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## SALEM PLANNING BOARD

1) ON JANUARY 14, 2020, THE SALEM PLANNING BOARD VOTED TO APPROVE THE FOLLOWING CONDITIONAL USE PERMITS:

   SECTION 490-501C(1)(a) TO ALLOW A BUILDING HEIGHT OF 77'-6", 5 STORIES
   SECTION 490-501C(1)(a) TO ALLOW A LOT COVERAGE OF 73%
   SECTION 490-701C(2)(b) TO ALLOW A ZERO FOOT PARKING SETBACK
   SECTION 490-701C(1)(d) TO ALLOW 9'x18' PARKING SPACES
   SECTION 490-702D(2) TO ALLOW FIVE SIGNS AS SHOWN

2) ON JANUARY 14, 2020, THE SALEM PLANNING BOARD APPROVED THE MEDICAL OFFICE BUILDING SITE PLAN WITH THE FOLLOWING CONDITIONS OF APPROVAL:

   PRIOR TO BUILDING PERMIT:
   1. SUBMIT APPROVAL FROM ENGINEERING DIVISION;
   2. SUBMIT APPROVAL FROM THE TOWN'S TRAFFIC, DESIGN, AND SIGN CONSULTANTS;
   3. PAY FOR OUTSIDE INSPECTIONS PER DIRECTION OF ENGINEERING DIVISION;
   4. SUBMIT STATE PERMITS AND APPROVALS (AOT, SEWER EXTENSION, NHDOT);
   5. NOTE CONDITIONAL USE PERMITS ON PLAN;

   PRIOR TO OCCUPANCY:
   6. PAY ROAD ($268,240) AND PUBLIC SAFETY ($35,502) IMPACT FEES;
   7. CONSTRUCT ALL SITE IMPROVEMENTS (INCLUDING BUILDING LOCATION, DIMENSIONS, SETBACKS, SITE GRADING, UTILITIES, ROAD WORK, DRAINAGE, LANDSCAPING, LIGHTING, PARKING SPACES, SIGNAGE) IN ACCORDANCE WITH APPROVED PLAN;
   8. PROVIDE CERTIFIED AS-BUILT SITE PLAN;
   9. VERIFY COMPLIANCE WITH PARKING LOT SCREENING REQUIREMENT WITH TOWN'S DESIGN CONSULTANT;
   10. CONSTRUCT ALL ROAD IMPROVEMENTS AS REQUIRED BY NHDOT;

   OTHER:
   11. ALL REPRESENTATIONS MADE BY APPLICANT OR AGENTS AND ALL NOTES ON PLANS ARE INCORPORATED AS PART OF APPROVAL.

3) ON OCTOBER 13, 2020, THE SALEMM PLANNING BOARD VOTED TO APPROVE THE MEDICAL OFFICE BUILDING AMENDED SITE DEVELOPMENT PLANS SUBJECT TO THE FOLLOWING CONDITIONS:

   1. COMPLY WITH CONDITIONS OF APPROVAL FROM 1/14/20;
   2. PAY ROAD ($254,653) AND PUBLIC SAFETY ($33,704) IMPACT FEES PRIOR TO OCCUPANCY.

## PERMITS & APPROVALS

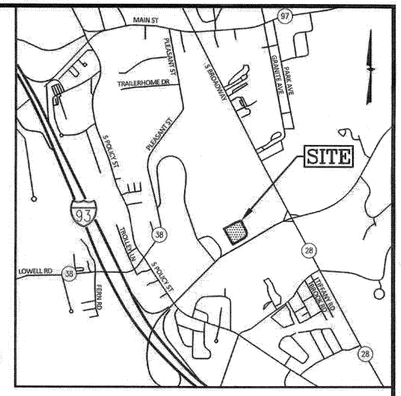
| TYPE | PERMIT NUMBER | APPROVED |
|---|---|---|
| NHDES ALTERATION OF TERRAIN | AOT-1712A | 1/20/2020 |
| NHDES SEWER EXTENSION PERMIT | D2019-0802 | 8/13/2019 |

# AMENDED SITE DEVELOPMENT PLANS
# TUSCAN VILLAGE
# MEDICAL OFFICE BUILDING
# SALEM PROPERTY MAP 108 LOT 12607
# 30 TUSCAN BOULEVARD
# SALEM, NEW HAMPSHIRE



***Prepared for:***

## MASS GENERAL BRIGHAM
### 399 REVOLUTION DRIVE, SUITE 1345
### SOMERVILLE, MASSACHUSETTS 02145




LOCATION MAP
(NOT TO SCALE)

## ABUTTERS

| MAP/LOT # | NAME & ADDRESS |
|---|---|
| 108/12607 (SUBJECT PARCEL) | TV-MOB, LLC<br>63 MAIN STREET<br>SALEM, NH 03079 |
| 108/12500<br>108/12605 | TUSCAN VILLAGE MASTER DEVELOPMENT, LLC<br>63 MAIN STREET<br>SALEM, NH 03079 |
| 107/12501<br>107/12575<br>107/12576 | TUSCAN SOUTH VILLAGE, LLC<br>63 MAIN STREET<br>SALEM, NH 03079 |
| 117/7885 | STATE OF NEW HAMPSHIRE<br>P.O. BOX 483<br>CONCORD, NH 03301 |

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 3 | REVISE SHEETS 4-8 | DRJ | 10/19/20 |
| 2 | ADD CONDITIONS OF APPROVAL, REVISE SHEETS 4-9 & 14 | DRJ | 10/16/20 |
| 1 | REVISE SHEET 6 | DRJ | 10/13/20 |

REVISIONS

TITLE SHEET

**SALEM PROPERTY MAP 108 - LOT 12607**
**30 TUSCAN BOULEVARD**
PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: NONE
DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE — DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER — 10/19/20

OWNER OF RECORD
TV-MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL
Ross A. Moldoff
Approved 10/13/20
Signed 10/30/20

ZONE: COMMERCIAL - INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 CVR | NEX-2020062 | 1 OF 15 |

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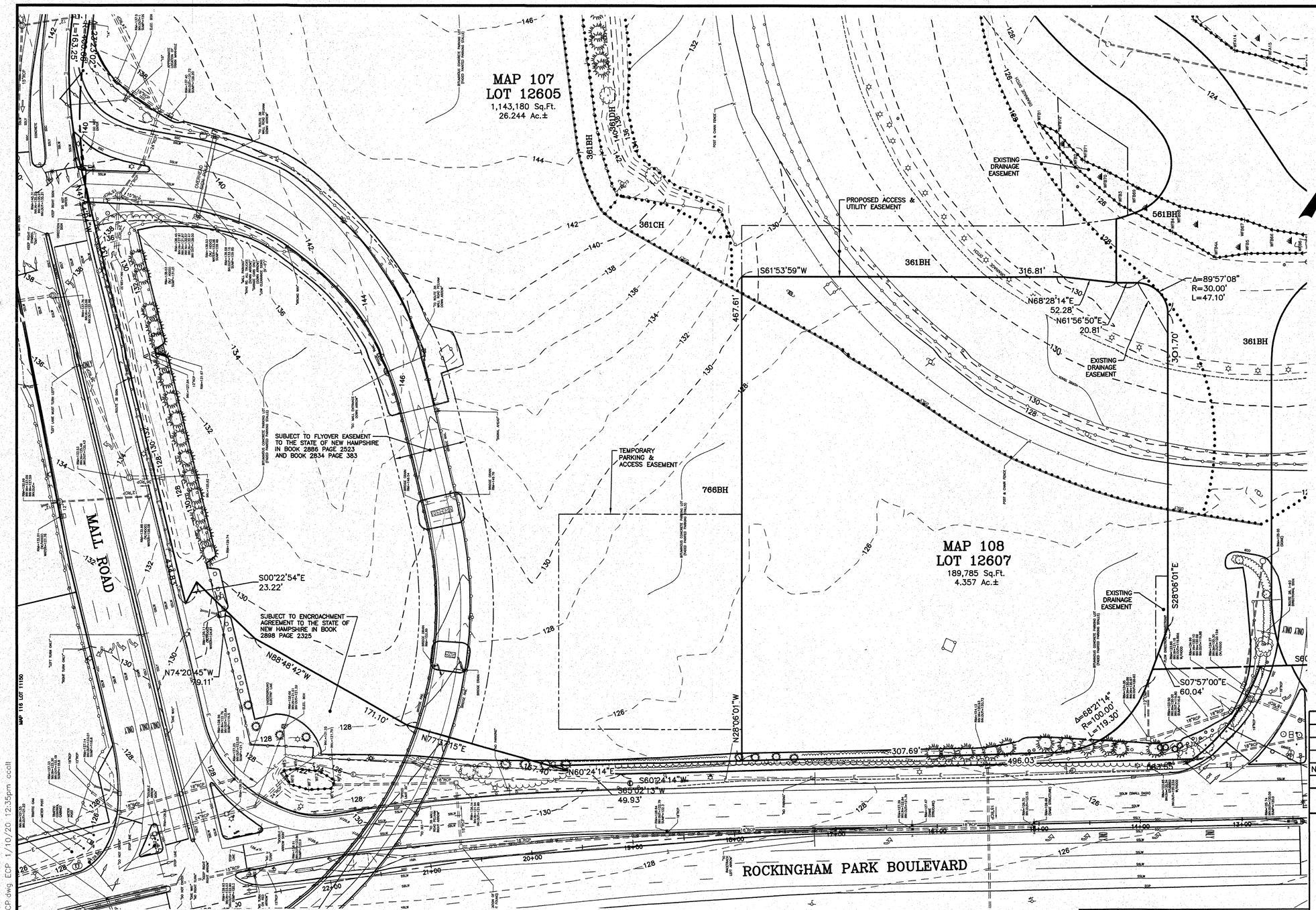


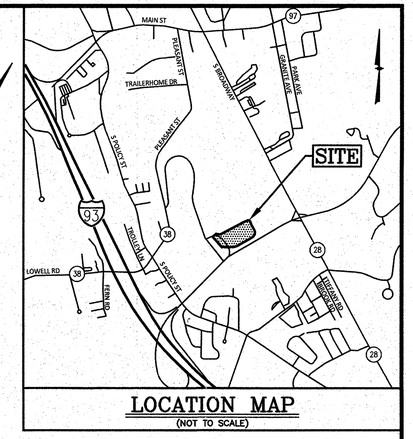


LOCATION MAP
(NOT TO SCALE)

## NOTES:

1) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF A PORTION OF MAP 107 LOT 12605 AS IT EXISTED IN JUNE 2015.

2) OWNER OF RECORD:
ROCK ACQUISITION, LLC
63 MAIN STREET
SALEM, NH 03079
DEED REFERENCE TO PARCEL IS BOOK 5763 PAGE 52
AREA OF PARCEL = 1,143,180 S.F.± OR 26.244 ACRES±

3) THE INFORMATION SHOWN ON THIS PLAN IS BASED IN PART ON SURVEY WORK PERFORMED BY MHF DESIGN CONSULTANTS, INC. ALONG WITH INFORMATION FROM RECORD PLANS AND AERIAL MAPPING.

4) EXAMINATION OF THE FLOOD INSURANCE RATE MAP FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE, MAP NUMBER 33015C0563E, EFFECTIVE DATE: MAY 17, 2005, INDICATES THAT MAP 107 LOT 12605 IS NOT LOCATED WITHIN A FLOOD AREA.

5) BENCHMARK: RM 15 – DISK STAMPED 'F-2' LOCATED IN THE WEST END OF THE NORTH ABUTMENT OF THE BOSTON & MAINE RAILROAD BRIDGE OVER POLICY BROOK NEAR ROCKINGHAM PARK. ELEVATION = 124.12 (NGVD29).

6) CURRENT ZONING IS COMMERCIAL INDUSTRIAL 'C'. BUILDING SETBACKS ARE AS FOLLOWS: 30' FRONT, 20' SIDE, 20' REAR.

7) EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH COMPLETED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, RESTRICTIONS AND EASEMENTS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PARCEL(S) WOULD DETERMINE.

8) SEE ACCESS EASEMENT RESERVED IN RCRD BOOK 2828 PAGE 1485 GRANTING "A PERPETUAL EASEMENT FOR THE PASSAGE AND REPASSAGE BY FOOT AND BY VEHICLE FOR ANY AND ALL OTHER USES FOR WHICH ROADS OR STREETS ARE COMMONLY USED, INCLUDING BUT NOT LIMITED TO UTILITIES AND DRAINAGE".

## CERTIFICATION:

I CERTIFY THAT THIS SURVEY AND PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAN IS THE RESULT OF AN ACTUAL SURVEY PERFORMED ON THE GROUND DURING OCTOBER/NOVEMBER 2014 AND JUNE 2015 AND HAS AN ERROR OF CLOSURE OF NOT MORE THAN ONE PART IN TEN THOUSAND.

LICENSED LAND SURVEYOR — DATE 1/10/20

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | REVISIONS | | |

# EXISTING CONDITIONS PLAN

**MEDICAL OFFICE BUILDING**
**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**
PREPARED FOR:
OMJ REALTY, LLC
63 MAIN STREET, SALEM, NH 03079

GPI — Formerly MHF Design Consultants, Inc
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: 1"=50' DATE: DECEMBER 17, 2019

STATE OF NEW HAMPSHIRE — NO. 838 — DAVID R. JORDAN — LICENSED LAND SURVEYOR — 1/10/20

OWNER OF RECORD
ROCK ACQUISITION, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DRAWN BY: | CHECKED BY: | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| CPS | JAC | 4040MGH-ECP.DWG | NEX-2020062 | 2 of 15 |

## SOIL MAPPING NOTES

1) HIGH INTENSITY SOIL MAPPING WAS PERFORMED TO THE STANDARDS OF THE SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND SPECIAL PUBLICATION NUMBER 1, HIGH INTENSITY SOIL MAPS FOR NEW HAMPSHIRE, STANDARDS, APRIL 2008.

2) THE MAJORITY OF SOILS IN THE AREA AROUND THE PROPOSED MEDICAL OFFICE BUILDING HAS BEEN DESIGNATED AS 766BH BY GOVE ENVIRONMENTAL SERVICES, INC. (SOMEWHAT POORLY DRAINED, EXCAVATED, REGRADED OR FILLED, WITH MINERAL RESTRICTIVE LAYER LESS THAN 40 INCHES) WITH A SMALL AREA DESIGNATED AS 361BH (MODERATELY WELL DRAINED, EXCAVATED, REGRADED OR FILLED, WITH NO RESTRICTIVE FEATURES).

## WETLAND NOTES

WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. UTILIZING THE FOLLOWING STANDARDS:

1) US ARMY CORPS OF ENGINEERS INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR-09-19 (OCT 2009).

2) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2010).

3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.2.1 (2009).

4) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/08S-79/31 (1979).

SOIL SURVEY PERFORMED

STATE OF NEW HAMPSHIRE — JAMES P. GOVE — 1/12/18 — No. 004 — CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE — JAMES P. GOVE — 1/12/18 — No. 0057 — CERTIFIED WETLAND SCIENTIST

BY
GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG 2, UNIT H, EXETER, NH 03833-7507

GRAPHIC SCALE
50 0 25 50 100 200
( IN FEET )
1 inch = 50 ft.

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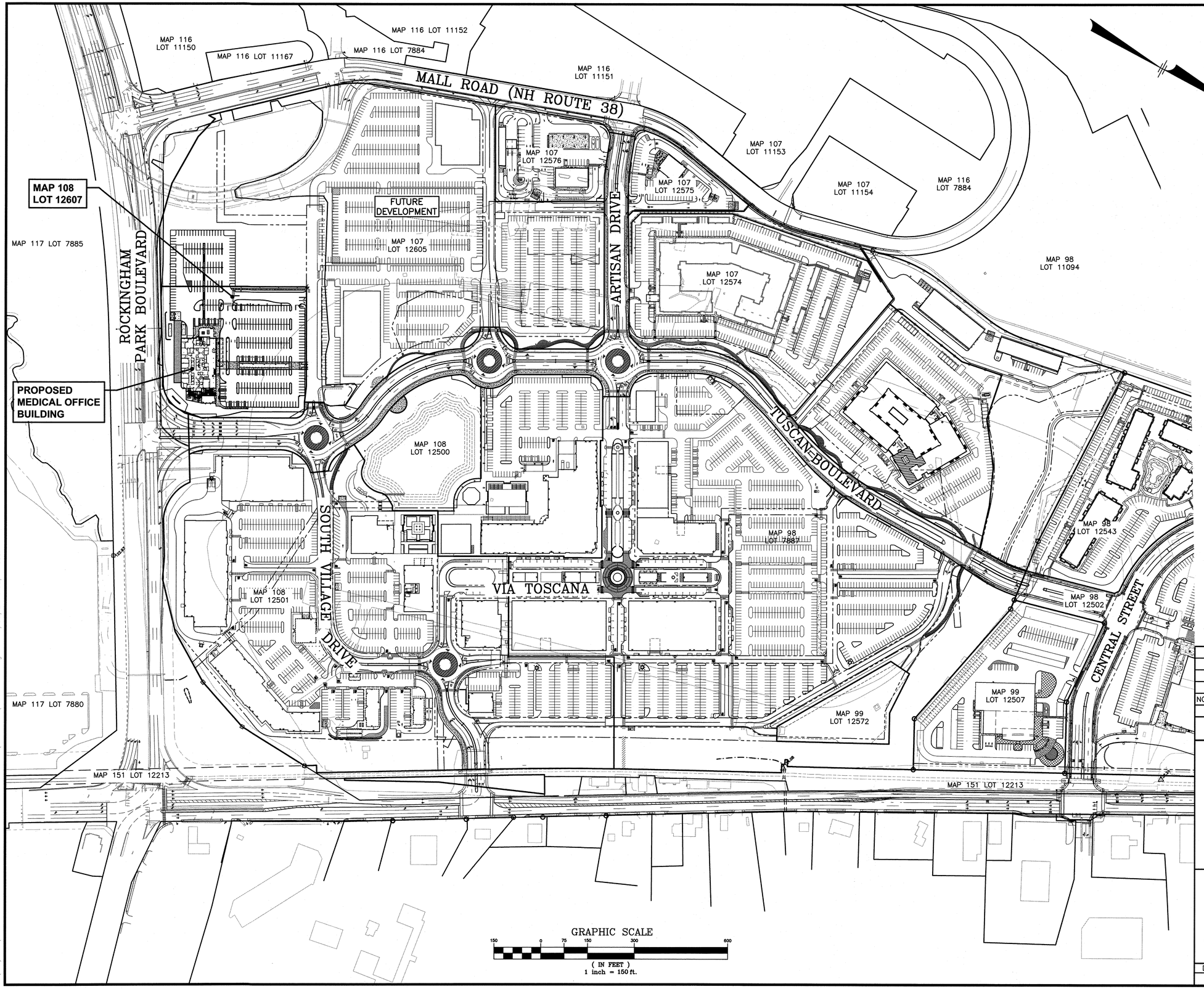


| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | REVISIONS | | |

# TUSCAN VILLAGE OVERVIEW PLAN

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI
Engineering
Design
Planning
Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: 1"=150' DATE: SEPTEMBER 22, 2020

DAVID C. JORDAN No. 7773 STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR
9/22/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 OV | NEX–2020062 | 3 OF 15 |

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MAP 107 LOT 12605

FUTURE ACCESS EASEMENT TO FUTURE OVERFLOW PARKING FOR THE BENEFIT OF MAP 108 LOT 12607

EXISTING ACCESS & UTILITY EASEMENT

FUTURE CONNECTION TO MALL ROAD/ARTISAN DRIVE

EXISTING TEMPORARY ACCESS, UTILITY, DRAINAGE AND OVERFLOW PARKING EASEMENT – 114 SPACES

FUTURE FLYOVER OVERFLOW PARKING 114 SPACES TO MAP 108 LOT 12607

SEE OFFSITE IMPROVEMENT PLANS FOR MALL ROAD BY GPI, INC.

EXISTING TEMPORARY ACCESS, UTILITY, DRAINAGE AND OVERFLOW PARKING EASEMENT

SEE TUSCAN VILLAGE ROADWAY PLANS BY TIGHE & BOND

PROPOSED 62,415 SF MEDICAL OFFICE BUILDING (3 STORIES AT 56,290 SF PLUS 6,125 SF 4th FLOOR MECHANICAL PENTHOUSE)

252 SPACES PROVIDED ON-SITE
114 SPACES PROVIDED OFF-SITE
366 SPACES TOTAL

EXIST. GATEWAY SIGN EASEMENT

EXIST. TRUCK ACCESS EASEMENT

MAP 108
LOT 12607
189,785 Sq. Ft.
4.357 Ac.±

SEE OFFSITE IMPROVEMENT PLANS FOR ROCKINGHAM PARK BOULEVARD BY GPI, INC.

MALL ROAD

TUSCAN BOULEVARD

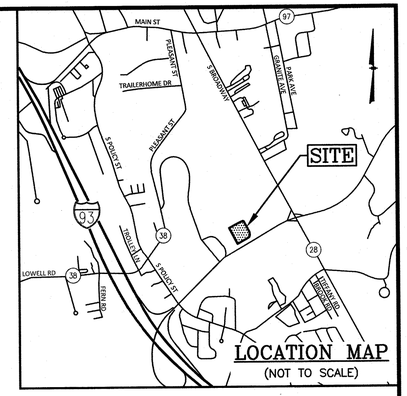
ROCKINGHAM PARK BOULEVARD

MAP 118 LOT 11150

GRAPHIC SCALE

50 0 25 50 100 200

( IN FEET )
1 inch = 50 ft.




## NOTES:

1) MAP 108 LOT 12607 WILL BE SERVED BY 114 PARKING SPACES TO BE LOCATED OFF LOT BUT WITHIN THE TUSCAN VILLAGE PROJECT IN EITHER OF THE TWO LOCATIONS SHOWN ON THIS PLAN.

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | REVISIONS | | |
| 2 | UPDATE LIGHTING AND REVISE CANOPY | DRJ | 10/19/20 |
| 1 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |

# SITE OVERVIEW PLAN

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=50'

DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE – DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER – 10/19/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD
APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX–2020062 | 4 OF 15 |

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## LEGEND

| | | | |
|---|---|---|---|
| | OVERHEAD SERVICE WIRES | | UTILITY POLE |
| DSYL | DOUBLE SOLID YELLOW LINE | | DRAIN MANHOLE |
| SSWL | SINGLE SOLID WHITE LINE | | SEWER MANHOLE |
| BWL | BROKEN WHITE LINE | | CATCH BASIN |
| | SIGN | W | WATER LINE |
| | TEST PIT | | WATER VALVE |
| | WETLAND LINE | | FIRE HYDRANT |
| 25.0+ | SPOT ELEVATION | GV | GAS VALVE |
| 190 | CONTOUR ELEVATION | G | GAS LINE |
| EN | ENTRY | T | UNDERGROUND TELEPHONE LINE |
| 1 | NUMBER OF PARKING SPACES | UGE | UNDERGROUND ELECTRIC AND TELEPHONE |

## CURB LEGEND

- VERTICAL GRANITE CURB (VGC)
- FLUSH VERTICAL GRANITE CURB (FGC)
- MOUNTABLE VERTICAL GRANITE CURB (TYPE-E) (MGC)
- T.D. TIP DOWN CURB

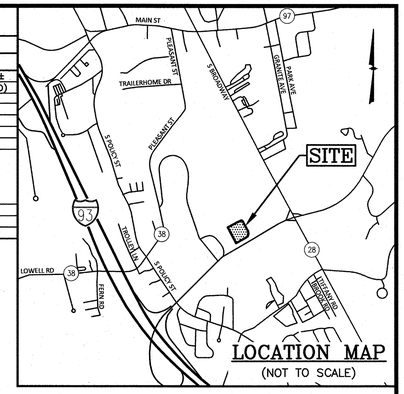
(SEE DETAIL SHEET FOR EACH CURB LISTED IN LEGEND)

## TABLE OF ZONING REGULATIONS – SALEM, NH

*ZONE: COMMERCIAL–INDUSTRIAL C*

| DESCRIPTION | REQUIRED | PROVIDED |
|---|---|---|
| MINIMUM LOT AREA Sq. Ft. | NONE | 189,785 Sq. Ft./4.357 Ac.± |
| MINIMUM LOT FRONTAGE | NONE | 400'± (TUSCAN BOULEVARD) |
| MINIMUM FRONT YARD BUILDING SETBACK | 30' | 55.5'± |
| MINIMUM SIDE YARD BUILDING SETBACK | 20' | 267'± |
| MINIMUM REAR YARD BUILDING SETBACK | 20' | 161'± |
| MAXIMUM BUILDING HEIGHT | 35', 3 STORIES (5 STORIES, 77'-6"*) | 4 STORIES, 60' |
| MAXIMUM LOT COVERAGE | 70%* (73%*) | 73%* |
| MINIMUM NUMBER PARKING SPACES | 1 SPACE/250 SF x 62,415 SF = 250 SPACES | 365 SPACES<br>251 ON–SITE<br>114 OFF–SITE<br>(INCLUDES 31 ACCESSIBLE SPACES & 8 EV SPACES) |
| MINIMUM FRONT YARD PARKING SETBACK | 20' | 29' |
| MINIMUM SIDE & REAR PARKING SETBACK | 10' (0'*) | 0' |
| PARKING SPACE DIMENSIONS | 9'x20' (9'x18'*) | 9'x18' |

* CONDITIONAL USE PERMITS GRANTED




## NOTES:

1) THE PURPOSE OF THIS PLAN IS TO SHOW THE SITE LAYOUT FOR A 62,415 SF MEDICAL OFFICE BUILDING ON MAP 108 LOT 12607 IN ACCORDANCE WITH THE LARGE SCALE DEVELOPMENT ORDINANCE, SECTION 490–710.
2) THIS PLAN SHOWS THE PROPOSED IMPROVEMENTS AND LANE CONFIGURATIONS IN ROCKINGHAM PARK BOULEVARD AND MALL ROAD. SEE PLANS PREPARED BY GPI.
3) THE INFORMATION SHOWN ON THIS PLAN IS BASED IN PART ON SURVEY WORK PERFORMED BY MHF DESIGN CONSULTANTS, INC. ALONG WITH INFORMATION FROM RECORD PLANS AND AERIAL MAPPING.
4) ALL WALKS, STAIRS AND LANDINGS TO BE CEMENT CONCRETE. CONTRACTOR SHALL ENSURE ADA COMPLIANCE AS APPROPRIATE.
5) ALL WORK SHALL CONFORM TO APPLICABLE TOWN OF SALEM, NHDES AND NHDOT STANDARDS.
6) WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
7) PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER THAT HE HAS THE MOST RECENT SET OF PLANS. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY SHEET. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
8) CONTRACTOR RESPONSIBLE FOR COORDINATION WITH ARCHITECTURAL PLANS FOR HIS/ HER WORK. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
9) CONTRACTOR TO CONFIRM BENCHMARKS PRIOR TO COMMENCEMENT OF WORK.
10) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" (888–344–7233) AT LEAST 72 HOURS PRIOR TO ANY DIGGING.
11) ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MUTCD, LATEST EDITION.
12) PROPOSED ON–SITE SNOW STORAGE AREAS ARE AS SHOWN. ANY EXCESS SNOW SHALL BE TRUCKED OFF–SITE AND DISPOSED OF IN ACCORDANCE WITH THE TOWN OF SALEM AND NHDES REQUIREMENTS.
13) ANY ROOFTOP OR GROUND LEVEL MECHANICAL UNITS SHALL BE SCREENED FROM PUBLIC VIEW.
14) FOR DESCRIPTION OF SITE/WALL SIGNAGE, SEE SIGN DETAIL SHEET.
15) ACCOMMODATION FOR PEDESTRIAN ACCESS FOR THE PROPOSED PARKING/SITE DEVELOPMENT TO THE WEST OF THIS DEVELOPMENT SHALL BE CONSIDERED AS PART OF ANY FUTURE DEVELOPMENT PLAN PROPOSED ON THE WESTERLY ADJACENT DEVELOPMENT PARCEL.

## SIGN KEY

| SIGN I.D. NUMBER | TEXT/COLOR | SIZE/REMARKS |
|---|---|---|
| R1–1 | STOP R/W | 30" x 30" NEW SIGN WITH POST |
| R5–1 | ONE WAY R/W | 30" x 30" NEW SIGN WITH POST |
| R4–7 | B/W | 24" x 30" NEW SIGN WITH POST |

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| 2 | UPDATE LIGHTING AND REVISE CANOPY | DRJ | 10/19/20 |
| 1 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |

REVISIONS

# SITE PLAN

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=30' DATE: SEPTEMBER 22, 2020

DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
10/19/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX–2020062 | 5 OF 15 |

MAP 108
LOT 12607
189,785 Sq. Ft.
4.357 Ac.±

GRAPHIC SCALE
30 0 15 30 60 120
( IN FEET )
1 inch = 30 ft.

811 DigSafe MA.ME.NH.RI.VT

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## LEGEND

- OVERHEAD SERVICE WIRES
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- BWL — BROKEN WHITE LINE
- SIGN
- TEST PIT
- WETLAND LINE
- SPOT ELEVATION
- 190 — CONTOUR ELEVATION
- EN — ENTRY
- UTILITY POLE
- DRAIN MANHOLE
- SEWER MANHOLE
- CATCH BASIN
- W — WATER LINE
- WATER VALVE
- FIRE HYDRANT
- GV — GAS VALVE
- G — GAS LINE
- T — UNDERGROUND TELEPHONE LINE
- UGE — UNDERGROUND ELECTRIC AND TELEPHONE
- C.O. — PROP. CLEANOUT
- CB-1 — PROP. CATCH BASIN
- DMH-1 — PROP. DRAIN MANHOLE
- MEG — MEET EXISTING GRADE
- 131.75 — PROP. SPOT ELEVATION
- PROP. CONTOUR ELEVATION
- TW= — TOP OF WALL ELEV.
- BW= — BOTTOM OF WALL ELEV.

## DRAINAGE PIPE SCHEDULE

| FROM: STRUCTURE NUMBER | PIPE SIZE (INCHES) | TYPE OF PIPE | APPROX. PIPE LENGTH (FEET) | SLOPE OF PIPE (FT./FT.) | TO: STRUCTURE NUMBER |
|---|---|---|---|---|---|
| CB-1 | 15 | HDPE | 157 | 0.005 | CB-2A |
| CB-2 | 24 | HDPE | 204 | 0.005 | CB-6A |
| CB-2A | 15 | HDPE | 16 | 0.006 | CB-2 |
| CB-3 | 12 | HDPE | 60 | 0.007 | CB-4 |
| CB-4 | 15 | HDPE | 130 | 0.005 | CB-5 |
| CB-5 | 18 | HDPE | 116 | 0.005 | DMH-2 |
| CB-6 | 24 | HDPE | 17 | 0.006 | DMH-1 |
| CB-6A | 24 | HDPE | 36 | 0.006 | CB-6 |
| CB-7 | 12 | HDPE | 37 | 0.008 | CB-6 |
| CB-8 | 12 | HDPE | 50 | 0.020 | DMH-7 |
| CB-9 | 12 | HDPE | 34 | 0.030 | DMH-7 |
| CB-10 | 15 | HDPE | 96 | 0.006 | CB-11 |
| CB-11 | 18 | HDPE | 53 | 0.008 | DMH-6 |
| DMH-5 | 18 | HDPE | 165 | 0.007 | DMH-6 |
| DMH-7 | 24 | HDPE | 6 | 0.023 | DMH-8 |
| DMH-9 | 18 | HDPE | 36 | 0.041 | DMH-10 |
| DMH-10 | 18 | HDPE | 170 | 0.026 | DMH-11 |
| DMH-11 | 18 | HDPE | 8 | 0.026 | NEW CB |
| YD-1 | 12 | HDPE | 38 | 0.007 | YD-2 |
| YD-2 | 12 | HDPE | 92 | 0.014 | CB-2 |

## DRAINAGE STRUCTURES

CB-1
RIM=131.50
INV.OUT=128.25

CB-2
RIM=132.50
INV.IN=128.35(YD-2)
INV.IN=127.35(CB-2A)
INV.OUT=127.35

CB-2A
RIM=132.65
INV.IN=127.45(CB-1)
INV.OUT=127.45

CB-3
RIM=131.50
INV.OUT=128.00

CB-4
RIM=131.50
INV.IN=127.60(CB-3)
INV.OUT=127.35

CB-5
RIM=132.25
INV.IN=126.70(CB-4)
INV.OUT=126.60

CB-6
RIM=132.00
INV.IN=128.10(CB-7)
INV.IN=126.10(CB-2)
INV.OUT=126.10

CB-6A
RIM=132.40
INV.IN=126.30(CB-2)
INV.OUT=126.30

CB-7
RIM=132.40
INV.OUT=128.40

CB-8
RIM=133.00
INV.OUT=129.00

CB-9
RIM=133.00
INV.OUT=129.00

CB-10
RIM=131.50
INV.OUT=127.50

CB-11
RIM=132.00
INV.IN=126.90(CB-10)
INV.OUT=126.85

DMH-1
RIM=132.25
INV.IN=126.00(CB-6)
INV.OUT=126.00
(30" TO ISOLATOR ROW)
INV.OUT=128.20
(12" MANIFOLD)

DMH-2
RIM=132.90
INV.IN=126.00(CB-4)
INV.OUT=126.00
(18" TO ISOLATOR ROW)
INV.OUT=128.20
(12" MANIFOLD)

DMH-3
RIM=133.40
INV.OUT=126.00
(30" TO ISOLATOR ROW)
INV.OUT=128.20
(12" MANIFOLD)

DMH-4
RIM=132.85
INV.OUT=126.00
(30" TO ISOLATOR ROW)
INV.OUT=128.20
(12" MANIFOLD)

DMH-5
RIM=133.00
INV.IN=126.00(24" LOW)
INV.IN=128.20(12" MANIFOLD)
INV.OUT=128.20

DMH-6
RIM=133.90
INV.IN=126.25(CB-11)
INV.IN=127.00(DMH-5)
INV.OUT=125.75
(24" TO ISOLATOR ROW)
INV.OUT=127.95
(12" MANIFOLD)

DMH-7
RIM=133.70
INV.IN=128.00(CB-9)
INV.IN=128.00(CB-8)
INV.IN=128.00(ROOF DRAINS)
INV.OUT=127.90

DMH-8
RIM=133.70
INV.IN=127.75(DMH-7)
INV.OUT=125.75
(24" TO ISOLATOR ROW)
INV.OUT=127.95
(12" MANIFOLD)

DMH-9
RIM=133.80
INV.OUT=127.40

DMH-10
RIM=131.00
INV.IN=126.00(DMH-9)
INV.OUT=125.90

DMH-11
RIM=127.00
INV.IN=121.50(DMH-10)
INV.OUT=121.40

YD-1
RIM=133.00
INV.OUT=130.00

YD-2
RIM=133.00
INV.IN=129.75(YD-1)
INV.OUT=129.65

UNDERGROUND STORMTECH INFILTRATION SYSTEM #1 (U/G INF-1)
(90) MC-3500 CHAMBERS
BOTTOM STONE=125.25
BOTTOM CHAMBERS=126.00
(SEE DETAIL SHEET)

UNDERGROUND STORMTECH INFILTRATION SYSTEM #2 (U/G INF-2)
(71) MC-3500 CHAMBERS
BOTTOM STONE=125.00
BOTTOM CHAMBERS=125.75
(SEE DETAIL SHEET)

(DG) DENOTES DOUBLE GRATE CATCH BASIN STRUCTURE (SEE DETAIL SHEET)

NOTE: LOW PROFILE FRAME & GRATE/COVERS SHALL BE USED WHERE REQUIRED TO ACHIEVE RIM TO INVERT DIMENSIONS SHOWN. COORDINATE WITH PRECAST MANUFACTURER PRIOR TO CONSTRUCTION.

## NOTES:

1) ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF SALEM, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2) THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
3) ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
4) CONTRACTOR SHALL VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
5) THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
6) THE CONTRACTOR SHALL STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING STORMWATER RUN-OFF TO THEM.
7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIG SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE DIGGING.
8) CONTRACTOR SHALL DISPOSE OF ANY UNSUITABLE MATERIAL FOUND ONSITE (I.E. TRASH, STUMPS, ETC.) IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. CONTRACTOR SHALL COORDINATE ALL WORK WITH SUBCONTRACTORS, UTILITY COMPANIES, AND THE TOWN OF SALEM, AND SHALL BE RESPONSIBLE FOR COORDINATION OF ALL PERMITS, INSPECTIONS, AND MAINTENANCE AND PROTECTION OF ALL TRAFFIC AND PEDESTRIANS. ANY DISCREPANCIES FOUND OR SHOWN SHALL BE RESOLVED BY THE CONTRACTOR.
9) PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER THAT HE HAS THE MOST RECENT SET OF PLANS. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS, NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
10) CONTRACTOR SHALL CONFIRM WITH ENGINEER ALL LAYOUT ITEMS NOT SHOWN OR ANNOTATED. THE LOCATION OF ALL STRUCTURES AND UTILITIES SHALL BE CONFIRMED PRIOR TO LAYOUT OF PAVED AREAS. EXACT LOCATION OF PAVEMENT SHALL BE CONFIRMED WITH ENGINEER PRIOR TO PLACEMENT OF BINDER COURSE PAVEMENT.
11) IF DURING CONSTRUCTION IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE CONTRACTOR SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN.
12) SEE CONSTRUCTION DETAIL SHEETS FOR ADDITIONAL INFORMATION.
13) ALL DRAINAGE PIPE DATA CALCULATED TO STRUCTURE CENTERS, TYP.
14) AN OPERATION AND MAINTENANCE MANUAL HAS BEEN PREPARED FOR THE ON-SITE STORMWATER MANAGEMENT SYSTEMS AND IS CONSIDERED PART OF THIS PLAN SET. THE PROPERTY OWNER SHALL COMPLY WITH THE INSPECTION AND MAINTENANCE SCHEDULE AND RECORD KEEPING REQUIREMENTS CONTAINED THEREIN.
15) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL-WALL, SMOOTH INTERIOR AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN.
16) ALL PROPOSED ELEVATIONS AS SHOWN ARE BOTTOM OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED. ELEVATIONS ARE BASED ON NGVD 1929 DATUM.
17) SEE STORMWATER MANAGEMENT PLAN FOR DETAILED EROSION CONTROL MEASURES.
18) ALL ADA ACCESSIBLE WALKWAYS CANNOT EXCEED 5% RUNNING SLOPE AND 2% CROSS SLOPE, RAMPS CANNOT EXCEED 8.33% RUNNING SLOPE AND 2% CROSS SLOPE, AND HC PARKING STALLS AND ACCESS AISLES CANNOT EXCEED 2% SLOPE IN ANY DIRECTION. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
19) ALL PROPOSED CATCH BASINS SHALL HAVE 4' SUMPS AND OUTLETS EQUIPPED WITH "SNOUT" OIL HOODS OR APPROVED EQUAL.
20) SOILS BELOW INFILTRATION PRACTICES SHALL BE AMENDED TO A DEPTH OF AT LEAST 24" TO ACHIEVE AN INFILTRATION RATE OF 8 TO 10 IN/HR IN ACCORDANCE WITH ENV-WQ 1508.06(b). CONTRACTOR SHALL ENGAGE A QUALIFIED PROFESSIONAL TO DETERMINE SPECIFICATION OF AMENDED SOILS REQUIRED TO ACHIEVE THE TARGET INFILTRATION RATE. INFILTRATION TESTING OF AMENDED SOILS SHALL BE PERFORMED IN ACCORDANCE WITH ENV-WQ 1504.14 TO ENSURE THAT THE TARGET INFILTRATION RATE HAS BEEN ACHIEVED. TESTING SHALL BE PERFORMED BY A CERTIFIED SOIL SCIENTIST, PROFESSIONAL GEOLOGIST, OR QUALIFIED ENGINEER (P.E.) TO BE DETERMINED BY THE CONTRACTOR. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.
21) SEE SHEET 14 FOR TEST PIT DATA RESULTS.

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| 3 | UPDATE LIGHTING AND REVISE CANOPY | DRJ | 10/19/20 |
| 2 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |
| 1 | REVISE PER RCCD COMMENTS | PWM | 10/13/20 |
| | REVISIONS | | |

# GRADING & DRAINAGE PLAN

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI — Engineering, Design, Planning, Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=30'
DATE: SEPTEMBER 22, 2020

OWNER OF RECORD
TV-MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

STATE OF NEW HAMPSHIRE — DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER — 10/19/20

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX-2020062 | 6 OF 15 |

MAP 108
LOT 12607
189,785 Sq. Ft.
4.357 Ac.±

GRAPHIC SCALE
30 0 15 30 60 120
( IN FEET )
1 inch = 30 ft.

ROCKINGHAM PARK BOULEVARD

TUSCAN BOULEVARD

SEE TUSCAN VILLAGE ROADWAY PLANS BY TIGHE & BOND

RAIN GARDEN UNDER CONSTRUCTION (PER PLANS DATED 11/25/19)

PROPOSED 62,415 SF MEDICAL OFFICE BUILDING (3 STORIES AT 56,290 SF PLUS 6,125 SF 4th FLOOR MECHANICAL PENTHOUSE)
FF=135.00

PROPOSED UNDERGROUND INFILTRATION SYSTEM #1

PROPOSED UNDERGROUND INFILTRATION SYSTEM #2

EXISTING ROADWAY RAIN GARDEN

PROP. YARD DRAINS BELOW DECK AREA (SEE LANDSCAPE PLANS)

10" ROOF DRAIN INV.=128.67

PROP. RETAINING WALL (105 LF)

CONNECT TO NEW CB (BY OTHERS) INV.=121.20

GRADE TO DRAIN

EXISTING ROADWAY RAIN GARDEN

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## SALEM MUNICIPAL SERVICES DEPARTMENT NOTES:

1) REQUIRED METERING AND BACKFLOW PREVENTION DEVICES WILL BE INSTALLED ON WATER SERVICES. THESE DEVICES WILL BE LOCATED AT THE POINT SERVICE LINES ENTER THE BUILDING. SERVICE LINES ARE NOT ALLOWED TO RUN THROUGH THE BUILDING, UNDER FLOORS, OVERHEAD OR OTHERWISE.

2) ALL EXISTING WATER AND SEWER SERVICES FOR BUILDINGS TO BE RAZED MUST BE CUT AND CAPPED PRIOR TO A RAZE PERMIT BEING ISSUED.

3) DOMESTIC WATER SERVICES MAY BE TAPPED OFF FIRE SPRINKLER SERVICES, PROVIDED THE DOMESTIC SERVICE IS TAPPED A MINIMUM OF TEN FEET OUTSIDE THE BUILDING. VALVES ARE REQUIRED ON BOTH SERVICE LINES, WITH A VALVE IN THE FIRE SERVICE DOWNSTREAM OF THE DOMESTIC SERVICE TAP. THESE VALVES SHOULD BE LOCATED A MINIMUM FIVE FEET FROM THE BUILDING.

## ESTIMATE OF PROPOSED WATER USAGE:

(PER ENV-WQ 1008.03(e))

MEDICAL BUILDING (5 GPD/100 SF) = 3,080 GPD

## LEGEND

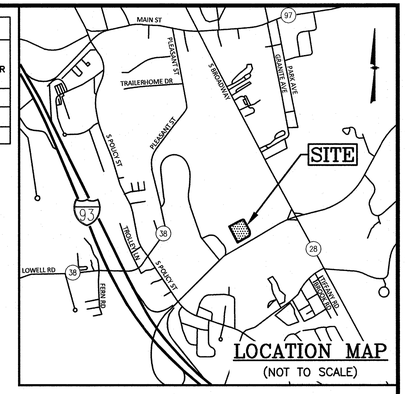
- OVERHEAD SERVICE WIRES
- DSYL — DOUBLE SOLID YELLOW LINE
- SSWL — SINGLE SOLID WHITE LINE
- BWL — BROKEN WHITE LINE
- SIGN
- TEST PIT
- WETLAND LINE
- 104.64 — SPOT ELEVATION
- 190 — CONTOUR ELEVATION
- EN — ENTRY
- C.O. — PROP. CLEANOUT
- CB-1 — PROP. CATCH BASIN
- DMH-1 — PROP. DRAIN MANHOLE
- SMH-1 — PROP. SEWER MANHOLE
- PROP. GATE VALVE
- UTILITY POLE
- DRAIN MANHOLE
- SEWER MANHOLE
- CATCH BASIN
- W — WATER LINE
- WATER VALVE
- FIRE HYDRANT
- GV — GAS VALVE
- G — GAS LINE
- T — UNDERGROUND TELEPHONE LINE
- UGE — UNDERGROUND ELECTRIC AND TELEPHONE

| SEWER PIPE SCHEDULE | | | | | |
|---|---|---|---|---|---|
| FROM: STRUCTURE NUMBER | PIPE SIZE (INCHES) | TYPE OF PIPE | APPROX. PIPE LENGTH (FEET) | SLOPE OF PIPE (FT./FT.) | TO: STRUCTURE NUMBER |
| BLDG (D) | 8 | PVC | 43 | 0.041 | SMH-1 |
| SMH-1 | 8 | PVC | 156 | 0.005 | SMH-2 |
| SMH-2 | 8 | PVC | 212 | 0.006 | EXIST. STUB |

### SEWER STRUCTURES

SMH-1
RIM=134.50
INV.IN=126.75
INV.OUT=126.65

SMH-2
RIM=132.90
INV.IN=125.85
INV.OUT=125.75




LOCATION MAP
(NOT TO SCALE)

## NOTES:

1) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL-WALL, SMOOTH INTERIOR AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN.
2) ALL WATER PIPE SHALL BE CEMENT LINED DUCTILE IRON, UNLESS OTHERWISE NOTED. BUILDING WATER DOMESTIC SERVICE SHALL BE COPPER, TYPE K.
3) ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE LOCAL AUTHORITIES AND THE DEVELOPER PRIOR TO INSTALLATION.
4) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5) ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN, STATE AND FEDERAL STANDARDS.
6) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIG-SAFE (1-888-344-7233) PRIOR TO COMMENCING ANY EXCAVATION.
7) ALL WATER CONSTRUCTION SHALL CONFORM TO APPLICABLE MUNICIPAL SERVICES DEPARTMENT AND NHDES SPECIFICATIONS.
8) ALL ELECTRIC, TELEPHONE AND CABLE TV LINES ARE TO BE INSTALLED IN CONFORMANCE WITH APPLICABLE UTILITY CO. SPECIFICATIONS.
9) ANY UTILITIES TO BE TAKEN OUT OF SERVICE SHALL BE DISCONNECTED AS DIRECTED BY UTILITY COMPANY AND LOCAL MSD.
10) THE LOCATION AND ELEVATION OF ALL PROPOSED BUILDING UTILITY CONNECTIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL PLANS.
11) ALL EXISTING ON-SITE UTILITIES TO BE TAKEN OUT OF SERVICE SHALL BE REMOVED.
12) THRUST BLOCKS SHALL BE REQUIRED AT ALL BENDS & FITTINGS FOR PROPOSED CLDI WATER AND SHALL CONFROM TO SALEM WATER DPEARTMENT SPECIFICATIONS.
13) ANCHOR TEES ARE REQUIRED FOR 6" HYDRANT.
14) ALL SANITARY SEWER PIPE SHALL BE PVC (SDR-35), UNLESS OTHERWISE NOTED.
15) SEE GRADING & DRAINAGE PLAN FOR DETAILED DRAINAGE INFORMATION.

## SALEM FIRE DEPARTMENT NOTES:

1) EACH BUILDING SHALL BE PROVIDED THROUGHOUT WITH AN AUTOMATIC FIRE ALARM SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH SALEM FIRE DEPARTMENT REGULATIONS.
2) EACH BUILDING SHALL BE PROVIDED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH SALEM FIRE DEPARTMENT RULES AND REGULATIONS.
3) ALL SITE AND CONSTRUCTION PLANS MAY BE REVIEWED BY A THIRD PARTY CONSULTANT OF THE TOWNS CHOOSING. ALL COST ASSOCIATED WITH THIRD PARTY REVIEWS AND INSPECTION SHALL BE PAID BY THE DEVELOPER.
4) FIRE HYDRANT AND REQUIRED FLOW REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE 2015 EDITION AND SALEM WATER DEPARTMENT REGULATIONS. FLOW CALCULATIONS AND BUILDING CONSTRUCTION CLASSIFICATION SHALL BE INCLUDED WITH THE SITE PLAN.
5) PLANS FOR CONSTRUCTION OF BUILDINGS AND FIRE PROTECTION SYSTEMS SHALL BE SUBMITTED TO THE SALEM FIRE DEPARTMENT AND RELEASED FOR CONSTRUCTION PRIOR TO STARTING WORK. ALL CONTRACTORS INSTALLING FIRE PROTECTION SYSTEMS SHALL HOLD A CERTIFICATE OF FITNESS FROM THE SALEM FIRE DEPARTMENT.
6) ALL UNDERGROUND WATER MAINS SERVING SPRINKLER OR STANDPIPE SYSTEM SHALL BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND SHALL BE WITNESSED BY SALEM FIRE DEPARTMENT PERSONNEL.

CONNECT TO EXIST. UTILITY STUBS
PROP. 8" CLDI WATER
PROPOSED UNDERGROUND INFILTRATION SYSTEM #1
PROPOSED UNDERGROUND INFILTRATION SYSTEM #2
PROPOSED 62,415 SF MEDICAL OFFICE BUILDING (3 STORIES AT 56,290 SF PLUS 6,125 SF 4th FLOOR MECHANICAL PENTHOUSE)
FF=135.00
PROP. CONCRETE TRANSFORMER PAD
PROP. 8" DOMESTIC SEWER INV.=128.67
PROP. 12"Ø CONNECTION CONC. PAD FOR GENERATOR
PROP. GAS SERVICE
PROP. 8" FIRE PROTECTION SERVICE
PROP. 4" DOMESTIC WATER SERVICE
HYD. & G.V.
2 - 8" W.G.
PROP. 40'x10' CONC. PAD FOR FUEL CELLS
PROP. HYDRANT (TYP)
PROP. 12"HDPE CLDI WATER
6" REDUCER & 6" G.V.
PROP. 8"x8"x8" TEE
PROP. 8" CLDI WATER
CONNECT TO 12" WATER MAIN BY OTHERS. w/ 12"x8" REDUCER
SECONDARY COMMUNICATIONS CONNECTION FROM NEW COMCAST SERVICE LINE TO BE CONSTRUCTED
TUSCAN BOULEVARD
SEE TUSCAN VILLAGE ROADWAY PLANS BY TIGHE & BOND
ROCKINGHAM PARK BOULEVARD
MAP 108
LOT 12607
189,785 Sq. Ft.
4.357 Ac.±

GRAPHIC SCALE
30 0 15 30 60 120
( IN FEET )
1 inch = 30 ft.

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| 2 | UPDATE LIGHTING AND REVISE CANOPY | DRJ | 10/19/20 |
| 1 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |

REVISIONS

# UTILITIES PLAN

**SALEM PROPERTY MAP 108 - LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI — Engineering, Design, Planning, Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=30' DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE — DAVID R. JORDAN No. 7778 — LICENSED PROFESSIONAL ENGINEER — 10/19/20

OWNER OF RECORD
TV-MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD
APPROVAL

ZONE: COMMERCIAL - INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX-2020062 | 7 OF 15 |

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## LEGEND

| | | | |
|---|---|---|---|
| OHW | OVERHEAD SERVICE WIRES | UP | UTILITY POLE |
| DSYL | DOUBLE SOLID YELLOW LINE | D | DRAIN MANHOLE |
| SSWL | SINGLE SOLID WHITE LINE | S | SEWER MANHOLE |
| BWL | BROKEN WHITE LINE | CB | CATCH BASIN |
| | SIGN | W | WATER LINE |
| TP | TEST PIT | WV | WATER VALVE |
| | WETLAND LINE | FH | FIRE HYDRANT |
| 134.94 | SPOT ELEVATION | GV | GAS VALVE |
| 190 | CONTOUR ELEVATION | G | GAS LINE |
| EN | ENTRY | T | UNDERGROUND TELEPHONE LINE |
| C.O. | PROP. CLEANOUT | UGE | UNDERGROUND ELECTRIC AND TELEPHONE |
| CB-1 | PROP. CATCH BASIN | | PROP. CONTOUR ELEVATION |
| DMH-1 | PROP. DRAIN MANHOLE | | PROP. SILT FENCE |

DigSafe 811 MA-ME-NH-RI-VT

PROP. STABILIZED CONSTRUCTION EXIT

TEMPORARY STOCKPILE AREA

REMOVE EXISTING PAVEMENT TO THE EAST SIDE OF EXIT 1 FLYOVER. LOAM & SEED ALL DISTURBED AREAS

PROPOSED EROSION CONTROL BLANKET (TYP)

PROPOSED UNDERGROUND INFILTRATION SYSTEM #2

PROPOSED UNDERGROUND INFILTRATION SYSTEM #1

PROP. INLET PROTECTION (TYP)

PROP. SILT FENCE (TYP)

PROPOSED 62,415 SF MEDICAL OFFICE BUILDING (3 STORIES AT 56,290 SF PLUS 6,125 SF 4th FLOOR MECHANICAL PENTHOUSE)

N68°28'14"E 52.28'

S60°24'14"W 46.40'

S65°02'13"W 49.93'

N28°05'46"W 307.69'

S63°55'E 318.81'

S63°55' 583.55'

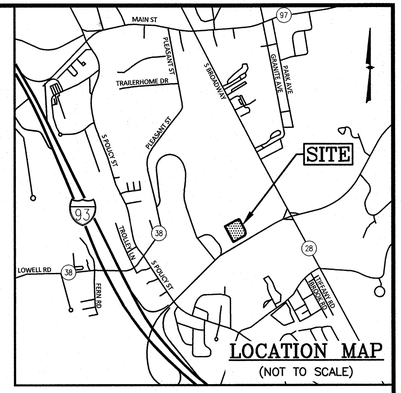
MAP 108 LOT 12607
189,785 Sq. Ft.
4.357 Ac.±

ROCKINGHAM PARK BOULEVARD

TUSCAN BOULEVARD

SEE TUSCAN VILLAGE ROADWAY PLANS BY TIGHE & BOND

SEE CONSTRUCTION DETAILS (SHEET 10) FOR EROSION CONTROL NOTES AND DETAILS.




GRAPHIC SCALE
30 0 15 30 60 120
( IN FEET )
1 inch = 30 ft.

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| 2 | UPDATE LIGHTING AND REVISE CANOPY | DRJ | 10/19/20 |
| 1 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |
| | REVISIONS | | |

# STORMWATER MANAGEMENT PLAN

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=30'
DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE – DAVID R. JORDAN No. 7778 – PROFESSIONAL ENGINEER
10/19/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX–2020062 | 8 OF 15 |

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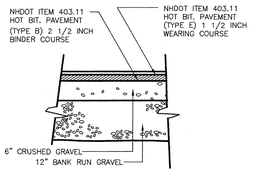
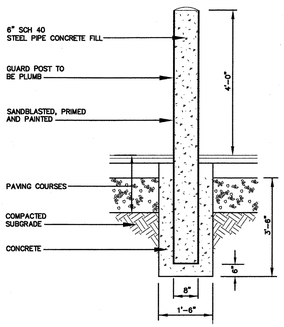


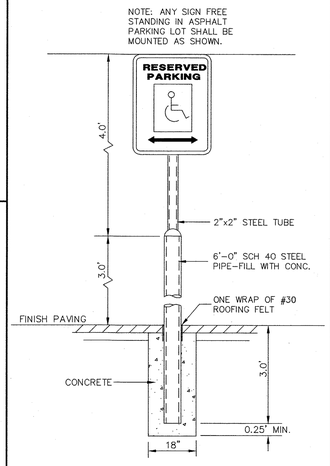

## ON-SITE PAVEMENT DETAIL

NOT TO SCALE




## GUARD POST (BOLLARD)

NOT TO SCALE




## BOLLARD SIGN POST IN PAVEMENT

NOT TO SCALE

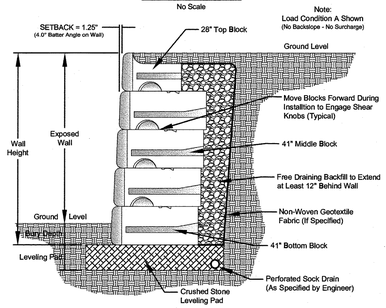
THE CONTRACTOR SHALL SUBMIT FOR APPROVAL PRIOR TO START OF CONSTRUCTION A RETAINING WALL DESIGN UTILIZING THE "REDI-ROCK" WALL, PREPARED BY AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER CONFORMING TO LOCAL, STATE AND FEDERAL REQUIREMENTS.

See Redi-Rock.com for Detailed Section Drawings of Each Condition Shown in the Design Charts

PROTECTIVE FENCING TO BE INSTALLED WHEN REQUIRED BY STATE/LOCAL CODE

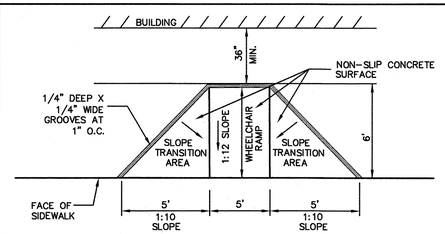
### Typical Gravity Wall with 41" Blocks

No Scale



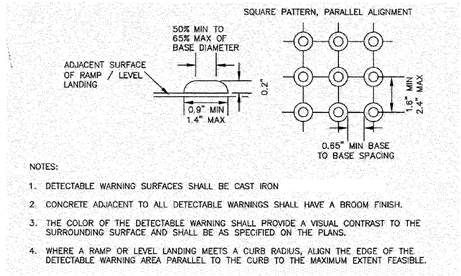

## TYPICAL "REDI-ROCK" RETAINING WALL SECTION

NOT TO SCALE




## HANDICAP RAMP DETAIL- FLARED

NOT TO SCALE

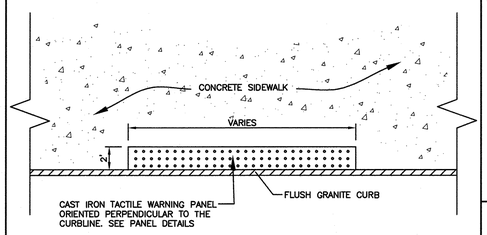



NOTES:

1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON
2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH.
3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.
4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

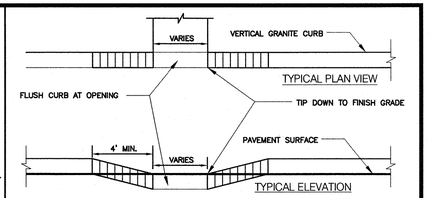
## DETECTABLE WARNING PANEL DETAILS

NOT TO SCALE



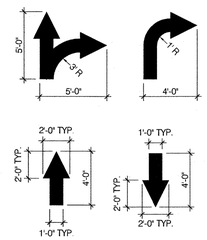

## DETECTABLE WARNING PANEL PLACEMENT

NOT TO SCALE




## TYPICAL TIP DOWN CURB DETAIL

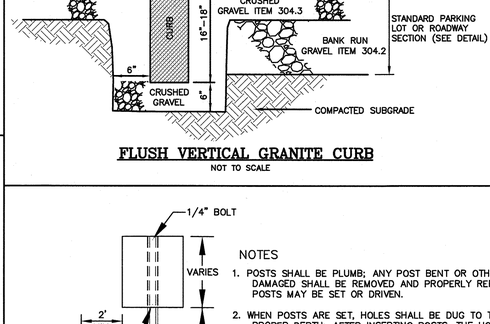
NOT TO SCALE




ALL PAVEMENT MARKINGS TO BE WHITE PAVEMENT PAINT, UNLESS STATED OTHERWISE.

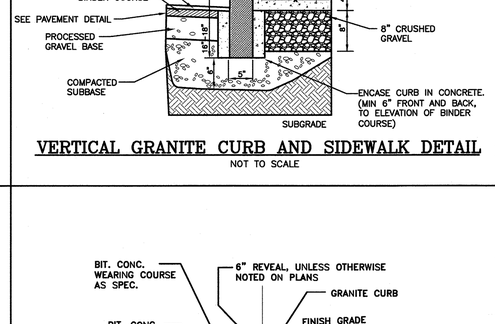
## ON-SITE PAVEMENT MARKING DETAILS

NOT TO SCALE



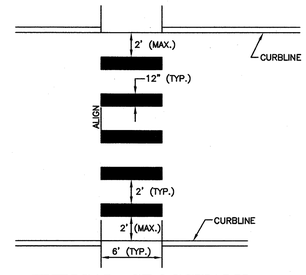

## FLUSH VERTICAL GRANITE CURB

NOT TO SCALE




## VERTICAL GRANITE CURB AND SIDEWALK DETAIL

NOT TO SCALE

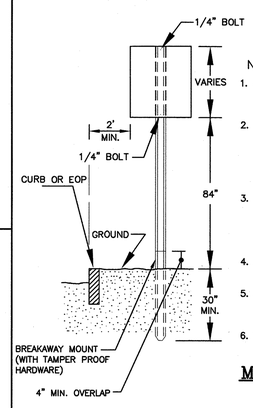



## TYPICAL CROSSWALK

NOT TO SCALE

NOTES:

1. TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO – 6 INCH LINES) WILL BE ACCEPTED.
2. LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
3. ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY ALIGNED.

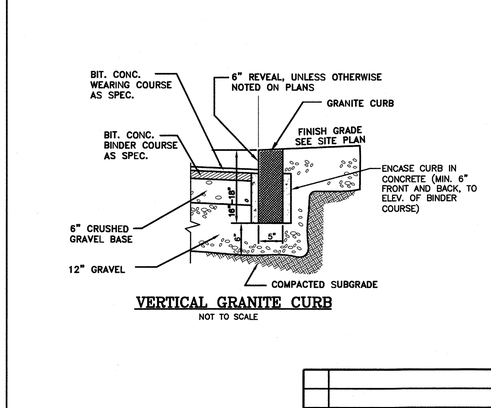



NOTES

1. POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH; AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN LAYERS AND THOROUGHLY TAMPED OR PUDDLED, CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST; BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
6. WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.

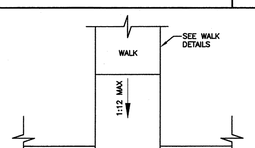
## MUTCD SIGN

NOT TO SCALE



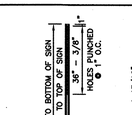

## VERTICAL GRANITE CURB

NOT TO SCALE

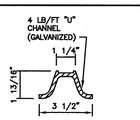



## ON-SITE ACCESSIBLE RAMP

NOT TO SCALE

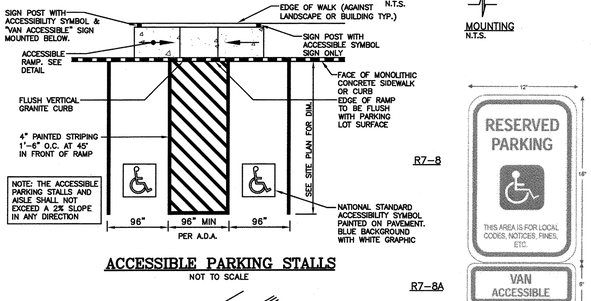



POST N.T.S.




POST SECTION N.T.S

MOUNTING N.T.S.




R7-8

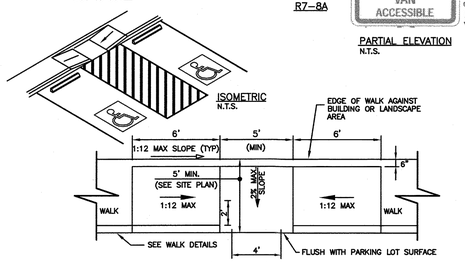



PARTIAL ELEVATION N.T.S.

## ACCESSIBLE PARKING STALLS

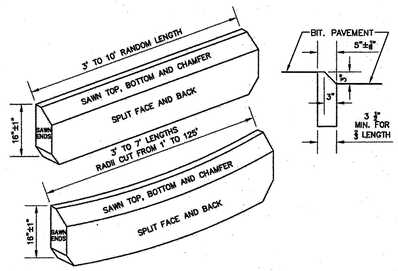
NOT TO SCALE

R7-8A



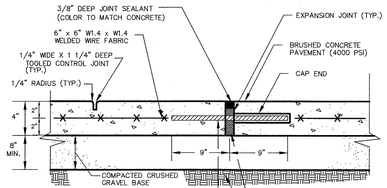

## ACCESSIBLE PARKING RAMP

NOT TO SCALE




## MOUNTABLE TYPE "E" GRANITE CURBING (EGC)

NOT TO SCALE



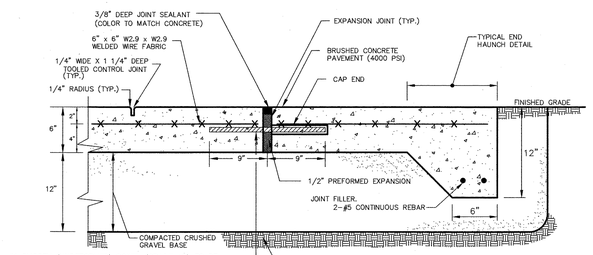

#4 SMOOTH (UNDEFORMED) DOWEL (GRADE 40) TO BE PLACED AT CENTER OF SLAB, 18" O.C. 18" LONG W/EXPANSION CAP. COAT CAP END OF DOWEL W/GRAPHITE LUBRICANT, GREASE, OR WRAP W/TAR PAPER TO PREVENT BONDING.

NOTES:

1. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC OR DOWEL.
2. CONTROL JOINTS TO BE LOCATED 5 FT. ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
3. EXPANSION JOINTS TO BE LOCATED 25 FT. ON CENTER.
4. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.

## 4" CONCRETE SIDEWALK DETAILS

NOT TO SCALE




#4 SMOOTH (UNDEFORMED) DOWEL (GRADE 40) TO BE PLACED AT CENTER OF SLAB, 18" O.C. 18" LONG W/EXPANSION CAP. COAT CAP END OF DOWEL W/GRAPHITE LUBRICANT, GREASE, OR WRAP W/TAR PAPER TO PREVENT BONDING.

NOTES:

1. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC, DOWEL, OR REBAR.
2. CONTROL JOINTS TO BE LOCATED 5 FT. ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
3. EXPANSION JOINTS TO BE LOCATED 25 FT. ON CENTER.
4. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.

## 6" HEAVY DUTY CONCRETE PAD DETAILS

NOT TO SCALE

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 1 | REVISIONS PER REVIEW COMMENTS | DRJ | 10/16/20 |

REVISIONS

# CONSTRUCTION DETAILS

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI
Engineering
Design
Planning
Construction Management
603.893.0720 GPINET.COM

Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: N.T.S.

DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE
DAVID R. JORDAN
No. 7778
LICENSED
PROFESSIONAL ENGINEER
10/16/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD
APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 DET | NEX–2020062 | 9 OF 15 |

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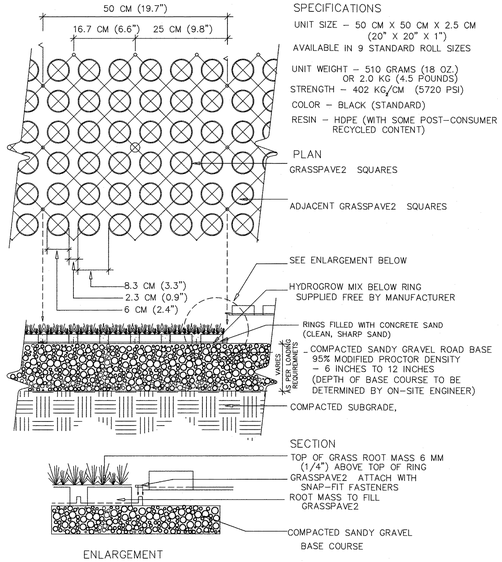



SPECIFICATIONS

UNIT SIZE – 50 CM X 50 CM X 2.5 CM (20" X 20" X 1")

AVAILABLE IN 9 STANDARD ROLL SIZES

UNIT WEIGHT – 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)

STRENGTH – 402 KG/CM (5720 PSI)

COLOR – BLACK (STANDARD)

RESIN – HDPE (WITH SOME POST-CONSUMER RECYCLED CONTENT)

NOTE: CRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.

## TYPICAL GRASSPAVE2 DETAIL

1 OF 1

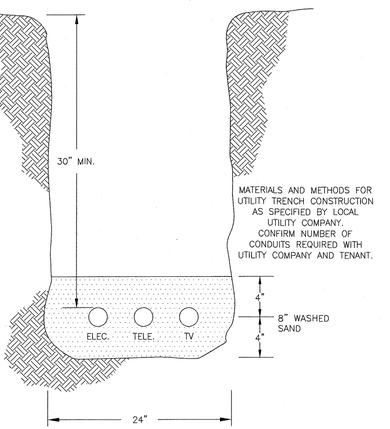
CHOOSE THIS PRODUCT FOR REINFORCINC GRASS WEARING SURFACES

NOT TO SCALE

Invisible Structures, Inc.

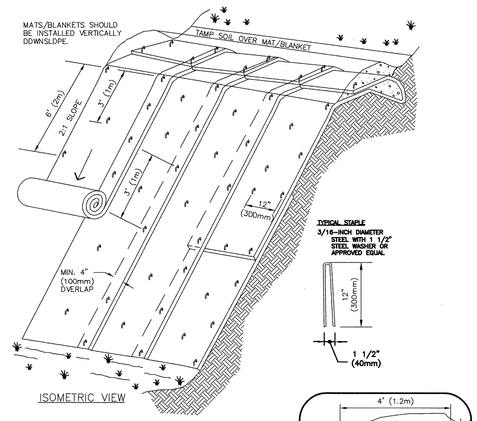
GPDET.DWG

160D Jackson St., Ste. 310
GOLDEN, COLORADO 80401
800-233-1510 OR 303-233-8383
FAX: 800-233-1522 OR 303-233-8282
www.invisiblestructures.com
rev. 1D/D5




## UTILITY TRENCH

NOT TO SCALE




ISOMETRIC VIEW

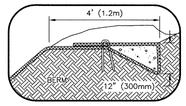
TYPICAL SLOPE SOIL STABILIZATION

NOTES:

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW. LAY BLANKETS LOOSELY & MAINTAIN DIRECT CONTACT WITH SOIL – DO NOT STRETCH.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE BLANKET END OVER END WITH 6 INCH (MIN.) OVERLAP AND ANCHOR DOWN SLOPE BLANKET IN A 6 INCH DEEP TRENCH.
5. BLANKETS SHALL BE STAPLED ENOUGH TO ANCHOR BLANKET WHILE MAINTAINING CONTACT WITH SOIL. STAPLES SHALL BE PLACED DOWN THE CENTER & STAGGERED WITH THE STAPLES PLACED ALONG EDGES. PATTERN & AMOUNT OF STAPLES VARIES BY MANUFACTURER, SO FOLLOW MANUFACTURERS RECOMMENDATIONS.
6. BLANKET SHALL BE NORTH AMERICAN GREEN BIONET SC–150BN OR APPROVED EQUAL. BLANKET CONTAINING POLYPROPYLENE NETTING OR THREAD IS NOT ALLOWED.

MAINTENANCE & MATS

1. BLANKETS SHALL BE INSPECTED WEEKLY DURING CONSTRUCTION & AFTER A RAINFALL IN EXCESS OF 1/2" IN A 24–HOUR PERIOD.
2. FAILURES SHALL BE REPAIRED IMMEDIATELY. IF ANY OF THE FOLLOWING OCCUR; SLOPE WASHOUT, MAT DISPLACEMENT, DAMAGE TO MAT, THE AFFECTED AREA SHALL BE REPAIRED & RESEEDED & MAT SHALL BE REPLACED OR RE–INSTALLED.

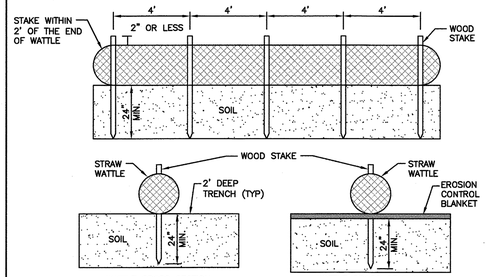



TYPICAL INSTALLATION OF EROSION CONTROL BLANKETS FOR SLOPES

NOT TO SCALE

## BLANKET SLOPE PROTECTION FOR EROSION CONTROL

NOT TO SCALE




WATTLE CROSS SECTION: ON BARE SOIL

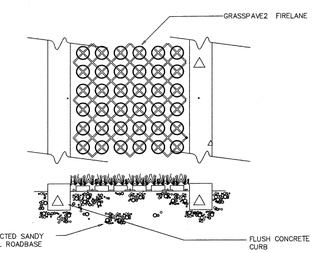
WATTLE CROSS SECTION: ON EROSION CONTROL BLANKET

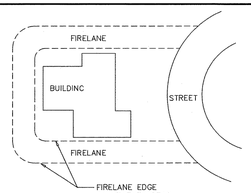
NOTES:

1. ENDS OF WATTLES SHALL BE TURNED SLIGHTLY UP.
2. RECCOMMENDED STAKES ARE 1 1/8" WIDE x 1 1/8" THICK x 30" LONG. STAKES SHALL NOT EXCEED ABOVE THE STRAW WATTLE MORE THAN 2".

## STRAW WATTLE DETAIL

NOT TO SCALE




NOTE:
THIS DETAIL IS SCHEMATIC IN NATURE. DESIGNER SHALL SPECIFY SPACING AND DESIGN OF EDGE TREATMENTS. SPACING WILL VARY WITH TURF TYPE, SLOPE, FIRE DEPARTMENT REQUIREMENTS, ETC..

## Grasspave2 Firelane Detail

1 OF 1

NOT TO SCALE

Use this detail for delineating a Grasspave2 firelane

Invisible Structures, Inc.

GP2Firelane11.dwg

1600 Jackson Street, Suite 310
Golden, CO 80401
800–233–1510 OR 303–373–1234
FAX: 303–373–1223
www.invisiblestructures.com
rev. 09/2011

# NOTES:

1) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH–DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL–WALL, SMOOTH INTERIOR AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN.

2) ELEVATIONS ARE BASED ON NGVD 1929 DATUM.

3) ALL PROPOSED ELEVATIONS AS SHOWN ARE BOTTOM OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.

4) ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE LOCAL AUTHORITIES AND THE DEVELOPER PRIOR TO INSTALATION.

5) THE LOCATIONS OF UNDERCROUND UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROCRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINCS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

6) ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN, STATE AND FEDERAL STANDARDS.

7) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIG–SAFE (1–888–344–7233) PRIOR TO COMMENCINC ANY EXCAVATION.

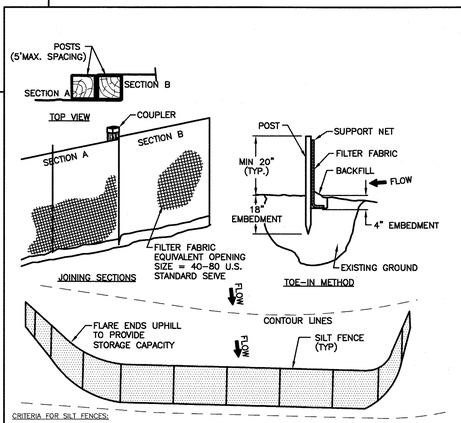
8) AN OPERATION AND MAINTENANCE MANUAL HAS BEEN PREPARED FOR THE ON–SITE STORMWATER MANACEMENT SYSTEMS AND IS CONSIDERED PART OF THIS PLAN SET. THE PROPERTY OWNER SHALL COMPLY WITH THE INSPECTION AND MAINTENANCE SCHEDULE AND RECORD KEEPING REQUIREMENTS CONTAINED THEREIN.

# EROSION CONTROL NOTES:

1. THE EROSION CONTROL PROCEDURES SHALL CONFORM TO THE NH STORMWATER MANUAL, VOLUME 3, ERDSION & SEDIMENT CONTROLS DURINC CONSTRUCTION, DECEMBER 2008.
2. DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED: THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURINC DEVELOPMENT. WHEN LAND IS EXPOSED DURINC DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AS APPROVED BY THE ENGINEER. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.
3. LIMIT OF MAXIMUM AREA OF EXPOSED SOIL AT ANY ONE TIME TO LESS THAN 5 ACRES. THE EXPOSED AREA THAT IS BEINC ACTIVELY WORKED DURINC WINTER IS TO BE LESS THAN 3 ACRES DURING THE WINTER SEASON.
4. ALL PERMANENT STORM WATER STRUCTURES SHALL BE STABILIZED PRIOR TO DIRECTINC FLOW INTO THEM. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURED:
   A) BASE COURSE CRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B) A MINIMUM OF 85 PERCENT VEGETATED CROWTH HAS BEEN ESTABLISHED.
   C) A MINIMUM OF 3 INCHES OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIP–RAP HAS BEEN INSTALLED.
   D) OR, ERDSION CONTRDL BLANKETS HAVE BEEN PROPERLY INSTALLED.
5. SILT FENCE SHALL BE INSTALLED AND MAINTAINED DURINC AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERCDINC DEVELOPMENT, WHERE POSSIBLE, NATURAL DRAINAGE WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE EXCESS SURFACE WATER. SILT FENCE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
6. ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISHED CRADED, WITH NO FURTHER CONSTRUCTION TO TAKE PLACE, SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS AFTER FINAL GRADINC. A MINIMUM OF 4" OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. THE SEED MIX SHALL BE AS DESIGNATED BELOW.
7. ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. THE MAXIMUM LENGTH OF TIME FOR THE EXPOSURE OF DISTURBED SDILS SHALL BE 45 DAYS. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE. BALES SHALL BE UNSPOILED, AIR DRIED, AND FREE FROM WEED, SEEDS AND ANY COARSE MATERIAL.
8. DURING GRADING OPERATIONS INSTALL HAY BALE BARRIERS ALONG TDE OF SLOPE OF FILL AREAS WHERE SHOWN. BARRIERS ARE TO BE MAINTAINED UNTIL DISTURBED AREAS ARE PAVED OR GRASSED.
9. THE FILL MATERIAL SHALL BE OF APPROVED SOIL TYPE FREE FROM STUMPS, ROOTS, WOOD, ETC. TO BE PLACED IN 12" LIFTS OR AS SPECIFIED. BULLDOZERS, TRUCKS, TRACTORS, OR ROLLERS MAY BE USED FOR COMPACTION BY ROUTING THE EQUIPMENT TO ALL AREAS OR EACH LAYER.
10. AVOID THE USE OF FUTURE OPEN SPACES (LOAM & SEED) WHEREVER POSSIBLE DURINC CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ROADS.

# TEMPORARY EROSION CONTROL MEASURES:

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
2. HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3. BALED HAY AND MULCH SHALL BE MOWINCS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
4. FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
5. STOCKPILED MATERIALS SHALL BE PLACED ONLY IN AREAS SHOWN ON THE PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
6. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED AND SEEDING AS SPECIFIED.
7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
8. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
9. ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTATION BARRIER.
10. ALL STORM DRAINAGE DUTLETS WILL BE STABILIZED AND CLEANED AS REQUIRED, BEFORE THE DISCHARCE POINTS BECOME DPERATIONAL.
11. ALL DEWATERING DPERATIONS MUST DISCHARCE DIRECTLY INTO A SEDIMENT FILTER AREA.
12. NORTH AMERICAN CREEN BIONET SC–150BN OR APPROVED EQUIVALENT EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES GREATER THAN 3:1.




CRITERIA FOR SILT FENCES:

1) SILT FENCE FILTER CLOTH: THE FABRIC FOR THE SILT FENCE SHALL MEET THE FOLLOWING SPECIFICATIONS:

| FABRIC PROPERTIES: | MINIMUM ACCEPTABLE VALUES | TEST METHOD |
|---|---|---|
| GRAB TENSILE STRENGTH (lbs) | 90 | ASTM D1682 |
| ELONGATION AT FAILURE (%) | 50 | ASTM D1682 |
| MULLEN BURST STRENGTH (PSI) | 190 | ASTM D3786 |
| PUNCTURE STRENGTH (lbs) | 40 | ASTM D751 |
| EQUIVELANT OPENING SIZE | 40–80 | US STD SIEVE |

2) FENCE POSTS (FOR FABRICATED UNITS) – THE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG. WOOD POSTS WILL BE OF SOUND QUALITY HARDWOOD WITH A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES. STEEL POSTS WILL BE STANDARD T OR U SECTIONS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT. MAXIMUM SPACING SHALL BE 6 LINEAR FEET.

3) WIRE FENCE (FOR FABRICATED UNITS) – WIRE FENCING SHALL BE A MINIMUM 14.5 GUAGE WITH A MAXIMUM 6 INCH MESH OPENING.

4) PREFABRICATED UNITS – PREFABRICATED UNITS MAY BE USED IN LIEU DF THE ABOVE METHOD PROVIDING: (1) THE FILTER CLOTH AND FENCE POSTS MEET THE ABOVE CRITERIA; AND (2) THE UNIT IS INTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

MAINTENANCE:

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.

2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.

3) SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMTELY ONE–HALF THE HEIGHT OF THE BARRIER.

4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

CONSTRUCTION SPECIFICATIONS:

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.

2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND (4" DEEP & 4" WIDE) AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.

3) WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.

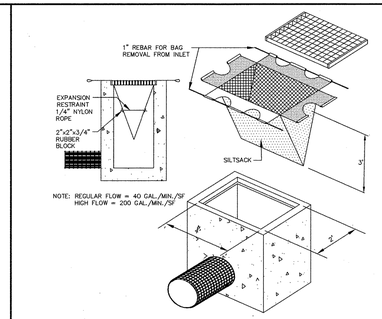
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID–SECTION AND BOTTOM.

5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EAC OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES (24" IS PREFERRED), FOLDED, AND STAPLED.

6) POSTS TO BE SPACED AT A MAXIMUM OF 6' ON CENTER.

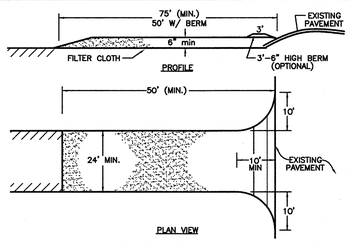
## SEDIMENT CONTROL FENCE

NOT TO SCALE




## SILTSACK DETAIL–ON OR OFF SITE

NOT TO SCALE




1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH COARSE AGGREGATE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN 24' WHERE INGRESS OCCURS.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO EXIT ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

## STABILIZED CONSTRUCTION EXIT DETAIL

NOT TO SCALE

# WINTER STABILIZATION NOTES:

MAINTENANCE REQUIREMENTS:
Maintenance measures should continue as needed throughout construction, including the over–winter period. After each rainfall, snowstorm, or period of thawing and runoff, the site contractor should conduct an inspection of all installed erosion control measures and perform repairs as needed to insure their continuing function.
For any area stabilized by temporary or permanent seeding prior to the onset of the winter season, the contractor should conduct an inspection in the spring to ascertain the condition of vegetation cover, and repair any damage areas or bare spots and reseed as required to achieve an established vegetative cover (at least 85% of area vegetated with healthy, vigorous growth).
SPECIFICATIONS:
To adequately protect water quality during cold weather and during spring runoff, the following stabilization techniques should be employed during the period from October 15th through May 15th.

1. The area of exposed, unstabilized soil should be limited to one acre and should be protected against erosian by the methods described in this section prior to any thaw or spring melt event. Subject to applicable regulations, the allowable area of exposed soil may be increased if activities are conducted according to a winter construction plan, developed by a professional engineer licensed to practice in the states of New Hampshire or a Certified Professional in Erosion and Sediment Control as certified by the CSPESC Council of EnviroCert International, Inc.
2. Stabilization as follows should be completed within a day of establishing the grade that is final or that otherwise will exist for more than 5 days:
   A. All proposed vegetated areas having a slope of less than 15% which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, should be seeded and covered with 3 to 4 tons of hay or straw mulch per acre secured with anchored netting, ar 2 inches of erasian cantral mix (see description of erosion control mix berms for material specification).
   B. All proposed vegetated areas having a slope of greater oathon 15% which da not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, should be seeded and covered with a properly installed and anchored erosian control blanket or with a minimum 4 inch thickness of erasian cantral mix, unless otherwise specified by the manufacturer. Note that compost blankets should not exceed 2 inches in thickness or they may overheat.
3. All stone–covered slopes must be constructed and stabilized by October 15.
4. Installation of anchored hay mulch or erasian cantral mix should not occur aver snow af greater than one inch in depth.
5. All mulch applied during winter should be anchored (e.g., by netting, tracking, wood cellulose fiber).
6. Stockpiles of soil materials should be mulched for over winter protection with hay or straw at twice the normal rate or with a four–inch layer of erasion control mix. Mulching should be done within 24 hours of stocking, and re–established prior to any rainfall or snowfall. No soil stackpile should be placed (even covered with mulch) within 100 feet from any wetland or other water resource area.
7. Frozen materials, (e.g., frost layer that is removed during winter construction), should be stockpiled separately and in a location that is away from any area needing to be protected. Stockpiles of frozen material can melt in the spring and become unworkable and difficult to transport due to the high moisture content in the soil.
8. Installation of erasion cantral blankets should nat occur aver snow af greater than one inch in depth ar an frozen ground.
9. All grass–lined ditches and channels should be constructed and stabilized by September 1. All ditches ar swales which do nat exhibit a minimum af 85% vegetative growth by October 15th, ar which are disturbed after October 15th, should be stabilized tempararily with stone ar erasion cantral blankets appropriate for the design flow conditions, as determined by a qualified Professional Engineer or a Certified Professional in Erasion and Sediment Cantral as certified by the CSPESC Council af EnviraCert International, Inc. If a stone lining is necessary, the contractor may need to re–grade the ditch as required ta pravide adequate crass–section after allawing far placement of the stone.
10. All stone–lined ditches and channels must be constructed and stabilized by October 15.
11. After October 15, incamplete raad ar parking surfaces, where work has stapped for the winter seasan, shall be protected with a minimum af 3 inches af crushed gravel per NHDOT item 304.3.
12. Sediment barriers that are installed during frozen canditions should consist of erasian cantral mix berms, ar continuous cantained berms. Silt fences and hay bales should nat be installed when frazen canditians prevent proper embedment af these barriers.

# CONSTRUCTION SEQUENCE NOTES:

1. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY ON–SITE CONSTRUCTION AS SHOWN. ADDITIONAL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICAL.
2. CONSTRUCT TEMPORARY STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THIS SHEET.
3. CUT AND STUMP AREAS OF PRDPOSED CONSTRUCTION.
4. REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEEDED TO PREVENT EROSION.
5. CONSTRUCT PONDS, SWALES & LEVEL SPREADERS & STABILIZE PRIOR TO DIRECTING ANY RUNOFF TO THEM.
6. CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION. STABILIZE ROADS, PARKINC LOTS AND CUT/FILL SLOPES WITHIN 72–HDURS DF ACHIEVINC FINISH GRADES.
7. INSTALL UNDERCROUND UTILITIES AND DRAINAGE SYSTEM.
8. BECIN TEMPDRARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED WITHIN 72–HOURS OF ACHIEVING FINISHED GRADES.
9. DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDINC. AT A MINIMUM, INSPECT EROSION CONTRDLS WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
10. BEGIN EXCAVATION FOR CONSTRUCTION OF BUILDINGS.
11. FINISH PAVINC ALL ROADWAYS AND DRIVEWAYS.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPINC.
13. AFTER GRASS HAS BEEN FULLY CERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
14. APPLICATIDN OF CRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

Limestone: 138 lbs./1,000 square feet.
Fertilizer: 13.8 lbs./1,000 SF
Mulch: hay mulch approximately 3 tons/acre unless erosion control matting is used.

Permanent Seed Mix

| | |
|---|---|
| Creeping Red Fescue | 20 LBS./ACRE |
| Tall Fescue | 20 LBS./ACRE |
| Redtop | 2 LBS./ACRE |
| TOTAL | 42 LBS./ACRE |

Temporary Seed Mix:

| | |
|---|---|
| Winter Rye (Aug. 15–Sept. 15) | 112 LBS./ACRE |
| Oats (No later than May 15) | 80 LBS./ACRE |

15. NEWLY GRADED AREAS REQUIRING SLOPE PROTECTION OUTSIDE OF NORMAL SEEDING SEASON SHALL RECEIVE HAY MULCH AT THE APPROXIMATE RATE OF NO MORE THAN 2 TONS PER ACRE.
16. THE CONTRACTOR AND DEVELOPER MUST MANACE THE PROJECT TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND ACR 3800 RELATIVE TO INVASIVE SPECIES.
17. FUGITIVE DUST MUST BE CONTROLLED IN ACCORDANCE WITH ENV–A 1000.

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | REVISIONS | | |

# CONSTRUCTION DETAILS

## SALEM PROPERTY MAP 108 – LOT 12607
## 30 TUSCAN BOULEVARD

PREPARED FOR:
MASSGENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM

Greenman–Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: N.T.S.

DATE: SEPTEMBER 22, 2020

DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
9/22/20

OWNER OF RECORD
ROCK ACQUISITION, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 DET | NEX–2020062 | 10 OF 15 |

F:\Projects\NEX–2020062 – Salem NH – Partners Healthcare\CAD Files\20062 DET.dwg DET2 9/22/20 2:20pm sbonfanti

NOTES

1. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES.
2. PIPE AND JOINT MATERIALS
A. VITRIFIED CLAY PIPE
1. PIPE AND FITTINGS SHALL BE EXTRA STRENGTH CLAY PIPE CONFORMING TO THE REQUIRMENTS OF ASTM C-700.
2. JOINTS SHALL BE MADE WITH OIL RESISTANT GASKETS IN ACCORDANCE WITH ASTM C-425 TYPE III MANUFACTURERS INSTRUCTIONS FOR INSTALLATION SHALL BE FOLLOWED.
B. ASBESTOS-CEMENT-NON-PRESSURE SEWER PIPE
1. PIPE AND FITTINGS SHALL CONFORM TO ASTM TENTATIVE SPECIFICATIONS C644 TYPE II.
2. JOINTS SHALL BE OF THE SLEEVE-COUPLING TYPE CONFORMING TO ASTM SPECIFICATIONS C644 TYPE II. COMPRESSION RINGS SHALL BE OF OIL RESISTANT RUBBER TYPE OR ELASTOMERIC MATERIAL AND SHALL CONFORM TO ASTM SPECIFICATION D1869. MANUFACTURERS INSTRUCTIONS SHALL BE FOLLOWED FOR INSTALLATIONS.
C. CAST IRON PIPE FITTINGS AND JOINTS
1. CAST IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE:
A21.1 THICKNESS DESIGN OF CAST IRON PIPE
A21.4 CEMENT MORTAR LINING FOR CAST IRON PIPE AND FITTINGS
A21.6 CAST IRON PIPE CENTRIFUGALLY CAST IN METAL MOLDS FOR WATER OR OTHER LIQUIDS.
A21.8 CAST IRON PIPE CENTRIFUGALLY CAST IN SAND LINED MOLDS FOR WATER OR OTHER LIQUIDS.
A21.10 CAST IRON FITTINGS, 2 INCHES THROUGH 48 INCHES FOR WATER AND OTHER LIQUIDS.
2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH ON TYPE JOINTS AND GASKETS SHALL CONFORM TO: A21.11 RUBBER GASKET JOINTS FOR CAST IRON PRESSURE PIPE AND FITTINGS.
D. DUCTILE IRON PIPE, FITTINGS AND JOINTS
1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A536 DUCTILE IRON CASTINGS
A21.51 DUCTILE IRON PIPE CENTRIFUGALLY CAST IN METAL MOLDS OR SAND LINED MOLDS FOR WATER OR OTHER LIQUIDS.
2. JOINTS SHALL BE AS SPECIFIED IN C2 ABOVE, CAST IRON PIPE JOINTS.
3. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
4. JOINTS SHALL BE BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATERTIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER "T" OR AT THE FOUNDATION WALL APPROPRIATE ADAPTERS SHALL BE USED.
5. "T" AND "Y" WHERE A "T" OR "Y" IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE IN THE SEWER, FOLLOWING MANUFACTURERS INSTRUCTIONS (USING A SLOTED, CLAMPED OR EPOXY CEMENTED SADDLE TAPPED INTO) A SMOOTHLY DRILLED OR SAWN OPENING. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH (OR OTHER SUCH MATERIAL) AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED, AS SHOWN IN THE DETAIL, UP TO AND INCLUDING 15" DIAMETER.
6. PIPE INSTALLATION THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL, AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7. TESTING THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING:
A. AN OBSERVATION "T" SHALL BE INSTALLED AS SHOWN. WHEN READY TESTING , AN INFLATABLE PLUGGER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM DOWNSPOUT IN THE STREET SEWER "T" INFLATION, AND PLUG SHALL BE PROVIDED WITH A RISER SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.
B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS. IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT

* DOES NOT APPLY TO INSTALLATIONS WHERE "Y's" AND "Y's" ARE USED

C. FLUORESCENT DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE INITIALLY FILLED WITH WATER. IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST MANHOLE DOWNSTREAM. LEAKAGE OBSERVED IN ANY OF THE ABOVE, ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG UP, IF NECESSARY, AND RELAID SO AS TO ASSURE WATERTIGHTNESS.

B. ILLEGAL CONNECTION NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, GRANAGE OR GROUND WATER SHALL NOT BE PERMITTED.

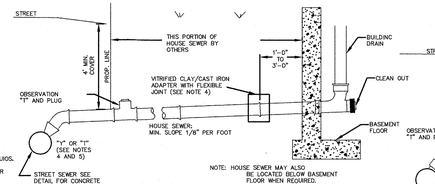
9. HOUSE WATER SERVICE SHOULD NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE, BUT WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE HOUSE SEWER AS SHOWN.

10. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.
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 TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE (1-1/2 TO 1/2 INCH) SHALL BE USED.

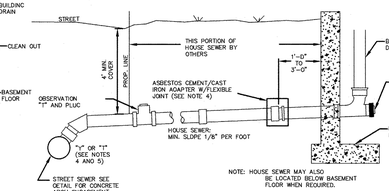
11. LOCATION THE LOCATION OF THE "T" OR "Y" SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE "T" OR "Y", AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A GPI NEEDLE OR PIPEFINDER.

12. CONCRETE CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE N.H. DEPT. OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
WATER: 5.75 GALS./BAG CEMENT
CEMENT: 6.0 BAGS/C.Y. AGGREGATE: 1-1/2 INCH MAX.

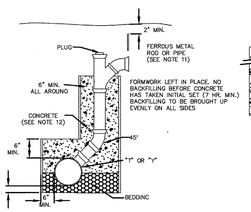
13. CHIMNEYS IF VERTICAL DROP INTO THE SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION




## VITRIFIED CLAY SEWER AND HOUSE SEWER

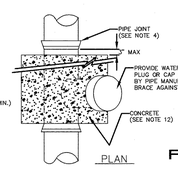


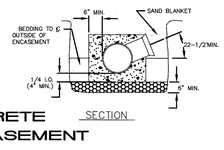

## ASBESTOS CEMENT SEWER AND HOUSE SEWER



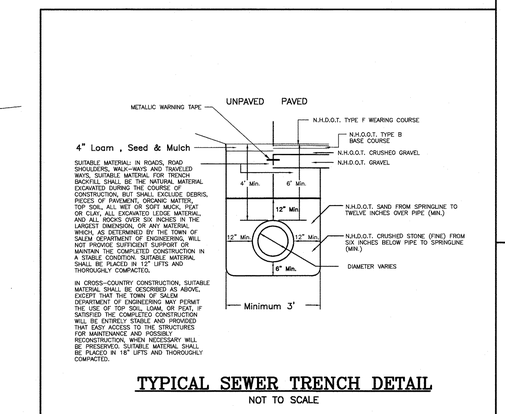

## CHIMNEY

(SEE NOTE 13)




## CONCRETE FULL ENCASEMENT

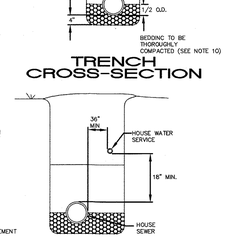



SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK-WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES, OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE, EXCEPT THAT THE TOWN OF SALEM DEPARTMENT OF ENGINEERING MAY PERMIT THE USE OF TOP SOIL, LOAM, OR PEAT, IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE STRUCTURES FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. SUITABLE MATERIAL SHALL BE PLACED IN 18" LIFTS AND THOROUGHLY COMPACTED.

## TYPICAL SEWER TRENCH DETAIL

NOT TO SCALE



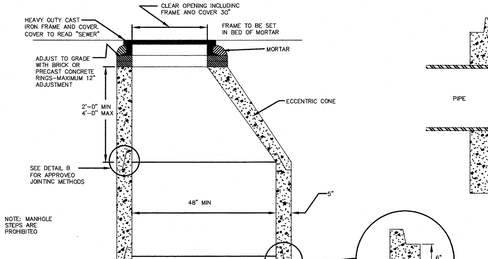

## WATER AND SEWER IN SAME TRENCH

(SEE NOTE 9)

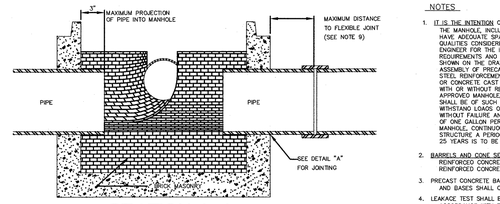



## TRENCH CROSS-SECTION

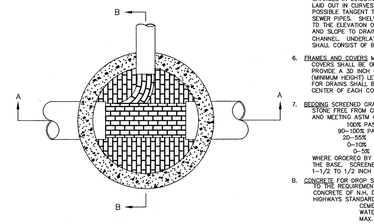
# HOUSE SEWER DETAILS




## TYPICAL SECTION

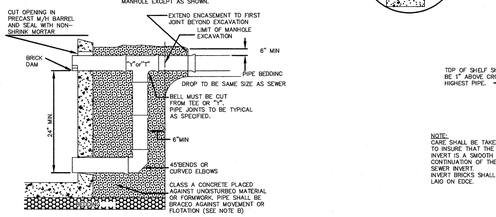



## SECTION A-A

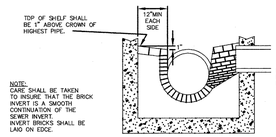



## PLAN

NOTE: DIMENSIONS AND CONSTRUCTION OF DROP MANHOLE TO BE SIMILAR TO TYPICAL MANHOLE EXCEPT AS SHOWN




## DROP MANHOLE



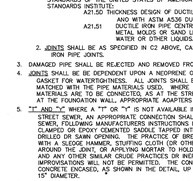

NOTE: CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.

## SECTION B-B

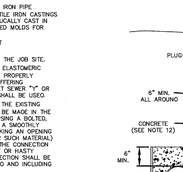
# STANDARD MANHOLE - PART A

NOTES

1. IT IS THE INTENTION OF THE ENGINEER THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE ENGINEER FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) AND SOIL AND WATER PRESSURES, WITH AN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C 478.
4. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. INVERTS AND SHELVES MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE. CROWN AND SLOPE TO DRAIN TOWARD THE FLOW THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
6. FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH CLEAR OPENING. A 3 INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWER OR "D" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33
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 TO 1/2 INCH SHALL BE USED.
8. CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3,000 LB.) CONCRETE OF N.H. DEPT. OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAX. SIZE OF AGGREGATE: 1 INCH
9. FLEXIBLE JOINT A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP & CI PIPE (ALL SIZES): 48"
AC & VC PIPE (UP THROUGH 12" DIA.):18"
AC & VC PIPE (LARGER THAN 12" DIA.):36"
10. SHALLOW MANHOLE IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED. IT MUST HAVE AN ECCENTRIC ENTRANCE OPENING AND BE CAPABLE OF SUPPORTING H-20 LOADS.




RES-SEAL (or equal)




PRESS-WEDGE II (or equal)




NON-SHRINKING MORTAR (or equal)



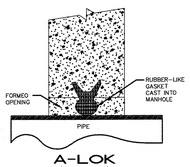

LOCK-JOINT FLEXIBLE MANHOLE SLEEVE (or equal)




KOR-N-SEAL JOINT SLEEVE (or equal)

NOTES

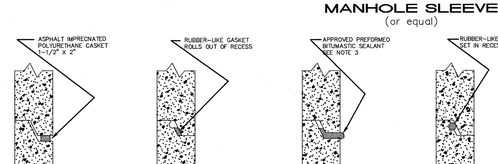
1. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL BE, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND, IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERICSEALANT.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY. APPROVED BITUMASTIC SEALANTS
RAM-NEK
KENT SEAL No. 2




A-LOK (or equal)

NOTE: ALL GASKETS, SEALANTS, MORTAR ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

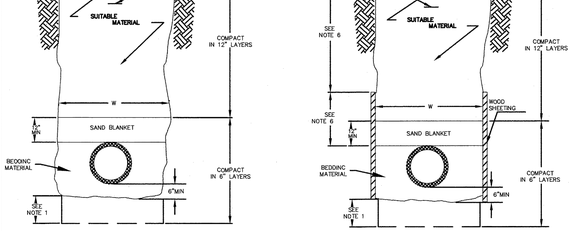
DETAIL A




NOTE: ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

DETAIL B

# STANDARD MANHOLE - PART B




EARTH CONSTRUCTION

EARTH CONSTRUCTION WITH SHEETING

NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE, REFILL WITH BEDDING MATERIAL. (SEE ALSO NOTE 7)
2. BEDDING CRUSHED STONE (FINE) FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE #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 TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 TO 1-1/2 INCH SHALL BE USED.
3. SAND BLANKET CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 10% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST IRON, DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
4. SUITABLE MATERIAL IN ROADS, ROAD SHOULDERS, WALK WAYS AND TRAVELLED 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, TOPSOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES, OR ANY MATERIAL WHICH AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

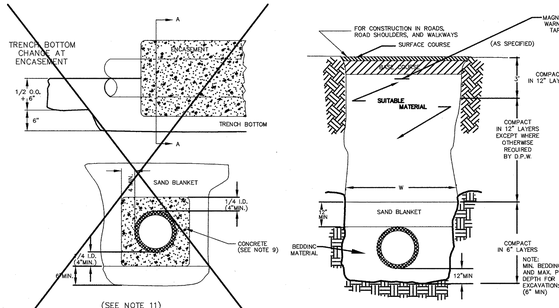
IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP-SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE (AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY) WILL BE PRESERVED.

5. BASE COURSE, IF ORDERED BY THE ENGINEER SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF N.H. DEPT. OF PUBLIC WORKS AND HIGHWAYS.
6. WOOD SHEETING IF REQUIRED, IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER. IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPES. WHERE THE TRENCH IS ORDERED BY THE ENGINEER TO BE WIDER THAN IS ORDINARILY CUT OFF AT LEAST 5 FEET BELOW FINISH GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE 40 INCHES PLUS PIPE O.D., FOR PIPES LARGER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D., W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000#) CONCRETE OF THE N.H. DEPT. OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGRECATE SIZE: 1 INCH
10. THERE SHALL BE TEN FEET HORIZONTAL SEPARATION BETWEEN SEWER LINE AND WATER MAIN AND 18 INCHES VERTICAL SEPARATION AT CROSSINGS.
(see also NOTE 12 below)

WHERE THE ABOVE SEPARATION CANNOT BE MADE, A WAIVER OF THE STANDARD OF DESIGN MUST BE REQUESTED FROM THE STANDARD OF DESIGN MUST SEWER COMMISSION.

11. IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
12. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

SEWER PIPE SHALL BE CLASS 52 DUCTILE IRON FOR A MINIMUM DISTANCE OF 9 FEET EACH SIDE OF CROSSING.

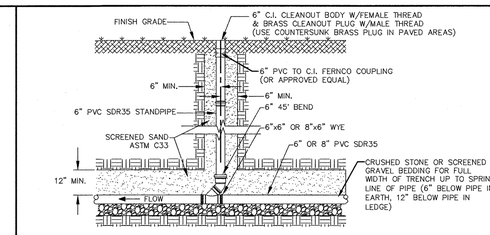



CONCRETE FULL ENCASEMENT




LEDGE CONSTRUCTION

# STANDARD TRENCH SECTION




## TYPICAL SEWER SERVICE CLEANOUT

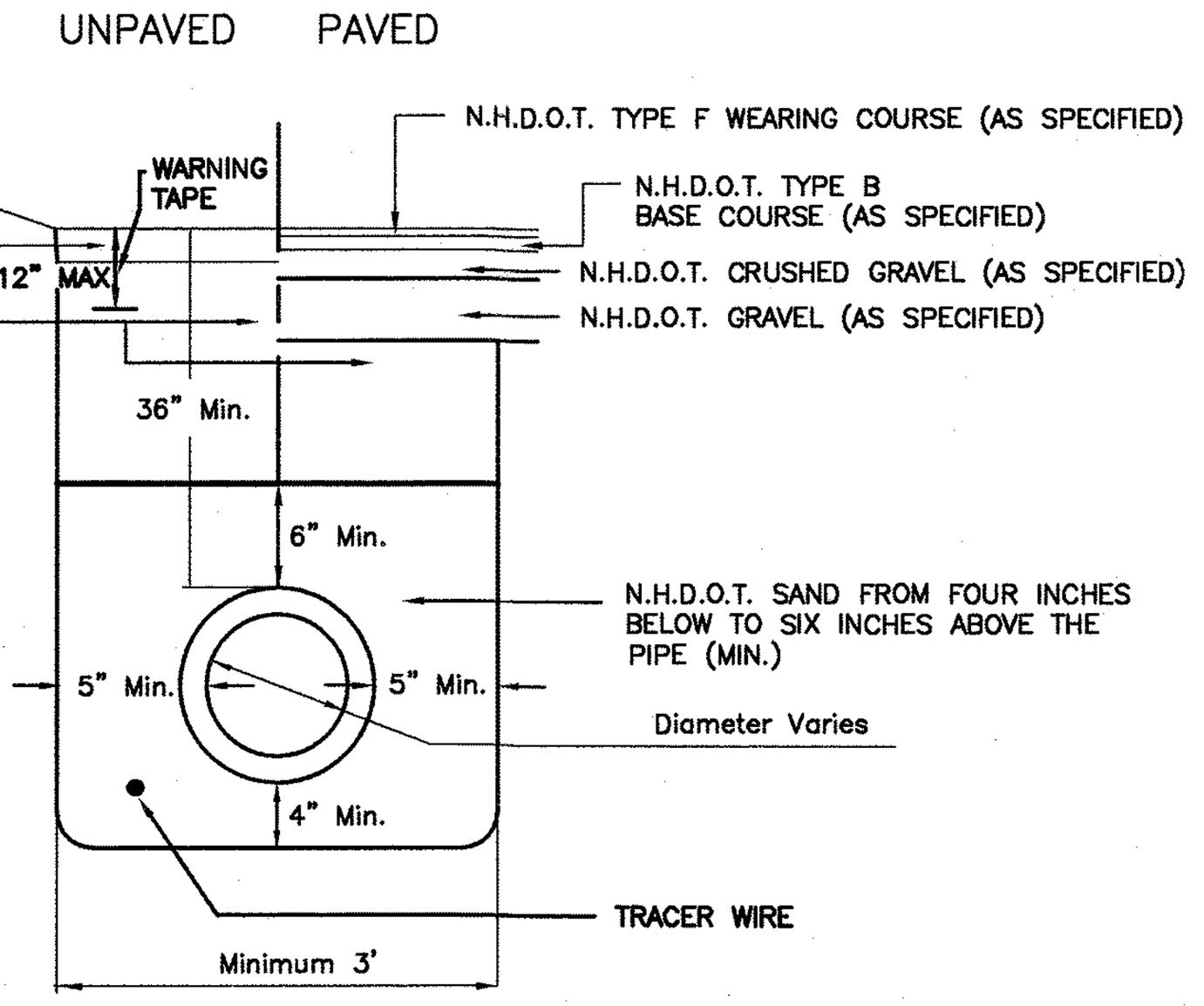
NOT TO SCALE

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | REVISIONS | | |

# CONSTRUCTION DETAILS

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**
PREPARED FOR:
MASSGENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

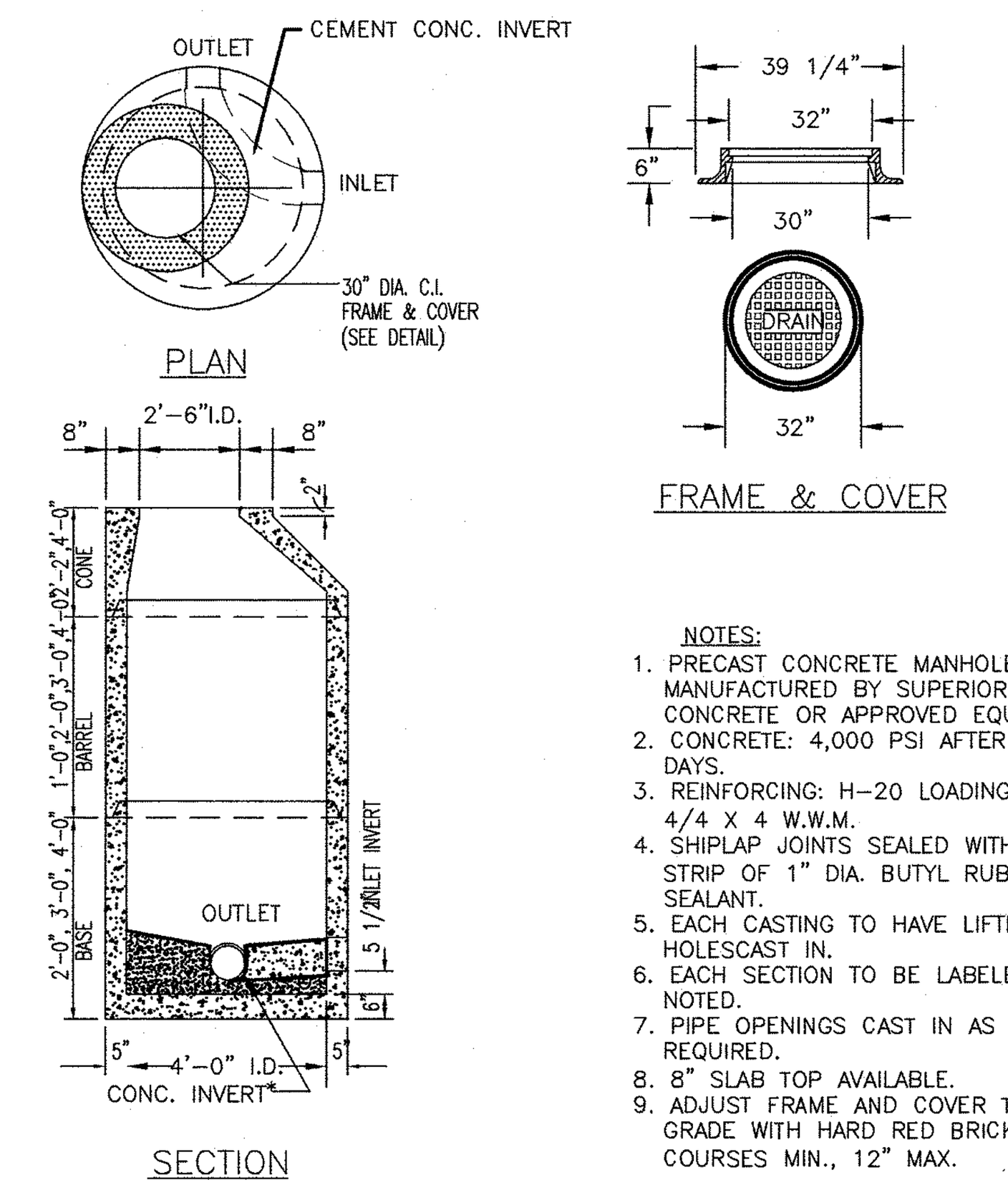
GPI Engineering Design Planning Construction Management




SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK-WAYS 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, AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF SALEM DEPARTMENT OF ENGINEERING, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED.

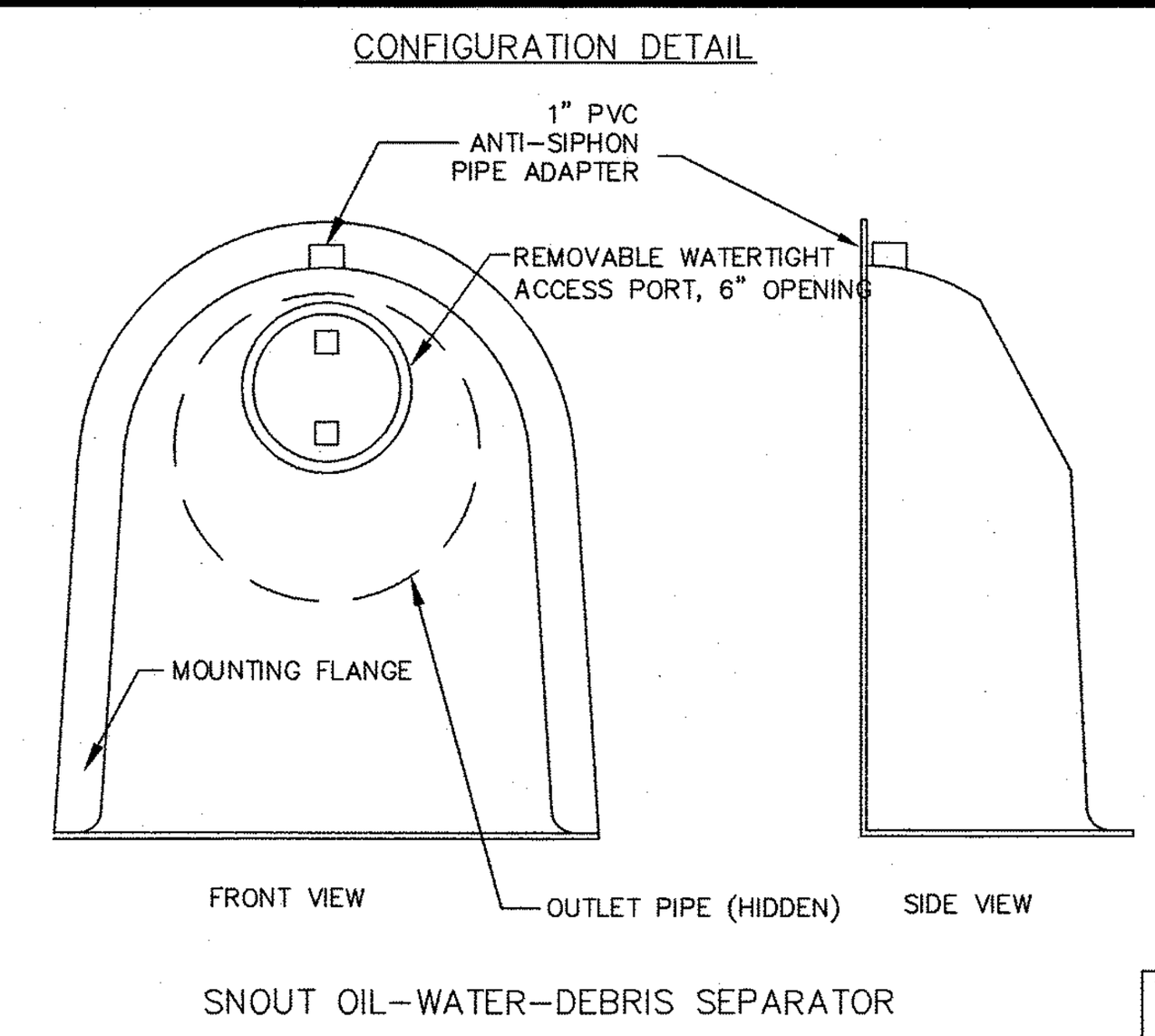
IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE, EXCEPT THAT THE TOWN OF SALEM DEPARTMENT OF ENGINEERING MAY PERMIT THE USE OF TOP SOIL, LOAM, OR PEAT, IF SATISFIED THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE STRUCTURES FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. SUITABLE MATERIAL SHALL BE PLACED IN 18" LIFTS AND THOROUGHLY COMPACTED.

## TYPICAL GAS TRENCH DETAIL
NOT TO SCALE

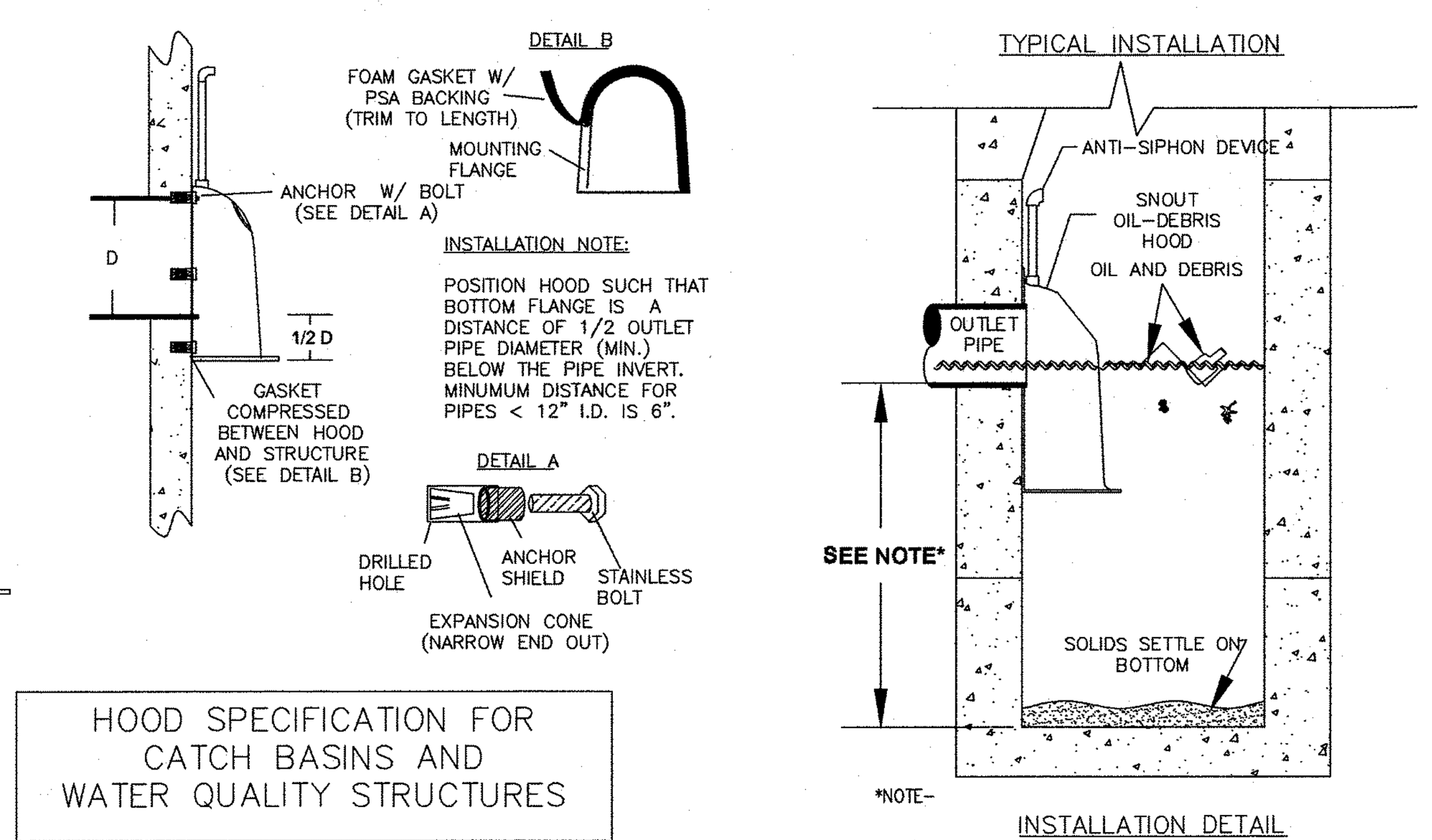



NOTES:
1. PRECAST CONCRETE MANHOLE AS MANUFACTURED BY SUPERIOR CONCRETE OR APPROVED EQUAL.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. REINFORCING: H-20 LOADING 4 X 4/4 X 4 W.W.M.
4. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER SEALANT.
5. EACH CASTING TO HAVE LIFTING HOLESCAST IN.
6. EACH SECTION TO BE LABELED AS NOTED.
7. PIPE OPENINGS CAST IN AS REQUIRED.
8. 8" SLAB TOP AVAILABLE.
9. ADJUST FRAME AND COVER TO GRADE WITH HARD RED BRICK, 2 COURSES MIN., 12" MAX.

## *PRECAST CONCRETE DRAIN MANHOLE*
NOT TO SCALE




SNOUT OIL-WATER-DEBRIS SEPARATOR

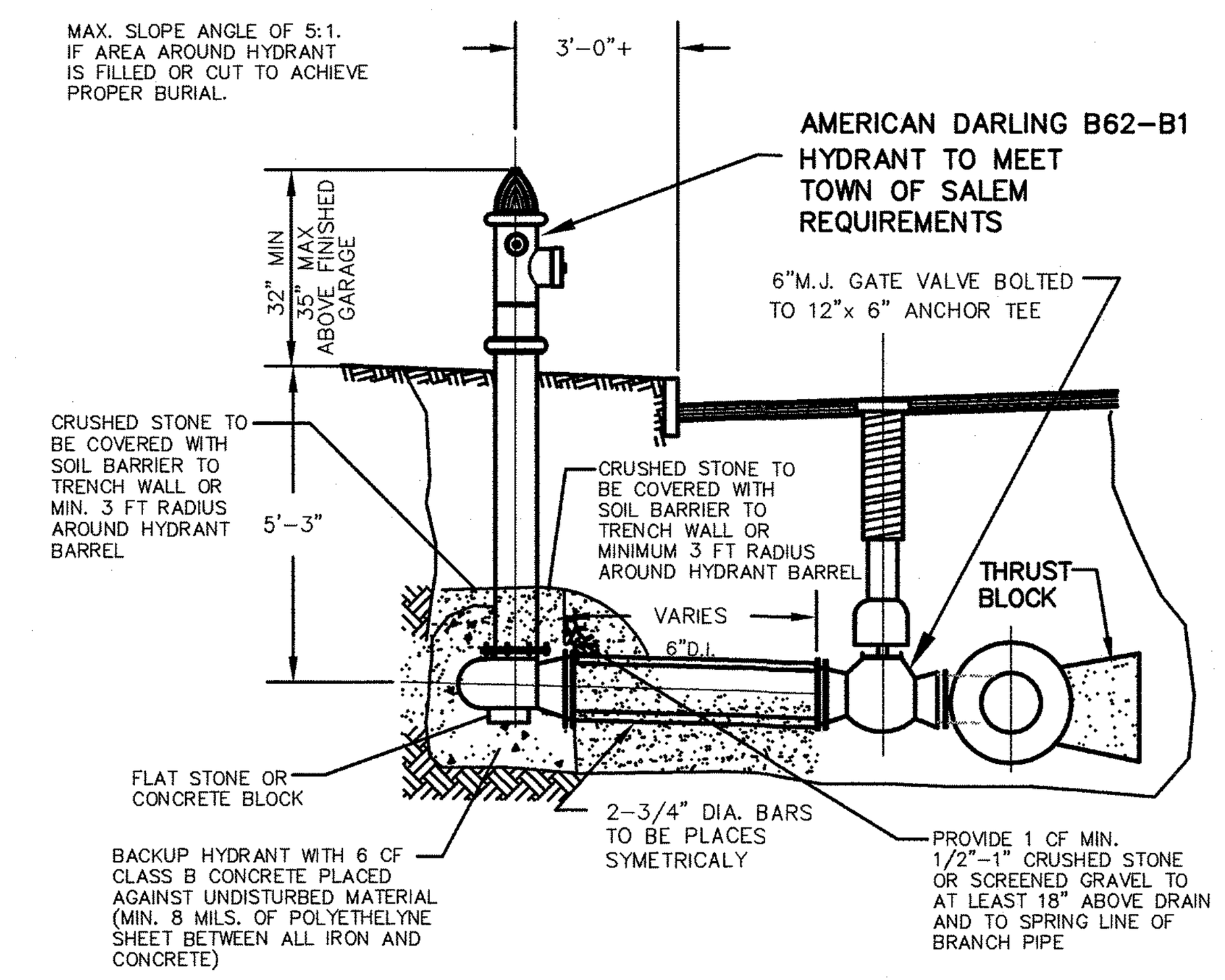



| HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES | | |
|---|---|---|
| DESCRIPTION | DATE | SCALE |
| OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL) | 9/8/00 | NONE |
| | DRAWING NUMBER | |
| | SP-SN | |

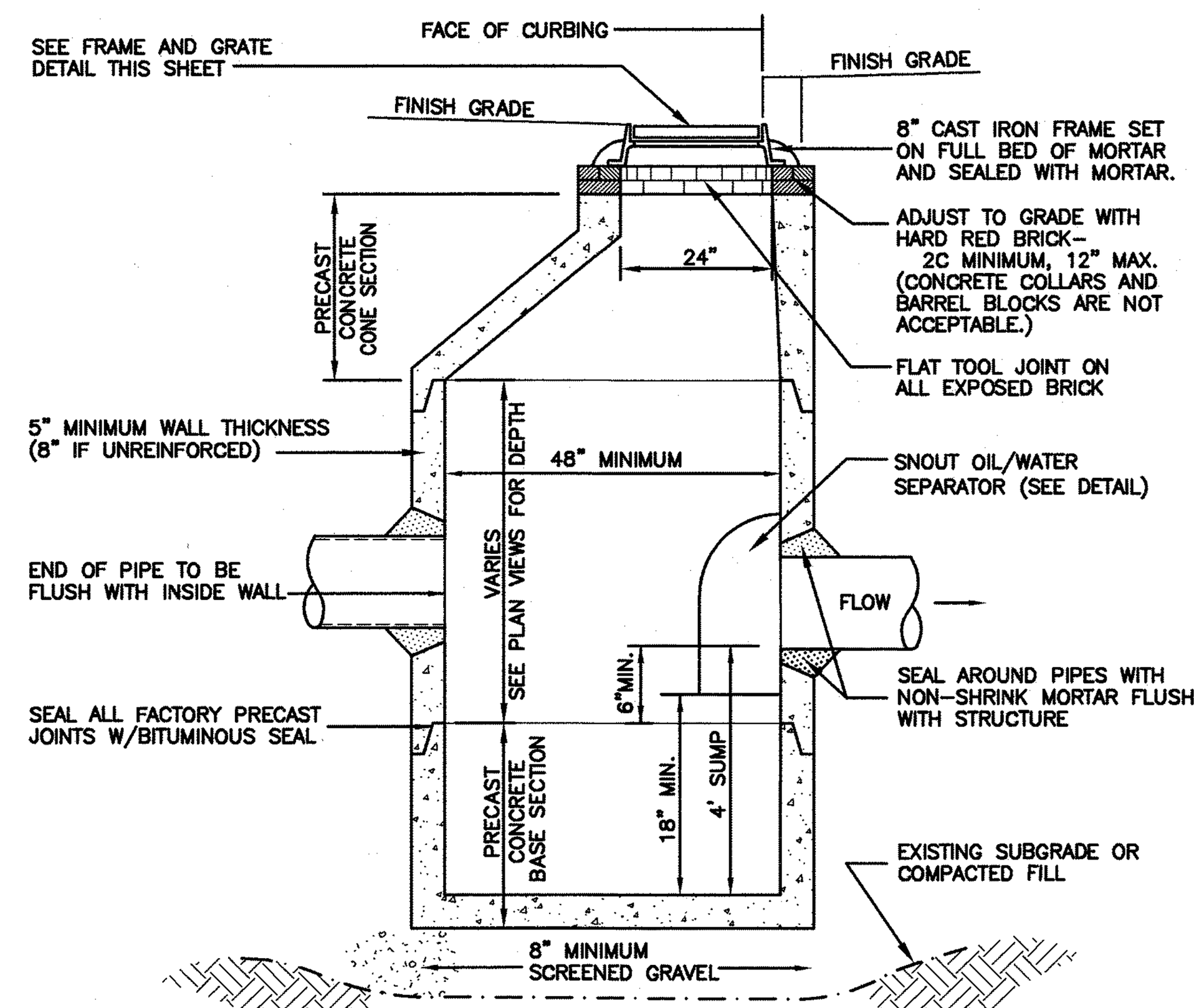
## SNOUT OIL/WATER SEPARATOR
NOT TO SCALE

NOTES:
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
BEST MANAGEMENT PRODUCTS, INC.
53 MT. ARCHER RD.
LYME, CT 06371
(860) 434-0277, (860) 434-3195 FAX
TOLL FREE: (800) 504-8008 OR (888) 354-7585
WEB SITE: www.bestmp.com
OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
INSTALLATION KIT SHALL INCLUDE:
A. INSTALLATION INSTRUCTIONS
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
D. 3/8" STAINLESS STEEL BOLTS
E. ANCHOR SHIELDS

US Patent # 6126817

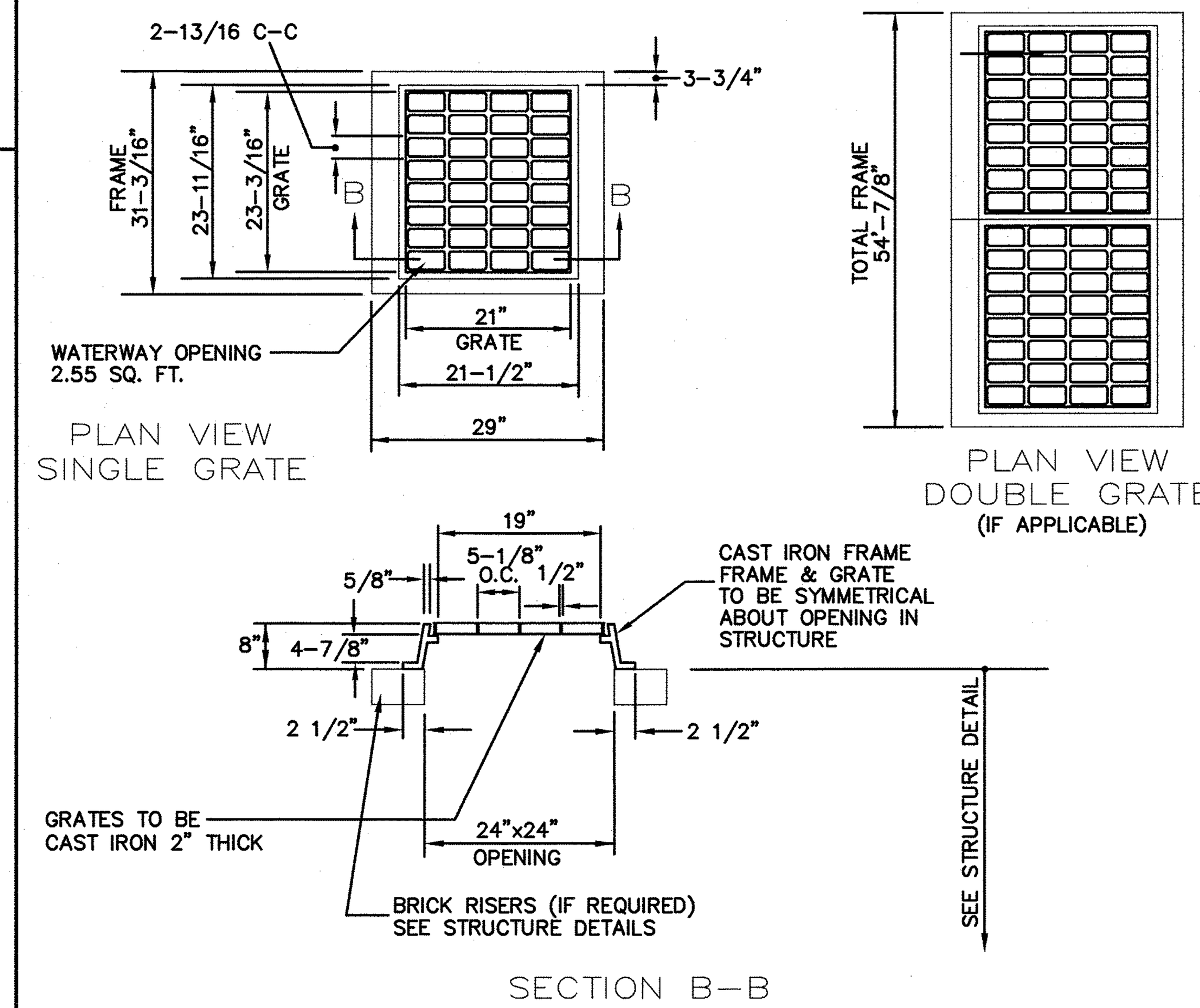



## HYDRANT CONNECTION (TYP.)
NOT TO SCALE



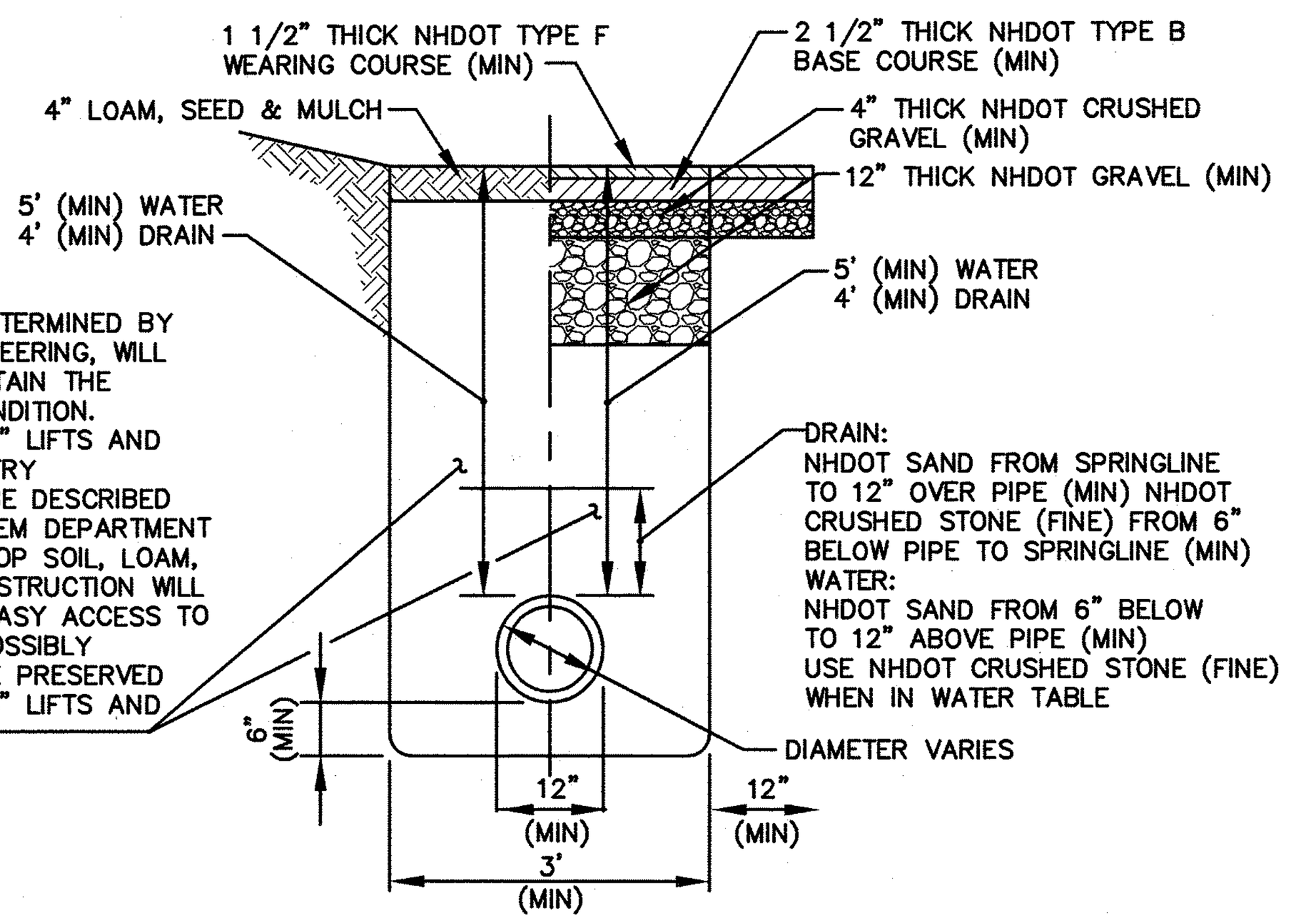

NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

## DEEP SUMP CATCH BASIN ECCENTRIC CONE
(FOR USE IN CURBED AREAS)
N.T.S.



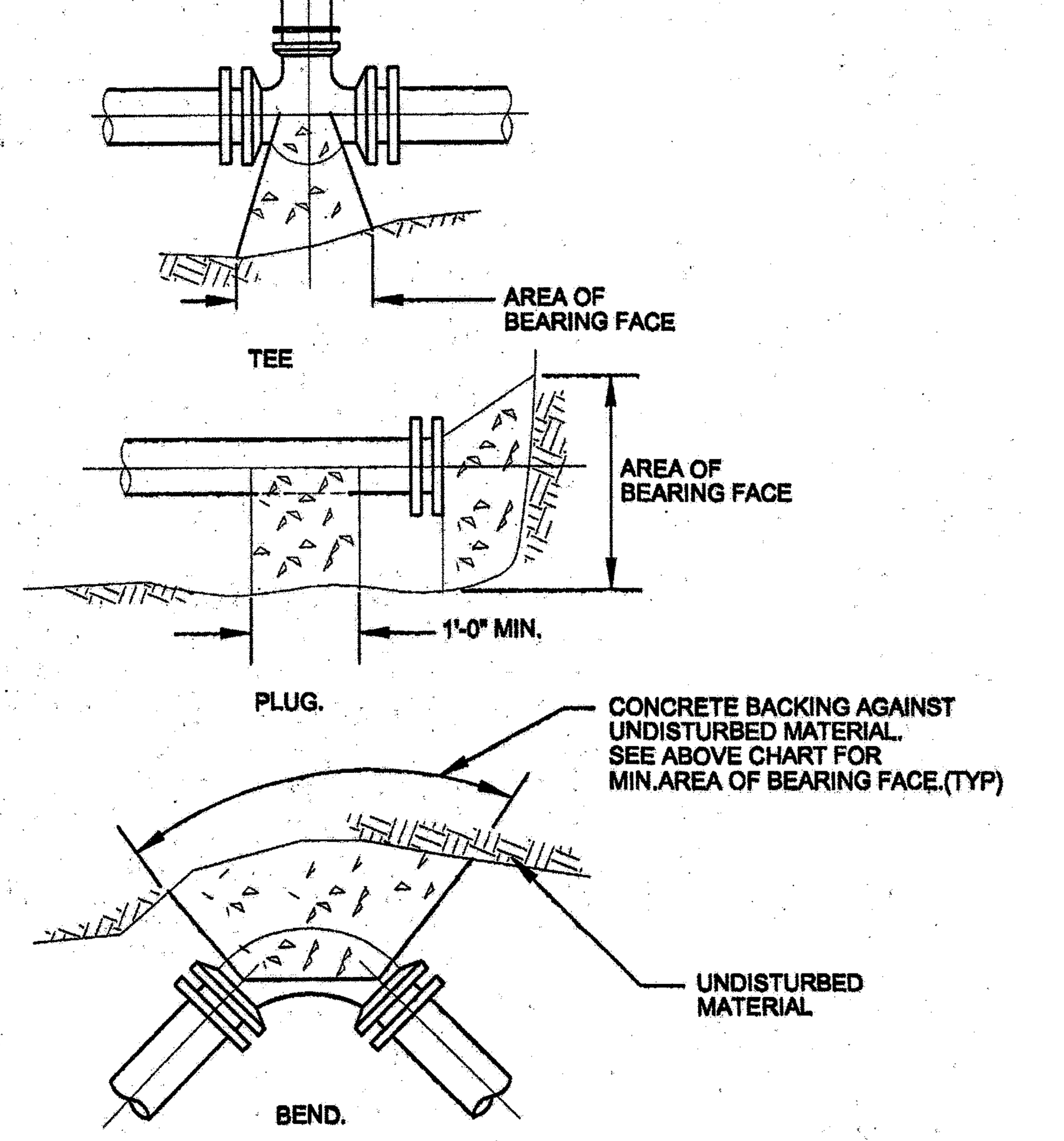

## *FRAME AND GRATE - TYPE 'B'*
NOT TO SCALE

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, AND ALL ROCKS OVER 6" IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF SALEM DEPARTMENT OF ENGINEERING, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE, EXCEPT THAT THE TOWN OF SALEM DEPARTMENT OF ENGINEERING MAY PERMIT THE USE OF TOP SOIL, LOAM, OR PEAT, IF SATISFIED THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE STRUCTURES FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED SUITABLE MATERIAL SHALL BE PLACED IN 18" LIFTS AND THOROUGHLY COMPACTED

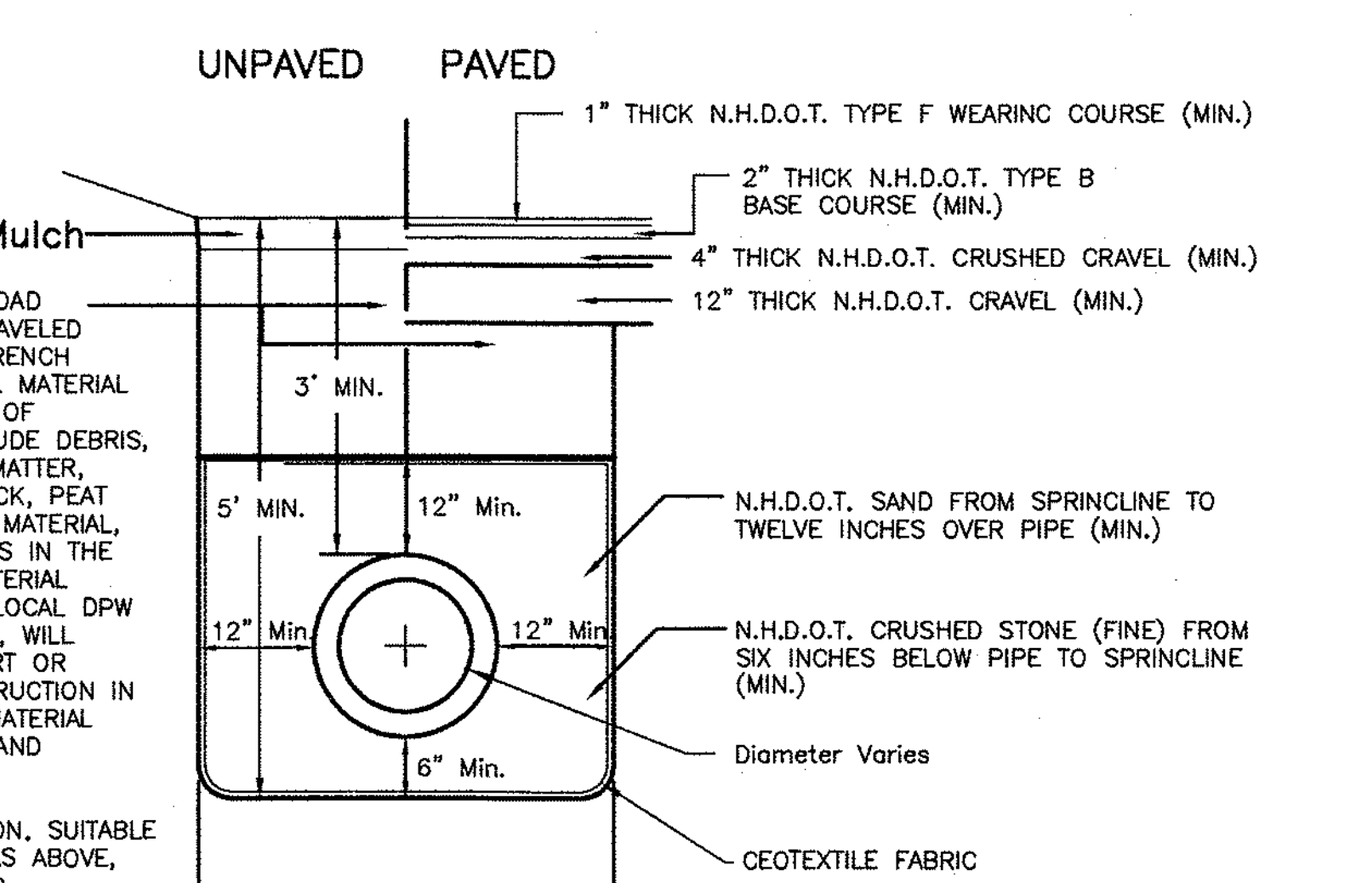



## TYPICAL WATER AND DRAIN TRENCH
NOT TO SCALE

| AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET BASED ON 450 P.S.I. & TON/S.F. ALLOWABLE SOIL BEARING CAPACITY | | | |
|---|---|---|---|
| PIPE SIZE IN. | 1/4 BEND | 1/8 BEND | PLUG & TEE |
| <8 | 8 | 4 | 6 |
| 10 | 13 | 7 | 9 |
| 12 | 18 | 9 | 13 |
| 16 | 32 | 16 | 23 |



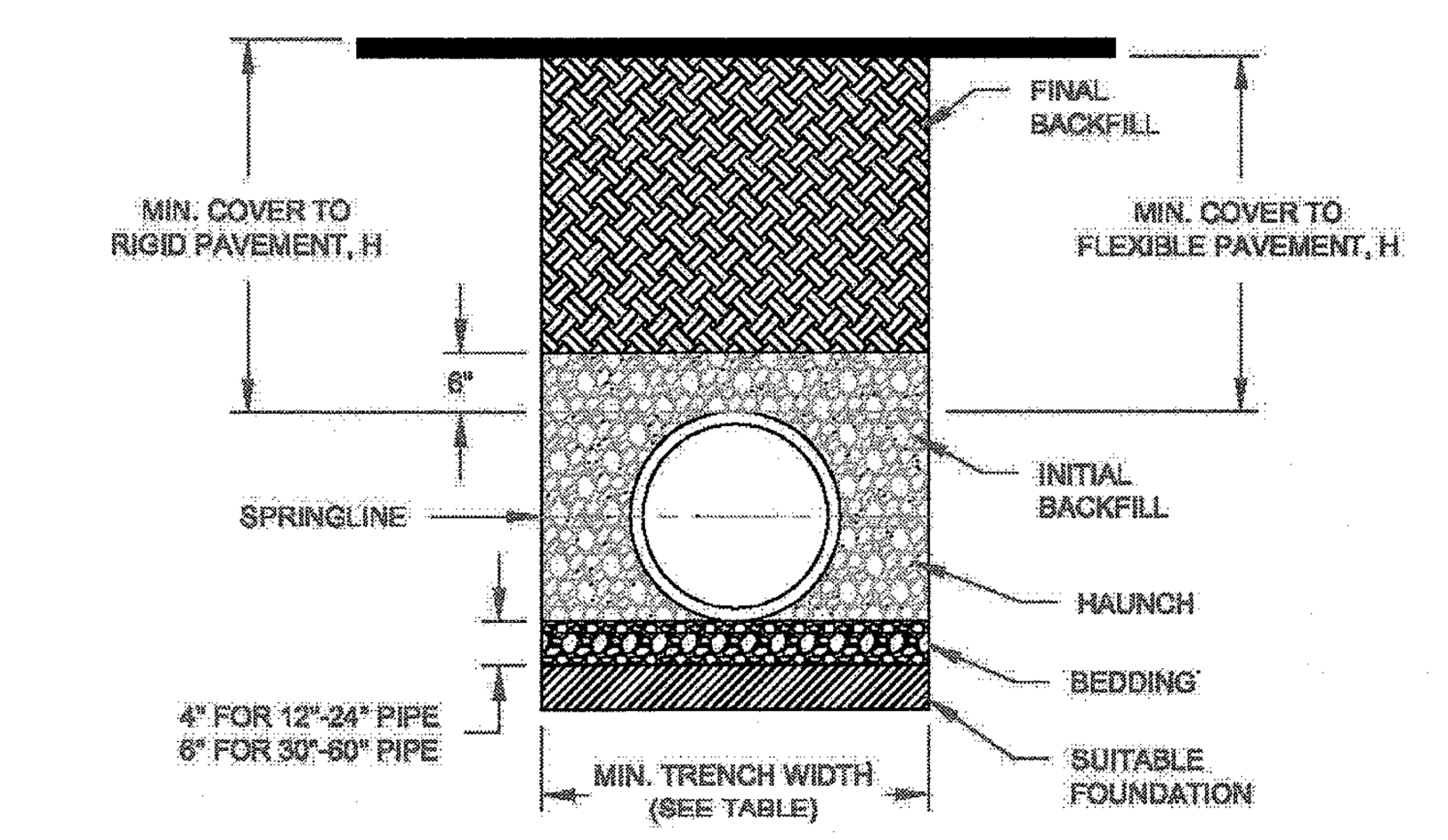

## TYPICAL CONCRETE BACKING
NOT TO SCALE




SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK-WAYS 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, AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE LOCAL DPW OR DEPARTMENT OF ENGINEERING, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE DESCRIBED AS ABOVE, EXCEPT THAT THE LOCAL DPW OR DEPARTMENT OF ENGINEERING MAY PERMIT THE USE OF TOP SOIL, LOAM, OR PEAT, IF SATISFIED THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE STRUCTURES FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED. SUITABLE MATERIAL SHALL BE PLACED IN 18" LIFTS AND THOROUGHLY COMPACTED.

## *DRAINAGE TRENCH WITH LESS THAN FOUR FEET COVER*
NOT TO SCALE




NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

| PIPE DIAM. | MIN. TRENCH WIDTH |
|---|---|
| 4" | 21" |
| 6" | 23" |
| 8" | 26" |
| 10" | 28" |
| 12" | 30" |
| 15" | 34" |
| 18" | 39" |
| 24" | 48" |
| 30" | 56" |
| 36" | 64" |
| 42" | 72" |
| 48" | 80" |
| 54" | 88" |
| 60" | 96" |

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

| PIPE DIAM. | SURFACE LIVE LOADING CONDITION: H-25 | HEAVY CONSTRUCTION (75T AXLE LOAD) * |
|---|---|---|
| 12" - 48" | 12" | 48" |
| 54" - 60" | 24" | 60" |

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

| PIPE DIAM. | COOPER E-80** |
|---|---|
| UP TO 24" | 24" |
| 30"-36" | 36" |
| 42"-60" | 48" |

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

| REV. | DESCRIPTION | BY | MM/DD/YY | CHK'D |
|---|---|---|---|---|
| 2 | ADDED E-80 INFORMATION | TJR | 08/20/07 | |

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ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

TYPICAL TRENCH DETAIL — DRAWING NUMBER: STD-101
ADS — ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026
CKS 10/18/06 NTS 1 OF 1

## *HDPE PIPE TRENCH*
NOT TO SCALE

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

REVISIONS

# CONSTRUCTION DETAILS

**SALEM PROPERTY MAP 108 - LOT 12607**
**30 TUSCAN BOULEVARD**
PREPARED FOR:
MASSGENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: N.T.S. DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE — DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER
9/22/20

OWNER OF RECORD
ROCK ACQUISITION, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL - INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 DET | NEX-2020062 | 12 OF 15 |

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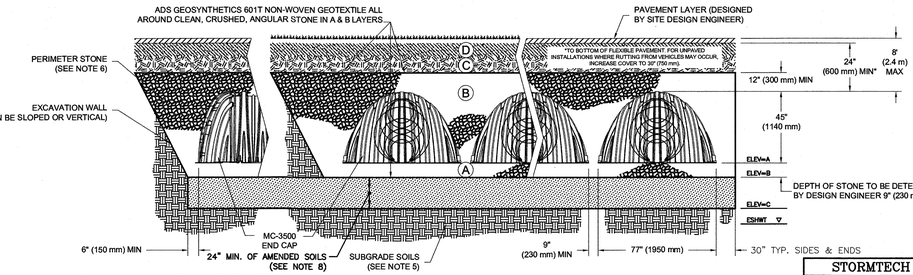



## NOTES:

1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".^J
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".^J
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.^J
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.^J
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.^J
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
8. CONTRACTOR SHALL ENGAGE A QUALIFIED PROFESSIONAL TO DETERMINE SPECIFICATION OF AMENDED SOILS. INFILTRATION TESTING SHALL BE PERFORMED PURSUANT TO ENV-WQ 1504.14 TO ENSURE THAT A TARGET RATE OF 8 TO 10 IN/HR IS ACHIEVED. THE TESTING SHALL BE PERFORMED BY A CERTIFIED SOIL SCIENTIST, PROFESSIONAL GEOLOGIST, OR QUALIFIED ENGINEER (P.E.) TO BE DETERMINED BY THE CONTRACTOR. RESULTS OF THE INFILTRATION TESTING SHALL BE SUBMITTED TO NHDES WITHIN 7 DAYS OF TESTING.

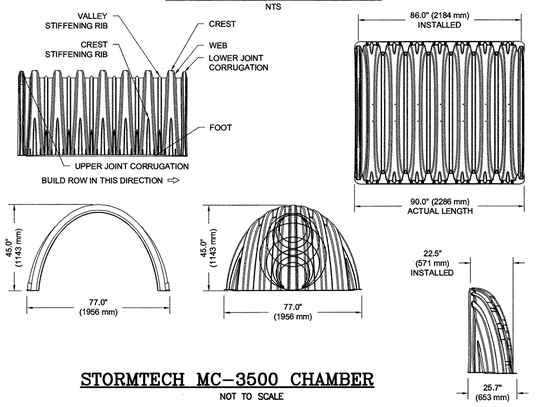
| STORMTECH ELEVATION TABLE | | | | |
|---|---|---|---|---|
| SYSTEM # | ELEV. A | ELEV. B | ELEV. C | ESHWT |
| U/G INF-1 | 126.00 | 125.25 | 123.25 | 122.5* |
| U/G INF-2 | 125.75 | 125.00 | 123.00 | 122.0* |

* ESHWT FOR SYSTEM #1 AS ESTABLISHED BY TEST PIT #'s 4 & 5 AND FOR SYSTEM #2 AS ESTABLISHED BY TEST PIT #'S 8 & 10.

SEE SHEET 16 FOR TEST PIT LOGS.

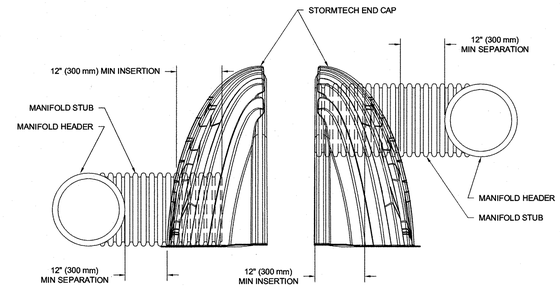
## UNDERGROUND INFILTRATION SYSTEM #1
## STORMTECH MC-3500 CHAMBER TYPICAL CROSS SECTION DETAIL
NOT TO SCALE

## MC-3500 TECHNICAL SPECIFICATION
NTS




## STORMTECH MC-3500 CHAMBER
NOT TO SCALE

## MC-SERIES END CAP INSERTION DETAIL
NTS



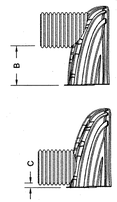

NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

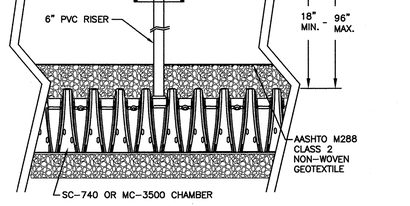
| PART # | STUB | B | C |
|---|---|---|---|
| MC3500IEPP06T | 6" (150 mm) | 33.21" (844 mm) | --- |
| MC3500IEPP06B | | --- | 0.66" (17 mm) |
| MC3500IEPP08T | 8" (200 mm) | 31.16" (791 mm) | --- |
| MC3500IEPP08B | | --- | 0.81" (21 mm) |
| MC3500IEPP10T | 10" (250 mm) | 29.04" (738 mm) | --- |
| MC3500IEPP10B | | --- | 0.93" (24 mm) |
| MC3500IEPP12T | 12" (300 mm) | 26.36" (670 mm) | --- |
| MC3500IEPP12B | | --- | 1.35" (34 mm) |
| MC3500IEPP15T | 15" (375 mm) | 23.39" (594 mm) | --- |
| MC3500IEPP15B | | --- | 1.50" (38 mm) |
| MC3500IEPP18TC | 18" (450 mm) | 20.03" (509 mm) | --- |
| MC3500IEPP18BC | | --- | 1.77" (45 mm) |
| MC3500IEPP24TC | 24" (600 mm) | 14.48" (368 mm) | --- |
| MC3500IEPP24BC | | --- | 2.06" (52 mm) |
| MC3500IEPP30BC | 30" (750 mm) | --- | --- |

NOTE: ALL DIMENSIONS ARE NOMINAL

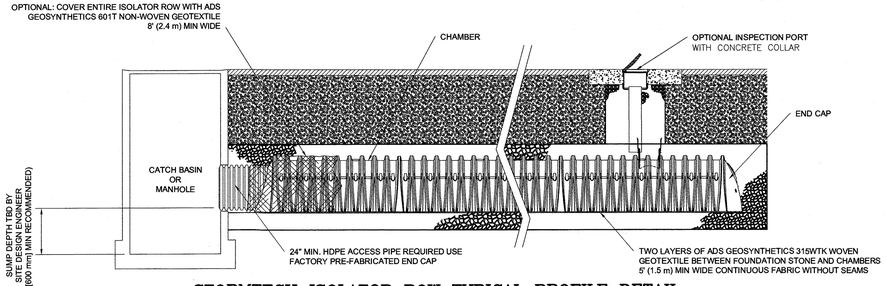
CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm)
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHTEST POSSIBLE FOR THE PIPE SIZE.




## *STORMTECH MC-3500 CHAMBER END CAP DETAIL*
NOT TO SCALE




## *STORMTECH INSPECTION PORT DETAIL*
NOT TO SCALE




## STORMTECH ISOLATOR ROW TYPICAL PROFILE DETAIL
NOT TO SCALE

| NO. | DESCRIPTION | BY | DATE |
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| | | | |
| | | | |

REVISIONS

# CONSTRUCTION DETAILS

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASSGENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI
Engineering
Design
Planning
Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: N.T.S.
DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE – DAVID R. JORDAN No. 7778 – LICENSED PROFESSIONAL ENGINEER
9/22/20

OWNER OF RECORD
ROCK ACQUISITION, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 DET | NEX-2020062 | 13 OF 15 |

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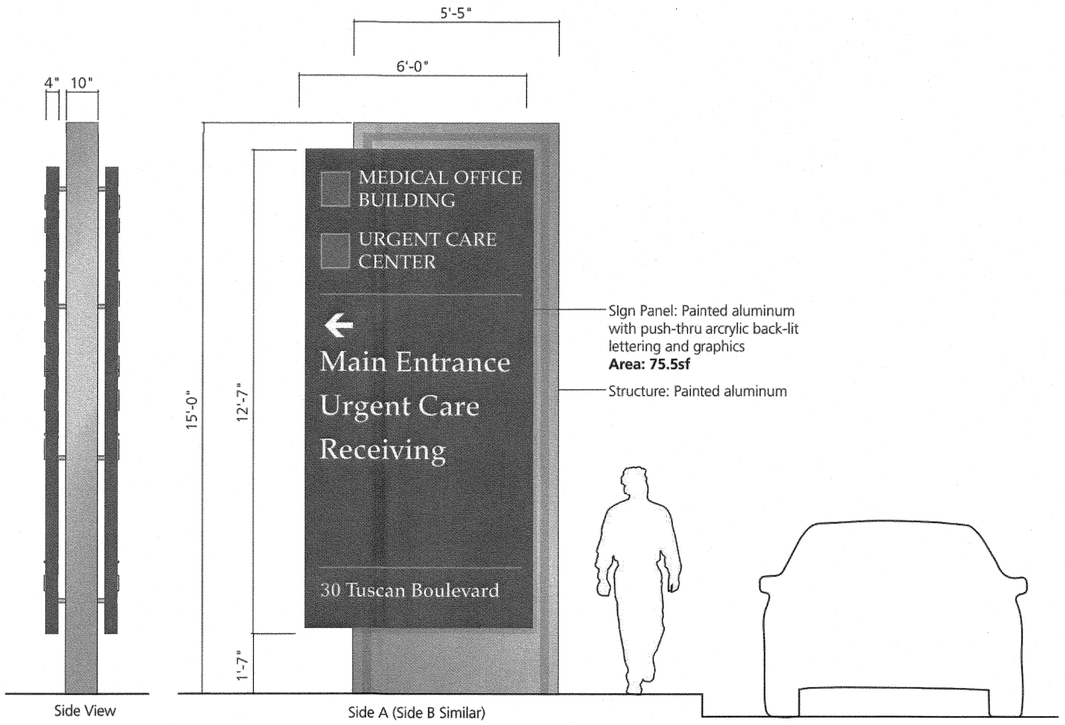
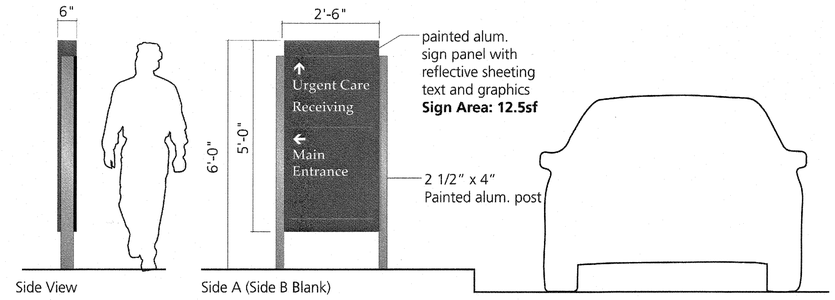



## M.O.B Primary Freestanding Sign

Scale: 1/2" = 1'-0"




## M.O.B Parking Management - Directional Sign

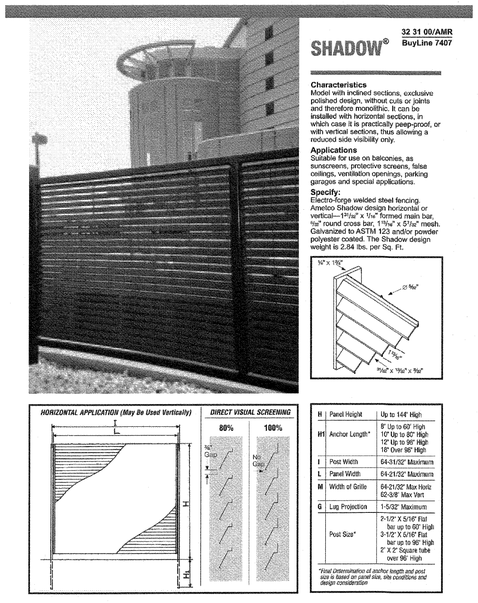
Scale: 1/2" = 1'-0"

**SIGNAGE TABLE FOR MEDICAL OFFICE BUILDING**

| BUILDING SIGNAGE | SIGN INFORMATION | | | Non Road Frontage | | | | Public Right of Way - Rockingham Park Boulevard/Mall Road/Flyover | | | | Private Way - Tuscan Boulevard | | | | Sign Lighting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sign ID | Sign Type | Sign Text | Sign Area Multiplier ( SF/LFof Bldg frontage) | Tenant Building Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Sign Area Multiplier ( SF/LFof Bldg frontage) | Tenant Building Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Sign Area Multiplier ( SF/LF of Bldg Frontage) | Tenant Building Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Wall Signage |
| 1. Medical Office Building | 1 - North Elev | Wall -Primary 1 (1) | LOGO/MEDICAL OFFICE BUILDING SIGNAGE | 1.0 | 153 | 100 | 248 | | | | | | | | | See Note (3) |
| | 2 - South Elev | Wall -Primary 2 | LOGO/MEDICAL OFFICE BUILDING SIGNAGE | | | | | 1.0 | 153 | 100 | 100 | | | | | |
| | 3 - East Elev | Wall -Primary 3 (1) | LOGO/MEDICAL OFFICE BUILDING SIGNAGE | | | | | | | | | 1.0 | 110 | 50 | 350 | |
| | 4 - West Elev | Wall -Primary 4 (1) | LOGO/MEDICAL OFFICE BUILDING SIGNAGE | 1.0 | 110 | 0 | 248 | | | | | | | | | |
| | 5 - West Elev | Wall -Primary 4A (1) | LOGO/MEDICAL OFFICE URGENT CARE | 1.0 | 110 | 0 | 248 | | | | | | | | | |

| SITE SIGNAGE | SIGN INFORMATION | | | Public Right of Way - Rockingham Park Boulevard/Mall Road/Flyover | | | | Private Way - Tuscan Boulevard | | | | See Note (3)(4) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sign ID | Sign Type | Sign Text | Sign Area Multiplier ( SF/LF of Lot Frontage) | Lot Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Sign Area Multiplier ( SF/LF of Lot Frontage) | Lot Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Sign Area Multiplier ( SF/LF of Lot Frontage) | Lot Frontage (LF) | Allowable Sign Area (SF) | Provided Sign Area (SF) | Sign Height Allowed (FT) | Sign Height Provided (FT) | (5) Sign Setback Requried (FT) | Sign Setback Provided (FT) |
| Freestanding Sign (Primary) | 1 | FS | SEE SIGN ELEVATION | 1.0 | 650 | 100 | 75.5 | 1.0 | | | | 1.0 | | | | 15 | 15 | 0 | 10.0 |
| Gateway Sign (Large) RPB-East | 2 | GS | SEE SIGN ELEVATION | | | | | N/A | N/A | 100 | 67 | N/A | | | | 12 | 10.5 | 20.0 | 16.0 |

Notes: (1) This wall sign requires a Conditional Use Permit
(2) Reserved
(3) Lighting requirements for wall and the freestanding signage can be externally lit, internally lit (individual letters only), or backlit (halo).
(4) Lighting requirements for the Gateway Signs can be externally lit in combination with internally illuminated sign elements such as halo-lit lettering and logos.
(5) If the sign is part of a stone wall feature, the setback is the same as a setback of the stone wall from the street ROW.




**LOUVERED FENCE DETAIL**
NOT TO SCALE

GOVE ENVIRONMENTAL SERVICES, I

TEST PIT DATA

Project: Tuscan Village
Client: OMJ Realty
GES Project No. 2016157D
04/10/19- Jim Gove

**Test Pit No. 1** — Lot No.: WSPCD Group:
ESHWT: 64" — Roots to: NA
Termination @ 120" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 120"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–15" | 10YR 5/6 | LS | OM | FR | | FILL |
| 15-28" | 10YR 3/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 28-64" | 10YR 5/4 | FSL | OM | FR | | FILL |
| 64-88" | 2.5Y 5/4 | FSL | OM | FR | | FILL w/ ORGANICS 5% (red) |
| 88-120" | 2.5Y 5/2 | S | SG | L | | NATURAL |

**Test Pit No. 2** — Lot No.: WSPCD Group:
ESHWT: 56" — Roots to: NA
Termination @ 108" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0-14" | 10YR 5/6 | LS | OM | FR | | FILL |
| 14-36" | 10YR 3/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 36-56" | 2.5Y 5/4 | FSL | OM | FR | | FILL |
| 56-96" | 2.5Y 5/4 | FSL | OM | FR | | FILL w/ ORGANICS 5% (red) |
| 96-108" | 2.5Y 5/2 | S | SG | L | | NATURAL |

**Test Pit No. 3** — Lot No.: WSPCD Group:
ESHWT: 44" — Roots to: NA
Termination @ 99" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 69"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0-44" | 10YR 4/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 44-69" | 10YR 5/4 | LS | OM | FR | | NATURAL 20% (red) |
| 69-99" | 2.5Y 5/3 | S | SG | L | | NATURAL |

**Test Pit No. 4** — Lot No.: WSPCD Group:
ESHWT: 45" — Roots to: NA
Termination @ 96" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 59"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–30" | 2.5Y 4/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 30-45" | 10YR 5/4 | LS | OM | FR | | NATURAL |
| 45-96" | 2.5Y 5/3 | LS | OM | FR | | NATURAL 20% (red) |

**Test Pit No. 5** — Lot No.: WSPCD Group:
ESHWT: 51" — Roots to: NA
Termination @ 91" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–43" | 2.5Y 4/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 43-51" | 10YR 5/4 | LS | OM | FR | | NATURAL |
| 51-91" | 2.5Y 5/3 | LS | OM | FR | | NATURAL 20% (red) |

**Test Pit No. 6** — Lot No.: WSPCD Group:
ESHWT: 60" — Roots to: NA
Termination @ 126" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–30" | 10YR 5/6 | FSL | OM | FR | | FILL w/ ORGANICS |
| 30-60" | 2.5Y 5/3 | GFSL | OM | FR | | NATURAL |
| 60-126" | 2.5Y 5/3 | GFSL | OM | FI | | NATURAL 5% (red) |

**Test Pit No. 7** — Lot No.: WSPCD Group:
ESHWT: 37" — Roots to: NA
Termination @ 91" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–27" | 10YR 5/4 | FSL | OM | FR | | FILL w/ ORGANICS |
| 27-37" | 10YR 5/4 | LS | OM | FR | | NATURAL |
| 37-91" | 2.5Y 5/3 | LS | OM | FR | | NATURAL 20% (red) |

**Test Pit No. 8** — Lot No.: WSPCD Group:
ESHWT: 55" — Roots to: NA
Termination @ 90" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 60"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–47" | 10YR 4/3 | GFSL | OM | FR | | FILL w/ ORGANICS |
| 47-55" | 10YR 5/6 | LS | OM | FR | | NATURAL |
| 55-90" | 2.5Y 5/3 | LS | OM | FR | | NAURAL 20% (red) |

**Test Pit No. 9** — Lot No.: WSPCD Group:
ESHWT: 60" — Roots to: NA
Termination @ 94" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 65"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–28" | 2.5Y 5/3 | GFSL | OM | FR | | FILL |
| 28-36" | 10YR 3/2 | FSL | OM | FR | | FILL w/ ORGANICS |
| 36-60" | 10YR 5/4 | LS | OM | FR | | NATURAL |
| 60-94" | 2.5Y 5/3 | LS | OM | FR | | NATURAL 20% (red) |

**Test Pit No. 10** — Lot No.: WSPCD Group:
ESHWT: 39" — Roots to: NA
Termination @ 80" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: 39"

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–39" | 2.5Y 5/4 | LS | OM | FR | | FILL |
| 39-80" | 2.5Y 5/3 | KS | OM | FR | | NATURAL 20% (red) |

**Test Pit No. 11** — Lot No.: WSPCD Group:
ESHWT: 42" — Roots to: NA
Termination @ 88" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–19" | 10YR 4/6 | FSL | OM | FR | | FILL w/ ORGANICS |
| 19-42" | 2.5Y 5/4 | FSL | OM | FR | | NATURAL |
| 42-88" | 2.5Y 5/4 | FSL | OM | FI | | NATURAL 5% (red) |

**Test Pit No. 12** — Lot No.: WSPCD Group:
ESHWT: 40" — Roots to: NA
Termination @ 70" — SCS Soil: NA
Refusal: NA — HIS Type: NA
Obs. Water: NA

| Depth | Color | Texture | Structure | Consistence | Redox % | Horizon |
|---|---|---|---|---|---|---|
| 0–29" | 10YR 4/3 | FSL | OM | FR | | FILL w/ ORGANICS |
| 29-40" | 10YR 5/4 | LS | OM | FR | | NATURAL |
| 40-61" | 2.5Y 5/4 | LS | OM | FR | | NATURAL 10% (red) |
| 61-70" | 2.5Y 5/2 | LS | OM | FR | | NATURAL 20% (red) |

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | REVISIONS | | |
| 1 | ADD FENCE DETAIL | DRJ | 10/16/20 |

# CONSTRUCTION DETAILS

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145

GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079

SCALE: N.T.S.
DATE: SEPTEMBER 22, 2020

DAVID R. JORDAN No. 7778 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
10/16/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 DET | NEX–2020062 | 14 OF 15 |

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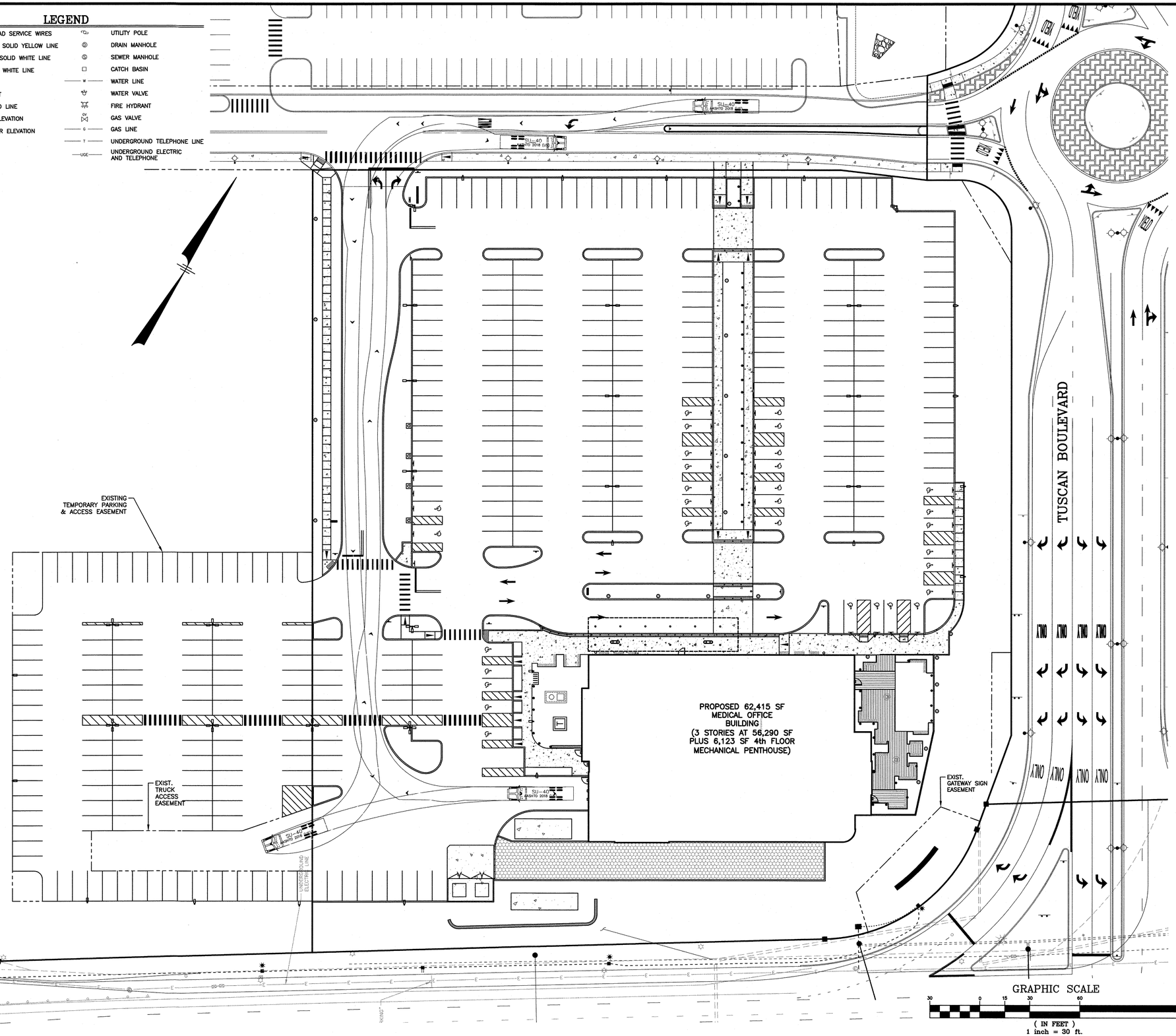
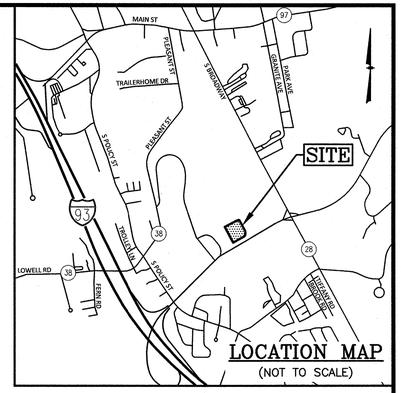
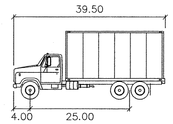
## LEGEND

| | |
|---|---|
| OVERHEAD SERVICE WIRES | UTILITY POLE |
| DSYL DOUBLE SOLID YELLOW LINE | DRAIN MANHOLE |
| SSWL SINGLE SOLID WHITE LINE | SEWER MANHOLE |
| BWL BROKEN WHITE LINE | CATCH BASIN |
| SIGN | W WATER LINE |
| TEST PIT | WATER VALVE |
| WETLAND LINE | FIRE HYDRANT |
| +50.34 SPOT ELEVATION | GAS VALVE |
| 190 CONTOUR ELEVATION | G GAS LINE |
| EN ENTRY | T UNDERGROUND TELEPHONE LINE |
| | UGE UNDERGROUND ELECTRIC AND TELEPHONE |




LOCATION MAP
(NOT TO SCALE)




SU-40

| | feet |
|---|---|
| Width | : 8.00 |
| Track | : 8.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.8 |

| NO. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | REVISIONS | | |

# TRUCK TURN PLAN – SU-40

**SALEM PROPERTY MAP 108 – LOT 12607**
**30 TUSCAN BOULEVARD**

PREPARED FOR:
MASS GENERAL BRIGHAM
399 REVOLUTION DRIVE, SUITE 1345
SOMERVILLE, MASSACHUSETTS 02145


GPI Engineering Design Planning Construction Management
603.893.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Suite One
Salem, NH 03079


SCALE: 1"=30'
DATE: SEPTEMBER 22, 2020

STATE OF NEW HAMPSHIRE
DAVID R. JORDAN
No. 7778
LICENSED PROFESSIONAL ENGINEER
9/22/20

OWNER OF RECORD
TV–MOB, LLC
63 MAIN STREET
SALEM, NH 03079

SALEM PLANNING BOARD
APPROVAL

ZONE: COMMERCIAL – INDUSTRIAL 'C'

| DESIGNED BY: | DRAWN/CHECKED | DWG. NAME | PROJECT No. | SHEET No. |
|---|---|---|---|---|
| MSG | CCC/MSG | 20062 SP | NEX–2020062 | 15 OF 15 |

F:\Projects\NEX-2020062 – Salem NH – Partners Healthcare\CAD Files\20062 SP.dwg TT SU-40 9/22/20 2:55pm ccall

## GENERAL NOTES

1. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION.
2. SALEM: ALL SITE GRADING AND LAYOUT IS BASED ON TUSCAN VILLAGE - SALEM PROPERTY MAP 98 LOT 7887 PREPARED BY MHF DESIGN CONSULTANTS INC.
3. THE LANDSCAPE ARCHITECT BEARS NO RESPONSIBILITY FOR THE ACCURACY OF THE SURVEYS PROVIDED; ALL INFORMATION SHALL BE VERIFIED IN THE FIELD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT IMMEDIATELY.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE INSIDE OR OUTSIDE OF PROPERTY LINE DUE TO CONSTRUCTION OPERATIONS. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
5. REQUIRED SHOP DRAWINGS FOR ALL GRANITE WALLS AND CONCRETE PAVEMENT SHALL BE BASED ON FIELD MEASUREMENT AND LAYOUT VERIFICATION BY THE CONTRACTOR.
6. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS AND BE PRE-APPROVED WITH LANDSCAPE ARCHITECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING THE LOCATIONS OF ANY EXISTING SITE ELEMENTS TO BE RE-SET IN THEIR SAME HORIZONTAL LOCATION.
8. AT ALL LOCATIONS WHERE EXISTING CURBING, BITUMINOUS CONCRETE, OR CONCRETE PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN SMOOTH EDGE.
9. EXPANSION JOINT FILLER AND SEALANT SHALL BE PLACED WHERE PAVEMENT MEETS CURBING, WALLS OR OTHER VERTICAL ELEMENTS INCLUDING BUILDING AND BUILDING COLUMNS, WALLS, STAIRS AND AT OTHER CONDITIONS AS SHOWN ON THE DRAWINGS.
10. CONTRACTOR SHALL PROVIDE STAMPED SURVEY AS-BUILT DRAWINGS CONFIRMING MAXIMUM CROSS SLOPES FOR ALL PAVEMENT AS SHOWN ON THE CONSTRUCTION DRAWINGS.
11. FOR SITE UTILITIES, DETAILS AND ASSOCIATED INFORMATION, REFER TO CIVIL & MEP DRAWINGS.
12. FOR STRUCTURAL DETAILS AND ASSOCIATED INFORMATION, REFER TO STRUCTURAL DRAWINGS.

## LAYOUT NOTES

1. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION.
2. THE CONTRACTOR IS RESPONSIBLE FOR A THOROUGH SITE EXAMINATION TO VERIFY ASSUMPTIONS OF THE ACTUAL SITE CONDITIONS.
3. THE DIMENSIONS SHOWN ON THE DRAWINGS INDICATE DESIGN INTENT AND MUST BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN FIELD VERIFICATION AND THE DRAWINGS.
4. PROVIDE EJ AND SEALANT AT BASE OF ALL BUILDING ELEMENTS. SEALANT AND INSTALLATION SHALL BE COORDINATED W/ BUILDING BASE AND WATERPROOFING. VERIFY EXISTING SLAB AND SURVEY IN FIELD PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EXPANSION JOINT AND CONTROL JOINT LAYOUT BASED ON FIELD VERIFIED MEASUREMENTS, AND REQUEST THE PRESENCE OF THE ARCHITECT TO REVIEW THE LAYOUT OF EXPANSION JOINTS PRIOR TO POURING THE CONCRETE.
6. NO CHIPPED PAVERS OR STONE VENEER WILL BE ACCEPTED. ALL CHIPPED PAVERS OR STONE VENEER INSTALLED WILL BE REJECTED BY THE ARCHITECT.

## GRADING NOTES

1. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION.
2. THE CONTRACTOR SHALL USE ONE SINGLE BENCH-MARK FOR EACH SITE FOR ALL WORK AND CONSTRUCTION PHASES.
3. FOR UTILITY WORK, SUBSURFACE DRAINAGE, RIM AND INVERT ELEVATIONS OF DRAINAGE STRUCTURES REFER TO PLUMBING DRAWINGS. RIM ELEVATIONS ARE PROVIDED FOR CONVENIENCE ONLY. COORDINATE RIM ELEVATIONS WITH PLUMBING DRAWINGS.
4. CROSS SLOPES AT ALL PAVED SURFACES SHALL NOT EXCEED 1.8%. LONGITUDINAL SLOPES SHALL NOT EXCEED 4.8%, UNLESS OTHERWISE INDICATED.
5. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT BEFORE PLACING ANY PAVEMENT WITH A CROSS PITCH THAT IS GREATER THAN 2%, LESS THAN 1%, AND NOT NOTED AS SUCH ON THE DRAWINGS. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF ONE-EIGHTH INCH (1/8") PER FOOT.
6. CONTRACTOR TO VERIFY ADJACENT SPOT GRADES AT LOW TO ENSURE POSITIVE DRAINAGE FROM FINISH GRADE TO STREET.
7. ALL NEW PAVEMENT AREAS SHALL BE PITCHED SO AS TO PROVIDE POSITIVE DRAINAGE TOWARD THE STREET CURB OR TOWARDS PROPOSED DRAINAGE STRUCTURES.
8. PROVIDE POSITIVE DRAINAGE AWAY FROM THE FACE OF BUILDING AT ALL LOCATIONS.
9. RIM ELEVATIONS OF ALL DRAINAGE STRUCTURES AND OTHER UTILITY STRUCTURES SHALL BE SET FLUSH WITH FINAL SURROUNDING GRADES SO AS NOT TO CAUSE A TRIP EDGE.
10. FINAL SHAPING OF ALL EARTHWORKS SHALL BE DIRECTED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT TO REVIEW AND APPROVE SUBGRADE IN PLANT BEDS PRIOR TO PLACING ANY LOAM.

## PLANTING NOTES

1. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE TOTAL SCOPE OF WORK AND ALL REQUIRED COORDINATION.
2. CONTRACTOR TO LAYOUT PLANTS AND OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO PLANTING. TREES TO BE STAKED IN FIELD AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. LANDSCAPE ARCHITECT SHALL BE INFORMED OF ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE PLANT LIST.
4. ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
5. ALL NEW PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN UNLESS OTHERWISE NOTED ON THE PLANT LIST.
6. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT, AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
7. ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
8. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
9. STAKE LOCATION OF ALL PROPOSED PLANTING FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING.
10. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE SPECIFICATIONS.
11. CONTRACTOR SHALL PROVIDE FULL DEPTHS OF LOAM AS NOTED ON DETAILS AND AS SPECIFIED, FOR ALL PLANTING AREAS.
12. DO NOT MEASURE PLAN FOR TRUE LOCATIONS.

## LAYOUT AND MATERIALS PLAN LEGEND

| | | | | | |
|---|---|---|---|---|---|
| AGGR | AGGREGATE | GR | GRATE | RECD | RECEIVED |
| ALLOW | ALLOWANCE | HCR | HANDICAP RAMP | REF | REFERENCE |
| ALT | ALTERNATE | HT | HEIGHT | REBAR | REINFORCING BAR |
| AVG | AVERAGE | HOR | HORIZONTAL | REINF | REINFORCE, REINFORCED |
| BET | BETWEEN | HP | HIGH POINT ELEVATION | REQD | REQUIRED |
| BC | BOTTOM OF CURB | IN | INCH | RIM | RIM ELEVATION |
| BS | BOTTOM OF STAIR | INCL | INCLUDE, INCLUDING | RET | RETAINING |
| BW | BOTTOM OF WALL | INFO | INFORMATION | ROW | RIGHT OF WAY |
| BIT CONC | BITUMINOUS CONCRETE | ID | INSIDE DIAMETER | SCH | SCHEDULE |
| BLDG | BUILDING | INT | INTERIOR | SECT | SECTION |
| BO | BY OTHERS | INV | INVERT | SHT | SHEET |
| CAL | CALIPER | JT | JOINT | SIM | SIMILAR |
| CB | CATCH BASIN | JB | JUNCTION BOX | SK | SKETCH |
| C-C | CENTER TO CENTER | LA | LANDSCAPE ARCHITECT | SO | SOUTH |
| CL | CENTERLINE | LP | LOW POINT ELEVATION | SPEC | SPECIFICATION |
| CIR | CIRCLE | LT | LIGHT | SQ | SQUARE |
| CLR | CLEAR | LIN | LINEAR | SS | STAINLESS STEEL |
| COL | COLUMN | LOW | LIMIT OF WORK | STD | STANDARD |
| COMP | COMPACTED | MATL | MATERIAL | STL | STEEL |
| CONC | CONCRETE | MAX | MAXIMUM | STR | STRUCTURAL |
| CONST | CONSTRUCTION | MET | METAL | TB | TOP OF BENCH |
| CJ | CONSTRUCTION JOINT | MIN | MINIMUM | TC | TOP OF CURB |
| CONT | CONTINUOUS | MISC | MISCELLANEOUS | TEL | TELEPHONE |
| CF | CUBIC FEET | MYKD | MIKYOUNG KIM DESIGN | TEMP | TEMPORARY |
| DEG | DEGREE | NOM | NOMINAL | THK | THICK |
| DET | DETAIL | N | NORTH | THRU | THROUGH |
| DIM | DIMENSION | NIC | NOT IN CONTRACT | T&B | TOP AND BOTTOM |
| DN | DOWN | NTS | NOT TO SCALE | TP | TRANSITION POINT |
| DI | DRAIN INLET | NO | NUMBER | TR | TREAD |
| DWG | DRAWING | OC | ON CENTER | TYP | TYPICAL |
| E | EAST | OD | OUTSIDE DIAMETER | TOC | TOP OF CONCRETE |
| ELEC | ELECTRICAL | OPNG | OPENING | TOS | TOP OF STAIR |
| ELEV | ELEVATION | OPP | OPPOSITE | TSS | TOP OF STRUCTURAL SLAB |
| ENG | ENGINEER | PA | PLANTING AREA | TW | TOP OF WALL |
| EQ | EQUAL | POB | POINT OF BEGINNING | VIF | VERIFY IN FIELD-DO NOT PROCEED W/O LA'S INPUT. |
| EQUIP | EQUIPMENT | PC | POINT OF CURVATURE | | |
| EXIST | EXISTING | PT | POINT OF TANGENCY | VERT | VERTICAL |
| EJ | EXPANSION JOINT | PR | PAIR | VGC | VERTICAL GRANITE CURBING |
| EXT | EXTERIOR | PAR | PARAGRAPH | WP | WATERPROOFING |
| FFE | FINISH FLOOR ELEVATION | PERF | PERFORATED | W | WIDTH |
| FT | FEET | PERP | PERPENDICULAR | WWM | WELDED WIRE MESH |
| FG | FINISH GRADE | PL | PROPERTY LINE | W/ | WITH |
| FIN | FINISH | PLMB | PLUMBING | W/O | WITHOUT |
| FTG | FOOTING | LB | POUND | YD | YARD |
| FDN | FOUNDATION | PSI | POUNDS PER SQUARE INCH | +/- | PLUS OR MINUS DIMENSION. CONTRACTOR MAY PROCEED WITH LAYOUT IF DEVIATION IS NOT GREATER THAN TWO UNITS OF THE SMALLEST DIMENSION GIVEN. |
| GALV | GALVANIZED | PREFAB | PREFABRICATED | | |
| | | PROJ | PROJECT | | |
| | | PVC | POLYVINYL CHLORIDE | | |
| | | R | RADIUS, RISER | | |

LANDSCAPE SHEET LIST


| SHEET # | SHEET NAME | CURRENT DWG DATE |
|---|---|---|
| GENERAL | | |
| L000 | NOTES, ABBREVIATIONS, & SYMBOLS | 09-15-20 |
| LAYOUT AND MATERIALS PLANS | | |
| L100 | LAYOUT AND MATERIALS PLAN - OVERALL | 09-15-20 |
| PLANTING PLANS | | |
| L300 | PLANTING PLAN - OVERALL | 09-15-20 |
| SITE SECTIONS AND ELEVATIONS | | |
| L400 | SITE SECTIONS | 09-15-20 |
| L401 | SITE SECTIONS | 09-15-20 |
| SITE DETAILS | | |
| L500 | PLANTING DETAILS | 09-15-20 |
| L510 | PAVING AND CURBING DETAILS | 09-15-20 |
| L511 | PAVING AND CURBING DETAILS | 09-15-20 |


## LANDSCAPE ARCHITECTURAL LEGEND

- L.O.W — LIMIT OF WORK LINE
- LXXX — MATCHLINE
- BUILDING EGRESS
- BUILDING
- TURF
- CONCRETE PAVEMENT - STANDARD
- CONCRETE PAVEMENT - INTEGRAL COLORED
- LIGHT POLE (EXISTING)
- SHRUB
- PROPOSED CANOPY TREE — *INDICATES ESTIMATED ROOTBALL SIZE*
- CONCRETE JOINT
- XXX — EXISTING CONTOUR
- XXX — PROPOSED CONTOUR
- (XX.XX) — EXISTING SPOT ELEVATION. VIF
- XX.XX — PROPOSED SPOT ELEVATION
- x:x — RATIO OF DOWN SLOPE (HORIZ:VERT)
- x.x% — DIRECTION AND PERCENTAGE OF DOWN SLOPE
- GRADE BREAK

## LANDSCAPE ARCHITECTURAL SYMBOLS

DETAIL KEY — 0 / L000 — DETAIL NO. / SHEET NO.

ELEVATION KEY — 0 / L000

SECTION KEY - 1 — 0 / L000

SECTION KEY - 2 — SHEET NO. / DETAIL NO.

MATERIAL KEY — XX

NOTE KEY — XX

SET ELEMENTS PARALLEL

ALIGN ELEMENTS

PLANTING KEY — X / X — X = QUANTITY; X = KEY (REFER TO PLANT LIST)


**MASS GENERAL BRIGHAM**

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| △ | Date | Description | Drwn by | Chkd by |
|---|---|---|---|---|
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| | 08/07/20 | UPDATE PROGRESS DESIGN DEVELOPMENT | NB | ID |
| | 09/22/20 | PLANNING BOARD SUBMISSION | NB | ID |

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**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

NOTES SYMBOLS AND ABBREVIATIONS PERMIT

Scale

# L000

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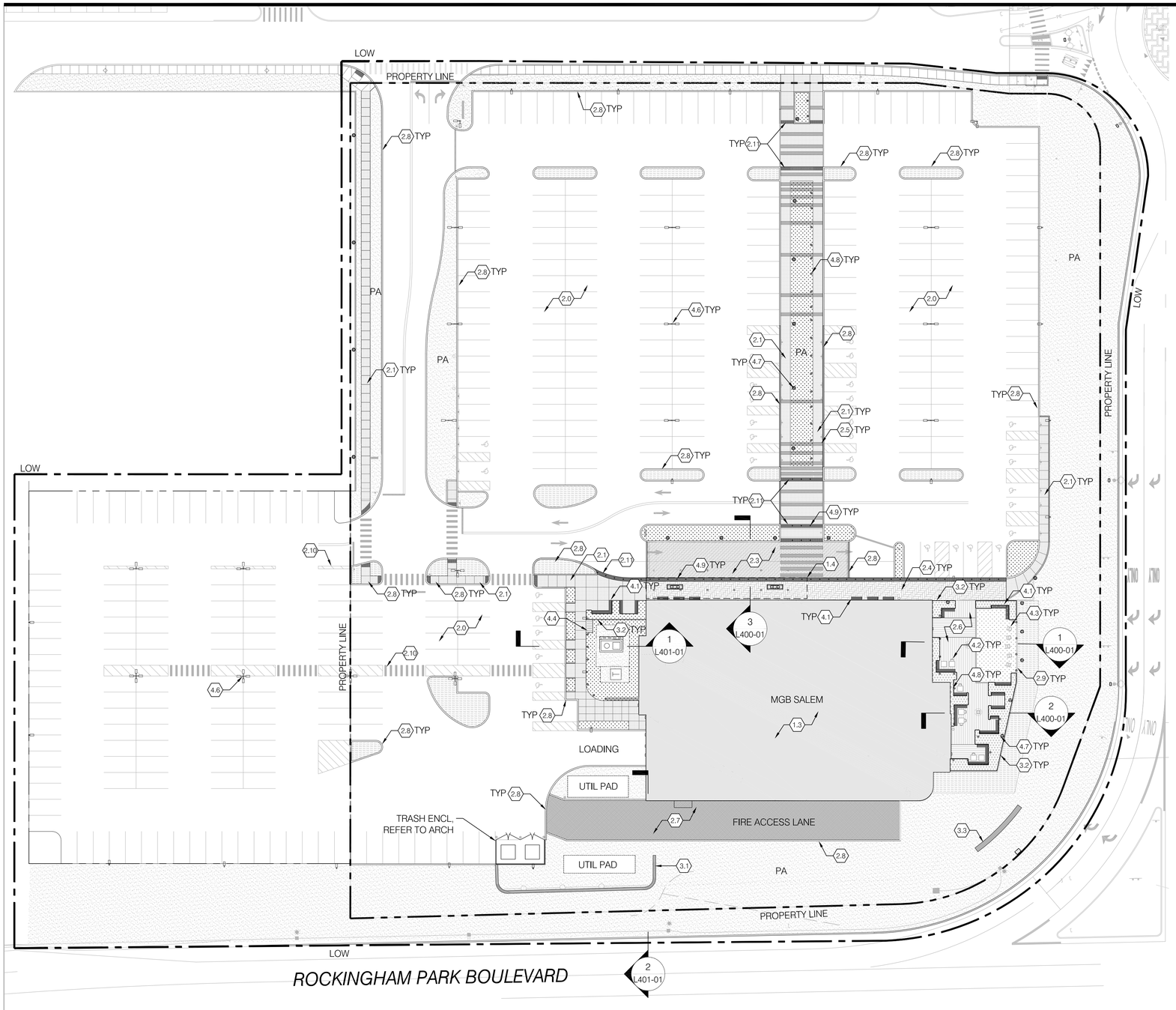


## LAYOUT AND MATERIALS PLAN KEY

### 1.0 EXISTING/ PROPOSED SITE CONDITIONS BY OTHERS

- 1.1 EXISITNG CURB TO REMAIN AND BE PROTECTED
- 1.2 EXISTING PAVING TO BE PROTECTED, REFER TO SURVEY FOR TYPE
- 1.3 PROPOSED BUILDING
- 1.4 PROPOSED ARCHITECTURAL CANOPY AND COLUMNS

### 2.0 PAVEMENT, RAMPS, AND CURBS

| | | |
|---|---|---|
| 2.0 | BITUMINOUS CONCRETE PAVEMENT | REFER TO CIVIL |
| 2.1 | CONCRETE PAVEMENT | 1/L510 |
| 2.3 | CONC PAVERS (VEHICULAR) | 3/L510 |
| 2.4 | CONC PAVER (PEDESTRIAN) | 4/L510 |
| 2.5 | STONE ACCENT BANDING | -- |
| 2.6 | WOOD DECK | 4/L511 |
| 2.7 | REINFORCED TURF LANE | REFER TO CIVIL |
| 2.8 | CURB TYPE 1 - GRANITE CURB (VEHICULAR) | 1/L511 |
| | RAISED CURB | |
| | FLUSH CURB | |
| 2.9 | CURB TYPE 2 - PLANTING | 2/L511 |
| 2.10 | PAVEMENT MARKINGS | REFER TO CIVIL |
| 2.11 | STONE DETECTABLE TILE | 7/L510 |

### 3.0 SITE ELEMENTS

| | | |
|---|---|---|
| 3.1 | SITE RETAINING WALL W/ GUARDRAIL | REFER TO CIVIL |
| 3.2 | METAL PLANTER WALL (RAISED) | -- |
| 3.3 | MONOLITHIC SITE SIGN | REFER TO CIVIL |

### 4.0 SITE FURNISHINGS, RAILINGS, AND FENCES

| | | |
|---|---|---|
| 4.1 | BENCH | -- |
| 4.2 | TABLE & CHAIRS | -- |
| 4.3 | MOVEABLE FURNISHINGS | -- |
| 4.4 | BIKE RACK | -- |
| 4.5 | TRASH RECEPTACLES | -- |
| 4.6 | POLE LIGHT (PARKING) | REFER TO LIGHTING |
| 4.7 | POLE LIGHT (PEDESTRIAN) | REFER TO LIGHTING |
| 4.8 | BOLLARD LIGHT (PEDESTRIAN) | REFER TO LIGHTING |
| 4.9 | BOLLARD LIGHT (SECURITY) | REFER TO LIGHTING |

### 5.0 DRAINAGE

REFER TO GRADING PLANS L200

### 6.0 PLANTING

REFER TO PLANTING PLANS L300-L301

## LAYOUT AND MATERIALS NOTES

1. REFER TO L000 FOR ADDITIONAL GENERAL & LAYOUT NOTES.

## PAVEMENT AND CURBING LEGEND

| KEY | MATERIAL |
|---|---|
| | STANDARD CONCRETE |
| | INTEGRALLY COLORED CONCRETE |
| | PAVER TYPE 1 - CONCRETE PEDESTRIAN |
| | PAVER TYPE 2 - CONCRETE VEHICLUAR |
| | PAVER TYPE 3 - PERMEABLE VEHICULAR |
| | WOOD DECK |
| | DETECTABLE TILE |

0 30' 60'

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| 10/16/20 | PLANNING BOARD COMMENT REVISIONS | NB | ID |

Seal / Signature

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Project Name
MGB - SALEM, NH

Project Number
11.7528.000

Description
LAYOUT AND MATERIALS PLAN (PERMIT)

Scale
1" = 30'-0"

# L100

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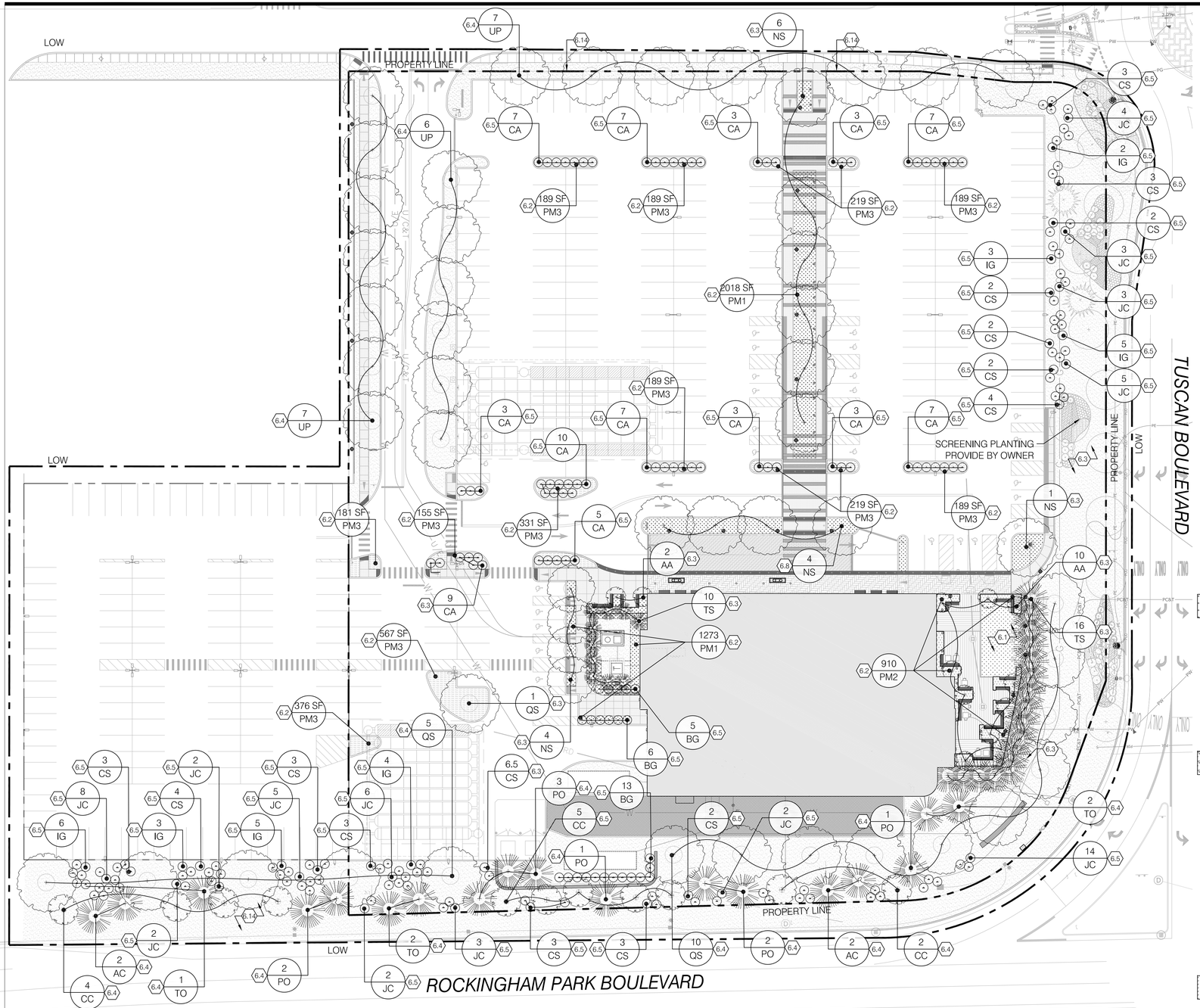


| TREES / SHRUBS | | | | | | |
|---|---|---|---|---|---|---|
| KEY | PLANT TYPE | COMMON NAME | QTY | ROOT | SIZE | NOTES |
| AA | *Amelanchier arborea* | Serviceberry | 12 | B+B | 8'-0" HT | Multi-stem |
| AC | *Abies concolor* | White fir | 5 | B+B | 7'-0" HT | |
| BG | *Buxus 'Green Mountain'* | Green Mountain boxwood | 24 | B+B | 2'-6" HT | |
| CA | Clethra alnifolia 'hummingbird' | Dwarf Clethra | 74 | B+B | 18" HT | |
| CC | *Cercis canadensis* | Eastern redbud | 11 | B+B | 8'-0" HT | Multi-stem |
| CS | *Cornus servicea 'Flamiramea'* | Yellow-twig dogwood | 37 | B+B | 5'-0" HT | |
| IG | *Ilex glabra 'Densa'* | Inkberry | 28 | B+B | 2'-6" HT | |
| JC | *Juniperus chinensis 'Seagreen'* | Seagreen juniper | 59 | B+B | 2'-6" HT | |
| NS | *Nyssa sylvatica* | Black tupelo | 15 | B+B | 3.5" CAL | |
| PO | *Picea omorika* | Norway spruce | 10 | B+B | 7'-0" HT | |
| QS | *Quercus shumardii* | Shumard oak | 16 | B+B | 3.5" CAL | |
| TO | *Thuja occidentalis* | Arborvitae | 5 | B+B | 7'-0" HT | |
| TS | Thuja occidentalis 'Smaragd' | Emerald Arborviae | 26 | B+B | 10'-0" HT | |
| UP | *Ulmus parvifolia* | Lacebark elm | 20 | B+B | 3" CAL | |

| PERENNIALS/ GROUNDCOVER | | | | | | |
|---|---|---|---|---|---|---|
| KEY | PLANT TYPE | COMMON NAME | QTY | ROOT | SIZE | NOTES |
| PM1 | PERENNIAL MIX 1 | | | | | |
| | *Allium sphaerocephalon* | Drumstick allium | 20% | BULBS | | PLANT 12" OC |
| | *Sporobolus heterolepis* | Prairie dropseed | 25% | GALLON | #1 | PLANT 12" OC |
| | *Pennisetum alopecuroides* | Fountain grass | 30% | GALLON | #1 | PLANT 12" OC |
| | *Perovskia atriplicifolia 'Blue Jean Baby'* | Russian sage | 25% | GALLON | #2 | PLANT 24" OC |
| PM 2 | PERENNIAL MIX 2 | | | | | |
| | *Camassia quamash* | Camas | 15% | BULBS | | PLANT 6" OC |
| | *Echinacea purpurea* | Purple coneflower | 15% | GALLON | #2 | PLANT 18" OC |
| | *Perovskia atriplicifolia 'Blue Jean Baby'* | Russian sage | 15% | GALLON | #2 | PLANT 24" OC |
| | *Pennisetum alopecuroides* | Fountain grass | 20% | GALLON | #1 | PLANT 12" OC |
| | *Perovskia atriplicifolia 'Blue Jean Baby'* | Russian sage | 15% | GALLON | #2 | PLANT 24" OC |
| | *Lavendula angustifolia* | English lavender | 20% | GALLON | #2 | PLANT 24" OC |
| PM 3 | PERENNIAL MIX 3 | | | | | |
| | *Pennisetum alopecuroides 'Little Bunny'Carex pennsylvanica* | Little Bunny Dwarf Fountain Grass | 50% | GALLON | #1 | PLANT 18" OC |
| | *Vinca minor* | Dwarf Periwinkle | 50% | GALLON | #1 | PLANT 12" OC |

PLANTING PLAN KEY

1.0 EXISTING PROPOSED CONDITIONS

REFER TO LAYOUT AND MATERIALS PLAN L100-L102

2.0 SURFACES, EDGING, AND CURBS

REFER TO LAYOUT AND MATERIALS PLAN L100-L102

3.0 SITE ELEMENTS

REFER TO LAYOUT AND MATERIALS PLAN L100-L102

4.0 SITE FURNISHINGS

REFER TO LAYOUT AND MATERIALS PLAN L100-L102

5.0 DRAINAGE

REFER TO GRADING PLANS L200&L201

6.0 PLANTING

| | | |
|---|---|---|
| 6.1 | SOIL PROFILE 1 - SOD | 1/L500 |
| 6.2 | SOIL PROFILE 2 - PLANTBED | 2/L500 |
| 6.3 | TREE TYPE 1 - AT PLANTBED | 7/L500 |
| 6.4 | TREE TYPE 2 - AT LAWN | 8/L500 |
| 6.5 | SHRUB PLANTING | 5/L500 |
| 6.6 | LANDSCAPE EDGING | 6/L500 |
| 6.7 | REINFORCED TURF | 5/L510 |
| 6.8 | ECO-TURF (SEEDED) | -- |

PLANTING PLAN NOTES

1. REFER TO SHEET L000 FOR ADDITIONAL PLANTING NOTES.
2. PLANT QUANTITIES LISTED IN PLANTING SCHEDULE INDICATE COMBINED TOTAL FOR ALL PLANTING AREAS SHOWN ON SHEETS L300-L302 REFER TO SPECIFICATIONS FOR SOIL MIX AND SOIL PREPARATION INSTRUCTIONS.
3. ANY ALTERNATE PLANTS SHALL BE SUBMITTED FOR APPROVAL BY LA.
4. ALL PLANTING AREAS TO CONTAIN IRRIGATION, DESIGN AND INSTALLATION BY CONTRACTOR. REFER TO L000 FOR IRRIGATION NOTES.

PROPOSED TREES AND SHRUBS

- TREE TYPE 1 - CANOPY
- TREE TYPE 2 - EVERGREEN
- TREE TYPE 3 - FASTIGIATE
- TREE TYPE 4 - UNDERSTORY
- SHRUB

0 30' 60'

# MASS GENERAL BRIGHAM

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Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

PLANTING PLAN (OVERALL) (PERMIT)

Scale

1" = 30'-0"

# L300

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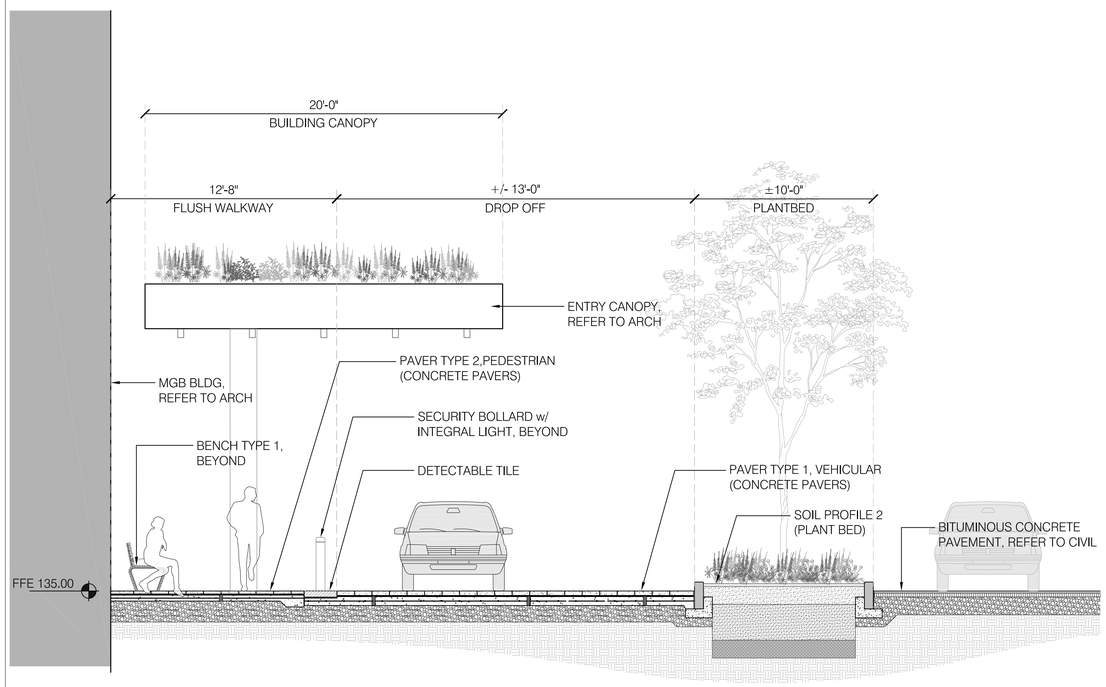
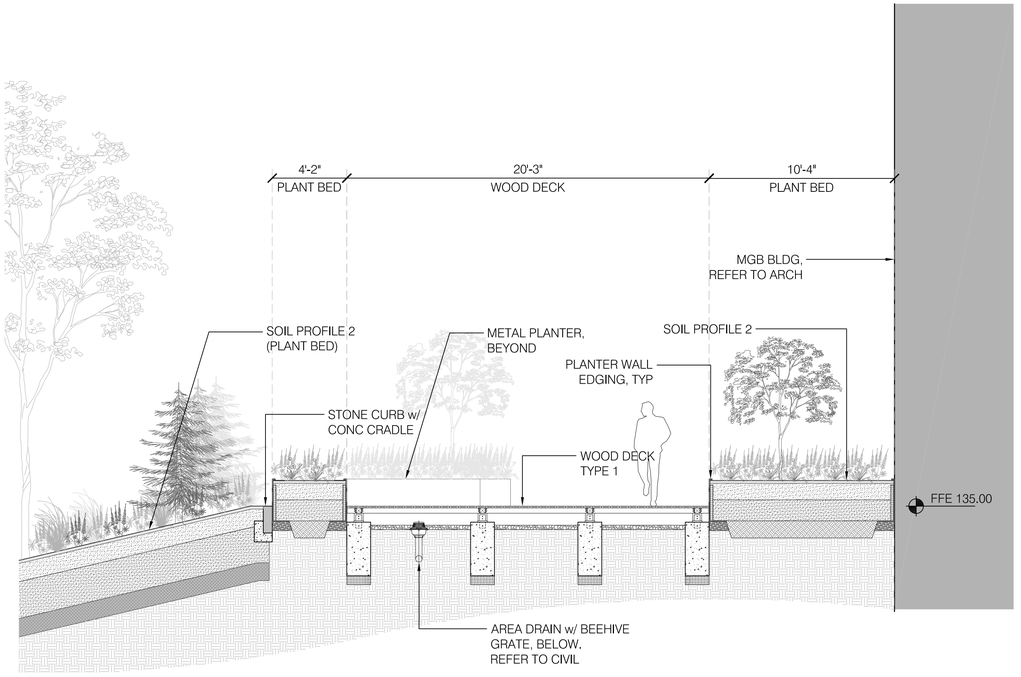


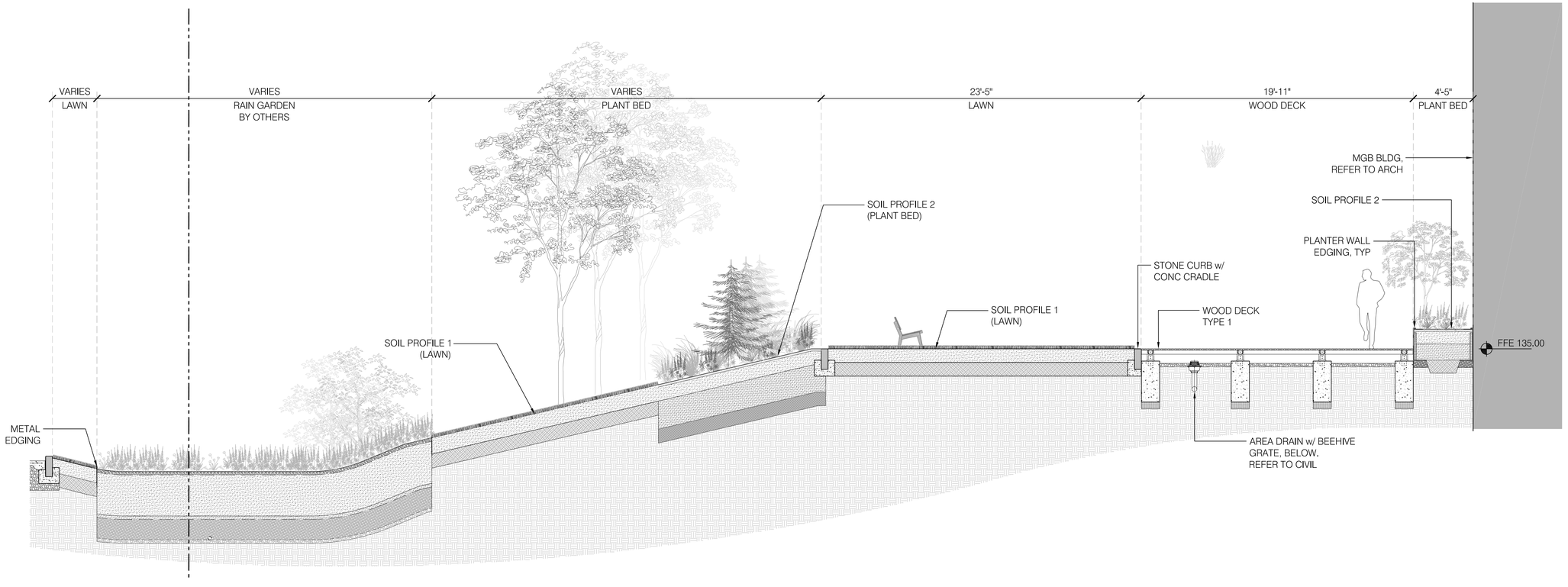

3 DROP OFF ZONE SECTION
1/4" = 1'-0"

SECTION




2 EAST TERRACE SECTION 02
1/4" = 1'-0"

SECTION




1 EAST TERRACE SECTION 01
1/4" = 1'-0"

SECTION

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**Project Name**
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**Project Number**
11.7528.000

**Description**
SITE SECTIONS
PERMIT

**Scale**

# L400

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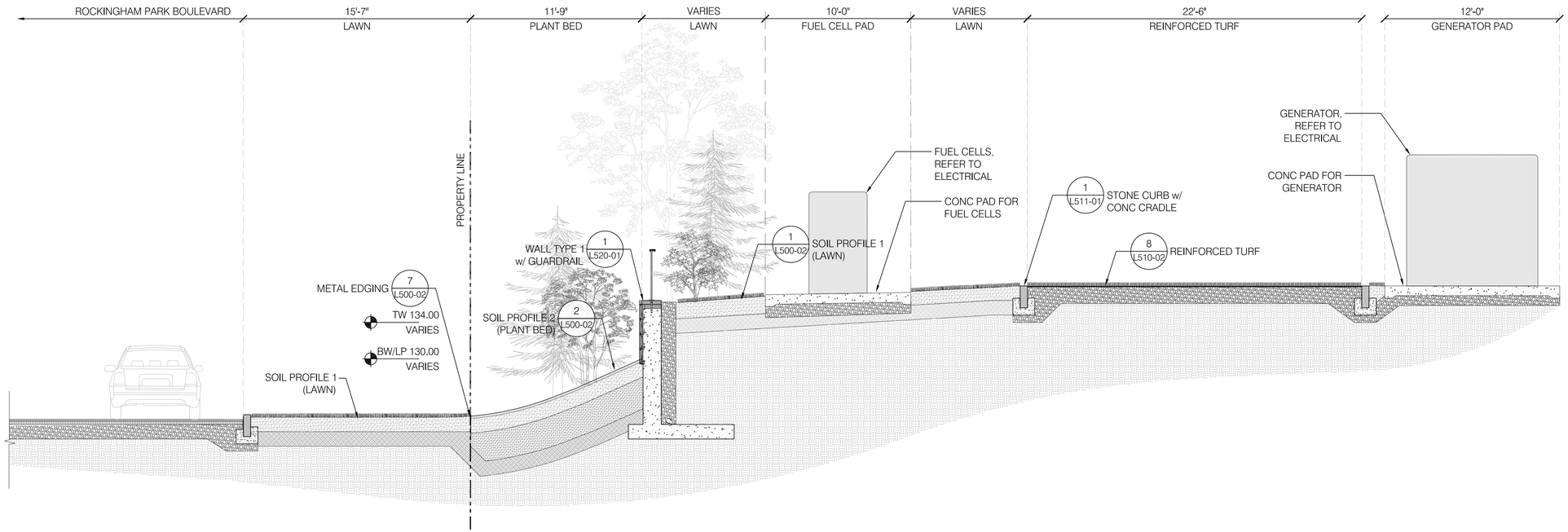
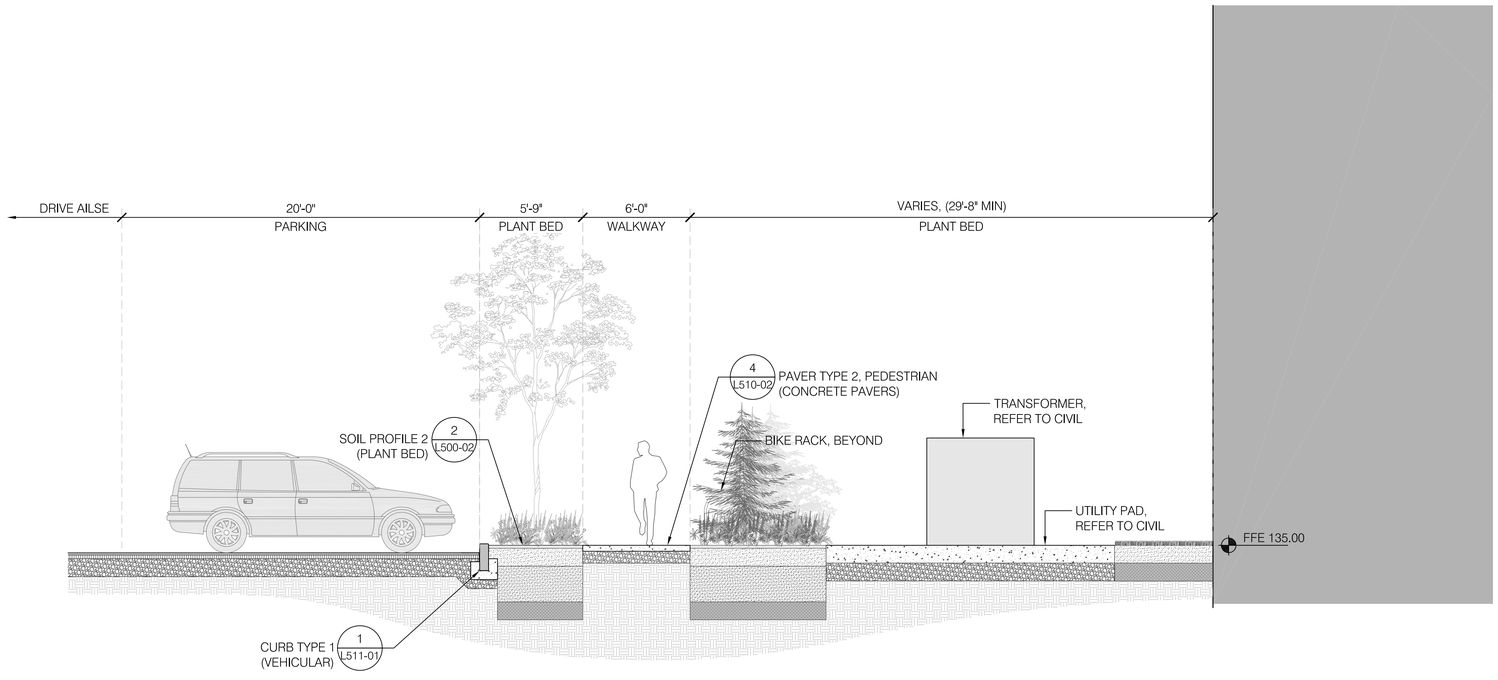



2 FEUL CELL AND GENERATOR
1/4" = 1'-0"

SECTION




1 WEST TERRACE SECTION
1/4" = 1'-0"

SECTION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Project Name

MGB - SALEM, NH

Project Number

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Description

SITE SECTIONS
PERMIT

Scale

# L401

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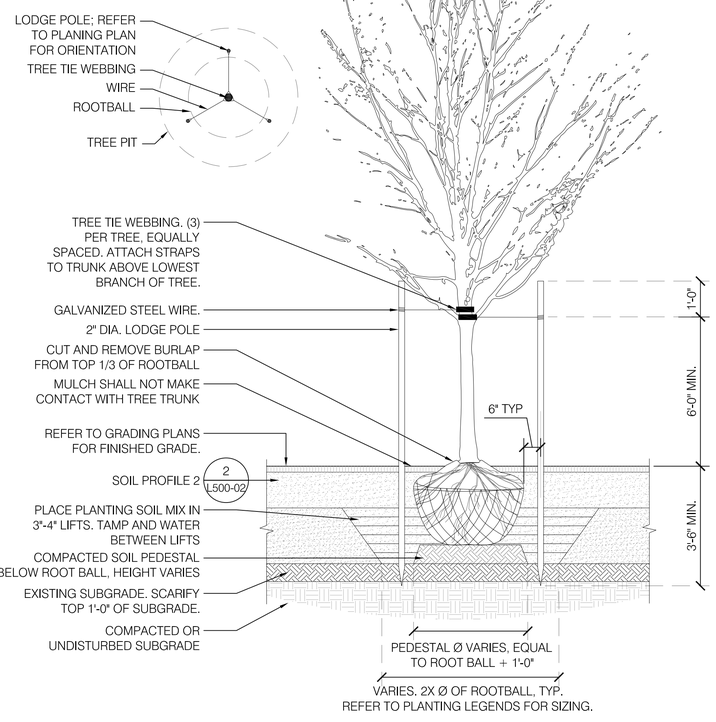
NOTE :

1. ORIENT TREE TO HAVE SIMILAR SOLAR ASPECT AS NURDERY OR AS DIRECTED BY LANDSCAPE ARCHITECT. TAGS ARE TO BE PLACED ON THE NORTH SIDE AT NURSERY.
2. DO NOT PRUNE OR THIN CANOPY UNLESS DIRECTED TO DO SO BY LA.
3. CONTRACTOR SHALL REMOVE EXCESS FILL FROM TOP OF TRUNK. SET ROOT FLARE 2" HIGHER THAN FINISHED GRADE. REMOVE ROPE FROM CROWN TO PREVENT GIRDLING.
4. PRIOR TO STAKING, REVIEW EXTENT OF LIMBING UP WITH LA.
5. TREE STAKING MAY BE OMITTED IF ROOTBALL AND CANOPY PROVIDE A STABLE GROWING CONDITION. CONDITION TO BE REVIEWED BY LA AND CONTRACTOR.
6. MOUNDING AROUND TREES WILL NOT BE ACCEPTABLE.
7. REFER TO LAYOUT AND MATERIALS PLAN FOR SPECIFIC TREE STAKING ORIENTATION.
8. PEDESTAL HEIGHT SHALL ACCOMMODATE ROOT BALL SET FLUSH TO FINISH GRADE. REFER TO PLANTING SCHEDULE FOR TREE SIZING.

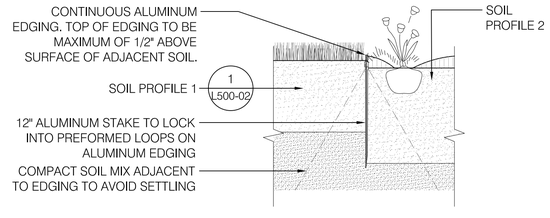
TREE STAKING PLAN




7 TREE TYPE 1 — SECTION
1/2" = 1'-0"

NOTE :

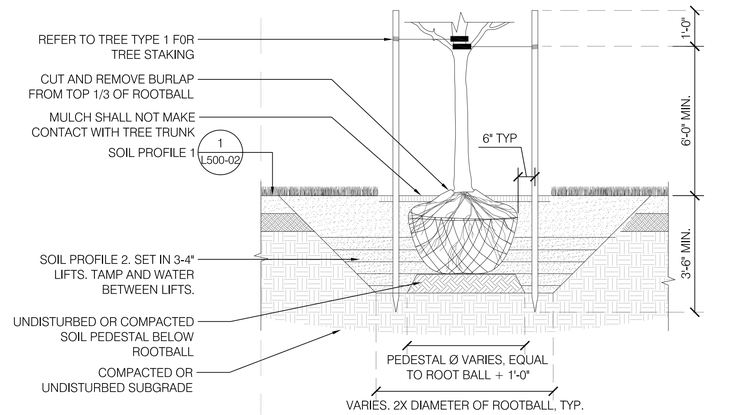
1. REFER TO PLANTING PLANS FOR LOCATION OF LANDSCAPE EDGING.
2. REFER TO GRADING PLANS FOR FINISH GRADE ELEVATIONS.
3. TOP OF EDGING TO BE A 1/4 INCH ABOVE SURFACE MATERIAL.
4. ADJUST STAKE TO 18 INCH OR 24 INCH IF NEEDED.




6 LANDSCAPE EDGEING — SECTION
1" = 1'-0"

NOTE :

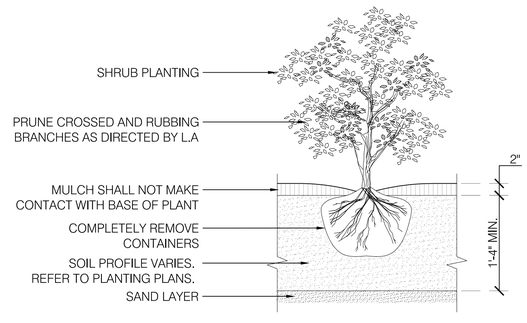
1. PEDESTAL HEIGHT SHALL ACCOMMODATE ROOT BALL SET FLUSH TO FINISH GRADE. REFER TO PLANTING SCHEDULE FOR TREE SIZING.




8 TREE TYPE 2 — SECTION
1/2" = 1'-0"

NOTE :

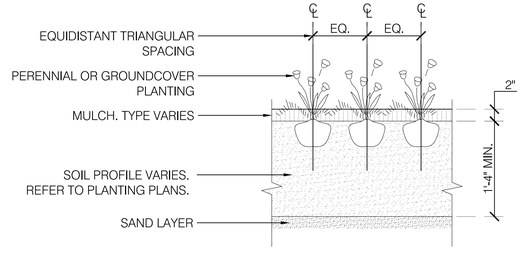
1. REFER TO SPECIFICATION FOR PLANTING SOIL MIXES.
2. REFER TO PLANTING PLAN AND SCHEDULE FOR SPECIES, SIZE AND SPACING DIMS.
3. PROVIDE 1'-4" MIN SOIL DEPTH AT SHRUBS.




5 SHRUB PLANTING — SECTION
1" = 1'-0"

NOTE :

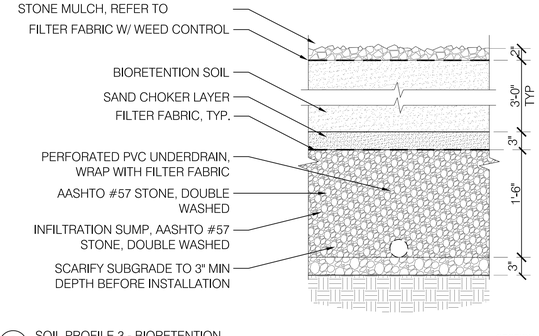
1. REFER TO SPECIFICATION FOR PLANTING SOIL MIXES.
2. REFER TO PLANTING PLAN AND SCHEDULE FOR SPECIES, SIZE AND SPACING DIMS.
3. ROOTS OF CONTAINER PLANTS SHALL BE LOOSENED PRIOR TO PLACEMENT IN SOIL




4 PERENNIAL PLANTING — SECTION
1" = 1'-0"

NOTE :

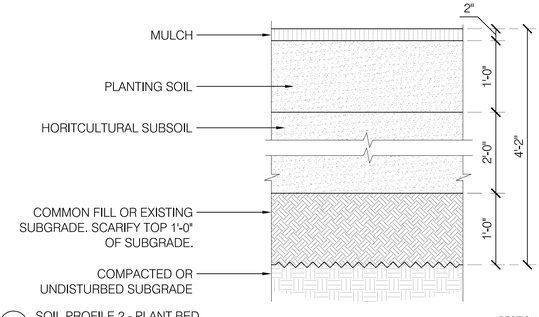
1. REFER TO SPECIFICATION FOR PLANTING SOIL MIXES.
2. REFER TO GRADING PLANS FOR FINISH GRADE ELEVATIONS.




3 SOIL PROFILE 3 - BIORETENTION — SECTION
1" = 1'-0"

NOTE :

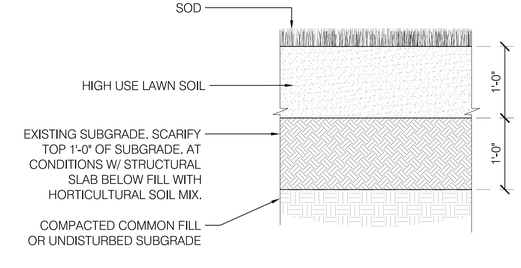
1. REFER TO SPECIFICATION FOR PLANTING SOIL MIXES.
2. REFER TO GRADING PLANS FOR FINISH GRADE ELEVATIONS.
3. PLANTING SOIL SHALL BE COMPACTED TO 85% PROCTOR WITH A FLUSH CONDITION ADJACENT TO CONCRETE. SOIL SETTLEMENT IS NOT ACCEPTABLE.




2 SOIL PROFILE 2 - PLANT BED — SECTION
1" = 1'-0"

NOTE :

1. REFER TO SPECIFICATION FOR PLANTING SOIL MIXES.
2. REFER TO GRADING PLANS FOR FINISH GRADE ELEVATIONS.
3. PROVIDE FULL DEPTH 'HIGH USE LAWN SOIL' WHEN WHEN SOIL PROFILE < 1'-6"




1 SOIL PROFILE 1 - SOD — SECTION
1" = 1'-0"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**NOT FOR CONSTRUCTION**

Project Name
MGB - SALEM, NH

Project Number
11.7528.000

Description
PLANTING DETAILS
PERMIT

Scale
AS NOTED

# L500

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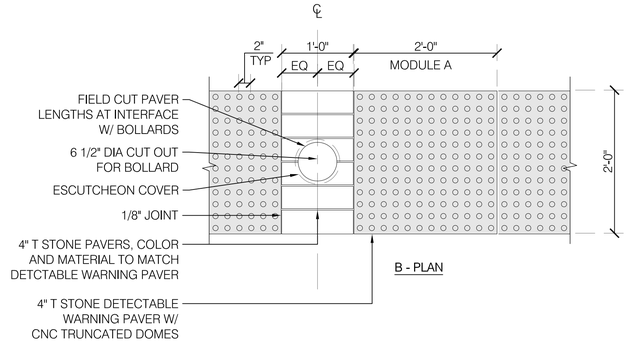
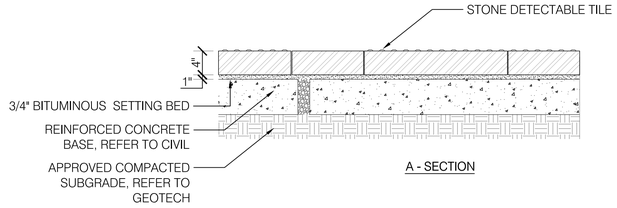
NOTES :

1. REFER TO LAYOUT PLAN FOR EXTENT OF DETECTABLE WARNING PAVER AT DROP-OFF. PROVIDE 2'-0" WIDE CUSTOM RADIAL PAVERS TO MATCH CURB LAYOUT AND RADII. ALL RADIAL PAVERS SHALL MAINTAIN TYPICAL TRUNCATED DOME SPACING.




B - PLAN

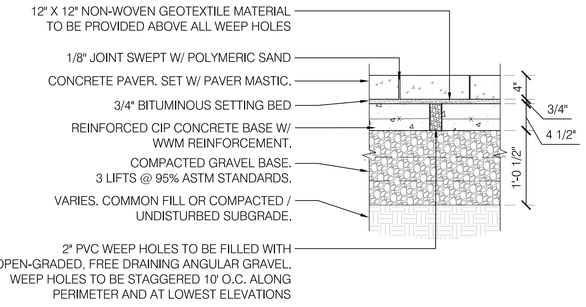



A - SECTION

7 PAVER - (DETECTABLE WARNING) SECTION
1" = 1'-0"

NOTE :

1. ALL PAVERS TO BE GAUGED AT FACTORY FOR 4" DEPTH.
2. REFER TO LAYOUT PLANS FOR PAVER SIZES AND LINEAR OR RADIAL SHAPE.




4 PAVER TYPE 2 - PEDESTRIAN SECTION
1" = 1'-0"

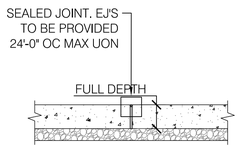
NOTE :

1. REFER TO SPECIFICATIONS FOR CONCRETE CURING METHOD, COLOR, AND FINISH.
2. REFER TO LAYOUT AND MATERIALS PLANS FOR STRUCTURAL SOIL LOCATIONS.
3. REFER TO PLANS FOR COLOR/MIX TYPE:
   CONCRETE PAVEMENT TYPE 1A: INTEGRALLY COLORED CONCRETE (2 COLORS)
   CONCRETE PAVEMENT TYPE 1B: STANDARD CONCRETE

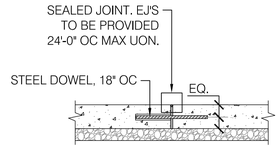
NOTE :

1. REFER TO LAYOUT AND MATERIALS PLANS FOR CONTROL JOINT (CJ) AND EXPANSION JOINT (EJ) LOCATIONS.
2. PROVIDE FULL DEPTH EJ AT ALL VERTICAL ELEMENTS AND MATERIAL TRANSITIONS.
3. SAWCUTS TO BE CONTINUOUS AND FREE OF ANY IRREGULARITIES. EXTENT OF SAWCUT SHALL MEET ALL PERPENDICULAR JOINTS, JOINTS WHICH FALL SHORT ARE NOT ACCEPTABLE.
4. TOOLED EDGES OF PAVEMENT AND JOINTS IN CONCRETE ARE UNACCEPTABLE. PROVIDE FINISH TO JOINT EDGE.

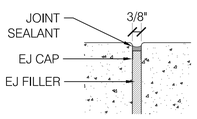
A - EXPANSION JOINT



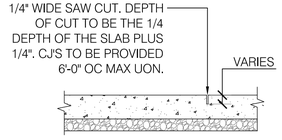

B - DOWELED EXPANSION JOINT




C - SEALED JOINT ENLARGEMENT



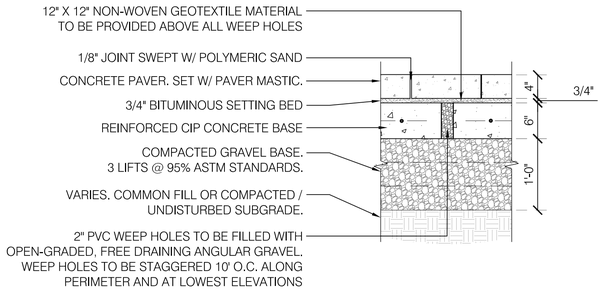

D - SAW CUT CONTROL JOINT




6 CONCRETE JOINTING SECTION
1" = 1'-0"

NOTE :

1. ALL PAVERS TO BE GAUGED AT FACTORY FOR 4" DEPTH.
2. REFER TO LAYOUT PLANS FOR PAVER SIZES AND LINEAR OR RADIAL SHAPE.

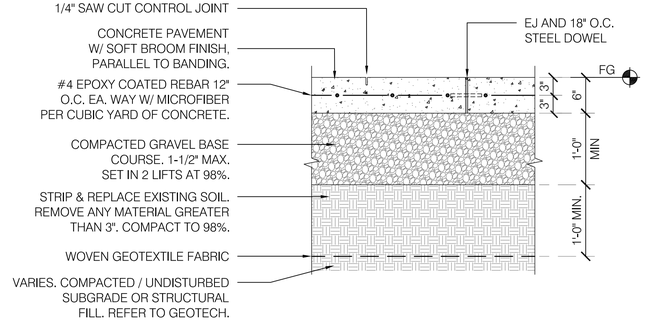



3 PAVER TYPE 1 - VEHICULAR SECTION
1" = 1'-0"

\# ########## ########## NOT USED

NOTE :

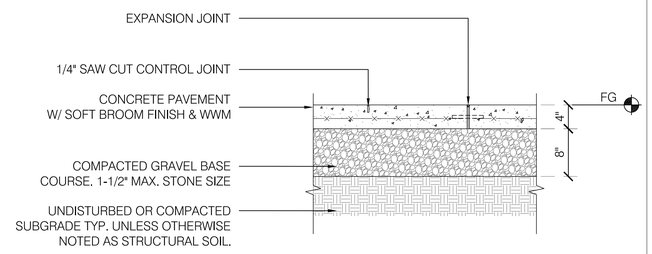
1. REFER TO SPECIFICATIONS FOR CONCRETE CURING METHOD, COLOR, AND FINISH.
2. PROVIDE EXPANSION JOINTS AT TRANSITIONS BETWEEN CONCRETE BANDS AND AT ALL VERTICAL ELEMENTS.
3. PROVIDE TOOLED JOINT ALONG MARGIN OF ALL SURFACE FLUSH STRUCTURES, SUCH AS MANHOLE VAULTS, AND DRAINS.
4. REFER TO PLANS FOR COLOR/MIX TYPE:
   CONCRETE PAVEMENT TYPE 1A: INTEGRALLY COLORED CONCRETE (2 COLORS)
   CONCRETE PAVEMENT TYPE 1B: STANDARD CONCRETE




2 CONCRETE PAVEMENT - TYPE 2 (VEHICULAR) SECTION
1" = 1'-0"

NOTE :

1. REFER TO SPECIFICATIONS FOR CONCRETE CURING METHOD, COLOR, AND FINISH.
2. REFER TO LAYOUT AND MATERIALS PLANS FOR STRUCTURAL SOIL LOCATIONS.
3. REFER TO PLANS FOR COLOR/MIX TYPE:
   CONCRETE PAVEMENT TYPE 1A: INTEGRALLY COLORED CONCRETE (2 COLORS)
   CONCRETE PAVEMENT TYPE 1B: STANDARD CONCRETE




1 CONCRETE PAVEMENT - TYPE 1 (PEDESTRIAN) SECTION
1" = 1'-0"


**MASS GENERAL BRIGHAM**

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119 Braintree Street, #103
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United States
Tel 617.782.9130


| △ Date | Description | Drwn by | Chkd by |
|---|---|---|---|
| 09/22/20 | PLANNING BOARD SUBMISSION | NB | ID |
| 10/16/20 | PLANNING BOARD COMMENT REVISIONS | NB | ID |

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name
MGB - SALEM, NH

Project Number
11.7528.000

Description
PAVING AND CURBING DETAILS PERMIT

Scale
1" = 1'-0"

# L510

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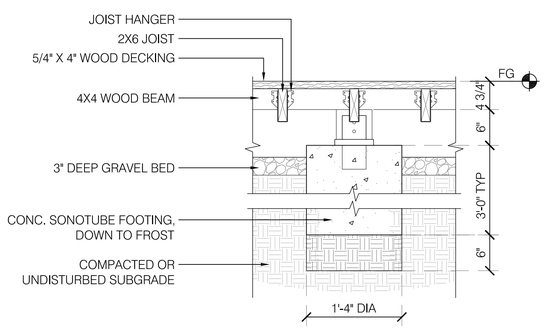
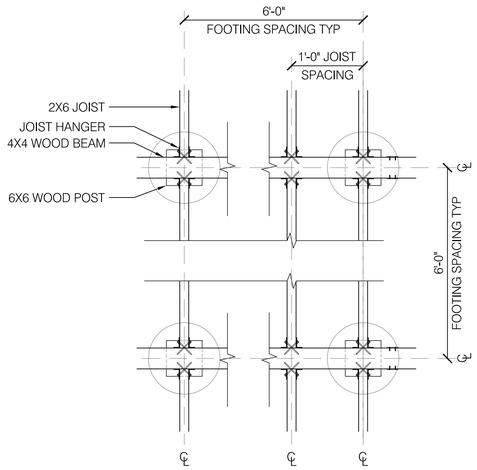
NOTE :

1. ALL CONNECTIONS TO BE FASTENED W/ SS HARDWARE.
2. WOOD TO BE TROPICAL HARDWOOD (IPE OR APPROVED OTHER, TBD).
3. INCLUDE REQUIRED FOUNDATIONS AND FOOTINGS.
4. PROVIDE GRANITE EDGING FULL PERIMETER OF WOOD DECK.




SECTION

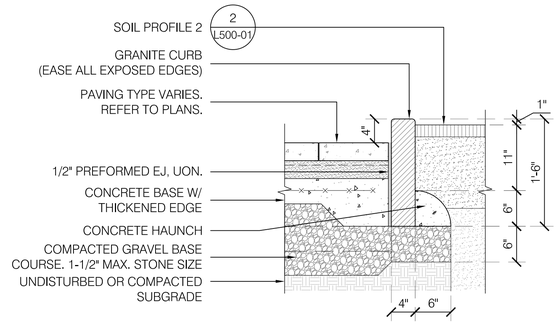



PLAN - FRAMING

4 WOOD DECK TYPE 1
1" = 1'-0"
SECTION

NOTE :

1. ALL JOINTS BETWEEN CURBING SECTIONS SHALL BE 1/4". FILL FULL WITH MORTAR.
2. ALIGN CURB JOINTS WITH ADJACENT PAVEMENT JOINTING.
3. REFER TO CURB SPECIFICATIONS FOR FINISH AND COLOR.

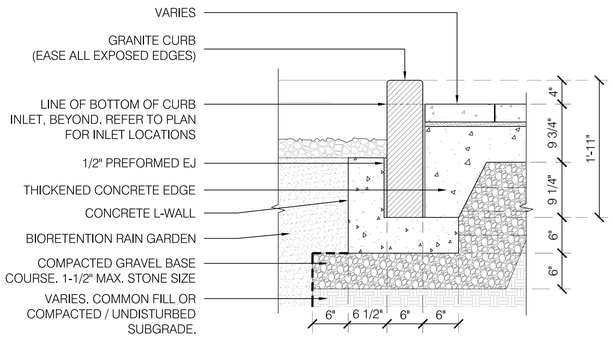



A- TYPICAL

3 CURB TYPE 3
1" = 1'-0"
SECTION

NOTE :

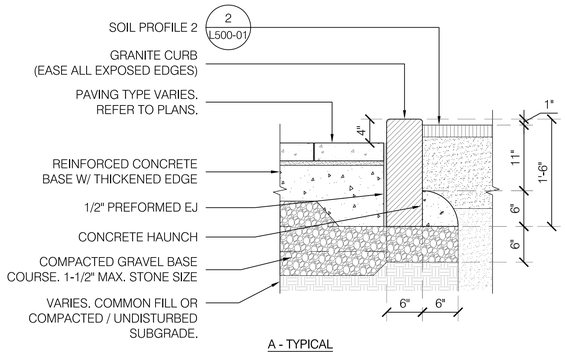
1. ALL JOINTS BETWEEN CURBING SECTIONS SHALL BE 1/4". FILL FULL WITH MORTAR.
2. ALIGN CURB JOINTS WITH ADJACENT PAVEMENT JOINTING.
3. REFER TO LAYOUT AND MATERIALS PLANS FOR INLET AND OUTLET LOCATIONS.
4. REFER TO CURB SPECIFICATIONS FOR FINISH AND COLOR.




2 CURB TYPE 2
1" = 1'-0"
SECTION

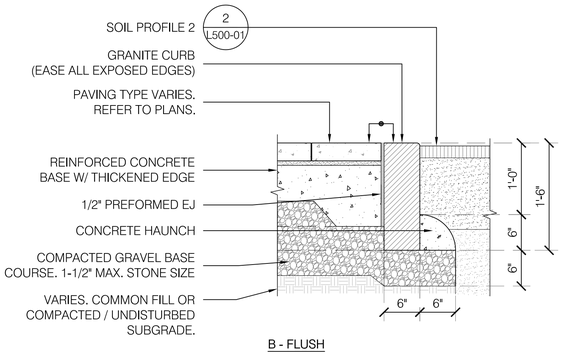
NOTE :

1. ALL JOINTS BETWEEN CURBING SECTIONS SHALL BE 1/4". FILL FULL WITH MORTAR.
2. ALIGN CURB JOINTS WITH ADJACENT PAVEMENT JOINTING.
3. REFER TO CURB SPECIFICATIONS FOR FINISH AND COLOR.




A - TYPICAL

1 CURB TYPE 1
1" = 1'-0"
SECTION




B - FLUSH


**MASS GENERAL BRIGHAM**

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Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

PAVING AND CURBING DETAILS PERMIT

Scale

1" = 1'-0"

# L511

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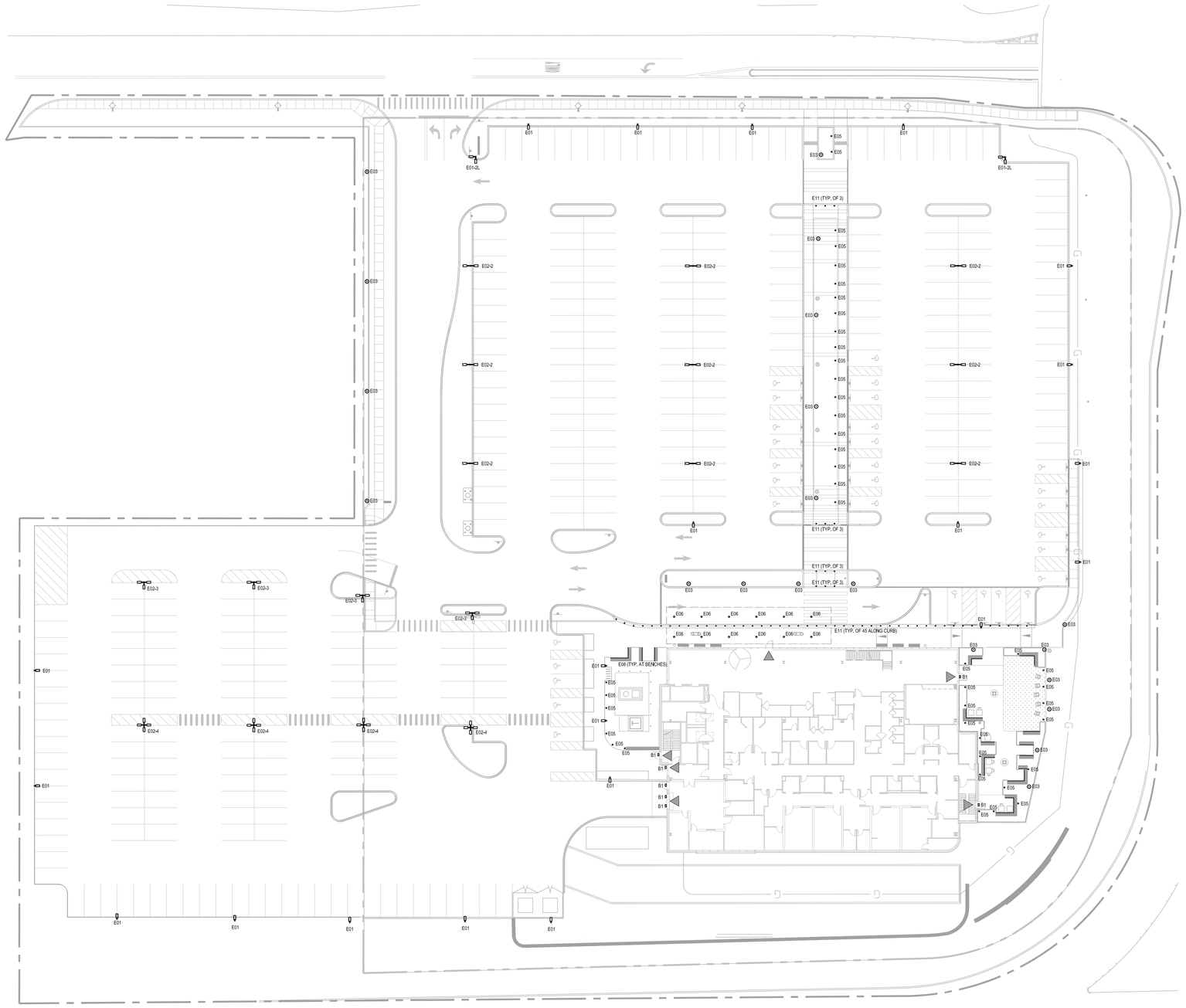


# MASS GENERAL BRIGHAM

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Boston, MA 02109
United States

Tel 617.864.2987


| △ | Date | Description | Drwn by | Chkd by |
|---|---|---|---|---|

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

SITE LIGHTING PLAN

Scale

**EL1.00-01**

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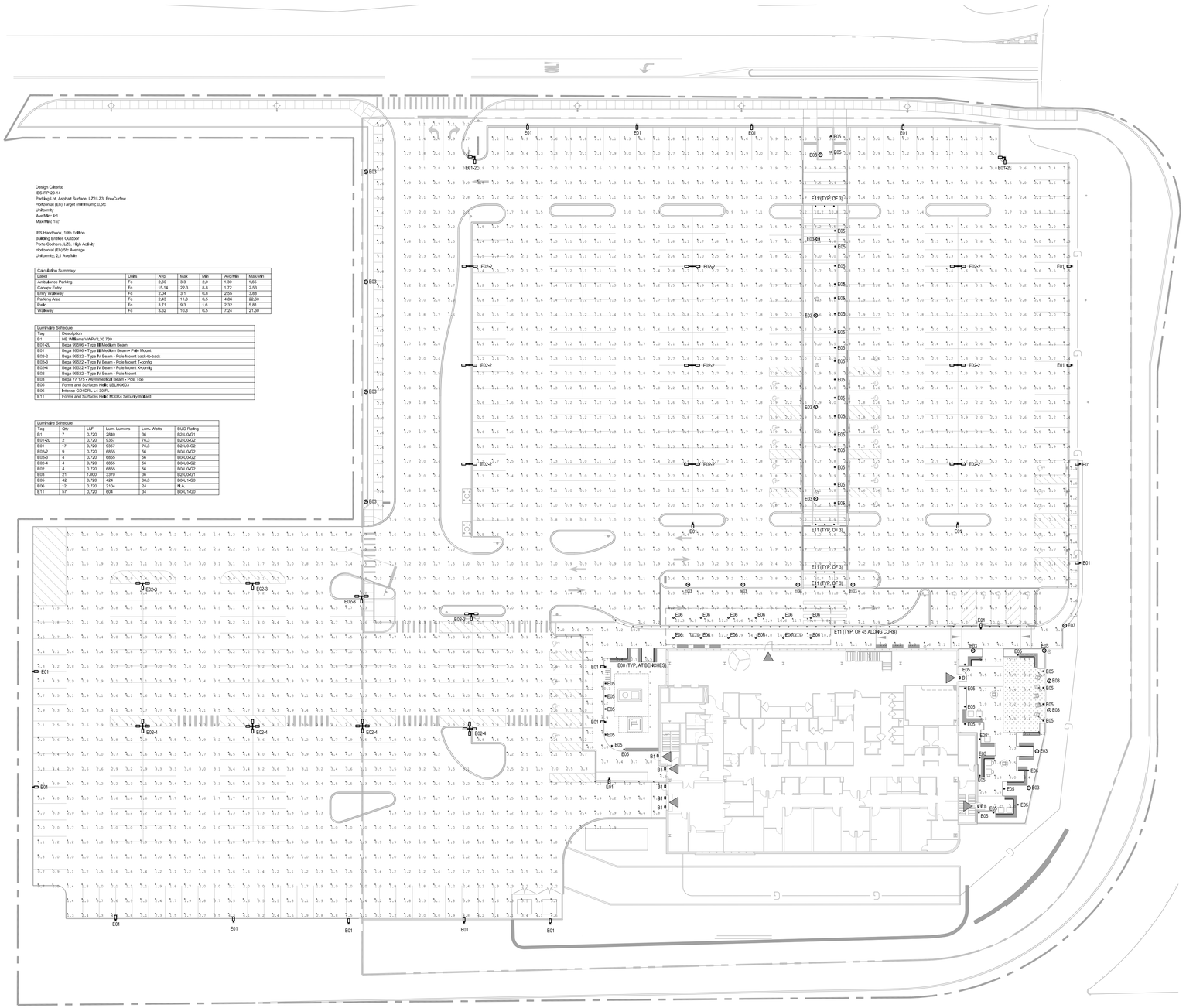
9/18/2020 3:21:39 PM BIM 360://Partners Ambulatory - Salem NH/PAC-SALEM-NH_MEPFP.rvt




| Calculation Summary | | | | | | |
|---|---|---|---|---|---|---|
| Label | Units | Avg | Max | Min | Avg/Min | Max/Min |
| Ambulance Parking | Fc | 2.60 | 3.3 | 2.0 | 1.30 | 1.65 |
| Canopy Entry | Fc | 15.14 | 22.3 | 8.8 | 1.72 | 2.53 |
| Entry Walkway | Fc | 2.24 | 3.1 | 0.8 | 2.80 | 3.88 |
| Parking Area | Fc | 2.43 | 11.3 | 0.5 | 4.86 | 22.60 |
| Patio | Fc | 3.71 | 9.3 | 1.6 | 2.32 | 5.81 |
| Walkway | Fc | 3.62 | 10.8 | 0.5 | 7.24 | 21.60 |

| Luminaire Schedule | |
|---|---|
| Tag | Description |
| B1 | HE Williams VWPV L30 730 |
| E01-2L | Bega 99596 – Type III Medium Beam |
| E01 | Bega 99596 – Type III Medium Beam – Pole Mount |
| E02-2 | Bega 99522 – Type IV Beam – Pole Mount backtoback |
| E02-3 | Bega 99522 – Type IV Beam – Pole Mount T-config |
| E02-4 | Bega 99522 – Type IV Beam – Pole Mount X-config |
| E02 | Bega 99522 – Type IV Beam – Pole Mount |
| E03 | Bega 77.175 – Asymmetrical Beam – Post Top |
| E05 | Forms and Surfaces Helio LBLHO603 |
| E06 | Intense GD4DRL L4 30 FL |
| E11 | Forms and Surfaces Helio M30K4 Security Bollard |

| Luminaire Schedule | | | | | | |
|---|---|---|---|---|---|---|
| Tag | Qty | LLF | Lum. Lumens | Lum. Watts | BUG Rating | |
| B1 | 7 | 0.720 | 2840 | 36 | B2-U0-G1 | |
| E01-2L | 2 | 0.720 | 9357 | 76.3 | B2-U0-G2 | |
| E01 | 17 | 0.720 | 9357 | 76.3 | B2-U0-G2 | |
| E02-2 | 9 | 0.720 | 6855 | 56 | B0-U0-G2 | |
| E02-3 | 4 | 0.720 | 6855 | 56 | B0-U0-G2 | |
| E02-4 | 4 | 0.720 | 6855 | 56 | B0-U0-G2 | |
| E02 | 4 | 0.720 | 6855 | 56 | B0-U0-G2 | |
| E03 | 21 | 1.000 | 3370 | 36 | B2-U0-G1 | |
| E05 | 42 | 0.720 | 424 | 35.3 | B0-U1-G0 | |
| E06 | 12 | 0.720 | 2104 | 24 | N.A. | |
| E11 | 57 | 0.720 | 604 | 34 | B0-U1-G0 | |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Tel 617.864.2987


| △ Date | Description | Drwn by | Chkd by |
|---|---|---|---|

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name
MGB - SALEM, NH

Project Number
11.7528.000

Description
SITE LIGHTING PHOTOMETRIC PLAN

Scale

**EL1.01-01**

9/18/2020 3:21:39 PM BIM 360://Partners Ambulatory - Salem NH/PAC-SALEM-NH_MEPFP.rvt

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Image:



## E01

### LED Area Light Pole Mounted

**Description**

LED Area Light Pole Mouned Type III Distribution at 20ft

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Asymmetrical flat beam
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 9,300 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 76 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 596
**Model Number:** 99 596 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 20ft above grade. Coordinate Pole height and footing.





Image:



## E02

### LED Area Light Pole Mounted

**Description**

LED Area Light Pole Mouned Type IV Distribution at 30ft

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H (each head)
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Asymmetrical
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 6,800 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 56 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimmable

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 522
**Model Number:** 99 522 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 30ft above grade. Coordinate Pole height and footing.





Image:



## E02-3

### LED Area Light Pole Mounted

**Description**

Same as E02, But Three Lights in "T" Configuration

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H (each head)
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Triple Asymmetrical
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 20,400 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 168 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 522
**Model Number:** 99 522 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 30ft above grade. Coordinate Pole height and footing.





Image:



## E01-2L

### LED Area Light Pole Mounted

**Description**

Same as E01, But Two Lights in L-Configuration

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H (each head)
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Twin Asymmetrical flat beam
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 18,700 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 153 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 479
**Model Number:** 99 479 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 20ft above grade. Coordinate Pole height and footing.





Image:



## E02-2

### LED Area Light Pole Mounted

**Description**

Same as E02, But Two Lights in Back-to-back Configuration

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H (each head)
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Twin Asymmetrical
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 13,700 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 112 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 522
**Model Number:** 99 522 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 30ft above grade. Coordinate Pole height and footing.





Image:



## E02-4

### LED Area Light Pole Mounted

**Description**

Same as E02, But Four Lights iat 90 Degrees Each

**Physical Requirements**

**Dimensions:** 13.5" W x 26" L x 3" H (each head)
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy
**Optic:** Quad Asymmetrical
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Parking and Drive Aisles

**Luminaire Performance Criteria**

**Lumen Output:** 27,200 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 224 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 99 522
**Model Number:** 99 522 + K3

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 30ft above grade. Coordinate Pole height and footing.



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ARUP

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United States

Tel 617.864.2987

| △ Date | Description | Drwn by | Chkd by |
|---|---|---|---|

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

SITE LIGHTING SCHEDULES AND DETAILS SHEET 1

Scale

**EL1.02-01**

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Image:



## E03

### LED Pedestrian Post Top

**Description**

LED Post Top with 360 distribution at 14ft

**Physical Requirements**

**Dimensions:** 7" D x 26" H
**Construction:** Die Cast Marine Grade - A360.0 Aluminum Alloy and Extruded Aluminum
**Optic:** Symmetrical
**Finish:** Per Architect
**Mounting:** Pole
**Listing:** UL Wet
**Location:** Pedestrian Walkways

**Luminaire Performance Criteria**

**Lumen Output:** 3,300 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 31 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** BEGA
**Model:** 77 175
**Model Number:** 77 175 + K3 - 97 4HR

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Mount Luminaire at 14ft above grade. Coordinate Pole height and footing.





Image:



## E06

### LED Exterior Canopy Downlight

**Description**

4"Gravity LED Lensed Downlight

**Physical Requirements**

**Dimensions:** 9" W x 12.5" L x 7.5" H
**Construction:** 16-18 Guage Heavy Duty Steel
**Optic:** 50 degree Wide Flood
**Finish:** Per Architect
**Mounting:** Ceiling, Recessed
**Listing:** UL Wet
**Location:** Entry Canopy

**Luminaire Performance Criteria**

**Lumen Output:** 2200 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 50,000 hr L70

**Electrical Requirements**

**Load:** 24 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** Intense Lighting
**Model:** GD4DR
**Model Number:** GD4DR-L4-30-D101-27-WF IRD402-HZ-SF-SL

**Alternates**

**Alternate 1:** Gotham
**Alternate 2:** Lightolier

**Notes:**

Coordinate Installation with Canopy.





Image:



## E11

### LED Security Bollard

**Description**

Security Bollard with Symmetric Distribution

**Physical Requirements**

**Dimensions:** 9.25" D x 40" H
**Construction:** Stainless Steel Column, Acrylic Lens, Stainless Steel Head Cap
**Optic:**
**Finish:** Per Architect
**Mounting:** In-grade
**Listing:** UL Wet
**Location:** Pedestrian Areas

**Luminaire Performance Criteria**

**Lumen Output:** 604 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 50,000 hr L70

**Electrical Requirements**

**Load:** 40 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** Forms and Surfaces
**Model:** HELO M30K4 Security Bollard
**Model Number:**

**Alternates**

**Alternate 1:** BEGA
**Alternate 2:** or Equal

**Notes:**

Coordinate with Landscape and Civil for security bollard installation.





Image:



## E05

### LED Pathway Bollard

**Description**

Pathway Bollard with Symmetric Distribution

**Physical Requirements**

**Dimensions:** 6" D x 40" H
**Construction:** Stainless Steel Column, Acrylic Lens, Stainless Steel Head Cap
**Optic:** Symmetrical
**Finish:** Per Architect
**Mounting:** In-grade
**Listing:** UL Wet
**Location:** Pedestrian Walkways

**Luminaire Performance Criteria**

**Lumen Output:** 424 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 50,000 hr L70

**Electrical Requirements**

**Load:** 40 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** Forms and Surfaces
**Model:** Helio Bollard
**Model Number:** LBLHO-603

**Alternates**

**Alternate 1:** Forms and Surfaces
**Alternate 2:** Selux

**Notes:**

Coordinate Bollard Footing with Landscape.





Image:



## E08

### LED Tape Accent

**Description**

LED Linear Strip Light

**Physical Requirements**

**Dimensions:** 0.48" W x 8' x 0.16" H
**Construction:** Aluminum
**Optic:** Linear
**Finish:** Per Architect
**Mounting:** Channel and clips
**Listing:** UL Wet
**Location:** Exterior Seating Areas

**Luminaire Performance Criteria**

**Lumen Output:** 255 lm/ft Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 60,000 hr L70

**Electrical Requirements**

**Load:** 3 W/ft
**Voltage:** Primary: 277V Secondary:
**Driver:** Remote
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** Targetti USA
**Model:** Duratape ES
**Model Number:** DL-ES-30-O-30-HC-24-DL-ALUM-U-8

**Alternates**

**Alternate 1:** LED Linear
**Alternate 2:** Q-Tran

**Notes:**

Coordinate with Bench detail. Provide NEMA 4X Enclosure for Remote Driver.





Image:



## B1

### LED Wallpack

**Description**

Wall Mounted Downlit LED

**Physical Requirements**

**Dimensions:** 7" W x 15" L x 9.5" H
**Construction:** Die Cast Aluminum
**Optic:**
**Finish:** Per Architect
**Mounting:** Wall, Surface
**Listing:** UL Wet
**Location:** Building Entry Locations

**Luminaire Performance Criteria**

**Lumen Output:** 6,000 lm Static White LED
**CCT:** 3000 K
**CRI:** 80+
**Life:** 50,000 hr L70

**Electrical Requirements**

**Load:** 36 W
**Voltage:** Primary: 277V Secondary:
**Driver:** Integral
**Control:** 0-10v Dimming

**Basis Of Design**

**Manufacturer:** HE Williams
**Model:**
**Model Number:** VWPV-XX/730-XX-DBZ-XX-DIM-UNV

**Alternates**

**Alternate 1:** Hubbell
**Alternate 2:** Lithonia

**Notes:**

Coordinate Installation with wall detail.



**MASS GENERAL BRIGHAM**

Mass General Brigham

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United States

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| △ Date | Description | Drwn by | Chkd by |
|---|---|---|---|

Seal / Signature

**NOT FOR CONSTRUCTION**

Project Name

MGB - SALEM, NH

Project Number

11.7528.000

Description

SITE LIGHTING SCHEDULES AND DETAILS SHEET 2

Scale

**EL1.03-01**

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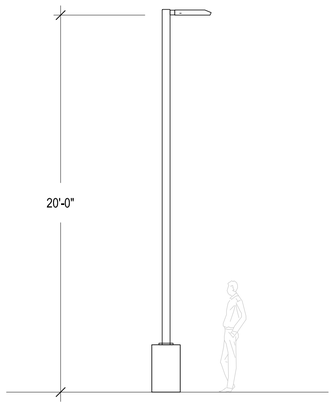
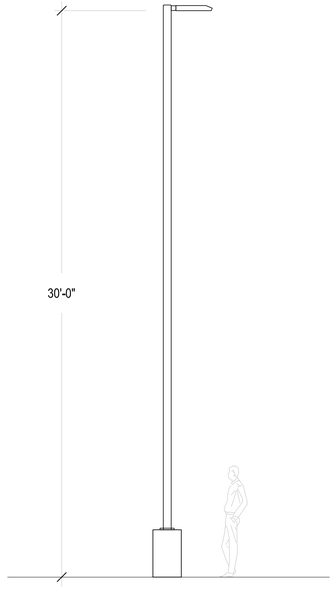
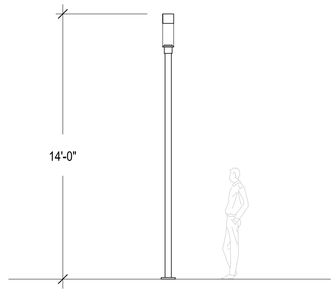



E01 POLE MOUNTED LUMINAIRE
SCALE: 1/4" = 1'-0"




E02 POLE MOUNTED LUMINAIRES
SCALE: 1/4" = 1'-0"

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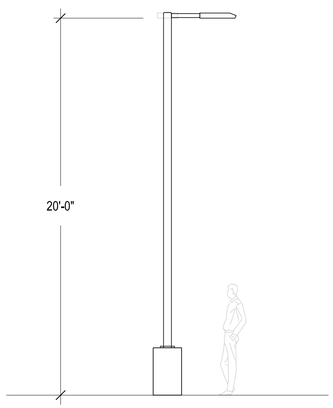


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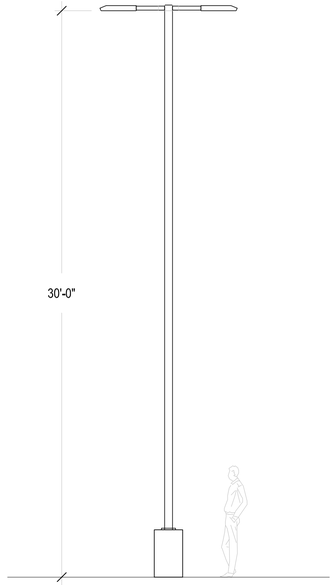
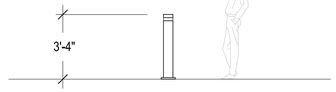
SCALE: 1/4" = 1'-0"




E02-2, E02-3, E02-4 POLE MOUNTED LUMINAIRES
SCALE: 1/4" = 1'-0"




E05/E11 BOLLARD LUMINAIRES
SCALE: 1/4" = 1'-0"

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Seal / Signature

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Project Number
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Description
SITE LIGHTING SCHEDULES AND DETAILS SHEET 3

Scale

**EL1.04-01**

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# SALEM - NORTH

# NORTH ELEVATION




4'-0" 16'-0"
8'-0"

# EAST ELEVATION



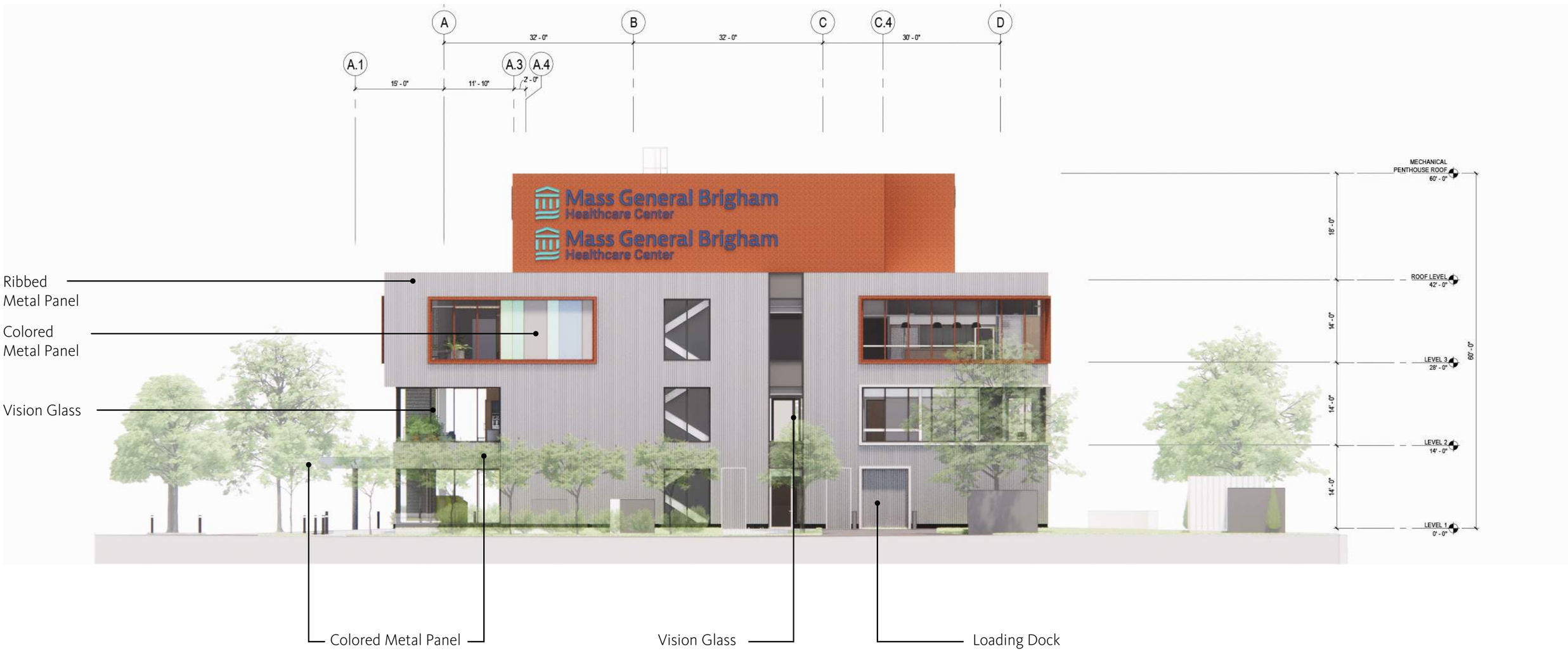

4'-0" 16'-0"
8'-0"

# SOUTH ELEVATION




4'-0" 16'-0"
8'-0"

# WEST ELEVATION




4'-0" 16'-0"
8'-0"