

# COMMERCIAL DEVELOPMENT

## "120 DERRY ROAD"

### TAX MAP 156, LOTS 15 & 16

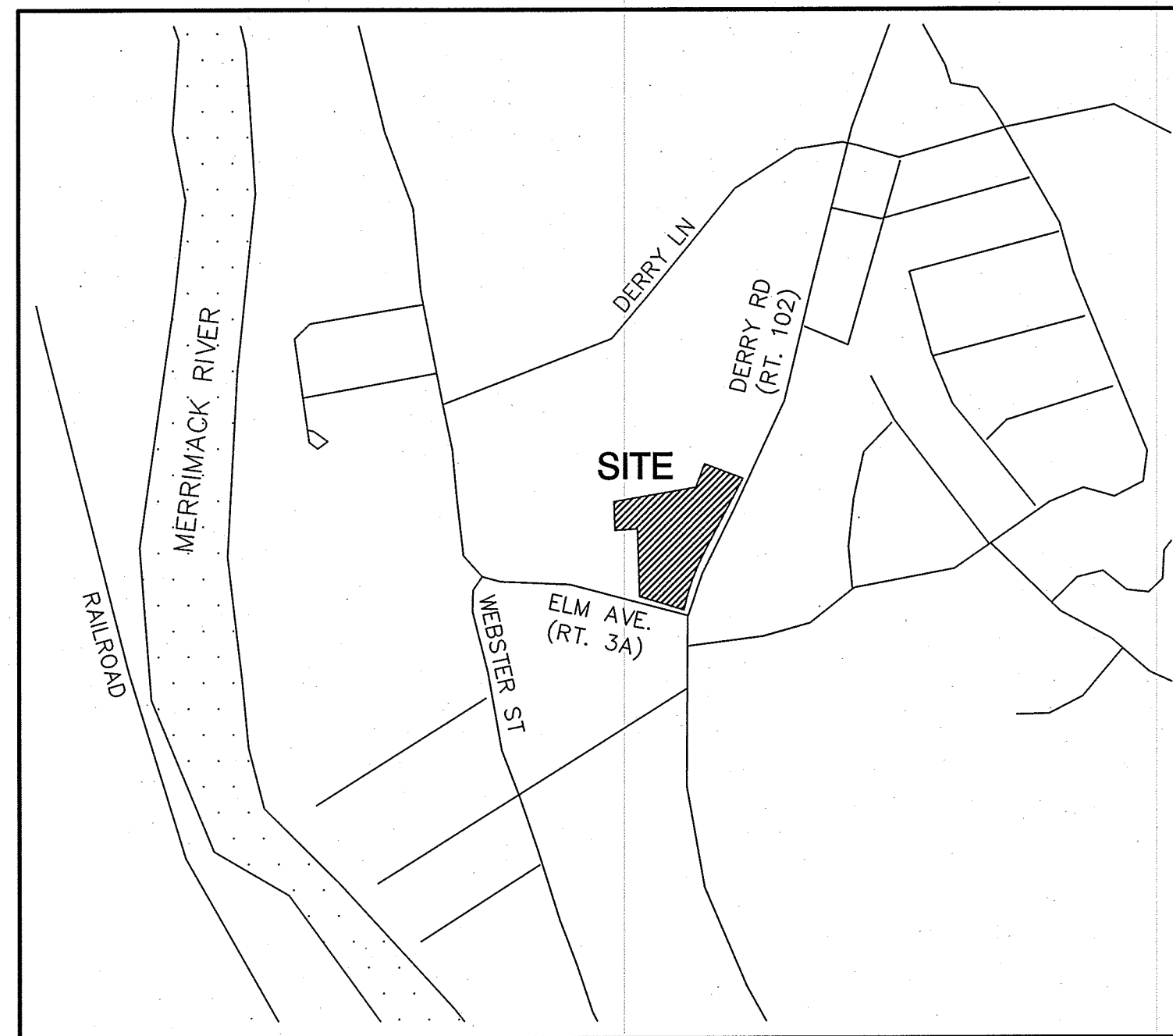
### DERRY ROAD (RTE 102), HUDSON, NH

#### GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
---	---	FRESHWATER WETLANDS LINE
---	---	TREE LINE
---	---	STONEWALL
---	---	FENCE
---	---	STOCKADE FENCE
---	---	SOIL BOUNDARY
---	---	ZONELINE
---	---	EASEMENT
100	100	MAJOR CONTOUR
98	98	MINOR CONTOUR
---	---	EDGE OF PAVEMENT
---	---	VERTICAL GRANITE CURB
X	X	SILT FENCE
D	D	DRAINAGE LINE
S	S	SEWER LINE
FM	FM	SEWER FORCE MAIN
C	C	GAS LINE
W	W	WATER LINE
WS	WS	WATER SERVICE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE	UNDERGROUND ELECTRIC
UD	UD	GUARDRAIL
UD	UD	UNDERDRAIN
UD	UD	THRUST BLOCK
○	○	IRON PIPE/IRON ROD
○	○	DRILL HOLE
○	○	IRON ROD/DRILL HOLE
○	○	STONE/GRANITE BOUND
○	○	PAVEMENT SPOT GRADE
○	○	CURB SPOT GRADE
○	○	BENCHMARK (TBM)
○	○	DOUBLE POST SIGN
○	○	SINGLE POST SIGN
○	○	WELL
○	○	TEST PIT
○	○	FAILED TEST PIT
○	○	MONITORING WELL
○	○	TREES AND BUSHES
○	○	UTILITY POLE
○	○	LIGHT POLES
○	○	DRAIN MANHOLE
○	○	SEWER MANHOLE
○	○	HYDRANT
○	○	WATER GATE
○	○	WATER SHUT OFF
○	○	SINGLE GRATE CATCH BASIN
○	○	TRANSFORMER
○	○	RIPRAP
○	○	FRESHWATER WETLANDS
○	○	STABILIZED CONSTRUCTION ENTRANCE
○	○	CONCRETE
○	○	GRAVEL
○	○	SNOW STORAGE
○	○	RETAINING WALL

#### SHEET INDEX

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LOCUS MAP  
SCALE 1" = 100'

#### PERMITS

TYPE OF PERMIT	STATUS	TYPE OF PERMIT	STATUS
<b>NHDES ALTERATION OF TERRAIN PERMIT:</b> NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES - WATER DIVISION 29 HAZEN DRIVE, P.O. BOX 95 CONCORD, NEW HAMPSHIRE 03302-0095 (603) 271-3503 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 7/19/2017 PERMIT NO. 170721-105 DATED: EXPIRATION:	<b>HUDSON SITE PLAN APPROVAL:</b> TOWN OF HUDSON PLANNING BOARD 12 SCHOOL STREET HUDSON, NEW HAMPSHIRE 03051 (603) 886-6000 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 7/14/17 PERMIT NO. DATED: EXPIRATION:
<b>NHDOT DRIVEWAY PERMIT:</b> NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, DISTRICT SIX P.O. BOX 740 DURHAM, NEW HAMPSHIRE 03824 (603) 868-1133 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: 7/19/2017 PERMIT NO. DATED: EXPIRATION:	<b>NHDES SEWER CONNECTION PERMIT:</b> NHDES - WASTEWATER ENGINEERING BUREAU 29 HAZEN DRIVE, P.O. BOX 95 CONCORD, NEW HAMPSHIRE 03302-0095 (603) 271-3503 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.	SUBMITTED: PERMIT NO. DATED: EXPIRATION:
<b>USEPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT, NOTICE OF INTENT (NOI), AND NOTICE OF TERMINATION (NOT) TO BE FILED IN ACCORDANCE WITH FEDERAL AND LOCAL REGULATIONS PRIOR TO AND FOLLOWING CONSTRUCTION:</b> EPA STORMWATER NOTICE PROCESSING CENTER MAIL CODE 4203M, US EPA 1200 PENNSYLVANIA AVENUE, NW WASHINGTON, DC 20460 RESPONSIBLE CONSULTANT: JONES & BEACH ENGINEERS, INC.			

#### APPLICANT / DEVELOPER

HUDSON ENTERPRISES, LLC  
7 SWAIN DRIVE  
HAMPTON FALLS, NH 03844  
CONTACT: JEFF GOVE

#### CIVIL ENGINEER / SURVEYOR

JONES & BEACH ENGINEERS, INC.  
85 PORTSMOUTH AVENUE  
PO BOX 219  
STRATHAM, NH 03885  
(603) 772-4746  
CONTACT: WAYNE MORRILL  
EMAIL: WMORRILL@JONESANDBEACH.COM

#### TRAFFIC ENGINEER

VANASSE & ASSOCIATES, INC.  
10 N.E. BUSINESS CENTER DRIVE, SUITE 314  
ANDOVER, MA 01810  
(978) 474-8800  
CONTACT: SCOTT THORNTON

#### WETLAND SCIENTIST

CHRISTOPHER ALBERT  
JONES & BEACH ENGINEERS, INC.  
85 PORTSMOUTH AVENUE  
PO BOX 219  
STRATHAM, NH 03885  
(603) 772-4746

#### OWNER OF RECORD

FIVE N ASSOCIATES  
PETER Q. NASH, TRUSTEE  
91 AMHERST STREET  
HUDSON, NH 03064

#### LANDSCAPE DESIGNER

WOODBURN & COMPANY  
LANDSCAPE ARCHITECTURE, LLC  
103 KENT PLACE  
NEWMARKET, NH 03857  
(603) 659-5949  
CONTACT: ROBBI WOODBURN

#### WATER

HUDSON WATER UTILITY  
12 SCHOOL STREET  
HUDSON, NH 03051  
(603) 886-6000 x2

#### SEWER

HUDSON SEWER UTILITY  
12 SCHOOL STREET  
HUDSON, NH 03051  
(603) 886-6029

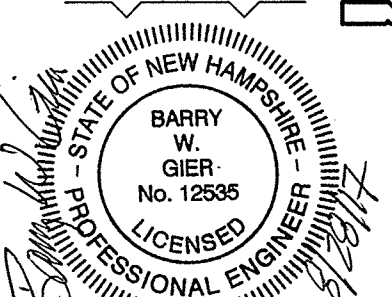
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.

OWNER  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_  
FOR FIVE N ASSOCIATES, PETER Q. NASH, TRUSTEE

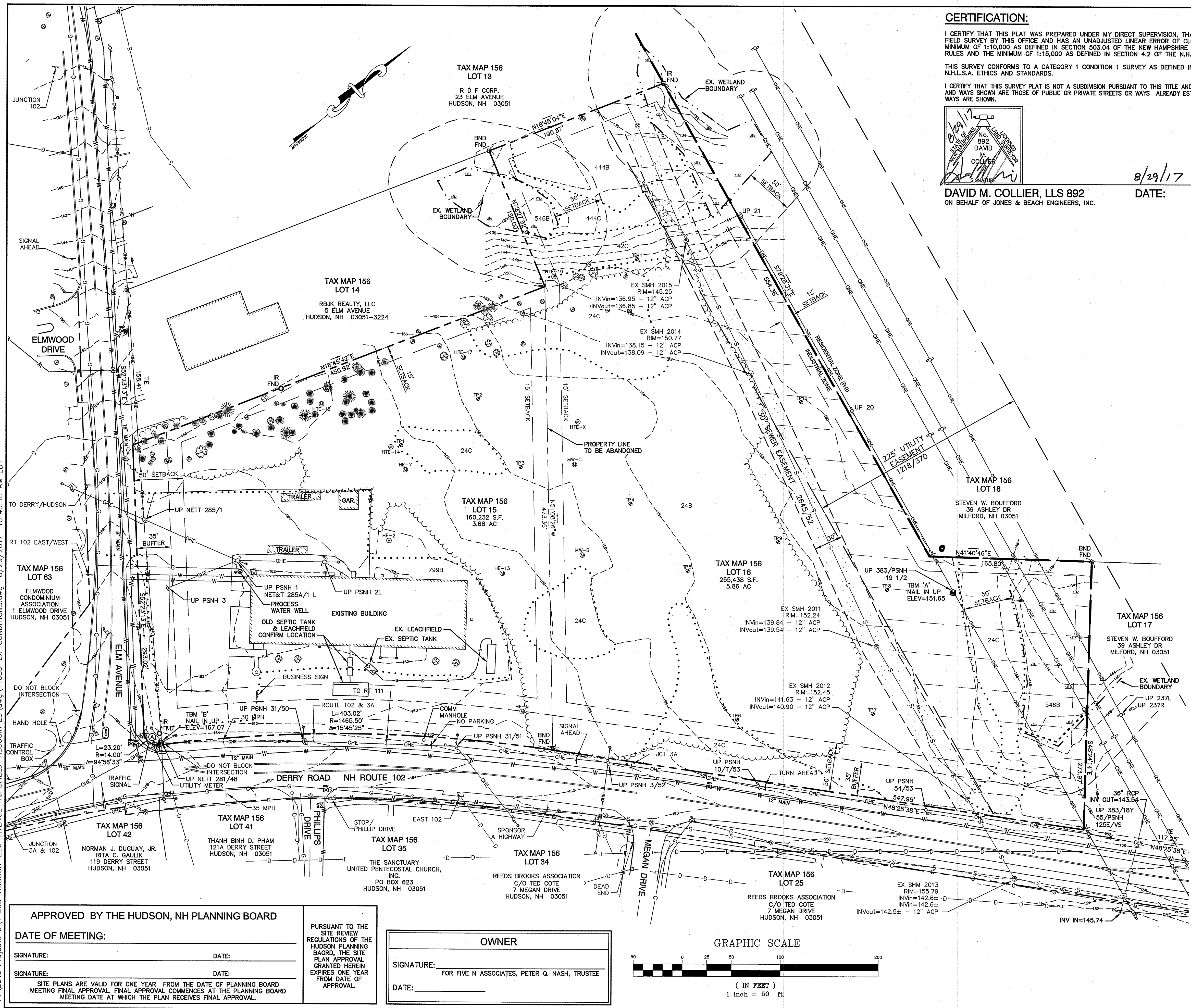
APPROVED BY THE HUDSON, NH PLANNING BOARD  
DATE OF MEETING: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

REVISED PER ENGINEERING REVIEW	ISSUED FOR REVIEW	REVISION	BY	DATE
1	0			8/28/17
				7/14/17

COVER SHEET			
<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156, LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)			
Owner of Record:		Applicant:	
FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064		HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i> 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM			
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053	SCALE: AS NOTED	SHEET 1 OF 30	







**CERTIFICATION:**

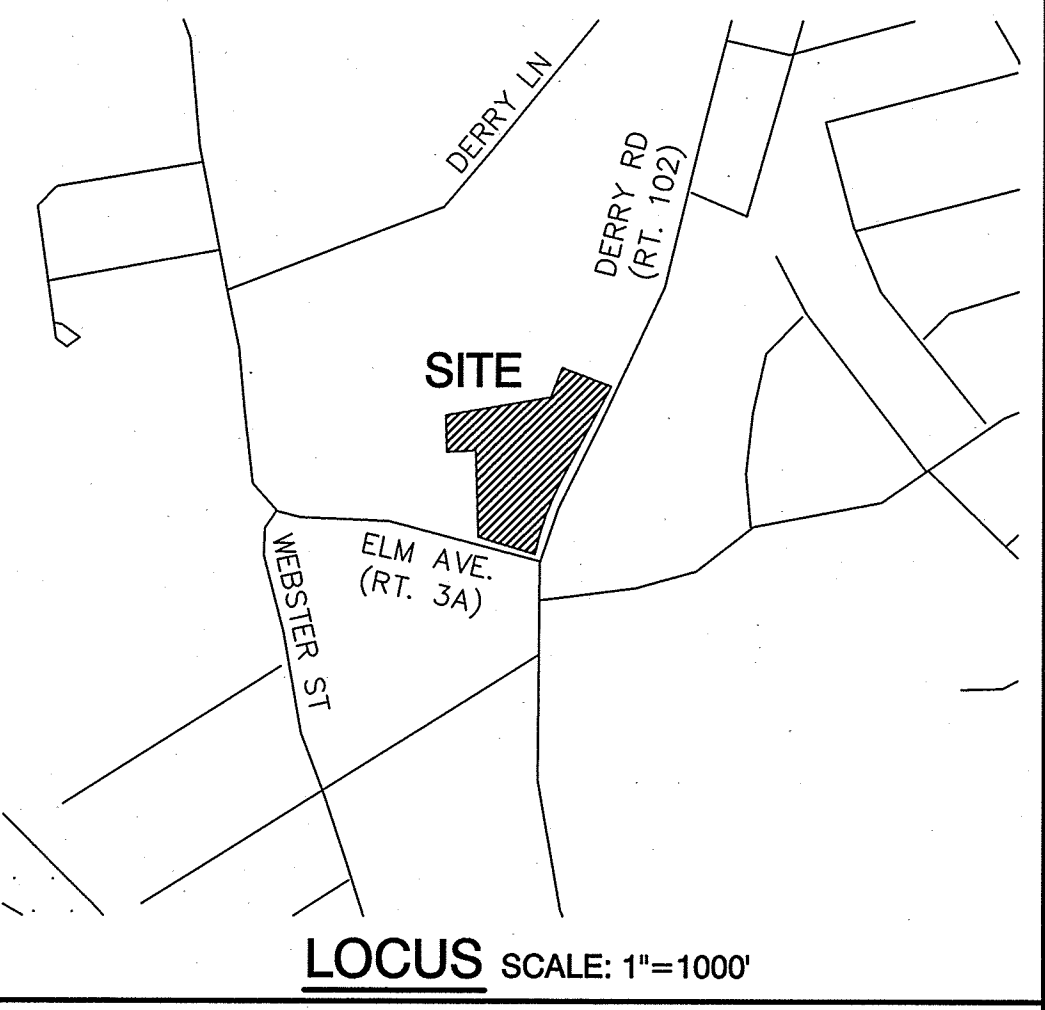
I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

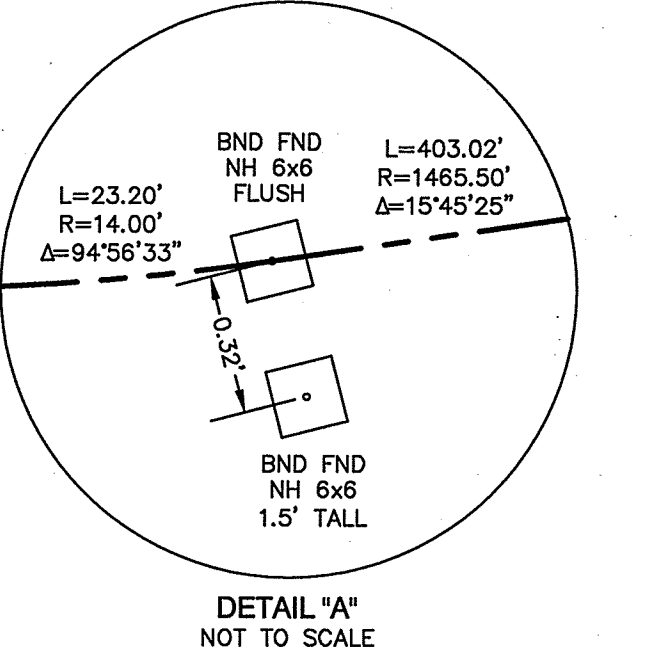
I CERTIFY THAT THIS SURVEY PLAN IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

DAVID M. COLLIER, LLS 892  
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

8/29/17  
DATE:



SOIL LEGEND		
SOIL SERIES SYMBOL	SOIL SERIES NAME	DESCRIPTION
24	AGAWAM	NEARLY LEVEL, DEEP, AND WELL DRAINED. SURFACE LAYER IS BLACK FINE SANDY LOAM (1" THICK). SUBSOIL IS BROWN FINE SANDY LOAM (17" THICK). SUBSTRATUM EXTENDS TO DEPTH OF 60". IT IS BROWN LOAMY FINE SAND TO 28" DEPTH, BROWN SAND BETWEEN 28" AND 41", AND BROWN GRAVELLY SAND AT DEPTH PAST 41". MODERATELY RAPID PERMEABILITY.
42	CANTON	VERY DEEP, WELL DRAINED SOILS FORMED IN A LOAMY MANTLE UNDERLAIN BY SANDY TILL DERIVED FROM PARENT MATERIAL THAT ARE VERY LOW IN IRON SULFIDES. NEARLY LEVEL THROUGH VERY STEEP GLACIATED PLAINS, HILLS, AND RIDGES. SLOPES RANGE FROM 0% TO 35%.
444	NEWFIELDS	VERY DEEP, SOMEWHAT POORLY DRAINED SOILS FORMED IN A LOAMY MANTLE UNDERLAIN BY SANDY TILL ON UPLAND HILLS, MORAINES, TILL PLAINS, AND MOUNTAIN SIDE SLOPES. SATURATED HYDRAULIC CONDUCTIVITY IS MODERATELY HIGH TO VERY HIGH. SLOPE RANGES FROM 0% TO 25%.
799	UDORTHENTS	SMOOTHED, CONSISTS OF AREAS FROM WHICH SOIL MATERIAL HAS BEEN EXCAVATED, AND NEARBY AREAS IN WHICH THIS MATERIAL HAS BEEN DEPOSITED. ORIGINAL SOIL MATERIAL IS GENERALLY EXCESSIVELY DRAINED TO MODERATELY WELL DRAINED, AND RANGES FROM NEARLY LEVEL TO VERY STEEP. TEXTURE GENERALLY RANGES FROM SAND AND GRAVEL TO FINE SANDY LOAM.
546	WALPOLE	VERY DEEP, POORLY DRAINED SANDY SOILS FORMED IN OUTWASH & STRATIFIED DRIFT. NEARLY LEVEL TO GENTLY SLOPING SOILS IN LOW-LYING POSITIONS ON TERRACES & PLAINS. SLOPE RANGES 0% TO 8% SATURATED HYDRAULIC CONDUCTIVITY IS MODERATELY HIGH OR HIGH IN THE SURFACE LAYER & SUBSOIL, & VERY HIGH OR VERY HIGH IN THE SUBSTRATUM.



REVISED PER REVIEW ENGINEER COMMENTS	ISSUED FOR REVIEW	REVISION	BY	DATE
1	0		ISM	8/28/17
	0		ISM	8/14/17

**EXISTING CONDITIONS PLAN**

**"120 DERRY ROAD"**  
DERRY ROAD (RT. 102), HUDSON, NH  
MAP 156, LOTS 15 & 16  
TOTAL PROJECT AREA: 415,670 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*

85 Portsmouth Ave. Stratham, NH 03885  
603-772-4746  
FAX: 603-772-0227  
E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **C1-1**

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

DATE: 7/14/17 DESIGN: DMC DRAFT: ISM CHECKED: CWW

DRAWING NAME: 14053-EX-CONDITIONS.dwg  
PROJECT No.: 14053 SCALE: AS NOTED SHEET 2 OF 30

**APPROVED BY THE HUDSON, NH PLANNING BOARD**

DATE OF MEETING: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

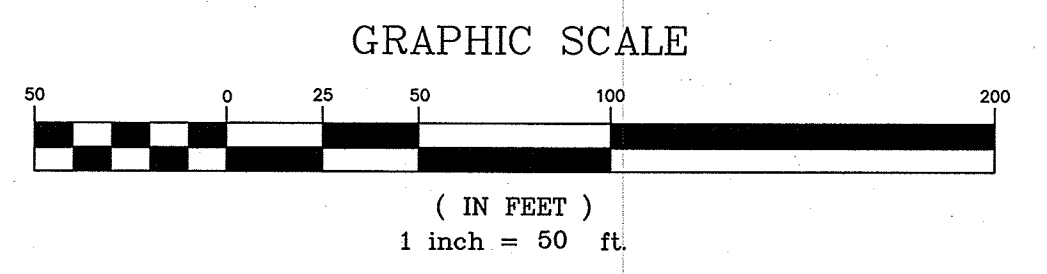
SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

PURSUANT TO THE REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.

**OWNER**

SIGNATURE: \_\_\_\_\_  
FOR FIVE N ASSOCIATES, PETER Q. NASH, TRUSTEE

DATE: \_\_\_\_\_



F:\Land Projects\3\14053-HUDSON-ELM-AVENUE-TOPFIELD-ASSOCIATES.dwg 8/29/2017 10:46:18 AM EDT



F:\Land Projects\3\14053-HUDSON-ELM-AVENUE-TOP-SFIELD-ASSOCIATES\dwg\14053-EX-CONDITIONS.dwg 8/29/2017 7:35:42 AM EDT

**GENERAL LEGEND**

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
~ ~ ~ ~ ~	~ ~ ~ ~ ~	FRESHWATER WETLANDS LINE
~ ~ ~ ~ ~	~ ~ ~ ~ ~	TREE LINE
— — — — —	— — — — —	STONEWALL
— — — — —	— — — — —	FENCE
— — — — —	— — — — —	STOCKADE FENCE
— — — — —	— — — — —	SOIL BOUNDARY
— — — — —	— — — — —	ZONELINE
— — — — —	— — — — —	EASEMENT
— — — — —	— — — — —	MAJOR CONTOUR
— — — — —	— — — — —	MINOR CONTOUR
— — — — —	— — — — —	EDGE OF PAVEMENT
— — — — —	— — — — —	VERTICAL GRANITE CURB
X	X	SILT FENCE
D	D	DRAINAGE LINE
S	S	SEWER LINE
FM	FM	SEWER FORCE MAIN
G	G	GAS LINE
W	W	WATER LINE
WS	WS	WATER SERVICE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE	UNDERGROUND ELECTRIC
UD	UD	UNDERDRAIN
○	○	THRUST BLOCK
○	○	IRON PIPE/IRON ROD
○	○	DRILL HOLE
○	○	IRON ROD/DRILL HOLE
○	○	STONE/GRANITE BOUND
○	○	PAVEMENT SPOT GRADE
x 100.00	x 100.00	CURB SPOT GRADE
x 99.50 BC	x 99.50 BC	
+	+	BENCHMARK (TBM)
+	+	DOUBLE POST SIGN
+	+	SINGLE POST SIGN
+	+	WELL
+	+	TEST PIT
+	+	FAILED TEST PIT
+	+	MONITORING WELL
+	+	TREES AND BUSHES
+	+	UTILITY POLE
+	+	LIGHT POLES
+	+	DRAIN MANHOLE
+	+	SEWER MANHOLE
+	+	HYDRANT
+	+	WATER GATE
+	+	WATER SHUT OFF
+	+	SINGLE GRATE CATCH BASIN
+	+	TRANSFORMER
+	+	RIPRAP
+	+	FRESHWATER WETLANDS
+	+	STABILIZED CONSTRUCTION
+	+	ENTRANCE
+	+	CONCRETE
+	+	GRAVEL
+	+	SNOW STORAGE
+	+	RETAINING WALL

**PLAN REFERENCES**

- "PLAN OF LAND OF ARTHUR KASHULINES JR., DERRY ROAD, HUDSON, N.H." DATED AUGUST 1955, SUBDIVIDED JULY 1956, BY NED SPAULDING, CIVIL ENGINEER. HCRD 2044.
- "HUDSON INDUSTRIAL ASSOCIATES ET ALS, ELM AVENUE, HUDSON, N.H." DATED MARCH 1960, SCALE 1" = 50' BY NED SPAULDING, CIVIL ENGINEER. HCRD 1899.
- "PLAN OF LAND OF ARTHUR J. & IDA E. KASHULINES, DERRY ROAD, HUDSON N.H." DATED JULY 1966, SCALE 1" = 50', BY A. E. MAYNARD CIVIL ENG. HCRD 3372 AND HCRD 3401.
- "PLAN OF LAND IN HUDSON, N.H. BELONGING TO HAROLD G. & MAUDE E. FRENCH" DATED AUGUST 14, 1969, SCALE 1" = 100', BY HAMILTON ENGINEERING ASSOC. INC. HCRD 4915.
- "LAND OF LAND ENTERPRISES INC, DERRY ROAD, HUDSON, NH." DATED SEPTEMBER 1975, SCALE 1" = 50', BY FRANK G. SPRAGUE. HCRD 7786.
- "TOWN OF HUDSON, PROPOSED EASEMENT ON LAND OF HARRY W. & JANE C. DAW, HUDSON, N.H." DATED FEBRUARY 1, 1974, SCALE 1" = 40', BY THOMAS F. MORAN, INC. HCRD 11065.
- "TOWN OF HUDSON, PROPOSED EASEMENT ON LAND OF H.C.R. CORP, HUDSON, N.H." DATED FEBRUARY 1, 1974, SCALE 1" = 40', BY THOMAS FM MORAN, INC. HCRD 116418.
- "SUBDIVISION OF THE LAND OF ERNEST MOREY, HUDSON, N.H." DATED SEPTEMBER 9, 1980, SCALE 1" = 50', BY DICKSON, HOLDEN AND ASSOCIATES INC. HCRD 14470 AND 14471.
- "ELM PARK CONSOLIDATION & SITE PLAN, HUDSON, N.H." DATED JANUARY 15, 1982, SCALE 1" = 50', BY HOLDEN ENGINEERING & SURVEYING. HCRD 16470.
- "ELMWOOD VILLAGE SITE PLAN, HUDSON, N.H." DATED JUNE 29, 1984, SCALE 1" = 50', BY HOLDEN ENGINEERING & SURVEYING. HCRD 17681.
- "SITE PLAN, ELMWOOD VILLAGE CONDOMINIUM" DATED JANUARY 2, 1985, SCALE 1" = 100', BY HOLDEN ENGINEERING & SURVEYING. HCRD 17682.
- "REEDS BROOK SUBDIVISION, DERRY STREET, HUDSON, NEW HAMPSHIRE, PREPARED FOR SOUSA REALTY AND DEVELOPMENT, RECORD OWNERS T. ARTHUR BABINEAU 1997 TRUST AND ARTHUR E. COMOLLI." DATED FEBRUARY 17, 1998, SCALE 1" = 80', BY HAYNER/SWANSON, INC. HCRD 29427.
- "LOT LINE RELOCATION AND CONSOLIDATION PLAN, HUDSON UNITED PENTECOSTAL CHURCH, PHILLIPS DRIVE, HUDSON, NEW HAMPSHIRE, PREPARED FOR HUDSON UNITED PENTECOSTAL CHURCH, RECORD OWNERS HUDSON UNITED PENTECOSTAL CHURCH, SOUSA REALTY & DEVELOPMENT." DATED JULY 6, 1999, SCALE 1" = 30', BY HAYNER/SWANSON, INC. HCRD 30127.
- "STATE OF NEW HAMPSHIRE HIGHWAY DEPARTMENT, PLANS OF PROPOSED FEDERAL AID SECONDARY PROJECT NO. S 29 (I), HUDSON-DERRY ROAD." DATED MAY 1949, SCALE 1" = 50'
- "TRANSPORTATION ENHANCEMENT PROJECT, NHDOT # 13894, FEDERAL AID PROJECT NO. TE-X-A000(095), PROPOSED SIDEWALK, DERRY STREET (ROUTE 102), HUDSON, NEW HAMPSHIRE, PREPARED FOR TOWN OF HUDSON." DATED MARCH 2009, BY CLD CONSULTING ENGINEERS.

**NOTES:**

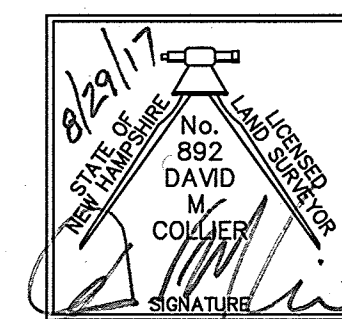
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF HUDSON TAX MAP 156, LOTS 15 & 16.
- ZONING DISTRICT: INDUSTRIAL  
LOT AREA MINIMUM = 30,000 SF  
LOT FRONTAGE MINIMUM = 150'  
BUILDING SETBACKS (MINIMUM):  
FRONT SETBACK = 50'  
SIDE SETBACK = 15'  
REAR SETBACK = 15'  
WETLAND BUFFER = 50'  
GREENSPACE BUFFER = 35'
- THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
- VERTICAL DATUM: NGVD 29. HORIZONTAL DATUM: MAGNETIC.
- DEED REFERENCE LOT 15: 6045/844 LOT 16: 5072/1309.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NUMBERS 33011C0512D DATED SEPTEMBER 25, 2009 AND 33011C0514E DATED APRIL 18, 2011.
- IRON RODS WITH SURVEY CAPS TO BE SET AT ALL PROPERTY CORNERS AND ANGLE POINTS, UNLESS OTHERWISE INDICATED. ALL MONUMENTS SET ARE 5/8" IRON RODS WITH ALUMINUM CAPS MARKED "JONES & BEACH ENGINEERS BOUNDARY, DO NOT DISTURB, STRATHAM, N.H." AS SHOWN.
- WETLANDS WERE DELINEATED BY CHRISTOPHER ALBERT OF JONES & BEACH DURING SPRING, 2015, IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
  - THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
  - THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
  - THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
  - THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.
- LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
- ALL BOOK AND PAGE NUMBERS REFER TO THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS.
- THE TAX MAP AND LOT NUMBERS AND ABUTTING OWNERS ARE BASED ON THE TOWN OF HUDSON TAX RECORDS AND ARE SUBJECT TO CHANGE.
- RESEARCH WAS PERFORMED AT THE TOWN OF HUDSON ASSESSORS OFFICE, THE ROCKINGHAM COUNTY REGISTRY OF DEEDS, AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION DISTRICT 5 OFFICE.
- THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED, OR PRESRIPTIVE.
- ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
- THE SITE SPECIFIC SOIL MAPPING WAS PERFORMED BY LUKE HURLEY AND JAMES GOVE, C.S.S OF GOVE ENVIRONMENTAL ON MAY 29, 2015. A TABLE OF SITE SPECIFIC SOILS WITH DESCRIPTION CAN BE FOUND ON SHEET C1-1.

**CERTIFICATION:**

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

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



DAVID M. COLLIER, LLS 892  
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

8/29/17  
DATE:

ISM	ISM	BY	EXISTING CONDITIONS NOTES			
			<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,670 S.F. (9.54 AC)			
			Owner of Record:		Applicant:	
			FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064		HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
			<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>			DRAWING NO.
			85 Portsmouth Ave. 603-772-4746 PO Box 219 FAX: 603-772-0227 Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM			C1-2
			THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
			DATE: 7/14/17	DESIGN: DMC	DRAFT: ISM	CHECKED: CWW
			DRAWING NAME: 14053-EX-CONDITIONS.dwg			
			PROJECT No.: 14053	SCALE: AS NOTED	SHEET 3 OF 30	

**APPROVED BY THE HUDSON, NH PLANNING BOARD**

DATE OF MEETING: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

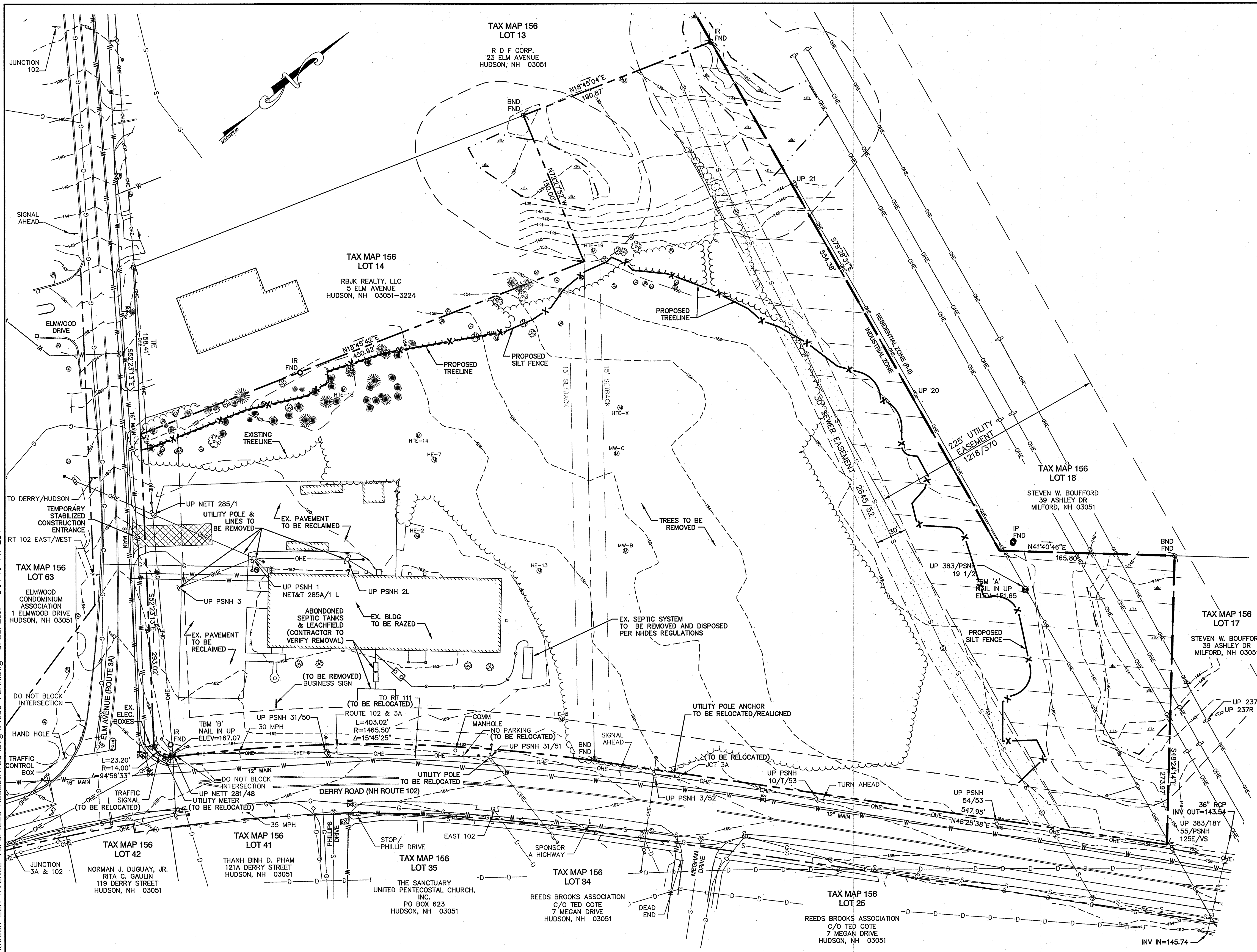
**OWNER**

SIGNATURE: \_\_\_\_\_  
FOR FIVE N ASSOCIATES, PETER Q. NASH, TRUSTEE

DATE: \_\_\_\_\_

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.





- DEMOLITION NOTES:**
- THIS PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR SITE DEMOLITION. IT SHOULD BE NOTED THAT ALL MANMADE FEATURES, PAVEMENT, SIGNS, POLES, CURBING, CONCRETE WALKS, UTILITIES, ETC., SHALL BE REMOVED AS NECESSARY TO CONSTRUCT WORK, UNLESS OTHERWISE NOTED TO REMAIN. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCIES FROM DATA AS SHOWN ON DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
  - PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED. CLEARING LIMITS ARE THE EDGE OF THE PROPERTY AND THE LIMITS OF WORK.
  - ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION AREA, UNLESS OTHERWISE NOTED TO REMAIN, SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL GUIDELINES. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
  - ALL EXISTING PAVED SURFACES WITHIN THE LIMITS OF WORK THAT ARE TO REMAIN SHALL BE RECLAIMED TO MINIMUM DEPTH OF 12" AND REGRADED AS SHOWN ON THE GRADING AND DRAINAGE PLAN. RECLAIMED ASPHALT SHALL CONFORM TO STATE SPECIFICATIONS. PRIOR TO REMOVAL, PAVEMENT SHALL BE SAWCUT AT ALL ENTRANCES AND LIMITS OF REMOVAL.
  - ALL EXISTING GRANITE CURBING TO BE REMOVED SHALL BE STOCKPILED IN AN AREA TO BE DESIGNATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE OWNER SHALL INSPECT GRANITE CURBING TO BE RESET AND APPROVE LOCATION OF RESET CURBING. THE CONTRACTOR SHALL NOT INSTALL USED CURBING AT ANY ENTRANCE LOCATIONS.
  - ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, UNLESS OTHERWISE NOTED ON THE PLANS, IN CONFORMANCE WITH LOCAL, STATE AND UTILITY COMPANY STANDARDS, SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
  - EXISTING WATERLINES AND HYDRANTS TO BE REMOVED SHALL BE CAPPED AT EXISTING WATERMAIN.
  - EXISTING GAS SERVICE LINES ARE TO BE REMOVED ON-SITE UP TO EXISTING GASMAIN LINES OR VALVES.
  - THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL CONTAMINATED MATERIAL LOCATED IN THE AREA OF EXISTING LEACHFIELDS IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
  - ALL CURBING, CONCRETE, PAVEMENT, BUILDINGS AND SUBBASE MATERIALS LOCATED WITHIN PROPOSED LANDSCAPED AREAS SHALL BE REMOVED AND REPLACED WITH LOAM MATERIALS SUITABLE FOR LANDSCAPING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. (SEE ALSO LANDSCAPE PLAN).
  - SEE LANDSCAPE PLAN FOR "TREES TO BE SAVED" AND DETAILS ASSOCIATED WITH LANDSCAPED AREAS.
  - THE CONTRACTOR SHALL OBTAIN TREE CLEARING PERMIT FROM LOCAL AND STATE AUTHORITIES PRIOR TO START OF CONSTRUCTION (IF REQUIRED).
  - CONTRACTOR SHALL HAVE THE OPTION TO REMOVE DRAINAGE/SEWER STRUCTURES, OR REMOVE MANHOLE FRAME AND GRATE/COVER TO A MINIMUM OF 36" BELOW FINISH GRADE, FRACTURE BOTTOM AND FILL WITH COMPACTED BORROW.
  - IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
  - EXISTING SANITARY SEWER LINE AND STRUCTURES LOCATED WITHIN THE EXISTING SEWER EASEMENTS SHALL BE MAINTAINED OR MODIFIED AS NOTED ON PLANS. SEWER LINES SHALL BE DISCONNECTED IN ACCORDANCE WITH LOCAL STANDARDS AND REGULATIONS.
  - EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND ANY EARTH MOVING OPERATIONS. SILT FENCE SHALL BE INSTALLED AT THE LIMITS OF IMPACT AREAS ACCORDING TO THE DETAILS SHOWN ON SHEET E1.
  - EXCAVATED MATERIALS WILL BE PLACED WITHIN UPLAND AREAS AS FILL MATERIAL OR HAULED OFF-SITE FOR DISPOSAL IN AN APPROPRIATE UPLAND LOCATION.
  - CONTRACTOR MAY GRIND STUMPS FOR USE AS AN ORGANIC FILTER BERM AT THE DISTURBANCE BOUNDARY. SEE SHEET E2 FOR ORGANIC FILTER BERM DETAIL.

REVISION			BY		
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	8/28/17	REVISED PER ENGINEERING REVIEW			
0	7/14/17	ISSUED FOR REVIEW			

### DEMOLITION PLAN

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
 MAP 156, LOTS 15 & 16  
 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
 Applicant: HUDSON ENTERPRISES, LLC  
 91 AMHERST STREET NASHUA, NH 03084  
 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*  
 85 Portsmouth Ave. 603-772-4746  
 PO Box 219 FAX: 603-772-0227  
 Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM

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DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
 DRAWING NAME: 14053-PLAN.dwg  
 PROJECT No.: 14053 SCALE: AS NOTED SHEET 4 OF 30

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**APPROVED BY THE HUDSON, NH PLANNING BOARD**

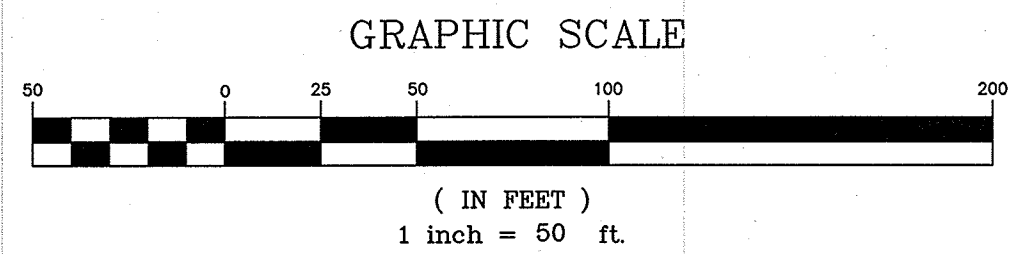
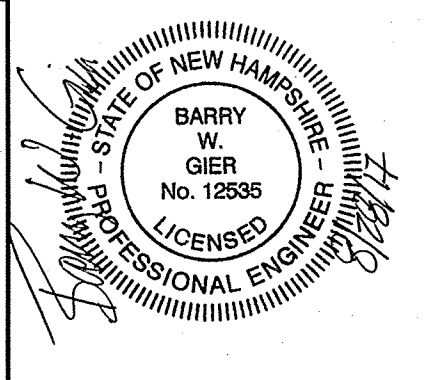
DATE OF MEETING: \_\_\_\_\_

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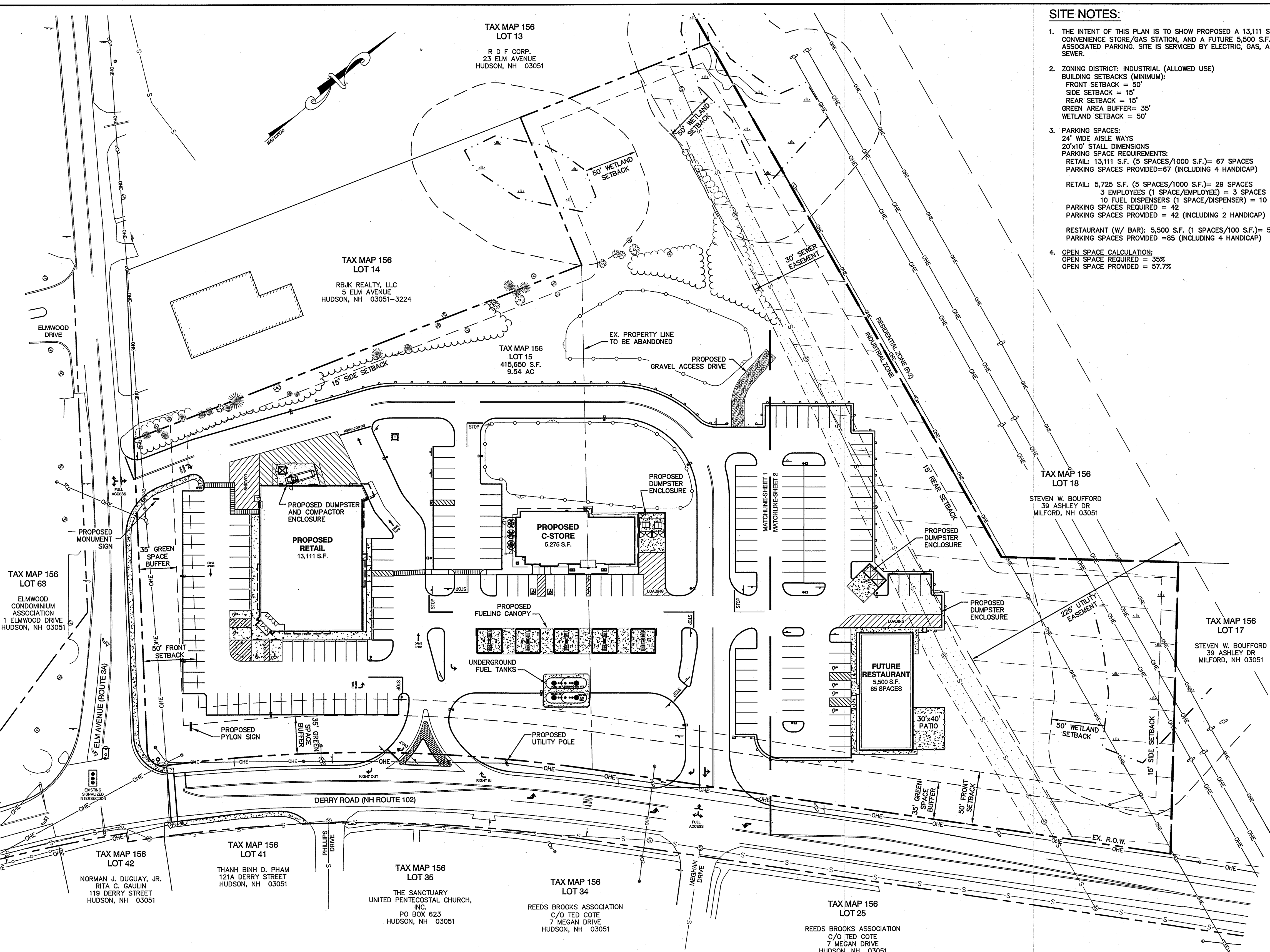
SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.



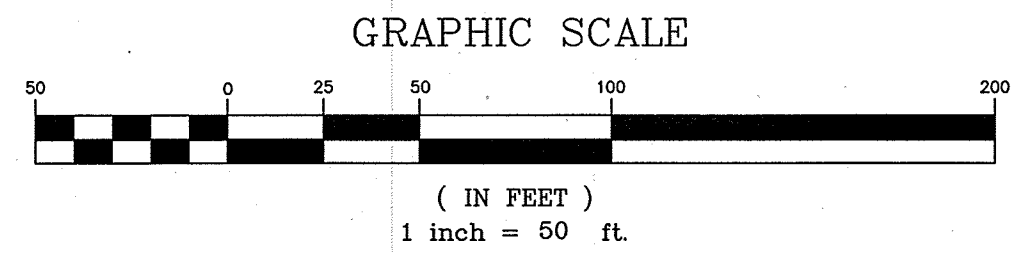


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**SITE NOTES:**

- THE INTENT OF THIS PLAN IS TO SHOW PROPOSED A 13,111 S.F. PHARMACY, 5,275 S.F. CONVENIENCE STORE/GAS STATION, AND A FUTURE 5,500 S.F. RESTAURANT WITH ASSOCIATED PARKING. SITE IS SERVICED BY ELECTRIC, GAS, AND MUNICIPAL WATER & SEWER.
- ZONING DISTRICT: INDUSTRIAL (ALLOWED USE)  
BUILDING SETBACKS (MINIMUM):  
FRONT SETBACK = 50'  
SIDE SETBACK = 15'  
REAR SETBACK = 15'  
GREEN AREA BUFFER = 35'  
WETLAND SETBACK = 50'
- PARKING SPACES:  
24' WIDE AISLE WAYS  
20'x10' STALL DIMENSIONS  
PARKING SPACE REQUIREMENTS:  
RETAIL: 13,111 S.F. (5 SPACES/1000 S.F.) = 67 SPACES  
PARKING SPACES PROVIDED = 67 (INCLUDING 4 HANDICAP)  
  
RETAIL: 5,275 S.F. (5 SPACES/1000 S.F.) = 29 SPACES  
3 EMPLOYEES (1 SPACE/EMPLOYEE) = 3 SPACES  
10 FUEL DISPENSERS (1 SPACE/DISPENSER) = 10 SPACES  
PARKING SPACES REQUIRED = 42  
PARKING SPACES PROVIDED = 42 (INCLUDING 2 HANDICAP)  
  
RESTAURANT (W/ BAR): 5,500 S.F. (1 SPACES/100 S.F.) = 55 SPACES  
PARKING SPACES PROVIDED = 65 (INCLUDING 4 HANDICAP)
- OPEN SPACE CALCULATION:  
OPEN SPACE REQUIRED = 35%  
OPEN SPACE PROVIDED = 57.7%
- THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESSEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIS SAFE PRIOR TO DIGGING ON-SITE OR OFF-SITE TO ENSURE SAFETY AND OBEY THE LAW.
- ALL CONSTRUCTION SHALL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NUMBERS 330110051D DATED SEPTEMBER 25, 2009 AND 330110051E DATED APRIL 18, 2011.
- LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
- ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.). THIS DOCUMENT IS TO BE KEPT ON-SITE AT ALL TIMES AND UPDATED AS REQUIRED.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
- ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
- ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
- ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL HAVE TWO COATS OF PAINT, ALKYL BASSIN SYNTHETIC RESIN, FEDERAL SPECIFICATION TTP-115 TYPE 1, IN A COLOR OF WHITE.
- ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
- ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
- ALL OUTDOOR DISPLAY AREAS SHALL BE MAINTAINED IN A NEAT AND ORDERLY FASHION.
- ALL OUTDOOR DISPLAY AREAS ALONG SIDEWALK SHALL BE MAINTAINED TO PROVIDE A MINIMUM UNOBSTRUCTED WIDTH OF FIVE (5) FEET ALONG THE ENTIRE LENGTH OF THE SIDEWALK, AND AT EMERGENCY EGRESS DOORS FOR PEDESTRIAN AND EMERGENCY ACCESS AT ALL TIMES.
- SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.
- DUMPSTERS AND/OR ROLL-OFFS ARE NOT TO BE PICKED UP BETWEEN 7:00 PM AND 7:00 AM.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- HANDICAP PARKING SPACES, RAMP AND BUILDING ACCESS SHALL COMPLY WITH ADA REGULATIONS.
- NO OFF-SITE PARKING AND/OR LOADING PERMITTED FOR THIS PROPOSED SITE DEVELOPMENT.
- THERE SHALL BE NO OUTSIDE STORAGE OF FLAMMABLE OR HAZARDOUS GASSES, LIQUIDS OR MATERIALS OVER 2,000 GALLONS OR GREATER.
- THIS PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- DUST SHALL BE CONTROLLED I ACCORDANCE WITH ENV-A 1000.
- A CONDITION OF SITE PLAN APPROVAL BY THE TOWN OF HUDSON PLANNING BOARD WILL BE A SUBDIVISION PLAN DEMONSTRATING THE CONSOLIDATION OF LOTS 15 & 16.
- THE TOWN OF HUDSON 2006 MASTER PLAN DOES NOT CLASSIFY THE ELM AVE/DERRY ROAD INTERSECTION AS A RECOMMENDED HIGHWAY IMPROVEMENT PROJECT.
- PER THE TRAFFIC IMPACT STUDY BY VANESSE & ASSOCIATES, INC., DATED JULY 2017, SIGHT DISTANCES AT THE THREE PROPOSED DRIVEWAY LOCATIONS WILL EXCEED 500'.
- HOURS OF OPERATION:  
PROPOSED RETAIL: 8am - 9pm  
PROPOSED C-STORE/FUELING STATION: 24 HOURS  
PROPOSED RESTAURANT: 11am - 11pm



REVISION		BY	
1	8/29/17	ISM	BY
0	7/14/17	ISM	BY
1	8/29/17	REV.	DATE

**OVERALL SITE PLAN**

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
 MAP 156. LOTS 15 & 16  
 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
 91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885  
 603-772-4746 FAX: 603-772-0227  
 E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **C2**

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DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
 DRAWING NAME: 14053-PLAN.dwg  
 PROJECT No.: 14053 SCALE: AS NOTED SHEET 5 OF 30

APPROVED BY THE HUDSON, NH PLANNING BOARD

DATE OF MEETING:

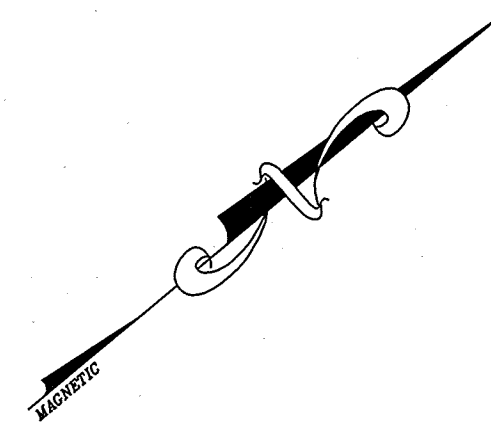
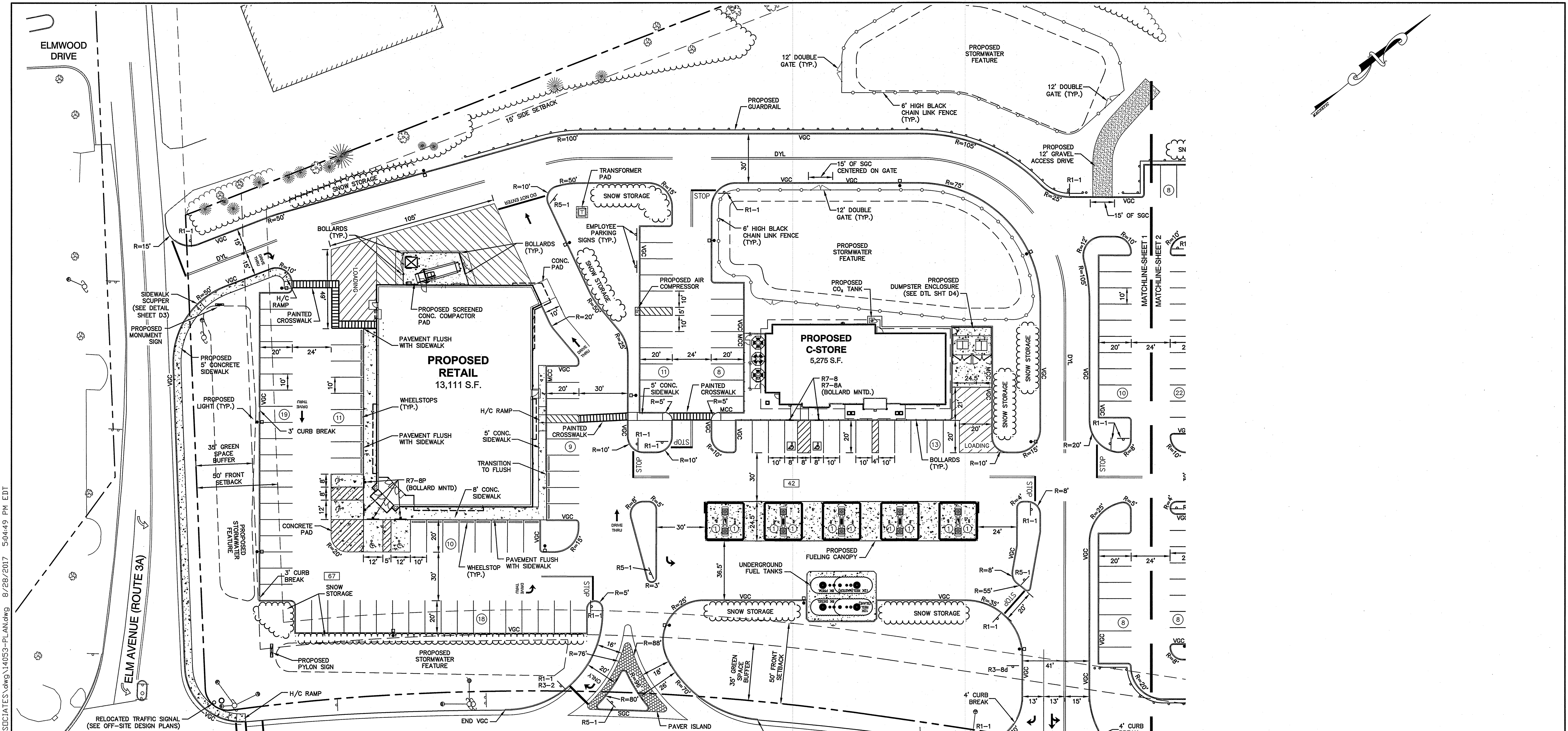
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PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.

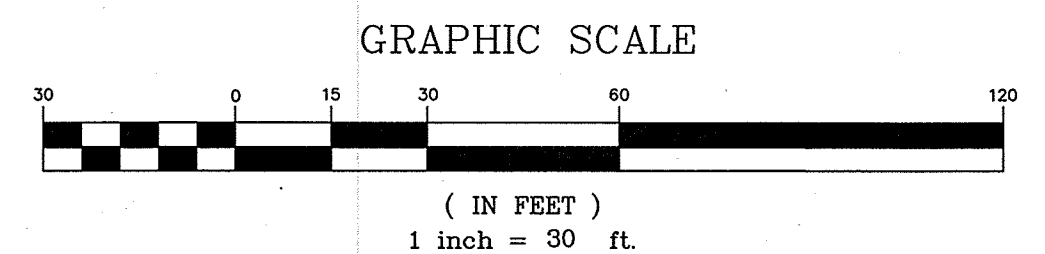
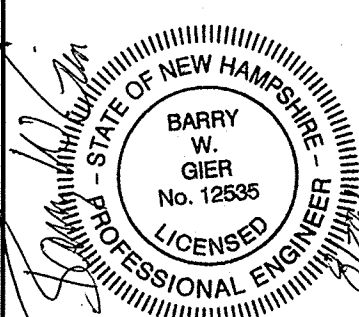




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**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
 DATE OF MEETING: \_\_\_\_\_  
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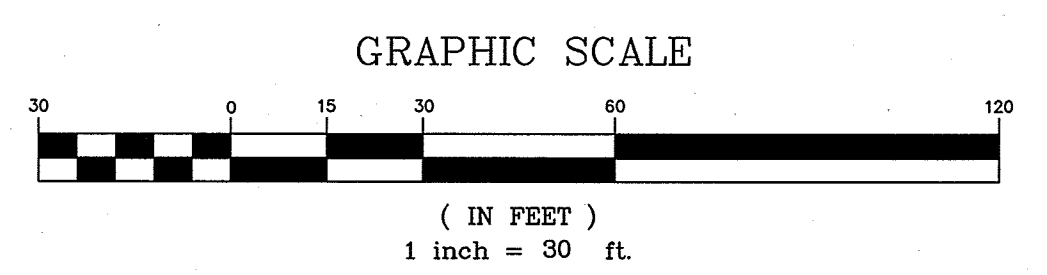
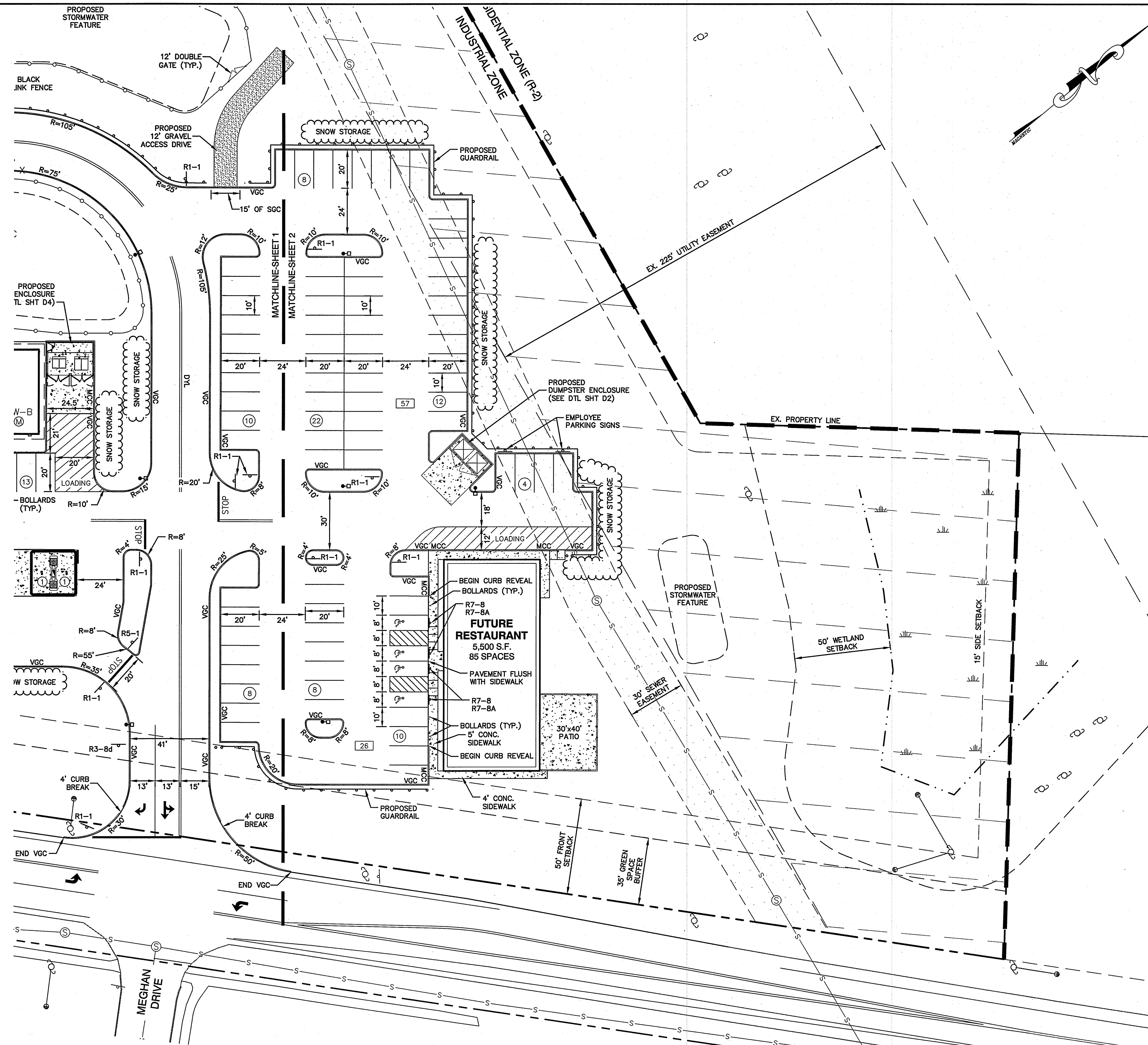
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.



REVISION		BY		SITE PLAN			
1	8/28/17	REVISED PER ENGINEERING REVIEW	ISM	<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> <b>MAP 156. LOT2 15 &amp; 16</b> <b>TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)</b> Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064 Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844 <b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i> 85 Portsmouth Ave. 603-772-4746 PO Box 219 FAX: 603-772-0227 Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM			
0	7/14/17	ISSUED FOR REVIEW	ISM				
1	8/28/17	REV. DATE	BY	DRAWING NO. <b>C2-1</b> THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE. DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM DRAWING NAME: 14053-PLAN.dwg PROJECT No.: 14053 SCALE: AS NOTED SHEET 6 OF 30			



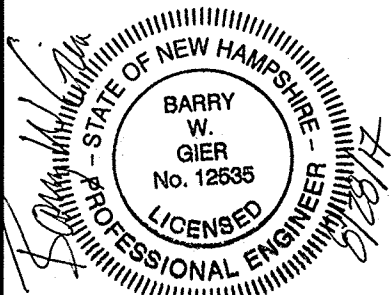
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**APPROVED BY THE HUDSON, NH PLANNING BOARD**  
**DATE OF MEETING:**

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
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PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.



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1	8/28/17	ISM	DATE
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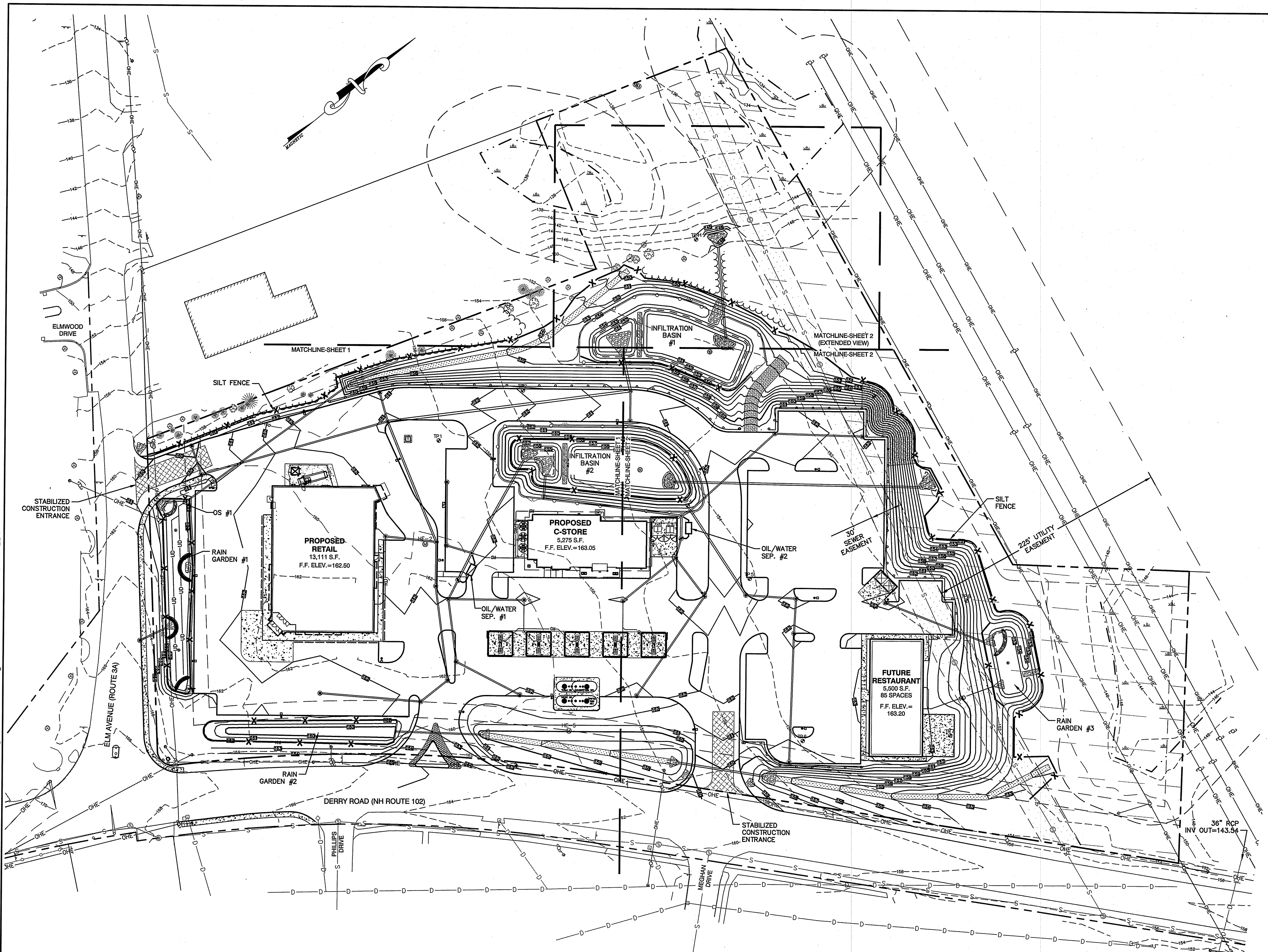
<b>SITE PLAN</b>	
<b>"120 DERRY ROAD"</b> DERRY ROAD (RT. 102), HUDSON, NH MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)	
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<b>Jones &amp; Beach Engineers, Inc.</b> Civil Engineering Services	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885	603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.	
DATE: 8/14/17	DESIGN: BWG
DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg	
PROJECT No.: 14053	SCALE: AS NOTED
SHEET 7 OF 30	

DRAWING NO.  
**C2-2**









- GRADING AND DRAINAGE NOTES:**
- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
  - PROJECT DATUM: U.S.G.S. BENCHMARK IS A CHISELED SQUARE ON N.E. ABUTMENT OF ROUTE 1A BRIDGE OVER HAMPTON HARBOR. ELEV. 22.02 U.S.G.S.-1929.
  - ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
  - SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E2.
  - PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
  - ALL ROOF DRAINS FROM BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END. ALL EXTERIOR ROOF DOWNSPOUTS ARE TO BE INSTALLED WITH OVERFLOW DEVICES.
  - ALL SWALES AND STORMWATER PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
  - PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
  - ALL SWALES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
  - ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3' DEEP SUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
  - ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE SHEETS C3-1 & C3-2 FOR DRAINAGE STRUCTURE SCHEDULE AND SHEETS D6-D9 FOR DRAINAGE DETAILS.
  - ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
  - IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO  $+/-\frac{1}{2}$ " PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
  - IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
  - ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL.
  - STONE INLET PROTECTION OR SILT SACKS SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
  - LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
  - NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
  - ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
  - SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
  - MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
  - THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
  - CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCES TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
  - IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
  - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
  - SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
  - ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
  - ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
  - SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1 & E2.

REVISION			BY		
REV.	DATE	DESCRIPTION	REV.	DATE	DESCRIPTION
1	8/26/17	ISSUED FOR REVIEW	ISM		
0	7/14/17	ISSUED FOR REVIEW	ISM		

### OVERALL GRADING & DRAINAGE PLAN

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
 MAP 156. LOTS 15 & 16  
 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
 91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885  
 603-772-4746 FAX: 603-772-0227  
 E-MAIL: JBE@JONESANDBEACH.COM

DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
 DRAWING NAME: 14053-PLAN.dwg PROJECT No.: 14053 SCALE: AS NOTED SHEET 8 OF 30

DRAWING NO.

# C3

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**APPROVED BY THE HUDSON, NH PLANNING BOARD**

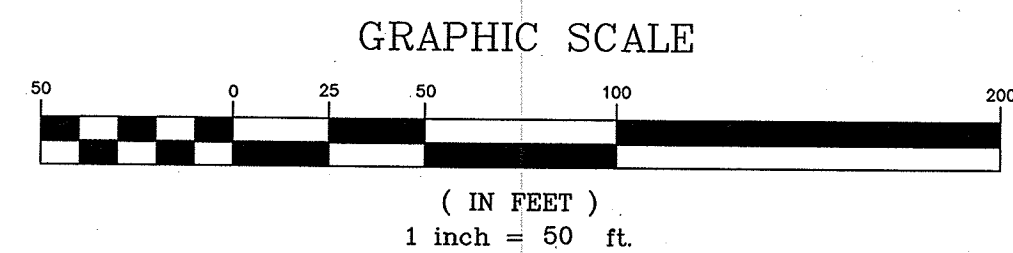
DATE OF MEETING: \_\_\_\_\_

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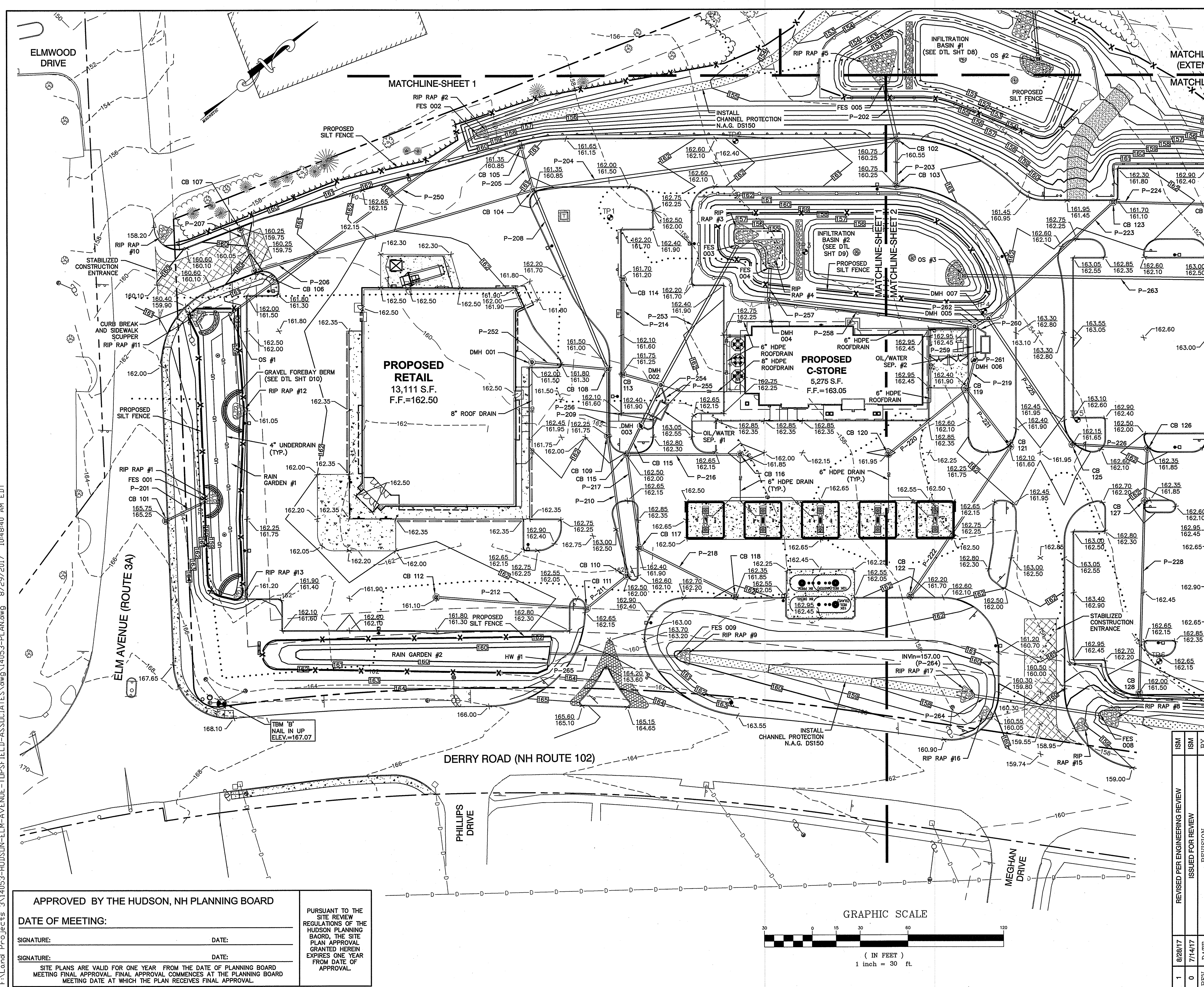
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SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL COMMENCES AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.







DRAINAGE STRUCTURE TABLE:			
CB 101 RIM=155.25 IN/Out=160.25 (P-201)	P-201 27'-12" HDPE S=0.010 FT/FT	P-257 20'-18" HDPE S=0.005 FT/FT	RIP RAP #1 L=8' W1=3' W2=11' d50=3" t=8"
CB 102 RIM=161.40 IN/Out=156.10 (P-204)	P-202 35'-24" HDPE S=0.005 FT/FT	P-258 130'-18" HDPE S=0.005 FT/FT	RIP RAP #2 L=7' W1=3' W2=10' d50=3" t=8"
CB 103 RIM=160.25 IN/Out=156.25 (P-203)	P-203 28'-12" HDPE S=0.005 FT/FT	P-265 80'-12" HDPE S=0.007 FT/FT	RIP RAP #3 L=13' W1=4.5' W2=18' d50=3" t=8"
CB 104 RIM=160.85 IN/Out=153.85 (P-205)	P-204 230'-24" HDPE S=0.005 FT/FT	DMH 001 RIM=162.20 IN/Out=155.00 (8" RD)	RIP RAP #4 L=17' W1=4.5' W2=28' d50=8" t=13"
CB 105 RIM=160.85 IN/Out=153.35 (P-208)	P-205 28'-12" HDPE S=0.005 FT/FT	DMH 002 RIM=162.50 IN/Out=155.00 (8" RD)	RIP RAP #5 L=20' W1=6' W2=28' d50=8" t=20"
CB 106 RIM=159.75 IN/Out=154.70 (P-207)	P-206 182'-12" HDPE S=0.005 FT/FT	DMH 003 (OS #4) RIM=162.50 IN/Out=157.65 (P-220)	RIP RAP #6 L=20' W1=6' W2=28' d50=8" t=20"
CB 107 RIM=159.75 IN/Out=155.00 (P-207)	P-207 28'-12" HDPE S=0.005 FT/FT	DMH 004 (OS #4) RIM=162.00 IN/Out=155.10 (P-258)	RIP RAP #7 L=8' W1=3' W2=12' d50=3" t=8"
CB 108 RIM=161.50 IN/Out=154.50 (P-209)	P-208 122'-18" HDPE S=0.005 FT/FT	OS #1 RIM=159.50 (24") IN/Out=156.80 (P-202)	RIP RAP #8 L=8' W1=3' W2=11' d50=3" t=8"
CB 109 RIM=161.75 IN/Out=154.85 (P-210)	P-209 42'-12" HDPE S=0.006 FT/FT	OS #2 RIM=159.50 (24") IN/Out=156.80 (P-202)	RIP RAP #9 L=8' W1=3' W2=11' d50=3" t=8"
CB 110 RIM=162.00 IN/Out=155.40 (P-211)	P-210 89'-12" HDPE S=0.005 FT/FT	OS #3 RIM=159.50 (24") IN/Out=156.80 (P-202)	RIP RAP #10 L=8' W1=3' W2=11' d50=3" t=8"
CB 111 RIM=162.00 IN/Out=155.60 (P-211)	P-211 32'-12" HDPE S=0.006 FT/FT	OIL/WATER SEPARATOR #1 1,500 GAL RIM=162.00 IN/Out=157.40 (6" PVC)	RIP RAP #11 L=8' W1=3' W2=11' d50=3" t=8"
CB 112 RIM=161.10 IN/Out=156.20 (P-212)	P-212 95'-12" HDPE S=0.005 FT/FT	GREASE TRAP #1 1,500 GAL RIM=158.70 IN/Out=158.45	RIP RAP #12 L=9' W1=3' W2=13' d50=3" t=8"
CB 113 RIM=161.25 IN/Out=156.75 (P-214)	P-213 25'-12" HDPE S=0.010 FT/FT	FES 001 IN/Out=159.95 (P-201)	RIP RAP #13 L=8' W1=3' W2=11' d50=3" t=8"
CB 114 RIM=161.20 IN/Out=157.15 (P-214)	P-214 60'-12" HDPE S=0.005 FT/FT	FES 002 IN/Out=155.85 (P-250)	
CB 115 RIM=162.00 IN/Out=157.85 (P-216)	P-215 20'-12" HDPE S=0.006 FT/FT	FES 003 IN/Out=155.75 (P-253)	
CB 116 RIM=161.85 IN/Out=158.25 (P-216)	P-216 71'-12" HDPE S=0.006 FT/FT	FES 004 IN/Out=154.90 (P-257)	
CB 117 RIM=161.90 IN/Out=158.15 (P-217)	P-217 59'-12" HDPE S=0.005 FT/FT	FES 005 IN/Out=151.40 (P-202)	
CB 118 RIM=161.85 IN/Out=157.75 (P-215)	P-218 67'-12" HDPE S=0.005 FT/FT	FES 009 IN/Out=159.85 (P-265)	
CB 119 RIM=161.85 IN/Out=157.75 (P-215)	P-219 67'-12" HDPE S=0.005 FT/FT	HW #1 IN/Out=160.25 (P-265)	
CB 120 RIM=162.00 IN/Out=158.25 (P-216)	P-220 192'-12" HDPE S=0.005 FT/FT		
CB 121 RIM=161.90 IN/Out=158.25 (P-216)	P-221 41'-12" HDPE S=0.006 FT/FT		
CB 122 RIM=161.90 IN/Out=158.25 (P-216)	P-222 100'-18" HDPE S=0.007 FT/FT		
CB 123 RIM=161.90 IN/Out=158.25 (P-216)	P-223 29'-18" HDPE S=0.036 FT/FT		
CB 124 RIM=161.90 IN/Out=158.25 (P-216)	P-224 12'-6" PVC S=0.017 FT/FT		
CB 125 RIM=161.90 IN/Out=158.25 (P-216)	P-225 15'-6" PVC S=0.010 FT/FT		

### GRADING & DRAINAGE PLAN

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
 MAP 156. LOTS 15 & 16  
 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
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**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*

85 Portsmouth Ave. 603-772-4746  
 PO Box 219 FAX: 603-772-0227  
 Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **C3-1**

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DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053 SCALE: AS NOTED SHEET 9 OF 30			

APPROVED BY THE HUDSON, NH PLANNING BOARD

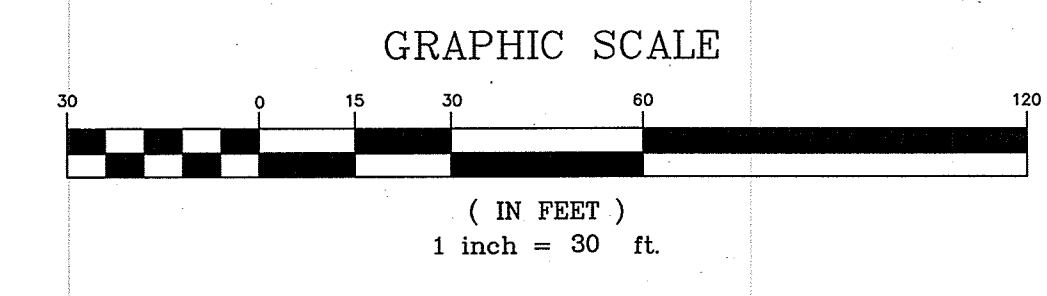
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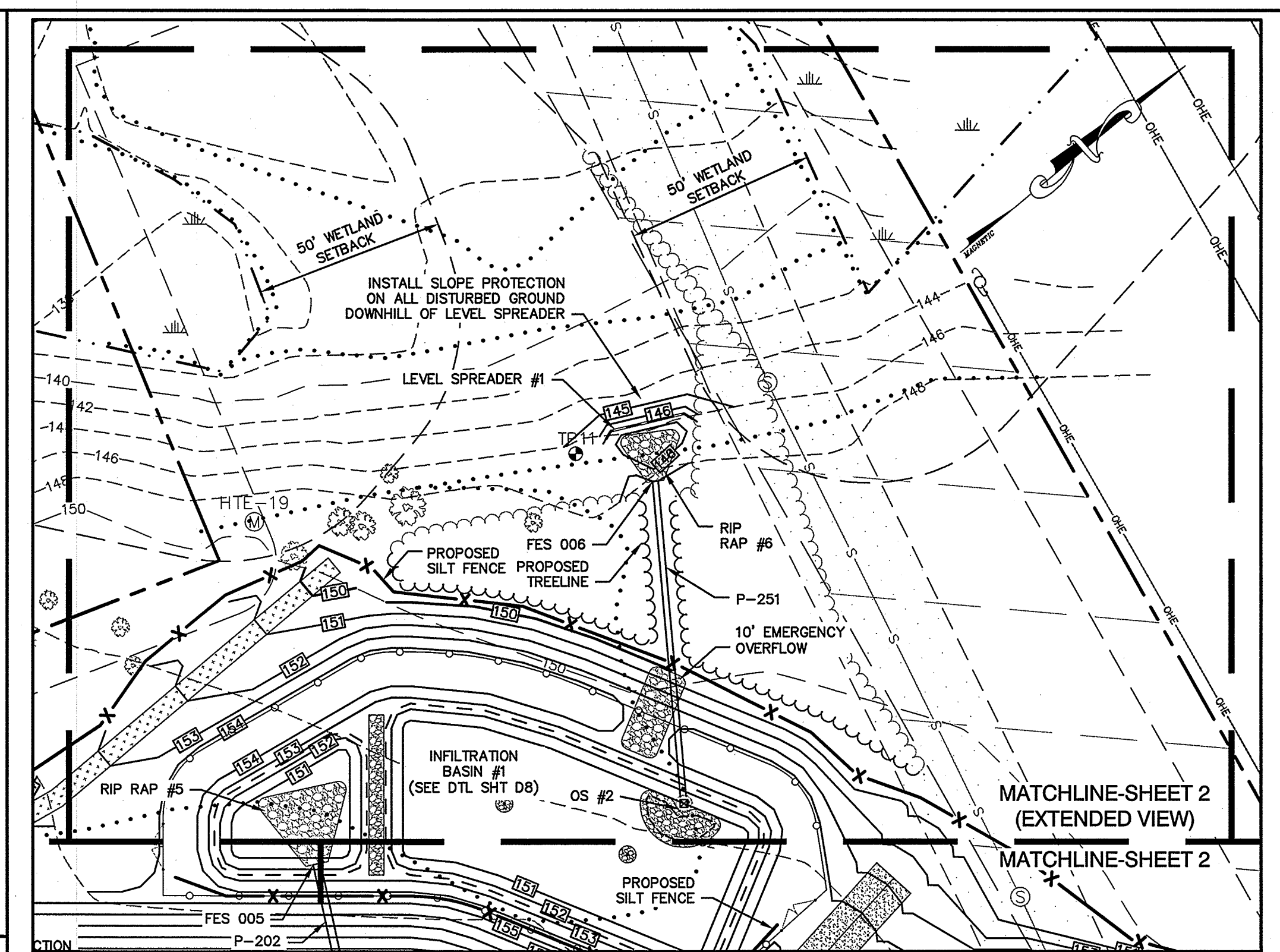
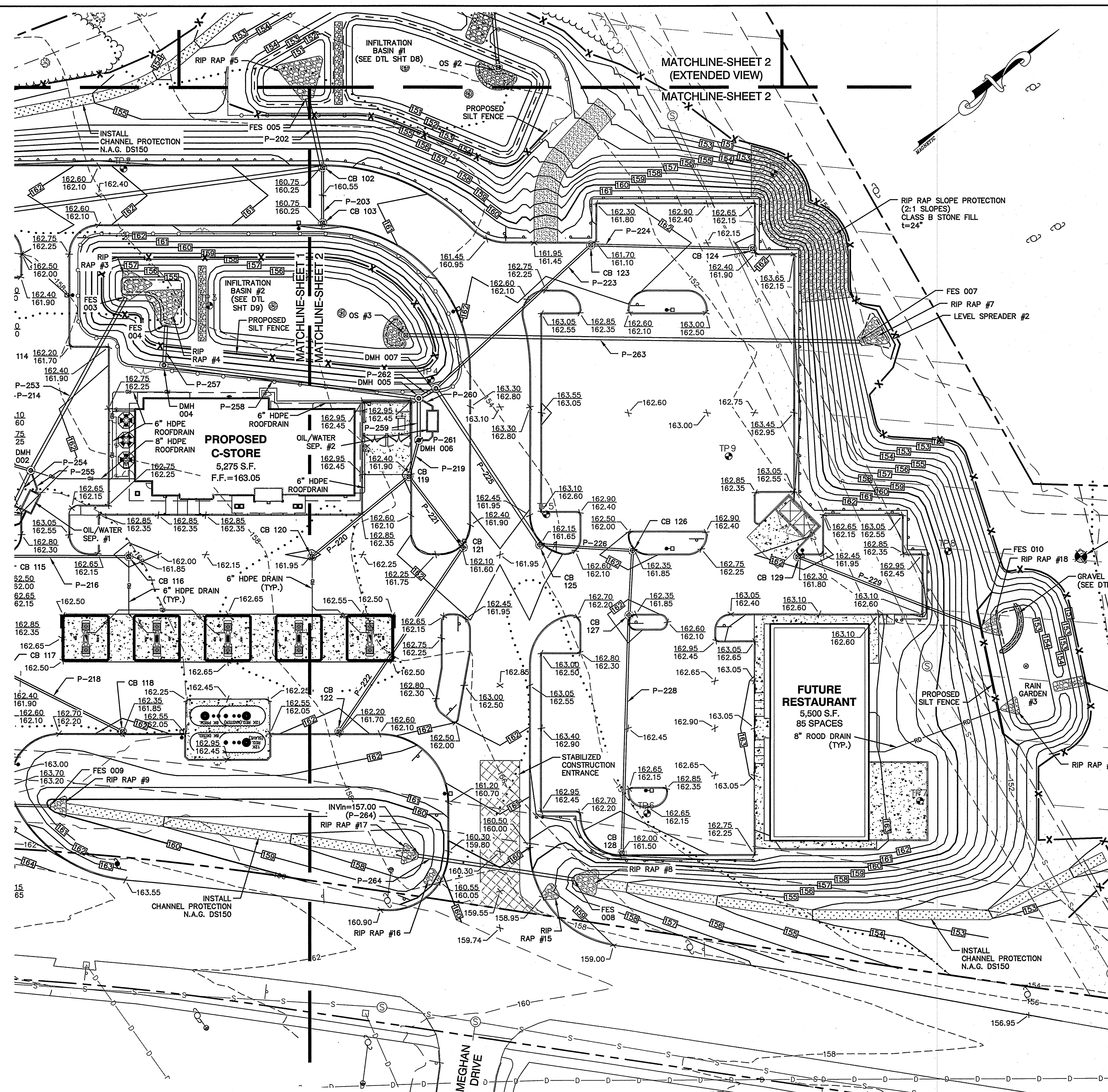
PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.



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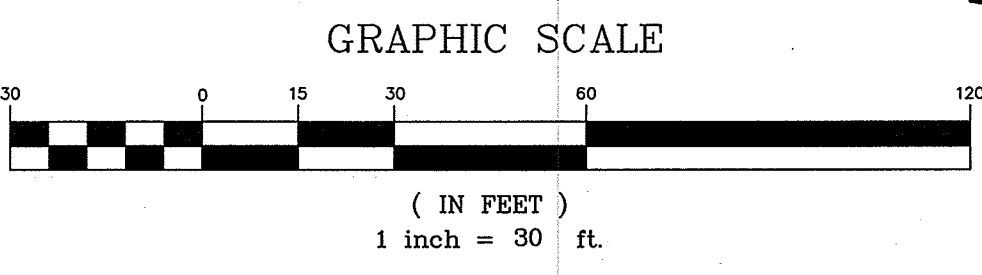


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**EXTENDED VIEW**  
SCALE: 1"=30'

CB 119 RIM=161.90 INVin=157.50 (P-220) INVout=157.50 (P-221)	CB 128 RIM=161.50 INVin=158.25 (P-228)	P-228 121"-12" HDPE S=0.005 FT/FT	DMH 005 RIM=163.00 INVin=156.75 (6" PVC) INVin=158.00 (6" RD)	LEVEL SPREADER #1 L=25' ELEV.=146.50
CB 120 RIM=161.95 INVout=157.85 (P-220)	CB 129 RIM=161.80 INVout=155.50 (P-229)	P-229 100"-12" HDPE S=0.005 FT/FT	DMH 006 (OS #5) RIM=162.60 INVin=157.30 (P-224) INVout=157.20 (P-259)	LEVEL SPREADER #2 L=25' ELEV.=150.00
CB 121 RIM=161.60 INVin=157.85 (P-222) INVout=157.75 (P-221)	CB 122 RIM=161.70 INVout=158.45 (P-227)	P-220 64"-12" HDPE S=0.006 FT/FT	P-259 21"-18" HDPE S=0.019 FT/FT	RIP RAP #6 L=13' W1=4.5' W2=17' d50=3" t=8"
CB 123 RIM=161.60 INVin=157.05 (P-224) INVout=156.95 (P-223)	CB 124 RIM=161.90 INVout=157.50 (P-224)	P-221 45"-15" HDPE S=0.006 FT/FT	P-260 10"-6" PVC S=0.010 FT/FT	RIP RAP #7 L=13' W1=4.5' W2=17' d50=3" t=8"
CB 125 RIM=161.65 INVin=157.00 (P-225) INVout=156.50 (P-226)	CB 126 RIM=161.85 INVin=157.35 (P-229) INVout=157.25 (P-226)	P-222 113"-12" HDPE S=0.005 FT/FT	P-261 10"-6" PVC S=0.010 FT/FT	RIP RAP #8 L=12' W1=4.5' W2=16' d50=3" t=8"
CB 127 RIM=161.85 INVin=157.65 (P-228) INVout=157.55 (P-227)	CB 128 RIM=161.50 INVin=158.25 (P-228)	P-223 107"-12" HDPE S=0.005 FT/FT	P-262 OS #3 RIM=153.75 INVout=153.50 (P-263)	RIP RAP #14 L=9' W1=1.5' W2=10' d50=3" t=8"
		P-224 82"-12" HDPE S=0.006 FT/FT	P-263 OS #4 RIM=157.00 INVout=153.50 (P-263)	RIP RAP #15 L=13' W1=4.5' W2=17' d50=3" t=8"
		P-225 96"-18" HDPE S=0.005 FT/FT	P-264 OS #5 RIM=156.85 INVout=156.80 (P-260)	RIP RAP #16 L=8' W1=3' W2=11' d50=3" t=8"
		P-226 47"-12" HDPE S=0.005 FT/FT	FES 006 INVin=146.50 (P-251)	RIP RAP #17 L=8' W1=3' W2=12' d50=3" t=8"
		P-227 33"-12" HDPE S=0.006 FT/FT	FES 007 INVin=150.00 (P-263)	RIP RAP #18 L=9' W1=3' W2=12' d50=3" t=8"
			FES 008 INVin=156.60 (P-264)	
			FES 010 INVin=155.00 (P-229)	



**APPROVED BY THE HUDSON, NH PLANNING BOARD**

DATE OF MEETING: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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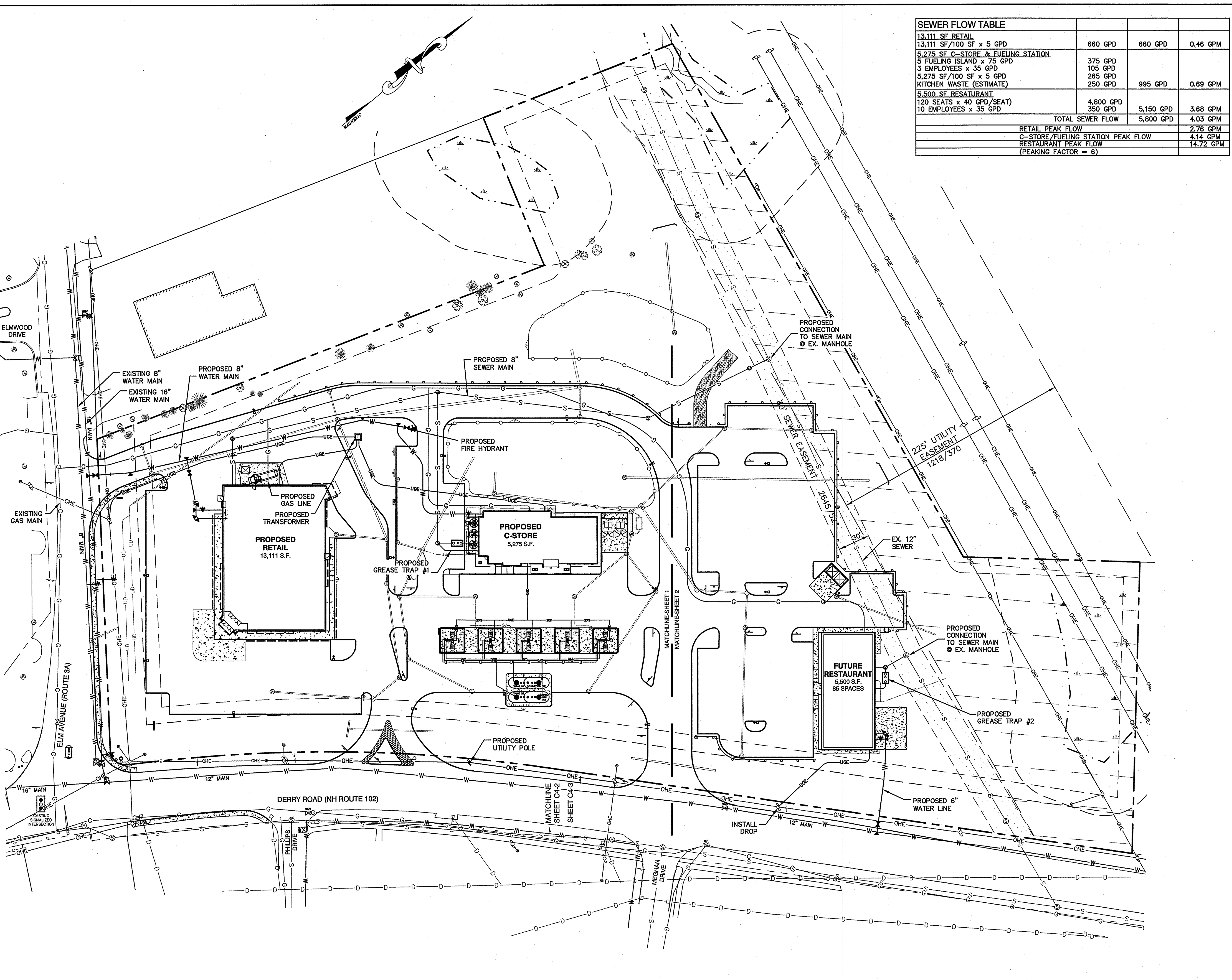
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<b>GRADING &amp; DRAINAGE PLAN</b> "120 DERRY ROAD" DERRY ROAD (RT. 102), HUDSON, NH MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)	
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i> 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JB@JONESANDBEACH.COM	
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DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM	DRAWING NO. <b>C3-2</b> SHEET 10 OF 30



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SEWER FLOW TABLE			
13,111 SF RETAIL			
13,111 SF/100 SF x 5 GPD	660 GPD	660 GPD	0.46 GPM
5,275 SF C-STORE & FUELING STATION			
5 FUELING ISLAND x 75 GPD	375 GPD		
3 EMPLOYEES x 35 GPD	105 GPD		
5,275 SF/100 SF x 5 GPD	265 GPD		
KITCHEN WASTE (ESTIMATE)	250 GPD	995 GPD	0.69 GPM
5,500 SF RESATURANT			
120 SEATS x 40 GPD/SEAT	4,800 GPD	5,150 GPD	3.88 GPM
10 EMPLOYEES x 35 GPD	350 GPD		
<b>TOTAL SEWER FLOW</b>	<b>5,800 GPD</b>	<b>5,800 GPD</b>	<b>4.03 GPM</b>
<b>RETAIL PEAK FLOW</b>			<b>2.76 GPM</b>
<b>C-STORE/FUELING STATION PEAK FLOW</b>			<b>4.14 GPM</b>
<b>RESTAURANT PEAK FLOW</b>			<b>14.72 GPM</b>
(PEAKING FACTOR = 6)			

- UTILITY NOTES:**
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
  - THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
  - THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
  - A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
  - ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
  - ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
  - BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
  - THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
  - AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
  - CONTRACTOR TO PROVIDE UNDERDRAIN, AS NECESSARY, AT DISCRETION OF THE PROJECT ENGINEER.
  - INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF 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 THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
  - FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA. CLEAR OPENING. THE WORD "SEWER" OR "DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
  - SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H2O LOADS.
  - CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
  - ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
  - PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
  - ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
  - WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMANS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICHEVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMANS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
  - ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
  - IF THE BUILDING IS REQUIRED TO HAVE A SPRINKLER SYSTEM, A PRECONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER, ARCHITECT AND THE LOCAL FIRE DEPARTMENT PRIOR TO THE INSTALLATION.
  - THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
  - DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
  - REFER TO FIRE PROTECTION SHEETS FOR LOCATION AND DETAIL OF FIRE LINE LEAD INTO TO BUILDING.
  - FIRE LINE SHALL BE STUBBED UP 1' ABOVE FINISH FLOOR ELEVATION IN SPRINKLER ROOM.
  - AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH 101 LIFE SAFETY CODE/NFPA 1 AND LOCAL REGULATIONS. FIRE DEPARTMENT CONNECTION SHALL BE FIELD VERIFIED BY LOCAL FIRE DEPARTMENT TO ENSURE OPTIMUM PLACEMENT.
  - THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
  - CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHOULD BE SENT IN TRIPLICATE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
  - EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
  - ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
  - ALL GRAVITY SEWER PIPE, MANHOLES, AND FORCE MAINS SHALL BE TESTED ACCORDING TO NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700.
  - ENV-WQ 704.07 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY USE OF LOW-PRESSURE AIR TESTS CONFORMING WITH ASTM F1417-92(2005) OR UNI-BELL PVC PIPE ASSOCIATION UNI-B-6. LINES SHALL BE CLEANED AND VISUALLY INSPECTED AND TRUE TO LINE AND GRADE. DEFLECTION TESTS SHALL TAKE PLACE AFTER 30 DAYS FOLLOWING INSTALLATION AND THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 7 1/2% OF AVERAGE INSIDE DIAMETER.
  - ENV-WQ 704.08 FORCE MAIN AND LOW PRESSURE SEWER TESTING: SHALL BE TESTED IN ACCORDANCE WITH SECTION 4 OF AWWA C600-05, AND AT A PRESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATING TYPICAL DYNAMIC HEAD OR AT LEAST 100 PSI.
  - ENV-WQ 704.10 (V) SEWER MANHOLES: SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST PRIOR TO BACKFILLING AND PLACEMENT OF SHELVES AND INVERTS.

**APPROVED BY THE HUDSON, NH PLANNING BOARD**

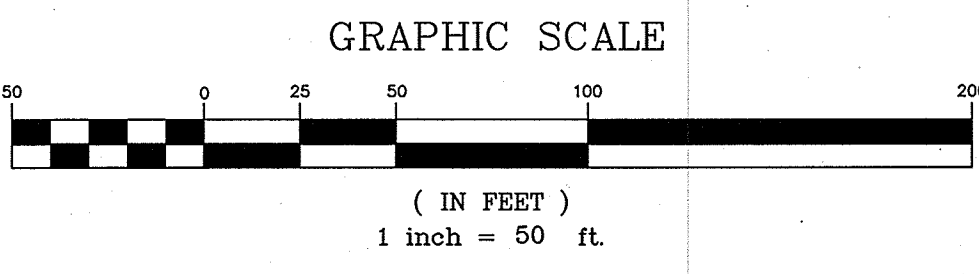
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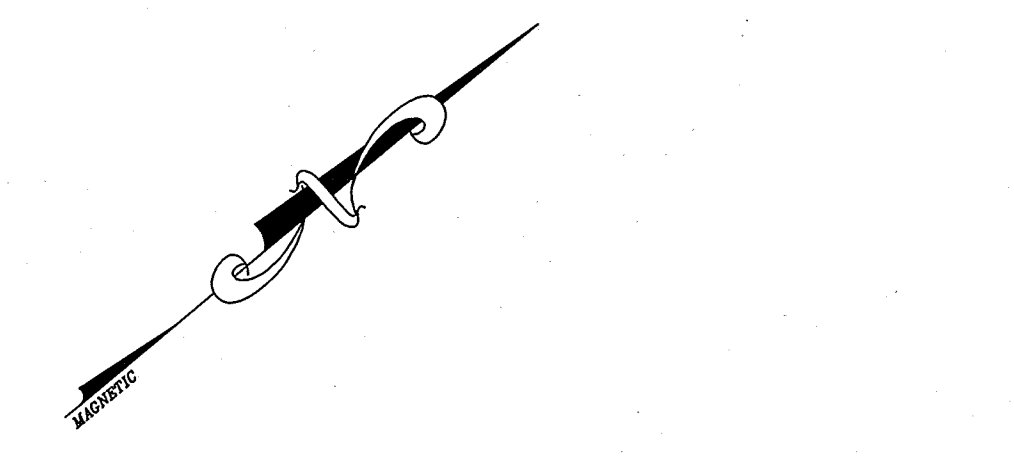
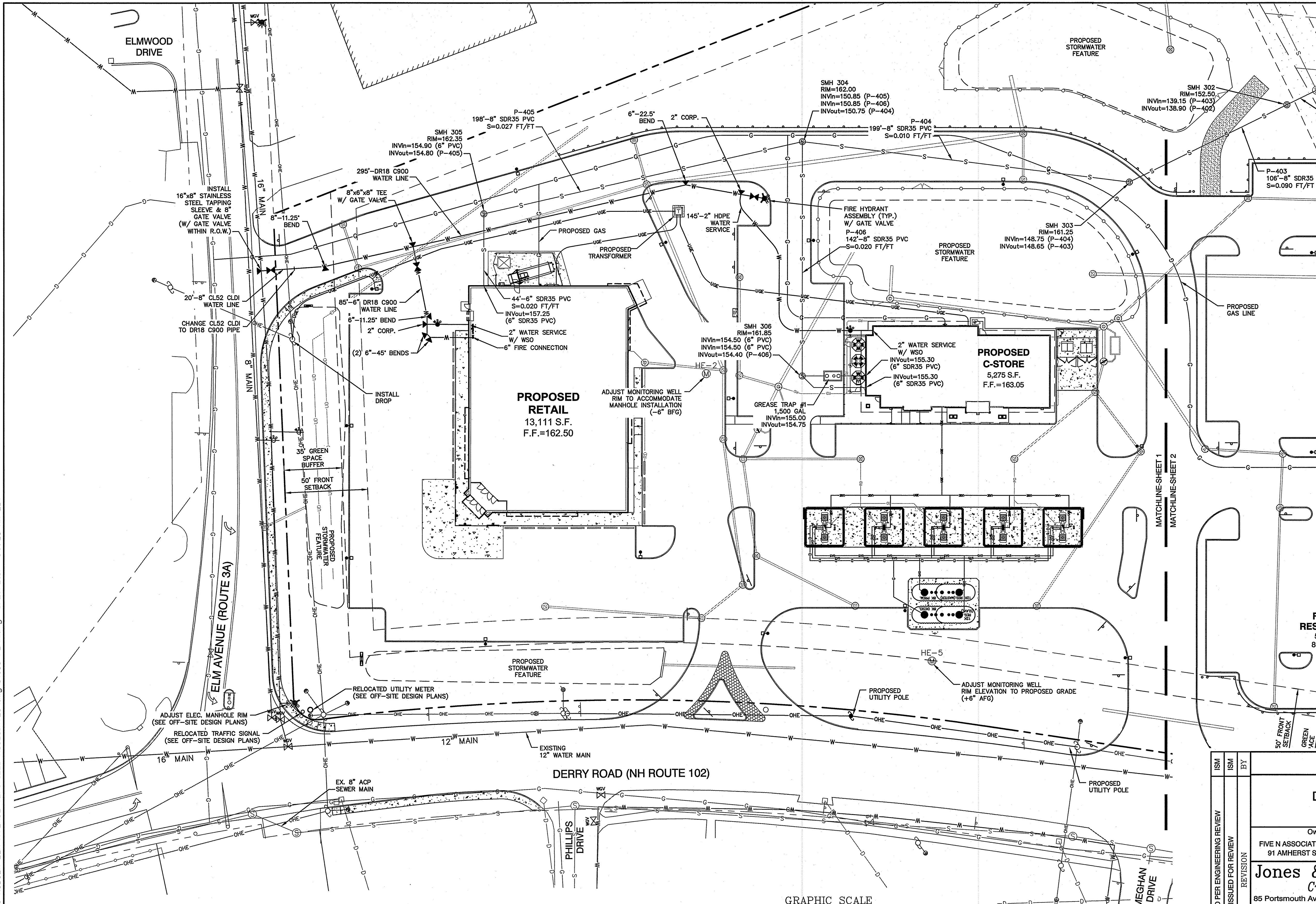
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PURSUANT TO THE SITE REVIEW REGULATIONS OF THE HUDSON PLANNING BOARD, THE SITE PLAN APPROVAL GRANTED HEREIN EXPIRES ONE YEAR FROM DATE OF APPROVAL.



REVISION		BY		OVERALL UTILITY PLAN			
1	8/28/17	0	7/14/17	<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC) Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064 Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844 <b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i> 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM <b>DRAWING NO. C4</b>			
1	0	0	7/14/17				
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- UTILITY NOTES (CONT'D):**
34. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
  35. SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
  36. SEWER AND WATER INFRASTRUCTURE ON PRIVATE PROPERTY IS TO REMAIN PRIVATE, HOWEVER, THE TOWN RESERVES THE RIGHT TO ENTER THE PROPERTY IN ORDER TO INSPECT, REPAIR AND/OR TERMINATE INDIVIDUAL SEWER OR WATER SERVICES (AT OWNER'S EXPENSE). THIS RIGHT IS TO BE CONVEYED TO THE TOWN IN THE SITE'S DECLARATION OF CONDOMINIUM DOCUMENTS, AND IN ALL INDIVIDUAL DEEDS.
  37. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5'-0" FROM HYDRANT.
  38. THE CONTRACTOR SHALL MINIMIZE THE DISRUPTIONS TO THE EXISTING SEWER FLOWS AND THOSE INTERRUPTIONS SHALL BE LIMITED TO FOUR (4) HOURS OR LESS AS DESIGNATED BY THE TOWN SEWER DEPARTMENT.
  39. THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO USERS AT ALL TIMES. REQUIREMENTS BY THE TOWN WATER DEPARTMENT REGARDING NOTIFICATION FOR INTERRUPTION OF SERVICE SHOULD BE INCLUDED (TYPICALLY 24 HOURS) AND ALLOWABLE INTERRUPTION DURATION, WATER TESTING AND DISINFECTION REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH TOWN AND MHDES REGULATIONS.
  40. CONTRACTOR SHALL INSTALL RIGID FOAM INSULATION BETWEEN DRAINAGE LINES AND WATER/SEWER LINES WHEN SEPARATION IS LESS THAN 12".

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1	0	REV. DATE
8/28/17	7/14/17	

<b>UTILITY PLAN</b>	
<b>"120 DERRY ROAD"</b> DERRY ROAD (RT. 102), HUDSON, NH MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)	
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885	603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM
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PROJECT No.: 14053	SCALE: AS NOTED
	SHEET 12 OF 30

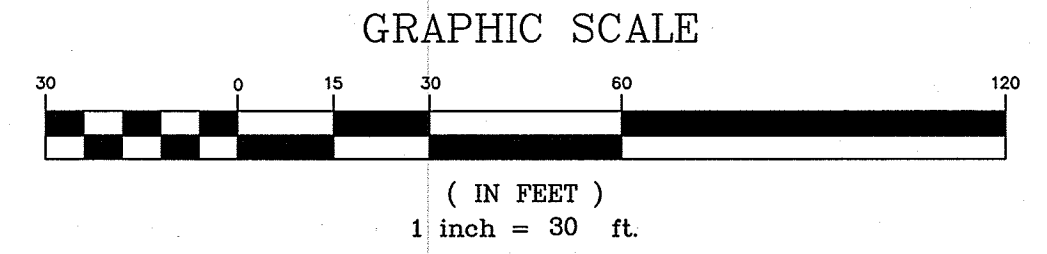
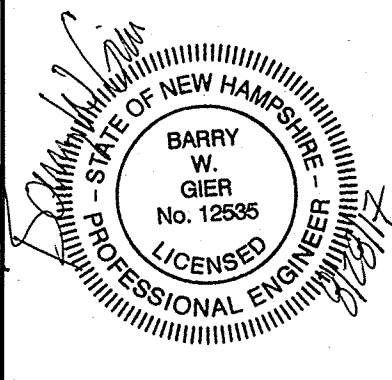
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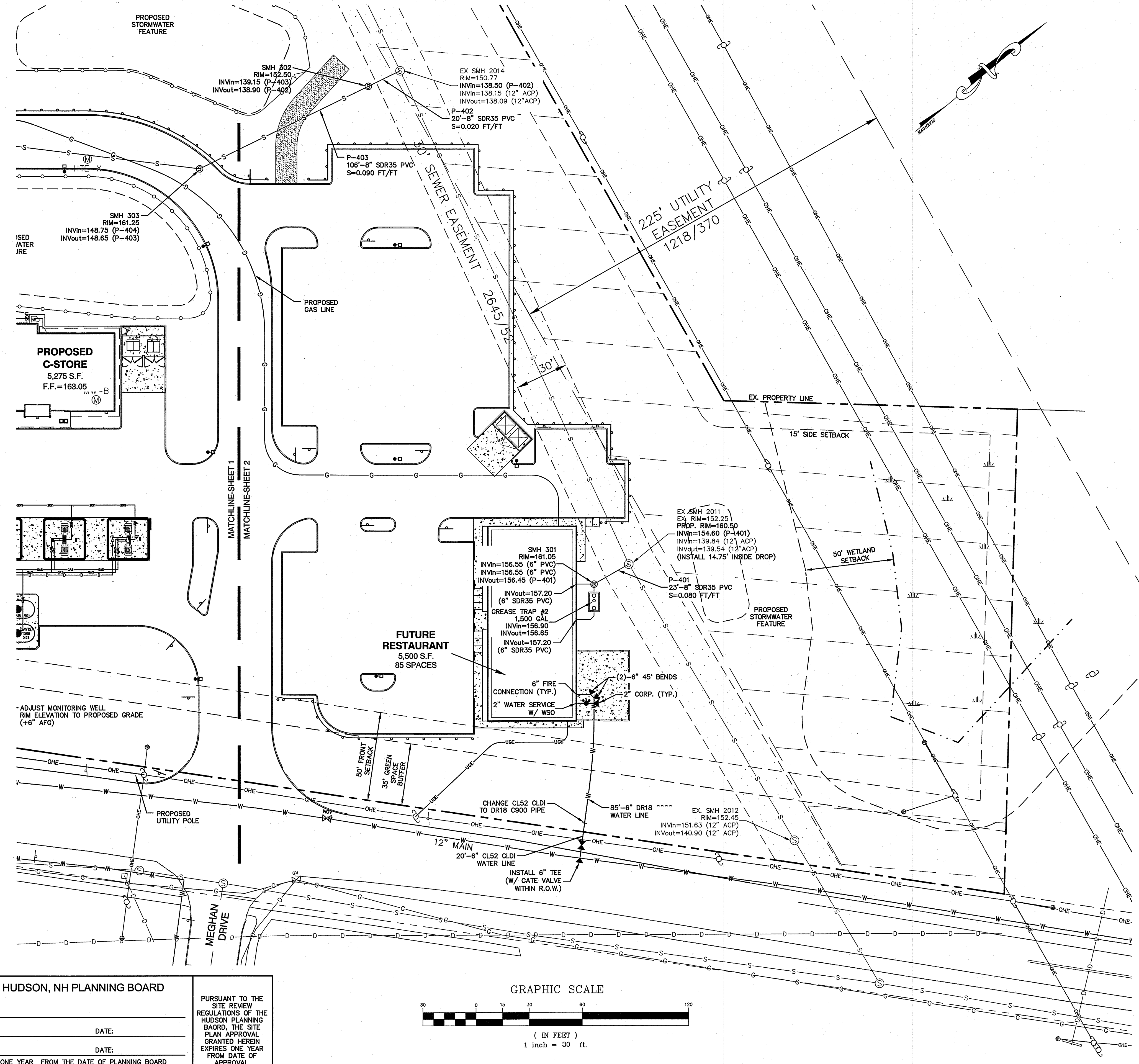
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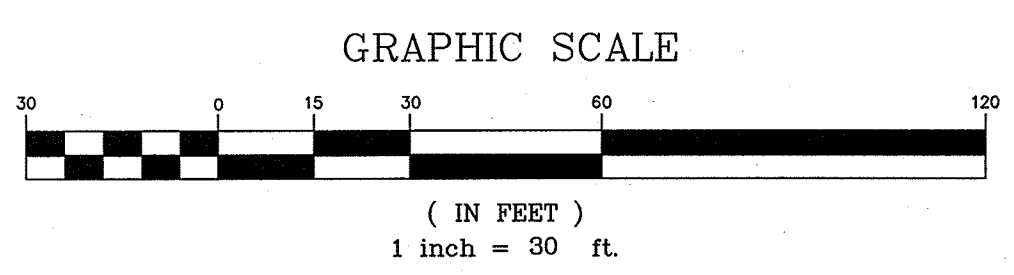
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REVISION		DATE	BY
1	8/28/17		
0	7/14/17		

**UTILITY PLAN**

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
**MAP 156. LOTS 15 & 16**  
**TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)**

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
 91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*

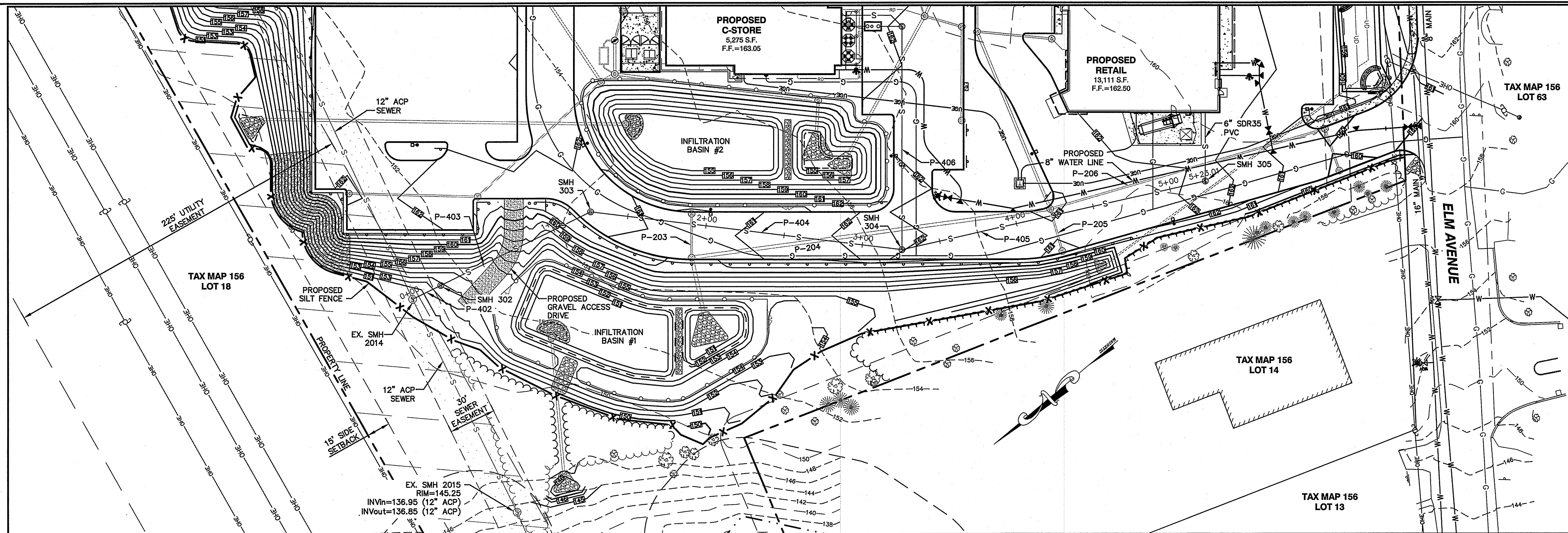
85 Portsmouth Ave. Stratham, NH 03885  
 603-772-4746  
 FAX: 603-772-0227  
 E-MAIL: JBE@JONESANDBEACH.COM

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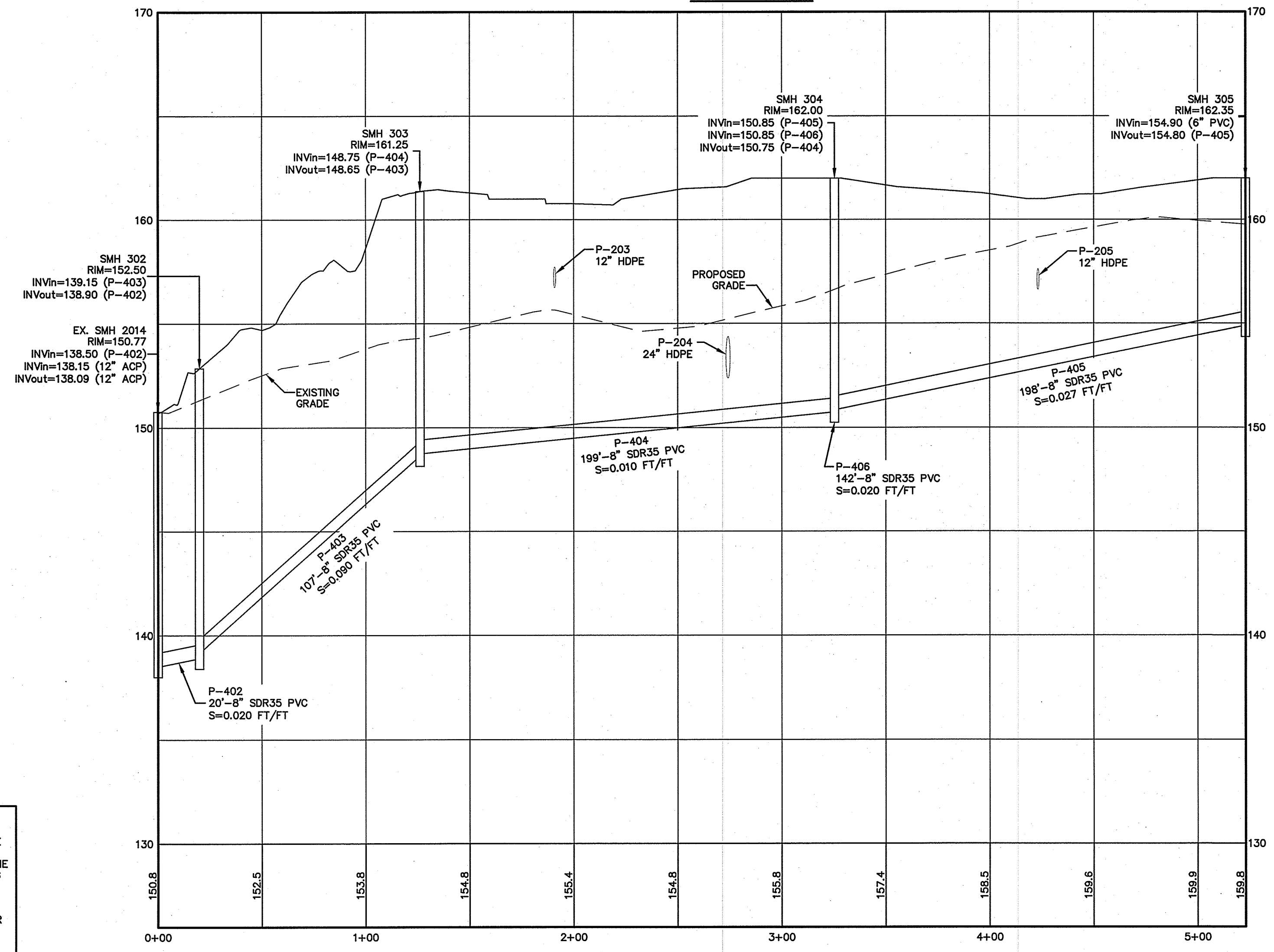
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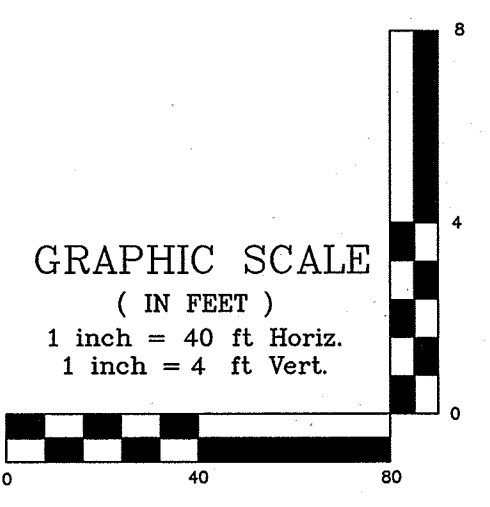
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**SEWER PLAN**



**SEWER PROFILE**



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REV	DATE	BY	DESCRIPTION
1	8/28/17	ISM	REVISED PER ENGINEERING REVIEW
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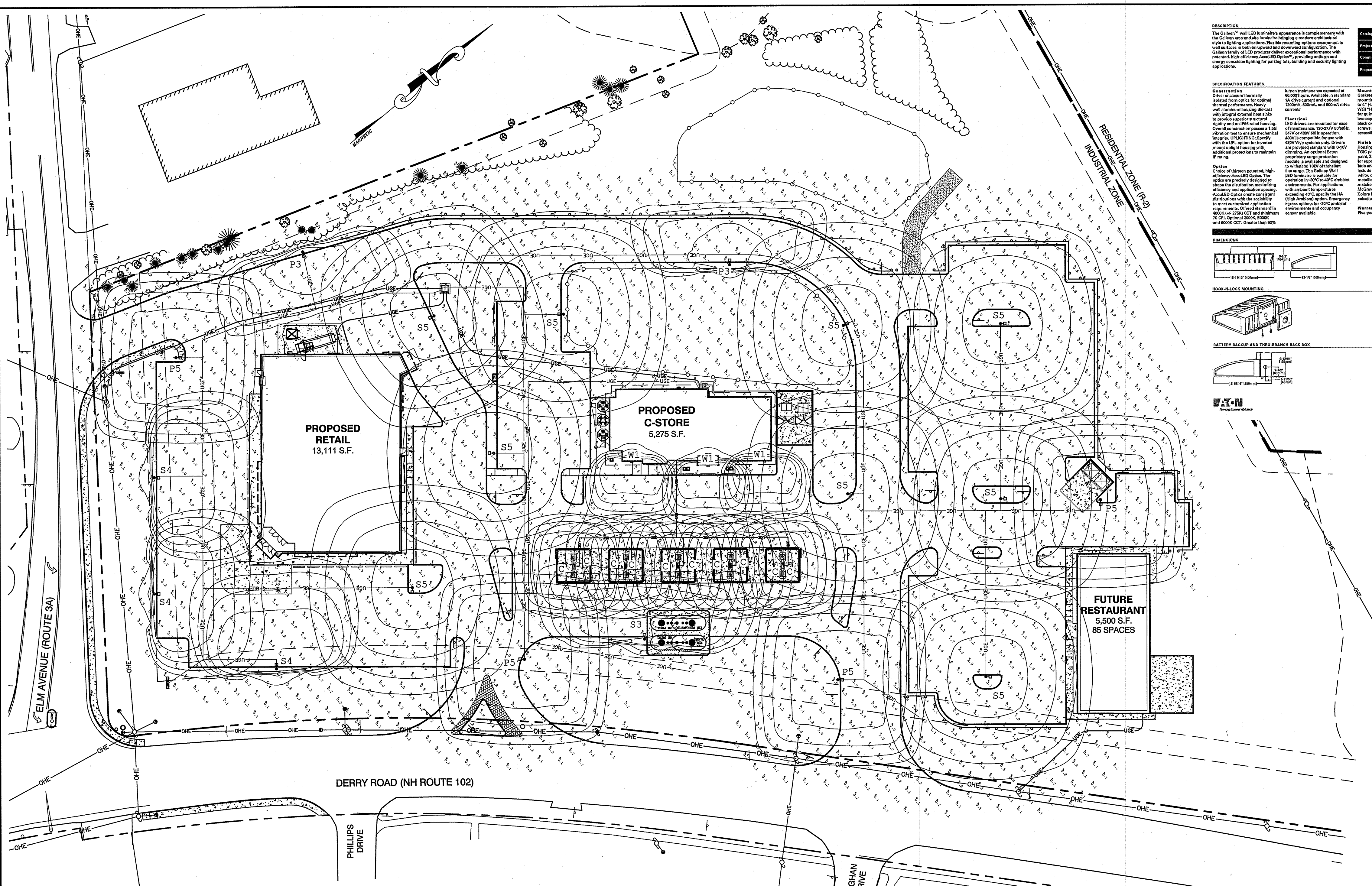
  

<b>SEWER PLAN &amp; PROFILE</b>	
<b>"120 DERRY ROAD"</b> DERRY ROAD (RT. 102), HUDSON, NH MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)	
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885	603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM
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**DRAWING NO.**  
**C4-3**



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RETAIL PARKING LOT AREAS	SW PARKING LOT AREA OF C-STORE	PARKING IN FRONT OF C-STORE	UNDER FUELING CANOPY AT C-STORE	MAIN PARKING AREAS FOR REST
Illuminance (Fc) Average = 2.59 Maximum = 6.2 Minimum = 0.7 Avg/Min Ratio = 3.70 Max/Min Ratio = 8.86	Illuminance (Fc) Average = 1.74 Maximum = 6.3 Minimum = 0.5 Avg/Min Ratio = 3.48 Max/Min Ratio = 6.60	Illuminance (Fc) Average = 3.09 Maximum = 6.0 Minimum = 0.9 Avg/Min Ratio = 3.43 Max/Min Ratio = 7.00	Illuminance (Fc) Average = 5.14 Maximum = 6.3 Minimum = 3.4 Avg/Min Ratio = 1.51 Max/Min Ratio = 1.76	Illuminance (Fc) Average = 4.3 Maximum = 6.0 Minimum = 0.5 Avg/Min Ratio = 3.52 Max/Min Ratio = 8.60

Symbol	Qty	Label	Arrangement	Description
CNC	10	C	SINGLE	CNC-B02-LED-E1-CO/ CANOPY MOUNTED
P3	2	P3	SINGLE	GLEON-AE-02-LED-E1-SL3-HSS / DS330-400Q200-D1-FF-F-FBC-AB (20' AFG)
S3	1	S3	SINGLE	GLEON-AE-04-LED-E1-SL3-HSS / DS330-400Q200-D1-FF-F-FBC-AB (20' AFG)
S4	3	S4	SINGLE	GLEON-AE-04-LED-E1-SL4-HSS / DS330-400Q200-D1-FF-F-FBC-AB (20' AFG)
S5	9	S5	SINGLE	GLEON-AE-04-LED-E1-5WQ / DS330-400Q200-D1-FF-F-FBC-AB (20' AFG)
P5	4	P5	SINGLE	GLEON-AE-04-LED-E1-5WQ / DS330-400Q200-D1-FF-F-FBC-AB (20' AFG)
W1	3	W1	SINGLE	GWC-AF-01-LED-E1-SL4 / WALL MTD 10' AFG

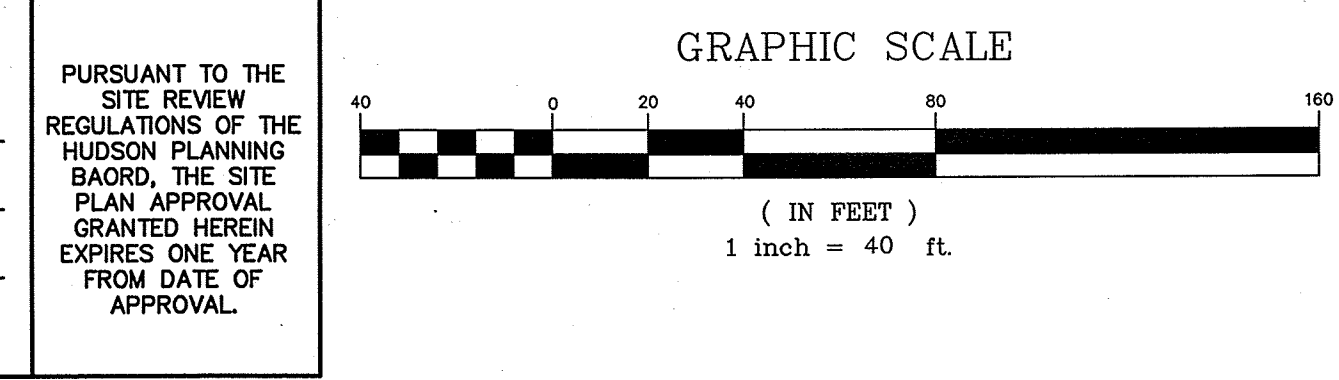
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**LIGHTING AND ELECTRICAL NOTES:**

- SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
- CONTRACTOR SHALL INSTALL PROPOSED LIGHT POLES ACCORDING TO TOWN REGULATIONS.
- ALL OUTDOOR LIGHTING SYSTEMS SHALL BE EQUIPPED WITH TIMERS TO REDUCE ILLUMINATION LEVELS TO NON-OPERATIONAL VALUES PER TOWN REGULATIONS.
- LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
- ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT-CANDLES.
- LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
- ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF DARK-SKY COMPLIANT, UNLESS OTHERWISE NOTED.
- THE PROPOSED LIGHTING CALCULATIONS AND DESIGN WAS PERFORMED BY CHARRON, INC., P.O. BOX 4550, MANCHESTER, NH 03108, ATTENTION KEN SWEENEY. ALL LIGHTS SHOULD BE PURCHASED FROM THIS COMPANY, OR AN EQUAL LIGHTING DESIGN SHOULD BE SUBMITTED FOR REVIEW IF EQUAL SUBSTITUTIONS ARE PROPOSED BY THE CONTRACTOR OR OWNER.
- HOURS OF OPERATION: PROPOSED RETAIL: 8am - 9pm  
PROPOSED C-STORE/FUELING STATION: 24 HOURS  
PROPOSED RESTAURANT: 11am - 11pm

### McGraw-Edison

**DESCRIPTION:** The Galleon™ wall LED luminaire's appearance is complementary with the Galleon area and the Galleon lighting system and provides a safe and secure lighting solution. The Galleon family of LED products deliver exceptional performance with uniform, high-efficiency AccuLED Optics™ providing uniform and energy conscious lighting for parking lots, building and security lighting applications.

**CONSTRUCTION:** Galleon luminaire is designed to be installed on a wall. The luminaire is constructed from die-cast aluminum and is finished with a powder coat. The luminaire is designed to be installed on a wall. The luminaire is constructed from die-cast aluminum and is finished with a powder coat. The luminaire is designed to be installed on a wall. The luminaire is constructed from die-cast aluminum and is finished with a powder coat.

**OPTICS:** Choice of 10° beam spread, high-efficiency AccuLED Optics™. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics™ creates consistent distribution with the standard 1000K, 1500K, 2700K, 3000K, 4000K, 5000K, and 6000K CCT. Greater than 90% efficacy.

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### McGraw-Edison

**DESCRIPTION:** The Concise™ wall LED luminaire features a rugged and low profile housing construction incorporating patent pending, modular LED LightBAR™ technology. Through superior optical control, Concise delivers uniform and energy conscious illumination optimized to improve vehicular movement and pedestrian safety. UL6060, listed for wet locations.

**CONSTRUCTION:** One-piece, low copper die-cast aluminum housing features heavy wall construction for superior heat transfer and resistance to corrosion. Corrosion resistant aluminum housing is finished with a powder coat. Concise is designed for use in wet locations. Concise is designed for use in wet locations. Concise is designed for use in wet locations.

**OPTICS:** Choice of 10° beam spread, high-efficiency AccuLED Optics™. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. Concise Optics™ creates consistent distribution with the standard 1000K, 1500K, 2700K, 3000K, 4000K, 5000K, and 6000K CCT. Greater than 90% efficacy.

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**LIGHTING PLAN**

**"120 DERRY ROAD"**  
**DERRY ROAD (RT. 102), HUDSON, NH**  
**MAP 156, LOTS 15 & 16**  
**TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)**

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
*Civil Engineering Services*  
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885  
603-772-4746  
FAX: 603-772-0227  
E-MAIL: JBE@JONESANDBEACH.COM

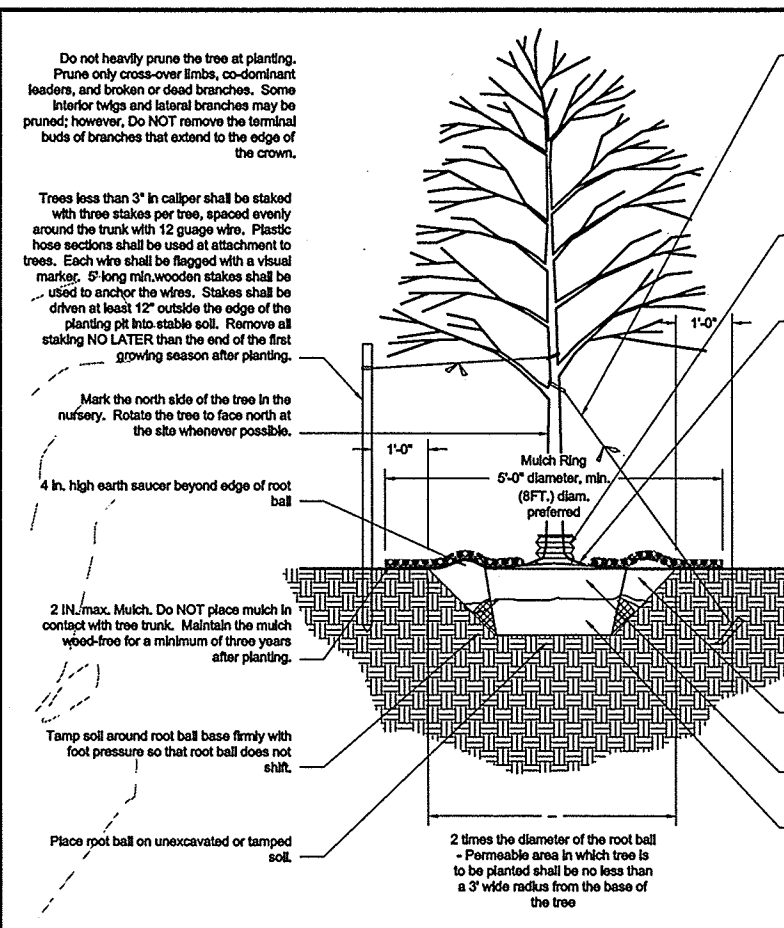
DRAWING NO. **LP1**

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
DRAWING NAME: 14053-PLAN.dwg  
PROJECT No.: 14053 SCALE: AS NOTED SHEET 15 OF 30

REVISED PER ENGINEERING REVIEW	BY	DATE	REVISION
1	ISM	8/28/17	ISSUED FOR REVIEW
0	BY	7/14/17	REVISION





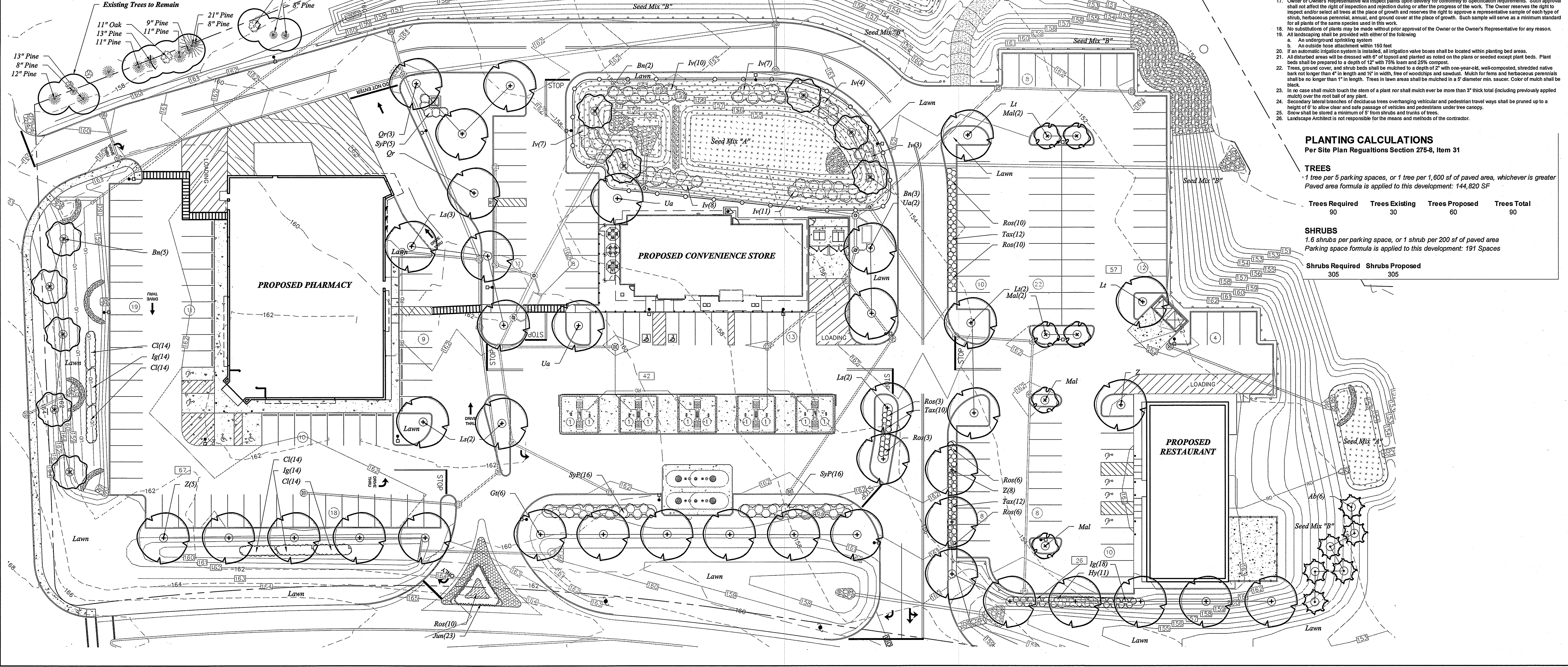
**TREE PLANTING DETAIL, TYP.**

**Plant List**

TREES	Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ab		<i>Abies balsamea</i>	Balsam Fir	6	8-10' FR	B&B
Bn		<i>Betula nigra</i>	Heritage River Birch	10	8-10' FR	B&B Multi-Stem
Gl		<i>Gleditsia triacanthos</i>	Haltia Thornless Honeylocust	6	2-2.5' Cal	B&B
Ls		<i>Liquidambar styraciflua</i>	American Sweetgum	7	2-2.5' Cal	B&B
Lt		<i>Liriodendron tulipifera</i>	Tulip Tree	4	2-2.5' Cal	B&B
Mal		<i>Malus Sugar Tyme</i>	Sugar Tyme White Crabapple	5	2-2.5' Cal	B&B
Qr		<i>Quercus rubra</i>	Red Oak	4	2-2.5' Cal	B&B
Ua		<i>Ulmus americana</i>	Princeton American Elm	4	2-2.5' Cal	B&B
Z		<i>Zelkova serrata</i>	Green Vase Zelkova	14	2-2.5' Cal	B&B

SHRUBS	Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cl		<i>Clethra alnifolia</i>	Compact Summersweet	55	5 gal	
Hy		<i>Hydrangea paniculata</i>	Little Lime Hydrangea	11	5 gal	
Iv		<i>Ilex glabra</i>	Shamrock Holly	46	5 gal	full to ground
Iv		<i>Ilex verticillata</i>	Maryland Beauty Winterberry	50	5 gal	
Jun		<i>Juniperus chinensis</i>	Sargent Juniper	23	5 gal	
Ros		<i>Rosa Knockout</i>	Knockout Rose	48	3 gal	
SyP		<i>Syringa mayreni</i>	Dwarf Korean Lilac	37	3-4' Ht	B&B
Tax		<i>Taxus media</i>	Ever-Low Yew	34	18-24" Ht	B&B



- Seed Mixes:**
- Seed Mix A: 50% New England Wetland Plants - New England Wetland Mix; 50% New England Wetland Plants - New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites
  - Seed Mix B: 100% New England Wetland Plants - New England Conservation/Wildlife Mix
- Lawn:** Tall Fescue bluegrass mix, such as Pennington Smartseed Tall Fescue Bluegrass Mix - or Approved equal
- Application Rates:**
- Seed Mix A: 50% @ 22lbs/acre New England Wetland Mix; 50% @ 50lbs/acre New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites
  - Seed Mix B: 30lbs/acre New England Conservation/Wildlife Mix
- Lawn:** As recommended by seed provider

- LANDSCAPE NOTES**
- Design is based on drawings by Jones & Beach Engineers, Inc. dated 08/2017 and may require adjustment due to actual field conditions.
  - Contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
  - Erosion Control shall be in place prior to construction.
  - The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grades prior to construction.
  - It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect or changes in layout and/or grades exist, the contractor shall provide a set of drawings at the request of the contractor.
  - It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect or changes in layout and/or grades exist, the contractor shall provide a set of drawings at the request of the contractor.
  - Trees to remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portable toilets within the tree protection area.
  - Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
  - The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call 811 or 1-888-344-7233.
  - The Contractor shall procure any required permits prior to construction.
  - Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
  - Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
  - The Contractor shall furnish and plant all plants shown on the drawings and listed therein. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
  - A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
  - All plants shall be lightly tagged with proper botanical names.
  - The Contractor shall guarantee all plants for not less than one year from time of acceptance.
  - Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
  - No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
  - All landscaping shall be provided with either of the following:
    - An underground sprinkling system
    - An outside hose attachment within 150 feet
  - If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
  - All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
  - Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 3/4" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
  - In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
  - Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
  - Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
  - Landscape Architect is not responsible for the means and methods of the contractor.

**PLANTING CALCULATIONS**

Per Site Plan Regulations Section 275-8, Item 31

**TREES**  
1 tree per 5 parking spaces, or 1 tree per 1,600 sf of paved area, whichever is greater  
Paved area formula is applied to this development: 144,820 SF

Trees Required	Trees Existing	Trees Proposed	Trees Total
90	30	60	90

**SHRUBS**  
1.6 shrubs per parking space, or 1 shrub per 200 sf of paved area  
Parking space formula is applied to this development: 191 Spaces

Shrubs Required	Shrubs Proposed
305	305

APPROVED BY THE HUDSON, NH PLANNING BOARD  
DATE OF MEETING: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
SITE PLANS ARE VALID FOR ONE YEAR FROM THE DATE OF PLANNING BOARD MEETING FINAL APPROVAL. FINAL APPROVAL CONSIDERS AT THE PLANNING BOARD MEETING DATE AT WHICH THE PLAN RECEIVES FINAL APPROVAL.

Design: VM Draft: VM Date: 08/02/17  
Checked: FW Scale: 1"=30' Project No.: 14053  
Drawing Name: 14053-DESIGN.dwg  
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

REV.	DATE	REVISION	BY
1	8.29.17	Per Town Comments	VM
			BY

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

**LANDSCAPE PLAN**  
MAP 156, LOT 15

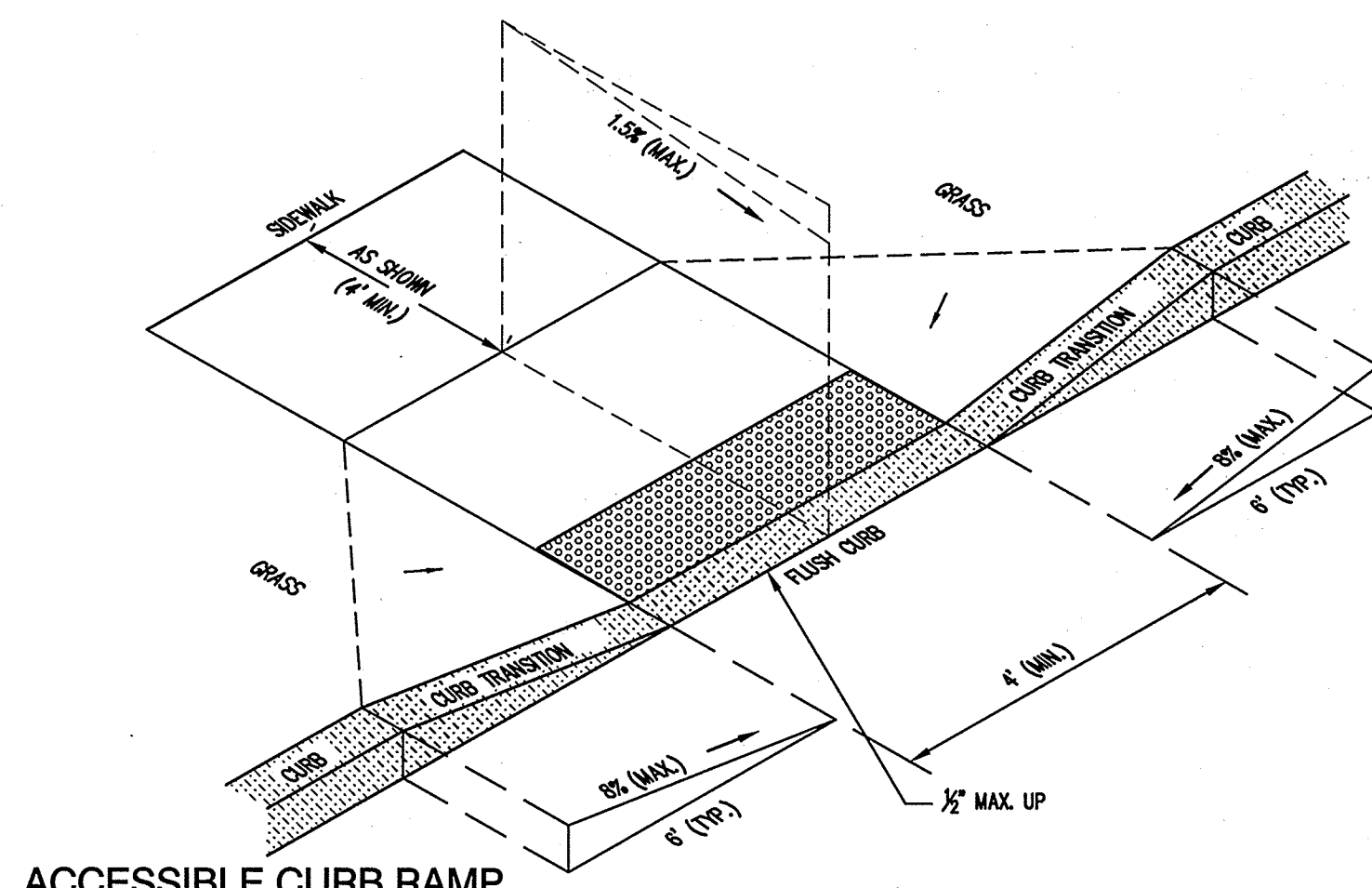
Project: 120 DERRY ROAD (ROUTE 102), HUDSON, NH

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
91 AMHERST STREET NASHUA, NH 03064

**L1.0**  
SHEET 17 OF 30  
JBE PROJECT NO. 14053



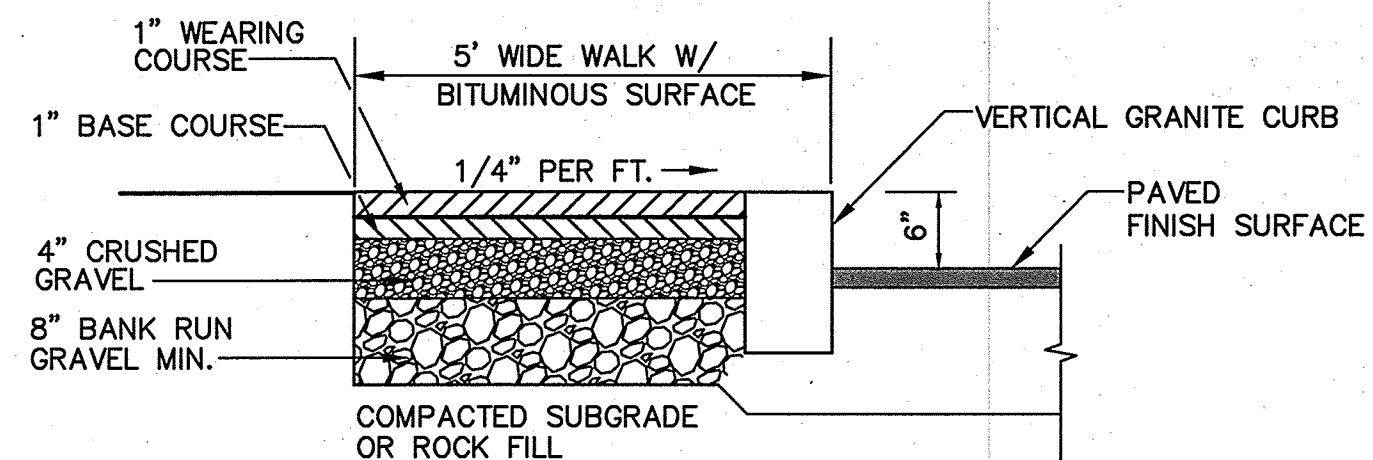
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- NOTES:**
1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
  2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
  3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8%.
  4. A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
  5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
  6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
  7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

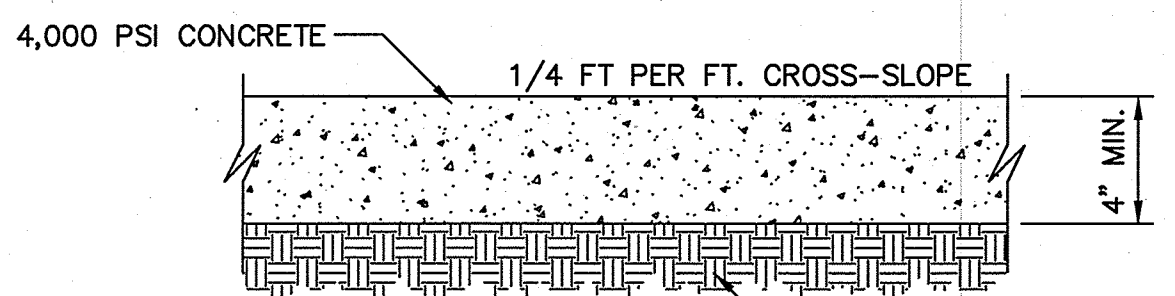
**ACCESSIBLE CURB RAMP**

NOT TO SCALE



**BIT. SIDEWALK w/VERTICAL GRANITE CURB**

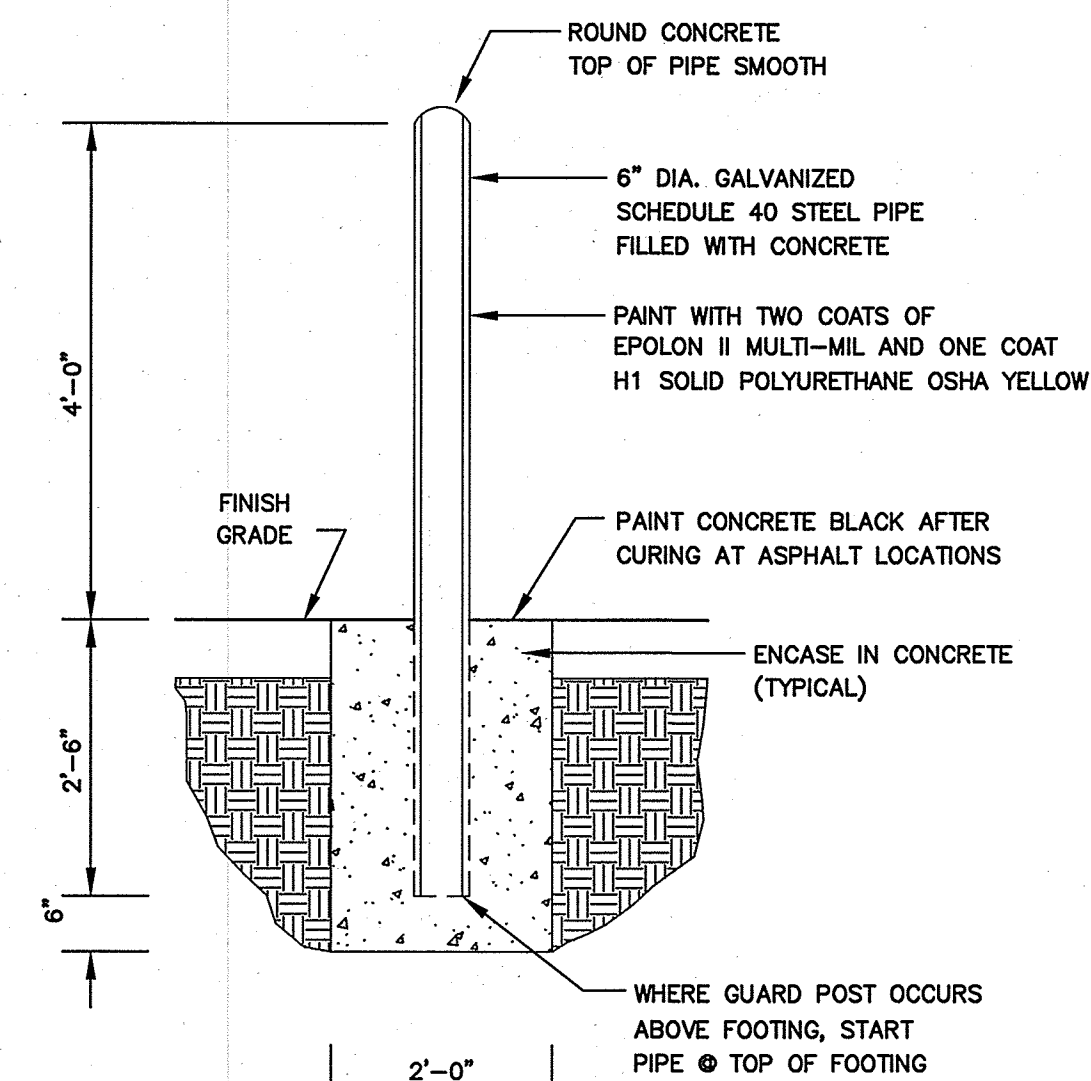
NOT TO SCALE



- NOTES:**
1. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH
  2. EXPANSION JOINTS 24' O/C
  3. ALL JOINTS SEALED PER SPEC

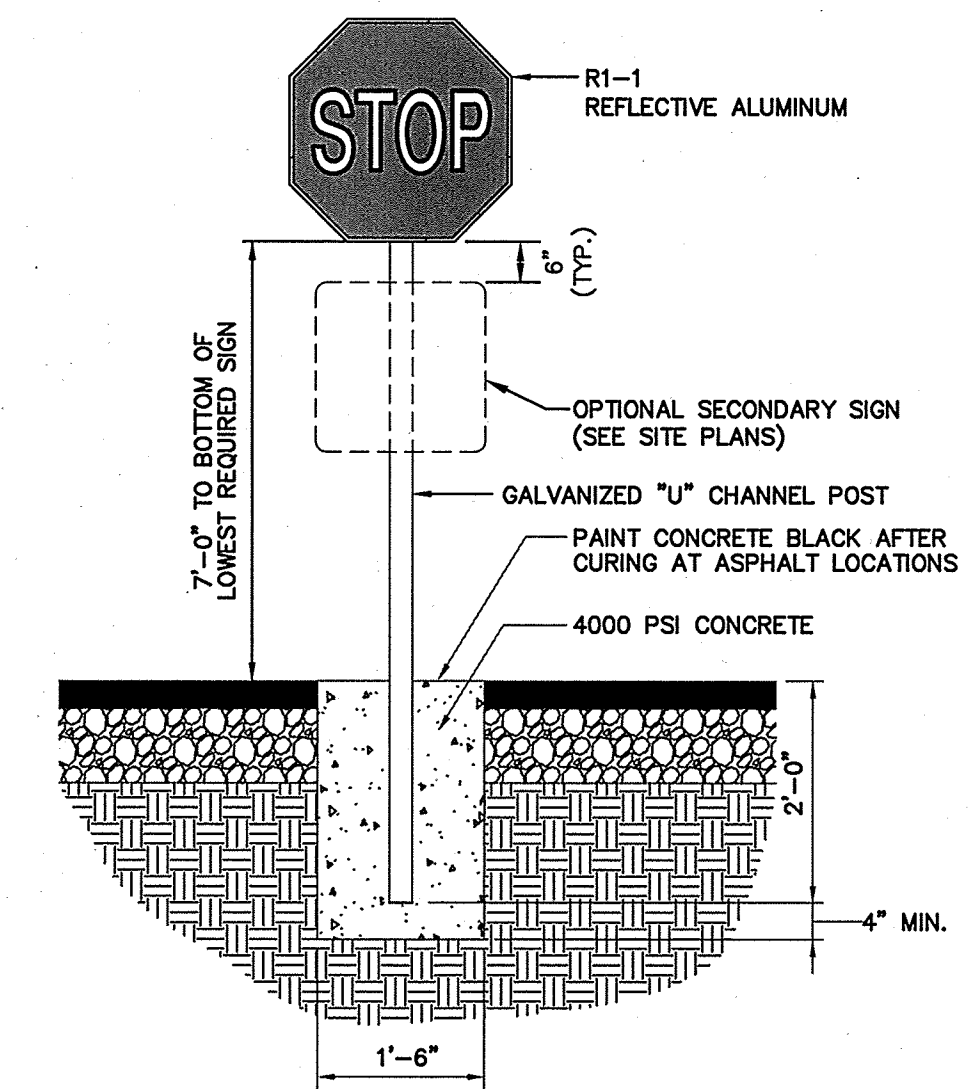
**SIDEWALK DETAIL**

NOT TO SCALE



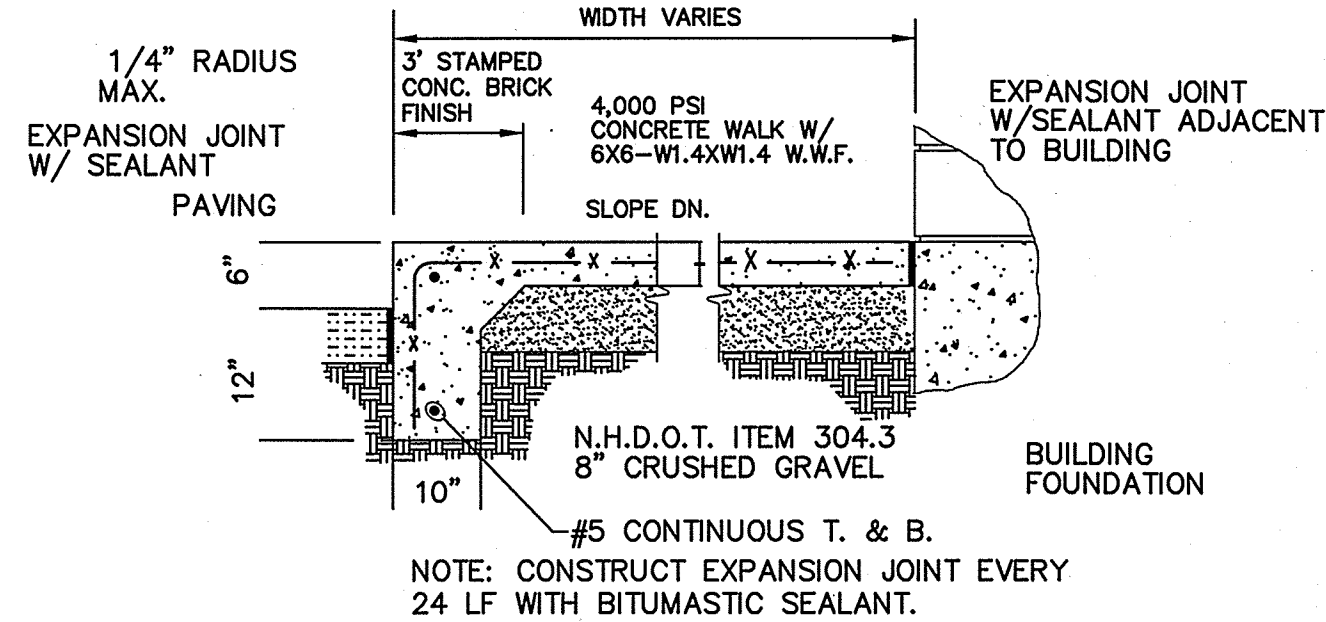
**BOLLARD**

NOT TO SCALE



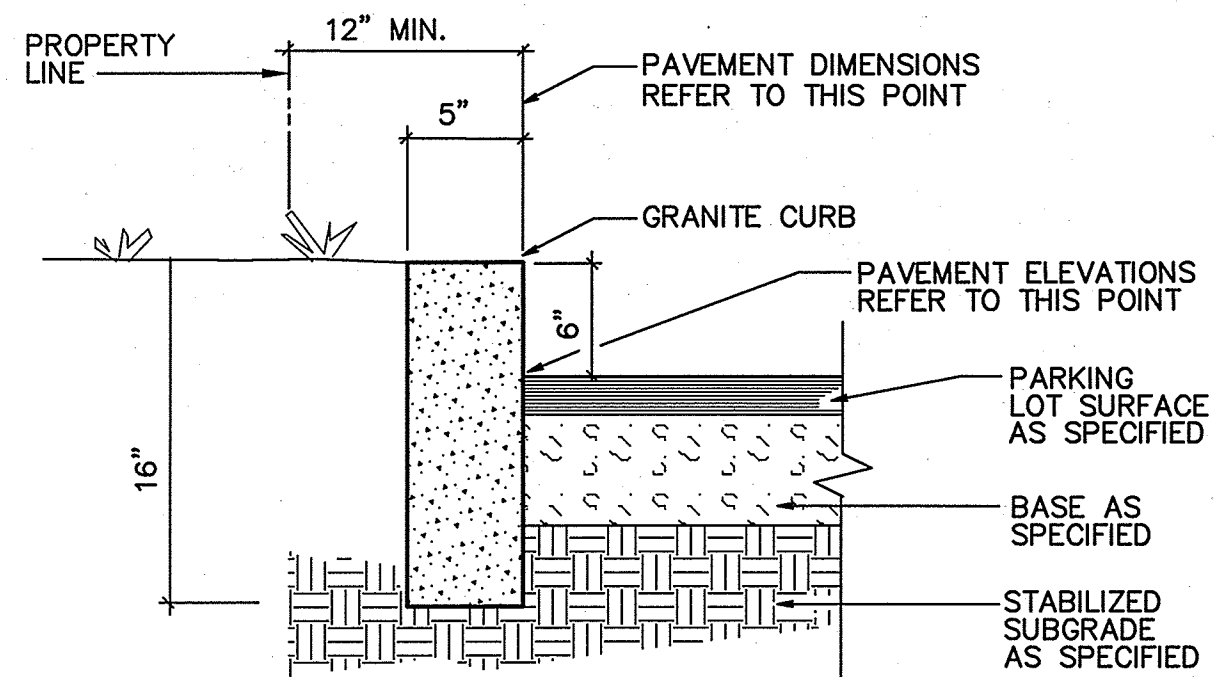
**STOP SIGN**

NOT TO SCALE



**TYPICAL MONOLITHIC CONCRETE SIDEWALK (STOREFRONT)**

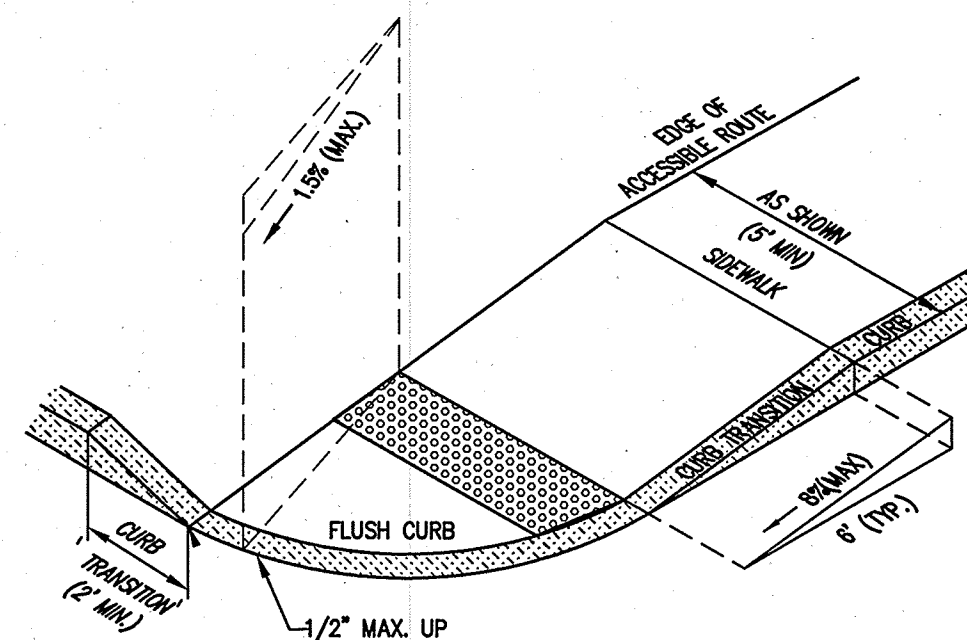
NOT TO SCALE



- NOTES:**
1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
  2. JOINTS BETWEEN STONES SHALL BE MORTARED.

**VERTICAL GRANITE CURB**

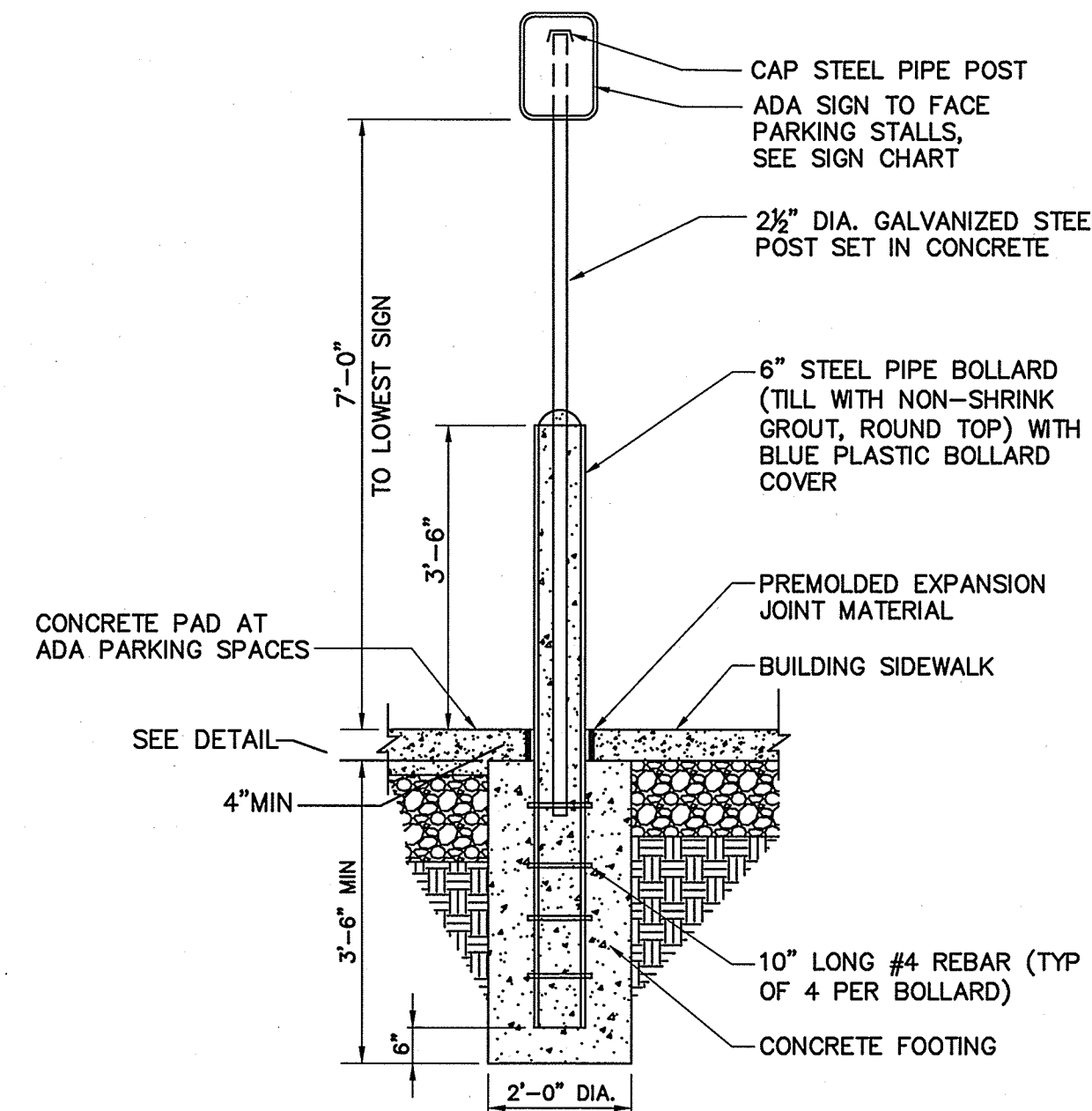
NOT TO SCALE



- NOTES:**
1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
  2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
  3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8%.
  4. A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
  5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
  6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
  7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

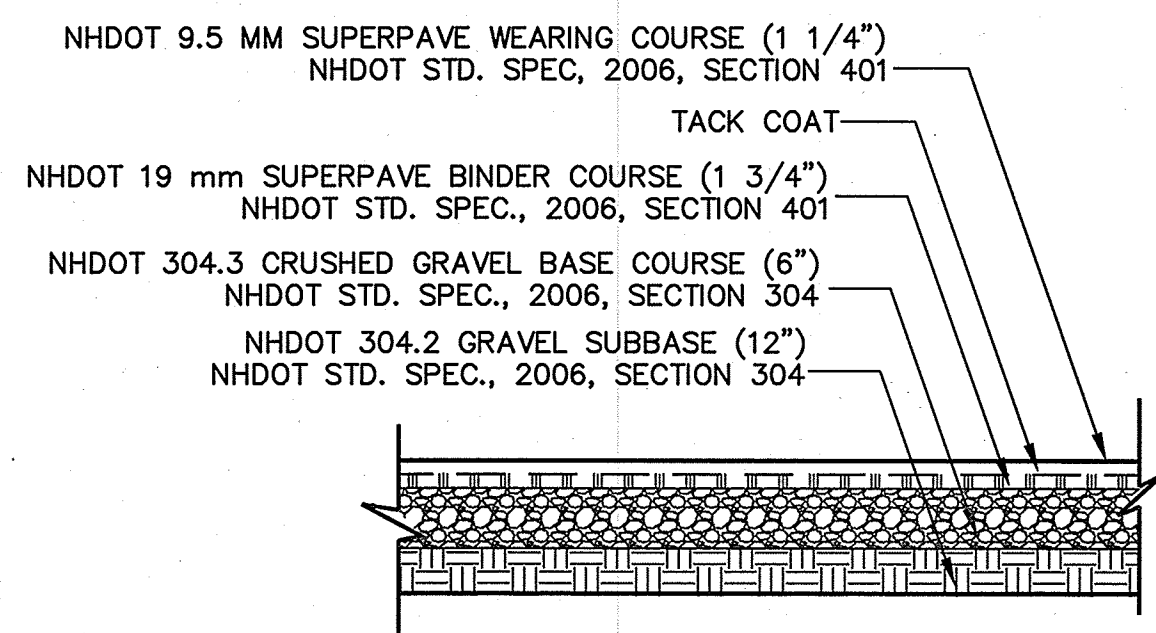
**ACCESSIBLE CURB RAMP (TYPE 'B')**

NOT TO SCALE



**BOLLARD MOUNTED SIGN (LOT 15)**

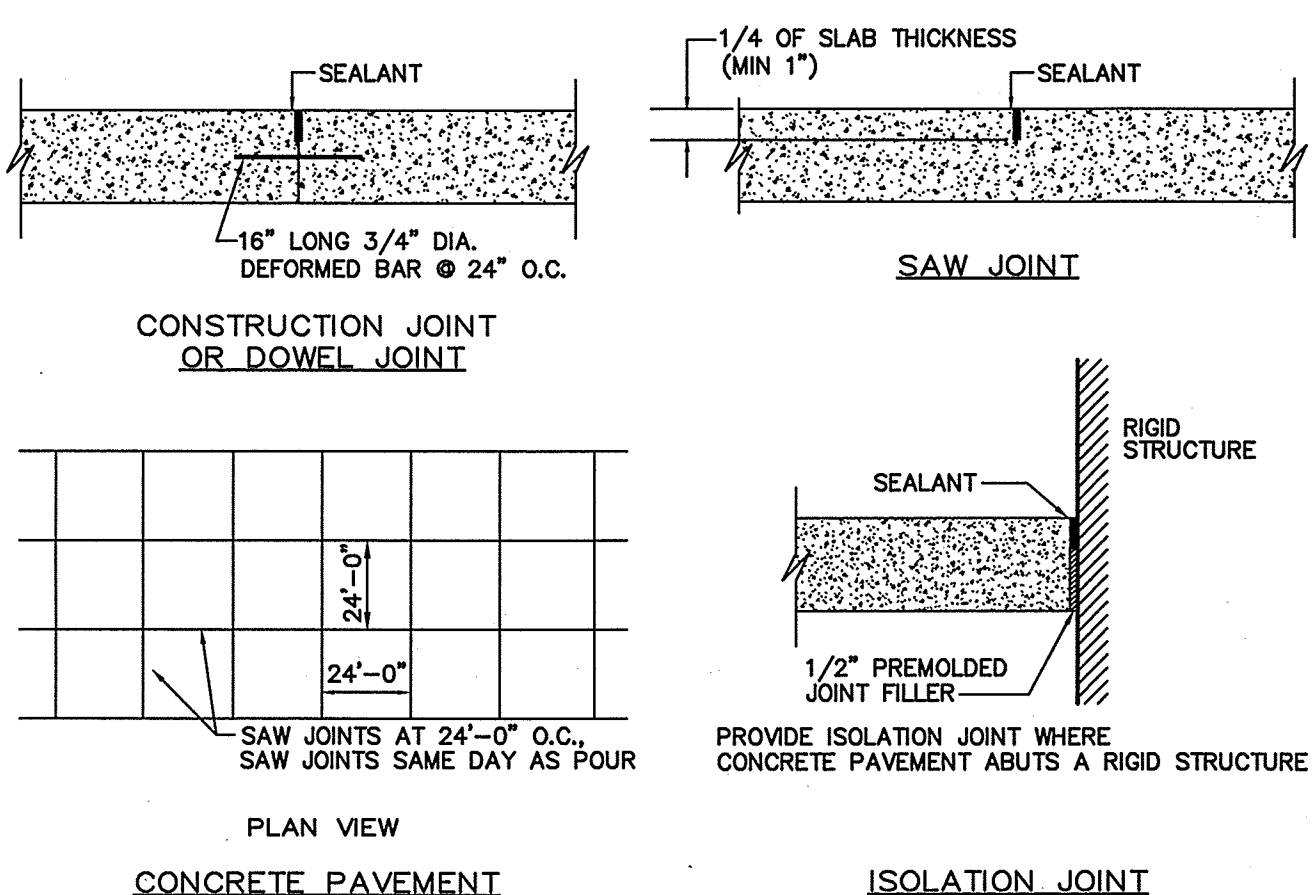
NOT TO SCALE



- NOTES:**
1. PAVEMENT SUBGRADES SHOULD BE PROOF ROLLED IN ORDER TO DENSIFY THE SUBGRADES USING A MINIMUM OF 4 PASSES WITH A 10-TON VIBRATORY DRUM COMPACTOR. THE GRAVEL BORROW SUBGRADE COURSE AND CRUSHED GRAVEL BASE COURSE SHOULD BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM-D698).
  2. PAVEMENT SECTION SUBJECT TO CHANGE BASED ON GEOTECHNICAL INVESTIGATION.

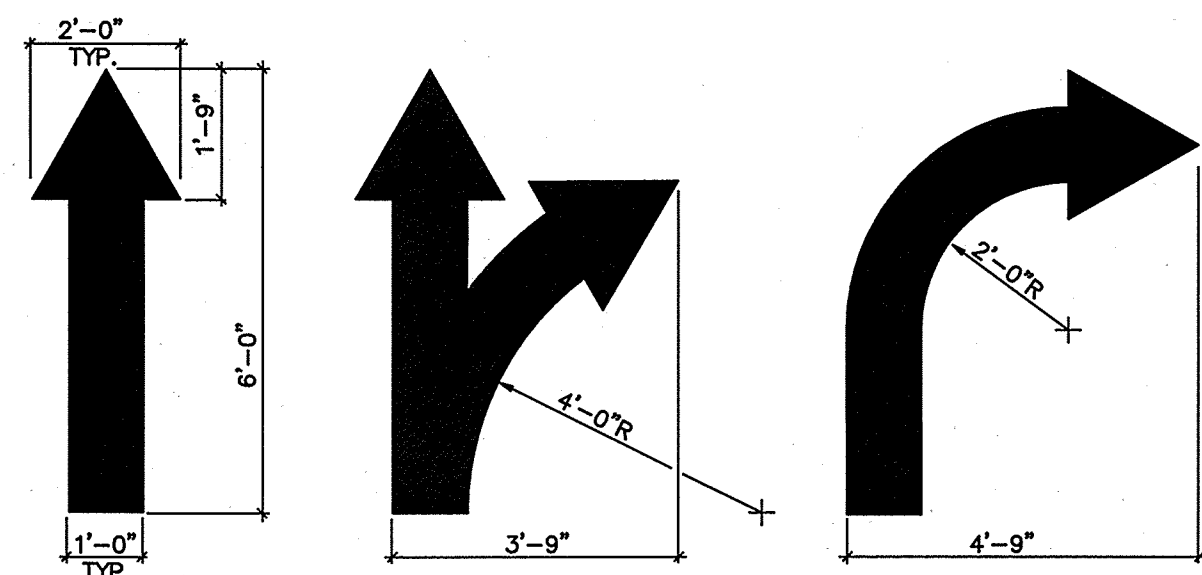
**STANDARD DUTY ASPHALT PAVEMENT SECTION**

NOT TO SCALE



**CONCRETE PAVEMENT JOINT**

NOT TO SCALE



- NOTES:**
1. ALL FLOW ARROWS TO BE SOLID YELLOW (ON CONCRETE) OR WHITE (BITUMINOUS PAVEMENT) REFLECTIVE TRAFFIC PAINT AS PER DIMENSIONS ABOVE.
  2. REVERSE ARROWS FOR OPPOSITE DIRECTION OF FLOW.

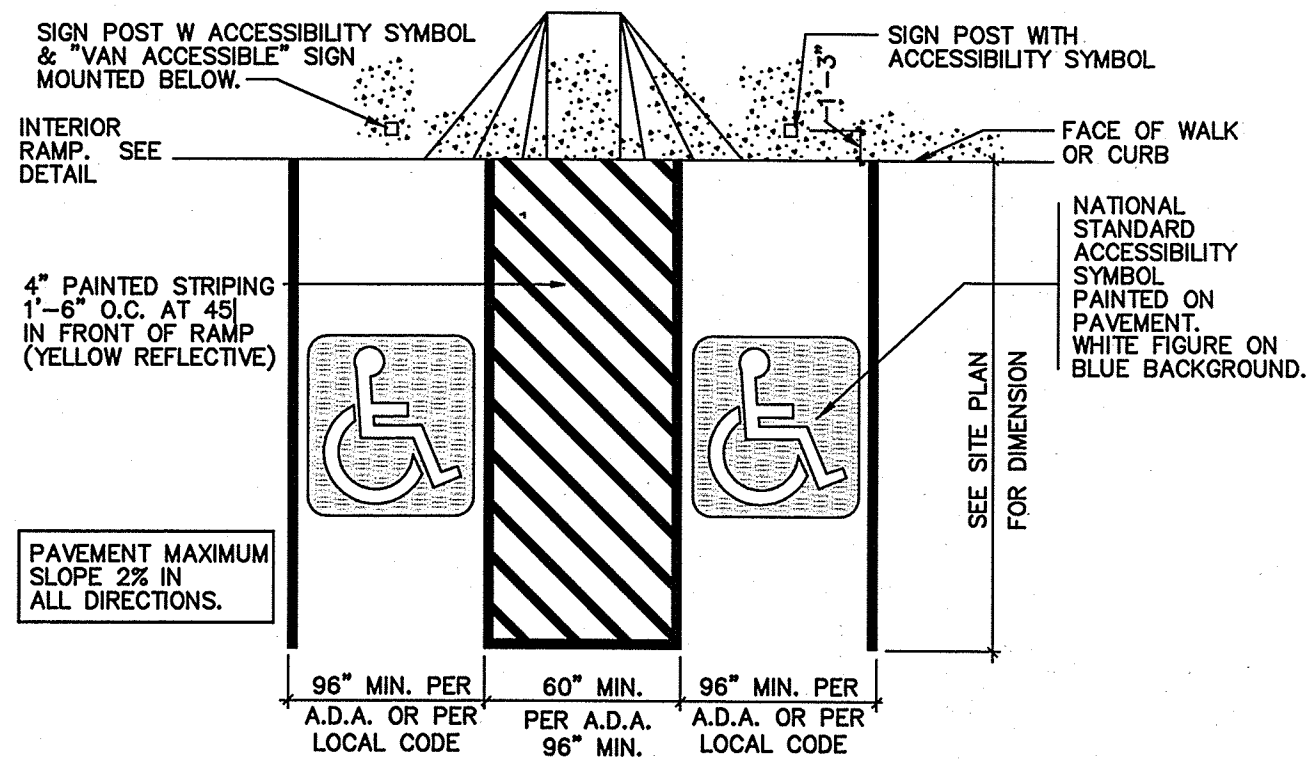
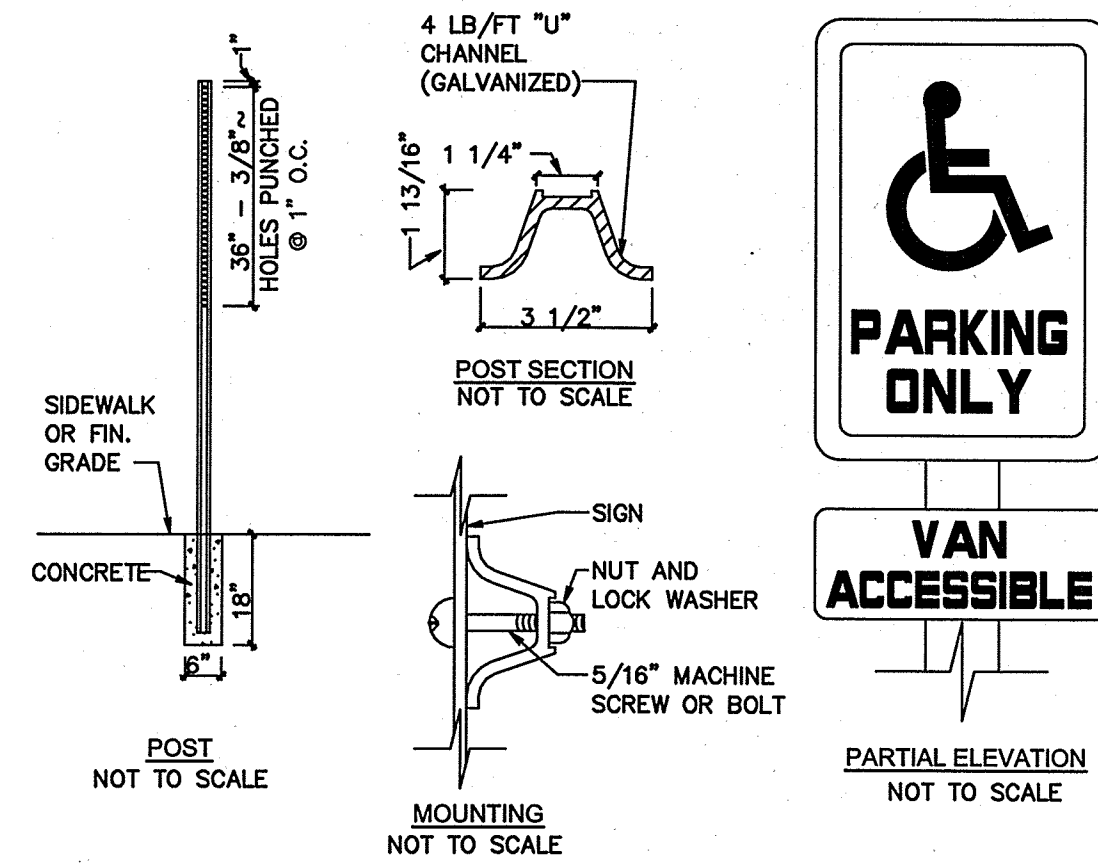
**PAINTED TRAFFIC ARROWS**

NOT TO SCALE

DETAIL SHEET			
<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,850 S.F. (9.54 AC)			
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03084		Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>			
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885		603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM	
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053		SCALE: AS NOTED	SHEET 17 OF 30

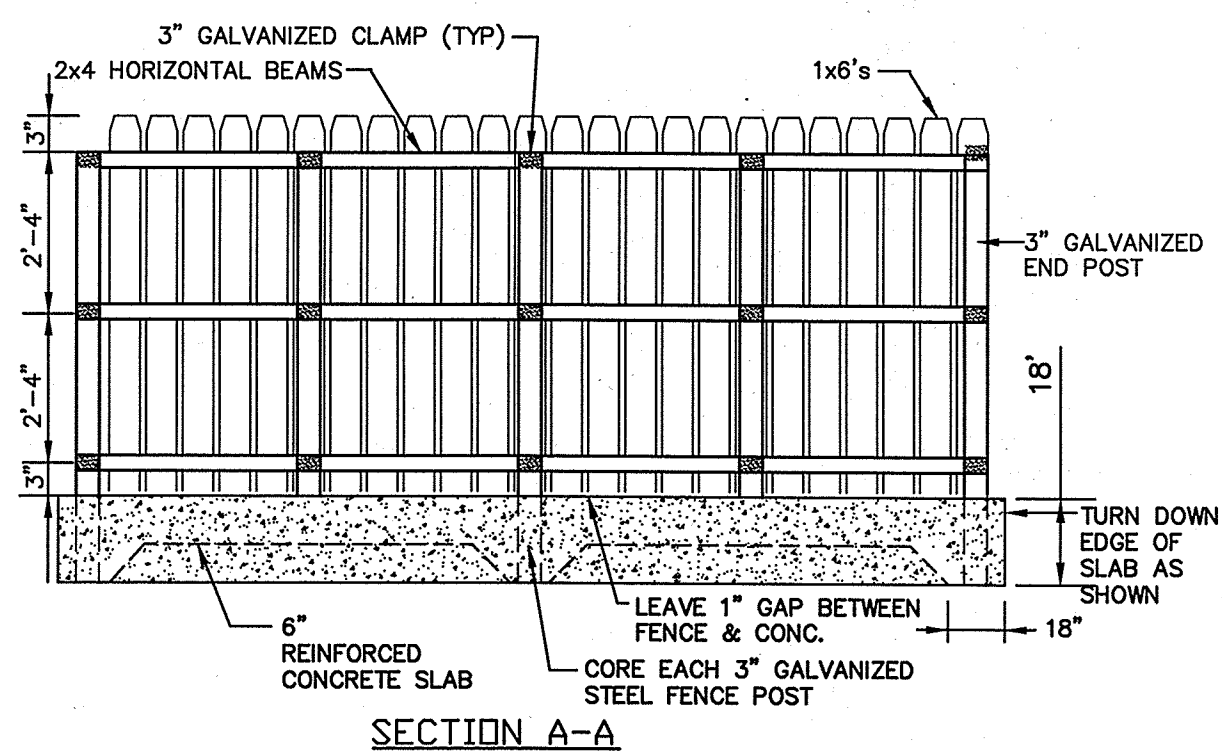


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**HANDICAP PARKING**

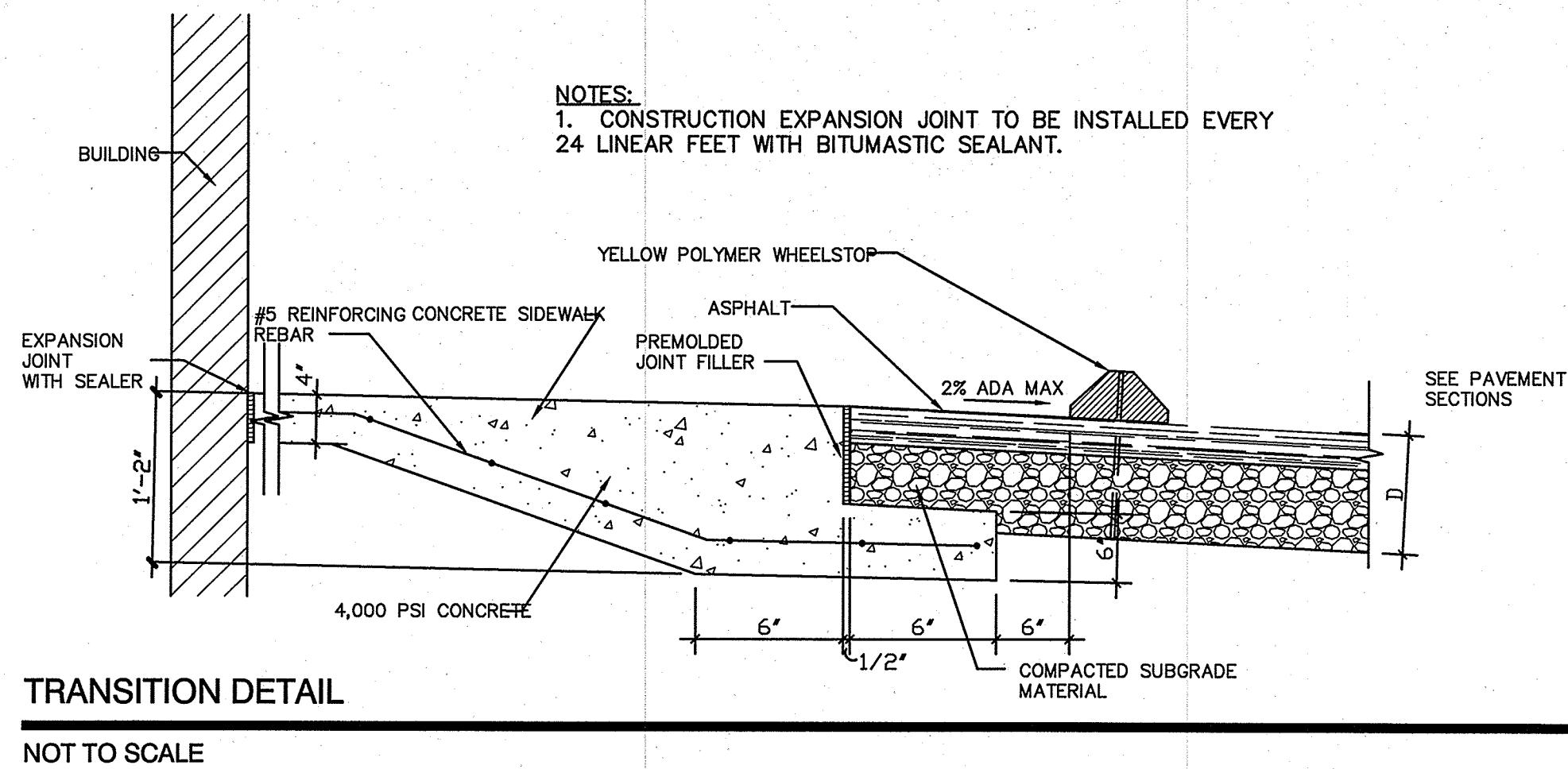
NOT TO SCALE



- NOTES**
- ALL LUMBER TO BE PRESSURE TREATED.
  - WOOD FENCE TO BE PAINTED OR STAINED TO MATCH BUILDING FOUNDATION.
  - DUMPSTER SIZE VARIES, SEE SITE PLANS FOR SCREENING SIZE

**DUMPSTER ENCLOSURE PLAN (DOUBLE)**

NOT TO SCALE



**Solid Plastic Parking Block Specifications**

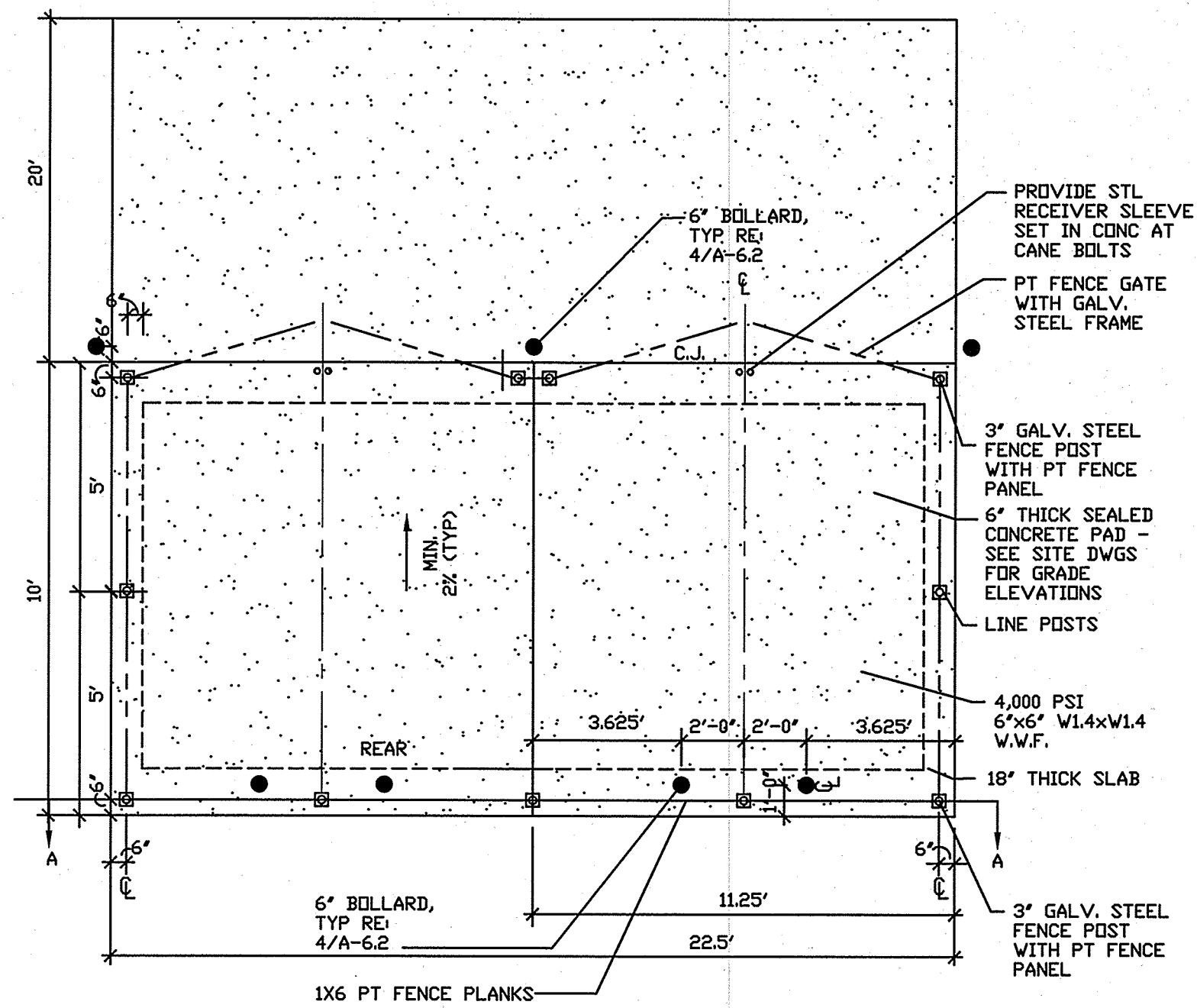
LENGTH	NOTES	WEIGHTS	COLORS
4'	The 4' parking block comes in DELUXE and STANDARD	Deluxe: 24 lbs. Standard: 20 lbs.	Yellow
6'	The 6' parking block comes in DELUXE, STANDARD and COMPACT	Deluxe: 36 lbs. Standard: 30 lbs. Compact: 25 lbs.	White Gray
8'	The 8' truck block comes in one size only: 7" x 10" x 96"	Truck Block: 100 lbs.	Black
20"	The wheel chock comes in one size only: 4" x 6" x 20"	Wheel Chock: 10 lbs.	Blue

**LIFETIME WARRANTY**  
 Lifetime warranty against breakage, chipping, or cracking. Customer satisfaction comes first.

4 1/2" 4" 3 1/4" 7"  
 DELUXE STANDARD COMPACT TRUCK BLOCK

**WHEELSTOP DETAIL**

NOT TO SCALE



**TRAFFIC CONTROL SCHEDULE**

SIGN NUMBER	SIGN	SIZE OF SIGN		DESCRIPTION	MOUNT TYPE	MOUNT HEIGHT	REMARKS
		WIDTH	HEIGHT				
R1-1	STOP	30"	30"	WHITE ON RED	CHANNEL	7'-0"	REFLECTORIZED SIGN
W11A-2	WALKING	30"	30"	BLACK ON YELLOW	CHANNEL	7'-0"	REFLECTORIZED SIGN
R5-1	STOP	30"	30"	RED / SILVER	CHANNEL	7'-0"	REFLECTORIZED SIGN
R7-8/R7-8P	WALKING	12"	24"	BLUE & GREEN ON WHITE	CHANNEL	7'-0"	REFLECTORIZED SIGN
R7-8A	VAN ACCESSIBLE	12"	6"	BLUE & GREEN ON WHITE	CHANNEL	5'-0"	REFLECTORIZED SIGN
R3-2	NO LEFT TURN	24"	24"	RED ON WHITE	CHANNEL	7'-0"	REFLECTORIZED SIGN
R3-8d	ONE WAY	24"	24"	BLACK ON WHITE	CHANNEL	7'-0"	REFLECTORIZED SIGN
EMPLOYEE PARKING	EMPLOYEE PARKING	12"	12"	BLACK ON WHITE	CHANNEL	7'-0"	REFLECTORIZED SIGN

**DETAIL SHEET**

**"120 DERRY ROAD"**  
 DERRY ROAD (RT. 102), HUDSON, NH  
 MAP 156. LOTS 15 & 16  
 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
 91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

**Jones & Beach Engineers, Inc.**  
 Civil Engineering Services  
 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885  
 603-772-4746  
 FAX: 603-772-0227  
 E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **D2**

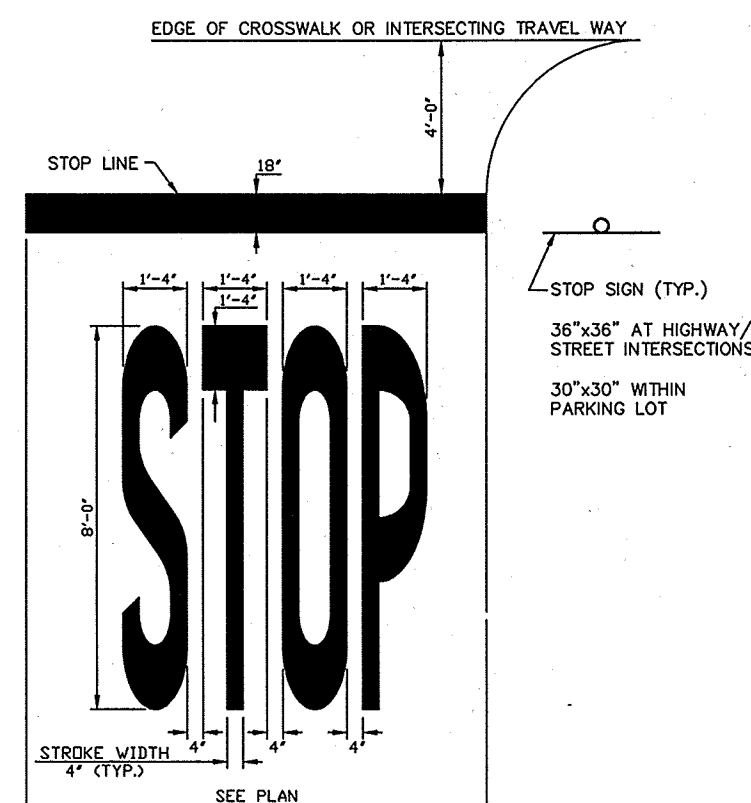
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DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
 DRAWING NAME: 14053-PLAN.dwg  
 PROJECT No.: 14053 SCALE: AS NOTED SHEET 18 OF 30

REVISIONS:  
 1 8/29/17 ISSUED PER ENGINEERING REVIEW  
 0 7/14/17 BY REVISION

PROFESSIONAL ENGINEER  
 BARRY W. GIER  
 No. 12836  
 LICENSED

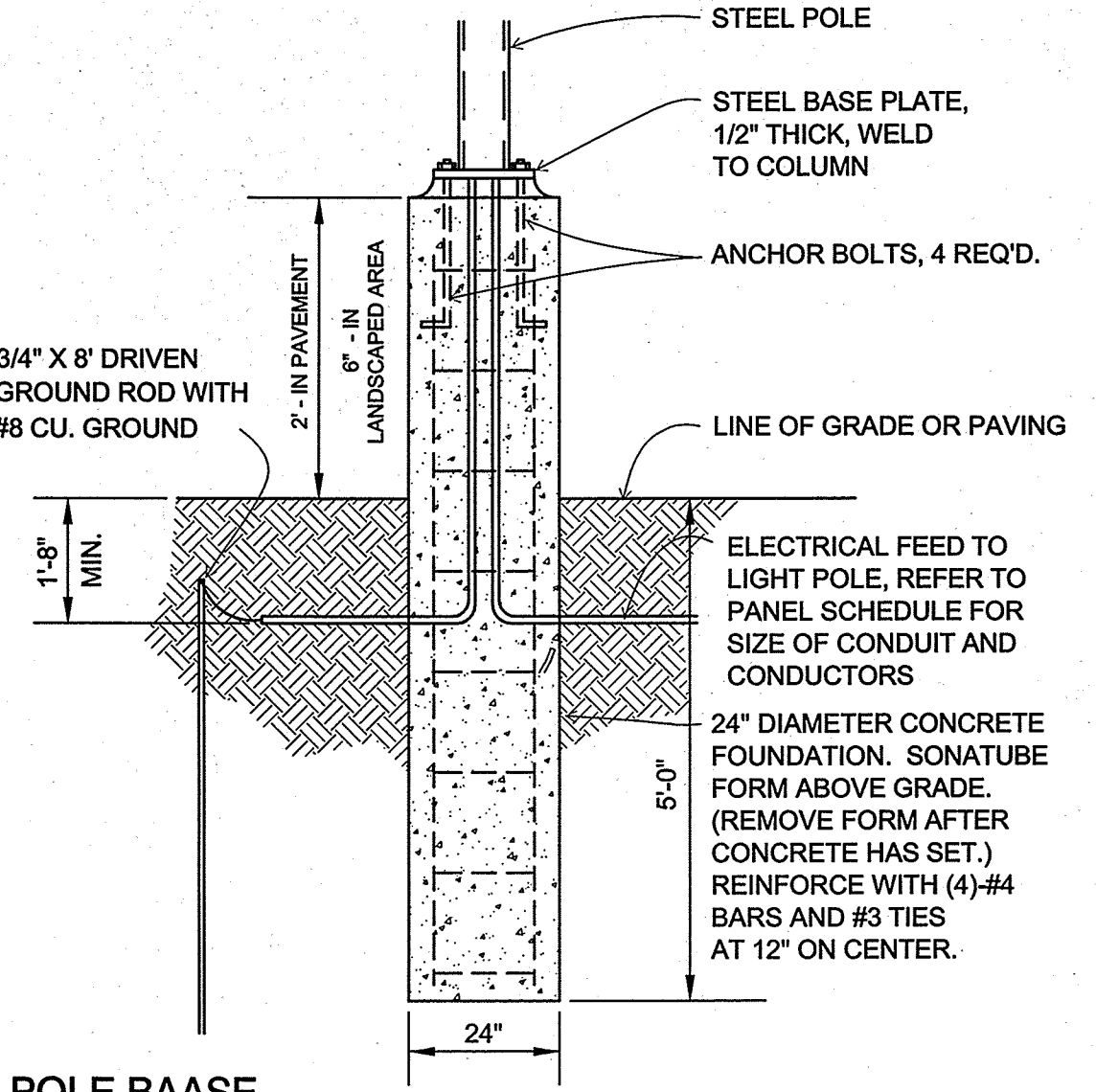




NOTE:  
 1. WORDS AND LINES SHALL BE APPLIED IN ACCORDANCE WITH SECTIONS 38.16 AND 38.20 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.  
 2. THESE WORDS AND BAR ARE TO BE PAINTED RETROREFLECTIVE WHITE.

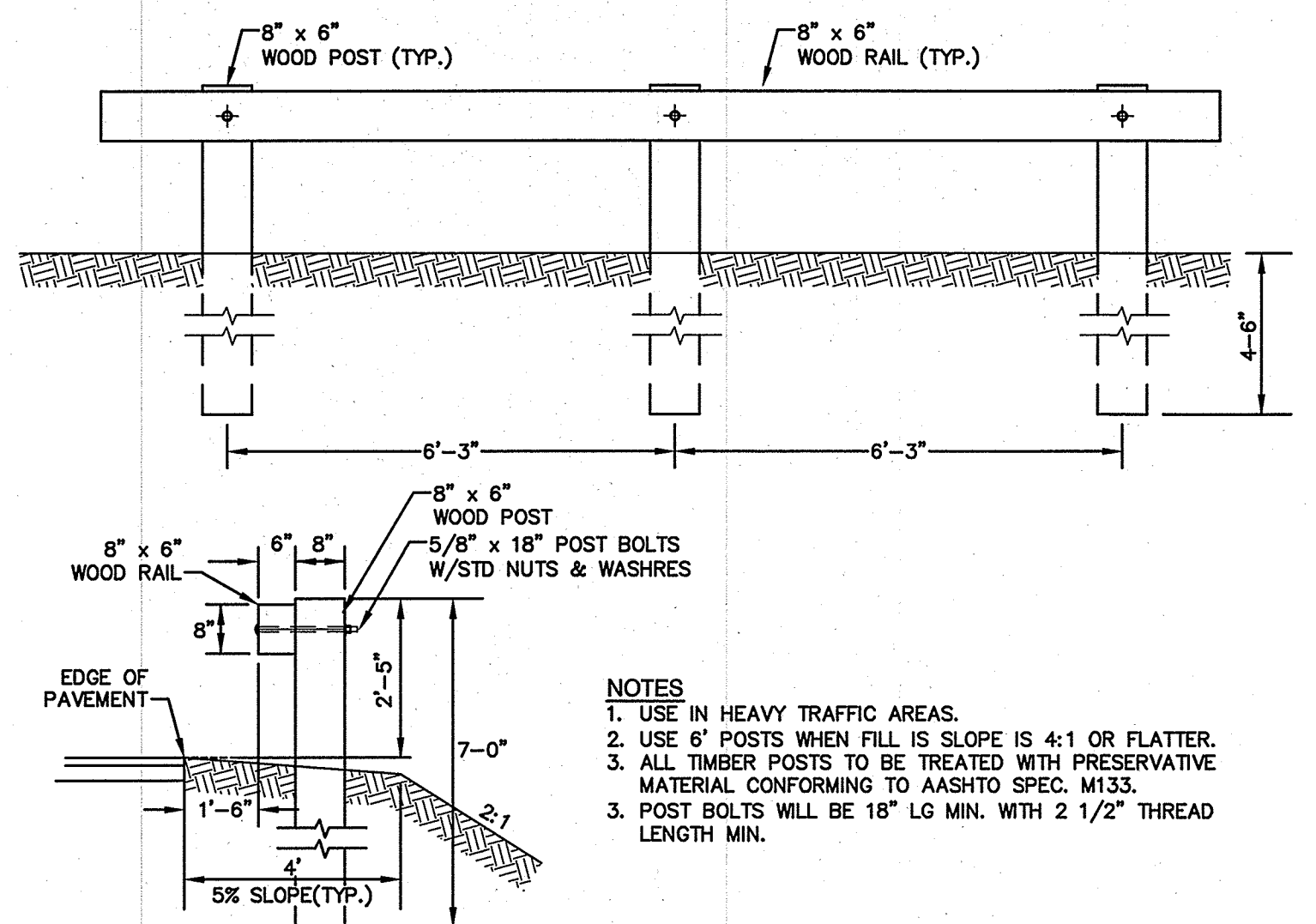
**STOP SIGNAGE & PAVEMENT MARKING**

NOT TO SCALE



**LIGHT POLE BAASE**

NOT TO SCALE



**GUARD RAIL (WOOD)**

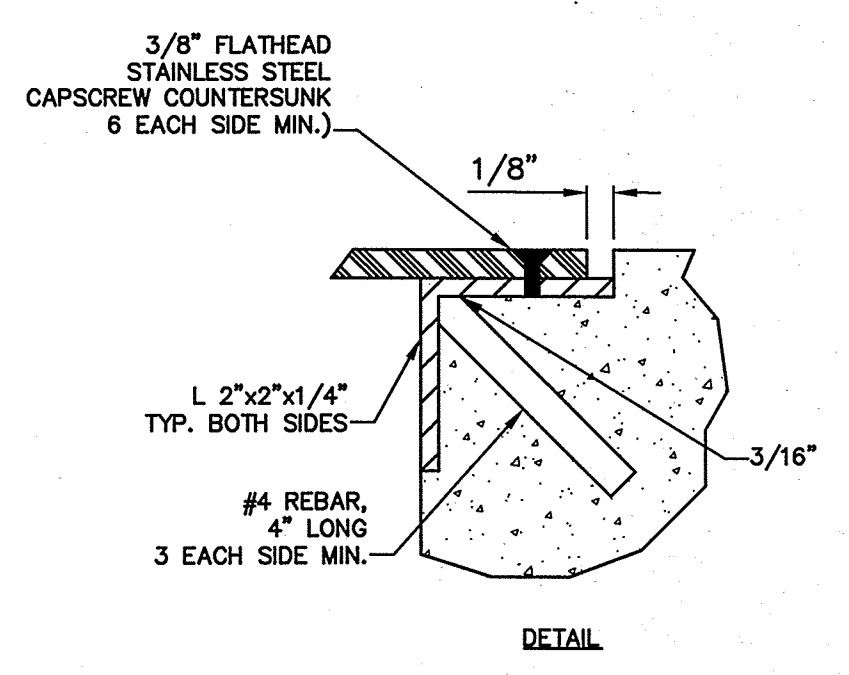
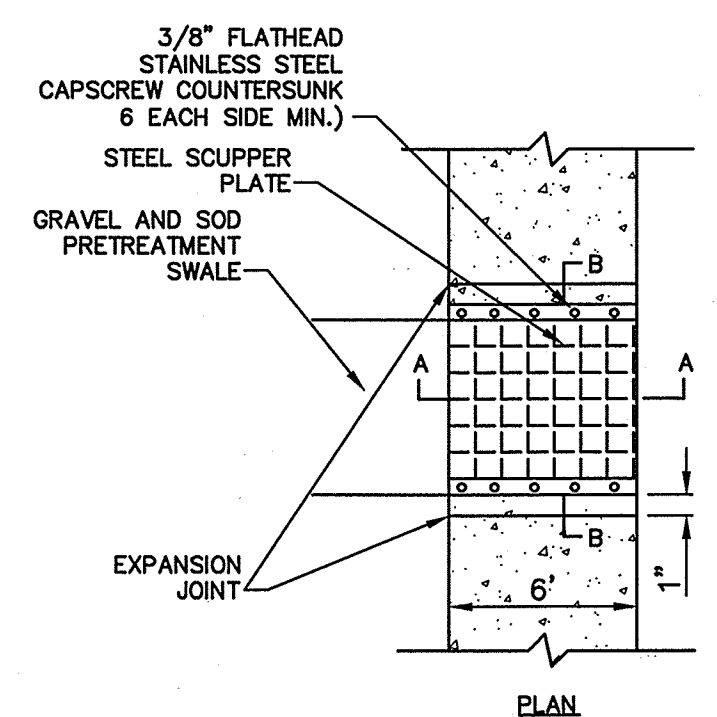
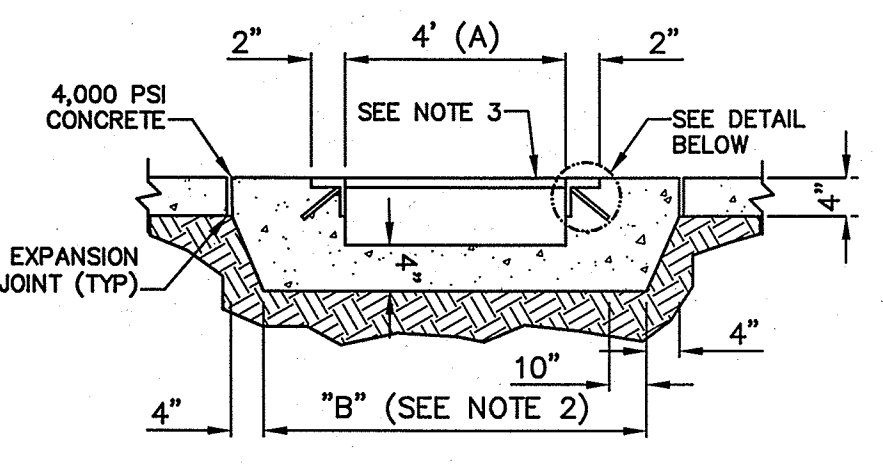
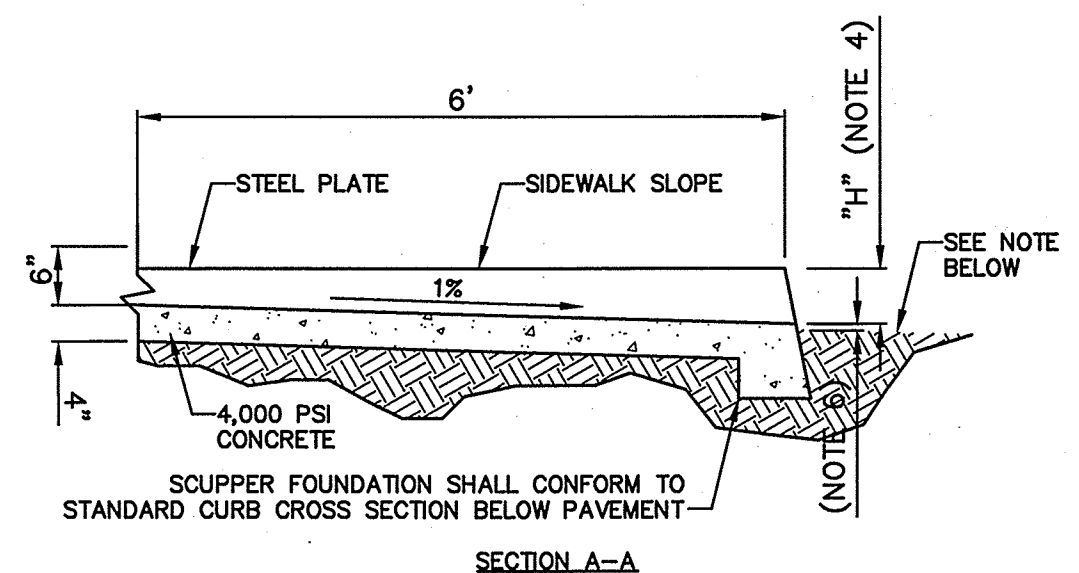
NOT TO SCALE

**DO NOT ENTER**

NOTE: THESE WORDS ARE TO BE PAINTED RETROREFLECTIVE WHITE.

**"DO NOT ENTER" PAVEMENT MARKING**

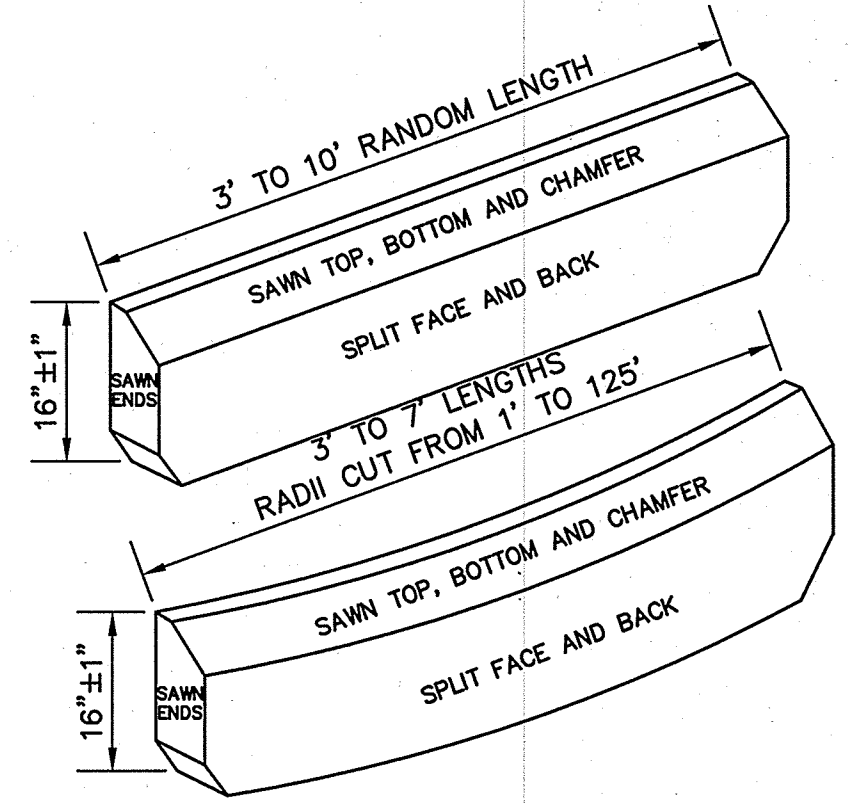
NOT TO SCALE



NOTES:  
 1. (--->) INDICATES DIRECTION OF FLOW.  
 2. DIMENSION "B" EQUALS "A" + 1".  
 3. 1/2" THICK STEEL DIAMOND PLATE: ASTM A-36.  
 4. "H" EQUALS CURB FACE HEIGHT. DIMENSION TO BE NOTED ON PLANS OR ESTABLISHED IN FIELD.  
 5. FOR CURB AND GUTTER USE 2" TRANSITIONS TO VERTICAL CURB.  
 6. PROVIDE A 1" LIP BETWEEN FLOW LINE OF SCUPPER AND PAVEMENT SURFACE.

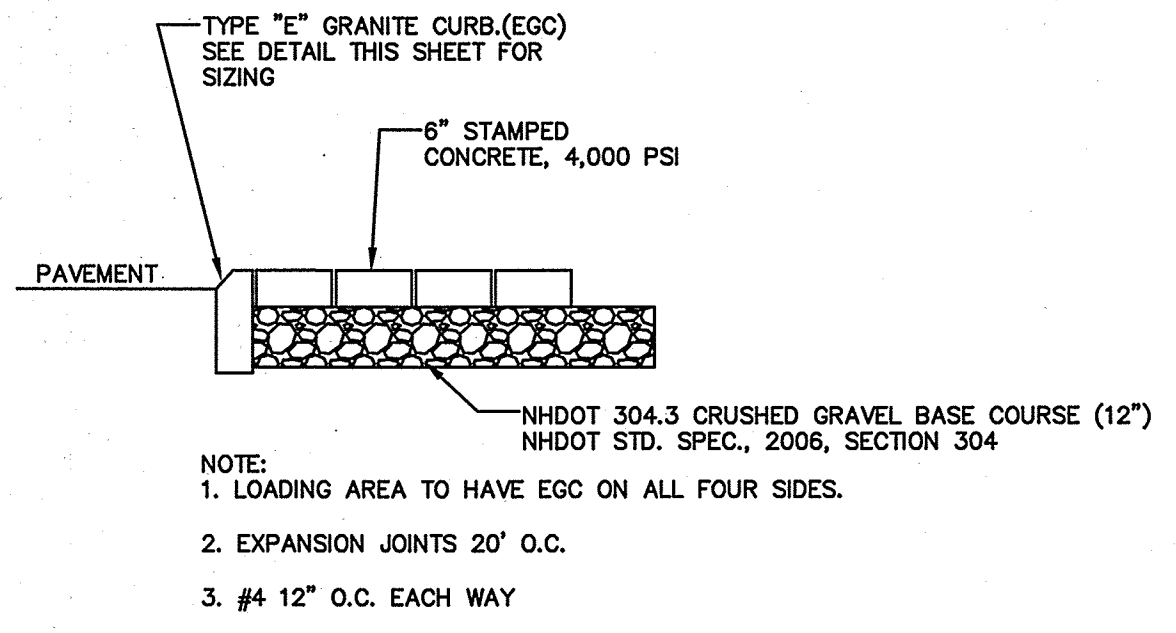
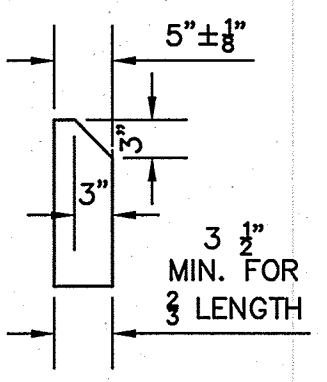
**SIDEWALK SCUPPER PLATE DETAIL**

NOT TO SCALE



**5"x16" TYPE "E" GRANITE CURBING (EGC)**

NOT TO SCALE



NOTE:  
 1. LOADING AREA TO HAVE EGC ON ALL FOUR SIDES.  
 2. EXPANSION JOINTS 20' O.C.  
 3. #4 12" O.C. EACH WAY

**MOUNTABLE STAMPED CONCRETE DETAIL**

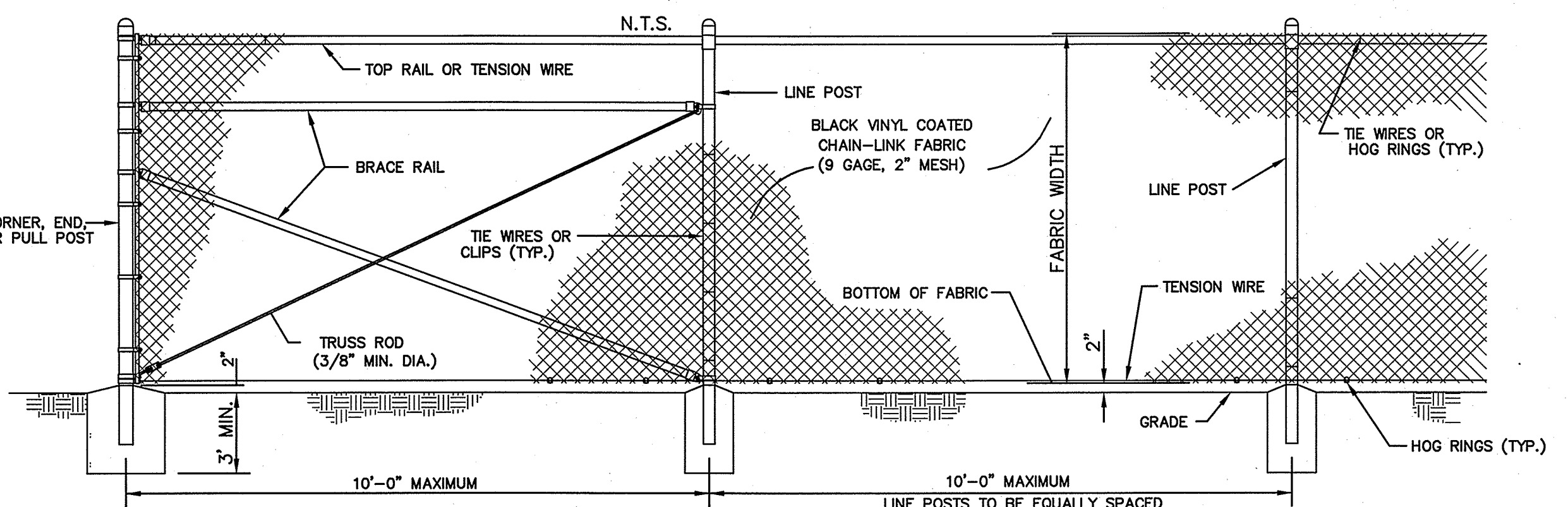
NOT TO SCALE

**DRIVE THRU**

NOTE: THESE WORDS AND BAR ARE TO BE PAINTED RETROREFLECTIVE WHITE.

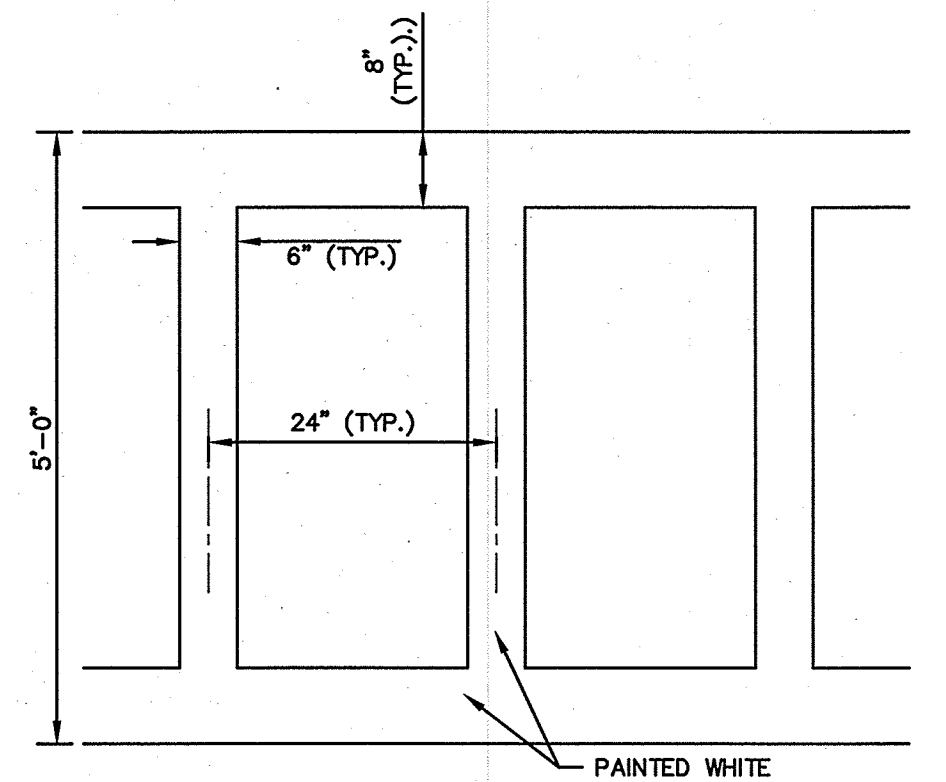
**DRIVE-THRU PAVEMENT MARKING**

NOT TO SCALE



**6' HIGH BLACK VINYL CHAIN-LINK FENCE**

NOT TO SCALE



**PAVEMENT MARKING - PUBLIC PAINTED CROSSWALK**

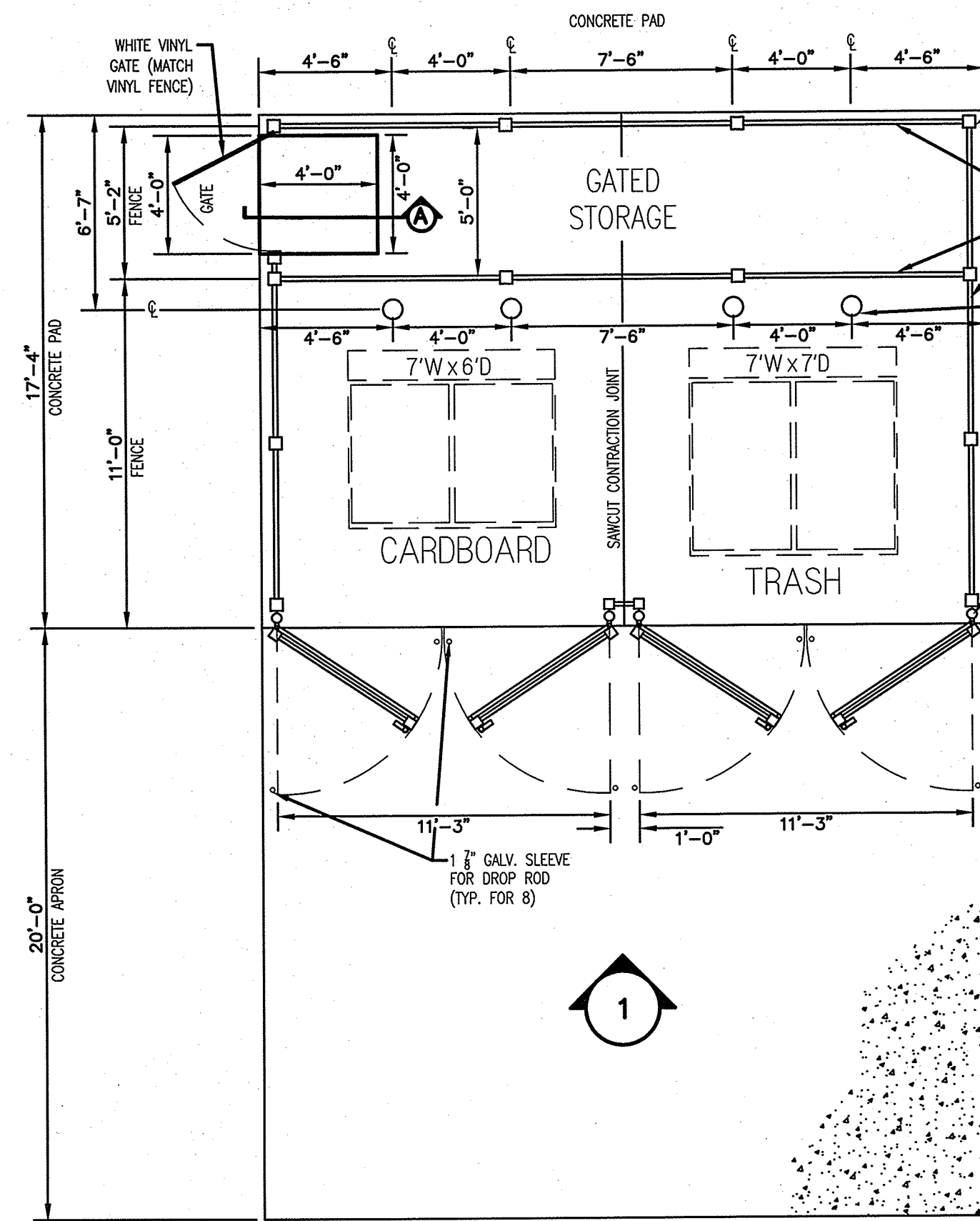
NOT TO SCALE

DETAIL SHEET			
<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> <b>MAP 156. LOTS 15 &amp; 16</b> <b>TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)</b>			
Owner of Record:		Applicant:	
FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064		HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>			
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885		603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM	
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053		SCALE: AS NOTED	SHEET 19 OF 30

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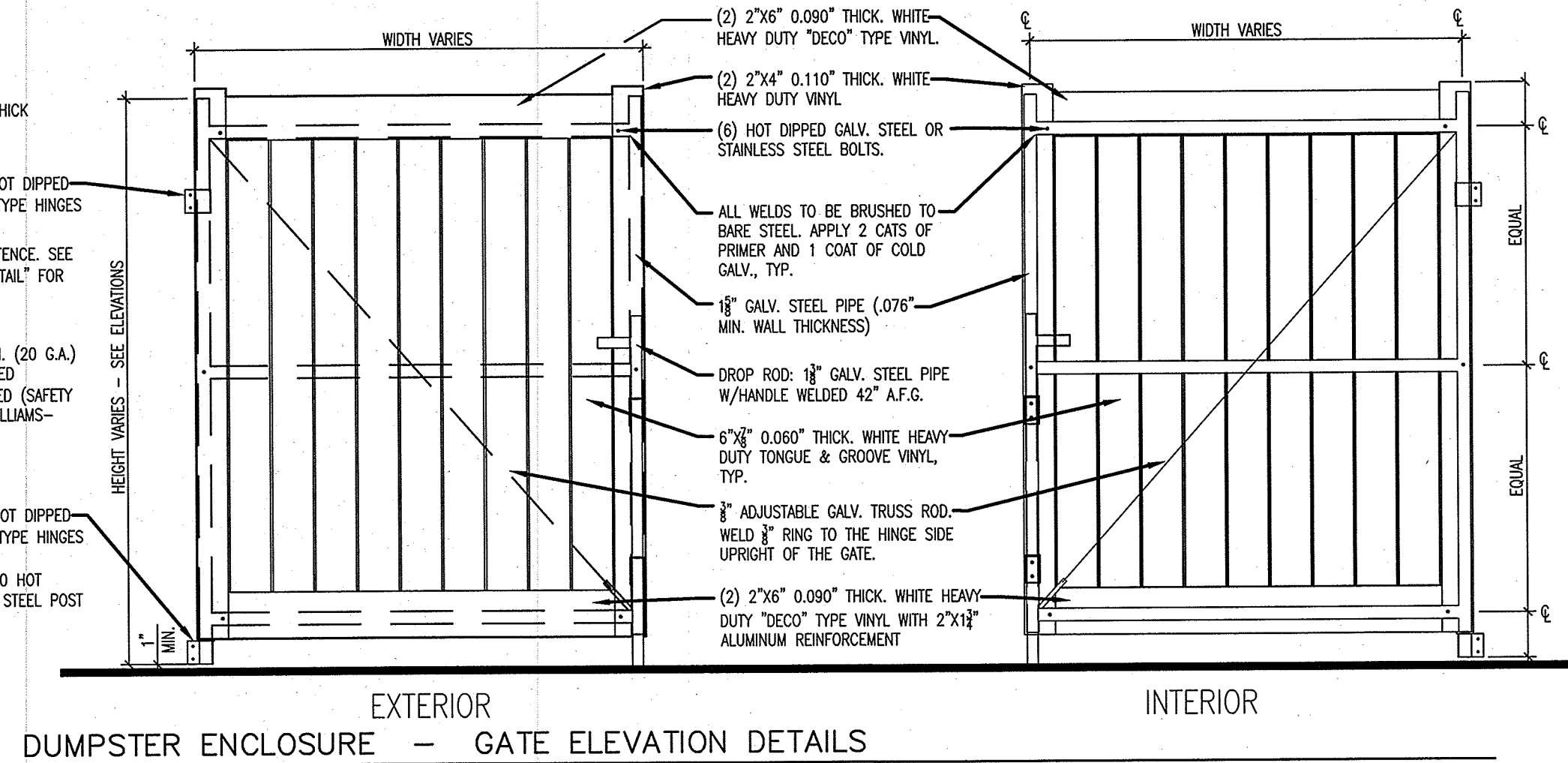
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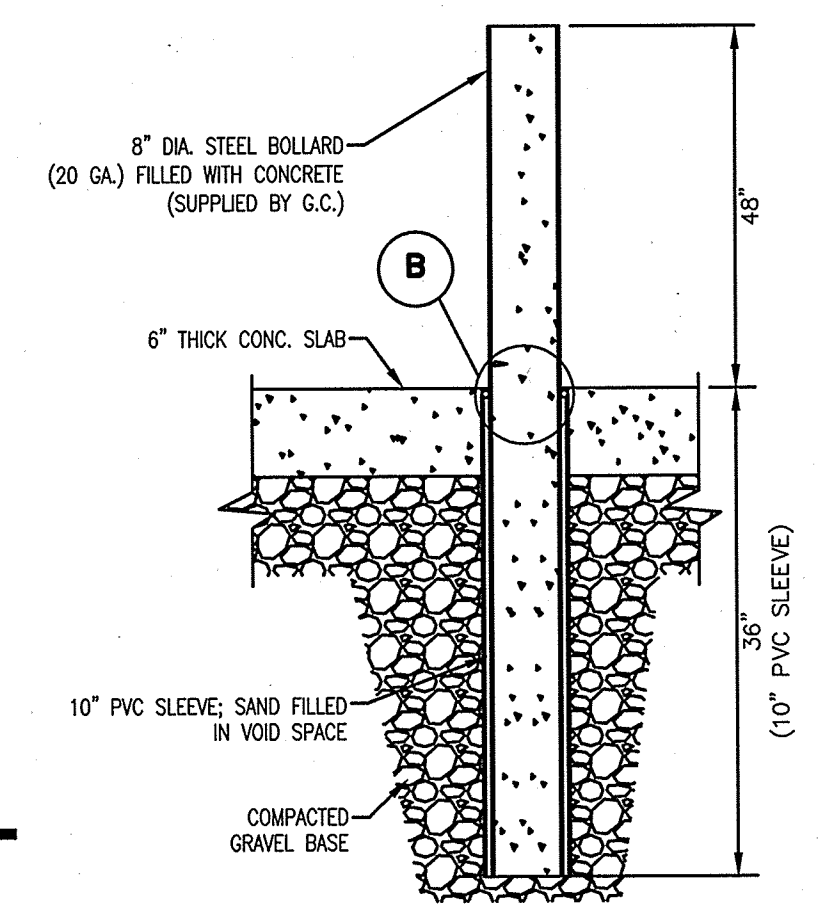
**PLAN VIEW**

NOTE:  
FINAL CONCRETE AND PAVING DESIGNS SHALL BE SPECIFIED IN GEOTECHNICAL REPORT TO BE PROVIDED BY CUMBERLAND FARMS. IN ABSENCE OF A GEOTECHNICAL REPORT, CUMBERLAND FARMS SHALL APPROVE FINAL PAVEMENT AND MATERIALS SPECIFICATION, PRIOR TO CONSTRUCTION.

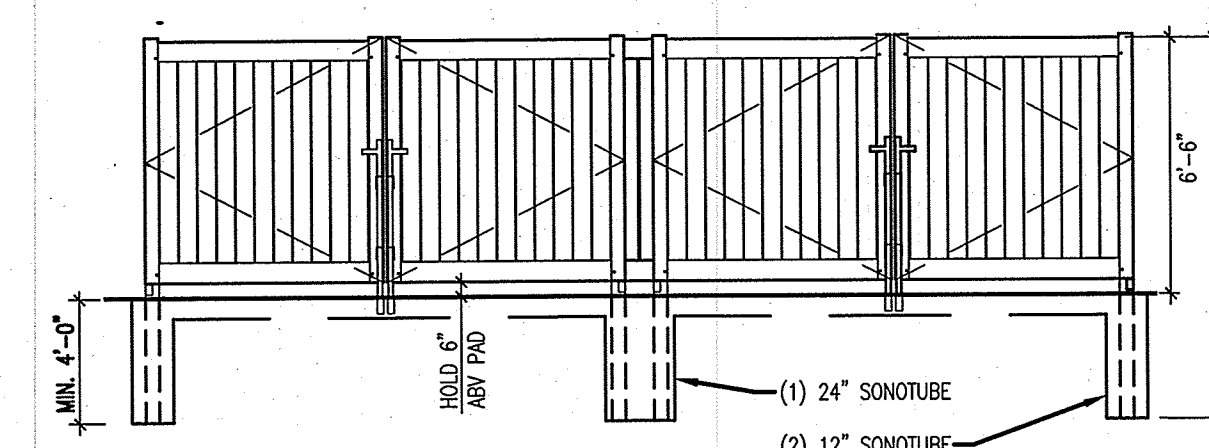
- (15) 5"x5" 0.150" THICK WHITE VINYL POST
- INDUSTRIAL GRADE HOT DIPPED GALV. STEEL "BOX" TYPE HINGES
- 6" H. WHITE VINYL FENCE. SEE "GATE ELEVATION DETAIL" FOR SPEC.
- (4) 8" DIA. X 48" H. (20 G.A.) STEEL BOLLARD FILLED W/CONCRETE, PAINTED (SAFETY YELLOW-SHERWIN WILLIAMS-66R600)
- INDUSTRIAL GRADE HOT DIPPED GALV. STEEL "BOX" TYPE HINGES
- (4) 4" SCHEDULE 40 HOT DIPPED GALVANIZED STEEL POST



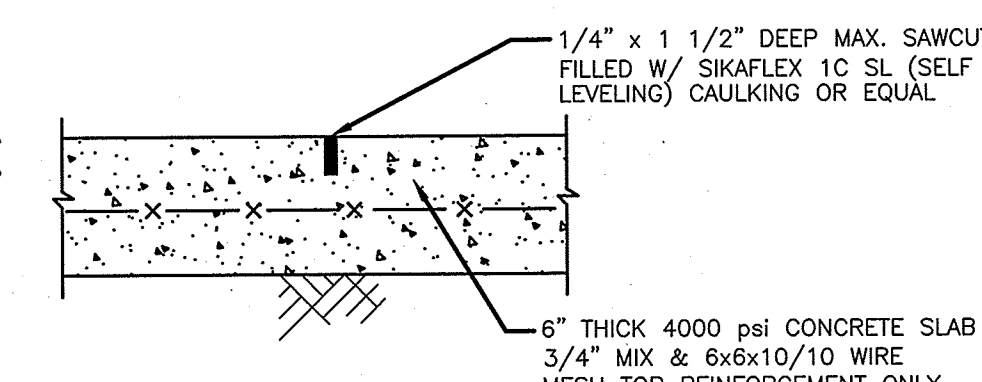
**DUMPSTER ENCLOSURE - GATE ELEVATION DETAILS**



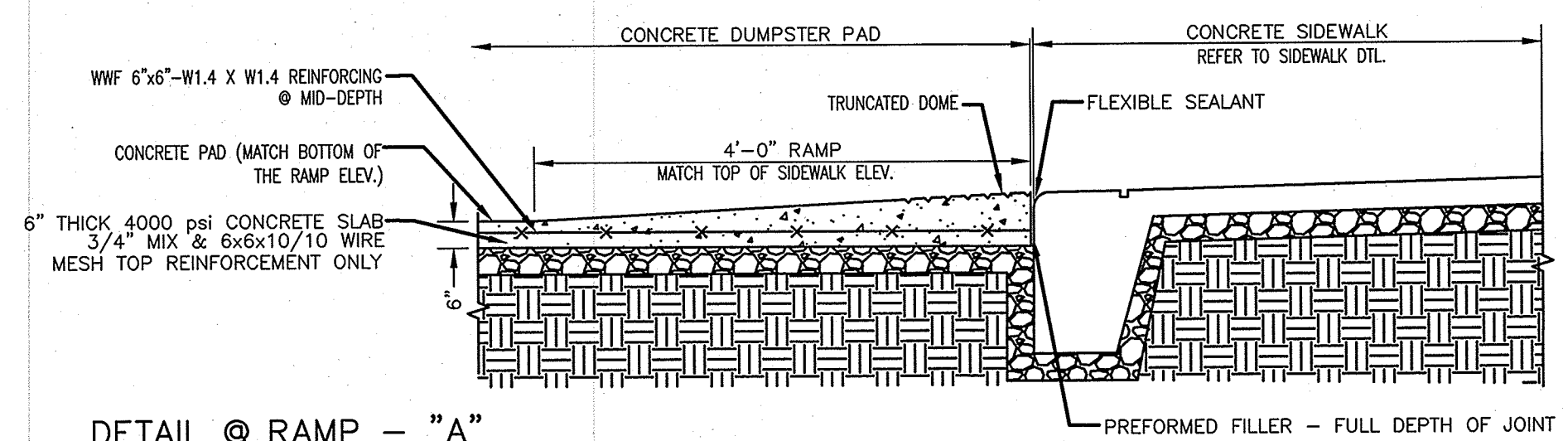
**BOLLARDS SET IN CONCRETE**



**ELEVATION**

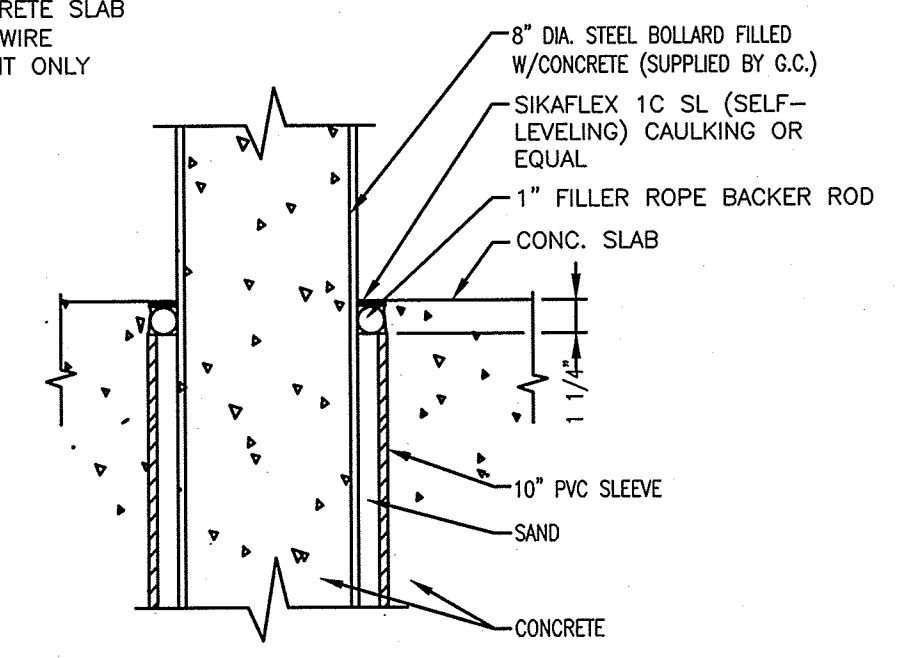


**SLAB SECTION**



**DETAIL @ RAMP - "A"**

NOTE:  
RAMP IS ONLY REQUIRED WHEN THERE IS A DIFFERENCE IN ELEVATION BETWEEN THE SIDEWALK AND DUMPSTER PAD.



**DETAIL "B"**

**DUMPSTER ENCLOSURE PAD DETAIL (C-STORE ONLY)**

NOT TO SCALE

REVISION			
REV.	DATE	ISSUED FOR REVIEW	BY
1	8/28/17	REVISOR	ISM
0	7/14/17	ISSUED FOR REVIEW	BY

<b>DETAIL SHEET</b>	
<b>"120 DERRY ROAD"</b>	
<b>DERRY ROAD (RT. 102), HUDSON, NH</b>	
MAP 156. LOTS 15 & 16	
TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)	
Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i>	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885	603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM
DRAWING NO. <b>D4</b>	
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.	
DATE: 8/14/17	DESIGN: BWG
DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg	
PROJECT No.: 14053	SCALE: AS NOTED
SHEET 20 OF 30	



**SUBMITTALS**  
 SHOP DRAWINGS, INCLUDING SPECIFICATIONS, CATALOG CUTS, DATA SHEETS, DRAWINGS AND OTHER DESCRIPTIVE MATERIAL SHALL BE SUPPLIED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION. A CERTIFICATE OF COMPLIANCE FROM THE MANUFACTURER INDICATING CONFORMANCE WITH THE SPECIFIED REQUIREMENTS FOR DUCTILE IRON PIPE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

**DELIVERY, HANDLING, AND STORAGE**  
 ALL PIPE AND APPURTENANCES ARE SUBJECT TO INSPECTION BY THE ENGINEER AT THE POINT OF DELIVERY. MATERIAL FOUND TO BE DEFECTIVE DUE TO MANUFACTURE OR DAMAGE IN SHIPMENT SHALL BE REJECTED OR RECORDED ON THE BILL OF LADING AND REMOVED FROM THE JOB SITE. ALL MATERIALS, IF STORED, SHALL BE KEPT SAFE FROM ANY POTENTIAL DAMAGE.

**SAND BEDDING**  
 SAND BLANKET SHALL CONSIST OF CLEAN SAND THAT IS FREE FROM ORGANIC MATTER AND GRADED SO THAT 90-100% PASSES A 1/2" SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE.

**BACKFILL**  
 SUITABLE MATERIAL FOR BACKFILL IN ROADS, ROAD SHOULDERS, AND WALKWAYS SHALL BE THE NATURAL MATERIAL REMOVED DURING THE COURSE OF TRENCH EXCAVATION, BUT SHALL EXCLUDE ANY DEBRIS, PAVEMENT, ORGANIC MATTER, LOAM, WET OR SOFT MUCK, PEAT, OR CLAY. BACKFILL MATERIAL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO 95% OF ASTM-1557 AT OPTIMUM MOISTURE CONTENT.

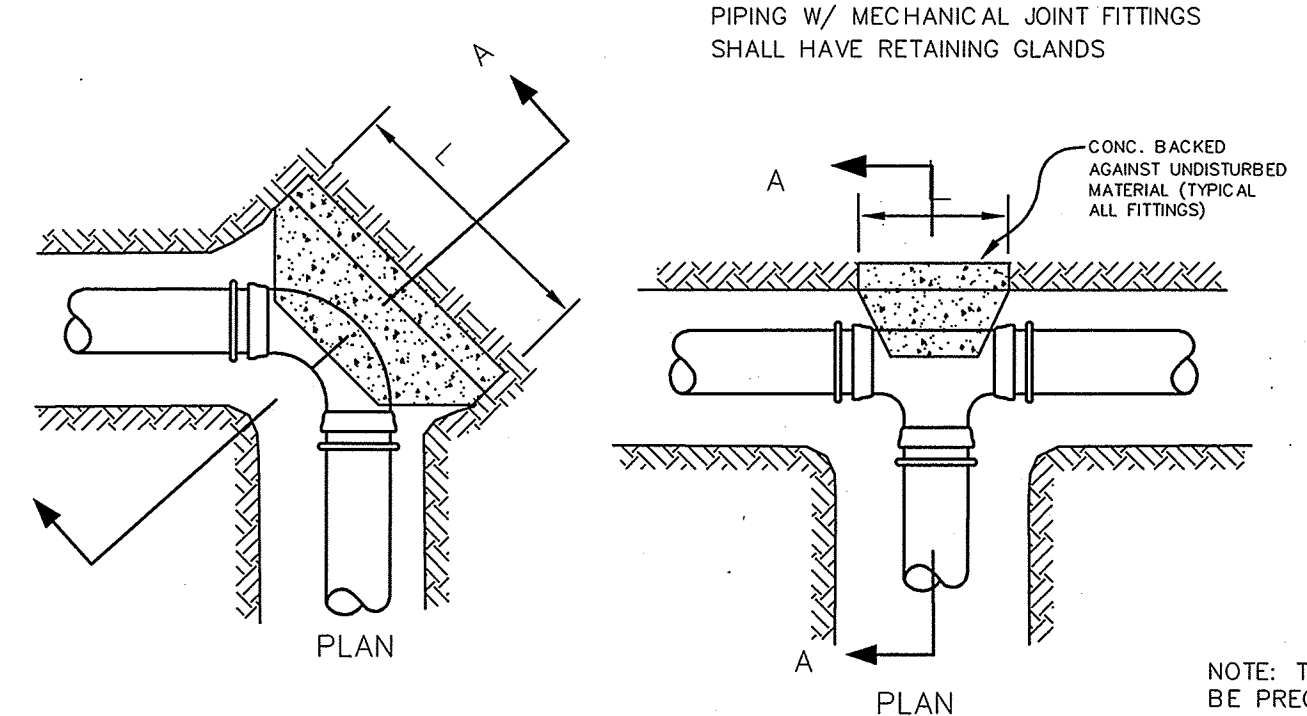
**DUCTILE IRON PIPE-CLASS 52**  
 JOINTS SHALL BE OF "PUSH-ON" TYPE UNLESS OTHERWISE SPECIFIED. PIPE SHALL HAVE A DOUBLE CEMENT LINING WITH SEAL COATING INSIDE AND BITUMINOUS COATING OUTSIDE THAT MEETS OR EXCEEDS THE REQUIREMENTS OF AWWA/ANSI C104/A21.4. GASKETS FOR DUCTILE IRON PIPE SHALL BE OIL-RESISTANT RUBBER WHICH MEETS OR EXCEEDS THE REQUIREMENTS OF AWWA/ANSI C111/A21.11. PIPE SHALL BE FURNISHED COMPLETE WITH ALL GASKETS AND LUBRICANT.

**WATERMAIN TESTING**  
 ALL WATER MAINS WILL BE CLEANED AND HYDROSTATICALLY TESTED AT A MINIMUM PRESSURE OF 150psi AT THE HIGHEST POINT ALONG THE TEST SECTION. THE HYDROSTATIC TEST SHALL BE CONDUCTED FOR A MINIMUM OF TWO HOURS DURING WHICH TEST PRESSURE SHALL NOT VARY MORE THAN ±5psi. LEAKAGE CALCULATIONS WILL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION. DISINFECTION WILL BE REQUIRED PER THE SPECIFICATIONS OF ANSI/AWWA C951. WITHIN 24 HOURS OF DISINFECTION, ALL NEWLY INSTALLED MAINS SHALL BE FLUSHED.

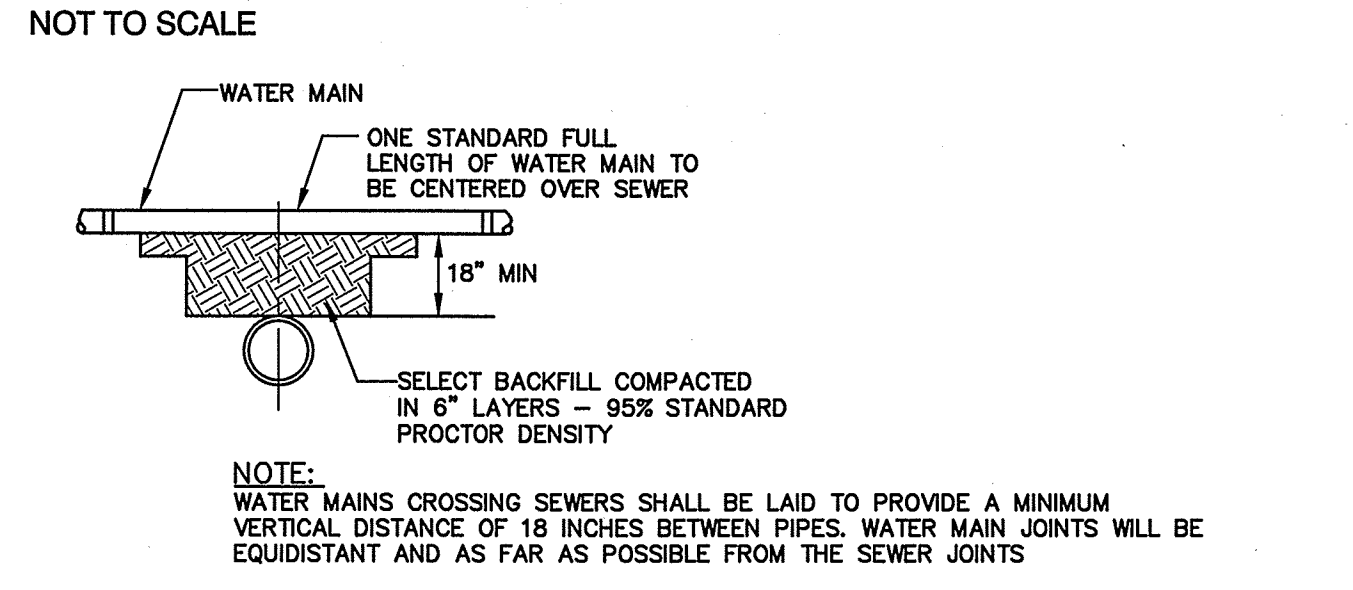
- NOTES**
- THIS PLAN HAS BEEN PREPARED BY JONES AND BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY, CONSTRUCTION DOCUMENTS PREPARED BY OTHERS, AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OF ANY DISCREPANCY BETWEEN ACTUAL FIELD CONDITIONS AND DATA AS SHOWN ON THE DESIGN PLANS. THIS SHALL INCLUDE ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE. ANY CONTRADICTION BETWEEN ITEMS CONTAINED IN THESE PLANS OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE CONSTRUCTION MAY BE INITIATED OR CONTINUED.
  - CONTRACTOR TO INSTALL 2" RIGID INSULATION BETWEEN THE PROPOSED WATERMAIN(S) AND DRAINAGE LINES IN ALL AREAS WHERE SEPARATION IS TO BE IN 4" OR LESS.
  - ALL PIPE, FITTINGS, HYDRANTS, AND WORKMANSHIP SHALL BE INSPECTED AND APPROVED BY THE SEABROOK WATER/SEWER DEPARTMENT.
  - ALL CONSTRUCTION AND TESTING SHALL COMPLY WITH THE REGULATIONS OF THE TOWN OF HUDSON, THE STATE OF NEW HAMPSHIRE, AND THE AMERICAN WATER WORKS ASSOCIATION.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UNFORESEEN UTILITY FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION. ANY APPROPRIATE REMEDIAL ACTION MUST BE AGREED TO BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS BEFORE DIGGING.
  - ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 2000 psi AFTER 28 DAYS.
  - CONTRACTOR TO INSTALL CORPORATION FITTINGS AT EACH CONNECTION TO THE EXISTING 12" WATER MAIN FOR TESTING PURPOSES. CORPORATION FITTINGS SHALL BE REMOVED AND PLUGGED AT THE COMPLETION OF TESTING.
  - CONTRACTOR TO OBSERVE ALL APPROPRIATE BEST MANAGEMENT PRACTICES RECOMMENDED BY THE NHDES.
  - ALL GATE VALVES TO BE MUELLER RESILIENT WEDGE (OPEN LEFT).
  - ALL TEES TO BE ANCHOR TEES.
  - THE TERMINAL 36" OF ALL "DEAD END" WATERMANS AND ALL BENDS AND TEES ARE TO BE FITTED WITH MECHANICAL RESTRAINING JOINTS, "MEGALUG" OR APPROVED EQUAL AND THRUST BLOCKS.

**WATER LINE TECHNICAL SPECIFICATIONS**

PIPE DIA. (IN.)	CONCRETE THRUST BLOCK DIMENSIONS							
	TEE		90° BEND OR STUB		45° BEND		22.5° BEND	
	H	L	H	L	H	L	H	L
4" / 6"	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"
8"	2'-0"	2'-0"	2'-0"	3'-0"	1'-6"	2'-0"	1'-6"	1'-6"
10"	2'-0"	3'-0"	2'-6"	3'-6"	2'-0"	2'-6"	1'-6"	2'-0"
12"	2'-6"	3'-6"	3'-0"	4'-0"	2'-0"	3'-6"	1'-6"	2'-6"
15"	3'-0"	4'-6"	3'-6"	5'-6"	3'-0"	3'-6"	2'-0"	2'-6"
18"	4'-0"	5'-0"	4'-6"	6'-0"	3'-6"	4'-0"	2'-6"	3'-0"
24"	5'-0"	7'-0"	6'-0"	8'-0"	4'-0"	6'-0"	3'-0"	4'-6"



**THRUST BLOCK DETAILS**



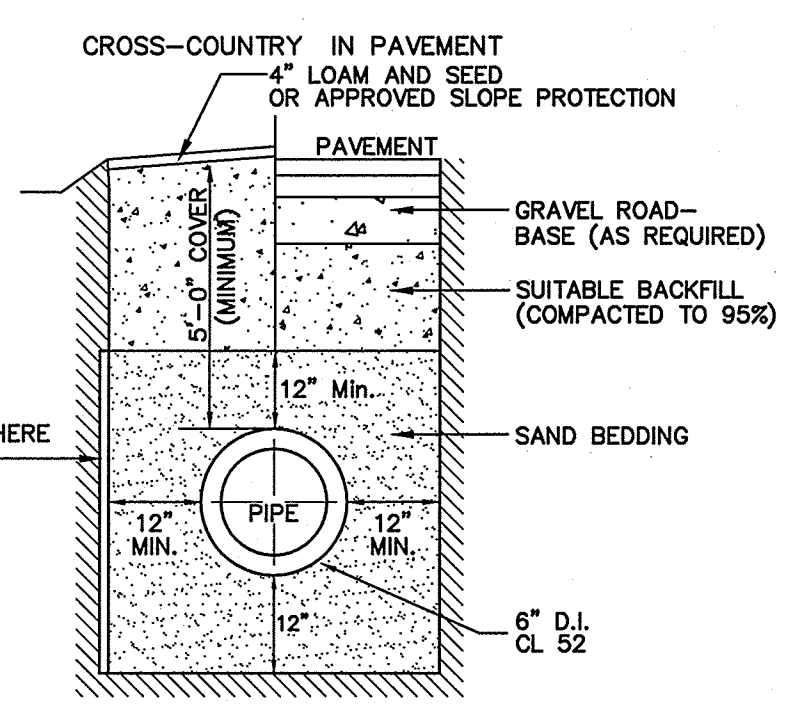
- SEPARATION NOTES:**
- WATER MAIN RELATIONS TO SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" SO-CALLED TEN STATE STANDARDS AND NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL DESIGN STANDARDS.
  - WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPARATE TRENCH AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

**TYPICAL WATER/SEWER SEPARATION**

NOT TO SCALE

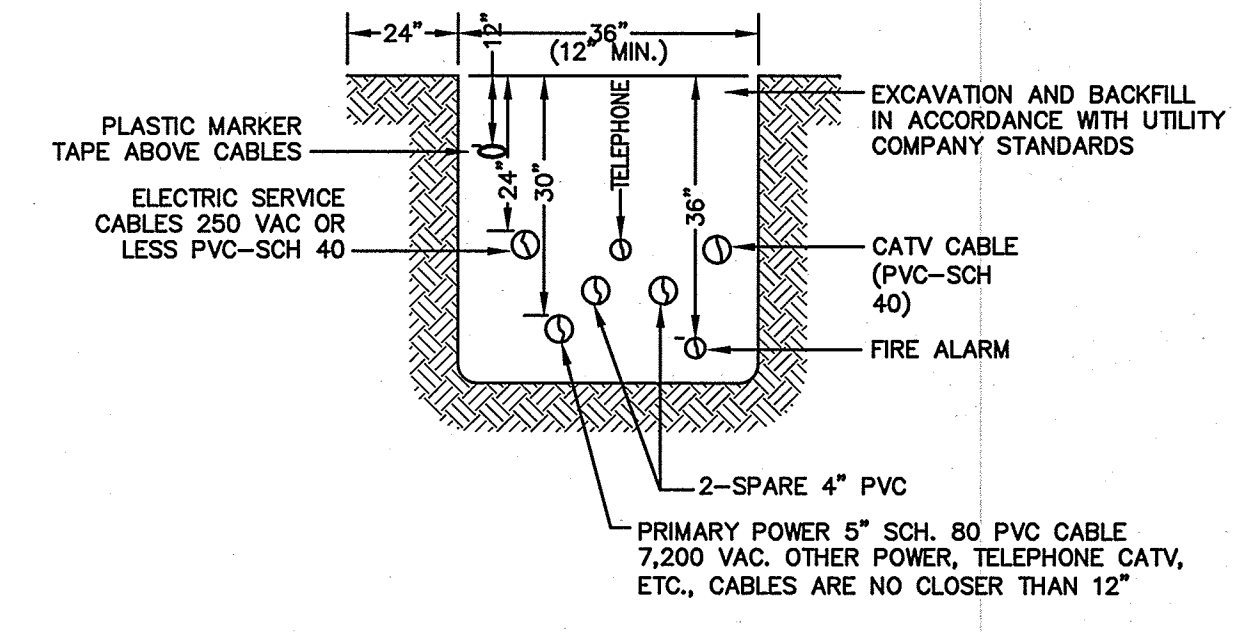
**WATER SYSTEM TRENCH**

NOT TO SCALE



**UTILITY TRENCH**

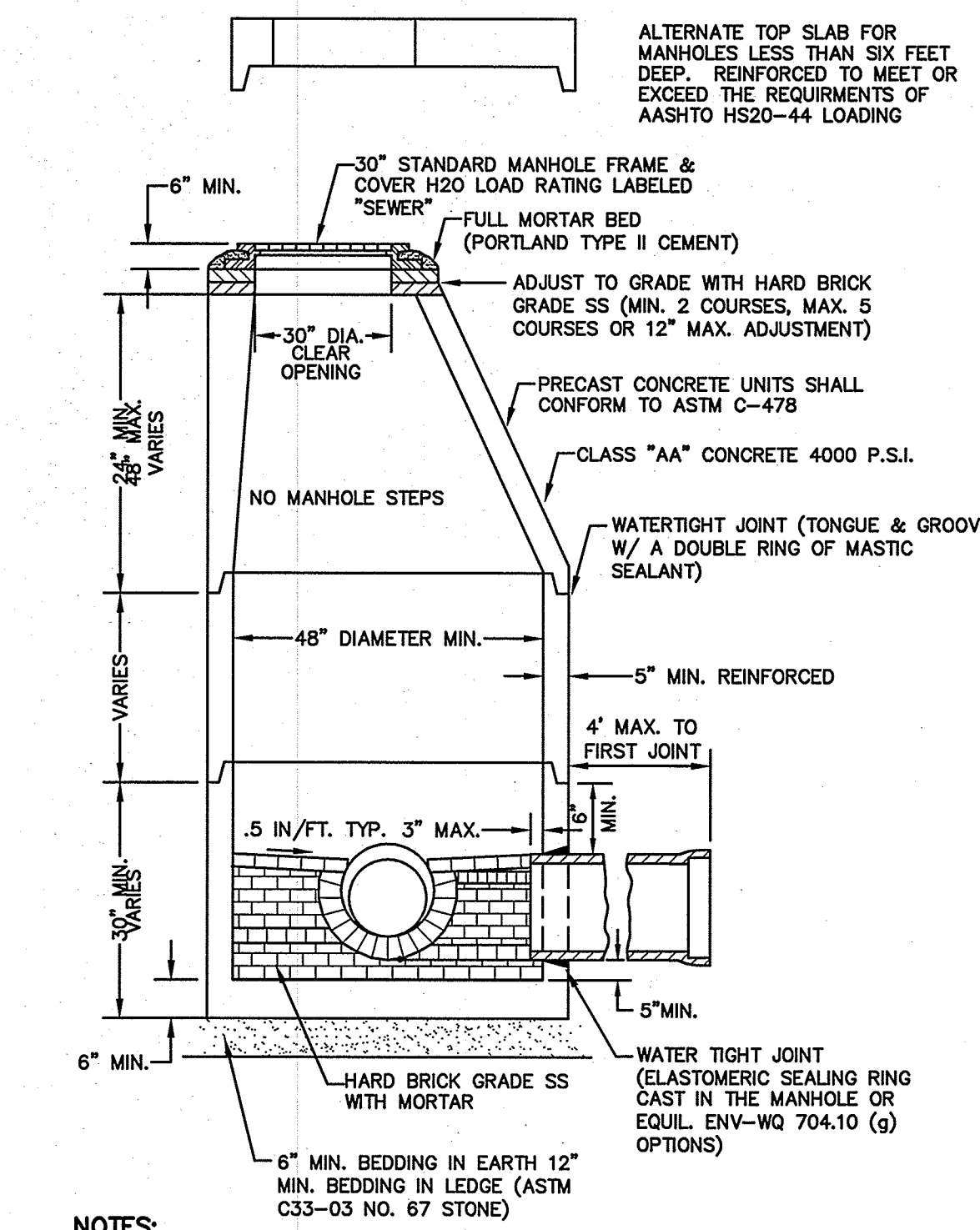
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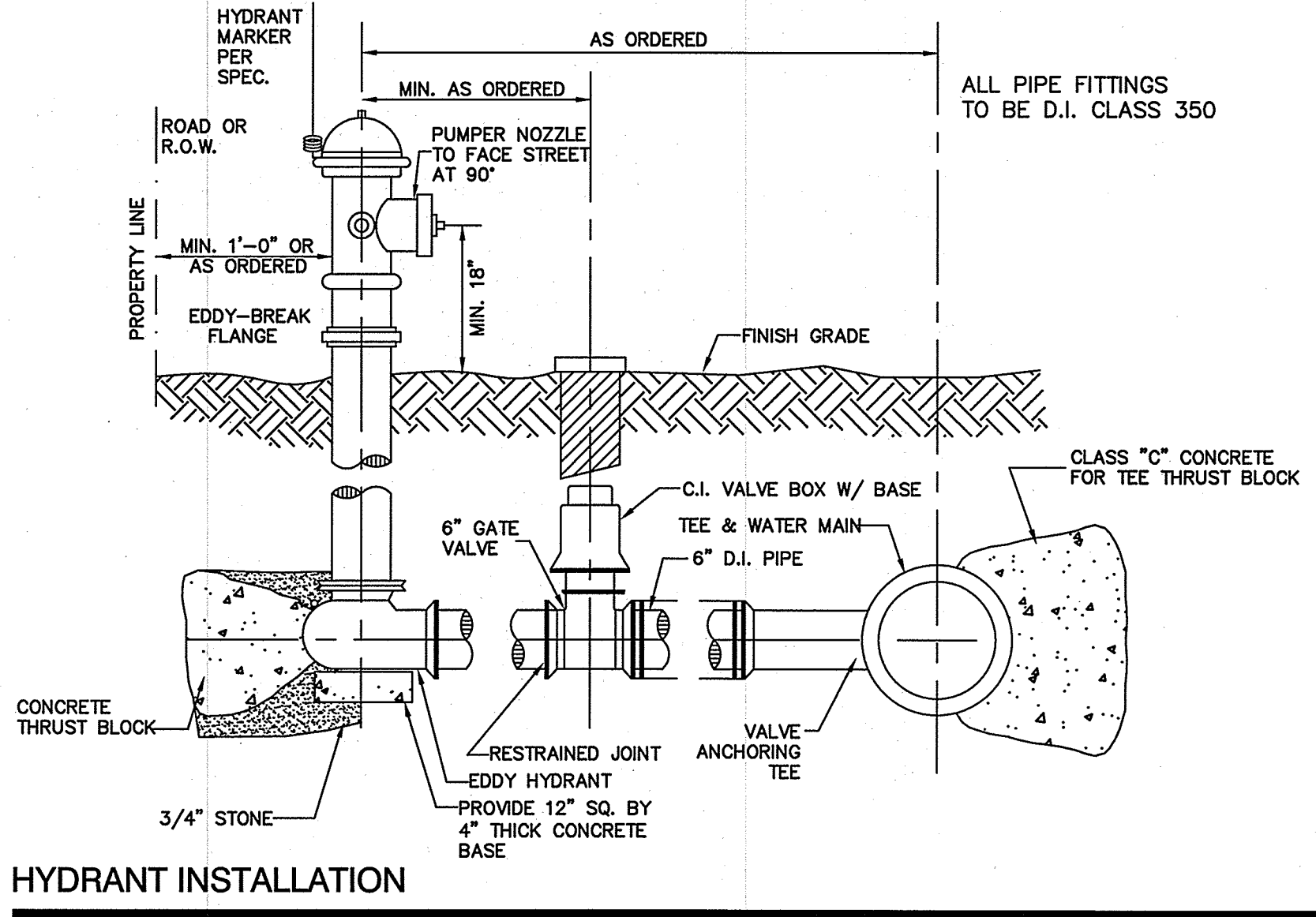
NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

**SEWER MANHOLE**

NOT TO SCALE

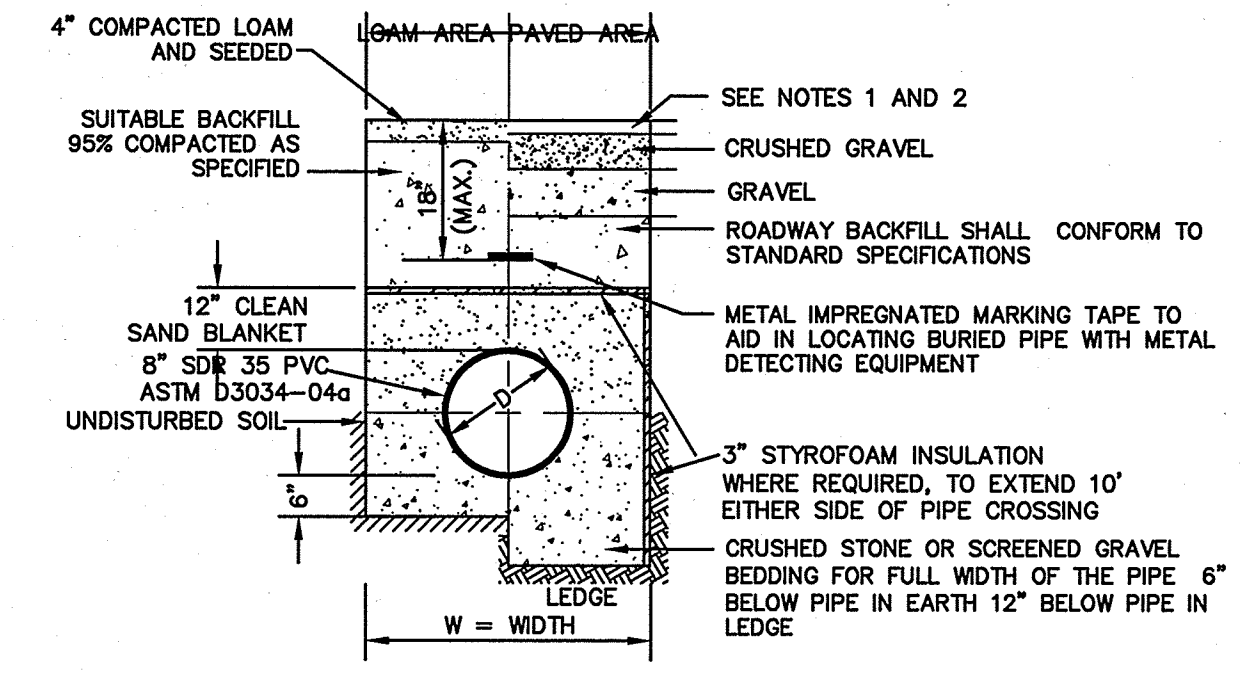


- NOTES:**
- PER NHDES ENV-WQ 704.10(K), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:  
 1. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;  
 2. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:  
 A. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR  
 B. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;  
 3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;  
 4. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-08 STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES;  
 5. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES;



**HYDRANT INSTALLATION**

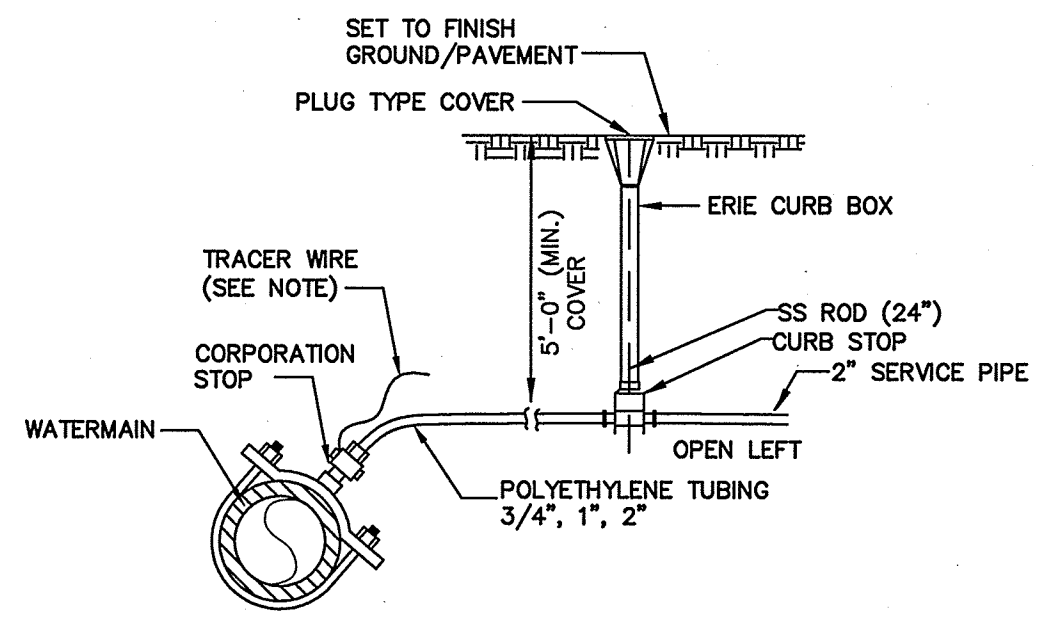
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- NOTES:**
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
  - NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
  - W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36". FOR PIPES GREATER 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.
  - RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6" AND CROSS COUNTRY IS LESS THAN 4", PURSUANT TO DES WAIVER BEING ISSUED.

**SEWER TRENCH**

NOT TO SCALE



- NOTES:**
- THE END OF THE INSTALLED WATER SERVICE TO BE MARKED BY A 2X4, PAINTED BLUE.
  - PLACE 12 GAUGE SOLID THIN COPPER TRACER WIRE ALONG SIDE OF POLYETHYLENE SERVICE LINE (WRAP AROUND CORPORATION STOP AND RUN ALONG SERVICE LINE TO THE INSIDE OF THE HOUSE/BUILDING)

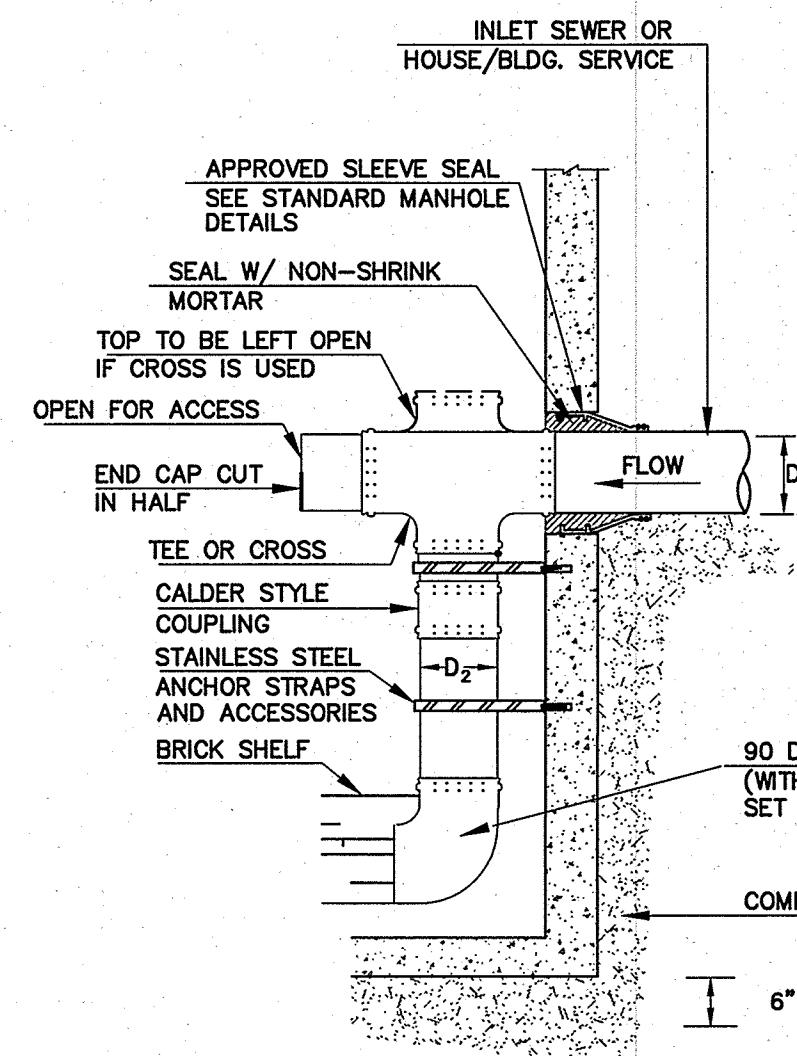
**WATER SERVICE CONNECTION**

NOT TO SCALE

<p><b>DETAIL SHEET</b></p> <p>"120 DERRY ROAD"          DERRY ROAD (RT. 102), HUDSON, NH          MAP 156. LOTS 15 &amp; 16          TOTAL PROJECT AREA: 415,850 S.F. (9.54 AC)</p>		<p>DRAWING NO.  <b>D5</b></p>									
<p>Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE          91 AMHERST STREET NASHUA, NH 03064</p>		<p>Applicant: HUDSON ENTERPRISES, LLC          7 SWAIN DRIVE, HAMPTON FALLS, NH 03844</p>									
<p><b>Jones &amp; Beach Engineers, Inc.</b>  <i>Civil Engineering Services</i></p> <p>85 Portsmouth Ave. PO Box 219 Stratham, NH 03885          603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM</p>											
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<p>DATE: 8/14/17          DESIGN: BWG          DRAFT: ISM          CHECKED: WGM</p>	<p>DRAWING NAME: 14053-PLAN.dwg          PROJECT No.: 14053          SCALE: AS NOTED          SHEET 21 OF 30</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>8/28/17</td> <td>ISSUED PER ENGINEERING REVIEW</td> </tr> <tr> <td>0</td> <td>7/14/17</td> <td>BY</td> </tr> </table>	REV.	DATE	DESCRIPTION	1	8/28/17	ISSUED PER ENGINEERING REVIEW	0	7/14/17	BY
REV.	DATE	DESCRIPTION									
1	8/28/17	ISSUED PER ENGINEERING REVIEW									
0	7/14/17	BY									

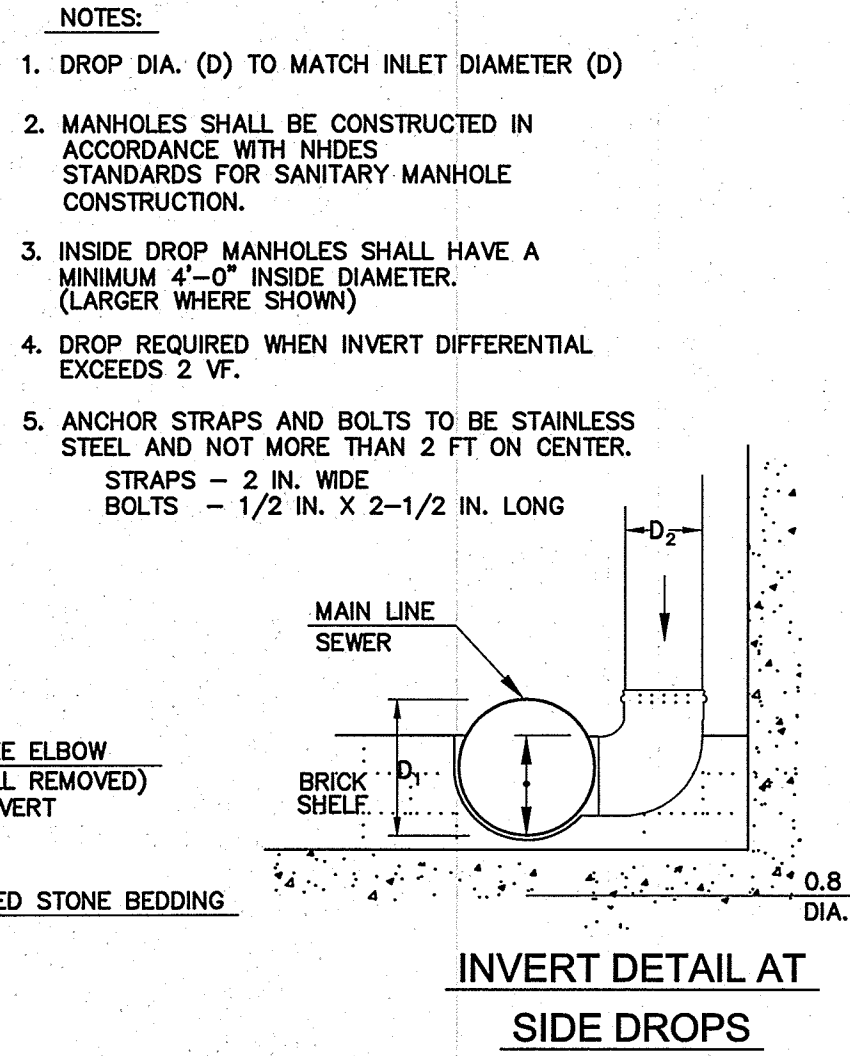
F:\Land Projects\314053-HUDSON-ELM-AVENUE-TDPSFIELD-ASSOCIATES.dwg\14053-PLAN.dwg 8/29/2017 8:00:25 AM EDT



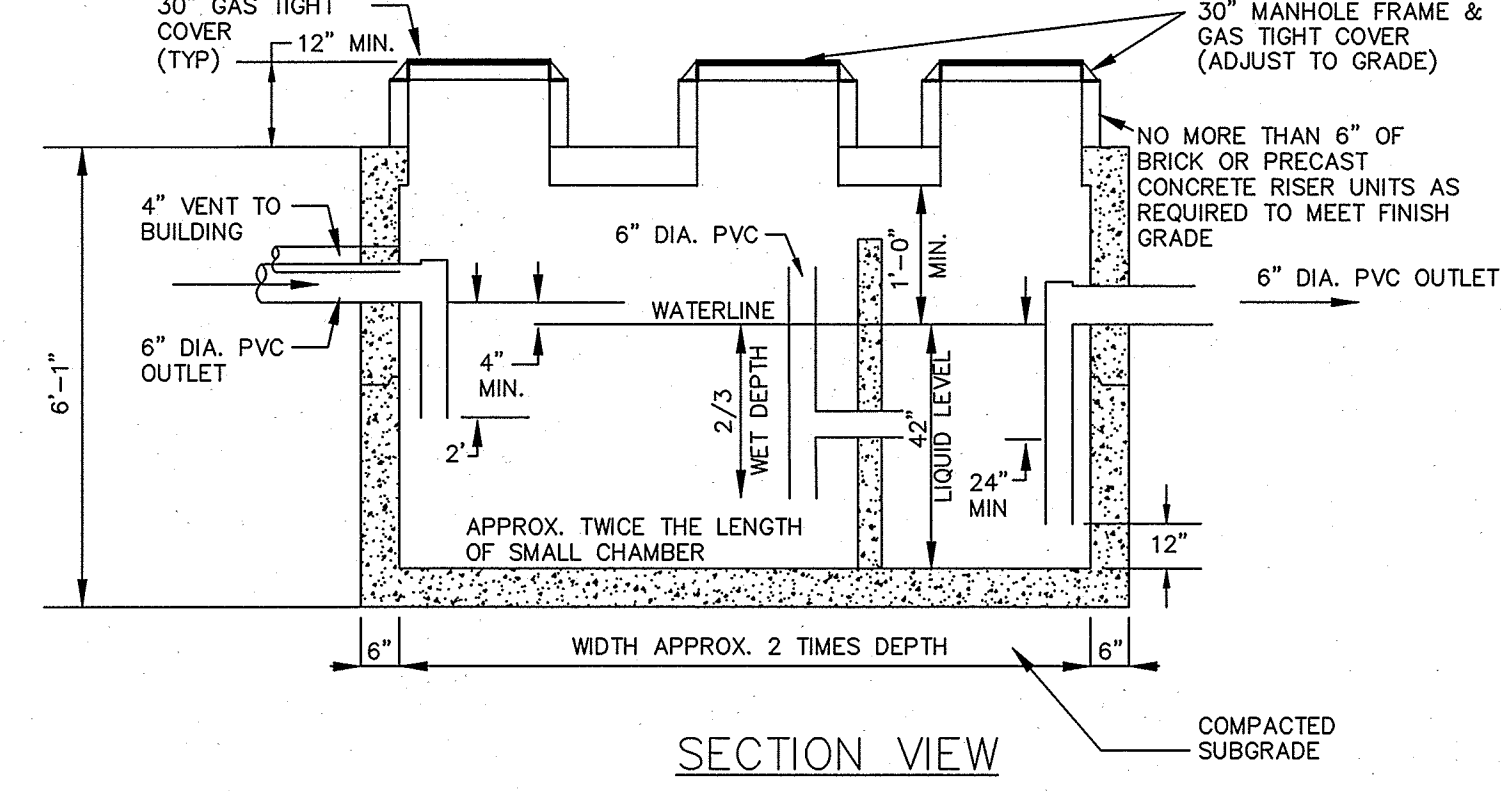


- NOTES:**
1. THE MANHOLE, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT 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 AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN 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. **INVERTS AND SHELVES,** MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF 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 FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
  3. **SHALLOW MANHOLE,** IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER SHALL BE USED, WHERE INDICATED, HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS. SEE MISCELLANEOUS DETAILS-SEWERS.

**SEWER MANHOLE - INTERNAL DROP DETAIL (GRAVITY SEWER MANHOLES ONLY)**  
NOT TO SCALE

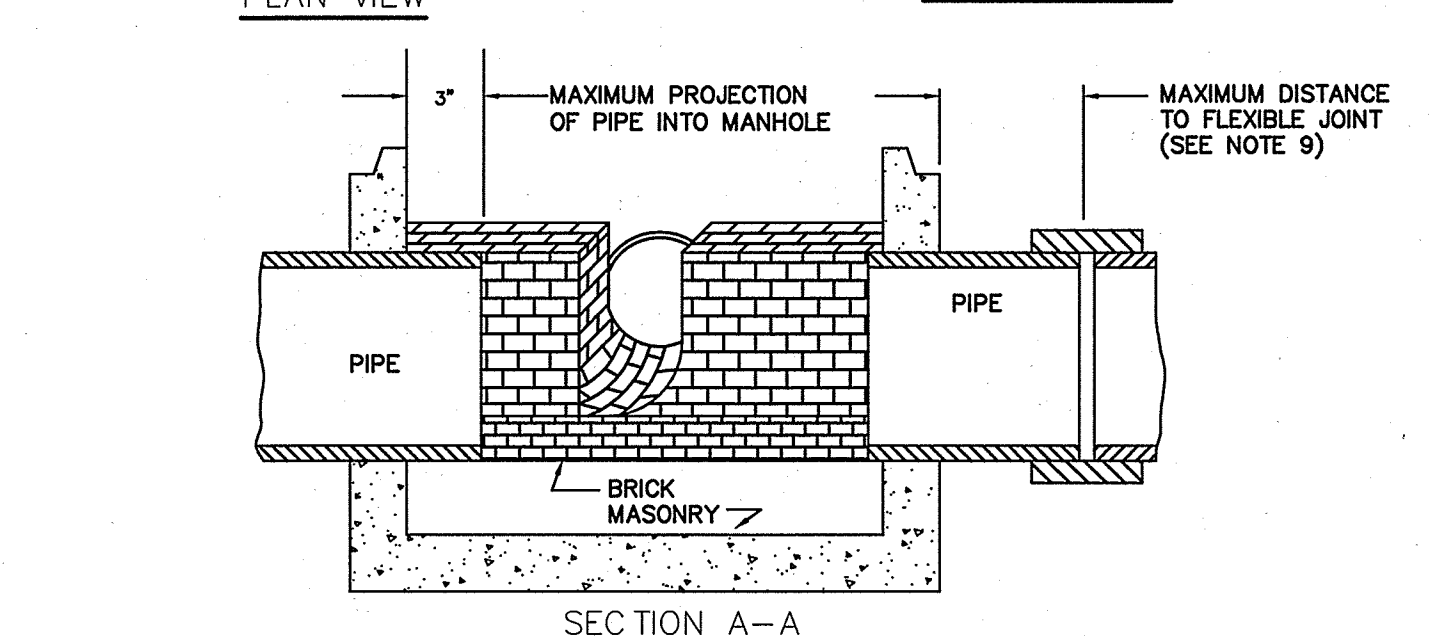
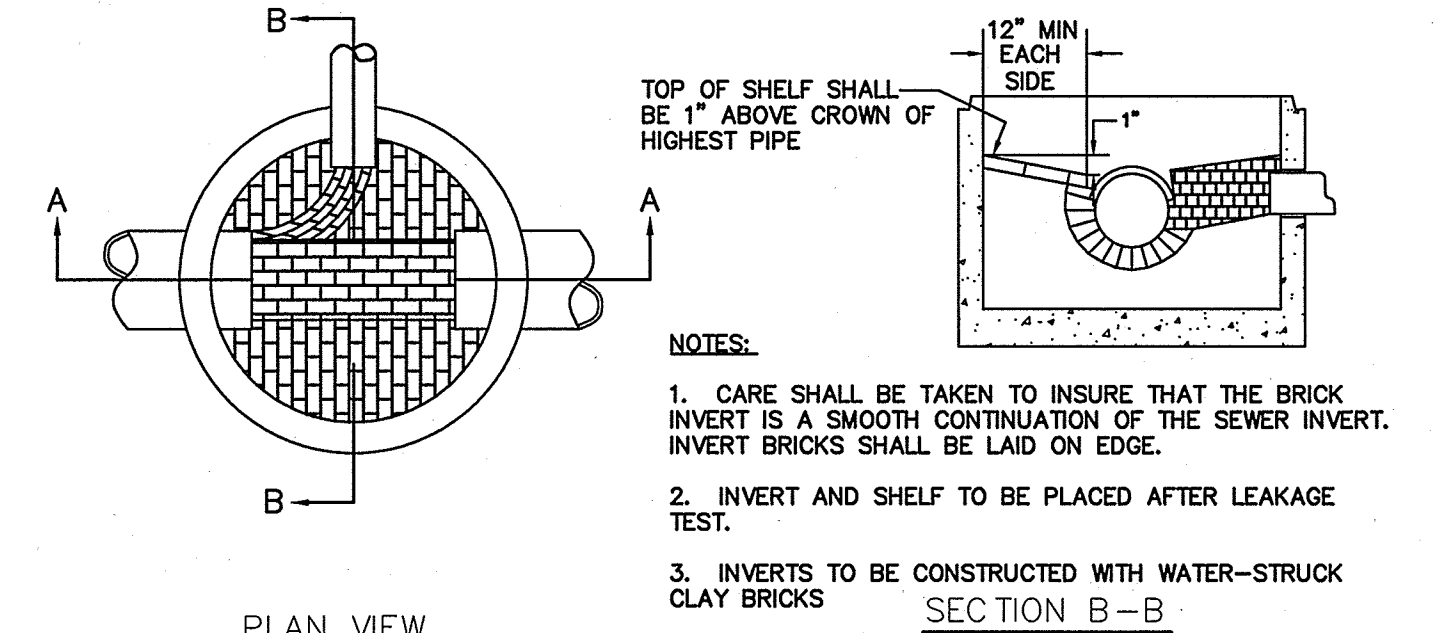


**INVERT DETAIL AT SIDE DROPS**



- DESIGN DATA & GENERAL NOTES:**
- 1) CONCRETE STRENGTH 3,000 PSI MIN. STRENGTH @ 28 DAYS
  - 2) STEEL REINFORCEMENT - ASTM A-615 GRADE 60
  - 3) COVER TO STEEL - 1" MIN.
  - 4) TANKS ARE DESIGNED TO MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20 LOADING
  - 5) EARTH COVER - 0 TO 4 FEET
  - 6) CONSTRUCTION JOINT - SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT
  - 7) CONSTRUCTION TO CONFORM WITH ASTM C1613
- NOTE: PRECAST CONCRETE GREASE TRAP MUST CONFORM TO ALL STATE & LOCAL PLUMBING CODES

**1,500 GALLON GREASE INTERCEPTOR (H-20)**  
NOT TO SCALE

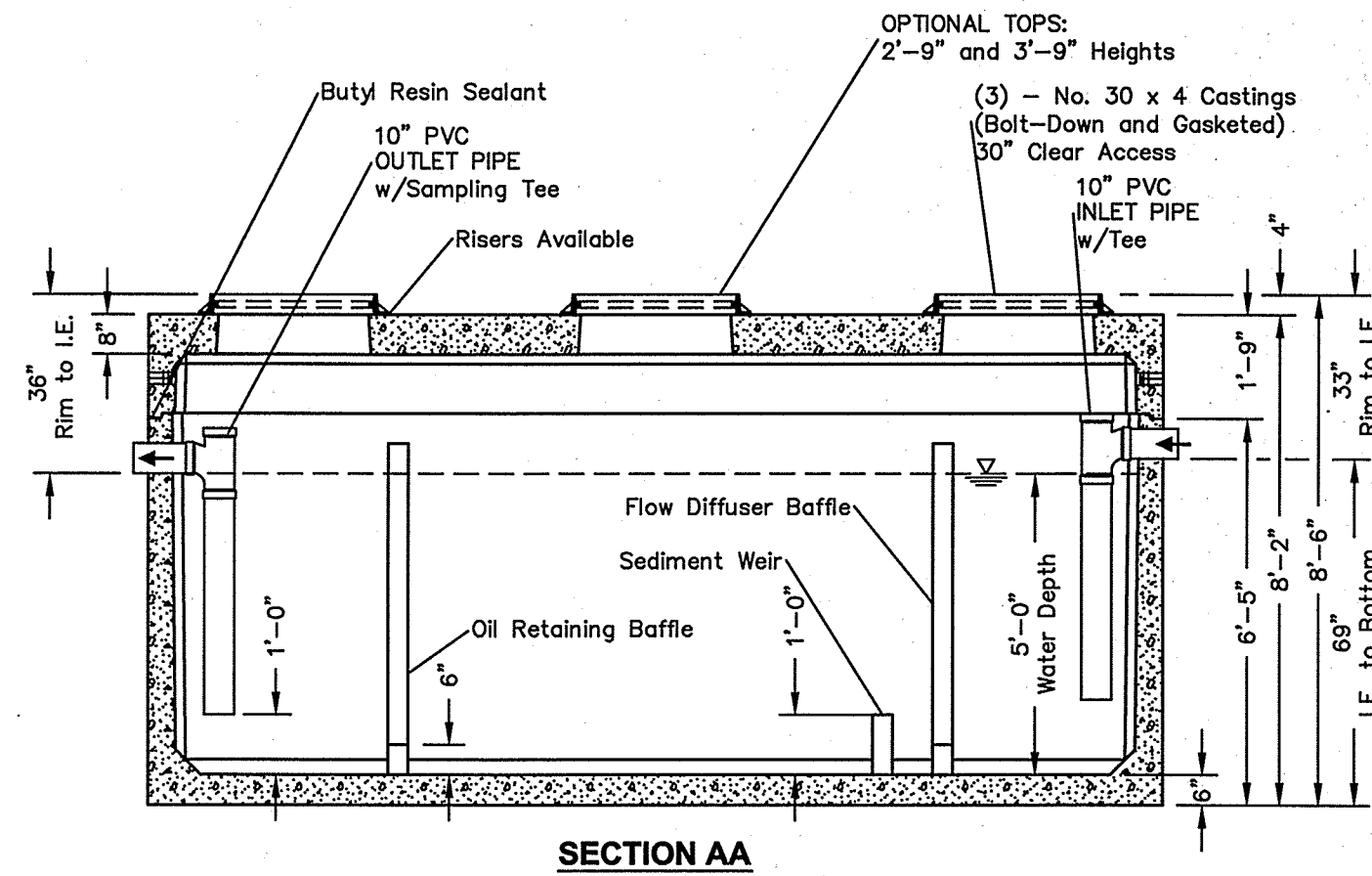


**SEWER MANHOLE SHELF DETAIL**  
NOT TO SCALE

DETAIL SHEET			
<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)			
Owner of Record:		Applicant:	
FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064		HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
<b>Jones &amp; Beach Engineers, Inc.</b> Civil Engineering Services 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM			DRAWING NO. <b>D6</b>
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053	SCALE: AS NOTED	SHEET 22 OF 30	



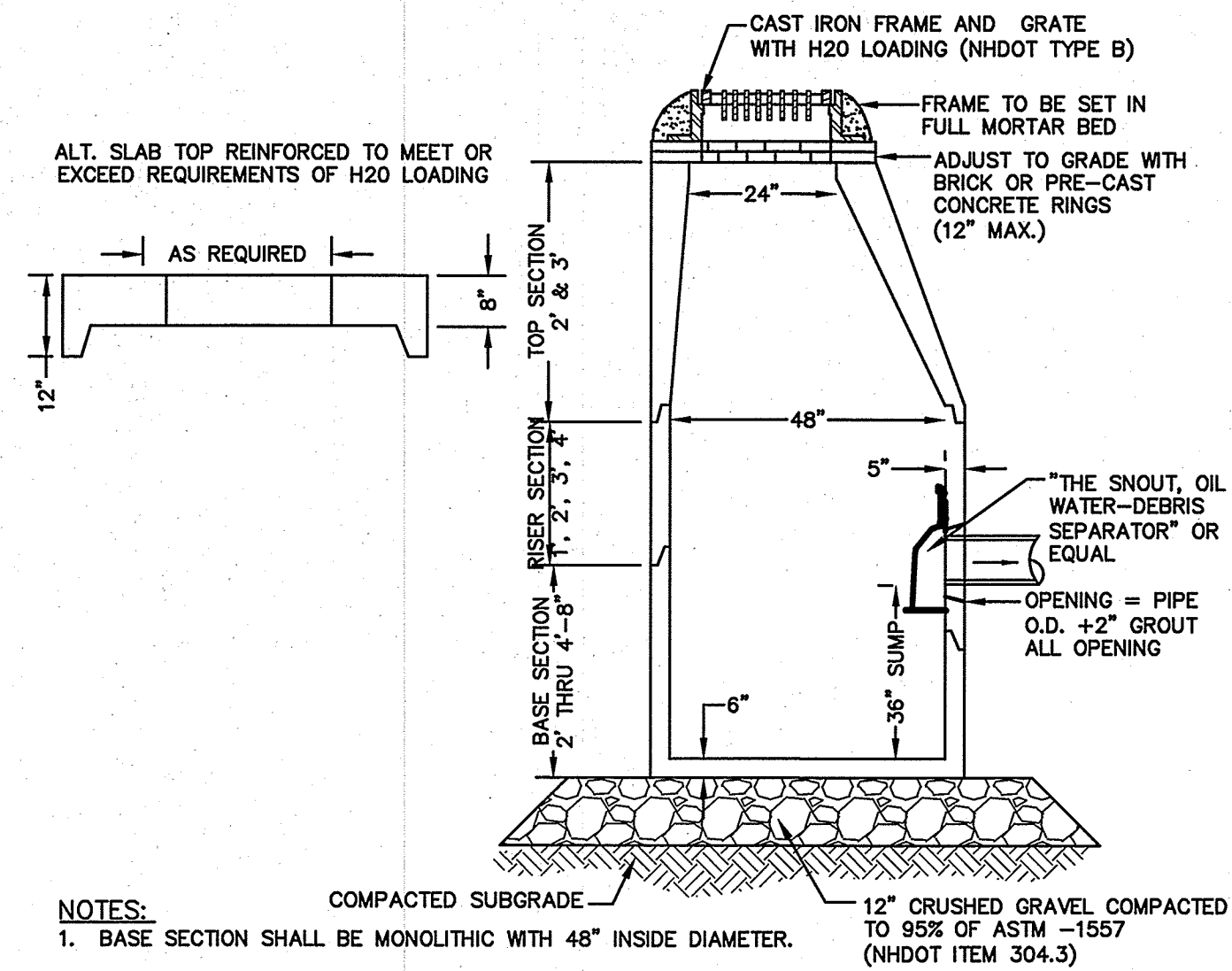
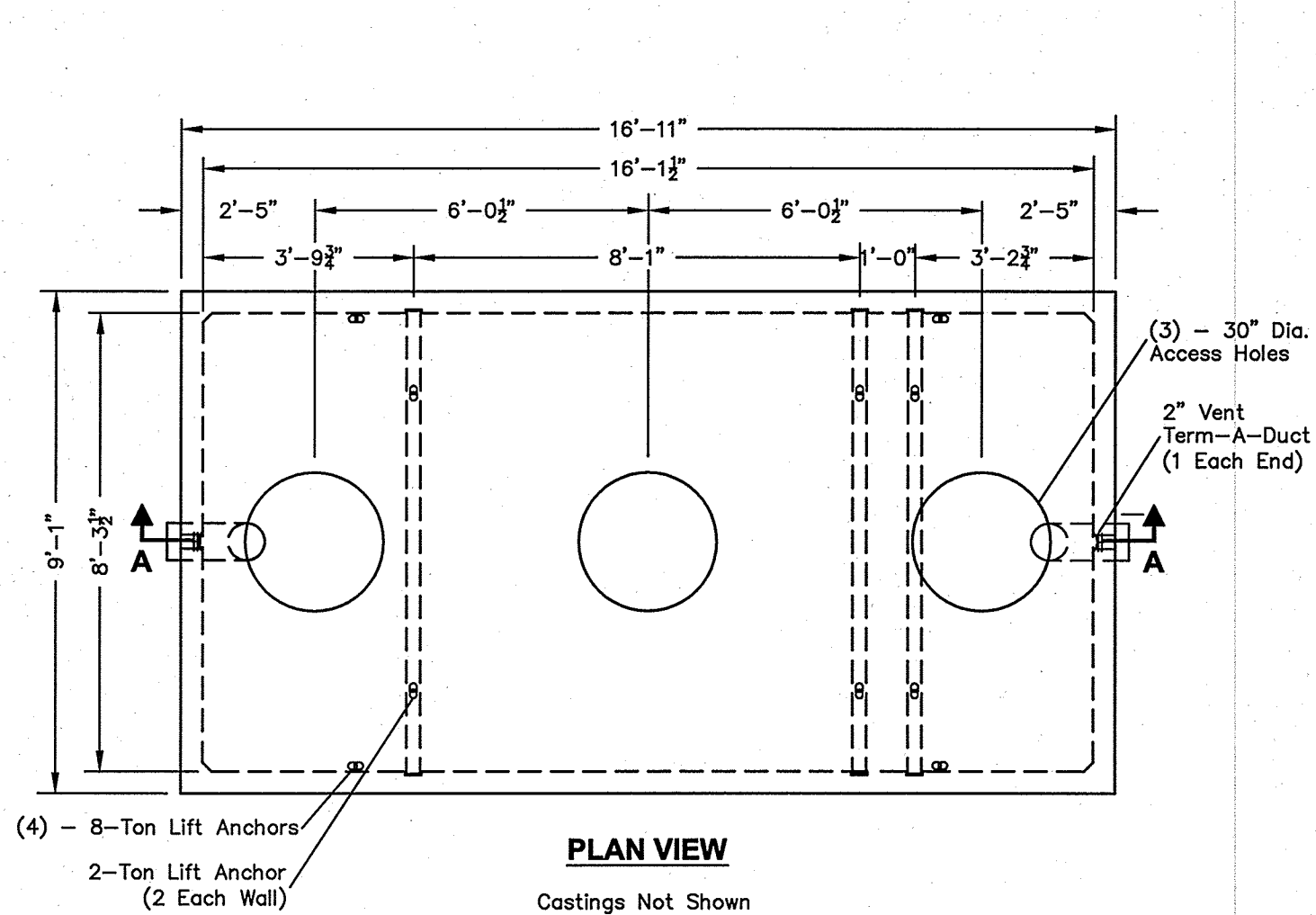
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- Notes:**
- Designed in accordance with ASTM C 890 for AASHTO HS20-44 vehicle loading
  - Flow Rate 560 GPM based on 15 min. retention time.
  - Manufacturer's recommendations:
  - 1.) Ventilate each end to open atmosphere.
  - 2.) Prior to "Start Up" of System, fill with clean water to bottom of outlet pipe (approx. one foot deep). For best results, fill to flow line.
  - 3.) Follow Regular Inspection, Cleaning, & Maintenance Schedule (See Clean Out & Maintenance).

**OIL / WATER SEPARATOR #1 (3,000 GAL)**

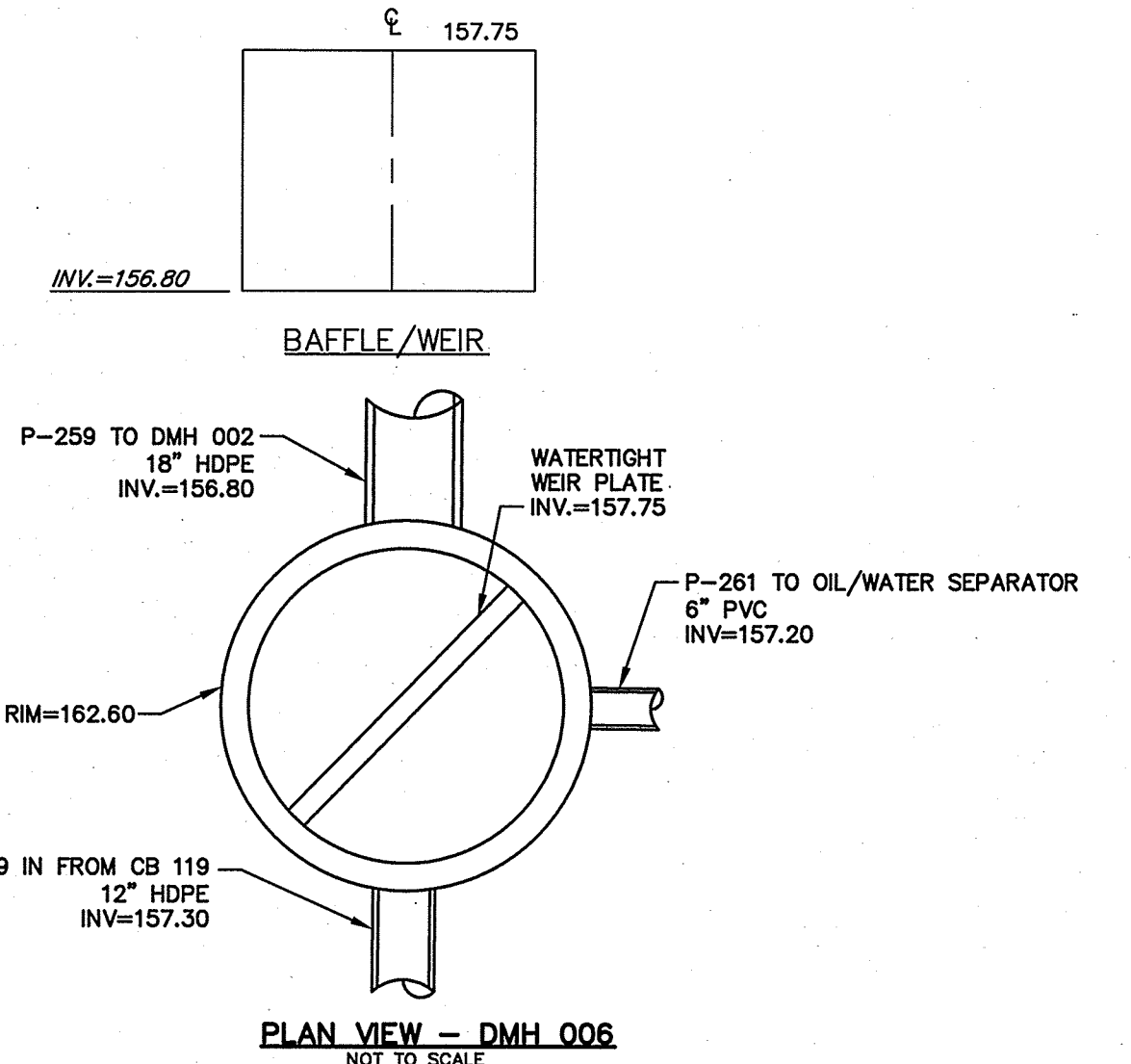
NOT TO SCALE



- NOTES:**
1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
  2. ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
  3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
  4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
  5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
  6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
  7. ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHDOT CATCH BASIN TYPE ALTERNATE 1 OR NEENAH R-3570 OR APPROVED EQUAL (24"x24" TYPICAL).
  8. STANDARD CATCH BASIN FRAME AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.
  9. ALL CATCH BASINS ARE TO BE FITTED WITH GREASE HOODS.

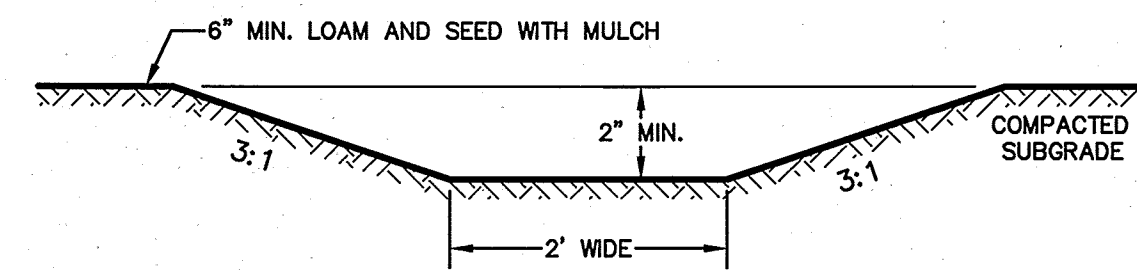
**CATCH BASIN WITH GREASE HOOD**

NOT TO SCALE



**DMH 006 DETAIL (OS #5)**

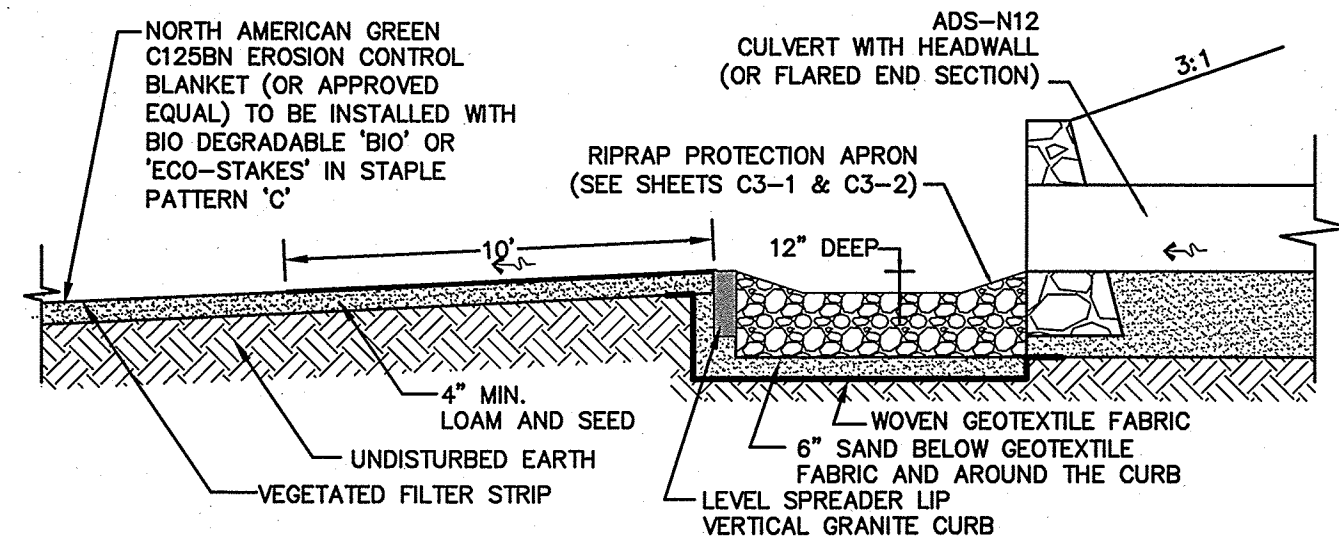
NOT TO SCALE



- NOTE:**
1. STABILIZED PRIOR TO DIRECTING RUN OFF TO SWALE
  2. CONSTRUCT SWALE AT .004 SLOPE

**VEGETATED SWALE**

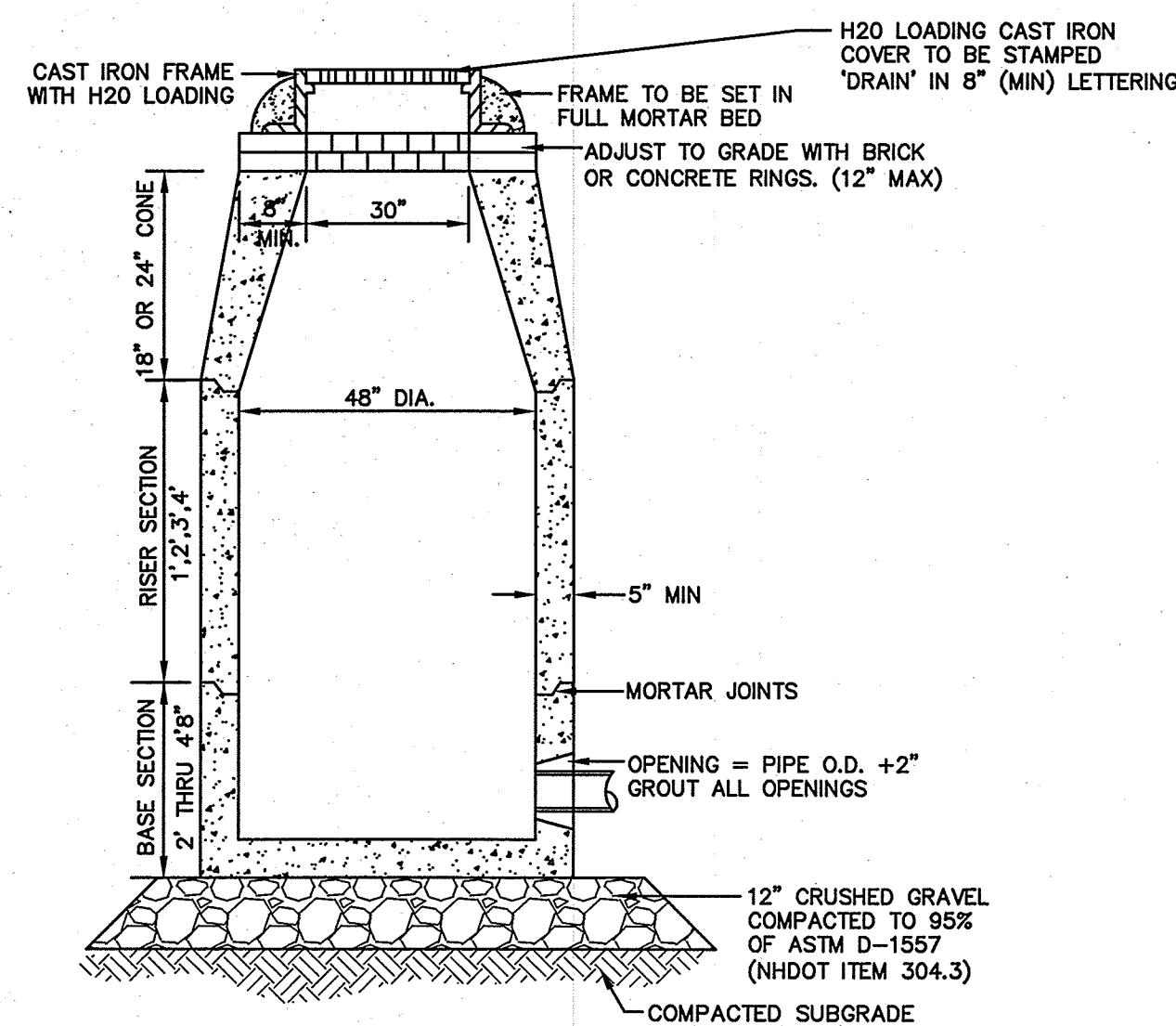
NOT TO SCALE



- NOTES:**
1. CONSTRUCT LEVEL SPREADER LIP ON ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
  2. VERTICAL GRANITE CURB SHALL BE PLACED A MINIMUM OF SIX INCHES DEEP AND EXTEND ENTIRE LENGTH OF LIP.
  3. THE RIP RAP APRON PRIOR TO THE LEVEL SPREADER SHALL NOT EXCEED A 0 PERCENT GRADE.
  4. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER MUST NOT RECONCENTRATE IMMEDIATELY BELOW THE SPREADER.
  5. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.
  6. MAINTENANCE: LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE SPREADER HAS BEEN DAMAGED. SEDIMENT DEEPER THAN FOUR INCHES ACCUMULATION SHOULD BE REMOVED. IF RILLING HAS TAKEN PLACE ON LIP, THEN DAMAGE SHOULD BE REPAIRED AND REVEGETATED. VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE SPREADER AND AWAY FROM OUTLET AREA. FERTILIZATION SHOULD BE DONE AS NECESSARY TO KEEP VEGETATION HEALTHY AND DENSE.

**LEVEL SPREADER AT CULVERT OUTLET**

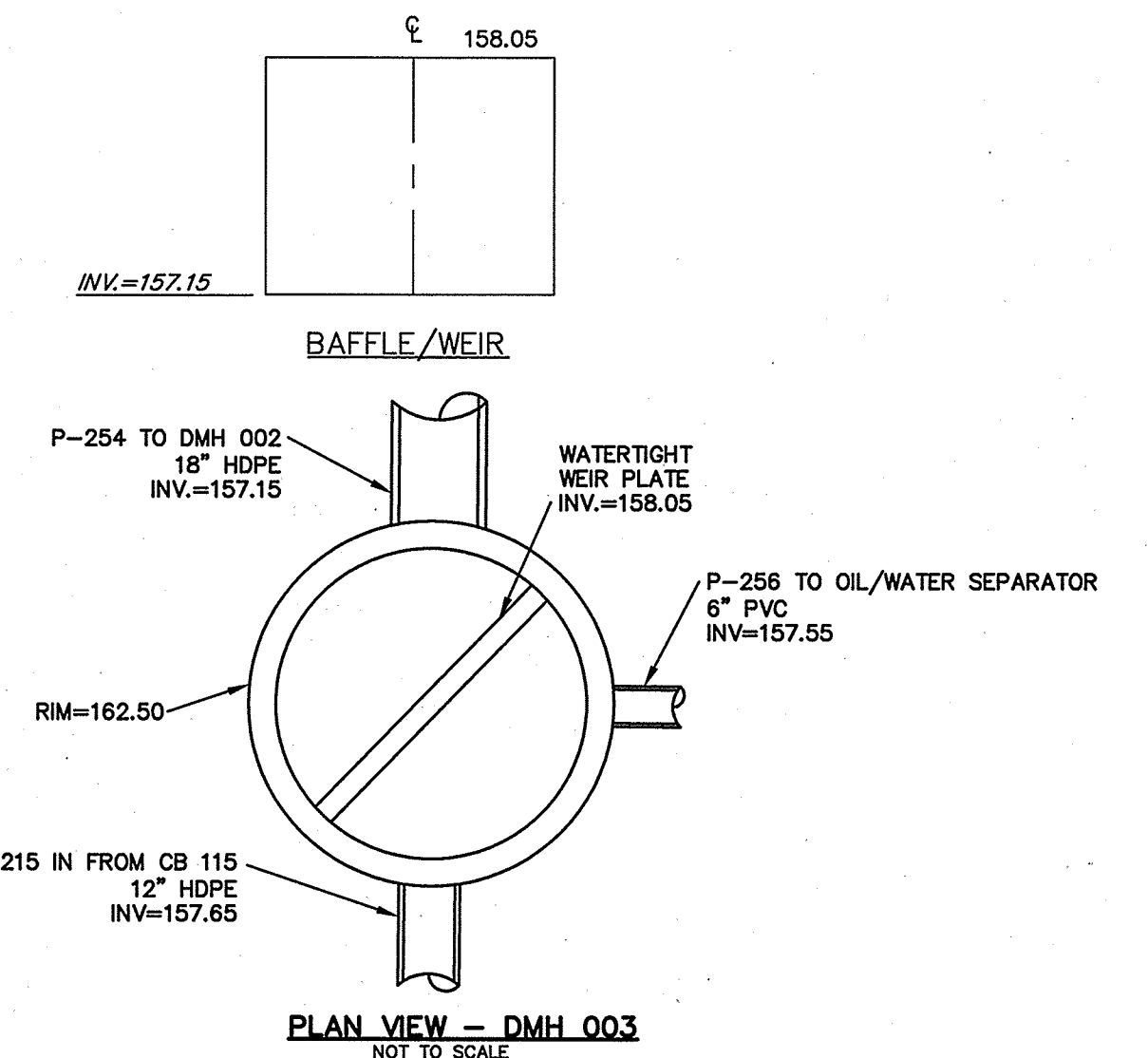
NOT TO SCALE



- NOTES:**
1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
  2. ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
  3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
  4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
  5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
  6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
  7. ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NHDOT TYPE MH-1, OR NEENAH R-1798 OR APPROVED EQUAL (30" DIA. TYPICAL).
  8. STANDARD FRAME(S) AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.

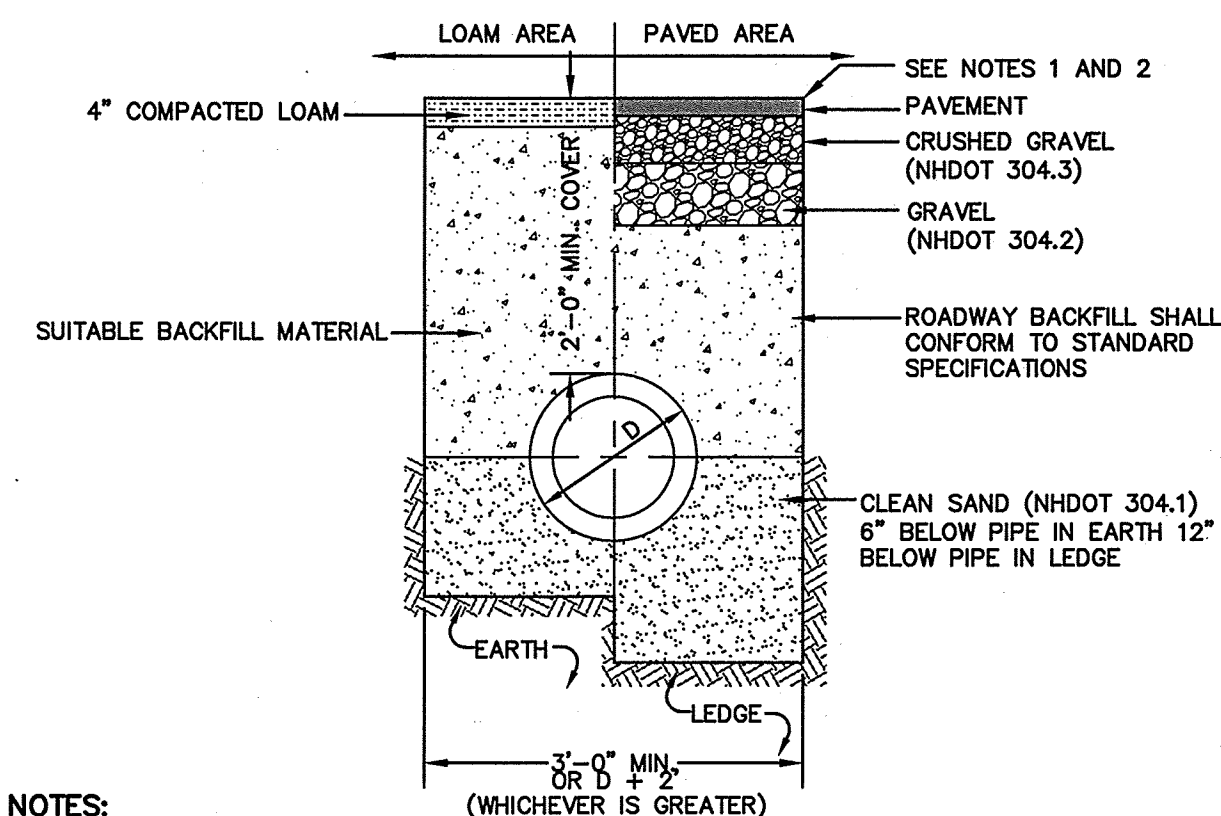
**DRAIN MANHOLE**

NOT TO SCALE



**DMH 003 DETAIL (OS #4)**

NOT TO SCALE



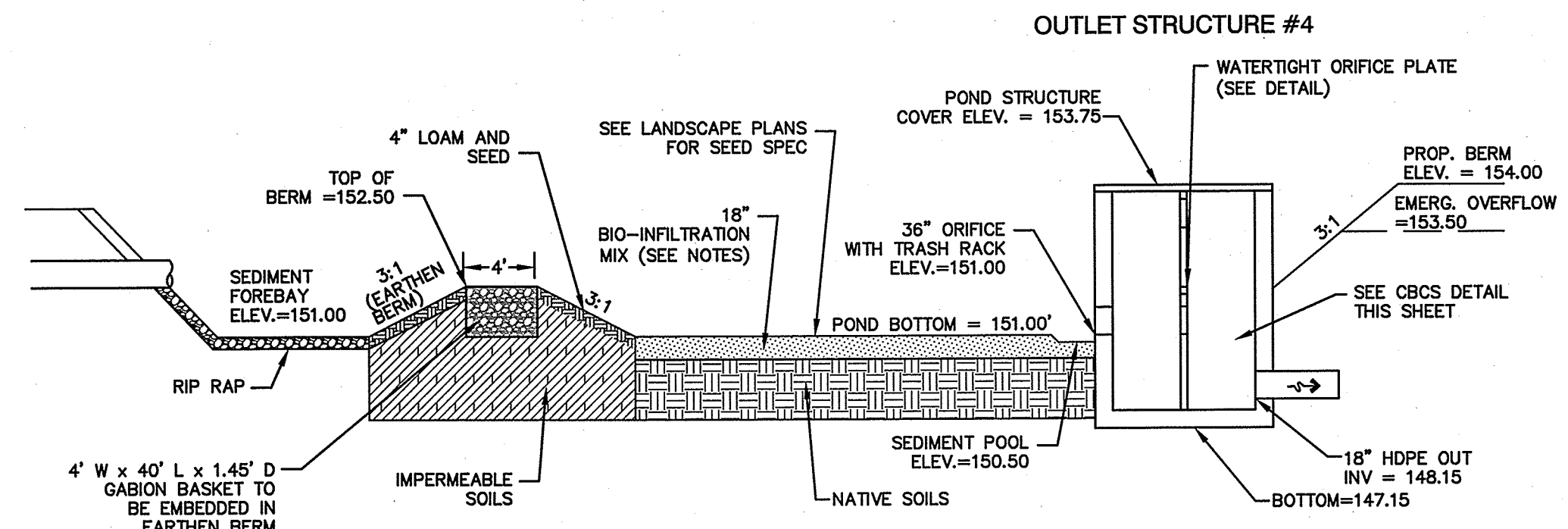
- NOTES:**
1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
  2. NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
  3. ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

**DRAINAGE TRENCH**

NOT TO SCALE

DETAIL SHEET			
<p>"120 DERRY ROAD"  <b>DERRY ROAD (RT. 102), HUDSON, NH</b>                      MAP 156. LOTS 15 &amp; 16                      TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)</p>			
Owner of Record:		Applicant:	
FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064		HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	
<p><b>Jones &amp; Beach Engineers, Inc.</b>  <i>Civil Engineering Services</i></p>		<p>DRAWING NO.  <span style="font-size: 2em; font-weight: bold;">D7</span></p>	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885		603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM	
<p>THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES &amp; BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.</p>			
DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg			
PROJECT No.: 14053		SCALE: AS NOTED	SHEET 23 OF 30

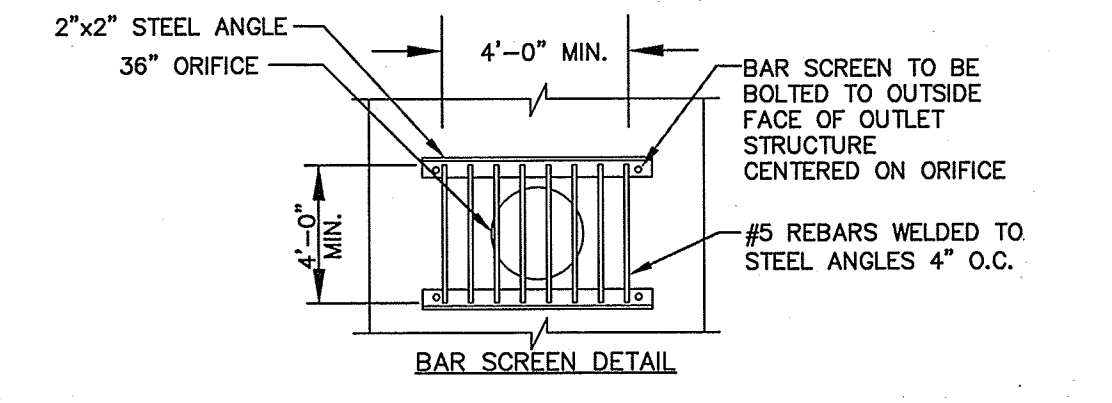
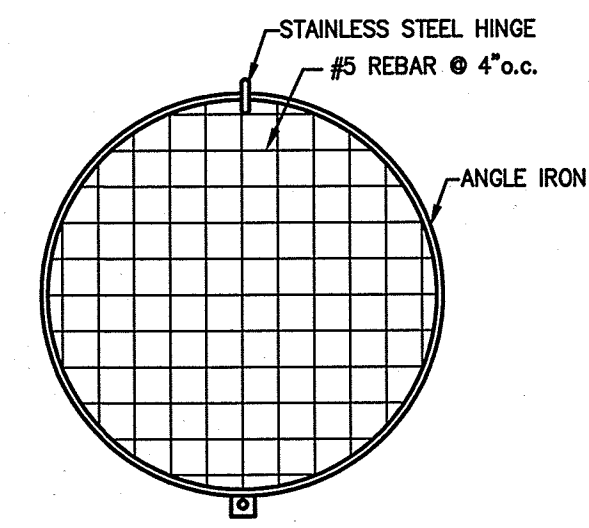
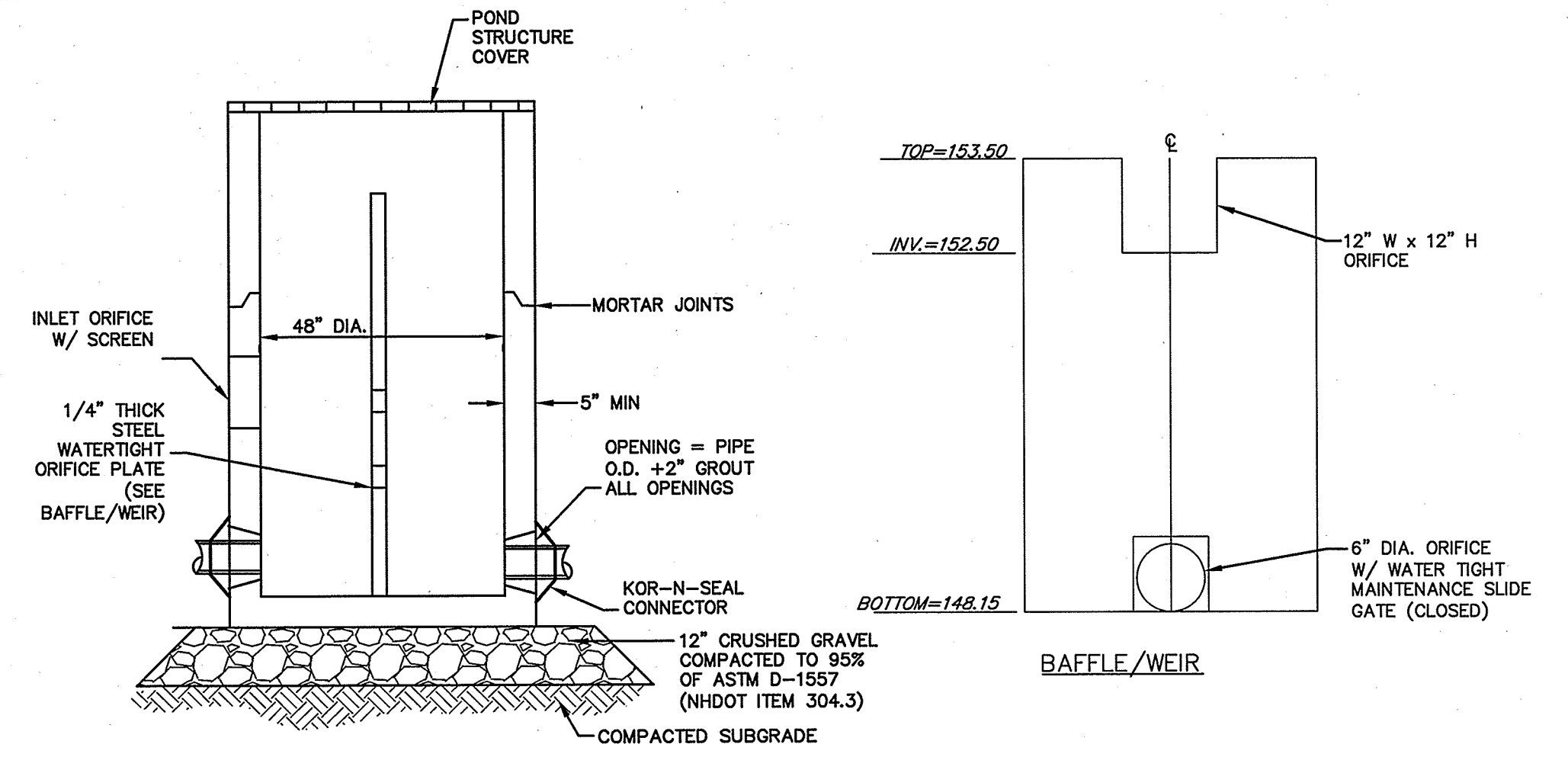
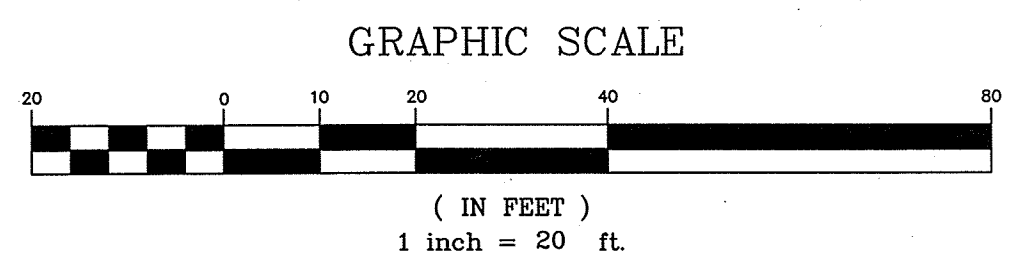
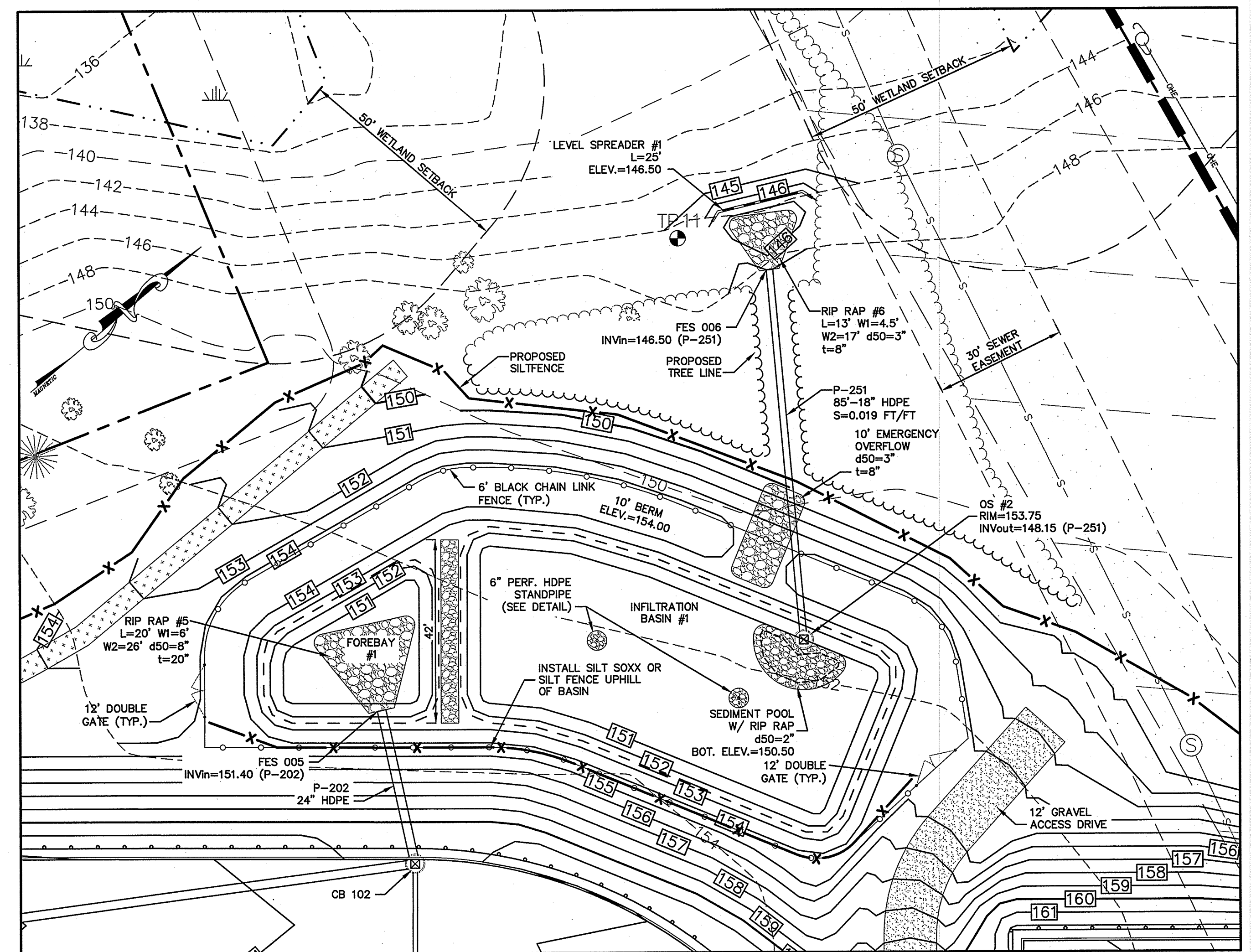




- BIO-INFILTRATION MIX AND PROCEDURE:**
1. REMOVE EXISTING FOREST LITTER FROM INFILTRATION BASIN SITE.
  2. REMOVE SANDY LOAM AND STOCKPILE (SCREEN LARGE ROOTS).
  3. REMOVE SANDY LAYERS TO 18" BELOW BASIN FLOOR ELEVATION.
  4. BIO-INFILTRATION MIX (BY VOLUME)
    - 4.1. 50%-55% ASTM C-33 CONCRETE SAND.
    - 4.2. 20%-30% LOAMY SAND TOPSOIL WITH 15%-25% FINES PASSING A #200 SIEVE.
    - 4.3. 20%-30% MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.
  5. INSTALL TO BIO-INFILTRATION MIX TO BASIN BOTTOM ELEVATION
  6. SEED WITH "NEW ENGLAND WARM SEASON GRASS MIX" AS SOLD BY NEW ENGLAND WETLAND PLANTS, INC. OR EQUAL AS APPROVED BY ENGINEER. APPLICATION RATE = 1900 SQ.FT. / LB.
    - 6.1. LIGHTLY MULCH WITH WEED FREE STRAW.

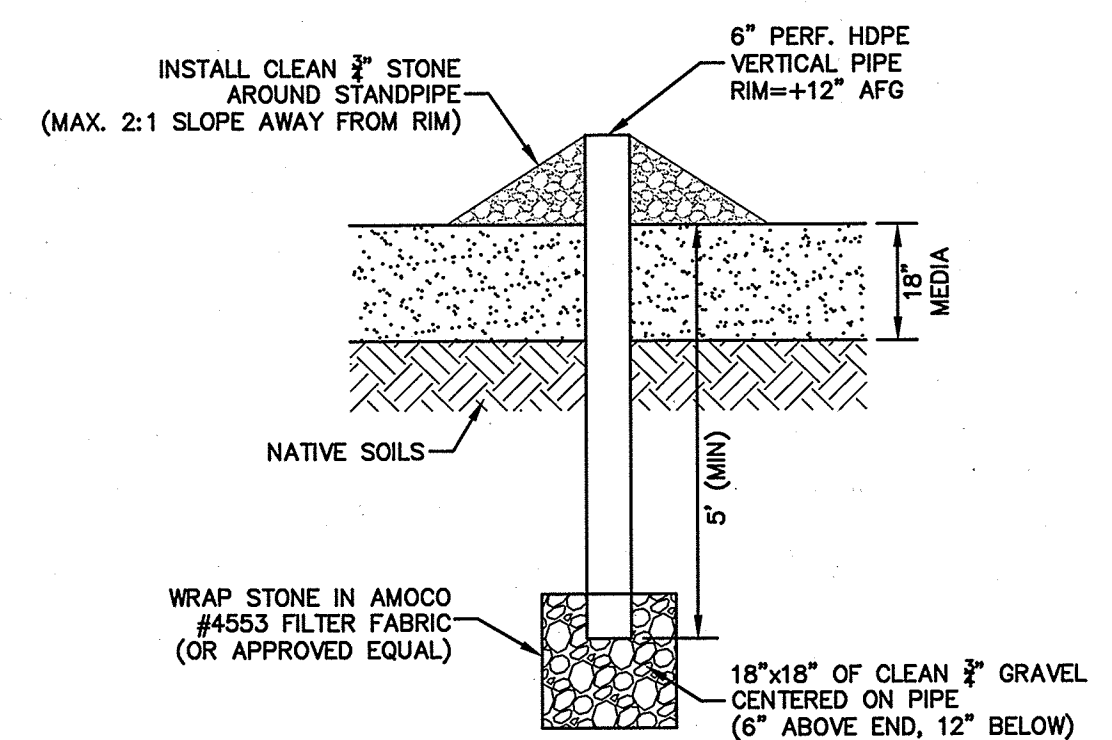
**POND #4 - INFILTRATION BASIN**

NOT TO SCALE



**OUTLET STRUCTURE #2 (OS #2)**

NOT TO SCALE



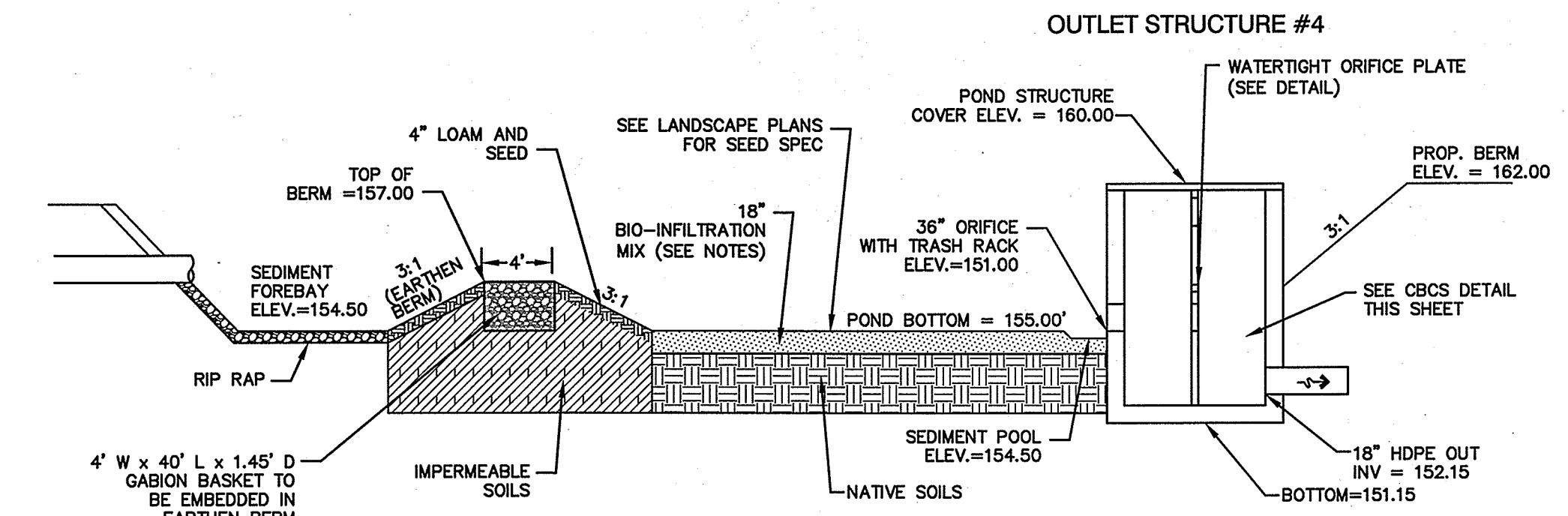
**PERFORATED STANDPIPE (INFILTRATION BASIN)**

NOT TO SCALE

REVISION				DETAIL SHEET				
ISM	BY	DATE	REVISION	<b>"120 DERRY ROAD"</b> DERRY ROAD (RT. 102), HUDSON, NH MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)				
ISSUED FOR REVIEW	BY	DATE	REVISION					
REVISED PER ENGINEERING REVIEW	BY	DATE	REVISION	Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	DRAWING NO.		
1	0	8/28/17	1	<b>Jones &amp; Beach Engineers, Inc.</b> <i>Civil Engineering Services</i> 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM				<b>D8</b>
2	0	7/14/17	1	THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.				
1	0	8/28/17	1	DATE: 8/14/17	DESIGN: BWG	DRAFT: ISM	CHECKED: WGM	
				DRAWING NAME: 14053-PLAN.dwg				
				PROJECT No.: 14053				
				SCALE: AS NOTED				
				SHEET 24 OF 30				

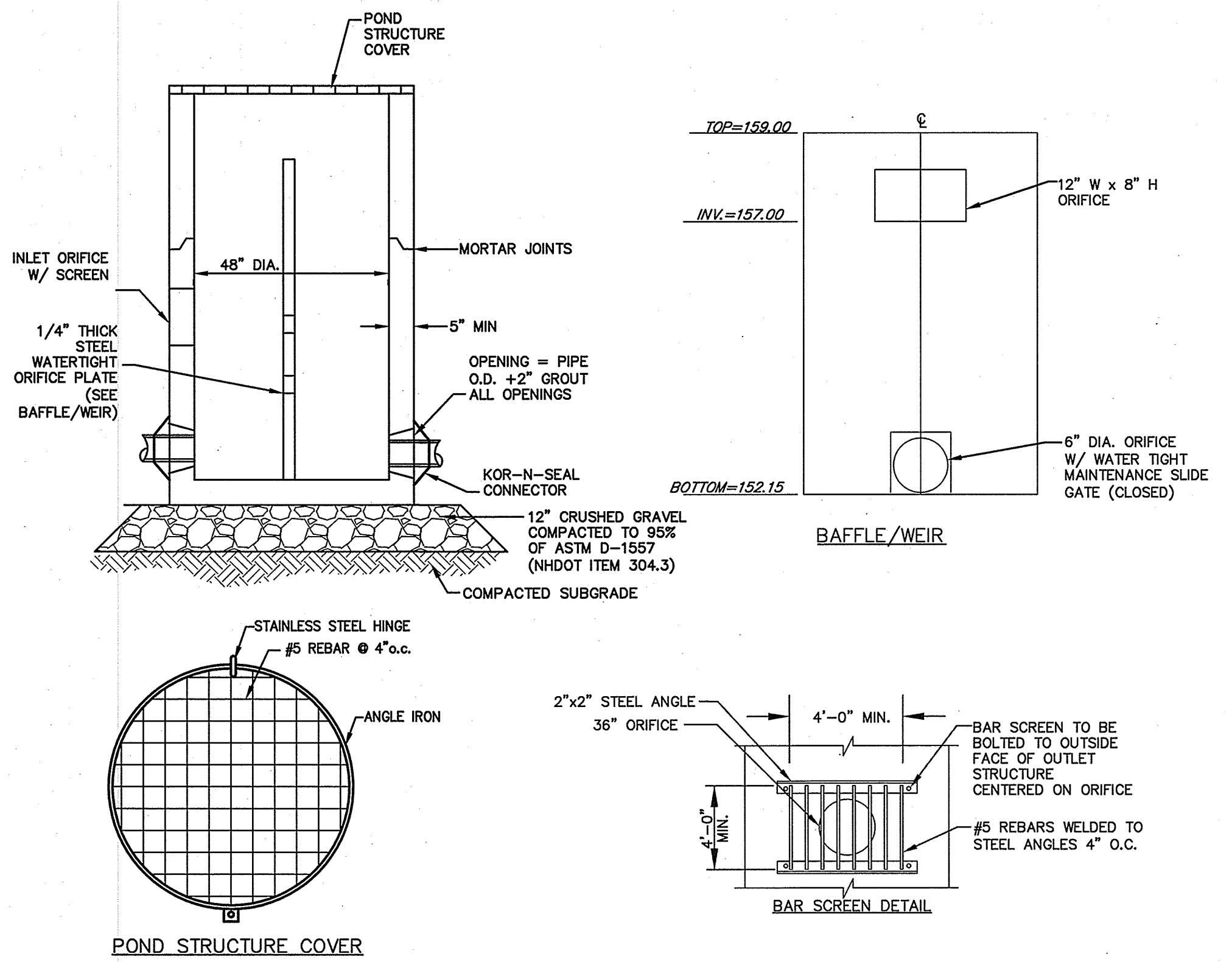
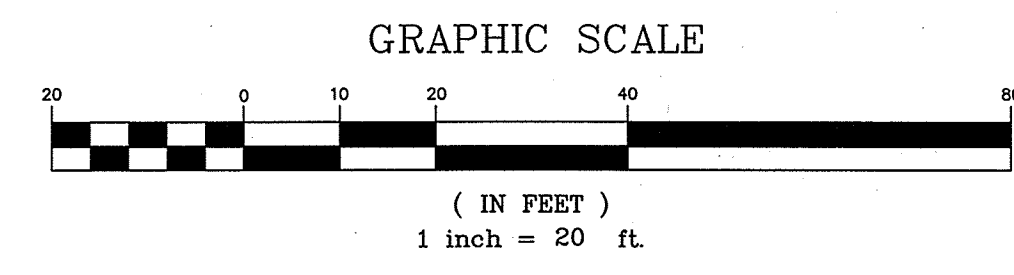
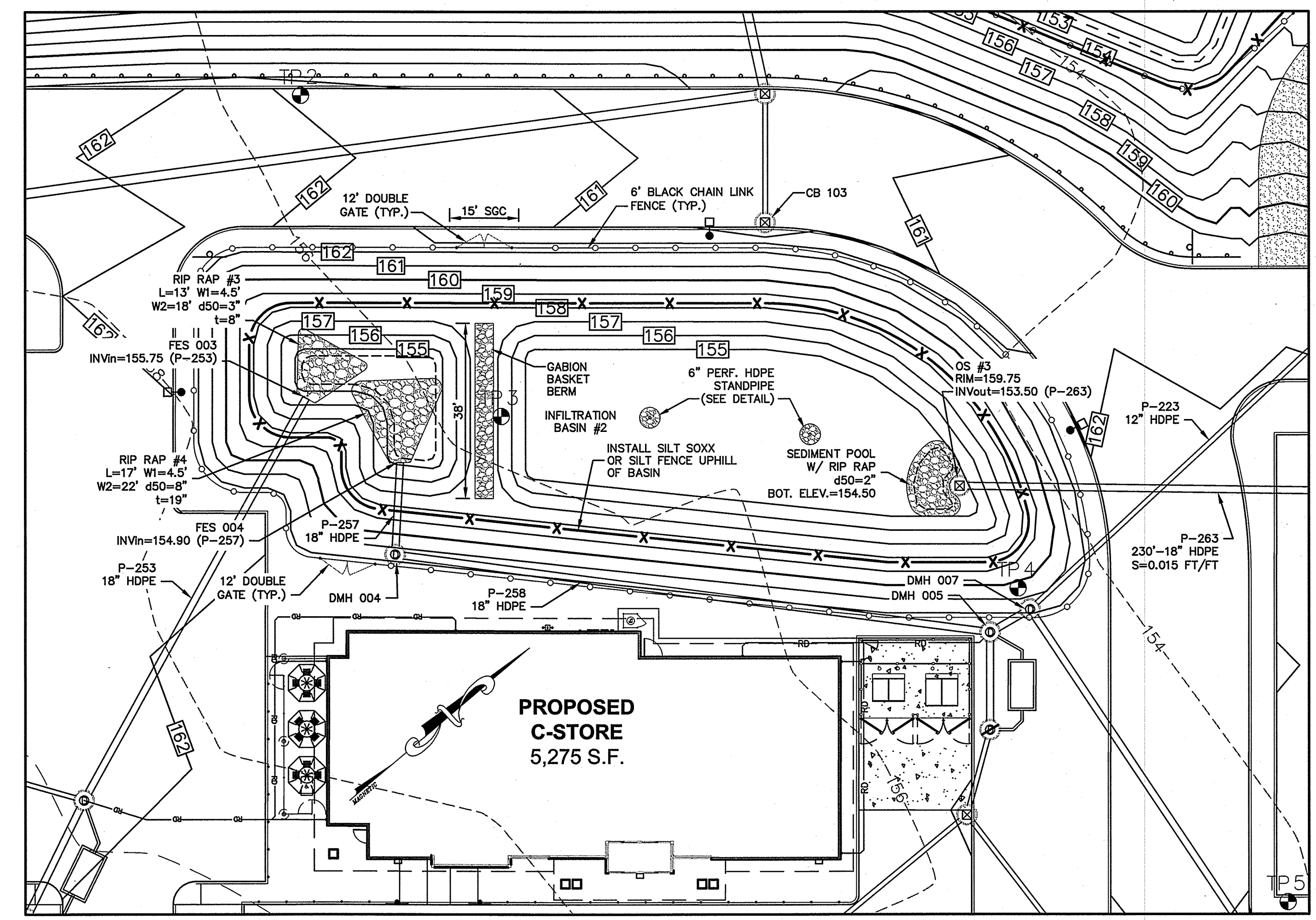
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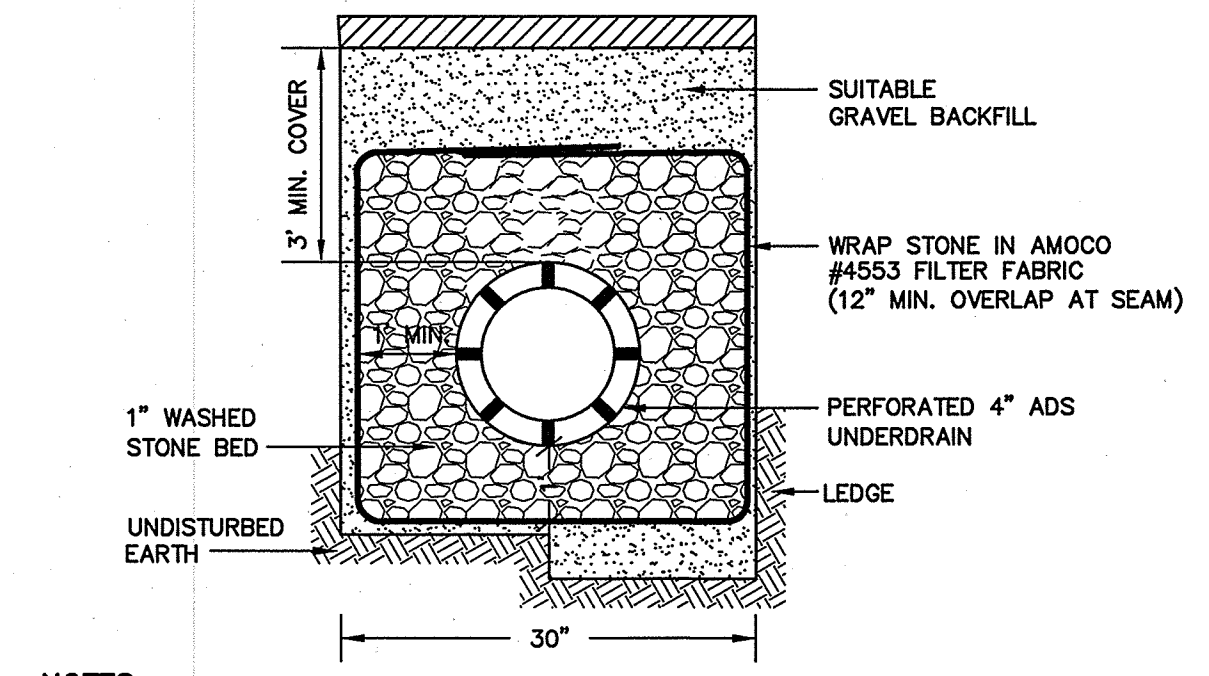


- BIO-INFILTRATION MIX AND PROCEDURE:**
- REMOVE EXISTING FOREST LITTER FROM INFILTRATION BASIN SITE.
  - REMOVE SANDY LOAM AND STOCKPILE (SCREEN LARGE ROOTS).
  - REMOVE SANDY LAYERS TO 18" BELOW BASIN FLOOR ELEVATION.
  - BIO-INFILTRATION MIX: (BY VOLUME)
    - 50%-55% ASTM C-33 CONCRETE SAND.
    - 20%-30% LOAMY SAND TOPSOIL WITH 15%-25% FINES PASSING A #200 SIEVE.
    - 20%-30% MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.
  - INSTALL TO BIO-INFILTRATION MIX TO BASIN BOTTOM ELEVATION.
  - SEED WITH "NEW ENGLAND WARM SEASON GRASS MIX" AS SOLD BY NEW ENGLAND WETLAND PLANTS, INC. OR EQUAL AS APPROVED BY ENGINEER. APPLICATION RATE = 1900 SQ.FT. / LB.
  - LIGHTLY MULCH WITH WEED FREE STRAW.

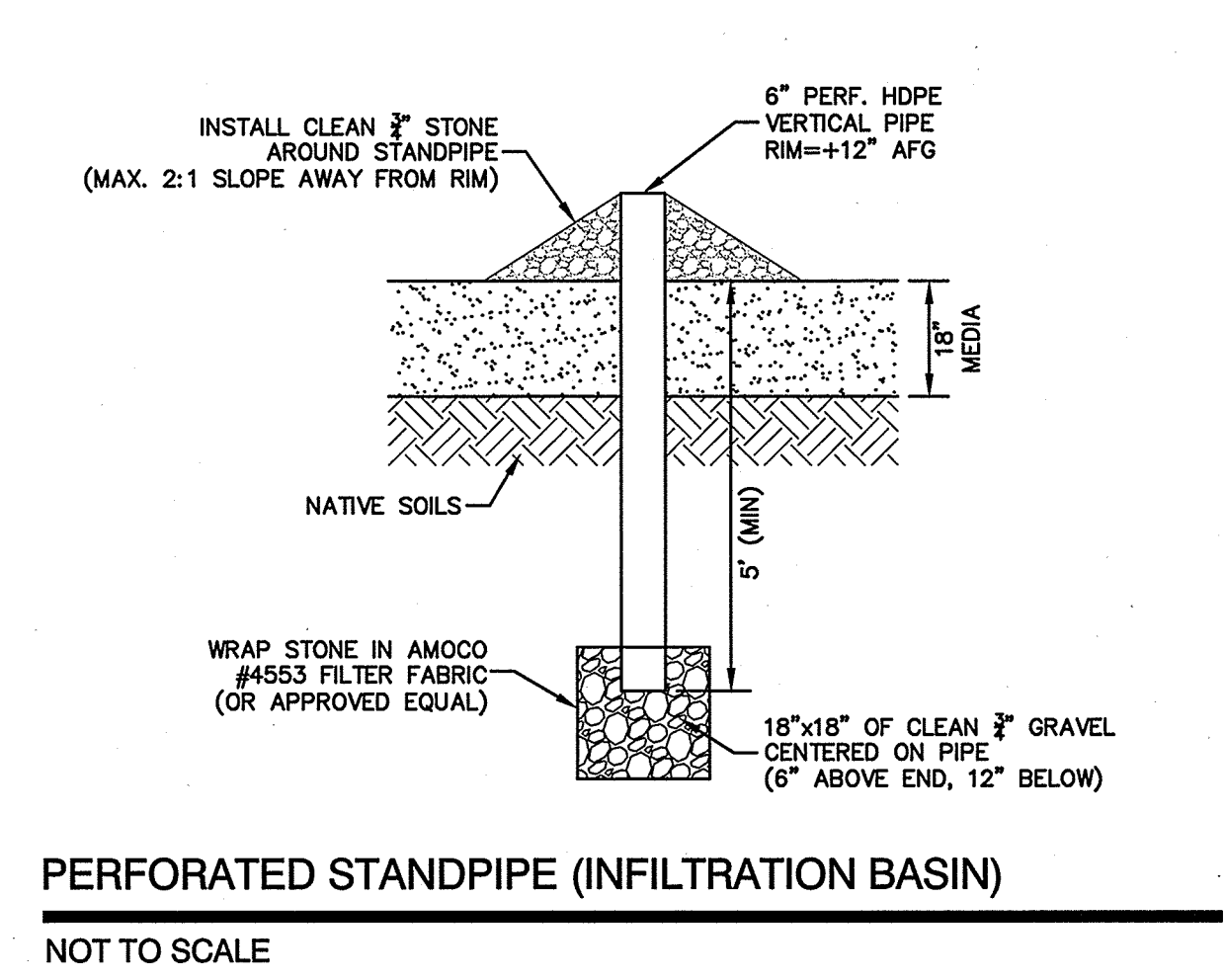
**POND #4 - INFILTRATION BASIN**  
NOT TO SCALE



**OUTLET STRUCTURE #3 (OS #3)**  
NOT TO SCALE



- NOTES:**
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
  - NEW ROADWAY CONSTRUCTION SHALL CONFORM TO PROJECT AND TOWN SPECIFICATIONS.
  - SLOPE UNDERDRAIN PIPE TO OUTLET STRUCTURE.



REVISION				DETAIL SHEET			
1	8/28/17	0	7/14/17	<b>"120 DERRY ROAD"</b> <b>DERRY ROAD (RT. 102), HUDSON, NH</b> MAP 156. LOTS 15 & 16 TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)			
1	0	0	0	Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03084	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844	DRAWING NO. <b>D9</b>	
Jones & Beach Engineers, Inc. <i>Civil Engineering Services</i> 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM				THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.			
BARRY W. GIER No. 12636 LICENSED PROFESSIONAL ENGINEER				DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM	DRAWING NAME: 14053-PLAN.dwg PROJECT No.: 14053 SCALE: AS NOTED SHEET 25 OF 30		

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**PLANTING SPECIFICATION**

- A. ONLY NATIVE, NON-INVASIVE SPECIES SHALL BE USED.
- B. PLANTING LAYOUT SHALL BE RANDOM & NATURAL.
- C. WOODY VEGETATION SHALL NOT BE USED NEAR INFLOW LOCATIONS.
- D. PLANTINGS SHALL INCLUDE A MIX OF HERBACEOUS PERENNIALS, SHRUBS, AND (IF CONDITIONS PERMIT) UNDERSTORY TREES THAN CAN TOLERATE INTERMITTENT PONDING, OCCASIONAL SALINE CONDITIONS DUE TO ROAD SALT, AND EXTENDED DRY PERIODS.
- E. TREES OR LARGE SHRUBS SHALL BE PLANTED ALONG THE PERIMETER.

**RAIN GARDEN MAINTENANCE**  
(SEE DRAINAGE O&M MANUAL)

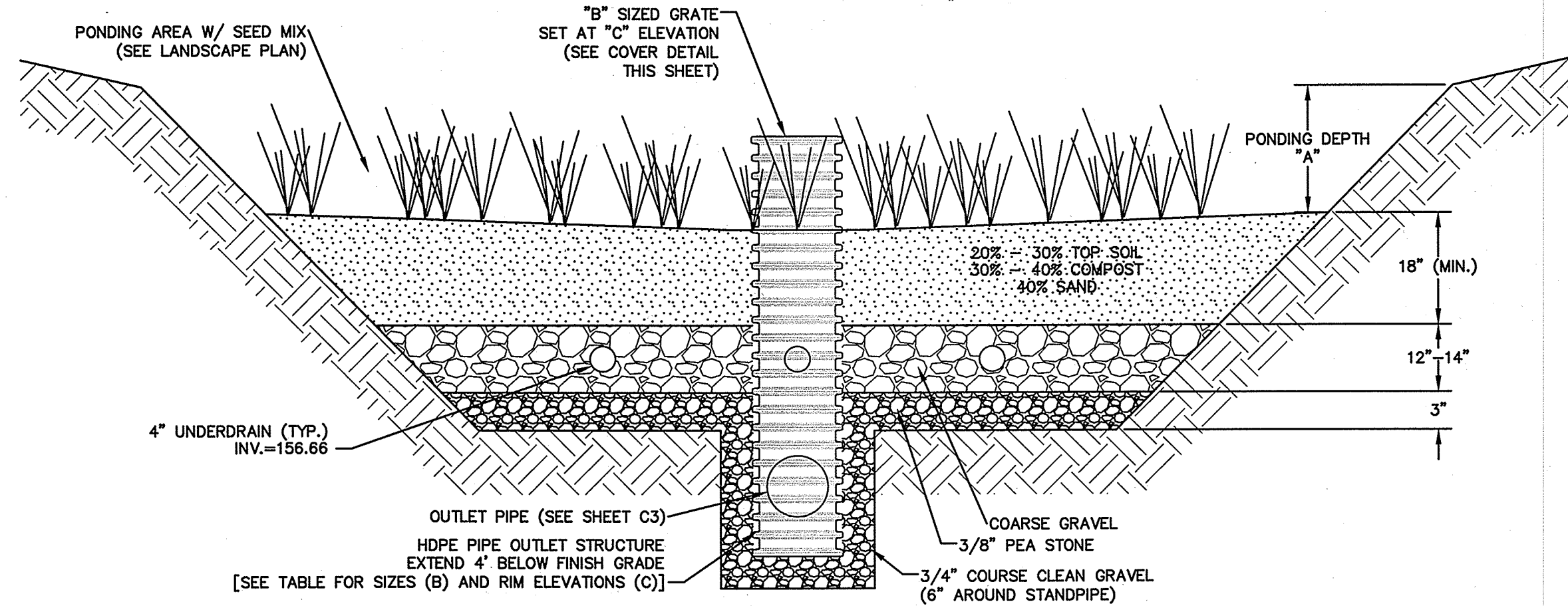
**TOPSOIL SPECIFICATION**  
SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.

**MULCH SPECIFICATION**  
MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.

**SAND SPECIFICATION**  
SAND SHALL MEET ASTM D-422

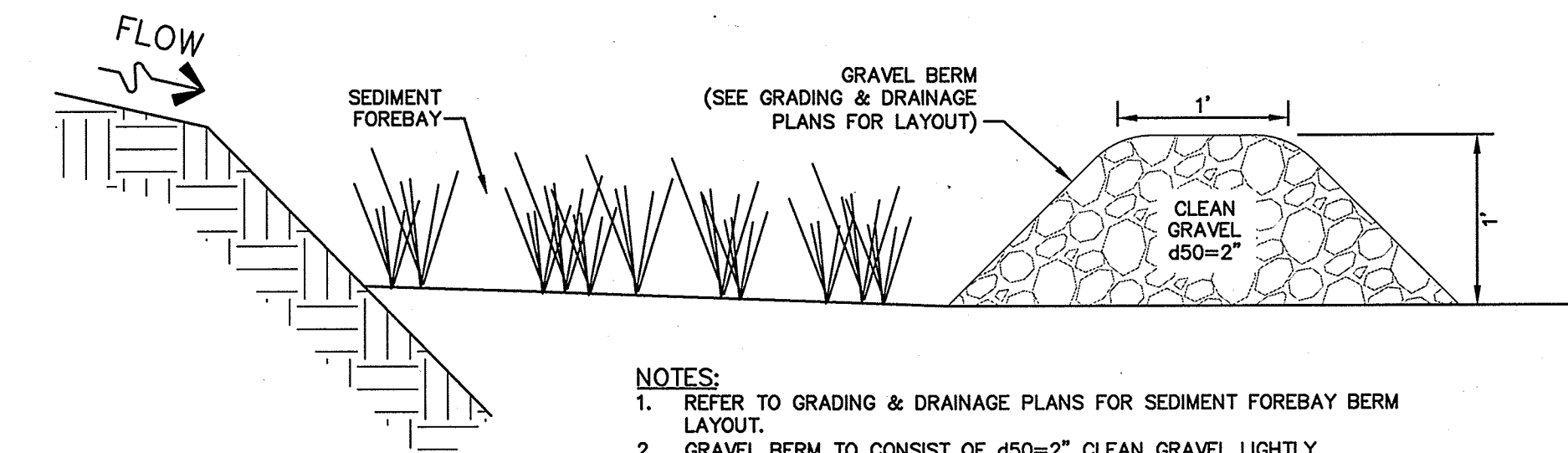
SIEVE SIZE	% BY WEIGHT
2"	100
3/4"	70-100
1/2"	50-80
#40	15-40
#200	0-3

POND #	DEPTH "A"	GRATE SIZE "B"	RIM ELEV. "C"	BOT. OF POND	SHWT
1	12"	24"	159.25	159.00	153.00



**RAIN GARDEN DETAIL (WITH STANDPIPE OUTLET) (RAIN GARDEN #1)**

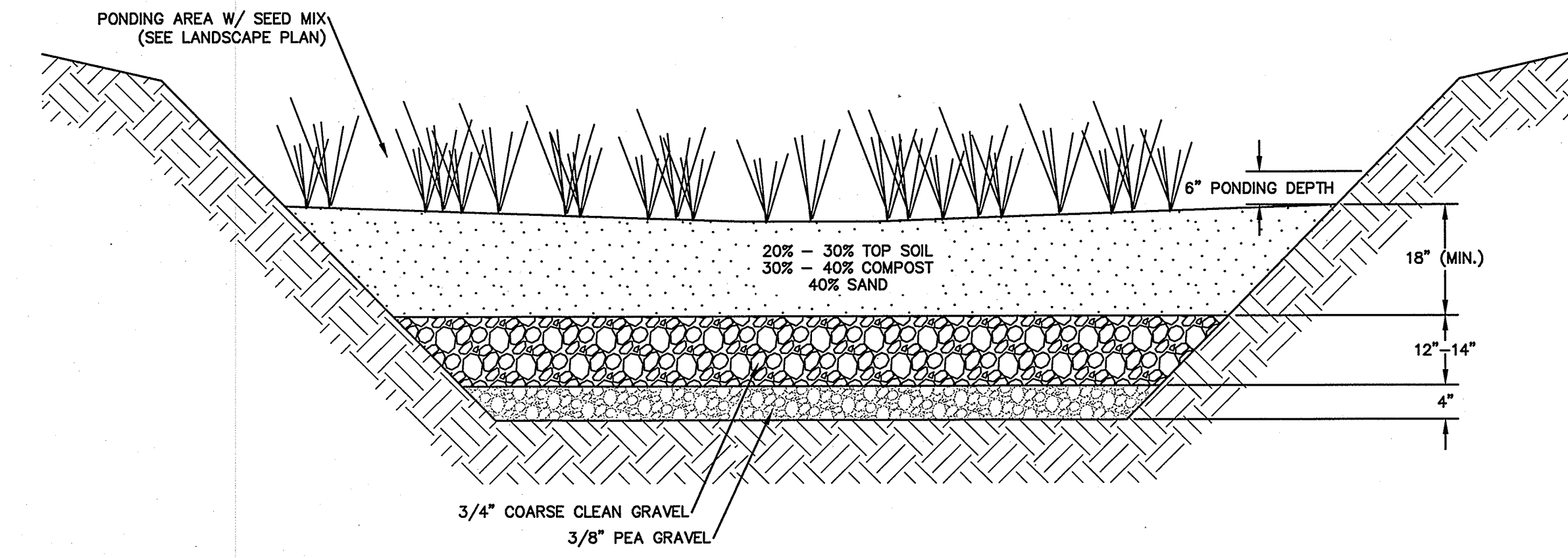
NOT TO SCALE



**GRAVEL FOREBAY BERM**

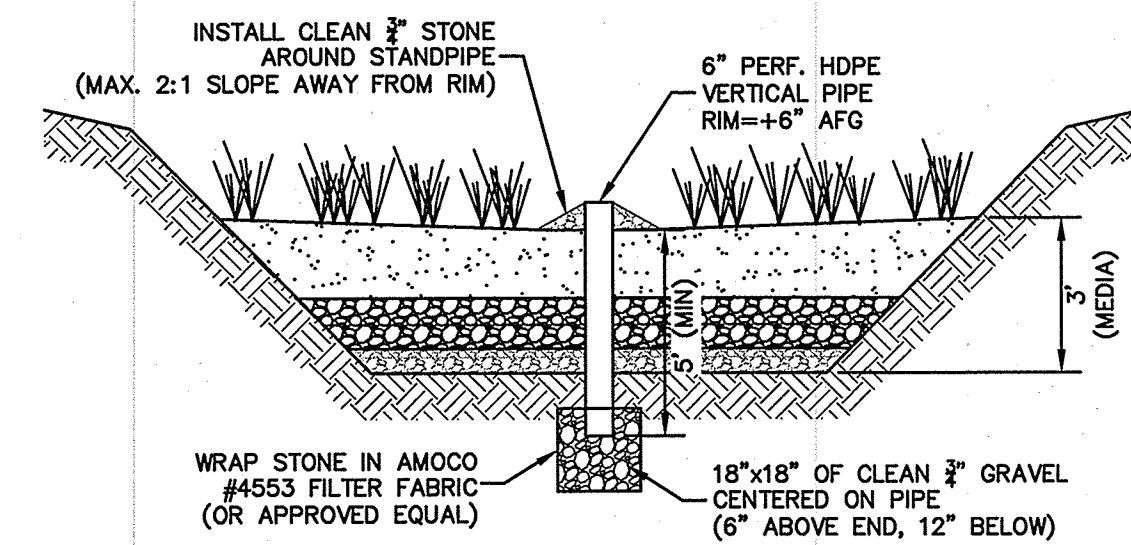
NOT TO SCALE

- NOTES:**
- REFER TO GRADING & DRAINAGE PLANS FOR SEDIMENT FOREBAY LAYOUT
  - GRAVEL BERM TO CONSIST OF 450-2" CLEAN GRAVEL LIGHTLY COMPACTED TO RETAIN THE BERM'S SHAPE.



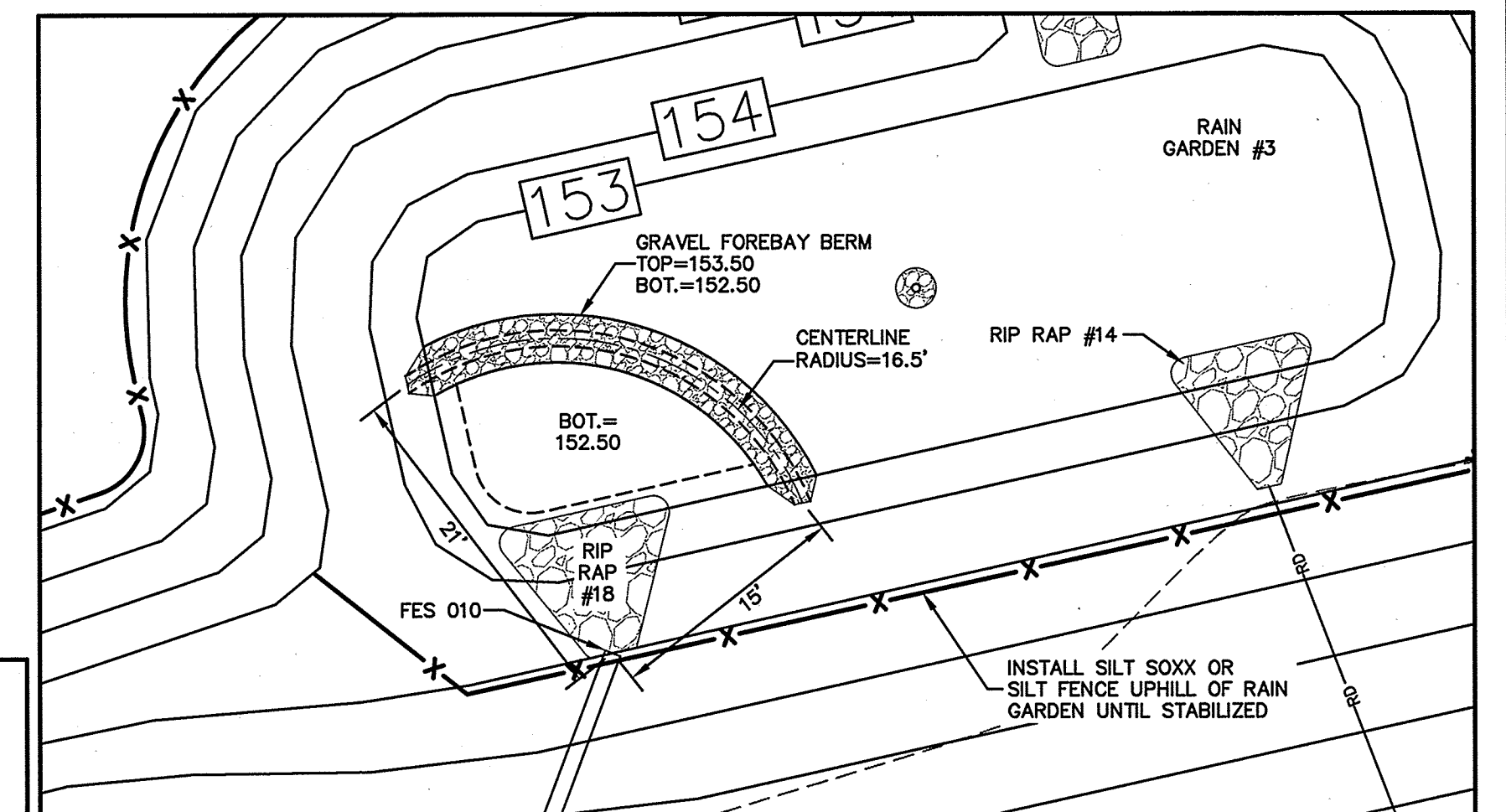
**RAINGARDEN DETAIL (RAIN GARDEN #2 & #3)**

NOT TO SCALE

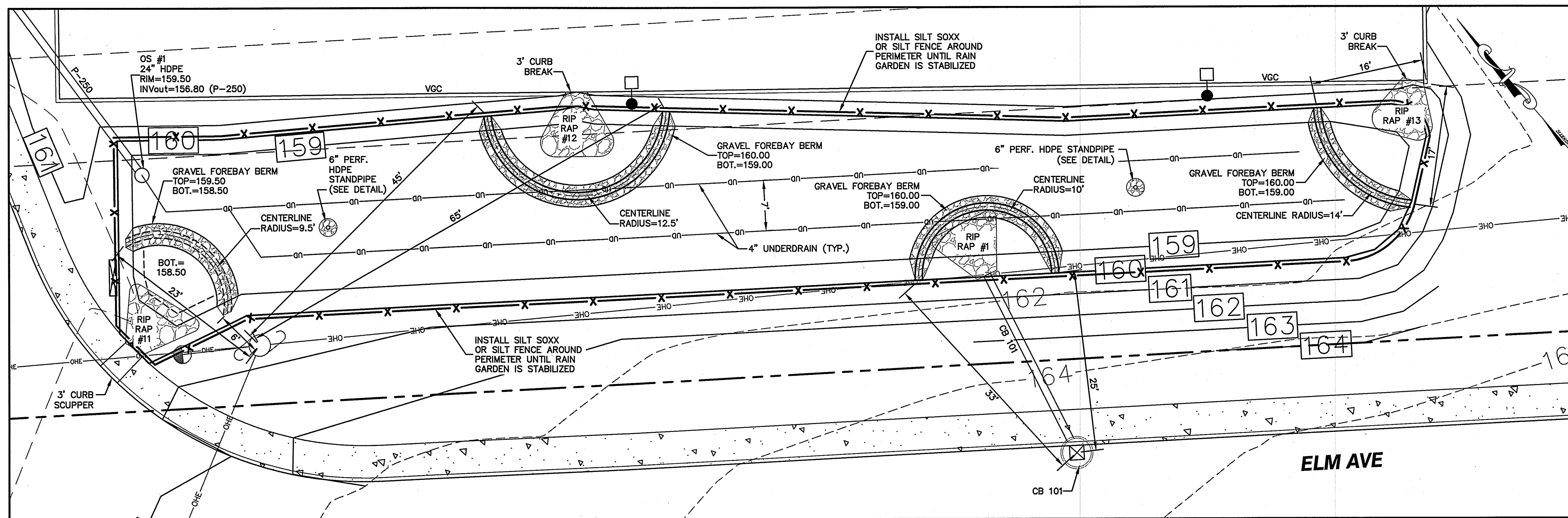


**PERFORATED STANDPIPE (RAIN GARDEN)**

NOT TO SCALE



**RAIN GARDEN #3 - PLAN (SCALE: 1"=10')**



**RAIN GARDEN #1 - PLAN (SCALE: 1"=10')**

**PLANTING SPECIFICATION**

- A. ONLY NATIVE, NON-INVASIVE SPECIES SHALL BE USED.
- B. PLANTING LAYOUT SHALL BE RANDOM & NATURAL.
- C. WOODY VEGETATION SHALL NOT BE USED NEAR INFLOW LOCATIONS.
- D. PLANTINGS SHALL INCLUDE A MIX OF HERBACEOUS PERENNIALS, SHRUBS, AND (IF CONDITIONS PERMIT) UNDERSTORY TREES THAN CAN TOLERATE INTERMITTENT PONDING, OCCASIONAL SALINE CONDITIONS DUE TO ROAD SALT, AND EXTENDED DRY PERIODS.
- E. TREES OR LARGE SHRUBS SHALL BE PLANTED ALONG THE PERIMETER.

**RAIN GARDEN MAINTENANCE**  
(SEE DRAINAGE O&M MANUAL)

**TOPSOIL SPECIFICATION**  
SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.

**MULCH SPECIFICATION**  
MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.

**SAND SPECIFICATION**  
SAND SHALL MEET ASTM D-422

SIEVE SIZE	% BY WEIGHT
2"	100
3/4"	70-100
1/2"	50-80
#40	15-40
#200	0-3

RAIN GARDEN #2	RAIN GARDEN #3
160.00	153.00
158.50	151.50
157.33	150.33
157.00	150.00

REV.	DATE	BY	REVISION
1	8/28/17	ISM	ISSUED FOR REVIEW
0	7/4/17	BY	REVISION

**DETAIL SHEET**

**"120 DERRY ROAD"**  
DERRY ROAD (RT. 102), HUDSON, NH  
MAP 156, LOTS 15 & 16  
TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

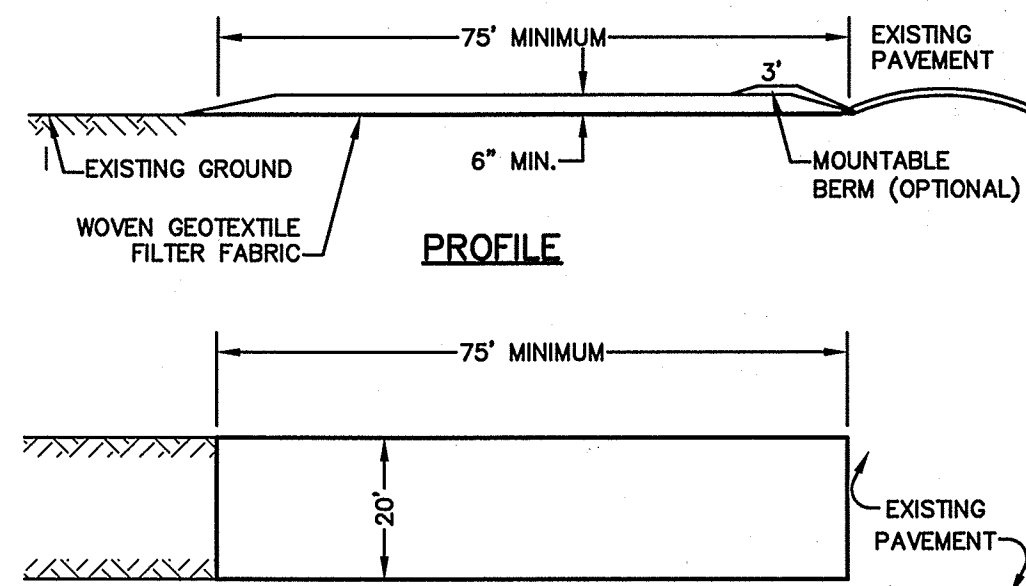
**Jones & Beach Engineers, Inc.**  
Civil Engineering Services  
85 Portsmouth Ave. PO Box 219  
Stratham, NH 03885  
603-772-4746  
FAX: 603-772-0227  
E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **D10**

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DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
DRAWING NAME: 14053-PLAN.dwg  
PROJECT No.: 14053 SCALE: AS NOTED SHEET 26 OF 30

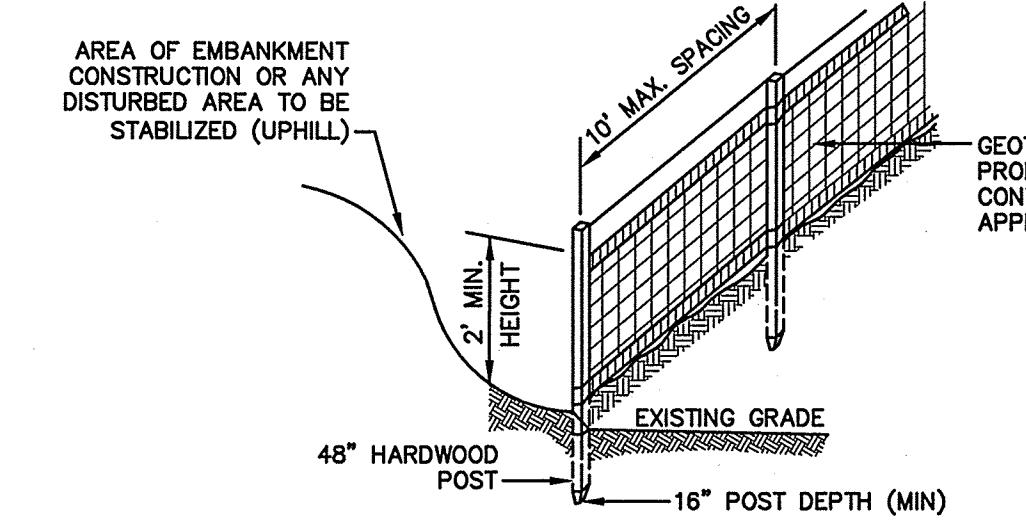




- NOTES:**
1. STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3" CRUSHED STONE.
  2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET.
  3. THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
  4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS, OR 10 FEET, WHICHEVER IS GREATER.
  5. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
  6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A STONE BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
  7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

**STABILIZED CONSTRUCTION ENTRANCE**

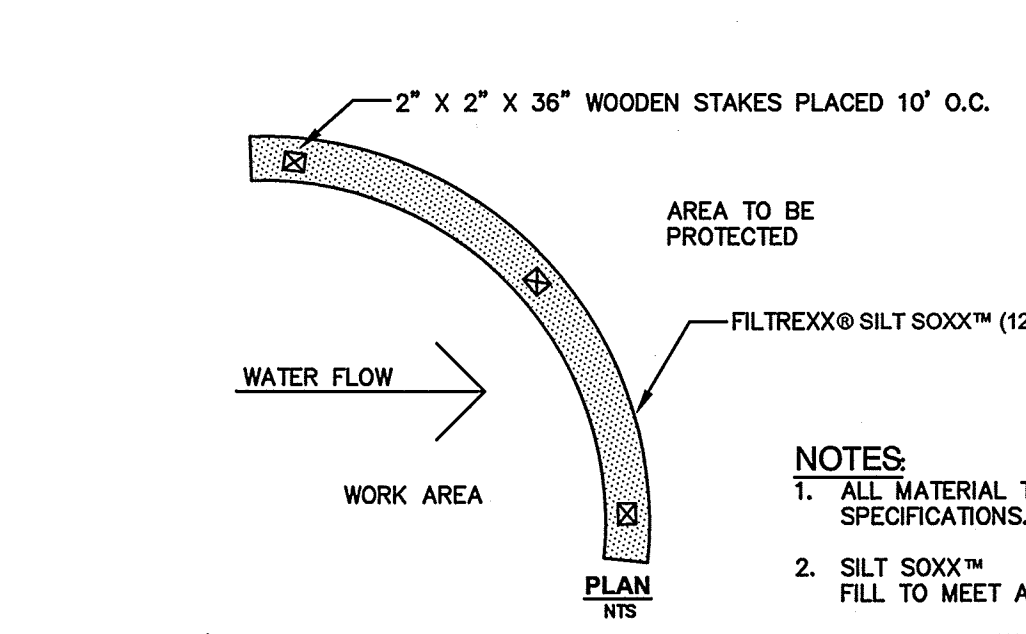
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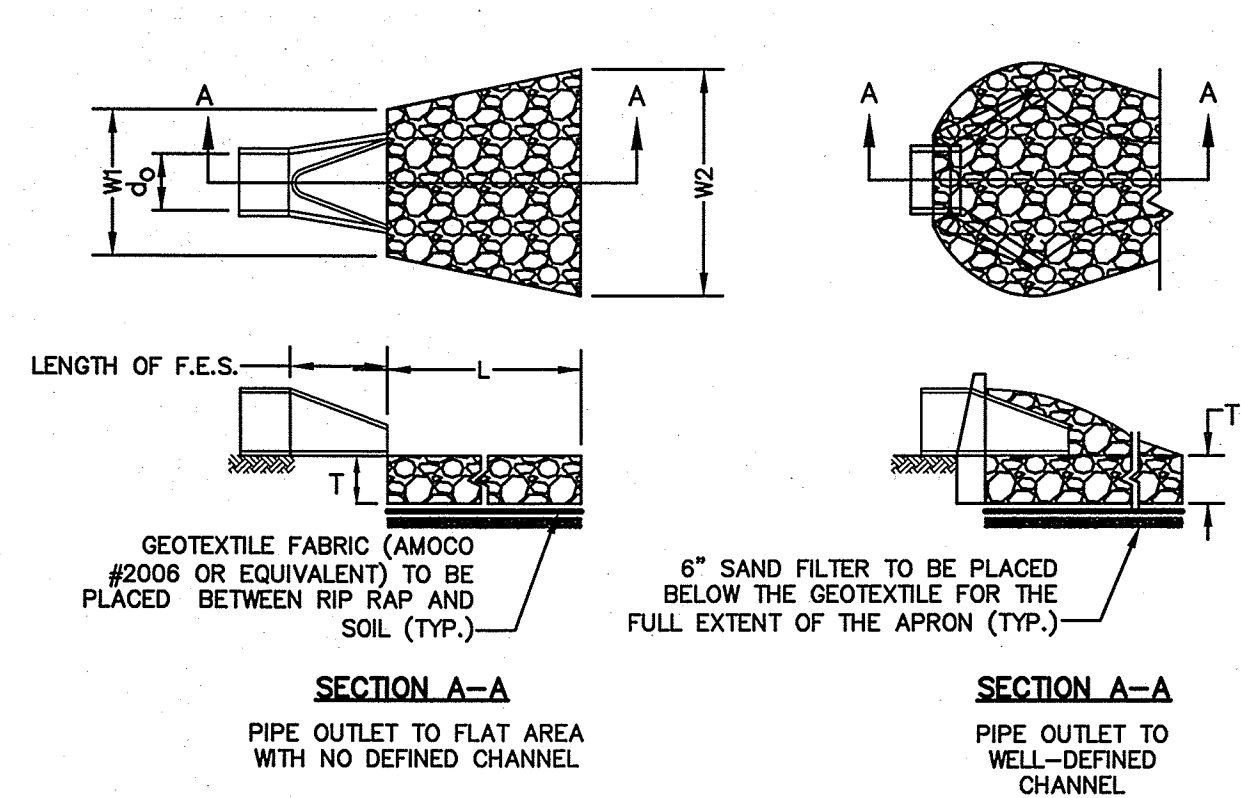
- CONSTRUCTION SPECIFICATIONS:**
1. WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
  2. THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
  3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
  4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
  5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
  6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

**SILT FENCE**

NOT TO SCALE



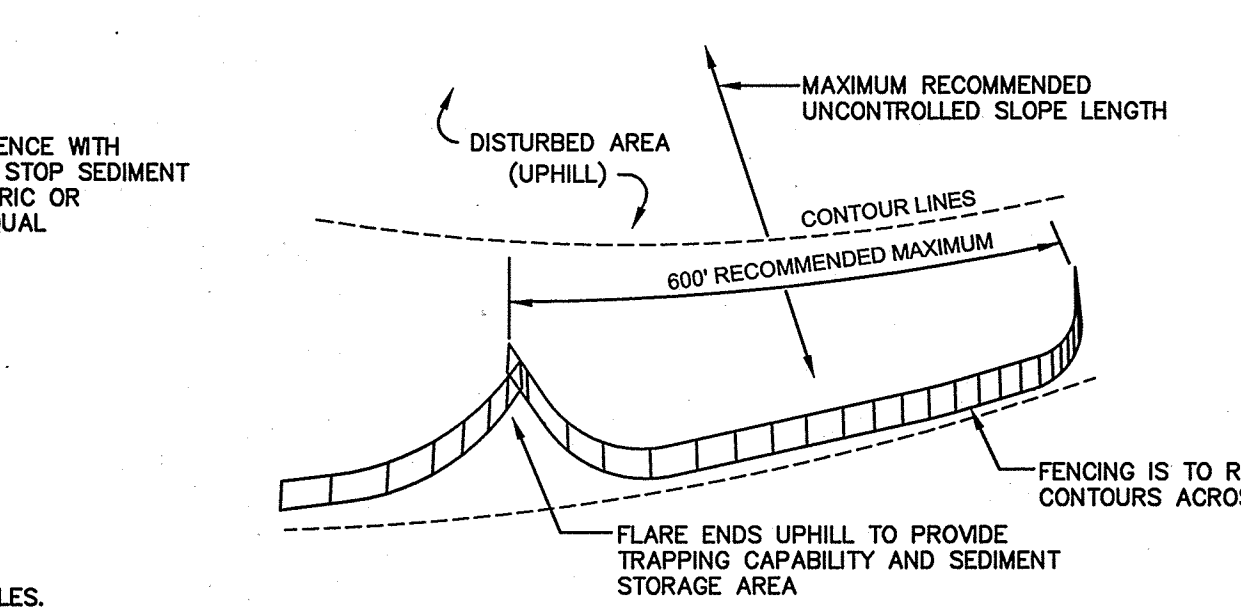
**FILTREXX® SILT SOXX™**  
NOT TO SCALE



- NOTES:**
1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
  2. THE RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
  3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
  4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
  5. OUTLETS TO A DEFINED CHANNEL SHALL HAVE 2:1 OR FLATTER SIDE SLOPES AND SHOULD BEGIN AT THE TOP OF THE CULVERT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.
  6. MAINTENANCE: THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

**RIP RAP OUTLET PROTECTION APRON**

NOT TO SCALE



- 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 DONE 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 APPROXIMATELY 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.

**SEEDING SPECIFICATIONS**

1. **GRADING AND SHAPING**
  - A. SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
  - B. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. **SEEDBED PREPARATION**
  - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
  - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. **ESTABLISHING A STAND**
  - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
    - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
    - NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
    - PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
    - POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
  - B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
  - C. REFER TO THE "SEEDING GUIDE" AND "SEEDING RATES" TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNWETCH, BIRDSFOOT, TREFOLIUM AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
  - D. WHEN SEEDS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
4. **MULCH**
  - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
  - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
5. **MAINTENANCE TO ESTABLISH A STAND**
  - A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WOOD GROWTH.
  - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
  - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

**TEMPORARY EROSION CONTROL NOTES**

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION BE EXPOSED.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
6. AREAS MUST BE SEEDED AND OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL.
7. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
8. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER NOVEMBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
10. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
  - A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
  - B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
  - C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
  - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
11. IN ORDER TO ENSURE THE STABILITY OF THE SITE AND EFFECTIVE IMPLEMENTATION OF THE SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE PLANS FOR THE DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE IN STRICT COMPLIANCE WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS IN ADDITION TO THOSE CALLED FOR IN THE SWPPP:
  - A. A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE ALTERATION OF TERRAIN PERMIT ("PERMIT").
  - B. DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURING ANY ½ INCH OR GREATER RAIN EVENT (I.E. ½ INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
  - C. THE MONITOR SHALL PROVIDE TECHNICAL ASSISTANCE AND RECOMMENDATIONS TO THE CONTRACTOR ON THE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485 A:17 AND ALL APPLICABLE DES PERMIT CONDITIONS.
  - D. PRIOR TO CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL TEMPORARY SEDIMENT BASINS THAT WILL BE NEEDED FOR DETERWATERING WORK AREAS SHALL BE LOCATED AND IDENTIFIED ON THIS PLAN.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	GOOD
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.  
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

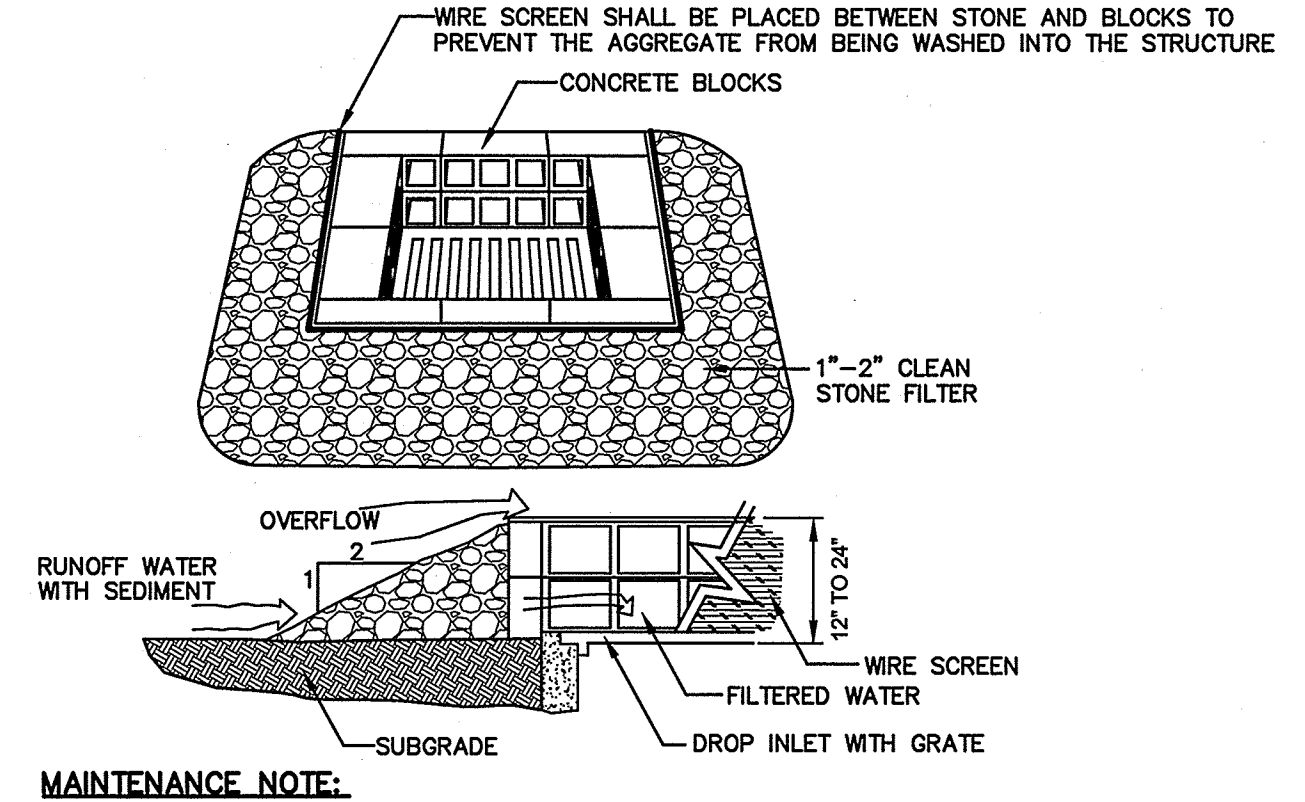
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

**SEEDING GUIDE**

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFOLIUM	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREeping RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/2	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

**SEEDING RATES**



- MAINTENANCE NOTE:**
1. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED IN A SUITABLE UPLAND AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

**TEMPORARY CATCH BASIN INLET PROTECTION (Block and Gravel Drop Inlet Sediment Filter)**

NOT TO SCALE

REV.	DATE	BY	DESCRIPTION
1	8/28/17	ISM	REVISED PER ENGINEERING REVIEW
0	7/14/17	ISM	ISSUED FOR REVIEW
			REVISION

**EROSION & SEDIMENT CONTROL DETAILS**

"120 DERRY ROAD"  
DERRY ROAD (RT. 102), HUDSON, NH  
MAP 156. LOTS 15 & 16  
TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)

Owner of Record: FIVE N ASSOCIATES PETER Q. NASH, TRUSTEE  
91 AMHERST STREET NASHUA, NH 03064

Applicant: HUDSON ENTERPRISES, LLC  
7 SWAIN DRIVE, HAMPTON FALLS, NH 03844

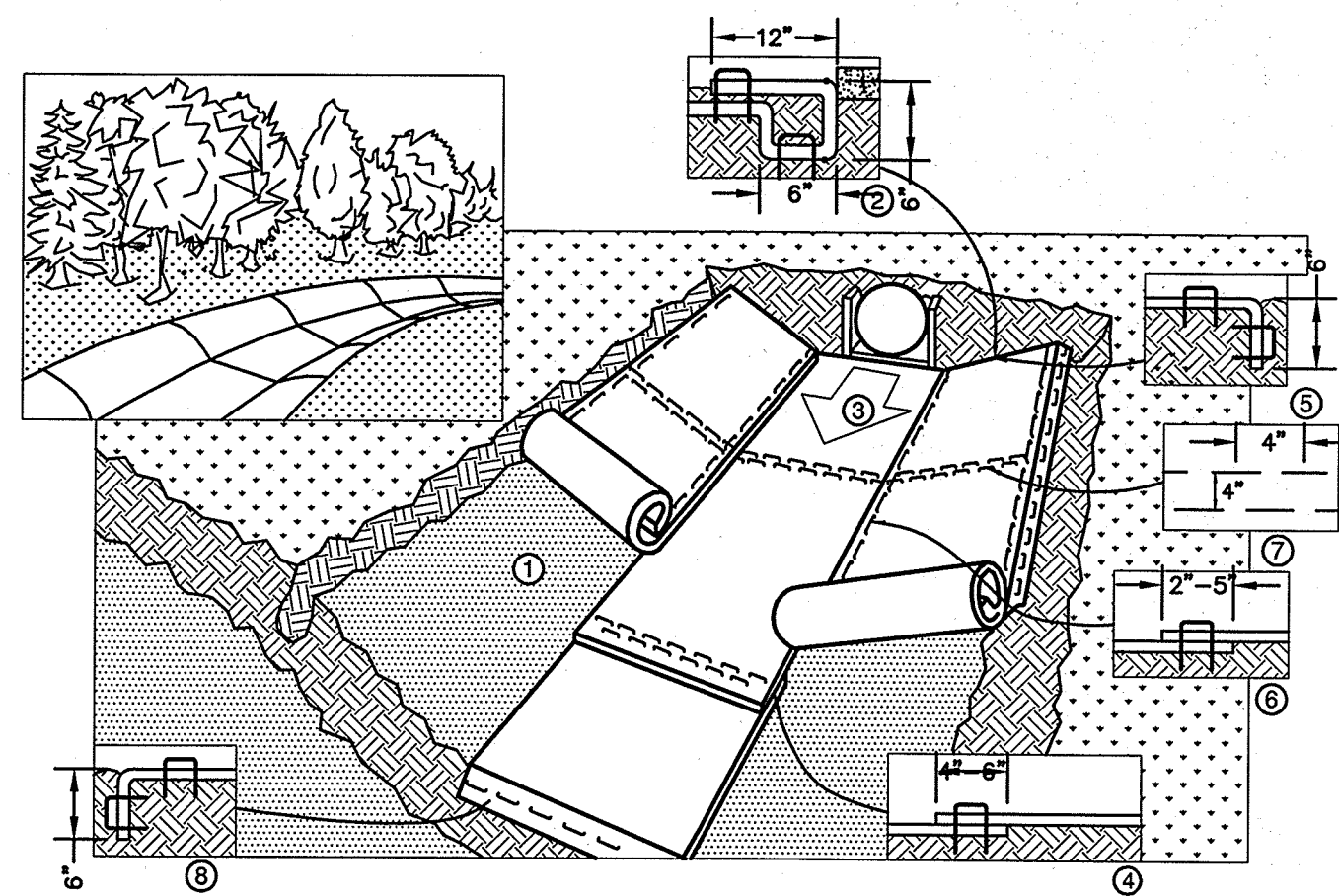
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85 Portsmouth Ave. PO Box 219 Stratham, NH 03885  
603-772-4746  
FAX: 603-772-0227  
E-MAIL: JBE@JONESANDBEACH.COM

DRAWING NO. **E1**

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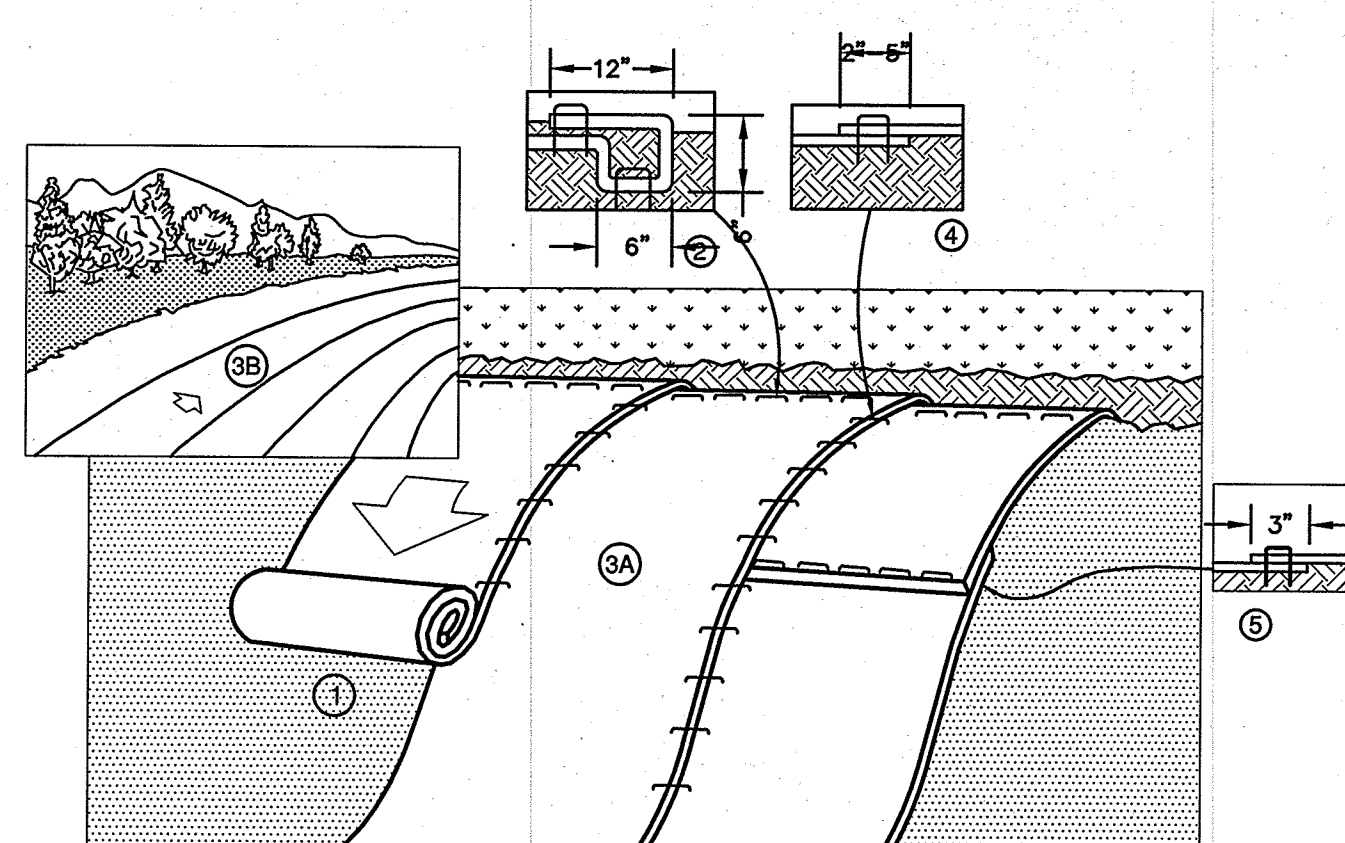
DATE: 8/14/17 DESIGN: BWG DRAFT: ISM CHECKED: WGM  
DRAWING NAME: 14053-PLAN.dwg  
PROJECT No.: 14053 SCALE: AS NOTED SHEET 27 OF 30





**NOTES:**

1. EROSION CONTROL BLANKET SHALL BE BIONET S75 AS PRODUCED BY NORTH AMERICAN GREEN (OR AN EQUIVALENT NATURAL MATERIAL MATTING APPROVED IN WRITING BY THE ENGINEER).
2. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
3. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
4. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
6. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
7. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO INSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
8. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
9. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



**NOTES:**

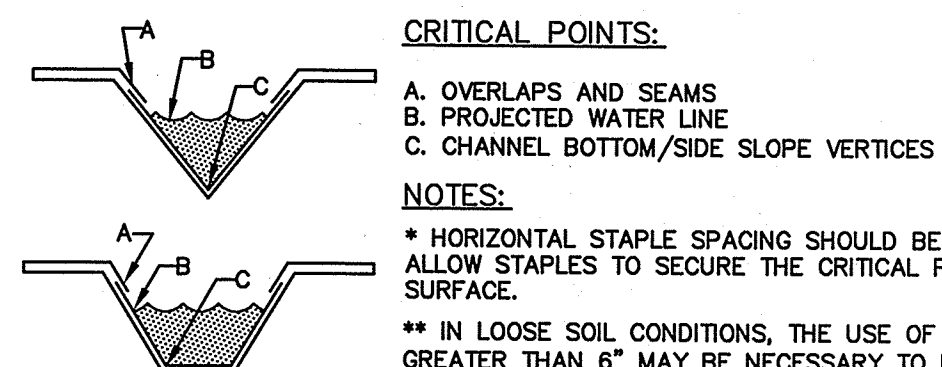
1. EROSION CONTROL BLANKET SHALL BE BIONET S75 AS PRODUCED BY NORTH AMERICAN GREEN (OR AN EQUIVALENT NATURAL MATERIAL MATTING APPROVED IN WRITING BY THE ENGINEER).
2. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
3. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
4. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
6. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

**NORTH AMERICAN GREEN**  
 14649 HIGHWAY 41 NORTH  
 EVANSVILLE, INDIANA 47725  
 1-800-772-2040

**EROSION CONTROL BLANKET SLOPE INSTALLATION**

(North American Green)

NOT TO SCALE



**CRITICAL POINTS:**

- A. OVERLAPS AND SEAMS
- B. PROJECTED WATER LINE
- C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

**NOTES:**

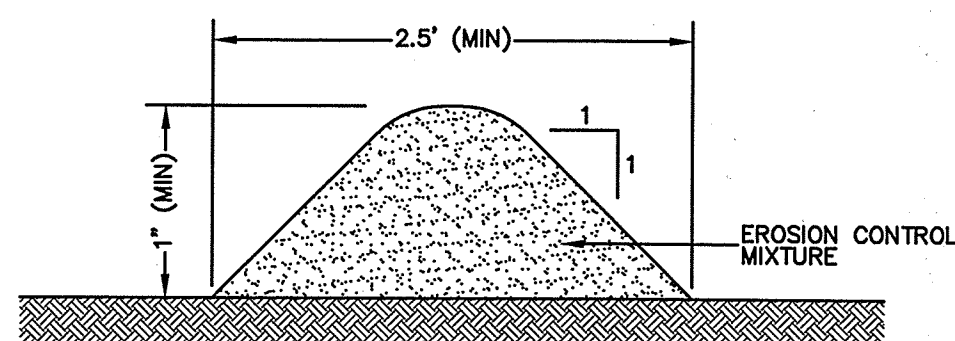
- \* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
- \*\* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

**NORTH AMERICAN GREEN**  
 14649 HIGHWAY 41 NORTH  
 EVANSVILLE, INDIANA 47725  
 1-800-772-2040

**EROSION CONTROL BLANKET SWALE INSTALLATION**

(North American Green)

NOT TO SCALE

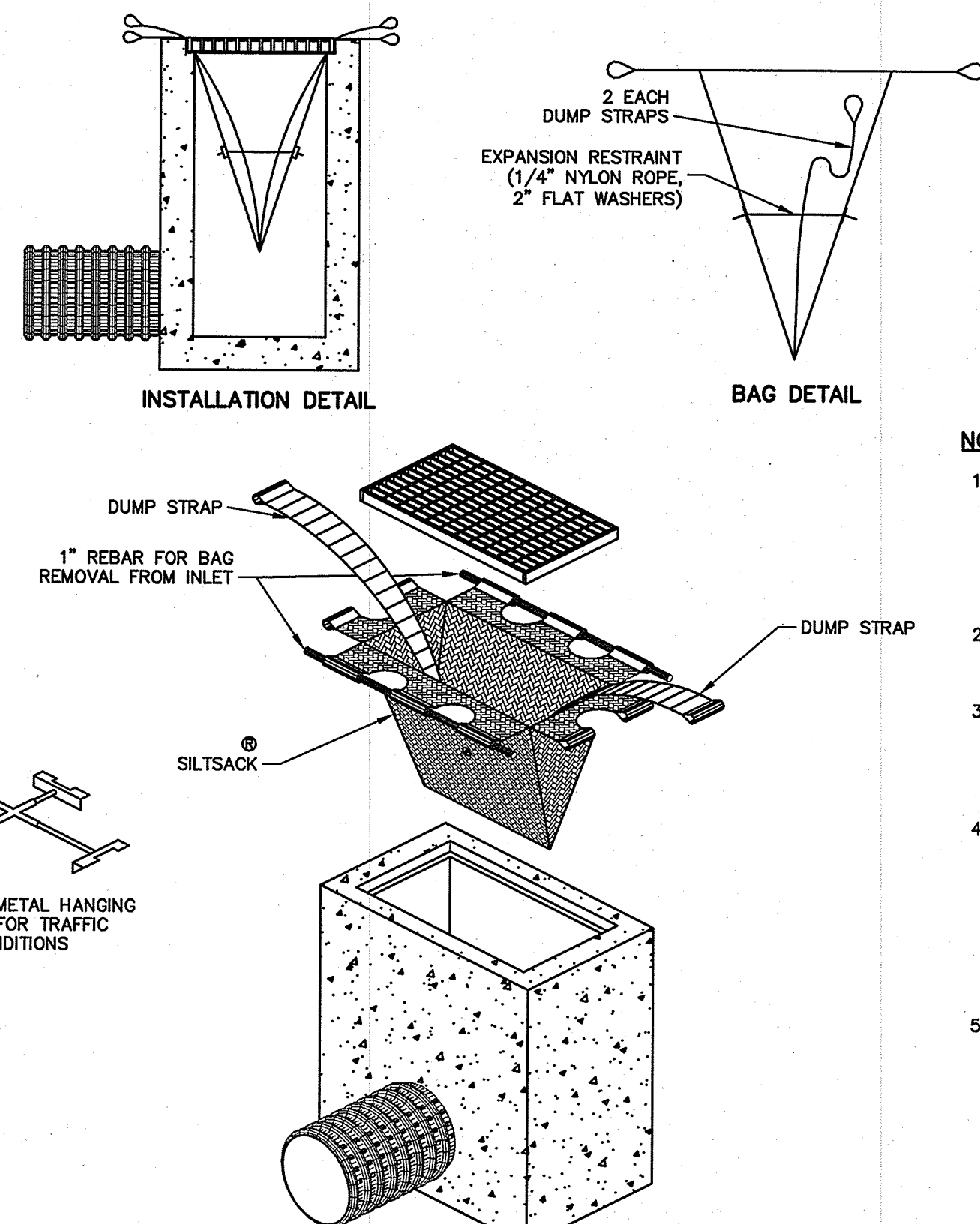


**NOTES:**

1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE, UNLESS OTHERWISE SPECIFIED.
2. THE EROSION CONTROL MIX USED IN THE FILTER BERMS SHALL BE A WELL-GRADED MIXTURE OF PARTICLE SIZES, MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS, AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH, AND SHALL MEET THE FOLLOWING STANDARDS:
  - a) THE ORGANIC CONTENT SHALL BE 80-100% OF DRY WEIGHT.
  - b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70-85% PASSING A 0.75" SCREEN.
  - c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
  - d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
  - e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
  - f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
4. ON SLOPES LESS THAN 5%, OR AT THE BOTTOM OF SLOPES STEEPER THAN 3:1, UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE), AND A MINIMUM OF 36" WIDE. ON LONGER OR STEEPER SLOPES, THE BERM SHALL BE WIDER TO ACCOMMODATE THE POTENTIAL ADDITIONAL RUNOFF.
5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE STRUCTURE.
7. STRUCTURES MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED.

**ORGANIC FILTER BERM**

NOT TO SCALE



OPTIONAL METAL HANGING FRAME FOR TRAFFIC CONDITIONS

**NOTES:**

1. TO INSTALL SILTSACK IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.
2. WHEN THE RESTRAINT CORD IS NO LONGER VISIBLE, SILTSACK IS FULL AND SHOULD BE EMPTIED.
3. TO REMOVE SILTSACK, TAKE TWO PIECES OF 1" DIAMETER REBAR AND PLACE THROUGH THE LIFTING LOOPS ON EACH SIDE OF THE SACK TO FACILITATE THE LIFTING OF SILTSACK.
4. TO EMPTY SILTSACK, PLACE UNIT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL LIFT SILTSACK FROM THE BOTTOM AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN SILTSACK TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.
5. SILTSACK IS REUSABLE. ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE SILTSACK FROM THE BASIN AND CLEAN. SILTSACK SHOULD BE STORED OUT OF SUNLIGHT UNTIL NEXT USE.

**SILTSACK INLET SEDIMENT CONTROL DEVICE**

TYPE A - WITHOUT CURB DEFLECTOR

NOT TO SCALE

**CONSTRUCTION SEQUENCE**

1. PRIOR TO THE START OF ANY ACTIVITY, IT IS THE RESPONSIBILITY OF THE SITE'S SITE DEVELOPER (OR OWNER) TO FILE A NOTICE OF INTENT (NOI) FORM WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) IN ORDER TO GAIN COVERAGE UNDER THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. A PRE CONSTRUCTION MEETING IS TO BE HELD WITH ALL DEPARTMENT HEADS PRIOR TO THE START OF CONSTRUCTION.
2. WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.
3. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
4. INSTALL SILT FENCING AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
5. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLUDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
6. CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
7. STRIP LOAM AND PAVEMENT, OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
8. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS.
9. PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
10. INSTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
11. INSTALL INLET PROTECTION (OR SILT SACKS) AT ALL CATCH BASINS AS THEY ARE CONSTRUCTED IN ACCORDANCE WITH DETAILS.
12. ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
13. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ADJUTING WATERS AND/OR PROPERTY.
14. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF "SELECT" SUBGRADE MATERIALS.
15. PAVE ALL PARKING LOTS AND ROADWAYS WITH INITIAL "BASE COURSE".
16. PERFORM ALL REMAINING SITE CONSTRUCTION (I.E. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
17. LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (I.E. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
18. FINISH PAVING ALL ROADWAYS AND PARKING AREAS WITH "FINISH" COURSE.
19. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
20. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
21. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
22. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
23. CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
24. INSTALL ALL PAINTED PAVEMENT MARKINGS AND SIGNAGE PER THE PLANS AND DETAILS.
25. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
26. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

ISSUED FOR REVIEW	BY	DATE	REVISION
1	0	8/28/17	7/14/17

<b>EROSION &amp; SEDIMENT CONTROL DETAILS</b>	
<p>"120 DERRY ROAD"          DERRY ROAD (RT. 102), HUDSON, NH          MAP 156. LOTS 15 &amp; 16          TOTAL PROJECT AREA: 415,650 S.F. (9.54 AC)</p>	
Owner of Record: FIVE N ASSOCIATES PETER O. NASH, TRUSTEE 91 AMHERST STREET NASHUA, NH 03064	Applicant: HUDSON ENTERPRISES, LLC 7 SWAIN DRIVE, HAMPTON FALLS, NH 03844
<p><b>Jones &amp; Beach Engineers, Inc.</b>  <i>Civil Engineering Services</i></p>	
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885	603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM
<p>THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES &amp; BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.</p>	
DATE: 8/14/17	DESIGN: BWG
DRAFT: ISM	CHECKED: WGM
DRAWING NAME: 14053-PLAN.dwg	
PROJECT No.: 14053	SCALE: AS NOTED
SHEET 28 OF 30	







EXTERIOR MATERIAL SCHEDULE		
Material Mark	Material: Manufacturer	Material: Description
EX1	NICHIHA	STACKED STONE KURASTONE, COLOR: DESERT, FINISH: TEXTURED, SIZE: 6" H X 25-5/8" L
EX2	NICHIHA	ILLUMINATION SERIES, SHOP PAINTED: BENJAMIN MOORE NORTH CREEK BROWN 1001, FINISH: SMOOTH, SIZE: 18" H X 6'-0" L CUT EDGES PAINTED IN FIELD TO MATCH - XP1
EX3	STO	STO LOTUSAN SYSTEM, 191 STOLIT, LOUTUSAN 1.5, COLOR, 9433 80 STO WHITE
EX4	NICHIHA	VINTAGEWOOD, COLOR: CEDAR, FINISH: TEXTURED, SIZE: 18" H X 10'-0" L
M1	FIRESTONE	METAL ROOF EDGE, COLOR: PAINT, PPG CARAVEL BROWN 420-06 FINISH: SATIN
M2	FIRESTONE	METAL ROOF EDGE, COLOR: PAINT, BM 1001 (4B) NORTH CREEK BROWN, FINISH: SATIN
M3	KAWNEER	CLEAR ANODIZED ALUMINUM
M4	FIRESTONE	METAL ROOF EDGE, COLOR: PAINT TO MATCH STO 9433 80 WHITE
XP1	BENJAMIN MOORE	PAINT, BM 1001 (4B) NORTH CREEK BROWN, FINISH: SATIN



**SOUTH ELEVATION (DERRY RD)**

SCALE: 1/8"=1'-0"



**WEST ELEVATION (ELM AVE)**

SCALE: 1/8"=1'-0"



**NORTH ELEVATION**

SCALE: 1/8"=1'-0"



**EAST ELEVATION**

SCALE: 1/8"=1'-0"