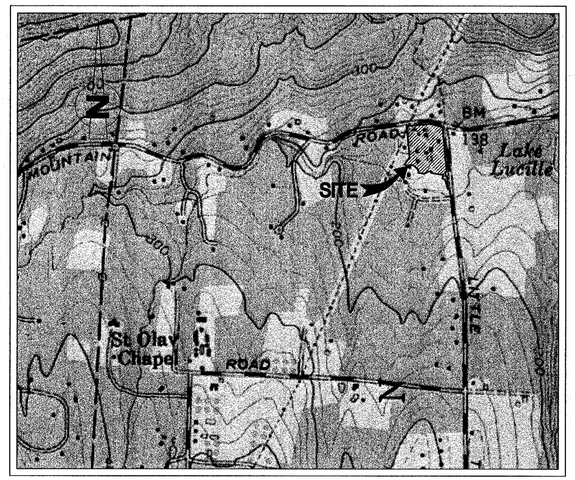
SITE PLAN APPROVAL DRAWINGS

LITTLE TOR SUBSTATION

TOWN OF CLARKSTOWN
ROCKLAND COUNTY
STATE OF NEW YORK

ABBREVIATIONS

AC	ACRES
AD	ALGEBRAIC DIFFERENCE
BC	BOTTOM OF CURB
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CB	CATCH BASIN
CIP	CAST IN PLACE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CTGE	CABLE, TELEPHONE, GAS & ELECTRIC
DI	DRAIN NLET
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
EL	ELEVATION
ES	END SECTION
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
FI	FIELD INLET
GA	GAUGE
HDPE	HIGH–DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HIGH POINT
HYD	HYDRANT
INV	INVERT
K	CURVE COEFFICIENT
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
NEC	NECESSARY
NO	NUMBER
NTS	NOT TO SCALE
OS	OUTLET STRUCTURE
PC	POINT OF CURVATURE
PERF	PERFORATED
PROP	PROPOSED
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INFLECTION
RCP	REINFORCED CONCRETE PIPE
RI	RISER INLET
SF	SQUARE FEET
SHT	SHEET
SMH	SANITARY MANHOLE
STA	STATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
VC	VERTICAL CURVE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WV	WATER VALVE
YR	YEAR



VICINITY MAP

NTS

DEVELOPED BY:

ORANGE AND ROCKLAND UTILITIES, INC.
390 WEST ROUTE 59
SPRING VALLEY, NY 10977-5300
(845) 577-3761

DRAWING INDEX

No.	DRAWING TITLE
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	TREE REMOVAL PLAN
4	LAYOUT AND UTILITY PLAN
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6	EROSION AND SEDIMENT CONTOL PLAN
7	ACCESS DRIVEWAY PROFILE, SITE ELEVATIONS AND SECTIONS
8	CONSTRUCTION DETAILS (SHEET 1 OF 2)
9	CONSTRUCTION DETAILS (SHEET 2 OF 2)

NOTES:

1. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND.
2. BUILDING PERMITS SHALL SHOW LOWEST FLOOR ELEVATIONS SUBJECT TO APPROVAL AND INSPECTION BY DEPARTMENT OF ENVIRONMENTAL CONTROL.
3. ALL PARKING SPACES SHALL BE 10' X 19.6'.
4. APPLICANT SHALL CONFORM TO EROSION AND SEDIMENT CONTROL PLAN ON FILE IN THE DEPARTMENT OF ENVIRONMENTAL CONTROL.
5. ALL SCREENING AND LANDSCAPING SHALL CONFORM TO REQUIREMENTS OF THE ARCHITECTURAL LANDSCAPING COMMISSION AND LANDSCAPING PLANS SHALL BE APPROVED BY ARCHITECTURAL LANDSCAPING COMMISSION. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE BUILDING INSPECTOR, THE REGISTERED LANDSCAPE ARCHITECT WILL CERTIFY THAT THE WORK ON THE SITE HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN ON FILE WITH THE TOWN. A WRITTEN ON YEAR GUARANTEE SHALL BE PROVIDED BY THE APPLICANT TO THE DEPARTMENT OF ENVIRONMENTAL CONTROL/ARCHITECTURAL LANDSCAPING COMMISSION, STATING THAT ALL PLANTS WHICH DIE OR ARE LIKELY TO DIE BE REPLACED. THE CERTIFICATE OF OCCUPANCY MAY BE REVOKED FOR FAILURE TO HONOR THE TERMS OF THE GUARANTEE.
6. LIGHT SOURCES OF ALL LIGHTING FIXTURES SHALL NOT BE VISIBLE FROM STREETS OR PRIVATE DRIVEWAYS, AND SHALL NOT CREATE GLARE ONTO ADJOINING PROPERTIES.
7. ALL CURBING SHALL BE CONCRETE.
8. "NO BUILDING PERMIT FOR A BUILDING SUBJECT TO SITE PLAN APPROVAL SHALL BE ISSUED BY THE BUILDING INSPECTOR EXCEPT UPON AUTHORIZATION OF AND IN CONFORMITY WITH THE SITE PLAN APPROVED BY THE PLANNING BOARD".
9. "ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
10. FIRE LANES SHALL BE AS DESIGNATED BY THE FIRE INSPECTOR AND APPLICANT SHALL EXECUTE AN ENFORCEMENT CONSENT AGREEMENT WITH THE TOWN. FIRE LANE SIGNAGE AND STRIPING SHALL BE INSTALLED AS SHOWN ON THE APPROVED PLAN, BY THE APPLICANT OR BUILDER, PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR THE BUILDING. THIS WORK SHALL NOT BE SUBJECT TO ESCROW DEPOSIT. FIRE LANE SIGNAGE AND STRIPING SHALL BE MAINTAINED BY THE OWNER TO THE SATISFACTION OF THE FIRE INSPECTOR.

ALTERATIONS BY ANY PERSON IN ANY WAY, OF ANY ITEM CONTAINED ON THIS DOCUMENT, UNLESS ACTING UNDER DIRECTION OF THE LICENSED ENGINEER WHOSE PROFESSIONAL SEAL IS AFFIXED HERETO, IS A VIOLATION OF TITLE VII, SECTION 69.5 (b) OF NEW YORK STATE LAW.

REVISION NO.	DATE	REVISION
2	12/03/10	PLANNING BOARD COMMENTS
1	1/20/09	RCDA COMMENTS

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N O N E
GRAPHIC SCALE IN FEET
N.T.S.

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W. CHARLES UTSCHIG, JR.
PROFESSIONAL ENGINEER, N.Y. LIC. No. 62303–1

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TITLE SHEET
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.
TOWN OF CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO 080642001	DATE 12/3/2010
DRAWN BY JP	DESIGNED BY DM
SCALE N.T.S.	CHECKED BY WCU
CMX	
SHEET NO. 1 of 9	

Date: 12/03/2010 Time: 8:51:15 AM
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MAP REFERENCES

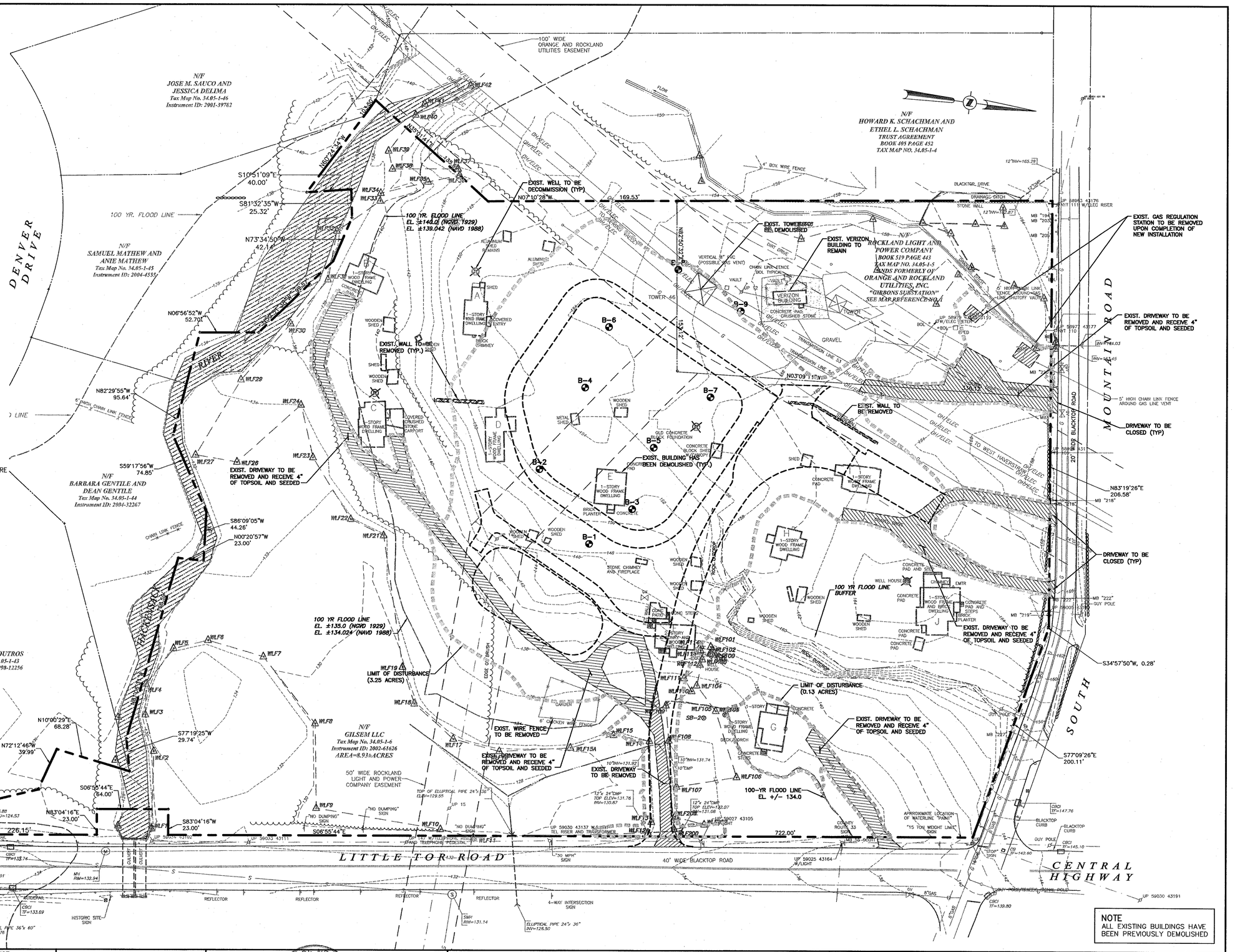
1. "BOUNDARY AND TOPOGRAPHIC SURVEY, GIBBONS SUBSTATION, PREPARED FOR ORANGE AND ROCKLAND UTILITIES, INC." PREPARED BY C.T. MALE ASSOCIATES, P.C. DATED JANUARY 17, 2005. DWG. NO. 05-149.
2. "ROCKLAND LIGHT AND POWER COMPANY-NYACK NY, GIBBONS SUB-STA LOT, ADDITIONAL LAND ACQUIRED FROM BERNARD GIBBONS TOWN OF CLARKSTOWN, NY, DEED 727 NOV. 3, 1950 RECORDED L519 P444" DATED DECEMBER 18, 1951, MAP NO. 727.
3. "ROCKLAND LIGHT AND POWER COMPANY-NYACK NY, GIBBONS SUBSTATION, LOCATION PLAN OF GIBBONS SUBSTATION 8 LOT" PREPARED BY J. KELLY, DATED JUNE 6, 1952, DRAWING NO. N-3-4044-5.
4. "BOUNDARY SURVEY, AREA: 8.921 ACRES, TAX LOT: 34.05-1-6, LAWRENCE KIGLER" PREPARED BY ATZL, SCATASSA & ZIGLER, P.C., SURVEYORS-PLANNERS DATED MAY 3, 2002.
5. "GILSEM PROPERTY, WATER MAIN EXTENSION AREA: 8.921 ACRES, TAX LOT: 34.05-1-6" PREPARED BY ATZL, SCATASSA & ZIGLER, P.C., SURVEYORS-PLANNERS DATED FEBRUARY 7, 2005.
6. "SUBDIMSION PLAT TOR HEIGHTS, TOWN OF CLARKSTOWN, ROCKLAND COUNTY, NEW YORK" PREPARED BY HENRY HOROWITZ, P.E., DATED NOVEMBER 6, 1970.
7. "SOUTH MOUNTAIN ROAD, RAMAPO & CLARKSTOWN" SURVEYED BY H. BROWN & C.F. DOHERTY, DRAWING NO. M232 & M233.

MAP NOTES

1. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON WAS COMPILED FROM AN ACTUAL FIELD SURVEY CONDUCTED DURING THE MONTH OF FEBRUARY 2006.
2. NORTH ORIENTATION AND BEARINGS ARE BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 1983 AS ESTABLISHED BY GPS OBSERVATIONS PERFORMED ON THE SITE IN THE MONTH OF JANUARY 2005. THE DISTANCES SHOWN ARE HORIZONTAL GROUND DISTANCES, GRID LENGTHS MAY BE OBTAINED BY A MULTIPLIER OF 0.99991831 (COMBINED FACTOR). THE AVERAGE CONVERGENCE ANGLE FROM GRID TO TRUE NORTH IS 0°19'29.60".
3. VERTICAL DATUM SHOWN HEREON IS NAVD 88 AS ESTABLISHED BY GPS OBSERVATIONS PERFORMED ON THE SITE IN THE MONTH OF JANUARY 2005.
4. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP TO DATE ABSTRACT OF TITLE OR TITLE REPORT AND IS THEREFORE SUBJECT TO ANY EASEMENTS, COVENANTS, RESTRICTIONS OR ANY STATEMENT OF FACT THAT SUCH DOCUMENTS MAY DISCLOSE.
5. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED FROM PREVIOUS MAPS AND RECORD DRAWINGS. SURFACE FEATURES SUCH AS CATCH BASIN RIMS, MANHOLE COVERS, WATER VALVES, GAS VALVES, ETC. ARE THE RESULT OF FIELD SURVEY UNLESS NOTED OTHERWISE. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCES OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. THE UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION MUST BE NOTIFIED PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION AND CONSTRUCTION.

LEGEND

	DESCRIPTION		DESCRIPTION
SIGN TYPE / SIGN NO.	TREE	X	FENCE
B-1	BORING	230	MAJOR CONTOUR
× ELEV	SPOT ELEVATION	232	MINOR CONTOUR
	HYDRANT WITH VALVE		STONEWALL
	WELL TO BE REMOVED	W	WATER MAIN
	UTILITY POLE	S	SANITARY LINE
	CURB INLET BASIN	OHW/ELEC	OVERHEAD ELECTRIC WIRE
M	DRAINAGE MANHOLE		DRAINAGE LINE
S	SANITARY MANHOLE		WETLAND LINE
	SIGN		100 YR FLOOD LINE
WLF#	FLAGGED WETLAND		FLOOD LINE BUFFER
			PROPERTY LINE
			LOT LINE
			TREE LINE
			DITCH LINE
			EASEMENT LINE
			LIMIT OF DISTURBANCE



LEGEND, ABBREVIATIONS
F-Fence
F-Hydrant
F-Flagpole
F-Hose

Date: 2005
Time: 11:15:25 AM
User: CMX
DWG: V:\Drawd\V:\080642001-EXISTING AND DEMOLITION.dwg EXISTING & DEMOLITION

REVISION NO.	DATE	REVISION
1	12-06-10	PLANNING BOARD COMMENTS

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40 0 40 80
GRAPHIC SCALE IN FEET
1"=40'

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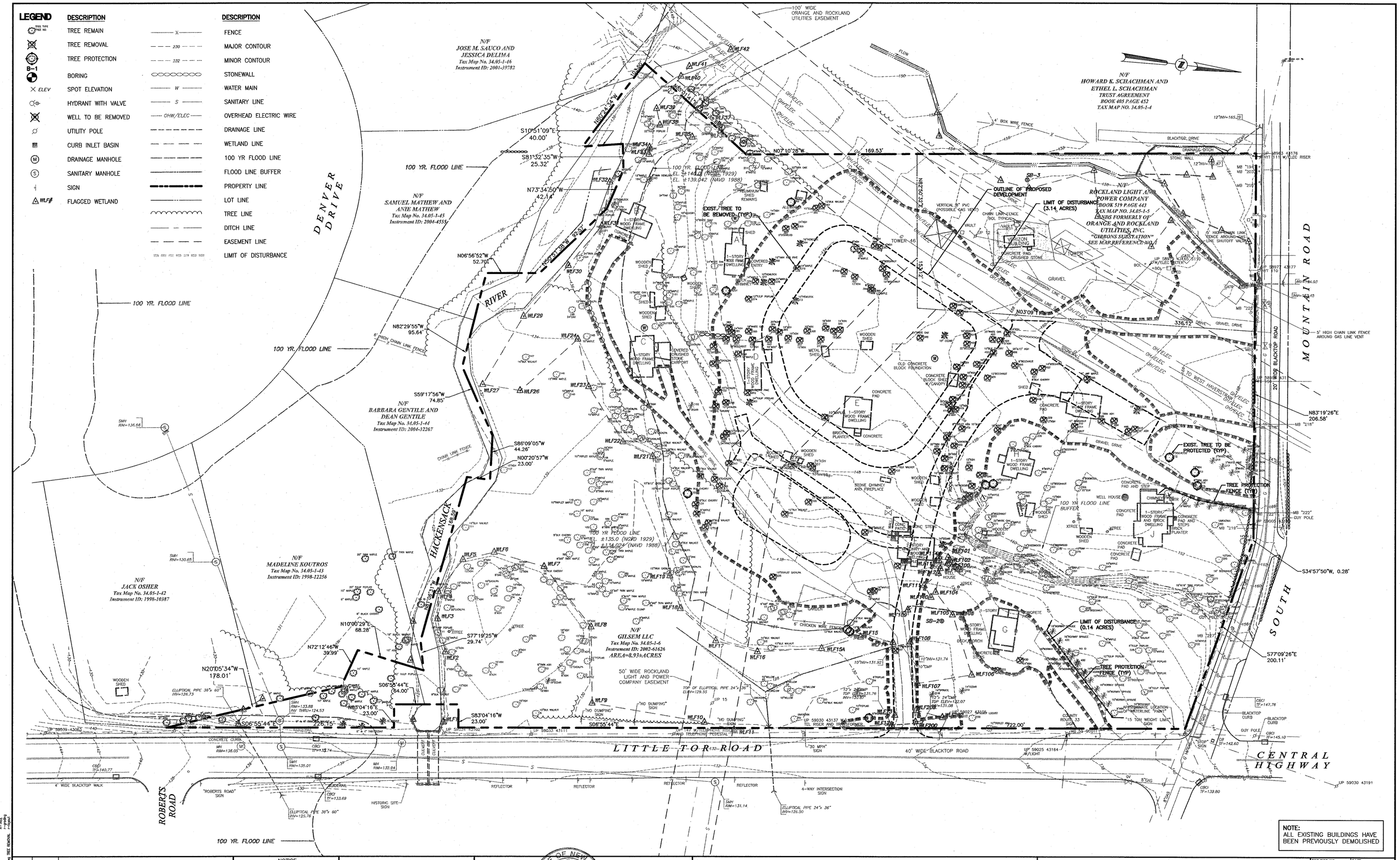
EXISTING CONDITIONS AND DEMOLITION PLAN
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

TOWN OF CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO	080642001
DATE	12/3/2010
DRAWN BY	JP
DESIGNED BY	DM
SCALE	1"=40'
CHECKED BY	WCU
	CMX
SHEET NO.	2 of 9



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TREE REMOVAL PLAN
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

TOWN OF CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO 080642001	DATE 12/3/2010
DRAWN BY JP	DESIGNED BY DM
SCALE 1"=40'	CHECKED BY WCU
CMX	
SHEET NO. 3 of 9	

LEGENDS_ABBREVIATIONS
TREE REMOVAL
R-TREE
PROTECTION
P-TREE
DWG: \CMXnet\W:\080642001\R-TREE-Reg TREE REMOVAL
DATE: 2010-12-03 11:13:51 AM
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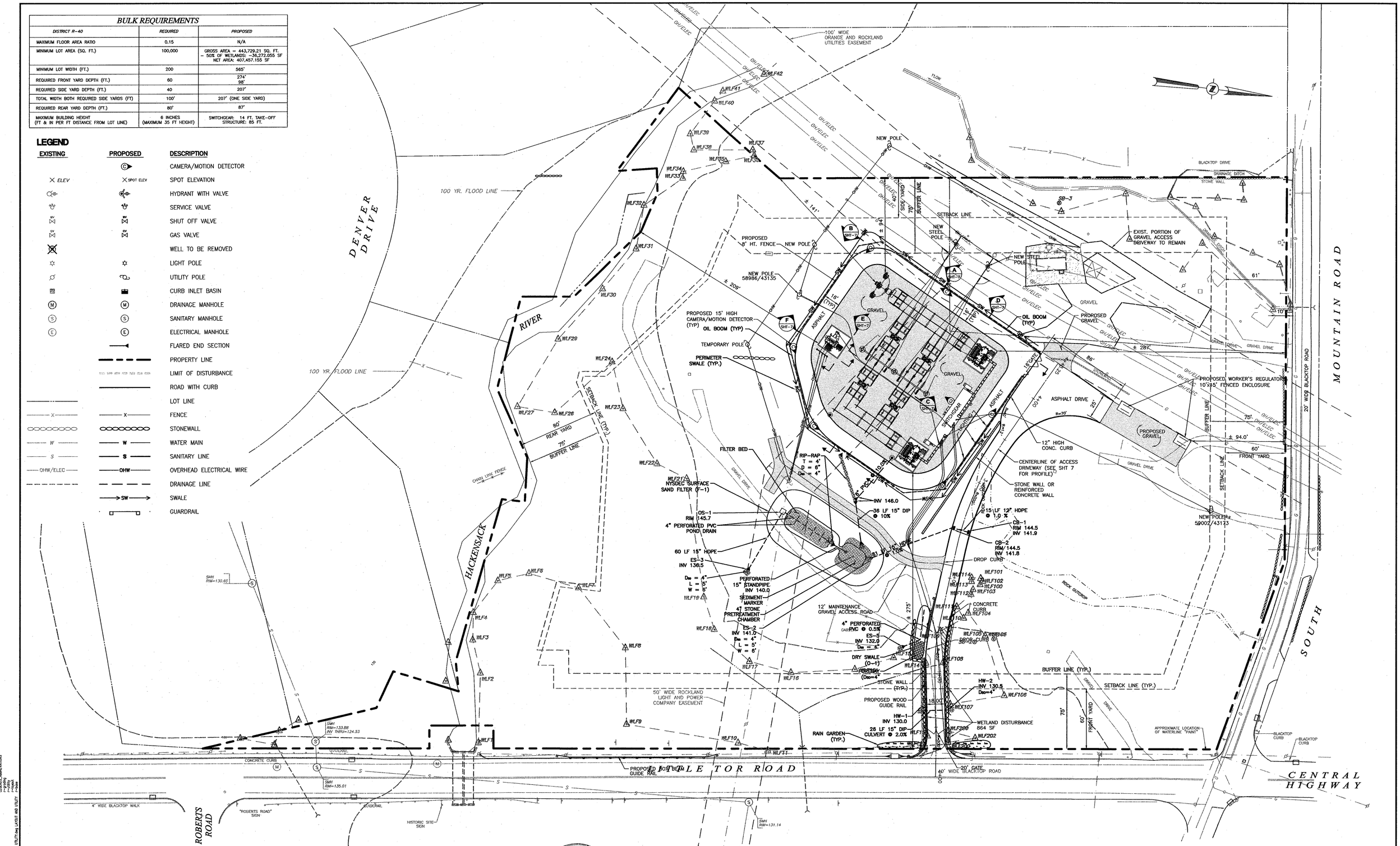
BULK REQUIREMENTS

DISTRICT R-40	REQUIRED	PROPOSED
MAXIMUM FLOOR AREA RATIO	0.15	N/A
MINIMUM LOT AREA (SQ. FT.)	100,000	GROSS AREA = 443,729.21 SQ. FT. – 50% OF WETLANDS: –36,272.055 SF NET AREA: 407,457.155 SF
MINIMUM LOT WIDTH (FT.)	200	565'
REQUIRED FRONT YARD DEPTH (FT.)	60	274' 98'
REQUIRED SIDE YARD DEPTH (FT.)	40	207'
TOTAL WIDTH BOTH REQUIRED SIDE YARDS (FT)	100'	207' (ONE SIDE YARD)
REQUIRED REAR YARD DEPTH (FT.)	80'	87'
MAXIMUM BUILDING HEIGHT (FT & IN PER FT DISTANCE FROM LOT LINE)	6 INCHES (MAXIMUM 35 FT HEIGHT)	SWITCHGEAR: 14 FT. TAKE-OFF STRUCTURE: 85 FT.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CAMERA/MOTION DETECTOR
× ELEV	× SPOT ELEV	SPOT ELEVATION
		HYDRANT WITH VALVE
		SERVICE VALVE
SV	SV	SHUT OFF VALVE
GV	GV	GAS VALVE
		WELL TO BE REMOVED
		LIGHT POLE
		UTILITY POLE
		CURB INLET BASIN
M	M	DRAINAGE MANHOLE
S	S	SANITARY MANHOLE
E	E	ELECTRICAL MANHOLE
		FLARED END SECTION
		PROPERTY LINE
		LIMIT OF DISTURBANCE
		ROAD WITH CURB
		LOT LINE
X	X	FENCE
		STONEWALL
W	W	WATER MAIN
S	S	SANITARY LINE
OHW/ELEC	OHW	OVERHEAD ELECTRICAL WIRE
		DRAINAGE LINE
	SW	SWALE
		GUARDRAIL



REVISION NO.	DATE	REVISION
3	12/03/10	PLANNING BOARD COMMENTS
2	4/26/10	ORU COMMENTS
1	1/20/09	RCDA COMMENTS

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LAYOUT AND UTILITY PLAN
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO	080642001
DATE	4/26/2010
DRAWN BY	JP
DESIGNED BY	DM
SCALE	1"=40'
CHECKED BY	WCU
	CMX
SHEET NO.	4 of 9

LEGEND_ABBREVIATIONS
LAYOUT
F-GRPY
F-HOPE
F-Hope

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DATE: 2010-04-26 10:10:42 AM
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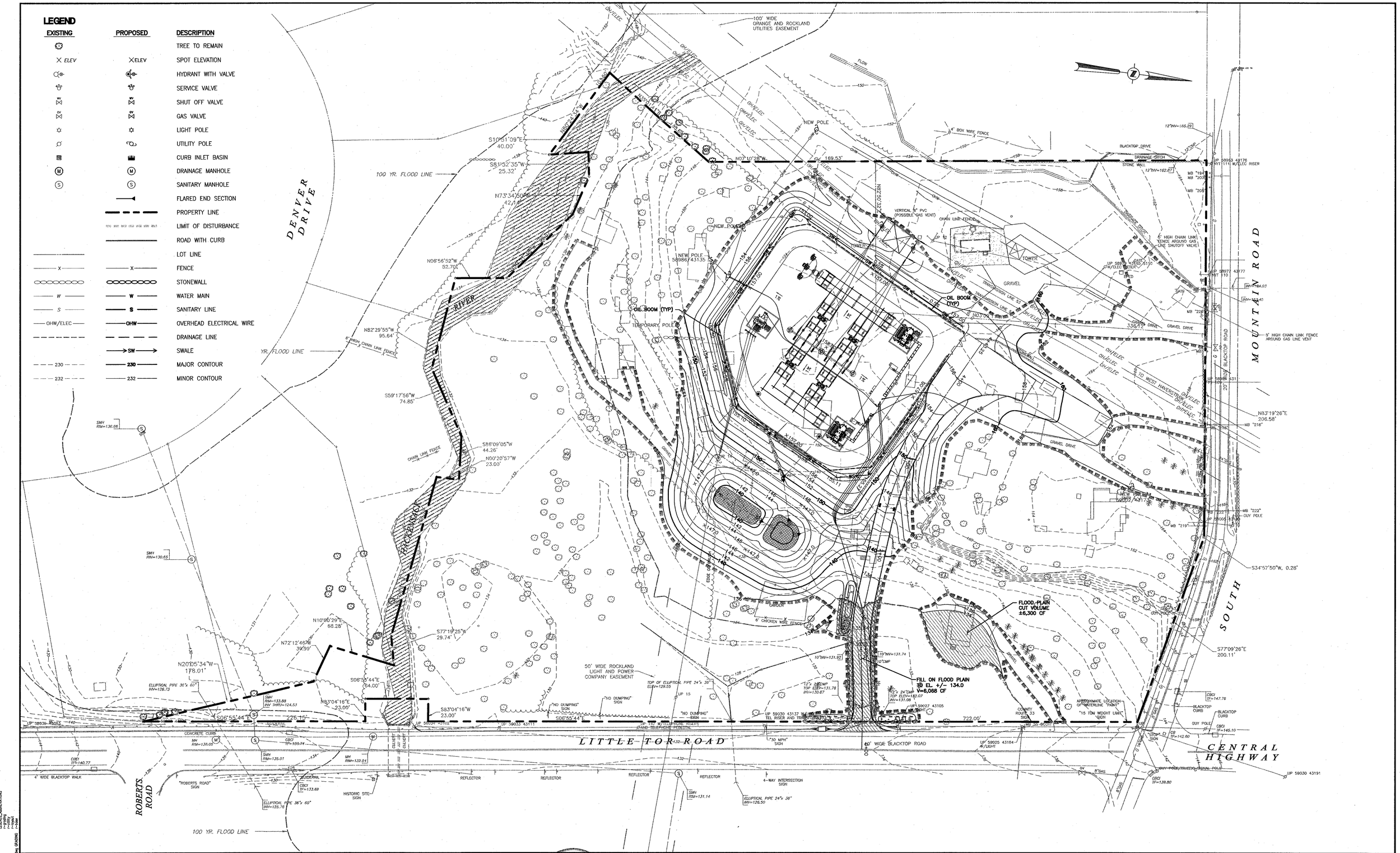
LEGEND

EXISTING	PROPOSED	DESCRIPTION
		TREE TO REMAIN
× ELEV	×ELEV	SPOT ELEVATION
		HYDRANT WITH VALVE
		SERVICE VALVE
		SHUT OFF VALVE
		GAS VALVE
		LIGHT POLE
		UTILITY POLE
		CURB INLET BASIN
Ⓜ	Ⓜ	DRAINAGE MANHOLE
Ⓢ	Ⓢ	SANITARY MANHOLE
		FLARED END SECTION
		PROPERTY LINE
		LIMIT OF DISTURBANCE
		ROAD WITH CURB
		LOT LINE
—x—	—x—	FENCE
		STONEWALL
—W—	—W—	WATER MAIN
—S—	—S—	SANITARY LINE
—OHW/ELEC—	—OHW—	OVERHEAD ELECTRICAL WIRE
		DRAINAGE LINE
	—SW→	SWALE
—230—	—230—	MAJOR CONTOUR
—232—	—232—	MINOR CONTOUR


100' WIDE ORANGE AND ROCKLAND UTILITIES EASEMENT
DENVER DRIVE
MOUNTAIN ROAD
SOUTH CENTRAL HIGHWAY
LITTLE TOR ROAD
ROBERTS ROAD
100 YR. FLOOD LINE
OIL BOOM (TYP)
TEMPORARY POLE
NEW POLE
TOWER
GRAVEL
GRAVEL DRIVE
BLACKTOP DRIVE
DRAINAGE DITCH
STONE WALL
4' BOX WIRE FENCE
6' HIGH CHAIN LINK FENCE AROUND GAS LINE SHUTOFF VALVE
5' HIGH CHAIN LINK FENCE AROUND GAS LINE VENT
VERTICAL 6" PVC (POSSIBLE GAS VENT)
CHAIN LINK FENCE
TRANSMISSION LINE 53
TO WEST HAVERSTRAW
FLOOD-PLAIN CUT VOLUME ±6,300 CF
FILL ON FLOOD PLAIN TO EL +/- 134.0 V=6,068 CF
6' CHICKEN WIRE FENCE
50' WIDE ROCKLAND LIGHT AND POWER COMPANY EASEMENT
40' WIDE BLACKTOP ROAD
4' WIDE BLACKTOP WALK
CONCRETE CURB
GUIDERAIL
REFLECTOR
"ROBERTS ROAD" SIGN
HISTORIC SITE SIGN
4-WAY INTERSECTION SIGN
"30 MPH" SIGN
"NO DUMPING" SIGN
"15 TON WEIGHT LIMIT" SIGN
COUNTY ROUTE 33 SIGN
STOP SIGN
APPROXIMATE LOCATION OF WATERLINE "PAINT"
GUY POLE
BLACKTOP CURB
CHAIN LINK FENCE
S10°51'09"E 40.00'
S81°32'35"W 25.32'
N73°34'50"W 42.18'
N07°10'28"W 169.53'
N08°56'52"W 52.70'
N82°29'55"W 95.64'
S59°17'56"W 74.85'
S88°09'05"W 44.26'
N00°20'57"W 23.00'
N10°00'29"E 68.28'
N72°12'46"W 39.99'
N20°05'34"W 178.01'
S06°55'44"E 64.00'
N83°04'16"E 23.00'
S83°04'16"W 23.00'
S77°19'25"W 29.74'
S06°55'44"E 226.15'
722.00'
N83°19'26"E 206.58'
S34°57'50"W, 0.28'
S77°09'26"E 200.11'
ELLIPTICAL PIPE 36"x 60" INV=126.73
ELLIPTICAL PIPE 36"x 60" INV=125.76
ELLIPTICAL PIPE 24"x 36" INV=126.50
TOP OF ELLIPTICAL PIPE 24"x 36" ELEV=129.55
12" SECMP TOP ELEV=131.78 INV=130.87
12" 24" CMP TOP ELEV=132.07 INV=131.08
10"IW=131.92
10"CMP
SMH RIM=133.88 INV THRU=124.53
SMH RIM=130.65
SMH RIM=136.68
SMH RIM=135.01
SMH RIM=131.14
MH RIM=135.05
MH RIM=132.94
CBCI TF=140.77
CBCI TF=135.74
CBCI TF=133.69
CBCI TF=147.76
CBCI TF=145.10
CBCI TF=142.60
CBCI TF=139.80
12"IW=165.29
12"IW=162.87
12"IW=164.03
UP 59030 43191
UP 59025 43154 W/LIGHT
UP 59027 43105
UP 59033 43111
UP 59034 43112
UP 59037 43117
UP 59013 43176 W/ELEC RISER
UP 59077 43177
UP 59005 431
MB "194"
MB "203"
MB "204"
MB "218"
MB "219"
MB "222"
MB "226"
MB "227"
MB "228"
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LEGEND

EXISTING	PROPOSED	DESCRIPTION
		TREE TO REMAIN
		TREE REMOVAL
		TREE PROTECTION
		CAMERA/MOTION DETECTOR
× ELEV	×ELEV	SPOT ELEVATION
		HYDRANT WITH VALVE
		SERVICE VALVE
		SHUT OFF VALVE
		LIGHT POLE
		UTILITY POLE
		CURB INLET BASIN
		DRAINAGE MANHOLE
		SANITARY MANHOLE
		FLARED END SECTION
		HAYBALES
		INLET PROTECTION
		PROPERTY LINE
		LIMIT OF DISTURBANCE
		ROAD WITH CURB
X	X	FENCE
230	230	MAJOR CONTOUR
232	232	MINOR CONTOUR
		STONEWALL
W	W	WATER MAIN
S	S	SANITARY LINE
		DRAINAGE LINE
		SILT FENCE
	TD	TEMPORARY DIKE
	SW	SWALE
		UNDER DRAIN
	CF	CONSTRUCTION FENCE
		CHECK DAM

REVISION NO.	DATE	REVISION
3	12/03/10	PLANNING BOARD COMMENTS
2	4/26/10	ORU COMMENTS
1	1/20/09	RCDA COMMENTS

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40 0 40 80
GRAPHIC SCALE IN FEET
1"=40'

STATE OF NEW YORK · W. CHARLES UTSCHIG · LICENSED PROFESSIONAL ENGINEER

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CMX ENGINEERING, SURVEY & LANDSCAPE ARCHITECTS, PC OF NEW YORK
AN AFFILIATE OF BIRDSALL SERVICES GROUP

EROSION AND SEDIMENT CONTROL PLAN
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO. 080642001	DATE 4/26/2010
DRAWN BY JP	DESIGNED BY DM
SCALE 1"=40'	CHECKED BY WCU
CMX	
SHEET NO. 6 of 9	

R:\TREE
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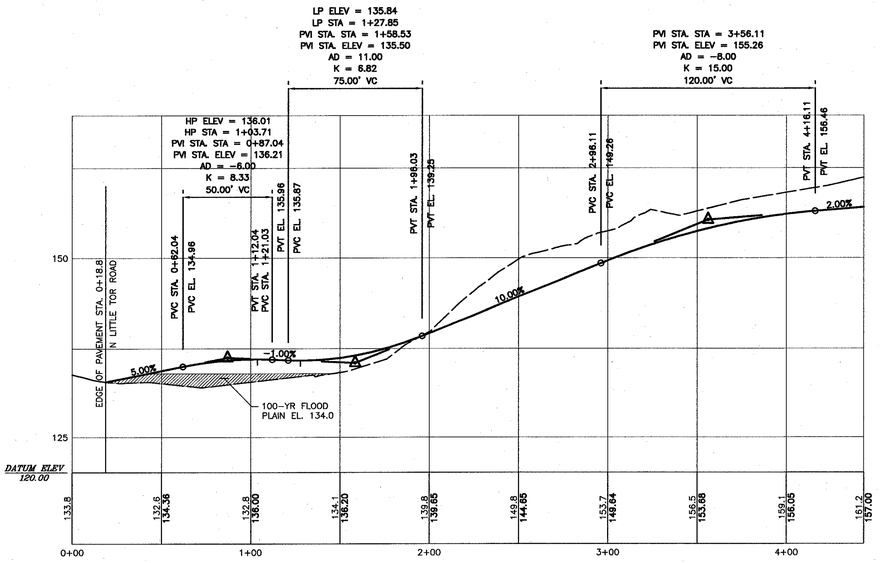

ACCESS DRIVEWAY PROFILE

SCALE: HORIZ 1"=40'
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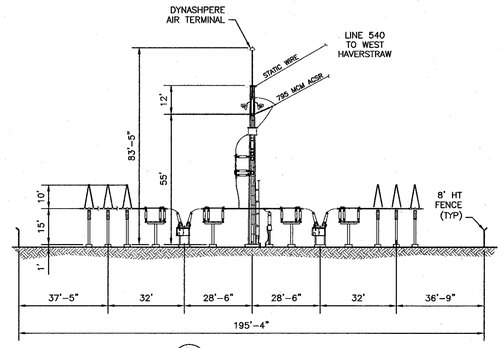
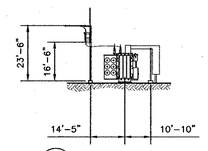


D SHT-4 **ELEVATION**
SCALE 1"=30'



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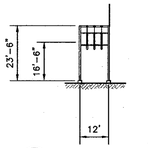
SCALE 1"=30'



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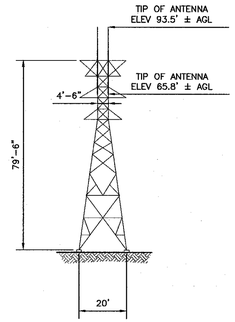
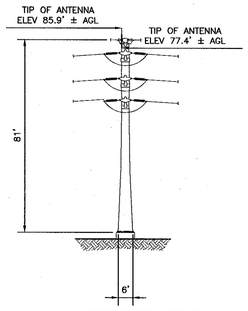
SCALE 1"=30'



EXISTING TOWER



PROPOSED STEEL POLE (WEST/EAST ELEVATION)

NOTE

VERIZON WIRELESS DB586-XC (59"Lx1-1/2"ø)

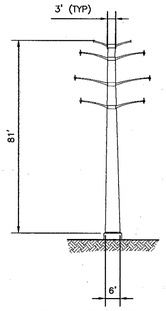
FREQUENCY: 835 MHZ, 300 WATTS & ASPP2936E (42.8"Lx1.5"ø)

FREQUENCY: 1920 MHZ, 250 WATTS

OMNI-DIRECTIONAL ANTENNA, TYP FOR (4) ANTENNAS TOTAL

(2) ANTENNAS UPRIGHT

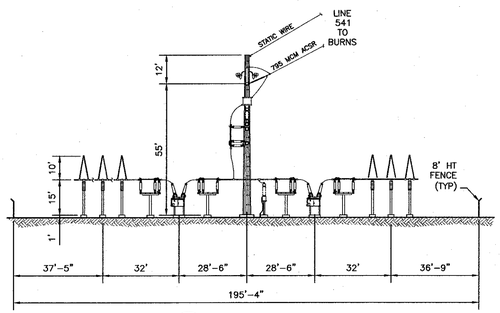
(2) ANTENNAS INVERTED (PROPOSED)



PROPOSED STEEL POLE (NORTH/SOUTH ELEVATION)

NOTE

1. ATTACH PROPOSED ANTENNAS TO NEW POLE USING (2) KNOCK DOWN UNIVERSAL TRI-BRACKETS BY VALMONT P/N 801069.
2. COAXIAL CABLES RUN UP THE INSIDE OF THE POLE.



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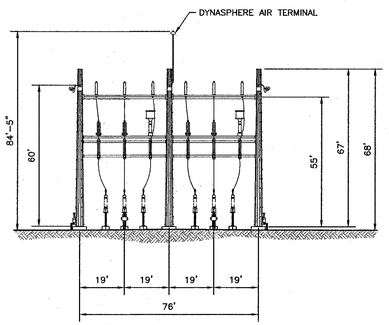
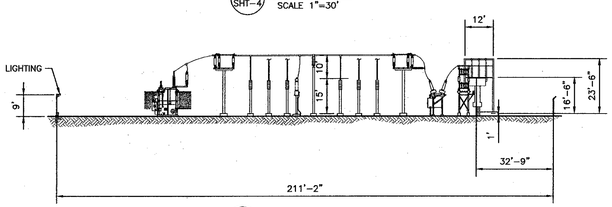
SCALE 1"=30'



C SHT-4 **ELEVATION**
SCALE 1"=30'



B SHT-4 **ELEVATION**
SCALE 1"=30'

REVISION NO.	DATE	REVISION
1	1/20/09	RCDA COMMENTS

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N.T.S.

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W. CHARLES UTSCHIG, JR.
PROFESSIONAL ENGINEER LICENSE No. 62303-1

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ACCESS DRIVEWAY PROFILE, SITE ELEVATIONS AND SECTIONS
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO	DATE
080642001	12/3/2010
DRAWN BY JYP	DESIGNED BY DM
SCALE AS NOTED	CHECKED BY WCU

CMX

SHEET NO. 7 of 9

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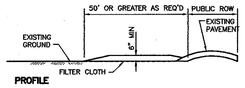
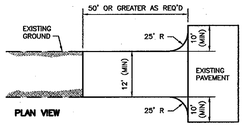


PROFILE

NOTE: PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.

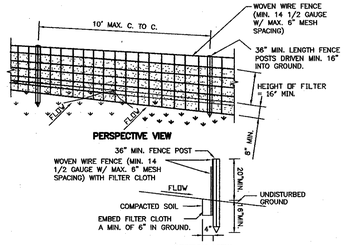


PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SIGHT.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILISED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

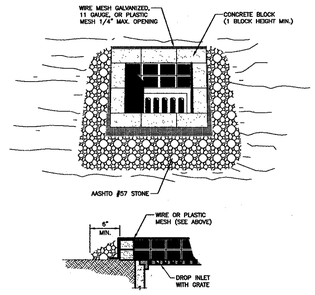
STABILIZED CONSTRUCTION ENTRANCE
NTS



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE INSTALLATION DETAIL
NTS



MAXIMUM DRAINAGE AREA = 1 ACRE.

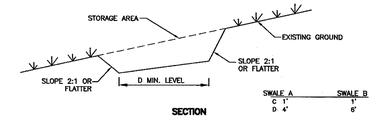
INLET PROTECTION IS NOT REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS REQUIRED FOR ALL INSTALLATIONS. EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED.

EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPACTED OR TO REMAIN PERMANENTLY.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

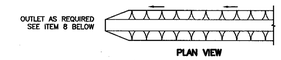
STANDARD CONSTRUCTION DETAIL #29

STONE & CONCRETE BLOCK INLET PROTECTION CHANNEL OR ROADSIDE SWALE
NTS



SECTION

POSITIVE DRAINAGE: 0.5% OR STEEPER DEPENDENT ON TOPOGRAPHY



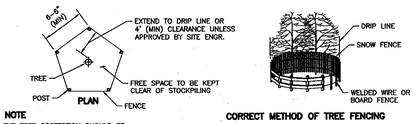
PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
9. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW.

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC –10AC)
1	0.5%–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1%–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1%–8.0%	SEED WITH JUTE OR EXCELSIOR SOD	LINED WITH 4–8" RIPRAP OR RECYCLED CONCRETE EQUIVALENT
4	8.1%–20%	LINED WITH 4–8" RIPRAP	ENGINEERED DESIGN

TEMPORARY SWALE
NTS

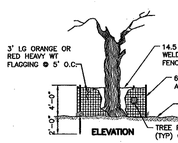


NOTE

THE TREE PROTECTION SHOULD BE INSTALLED PRIOR TO ANY WORK IN AREA, AND REMAIN UNTIL END OF ALL WORK.

CORRECT METHOD OF TREE FENCING

SILTFENCE TO INSTALLED ON GRADE WITH NO TRENCH. MATTING TO BE INSTALLED OVER SILT FABRIC AND ANCHORED BY MIN 12" LANDSCAPE NAIL @1' O.C. SPACING. INSTALLATION TO BE PERFORMED BY A QUALIFIED ARBORIST AND SUPERVISED BY A CERTIFIED ARBORIST

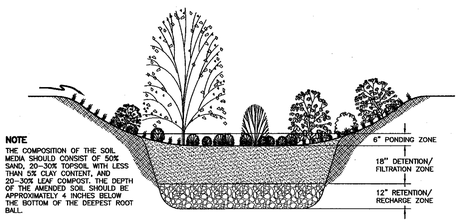


ROOT PROTECTION MATTING DETAIL

CONSTRUCTION SPECIFICATIONS

1. TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN FIELD BY PROJECT FORESTER.
2. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
3. TRENCH SHOULD BE BACKFILED IMMEDIATELY OR INCORPORATED WITH SILT FENCE INSTALLATION.
4. ROOTS SHOULD BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.5" DIAMETER SHOULD BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

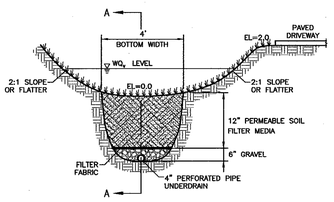
TREE/VEGETATION PROTECTION BARRIER
NTS



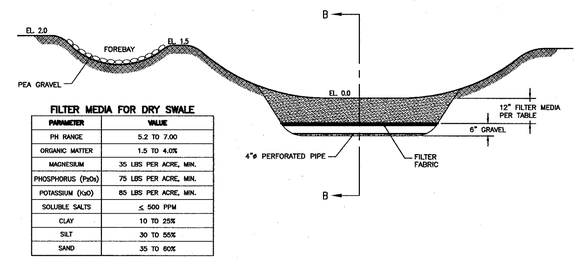
NOTE

THE COMPOSITION OF THE SOIL MEDIA SHOULD CONSIST OF 50% SAND, 20–30% TOPSOIL WITH LESS THAN 5% CLAY CONTENT, AND 20–30% LEAF COMPOST. THE DEPTH OF THE AMENDED SOIL SHOULD BE APPROXIMATELY 4 INCHES BELOW THE BOTTOM OF THE DEEPEST ROOT BALL.

RAIN GARDEN DETAIL
NTS



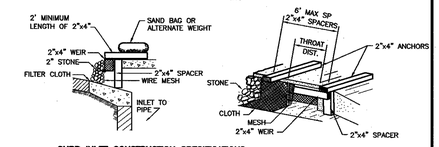
NYS DEC DRY SWALE O–1 DETAIL (B–B)
NTS



FILTER MEDIA FOR DRY SWALE

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0%
MAGNESIUM	35 LBS PER ACRE, MIN.
PHOSPHORUS (P_2O_5)	75 LBS PER ACRE, MIN.
POTASSIUM (K_2O)	85 LBS PER ACRE, MIN.
SOLUBLE SALTS	≤ 500 PPM
CLAY	10 TO 25%
SILT	30 TO 55%
SAND	35 TO 60%

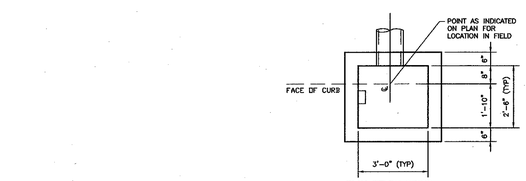
NYS DEC DRY SWALE SECTION A–A
NTS



CURB INLET CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30" MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2"x4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO 2"x4" SPACERS 9" LONG SPACED NO MORE THAN 6 FT APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2"x4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.
6. MAXIMUM DRAINAGE AREA IS 1 ACRE.

INLET PROTECTION
NTS



PLAN BELOW GRATE

EROSION CONTROL NOTES

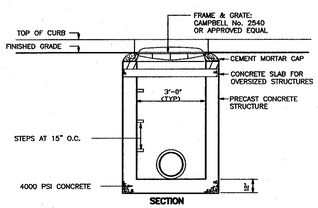
1. PRIOR TO THE START OF CONSTRUCTION ALL EROSION CONTROL DEVICES DOWN SLOPE OF THE WORK AREA SHALL BE IN PLACE AS SHOWN ON THESE PLANS.
2. FINAL GRADES SHALL BE ESTABLISHED AS SOON AS POSSIBLE AND TOP SOILED AND SEEDED TO PROVIDE A TURF, WHICH WILL STABILIZE SLOPES AND PREVENT EROSION.
3. SLOPES TO REMAIN OPEN FOR MORE THAN THREE WEEKS SHALL BE PROTECTED WITH TEMPORARY SEEDING OR STAKED NETTING.
4. SOIL STOCKPILES SHALL BE PLACED IN THE AREAS SHOWN.
5. EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL AND SHALL BE CLEANED, REPAIRED OR REPLACED AS NECESSARY.
6. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH NEW YORK STATE BEST MANAGEMENT PRACTICES MANUAL FOR EROSION AND SEDIMENT CONTROL.

GENERAL NOTES

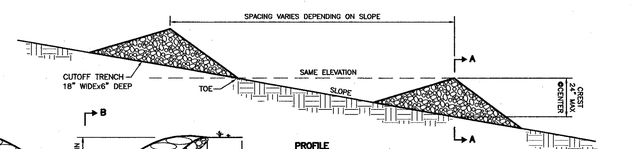
1. AFTER FINAL GRADES ARE ESTABLISHED, DISTURBED AREAS SHALL BE COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED AS SHOWN ON THE PLAN.
2. TREES, ROOT SYSTEMS AND OTHER VEGETATION REMOVED FOR CONSTRUCTION PURPOSES SHALL BE CHIPPED OR REMOVED FROM SITE. NO ON-SITE BURIAL OR BURNING SHALL BE PERMITTED.
3. THE CONTRACTOR OR CONSTRUCTION MANAGER SHALL CONTACT THE OWNERS OF ALL UTILITIES AFFECTING THE SITE PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE EXACT LOCATION OF UTILITIES FROM THE OWNERS PRIOR TO CONSTRUCTION. UNDERGROUND UTILITIES CALL CENTER OF NEW YORK (800–245–2828).
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE THOSE STEPS NECESSARY TO PREVENT ILLEGAL DUMPING TO TAKE PLACE ON THE SITE. ANY MATERIAL FOUND UNSATISFACTORY TO THE ENGINEER WILL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE.
5. FOR ADDITIONAL DETAILS ON HARDSCAPE SEE LANDSCAPING DRAWINGS.

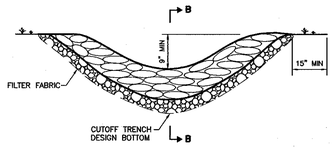
NOTES

1. THE CONTRACTOR SHALL SUBMIT SHOP DWGS. FOR EACH STRUCTURE FOR THE ENGINEERS APPROVAL PRIOR TO FABRICATION.
2. STRUCTURE SHALL BE CERTIFIED AS CONFORMING TO ASTM–C913 LATEST REVISION.
3. STEPS NOT REQUIRED FOR STRUCTURES LESS THAN 4' DEEP.
4. FOR STRUCTURES WITH PIPE DIAMETERS EXCEEDING MAXIMUMS, PROVIDE CONCRETE SLAB AS NOTED.

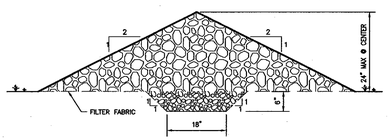


CATCH BASIN (CB)
NTS





SECTION A–A

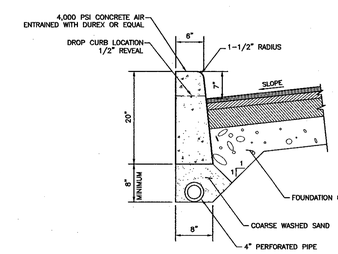


SECTION B–B

CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
6. MAXIMUM DRAINAGE AREA 2 ACRES.

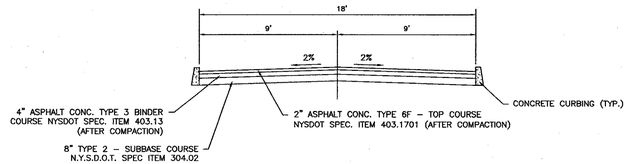
CHECK DAM
NTS



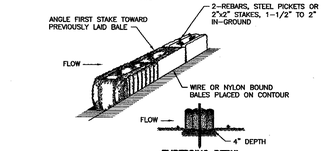
NOTES

1. CURB SHALL BE CAST IN PLACE. EXPANSION JOINTS OF 1/2" CELLULOSE OR SIMILAR MATERIAL SHALL BE INSTALLED WHERE REQUIRED (AT CURB BOXES, CATCH BASINS, ETC.). CONTRACTION (CONTROL) JOINTS SHALL BE INSTALLED AT 20' INTERVALS
2. IF 3/4" CRUSHED STONE IS SUBSTITUTED FOR COURSE SAND UNDER DRAIN BACKFILL, PIPE SHALL HAVE A GEOTEXTILE FABRIC ENVELOPE.
3. ALL UNDER DRAIN PIPES SHALL BE CONNECTED TO THE NEAREST CATCH BASIN.

CURB AND UNDER DRAIN DETAIL
NTS



TYPICAL ROAD SECTION
NTS



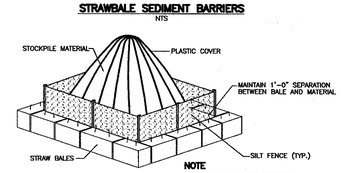
SLOPE MAXIMUM

STEEPNESS	X SLOPE	LENGTH (FT.)
2:1	50	25
3:1	33	50
4:1	25	75

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE–BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAWBALE SEDIMENT BARRIERS
NTS



NOTE

STOCKPILE SHALL BE COVERED ENTIRELY BY AN ANCHORED PLASTIC COVER

STOCKPILE CONTROL DETAIL
NTS

REVISION NO.	DATE	REVISION
2	4/26/10	ORU COMMENTS
1	1/20/09	RCDA COMMENTS

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DETAILS (SHEET 1 OF 2)
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO	080642001
DATE	4/26/2010
DRAWN BY	JP
DESIGNED BY	DM
SCALE	N.T.S.
CHECKED BY	WCU
SHEET NO.	8 of 9

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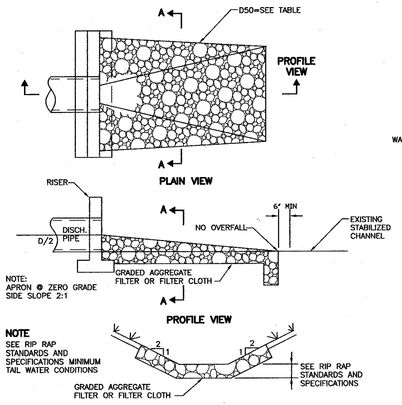
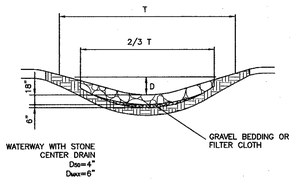
User: jporopat
Plot Date: 4/26/2010 2:05 PM
DWG: \\Cmxnyc\w\U080642001\F-DETAILS.dwg DETAILS (1 OF 2)

ARMONK



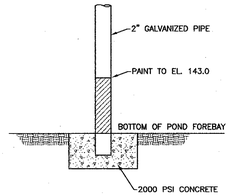
RIP RAP OUTLET PROTECTION

NTS



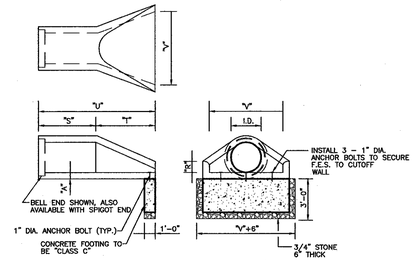
WATERWAY CROSS SECTION

NTS



SEDIMENT MARKER

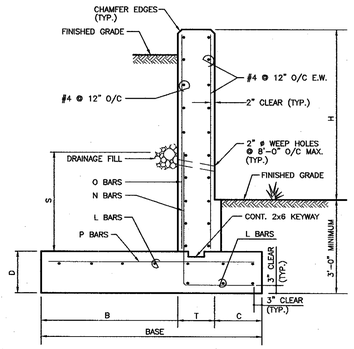
NTS



PIPE SIZE											
I.D.	12"	15"	18"	21"	24"	27"	30"	36"	42"	48"	54"	60"
"A"	2"	2.25"	2.5"	2.75"	3"	3.25"	3.5"	4"	4.5"	5"	5.5"	6"
"R"	5"	7.5"	9"		10"		14"		21"	24"	27"	31"
"S"	24"						26"		36"	36"	36"	
"T"	24"						30"	36"	60"	60"	60"	
"U"	4'-0"						4'-8"	5"-2"	8'-0"			
"V"	24"	28"	34"	40"	48"	54"	60"	72"	78"	84"	90"	96"
WT/FT	360	480	640	860	920	1200	1540	2100	5500	6500	8200	9300

CIRCULAR FLARED END SECTION

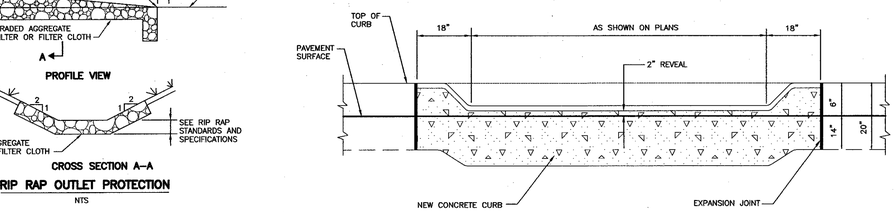
NTS



BASE	B	T	C	D	H	L BARS	P BARS	O BARS	N BARS	S
9' - 10"	7' - 4"	12"	1' - 6"	1'- 10"	< 13' - 0"	#4 @ 12"	#7 @ 12"	#6 @ 12"	#9 @ 12"	54"
7' - 10"	5' - 6"	12"	1' - 4"	1' - 6"	< 11' - 0"	#4 @ 12"	#7 @ 12"	#5 @ 12"	#8 @ 12"	48"
7' - 0"	5' - 0"	12"	1' - 0"	1' - 2"	< 10' - 0"	#4 @ 12"	#7 @ 12"	#5 @ 12"	#7 @ 12"	42"
5' - 6"	3' - 6"	12"	1' - 0"	1' - 0"	< 8' - 0"	#4 @ 12"	#6 @ 12"	#4 @ 12"	#6 @ 12"	30"
4' - 6"	2' - 6"	12"	1' - 0"	1' - 0"	< 7' - 0"	#4 @ 12"	#6 @ 16"	#4 @ 16"	#6 @ 16"	30"
4' - 0"	2' - 0"	12"	1' - 0"	1' - 0"	< 6' - 0"	#4 @ 12"	#5 @ 16"	#4 @ 16"	#5 @ 16"	24"

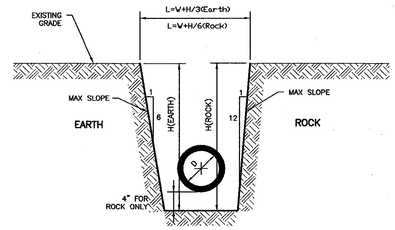
REINFORCED CONCRETE RETAINING WALL

NTS



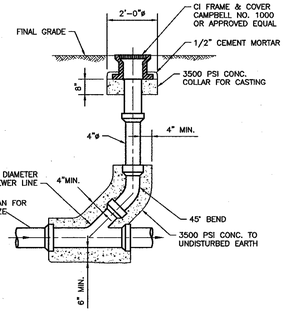
DEPRESSED CONCRETE CURB ELEVATION

NTS



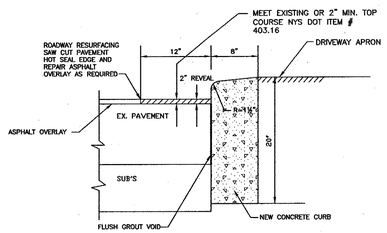
TRENCH EXCAVATION

NTS



CLEANOUT

NTS



DEPRESSED CONCRETE CURB SECTION

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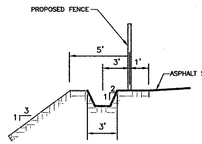


PERIMETER SWALE

NTS

NOTES

1. SEDIMENT BASINS TO BE CONSTRUCTED AS PERMANENT POOLS WITH MODIFICATIONS.
   A. CONSTRUCT TEMPORARY PERFORATED RISER AS SHOWN.
   B. PROTECT RISER WITH TRASH RACK.
   C. PERFORATIONS MUST NOT BE MADE ANY LOWER THAN 6" ABOVE TOP OF THE HORIZONTAL OUTFALL BARREL.
2. PERIODIC MAINTENANCE OF REMOVING SEDIMENT FROM BASIN WILL BE ANNUAL, OR AS NECESSARY WHEN SEDIMENT REACHES CLEANOUT LEVEL INDICATED BELOW.
3. UPON COMPLETION OF SITE CONSTRUCTION AND STABILIZATION OF TOPSOIL, TEMPORARY SEDIMENT BASIN OUTLET CONTROL STRUCTURE IS TO BE REMOVED AND PERMANENT OUTLET STRUCTURE INSTALLED.
   A. REMOVE TEMPORARY RISER STRUCTURE.
   B. REMOVE SEDIMENT, INSTALL POND LINER WHERE NEEDED, FINAL GRADE THE DETENTION BASIN AND STABILIZE.
   C. CUT BARREL TO FINAL LENGTH FOR PERMANENT OUTLET STRUCTURE (SEE UTILITY PLANS).
   D. INSTALL PERMANENT OUTLET STRUCTURE.
   E. INSTALL RIP-RAP OUTLET PROTECTION AS PER UTILITY PLANS.

PIPE EMBEDMENT ZONE WIDTH SCHEDULE FOR PIPE MATERIAL OTHER THAN HDPE

INSIDE DIA. OF PIPE (D)	6" or less	8'	10"-12"	14"-18"	20"-30"	36"	42"
EMBEDMENT ZONE WIDTH (W)	2'- 0"	2'-6"	3'- 0"	3'- 6"	4'- 0"	4'-6"	5'-6"

INSIDE DIA. OF PIPE (D)	48"	54"	60"	66"	72"	78"	84"	90"
EMBEDMENT ZONE WIDTH (W)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	9'-0"	9'-6"	10'-0"

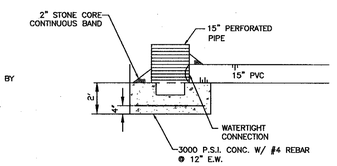
TRENCH EXCAVATION AND BACKFILL NOTES

1. THE MAXIMUM DRY DENSITIES SHALL BE DETERMINED IN ACCORDANCE WITH ASTM DESIGNATION D1557. THE MINIMUM PERCENTAGE OF COMPACTION TO BE ACHIEVED BY THE CONTRACTOR IN THE VARIOUS ZONES IS AS FOLLOWS:

	PIPE MATERIAL	LOCATION	INITIAL COMPACTION
SURFACE ZONE	ALL	ALL	95%
TRENCH BACKFILL ZONE			90%
PIPE EMBEDMENT ZONE			95%

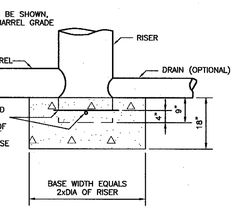
THE MINIMUM COMPACTION IN EMBANKMENTS SHALL BE 90%

2. THE PIPE EMBEDMENT ZONE WIDTH AND THE MAXIMUM TRENCH WIDTH SHALL NOT EXCEED THE PERMISSIBLE WIDTHS SHOWN. IF THE PERMISSIBLE WIDTH IS EXCEEDED, THE PIPE SHALL BE INSTALLED IN A HIGHER CLASS BEDDING THAN SHOWN ON THIS DRAWING OR THE SPECIFIED PIPE SHALL BE REPLACED WITH PIPE OF GREATER CRUSHING STRENGTH OR BOTH, TO ACHIEVE SUITABLE CONDITIONS.
3. SUITABLE MATERIAL FROM EXCAVATION SHALL BE FREE FROM OBJECTIONABLE QUANTITIES OF ORGANIC MATTER, CLAY, TREES, STUMPS, FROZEN MATERIAL, RUBBLE, CINDERS, ROCKS, AND OTHER MATERIALS CONSIDERED DELETERIOUS BY THE ENGINEER AND SHALL NOT HAVE FINES IN EXCESS OF 10 PERCENT PASSING THE NO. 200 SIEVE NOR STONE OR GRAVEL LARGER THAN 2 INCHES.



15" STANDPIPE DETAIL

NTS

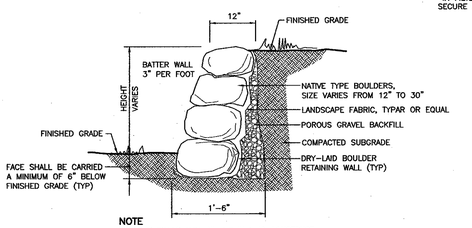


CONSTRUCTION SPECIFICATIONS

1. THE CONCRETE BASE SHALL BE POURED IN SUCH A MANNER TO INSURE THAT THE CONCRETE FILLS THE BOTTOM OF THE RISER TO THE INVERT OF THE OUTLET PIPE TO PREVENT THE RISER FROM BREAKING AWAY FROM THE BASE.
2. WITH ALUMINUM OR ALUMINIZED PIPE, THE EMBEDDED SECTION MUST BE PAINTED WITH CHROMATE OR EQUIVALENT.
3. RISER BASE MAY BE SIZED AS COMPUTED USING FLOATATION WITH A FACTOR OF SAFETY OF 1.2.

TEMPORARY RISER BASE

NTS

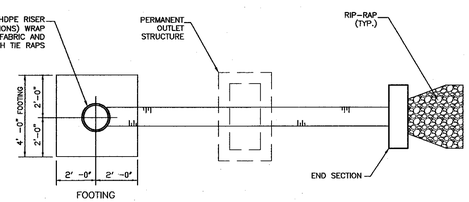


NOTE

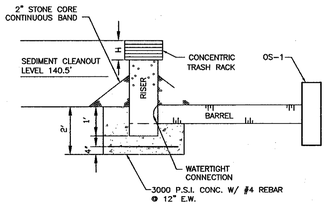
BOULDER WALLS MAY BE UTILIZED TO CONSTRUCT WALLS AROUND EXISTING TREES TO REMAIN.

STONE WALL DETAIL

NTS



TEMPORARY OUTLET STRUCTURE					
RISER (HDPE)			TRASH RACK		SEDIMENT CLEANOUT
DIA.	LENGTH	CREST ELEV	DIA	H	
15.0"	4'	143.6'	21.0"	7.0"	140.50'

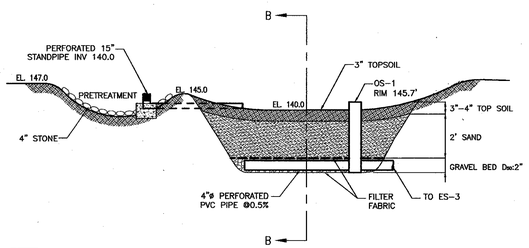


NOTES

TEMPORARY RISER WILL CONNECT TO BARREL AT SAME ELEVATION AS PROPOSED ON UTILITY PLAN FOR OS.

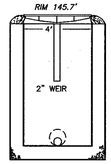
TEMPORARY OUTLET STRUCTURE

NTS

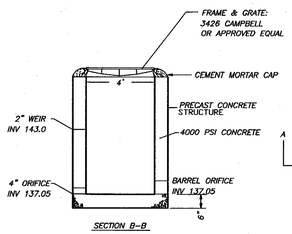


NYSDEC SURFACE SAND FILTER SECTION A-A

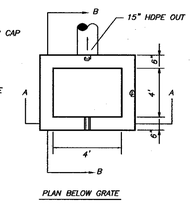
NTS



SECTION A-A



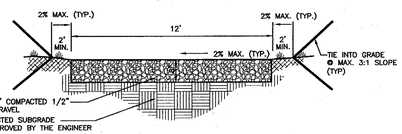
SECTION B-B



PLAN BELOW GRATE

OUTLET STRUCTURE DETAIL (OS-1)

N.T.S.



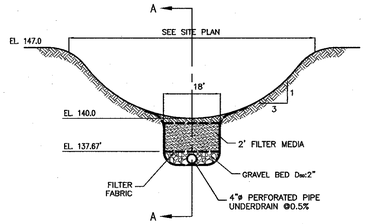
NOTES

ALL PATHS LAYOUT TO BE CONFIRMED IN FIELD BY RESIDENT ENGINEER AND TOWN ENGINEER

CONTRACTOR SHALL PROVIDE SAMPLES OF MATERIALS, AGGREGATE & STABILIZER PRIOR TO PURCHASE & INSTALLATION.

STORM WATER BASIN ACCESS ROAD

NTS



NYSDEC SURFACE SAND FILTER SECTION B-B

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TABLE C-1 MATERIAL SPECIFICATIONS FOR SAND FILTERS

PARAMETER	SPECIFICATIONS	SIZE	NOTES
SAND	CLEAN AASHTO-M-6 OR ASTM-C-33 CONCRETE SAND	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE NO. 10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
UNDERDRAIN GRAVEL	AASHTO-M-43 NO.67	0.25" TO 0.75"	
GEOTEXTILE FABRIC	ASTM-D-751 (PUNCTURE STENGTH - 125 LB.) ASTM-D-1117 (MULLEN BURST STRENGTH - 400-PSI) ASTM D-1682 (TENSILE STRENGTH-300LB.)	0.08" THICK EQUIVALENT OPENING SIZE OF NO. 80 SIEVE	MUST MAINTAIN 125 GPM PER SQ. FT. FLOW RATE. NOTE: A 4" PEA GRAVEL LAYER MAY BE SUBSTITUTED FOR GEOTEXTILES MEANT TO "SEPARATE" SAND FILTER LAYERS.

REVISION NO.	DATE	REVISION
2	4/26/10	ORU COMMENTS
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DETAILS (SHEET 2 OF 2)
LITTLE TOR SUBSTATION
ORANGE AND ROCKLAND UTILITIES, INC.

BLOCK xx - LOT xx
CLARKSTOWN ROCKLAND COUNTY NEW YORK

PROJECT NO	DATE
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SCALE N.T.S.	CHECKED BY WCU
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SHEET NO. 9 of 9	

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