

# SITE DEVELOPMENT PLANS

## ARNOLD LUMBER

A.P. 108A, LOT 62

A.P. 108B, LOT 4

BRISTOL, RHODE ISLAND

AUGUST 2006

REVISED AUGUST 11, 2006  
 REVISED DECEMBER 2006  
 REVISED JANUARY 2007  
 REVISED FEBRUARY 2007  
 REVISED JUNE 2007

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED 06/13/2007 FILE # 07-0077  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

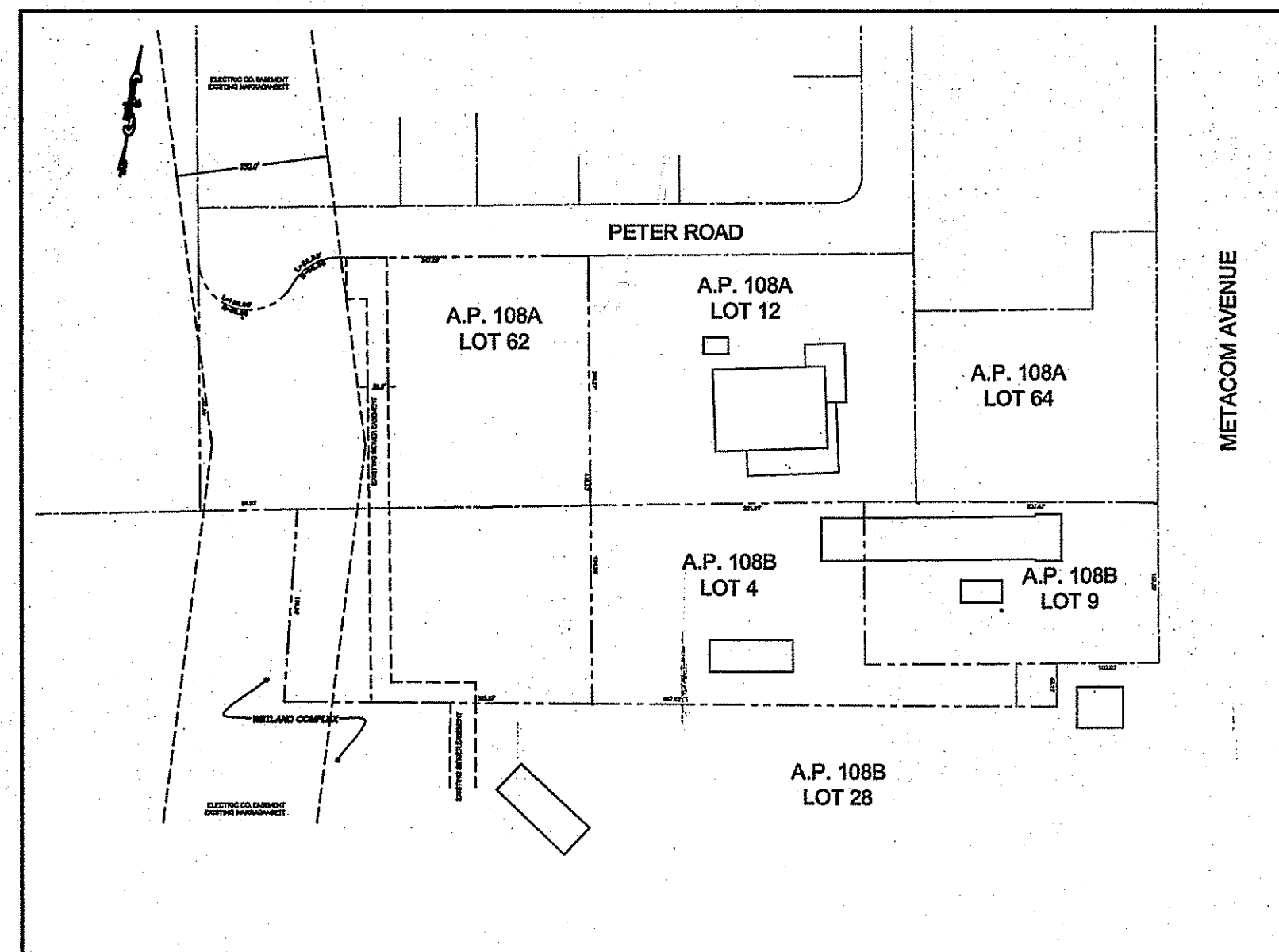
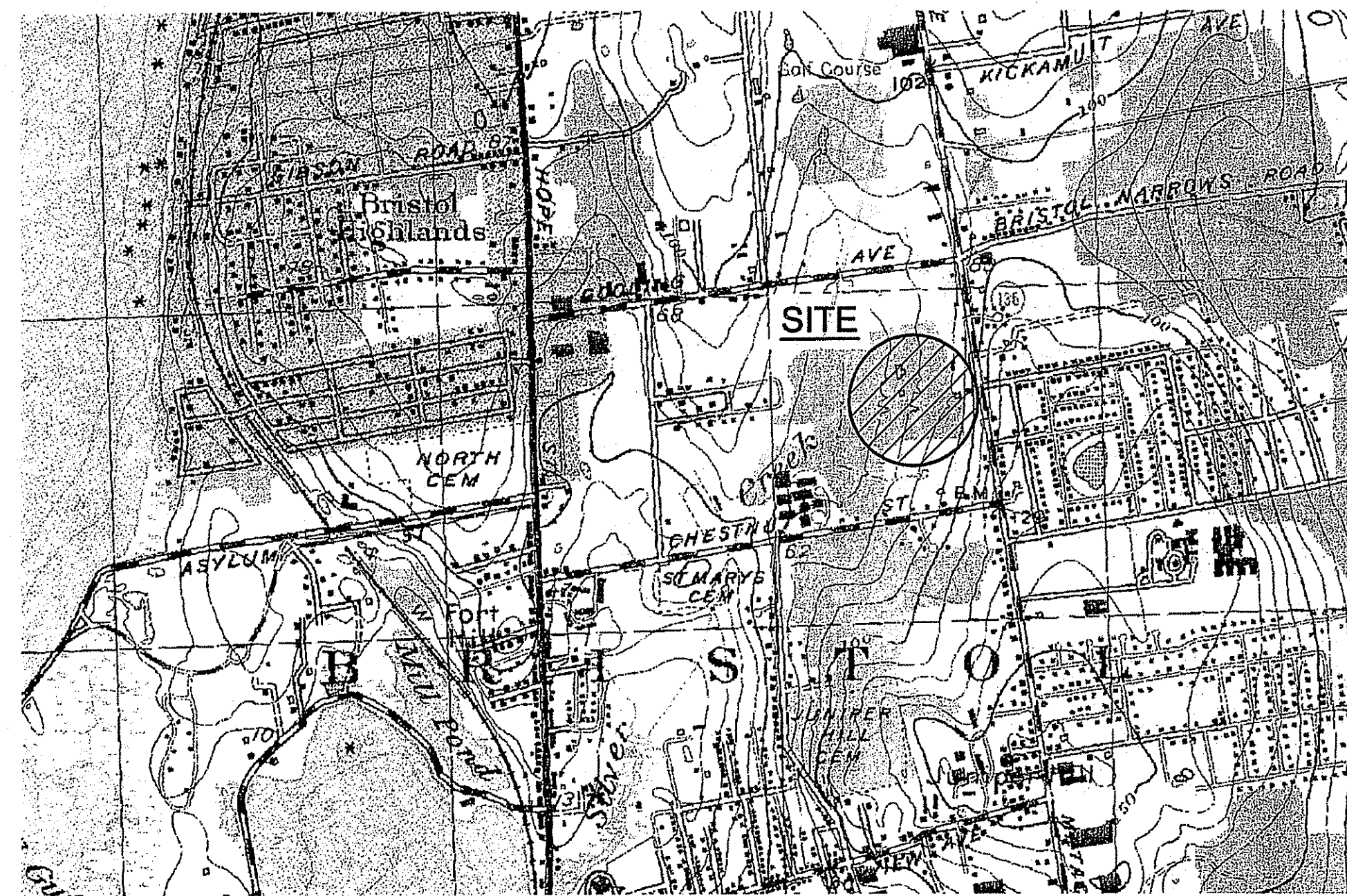
*Martini D. Wenczek*

APPLICANT: ANTHONY A. NUNES, INC.  
 535 METACOM AVENUE  
 BRISTOL, RHODE ISLAND 02809

OWNER: ARNOLD LUMBER  
 BRISTOL, RHODE ISLAND 02809

### LOCUS MAP

NTS



### SITE PLAN

1"=200'

### DRAWING INDEX

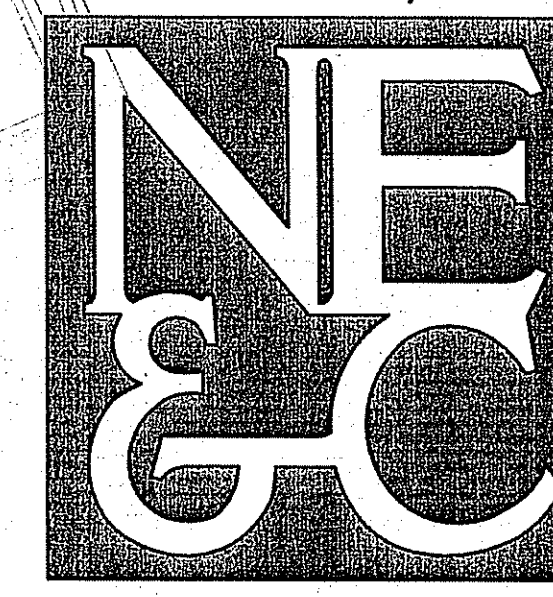
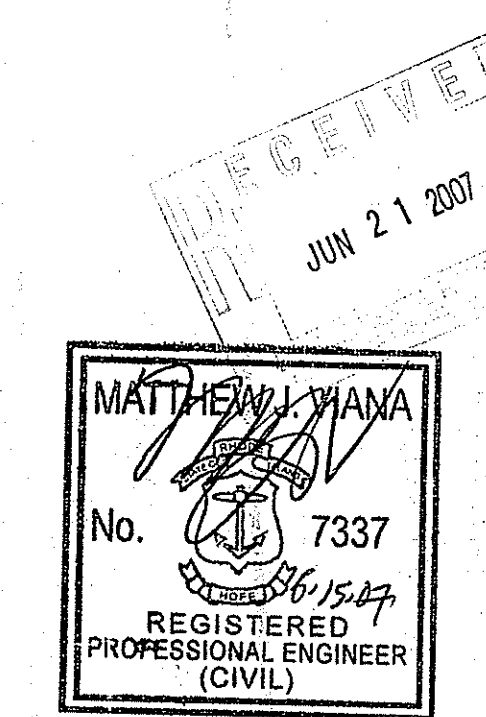
TITLE SHEET	SHEET 1	
EXISTING CONDITIONS PLAN	SHEET 2	EX-1
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LAYOUT & UTILITIES PLAN	SHEET 4	C-1
GRADING & DRAINAGE PLAN	SHEET 5	C-2
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LANDSCAPE PLAN	SHEET 12	LP-1
LANDSCAPE DETAILS	SHEET 13	LD-1

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIRMAN

DATE

NORTHEAST ENGINEERS & CONSULTANTS, INC.

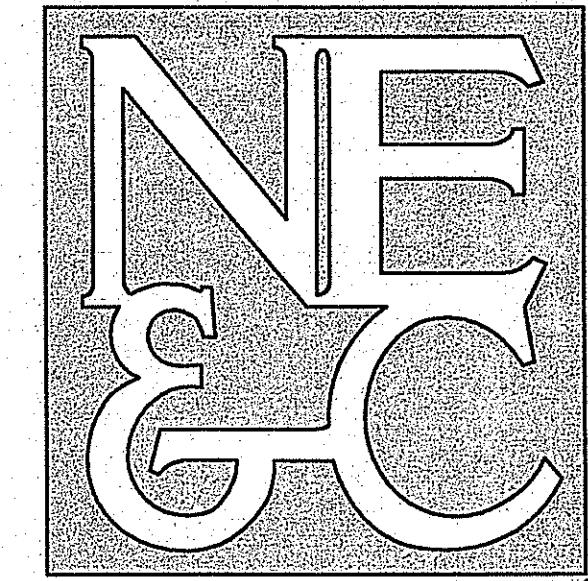


CIVIL  
 ENVIRONMENTAL  
 SURVEYING  
 TRANSPORTATION  
 STRUCTURAL  
 GEOTECHNICAL  
 MARINE

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# NORTHEAST ENGINEERS AND CONSULTANTS, INC.

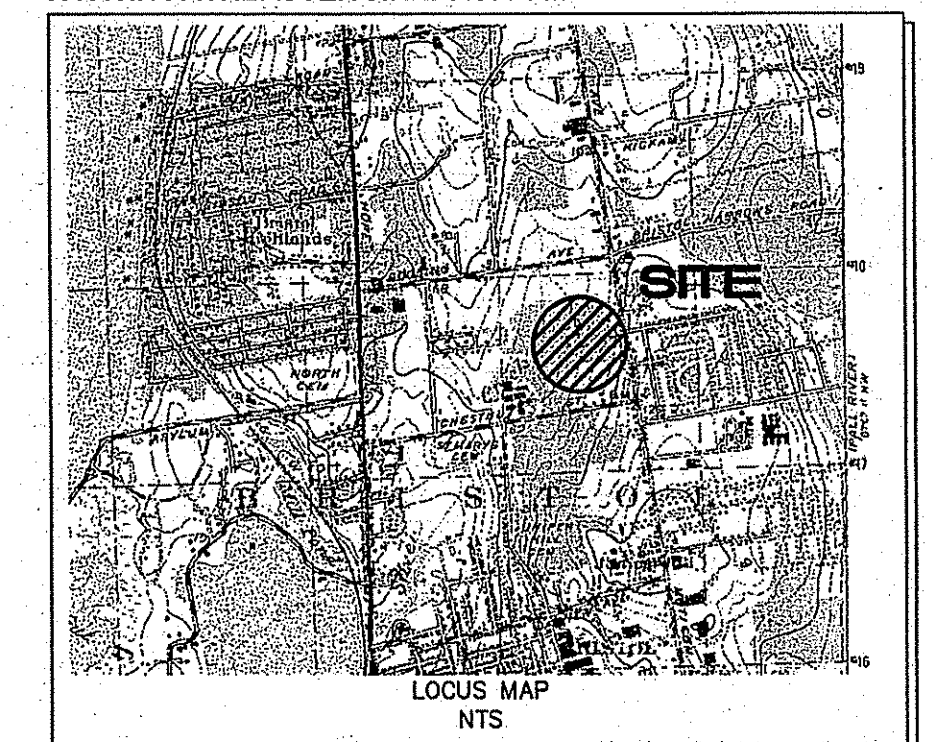
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SITE/CIVIL  
LAND PLANNING  
WATERFRONT  
SURVEYING  
GEOTECHNICAL  
ENVIRONMENTAL  
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MATERIALS TESTING

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**LEGEND**

---	PROPERTY LINE
---	ADJUTER'S PROPERTY LINE
---	EASEMENT BOUNDARY
---	SETBACK
---	ZONING BOUNDARY
---	CONTOUR
---	EDGE OF PAVEMENT
---	WETLAND FLAG
---	50' PERIMETER WETLAND
D 12	DRAINAGE LINE
⊕	DRAIN INLET
⊕	CATCH BASIN
⊕	DRAINAGE MANHOLE
S 8	SEWER LINE
S 8	FORCED SEWER MAIN
⊕	SEWER MANHOLE
W 8	WATER LINE
W 8	WATER GATE
⊕	FIRE HYDRANT
⊕	GAS GATE
⊕	UTILITY POLE
⊕	GUY WIRE
⊕	OH W
⊕	TELEPHONE MANHOLE
⊕	CHAIN LINK FENCE

**ZONE DATA**

	R-15	GB
MIN. LOT SIZE	15,000 sqf	10,000 sqf
MIN. LOT FRONTAGE	100'	100'
MAX. LOT COVERAGE	25%	40%
STRUCTURES & PAVING		70%
SETBACKS:		
FRONT	35'	25'
SIDE	20'	10'
REAR	35'	30'
RESIDENTIAL ZONE	N/A	25'

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*Emmanuel D. Weneck*

No.	Revision	Date	App.
6	REVISIONS PER RIDEM COMMENTS	6-15-07	
5	REVISIONS FOR WETLAND SUBMITTAL	2-7-07	
4	REVISIONS PER TOWN COMMENTS	1-2-07	
3	SHEET NUMBER	12-8-06	
2	REVISED ZONING BOUNDARIES	8-5-06	
1	DRAINAGE REVISIONS	8-11-06	

Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: 1" = 50' Date: AUGUST 2006

Project Title:  
**ARNOLD LUMBER  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4**

Client/Owner:  
**ANTHONY A. NUNES, INC.**

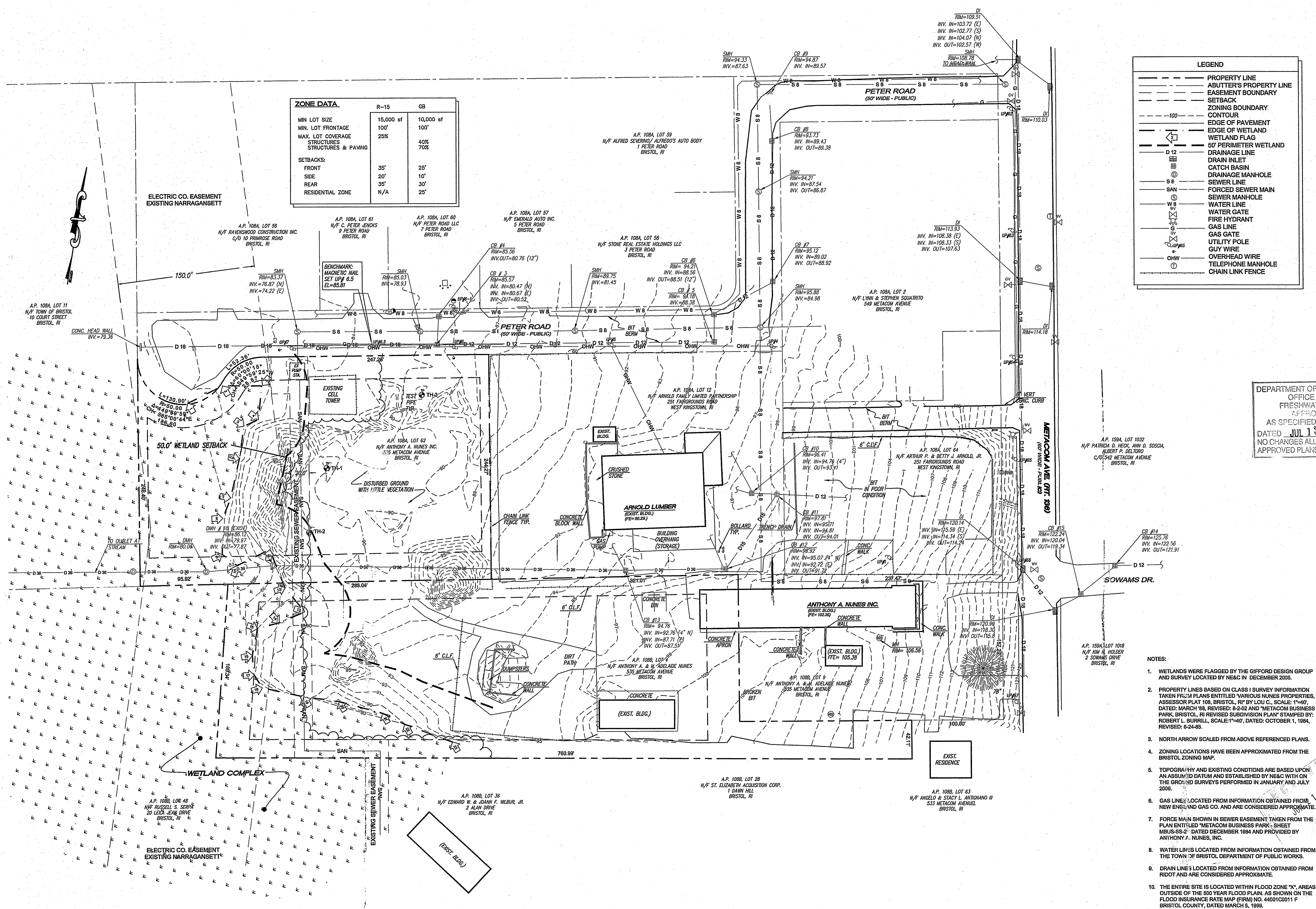
Issued for:  
**PERMITTING**

Drawing Title:  
**EXISTING CONDITIONS  
PLAN**

Drawing Number:	<b>EX-1</b>
Sheet	<b>2 of 13</b>
Project Number:	<b>05345</b>
Survey Index:	

**MATTHEW AVIANA**  
No. 7337  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

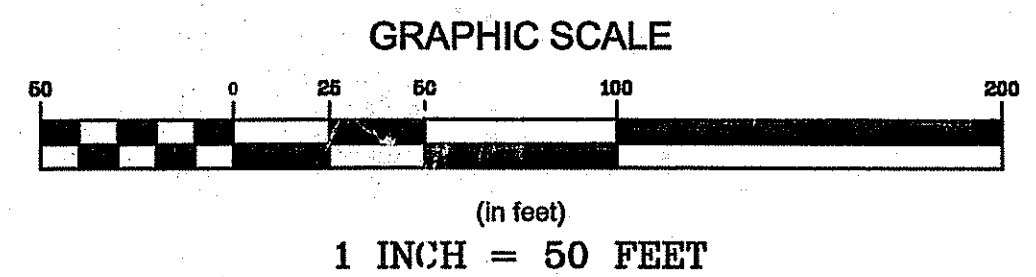
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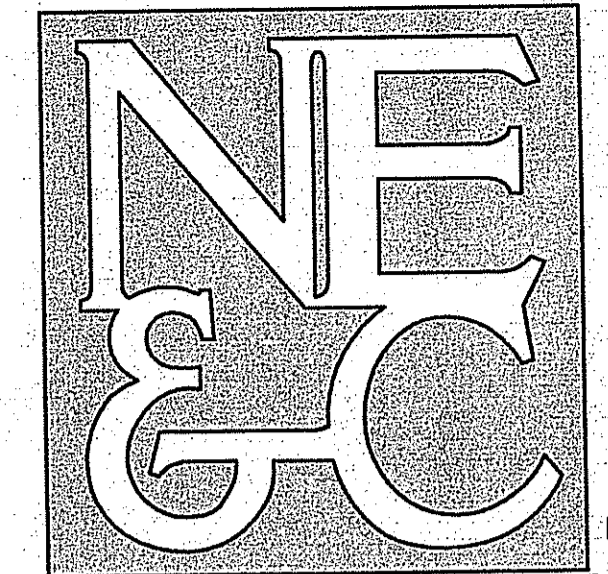


**PLANNING BOARD APPROVAL**

PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

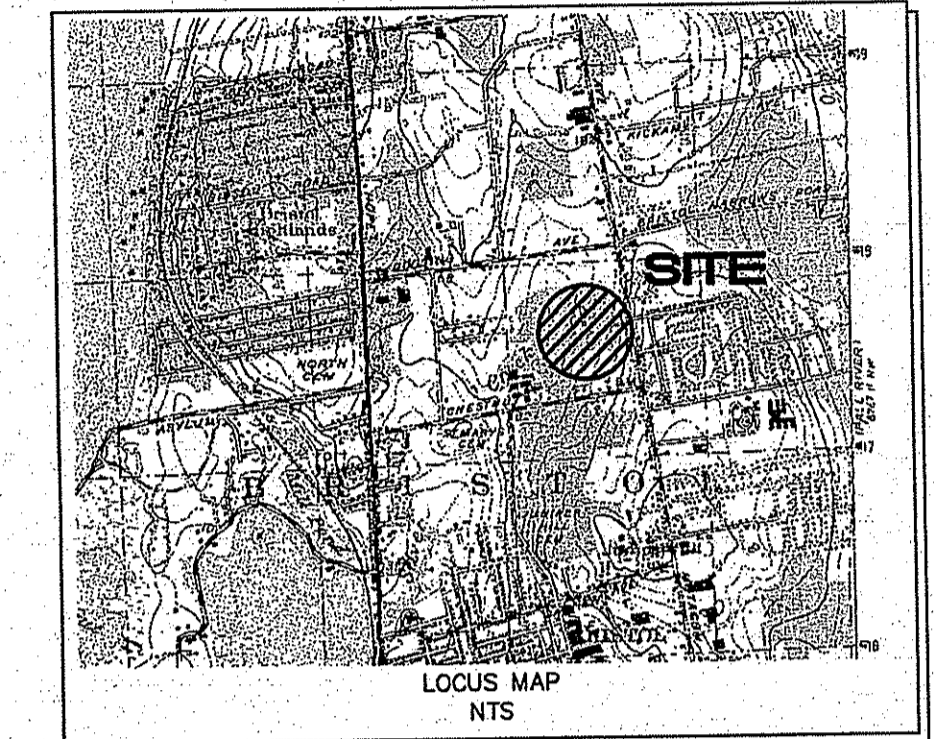
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LEGEND

---	EX. PROPERTY LINE
- - -	EX. PROPERTY LINE TBR
---	PROP. PROPERTY LINE
- - -	ABUTTER'S PROPERTY LINE
---	EASEMENT BOUNDARY
---	EX. ZONING BOUNDARY
- - -	EX. ZONING BOUNDARY TBR
---	PROP. ZONING BOUNDARY

- REFERENCES:
1. PROPERTY LINES AND NORTH ARROW HAVE BEEN TAKEN FROM PLANS ENTITLED "VARIOUS NUNES PROPERTIES, ASSESSOR PLAT 108, BRISTOL, RI" BY LOU C., SCALE: 1"=40', DATED: MARCH '88, REVISED: 8-2-02 AND "METACOM BUSINESS PARK, BRISTOL, RI REVISED SUBDIVISION PLAN" STAMPED BY: ROBERT L. BURRILL, SCALE: 1"=40', DATED: OCTOBER 1, 1984, REVISED: 6-24-85.
  2. ZONING LOCATIONS HAVE BEEN APPROXIMATED FROM THE BRISTOL ZONING MAP.
  3. THIS PLAN IS NOT THE RESULT OF A CLASS I SURVEY.

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Emmanuel D. Wencel

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2	REVISED ZONING BOUNDARIES	9-5-06	
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Designed by: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: 1"=50' Date: AUGUST 2006

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4

Client/Owner:  
ANTHONY A. NUNES, INC.

Issued for:  
PERMITTING

Drawing Title:  
**CONCEPTUAL SUBDIVISION PLAN**

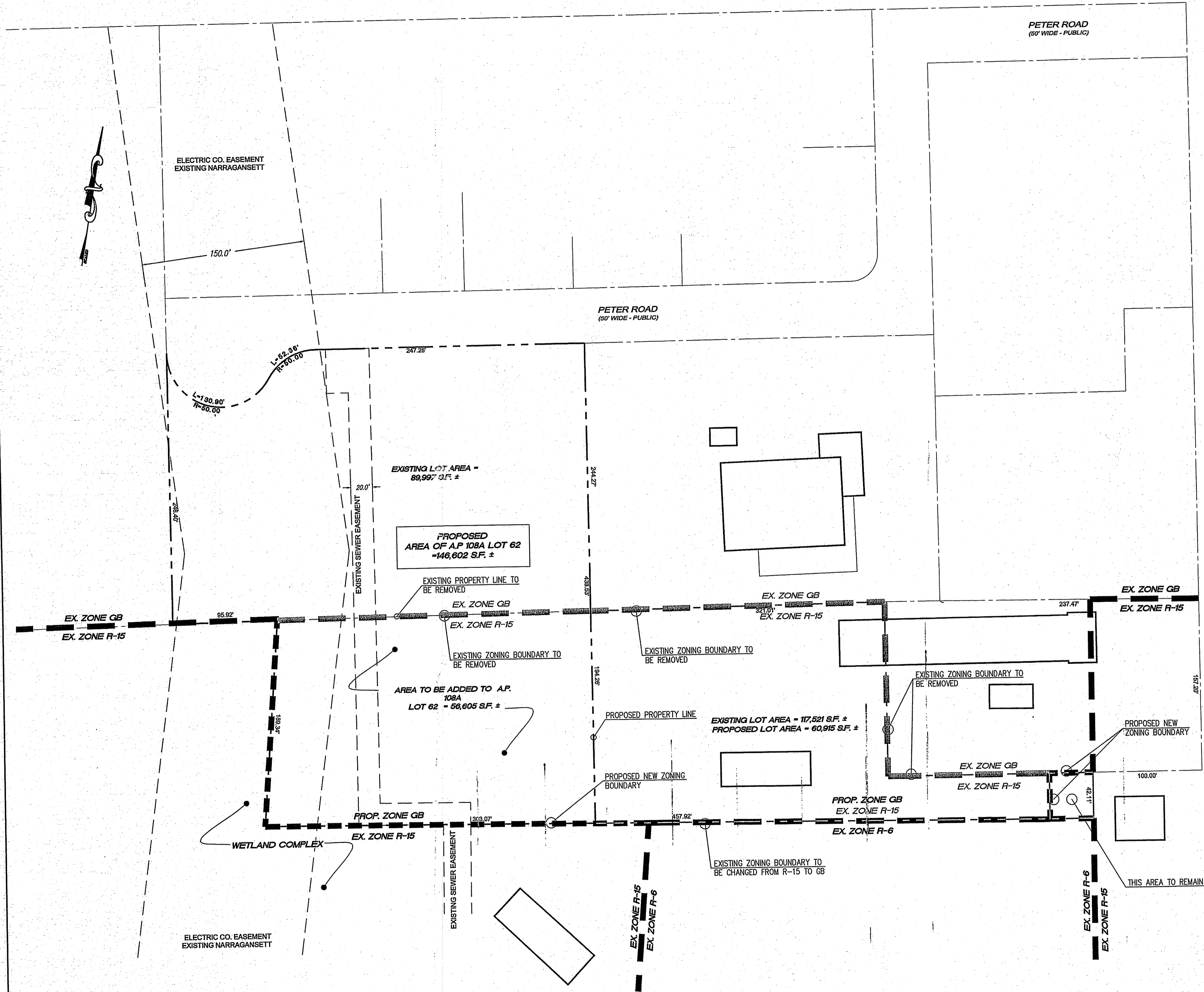
Drawing Number:  
**L-1**

Sheet **3** of **13**

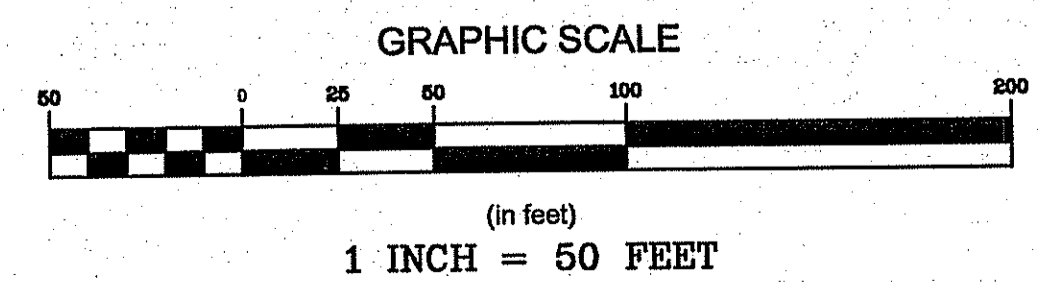
Project Number:  
**05345**

Survey Index:  
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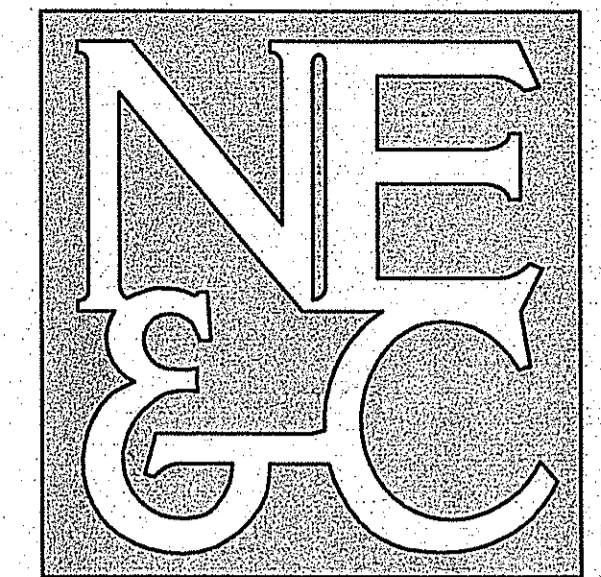


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**PLANNING BOARD APPROVAL**

PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



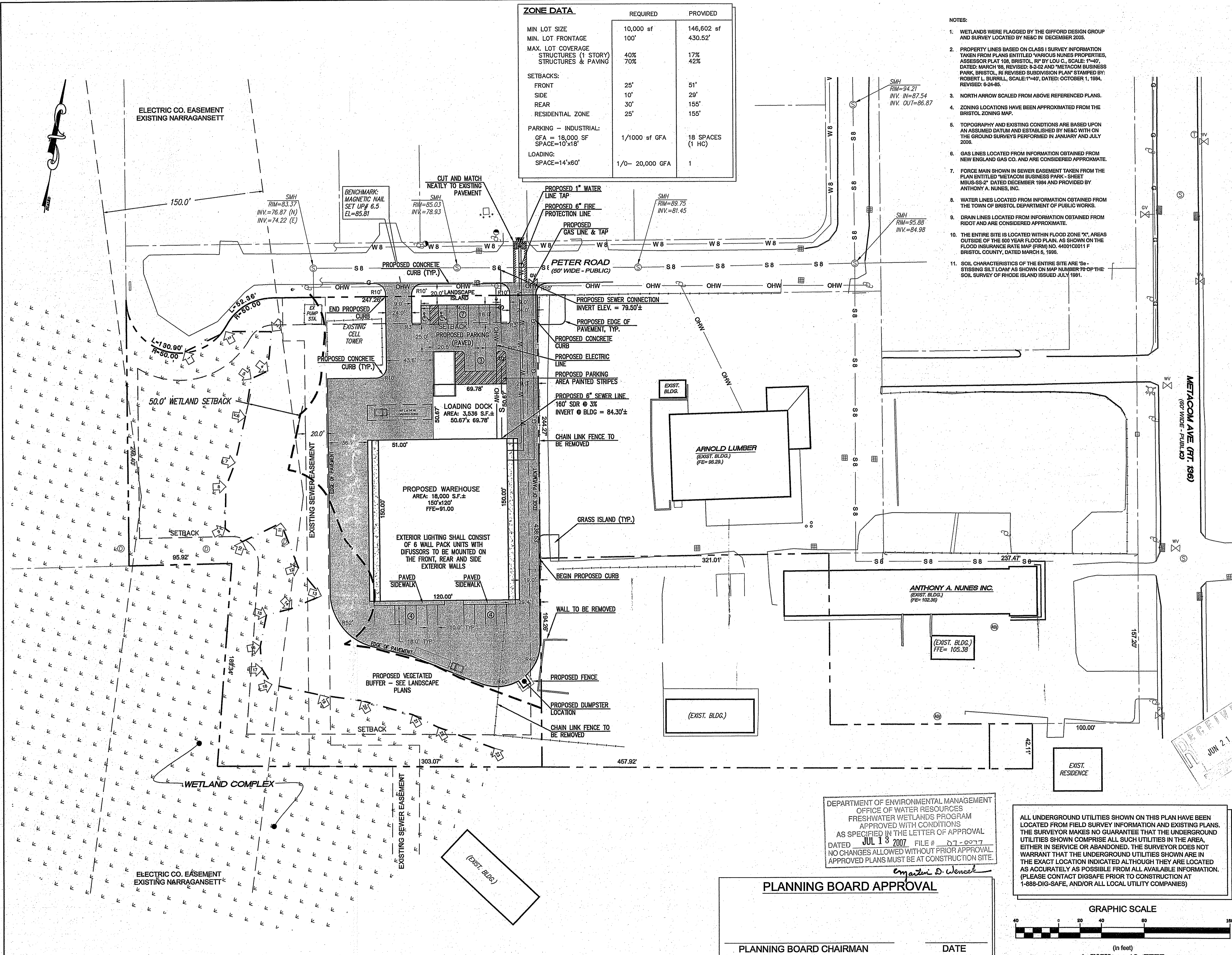
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MATERIALS TESTING

ZONE DATA		REQUIRED	PROVIDED
MIN. LOT SIZE		10,000 sf	146,602 sf
MIN. LOT FRONTAGE		100'	430.52'
MAX. LOT COVERAGE			
STRUCTURES (1 STORY)	40%	17%	
STRUCTURES & PAVING	70%	42%	
SETBACKS:			
FRONT	25'	51'	
SIDE	10'	29'	
REAR	30'	155'	
RESIDENTIAL ZONE	25'	155'	
PARKING - INDUSTRIAL:			
GFA = 18,000 SF	1/1000 sf GFA	18 SPACES	(1 HC)
SPACE=10'x18'			
LOADING:			
SPACE=14'x60'	1/0- 20,000 GFA	1	

- NOTES:
1. WETLANDS WERE FLAGGED BY THE GIFFORD DESIGN GROUP AND SURVEY LOCATED BY NE&C IN DECEMBER 2005.
  2. PROPERTY LINES BASED ON CLASS I SURVEY INFORMATION TAKEN FROM PLANS ENTITLED 'VARIOUS NUNES PROPERTIES, ASSESSOR PLAT 108, BRISTOL, RI' BY LOU C., SCALE: 1"=40', DATED: MARCH '88, REVISED: 8-2-02 AND 'METACOM BUSINESS PARK, BRISTOL, RI' REVISED SUBDIVISION PLAN STAMPED BY: ROBERT L. BURRILL, SCALE: 1"=40', DATED: OCTOBER 1, 1984, REVISED: 6-24-88.
  3. NORTH ARROW SCALED FROM ABOVE REFERENCED PLANS.
  4. ZONING LOCATIONS HAVE BEEN APPROXIMATED FROM THE BRISTOL ZONING MAP.
  5. TOPOGRAPHY AND EXISTING CONDITIONS ARE BASED UPON AN ASSUMED DATUM AND ESTABLISHED BY NESC WITH ON THE GROUND SURVEYS PERFORMED IN JANUARY AND JULY 2006.
  6. GAS LINES LOCATED FROM INFORMATION OBTAINED FROM NEW ENGLAND GAS CO. AND ARE CONSIDERED APPROXIMATE.
  7. FORCE MAIN SHOWN IN SEWER EASEMENT TAKEN FROM THE PLAN ENTITLED 'METACOM BUSINESS PARK - SHEET MBUS-SS-2' DATED DECEMBER 1984 AND PROVIDED BY ANTHONY A. NUNES, INC.
  8. WATER LINES LOCATED FROM INFORMATION OBTAINED FROM THE TOWN OF BRISTOL DEPARTMENT OF PUBLIC WORKS.
  9. DRAIN LINES LOCATED FROM INFORMATION OBTAINED FROM RIDOT AND ARE CONSIDERED APPROXIMATE.
  10. THE ENTIRE SITE IS LOCATED WITHIN FLOOD ZONE 'X', AREAS OUTSIDE OF THE 500 YEAR FLOOD PLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) NO. 44001C0011 F BRISTOL COUNTY, DATED MARCH 5, 1998.
  11. SOIL CHARACTERISTICS OF THE ENTIRE SITE ARE 'Ss - STISSING SILT LOAM' AS SHOWN ON MAP NUMBER 70 OF THE SOIL SURVEY OF RHODE ISLAND ISSUED JULY 1991.



LAYOUT

LEGEND

- PROPERTY LINE
- ADJUTER'S PROPERTY LINE
- EASEMENT BOUNDARY
- SETBACK
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND FLAG
- 50' PERIMETER WETLAND
- DRAIN INLET
- CATCH BASIN
- SEWER LINE
- SEWER MANHOLE
- WATER LINE
- FIRE HYDRANT
- GAS LINE
- GAS GATE
- UTILITY POLE
- GUY WIRE
- OVERHEAD WIRE
- TELEPHONE MANHOLE
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER GATE
- PROPOSED GAS LINE
- PROPOSED GAS GATE
- PROPOSED ELECTRIC LINE
- PROPOSED EDGE OF PAVMT

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Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: 1" = 40' Date: AUGUST 2006

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOTS 4

Client/Owner:  
ANTHONY A. NUNES, INC.

Issued for:  
PERMITTING

Drawing Title:  
**LAYOUT AND UTILITIES PLAN**

Drawing Number:  
**C-1**

Sheet **4** of **13**

Project Number:  
**05345**

Survey Index:

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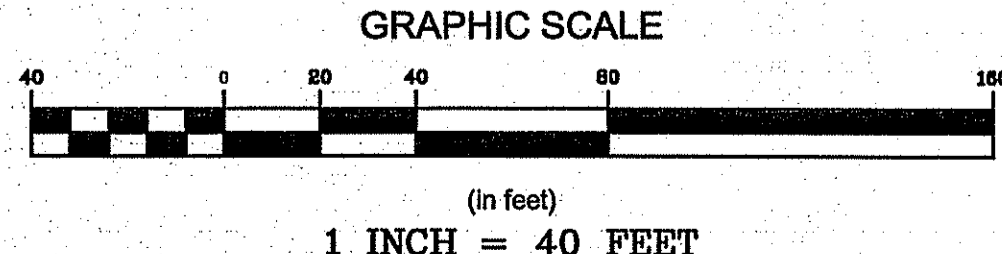
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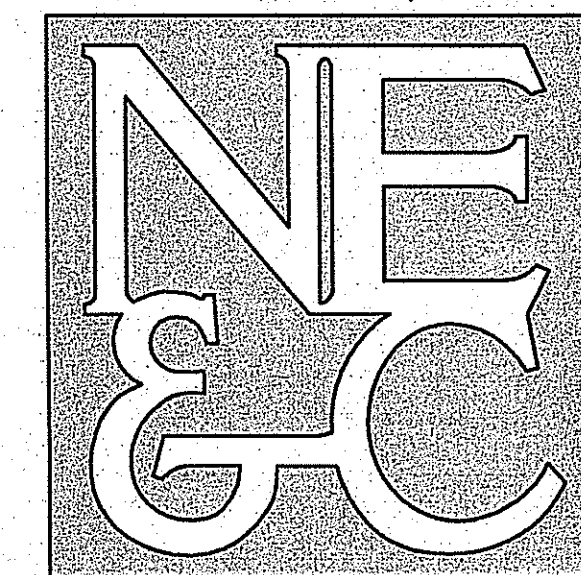
*Matthew D. Wencel*

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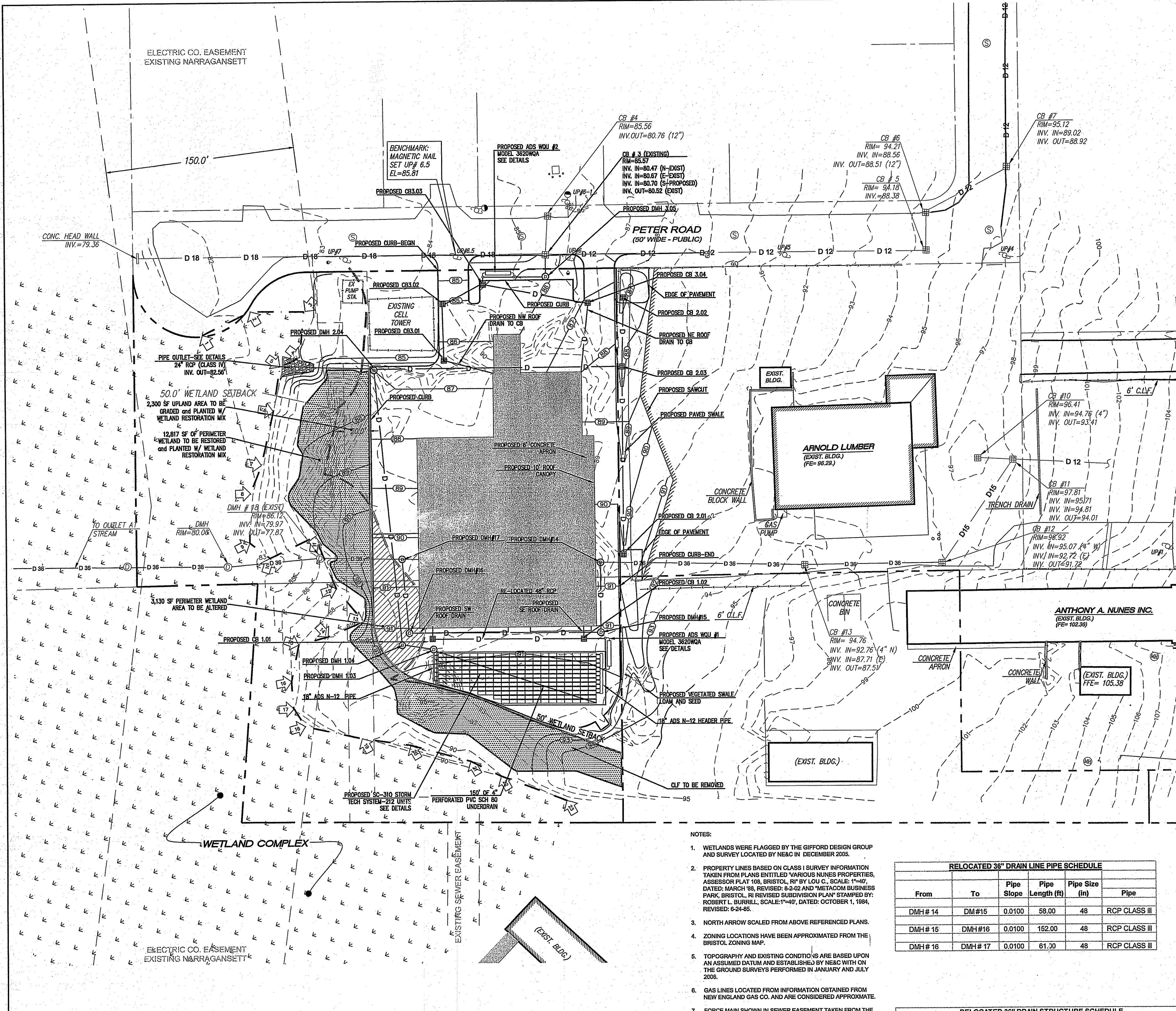




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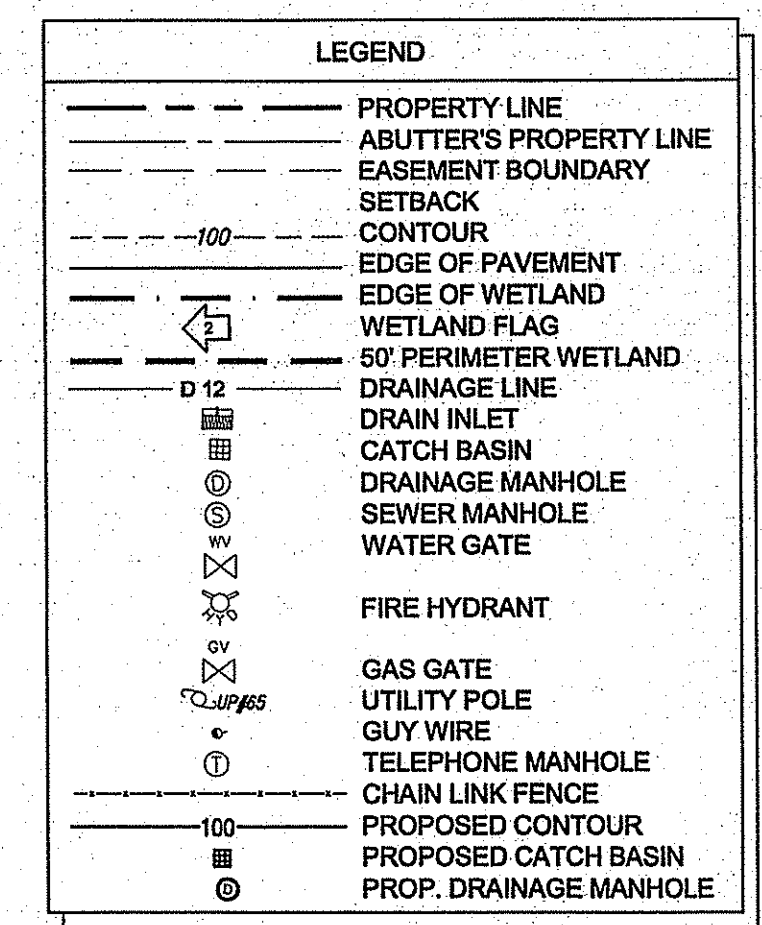
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PIPE SCHEDULE						
From	To	Pipe Slope	Pipe Length (ft)	U/s Invert (ft)	D/s Invert (ft)	Pipe Size (in)
SW ROOF DRAIN	CB 1.01	0.0200	12.00	87.24	87.00	8
CB 1.01	CB 1.02	0.0065	116.00	86.90	85.80	12
SE ROOF DRAIN	CB 1.02	0.0200	12.00	86.04	85.80	8
CB 1.02	ADS WQU #1	0.0100	7.00	85.70	85.63	15
ADS WQU #1	HEADER	0.0120	5.00	85.46	85.40	18
STORMTECH	DMH 1.03	0.0000	47.00	85.40	85.40	18
UNDERDRAIN	DMH 1.03	0.0000	150.00	85.40	85.40	4
DMH 1.03	DMH 1.04	0.0100	20.00	85.30	85.10	12
CB 2.01	CB 2.03	0.0164	145.00	86.50	84.13	15
CB 2.02	CB 2.03	0.0050	51.00	84.35	84.10	15
CB 2.03	DMH 2.04	0.0050	202.00	84.00	82.99	24
DMH 1.05	DMH 2.04	0.0087	213.00	85.00	83.15	12
DMH 2.04	OUTLET	0.0070	46.00	82.89	82.58	24
NW ROOF DRAIN	CB 3.01	0.0200	41.00	83.82	83.00	6
CB 3.01	CB 3.02	0.0060	55.00	82.00	81.67	12
CB 3.02	CB 3.03	0.0050	32.00	81.57	81.38	12
CB 3.04	CB 3.03	0.0050	81.00	81.95	81.46	8
CB 3.03	ADS WQU #2	0.0060	3.00	81.28	81.26	15
ADS WQU #2	DMH 3.05	0.0060	38.00	81.09	80.87	16
DMH 3.05	CB # 3	0.0050	12.00	80.77	80.70	15
NE ROOF DRAIN	CB 3.04	0.0200	54.00	83.13	82.05	6

DRAIN STRUCTURE SCHEDULE						
Structure	Rim Elev.	Invert In	Invert Out	Sump Depth (ft)	Sump Elev.	Structure size
CB 1.01	90.50	87.00	86.60	4.00	82.90	4" Diameter
CB 1.02	89.50	85.80	85.70	4.00	81.70	4" Diameter
ADS WQU #1	90.75	85.63	85.46	NA	NA	Model 3620WQA18
HEADER	NA	NA	NA	NA	NA	SEE DETAIL
DMH 1.03	80.60	85.40	85.30	4.00	81.30	4" Diameter
DMH 1.04	90.65	85.10	85.00	4.00	81.00	4" Diameter
CB 2.01	80.40	NA	86.50	4.00	82.50	4" Diameter
CB 2.02	86.80	NA	84.35	4.00	82.80	4" Diameter
CB 2.03	87.75	84.13	84.00	4.00	83.75	4" Diameter
DMH 2.04	87.00	82.99	82.89	4.00	78.99	4" Diameter
OUTLET	NA	NA	82.58	NA	NA	FLARED END
CB 3.01	80.40	83.00	82.00	4.00	79.00	4" Diameter
CB 3.02	85.10	81.67	81.57	4.00	77.57	4" Diameter
CB 3.03	85.00	81.38	81.28	4.00	77.28	4" Diameter
ADS WQU #2	85.50	81.26	81.09	NA	NA	Model 3620WQA15
DMH 3.05	85.57	80.87	80.77	4.00	76.77	4" Diameter
CB # 3	85.57	80.70	80.52	4.00	76.52	Existing
CB 3.04	87.00	82.05	81.95	4.00	77.95	4" Diameter



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4	REVISIONS PER TOWN COMMENTS	1-2-07	
3	REVISED BLDG AND PARKING LAYOUT	12-8-06	
2	ADDED FFE TO WAREHOUSE	9-5-06	
1	DRAINAGE REVISIONS	8-11-06	

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4

Client/Owner:  
**ANTHONY A. NUNES, INC.**

Issued for:  
**PERMITTING**

Drawing Title:  
**GRADING AND DRAINAGE PLAN**

Drawing Number:  
**C-2**

Sheet **5** of **13**

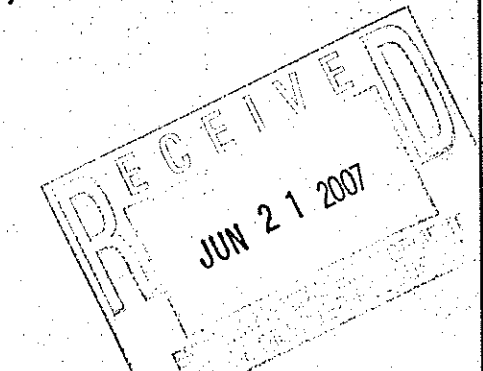
Project Number:  
**05345**

Survey Index:  
-

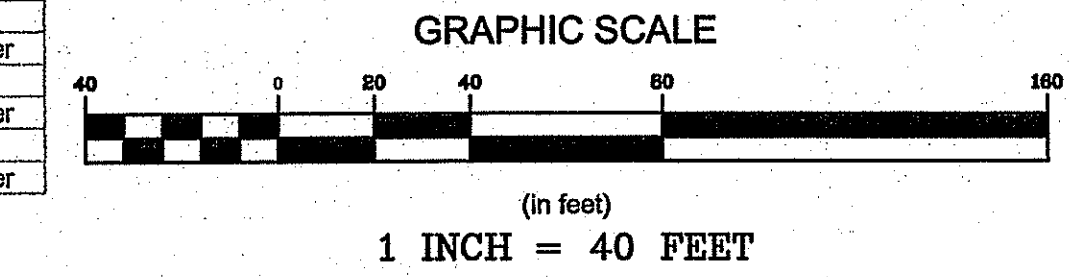
**MATTHEW J. VIANA**  
No. 7337  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

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NOTE: SNOOT FOR EXISTING/WATER SEPARATOR TO BE INSTALLED IN ALL CATCH BASINS/ MANHOLES UNLESS NOTED OTHERWISE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUL 13 2007 # 07-0077  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Matthew D. Wenzel*



- NOTES:
- WETLANDS WERE FLAGGED BY THE GIFFORD DESIGN GROUP AND SURVEY LOCATED BY NE&C IN DECEMBER 2005.
  - PROPERTY LINES BASED ON CLASS I SURVEY INFORMATION TAKEN FROM PLANS ENTITLED "VARIOUS NUNES PROPERTIES, ASSESSOR PLAT 108, BRISTOL, RI" BY LOU C., SCALE: 1"=40', DATED: MARCH '88, REVISED: 8-2-02 AND "METACOM BUSINESS PARK, BRISTOL, RI REVISED SUBDIVISION PLAN" STAMPED BY: ROBERT L. BURRILL, SCALE: 1"=40', DATED: OCTOBER 1, 1984, REVISED: 6-24-85.
  - NORTH ARROW SCALED FROM ABOVE REFERENCED PLANS.
  - ZONING LOCATIONS HAVE BEEN APPROXIMATED FROM THE BRISTOL ZONING MAP.
  - TOPOGRAPHY AND EXISTING CONDITIONS ARE BASED UPON AN ASSUMED DATUM AND ESTABLISHED BY NE&C WITH ON THE GROUND SURVEYS PERFORMED IN JANUARY AND JULY 2006.
  - GAS LINES LOCATED FROM INFORMATION OBTAINED FROM NEW ENGLAND GAS CO. AND ARE CONSIDERED APPROXIMATE.
  - FORCE MAIN SHOWN IN SEWER EASEMENT TAKEN FROM THE PLAN ENTITLED "METACOM BUSINESS PARK - SHEET MBUS-88-2" DATED DECEMBER 1984 AND PROVIDED BY ANTHONY A. NUNES, INC.
  - WATER LINES LOCATED FROM INFORMATION OBTAINED FROM THE TOWN OF BRISTOL DEPARTMENT OF PUBLIC WORKS.
  - DRAIN LINES LOCATED FROM INFORMATION OBTAINED FROM RIDOT AND ARE CONSIDERED APPROXIMATE.
  - THE ENTIRE SITE IS LOCATED WITHIN FLOOD ZONE "X", AREAS OUTSIDE OF THE 500 YEAR FLOOD PLAN. AS SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) NO. 44001C0011 F BRISTOL COUNTY, DATED MARCH 5, 1996.
  - SOIL CHARACTERISTICS OF THE ENTIRE SITE ARE "S"-STRESSING SILT LOAM AS SHOWN ON MAP NUMBER 70 OF THE SOIL SURVEY OF RHODE ISLAND ISSUED JULY 1981.

RELOCATED 36" DRAIN LINE PIPE SCHEDULE					
From	To	Pipe Slope	Pipe Length (ft)	Pipe Size (in)	Pipe
DMH # 14	DM #15	0.0100	58.00	48	RCP CLASS III
DMH # 15	DMH #16	0.0100	152.00	48	RCP CLASS III
DMH # 16	DMH # 17	0.0100	61.30	48	RCP CLASS III

RELOCATED 36" DRAIN STRUCTURE SCHEDULE						
Structure	Rim Elev.	Invert In	Invert Out	Sump Depth (ft)	Sump Elev.	Structure size
DMH #14	90.71	84.34	84.24	3.00	81.24	6" DIAMETER
DM #15	90.60	83.66	83.56	3.00	80.56	6" DIAMETER
DMH #16	90.60	82.04	81.94	3.00	78.94	6" DIAMETER
DMH # 17	90.45	81.33	81.23	3.00	78.23	6" DIAMETER

**PLANNING BOARD APPROVAL**

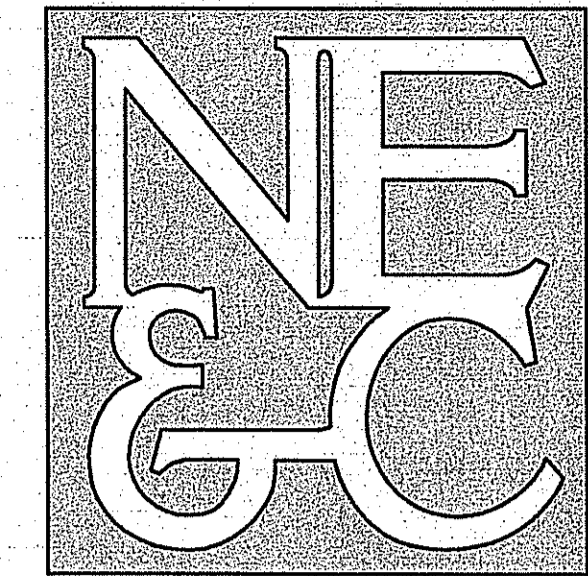
PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**PLANNING BOARD APPROVAL**

PLANNING BOARD CHAIRMAN \_\_\_\_\_

DATE \_\_\_\_\_

**NORTHEAST ENGINEERS & CONSULTANTS, INC.**



SITE/CIVIL  
LAND PLANNING  
WATERFRONT  
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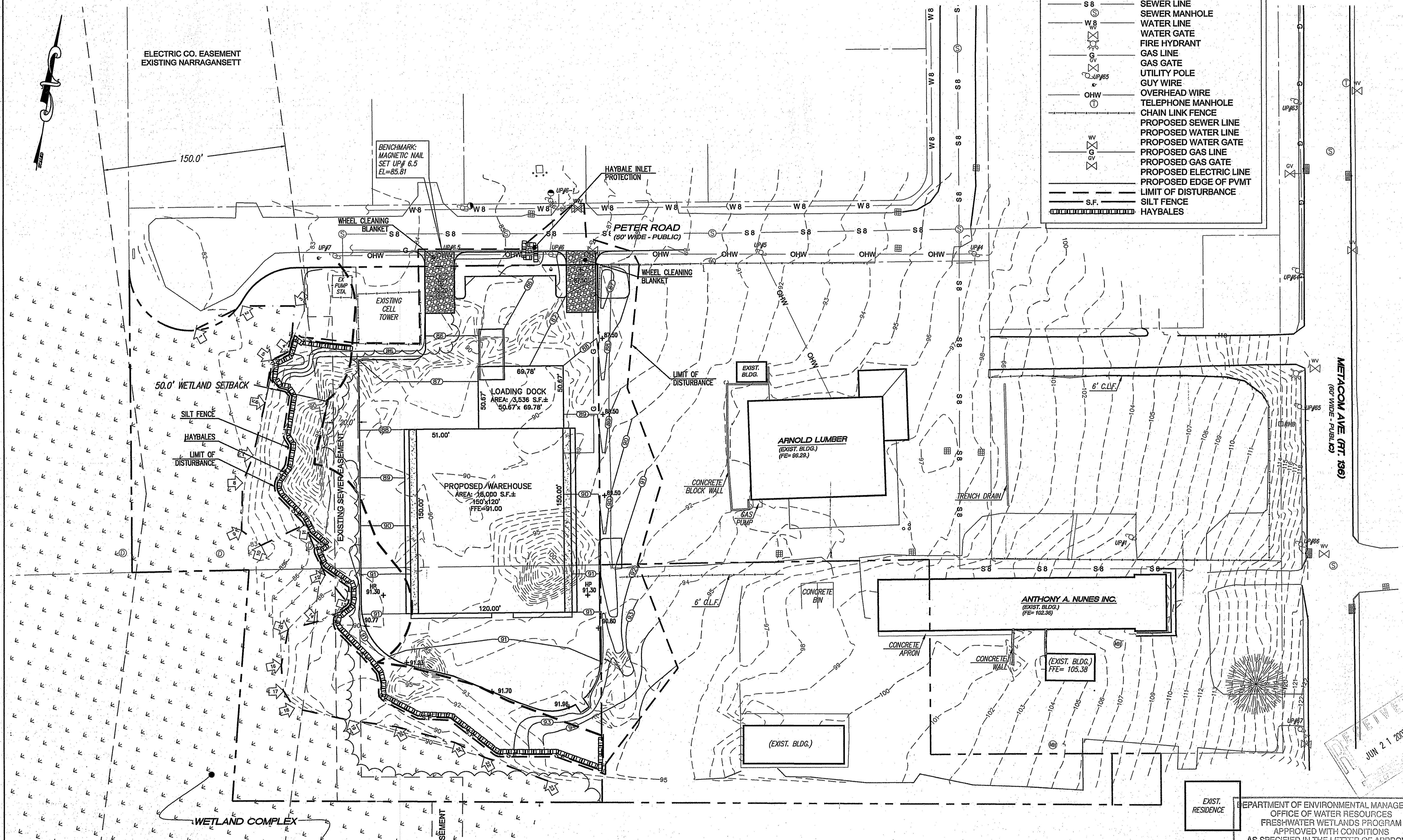
55 JOHN CLARKE ROAD MIDDLETOWN RHODE ISLAND 02842  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM

**NOTES:**

1. WETLANDS WERE FLAGGED BY THE GIFFORD DESIGN GROUP AND SURVEY LOCATED BY NE&C IN DECEMBER 2005.
2. PROPERTY LINES BASED ON CLASS I SURVEY INFORMATION TAKEN FROM PLANS ENTITLED "VARIOUS NUNES PROPERTIES, ASSESSOR PLAT 108, BRISTOL, RI" BY LOU C. SCALE: 1"=40', DATED: MARCH '88, REVISED: 8-2-02 AND "METACOM BUSINESS PARK, BRISTOL, RI REVISED SUBDIVISION PLAN" STAMPED BY: ROBERT L. BURRILL, SCALE: 1"=40', DATED: OCTOBER 1, 1984, REVISED: 6-24-85.
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8. WATER LINES LOCATED FROM INFORMATION OBTAINED FROM THE TOWN OF BRISTOL DEPARTMENT OF PUBLIC WORKS.
9. DRAIN LINES LOCATED FROM INFORMATION OBTAINED FROM RIDOT AND ARE CONSIDERED APPROXIMATE.

**LEGEND**

---	PROPERTY LINE
---	ABUTTER'S PROPERTY LINE
---	EASEMENT BOUNDARY
---	SETBACK
---	EDGE OF PAVEMENT
---	EDGE OF WETLAND
---	WETLAND FLAG
---	50' PERIMETER WETLAND
---	DRAIN INLET
---	CATCH BASIN
---	DRAINAGE MANHOLE
---	SEWER LINE
---	SEWER MANHOLE
---	WATER LINE
---	WATER GATE
---	FIRE HYDRANT
---	GAS LINE
---	GAS GATE
---	UTILITY POLE
---	GUY WIRE
---	OVERHEAD WIRE
---	TELEPHONE MANHOLE
---	CHAIN LINK FENCE
---	PROPOSED SEWER LINE
---	PROPOSED WATER LINE
---	PROPOSED WATER GATE
---	PROPOSED GAS LINE
---	PROPOSED GAS GATE
---	PROPOSED ELECTRIC LINE
---	PROPOSED EDGE OF PVMT
---	LIMIT OF DISTURBANCE
---	S.F.
---	HAYBALES



No.	Revision	Date	App.
5	REVISIONS PER RIDEM COMMENTS	6-16-07	
4	REVISED FOR WETLAND SUBMITTAL	2-7-07	
3	REVISED PER TOWN COMMENTS	1-2-07	
2	REVISED BLDG AND PARKING LAYOUT	12-8-06	
1	DRAINAGE REVISIONS	8-11-06	

Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: 1" = 40' Date: AUGUST 2006  
Project Title:

**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4

Client/Owner: ANTHONY A. NUNES, INC.

Issued for: PERMITTING

Drawing Title: **SOIL EROSION AND SEDIMENT CONTROL PLAN**

Drawing Number: **C-3**  
Sheet **6** of **13**  
Project Number: **05345.3**  
Survey Index: \_\_\_\_\_

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ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING PLANS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM ALL AVAILABLE INFORMATION. (PLEASE CONTACT DIGSAFE PRIOR TO CONSTRUCTION AT 1-888-DIG-SAFE, AND/OR ALL LOCAL UTILITY COMPANIES)

EXIST. RESIDENCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUL 13 2007 FILE # 07-0077  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

GRAPHIC SCALE *Matthew D. Wencel*  
1 INCH = 40 FEET

**SOIL EROSION & SEDIMENT CONTROL NOTES**

**1. CONSTRUCTION SEQUENCE:**

- DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- INSTALL SOIL EROSION AND SEDIMENTATION CONTROLS.
- CLEAR VEGETATION AS NECESSARY.
- CONSTRUCT BUILDING AND DRAINAGE FEATURES. TIE PROPOSED UTILITIES INTO EXISTING.
- GRADE SURROUNDING AREA TO LOD.
- PAVE PARKING AREA.
- INSTALL LANDSCAPING PER LANDSCAPE PLAN.
- SEED DISTURBED AREAS. MAINTAIN SITE IN ACCORDANCE WITH THE MAINTENANCE NOTES.

**2. GENERAL NOTES:**

- DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
- ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
- AREAS TO BE FILLED SHALL BE CLEARED, CRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
- ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT SUBSIDENCE, OR OTHER RELATED PROBLEMS.
- FILL INTENDED TO SUPPORT BUILDING STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES AND SPECIFICATIONS.
- ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 12" IN THICKNESS.
- FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION SUBGRADE.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF FINISH GRADING IN ACCORDANCE WITH THE VEGETATIVE PRACTICE NOTES.
- REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

**3. VEGETATIVE PRACTICE:**

**PERMANENT MEASURES**

- SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL UNLESS OTHERWISE SPECIFIED.
- A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED. THE LOAM SHALL BE GRADED TO A SMOOTH CONDITION AND STONES AND OTHER OBJECTS LARGER THAN 2 INCHES SHALL BE REMOVED.

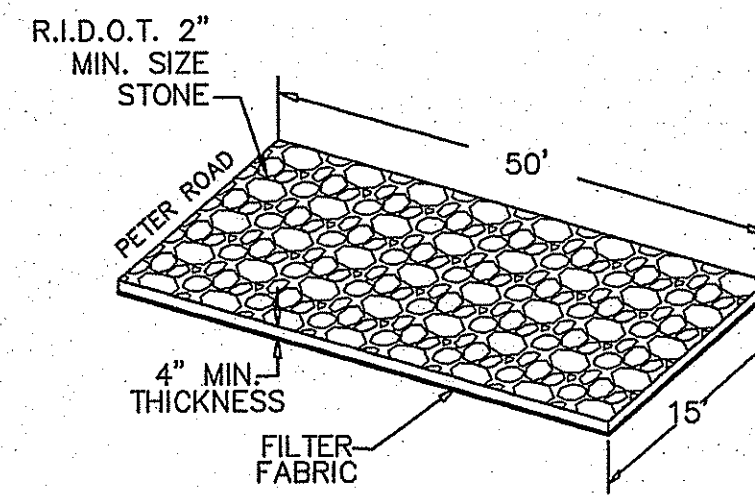
**TEMPORARY MEASURES (FOR TEMPORARY PROTECTION OF DISTURBED AREAS)**

- LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:  
LIMESTONE: 3 TONS/ACRE  
FERTILIZER: (10-10-10): 600 LBS/ACRE
- SEED SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 112 LB/ACRE
- HAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.

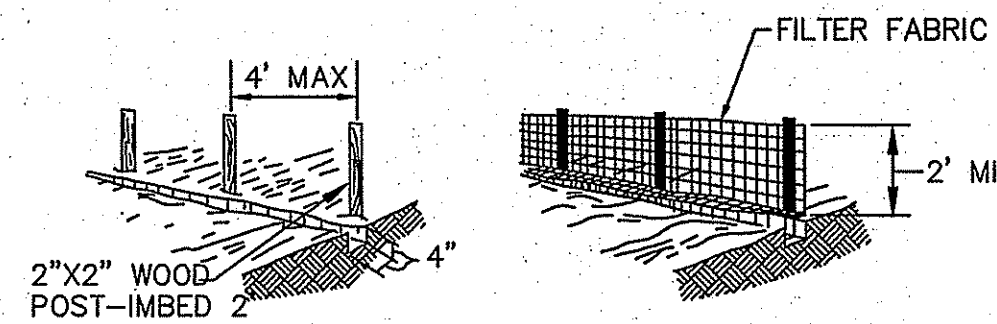
**4. MAINTENANCE**

DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED, THE OWNER, WILL CONDUCT INSPECTIONS OF THE EROSION CONTROL MEASURES.

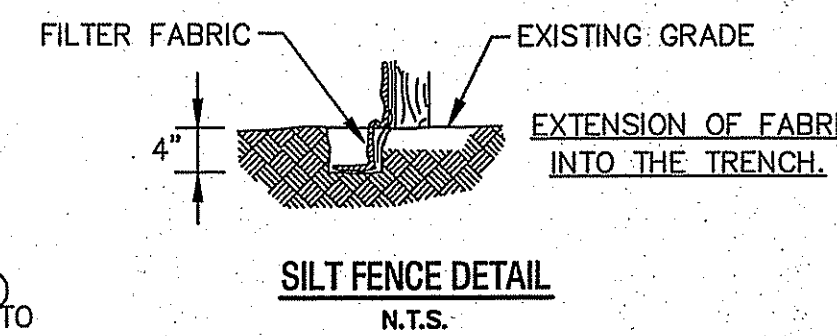
- SILT FENCES AND HAY BALES SHALL BE INSPECTED AS INDICATED IN THE DETAILS. AT A MINIMUM THE SILT FENCING AND HAY BALES SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND/OR IMMEDIATELY FOLLOWING A SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REGRADED ON THE SITE.
- EXCLOSURE MATTING SHALL BE INSPECTED ON A WEEKLY BASIS.
- STONE APRONS SHALL BE INSPECTED MONTHLY FOR EXCESSIVE ACCUMULATION OF SEDIMENT. IT MAY BE NECESSARY TO REMOVE STONES, EXCAVATE SEDIMENT, AND REPLACE STONES.
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO PAVING. DURING CONSTRUCTION THE ENTRANCE SHALL BE INSPECTED WEEKLY, AND REESTABLISHED AS NECESSARY.
- SEEDING AREAS WILL BE FERTILIZED AND RESEEDING AS NECESSARY TO INSURE ESTABLISHMENT OF VEGETATION.



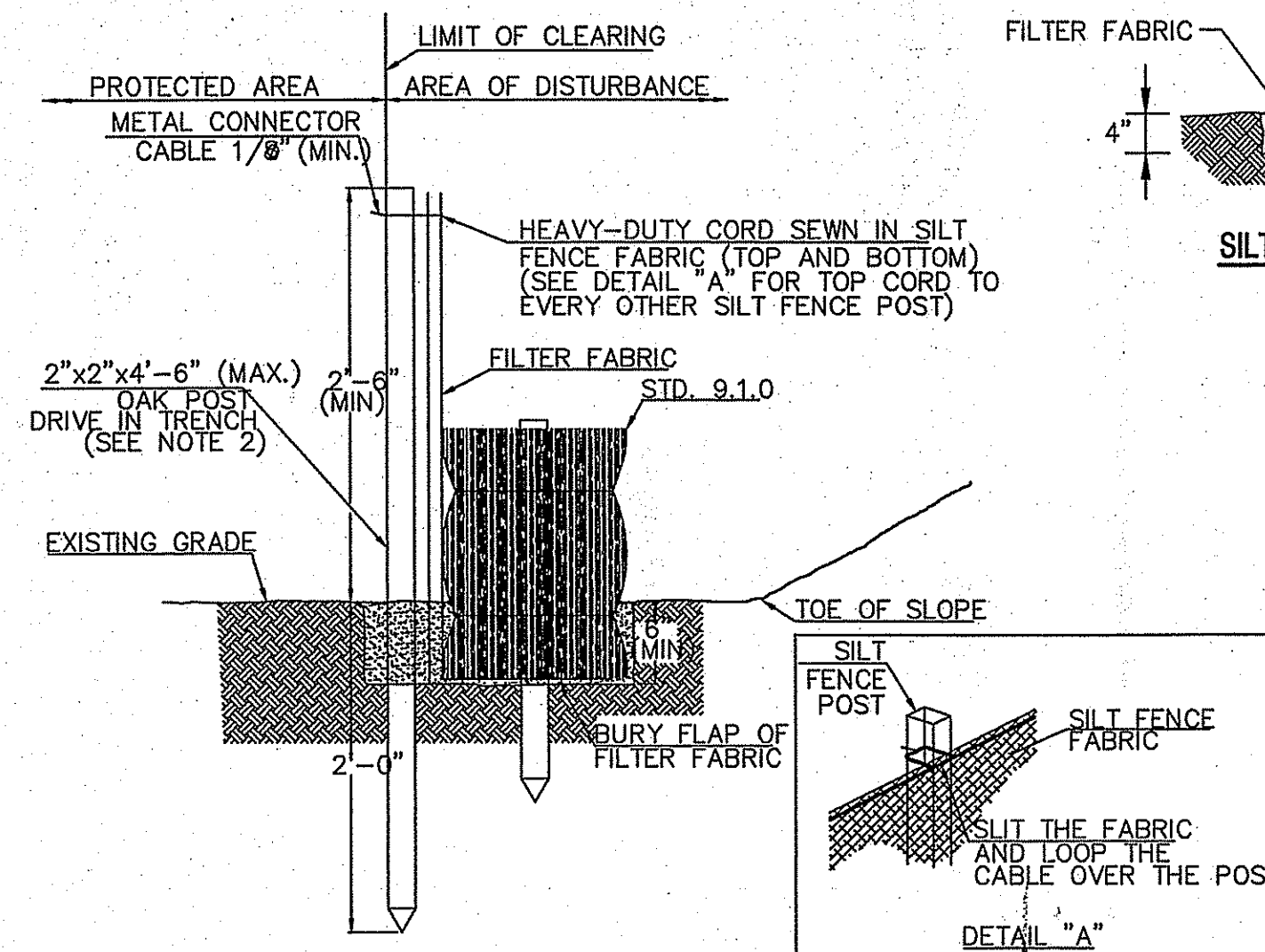
**WHEEL CLEANING BLANKET**  
N.T.S.



- SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
- STAPLE FILTER FABRIC TO THE POSTS AND EXTEND INTO TRENCH.
- BACK FILL AND COMPACT EXCAVATED SOIL INTO THE TRENCH.



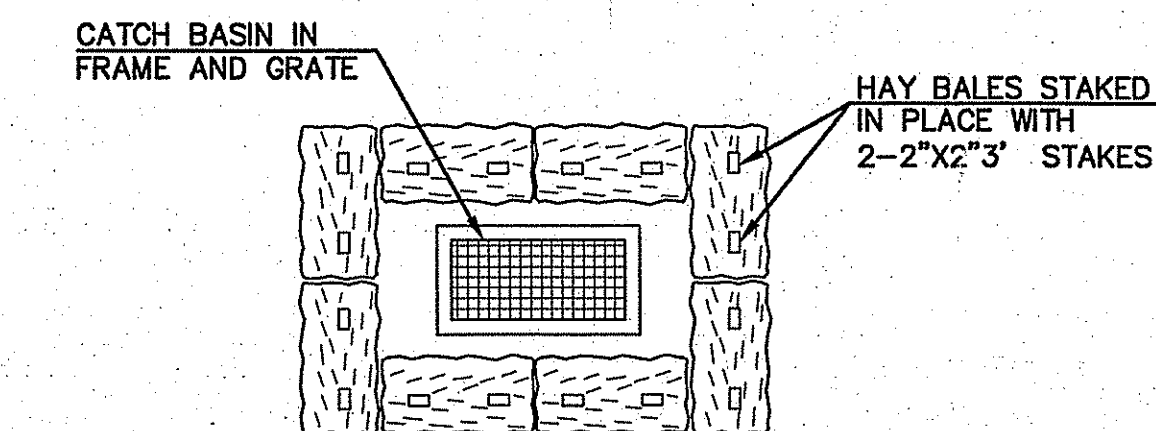
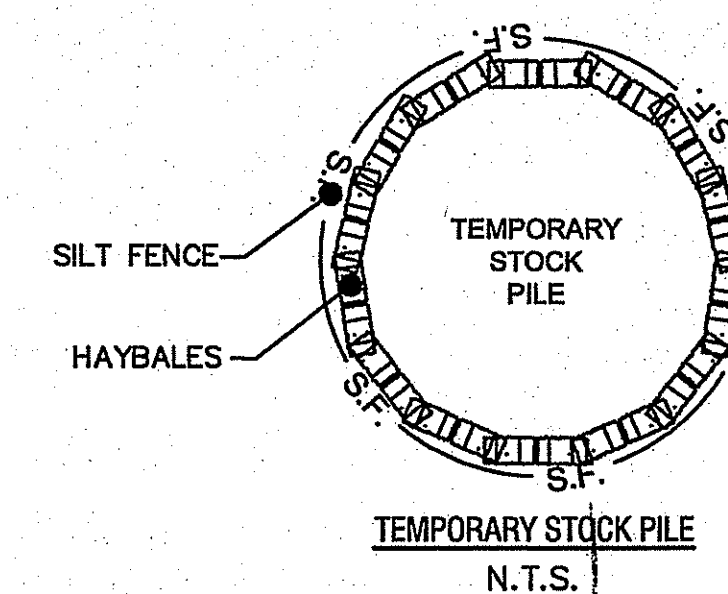
**SILT FENCE DETAIL**  
N.T.S.



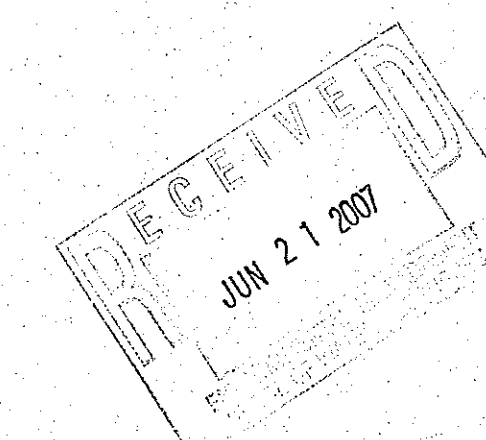
**NOTES:**

- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
- STD. 9.1.0 IS INSTALLED "TIGHT" AGAINST SILT FENCE. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICE. SILT FENCE FABRIC SHALL NOT BE SLIT. STD. 9.1.0 POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC. 2"x2"x4"-6" (MAX.) OAK POST FOR SILT FENCE SHALL BE LOCATED 8"-0" (MAX.) O.C. IN WETLAND AREAS AND 4"-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP OFF AREAS AS SHOWN ON PLANS.
- 1"x1"x4"-6" (MIN.) POSTS ARE PERMITTED FOR PRE-FABRICATED SILT FENCE.
- SILT FENCE AND BALED HAY SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

**R.I. STANDARD 9.3.0 BAILED HAY EROSION CHECK & SILT FENCE COMBINED**  
N.T.S.



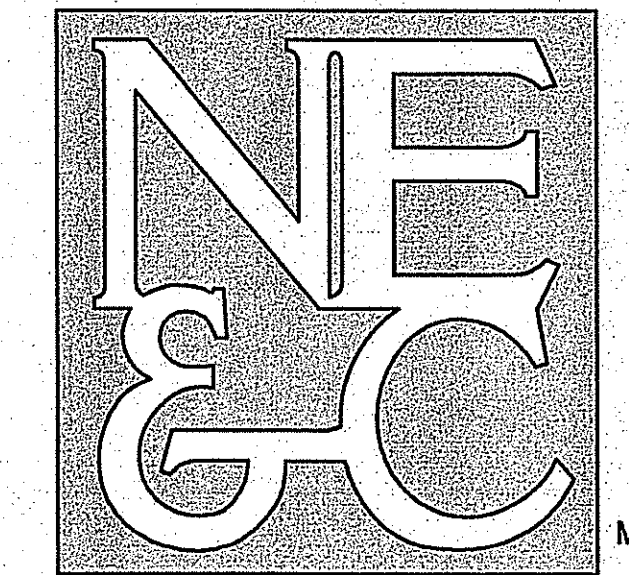
**PLAN**  
**HAY BALE INLET STRUCTURE**  
N.T.S.



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*Matthew J. Viana*

**NORTHEAST ENGINEERS & CONSULTANTS, INC.**



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No.	Revision	Date	App.
4	REVISIONS PER RIDEM COMMENTS	6-15-07	
3	REVISIONS FOR WETLANDS SUBMITTAL	2-7-07	
2	SHEET NUMBER	12-9-06	
1	DRAINAGE REVISIONS	8-11-06	

Designed by: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: NTS Date: AUGUST 2006

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4

Client/Owner:  
ANTHONY A. NUNES, INC.

Issued for:  
PERMITTING

Drawing Title:  
**SOIL EROSION AND SEDIMENT CONTROL DETAILS**

Drawing Number:	SD-1
Sheet	7 of 13
Project Number:	05345
Survey Index:	

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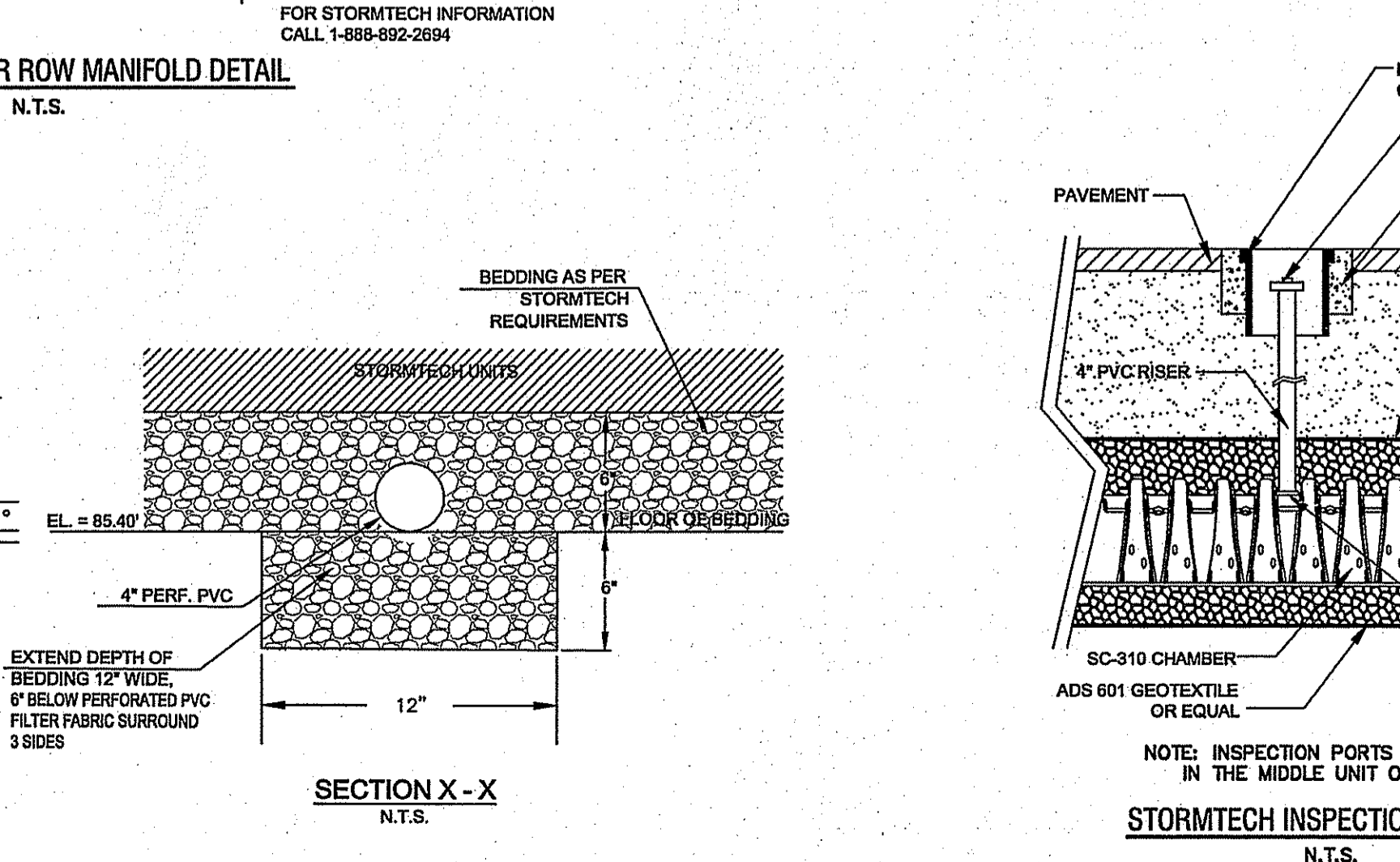
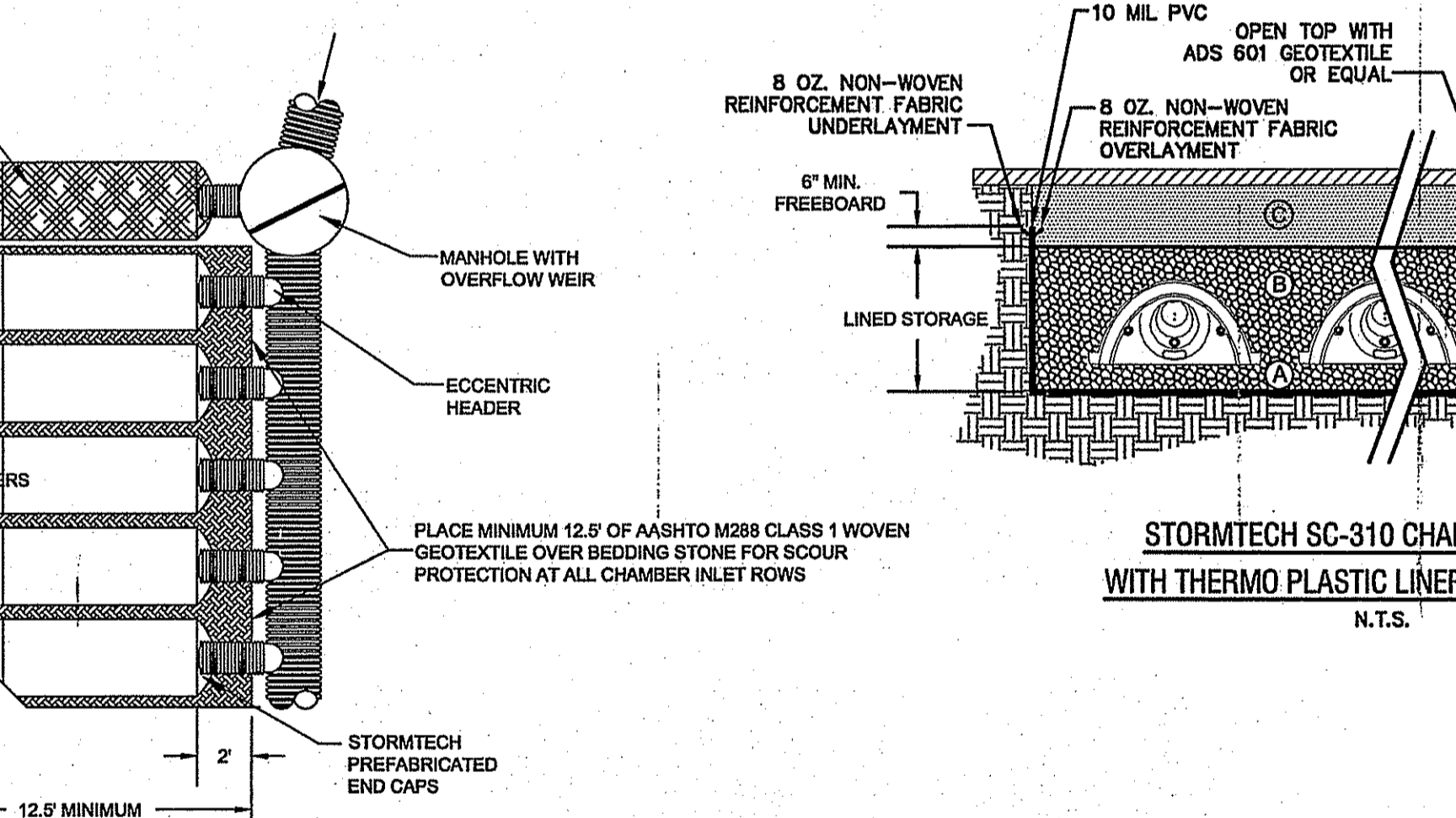
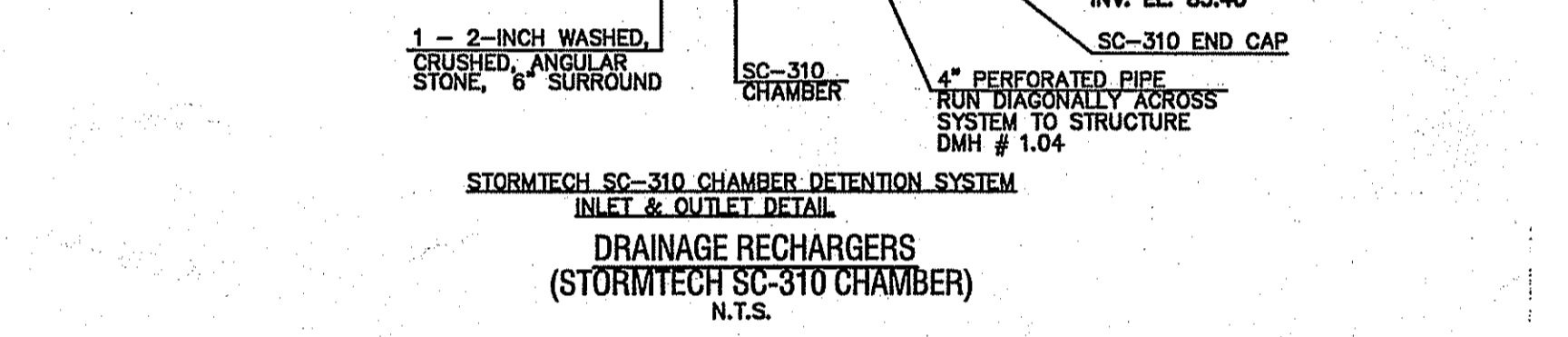
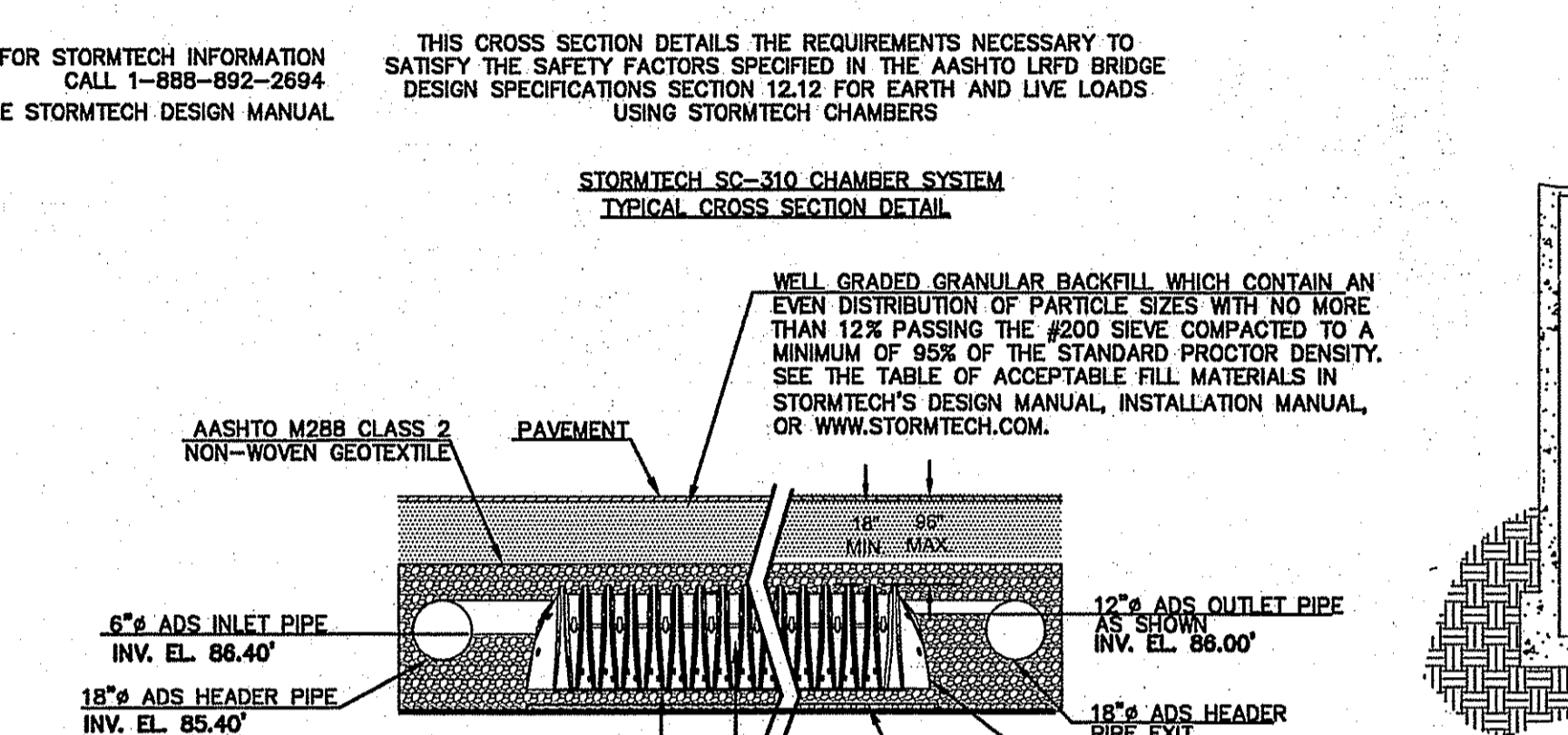
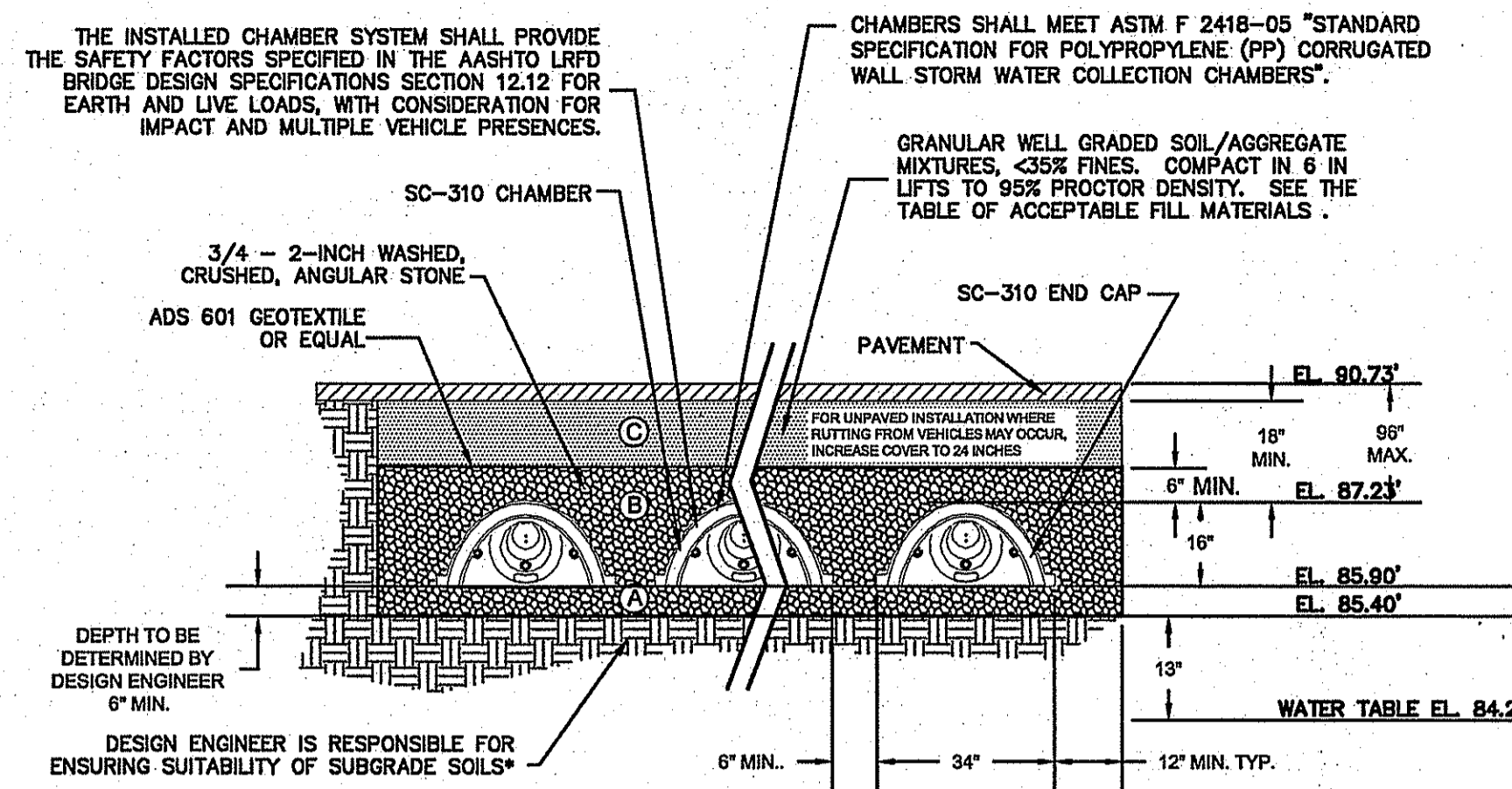
<b>PLANNING BOARD APPROVAL</b>	
PLANNING BOARD CHAIRMAN	DATE

**STORMTECH GENERAL NOTES**

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.); MINIMUM COVER IS 18 INCHES INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE TRAFFIC FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORM WATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORM WATER SYSTEM DURING ALL PHASES OF CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH DESIGN WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM.

**STORM WATER SYSTEM MAINTENANCE SCHEDULE**

- GRASSES AND/OR SPECIFIED VEGETATION SHALL BE PLANTED AROUND AND WITHIN ALL VEGETATED SWALES IMMEDIATELY FOLLOWING CONSTRUCTION TO STABILIZE SLOPES AND PREVENT EROSION.
- ALL OUTFLOW STRUCTURES ARE TO BE INSPECTED AT LEAST THREE TIMES IN THE FIRST SIX MONTHS OF OPERATION. EVIDENCE OF CLOGGING, OR RAPID RELEASE OF FLOW SHALL BE REPORTED TO THE PROJECT ENGINEER, AND REMEDIATED IMMEDIATELY.
- GRASSES AND VEGETATED AREAS OF ALL STORM WATER DETENTION AND CONVEYANCE STRUCTURES SHALL BE INSPECTED AT LEAST TWICE A YEAR FOR EVIDENCE OF EROSION. AREAS WHERE EROSION PROBLEMS ARE OBSERVED SHALL BE RE-SEED AND, IF DEEMED NECESSARY BY THE TOWN ENGINEER, AN EROSION CONTROL BLANKET SHALL BE INSTALLED TO PREVENT FURTHER DAMAGE.
- TRASH, LITTER AND DEBRIS SHALL BE REMOVED FROM ALL SURFACE STORM WATER FACILITIES AT LEAST FOUR TIMES A YEAR TO PREVENT BLOCKAGE OF OUTFLOW STRUCTURES. IN LOCATIONS WHERE SIGNIFICANT VOLUMES OF DEBRIS ARE OBSERVED, THE ADJACENT STRUCTURES SHALL BE CAREFULLY INSPECTED TO IDENTIFY IF ANY DAMAGE HAS OCCURRED.
- ALL CATCH BASINS SHALL BE INSPECTED AT LEAST TWICE A YEAR. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM ALL STRUCTURES DURING THE SCHEDULED MAINTENANCE INSPECTIONS. ALL REMOVED MATTER SHALL BE DISPOSED OF AT A LICENSED OFF-SITE FACILITY.
- THE STRUCTURAL INTEGRITY OF ALL CATCH BASINS, INLET STRUCTURES, OUTFLOW STRUCTURES AND MANHOLES SHALL BE CHECKED AT LEAST TWICE A YEAR. STRUCTURAL FAULTS SHALL BE REPAIRED IMMEDIATELY.
- ALL ROADS AND PAVED PARKING AREAS SHALL BE SWEEP ANNUALLY IN THE SPRING TO REMOVE ACCUMULATED SEDIMENTS FROM THE WINTER MONTHS AND SEDIMENTS TO BE DISPOSED OF AT A LICENSED OFF-SITE FACILITY.
- GRASS SWALES AND CHECK DAMS SHALL BE INSPECTED AT LEAST TWICE A YEAR. DURING THESE INSPECTIONS ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND CHECK DAMS, AND DISPOSED OF AT A LICENSED OFF-SITE FACILITY.
- MAINTENANCE OF THE STORM WATER SYSTEM DURING CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF SITE CONTRACTOR.
- UPON COMPLETION OF THE CONSTRUCTION, MAINTENANCE OF THE STORM WATER SYSTEM SHALL BECOME THE RESPONSIBILITY OF THE OWNER SRB REALTY, ASSOCIATES, LLC. OR FUTURE OWNERS.
- OWNER TO SUBMIT ANNUAL STORM WATER INSPECTION AND MAINTENANCE REPORTS INCLUDING RECEIPTS TO THE TOWN ENGINEER.

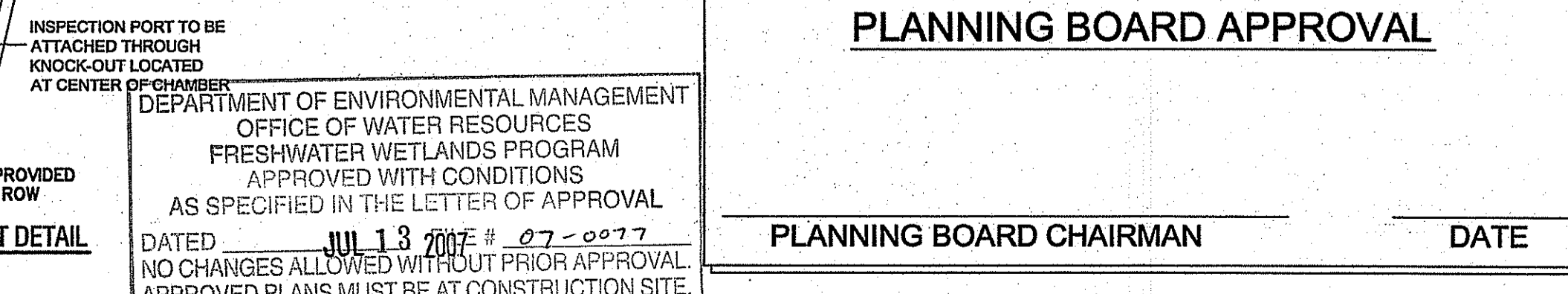
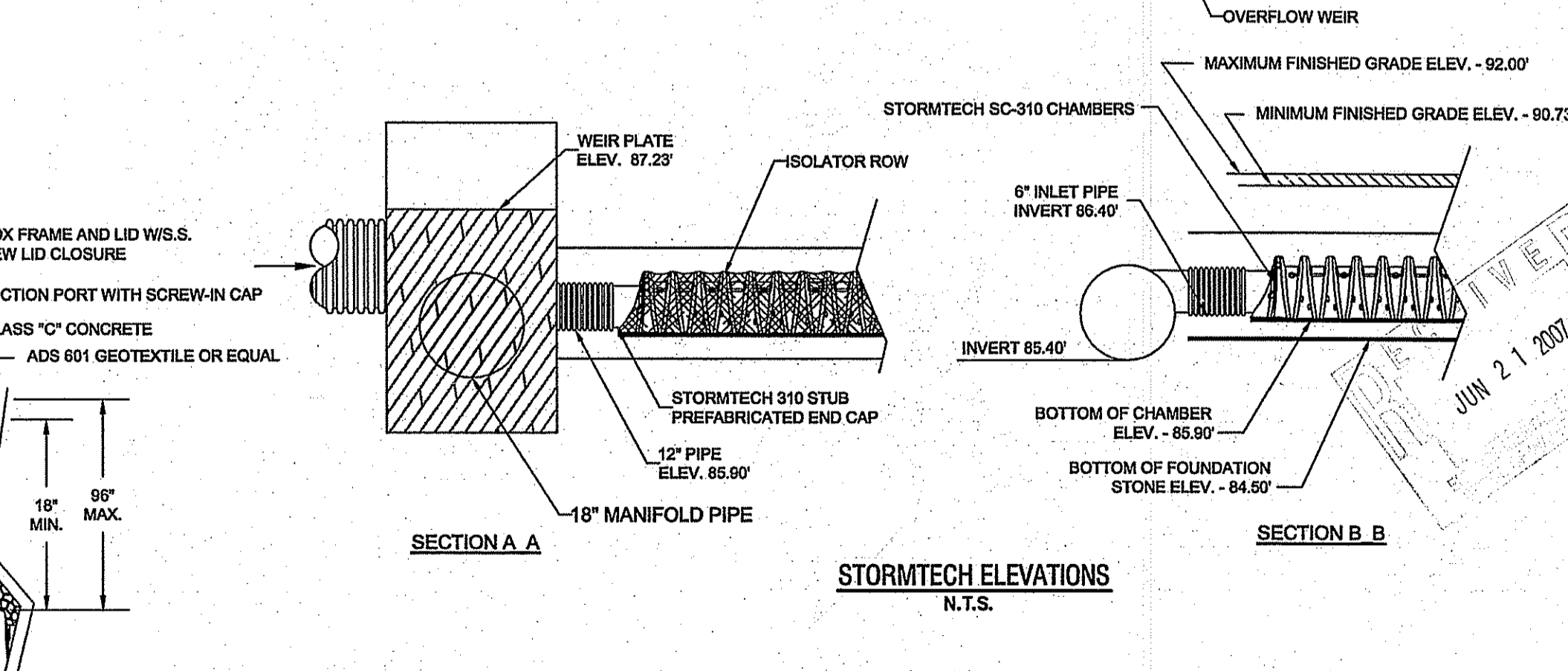
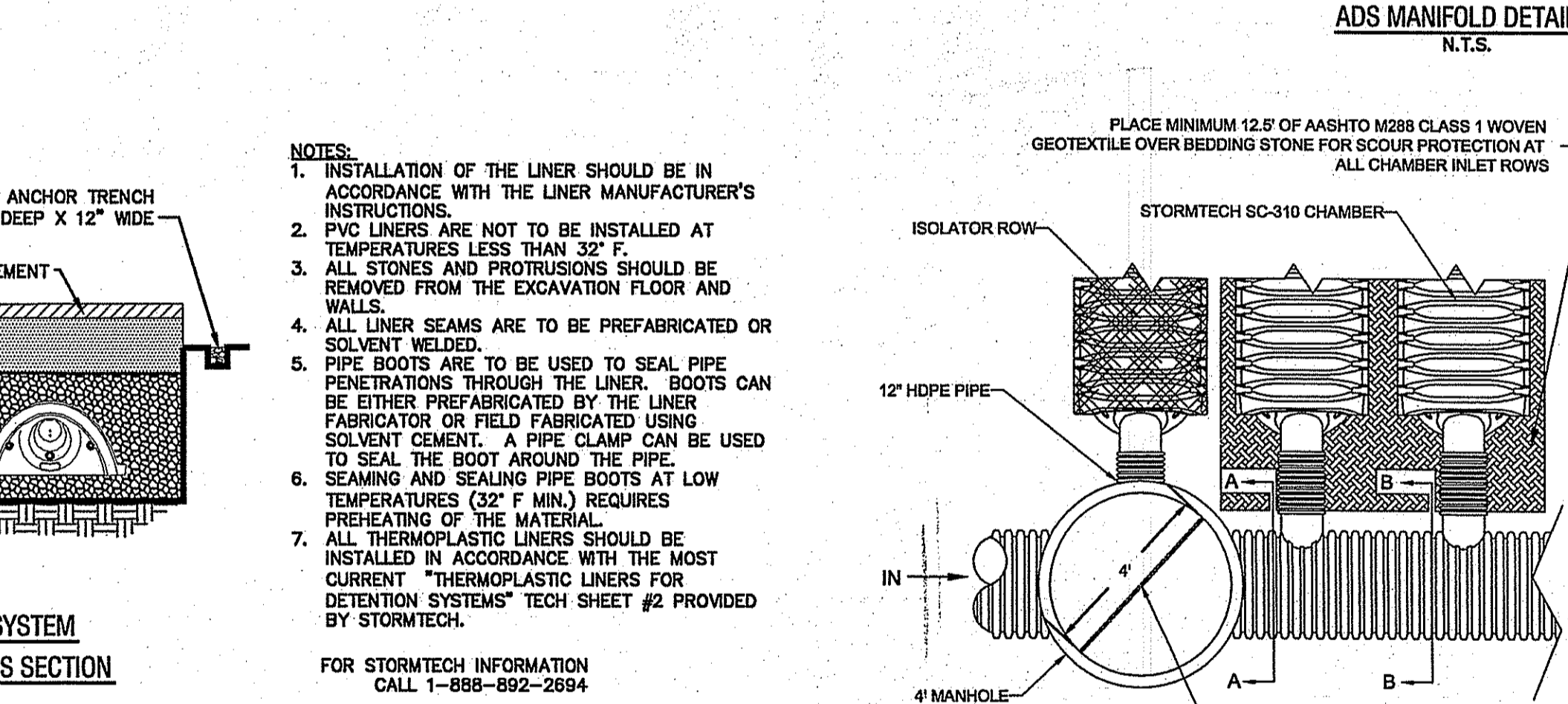
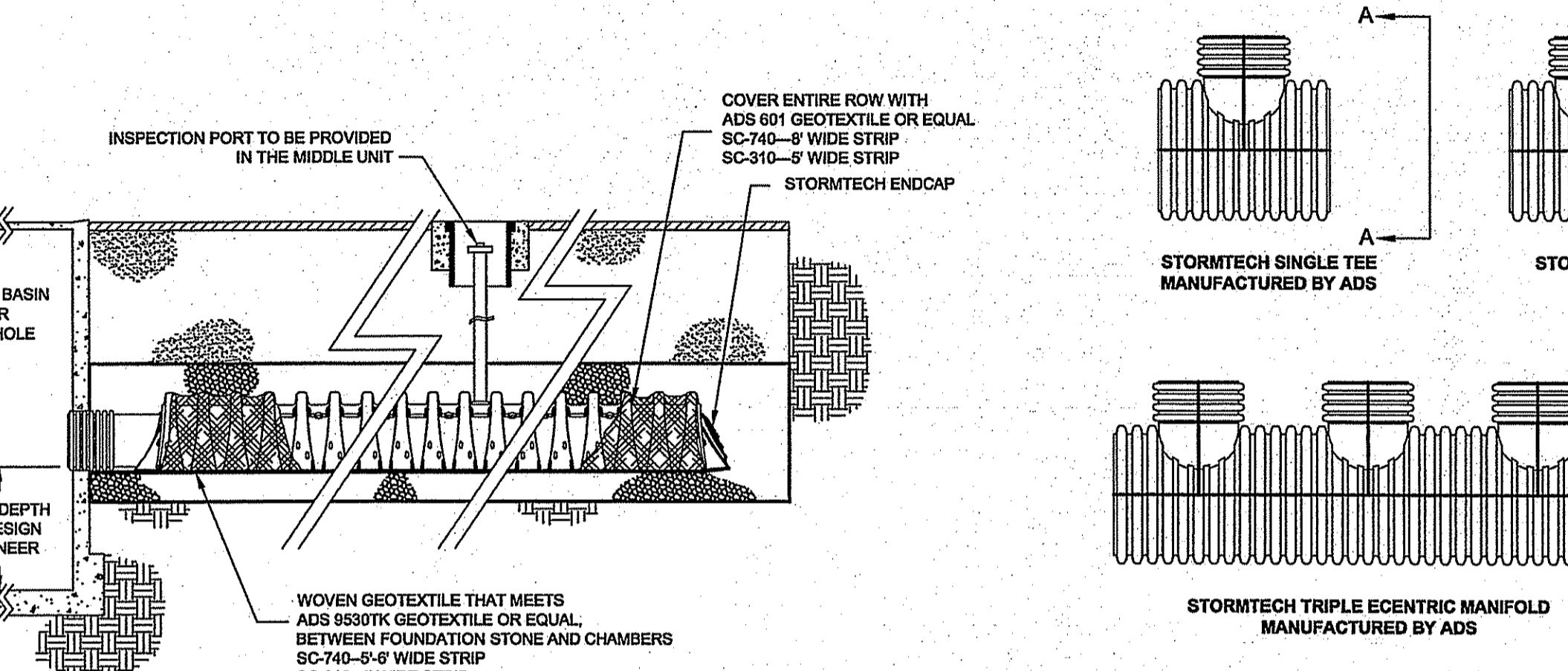


**ACCEPTABLE FILL MATERIALS STORMTECH SC-310 CHAMBER SYSTEMS**

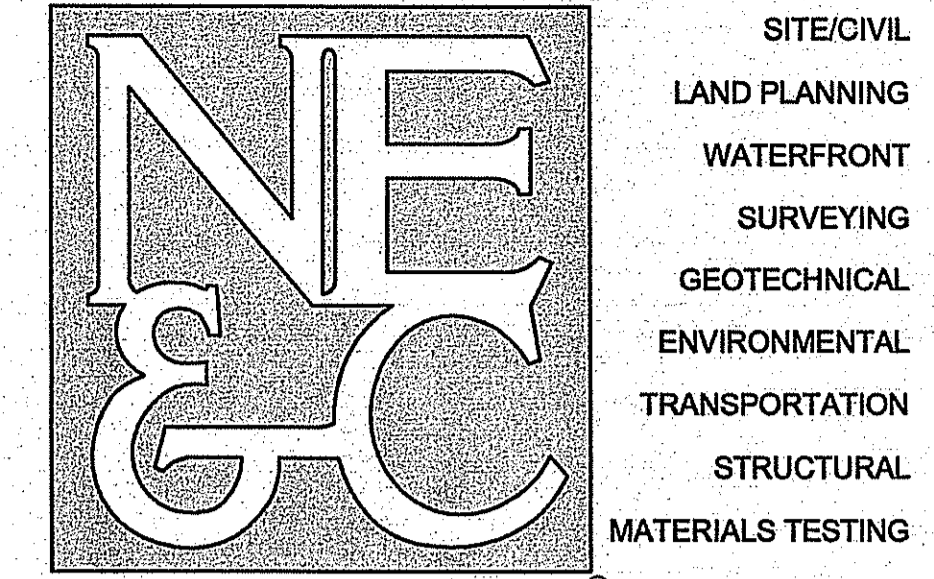
MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
FOUNDATION STONE BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE WASHED CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS WASHED, CRUSHED, ANGULAR NO. 4 STONE.

**STORMTECH ACCEPTABLE FILL MATERIALS**

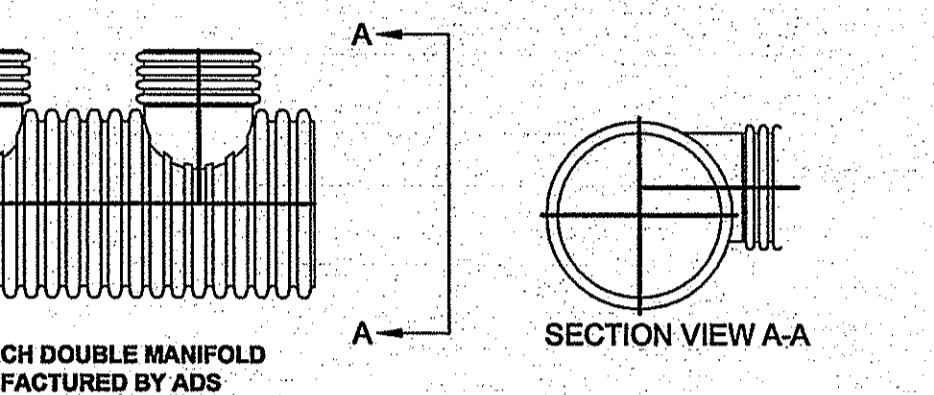


**NORTHEAST ENGINEERS & CONSULTANTS, INC.**



A KNOWLEDGE CORPORATION®  
55 JOHN CLARKE ROAD MIDDLETOWN RHODE ISLAND 02942  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM

- SITE/CIVIL
- LAND PLANNING
- WATERFRONT
- SURVEYING
- GEOTECHNICAL
- ENVIRONMENTAL
- TRANSPORTATION
- STRUCTURAL
- MATERIALS TESTING



MANIFOLDS ARE DESIGNED TO BE COUPLED TO STORMTECH PREFABRICATED END CAPS. WHEN USING STANDARD END CAPS, CORRUGATED PIPE UP TO 10 INCHES CAN BE INSERTED DIRECTLY INTO THE END CAP. FOR 12" INLET PIPES, A CORRUGATED TO SMOOTH PIPE ADAPTER IS REQUIRED.

STUB SIZE	48"	42"	36"	30"	24"	18"	12"	10"	8"	6"
12"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
10"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
8"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL

AVAIL - STANDARD HEADERS AVAILABLE  
ADS MANIFOLD DETAILS N.T.S.

NO.	REVISIONS PER RIDEM COMMENTS	DATE
5	REVISIONS PER RIDEM COMMENTS	6-15-07
4	REVISIONS FOR WETLAND SUBMITTAL	2-7-07
3	REVISED PER TOWN COMMENTS	1-2-07
2	DETAIL REVISIONS SHEET NUMBER	12-8-06
1	DRAINAGE REVISIONS	8-11-06

Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: NTS Date: AUGUST 2006

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOTS 62  
A.P. 108B, LOTS 4

Client/Owner:  
ANTHONY A. NUNES, INC.

Issued for:  
PERMITTING

Drawing Title:  
**DETAILS-1**

Drawing Number:  
**D-1**

Sheet **8** of **13**

Project Number:  
**05345**

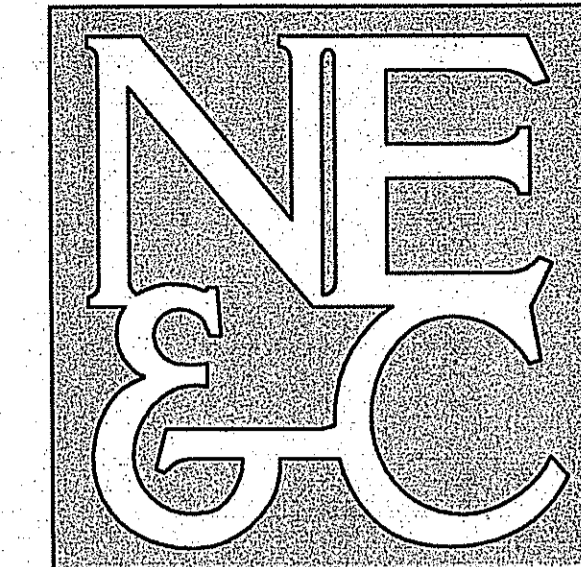
Survey Index: \_\_\_\_\_

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**PLANNING BOARD APPROVAL**

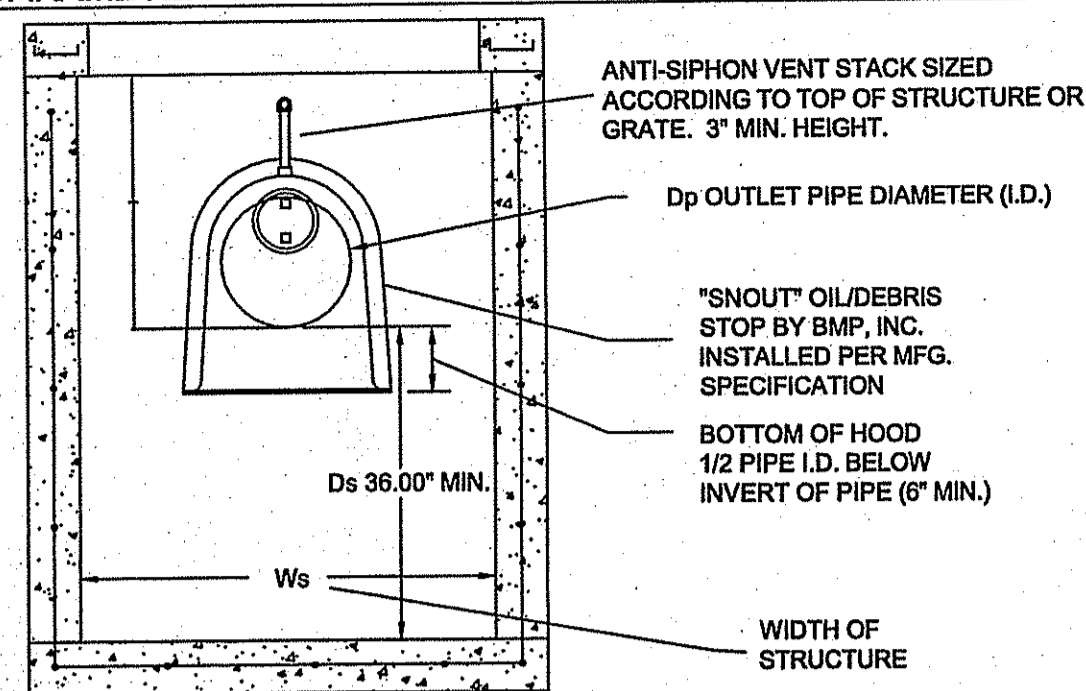
PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED **JUL 13 2007**  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.



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55 JOHN CLARKE ROAD MIDDLETOWN RHODE ISLAND 02842  
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DESIGN PARAMETER GUIDELINES FOR WATER QUALITY IMPROVEMENT



RULE #1 - AT AN ABSOLUTE MINIMUM, STRUCTURE INTERNAL DIMENSIONS MUST BE AT LEAST LARGE ENOUGH TO ACCOMMODATE EXTERNAL DIMENSIONS OF THE SNOUT, AND ALLOW FOR A PERSON TO INSTALL IT. REFER TO BMP, INC. CAD DETAILS FOR PART DIMENSIONS.

RULE #2 - USE ONLY "F" SERIES SNOUTS FOR RECTANGULAR OR SQUARE STRUCTURES, AVAILABLE IN 12", 18", 24", 30", 48", AND 96" SIZES. USE ONLY "R" SERIES SNOUTS FOR ROUND STRUCTURES, AVAILABLE IN 12", 18", 24", AND, 30" SIZES.

SUMP DEPTH (Ds) - SUMP DEPTH SHOULD BE A MINIMUM OF 36" FOR ANY NEW CONSTRUCTION FOR PIPES 12" AND LESS. FOR 18" PIPE MIN. DEPTH SHOULD BE 48". OPTIMAL SIZING IS AT LEAST 2.5X TO 3X OUTLET PIPE DIAMETER (Dp) FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY.

STRUCTURE DIMENSIONS - PLAN DIMENSIONS FOR A STRUCTURE SHOULD BE APPROX. 7X AREA OF OUTLET PIPE FOR MAXIMUM POLLUTANT REMOVAL EFFICIENCY AND MINIMAL CLEANOUT FREQUENCY. (SEE MAINTENANCE FREQUENCY CALCULATION SHEET FOR MORE INFORMATION)

IMPORTANT NOTICE: DO NOT CONFUSE PIPE O.D. WITH PIPE I.D. A SNOUT FITS OVER A PIPE, NOT IN IT. THUS, SNOUT MUST BE SIZED TO FIT OVER PIPE OPENING IN STRUCTURE. SNOUTS ARE AVAILABLE FOR ROUND STRUCTURES TO ACCOMMODATE PIPES OF 30" O.D. MAX. FOR PIPES 30" O.D. AND ABOVE, USE SQUARE OR RECTANGULAR STRUCTURES.

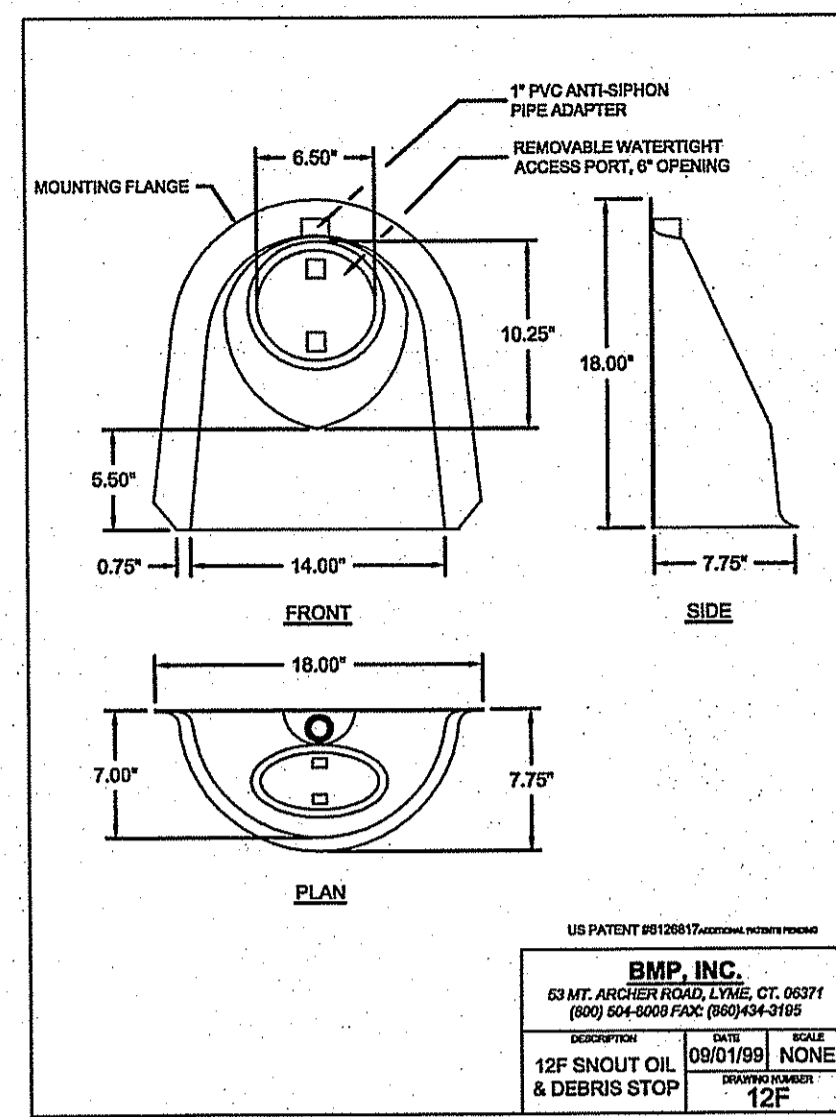
U.S. Patent # 6128817

STRUCTURE OUTLET HOLE SIZE	SNOUT SIZE
11.9" O.D. OR LESS	12 F or R
12.0"-17.9" O.D.	18 F or R
18.0"-23.9" O.D.	24 F or R
24.0"-29.9" O.D.	30 F or R
30.0"-47.9" O.D.	48 F
48.0"-95.9" O.D.	96 F

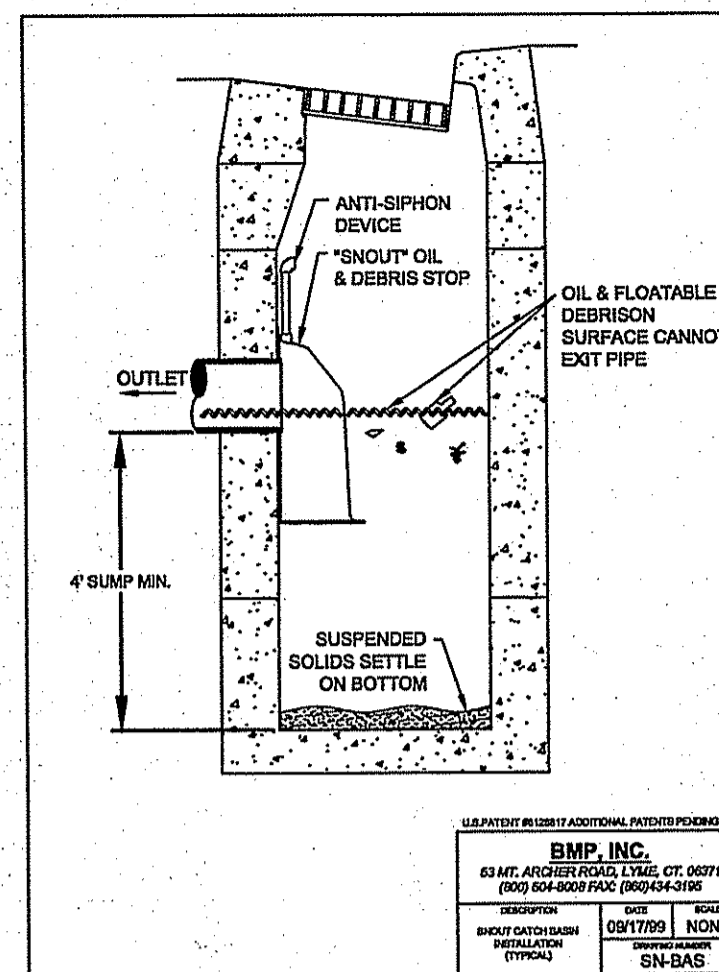
BMP, INC.  
63 MT. ARCHER ROAD, LYME, CT. 06371  
(800) 504-8008 FAX: (860) 434-3185

DESCRIPTION	DATE	SCALE
SNOUT SIZING CHART	04/24/00	NONE
	DRAWING NUMBER	SP-SI

SNOUT SIZING CHART  
N.T.S.

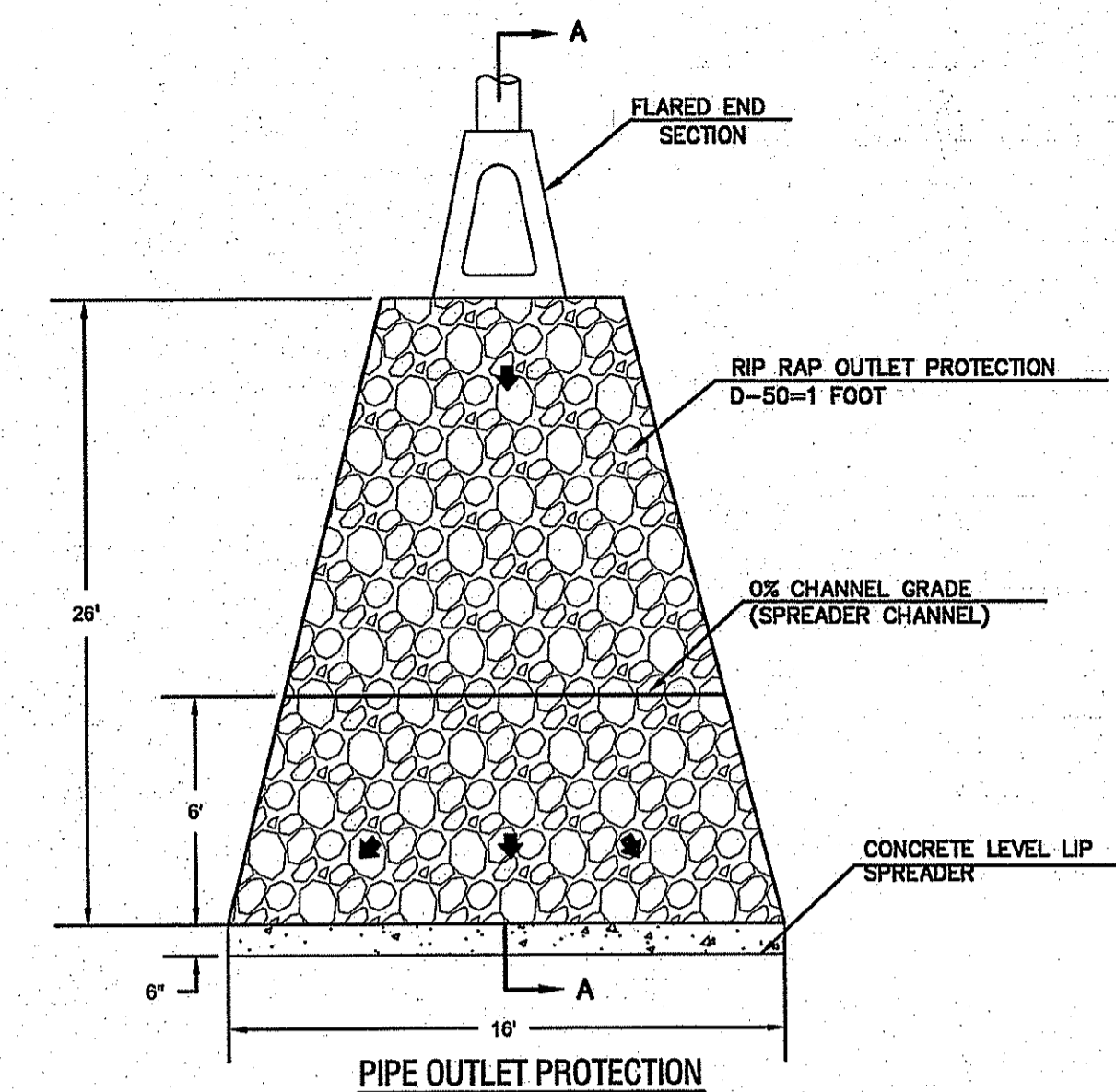


SNOUT OIL/WATER SEPARATOR DETAIL (TYPICAL)  
N.T.S.

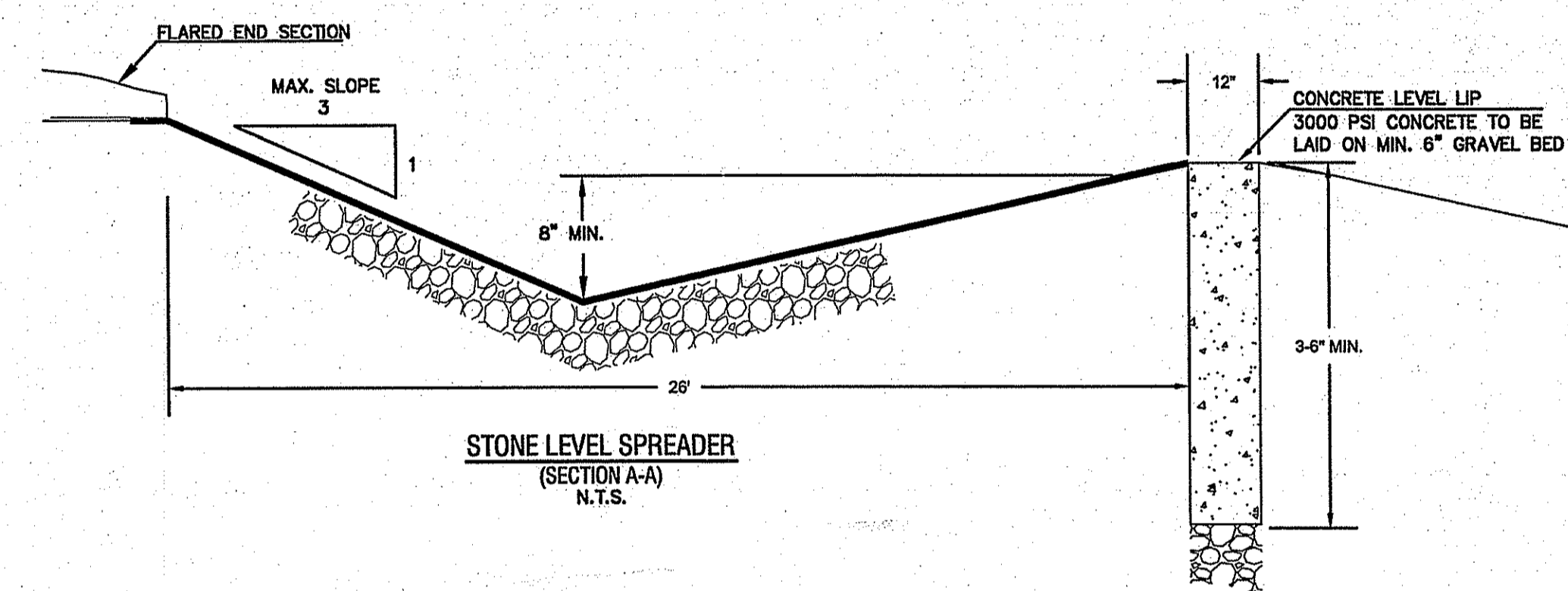


SNOUT CATCH BASIN INSTALLATION  
N.T.S.  
REFER DETAIL SHEET 7

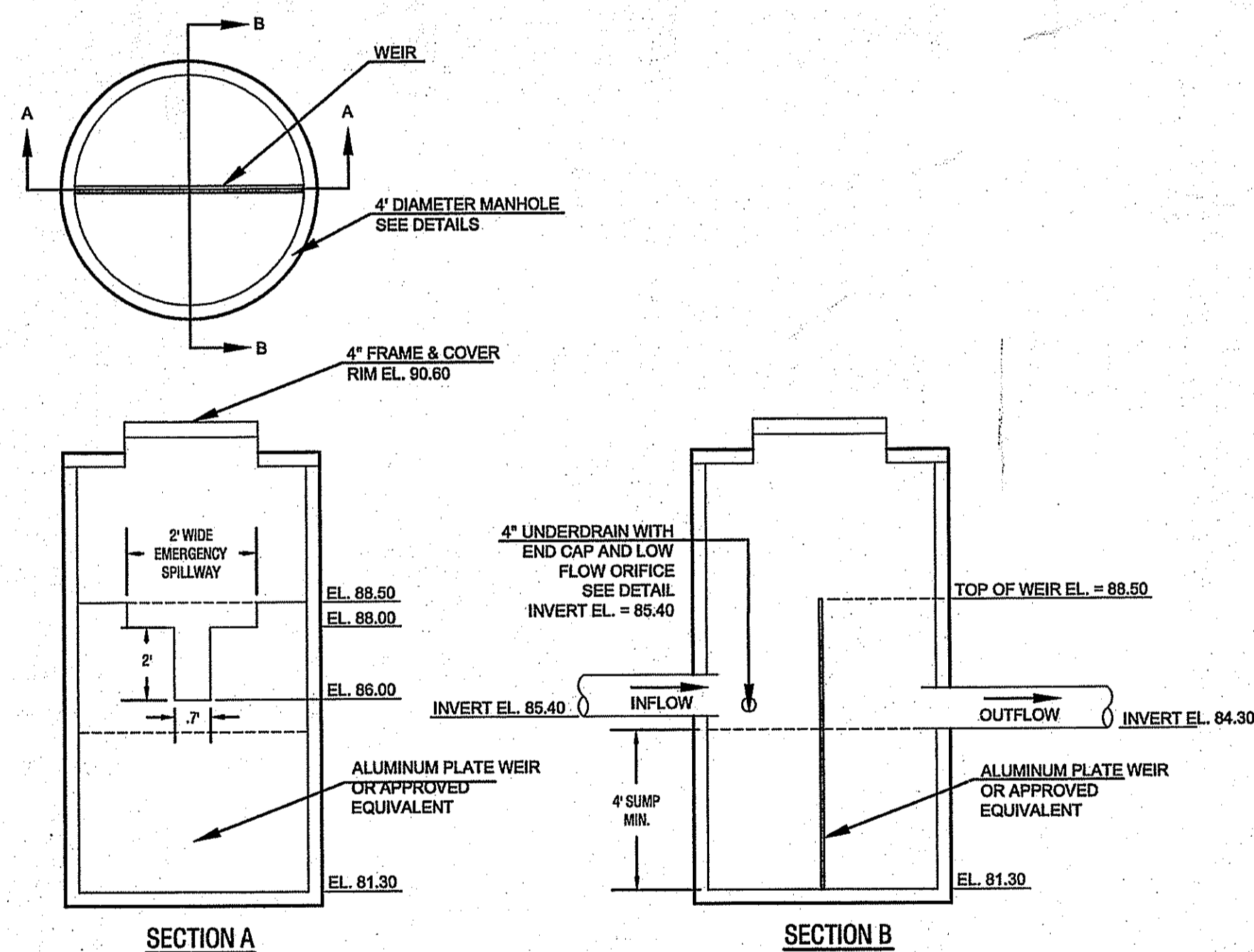
NOTE: SNOUT OIL/WATER SEPARATOR TO BE INSTALLED IN ALL CATCH BASINS/ MANHOLES UNLESS NOTED OTHERWISE



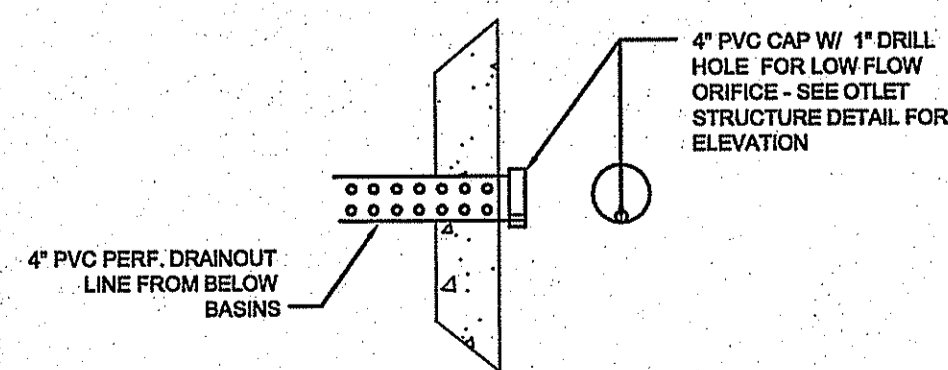
PIPE OUTLET PROTECTION  
N.T.S.



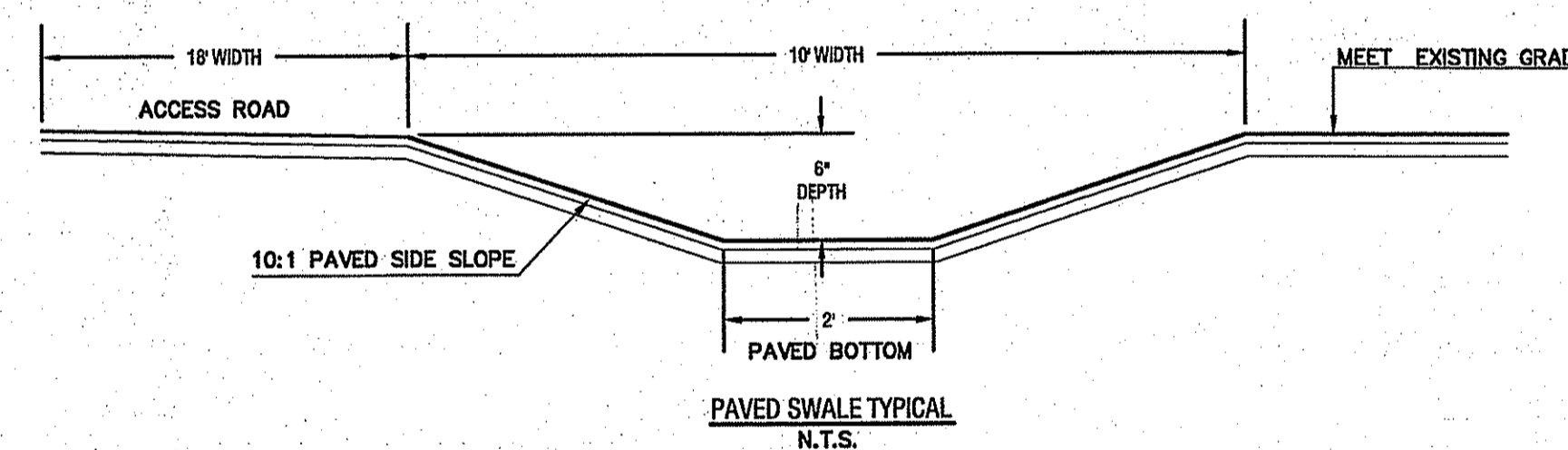
STONE LEVEL SPREADER  
(SECTION A-A)  
N.T.S.



OUTLET CONTROL STRUCTURE  
MANHOLE # 1.03  
N.T.S.



WATER QUALITY DRAIN  
N.T.S.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUL 13 2007 FILE # 07-0077  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

PLANNING BOARD APPROVAL

PLANNING BOARD CHAIRMAN

DATE

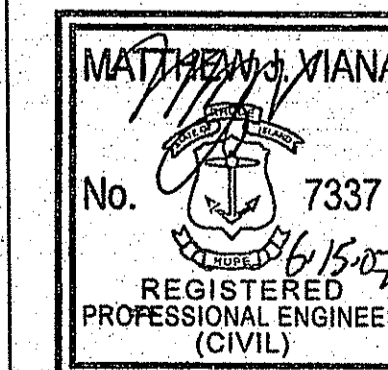
2	REVISIONS PER RIDEM COMMENTS	6-15-07	
1	REVISIONS FOR WETLAND SUBMITTAL	2-7-07	
No.	Revision	Date	App.
Designed by:	Drawn by: ACA	Checked by:	
Scale:	NTS	Date:	AUGUST 2006

ARNOLD LUMBER  
A.P. 108A, LOTS 62  
A.P. 108B, LOTS 4

Client/Owner:  
ANTHONY A. NUNES, INC.

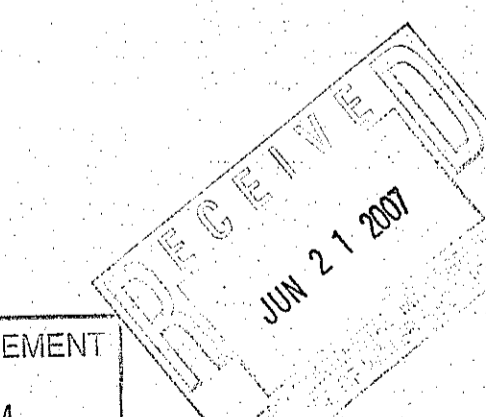
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Drawing Title:  
DETAILS-2



Drawing Number:  
D-2  
Sheet: 9 of 13  
Project Number:  
05345  
Survey Index:

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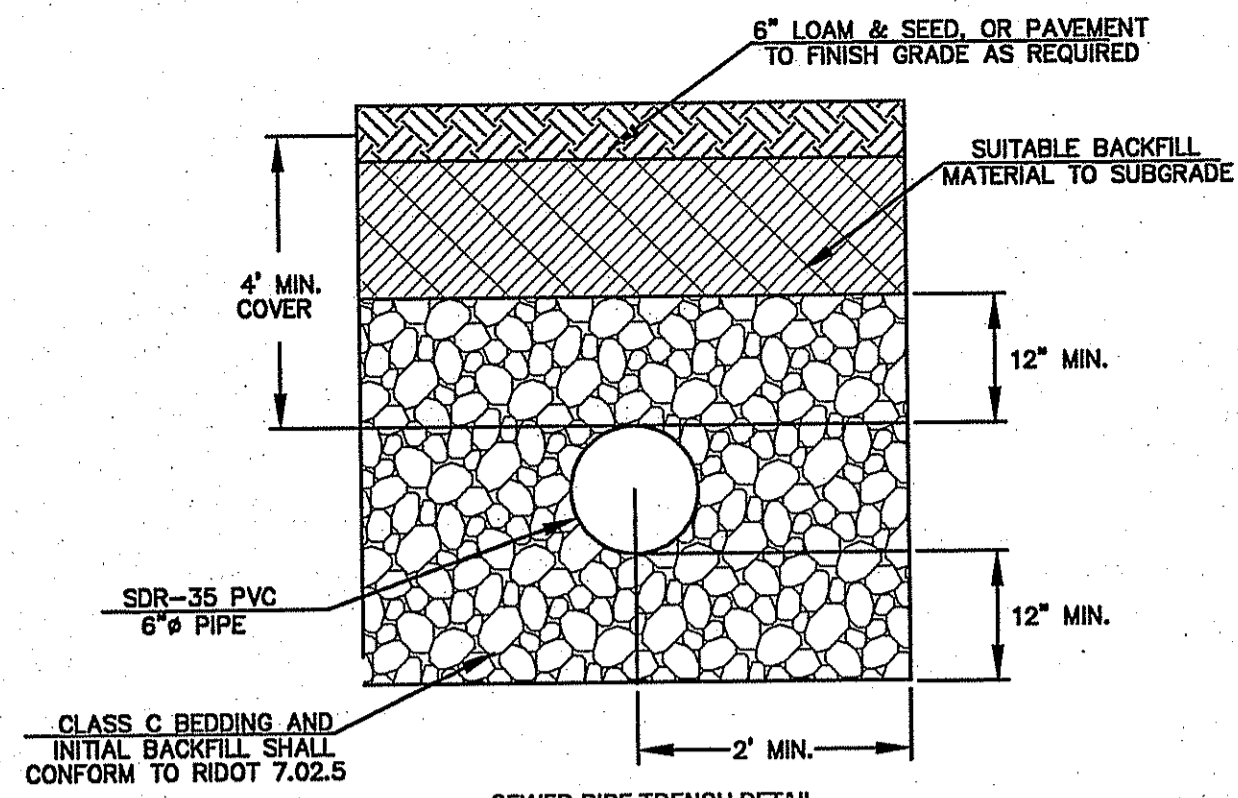


**GENERAL NOTES:**

1. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, SITE CONDITIONS AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING THE WORKS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS WITH THE TOWN OF BRISTOL. NO CONSTRUCTION IS TO COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED.
3. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE TOWN OF BRISTOL AND THE RI DEPARTMENT OF TRANSPORTATION.
4. THE STATE OF RHODE ISLAND STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 1997 AND ALL CURRENT ADDENDA, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF, AS IF ATTACHED HERETO.
5. DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
6. THE CONTRACTOR SHALL MAKE EXPLORATORY EXAMINATIONS AND LOCATE ANY EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO BE MADE TO PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT. THE CONTRACTOR IS REQUIRED TO VERIFY THE LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER UTILITIES NOT ON RECORD OR SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REPAIR AND REINSTATEMENT OF UTILITY SERVICES DAMAGED DURING CONSTRUCTION.
7. RELOCATION OF ANY UTILITIES SHALL BE AT THE OWNERS EXPENSE AND BE COMPLETED WITH THE UTILITY WORK. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATION REQUIRED PRIOR TO THE START OF CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, WALKS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
9. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
10. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER."
11. ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING PLANS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM ALL AVAILABLE INFORMATION. (PLEASE CONTACT DIG SAFE PRIOR TO CONSTRUCTION AT 1-888-DIG-SAFE AND/OR ALL LOCAL UTILITY COMPANIES).
12. WATER AND SEWER MAINS SHALL MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 10' AT ALL TIMES. CONSULT R.I.D.E.M. RULES AND REGULATIONS FOR ANY DEVIATIONS FROM THIS.
13. UPON COMPLETION OF SEWER MAIN IMPROVEMENTS CONTRACTOR SHALL PERFORM VACUUM / PRESSURE TESTING PER TOWN OF BRISTOL PUBLIC WORKS DIRECTION. CONTRACTOR SHALL ALSO PROVIDE TOWN W/ CD OR DVD OF CCTV INSPECTION OF NEW MAINS.
14. ALL SEWER MANHOLE FRAMES AND COVERS SHALL PROVIDE 30" CLEAR ACCESS AND HAVE THE WORD "SEWER" CAST IN CENTER W/ 3" LETTERS.
15. AS-BUILT DRAWINGS SHALL BE PROVIDED IN ACCORDANCE W/ BPWD PRIOR TO ACCEPTANCE OF IMPROVEMENTS.

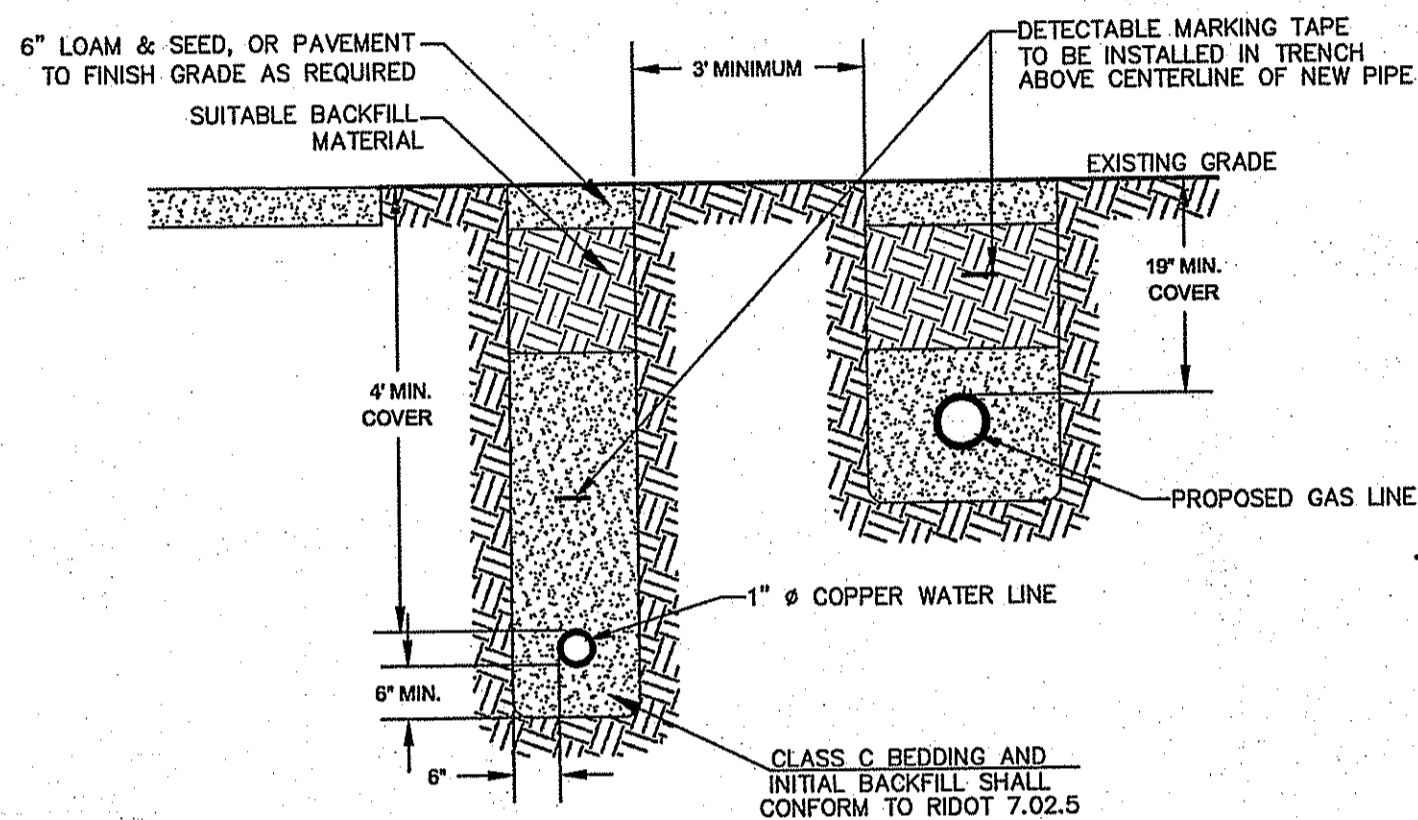
**TRENCH NOTES:**

1. UNSUITABLE MATERIAL SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 12-INCHES BELOW THE DESIGN INVERT ELEVATION.
2. TRENCH PROTECTION SHALL BE REQUIRED IN ACCORDANCE WITH OSHA REGULATIONS, AND AS OTHERWISE REQUIRED TO PROTECT UTILITIES, ROADWAYS, AND ADJACENT STRUCTURES.
3. SEWER AND DRAIN PIPES SHALL BE LAID BEGINNING AT THE DOWNSTREAM END OF THE PIPE LINE, IN ACCORDANCE WITH RIDOT SPECIFICATION 701.03.4
4. ALL PVC SEWER PIPES SHALL BE IPEX RING-TITE DR 35, OR SIMILAR APPROVED.
5. ALL SEWER PIPE AND GASKETS SHALL CONFORM TO ASTM 3034 AND ASTM F678.
6. BACKFILL AND BEDDING MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6" IN HEIGHT. THESE LAYERS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (AASHTO T180). ALL TRENCH BACKFILL SHALL BE 100% REPLACEMENT OF MATERIALS.
7. SUITABLE BACKFILL SHALL BE FREE OF LOAM, CLAY, ORGANIC MATTER AND PARTICLES LARGER THAN 2 INCHES IN DIAMETER.
8. SEWER AND DRAINAGE PIPE TRENCHES SHALL BE BEDDED WITH CRUSHED STONE OR SCREENED GRAVEL. THESE MATERIALS MUST CONFORM TO RIDOT STANDARD M.01.09 TYPE II MATERIAL.
9. WATER PIPE TRENCHES MUST BE BEDDED WITH SAND CONTAINING NO PARTICLES LARGER THAN 3/8". THIS MATERIAL MUST CONFORM TO AASHTO M6 REQUIREMENTS.



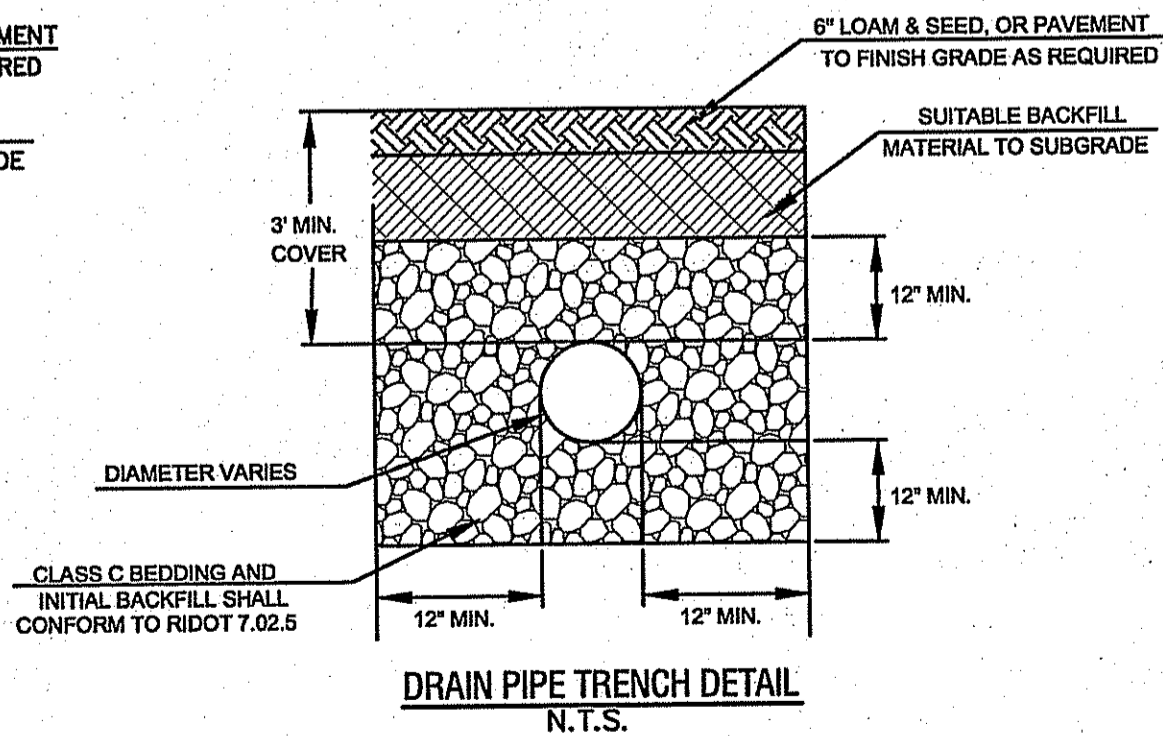
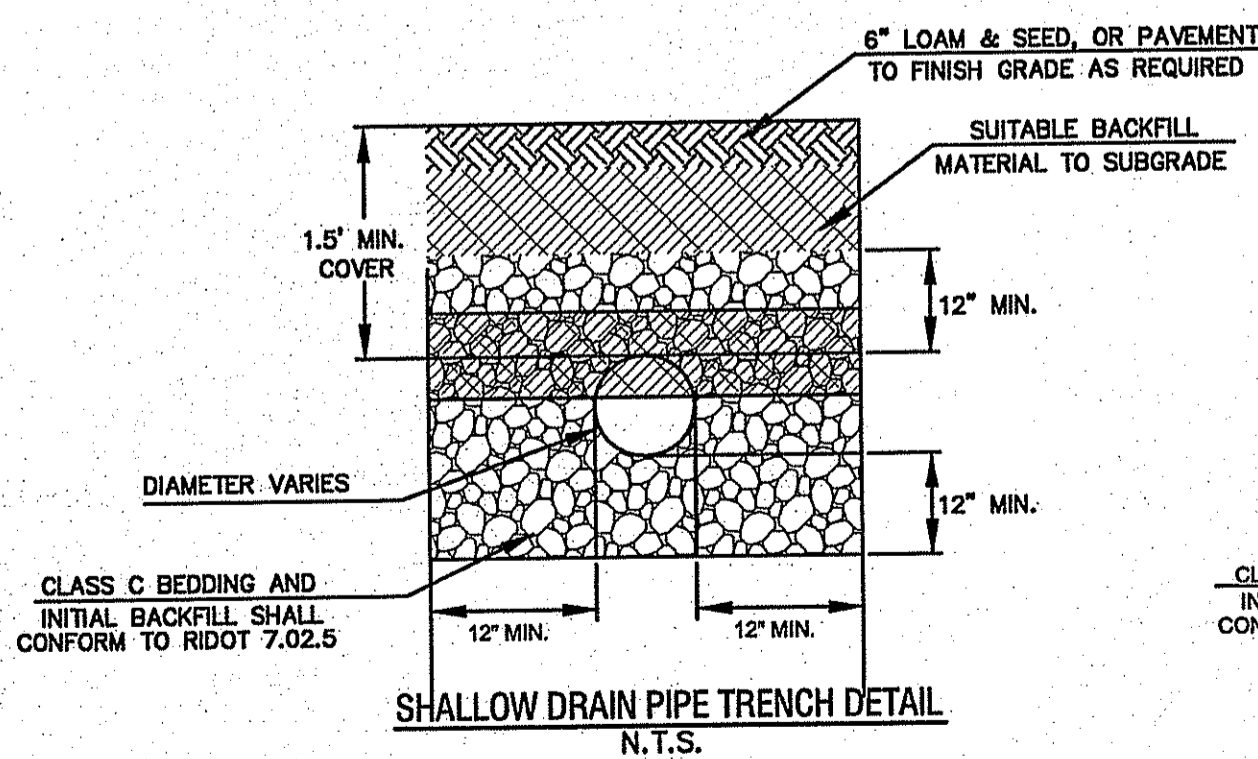
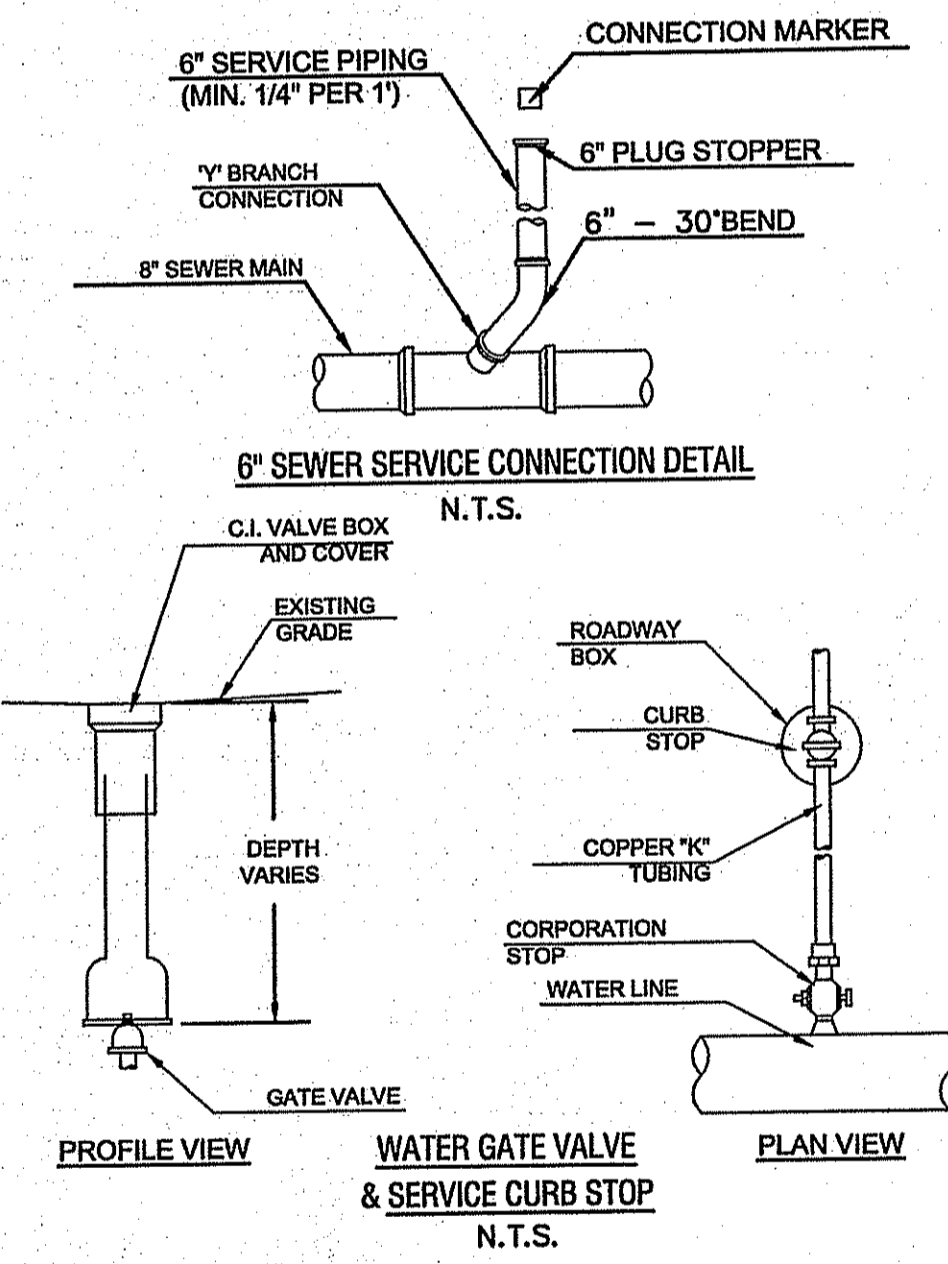
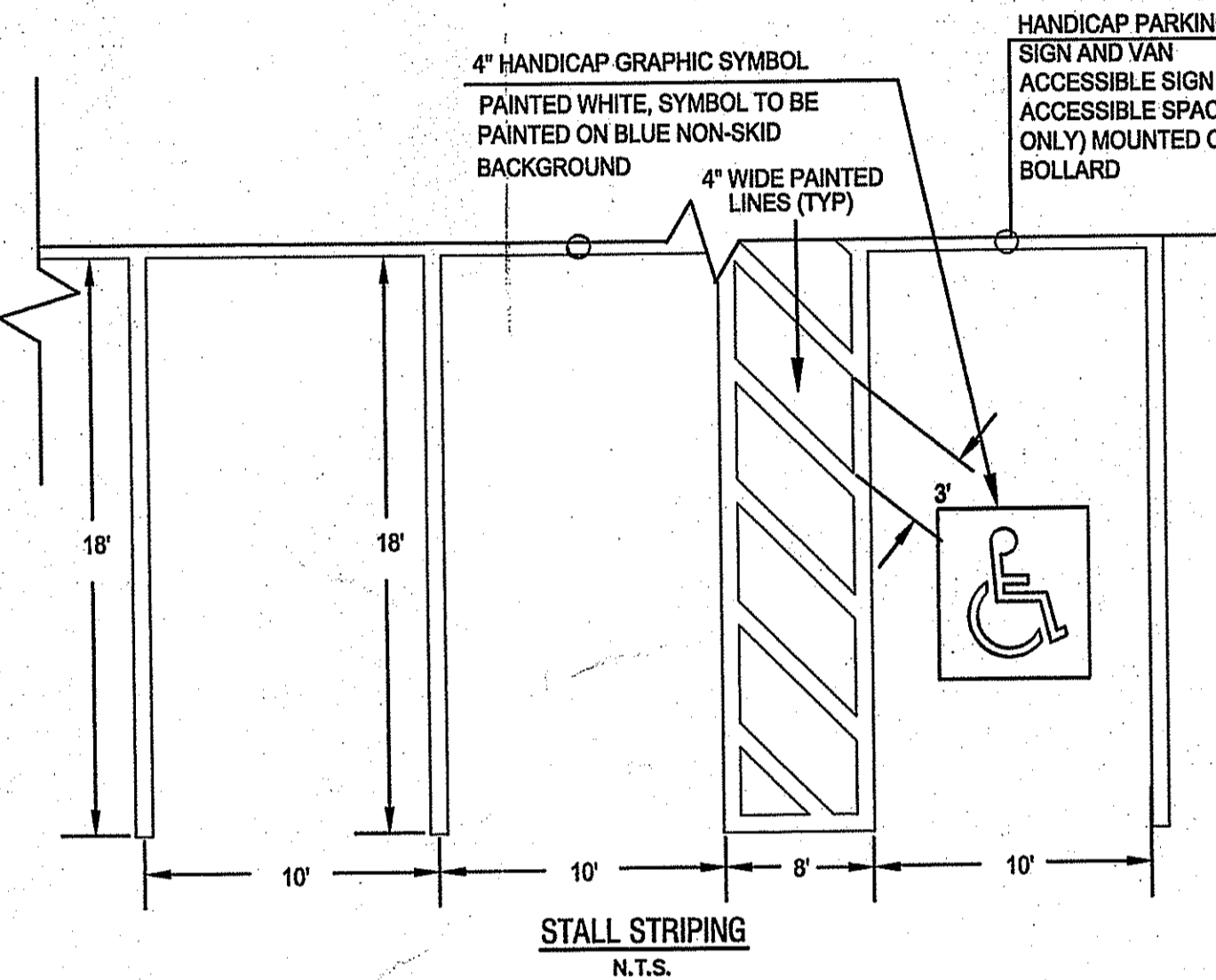
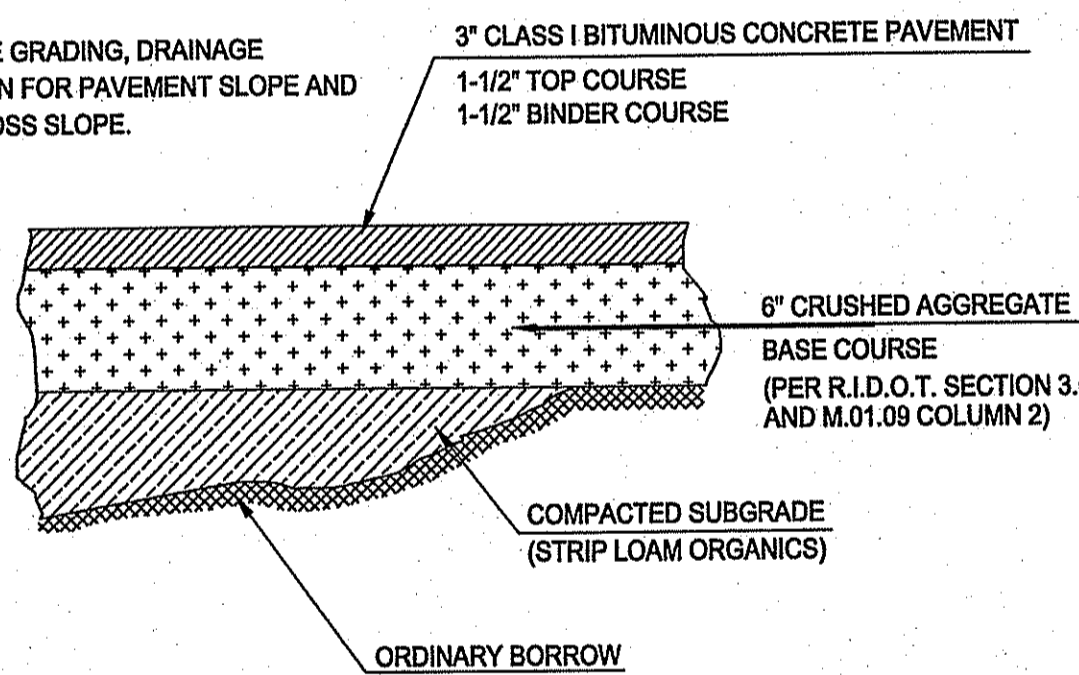
**SEWER PIPE NOTES:**

1. UNSUITABLE MATERIAL SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 12-INCHES BELOW THE DESIGN INVERT ELEVATION.
2. TRENCH PROTECTION SHALL BE REQUIRED IN ACCORDANCE WITH OSHA REGULATIONS, AND AS OTHERWISE REQUIRED TO PROTECT UTILITIES, ROADWAYS, AND ADJACENT STRUCTURES.
3. PIPES SHALL BE LAID BEGINNING AT THE DOWNSTREAM END OF THE PIPE LINE, IN ACCORDANCE WITH RIDOT SPECIFICATION 701.03.4.
4. ALL PVC SEWER PIPES SHALL BE IPEX RING-TITE DR 35, OR SIMILAR APPROVED.
5. ALL SEWER PIPE AND GASKETS SHALL CONFORM TO ASTM 3034 AND ASTM F678.
6. BACKFILL MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12" IN HEIGHT. THESE LAYERS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (AASHTO T180).



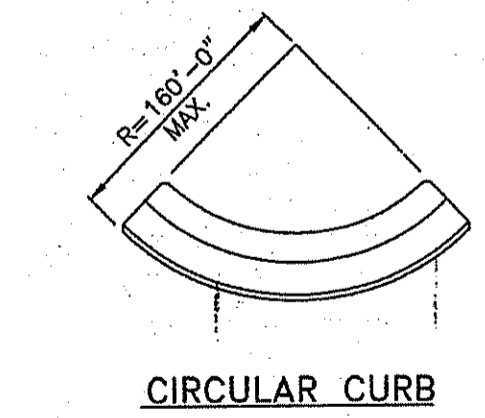
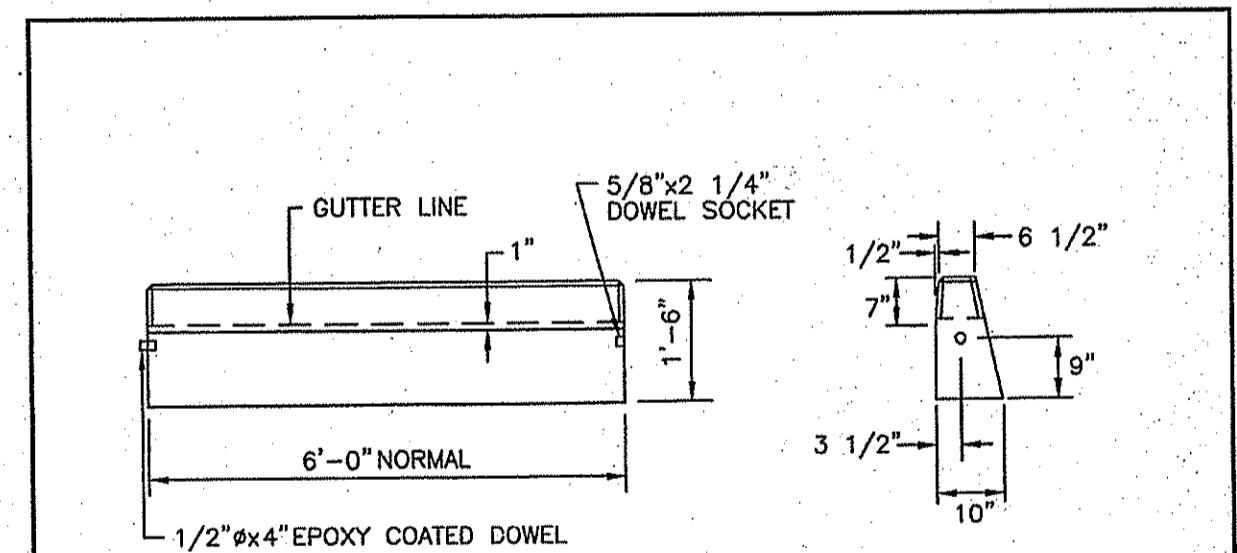
**NOTE:**

- SEE SITE LAYOUT PLAN FOR PAVEMENT WIDTH AND LOCATION.
- SEE GRADING, DRAINAGE PLAN FOR PAVEMENT SLOPE AND CROSS SLOPE.



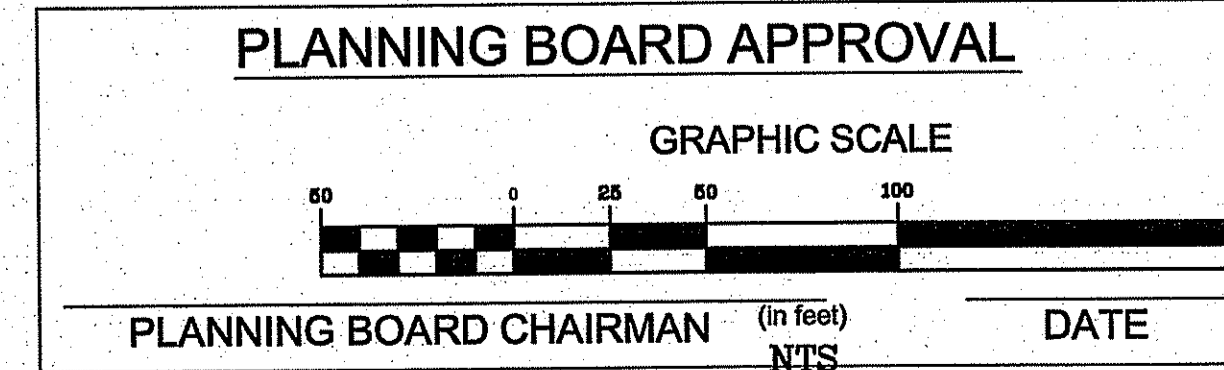
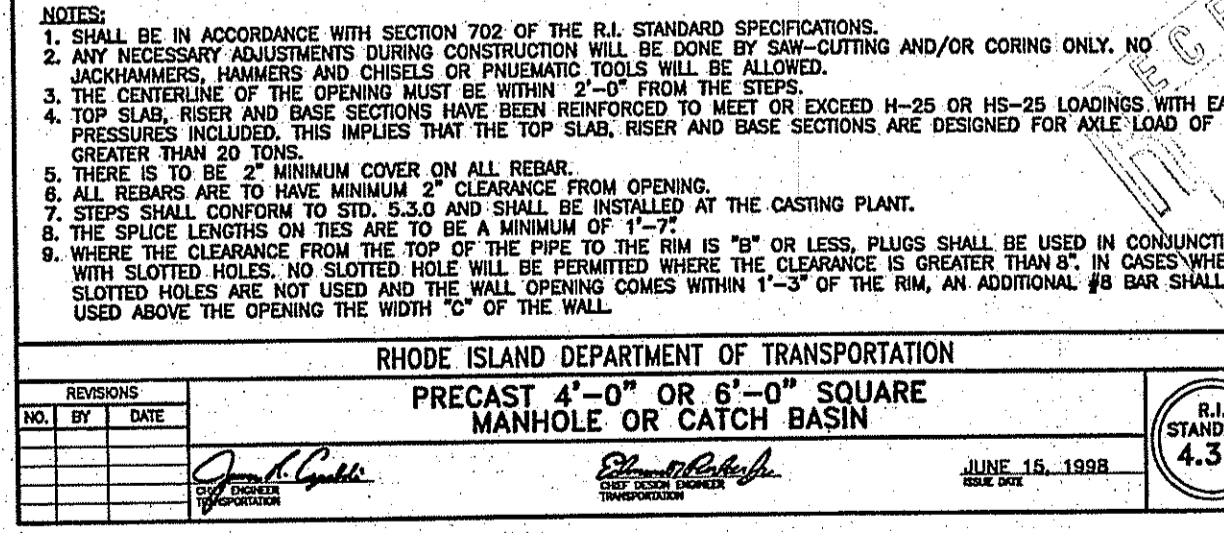
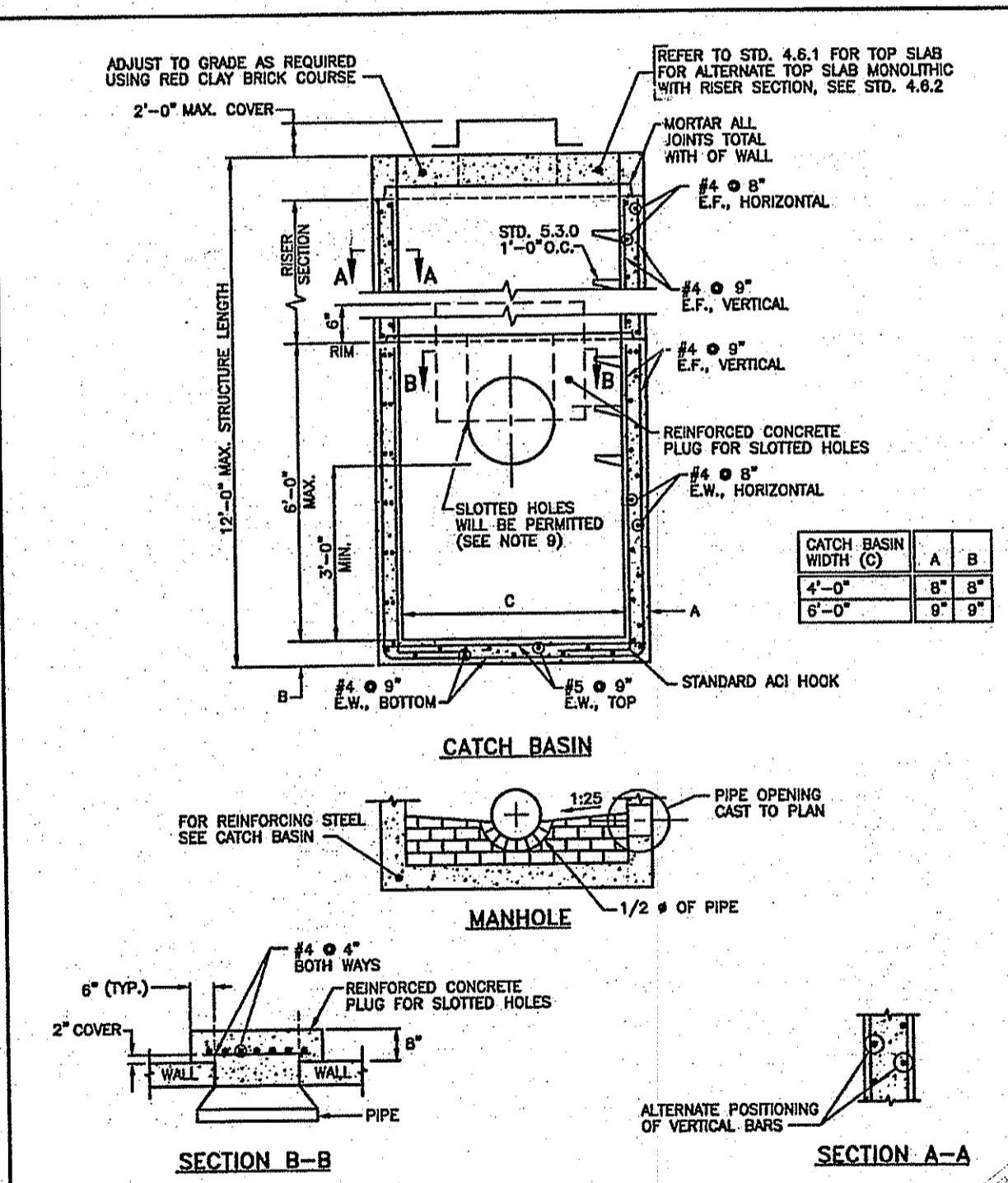
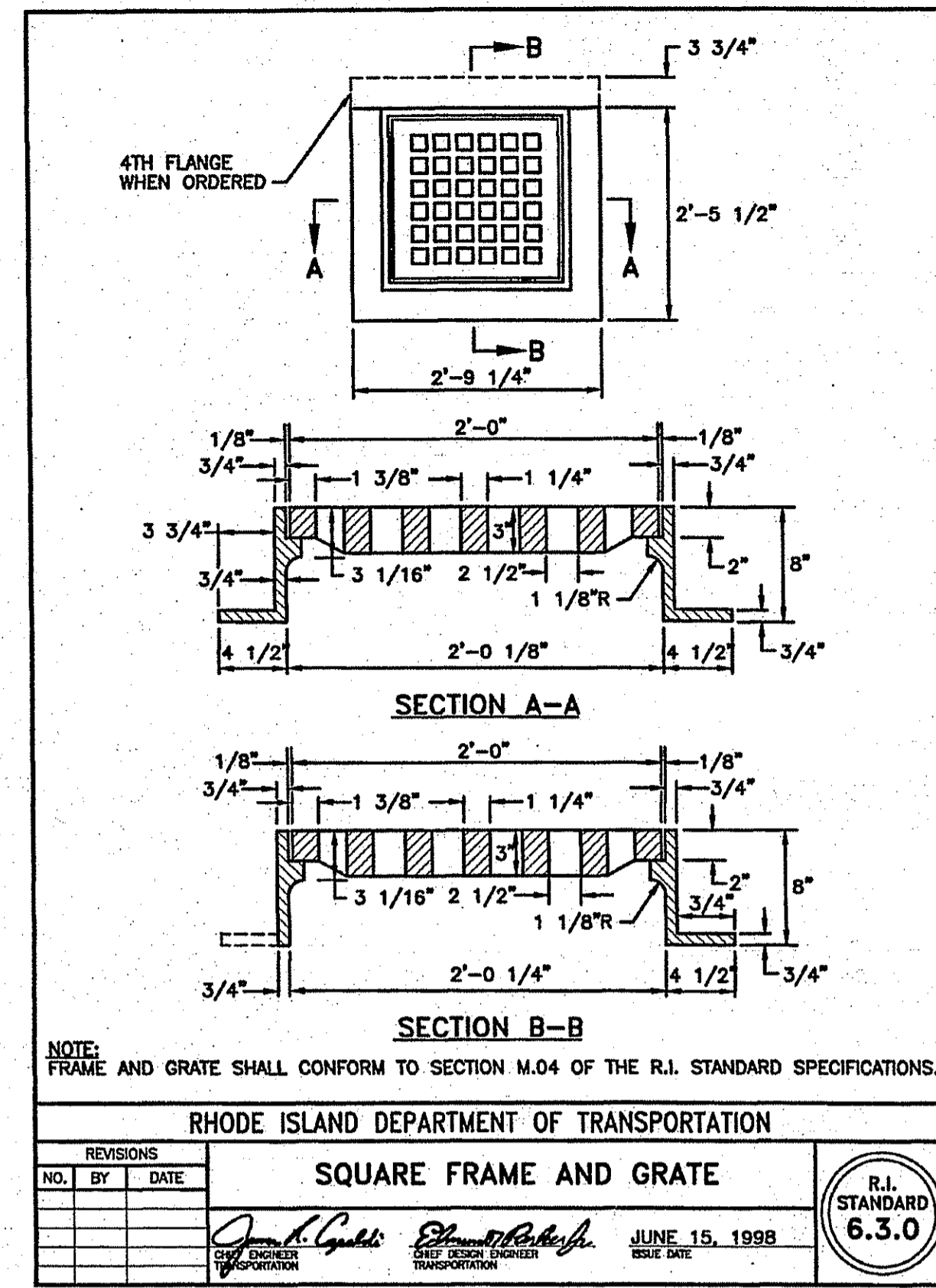
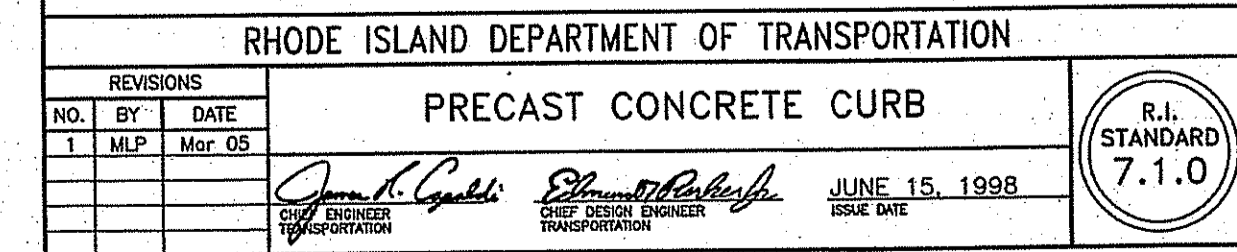
**DRAIN PIPE NOTES:**

1. UNSUITABLE MATERIAL SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 12-INCHES BELOW THE DESIGN INVERT ELEVATION.
2. TRENCH PROTECTION SHALL BE REQUIRED IN ACCORDANCE WITH OSHA REGULATIONS, AND AS OTHERWISE REQUIRED TO PROTECT UTILITIES, ROADWAYS, AND ADJACENT STRUCTURES.
3. PIPES SHALL BE LAID BEGINNING AT THE DOWNSTREAM END OF THE PIPE LINE, IN ACCORDANCE WITH RIDOT SPECIFICATION 701.03.4.4. BACKFILL MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12" IN HEIGHT. THESE LAYERS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (AASHTO T180).

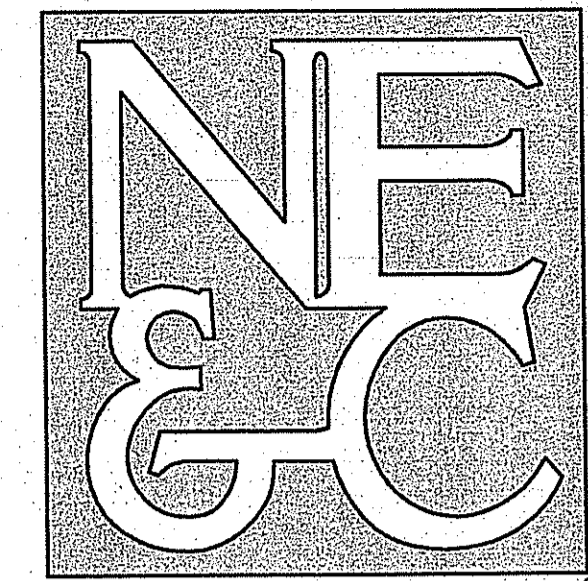


**NOTES:**

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.



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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED JUL 13 2007 FILE # 07-0077  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.  
Matthew D. Wenczek

No.	Revision	Date	App.
5	REVISIONS PER RIDEM COMMENTS	6-15-07	
4	REVISIONS FOR WETLAND SUBMITTAL	2-7-07	
3	REVISIONS PER TOWN COMMENTS	1-2-07	
2	DETAIL REVISIONS/ SHEET NUMBER	12-8-06	
1	DRAINAGE REVISIONS	8-11-06	

Project Title:  
**ARNOLD LUMBER  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4**

Client/Owner:  
**ANTHONY A. NUNES, INC.**

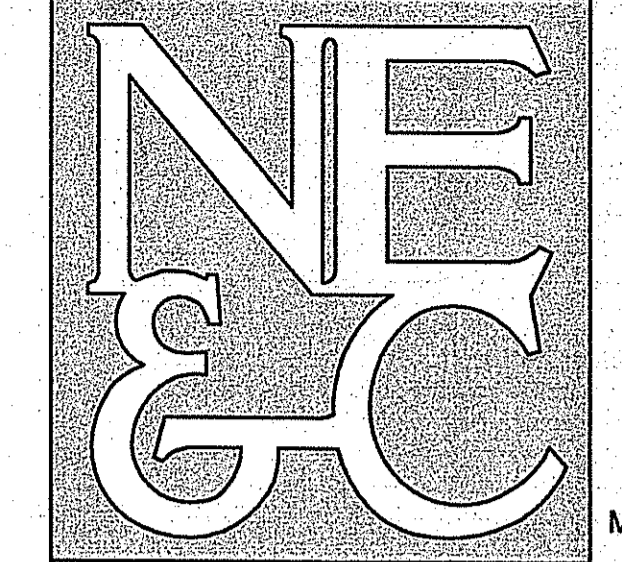
Issued for:  
**PERMITTING**

Drawing Title:  
**DETAILS-3**

Drawing Number: **D-3**  
Sheet **10** of **13**  
Project Number: **05345**  
Survey Index: -

**MATTHEW J. VIANA**  
No. **7337**  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

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**ARNOLD LUMBER WQU#1**  
FABRICATION DRAWING 1 FOR 36 IN. WATER QUALITY UNIT WITH 18 IN. BY-PASS AND 1 CFS FLOW

THE SYSTEM CONSISTS OF 1 FULL STICK OF PIPE  
THE SEDIMENT WEIR IS 141.33 IN. ON THE 1ST STICK OF PIPE AND THE SEDIMENT RISER IS 70.67 IN. ON THE 1ST STICK OF PIPE MEASURED FROM THE BELL/INLET END  
THE OIL RISER IS PLACED 178.67 IN. ON THE 1ST STICK OF PIPE  
36 IN. I.D. PIPE FOR MAIN CHAMBER WITH 18 IN. INLET STUB AND 15 IN. OUTLET STUB

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED  
\*FOR DESIGN PLEASE ACCOUNT FOR APPROXIMATELY 18.98 IN. OF FALL FROM BEGINNING BY-PASS INLET INVERT TO BY-PASS OUTLET INVERT  
\*ASSUMES 140 SIEVE SIZE

Page 1 of 2  
SCALE: N.T.S.

**ARNOLD LUMBER WQU#1**  
FABRICATION DRAWING 2 FOR 36 IN. WATER QUALITY UNIT WITH 18 IN. BY-PASS

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED

Page 2 of 2  
SCALE: N.T.S.

**ADS Water Quality Unit - Inlet Control**  
Project: Arnold Lumber Briston #1

WQU Standard Part Number: 3620WQA18

Inlet Elevation:	85.2300	Outlet:	15
Weir Length:	141.33	Orifice:	1.5
Q <sub>max</sub> :	1.5	Orifice Area:	1.23
		By-pass:	18
H <sub>max</sub> :	0.68	Q <sub>min</sub> :	1.5
H <sub>min</sub> :	0.07	C <sub>d</sub> :	0.56
		C <sub>v</sub> :	3.1
		H <sub>weir above inlet invert</sub> :	0.53
		H <sub>weir above outlet</sub> :	0.68

Water above crown of by-pass?  Design Complete

Water Elevation Above Weir: 88.845

Top of Weir: 85.16231

Inlet Invert: 85.63

Outlet Invert: 85.46333

**ARNOLD LUMBER WQU#2**  
FABRICATION DRAWING 1 FOR 36 IN. WATER QUALITY UNIT WITH 15 IN. BY-PASS AND 1 CFS FLOW

THE SYSTEM CONSISTS OF 1 FULL STICK OF PIPE  
THE SEDIMENT WEIR IS 141.33 IN. ON THE 1ST STICK OF PIPE AND THE SEDIMENT RISER IS 70.67 IN. ON THE 1ST STICK OF PIPE MEASURED FROM THE BELL/INLET END  
THE OIL RISER IS PLACED 178.67 IN. ON THE 1ST STICK OF PIPE  
36 IN. I.D. PIPE FOR MAIN CHAMBER WITH 10 IN. INLET STUB AND 10 IN. OUTLET STUB

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED  
\*FOR DESIGN PLEASE ACCOUNT FOR APPROXIMATELY 11.9 IN. OF FALL FROM BEGINNING BY-PASS INLET INVERT TO BY-PASS OUTLET INVERT  
\*ASSUMES 140 SIEVE SIZE

Page 1 of 2  
SCALE: N.T.S.

**ARNOLD LUMBER WQU#2**  
FABRICATION DRAWING 2 FOR 36 IN. WATER QUALITY UNIT WITH 15 IN. BY-PASS

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED

Page 2 of 2  
SCALE: N.T.S.

**ADS Water Quality Unit - Inlet Control**  
Project: Arnold Lumber Briston #2

WQU Standard Part Number: 3620WQA15

Inlet Elevation:	81.88451	Outlet:	10
Weir Length:	141.33	Orifice:	10
Q <sub>max</sub> :	1.5	Orifice Area:	0.55
		By-pass:	15
H <sub>max</sub> :	0.55	Q <sub>min</sub> :	1.5
H <sub>min</sub> :	0.37	C <sub>d</sub> :	0.56
		C <sub>v</sub> :	3.1
		H <sub>weir above inlet invert</sub> :	0.62
		H <sub>weir above outlet</sub> :	0.55

Water above crown of by-pass?  Design Complete

Water Elevation Above Weir: 82.430

Top of Weir: 81.88451

Inlet Invert: 81.26

Outlet Invert: 81.09333

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DATED JUL 13 2007 FILE # 07-0077  
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*Matthew D. Wencel*

No.	Revision	Comments	Date	App.
1		ADDED THIS SHEET PER RIDEM COMMENTS	6-15-07	<i>[Signature]</i>

Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: NTS Date: AUGUST 2006

**ARNOLD LUMBER**  
A.P. 108A, LOTS 62  
A.P. 108B, LOTS 4

Client/Owner: ANTHONY A. NUNES, INC.

Issued for: PERMITTING

Drawing Title: DETAILS-4

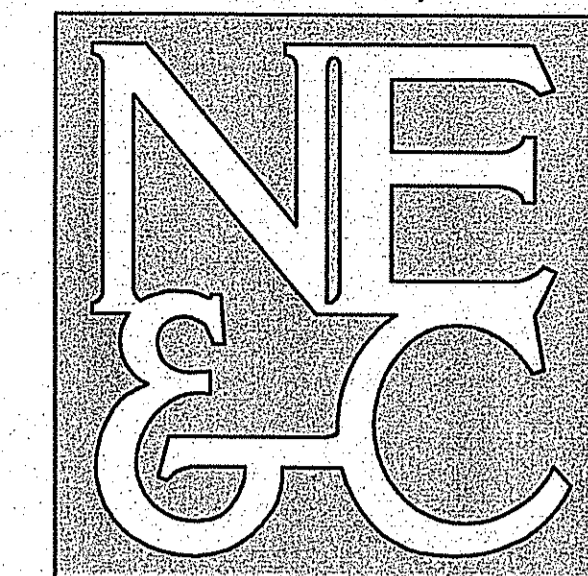
Drawing Number: D-4  
Sheet 11 of 13  
Project Number: 05345  
Survey Index: -

**MATTHEW W. MANA**  
No. 7337  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**PLANNING BOARD APPROVAL**

PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

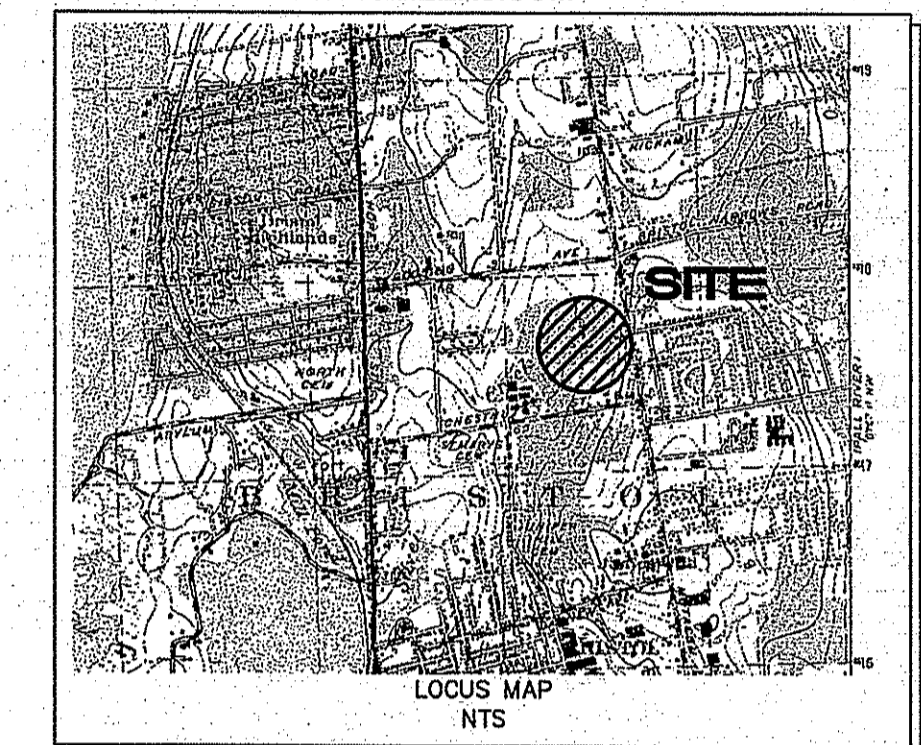
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*Emmanuel D. Wenzel*

5	REVISED PER RIDEM COMMENTS	06-15-07
4	REVISED PER TOWN COMMENTS	03-18-07
3	REVISED PER TOWN MEETING	02-09-07
2	REVISE LANDSCAPE PER TOWN	01-03-07
1	REVISE LANDSCAPE PER CLIENT	12-27-06
No.	Revision	Date App.

Designed By: \_\_\_\_\_ Drawn by: ACA Checked by: \_\_\_\_\_  
Scale: AS SHOWN Date: 12DEC06

Project Title:  
**ARNOLD LUMBER**  
A.P. 108A, LOT 62  
A.P. 108B, LOT 4

Client/Owner:  
ANTHONY A. NUNES, INC.

Issued for:  
PERMITTING

Drawing Title:  
**LANDSCAPE PLAN**

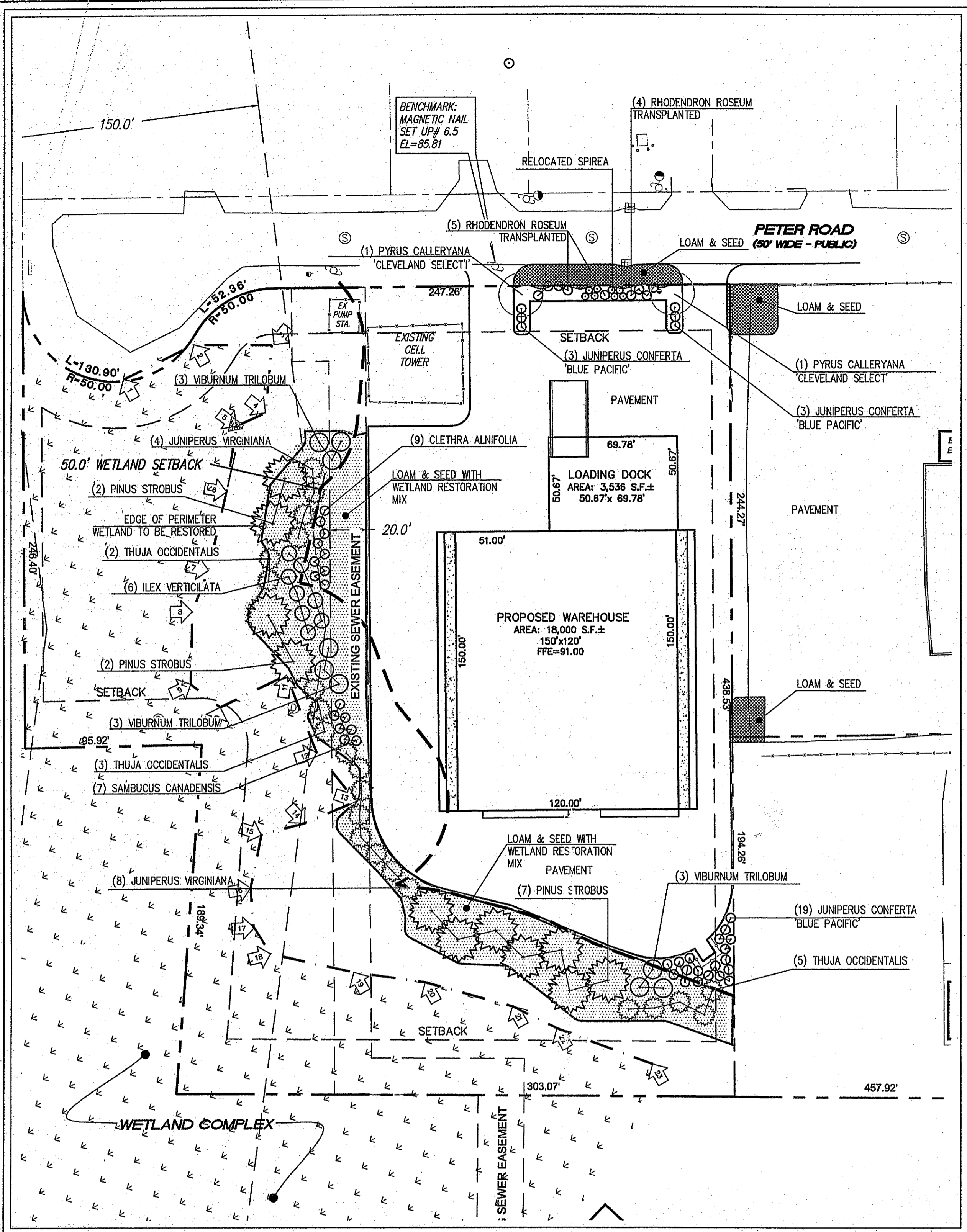
Drawing Number:  
**LP-1**

Sheet **12** of **13**

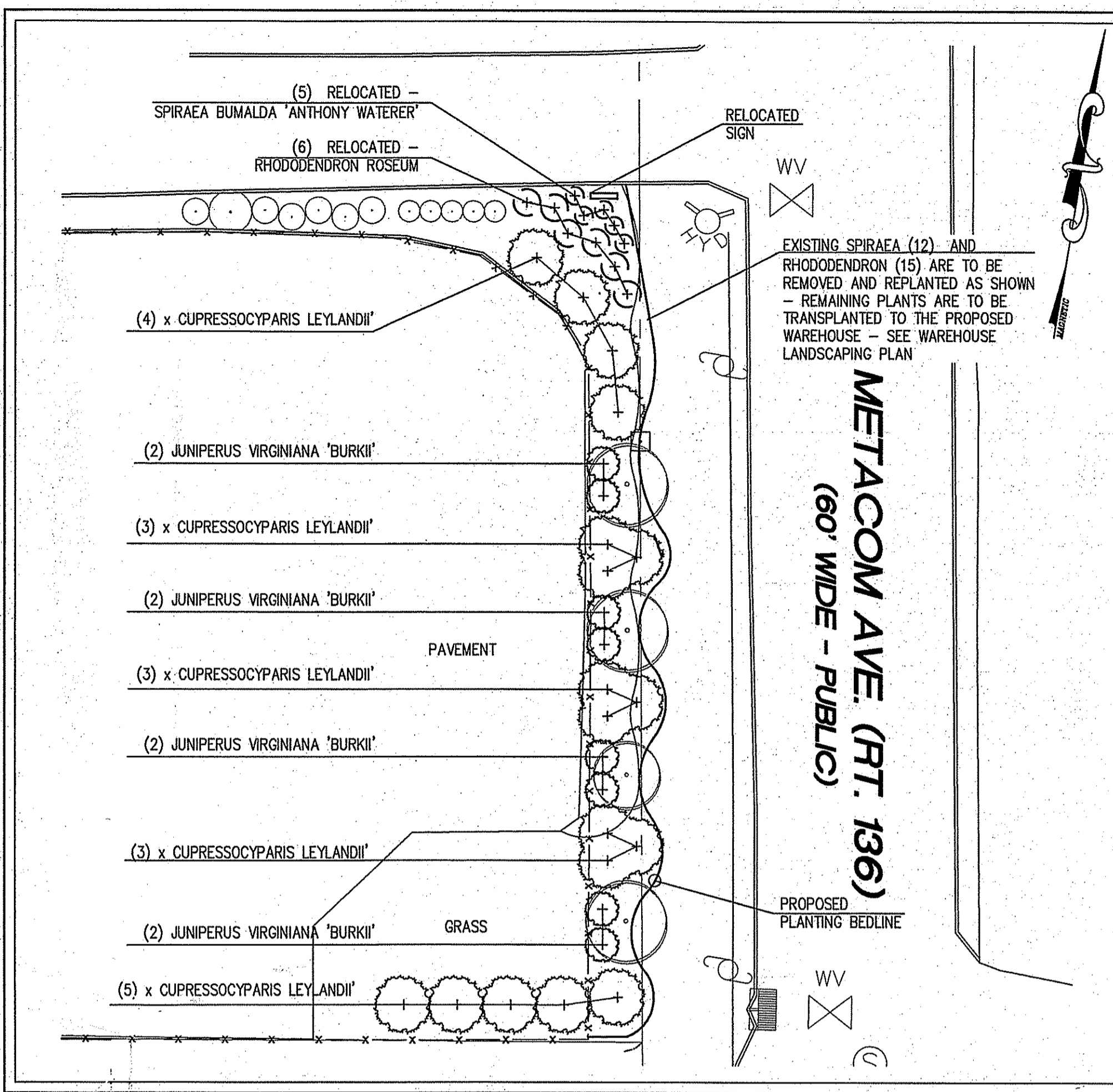
Project Number:  
**05345**

Survey Index:  
-

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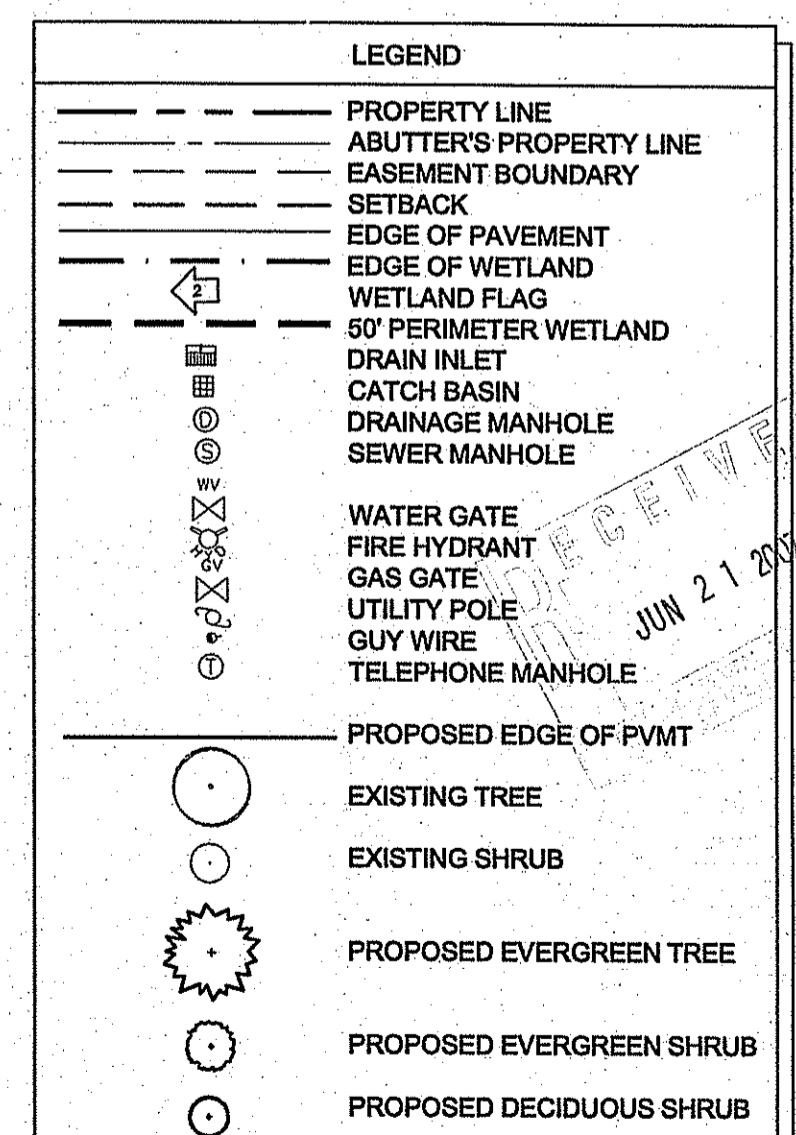
PROPOSED WAREHOUSE PLANTING  
SCALE: 1" = 40'



METACOM AVENUE PLANTING  
SCALE: 1" = 20'

**Planting Schedule - Metacom Avenue**

Quantity	Botanical Name	Common Name	Size	Spacing
<b>Evergreens</b>				
8	Juniperus virginiana 'Burkii'	Burk Eastern Red Cedar	5-6' B&B	5-8' O.C.
18	x Cupressocyparis leylandii	Leyland Cypress	9-10' B&B	VARIES - AS SHOWN
<b>Shrubs</b>				
6	Rhododendron 'English Roseum'	English Roseum Rhododendron	Transplanted	5' O.C.
5	Spiraea x bumalda	Anthony Waterer spiraea	Transplanted	3' O.C.



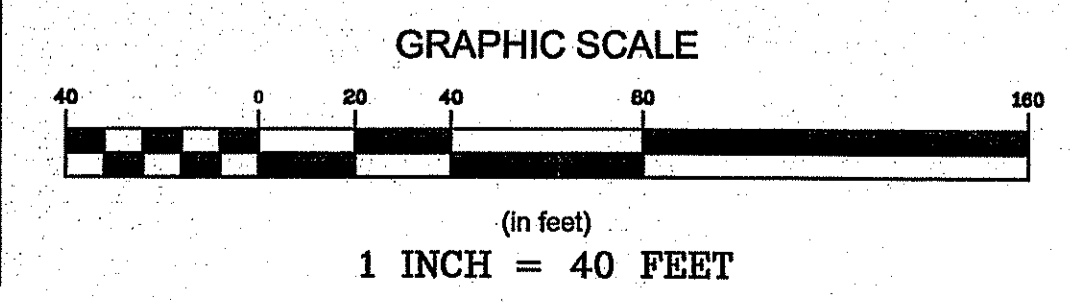
**Planting Schedule - Peter Road**

Quantity	Botanical Name	Common Name	Size	Spacing
<b>Trees</b>				
2	Pyrus calleryana 'Cleveland Select'	Cleveland Pear	3-3.5' cal	As Shown
<b>Evergreens</b>				
12	Juniperus virginiana	Eastern red cedar	8' - 10' h.	12' O.C.
11	Pinus strobus	Eastern White Pine	8-10' h	25' O.C.
10	Thuja occidentalis var	Eastern arborvitae	6-7' B&B	15' O.C.
<b>Shrubs</b>				
9	Clethra alnifolia	White Summer Sweet	#7	6' O.C.
8	Ilex verticillata	Winterberry	18" - 24"	5' O.C.
9	Rhododendron 'English Roseum'	English Roseum Rhododendron	Transplanted	As Shown
7	Spiraea x bumalda	Anthony Waterer spiraea	Transplanted	3' O.C.
9	Viburnum trilobum	Highbush cranberry	3' - 4' h.	10' O.C.
<b>Groundcovers/Grasses</b>				
25	Juniperus conferta blue pacific	Blue Pacific Shore Juniper	2 gal	5' O.C.

**PLANNING BOARD APPROVAL**

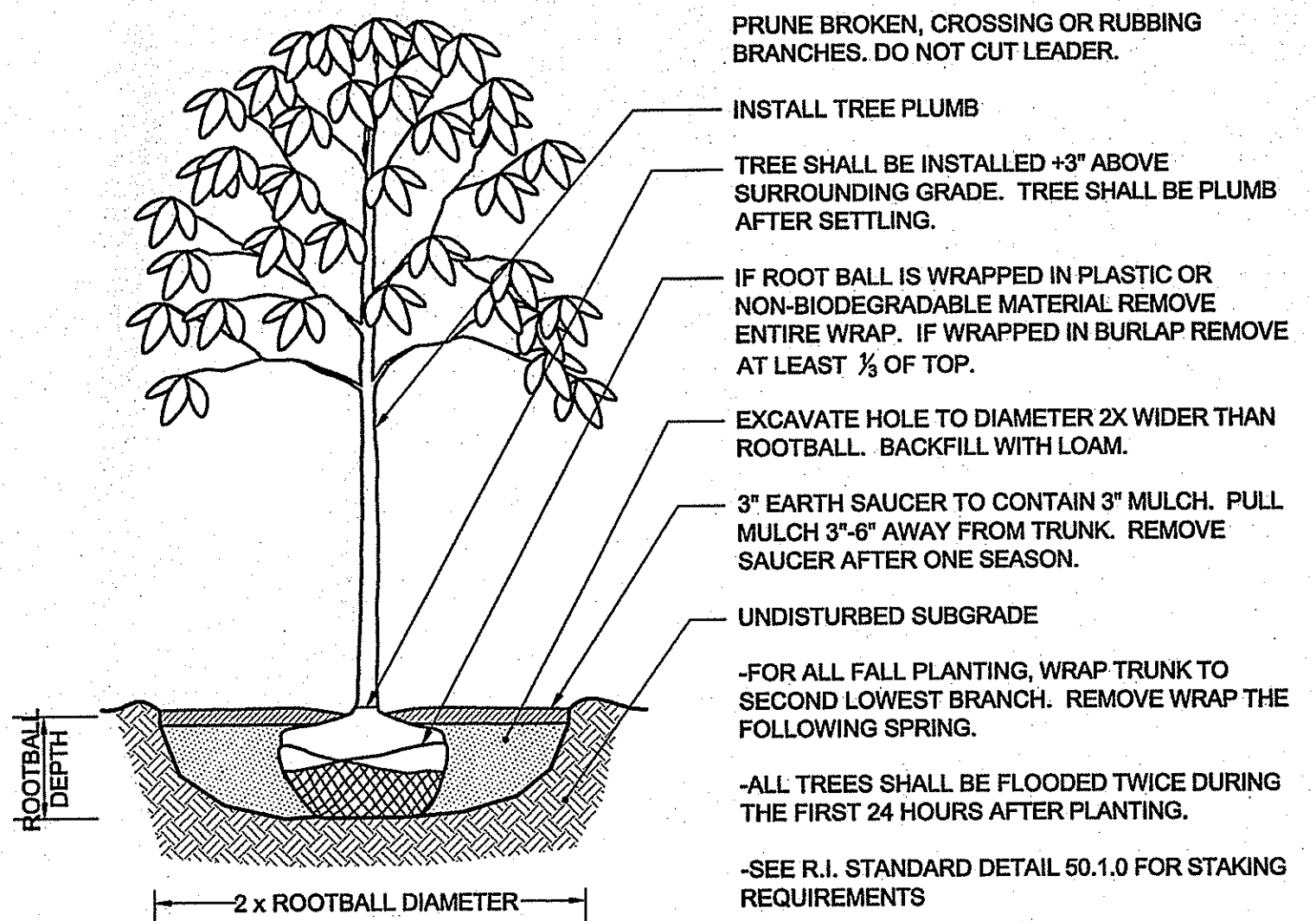
PLANNING BOARD CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING PLANS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM ALL AVAILABLE INFORMATION. (PLEASE CONTACT DIGSAFE PRIOR TO CONSTRUCTION AT 1-888-DIG-SAFE, AND/OR ALL LOCAL UTILITY COMPANIES)

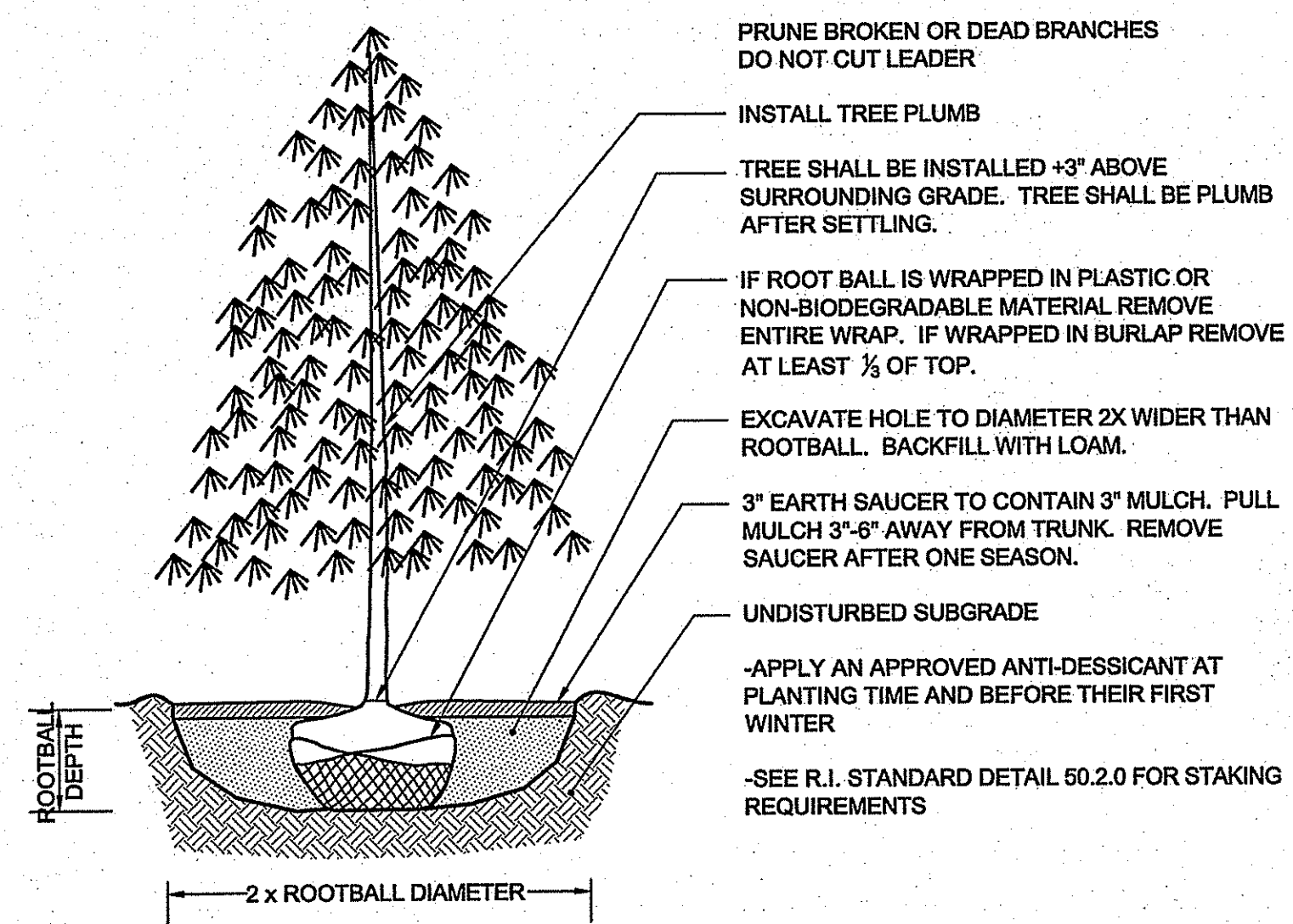


**LANDSCAPE NOTES:**

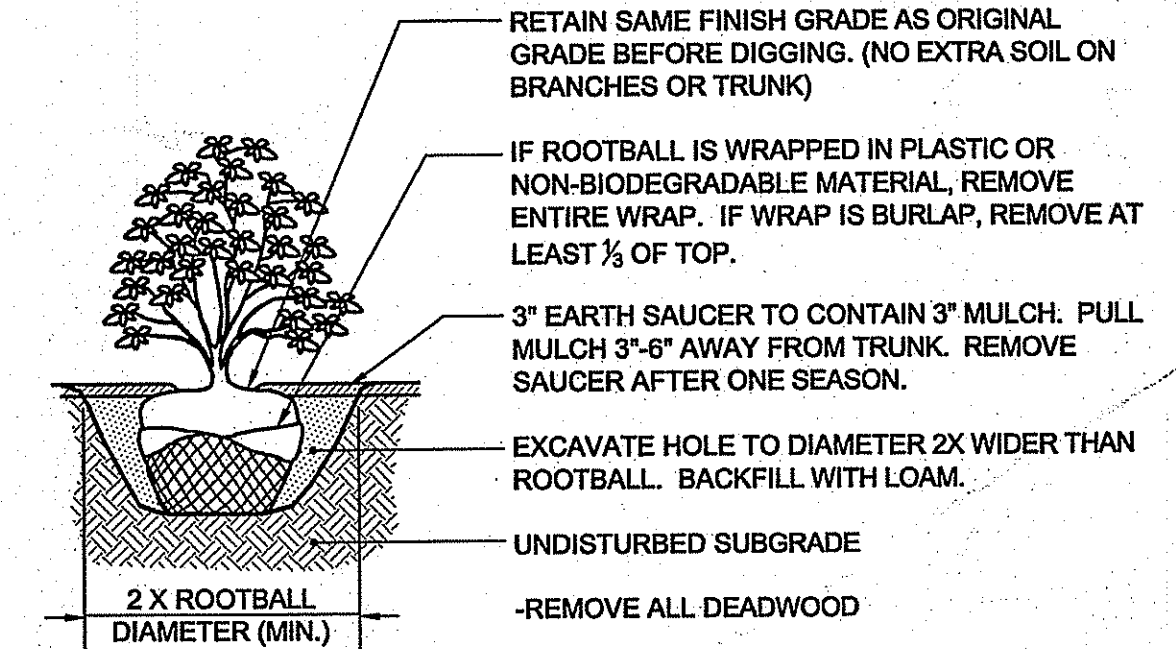
- CONTRACTOR TO NOTIFY DIG-SAFE (1-888-DIG-SAFE) AND ANY/OR ALL LOCAL UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION OR SITE PREPARATION.
- FURNISH AND INSTALL ALL PLANTS AS SHOWN ON THE DRAWING AND IN THE SIZE AND QUANTITIES SPECIFIED ON THE PLANTING SCHEDULE.
- CONTRACTOR TO PROVIDE A ONE (1) YEAR GUARANTEE FOR ALL MATERIALS. CONTRACTOR GUARANTEES THAT PLANTS WILL REMAIN HEALTHY FOR ONE (1) GROWING SEASON. CONTRACTOR TO MAINTAIN ALL PLANTING AND LAWN UNTIL FINAL PROJECT ACCEPTANCE. GUARANTEE PERIOD TO COMMENCE AT FINAL ACCEPTANCE. ANY REPLACEMENT PLANTS SHALL BE OF THE SAME SIZE AND SPECIES AS SPECIFIED WITH NEW GUARANTEE COMMENCING ON THE DATE OF REPLACEMENT.
- ALL PLANT MATERIAL SHALL CONFORM, IN ALL RESPECTS, TO THE GUIDELINES OF "THE AMERICAN STANDARD FOR NURSERY STOCK," LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, INC. ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS.
- PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- LOCATION OF ALL TREES, SHRUBS, AND ADDITIONAL PLANTINGS TO BE APPROVED IN PLACE BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- PLACE THE PLANT IN THE HOLE SO TOP OF ROOT BALL IS EVEN WITH SOIL SURFACE. FILL THE HOLE HALF WAY AND THEN ADD WATER ALLOWING IT TO SEEP INTO BACK FILLED MATERIAL. BE SURE TO REMOVE ALL AIR POCKET FROM BACK FILLED SOIL. DO NOT SPREAD SOIL ON TOP OF ROOT BALL. IF SOIL IS EXTREMELY POOR REPLACE BACK FILL WITH GOOD QUALITY TOP SOIL. AMEND THE SOIL, AS NECESSARY.
- PLANTING HOLES ARE TO BE DUG THE SAME DEPTH AS THE ROOT BALL AND TWO TO THREE TIMES WIDER. SCORE ALL SIDES OF THE HOLE. FILL THE HOLE WITH WATER AND LET THE WATER SEEP INTO THE SOIL.
- FOR POTTED PLANTS, REMOVE THE PLANT FROM THE POT AND SCORE THE ROOTS BEFORE PLANTING.
- FOR FIELD GROWN PLANTS, UNTIE OR CUT THE PLASTIC OR BURLAP WRAP IF POSSIBLE OR TURN THE BURLAP DOWN BACK INTO THE HOLE MAKING SURE TO BURY THE MATERIAL COMPLETELY.
- IF THE PLANT IS ROOT BOUND, GENTLY LOOSEN THE ROOT BALL TO AID THE ROOTS IN SPREADING OR CUT THE OUTSIDE LAYER OF ROOTS TO STIMULATE NEW ROOT DEVELOPMENT.
- CREATE A 2" TO 4" BERM AROUND THE EDGE OF PLANTING HOLE WITH REMAINING SOIL TO RETAIN WATER.
- ADD 2-3" INCHES OF MULCH AROUND THE PLANT. DO NOT PILE OR MOUND MULCH AROUND THE PLANT STEMS OR TRUNK.
- ALL PLANTS TO BE PLANTED SO THAT AFTER SETTLEMENT THEY BEAR THE SAME RELATION TO THE SURROUNDING GROUND AS TO THEIR ORIGINAL GRADE BEFORE DIGGING.
- ALL PLANTS TO BE FLOODED WITH CLEAN WATER TWICE WITHIN THE FIRST 24 HOURS OF PLANTING. AN APPROPRIATE WATERING SCHEDULE SHALL BE ESTABLISHED BASED UPON PLANT SPECIES REQUIREMENTS AND SHOULD BE FOLLOWED UNTIL PLANTS ARE FULLY ESTABLISHED.
- TRIM BROKEN AND DEAD BRANCHES FROM TREES AND SHRUBS AFTER PLANTING. NEVER CUT A LEADER.
- UNLESS NOTED OTHERWISE, CONTRACTOR TO LOAM AND SEED ALL DISTURBED AREAS USING UNIVERSITY OF RHODE ISLAND SEED MIX NO. 2 OR EQUIVALENT.
- ALL DISTURBED AREAS ARE TO BE GRADED AS SHOWN ON PLANS WITH SOIL PRESENTLY ON THE SITE AND REVEGETATED AS SPECIFIED.



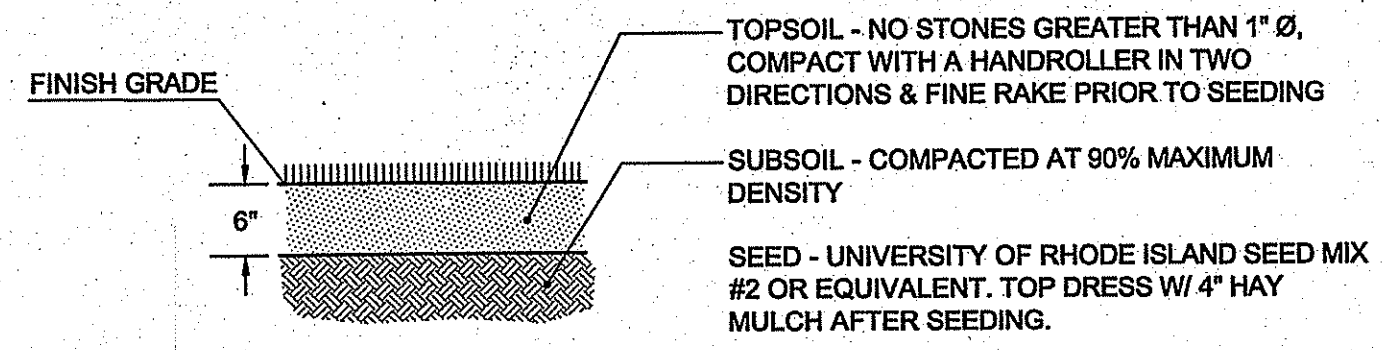
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NOT TO SCALE



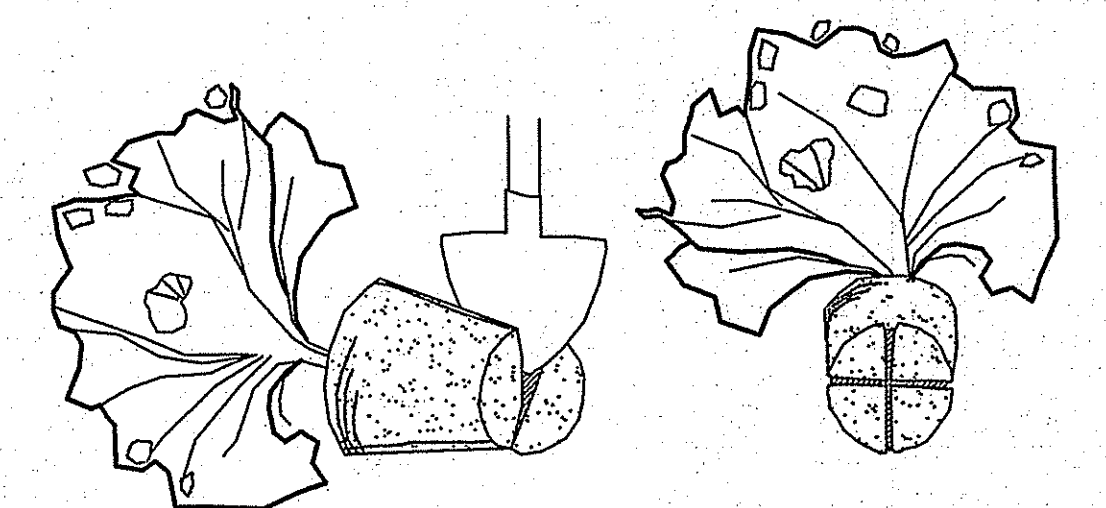
**EVERGREEN PLANTING DETAIL**  
NOT TO SCALE



**SHRUB PLANTING DETAIL**  
NOT TO SCALE



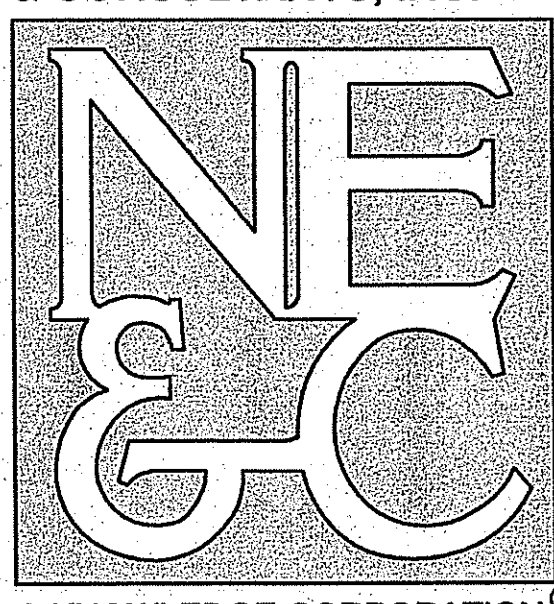
**LOAM & SEED**  
NOT TO SCALE



**ROOTBALL TREATMENT DETAIL**  
NOT TO SCALE

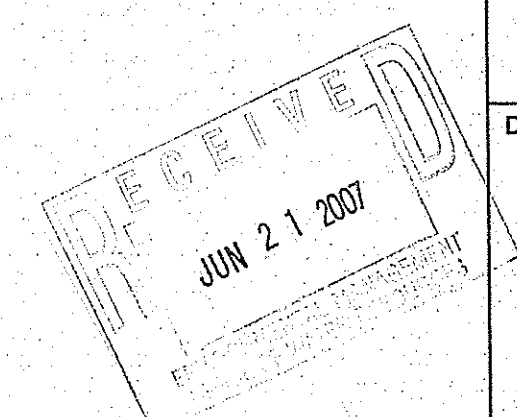
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*Erin D. Welch*

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- STRUCTURAL
- MATERIALS TESTING



1		REVISED PER RIDEM COMMENTS	06-15-07	
No.	Revision	Date	App.	
Designed by:		Drawn by: ACA	Checked by:	
Scale: 1"=50'		Date: 12DEC06		
Project Title:				
<b>ARNOLD LUMBER</b> A.P. 108A, LOT 62 A.P. 108B, LOT 4				
Client/Owner:				
ANTHONY A. NUNES, INC.				
Issued for:				
PERMITTING				
Drawing Title:				
<b>LANDSCAPE DETAILS</b>				
Drawing Number:		LD-1		
Sheet		13 of 13		
Project Number:		05345		
Survey Index:				
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**PLANNING BOARD APPROVAL**

\_\_\_\_\_

PLANNING BOARD CHAIRMAN                      DATE