

**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

October 22, 2019

Juliet T. H. Walker, AICP, Planning Director
City of Portsmouth Municipal Complex
Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Application for Subdivision and Site Plan Review
Assessor's Map 210, Lot 02
200 Chase Drive
Altus Project #P4950**

Dear Juliet:

At the October 1, 2019 Technical Advisory Committee (TAC) meeting, Altus Engineering presented the proposed Subdivision and Site Plan Review applications for the 200 Chase Drive on behalf of the Bethel Assembly of God and 200 Chase Drive, LLC. The TAC provided comments on the proposed design, which have since been addressed in the revised submittal package. The following written comments were provided by TAC with Altus' responses are below (in Red):

- *All parking lot lighting should be converted to one LED matching type for both lots.*
 - *The site lighting design has been revised to include the replacement of the existing fixtures in the church parking lot with LED (dark shy friendly) fixtures as proposed in the residential parking lot.*
- *The drainage pipe for OSI should be routed to the lawn area along Michael Succi instead of across Chase Drive*
 - *The drainage has been revised to outlet at the lawn area near Michael Succi Drive. All drainage revisions have been modeled and a Drainage Memo provided with a summary of the changes and results of the modeling.*
- *The sidewalk along Michael Succi and up Chase Drive along the development should be upgraded to 6' wide concrete with vertical granite curb.*
 - *The project plans have been revised to show the sidewalk along Chase Drive in the area of the proposed development being replaced in kind with a 5 ft wide asphalt sidewalk.*
- *The utilities crossing Chase Drive will require a license.*
 - *A note has been added to the Utility Plan, sheet C-8.*

- *The proposed water line should be relocated to the south a bit under the parking so that the lot can still be utilized during construction.*
 - *The water line has been relocated to the south side of the parking lot.*
- *Property owner to provide a blanket easement to access water valves on site and do leak detection. The applicant is showing 1-6" water line heading to the building. This pipe may be too large to provide proper water quality. For this reason, the applicant may need to run two separate services to the building from the main.*
 - *A note has been added to sheet C-8 that an easement will be required.*
- *The parking demand analysis did not include a count of the number of cars in the parking lot. Only the number of people in attendance at each service was counted, and it was assumed that they came 3 to a car. There must be more to document the vehicle occupancy rate than a guess. The number of cars in the lot, not the number of people in the building, is critical to a parking demand analysis. The number of vehicles in the parking lot must be counted to provide a valid analysis.*
 - *The Parking Demand Analysis has been revised. The church has estimates for vehicles in attendance based on family memberships from March-June 2019. This estimate shows approximately 2.9 persons per vehicle. Additionally, the Church has data from the last 2 weeks of services that shows an average of 2.4 persons per vehicle, including all volunteers.*
- *There is a maintenance guidance at the end of the stormwater report. These could be improved by using the maintenance guidance provided by UNH as per attached.*
 - *The Stormwater Maintenance and Inspection manual has been updated to include the UNH guidance and inspection checklists for Permeable pavements and bioretention systems (raingardens).*
- *A note should be added to the site plan referencing maintenance requirements for both raingarden and porous pavers.*
 - *A note has been added to both the Site Plan (sheet C-4) and the Grading and Drainage Plan (sheet C-5).*
- *Apartment building: Where is the 2nd exit on the first floor?*
 - *The first floor plans have been revised to show exits at both the Market Street and Chase Drive sides of the building.*
- *Community space calculations need to be broken down into the respective types (and then be itemized and listed on the overall site plan).*
 - *A table has been provided on the Community Space Plan and the Overall Site Plan with the Community Space types and areas. 22.2% of the site is provided.*
- *The proposed landscape plan should also include the full site given the location of the community space (the church side of the site is missing in my plan sheets).*
 - *An overall landscape plan has been provided.*
- *Staff is questioning the function and form of some of the community space areas as some areas look more like drainage or stormwater treatment areas than bonafide pocket parks. More detail is needed on this aspect given the proposed areas are right at the minimum requirement (20%).*

- The community spaces types and areas have been updated and incorporated into a table. As discussed at the TAC workshop, the areas along the Market Street side of the parking lots are heavily landscaped to enhance the existing greenway park along Market Street. This provides a visual enhancement and buffer from the large parking lot. A raingarden is also located in the center of a circular pathway at Pocket Park #3. This allows for planting in the middle of the walking path. These areas would be planted regardless. However, the design is to make them functional planting gardens.

Additionally, at the TAC meeting the following comments were provided

- *The Deputy Fire Chief and Traffic Engineer expressed concern with emergency access and traffic circulation in the parking lots.*
 - As discussed, a driveway connection has been added to the parking lots. This is not required by code for emergency access but addresses the access concerns by the Fire department and traffic engineer. An Autoturn movement plan has been provided for the Portsmouth ladder truck. The driveway connection required the reconfiguration of the parking lots to maintain the 30 and 75 proposed parking stalls as well as some minor grading and drainage changes.

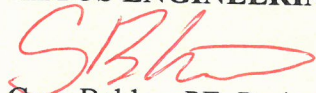
Enclosed please find 10 copies of the following items for review at the

- Revised Subdivision and Site Plans (4 full sized and 6 reduced sets)
- Autoturn Turning Movement for Portsmouth Ladder Truck
- Supplemental Drainage Memo
- Revised Parking demand Analysis
- Revised Stormwater Maintenance and Inspection Manual

Altus looks forward to working with the Planning Board on this exciting development project in the Gateway Neighborhood District. Please feel free to call me if you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING, INC.

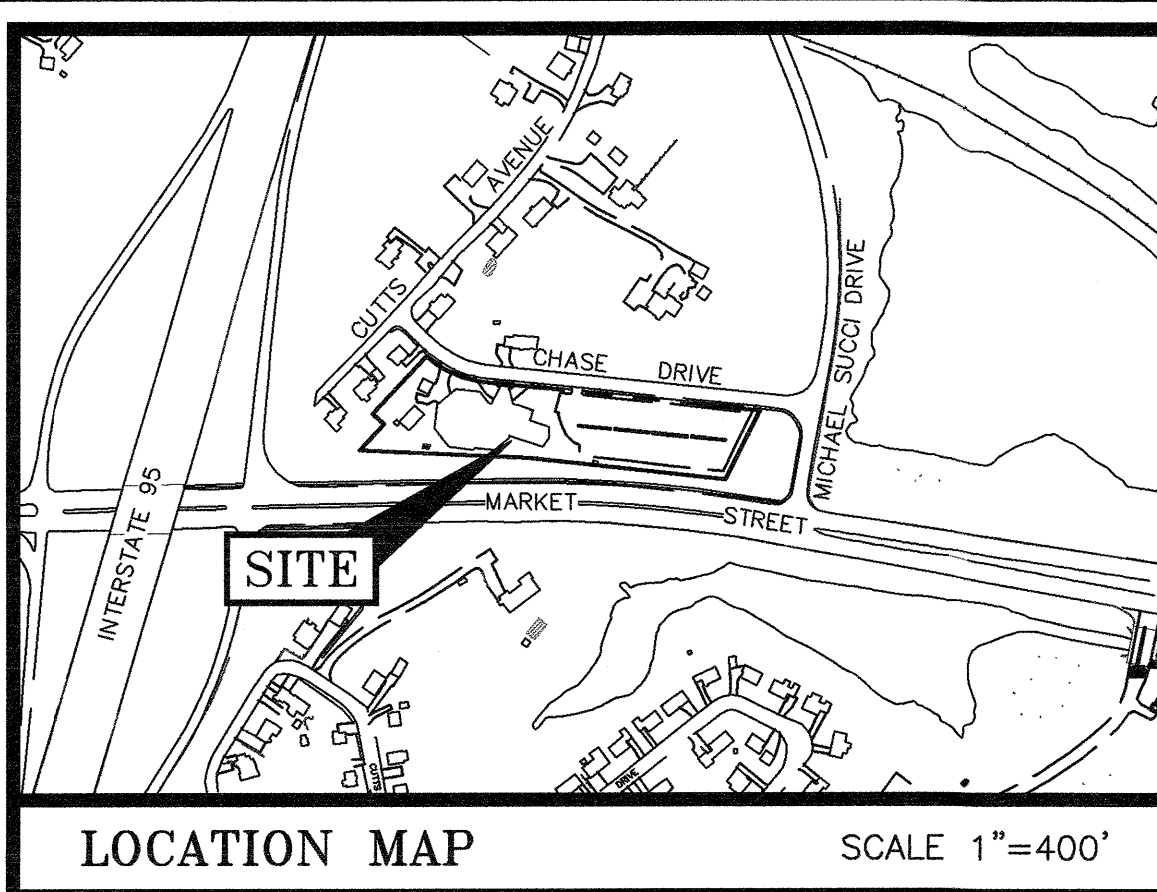


Cory Belden, PE, Project Manager

wde/4950-App-City-cvr ltr_102119.doc

Enclosure

Ecopsy: Stephen Kelm, 200 Chase Drive, LLC
Pastor Chad Lynn, Connect Community Church



PLAN REFERENCE:

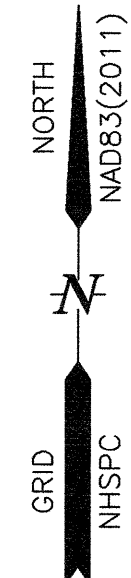
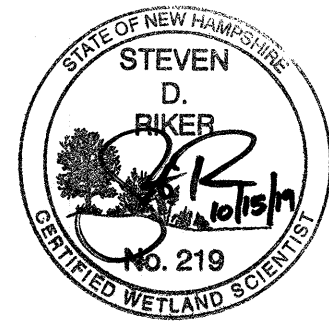
1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHIE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013. FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.

2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

WETLAND NOTES:

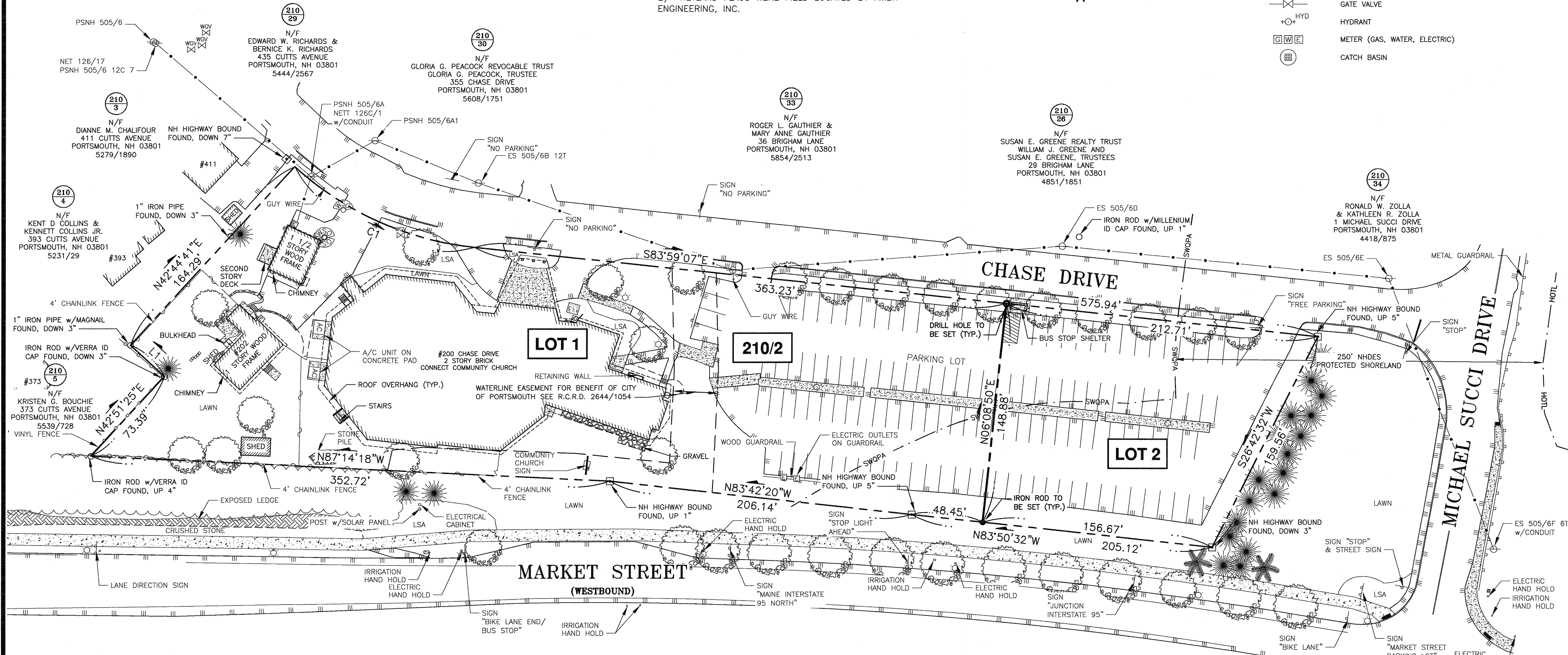
- 1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 8/3/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 - A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.
 - B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.1, USDA-NRCS, 2017 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEWPPCC WETLANDS WORK GROUP (2017).
 - C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).
 - D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).
 - E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.



LEGEND:

- | | | |
|---|--|---|
| EXISTING | N/F
RP
RCRD
$\frac{11}{21}$ | NOW OR FORMERLY RECORD OF PROBATE ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21 |
| \square RR SPK FND
\circ IR FND
\circ IP FND
\circ DH FND
\square NHHB FND
\square TB FND
\square BND w/DH
\square ST BND w/DH | RR SPK SET
IR SET
IP SET
DH SET
BND w/DH
ST BND w/DH | RAILROAD SPIKE FOUND/SET
IRON ROD FOUND/SET
IRON PIPE FOUND/SET
DRILL HOLE FOUND/SET
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TOWN BOUND FOUND
BOUND w/ DRILL HOLE
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| SWOPA
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HOTL - HIGHEST OBSERVABLE TIDE LINE |
| — D —
— E —
— W —
— T —
— G —
— U —
— P —
— M —
— C — | STORM DRAIN
UNDERGROUND ELECTRIC
OVERHEAD ELECTRIC/WIRES
EDGE OF PAVEMENT (E/P)
WOODS / TREE LINE
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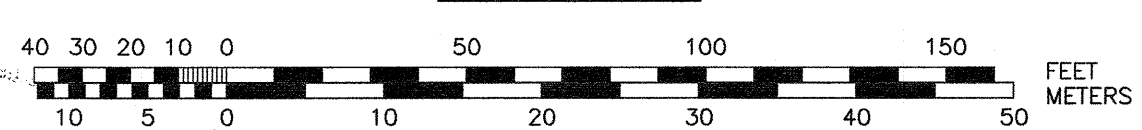
LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°21'20"W	31.46'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	215.00'	135.68'	133.44'	S65°54'23"E	36°09'27"

GRAPHIC SCALE



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 ASSESSOR'S MAP 210 AS LOT 2.
 - 2) OWNER OF RECORD:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287
 - 3) PARCEL IS NOT IN A SPECIAL FLOOD HAZED AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.
 - 4) EXISTING LOT AREA:
116,591 S.F.
2.6766 ACRES

PROPOSED LOT 1
89,054 S.F.
2.0444 ACRES

PROPOSED LOT 2
27,537 S.F.
0.6322 ACRES
 - 5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.
 - 6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE
 - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE SUBDIVISION OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH INTO TWO LOTS.

NO.	DESCRIPTION	DATE
2	REVISE PROPOSED BOUNDARY LINE LOCATION	10/12/19
1	REVISE PROPOSED BOUNDARY LINE LOCATION	9/12/19
0	ISSUED FOR COMMENT	8/6/18

SUBDIVISION PLAN
TAX MAP 210 - LOT 2
OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

"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."

10/15/2019
PAUL A. DOBBERSTEIN, LLS
DATE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

Chase Drive Gateway Development Site Subdivision and Site Plan Review

200 CHASE DRIVE Portsmouth, New Hampshire Assessor's Parcel 210-02

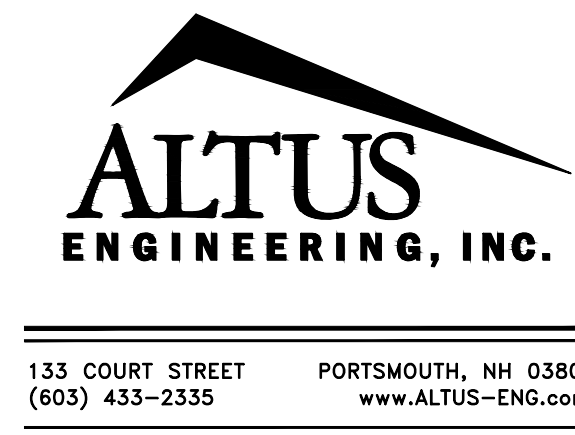
Owner:

BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

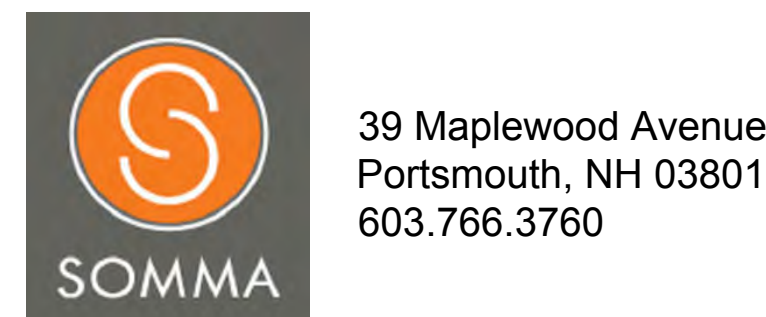
Applicant:

200 Chase Drive, LLC
c/o Cove Workspace
36 Maplewood Avenue
PORTSMOUTH, NH 03801

Civil Engineer:



Architect:



Surveyor:



Landscape Architect:



Landscape Architecture, LLC

103 Kent Place
Newmarket, NH 03857
Tel 603.659.5949
Fax: 603.659.5939

OCTOBER 21, 2019 Issued: TAC REVIEW

APPROVED BY THE PORTSMOUTH PLANNING BOARD

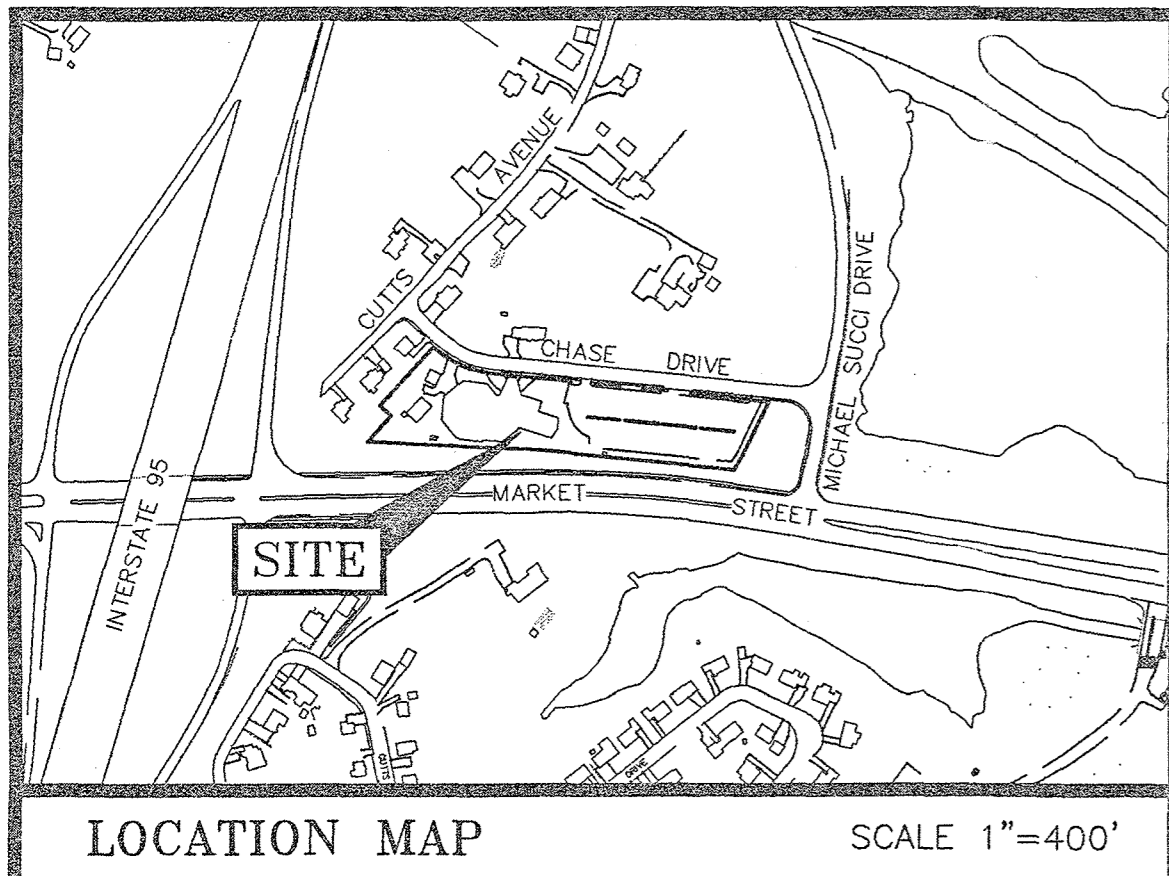
CHAIRMAN _____ DATE _____



Locus Map
Scale: Not to Scale

Sheet Index

<i>Title</i>	<i>Sheet No.:</i>	<i>Rev.</i>	<i>Date</i>
Existing Conditions Plans (by Ambit Engineering, Inc.)	C1	2	02/17/19
Existing Utilities Plans (by Ambit Engineering, Inc.)	C2	1	02/17/19
Subdivision Plan (by Ambit Engineering, Inc.)	1 of 1	2	10/12/19
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Site Plan	C.4	3	10/18/19
Grading and Drainage Plan	C.5	3	10/18/19
Grading and Drainage Plan	C.6	1	10/18/19
Sediment & Erosion Control Plan	C.7	1	10/18/19
Utilities Plan	C.8	1	10/18/19
Community Space Plan	C.9	3	10/18/19
Overall Site Landscape Plan and Details	L-1	2	10/21/19
Landscape Plan	L-2	2	10/21/19
Site Lighting Plan	1 of 1	2	10/15/19
Erosion Control Notes & Details	D.1	1	09/16/19
Construction Details	D.2	1	09/16/19
Construction Details	D.3	1	09/16/19
Construction Details	D.4	2	10/18/19
Construction Details	D.5	1	09/16/19
Construction Details	D.6	2	10/18/19
Construction Details	D.7	1	09/16/19
Floor Plans (by SOMMA Studios)	3 Sheets	1	10/19
Exterior Elevations (by SOMMA Studios)	4 Sheets	1	10/19
Building Rendering (by SOMMA Studios)	1 of 1	0	06/19



PLAN REFERENCE:

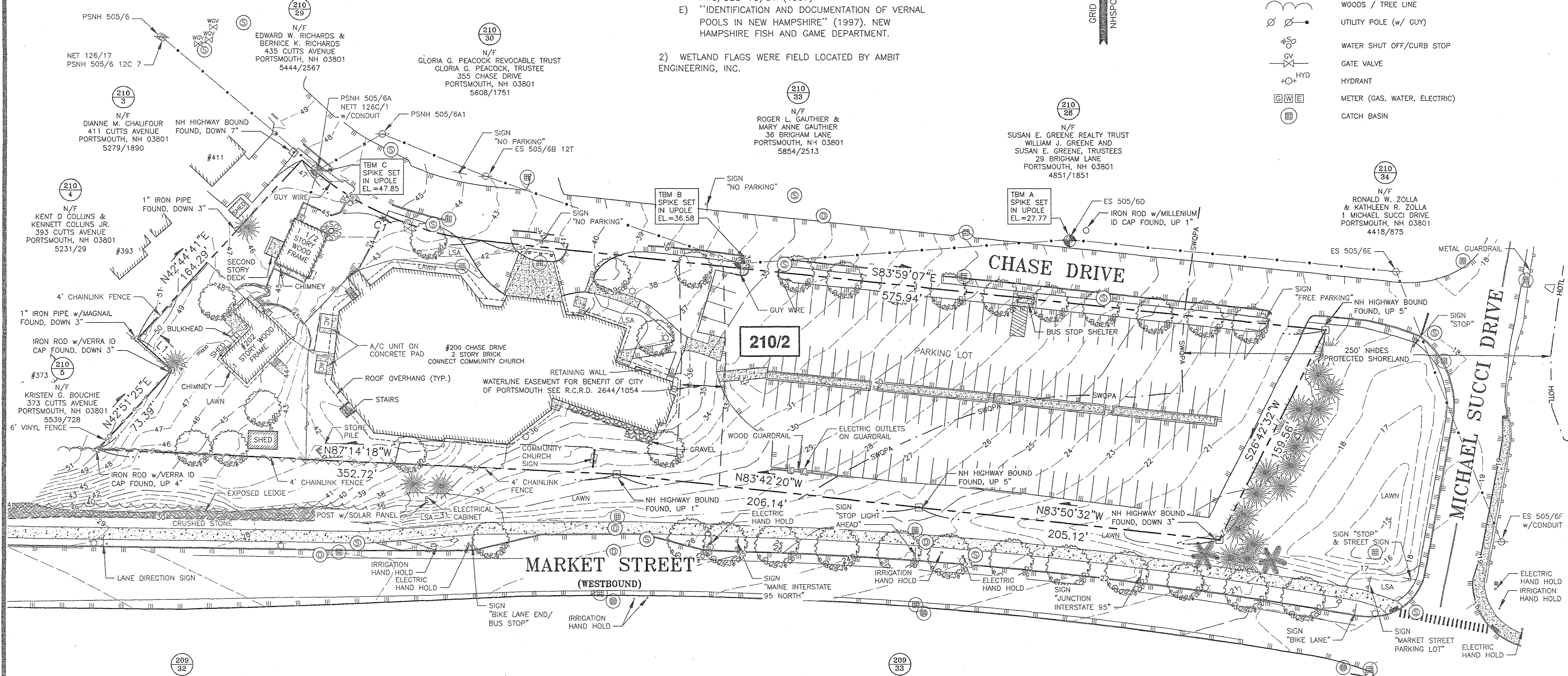
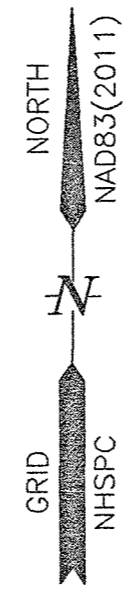
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- 2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

LEGEND:

- EXISTING**
- N/F
 - RP
 - RCRD
 - (11/21)
 - RR SPK FND
 - IR FND
 - IP FND
 - DH FND
 - NHFB FND
 - TB FND
 - BND w/DH
 - ST BND w/DH
 - RR SPK SET
 - IR SET
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 - DH SET
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 - ST BND w/DH
 - NOW OR FORMERLY RECORD OF PROBATE
 - ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21
 - RAILROAD SPIKE FOUND/SET
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 - IRON PIPE FOUND/SET
 - DRILL HOLE FOUND/SET
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 - TOWN BOUND FOUND
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 - GATE VALVE
 - HYDRANT
 - METER (GAS, WATER, ELECTRIC)
 - CATCH BASIN



- NOTES:**
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 - 2) OWNER OF RECORD: BETHEL ASSEMBLY OF GOD, 200 CHASE DRIVE, PORTSMOUTH, N.H. 03801, 1986/395 & 2248/889, D-38287.
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 - 5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.
 - 6) DIMENSIONAL REQUIREMENTS: SEE ZONING ORDINANCE.
 - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.
 - 8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').
 - 9) SEE SHEET C2 FOR UTILITIES AND INVERT INFORMATION.

**BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	REVISE PER COMMENTS	2/17/19
1	PLAN UPDATE	2/11/19
0	ISSUED FOR COMMENT	8/6/18

REVISIONS

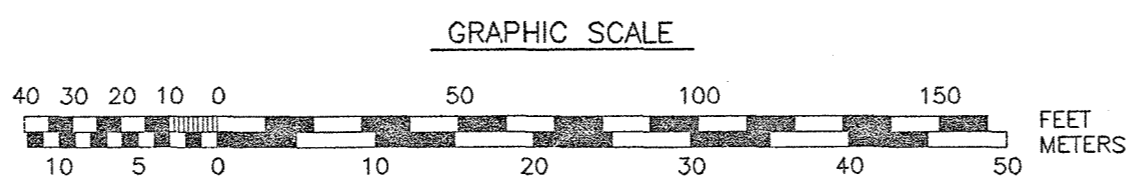
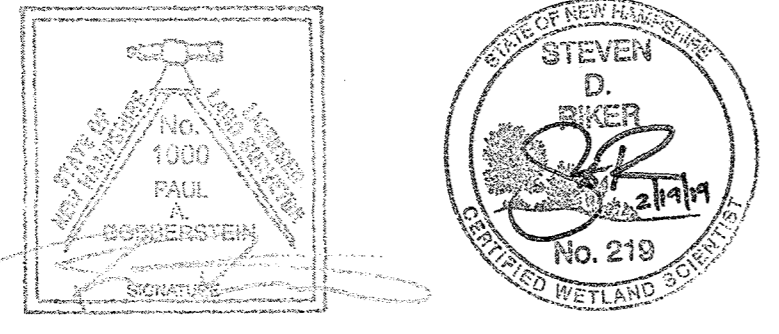
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PAUL A DOBBERSTEIN, LLS DATE

SCALE 1" = 40' AUGUST 2018

EXISTING CONDITIONS PLAN **C1**



LOCATION MAP SCALE 1"=400'

PLAN REFERENCE:

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SEWER STRUCTURE TABLE			
STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
SMH 981	29.16	21.67 (PER DPW)	15" RCP (SMH 982)
SMH 982	27.65	19.21 (PER DPW)	10" VCP (SMH 983)
SMH 983	26.00	17.53	10" VCP (SMH 982)
SMH 984	23.60	17.51 15.54 15.49	10" VCP (SMH 984)
SMH 985	18.36	12.66 9.36 9.32	10" CI (SMH 984)
		9.26	15" CI (SMH 1017)
SMH 1017	18.09	10.93 10.45	8" VCP (SMH 1018)
		10.41	15" CI (SMH 985)
SMH 1018	26.75	20.10	8" VCP (SMH 1019)
SMH 1019	34.84	28.94 28.40	8" VCP (SMH 1020)
SMH 1020	44.81	28.34	8" VCP (SMH 1018)
SMH 1021	45.92	34.87 34.85	8" VCP (SMH 1021)
SMH 1022	52.54	36.65 36.59	8" VCP (SMH 1022)
SMH 5489	38.42	40.29 (PER DPW)	8" VCP (SMH 1021)
		31.82	8" PVC (SMH 5488)
		31.76	8" PVC (SMH 1019)

DRAIN STRUCTURE TABLE			
STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
DMH 1 (NO DPW #)	23.97 SUMP=12.27	17.67 13.74	15" CPP (CB 3377)
DMH 2 (NO DPW #)	25.85	13.52	6" CMP (SW)
DMH 3376	27.11	-	15" RCP (CB 3374)
DMH 5097	26.78	21.78 21.53	8" PVC (WNW)
DMH 22364	34.02 SUMP=26.82	29.82 27.19	12" CPP (CB 3395)
		27.02	15" CPP (DMH 2)
CB 611	17.91	-	30" CPP (CB 22362)
CB 3374	22.36	-	-
CB 3375	24.88	-	-
CB 3377	23.85 SUMP=15.25	18.00± (OIL SEPARATOR)	15" CPP (DMH 1)
CB 3395	26.55	-	(CANNOT OPEN - FROZEN & FULL INLET BAG)
CB 3396	14.02 SUMP=9.97	10.57	15" CMP (CB 611)
CB 3397	17.35 SUMP=10.45	12.63	15" RCP (CB 3398)
CB 3398	17.42 SUMP=9.62	11.72 11.67	30" CMP (CB 22362)
		11.52	15" RCP (CB 3399)

DRAIN STRUCTURE TABLE			
STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
CB 3399	17.82 SUMP=8.62	9.62	30" CMP (CB 3398)
CB 7846	26.97	-	30" CMP (TO OUTFALL)
CB 13892 (DMH w/SEWER COVER)	51.00	-	-
CB 13929	43.86 SUMP=36.36	37.16 36.80	8" PVC (CB 13930)
		36.76	30" RCP (CB 13892)
CB 13930	40.70	-	30" RCP (CB 22361)
CB 22361	40.92 SUMP=32.52	35.32	30" RCP (CB 13929)
CB 22362	29.79 SUMP=22.29	24.49 23.54	15" RCP (CB 22363)
		23.29	30" CMP (CB 3398)
CB 22363	29.81 SUMP=22.21	24.76	30" CMP (CB 22362)

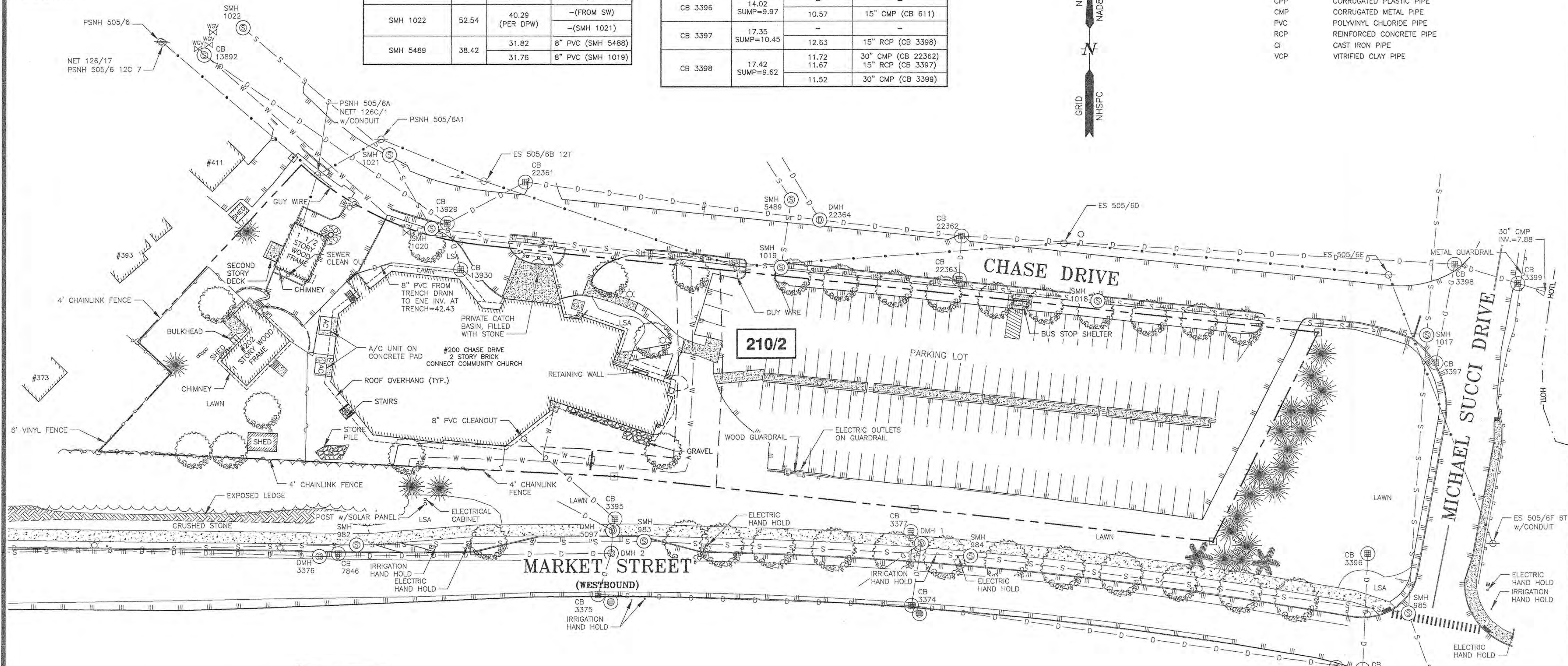
LEGEND:

EXISTING

- N/F
- RP
- RCRD
- RR SPK FND
- IR FND
- IP FND
- DH FND
- NHHB FND
- TB FND
- BND w/DH
- ST BND w/DH
- RR SPK SET
- IR SET
- IP SET
- DH SET
- BND w/DH
- ST BND w/DH
- SWGPA
- HOTL
- STORM DRAIN
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC/WIRES
- EDGE OF PAVEMENT (EP)
- WOODS / TREE LINE
- UTILITY POLE (w/ GUY)
- WATER SHUT OFF/CURB STOP
- GATE VALVE
- HYD
- METER (GAS, WATER, ELECTRIC)
- CATCH BASIN
- CPP
- CMP
- PVC
- RCP
- CI
- VCP
- NOW OR FORMERLY RECORD OF PROBATE
- ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21
- RAILROAD SPIKE FOUND/SET
- IRON ROD FOUND/SET
- IRON PIPE FOUND/SET
- DRILL HOLE FOUND/SET
- NHDOT BOUND FOUND
- TOWN BOUND FOUND
- BOUND w/ DRILL HOLE
- STONE BOUND w/DRILL HOLE
- HIDES 250' PROTECTED SHORELAND
- HIGHEST OBSERVABLE TIDE LINE

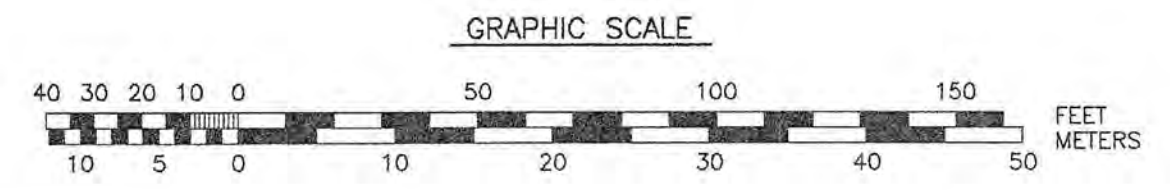
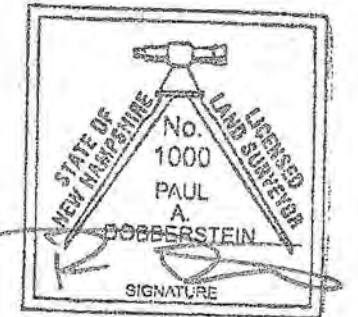
AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

- NOTES:
- 1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.
 - 2) OWNER OF RECORD: BETHEL ASSEMBLY OF GOD, 200 CHASE DRIVE, PORTSMOUTH, N.H. 03801, 1986/395 & 2248/889, D-38287.
 - 3) PARCEL IS NOT IN A SPECIAL HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.
 - 4) EXISTING LOT AREA: 116,591 S.F. 2.6766 ACRES
 - 5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.
 - 6) DIMENSIONAL REQUIREMENTS: SEE ZONING ORDINANCE
 - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING UTILITIES AND INVERTS ON TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.
 - 8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').



"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."

PAUL A. DOBBERSTEIN, LLS
DATE: 2/14/2019

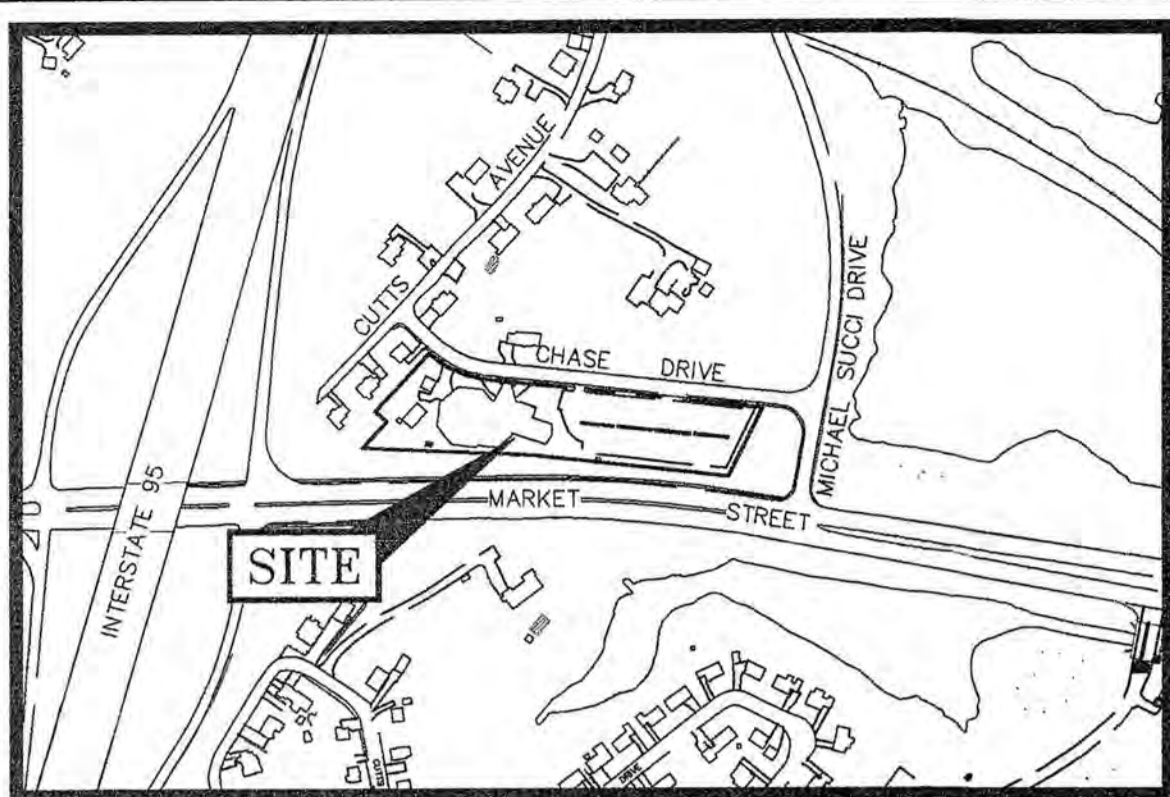


BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	REVISE PER COMMENTS	2/17/19
0	ISSUED FOR COMMENT	2/11/19

SCALE 1" = 40' FEBRUARY 2019

EXISTING UTILITIES PLAN C2



LOCATION MAP

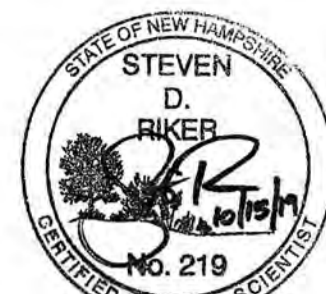
SCALE 1"=400'

PLAN REFERENCE:

- 1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013, FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.
- 2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

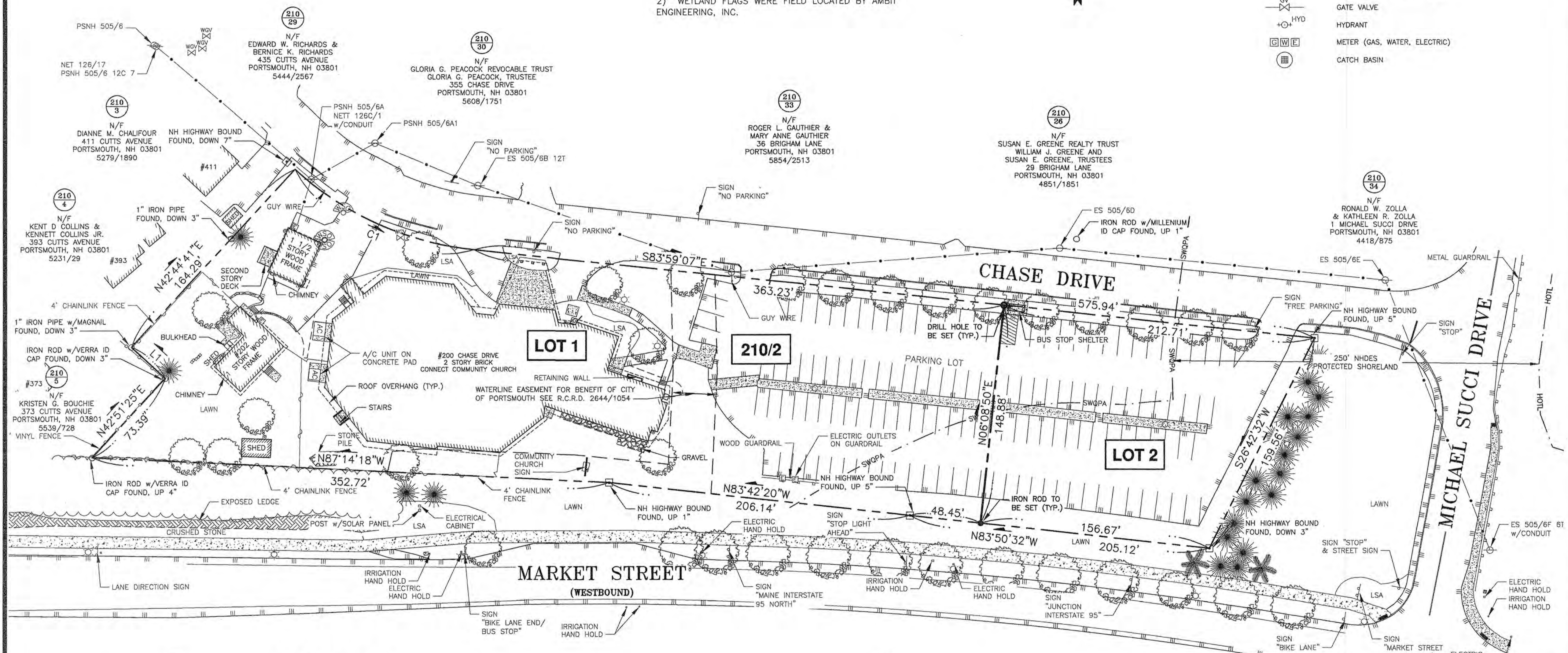
WETLAND NOTES:

- 1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 8/3/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 - A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.
 - B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.1, USDA-NRCS, 2017 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEWPPCC WETLANDS WORK GROUP (2017).
 - C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).
 - D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).
 - E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.
- 2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.



LEGEND:

- EXISTING**
- N/F
 - RP
 - RCRD
 - RR SPK FND
 - IR FND
 - IP FND
 - DH FND
 - NHHB FND
 - TB FND
 - BND w/DH
 - ST BND w/DH
 - RR SPK SET
 - IR SET
 - IP SET
 - DH SET
 - BND w/DH
 - ST BND w/DH
 - NOW OR FORMERLY RECORD OF PROBATE
 - ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21
 - RAILROAD SPIKE FOUND/SET
 - IRON ROD FOUND/SET
 - IRON PIPE FOUND/SET
 - DRILL HOLE FOUND/SET
 - NHDT BOUND FOUND
 - TOWN BOUND FOUND
 - BOUND w/ DRILL HOLE
 - STONE BOUND w/DRILL HOLE
 - NHDES 250' PROTECTED SHORELAND
 - HOTL - HIGHEST OBSERVABLE TIDE LINE
 - STORM DRAIN
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 - EDGE OF PAVEMENT (EP)
 - WOODS / TREE LINE
 - UTILITY POLE (w/ GUY)
 - WATER SHUT OFF/CURB STOP
 - GATE VALVE
 - HYDRANT
 - METER (GAS, WATER, ELECTRIC)
 - CATCH BASIN

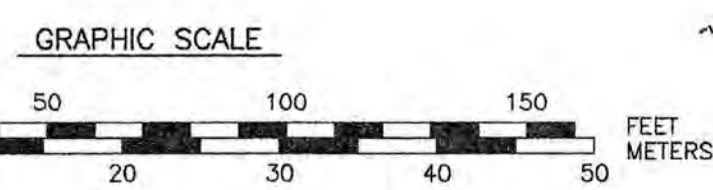


LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°21'20"W	31.46'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	215.00'	135.68'	133.44'	S65°54'23"E	36°09'27"



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Tel (603) 430-9282
Fax (603) 436-2315

- NOTES:**
- 1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.
 - 2) OWNER OF RECORD:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287
 - 3) PARCEL IS IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.
 - 4) EXISTING LOT AREA:
116,591 S.F.
2.6766 ACRES

PROPOSED LOT 1
89,054 S.F.
2.0444 ACRES

PROPOSED LOT 2
27,537 S.F.
0.6322 ACRES
 - 5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.
 - 6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE
 - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE SUBDIVISION OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH INTO TWO LOTS.

NO.	DESCRIPTION	DATE
2	REVISE PROPOSED BOUNDARY LINE LOCATION	10/12/19
1	REVISE PROPOSED BOUNDARY LINE LOCATION	9/12/19
0	ISSUED FOR COMMENT	8/6/18

SUBDIVISION PLAN
TAX MAP 210 - LOT 2
OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
CITY OF PORTSMOUTH
STATE OF NEW HAMPSHIRE

"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."
PAUL A DOBBERSTEIN, LLS
DATE 10/15/2019

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

NOTES:

- THE INTENT OF THIS PLAN IS TO DEPICT THE PROPOSED DEVELOPMENT SITE PER CITY OF PORTSMOUTH ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE DISTRICT) AND THE DEVELOPMENT SITE STANDARDS (SECTION 10.5B40).
- THE EXISTING LOT 210-2 CONSISTS OF A COMMUNITY BUILDING AND TWO SINGLE FAMILY RESIDENTIAL BUILDINGS. THE INTENT IS TO SUBDIVIDE THE EXISTING LOT TO CREATE LOT 210-2-1 WHICH WILL CONSTRUCT A NEW 22 UNIT APARTMENT BUILDING PER SECTION 10.5B34.40. THE TWO CONTIGUOUS LOTS WILL BE INCLUDED IN THE DEVELOPMENT SITE.
- THE EXISTING USE OF THE COMMUNITY BUILDING AS A PLACE OF ASSEMBLY IS PERMITTED AS AN EXISTING USE. AS NOTED IN SECTION 10.5B50, "THE PURPOSE OF THIS SECTION IS TO ESTABLISH STANDARDS FOR THE CONTINUED UTILIZATION OF EXISTING BUILDINGS IN THE GATEWAY NEIGHBORHOOD MIXED USE DISTRICTS CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF ARTICLE 10.5B".
- A NHDES WETLANDS BUREAU SHORELAND PERMIT WILL BE REQUIRED FOR WORK WITHIN 250 FT OF THE HIGHEST OBSERVABLE TIDE LINE (HOTL).
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, A CERTIFIED ARBORIST SHALL REVIEW THE AREA OF CONSTRUCTION AND TREES SELECTED TO REMAIN WITH THE LANDSCAPE ARCHITECT AND THE CONTRACTOR'S PROJECT MANAGER. SPECIFIC MONETARY VALUE OF THE TREES TO REMAIN SHALL BE DETERMINED AND DOCUMENTED FOR. ARBORIST SHALL MAKE RECOMMENDATIONS FOR PRESERVATION RECOMMENDATIONS BEYOND THOSE CALLED OUT IN THE DRAWINGS, TREE PRESERVATION PLANS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, PRUNING, ROOT PRUNING, PRE-FERTILIZATION AND THE LIKE.
- ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
- TREES TO REMAIN WITHIN THE CONSTRUCTION ZONE SHALL BE PROTECTED FROM DAMAGE FOR THE DURATION OF THE PROJECT BY WEIGHTED CHAIN-LINK FENCE AT THE DRIP LINE OR OTHER SUITABLE MEANS OF PROTECTION TO BE APPROVED BY LANDSCAPE ARCHITECT OR CLIENT'S REPRESENTATIVE. FENCE SHALL BE LOCATED AT THE DRIP LINE AT A MINIMUM AND SHALL INCLUDE ANY AND ALL SURFACE ROOTS. DO NOT FILL OR MULCH ON THE TRUNK FLARE. DO NOT DISTURB ROOTS. IN ORDER TO PROTECT THE INTEGRITY OF THE ROOTS, BRANCHES, TRUNK AND BARK OF THE TREE(S) NO VEHICLES OR CONSTRUCTION EQUIPMENT SHALL DRIVE OR PARK IN OR ON THE AREA WITHIN THE DRIP LINE(S) OF THE TREE(S). DO NOT STORE ANY REFUSE OR CONSTRUCTION MATERIALS OR PORTALETTS WITHIN THE TREE PROTECTION AREA.
- BUILDING HEIGHT MEASURED FROM AVERAGE GRADE MEASURED 6 FT OFF OF BUILDING EVERY 5 FOOT INTERVAL. BUILDING HEIGHT FROM FINISHED FLOOR TO ROOF TOP IS 43'-8". AVERAGE GRADE AROUND PERIMETER OF BUILDING IS 8 INCHES BELOW FINISHED FLOOR BASED ON PROPOSED GRADING (1 FT USED FOR FLEXIBILITY IN CONSTRUCTION).

ZONING SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)
 TAX MAP 210, LOTS 2 & 2-1 (NEWLY CREATED LOT)
 DEVELOPMENT SITE AREA 2.68± ACRES
 PERMITTED USES MULTI-FAMILY GREATER THAN 8 UNITS
 PLACE OF ASSEMBLY (EXISTING)
 SINGLE FAMILY RESIDENTIAL (EXISTING)

PROPOSED MIXED USE DEVELOPMENT SITE (PER SECTION 10.5B40)

DEVELOPMENT SITE STANDARDS	REQUIRED	PROVIDED
MINIMUM DEVELOPMENT SITE AREA	20,000 SF	116,591 SF
MINIMUM SITE WIDTH	100 FT	711.6 FT
MINIMUM SITE DEPTH	100 FT	147.7 FT
MINIMUM PERIMETER BUFFER TO RESIDENTIAL, MIXED RESIDENTIAL OR CHARACTER DISTRICT	75 FT	NA
MAXIMUM BLOCK LENGTH	800 FT	764 FT
MAXIMUM BLOCK PERIMETER	2,200 FT	1,905 FT
MAXIMUM BUILDING COVERAGE	70%	24.4%
MINIMUM OPEN SPACE COVERAGE	20%	36.8%

MINIMUM COMMUNITY SPACE
 20% REQUIRED 22.2% PROVIDED

No.	DESCRIPTION	AREA
1	GREENWAY #1	5,635 S.F.
2	POCKET PARK #1	5,133 S.F.
3	POCKET PARK #2	5,305 S.F.
4	GREENWAY #2	4,112 S.F.
5	POCKET PARK #3	2,588 S.F.
6	GREENWAY (ENHANCEMENTS)	3,052 S.F.
TOTAL		25,825 S.F.

ZONING SUMMARY CONTINUED:

APARTMENT BUILDING DESIGN STANDARDS (PER SECTION 10.5B34.40):
 MINIMUM LOT DEPTH REQUIRED NR
 MINIMUM STREET FRONTAGE 50 FT ±149 FT
 SETBACKS:
 FRONT: MARKET STREET 10-30 FT 10.0 FT
 CHASE STREET 10-30 FT 10.2± FT
 MICHAEL SUCCI DRIVE 10-30 FT 10.2± FT
 INTERIOR LOT LINES 0 FT 149± FT

BUILDING LOT USE:
 MAXIMUM DWELLING UNITS PER BUILDING 24
 MAXIMUM DWELLING UNIT SIZE NR 22
DESIGN STANDARDS:
 MAXIMUM BUILDING HEIGHT - 50 FT 44'-8" (SEE NOTE 8)
 MINIMUM STREET FACING FAÇADE HEIGHT 24 FT 24+ FT
 MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE 36 INCHES <3 FT
 MAXIMUM BUILDING COVERAGE 50% 28.6%
 MAXIMUM BUILDING FOOTPRINT 20,000 SF 7,600± SF
 MAXIMUM FAÇADE MODULATION LENGTH 50 FEET 48 FEET
 MINIMUM STREET FACING FAÇADE GLAZING 20% (GROUND FLOOR) 20%+
 STREET FACING ENTRANCE REQUIRED PROVIDED
 FAÇADE TYPES FORECOURT, STEP, RECESSED ENTRY, DOORYARD

PARKING CALCULATIONS:

EXISTING CHURCH BASED ON CURRENT ZONING REQUIREMENTS: REQUIRED SPACES
 ASSEMBLY (545 CAPACITY BY ZONING*) 136 SPACES
 NURSERY (29 OCCUPANTS) 15 SPACES
 BUSINESS (700 SF) 2 SPACES
 CLASSROOM (210 OCCUPANTS) PARKING DEMAND ANALYSIS**
 TOTAL PARKING SPACES REQUIRED 153 SPACES
 20% REDUCTION FOR BUS TRANSIT (10.5B82.10) MIN PARKING SPACES REQUIRED 123 SPACES REQUIRED

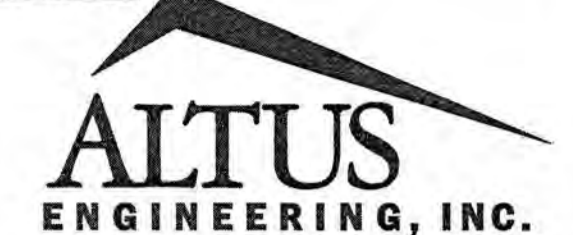
PROPOSED 22 UNIT APARTMENT BUILDING (ALLOWED PER CURRENT ZONING REGULATIONS)
 NUMBER OF UNITS 22
 PARKING SPACES 22
 1.3 SPACES PER UNIT 28.6 SPACES
 VISITOR SPACES (1 PER 5 UNITS) SPACES REQUIRED 4.4 SPACES
 20% REDUCTION FOR BUS TRANSIT (10.5B82.10) MIN PARKING SPACES REQUIRED 27 SPACES

SHARED USE DEMAND ANALYSIS

BASED ON THE SHARED USE DEMAND ANALYSIS FOR THE WEEKEND DAY
 REQUIRED PARKING CHURCH (100%) = 123 SPACES
 22 UNIT APARTMENT BUILDING (80% OF 27) 22 SPACES
 TOTAL NUMBER OF REQUIRED PARKING SPACES = 145 PARKING SPACES (BASED ON ZONING REGULATIONS)
 TOTAL NUMBER OF PROPOSED PARKING SPACES = 105 PARKING SPACES
 75 SPACES PROVIDED FOR CHURCH
 30 SPACES FOR 22 UNIT RESIDENTIAL BUILDING
 BICYCLE PARKING REQUIRED 1 SPACE PER 5 DWELLING UNITS
 4.4 SPACES REQUIRED
 5 SPACES PROVIDED

- * ASSEMBLY AREA CAPACITY 545 PER 1986 ZONING VARIANCE SEATING IS NOT FIXED SEATING (1 PER 4 MAX OCCUPANCY)
- ** CONDITIONAL USE PERMIT (PARKING) REQUIRED PARKING DEMAND ANALYSIS (PDA) IN APPLICATION PACKAGE

ENGINEER:



133 COURT STREET PORTSMOUTH, NH 03801
 (603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

TAC

ISSUE DATE:

OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	COB	06/04/19
1	DESIGN REVIEW	COB	06/26/19
2	TAC	COB	09/16/19
3	TAC COMMENTS	COB	10/18/19

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE: 4950-SITE.DWG

SCALE:

22" x 34" - 1" = 40'
 11" x 17" - 1" = 80'

OWNER:

BETHEL ASSEMBLY OF GOD
 200 CHASE DRIVE
 PORTSMOUTH, NH 03801
 APPLICANT:
 200 CHASE DRIVE, LLC
 36 MAPLEWOOD AVE.
 PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

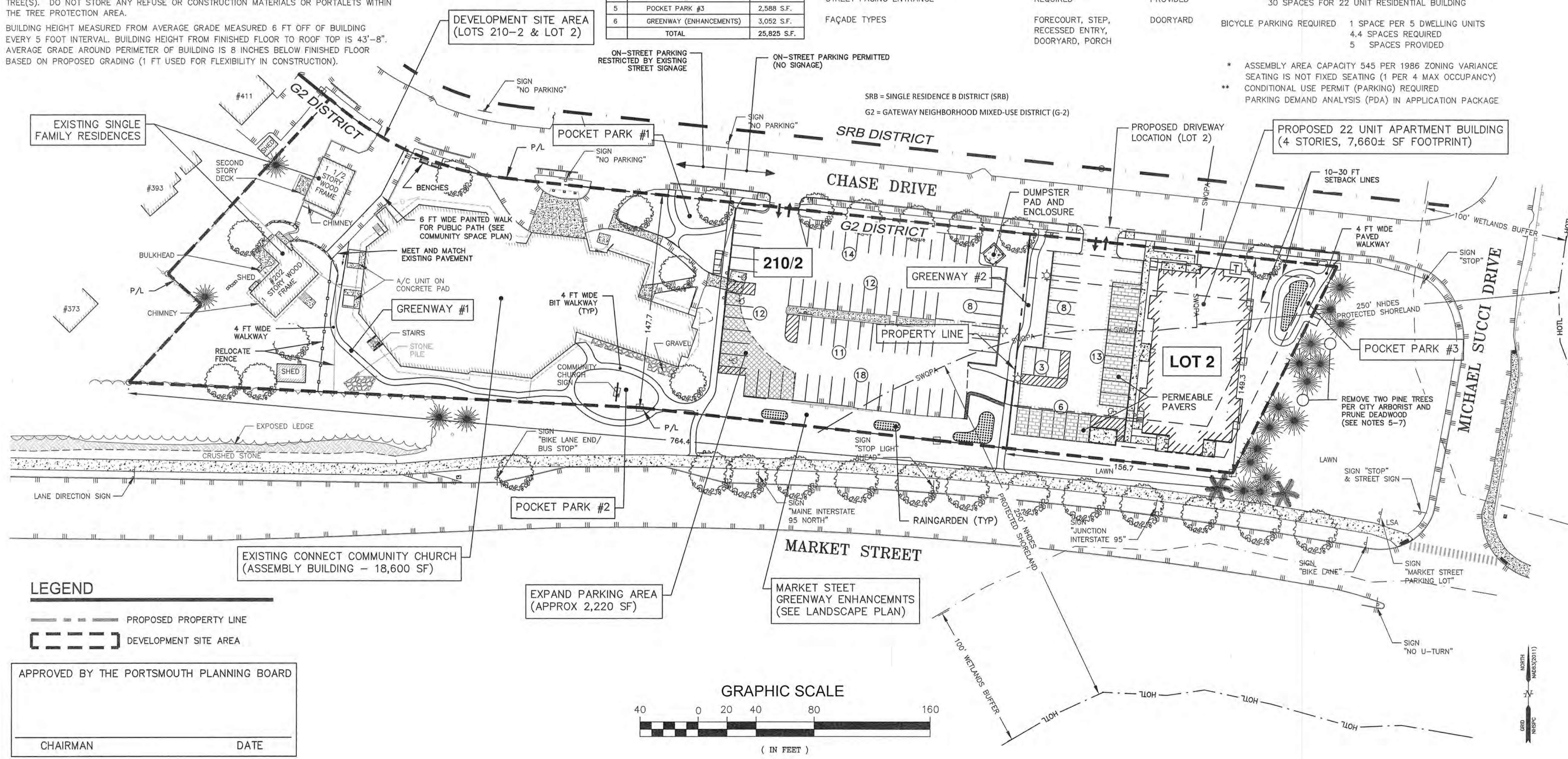
ASSESSOR'S PARCEL 210-2

TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

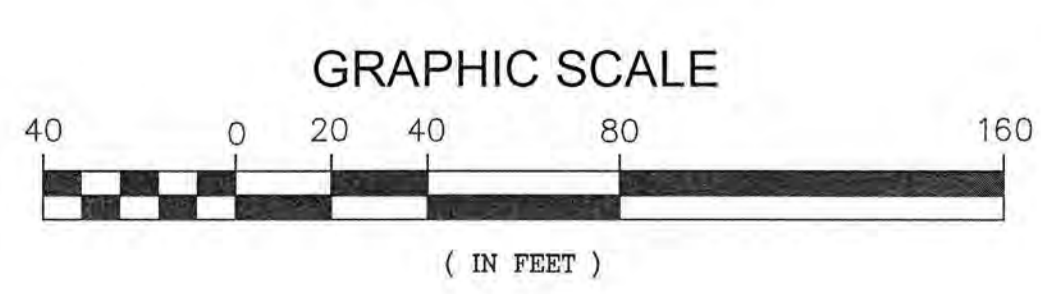
C.3



LEGEND

- PROPOSED PROPERTY LINE
- DEVELOPMENT SITE AREA

APPROVED BY THE PORTSMOUTH PLANNING BOARD
 CHAIRMAN _____ DATE _____



P4950

LEGEND

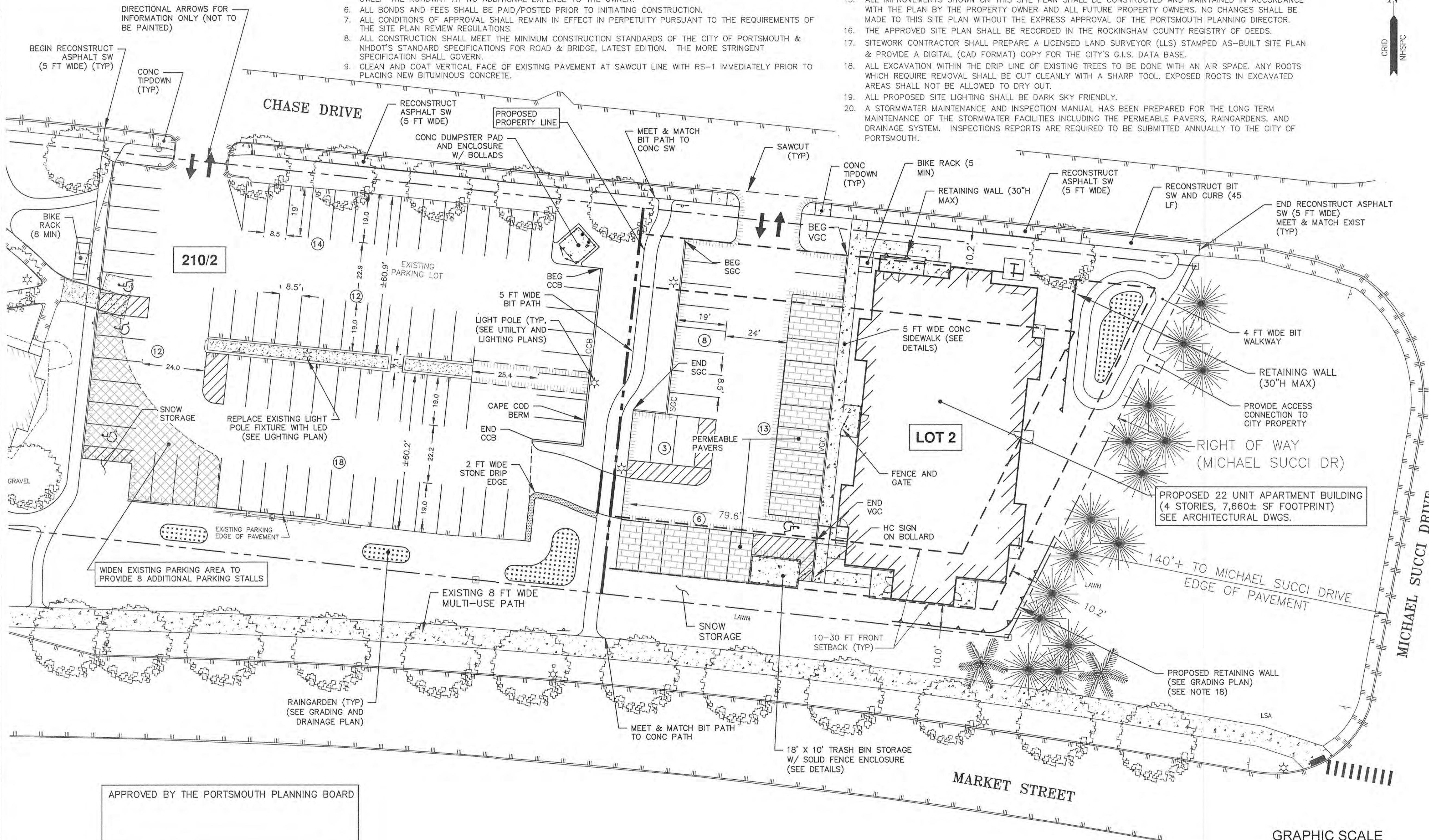
- * SEE SHEET C-1 FOR EXISTING FEATURES
- PROPERTY LINE
- ===== PROPOSED PAVEMENT
- VGC SGC BCC
VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- ===== PROPOSED RETAINING WALL

SITE NOTES

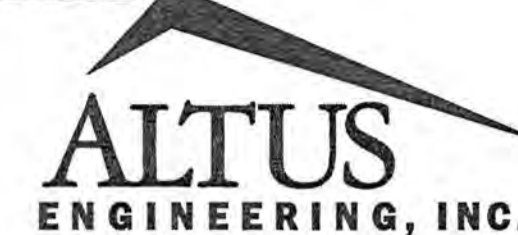
1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL NOTIFY CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS TO PREVENT SEDIMENT FROM CONSTRUCTION ACTIVITIES FROM LEAVING THE SITE. CONTROLS SHALL BE INSPECTED ON A REGULAR BASIS AND AFTER ALL RAIN EVENTS OF 0.25 INCHES OR GREATER. ANY DEFICIENCIES IN THE CONTROLS SHALL BE ADDRESSED IMMEDIATELY AND BROUGHT TO THE ATTENTION OF THE OWNER. ALL STORMS DRAINS WITHIN OR ADJACENT TO THE WORK AREA, WITH THE POTENTIAL TO RECEIVE RUNOFF FROM EXPOSED CONSTRUCTION AREAS, SHALL RECEIVE STORM DRAIN INLET PROTECTION.
5. CONTRACTOR SHALL PREVENT TRACKING OF DIRT ONTO ANY PUBLIC OR PRIVATE ROADWAYS. IF TRACKING OF DIRT FROM CONSTRUCTION VEHICLES IS PRESENT ON THE OPEN STREETS, CONTRACTOR WILL BE REQUIRED TO SWEEP THE ROADWAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
7. ALL CONDITIONS OF APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
8. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
9. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.

SITE NOTES CONT'D

10. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
12. THIS PROJECT WILL REQUIRE COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT.
13. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN UPLAND AREAS SHOWN THEREON. NO SNOW STORAGE SHALL BE PROVIDED WITHIN THE LANDSCAPED AREA BETWEEN THE DRIVEWAY ENTRANCE THAT WOULD RESTRICT SITE VEHICULAR AND PEDESTRIAN SIGHT DISTANCE. IF ADEQUATE ON-SITE SNOW STORAGE IS NOT AVAILABLE, THE SNOW SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED.
14. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
15. 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.
16. THE APPROVED SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
17. SITEWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LLS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY'S G.I.S. DATA BASE.
18. ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
19. ALL PROPOSED SITE LIGHTING SHALL BE DARK SKY FRIENDLY.
20. A STORMWATER MAINTENANCE AND INSPECTION MANUAL HAS BEEN PREPARED FOR THE LONG TERM MAINTENANCE OF THE STORMWATER FACILITIES INCLUDING THE PERMEABLE PAVERS, RAINGARDENS, AND DRAINAGE SYSTEM. INSPECTIONS REPORTS ARE REQUIRED TO BE SUBMITTED ANNUALLY TO THE CITY OF PORTSMOUTH.



ENGINEER:



133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

TAC

ISSUE DATE:

OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	05/26/19
2	TAC	CDB	09/16/19
3	TAC COMMENTS	CDB	10/18/19

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE:

4950.DWG

SCALE:

22" x 34" - 1" = 20'
11" x 17" - 1" = 40'

OWNER:

BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:

200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL
210-2

TITLE:

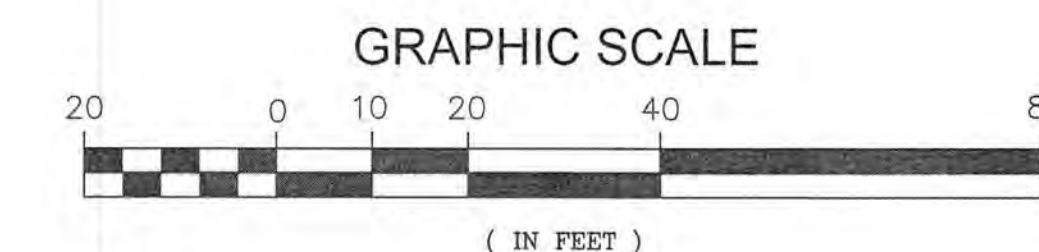
SITE PLAN

SHEET NUMBER:

C-4

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



P4950

LEGEND

- * SEE SHEET C-1 FOR EXISTING FEATURES
- PROPERTY LINE
- SWQPA --- 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- ===== PROPOSED PAVEMENT
- VGC SGC BCC VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- ▲▲▲▲ PROPOSED RETAINING WALL

GRADING AND DRAINAGE NOTES

SEE SHEET C-6 FOR GRADING AND DRAINAGE NOTES

STORMWATER PRACTICES

- RAINGARDEN #1**
BOTTOM AREA= 300 SF
BOTTOM ELEV = 20.0
BERM ELEV = 21.2
- RAINGARDEN #2**
BOTTOM AREA= 350 SF
BOTTOM ELEV = 23.0
BERM ELEV = 24.0
- RAINGARDEN #3**
BOTTOM AREA= 100 SF
BOTTOM ELEV = 26.0
BERM ELEV = 27.0
- RAINGARDEN #4**
BOTTOM AREA= 100 SF
BOTTOM ELEV = 28.0
BERM ELEV = 29.0

DRAINAGE STRUCTURES

- OUTLET STRUCTURE 1 (OS1)**
RIM (18" BEEHIVE) = 20.5
6" UD (IN)= 17.25
12" INV (OUT) = 17.25
- OUTLET STRUCTURE 2 (OS2)**
RIM (18" BEEHIVE) = 23.5
6" UD (IN) = 20.25
12" INV IN = 20.35 (OS2)
12" INV (OUT) = 20.25
- OUTLET STRUCTURE 3 (OS3)**
RIM (18" BEEHIVE) = 26.5
6" UD (IN)= 23.25
8" INV IN = 23.35 (YD4)
12" INV (OUT) = 23.2
- CB #1**
RIM = 26.4±
INV. OUT (12" HDPE) = 23.20
- CB #2**
RIM = 22.6±
6" UD IN = 19.6
INV OUT (12" HDPE) = 19.50
- PDMH #1**
COVER = 22.3±
12" INV IN = 19.40 (CB2)
6" INV IN = 19.60
INV. OUT (12" HDPE) = 19.45
- YARD DRAIN 4 (YD4)**
RIM (8" BEEHIVE) = 28.5
6" UD (IN)= 25.25
8" INV (OUT) = 25.25
- YARD DRAIN 5 (YD5)**
12" INV. IN = 19.2
12" INV OUT = 19.1

STORM DRAINS

- P1 = 12" HDPE, 50 LF, S=0.005
- P2 = 8" HDPE, 24 LF, S=0.010
- P3 = 12" HDPE, 30 LF, S=0.0067
- P4 = 12" HDPE, 36 LF, S=0.080
- P5 = 8" HDPE, 84 LF, S=0.023
- P6 = 12" HDPE, 20 LF, S=0.108
- P8 = 12" HDPE, 48 LF, S=0.005

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

ENGINEER:

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: TAC

ISSUE DATE: OCTOBER 18, 2019

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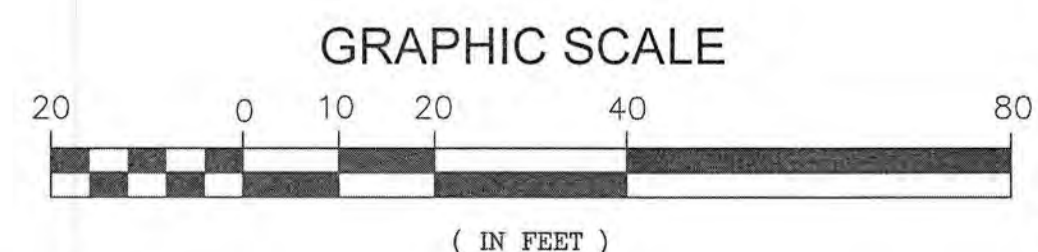
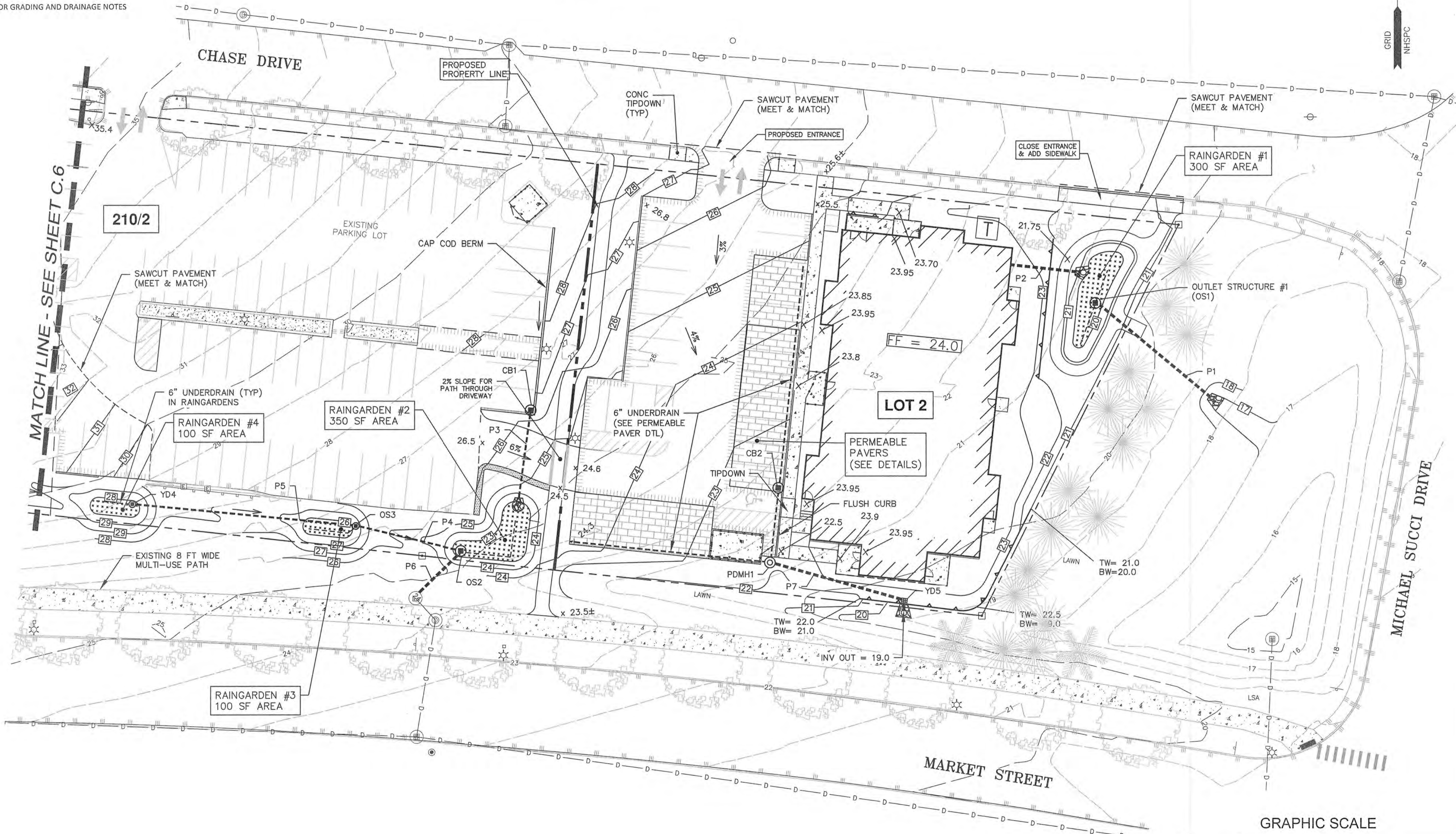
CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL
210-2

TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C.5



P4950

LEGEND

- * SEE SHEET C1 FOR EXISTING FEATURES
- PROPERTY LINE
- SWQPA --- 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- ===== PROPOSED PAVEMENT
- VGC SGC BCC VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- PROPOSED RETAINING WALL

GRADING AND DRAINAGE NOTES

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
2. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL READ AND FAMILIARIZE THEMSELVES WITH THE PROJECT GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
4. DEWATERING ACTIVITIES SHALL BE DONE IN ACCORDANCE WITH EPA AND NHDES REGULATIONS AND GUIDELINES.
5. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES AREA SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS DEGREE OF INSULATION AGAINST FREEZING.
6. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
7. ALL STORM DRAIN PIPE SHALL BE ADS N-12 OR EQUAL AND APPROVED BY THE ENGINEER.
8. ALL CATCH BASIN, GATE VALVE COVERS, AND MANHOLE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISHED GRADE. ANY RIM OR VALVE COVER ABOVE SURROUNDING FINISHED GRADE WILL NOT BE ACCEPTED.
9. ALL CATCH BASINS SHALL BE PRECAST, LOCATED IN PAVEMENT AREAS, H-20 LOADING AND BE EQUIPPED WITH 4-FOOT DEEP MIN SEDIMENTATION SUMPS AND GREASE HOODS. (SEE DETAILS)
10. ALL SPOT GRADES ARE AT THE FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
11. UNLESS OTHERWISE SPECIFIED, RETAINING WALL AND BUILDING PERIMETER DRAINS SHALL BE DIRECTED TO THE NEAREST DRAINAGE STRUCTURE. IF DEEMED APPROPRIATE, CONTRACTOR SHALL PROVIDE ADDITIONAL UNDERDRAINS AT THE DIRECTION OF THE ENGINEER.
12. A STORMWATER MAINTENANCE AND INSPECTION MANUAL HAS BEEN PREPARED FOR THE LONG TERM MAINTENANCE OF THE STORMWATER FACILITIES INCLUDING THE PERMEABLE PAVES, RAINGARDENS, AND DRAINAGE SYSTEM. INSPECTIONS REPORTS ARE REQUIRED TO BE SUBMITTED ANNUALLY TO THE CITY OF PORTSMOUTH.

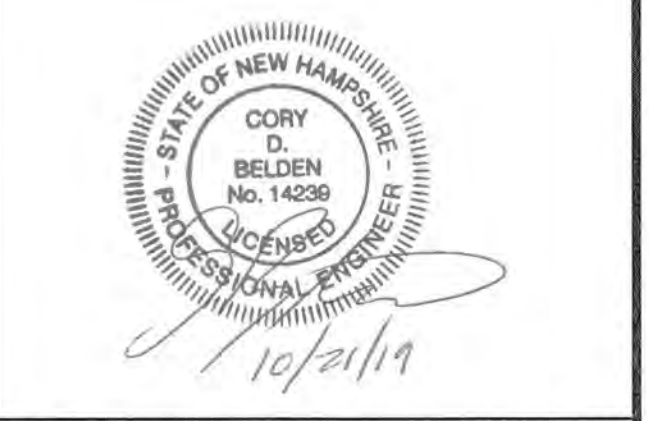
APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

ENGINEER:

ALTUS
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



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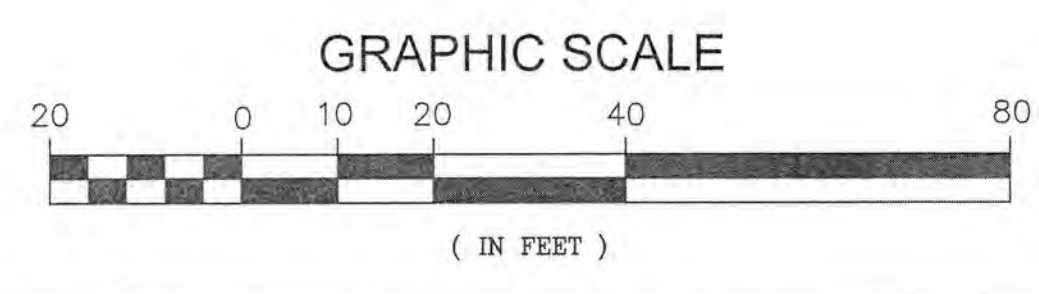
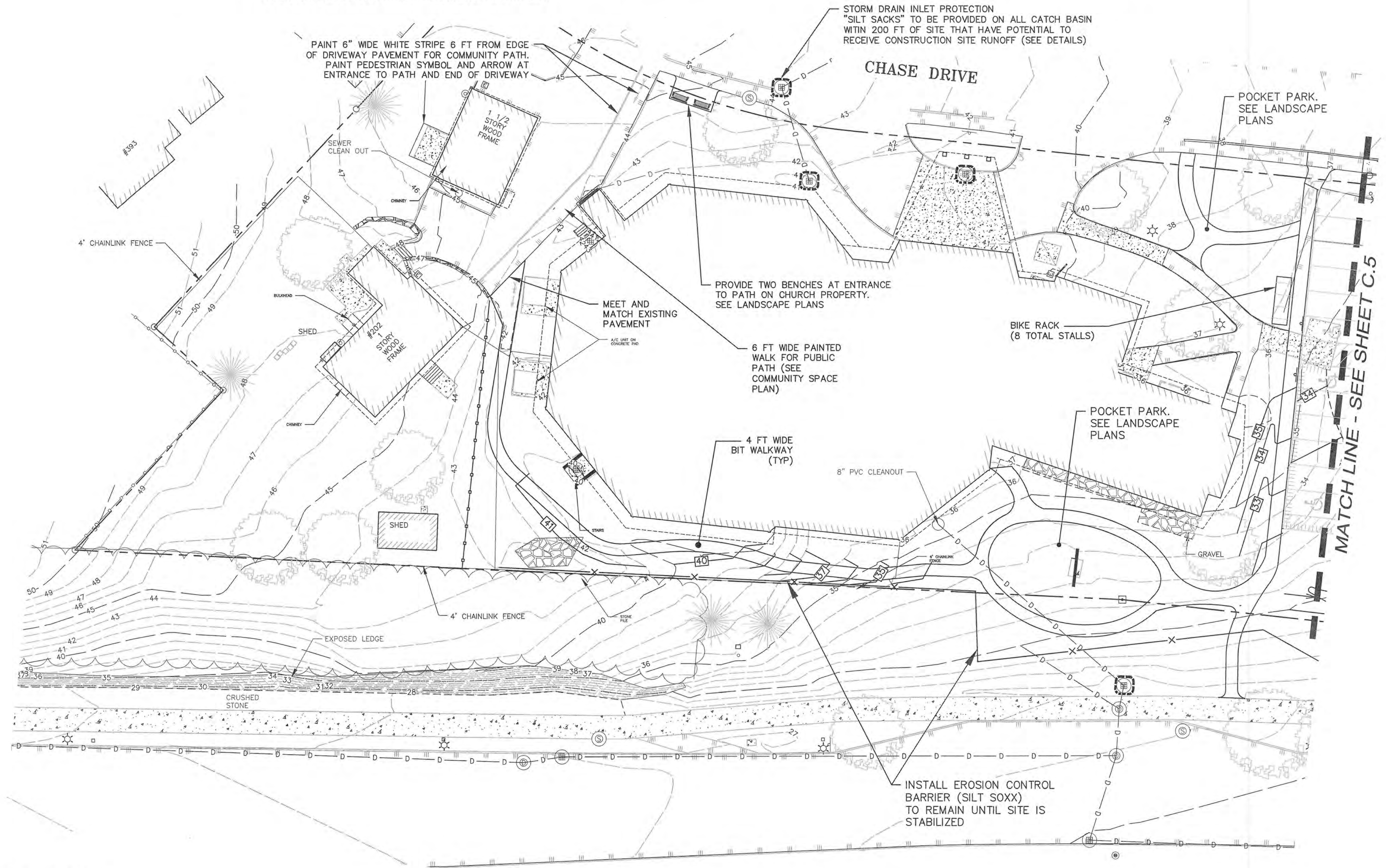
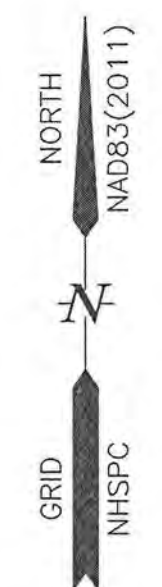
CHASE DRIVE
GATEWAY
DEVELOPMENT
SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL
210-2

TITLE:
GRADING AND
DRAINAGE PLAN

SHEET NUMBER:
C.6



P4850

LEGEND

- * SEE SHEET C-1 FOR EXISTING FEATURES
- PROPERTY LINE
- SWORN --- 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- ===== PROPOSED PAVEMENT
- VGC SGC BCC VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
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- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- PROPOSED RETAINING WALL

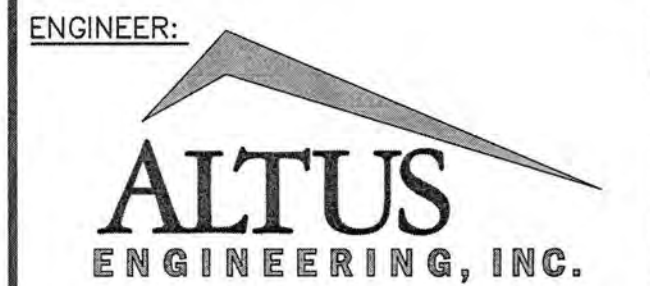
NOTES

- SEE SHEET D-1 FOR EROSION AND SEDIMENT CONTROL NOTES.
- STORMWATER PONDS AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL CONTRIBUTING AREAS ARE STABILIZED.
- STABILIZED CONSTRUCTION EXIT TO BE INSTALLED PRIOR TO ANY EARTHWORK ACTIVITIES.

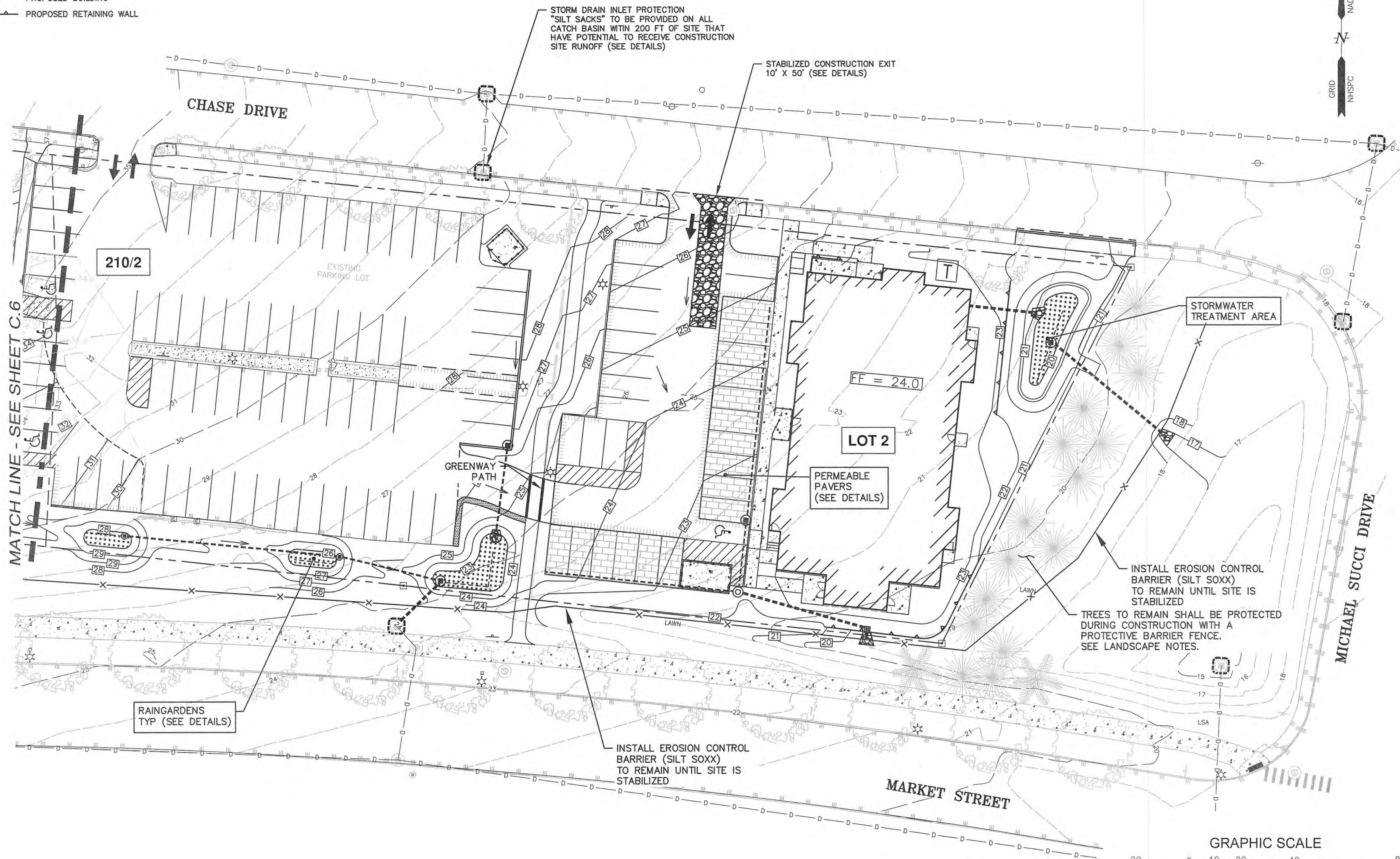
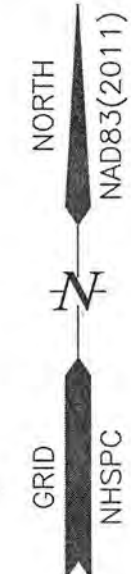
APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

DATE



133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



MATCH LINE - SEE SHEET C.6

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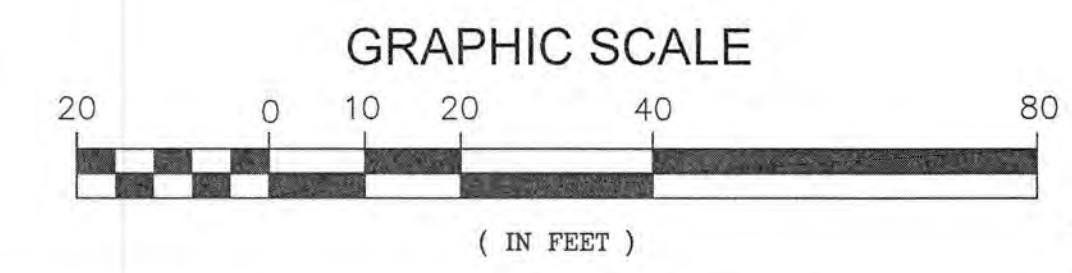
CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL
210-2

TITLE:
EROSION CONTROL PLAN

SHEET NUMBER:
C.7



P4950

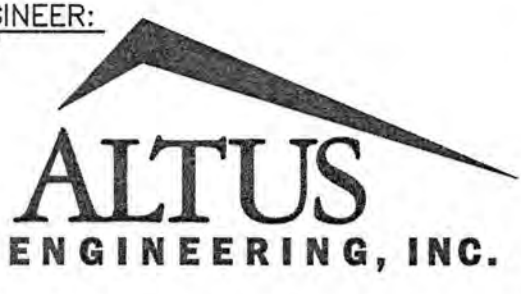
UTILITY NOTES

- ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER DEPARTMENT STANDARDS. WATER MAIN SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING. ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
- ALL SEWER INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER AND SEWER DEPARTMENT STANDARDS. CONTRACTOR SHALL CONTACT PORTSMOUTH DPW FOR TESTING OF SEWER LINES.
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
- FIRE ALARM PANEL SHALL BE MONITORED THROUGH A THIRD-PARTY SECURITY COMPANY. CONTRACTOR SHALL COORDINATE ALL PANEL LOCATIONS AND INTERCONNECTIONS WITH FIRE DEPARTMENT.
- THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATION DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES 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 APPLICANT SHALL BE REQUIRED TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES A REPEATER IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY. THE SURVEY SHALL BE COMPLETED AND THE REPEATER, IF DETERMINED IT IS REQUIRED, SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
- SITWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.

- FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE ARCHITECT.
- CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS.
- CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
- TRANSFORMER SHALL BE PAD MOUNTED. COORDINATE WITH ARCHITECT & EVERSOURCE.
- DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
- CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 603-427-1530 TO COORDINATE INSPECTION OF SEWER WORK.
- THE TESTING OF THE MUNICIPAL SEWER INFRASTRUCTURE IMPROVEMENTS SHALL BE UNDER THE SUPERVISION OF THE PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).
- IF 6" WATER MAIN IS REQUIRED FOR FIRE SUPPRESSION, SEPERATE FIRE AND DOMESTIC SERVICE LINES WILL BE REQUIRED FROM THE MAIN WATER CONNECTION AT THE CHURCH TO THE 22 UNIT APARTMENT BUILDING.
- A BLANKET EASEMENT FOR TEH CITY PORTSMOUTH TO ACCESS WATER AND VALVES WILL BE REQUIRED.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DISCONNECTIONS/INSTALLATIONS WITH EVERSOURCE. CONTACT NICK KOSKO @ 603-332-4227, EXT. 5555334
- CONTRACTOR SHALL COORDINATE ALL NATURAL GAS DISCONNECTIONS/INSTALLATIONS WITH UNITIL CORPORATION. CONTACT DAVID BEAULIEU @ 603-294-5144
- CONTRACTOR SHALL COORDINATE ALL CABLE DISCONNECTIONS/INSTALLATIONS WITH COMCAST. CONTACT MIKE COLLINS @ 603-679-5695 EXT 1037
- CONTRACTOR SHALL COORDINATE ALL TELE-COMMUNICATION DISCONNECTIONS AND INSTALLATION WITH

FAIRPOINT COMMUNICATIONS. CONTACT JOE CONSIDINE @ 603-427-5522
 APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

ENGINEER:

 133 COURT STREET PORTSMOUTH, NH 03801
 (603) 433-2335 www.ALTUS-ENG.com



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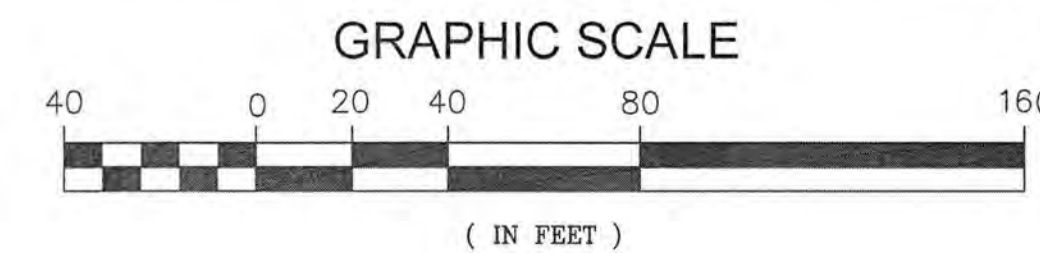
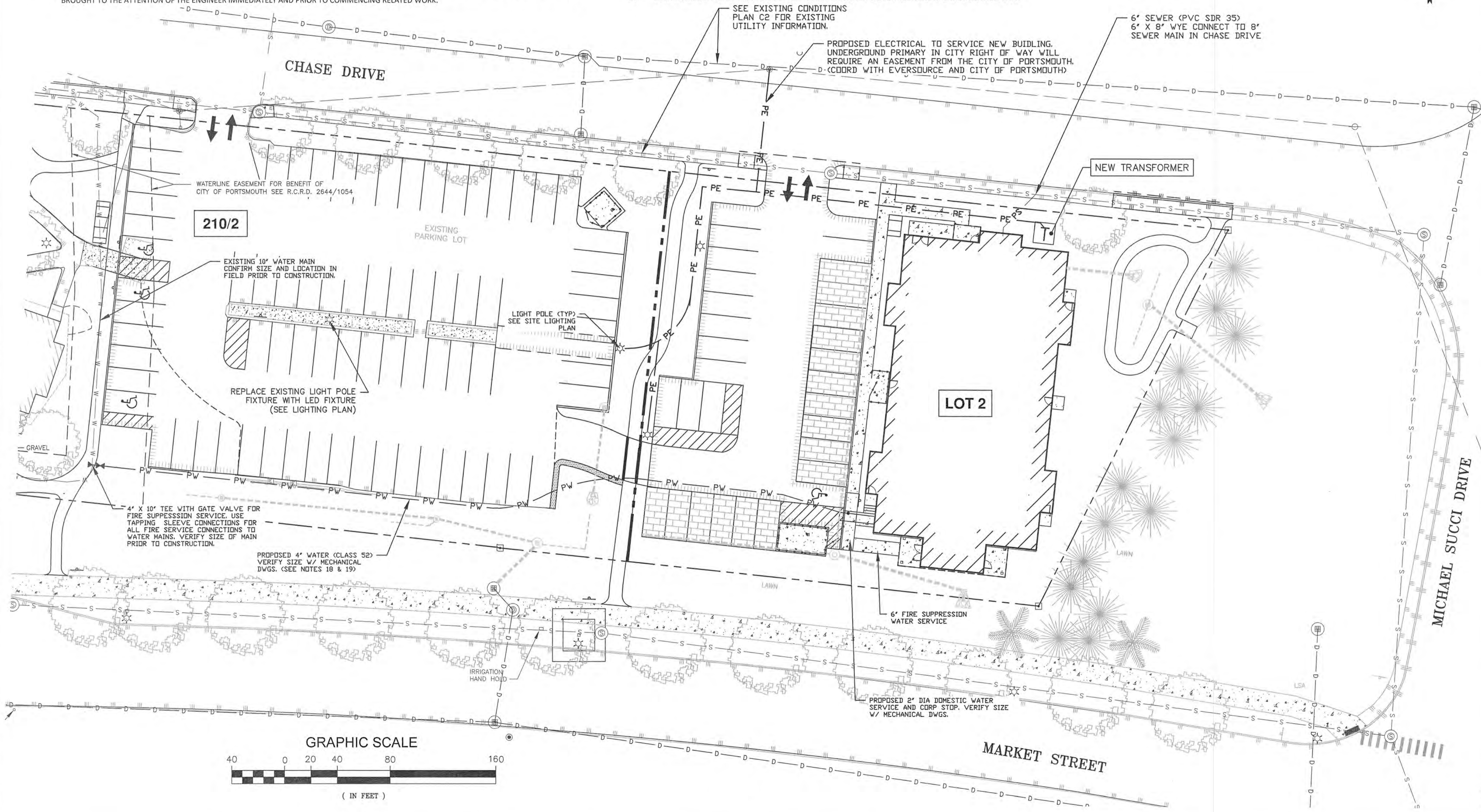
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 200 CHASE DRIVE
 PORTSMOUTH, NH 03801
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 36 MAPLEWOOD AVE.
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CHASE DRIVE GATEWAY DEVELOPMENT SITE
 200 CHASE DRIVE PORTSMOUTH, NH
 ASSESSOR'S PARCEL 210-2

TITLE:
 UTILITY PLAN
 SHEET NUMBER:
 C.8



P4950

LEGEND

-  PROPOSED PROPERTY LINE
-  DEVELOPMENT SITE AREA
-  PROPOSED COMMUNITY SPACE

NOTE:

1. SEE LANDSCAPE PLAN FOR LANDSCAPE ENHANCEMENTS TO COMMUNITY SPACES.

COMMUNITY SPACE SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)
 TAX MAP 210, LOTS 2 & 2-1 (NEWLY CREATED LOT)
 DEVELOPMENT SITE AREA 2.68± ACRES (116,591 S.F.)
 COMMUNITY SPACE REQUIREMENT = 20% (23,318 S.F.)
 COMMUNITY SPACE PROVIDED = 22.2% (25,825 S.F.)

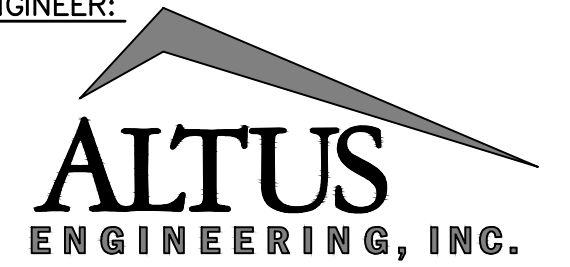
COMMUNITY SPACE TABLE:

No.	DESCRIPTION	AREA
1	GREENWAY #1	5,635 S.F
2	POCKET PARK #1	5,133 S.F
3	POCKET PARK #2	5,305 S.F.
4	GREENWAY #2	4,112 S.F.
5	POCKET PARK #3	2,588 S.F.
6	GREENWAY (ENHANCEMENTS)	3,052 S.F.
	TOTAL	25,825 S.F.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

ENGINEER:



133 COURT STREET PORTSMOUTH, NH 03801
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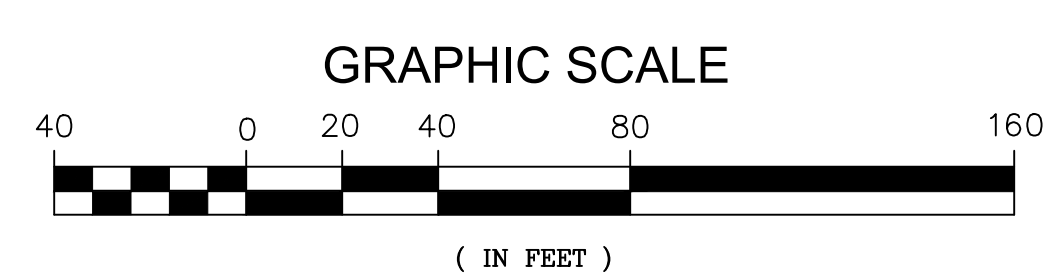
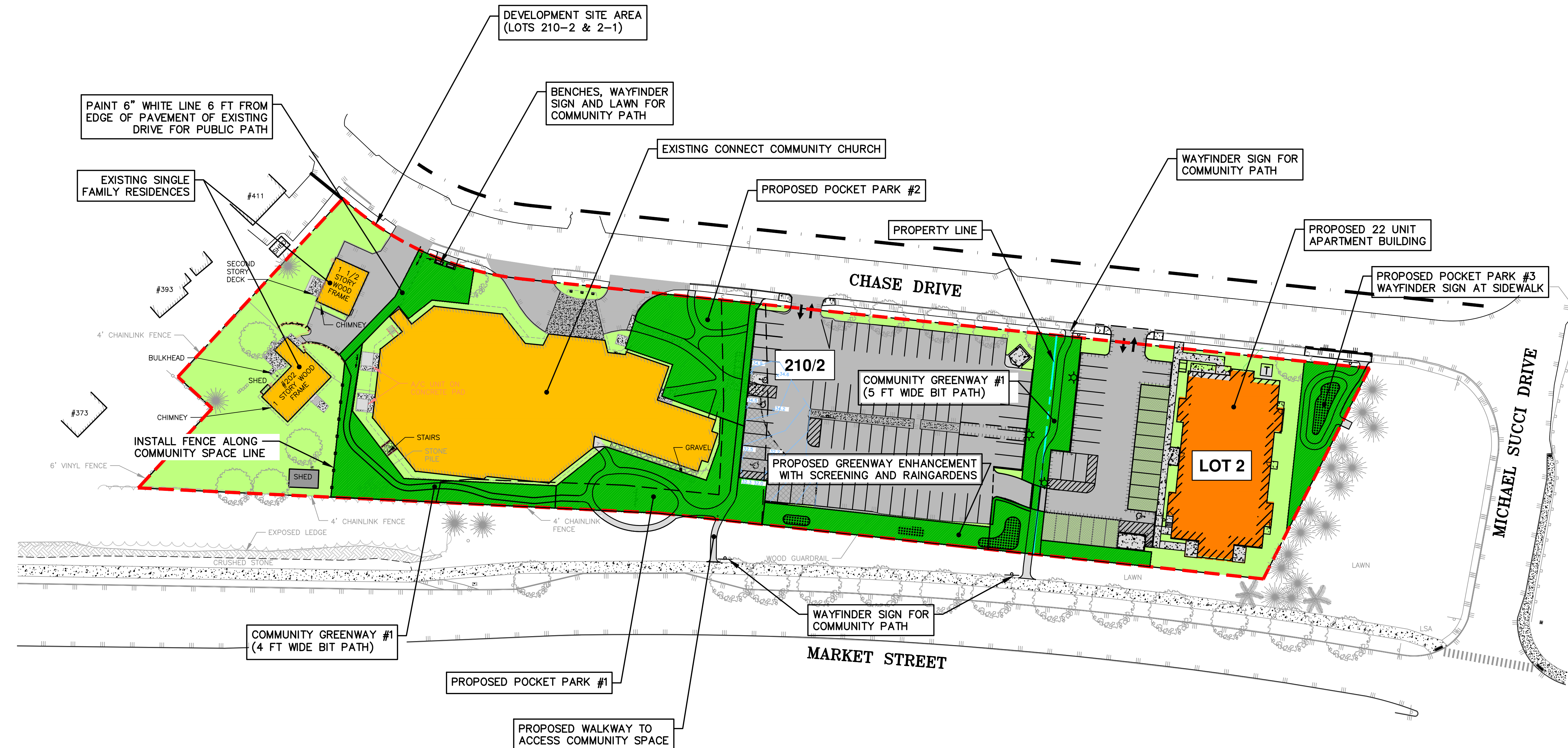
ASSESSOR'S PARCEL 210-2

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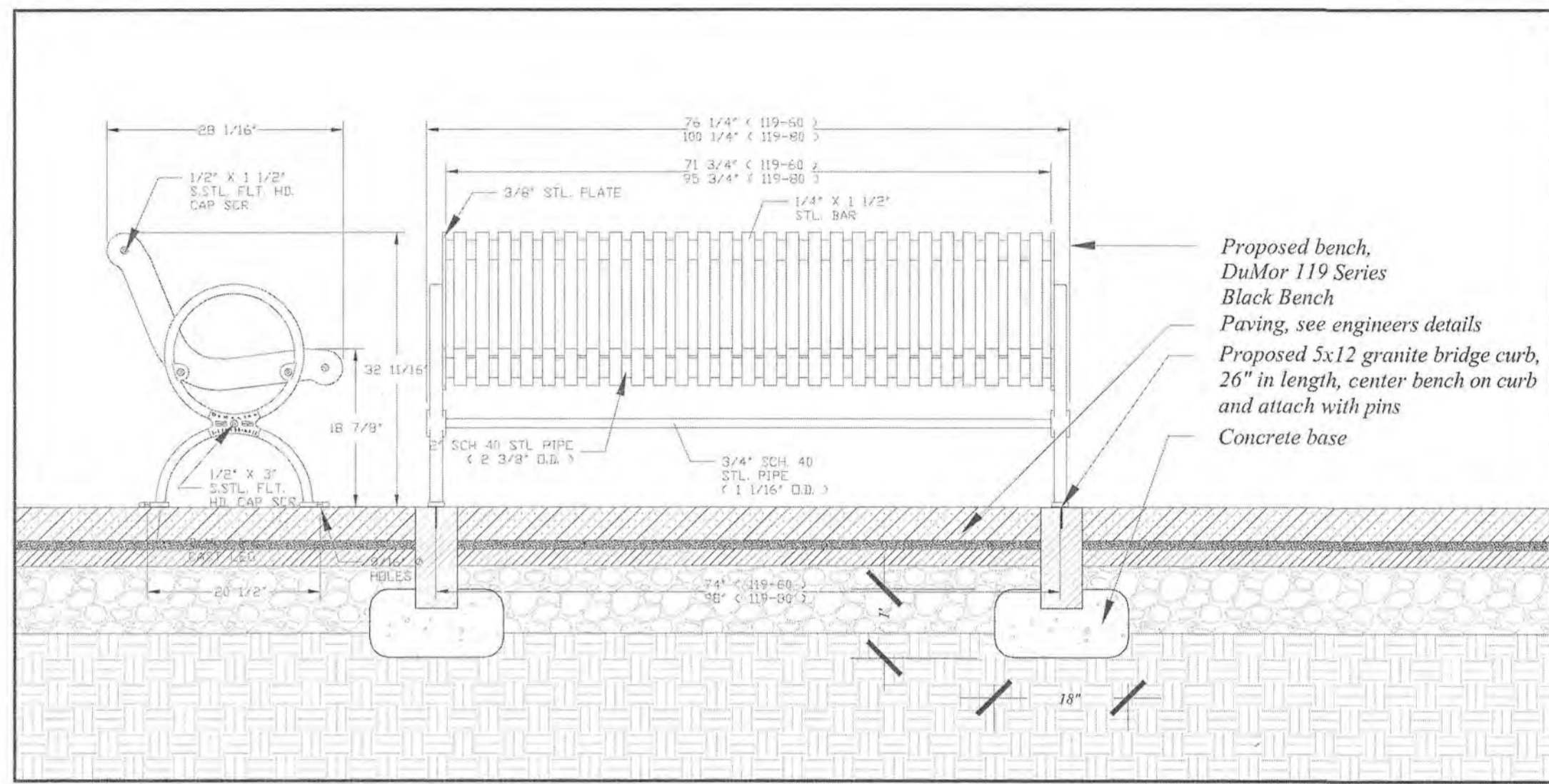
COMMUNITY SPACE PLAN

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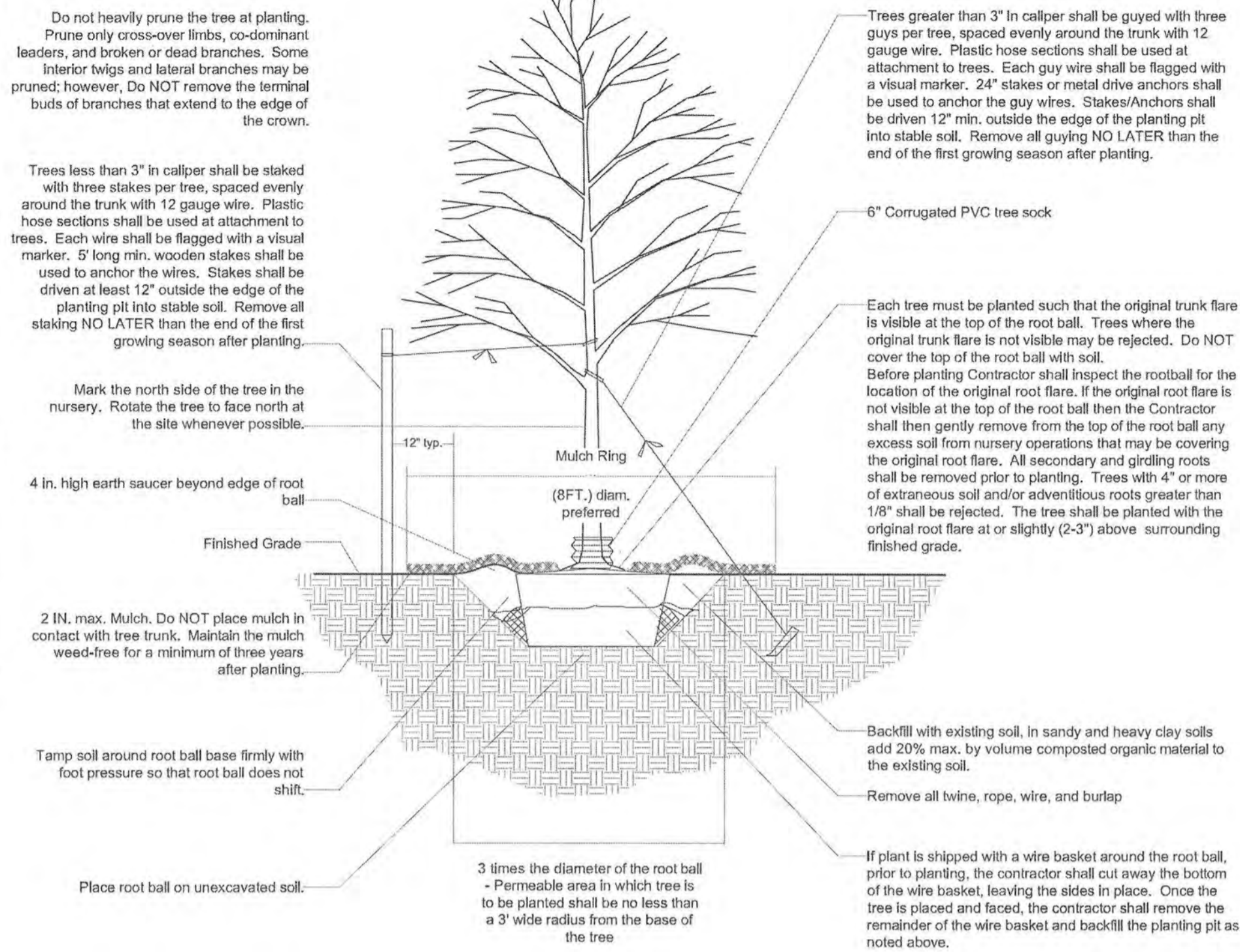
C.9



P4950



1 Bench Detail
Scale: 3/4"=1'-0"



2 Tree Planting Detail
NTS - Not to Scale

CITY OF PORTSMOUTH SPECIFIC NOTES: TREE PLANTING REQUIREMENTS/ANSI A300 PART 6 AND...

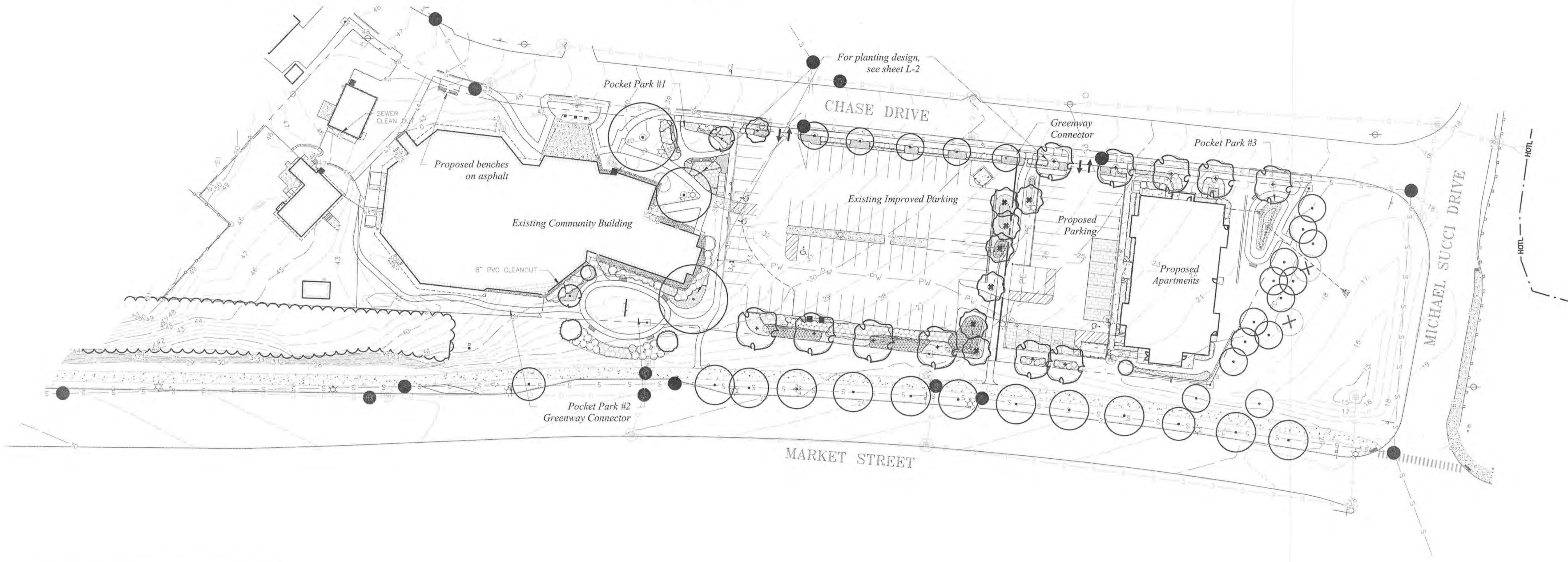
PLANTING HOLES SHALL BE DUG BY HAND - NO MACHINE DIGGING. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING PIETS, PLANTING BEDS WITH GRANITE CURBING AND PLANTING WITH SILVA CELLS ARE USED.

ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED WITH NO MORE THAN 20% ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE FOR NEW CONSTRUCTION WHERE ENGINEERED SOIL IS USED IN CONJUNCTION WITH SILVA CELLS AND WHERE NEW PLANTING BEDS ARE BEING CREATED.

ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILL BE SET AND FREE OF AIR POCKETS. NO EXCEPTIONS.

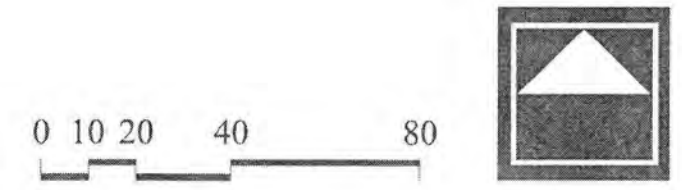
AT THE TIME PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

ALL PLANTING STOCK SHALL BE SPECIMEN QUALITY, FREE FROM DEFECTS OR INJURY. ANY PLANT MATERIAL OR PLANTING PRACTICES THAT FAIL TO MEET THE STANDARDS SET FORTH IN THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPORTATION OR THE REQUIREMENTS LISTED ABOVE WILL BE REJECTED.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____



woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place, New Hampshire Phone: 603.659.5949

Bethel Assembly of God
OVERALL SITE LANDSCAPE PLAN & DETAILS
200 Chase Drive, Portsmouth, NH 03801

Drawn By: LF
Checked By: RW
Scale: 1" = 40'
Date: 2019-09-19
Revisions: 2019-10-21

L-1
Sheet 1 of 2

Plant List

TREES	Symbol	Botanical Name	Common Name	Quantity	Size	Min. Size	Comments
Bn		<i>Betula nigra</i> 'Heritage'	Heritage River Birch	7	10-12' ht.		BB
Ck		<i>Cornus kousa</i>	Kousa Dogwood	1	8-10' ht.		BB multi-stemmed
Mag		<i>Magnolia 'Butterfly'</i>	Butterfly magnolia	1	8-10' ht.		BB multi-stemmed
Pc		<i>Pyrus calleryana</i> 'Chanticleer'	Chanticleer Flowering Pear	1	2.5-3' cal.		BB matched
Pg		<i>Picea glauca</i>	White Spruce	1	8-10' ht.		BB
PoG		<i>Picea orientalis</i> 'Gowdy'	Gowdy Oriental Spruce	2	8-10' ht.		BB
Ua		<i>Ulmus americana</i> 'Phinceton'	Phinceton American Elm	4	2.5-3' cal.		BB matched
Z		<i>Zelkova serrata</i> 'Green Vase'	Green Vase Zelkova	7	2.5-3' cal.		BB matched

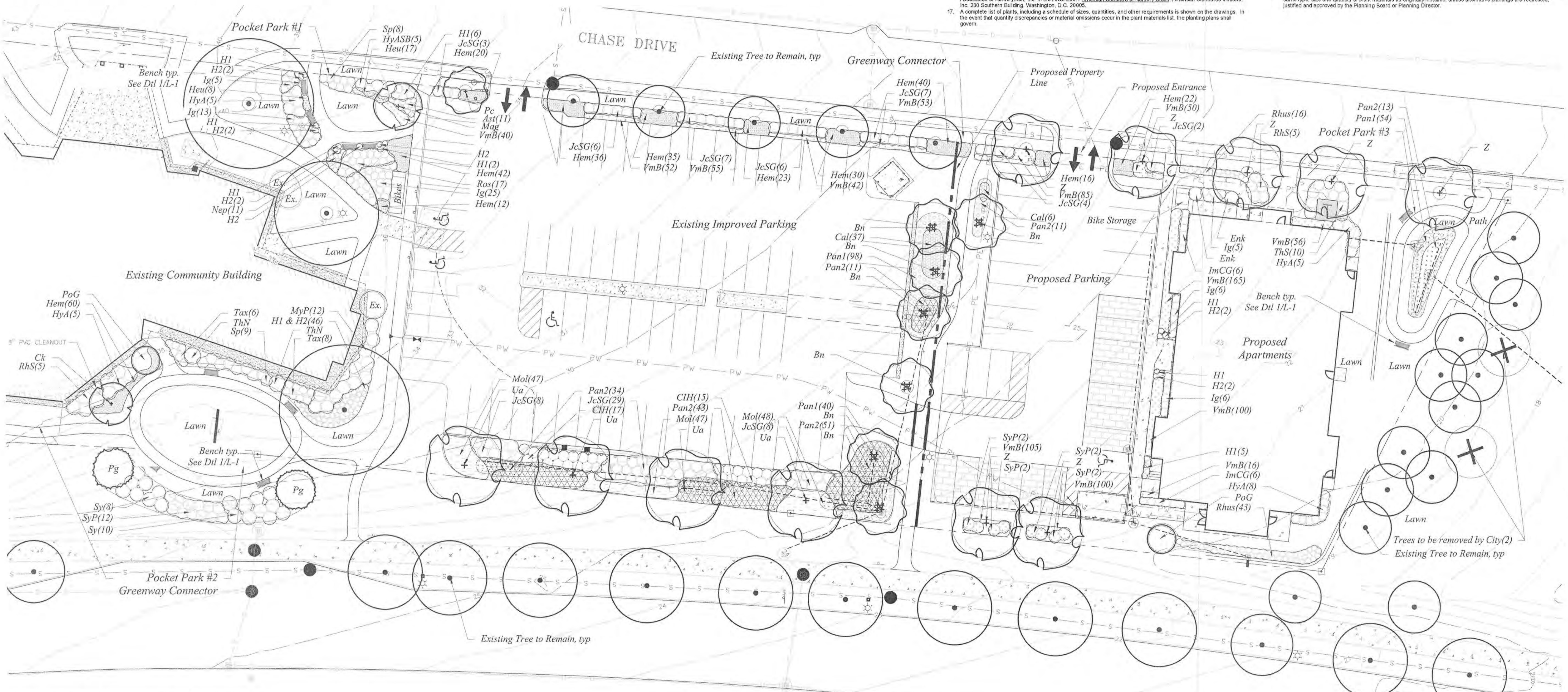
SHRUBS	Symbol	Botanical Name	Common Name	Quantity	Size	Comments
CIH		<i>Cornus elba</i> 'Ivory Halo'	Ivory Halo Dogwood	32	2-2.5' ht.	BB
Enk		<i>Erkianthus campanulatus</i>	Redvein Erkanthus	2	4-5' ht.	BB
Hya		<i>Hydrangea arborescens</i> 'Incrediball'	Incrediball Hydrangea	23	5 gal.	24"x24"
HyaSB		<i>Hydrangea macrophylla</i> 'All Summer Beauty'	All Summer Beauty Hydrangea (Blue hortensia)	6	5 gal.	18"x18"
Ig		<i>Ilex glabra</i> 'Shamrock'	Shamrock Inkberry	5	5 gal.	24"x24"
ImCG		<i>Ilex meservei</i> 'China Girl'	China Girl Holly	12	2.5-3'	BB
JcSG		<i>Juniperus chinensis</i> 'Seagreen'	Seagreen Juniper	78	2.5-3' ht.	BB
MyP		<i>Myrica pensylvanica</i>	Northern Bayberry	12	3-4' ht.	BB
RhS		<i>Rhododendron 'Scintillation'</i>	Scintillation Rhododendron	10	2.5-3' ht.	BB
Ros		<i>Rosa 'Knockout'</i>	Knockout Rose	9	3 gal.	18"x18"
Ros		<i>Rosa 'Knockout'</i>	Double Red Knockout Rose	17	2 gal.	
Sp		<i>Spiraea x bumalda</i> 'Anthony Waterer'	Anthony Waterer Spirea	17	3 gal.	18"x18"
Sy		<i>Syringa vulgaris</i> 'President Lincoln'	Single blue Lilac	18	4-5' ht.	BB
SyP		<i>Syringa meyeri</i> 'Palibin'	Dwarf Korean Lilac	20	2.5-3' ht.	BB
Tax		<i>Taxus media</i> 'Greenwave'	Greenwave Yew	14	2.5-3' ht.	BB
ThN		<i>Thuja occidentalis</i> 'Winga'	Dark American Arborvitae	2	8-7' ht.	BB
ThS		<i>Thuja occidentalis</i> 'Smaragd'	Emerald Green Arborvitae	10	6-8' ht.	BB

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size
Ast	<i>Astibe 'Fanal'</i>	Rubryed Astibe	11	1 gal
Cal	<i>Calamagrostis acutifolia</i> 'Karl Foerster'	Feather Reed Grass	43	1 gal
H1	<i>Hosta sieboldiana</i> 'Elegans'	Elegans Hosta	41	1 gal
H2	<i>Hosta 'Frances Williams'</i>	Frances Williams Hosta	35	1 gal
Hem	<i>Hemerocallis 'Happy Returns'</i>	Happy Returns Daylily	112	1 gal
Hem	<i>Hemerocallis 'Siloom Double Classic'</i>	Siloom Double Classic Daylily	112	1 gal
Hem	<i>Hemerocallis 'Apricot Sparkle'</i>	Apricot Sparkle Daylily	112	1 gal
Hetu	<i>Heuchera 'Splendens'</i>	Coral Bells	25	2qt.
Mol	<i>Molinia caerulea</i> 'Variegata'	Variegated Moor Grass	142	1 gal
Nep	<i>Nepeta faassenii</i> x 'Walker's Low'	Walker's Low Catmint	11	1 gal
Pan1	<i>Panicum virgatum</i> 'Cheyenne Sky'	Cheyenne Sky Switch Grass	192	1 gal
Pan2	<i>Panicum virgatum</i> 'Heavy Metal'	Heavy Metal Switch Grass	163	1 gal
VmB	<i>Vinca minor</i> 'Bowles'	Bowles Periwinkle	714	2.5" Pots

LANDSCAPE NOTES:

- Design is based on drawings by Alus Engineering, Inc. dated 10-15-2019 and may require adjustment due to actual field conditions.
- The Contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- Erosion Control to be installed by the Contractor. Erosion Control Fabric shall be staked in place between the work and water bodies, wetlands and/or drainage ways prior to any construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Prior to commencement of construction, a certified arborist shall review the area of construction and trees selected to remain with the landscape architect and the contractor's project manager. Specific monetary value of trees to remain shall be determined and documented for. Arborist shall make recommendations for preservation/recommendations beyond those called out here and in the drawings, tree preservation plans and specifications, including, but not limited to, pruning, root pruning, pre-fertilization and the like. All excavation within the drip line of existing trees to be done with an Air Spade. Any roots which require removal shall be cut cleanly with a sharp tool. Exposed roots in excavated areas shall not be allowed to dry out.
- Trees to remain within the construction zone shall be protected from damage for the duration of the project by weighted chain-link fence at the drip line or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, removal shall be cut cleanly with a sharp tool. Exposed roots in excavated areas shall not be allowed to dry out.
- Trees to remain within the construction zone shall be protected from damage for the duration of the project by weighted chain-link fence at the drip line or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, removal shall be cut cleanly with a sharp tool. Exposed roots in excavated areas shall not be allowed to dry out.
- This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
- Location, support, protection, and restoration of all existing utilities and appearances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrate, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, un-screened drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the ANSI Z60.1 American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative shall inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with either the following:
a. An underground sprinkling system
b. An outside hose attachment within 150 feet
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.
- Contractor shall provide an alternate price for irrigating all newly landscaped areas and resetting of any existing irrigation that will be disturbed during planting. Contractor shall provide irrigation design for review by Landscape Architect or Owner's Representative when awarded the project.
- All disturbed areas will be dressed with 5" of topsoil and planted as noted on the plans or seeded except plant beds.
- Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 6" diameter min. saucer. Color of mulch shall be black.
- Drip strip shall extend to 6" beyond roof overhang and shall be edged with 3/16" thick metal edger.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
- The property owner and all future property owners shall be responsible for the maintenance, repair, and replacement of all required screening and landscape materials.
- All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
- The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size, and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is responsible for the means and methods of the contractor.
- 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.
- The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
- All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
- The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

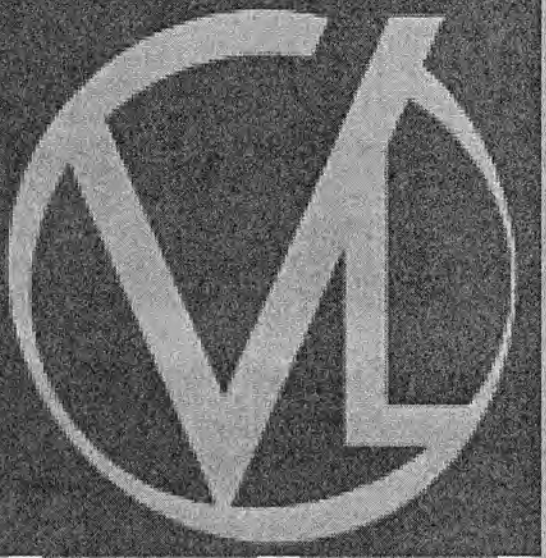
CHAIRMAN _____	DATE _____
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woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place
Newmarket, New Hampshire
Phone: 603.659.5949

Bethel Assembly of God
LANDSCAPE PLAN
200 Chase Drive, Portsmouth, NH 03801

Drawn By:	LF
Checked By:	RW
Scale:	1" = 20'
Date:	2019-09-19
Revisions:	2019-10-21

L-2
Sheet 2 of 2



VISUAL

**200 CHASE DR
PORTSMOUTH, NH
Site Lighting Layout**

Designer

Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842

Date

10/15/2019

Scale

1"=30'

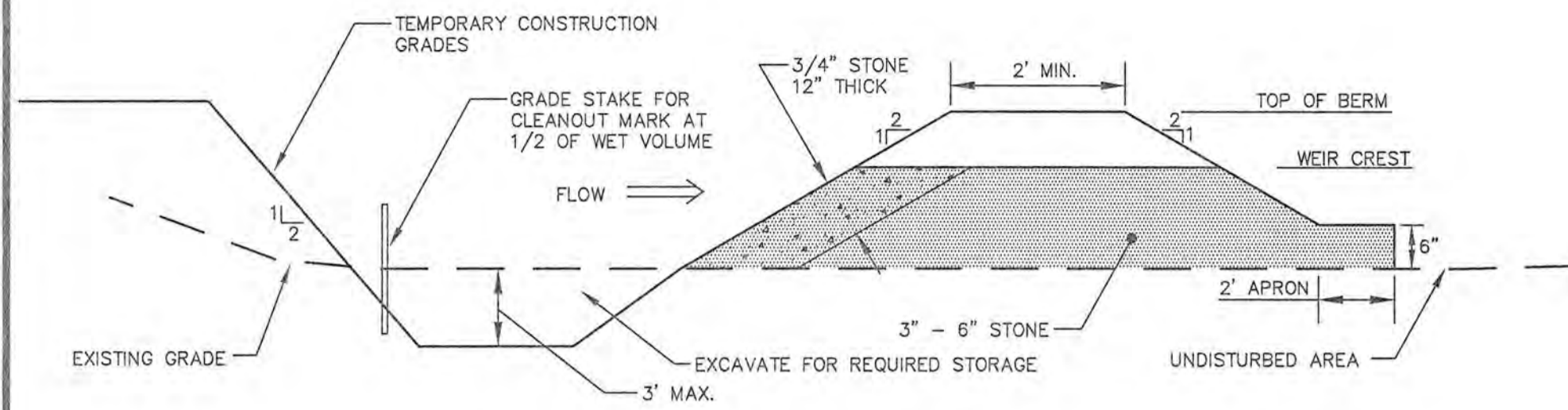
Drawing No.

Summary

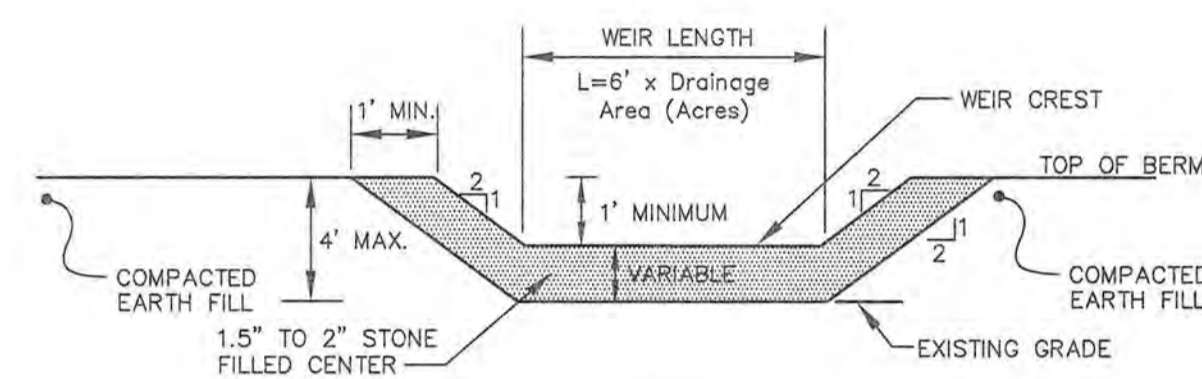
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	2B4	1	Lithonia Lighting	DSX0 LED P3 40K TFTM MVOLT SPUMBA DDBXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P3_40K_TFTM_MVO LT.ies	8447	0.9	142
	A4	2	Lithonia Lighting	DSX0 LED P2 40K TFTM MVOLT SPA DDBXD with SSS 14 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 14ft	LED	1	DSX0_LED_P2_40K_TFTM_MVO LT.ies	6007	0.9	49
	B4	1	Lithonia Lighting	DSX0 LED P3 40K TFTM MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 20ft	LED	1	DSX0_LED_P3_40K_TFTM_MVO LT.ies	8447	0.9	71
	W3	1	Lithonia Lighting	DSXW1 LED 10C 700 40K T3M MVOLT HS DDBXD	DSXW1 LED Wall pack; mounted at 12ft	LED	1	DSXW1_LED_10C_700_40K_T3M_MVOLT_HS.ies	2209	0.9	26.2
	W4	1	Lithonia Lighting	DSXW1 LED 10C 700 40K TFTM MVOLT HS DDBXD	DSXW1 LED Wall pack; mounted at 12ft	LED	1	DSXW1_LED_10C_700_40K_TFTM_MVOLT_HS.ies	2248	0.9	26.2

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
200 Chase Dr Parking Lot	+	1.0 fc	3.3 fc	0.3 fc	11.0:1	3.3:1
Outside of Small Parking Lot	+	0.4 fc	3.6 fc	0.0 fc	N/A	N/A



CROSS SECTION



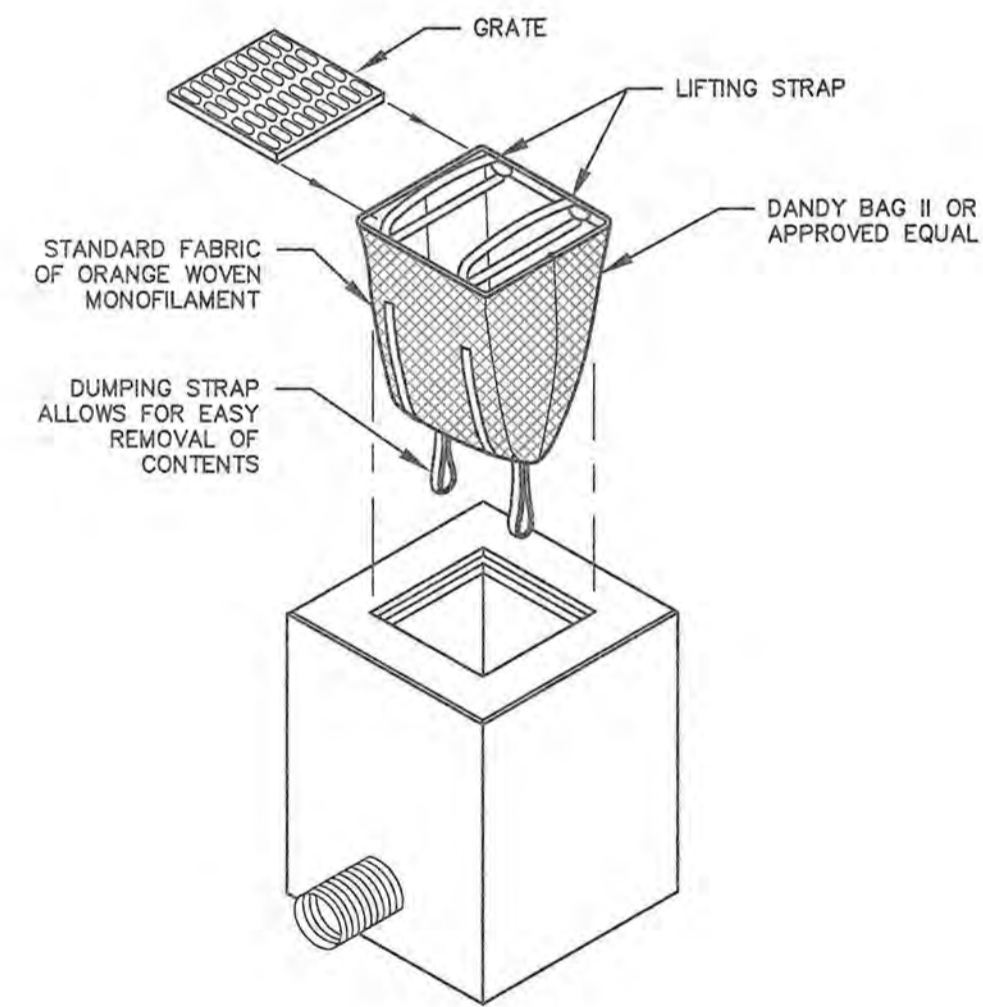
PROFILE

MAINTENANCE

1. SEDIMENT SHALL BE REMOVED AND THE TRAP SHALL BE RESTORED TO ITS ORIGINAL CAPACITY WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN STORAGE VOLUME. SEDIMENT REMOVED SHALL BE DISPOSED OF SO THAT IT DOES NOT CAUSE A SEDIMENT PROBLEM AT ANOTHER LOCATION.
2. THE STRUCTURE SHALL BE CHECKED BI-WEEKLY AND AFTER EVERY MAJOR STORM TO INSURE THAT IT IS WORKING PROPERLY AND IS NOT DAMAGED. DAMAGE TO THE STRUCTURE SHALL BE REPAIRED IMMEDIATELY.
3. 3/4" STONE SHALL BE CHECKED DURING INSPECTION AND REPLACED WHEN THE OPENINGS IN THE STONE HAVE BECOME CLOGGED.
4. WHEN THE DRAINAGE AREA FLOWING INTO THE BASIN HAS BEEN FULLY STABILIZED, THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA VEGETATED USING LOAM AND SEED WITH MULCH (OR SOD IF NECESSARY) WITHIN 72 HOURS OF THE REMOVAL OF THE BASIN.

TEMPORARY SEDIMENT TRAP (TST) OUTLET

NOT TO SCALE



INSTALLATION AND MAINTENANCE:

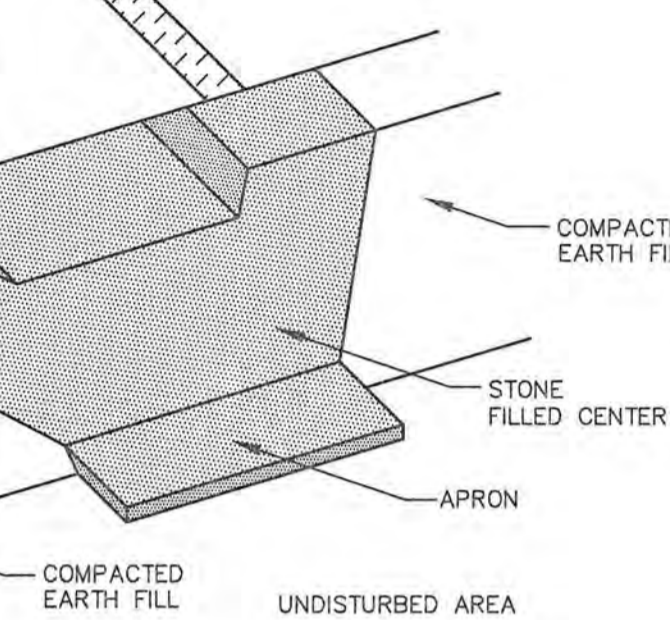
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS, PLACE ABSORBENT PILLION IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN. INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSIDE. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS, REPLACE ABSORBENT WHEN NEAR SATURATION.

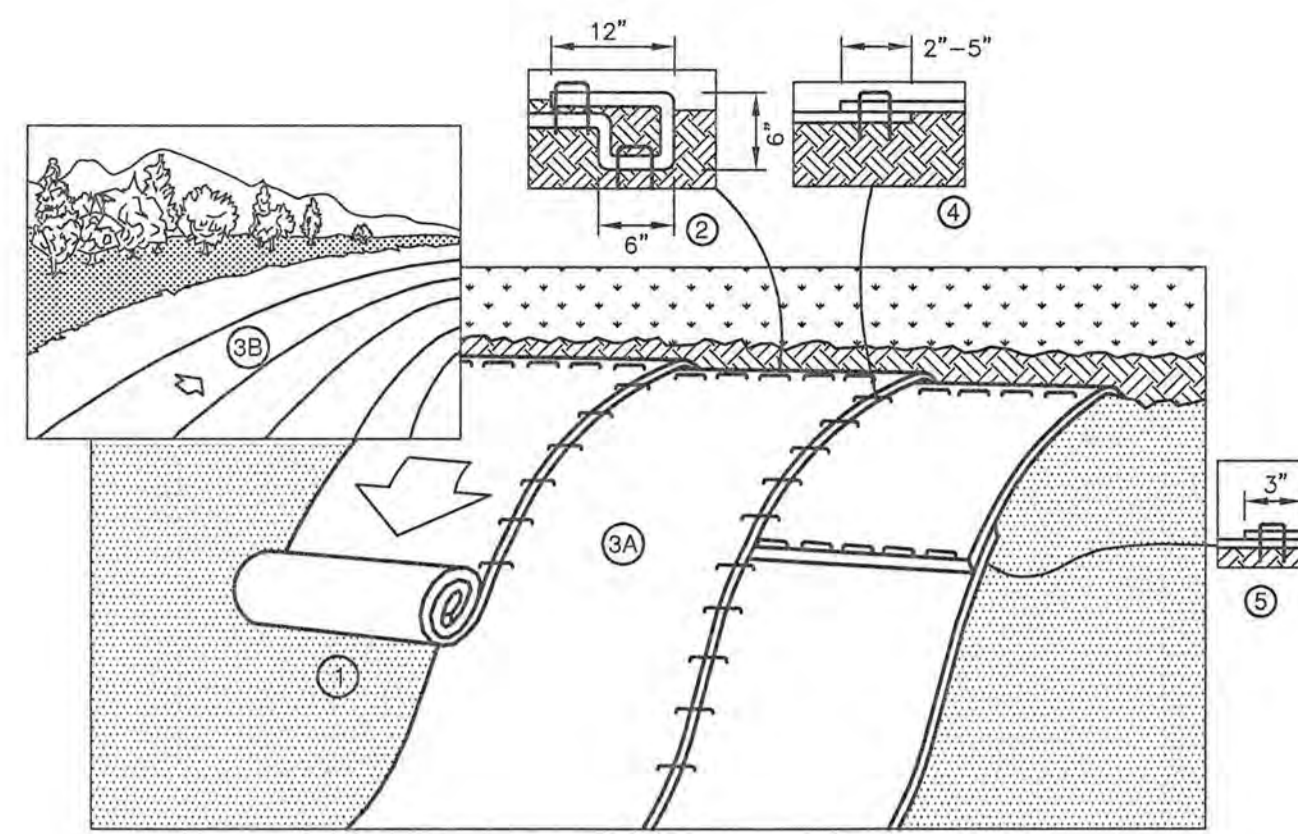
UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

STORM DRAIN INLET PROTECTION NOT TO SCALE



ISOMETRIC VIEW



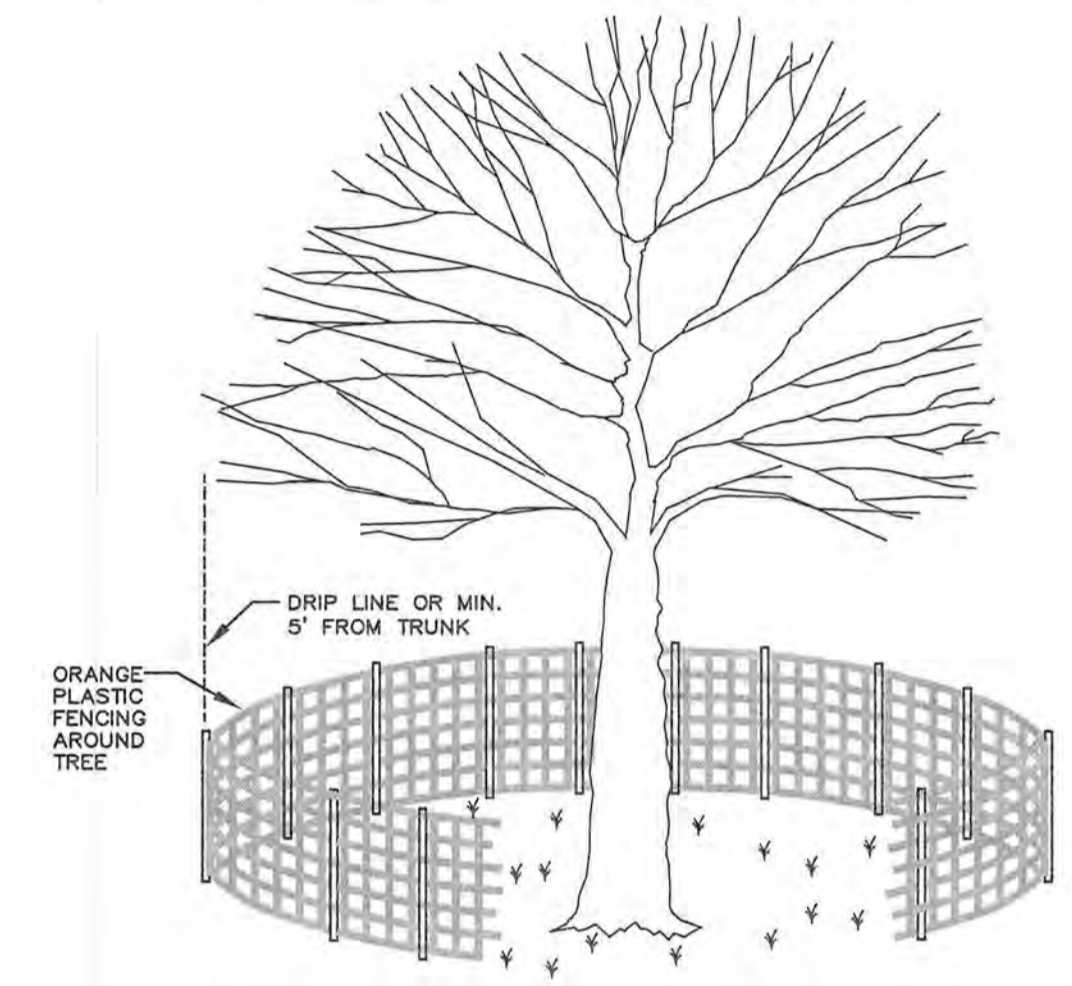
NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

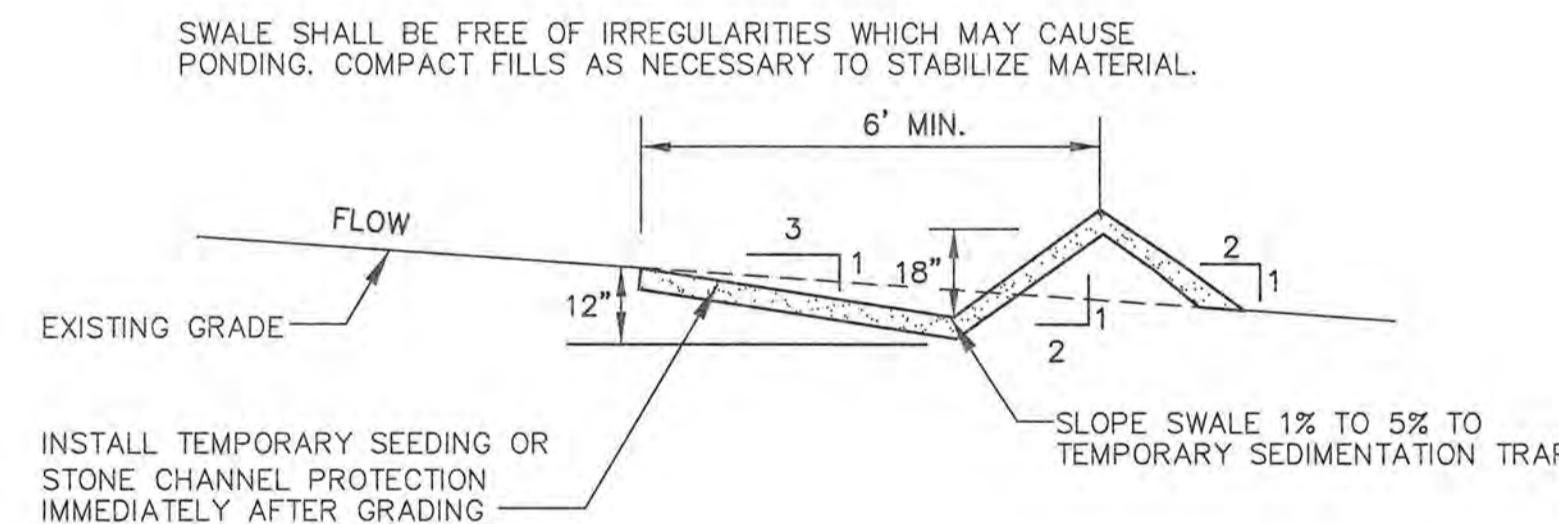
EROSION CONTROL BLANKET - SLOPE NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD
CHAIRMAN _____ DATE _____

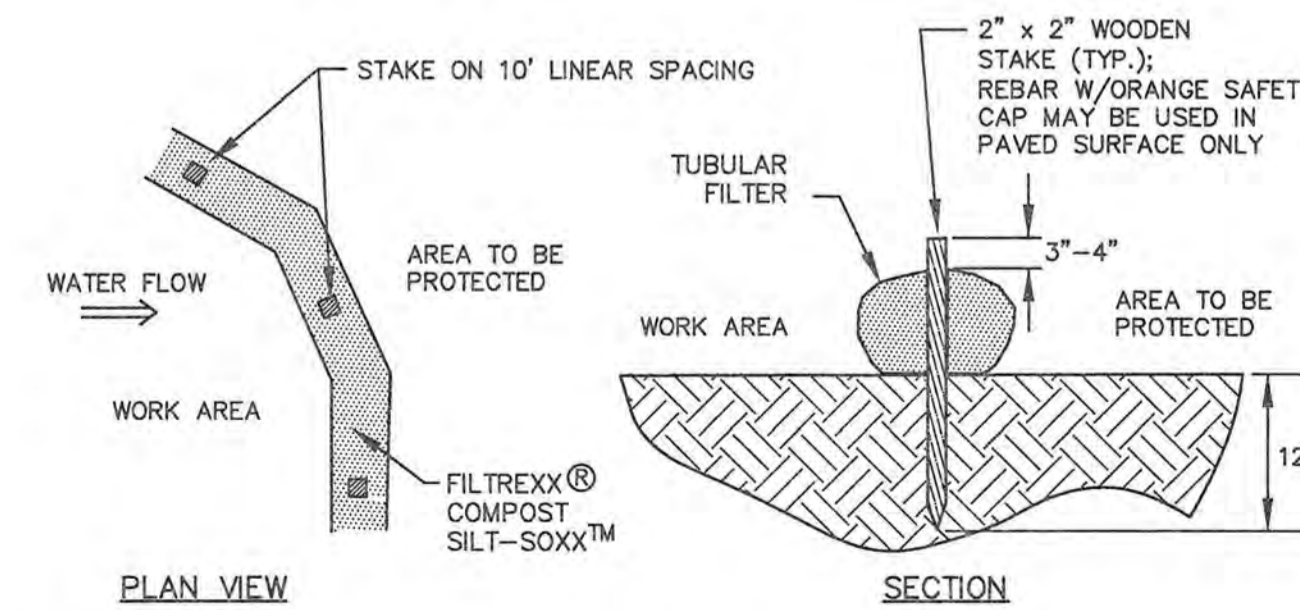
NOTE:
IF SOIL BECOMES COMPACTED OVER THE ROOT ZONE OF ANY TREE, THE GROUND SHOULD BE AERATED BY PUNCHING SMALL HOLES IN IT WITH SUITABLE AERATING EQUIPMENT.
ANY DAMAGE TO THE CROWN, TRUNK OR ROOT SYSTEM OF ANY TREE RETAINED ON SITE SHOULD BE REPAIRED IMMEDIATELY. CONSULT A FORESTER OR TREE SPECIALIST FOR MORE SERIOUS DAMAGE OF TREES.
CONTRACTOR TO USE TREE PROTECTION WHERE SUITABLE AND/OR AS DIRECTED BY THE ENGINEER.



TREE PROTECTION DETAILS NOT TO SCALE

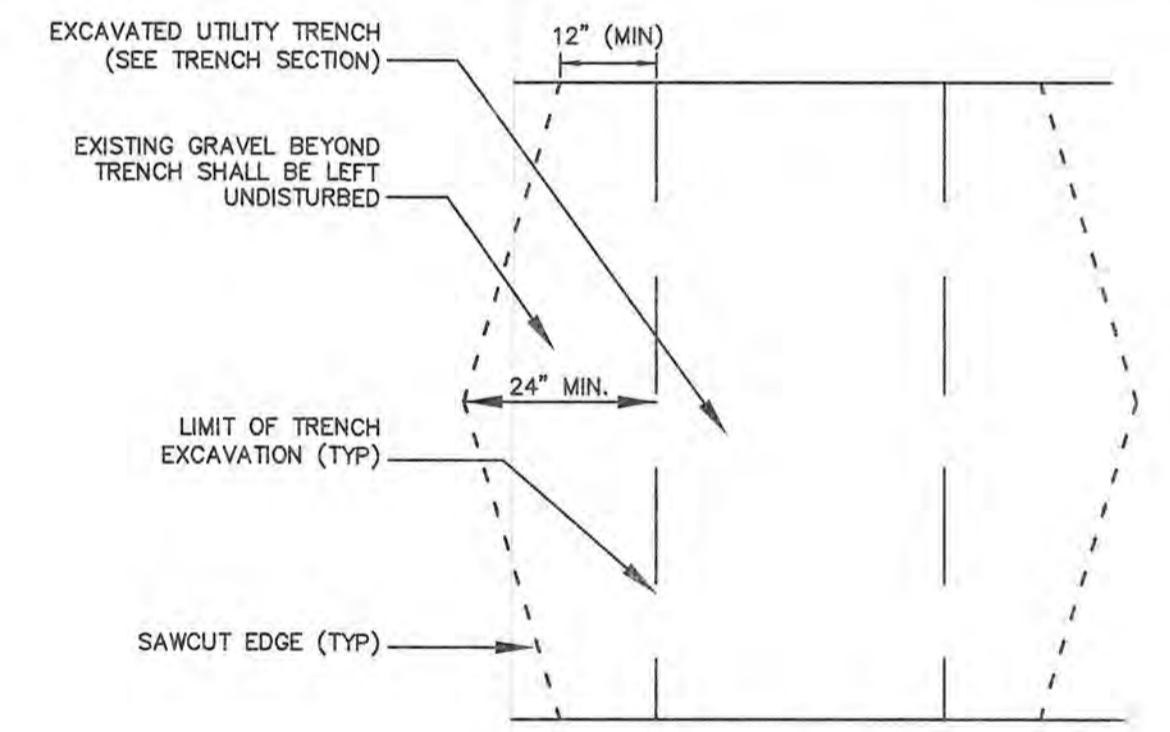


TEMPORARY DIVERSION SWALE NOT TO SCALE

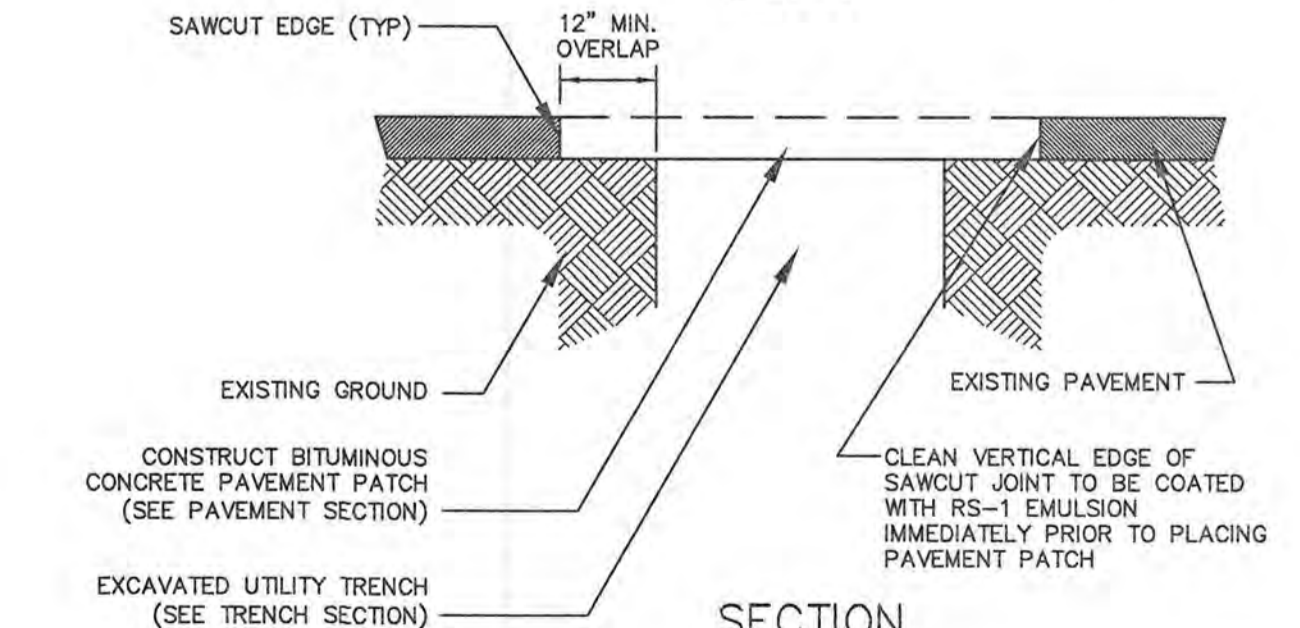


- NOTES:**
1. SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
 2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
 3. COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
 4. ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE



PLAN



SECTION

NOTES

1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE

ENGINEER:
ALTUS
ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: TAC
ISSUE DATE: SEPTEMBER 16, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4950DETAILS.DWG

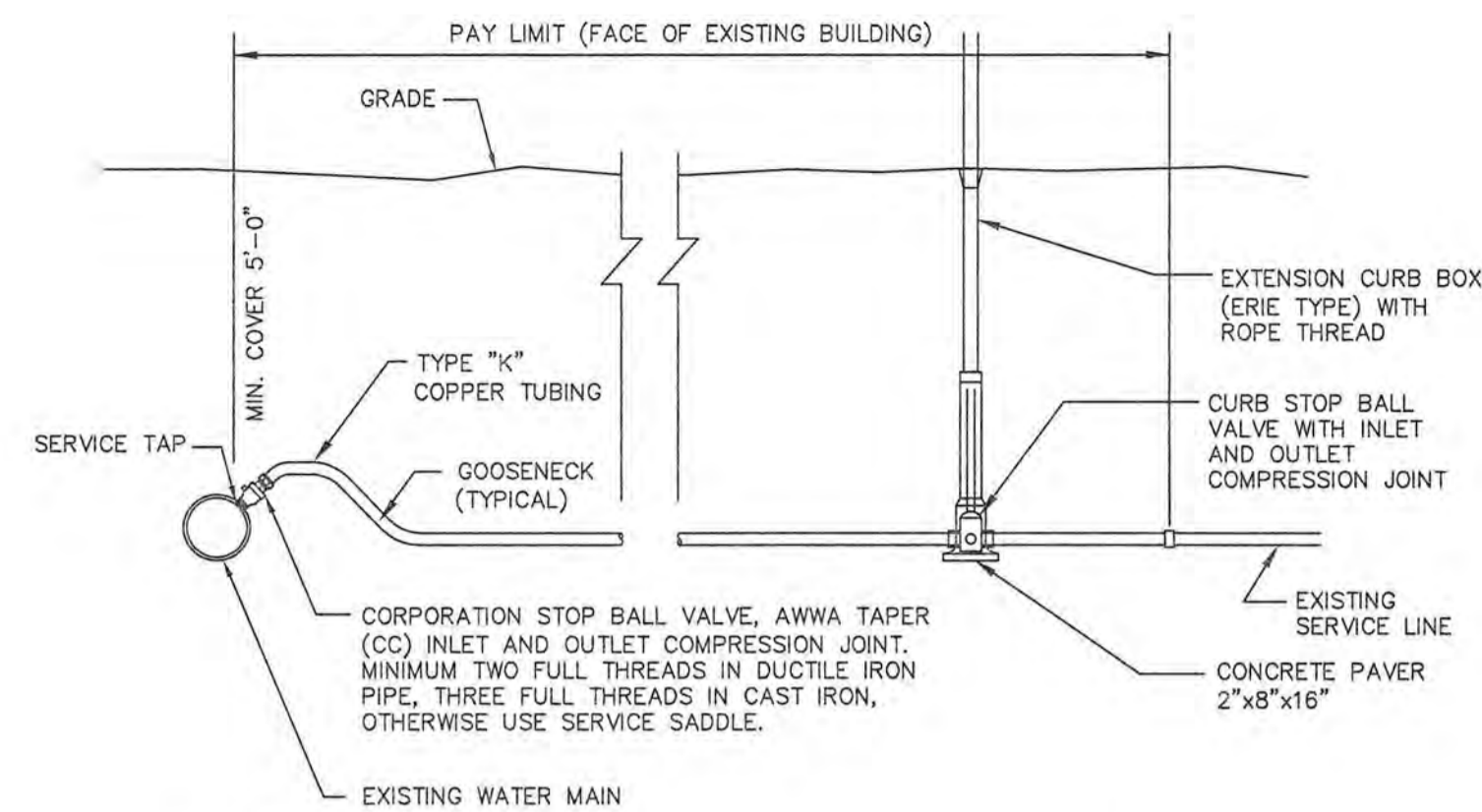
SCALE: NOT TO SCALE

OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801
APPLICANT:
200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE
200 CHASE DRIVE PORTSMOUTH, NH
ASSESSOR'S PARCEL 210-2

TITLE: CONSTRUCTION DETAILS

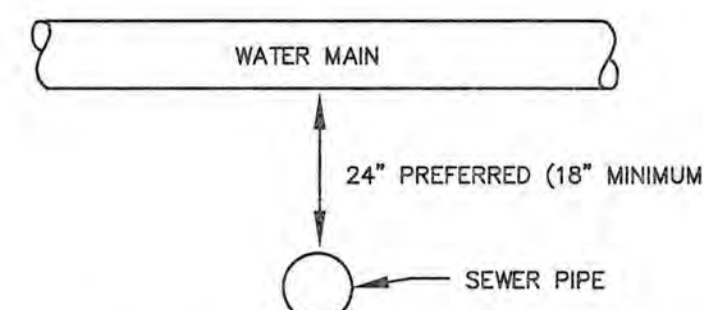
SHEET NUMBER: D.2



NOTES

1. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
2. TAPS TO BE MADE AT APPROXIMATELY 2:00 & 10:00
3. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
4. IF SERVICE IS INSTALLED WITH LESS THAN 5' COVER, INSULATE OVER LINE.
5. REMOVE EXISTING CURB STOP.
6. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER (NO COUPLING WITHOUT APPROVAL OF ENGINEER) AFTER PRESSURE TESTING AND DISINFECTION.
7. SHUT OFF EXISTING CORPORATION AND REMOVE OR ABANDON EXISTING SERVICE LINE.
8. CURB BOX SHALL BE SET IN THE GRASS/LANDSCAPE AREA BETWEEN CURB AND SIDEWALK UNLESS DIRECTED OTHERWISE.
9. 2" OR LARGER SERVICE CONNECTIONS SHALL USE A STAINLESS STEEL SERVICE SADDLE.

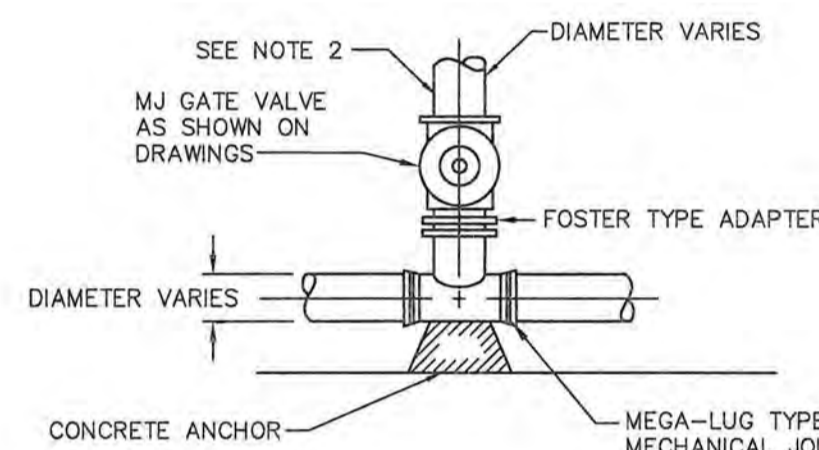
SERVICE CONNECTION DETAIL NOT TO SCALE



NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

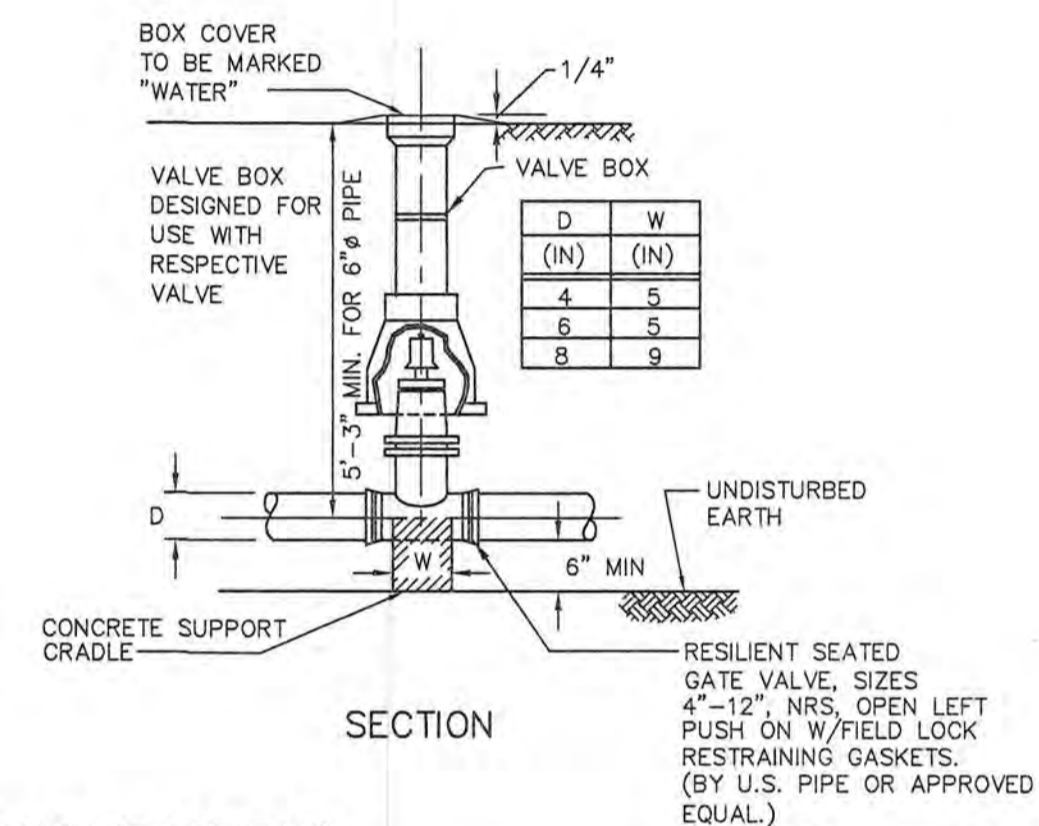
WATER MAIN / SEWER CROSSING NOT TO SCALE



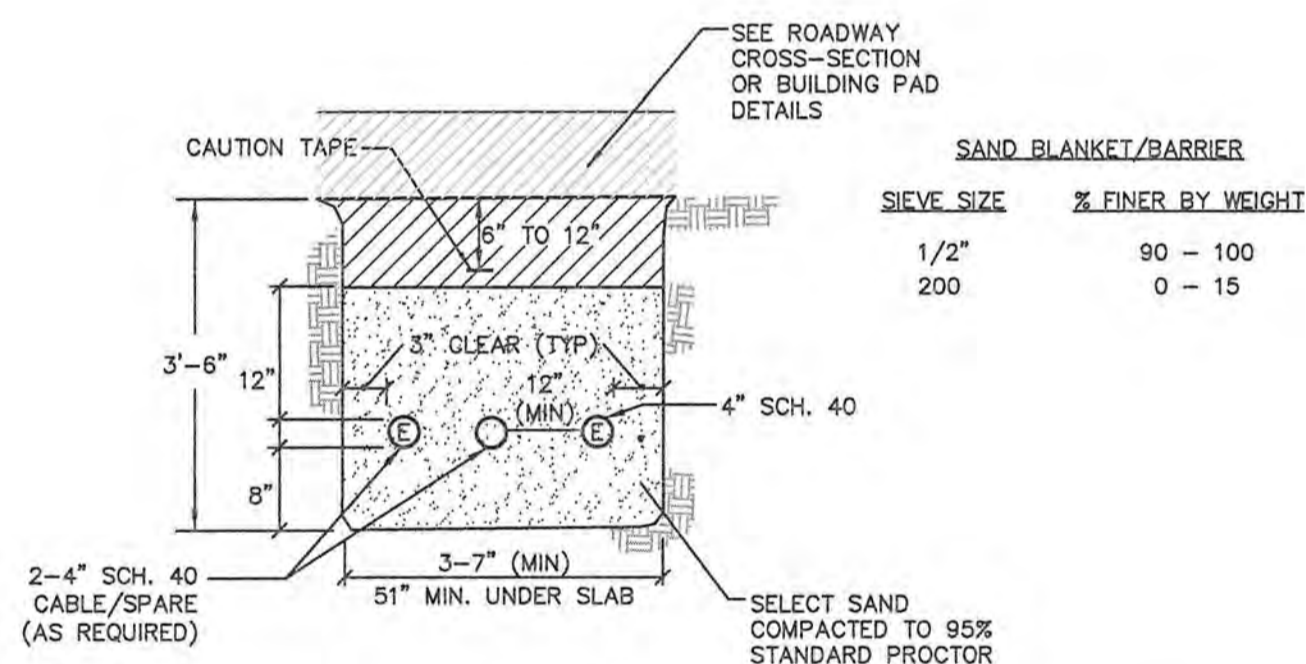
NOTES

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE



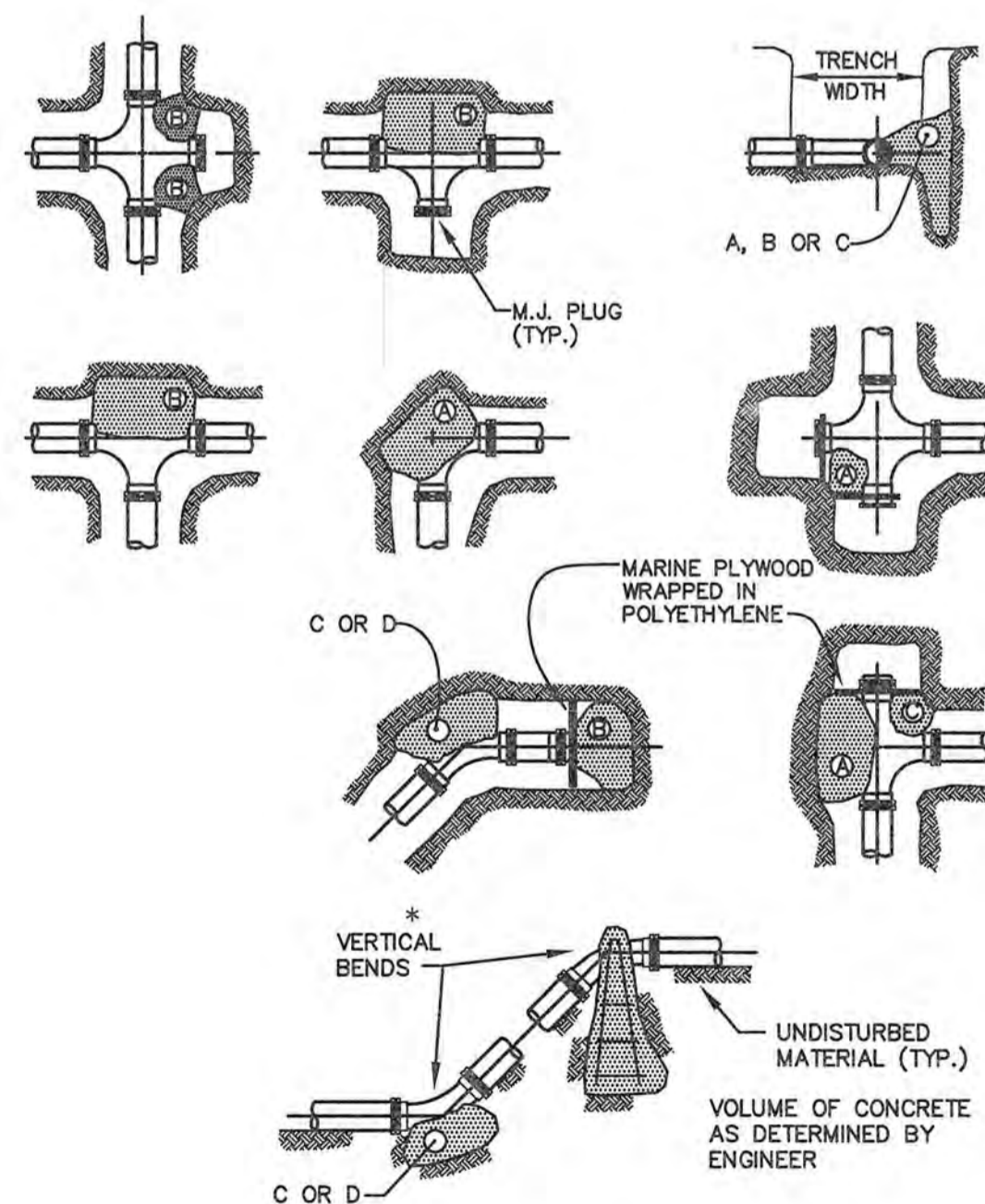
WATER VALVE DETAIL NOT TO SCALE



NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24) INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5) FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



TEST PRESSURE = 150 psf	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
A	90'	0.89	2.19	3.82	11.14	17.24
B	180'	0.65	1.55	2.78	8.38	12.00
C	45'	0.48	1.19	2.12	6.02	9.32
D	22-1/2'	0.25	0.60	1.06	3.08	4.74
E	11-1/4'	0.13	0.30	0.54	1.54	2.38

NOTES

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.

THRUST BLOCKING DETAIL NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

DATE

ENGINEER:

ALTUS
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

TAC

ISSUE DATE:

SEPTEMBER 16, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 4950DETAILS.DWG

SCALE:

NOT TO SCALE

OWNER:

BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:

200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D.3

P-4950

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

ENGINEER:

ALTUS
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.COM



ISSUED FOR: TAC

ISSUE DATE: OCTOBER 18, 2019

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19
2	TAC SUBMISSION	CDB	10/18/19

DRAWN BY: _____ CDB

APPROVED BY: _____ EDW

DRAWING FILE: 4950DETAILS.DWG

SCALE: NOT TO SCALE

OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:
200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

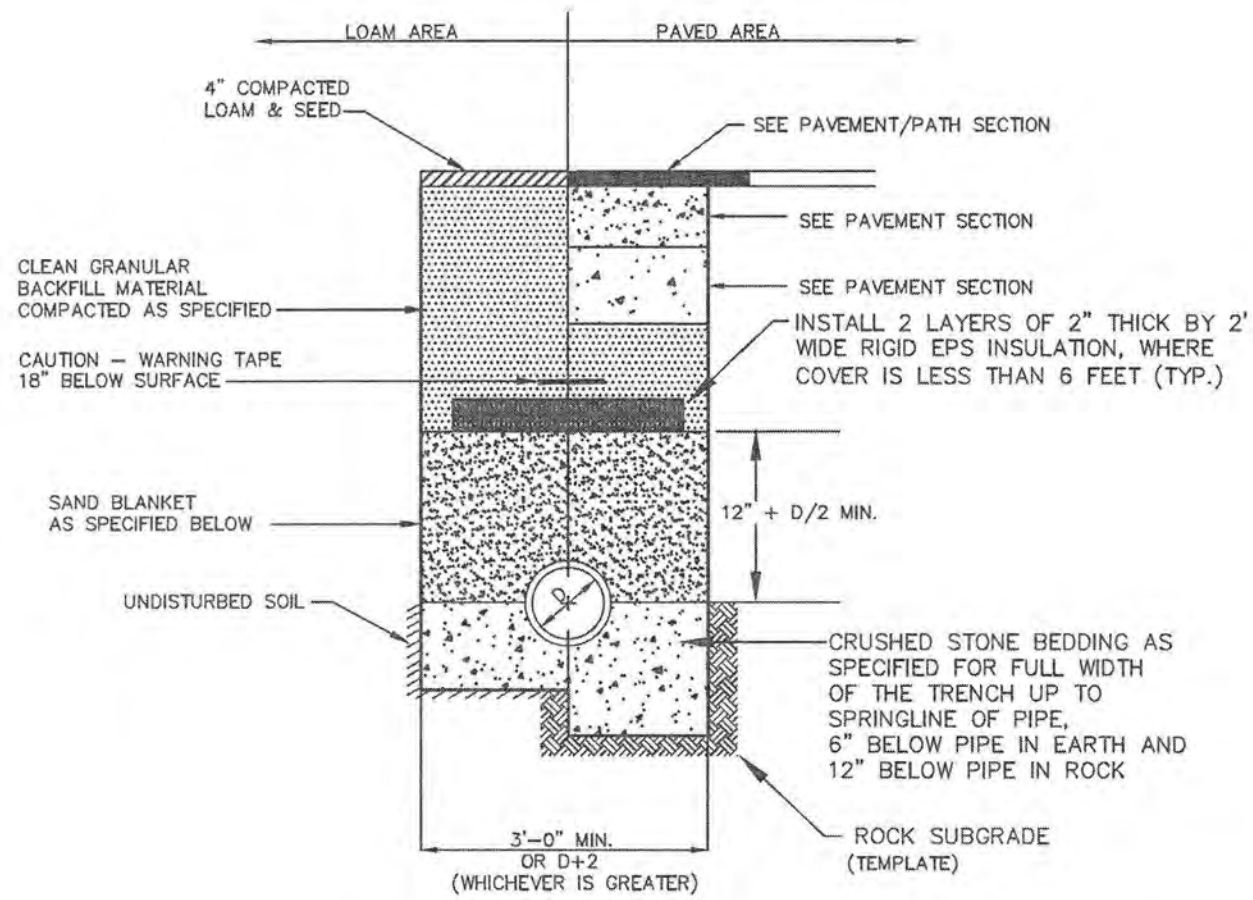
ASSESSOR'S PARCEL 210-2

TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D.4

STANDARD TRENCH NOTES:

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN OF THE DRAWING.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33, STONE SIZE NO. 67.
 - 100% PASSING 1 INCH SCREEN
 - 90 - 100% PASSING 3/4 INCH SCREEN
 - 20 - 55% PASSING 3/8 INCH SCREEN
 - 0-10% PASSING #4 SIEVE
 - 0-5% PASSING #8 SIEVE
 WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90 - 100% PASSES 1/2 INCH SIEVE (AND NOT MORE THAN 15% WILL PASS A #200 SIEVE). BLANKET MAY BE OMITTED FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
- BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
- SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
 - CEMENT: 6.0 BAGS PER CUBIC YARD
 - WATER: 5.75 GALLONS PER BAG CEMENT
 - MAXIMUM SIZE OF AGGREGATE: 1 INCH
 - CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
- CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.

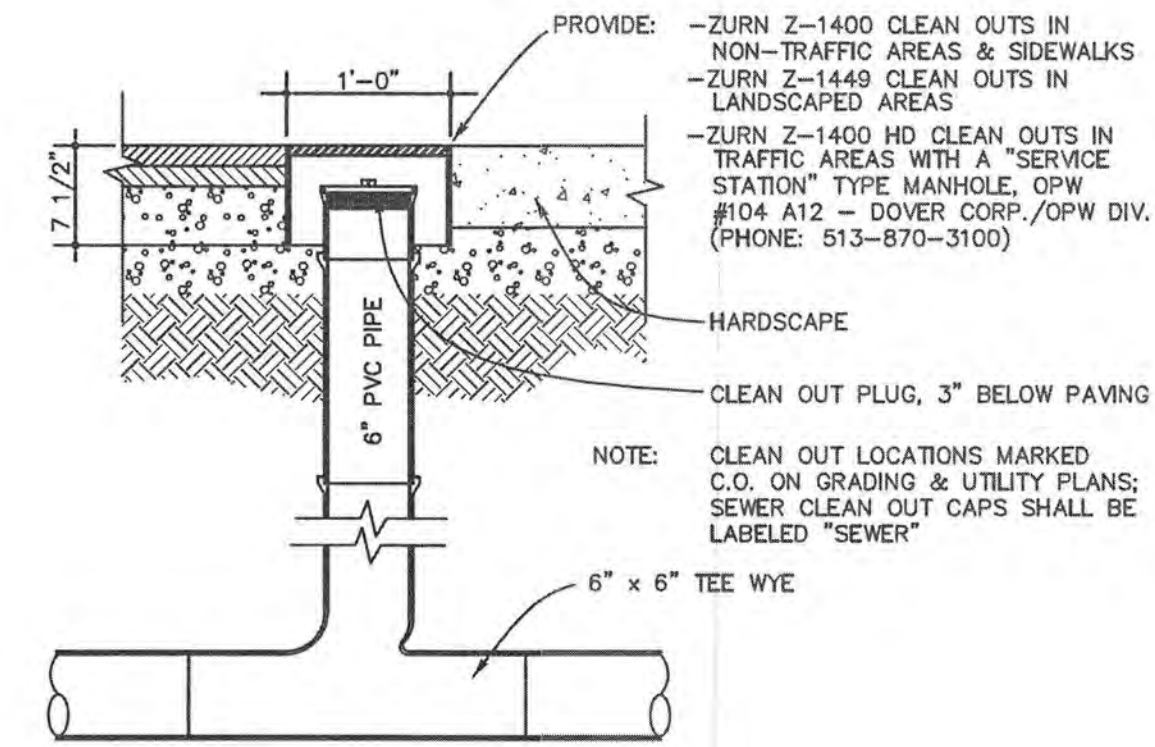


BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

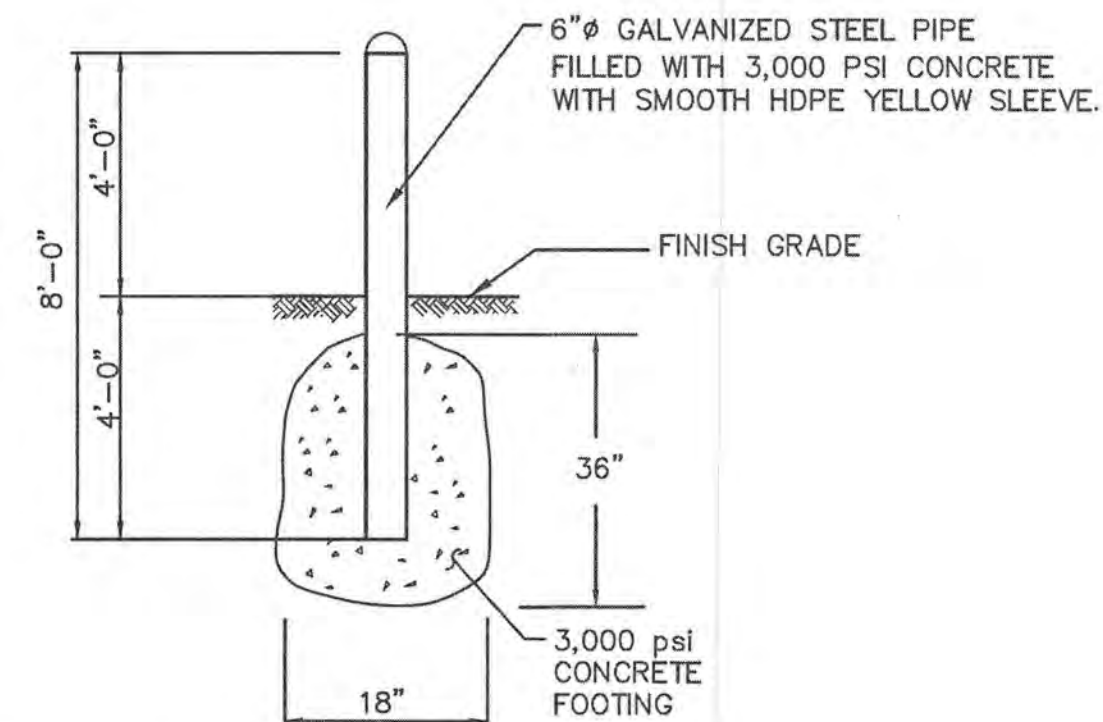
SAND BLANKET		CRUSHED STONE BEDDING *	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH SECTION NOT TO SCALE



CLEANOUT DETAIL NOT TO SCALE



BOLLARD NOT TO SCALE

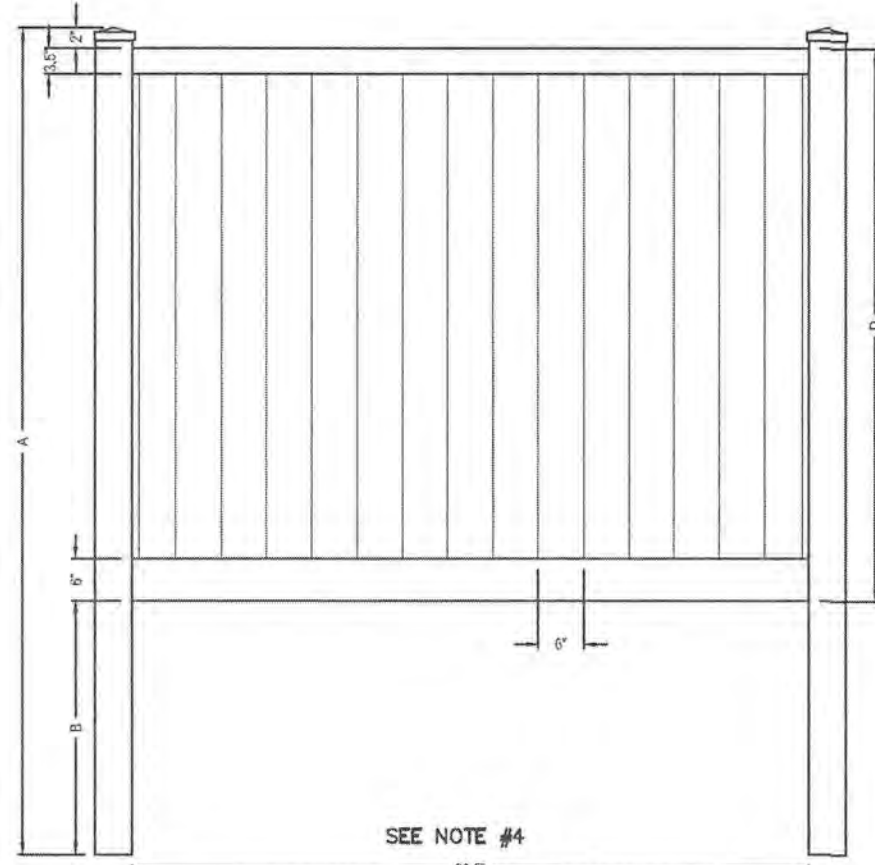
POST CAP STYLE
NEW ENGLAND - V55NE

POST OPTION
5' X 5' - 140 Wall
Post set in concrete

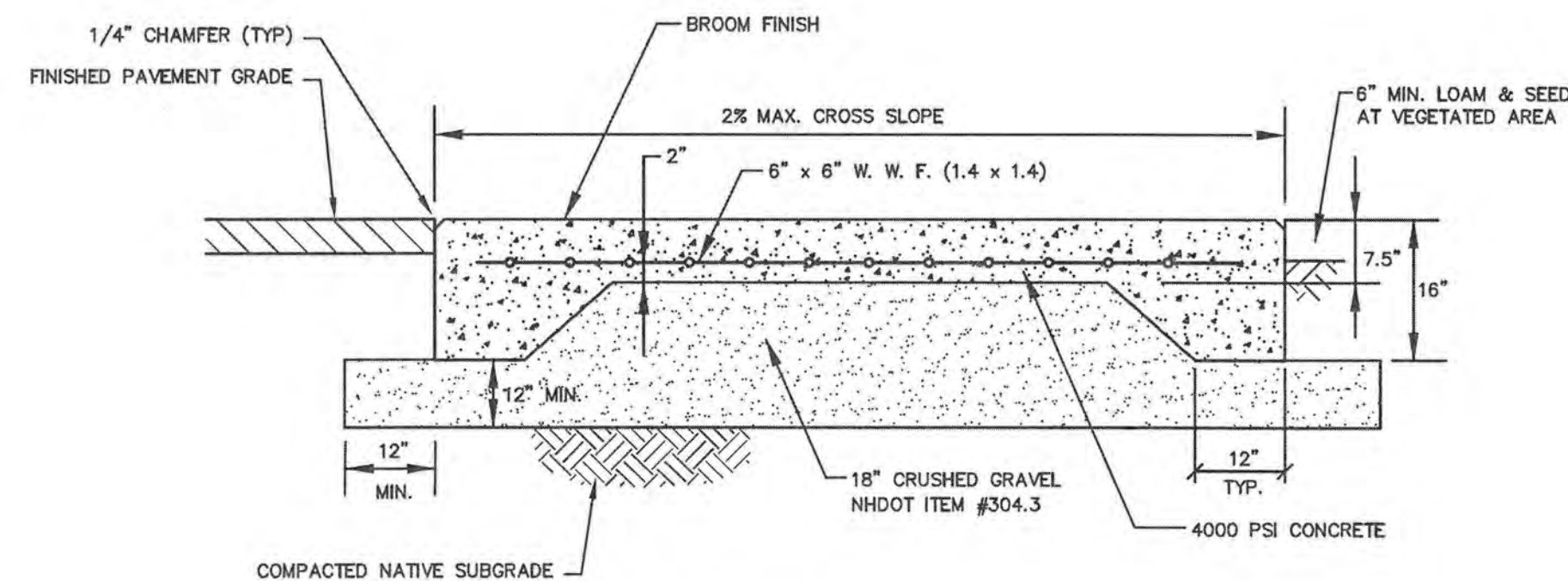
FENCE HEIGHT
6'-0", see height schedule below

	A	B	C	D
(H)FT	INCHES	(H)FT	INCHES	(H)FT
3	60	3	22	3
4	84	4	34	4
5	96	5	34	5
6	108	6	34	6
8	144	8	46	8
10	168	10	46	10

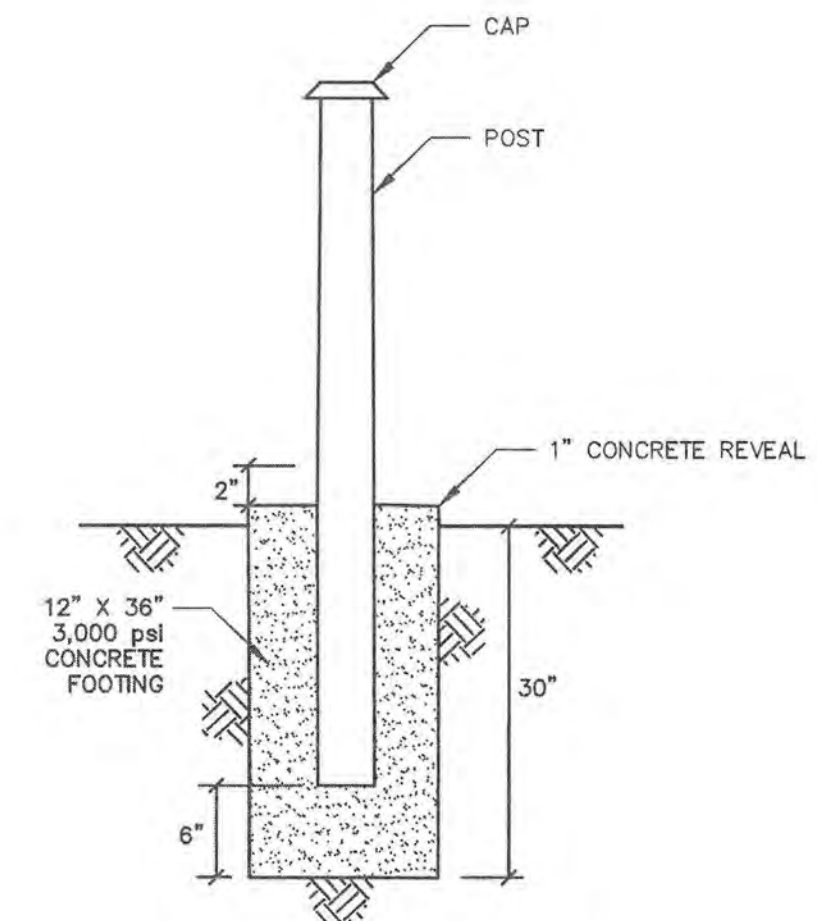
- NOTE:
- FENCE SHALL BE ILLUSION VINYL FENCE PRODUCT OR APPROVED EQUAL.
 - COLOR SHALL BE DETERMINE BY LANDSCAPE ARCHITECT OR APPLICANT.
 - POST SHALL BE SET IN CONCRETE.
 - OPENING CLEARANCE DIMENSIONS PER OWNER REQUIREMENT.



DUMPSTER/SOLID WASTE STORAGE SCREENING DETAIL NOT TO SCALE

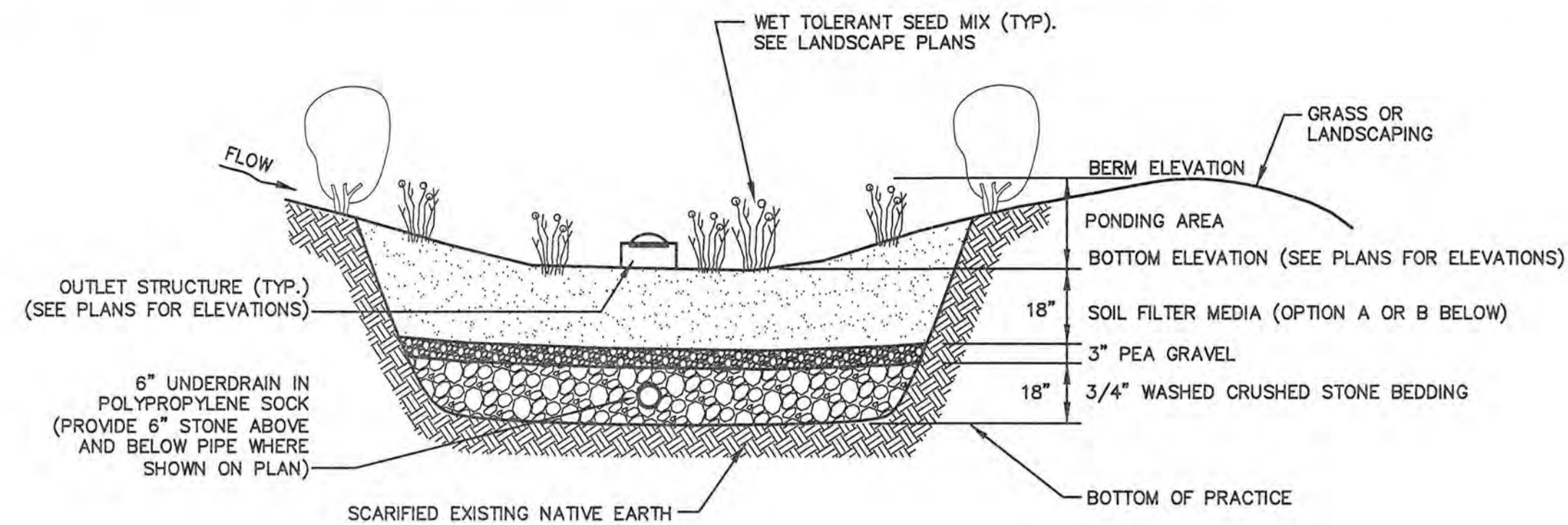


DUMPSTER SLAB DETAILS NOT TO SCALE



FENCE POST DETAIL NOT TO SCALE

P4950



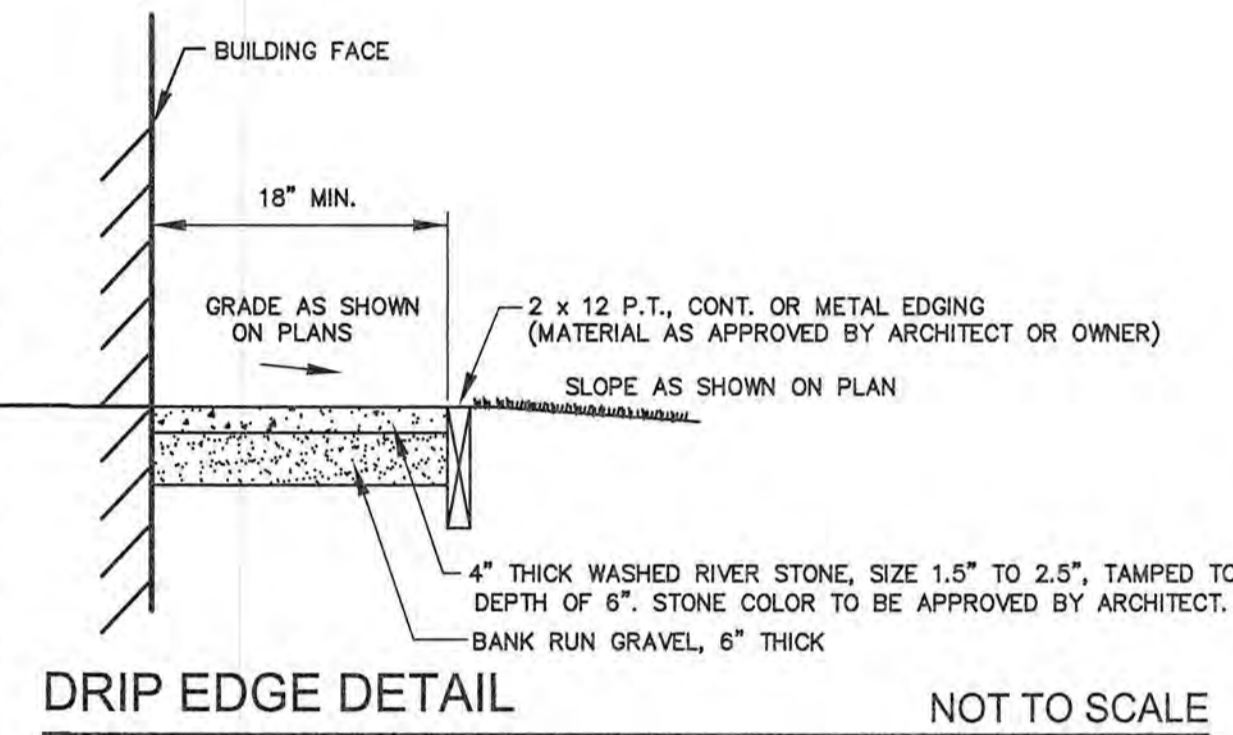
CRUSHED STONE BEDDING*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

FILTER MEDIA MIXTURES

Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15



NOTES

- WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
- SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.

MAINTENANCE REQUIREMENTS

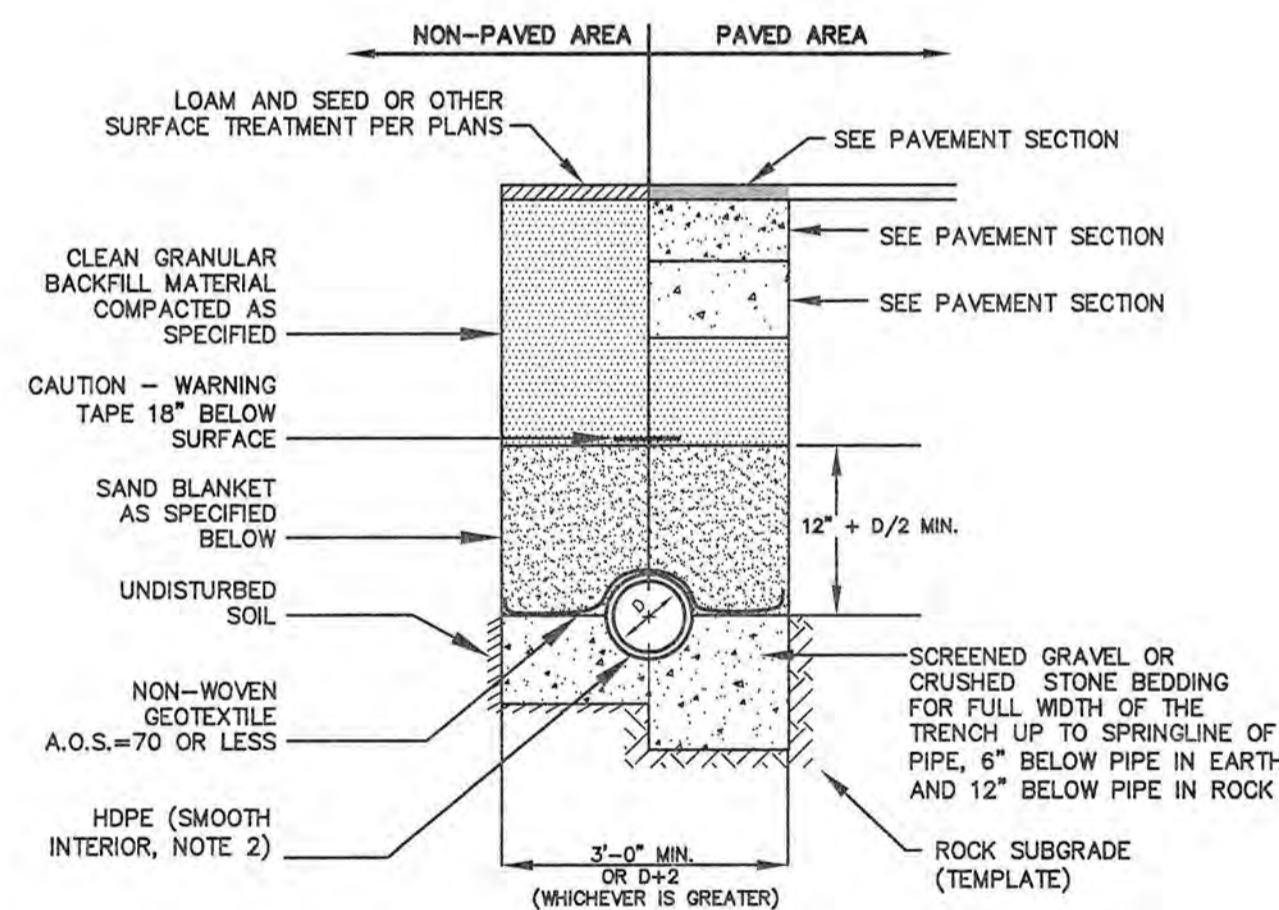
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

TYPICAL RAINGARDEN

NOT TO SCALE



NOTES

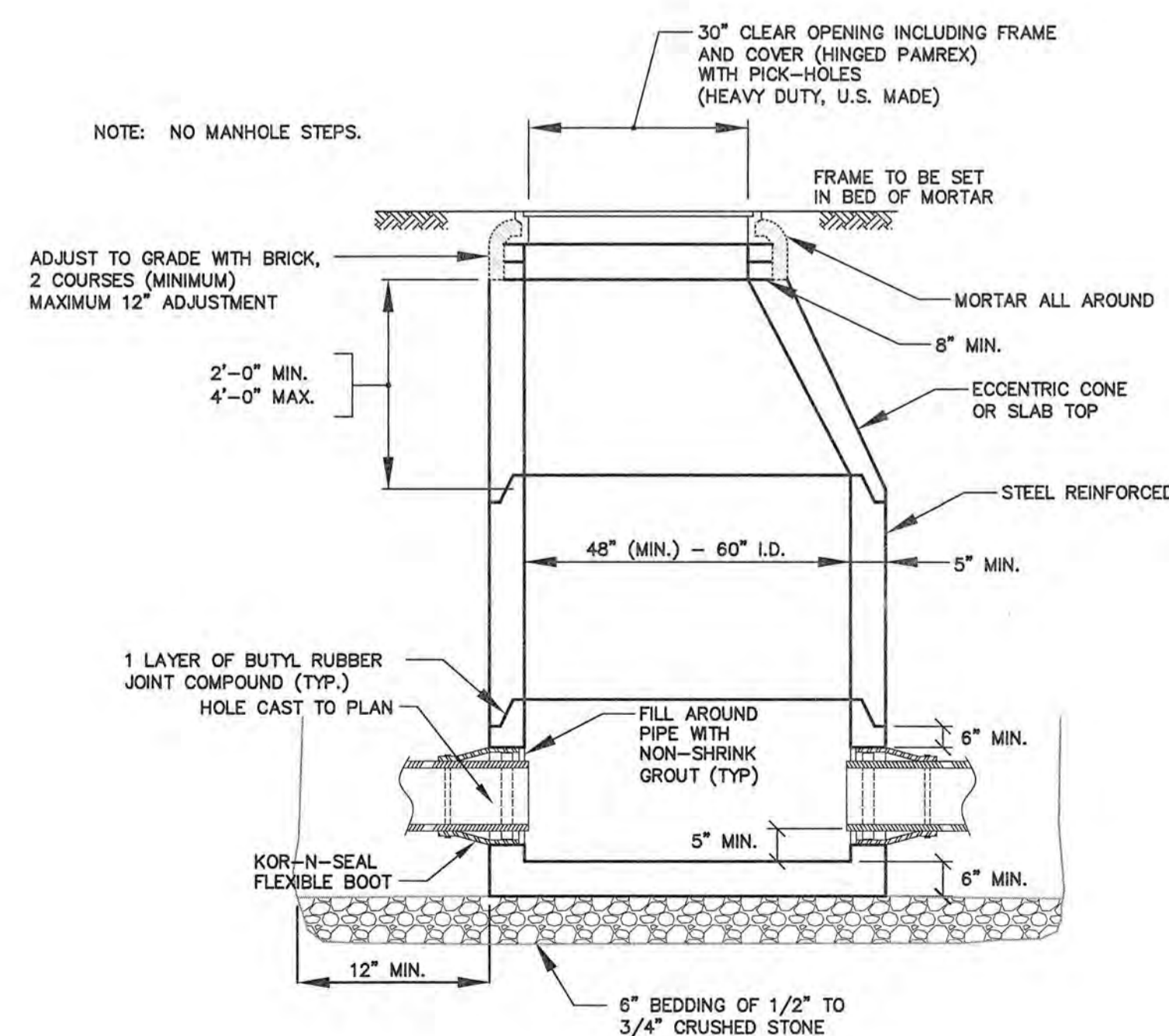
- BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
- ALL PIPE SHALL BE HOPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR, ADS TYPE N-12 OR APPROVED EQUAL.

SAND BLANKET/BARRIER		SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	1"	100
200	0 - 15	3/4"	90 - 100
		3/8"	20 - 55
		# 4	0 - 10
		# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

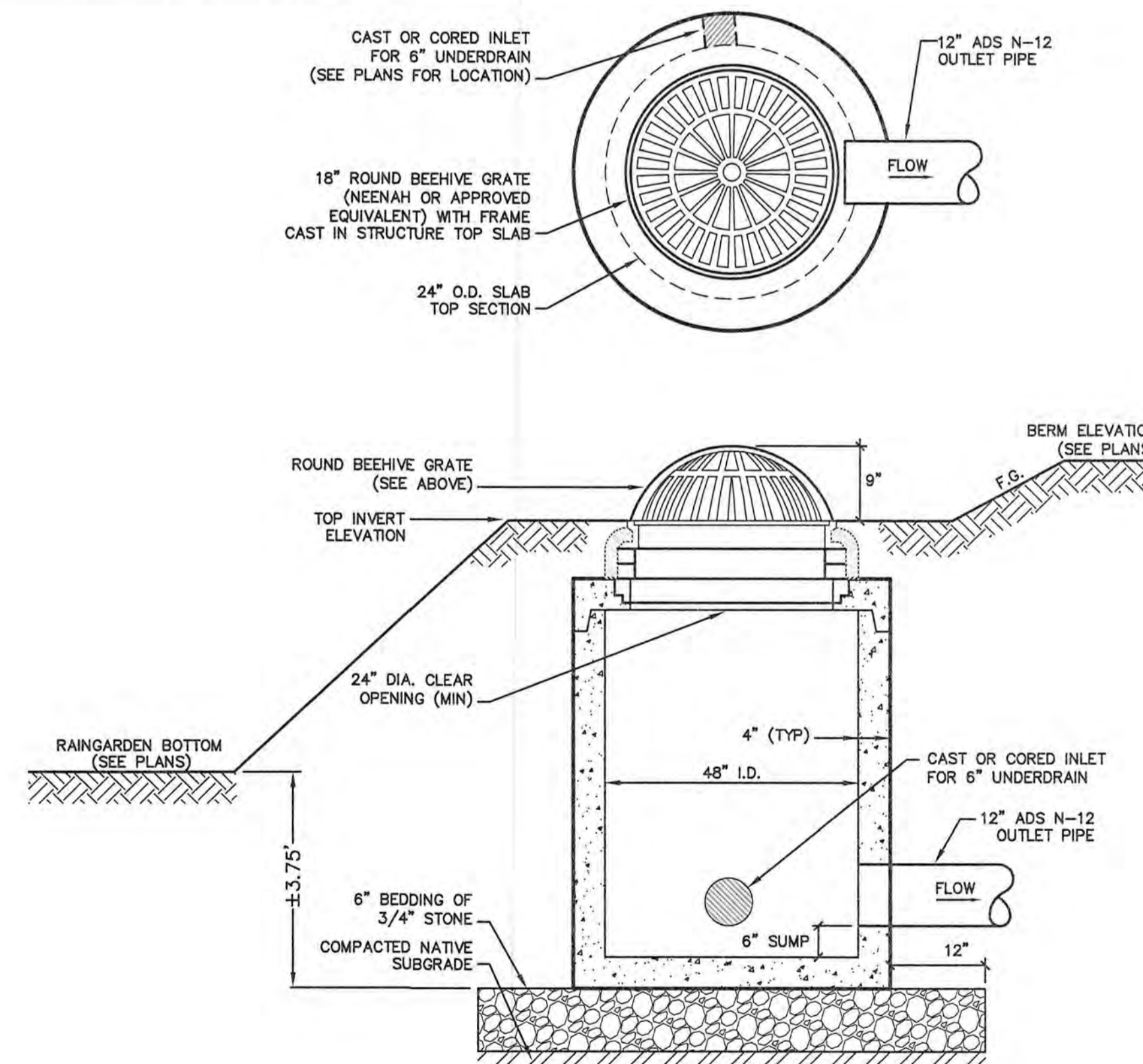
STORM DRAIN TRENCH

NOT TO SCALE



DRAIN MANHOLE DETAIL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- OUTLET STRUCTURE SHALL BE CONSTRUCTED ONSITE OR PRECAST TO EQUAL DIMENSIONS.
- ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
- STRUCTURE IS TO BE BUILT TO WITHSTAND H20 LOADING.
- SOIL UNDERLYING THE STRUCTURE'S GRAVEL BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR.
- ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.

OUTLET STRUCTURE DETAIL

NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

DATE

ENGINEER:

ALTUS
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
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PROJECT:

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

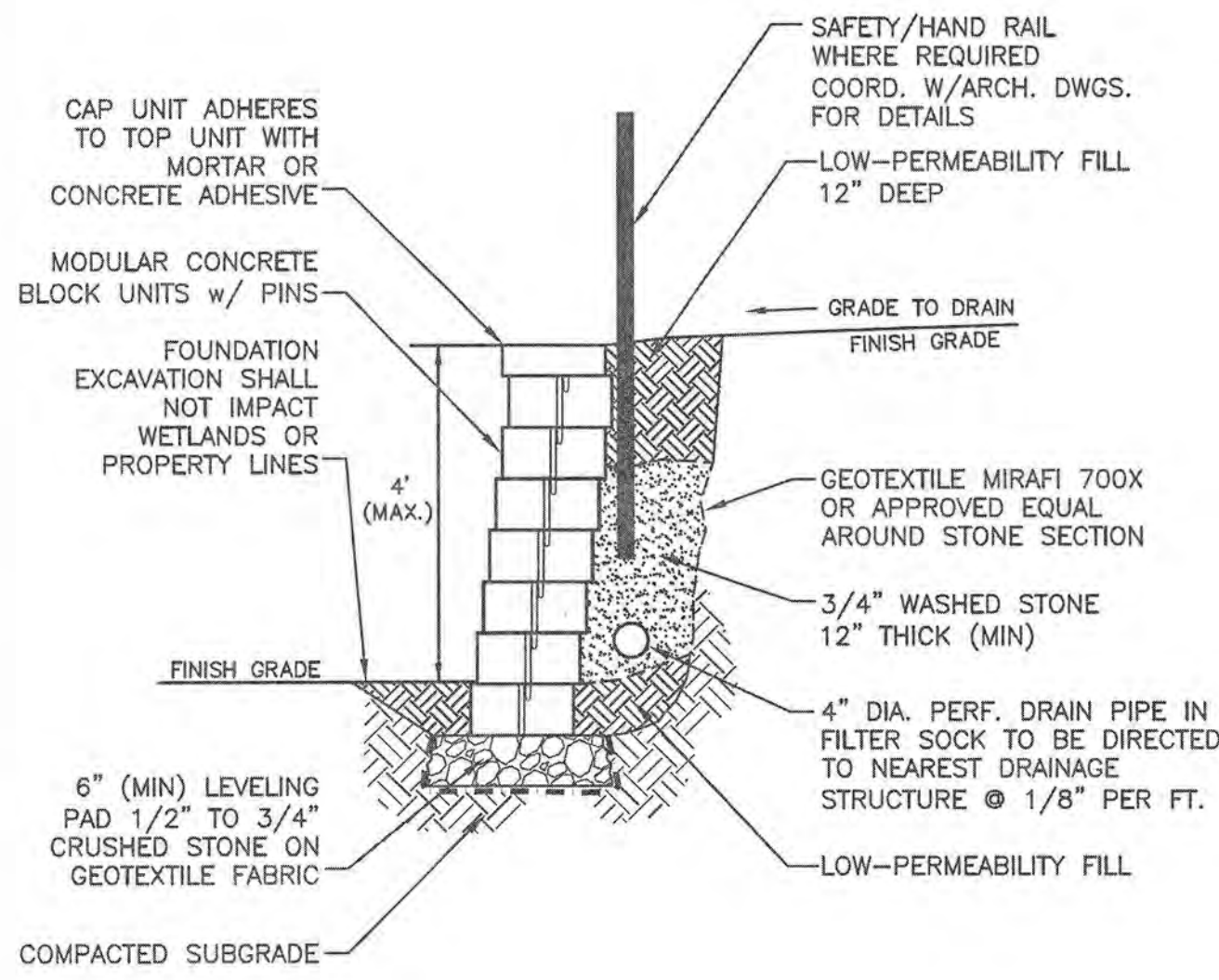
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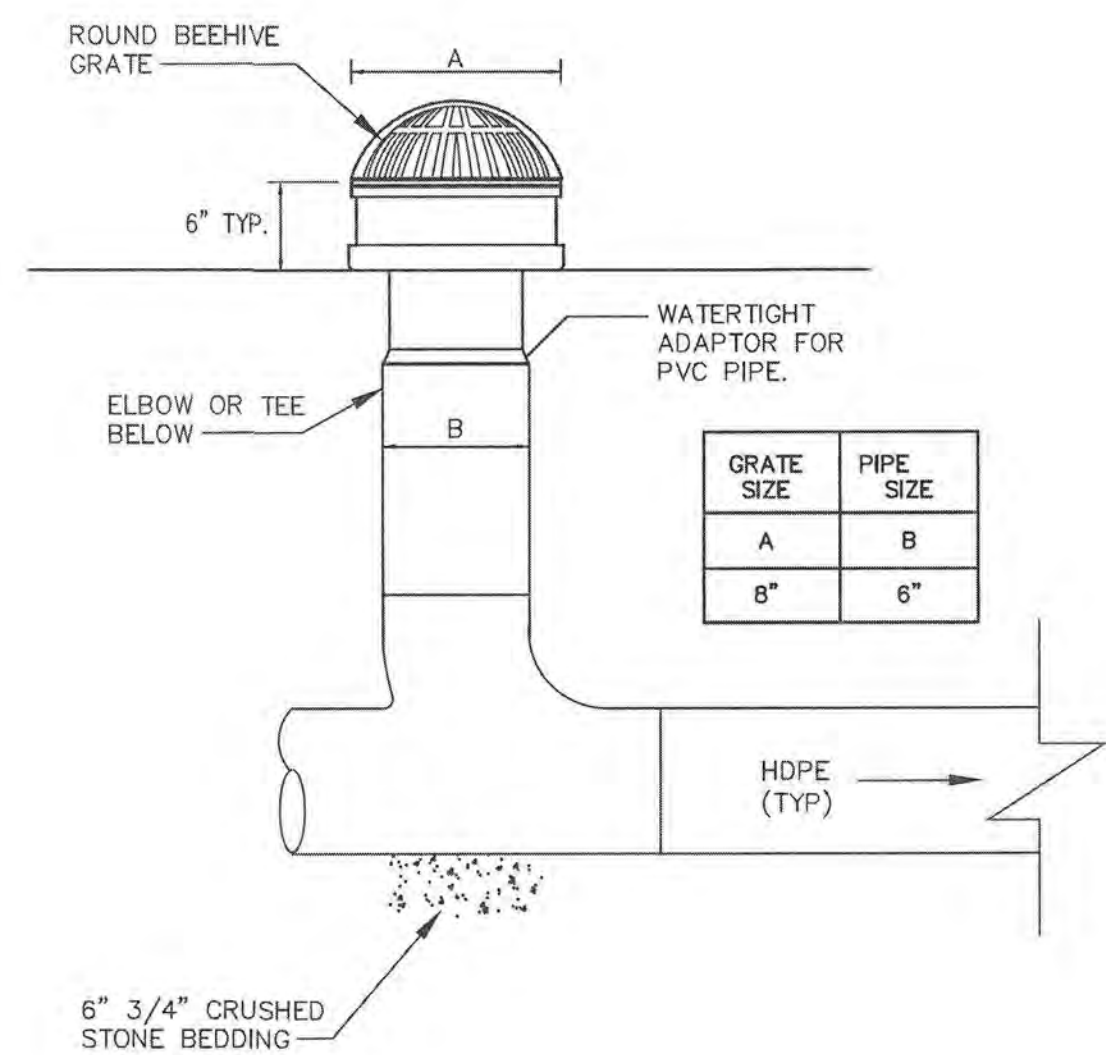
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P-4950



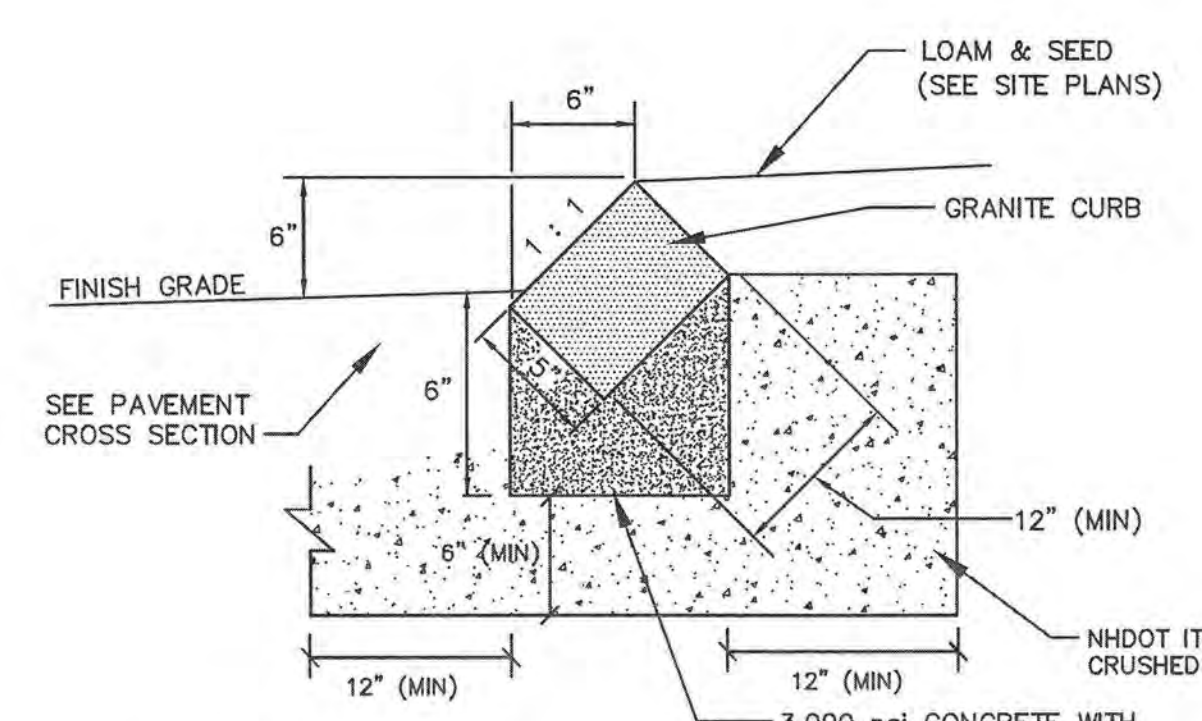
- NOTES:**
1. TYPICAL MODULAR BLOCK SHALL BE PRECAST CONCRETE MEASURING APPROXIMATELY 16"x12"x6". OTHER BLOCK SIZES MAY BE APPROVED BY THE ENGINEER UPON REQUEST. CAP UNITS SHALL BE PER THE STANDARDS OF THE SELECTED MANUFACTURER.
 2. BLOCK MANUFACTURER SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
 3. WALL SHALL BE INSTALLED PER THE REQUIREMENTS OF THE MANUFACTURER.
 4. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER.
 5. LOCKING PINS MAY OR MAY NOT BE REQUIRED BASED ON THE WALL MANUFACTURER APPROVED BY THE ENGINEER.
 6. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST ONE BLOCK UNLESS OTHERWISE SPECIFIED BY THE WALL MANUFACTURER.
 7. WALL BATTER SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS.
 8. BLOCK FINISH SHALL BE AT THE DISCRETION OF THE OWNER.
 9. MODULAR BLOCK RETAINING WALL SHALL BE DIAMOND PRO WALL SYSTEM BY ANCHOR WALL SYSTEMS (OR APPROVED EQUAL). VERIFY WITH OWNER & ARCHITECT.

MODULAR BLOCK RETAINING WALL NOT TO SCALE



- YARD DRAIN NOTES:**
1. INLINE DRAIN TO BE PVC DIAMETER AS SPECIFIED AND AS MANUFACTURED BY ADS 1-800-821-6710 OR APPROVED EQUAL.
 2. THE CONTRACTOR SHALL INSTALL THE INLINE DRAIN AS PER THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON THE DRAWINGS.

YARD DRAIN AND GRATE NOT TO SCALE



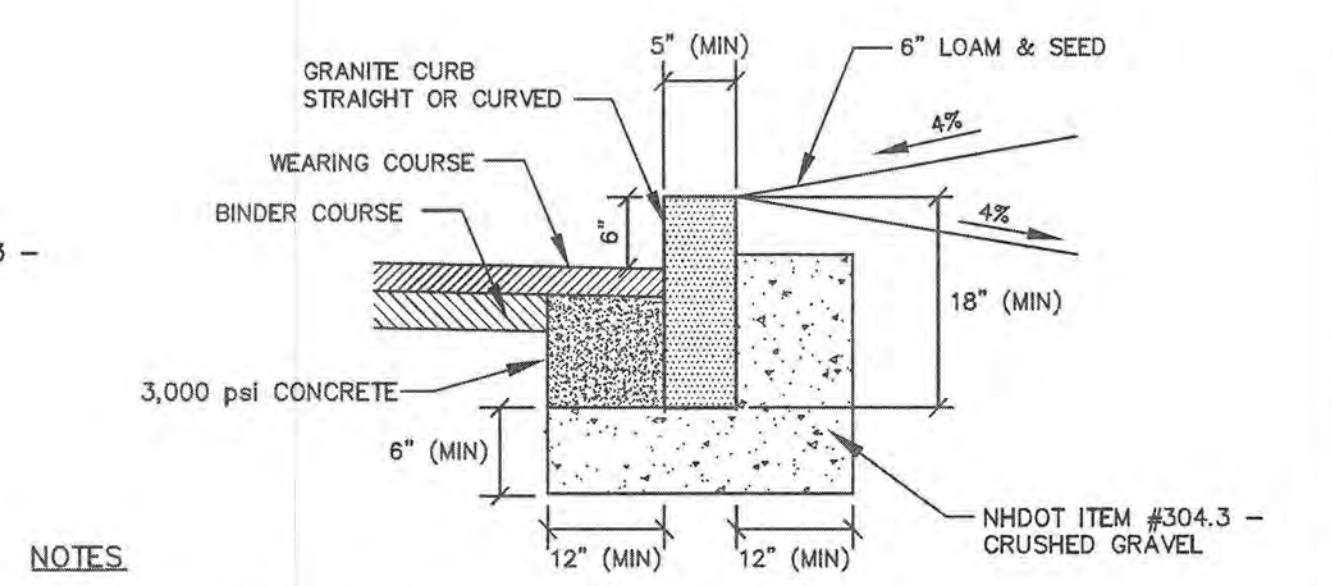
- NOTES**
1. SEE SITE PLAN FOR LIMITS OF CURBING
 2. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
 3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
 4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
 5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
OVER 110'	8'

SLOPED GRANITE CURB NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

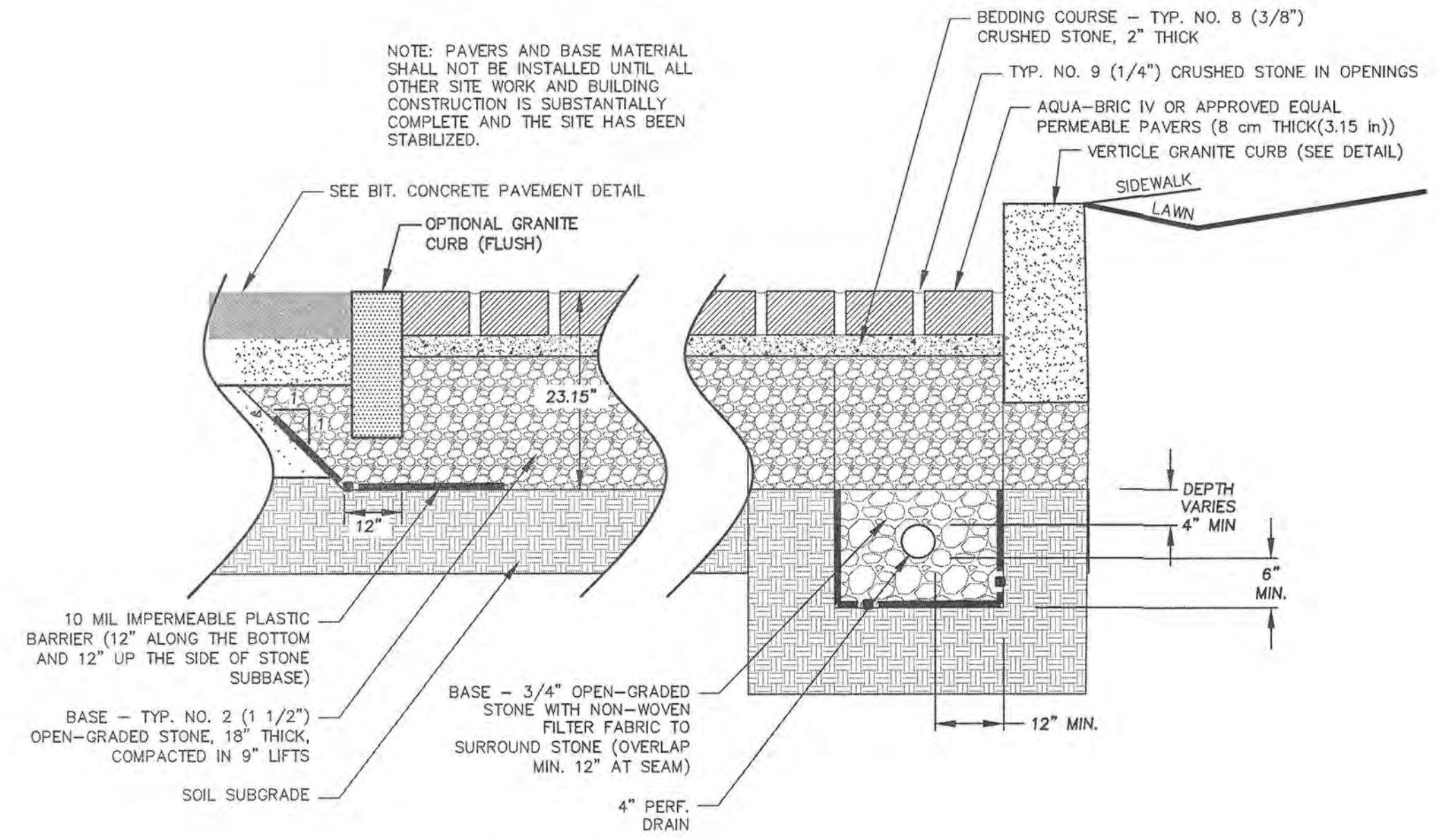
CHAIRMAN _____ DATE _____



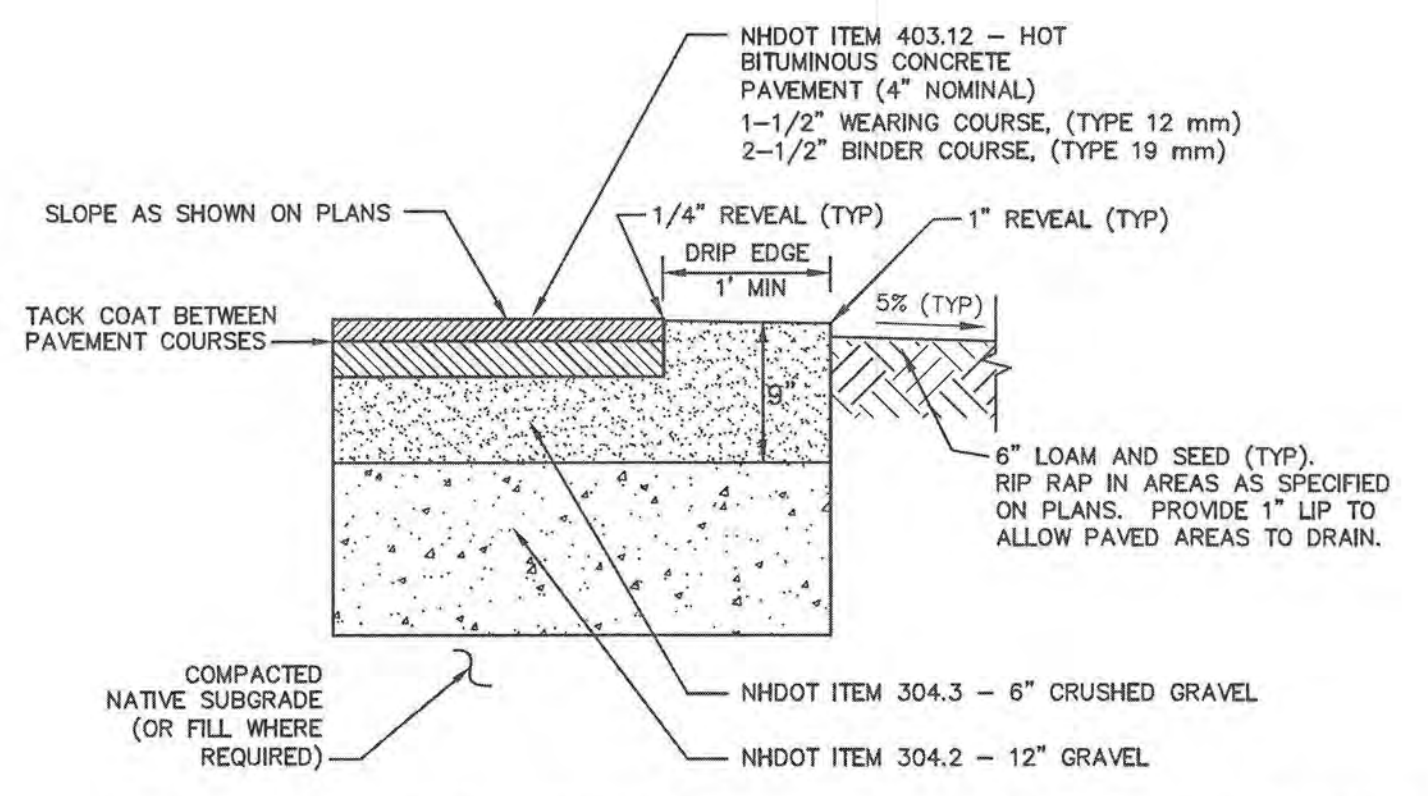
- NOTES**
1. SEE PLANS FOR CURB LOCATION.
 2. SEE PLANS FOR PAVEMENT CROSS SECTION.
 3. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
 4. MINIMUM LENGTH OF CURB STONES = 4'.
 5. MAXIMUM LENGTH OF CURB STONES = 10'.
 6. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
 7. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALL FOR ON THE PLANS.
 8. CURB SHALL BE INSTALLED PRIOR TO PLACEMENT OF TOP PAVEMENT COURSE.
 9. JOINTS BETWEEN CURB STONES SHALL BE MORTARED.

RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'

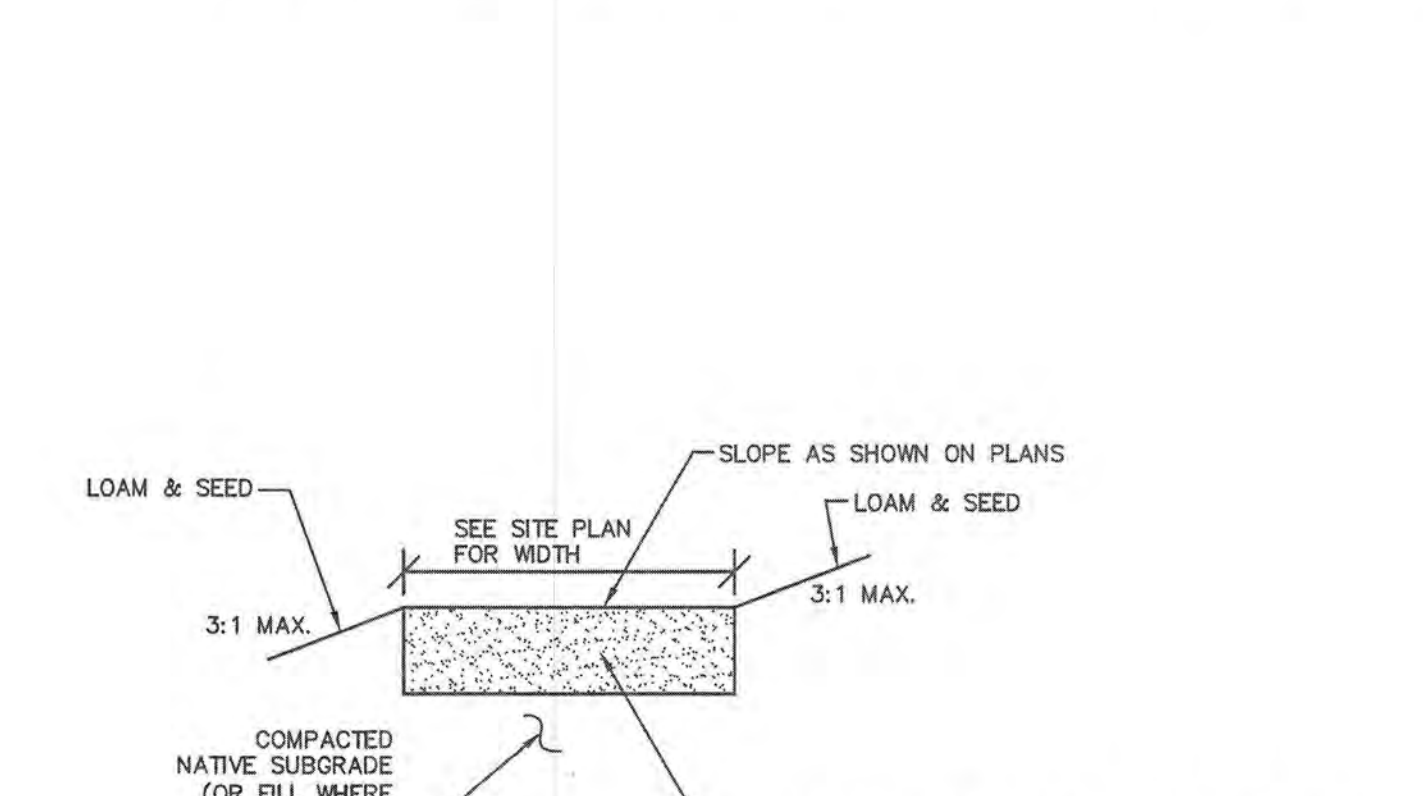
VERTICAL GRANITE CURB NOT TO SCALE



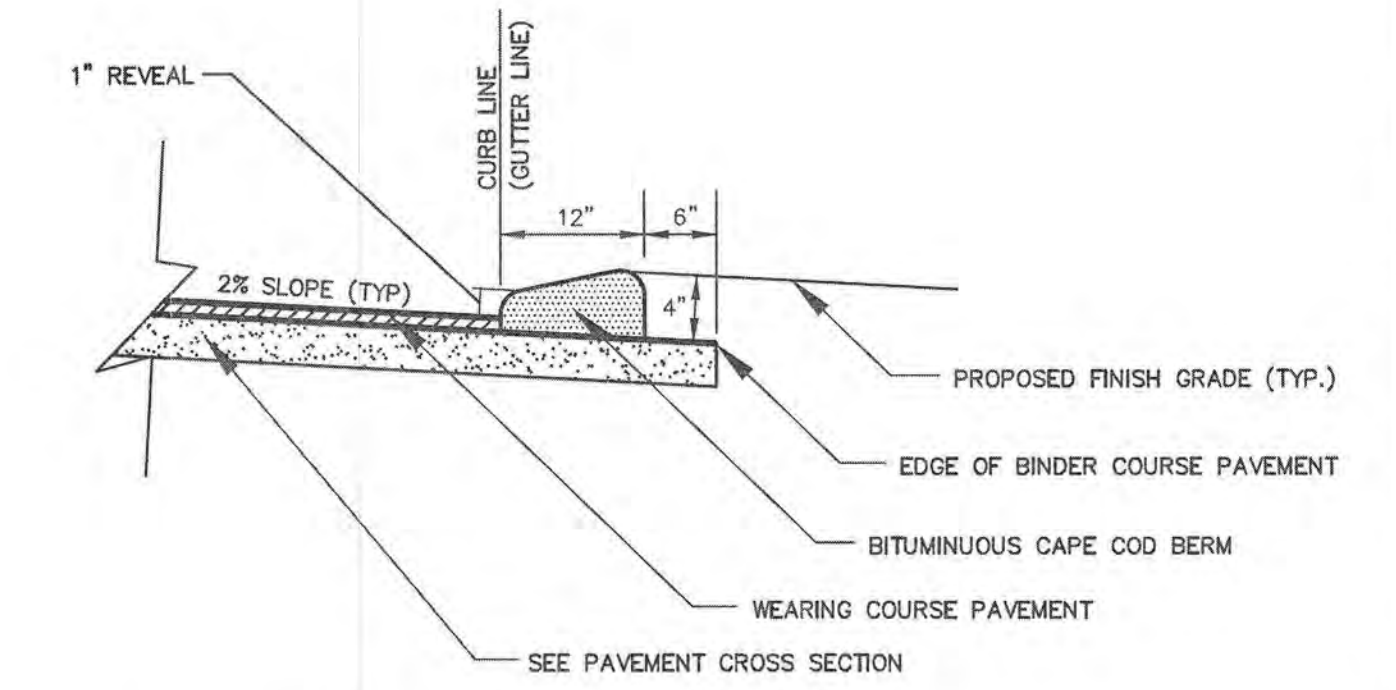
PERMEABLE PAVERS DETAIL NOT TO SCALE



PAVEMENT CROSS SECTION NOT TO SCALE



GRAVEL PATH CROSS SECTION NOT TO SCALE



CAPE COD BERM NOT TO SCALE

ENGINEER:

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.COM



ISSUED FOR: TAC

ISSUE DATE: OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19
2	TAC SUBMISSION	CDB	10/18/19

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 4950DETAILS.DWG

SCALE: NOT TO SCALE

OWNER: BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT: 200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

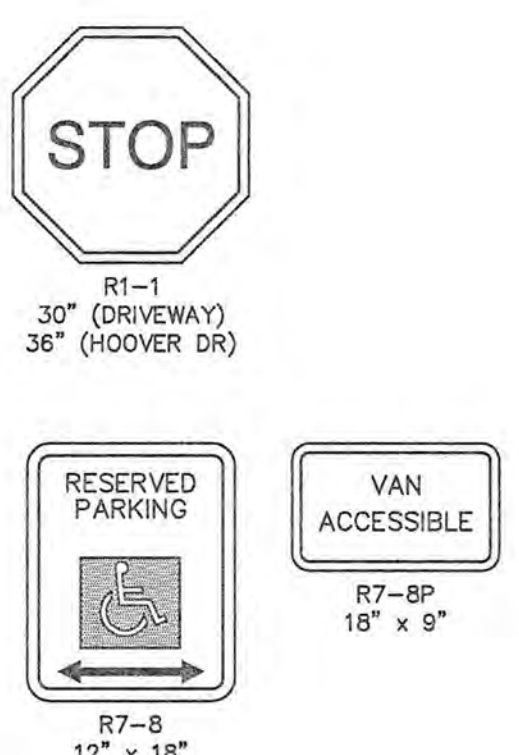
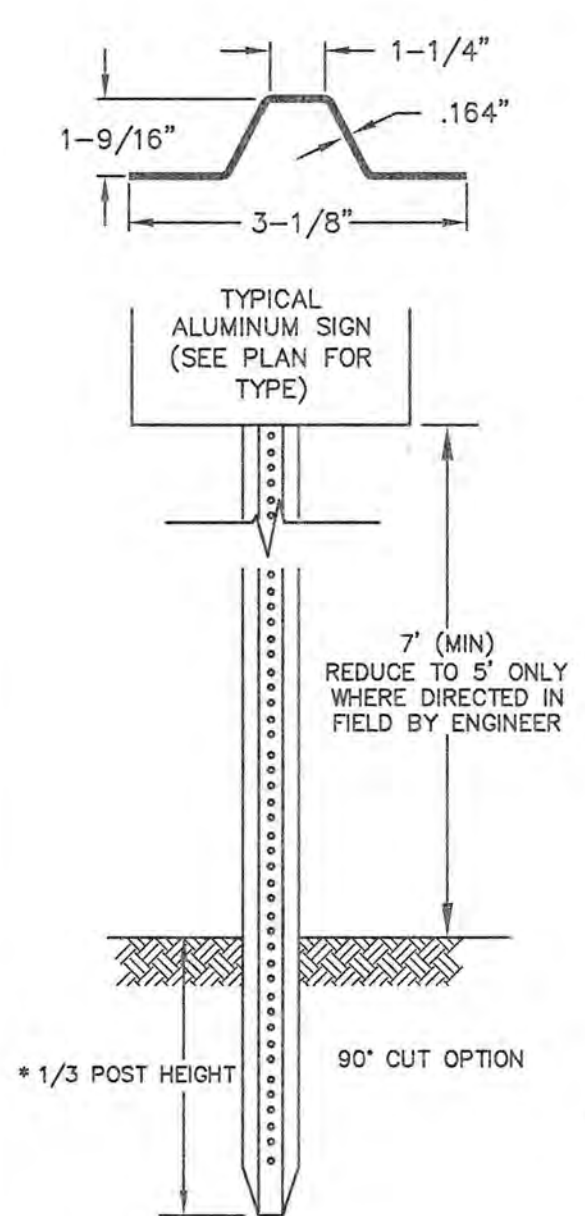
PROJECT: CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: D.6

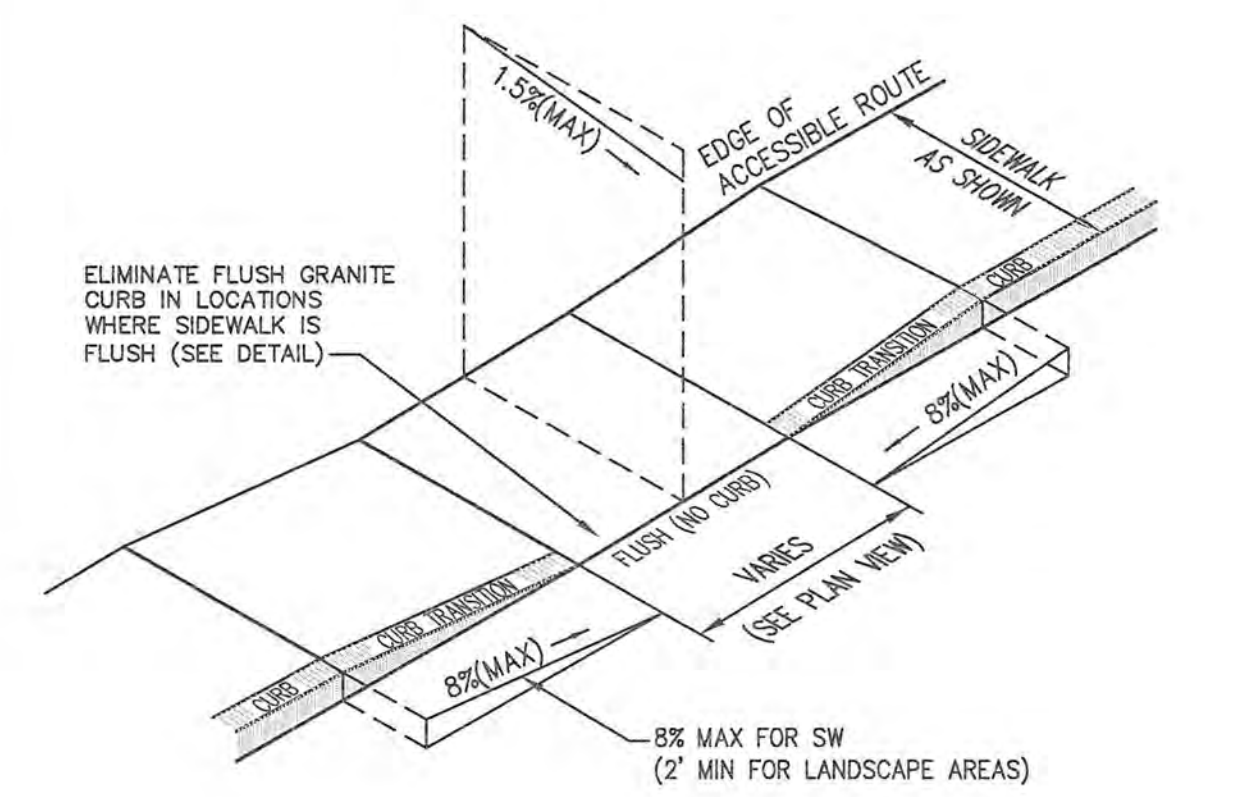
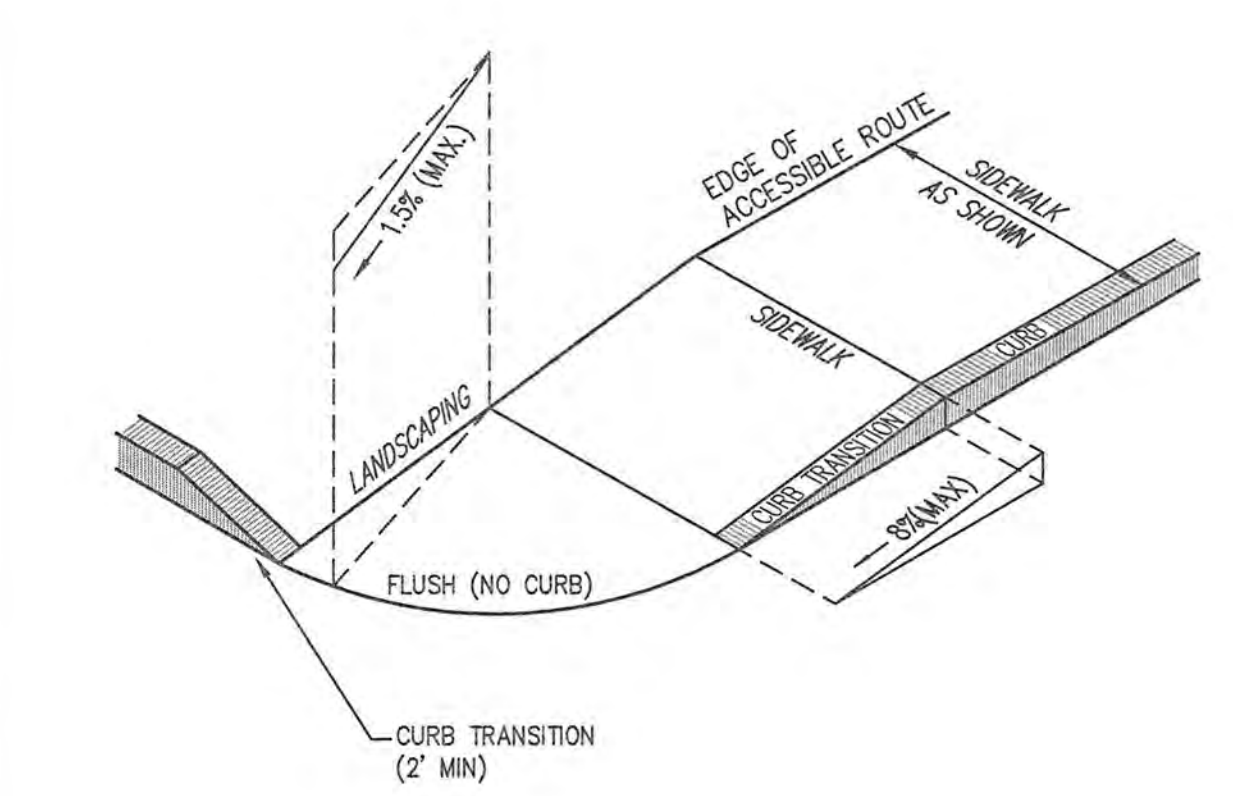


NOTES

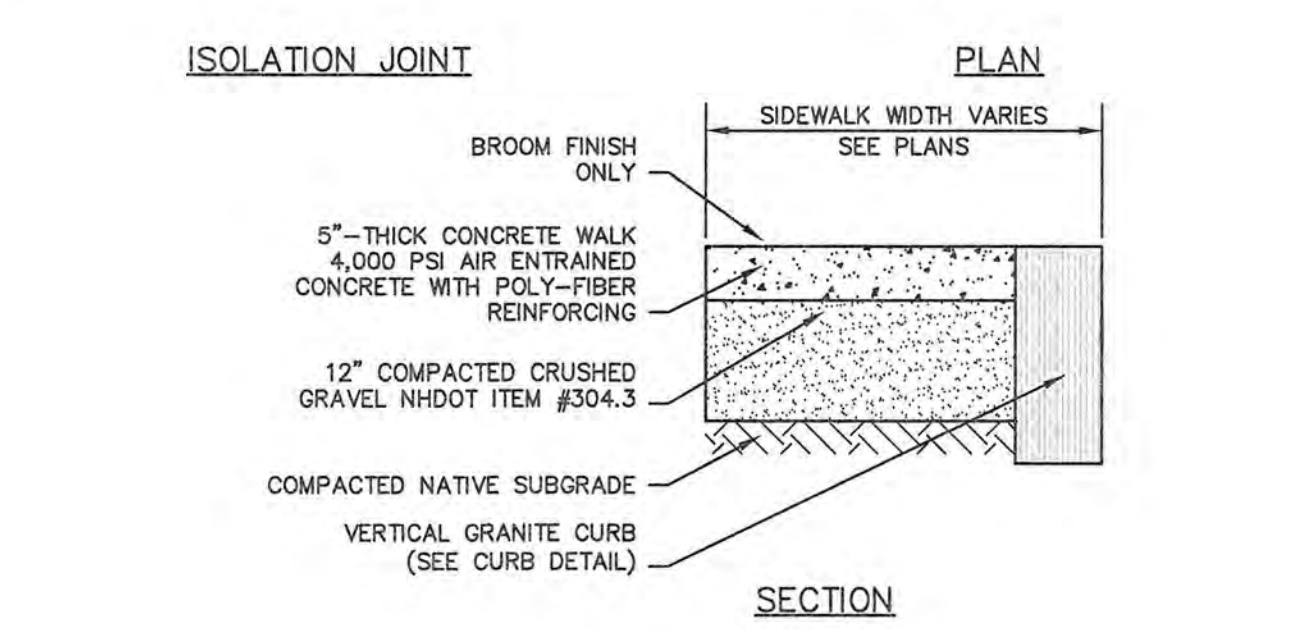
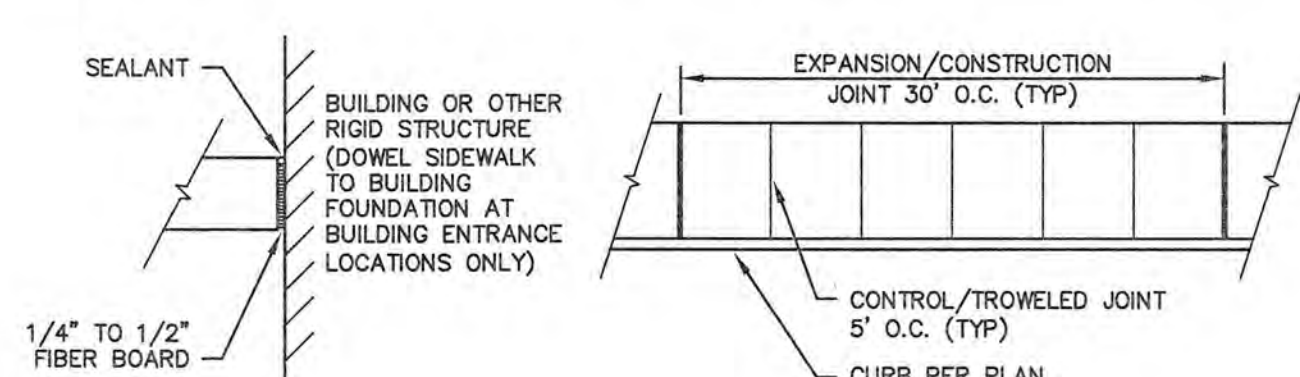
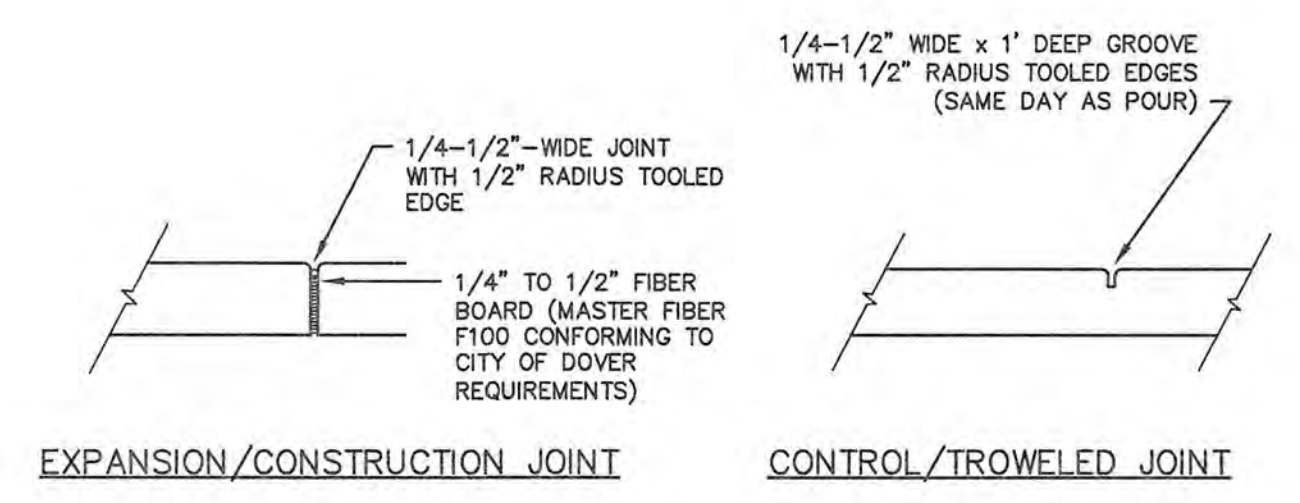
1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN DETAILS NOT TO SCALE

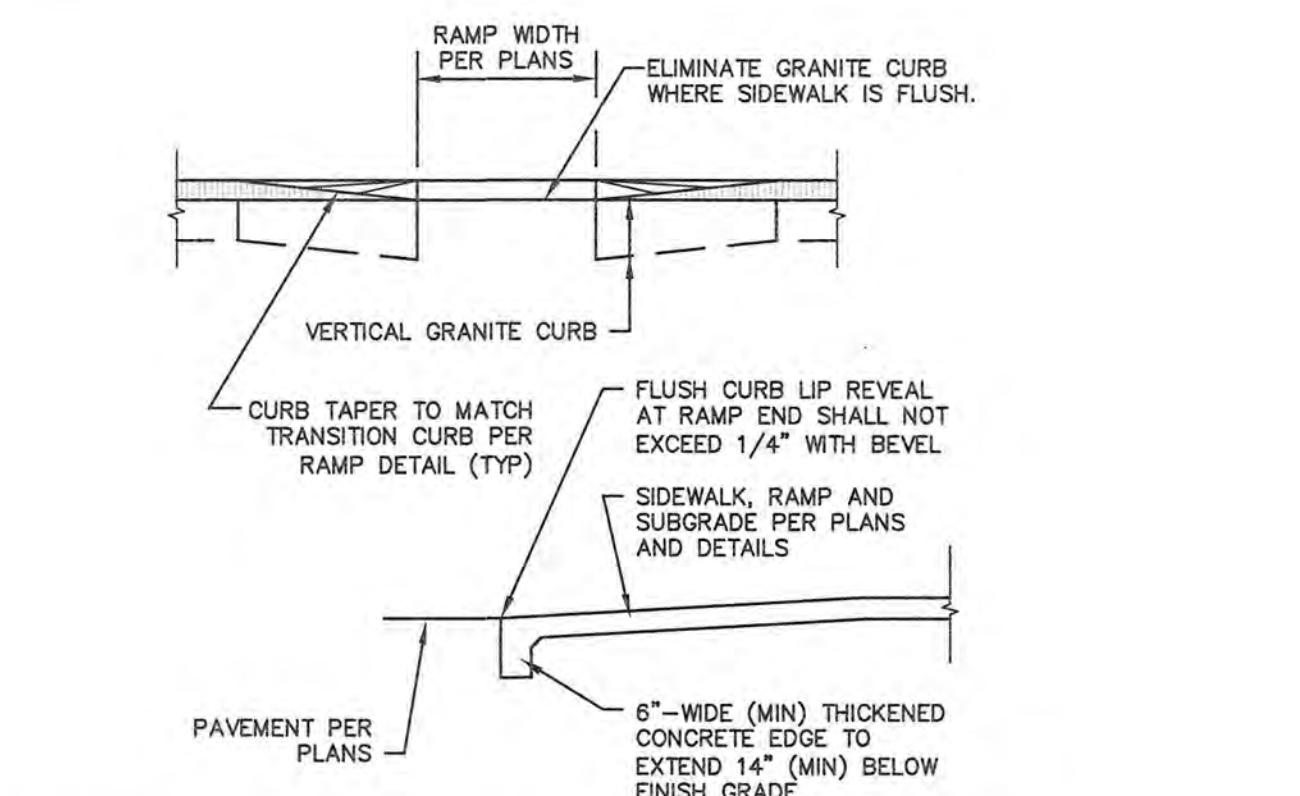
LENGTH: AS REQUIRED
 WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
 HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
 STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)



CURB RAMP NOT TO SCALE



CONCRETE SIDEWALK DETAIL NOT TO SCALE

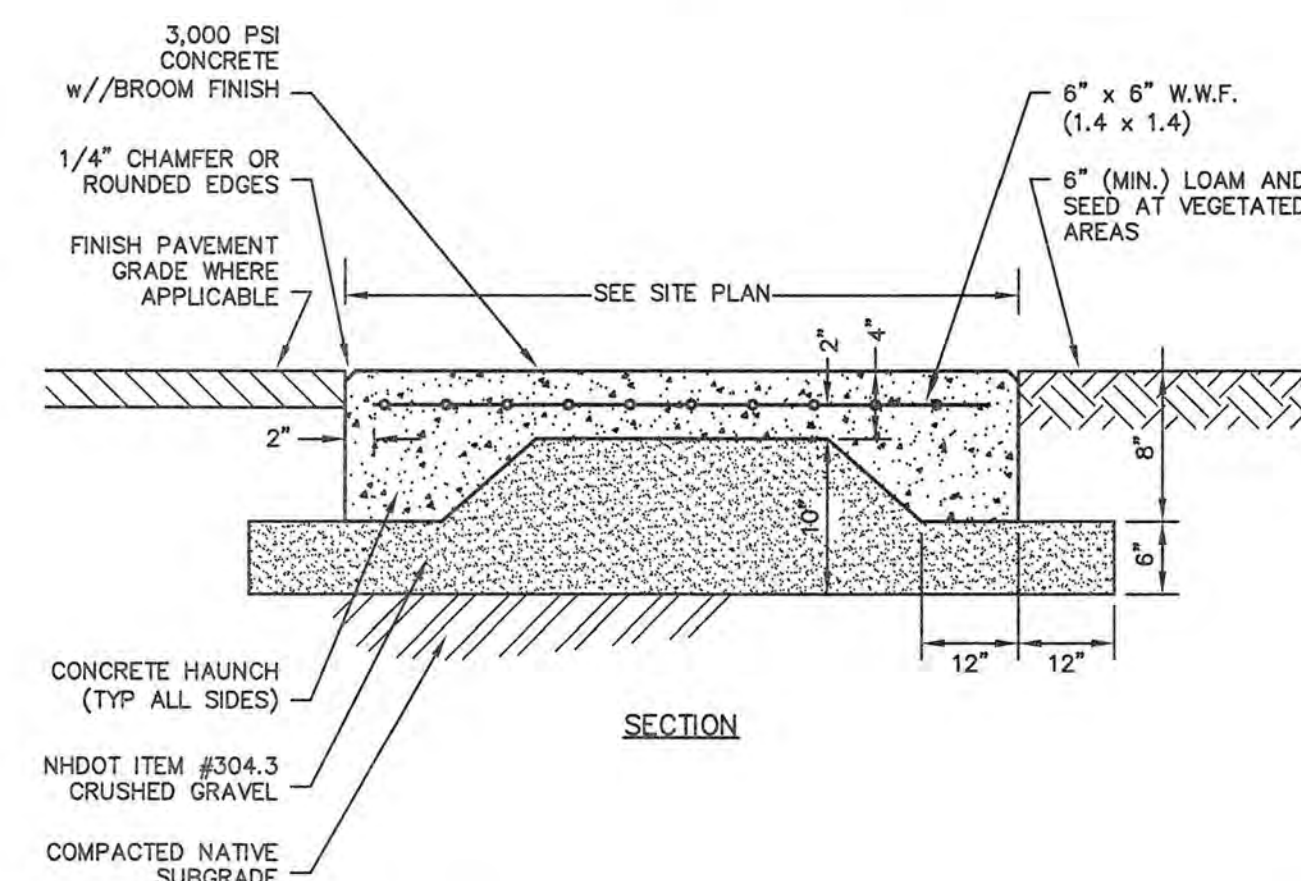
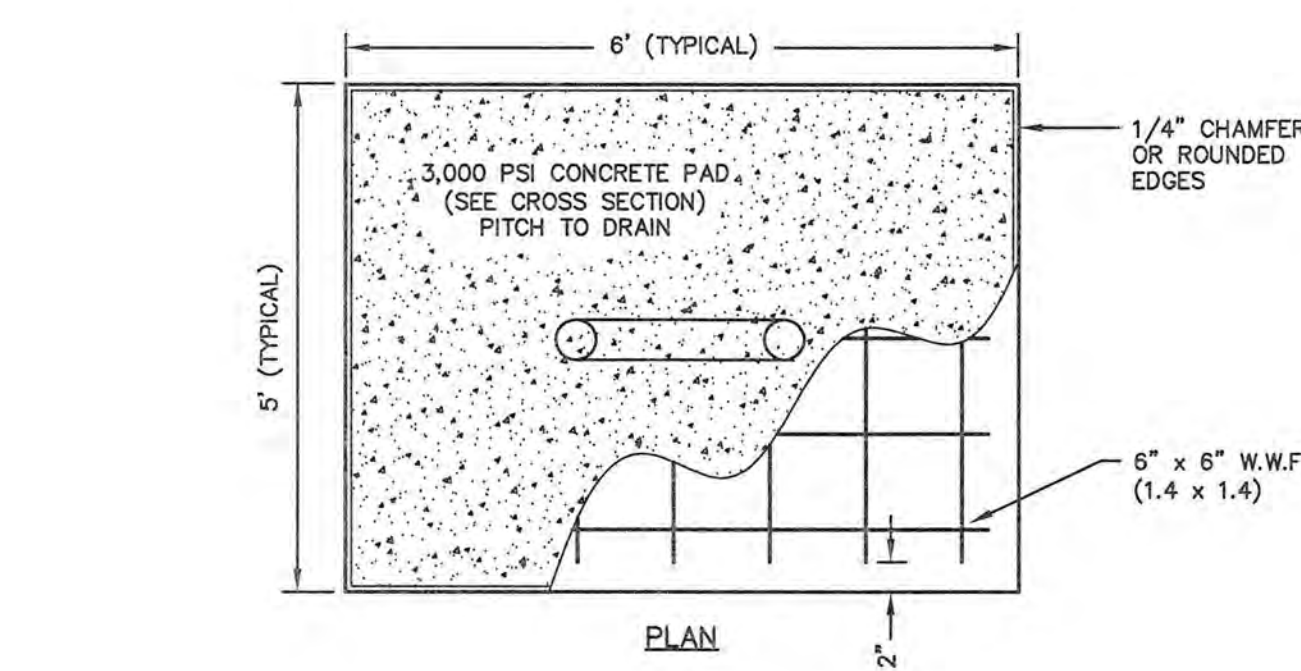


FLUSH CURB AT RAMP DETAIL NOT TO SCALE

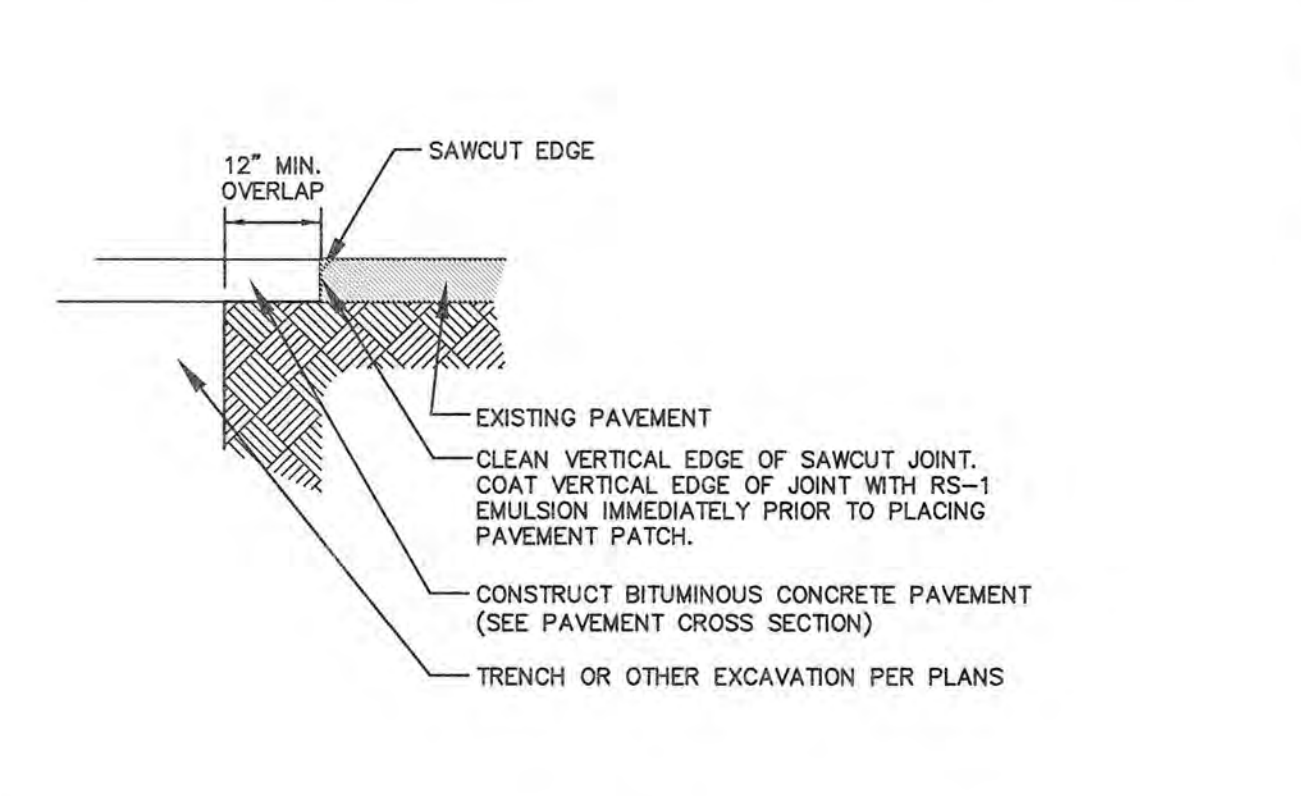
ADDITIONAL NOTES APPLICABLE TO ALL CURB RAMPS:

1. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
2. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 2%.
3. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
4. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
5. CURB TREATMENT VARIES. SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
9. EDGES OF SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
11. CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

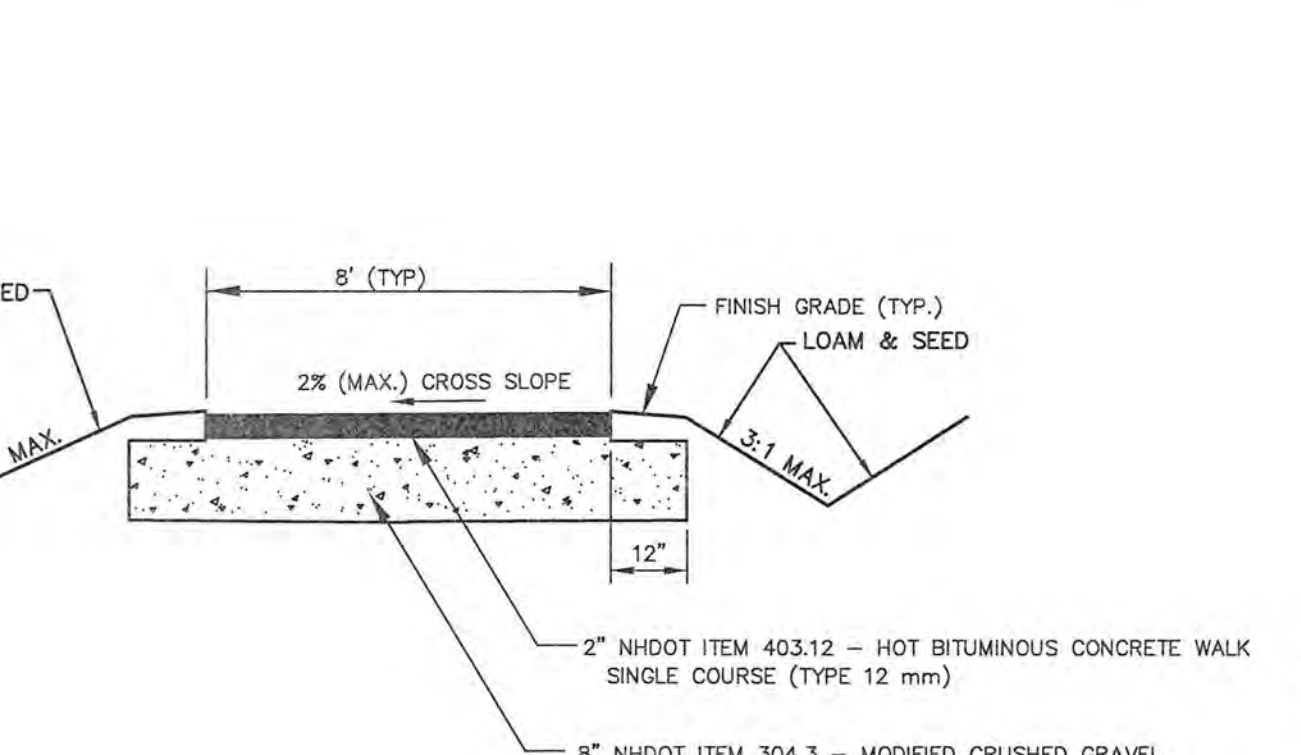
CONCRETE SIDEWALK DETAIL NOT TO SCALE



BICYCLE RACK PAD NOT TO SCALE



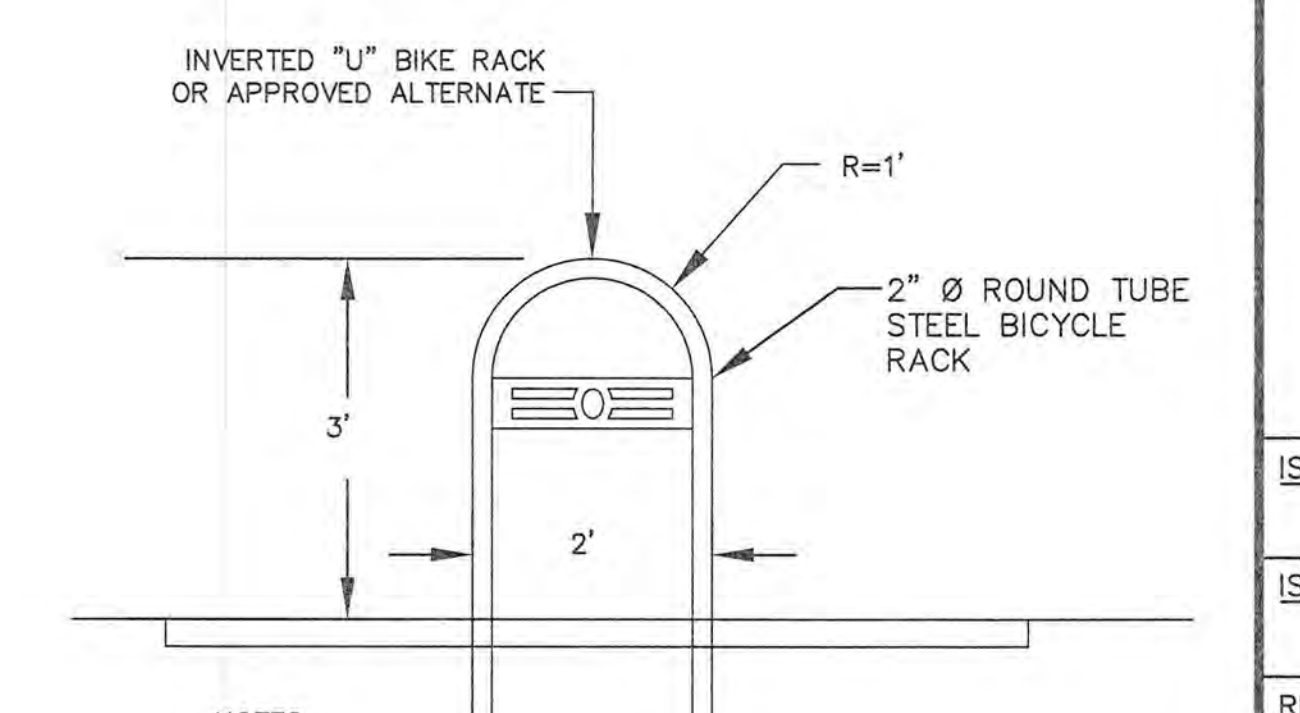
TYPICAL PAVEMENT SAWCUT NOT TO SCALE



BITUMINOUS CONCRETE SIDEWALK NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

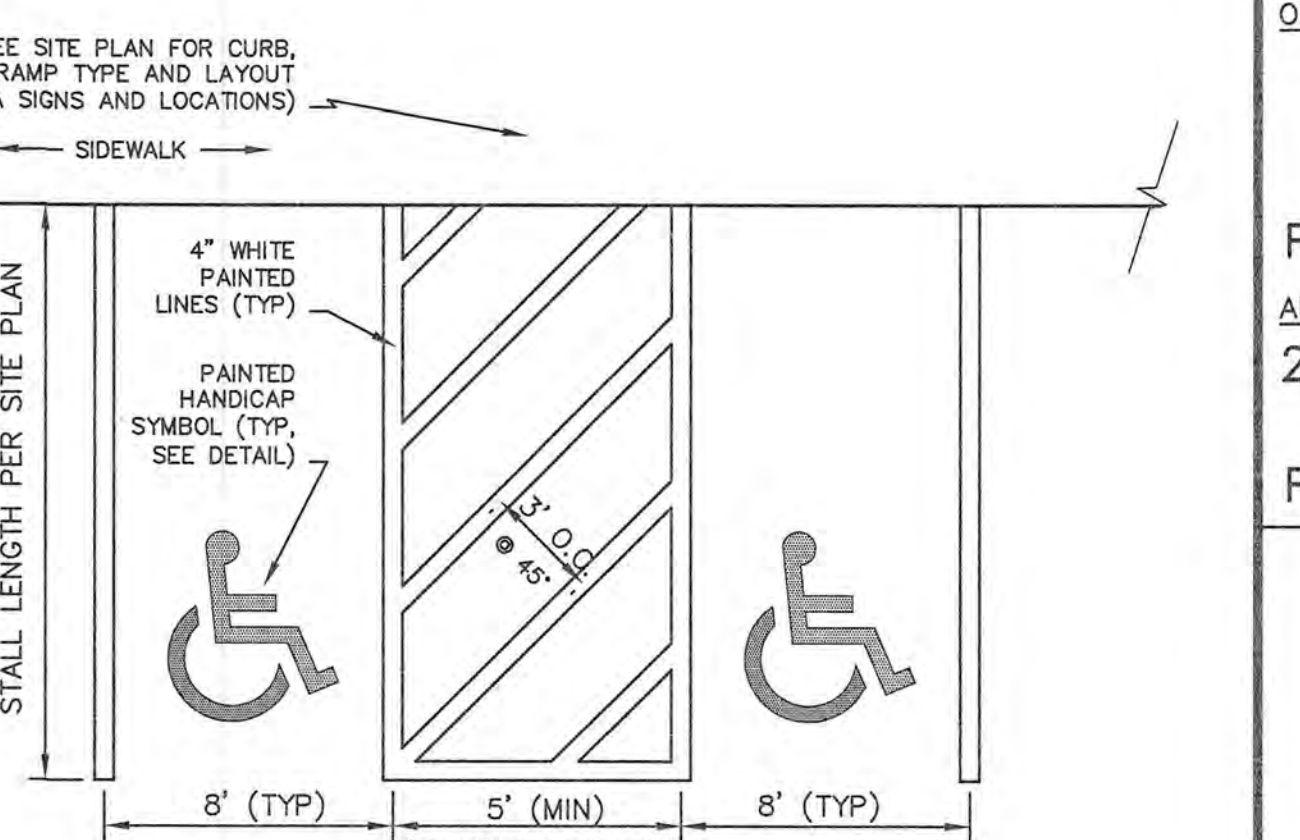
CHAIRMAN _____ DATE _____



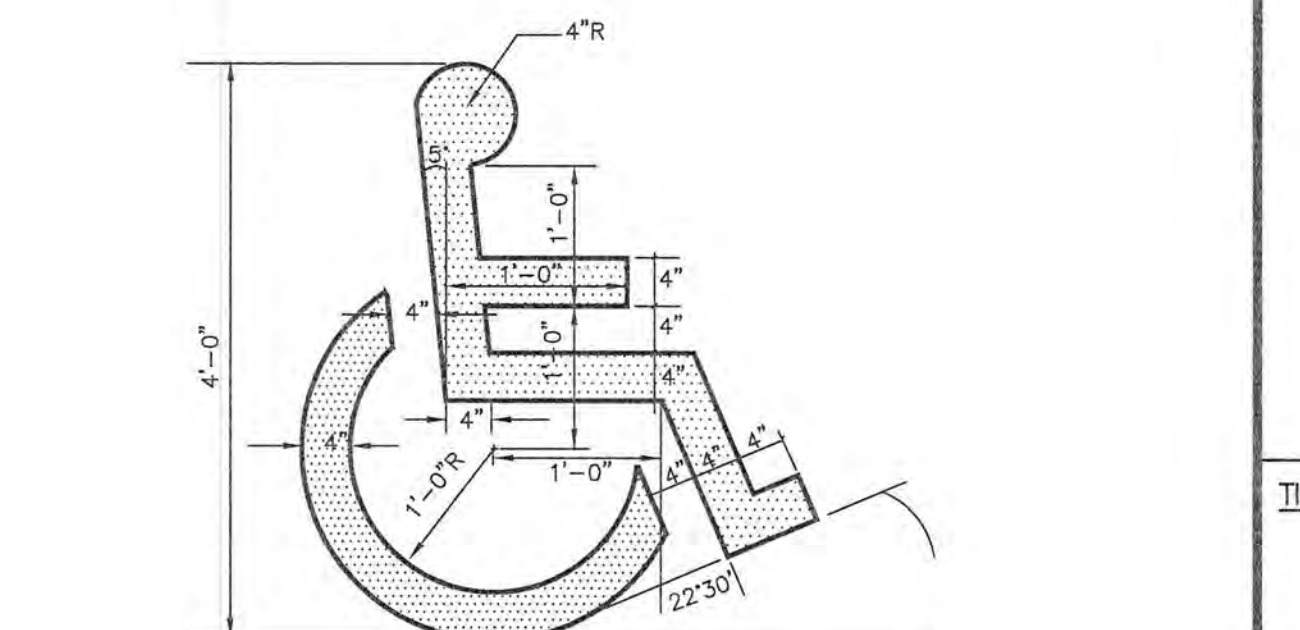
NOTES:

1. INSTALL BICYCLE RACK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. DETAIL DEPICTS IN-GROUND MOUNT. USE SURFACE MOUNT BICYCLE RACK FOR INSTALLATIONS ON CONCRETE PADS.
3. SEE SITE PLAN FOR CONCRETE PAD LAYOUT & REQUIRED NUMBER OF STALLS. PROVIDE RACKS AS SHOWN ON SITE PLAN. THERE SHALL BE A MINIMUM OF 1.5 FEET TO EDGE OF CONCRETE PAD FROM RACK.

BICYCLE RACK DETAIL NOT TO SCALE



PARKING STALL LAYOUT NOT TO SCALE



NOTES:

1. SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND OPTIONAL).

PAINTED ADA SYMBOL NOT TO SCALE

ENGINEER:

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
 (603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: TAC

ISSUE DATE: SEPTEMBER 16, 2019

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	05/26/19
1	TAC SUBMISSION	CDB	09/16/19

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 4950DETAILS.DWG

SCALE: NOT TO SCALE

OWNER:

BETHEL ASSEMBLY OF GOD
 200 CHASE DRIVE
 PORTSMOUTH, NH 03801

APPLICANT:

200 CHASE DRIVE, LLC
 36 MAPLEWOOD AVE.
 PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
 PORTSMOUTH, NH

ASSESSOR'S PARCEL
 210-2

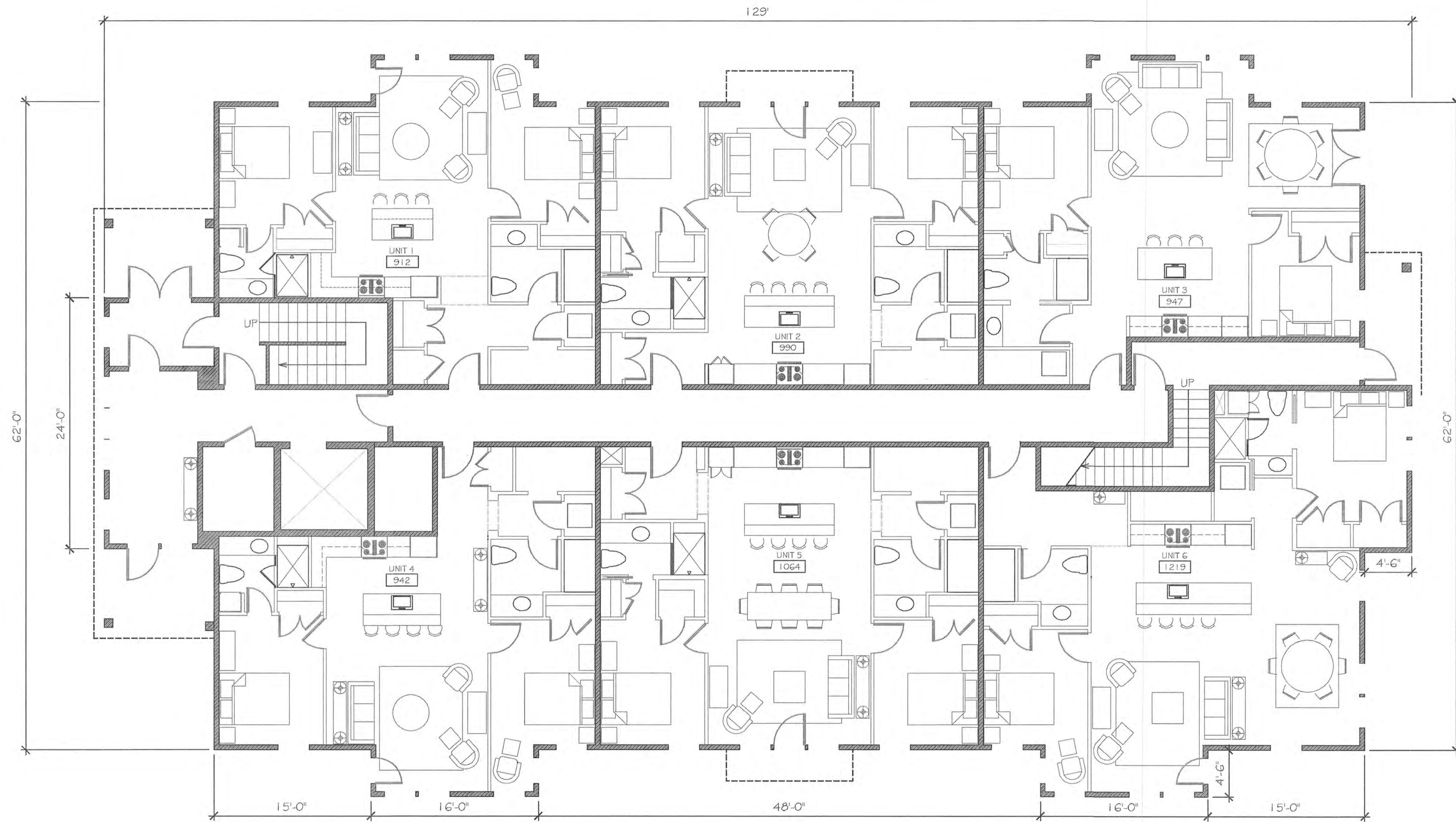
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D.7

P-4950

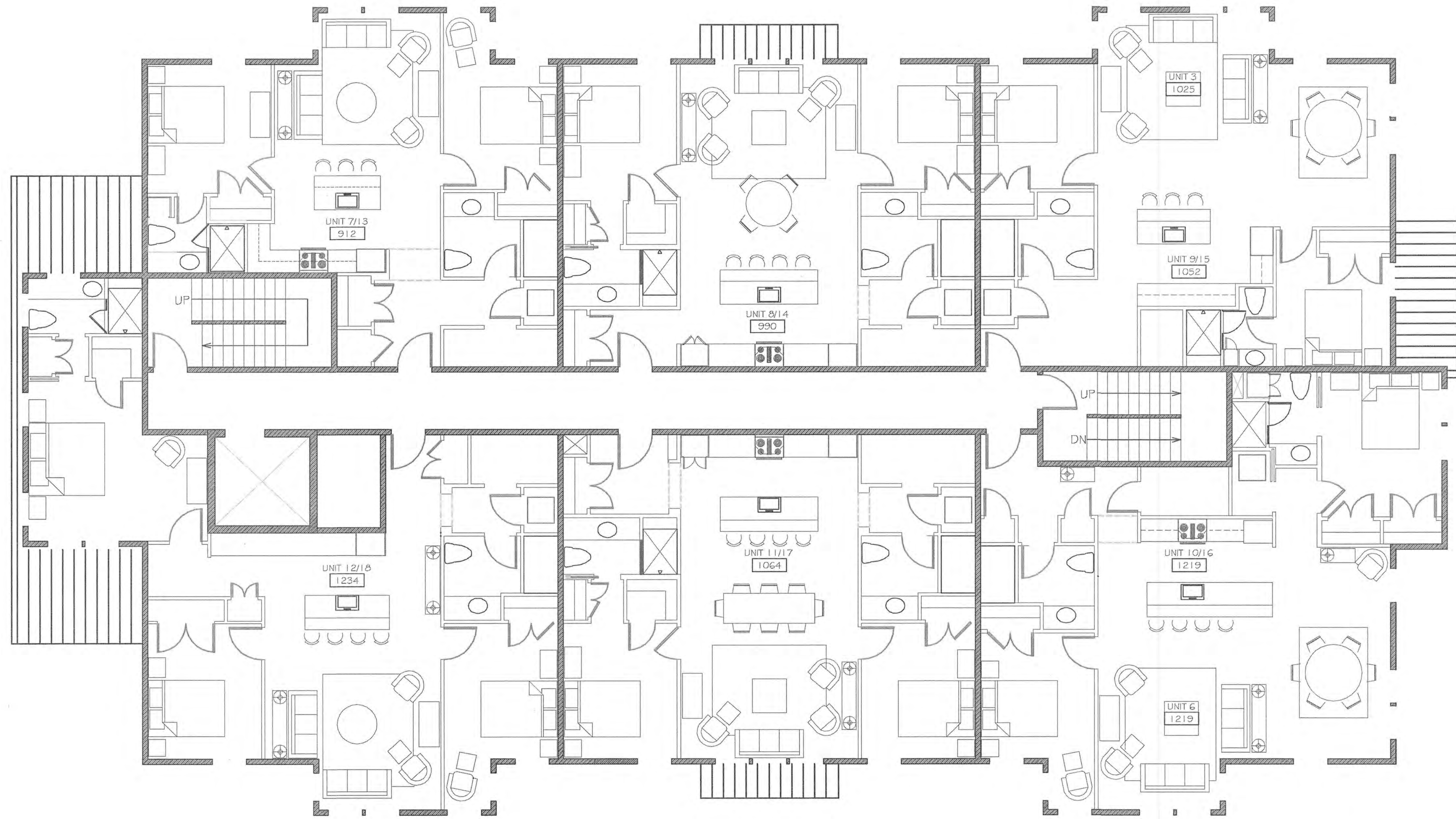


TOTAL FLOOR AREA: 28,727sf
 NUMBER OF USABLE FLOORS: 4
 GROSS FLOOR AREA/FLOOR [# USE]: FIRST FLOOR- 7432sf [RESIDENTIAL]
 SECOND FLOOR- 7432sf [RESIDENTIAL]
 THIRD FLOOR- 7432sf [RESIDENTIAL]
 FOURTH FLOOR- 6431sf [RESIDENTIAL]

SUBDIVISION at 200 CHASE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

FIRST FLOOR SKETCH PLAN

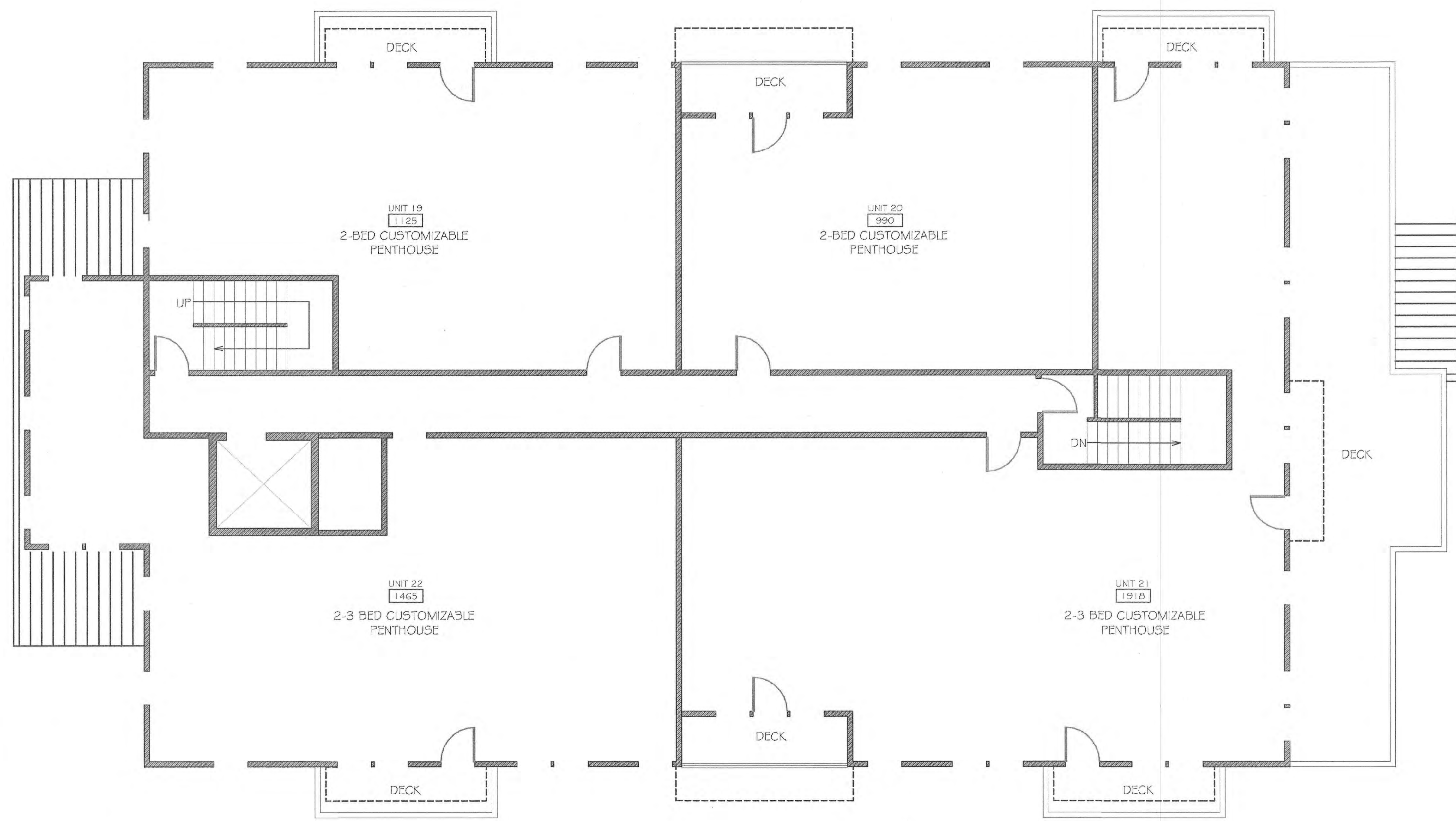
11.2019



SUBDIVISION at 200 CHASE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

SECOND AND THIRD FLOOR SKETCH PLANS

11.2019



SUBDIVISION at 200 CHASE DRIVE
PORTSMOUTH, NEW HAMPSHIRE

FOURTH FLOOR SKETCH PLAN

11.2019



SUBDIVISION at 200 CHASE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

MARKET STREET ELEVATION SKETCH

11.2019



SUBDIVISION at 200 CHASE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

MICHAEL SUCCI DR. ELEVATION

11.2019



SUBDIVISION at 200 CHASE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

CHASE ELEVATION SKETCH

11.2019



SUBDIVISION at 200 CHASE DRIVE
 PORTSMOUTH, NEW HAMPSHIRE

CHURCH FACING ELEVATION SKETCH

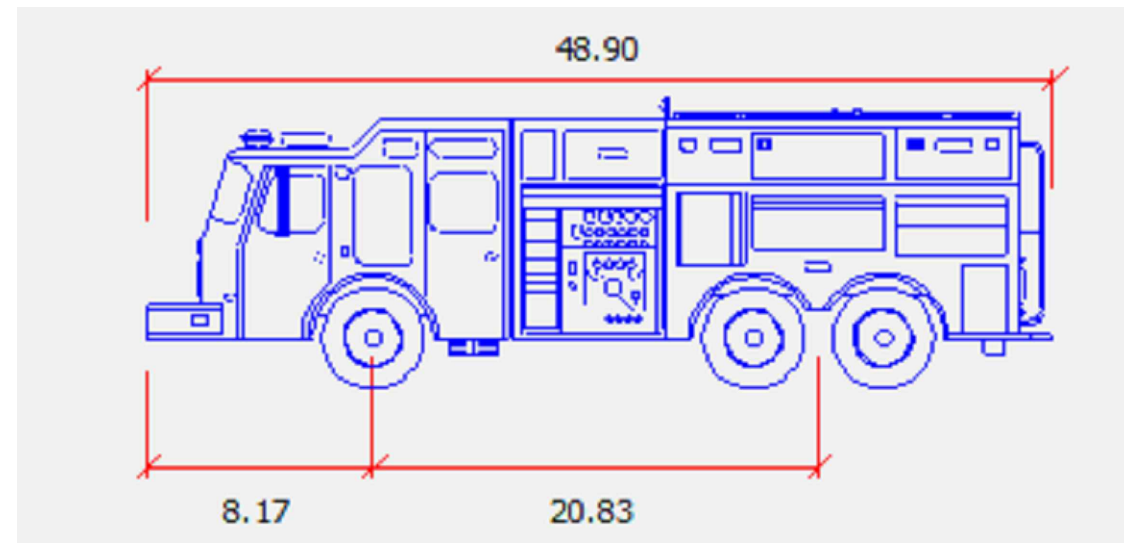
11.2019



200 Chase Ave, Portsmouth, NH
June 2019

Artist Renderings of Michael Succi Drive Elevation





PORTSMOUTH LADDER TRUCK

NORTH
NAD83(2011)
GRID
NHSFC

ENGINEER:
ALTUS
ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR:
PLANNING BOARD APPROVAL
ISSUE DATE:
OCTOBER 18, 2019

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION		CDB	10/18/19

DRAWN BY: _____ CDB
APPROVED BY: _____ EDW
DRAWING FILE: _____ 4950.DWG

SCALE:
22" x 34" - 1" = 20'
11" x 17" - 1" = 40'

OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801
APPLICANT:
200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

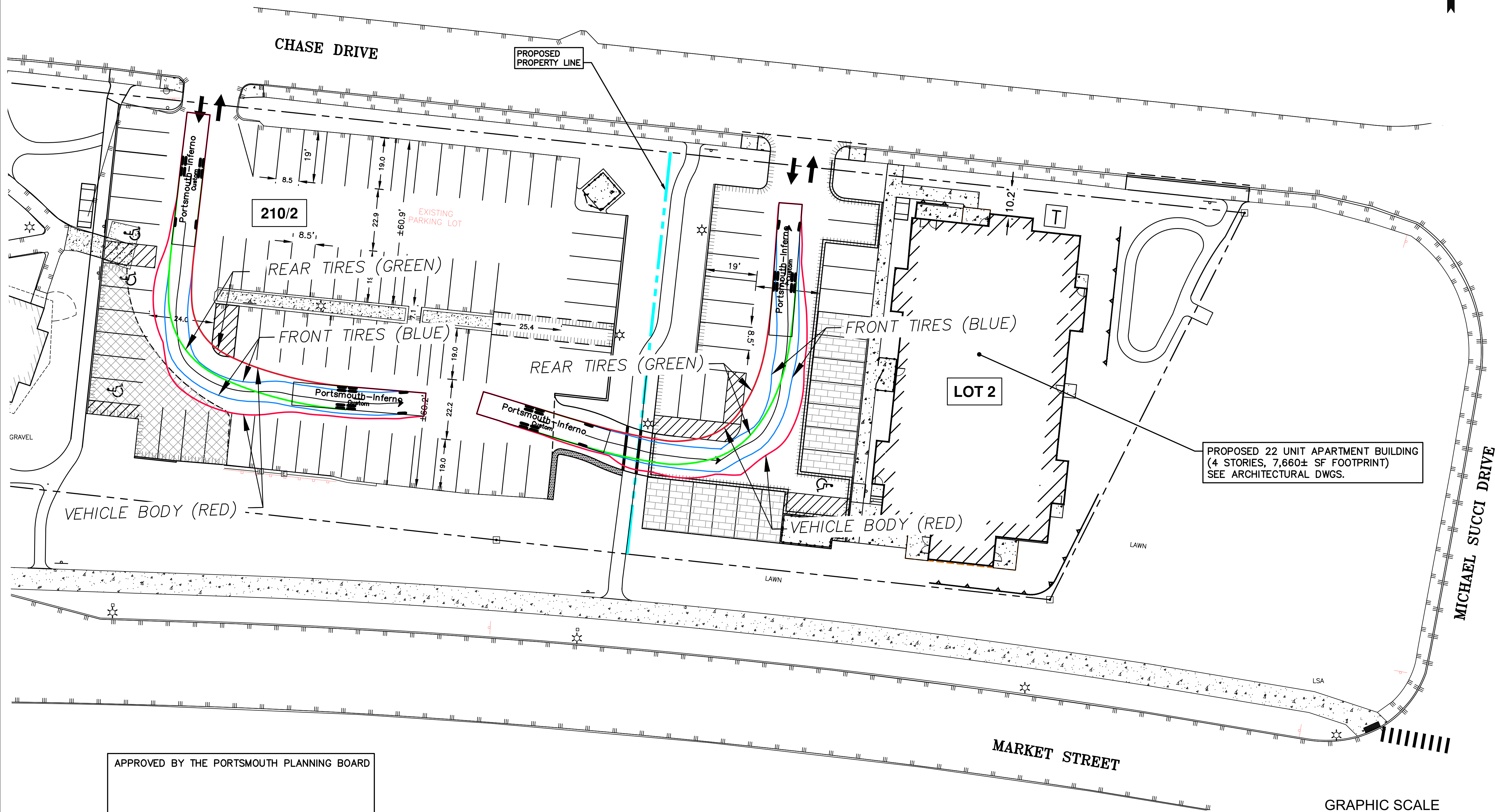
CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

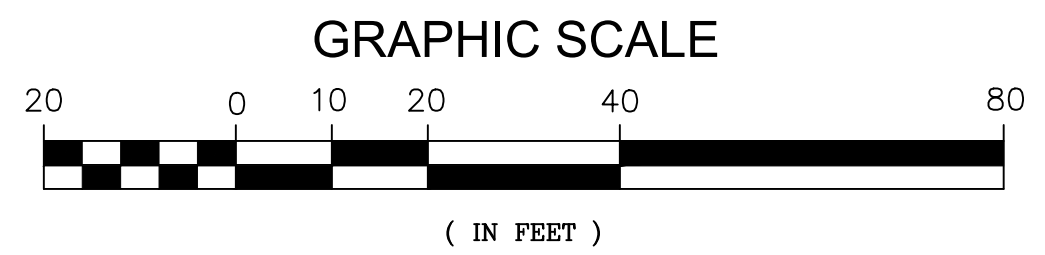
ASSESSOR'S PARCEL
210-2

TITLE:
AUTOTURN TURNING TEMPLATE (PORTSMOUTH LADDER TRUCK)

SHEET NUMBER:
AT-1



APPROVED BY THE PORTSMOUTH PLANNING BOARD
CHAIRMAN _____ DATE _____



P4950

DRAINAGE MEMO
200 Chase Drive Gateway Development Site
Assessor's Map 210 Lot 02
Altus Project P4950

This supplemental Drainage Memo provides a summary of the changes and results from the original Drainage Report that was submitted for the proposing development site located at 200 Chase Drive (Assessor's Map 210, Lot 02). The proposed project will subdivide the existing lot that is owned by the Bethel Assembly of God and is the current home to the Connect Community Church. The new lot will provide a new multi-family building that will provide 22 housing units as well as additional site improvements.

On October 1, 2019 the proposed development was heard by the City of Portsmouth Technical Advisory Committee (TAC). During this meeting TAC provided design comments for the proposed development. The two primary comments that impact the proposed drainage were:

Provide a connection between the two parking lots for emergency vehicle and traffic circulation.
Do not connect the drainage from Raingarden #1 to the existing CMP in Chase Drive. It is preferred to outlet to the drainage basin area adjacent to Michael Succi Drive.

As shown on the revised site plans and grading plans, the proposed site design has been revised to address these comments. A driveway/parking lot connection has been provided on the south side of the parking lot. Additional parking lot modifications have also been implemented to provide for the same number of parking stalls in both the church and residential parking lots. The outlet for Raingarden #1 was also revised to outlet as recommended. Raingarden #1 was also increased in surface area from 200 to 300 square feet (sf) to provide more treatment capacity. Due to the new parking lot connection, Raingarden #2, which was 100 sf in size, was removed. Raingarden #3 was then increased from 250 to 350 sf in size to account for the lost retention and treatment area.

Since the connection to the drainage system in Chase Drive was removed, the Point of Analysis #2 at the intersection of Chase Drive and Michael Succi is no longer required, as there are no changes to the Chase Drive drainage system as a result of this project.

The attached proposed Grading and Drainage Plan, Pre-Development Drainage Plan, and Post-Development Drainage Plan illustrate the pre-development and proposed post-development drainage conditions. The following table compares the revised pre- and post-development peak rates at the Points of Analysis identified on the plans for the 2, 10, 25, and 50 year storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

*Rainfall Intensities reflect 15% Increase per AOT	2-Yr Storm (3.74 inch)	10-Yr Storm (5.67 inch)	25-Yr Storm (7.19 inch)	50-Yr Storm (8.61 inch)
POA #1				
Pre	5.8	11.1	15.3	18.4
Post	4.9	9.2	12.7	15.9
Net Change	-0.9	-1.9	-2.6	-2.5

As the above table demonstrates, the proposed peak rates of runoff will not be increased from the existing conditions for any of the analyzed storm events. Upon acceptance of the proposed design, a complete revised Drainage Report with all supporting modeling results will be provided the City

CONCLUSION

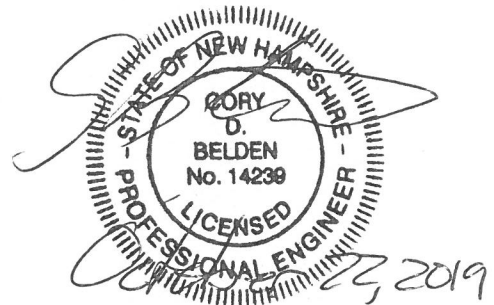
The proposed 200 Chase Drive development will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. The existing site was developed in the 1970's and 80's and has no designed stormwater treatment facilities and minimal detention areas. The proposed improvements will reduce the total impervious area on site by 2,800 square feet, but will provide treatment to approximately 42,700 square feet of impervious area, reducing the effective impervious area from 64% to 25%. The analysis of the site utilizes a 15% increase to the rainfall intensities for seacoast communities, as is recommended by NHDES. The site was analyzed for the 2, 10, 25, and 50 year storm events and shows a reduction in offsite discharge for all storm events.

ATTACHMENTS

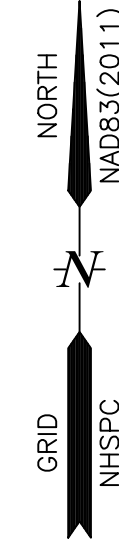
- Pre-Development Drainage Plan
- Post-Development Drainage Plan
- Grading and Drainage Plan

Sincerely,
ALTUS ENGINEERING, INC.

SBL
 Cory Belden, PE, Project Manager



Enclosure
 Ecopy: Stephen Kelm, 200 Chase Drive, LLC
 Pastor Chad Lynn, Connect Community Church

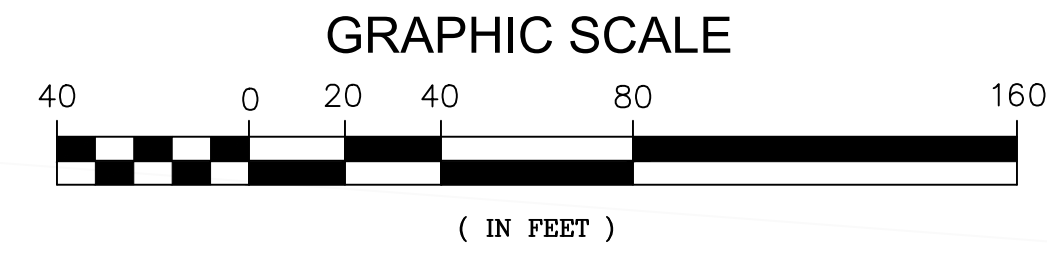
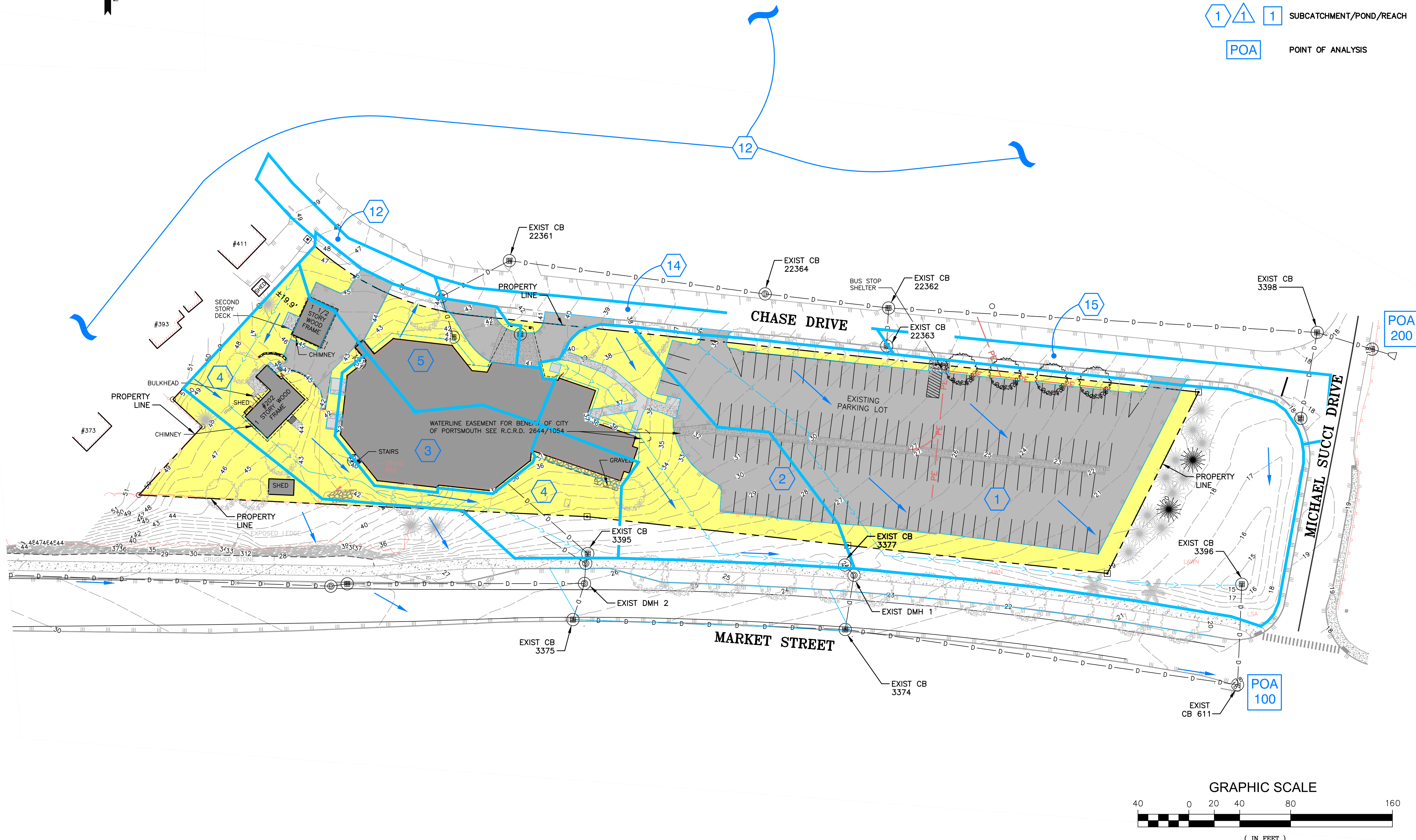


SOILS CLASSIFICATION		
SYMBOL	DESCRIPTION	HSG
799	URBAN LAND - CANTON COMPLEX (ENTIRE SITE)	B

SLOPE PHASES	
SYMBOL	PHASE
A	0-3%
B	3-8%
C	8-15%
D	15-25%
E	25-50%
F	50%+

SOILS LEGEND	
HYDROLOGIC GROUP	
[Green Box]	SOILS - HSG A
[Yellow Box]	SOILS - HSG B
[Orange Box]	SOILS - HSG C
[Red Box]	SOILS - HSG D
[Grey Box]	IMPERVIOUS (BLDGS/ROADS/MISC)

LEGEND	
[Dashed Line]	PROPERTY LINE
[Dotted Line]	WETLAND/SOILS BOUNDARY
[Solid Line]	EXISTING CONTOUR
[Solid Line]	EXISTING PAVEMENT/CURB
[Wavy Line]	EXISTING TREELINE
[Thick Blue Line]	WATERSHED BOUNDARY
[Blue Arrow]	Tc PATH
[Blue Arrow]	SURFACE FLOW DIRECTION
[Hexagon]	SUBCATCHMENT/POND/REACH
[Square]	POINT OF ANALYSIS



ENGINEER:

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR:
DRAINAGE REPORT

ISSUE DATE:
SEPTEMBER 16, 2019

REVISIONS NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	09/16/19

DRAWN BY: _____ CDB
APPROVED BY: _____ EDW
DRAWING FILE: _____ 4950.DWG

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:
200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

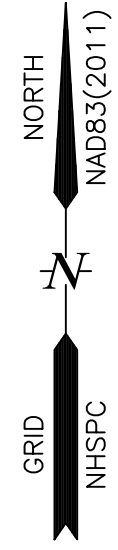
200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL
210-2

TITLE:
PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:
DA-1

P-4950



SOILS CLASSIFICATION		
SYMBOL	DESCRIPTION	HSG
799	URBAN LAND - CANTON COMPLEX (ENTIRE SITE)	B

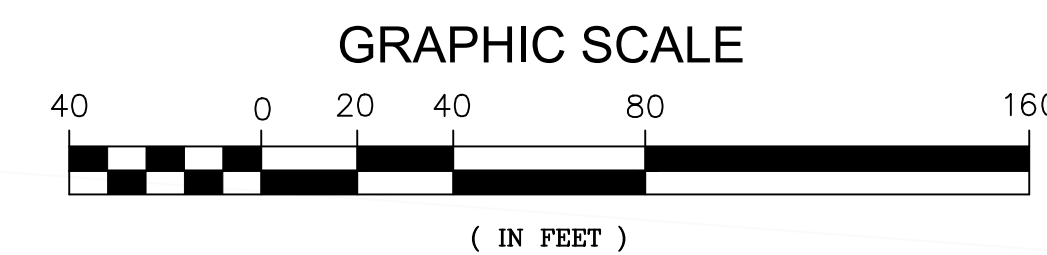
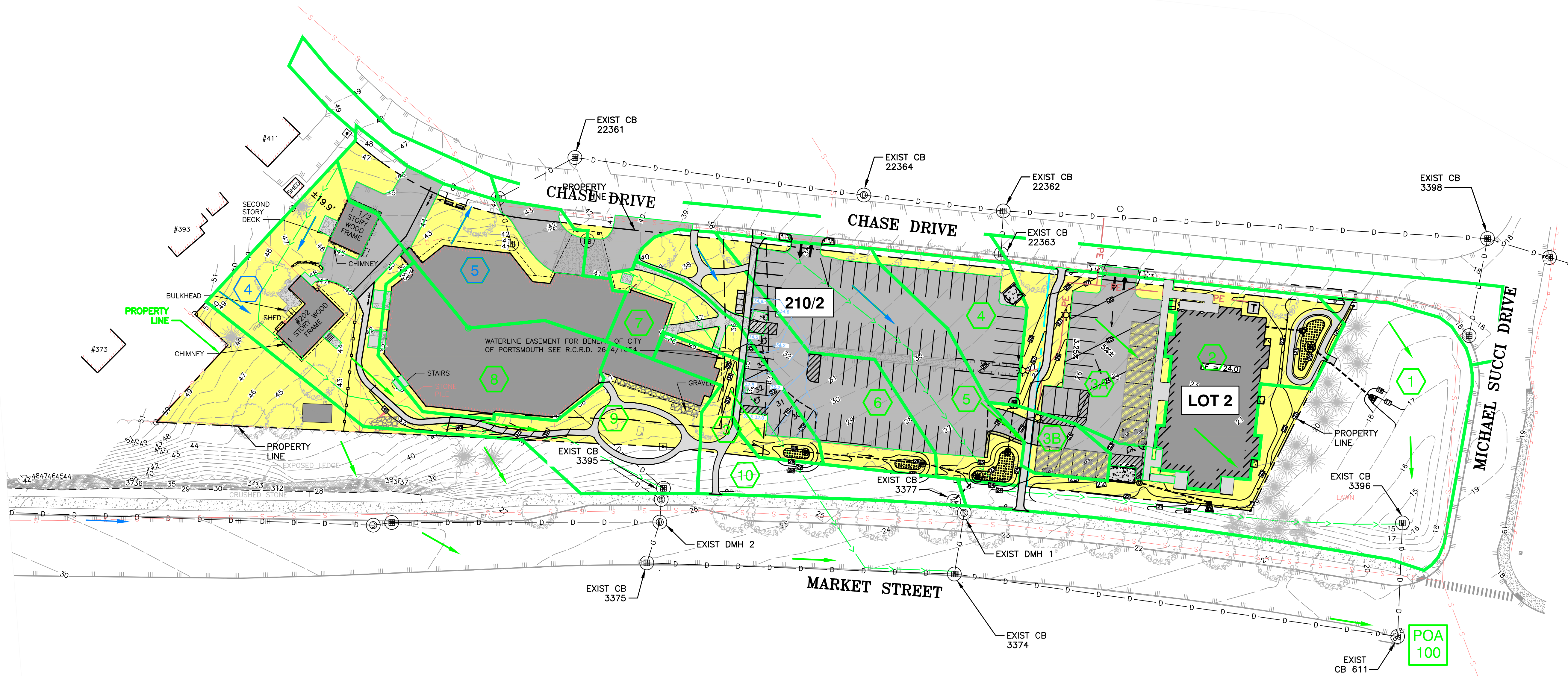
SLOPE PHASES	
SYMBOL	PHASE
A	0-3%
B	3-8%
C	8-15%
D	15-25%
E	25-50%
F	50%+

SOILS LEGEND

HYDROLOGIC GROUP	
[Light Green Box]	SOILS - HSG A
[Yellow Box]	SOILS - HSG B
[Orange Box]	SOILS - HSG C
[Red Box]	SOILS - HSG D
[Grey Box]	IMPERVIOUS (BLDGS/ROADS/MISC)

LEGEND

- PROPERTY LINE
- WETLAND/SOILS BOUNDARY
- EXISTING CONTOUR
- EXISTING PAVEMENT/CURB
- EXISTING TREELINE
- WATERSHED BOUNDARY
- Tc PATH
- SURFACE FLOW DIRECTION
- SUBCATCHMENT/POND/REACH
- POINT OF ANALYSIS



ENGINEER:

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR: **DRAINAGE REPORT**

ISSUE DATE: **OCTOBER 21, 2019**

REVISIONS			
NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	09/16/19
1	REVISED PARKING LOT	CDB	10/21/19

DRAWN BY: _____ CDB
 APPROVED BY: _____ EDW
 DRAWING FILE: _____ 4950.DWG

SCALE:
 22" x 34" - 1" = 40'
 11" x 17" - 1" = 80'

OWNER:
BETHEL ASSEMBLY OF GOD
 200 CHASE DRIVE
 PORTSMOUTH, NH 03801

APPLICANT:
 200 CHASE DRIVE, LLC
 36 MAPLEWOOD AVE.
 PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
 PORTSMOUTH, NH

ASSESSOR'S PARCEL
 210-2

TITLE:
POST-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:
DA-2

P4950

LEGEND

* SEE SHEET C-1 FOR EXISTING FEATURES

- PROPERTY LINE
- SWQPA --- 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- PROPOSED PAVEMENT
- VGC SGC BCC VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- PROPOSED RETAINING WALL

GRADING AND DRAINAGE NOTES

SEE SHEET C-6 FOR GRADING AND DRAINAGE NOTES

STORMWATER PRACTICES

RAINGARDEN #1

BOTTOM AREA= 300 SF
BOTTOM ELEV = 20.0
BERM ELEV = 21.2

RAINGARDEN #2

BOTTOM AREA= 350 SF
BOTTOM ELEV = 23.0
BERM ELEV = 24.0

RAINGARDEN #3

BOTTOM AREA= 100 SF
BOTTOM ELEV = 26.0
BERM ELEV = 27.0

RAINGARDEN #4

BOTTOM AREA= 100 SF
BOTTOM ELEV = 28.0
BERM ELEV = 29.0

DRAINAGE STRUCTURES

OUTLET STRUCTURE 1 (OS1)

RIM (18" BEEHIVE) = 20.5
6" UD (IN) = 17.25
12" INV (OUT) = 17.25

OUTLET STRUCTURE 2 (OS2)

RIM (18" BEEHIVE) = 23.5
6" UD (IN) = 20.25
12" INV IN = 20.35 (OS2)
12" INV (OUT) = 20.25

OUTLET STRUCTURE 3 (OS3)

RIM (18" BEEHIVE) = 26.5
6" UD (IN) = 23.25
8" INV IN = 23.35 (YD4)
12" INV (OUT) = 23.2

CB #1

RIM = 26.4±
INV. OUT (12" HDPE) = 23.20

CB #2

RIM = 22.6±
6" UD IN = 19.6
INV. OUT (12" HDPE) = 19.50

PDMH #1

COVER = 22.3±
12" INV IN = 19.40 (CB2)
6" INV IN = 19.60
INV. OUT (12" HDPE) = 19.45

YARD DRAIN 4 (YD4)

RIM (8" BEEHIVE) = 28.5
6" UD (IN) = 25.25
8" INV (OUT) = 25.25

YARD DRAIN 5 (YD5)

12" INV. IN = 19.2
12" INV. OUT = 19.1

STORM DRAINS

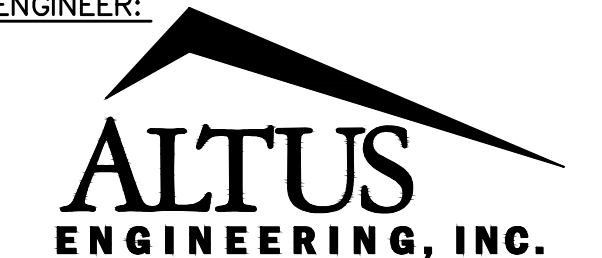
- P1 = 12" HDPE, 50 LF, S=0.005
- P2 = 8" HDPE, 24 LF, S=0.010
- P3 = 12" HDPE, 30 LF, S=0.0067
- P4 = 12" HDPE, 36 LF, S=0.080
- P5 = 8" HDPE, 84 LF, S=0.023
- P6 = 12" HDPE, 20 LF, S=0.108
- P8 = 12" HDPE, 48 LF, S=0.005

APPROVED BY THE PORTSMOUTH PLANNING BOARD

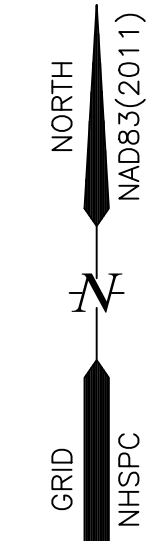
CHAIRMAN

DATE

ENGINEER:



133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

TAC

ISSUE DATE:

OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	06/26/19
2	TAC	CDB	09/16/19
3	TAC COMMENTS	CDB	10/18/19

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE:

4950.DWG

SCALE:

22" x 34" - 1" = 20'
11" x 17" - 1" = 40'

OWNER:

BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:

200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

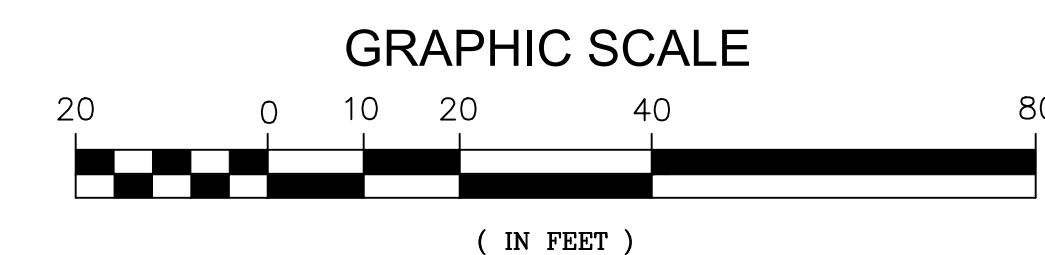
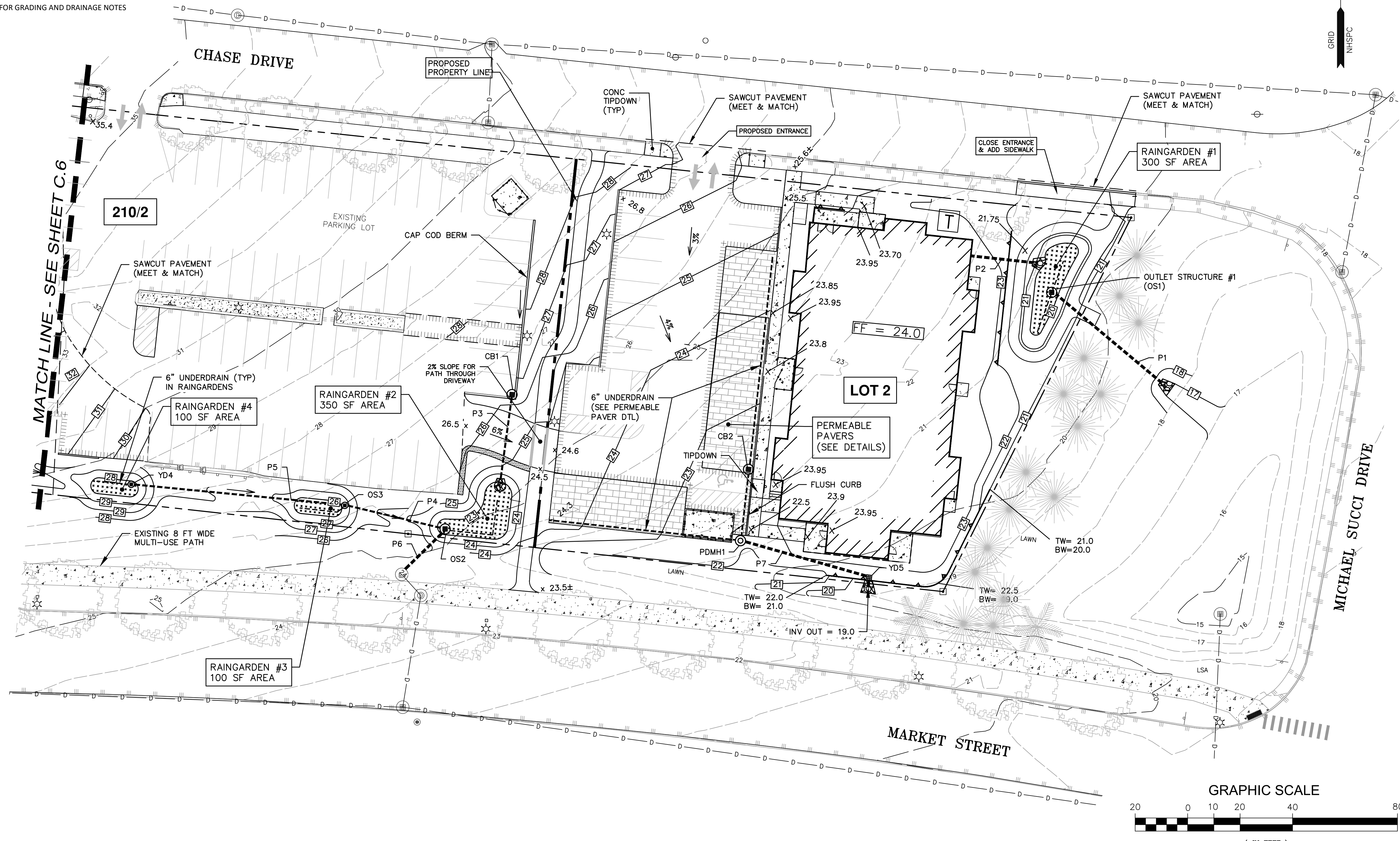
ASSESSOR'S PARCEL 210-2

TITLE:

GRADING AND DRAINAGE PLAN

SHEET NUMBER:

C.5



P4950

200 Chase Drive Gateway Development Site

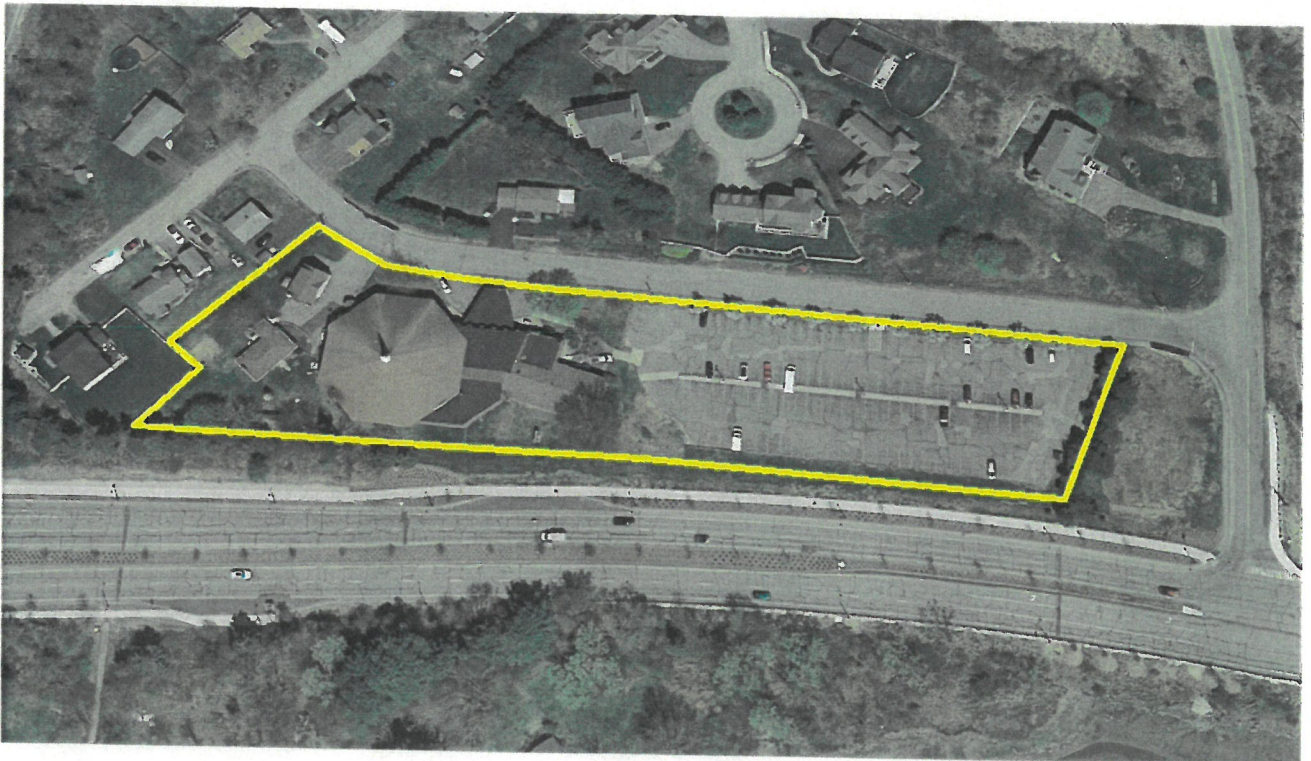
Assessor's Map 210, Lot 02
200 Chase Drive, Portsmouth, NH
Altus Project #P4950

PARKING DEMAND ANALYSIS **(For Conditional Use Permit Application)**

Revised October 22, 2019

The Bethel Assembly of God (owner) and 200 Chase Drive, LLC (Applicant) are proposing to re-develop the property located at 200 Chase Drive (Assessor's Map 210, Lot 02) to construct a new multi-family building that will provide 22 housing units and retain the existing church and residential houses. The proposed project will sub-divide the existing 2.68 acre lot into two lots and develop the lots under the Development Site regulations as contiguous lots. A new 22-Unit residential apartment building will be constructed on the new lot, closest to Michael Succi Drive. The existing church will remain on the original lot and continue to function as a religious place of assembly.

The aerial image below shows the existing church property and the existing parking lot which has 133 parking stalls.



1. **PARKING USE SUMAMRY**

A. Connect Community Church and Residences (Existing):

The Connect Community Church (church) has been serving the Portsmouth community for nearly 50 years. During the 1980's the church had a rise in membership and expanded the church for a large assembly area (545 occupancy). Unfortunately, the closure of Pease Air Force Base (AFB) in 1991 had a resounding impact on the church and membership declined by almost two-thirds. The church has struggled with debt and reduced membership for the last 28 years. The existing parking lot has 133 parking stalls and was designed to serve the church in the 1980's. It is currently under utilized and has been leased to the City for a downtown off-site parking shuttle service for the past three years. This service will end in 2020.

i. Attendance

The current Pastor (Chad Lynn), has been keeping recent records of attendance at the services since March 2019 to track the attendance and assess the current parking demand. During this period, the church has been holding two weekend services at 9 am and 11 am on Sunday mornings. The attached "Check-Ins Report" shows the attendance at both of these services and includes volunteers that assist with the services. The pastor and assistant Pastor live on site in the two residential houses. As shown in the report, the 11 am service is typically the highest attended service and has averaged 132 attendees (including volunteers) people for the 30 week period that data was taken. Excluding Easter service (4/21/19), the high regular service attendance was 155. Easter service attendance was 186 for the 9 am service and was the highest service attendance during this period.

Average attendance for 30 weeks (11 am service) = 132 attendees
Single Week high attendance (excluding Easter) = 155 attendees
Single High Special Event (Easter Service) = 186 attendees

ii. Vehicle Usage

The church has been collecting attendance data since March of 2019. During this period the church also estimated the vehicle usage by attendees for the services. Based on attendance and vehicles estimates from 3/3/19 through 6/16/19, the average persons per vehicle was 2.9. This did not account for the volunteers and was as estimate as the lot was still being used by the City for the parking shuttle service. For the October 6 and 13, 2019 services, the church took a more detailed assessment of the attendance and church vehicles. These records indicated an average of approximately 2.4 persons per vehicle (60 cars for 143 attendees and 61 vehicles for 146 attendees) for the two highest attended service at 11 am and included all attendees and volunteers. Based on these number, we feel that 2.6 persons per vehicles is a reasonable based on the data collected.

Average vehicle usage per attendee = 2.6 Persons per Vehicle

B. 22 Unit Residential Apartment Building (Proposed):

The current Zoning regulations (Section 10.1110) allow for 1.3 parking stalls per unit for multi-family buildings and 1 visitor stall per 5 units. The minimum required number of stalls for the new 22-unit lot would be 33 stalls based on current zoning regulations. The 33 required stalls are reduced by 20% based on Section 10.5B82.10 because a local bus connection is located adjacent to the site. Therefore the minimum number of parking stalls require is 27, while an additional 20% is allowed by Planning Board approval, which would be a maximum of 33 parking stalls. 30 parking stalls are proposed for the new 22 Unit building.

Minimum allowed parking stalls per zoning	= 27 stalls
Maximum allowed parking stalls per zoning	= 33 stalls
Proposed number of parking stalls per site plan	= 30 stalls

C. Two Single Family residences (Existing):

The two single family residences located on the west side of the church are the residences of the Pastor and assistant Pastor for the church. The zoning variance to create this housing stipulated that the houses are only to be occupied by people who work at the church. Each house has two designated parking spaces, which serve the residences, so they are not included in the parking demand analysis for the parking lot.

Not included in Parking Demand Analysis

2. **PARKING DEMAND**

Using the single high standard service attendance of 155 attendees for the 30 week data period and the average of 2.6 attendees per vehicle, the parking demand would be 60 parking stalls. As noted above and shown in the attached attendance records, the average attendance for the 9 am Sunday service is 102 attendees, and the 11 am service is 132 attendees. This equates to 40 and 51 vehicles for the respective services.

There are also classrooms and a nursery located in the building based on the building floor plans. The nursery is a small child day-care service provided during services, as the church currently does not run nor is licensed for a nursery or day care. The church also does not have classes at the church, and per zoning regulations, a school use would require a parking demand analysis. In the event that the church wanted to host classes, the classes would not be held at the same time as the weekly services, so the parking demand would not increase for the classroom usage. Additionally, the classes would not exceed the peak parking demand for the weekend services. Therefore, the peak parking demand is estimated to be the peak attendance at the weekly services.

The church has been monitoring membership for many years and the current membership level is at the highest point since the 1980's prior to Pease closure. The combined attendance for the two services on 10/13/19 (135 and 146) was highest combined attendance in the last 18 years. The total vehicles for the 11 am service of 146 attendees was 61 vehicles. The church's goal is to provide smaller and more intimate services, so as the attendance increases, more services will be added to disperse the attendance. Currently there is not the need to offer the additional services. The church does not intend to exceed 150 average attendees per service and will work with the members to maintain the smaller service size. 75 parking stalls would have provided 14 extra parking spaces for the highest single standard service attendance day in the last 18 years. Allowing for a 10% increase to the highest 30 weeks standard attendance of 155 (171 attendees) and using the 2.6 average attendees per vehicle estimate, the needed parking would be 66 parking stalls. The church has indicated that 75 parking stalls will adequately serve their needs for the foreseeable future.

Parking Demand for Church = 66 Parking Stalls

2. MITIGATION

Standard services:

The church has indicated that the long term solution to an increase in attendance is to offer more services, which will disperse the attendance. The church has considered a week night services and weekend evening services to provide more opportunities to members. The goal of the church is to provide small, more intimate services, so it is not the goal of the church to exceed 150 average attendees per service. The church will continue to monitor membership, service attendances, and parking and will work with the membership to maintain the smaller service size so that the 75 parking stalls continues to adequately serve the church for all weekly services.

Large Events:

On rare occasions there could be a situation where the church would like to host an event that may have a parking demand higher than 75, or over 250 attendees. The church realizes that they may not be able to host these types of events similar to years past with the decreased parking availability. In such circumstances, the church has a number of options to mitigate the parking impacts.

1. Carpool – The church can encourage members to carpool to at least 3 persons per vehicle for large events. Many members of the church are friends and family and it is anticipated that they could increase the attendees per vehicle ratio by encouraging carpools for special events.
2. Bus Transit – There is a COAST bus transit located on Market Street directly in front of the church. Similar to carpooling, the church can encourage members to utilize the COAST bus transit for special events.

3. Shuttle Service – The church has a bus and has the ability to run a shuttle service to an off-site parking facility such as the Foundry Garage, less than 1 mile away, to allow attendees to park off-site for large events.

4. CONCLUSION

Based on this Parking Demand Analysis, we feel that the proposed 105 parking stalls (75 for the existing church and 30 for the new 22 unit apartment building) will adequately serve the proposed development site. Current zoning regulations would require 145 parking stalls which far exceeds the parking demand for the site. Implementing the parking requirement per the zoning regulations would create a large parking lot and significant impervious area that would not be used. Based on the 30 week average attendance of 132 attendees for the 11 am service, 51 parking spaces would be needed on average to service the weekly service. If Construction a 115 parking stall lot for the church would leave approximately 64 empty parking stalls for the week average weekend services. The remainder of the week the lot would also remain predominantly empty. The church is proposing to provide 75 parking stalls, which is 14 more than the demand on the single highest attendance day in 18 years, and 9 more than the demand for the single highest recorded standard service attendance plus 10%. The church has the ability mitigate impacts for larger event and add services to manage the parking if the demand is needed. Therefore, we feel that the current proposal to provide 75 parking stalls for the church and 30 parking stalls for the 22-Unit apartment building, for a total of 105 off-street parking stalls will service the proposed development.

ALTUS ENGINEERING, INC.



Cory Belden, PE

Attachments

- Parking Table
- Attendance Records
- Existing Conditions Site Plan, by Ambit Engineering
- Overall Site Plan, by Altus Engineering

Ecopy: Stephen Kelm, 200 Chase Drive, LLC
Pastor Chad Lynn, Connect Community Church



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

200 Chase Drive Gateway Development Site

Assessor's Map 210, Lot 02
200 Chase Drive, Portsmouth, NH

Table 1. Parking Table

(not included two single family residences)

Existing Church

Based on current zoning requirements:	Required Spaces
Assembly (545 capacity by zoning)	136 Spaces
Nursery (29 Occupants)	15 Spaces
Business (700 sf)	2 spaces
Classroom (210 Occupants)	Parking Demand Analysis required
Total Parking Spaces Required	153 Spaces
20% Reduction for bus transit (10.5B82.10)	
Min Parking Spaces Required	123 Spaces Required

Proposed 22 Unit Apartment Building (allowed per current Zoning Ordinance)

Number of Units	22
Parking Spaces	
1.3 spaces per unit	28.6 spaces
Visitor Spaces (1 per 5 units)	<u>4.4 spaces</u>
Spaces Required	33 spaces
20% Reduction for bus transit (10.5B82.10)	
Min Parking Spaces Required	27 spaces

Shared Use demand analysis

Based on the shared used demand analysis for the

Weekend Day	
Required Parking Church (100%) =	123 Spaces
22 Unit Apartment Building (80% of 27)	22 Spaces
Total Number of Required Parking Spaces = (based on Zoning Ordinance)	145 Parking Spaces
Total Number of Proposed Parking Spaces = (75 Spaces for church and 30 spaces for residential building)	105 Parking Spaces

3_3 - 9_1 - Check-Ins Report

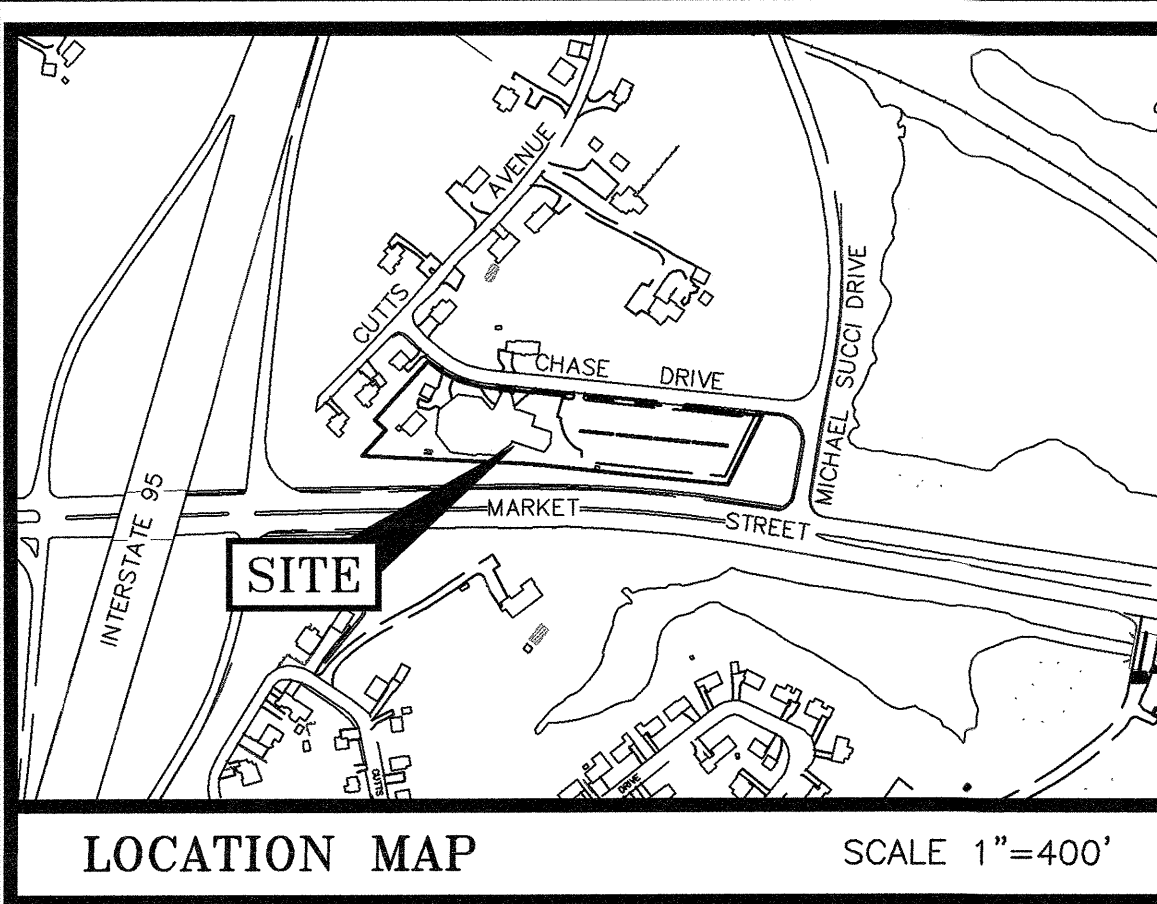
Time	Date	Connect.Kids	Adults	Total
Sun. 9:00am	March 3, 2019	15	79	94
Sun. 9:00am	March 10, 2019	9	52	61
Sun. 9:00am	March 17, 2019	13	68	81
Sun. 9:00am	March 24, 2019	9	87	96
Sun. 9:00am	March 31, 2019	14	83	97
Sun. 9:00am	April 7, 2019	12	95	107
Sun. 9:00am	April 14, 2019	20	87	107
Sun. 9:00am	April 21, 2019	17	169	186
Sun. 9:00am	April 28, 2019	15	89	104
Sun. 9:00am	May 5, 2019	21	90	111
Sun. 9:00am	May 12, 2019	8	107	115
Sun. 9:00am	May 19, 2019	15	88	103
Sun. 9:00am	May 26, 2019	17	118	135
Sun. 9:00am	June 2, 2019	19	106	125
Sun. 9:00am	June 9, 2019	20	64	84
Sun. 9:00am	June 16, 2019	4	65	69
Sun. 9:00am	June 23, 2019	11	87	98
Sun. 9:00am	June 30, 2019	17	81	98
Sun. 9:00am	July 7, 2019	14	74	88
Sun. 9:00am	July 14, 2019	9	61	70
Sun. 9:00am	July 21, 2019	10	62	72
Sun. 9:00am	July 28, 2019	17	81	98
Sun. 9:00am	August 4, 2019	14	87	101
Sun. 9:00am	August 11, 2019	18	100	118
Sun. 9:00am	August 18, 2019	10	73	83
Sun. 9:00am	August 25, 2019	8	87	95
Sun. 9:00am	September 1, 2019	12	102	114

Sun. 11:00am	March 3, 2019	16	119	135
Sun. 11:00am	March 10, 2019	20	102	122
Sun. 11:00am	March 17, 2019	20	127	147
Sun. 11:00am	March 24, 2019	28	127	155
Sun. 11:00am	March 31, 2019	23	125	148
Sun. 11:00am	April 7, 2019	18	119	137
Sun. 11:00am	April 14, 2019	19	129	148
Sun. 11:00am	April 21, 2019	18	147	165
Sun. 11:00am	April 28, 2019	20	127	147
Sun. 11:00am	May 5, 2019	20	107	127
Sun. 11:00am	May 12, 2019	24	97	121
Sun. 11:00am	May 19, 2019	21	117	138
Sun. 11:00am	May 26, 2019	10	97	107
Sun. 11:00am	June 2, 2019	14	98	112
Sun. 11:00am	June 9, 2019	18	125	143
Sun. 11:00am	June 16, 2019	23	84	107
Sun. 11:00am	June 23, 2019	11	98	109
Sun. 11:00am	June 30, 2019	24	95	118
Sun. 11:00am	July 7, 2019	14	99	113
Sun. 11:00am	July 14, 2019	25	95	120
Sun. 11:00am	July 21, 2019	19	89	108
Sun. 11:00am	July 28, 2019	29	99	128
Sun. 11:00am	August 4, 2019	29	118	147
Sun. 11:00am	August 11, 2019	30	108	138
Sun. 11:00am	August 18, 2019	25	113	138
Sun. 11:00am	August 25, 2019	37	135	172
Sun. 11:00am	September 1, 2019	19	102	121

Connect Community Church

Approximate Attendance and Vehicles for Attendees (Excluding Volunteers)

Date	Early	Cars	Late	Cars
3/3/2019	70	22	110	42
3/10/2019	50	18	90	30
3/17/2019	60	20	120	40
3/24/2019	80	26	20	40
3/31/2019				No record
4/7/2019	90	30	110	36
4/14/2019	80	35	120	40
4/21/2019	160	53	140	46 *EASTER
4/28/2019	80	26	120	40
5/5/2019	80	26	100	33
5/12/2019	100	33	90	30
5/19/2019	80	25	110	35
5/26/2019	111	35	90	30
6/2/2019	100	33	90	30
6/9/2019	90	30	100	33
6/16/2019	65	22	100	33
	1296	434	1510	538
	2.99 persons/car		2.81 persons/car	



PLAN REFERENCE:

1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHIE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013, FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.

2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 8/3/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

- U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JAN. 1987), AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.
- FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.1, USDA-NRCS, 2017 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEWPPCC WETLANDS WORK GROUP (2017).
- NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1), USFWS (MAY 1988).
- CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).
- "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997), NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

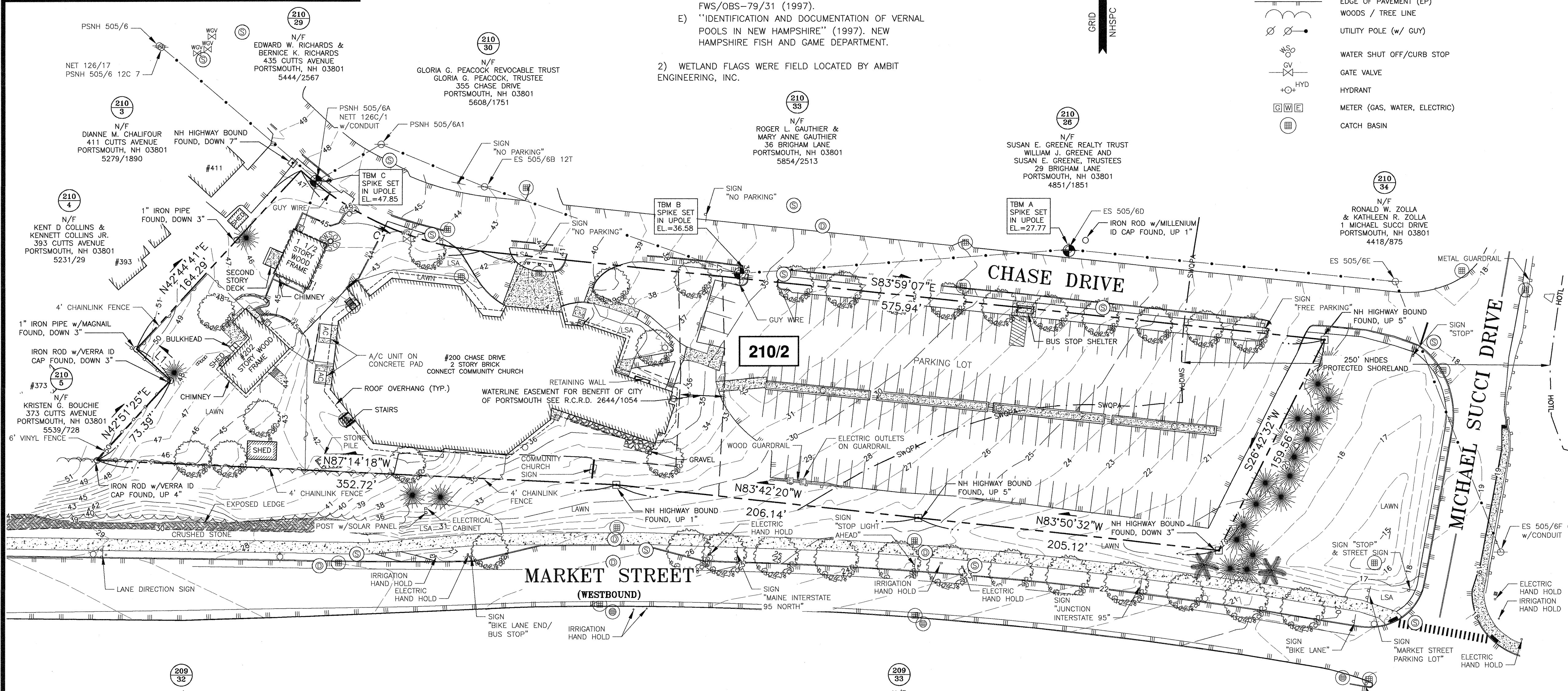
LEGEND:

EXISTING		NOW OR FORMERLY RECORD OF PROBATE ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21
N/F	RR SPK FND	RAILROAD SPIKE FOUND/SET
RP	IR FND	IRON ROD FOUND/SET
RCRD	IP FND	IRON PIPE FOUND/SET
(1/21)	DH FND	DRILL HOLE FOUND/SET
	NHNB FND	NHDOT BOUND FOUND
	TB FND	TOWN BOUND FOUND
	BND w/DH	BOUND w/ DRILL HOLE
	ST BND w/DH	STONE BOUND w/DRILL HOLE
	SWOPA	NHDES 250' PROTECTED SHORELAND
	HOTL	HIGHEST OBSERVABLE TIDE LINE
	D	STORM DRAIN
		UNDERGROUND ELECTRIC OVERHEAD ELECTRIC WIRES
		EDGE OF PAVEMENT (EP)
		WOODS / TREE LINE
		UTILITY POLE (w/ GUY)
		WATER SHUT OFF/CURB STOP
		GATE VALVE
		HYDRANT
		METER (GAS, WATER, ELECTRIC)
		CATCH BASIN

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:

- PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.
- OWNER OF RECORD: BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287
- PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.
- EXISTING LOT AREA: 116,591 S.F. 2.6766 ACRES
- PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.
- DIMENSIONAL REQUIREMENTS: SEE ZONING ORDINANCE
- THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.
- VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').
- SEE SHEET C2 FOR UTILITIES AND INVERT INFORMATION.



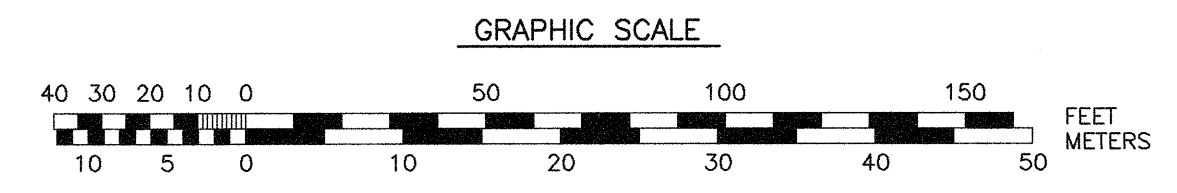
BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°21'20"W	31.46'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	215.00'	135.68'	133.44'	S65°54'23"E	36°09'27"



"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."

PAUL A DOBBERSTEIN, LLS
DATE 2/12/2019

NO.	DESCRIPTION	DATE
1	PLAN UPDATE	2/11/19
0	ISSUED FOR COMMENT	8/6/18

SCALE 1" = 40' AUGUST 2018

EXISTING CONDITIONS PLAN

C1

NOTES:

- THE INTENT OF THIS PLAN IS TO DEPICT THE PROPOSED DEVELOPMENT SITE PER CITY OF PORTSMOUTH ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE DISTRICT) AND THE DEVELOPMENT SITE STANDARDS (SECTION 10.5B40).
- THE EXISTING LOT 210-2 CONSISTS OF A COMMUNITY BUILDING AND TWO SINGLE FAMILY RESIDENTIAL BUILDINGS. THE INTENT IS TO SUBDIVIDE THE EXISTING LOT TO CREATE LOT 210-2-1 WHICH WILL CONSTRUCT A NEW 22 UNIT APARTMENT BUILDING PER SECTION 10.5B34.40. THE TWO CONTIGUOUS LOTS WILL BE INCLUDED IN THE DEVELOPMENT SITE.
- THE EXISTING USE OF THE COMMUNITY BUILDING AS A PLACE OF ASSEMBLY IS PERMITTED AS AN EXISTING USE. AS NOTED IN SECTION 10.5B50, "THE PURPOSE OF THIS SECTION IS TO ESTABLISH STANDARDS FOR THE CONTINUED UTILIZATION OF EXISTING BUILDINGS IN THE GATEWAY NEIGHBORHOOD MIXED USE DISTRICTS CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF ARTICLE 10.5B".
- A NHDES WETLANDS BUREAU SHORELAND PERMIT WILL BE REQUIRED FOR WORK WITHIN 250 FT OF THE HIGHEST OBSERVABLE TIDE LINE (HOTL).
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, A CERTIFIED ARBORIST SHALL REVIEW THE AREA OF CONSTRUCTION AND TREES SELECTED TO REMAIN WITH THE LANDSCAPE ARCHITECT AND THE CONTRACTOR'S PROJECT MANAGER. SPECIFIC MONETARY VALUE OF THE TREES TO REMAIN SHALL BE DETERMINED AND DOCUMENTED FOR. ARBORIST SHALL MAKE RECOMMENDATIONS FOR PRESERVATION RECOMMENDATIONS BEYOND THOSE CALLED OUT IN THE DRAWINGS, TREE PRESERVATION PLANS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, PRUNING, ROOT PRUNING, PRE-FERTILIZATION AND THE LIKE.
- ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
- TREES TO REMAIN WITHIN THE CONSTRUCTION ZONE SHALL BE PROTECTED FROM DAMAGE FOR THE DURATION OF THE PROJECT BY WEIGHTED CHAIN-LINK FENCE AT THE DRIP LINE OR OTHER SUITABLE MEANS OF PROTECTION TO BE APPROVED BY LANDSCAPE ARCHITECT OR CLIENT'S REPRESENTATIVE. FENCE SHALL BE LOCATED AT THE DRIP LINE AT A MINIMUM AND SHALL INCLUDE ANY AND ALL SURFACE ROOTS. DO NOT FILL OR MULCH ON THE TRUNK FLARE. DO NOT DISTURB ROOTS. IN ORDER TO PROTECT THE INTEGRITY OF THE ROOTS, BRANCHES, TRUNK AND BARK OF THE TREE(S) NO VEHICLES OR CONSTRUCTION EQUIPMENT SHALL DRIVE OR PARK IN OR ON THE AREA WITHIN THE DRIP LINE(S) OF THE TREE(S). DO NOT STORE ANY REFUSE OR CONSTRUCTION MATERIALS OR PORTALETTS WITHIN THE TREE PROTECTION AREA.
- BUILDING HEIGHT MEASURED FROM AVERAGE GRADE MEASURED 6 FT OFF OF BUILDING EVERY 5 FOOT INTERVAL. BUILDING HEIGHT FROM FINISHED FLOOR TO ROOF TOP IS 43'-8". AVERAGE GRADE AROUND PERIMETER OF BUILDING IS 8 INCHES BELOW FINISHED FLOOR BASED ON PROPOSED GRADING (1 FT USED FOR FLEXIBILITY IN CONSTRUCTION).

ZONING SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)
 TAX MAP 210, LOTS 2 & 2-1 (NEWLY CREATED LOT)
 DEVELOPMENT SITE AREA 2.68± ACRES
 PERMITTED USES MULTI-FAMILY GREATER THAN 8 UNITS
 PLACE OF ASSEMBLY (EXISTING)
 SINGLE FAMILY RESIDENTIAL (EXISTING)

PROPOSED MIXED USE DEVELOPMENT SITE (PER SECTION 10.5B40)

DEVELOPMENT SITE STANDARDS	REQUIRED	PROVIDED
MINIMUM DEVELOPMENT SITE AREA	20,000 SF	116,591 SF
MINIMUM SITE WIDTH	100 FT	711.6 FT
MINIMUM SITE DEPTH	100 FT	147.7 FT
MINIMUM PERIMETER BUFFER TO RESIDENTIAL, MIXED RESIDENTIAL OR CHARACTER DISTRICT	75 FT	NA
MAXIMUM BLOCK LENGTH	800 FT	764 FT
MAXIMUM BLOCK PERIMETER	2,200 FT	1,905 FT
MAXIMUM BUILDING COVERAGE	70%	24.4%
MINIMUM OPEN SPACE COVERAGE	20%	36.8%

MINIMUM COMMUNITY SPACE
 20% REQUIRED 22.2% PROVIDED

No.	DESCRIPTION	AREA
1	GREENWAY #1	5,635 S.F.
2	POCKET PARK #1	5,133 S.F.
3	POCKET PARK #2	5,305 S.F.
4	GREENWAY #2	4,112 S.F.
5	POCKET PARK #3	2,588 S.F.
6	GREENWAY (ENHANCEMENTS)	3,052 S.F.
TOTAL		25,825 S.F.

ZONING SUMMARY CONTINUED:

APARTMENT BUILDING DESIGN STANDARDS (PER SECTION 10.5B34.40):
 MINIMUM LOT DEPTH REQUIRED NR
 MINIMUM STREET FRONTAGE 50 FT ±149 FT
 SETBACKS:
 FRONT: MARKET STREET 10-30 FT 10.0 FT
 CHASE STREET 10-30 FT 10.2± FT
 MICHAEL SUCCI DRIVE 10-30 FT 10.2± FT
 INTERIOR LOT LINES 0 FT 149± FT

BUILDING LOT USE:

MAXIMUM DWELLING UNITS PER BUILDING 24 22
 MAXIMUM DWELLING UNIT SIZE NR

DESIGN STANDARDS:

MAXIMUM BUILDING HEIGHT - 50 FT 44'-8" (SEE NOTE B)
 MINIMUM STREET FACING FAÇADE HEIGHT 24 FT 24+ FT
 MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE 36 INCHES <3 FT
 MAXIMUM BUILDING COVERAGE 50% 28.6%
 MAXIMUM BUILDING FOOTPRINT 20,000 SF 7,600± SF
 MAXIMUM FAÇADE MODULATION LENGTH 50 FEET 48 FEET
 MINIMUM STREET FACING FAÇADE GLAZING 20% (GROUND FLOOR) 20%+
 STREET FACING ENTRANCE REQUIRED PROVIDED
 FAÇADE TYPES FORECOURT, STEP, RECESSED ENTRY, DOORYARD

PARKING CALCULATIONS:

EXISTING CHURCH
 BASED ON CURRENT ZONING REQUIREMENTS: REQUIRED SPACES
 ASSEMBLY (545 CAPACITY BY ZONING*) 136 SPACES
 NURSERY (29 OCCUPANTS) 15 SPACES
 BUSINESS (700 SF) 2 SPACES
 CLASSROOM (210 OCCUPANTS) PARKING DEMAND ANALYSIS**
 TOTAL PARKING SPACES REQUIRED 153 SPACES
 20% REDUCTION FOR BUS TRANSIT (10.5B82.10) MIN PARKING SPACES REQUIRED 123 SPACES REQUIRED

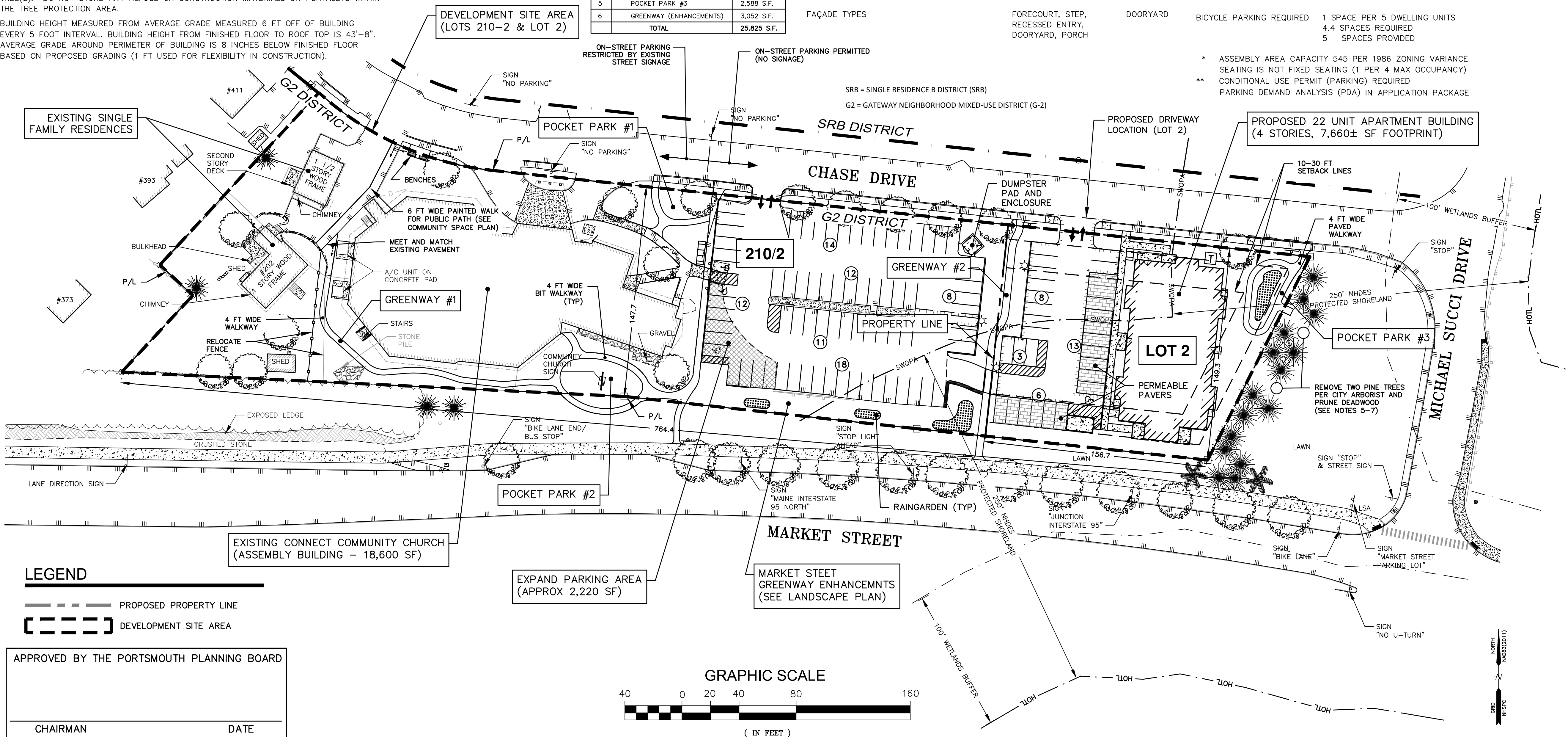
PROPOSED 22 UNIT APARTMENT BUILDING (ALLOWED PER CURRENT ZONING REGULATIONS)

NUMBER OF UNITS 22
 PARKING SPACES 22
 1.3 SPACES PER UNIT 28.6 SPACES
 VISITOR SPACES (1 PER 5 UNITS) 4.4 SPACES
 SPACES REQUIRED 33 SPACES
 20% REDUCTION FOR BUS TRANSIT (10.5B82.10) MIN PARKING SPACES REQUIRED 27 SPACES

SHARED USE DEMAND ANALYSIS

BASED ON THE SHARED USED DEMAND ANALYSIS FOR THE WEEKEND DAY
 REQUIRED PARKING CHURCH (100%) = 123 SPACES
 22 UNIT APARTMENT BUILDING (80% OF 27) 22 SPACES
 TOTAL NUMBER OF REQUIRED PARKING SPACES = 145 PARKING SPACES (BASED ON ZONING REGULATIONS)
 TOTAL NUMBER OF PROPOSED PARKING SPACES = 105 PARKING SPACES
 75 SPACES PROVIDED FOR CHURCH
 30 SPACES FOR 22 UNIT RESIDENTIAL BUILDING
 BICYCLE PARKING REQUIRED 1 SPACE PER 5 DWELLING UNITS
 4.4 SPACES REQUIRED
 5 SPACES PROVIDED

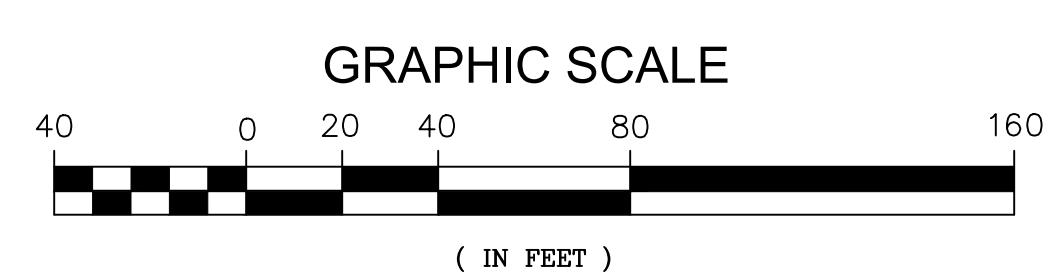
- * ASSEMBLY AREA CAPACITY 545 PER 1986 ZONING VARIANCE SEATING IS NOT FIXED SEATING (1 PER 4 MAX OCCUPANCY)
- ** CONDITIONAL USE PERMIT (PARKING) REQUIRED PARKING DEMAND ANALYSIS (PDA) IN APPLICATION PACKAGE



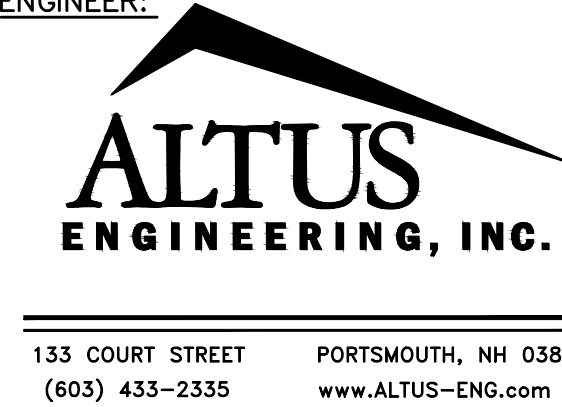
LEGEND

- PROPOSED PROPERTY LINE
- [---] DEVELOPMENT SITE AREA

APPROVED BY THE PORTSMOUTH PLANNING BOARD
 CHAIRMAN _____ DATE _____



ENGINEER:



ISSUED FOR:

TAC

ISSUE DATE:

OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	06/26/19
2	TAC	CDB	09/16/19
3	TAC COMMENTS	CDB	10/18/19

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE:

4950-SITE.DWG

SCALE:

22" x 34" - 1" = 40'
 11" x 17" - 1" = 80'

OWNER:

BETHEL ASSEMBLY OF GOD
 200 CHASE DRIVE
 PORTSMOUTH, NH 03801
 APPLICANT:
 200 CHASE DRIVE, LLC
 36 MAPLEWOOD AVE.
 PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
 PORTSMOUTH, NH
 ASSESSOR'S PARCEL 210-2

TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

C.3

P4950

STORMWATER INSPECTION AND MAINTENANCE MANUAL

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 Chase Drive
Portsmouth, NH
Assessor's Parcel 210-02

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner: _____
Name Company Phone

Inspection: _____
Name Company Phone

Maintenance: _____
Name Company Phone

NOTE: Inspection and maintenance responsibilities transfer to future property owners.

Included in this Inspection and Maintenance Manual are the following components:

- Drainage Features and Site BMP Functions and Maintenance Descriptions
- Regular Inspection and Maintenance Guidance for Permeable Pavements and Bioretention Systems
- Checklists for Inspection of Bioretention Systems and Permeable Pavements
- Stormwater System Operations and Maintenance Report Form
- Site Grading and Drainage Plan

The owner shall submit an annual inspection log to the Planning Department for the inspection and maintenance of the porous pavers by July 15.

RAINGARDENS AND INFILTRATION BASINS (BIORETENTION SYSTEMS)

Function – Raingardens and infiltration ponds provide treatment to runoff prior to directing it to stormwater systems by filtering sediment and suspended solids, trapping them in the bottom of the garden and in the filter media itself. Additional treatment is provided by the native water-tolerant vegetation which removes nutrients and other pollutants through bio-uptake. Stormwater detention and infiltration can also be provided as the filtering process slows runoff, decreases the peak rate of discharge and promotes groundwater recharge.

Detention ponds temporarily store runoff and allow for its controlled release during and after a storm event, decreasing peak rates of runoff and minimizing flooding.

Raingardens, infiltration ponds, and detention ponds shall be managed (Per AGR 3800 and RSA 430:53) to: prevent and control the spread of invasive plant, insect, and fungal species; minimize the adverse environmental and economic effects invasive species cause to agriculture, forests, wetlands, wildlife, and other natural resources of the state; and protect the public from potential health problems attributed to certain invasive species.

Maintenance

- Reference attached “Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters
- Inspect annually and after significant rainfall event.
- If a raingarden does not completely drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the filter media.
- Replace any riprap dislodged from spillways, inlets and outlets.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden shall be performed on a monthly basis (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any invasive species, Per AGR 3800 and RSA 430:53.

POROUS PAVERS

Function – Porous pavement (Pavers) is designed to capture rainwater runoff containing suspended solids, nutrients and pollutants. Proper maintenance of porous pavement is crucial for ensuring its longevity and functionality to infiltrate runoff.

Maintenance

- Reference attached “Regular Inspection and Maintenance Guidance for Permeable Pavements
- New porous pavement shall be inspected several times in the first month after construction and at least annually thereafter. Inspections shall be conducted after major storms to check for surface ponding that might indicate possible clogging.
- Inspect annually for pavement deterioration or spalling.
- Vacuum sweeping shall be performed once a year or as needed to maintain permeability. Power washing may be required prior to vacuum sweeping to dislodge trapped particles.
- Sand and abrasives shall not be used for winter maintenance, as they will clog the pores; de-icing materials shall be used instead.
- Never reseal or repave with impermeable materials. If the porous pavement is damaged, it can be repaired using conventional, non-porous patching mixes as long as the cumulative area repaired does not exceed 10 percent of the paved area.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Wetlands Permit modification.

CATCH BASINS

Function – Catch basins collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned (as needed) on an annual basis to protect water quality and infiltration capacity. Catch basin debris shall be disposed of at a solid waste disposal facility.

DRIP EDGES

Function – Drip edges are to provide erosion control of surface where impervious surfaces meet non-impervious surfaces, such as building or roadway edges.

Maintenance

- Drip edges should be inspected annually for erosion, rutting, and migration of stone. Any areas experiencing erosion shall be properly maintained by replacing or adding additional stone to the area of concern.

LANDSCAPED AREAS - FERTILIZER MANAGEMENT

Function – Fertilizer management involves controlling the rate, timing and method of fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply fertilizer to frozen ground.
- Clean up any fertilizer spills.
- Do not allow fertilizer to be broadcast into water bodies.
- When fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminants that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

GENERAL CLEAN UP

Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet basket, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction.

Once in operation, all paved areas of the site should be swept at least once annually, preferably at the end of winter prior to significant spring rains.

APPENDIX

- A. PERMEABLE PAVEMENTS
 - a. REGULAR INSPECTION AND MAINTENANCE GUIDANCE
 - b. CHECKLIST FOR INSPECTION
- B. BIORETENTION SYSTEMS
 - a. REGULAR INSPECTION AND MAINTENANCE GUIDANCE
 - b. CHECKLIST FOR INSPECTION
- C. STORMWATER SYSTEM OPERATIONS AND MAINTENANCE REPORT
- D. GRADING AND DRAINAGE PLAN

The Grading and Drainage Plan shall be referenced for storm water system practices and structures required for inspection and annual reporting.

Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters

Maintenance of bioretention systems and tree filters can typically be performed as part of standard landscaping. Regular inspection and maintenance is critical to the effective operation of bioretention systems and tree filters to insure they remain clear of leaves and debris and free draining. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less frequent maintenance needs depending on a variety of factors including but not limited to: the occurrence of large storm events, overly wet or dry periods, regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of sediment and organic debris from the system and bypass structures. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Vegetation coverage is integral to the performance of the system, including infiltration rate and nutrient uptake. Vegetation care is important to system productivity and health.

ACTIVITY

FREQUENCY

CLOGGING AND SYSTEM PERFORMANCE

A record should be kept of the time to drain for the system completely after a storm event. The system should drain completely within 72 hours.

Check to insure the filter surface remains well draining after storm events.

Remedy: If filter bed is clogged, draining poorly, or standing water covers more than 50% of the surface 48 hours after a precipitation event, then remove top few inches of discolored material. Till, or rake remaining material as needed.

After every major storm in the first few months, then annually at minimum.

Check inlets and outlets for leaves and debris.

Remedy: Rake in and around the system to clear it of debris. Also, clear the inlet and overflow if obstructed.

Check for animal burrows and short-circuiting in the system.

Remedy: Soil erosion from short circuiting or animal borrows should be repaired when they occur. The holes should be filled and lightly compacted

Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning.

Remedy: Repair or replace any damaged structural parts, inlets, outlets, sidewalls.

Quarterly initially, annually as a minimum thereafter.

VEGETATION

Check for robust vegetation coverage throughout the system and dead or dying plants.

Remedy: Vegetation should cover > 75% of the system and should be cared for as needed.

Annually or as needed

CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM / TREE FILTERS

Location:
 Inspector:
 Date:
 Time:
 Site Conditions:
 Days Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Initial Inspection After Planting and Mulching		
Plants are stable, roots not exposed	S U	
Surface is at design level, no evidence of preferential flow/shoving	S U	
Inlet and outlet/bypass are functional	S U	
2. Debris Cleanup (1 time/year minimum, Spring/Fall)		
Litter, leaves, and dead vegetation removed from the system	S U	
Prune/mow vegetation	S U	
3. Standing Water (1 time/year and/or after large storm events)		
No evidence of standing water after 24-48 hours since rainfall	S U	
4. Vegetation Condition and Coverage		
Vegetation condition good with good coverage (typically > 75%)	S U	
5. Other Issues		
Note any additional issues not previously covered.	S U	
Corrective Action Needed		Due Date
1.		
2.		
3.		
Inspector Signature		Date

Regular Inspection and Maintenance Guidance for Permeable Pavements

Regular inspection and maintenance is critical to the effective operation of permeable pavement. It is the responsibility of the owner to maintain the pavement in accordance with the minimum design standards. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less, frequent maintenance needs, depending on a variety of factors including the occurrence of large storm events, seasonal changes, and traffic conditions.

ACTIVITIES

Visual inspections are an integral part of system maintenance. This includes monitoring pavement to ensure water drainage, debris accumulation, and surface deterioration.

ACTIVITY

FREQUENCY

CLOGGING AND SYSTEM PERFORMANCE

Adjacent vegetated areas show no signs of erosion and run-on to permeable pavement.

Remedy: Repair or replace any damaged structural parts.

Whenever vacuuming adjacent permeable pavements

Adjacent non-permeable sections of pavement are clean of debris to prevent debris tracking.

Remedy: Vacuuming adjacent pavement non-permeable pavement can be effective at minimizing run-on.

Check for standing water remaining on the surface of the pavement after a precipitation event within 30 minutes.

Remedy: Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective, particularly in combination with a vacuum or vacuum sweeper.

1-2 times per year, more frequently for high-use sites or sites with higher potential for run-on

Check for debris accumulation, particularly in the winter.

Remedy: Loose debris such as leaves or trash can be removed using a power/leaf blower or gutter broom. Fall and spring cleanup should be accompanied by pavement vacuuming.

Accumulation of sediment and organic debris on the pavement surface.

Remedy: Regular use of a vacuum sweeper can remove sediment and organic debris. The sweeper may be fitted with water jets.

PAVEMENT CONDITION

Check for accumulation of snow or other stockpiles of materials such as sand/salt, mulch, soil, yard waste, etc. Stockpiling of these materials on permeable pavements can lead to premature clogging.

Remedy: Remove stockpile if possible and check for clogging in storage area.

As Needed

Damage to pavement

Remedy: Repairs should be repaired as they are identified

CHECKLIST FOR INSPECTION OF PERMEABLE PAVEMENT

Location:
 Inspector:
 Date:
 Time:
 Site Conditions:
 Date Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
------------------	---	-------------------------------

1. Salt / Deicing (Winter/Spring)		
--	--	--

Use salt only for ice management	S U	
Accumulated salt removed in spring	S U	

2. Debris Cleanup (1-2 times per year minimum, Spring/Fall)		
--	--	--

Remove sediment and organic debris using vacuum street sweeper	S U	
Clean catch basins (if available)	S U	

3. Controlling Run-On		
------------------------------	--	--

Adjacent vegetated areas show no signs of erosion and run-on to permeable pavement	S U	
--	----------	--

4. Outlet / Catch Basin Inspection (if available) (1-2 times per year, after large storm events)		
---	--	--

No evidence of blockage	S U	
Good condition, no need for cleaning/repair	S U	

5. Poorly Drained Pavement		
-----------------------------------	--	--

Recently cleaned and vacuumed	S U	
-------------------------------	----------	--

6. Pavement Condition		
------------------------------	--	--

No evidence of deterioration	S U	
------------------------------	----------	--

7. Signage / Stockpiling (As Needed)		
---	--	--

No evidence of damage	S U	
Proper signage posted indicating usage for traffic load	S U	
No stockpiling of materials and other unauthorized uses	S U	

Corrective Action Needed	Due Date
---------------------------------	-----------------

1.	
2.	
3.	

Inspector's Signature	Date
-----------------------	------

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STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: <input type="checkbox"/> Annual Report <input type="checkbox"/> Post-storm event <input type="checkbox"/> Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject	Status	Notes	
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>			
			<i>Notes/ Action taken:</i>
1	Do the current site conditions reflect the attached site plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Is there evidence of concentrated flows of stormwater such as rills or channels that cause erosion when such flows are not filtered, settled or otherwise treated to remove sediment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Is there evidence of deposits of sediment from the site on any adjacent property or stormwater system.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is there evidence of discharges from the site to streams running through or along the site where visual observations indicate significant amounts of sediment present in them.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is there evidence of invasive species within the stormwater treatment areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

LEGEND

* SEE SHEET C-1 FOR EXISTING FEATURES

- PROPERTY LINE
- SWQPA --- 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- PROPOSED PAVEMENT
- VGC SGC BCC VERTICAL GRANITE CURB/SLOPED GRANITE CURB/
BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- ////// PROPOSED BUILDING
- PROPOSED RETAINING WALL

GRADING AND DRAINAGE NOTES

SEE SHEET C-6 FOR GRADING AND DRAINAGE NOTES

STORMWATER PRACTICES

RAINGARDEN #1

BOTTOM AREA= 300 SF
BOTTOM ELEV = 20.0
BERM ELEV = 21.2

RAINGARDEN #2

BOTTOM AREA= 350 SF
BOTTOM ELEV = 23.0
BERM ELEV = 24.0

RAINGARDEN #3

BOTTOM AREA= 100 SF
BOTTOM ELEV = 26.0
BERM ELEV = 27.0

RAINGARDEN #4

BOTTOM AREA= 100 SF
BOTTOM ELEV = 28.0
BERM ELEV = 29.0

DRAINAGE STRUCTURES

OUTLET STRUCTURE 1 (OS1)

RIM (18" BEEHIVE) = 20.5
6" UD (IN) = 17.25
12" INV (OUT) = 17.25

OUTLET STRUCTURE 2 (OS2)

RIM (18" BEEHIVE) = 23.5
6" UD (IN) = 20.25
12" INV IN = 20.35 (OS2)
12" INV (OUT) = 20.25

OUTLET STRUCTURE 3 (OS3)

RIM (18" BEEHIVE) = 26.5
6" UD (IN) = 23.25
8" INV IN = 23.35 (YD4)
12" INV (OUT) = 23.2

CB #1

RIM = 26.4±
INV. OUT (12" HDPE) = 23.20

CB #2

RIM = 22.6±
6" UD IN = 19.6
INV OUT (12" HDPE) = 19.50

PDMH #1

COVER = 22.3±
12" INV IN = 19.40 (CB2)
6" INV IN = 19.60
INV. OUT (12" HDPE) = 19.45

YARD DRAIN 4 (YD4)

RIM (8" BEEHIVE) = 28.5
6" UD (IN) = 25.25
8" INV (OUT) = 25.25

YARD DRAIN 5 (YD5)

12" INV. IN = 19.2
12" INV OUT = 19.1

STORM DRAINS

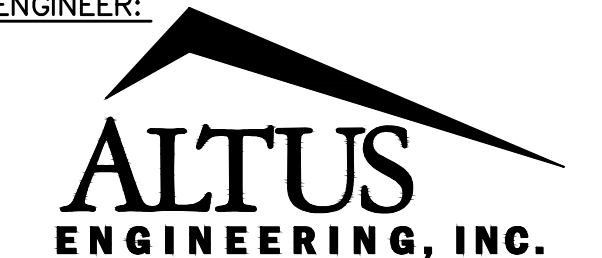
- P1 = 12" HDPE, 50 LF, S=0.005
- P2 = 8" HDPE, 24 LF, S=0.010
- P3 = 12" HDPE, 30 LF, S=0.0067
- P4 = 12" HDPE, 36 LF, S=0.080
- P5 = 8" HDPE, 84 LF, S=0.023
- P6 = 12" HDPE, 20 LF, S=0.108
- P8 = 12" HDPE, 48 LF, S=0.005

APPROVED BY THE PORTSMOUTH PLANNING BOARD

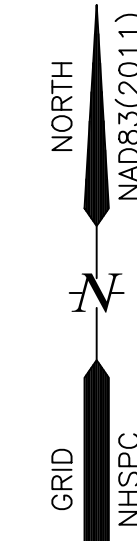
CHAIRMAN

DATE

ENGINEER:



133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

TAC

ISSUE DATE:

OCTOBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	06/26/19
2	TAC	CDB	09/16/19
3	TAC COMMENTS	CDB	10/18/19

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE:

4950.DWG

SCALE:

22" x 34" - 1" = 20'
11" x 17" - 1" = 40'

OWNER:

BETHEL ASSEMBLY
OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:

200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE
GATEWAY
DEVELOPMENT
SITE

200 CHASE DRIVE
PORTSMOUTH, NH

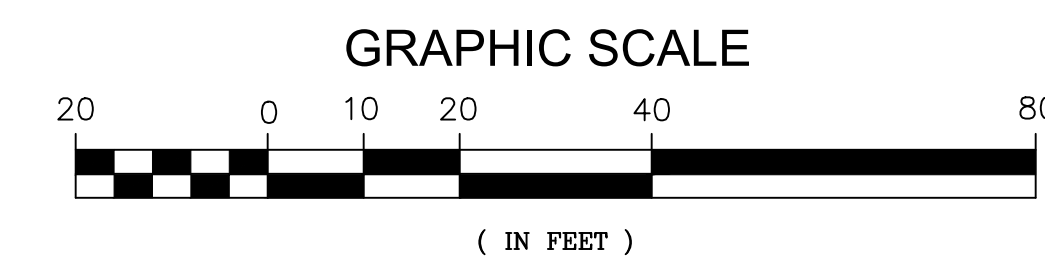
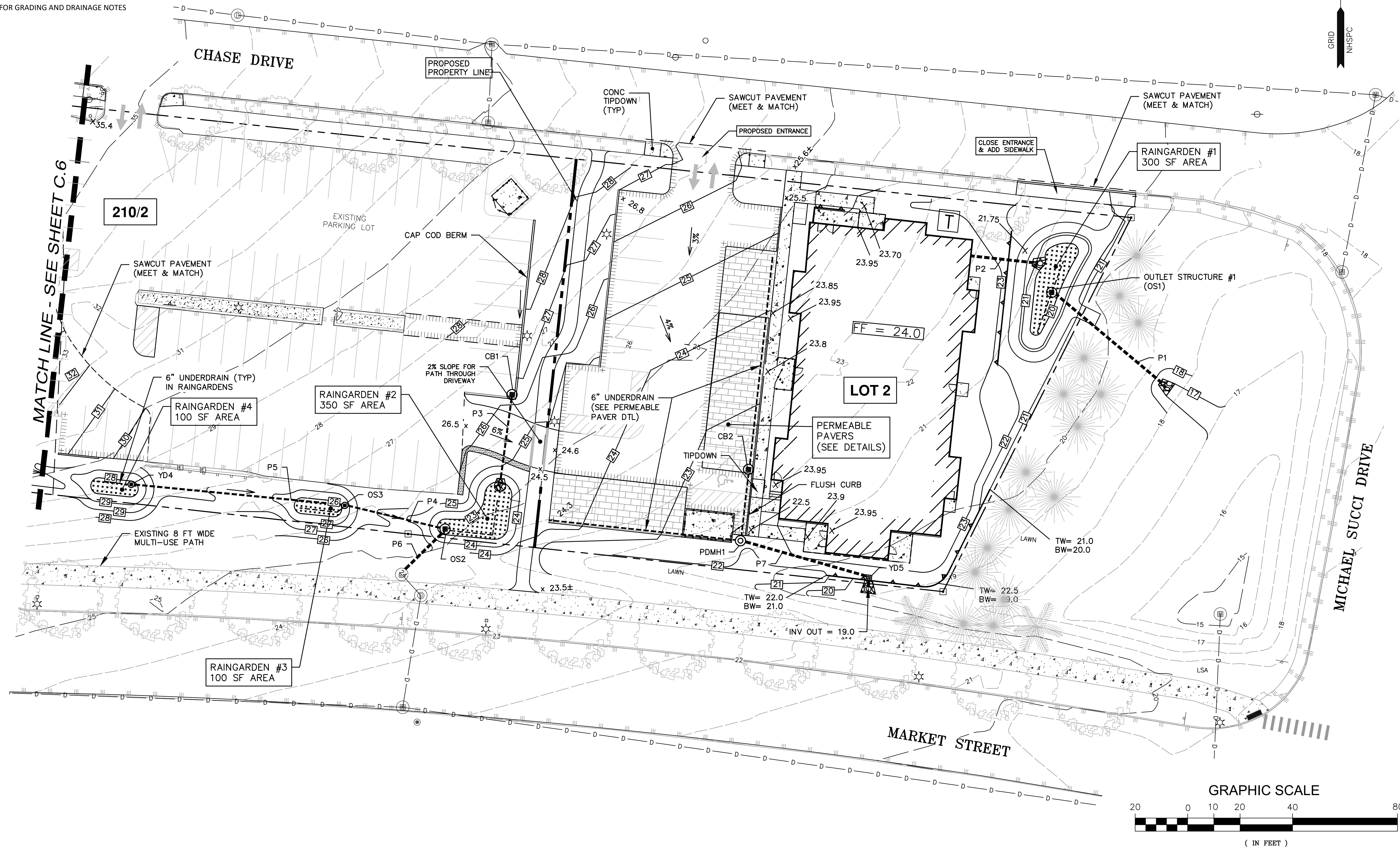
ASSESSOR'S PARCEL
210-2

TITLE:

GRADING AND
DRAINAGE PLAN

SHEET NUMBER:

C.5



P4950