 cfs 0.100 af
Discarded=0.01868 cfs 0.012 af Primary=1.24497 cfs 0.088 af Outflow=1.26365 cfs 0.100 af

Pond 38P: 12 Silva Cells with OCS #3 (2020 Peak Elev=10.21' Storage=35 cf Inflow=1.46927 cfs 0.117 af
Discarded=0.00457 cfs 0.001 af Primary=1.46465 cfs 0.116 af Outflow=1.46922 cfs 0.117 af

Pond CB1: Peak Elev=6.03' Inflow=2.14458 cfs 0.169 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0037 '/' Outflow=2.14458 cfs 0.169 af

Pond CB2: CB2 Peak Elev=6.01' Inflow=0.86484 cfs 0.069 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0037 '/' Outflow=0.86484 cfs 0.069 af

Pond DMH1: Peak Elev=5.41' Inflow=3.00942 cfs 0.237 af
12.0" Round Culvert n=0.012 L=41.0' S=0.0061 '/' Outflow=3.00942 cfs 0.237 af

Pond DP1: DMH 3540 Peak Elev=3.78' Inflow=16.80747 cfs 1.316 af
48.0" Round Culvert n=0.012 L=216.0' S=0.0034 '/' Outflow=16.80747 cfs 1.316 af

Pond OCS #1: Peak Elev=5.82' Inflow=3.00942 cfs 0.237 af
Outflow=3.00942 cfs 0.237 af

Total Runoff Area = 2.249 ac Runoff Volume = 1.329 af Average Runoff Depth = 7.09"
5.07% Pervious = 0.114 ac 94.93% Impervious = 2.135 ac

Summary for Subcatchment PS1:

Runoff = 2.87902 cfs @ 12.07 hrs, Volume= 0.228 af, Depth= 7.13"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
16,738	98	Roofs, HSG C
16,738		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2:

Runoff = 1.23536 cfs @ 12.07 hrs, Volume= 0.097 af, Depth= 7.01"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
5,870	98	Paved parking, HSG C
1,225	91	Fallow, bare soil, HSG C
112	91	Fallow, bare soil, HSG C
7,207	97	Weighted Average
1,337		18.55% Pervious Area
5,870		81.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2a: Roof

Runoff = 0.43156 cfs @ 12.07 hrs, Volume= 0.034 af, Depth= 7.13"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
2,509	98	Roofs, HSG C
2,509		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS2b:

Runoff = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af, Depth= 7.13"
Routed to Pond CB2 : CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
4,863	98	Paved parking, HSG C
165	91	Fallow, bare soil, HSG C
5,028	98	Weighted Average
165		3.28% Pervious Area
4,863		96.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3: Roof

Runoff = 1.46927 cfs @ 12.07 hrs, Volume= 0.117 af, Depth= 7.13"
Routed to Pond 38P : 12 Silva Cells with OCS #3 (2020 08 27)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
8,542	98	Roofs, HSG C
8,542		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS3a: Roof

Runoff = 0.83388 cfs @ 12.07 hrs, Volume= 0.066 af, Depth= 7.13"
Routed to Pond 37P : 56 Silva Cells with OCS #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
4,848	98	Roofs, HSG C
4,848		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS4:

Runoff = 0.90922 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 7.13"
Routed to Pond CB1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
5,139	98	Roofs, HSG C
147	91	Fallow, bare soil, HSG C
5,286	98	Weighted Average
147		2.78% Pervious Area
5,139		97.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS5:

Runoff = 3.44657 cfs @ 12.07 hrs, Volume= 0.270 af, Depth= 7.01"
Routed to Pond 1P : CB 3528

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

	Area (sf)	CN	Description
	269	98	Paved parking, HSG C
	11,300	98	Paved roads w/curbs & sewers, HSG C
	3,499	98	Paved roads w/curbs & sewers, HSG C
	2,439	98	Paved roads w/curbs & sewers, HSG C
*	336	98	Gravel roads, HSG C
	2,264	91	Fallow, bare soil, HSG C
	20,107	97	Weighted Average
	2,264		11.26% Pervious Area
	17,843		88.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS6:

Runoff = 2.02020 cfs @ 12.07 hrs, Volume= 0.160 af, Depth= 7.13"
Routed to Pond 11P : CB 3523

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
11,745	98	Paved roads w/curbs & sewers, HSG C
11,745		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS7:

Runoff = 1.46531 cfs @ 12.07 hrs, Volume= 0.116 af, Depth= 7.13"
Routed to Pond 36P : CB 3526

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

Area (sf)	CN	Description
8,519	98	Paved roads w/curbs & sewers, HSG C
8,519		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment PS8:

Runoff = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af, Depth= 7.01"
Routed to Pond 15P : CB 8146

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year X Rainfall=7.37"

	Area (sf)	CN	Description
	4,674	98	Paved roads w/curbs & sewers, HSG C
	1,563	98	Paved roads w/curbs & sewers, HSG C
	121	98	Paved roads w/curbs & sewers, HSG C
*	39	98	Gravel roads, HSG C
	1,059	91	Fallow, bare soil, HSG C
	7,456	97	Weighted Average
	1,059		14.20% Pervious Area
	6,397		85.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: CB 3528

[57] Hint: Peaked at 6.69' (Flood elevation advised)

Inflow Area = 0.846 ac, 93.86% Impervious, Inflow Depth = 7.07" for 50-Year X event
Inflow = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af
Outflow = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af, Atten= 0%, Lag= 0.0 min
Primary = 6.32559 cfs @ 12.07 hrs, Volume= 0.498 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.69' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.40' / 4.13' S= 0.0300 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=6.32537 cfs @ 12.07 hrs HW=6.69' TW=4.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.32537 cfs @ 8.05 fps)

Summary for Pond 5P: DMH 3543

[57] Hint: Peaked at 4.78' (Flood elevation advised)

Inflow Area = 1.381 ac, 94.48% Impervious, Inflow Depth = 6.97" for 50-Year X event
Inflow = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af
Outflow = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 10.31325 cfs @ 12.07 hrs, Volume= 0.802 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.78' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.91'	**36.0" Round Culvert**

L= 160.0' RCP, groove end projecting, Ke= 0.200
Inlet / Outlet Invert= 2.91' / 2.61' S= 0.0019 '/' Cc= 0.900
n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.20896 cfs @ 12.07 hrs HW=4.78' TW=4.43' (Dynamic Tailwater)
1=Culvert (Outlet Controls 10.20896 cfs @ 3.16 fps)

Summary for Pond 6P: DMH 3542

[57] Hint: Peaked at 4.43' (Flood elevation advised)
[80] Warning: Exceeded Pond 8P by 0.01' @ 12.02 hrs (1.34193 cfs 0.006 af)

Inflow Area = 1.784 ac, 93.60% Impervious, Inflow Depth = 7.00" for 50-Year X event
Inflow = 13.32264 cfs @ 12.07 hrs, Volume= 1.040 af
Outflow = 13.32264 cfs @ 12.07 hrs, Volume= 1.040 af, Atten= 0%, Lag= 0.0 min
Primary = 13.32264 cfs @ 12.07 hrs, Volume= 1.040 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.43' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.21'	**36.0" Round Culvert** L= 74.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.21' / 2.10' S= 0.0015 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=13.12105 cfs @ 12.07 hrs HW=4.43' TW=4.16' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.12105 cfs @ 3.26 fps)

Summary for Pond 7P: DMH 3541

[57] Hint: Peaked at 4.16' (Flood elevation advised)

Inflow Area = 2.053 ac, 94.44% Impervious, Inflow Depth = 7.01" for 50-Year X event
Inflow = 15.34283 cfs @ 12.07 hrs, Volume= 1.200 af
Outflow = 15.34283 cfs @ 12.07 hrs, Volume= 1.200 af, Atten= 0%, Lag= 0.0 min
Primary = 15.34283 cfs @ 12.07 hrs, Volume= 1.200 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.16' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.96'	**36.0" Round Culvert** L= 80.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.96' / 1.68' S= 0.0035 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=15.29495 cfs @ 12.07 hrs HW=4.16' TW=3.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 15.29495 cfs @ 3.84 fps)

Summary for Pond 8P: DMH 1A

[57] Hint: Peaked at 4.45' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Outflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min
Primary = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Routed to Pond 6P : DMH 3542

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 4.45' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.66'	**36.0" Round Culvert** L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 2.66' / 2.41' S= 0.0060 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.47566 cfs @ 12.07 hrs HW=4.44' TW=4.43' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.47566 cfs @ 0.81 fps)

Summary for Pond 9P: DMH 5438

[57] Hint: Peaked at 3.29' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af
Routed to Pond 10P : DMH 5217

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.29' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.94' / 1.67' S= -0.0073 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.80502 cfs @ 12.07 hrs HW=3.29' TW=2.95' (Dynamic Tailwater)
1=Culvert (Inlet Controls 16.80502 cfs @ 3.51 fps)

Summary for Pond 10P: DMH 5217

[57] Hint: Peaked at 2.95' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 2.95' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.67'	**48.0" Round Culvert** L= 254.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.67' / -4.20' S= 0.0231 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.80458 cfs @ 12.07 hrs HW=2.95' (Free Discharge)
1=Culvert (Inlet Controls 16.80458 cfs @ 4.82 fps)

Summary for Pond 11P: CB 3523

[57] Hint: Peaked at 8.21' (Flood elevation advised)

Inflow Area = 0.270 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 2.02020 cfs @ 12.07 hrs, Volume= 0.160 af
Outflow = 2.02020 cfs @ 12.07 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min
Primary = 2.02020 cfs @ 12.07 hrs, Volume= 0.160 af
Routed to Pond 7P : DMH 3541

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.21' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.52'	**12.0" Round Culvert** L= 35.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.32' / 7.52' S= -0.0343 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.02007 cfs @ 12.07 hrs HW=8.21' TW=4.16' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.02007 cfs @ 3.52 fps)

Summary for Pond 13P: DMH 12303

[57] Hint: Peaked at 9.23' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 6.73" for 50-Year X event
Inflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Outflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 9.23' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.09'	**12.0" Round Culvert** L= 170.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.09' / 5.24' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.66458 cfs @ 12.07 hrs HW=9.20' TW=8.18' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 2.66458 cfs @ 3.39 fps)

Summary for Pond 14P: DMH 12631

[57] Hint: Peaked at 8.18' (Flood elevation advised)
[80] Warning: Exceeded Pond 15P by 0.31' @ 12.02 hrs (2.63468 cfs 0.010 af)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 16P : DMH 12632

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.18' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.24'	**12.0" Round Culvert** L= 32.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.24' / 5.08' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.98620 cfs @ 12.07 hrs HW=8.18' TW=7.36' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 3.98620 cfs @ 5.08 fps)

Summary for Pond 15P: CB 8146

[57] Hint: Peaked at 8.24' (Flood elevation advised)

Inflow Area = 0.171 ac, 85.80% Impervious, Inflow Depth = 7.01" for 50-Year X event
Inflow = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.27804 cfs @ 12.07 hrs, Volume= 0.100 af
Routed to Pond 14P : DMH 12631

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 8.24' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.32'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.32' / 5.24' S= 0.0050 '/' Cc= 0.900

n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.84012 cfs @ 12.07 hrs HW=8.21' TW=8.18' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.84012 cfs @ 1.07 fps)

Summary for Pond 16P: DMH 12632

[57] Hint: Peaked at 7.36' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 17P : DMH 3545

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 7.36' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.08'	**12.0" Round Culvert** L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.08' / 4.39' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.98522 cfs @ 12.07 hrs HW=7.36' TW=5.28' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.98522 cfs @ 5.07 fps)

Summary for Pond 17P: DMH 3545

[57] Hint: Peaked at 5.29' (Flood elevation advised)

Inflow Area = 0.536 ac, 95.46% Impervious, Inflow Depth = 6.82" for 50-Year X event
Inflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Outflow = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af, Atten= 0%, Lag= 0.0 min
Primary = 3.98781 cfs @ 12.07 hrs, Volume= 0.304 af
Routed to Pond 5P : DMH 3543

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.34'	**36.0" Round Culvert** L= 166.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.34' / 2.91' S= 0.0086 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=3.94504 cfs @ 12.07 hrs HW=5.28' TW=4.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.94504 cfs @ 3.09 fps)

Summary for Pond 29P: DMH 3

[57] Hint: Peaked at 3.82' (Flood elevation advised)

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 7.07" for 50-Year X event
Inflow = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Outflow = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Routed to Pond DP1 : DMH 3540

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.82' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.43'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 2.43' / 1.63' S= 0.0133 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.42762 cfs @ 12.07 hrs HW=3.82' TW=3.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.42762 cfs @ 1.09 fps)

Summary for Pond 36P: CB 3526

[57] Hint: Peaked at 9.56' (Flood elevation advised)

Inflow Area = 0.364 ac,100.00% Impervious, Inflow Depth = 6.73" for 50-Year X event
Inflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Outflow = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.70987 cfs @ 12.07 hrs, Volume= 0.204 af
Routed to Pond 13P : DMH 12303

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 9.56' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	6.19'	**12.0" Round Culvert** L= 18.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.19' / 6.09' S= 0.0054 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.65311 cfs @ 12.07 hrs HW=9.52' TW=9.20' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.65311 cfs @ 3.38 fps)

Summary for Pond 37P: 56 Silva Cells with OCS #2

Inflow Area = 0.169 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 1.26544 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.26365 cfs @ 12.07 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.2 min
Discarded = 0.01868 cfs @ 11.71 hrs, Volume= 0.012 af
Primary = 1.24497 cfs @ 12.07 hrs, Volume= 0.088 af
Routed to Pond 36P : CB 3526

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 11.59' @ 12.07 hrs Surf.Area= 403 sf Storage= 149 cf

Plug-Flow detention time= 4.3 min calculated for 0.100 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (745.6 - 741.3)

Volume	Invert	Avail.Storage	Storage Description
#1	8.40'	74 cf	**DeepRoot Silva Cell 20% x3** x 13 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	9.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#3	10.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#4	11.00'	69 cf	**DeepRoot Silva Cell 20% x3** x 12 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
		280 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	8.30'	**12.0" Round Culvert** L= 9.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 8.30' / 8.26' S= 0.0044 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	8.40'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	11.40'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.40'	**2.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.01868 cfs @ 11.71 hrs HW=11.02' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.01868 cfs)

Primary OutFlow Max=1.23987 cfs @ 12.07 hrs HW=11.59' TW=9.52' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.12675 cfs of 6.78706 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 1.12675 cfs @ 1.21 fps)
└**2=Orifice/Grate** (Orifice Controls 0.11312 cfs @ 6.91 fps)

Summary for Pond 38P: 12 Silva Cells with OCS #3 (2020 08 27)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.196 ac,100.00% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 1.46927 cfs @ 12.07 hrs, Volume= 0.117 af
Outflow = 1.46922 cfs @ 12.07 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00457 cfs @ 11.08 hrs, Volume= 0.001 af
Primary = 1.46465 cfs @ 12.07 hrs, Volume= 0.116 af
Routed to Pond 29P : DMH 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 10.21' @ 12.07 hrs Surf.Area= 99 sf Storage= 35 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.7 min (742.0 - 741.3)

Volume	Invert	Avail.Storage	Storage Description
#1	8.20'	17 cf	**DeepRoot Silva Cell 20% x3** x 3 Inside= 24.6"W x 45.3"H => 1.42 sf x 4.02'L = 5.7 cf Outside= 24.6"W x 45.3"H => 7.74 sf x 4.02'L = 31.1 cf
#2	8.40'	23 cf	**DeepRoot Silva Cell 20% x2** x 6 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
#3	8.20'	12 cf	**DeepRoot Silva Cell 20% x2** x 3 Inside= 24.6"W x 30.9"H => 0.97 sf x 4.02'L = 3.9 cf Outside= 24.6"W x 30.9"H => 5.28 sf x 4.02'L = 21.2 cf
		52 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	6.63'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 6.63' / 6.48' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	6.73'	**1.0" Vert. Orifice/Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	10.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	8.20'	**2.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.00457 cfs @ 11.08 hrs HW=8.40' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.00457 cfs)

Primary OutFlow Max=1.46409 cfs @ 12.07 hrs HW=10.21' TW=3.82' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.46409 cfs of 7.35462 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.14602 cfs @ 8.92 fps)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 1.31807 cfs @ 1.28 fps)

Summary for Pond CB1:

[57] Hint: Peaked at 6.03' (Flood elevation advised)

Inflow Area = 0.287 ac, 88.12% Impervious, Inflow Depth = 7.06" for 50-Year X event
Inflow = 2.14458 cfs @ 12.07 hrs, Volume= 0.169 af
Outflow = 2.14458 cfs @ 12.07 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min
Primary = 2.14458 cfs @ 12.07 hrs, Volume= 0.169 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.03' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.72'	**12.0" Round Culvert** L= 16.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.72' / 4.66' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=2.13761 cfs @ 12.07 hrs HW=6.03' TW=5.82' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.13761 cfs @ 2.72 fps)

Summary for Pond CB2: CB2

[57] Hint: Peaked at 6.01' (Flood elevation advised)

Inflow Area = 0.115 ac, 96.72% Impervious, Inflow Depth = 7.13" for 50-Year X event
Inflow = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86484 cfs @ 12.07 hrs, Volume= 0.069 af
Routed to Pond OCS #1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 6.01' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	5.40'	**12.0" Round Culvert** L= 30.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 5.40' / 5.29' S= 0.0037 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.86180 cfs @ 12.07 hrs HW=6.01' TW=5.82' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.86180 cfs @ 2.45 fps)

Summary for Pond DMH1:

[57] Hint: Peaked at 5.41' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Outflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min
Primary = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Routed to Pond 8P : DMH 1A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 5.41' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.24'	**12.0" Round Culvert** L= 41.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.24' / 3.99' S= 0.0061 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=3.00930 cfs @ 12.07 hrs HW=5.41' TW=4.44' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.00930 cfs @ 4.12 fps)

Summary for Pond DP1: DMH 3540

[57] Hint: Peaked at 3.78' (Flood elevation advised)

Inflow Area = 2.249 ac, 94.93% Impervious, Inflow Depth = 7.02" for 50-Year X event
Inflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af
Outflow = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af, Atten= 0%, Lag= 0.0 min
Primary = 16.80747 cfs @ 12.07 hrs, Volume= 1.316 af
Routed to Pond 9P : DMH 5438

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 3.78' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1.68'	**48.0" Round Culvert** L= 216.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 1.68' / 0.94' S= 0.0034 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 12.57 sf

Primary OutFlow Max=16.73594 cfs @ 12.07 hrs HW=3.78' TW=3.29' (Dynamic Tailwater)
1=Culvert (Outlet Controls 16.73594 cfs @ 3.65 fps)

Summary for Pond OCS #1:

[57] Hint: Peaked at 5.82' (Flood elevation advised)

Inflow Area = 0.402 ac, 90.59% Impervious, Inflow Depth = 7.08" for 50-Year X event
Inflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Outflow = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min
Primary = 3.00942 cfs @ 12.07 hrs, Volume= 0.237 af
Routed to Pond DMH1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 5.82' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.56'	**12.0" Round Culvert** L= 44.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 4.56' / 4.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Primary	4.51'	**10.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 3.62' / 4.51' S= -0.0222 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#3	Device 1	5.60'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.00930 cfs @ 12.07 hrs HW=5.82' TW=5.41' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.67988 cfs of 2.68191 cfs potential flow)
  - **3=Sharp-Crested Rectangular Weir** (Weir Controls 1.67988 cfs @ 1.54 fps)
- **2=Culvert** (Inlet Controls 1.32942 cfs @ 2.44 fps)

APPENDIX D

SOIL SURVEY INFORMATION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

November 16, 2021

Custom Soil Resource Report
Soil Map

Map Scale: 1:269 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 3 7 14 21

Feet: 0 10 20 40 60

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 24, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
699	Urban land	0.1	100.0%
Totals for Area of Interest		**0.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

APPENDIX E

FEMA FIRM MAP

National Flood Hazard Layer FIRMette

FEMA

70°46'3"W 43°4'51"N

70°45'26"W 43°4'25"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/16/2021 at 1:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX F

INSPECTION & MAINTENANCE PLAN

INSPECTION & MAINTENANCE PLAN

FOR

238 Deer Street

Portsmouth, NH

Introduction

The intent of this plan is to provide 238 Deer Street (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the drainage structures for this development.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly. These measures will also help minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functionality of the drainage structures and maximize their ability to drain the site effectively from stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the City of Portsmouth Public Works Department, if required.

Inspection & Maintenance Checklist/Log

The following pages contain a Stormwater Management System Inspection & Maintenance Checklist and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

DRAINAGE STRUCTURE COMPONENTS

Non-Structural BMP's

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to: temporary and permanent mulching, temporary and permanent grass cover, trees, shrubs and ground covers, miscellaneous landscape plantings, dust control, tree protection, topsoiling, sediment barriers, and a stabilized construction entrance.

Structural BMP's

Structural BMP's are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to: storm drain catch basins, roof drains and pipes.

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Landscaped areas:** After each rain event of 0.5" or more during a 24-hour period, inspect landscaped areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and adjust the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection. Clean up dead leaves yearly to avoid drainage issues.
3. **Storm Drain Catch Basins and Pipes:** Monitor drain inlets and outlets during construction. Monitor sediment levels in catch basin sumps and remove as necessary.
4. **Roof Drains:** Maintain roof drains and review periodically for clogs.

Stormwater Management System

Inspection & Maintenance Checklist for Post Construction Condition—for 238 Deer Street, Portsmouth, NH

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Closed Drainage System			
Drainage Pipes and Roof Drains	Yearly	*Check for sediment clogging, or soiled runoff.*	Clean entire drainage system and remove all sediments if discovered in piping.
Catch Basins	Bi-Annually	*Check for excessive accumulation of sediment in sump*	Remove sediment as necessary
Annual Report	Yearly	*Prepare Annual Report, including all Inspection & Maintenance Logs. Provide to City (if required).*	N/A

Stormwater Management System Maintenance Summary

Inspection & Maintenance Log—for 238 Deer Street, Portsmouth, NH

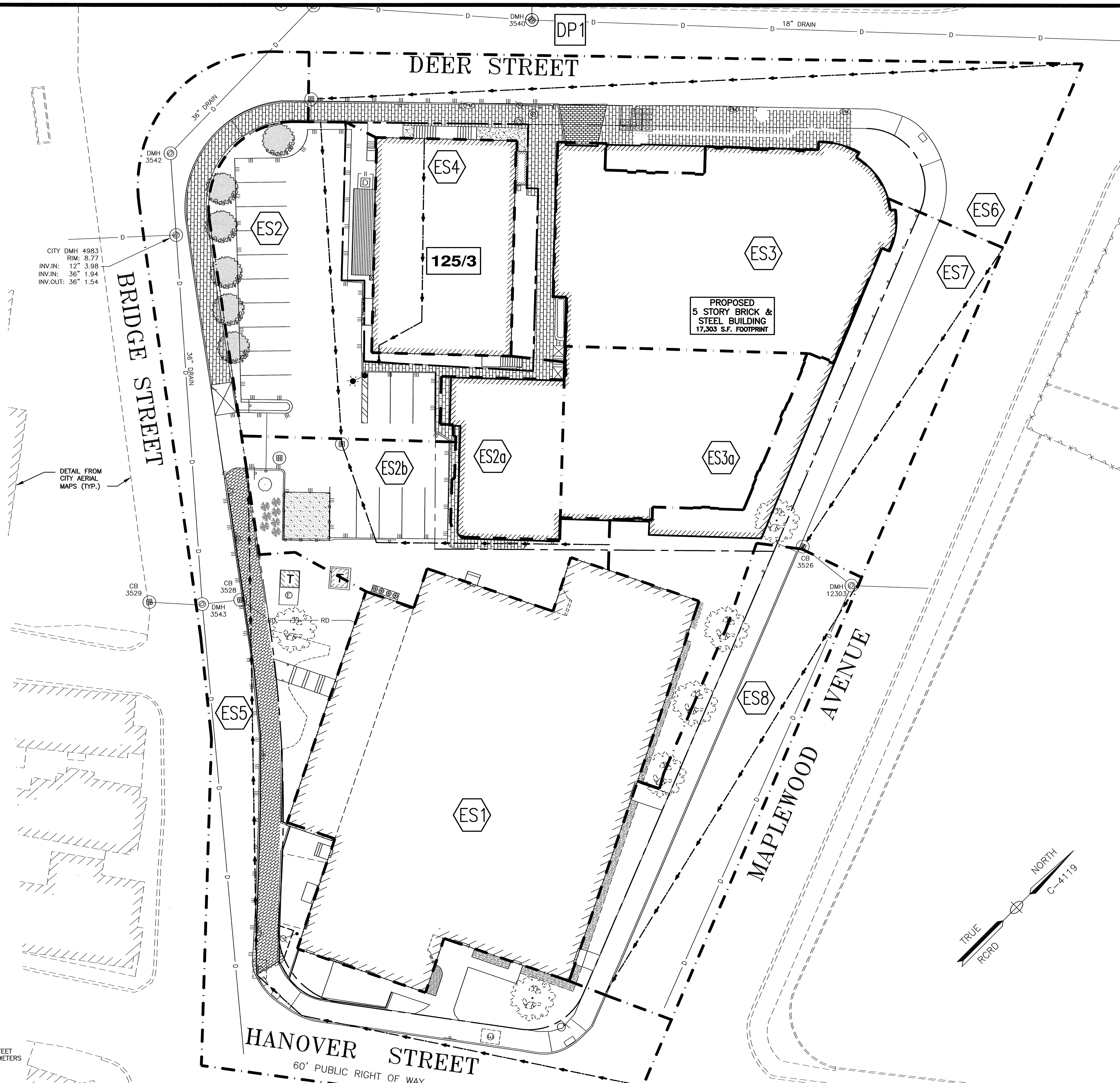
BMP/System Component	Date Inspected	Inspector	Problems Noted, Required Maintenance *(List Items/Comments)*	Date of Maintenance	Performed By

Data Sheets

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
		SUBCATCHMENT LINE
ES1	PS1	SUBCATCHMENT NUMBER
1234	1234	AREA IN SQUARE FEET
WOODS	WOODS	DESCRIPTION OF COVER
1	1	POND (DESIGN MODEL)
DP1	DP1	REACH (DESIGN MODEL)

EXISTING	PROPOSED	
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
		CATCH BASIN
		DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
		Tc PATH
SF	SF	SHEET FLOW
SCF	SCF	
CHANNEL	CHANNEL	CHANNEL FLOW
HSG	HSG	HYDROLGIC SOIL GROUP



GRAPHIC SCALE

FEET: 10 0 20 40 60 80
METERS: 5 0 5 10 15 20 25

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THIS PLAN IS INTENDED FOR RUNOFF ANALYSIS ONLY AND SHALL NOT BE USED FOR CONSTRUCTION.

2) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

3) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

4) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	11/16/21

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7651
LICENSED
PROFESSIONAL ENGINEER

SCALE: 1" = 20'   NOVEMBER 2021

EXISTING SUBCATCHMENT PLAN

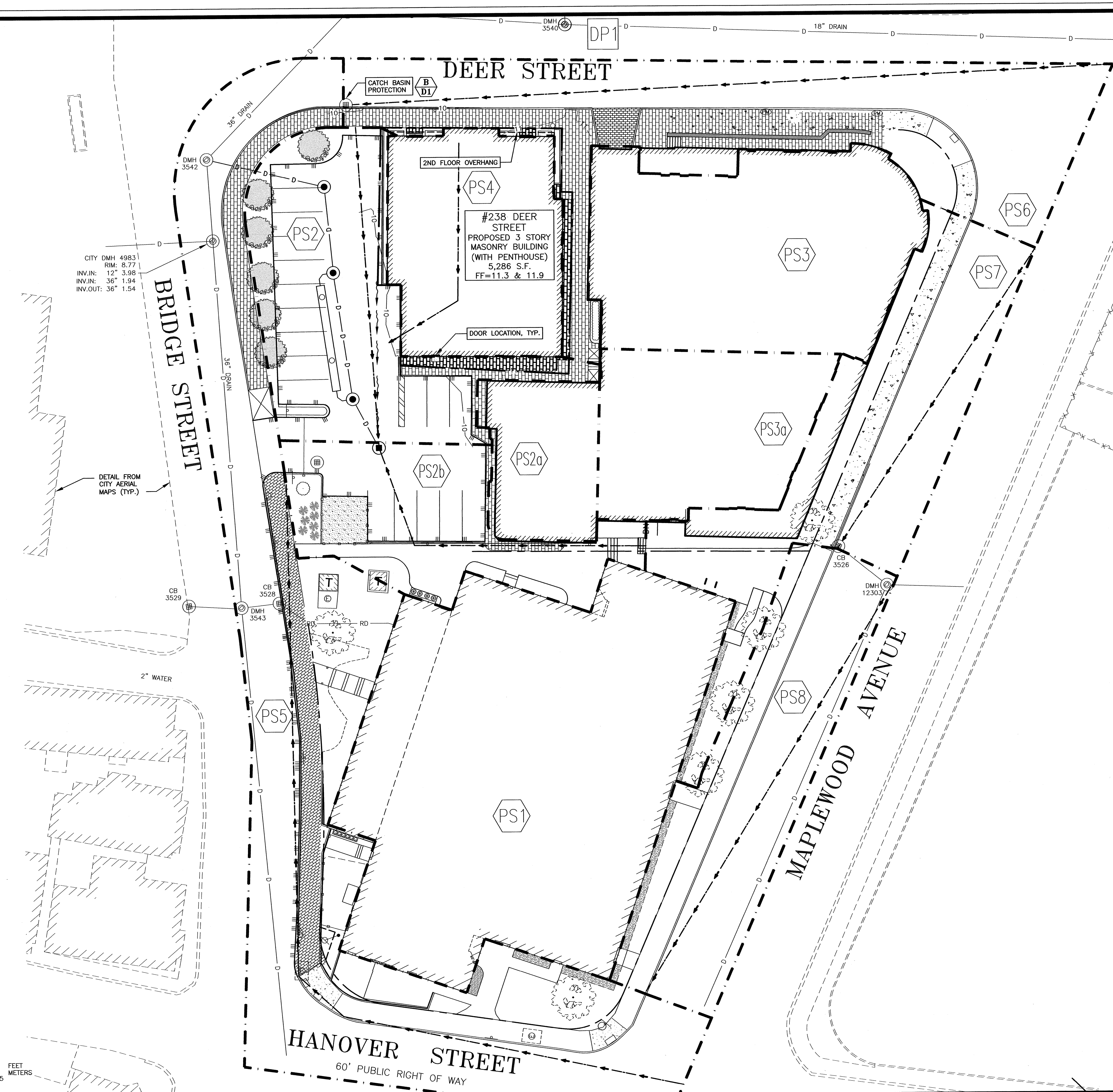
W1

FB 410 PG 75   2916

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
		SUBCATCHMENT LINE
ES1	PS1	SUBCATCHMENT NUMBER
1234	1234	AREA IN SQUARE FEET
WOODS	WOODS	DESCRIPTION OF COVER
1	1	POND (DESIGN MODEL)
DP1	DP1	REACH (DESIGN MODEL)

EXISTING	PROPOSED	
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
		CATCH BASIN
		DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
		Tc PATH
SF	SF	SHEET FLOW
SCF	SCF	
CHANNEL	CHANNEL	CHANNEL FLOW
HSG	HSG	HYDROLGIC SOIL GROUP



GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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4) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SITE DEVELOPMENT
238 DEER STREET, LLC
238 DEER STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	11/16/21

REVISIONS

JOHN R. CHAGNON No. 7851 STATE OF NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 20' NOVEMBER 2020

PROPOSED SUBCATCHMENT PLAN

W2

FB 410 PG 75

2916

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: 238 Deer Street, LLC Date Submitted: 10/18/2021

Application # (in City's online permitting): LU 20-238

Site Address: 238 Deer Street Portsmouth, NH 03801 Map: 125 Lot: 3

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☐	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Online	N/A
☐	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Online & Paper Submissions	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Attached	
☐	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Architect Plans	N/A
☐	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Sheet C1	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover Sheet	N/A
☐	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Sheet C1	N/A
☐	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☐	List of reference plans. **(2.5.3.1H)**	Sheet C1	N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Cover Sheet	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☐	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☐	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	N/A	N/A
☐	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	N/A	N/A
☐	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Cover Sheet	N/A
☐	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All Sheets	N/A
☐	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☐	Source and date of data displayed on the plan. **(2.5.4.2D)**	Sheet C1	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Sheet C1	
☐	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Sheet C3	
☐	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Sheet C3	
☐	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	N/A Variance	
☐	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Sheet C4	
☐	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Sheet C4	

☐	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Sheet C4	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
	• The size, type and location of solid waste facilities.	Internal Pick Up	
☐	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Sheet C3	
☐	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	TBD-Building	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	TBD	
☐	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Sheet C3	
☐	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C5	
☐	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Sheet C3	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Sheet C1	
☐	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	Sheet C3	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Parking Study	
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	N/A	
☐	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☐	Stormwater Management and Erosion Control Plan. **(7.4)**	Sheet D1	
☐	Inspection and Maintenance Plan **(7.6.5)**	Attached	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Cover Sheet	
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Attachments	
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	TBD	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	N/A	
☐	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Cover Sheet & C3	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	Not In Zone	
☐	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Sheet C3	N/A

Applicant's Signature: John Chagnon **Date:** 10-18-21