

# THE CONSTRUCTION PLANS FOR 2008 ROAD IMPROVEMENTS PROGRAM

## BOROUGH OF MADISON MORRIS COUNTY, NEW JERSEY

SCALE AS INDICATED

JUNE, 2008

### BOROUGH COUNCIL

MARY-ANNA HOLDEN, Mayor  
ROBERT H. CONLEY, Council President  
ASTRI J. BAILLIE, Council Member  
CARMELA VITALE, Council Member  
JOHN M. ELIAS, Council Member  
JEANNIE TSUKAMOTO, Council Member  
VINCENT A. ESPOSITO, Council Member

UTILITY COMPANIES	
GAS - PUBLIC SERVICE ELECTRIC & GAS	(908) 522-7411
SEWER - BOROUGH OF MADISON	(973) 593-3088
ELECTRIC - BOROUGH OF MADISON	(973) 593-3091
WATER - BOROUGH OF MADISON	(973) 593-3092
TELE - VERIZON	(800) 427-9977
CABLE - CABLEVISION	(973) 884-2293
NEW JERSEY ONE-CALL	(800) 272-1000 or 811

#### NOTE:

LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND FIELD OBSERVATIONS BY THE BOROUGH ENGINEERING DEPARTMENT AND ARE NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION AND DEPTH OF ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS AS AN AID IN DETERMINING EXACT UTILITY LOCATIONS.

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### BOROUGH ADMINISTRATOR

RAYMOND M. CODEY

### BOROUGH ENGINEER

ROBERT A. VOGEL, P.E., C.M.E.

### BOROUGH ATTORNEY

JOSEPH MEZZACCA, JR., ESQ.

### WATER DEPARTMENT FOREMAN

SALATORE DeBIASSE

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3060

DATE \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463



HARTLEY DODGE MEMORIAL  
BOROUGH OF MADISON  
MADISON, NEW JERSEY 07940

STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION  
CURRENT NJDOT SUPPLEMENTAL SPECIFICATIONS

NO.	REVISIONS	DATE	BY	CHK.	APPR.



BOROUGH OF FLORHAM PARK

- WEST COMMON
- AVERY COURT
- BEDFORD COURT
- DERBY COURT
- GREENWICH COURT
- HEMPSTEAD COURT
- KINDSTON COURT
- FARFAX COURT
- CAMBRIDGE COURT
- CHELSEA COURT
- NORWICH COURT
- PLYMOUTH COURT
- MAYFIELD COURT

MORRIS TOWNSHIP

HARDING TOWNSHIP

CHATHAM TOWNSHIP

BOROUGH OF FLORHAM PARK

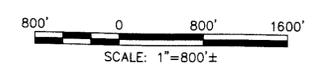
BOROUGH OF CHATHAM

CHATHAM TOWNSHIP

ORCHARD STREET  
DOUGLAS AVENUE  
DREW PLACE  
JAMES PLACE  
STRICKLAND PLACE

MADISON GOLF COURSE  
DRAINAGE BID ALTERNATE

DELLWOOD DRIVE  
DELLWOOD PARKWAY  
(EAST, WEST & SOUTH)



2008 ROAD IMPROVEMENTS PROGRAM  
LOCATION PLAN

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3060

NO.	REVISIONS	DATE	BY	CHK.	APPR.

DATE \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: 1" = 800'±  
DATE: 6-18-08  
DR. BY: D. BUCK  
DWG. NO: 2 of 17

**GENERAL NOTES**

- 1) THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1989 EDITION, AS PUBLISHED BY THE NEW JERSEY STATE HIGHWAY DEPARTMENT, THE PLANS, TECHNICAL SPECIFICATIONS, ADVERTISEMENT, CONTRACTOR'S PROPOSAL AND INCLUDING BUT NOT LIMITED TO THE AMENDMENTS CONTAINED HEREINAFTER SHALL COMPRISE THE CONTRACT.
- 2) THE CONTRACTOR IS TO REFER TO THE SUPPLEMENTAL SPECIFICATION, WHICH INDICATES WHEN THE STANDARD SPECIFICATIONS, AND/OR THE AMENDMENTS THAT FOLLOW SHOULD APPLY.
- 3) THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, ORDERS AND REGULATIONS RELATING TO THE PERFORMANCE OF THE WORK, THE PROTECTION OF ADJACENT PROPERTY AND THE MAINTENANCE OF PASSAGEWAYS.
- 4) NO CONSTRUCTION, MAINTENANCE OR UTILITY WORK ON, UNDER OR ABOVE THE PROJECT ROAD THAT WILL OBSTRUCT, INTERFERE WITH AND/OR DETOUR TRAFFIC ON THE ROAD, SHALL BE PERFORMED BEFORE THE HOUR OF 7:00 OR AFTER 5:00 PM. THE CONTRACTOR'S WORK HOURS SHALL CONFORM TO LOCAL ORDINANCE. THE CONTRACTOR SHALL NOT DEVIATE FROM THE ABOVE WORK HOURS WITHOUT OBTAINING WRITTEN PERMISSION FROM THE CHIEF OF POLICE PRIOR TO THE START OF CONSTRUCTION.
- 5) EACH AND EVERY PROVISION OF LAW AND CLAUSE REQUIRED BY LAW TO BE INSERTED IN THIS CONTRACT SHALL BE READ AND ENFORCED AS THOUGH IT WERE INCLUDED HEREIN, AND IF THROUGH MISTAKE OR OTHERWISE ANY SUCH PROVISION IS NOT INSERTED, OR IS NOT CORRECTLY INSERTED, THEN UPON THE APPLICATION OF EITHER PARTY, THE CONTRACT SHALL FORTHWITH BE PHYSICALLY AMENDED TO MAKE SUCH INSERTION OR CORRECTION.
- 6) THE CONTRACTOR WILL BE FURNISHED WITH FIVE (5) SETS OF PLANS AND SPECIFICATIONS. ONE (1) COPY OF THE PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR MUST BE KEPT CONSTANTLY ON THE PROJECT SITE. ANYTHING SHOWN ON THE PLANS AND NOT MENTIONED IN THE SPECIFICATIONS, OR MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE PLANS, AND ALL WORK AND MATERIALS NECESSARY FOR THE COMPLETION OF THE WORK ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS, SHALL BE FURNISHED, PERFORMED AND DONE, AS IF THE SAME WERE BOTH MENTIONED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. ANY CONFLICT OR INCONSISTENCY BETWEEN THE PLANS AND SPECIFICATIONS, OR ANY DISCREPANCY BETWEEN THE FIGURES AND SCALE OF DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AS TO WHICH SPECIFICATIONS WILL GOVERN WILL BE CONCLUSIVE AND FINAL.
- 7) IN THE EVENT THE MEANING OF ANY PORTION OF THE SPECIFICATIONS OR DRAWINGS OR ANY SUPPLEMENTARY DRAWINGS OR INSTRUCTIONS OF THE ENGINEER IS DOUBTFUL, THE SAME SHALL BE UNDERSTOOD TO CALL FOR THE BEST TYPE OF CONSTRUCTION, BOTH AS TO MATERIALS AND WORKMANSHIP, WHICH REASONABLY CAN BE INTERPRETED.
- 8) IN THE EVENT A SITUATION ARISES IN WHICH MATERIALS NOT SPECIFIED ON THE PLANS OR INDICATED IN THE SUPPLEMENTAL SPECIFICATION ARE TO BE USED FOR EXTRA WORK, THEN THE STANDARD SPECIFICATIONS OR SUPPLEMENTS WHICHEVER GOVERNS, WILL BE USED.
- 9) THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO GENERAL CONDITIONS, WHICH REQUIRES THAT HE POST A ONE (1) YEAR MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE FINAL CONTRACT AMOUNT.
- 10) THE GENERAL CONDITIONS OF THE CONTRACT INDICATES THAT THE CONTRACTOR MUST NOTIFY THE ENGINEER OF ANY INTENDED OVERTIME WORK. FURTHER THE BOROUGH MUST BE REIMBURSED BY DEDUCTION OF MONTHLY PAYMENTS FOR THE OVERTIME WORK PERFORMED BY THE INSPECTOR AND/OR BOROUGH PERSONNEL.
- 11) ALL TRENCHES UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS AND/OR AMENDMENTS, SHALL HAVE BACKFILL MATERIAL AS SPECIFIED IN SUBSECTION 207.6. THE ENGINEER AT HIS DISCRETION MAY PERMIT THE USE OF EXCAVATED OR OTHER SUITABLE MATERIAL TO BE USED AS BACKFILL ON TRENCHES OUTSIDE THE CURB LINES.
- 12) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCESS MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE BOROUGH IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS IN THE BOROUGH LIMITS WITHOUT EXPRESS PERMISSION OF THE BOROUGH ENGINEER.
- 13) THE CONTRACTUAL TIME OF COMPLETION FOR THIS PROJECT IS PROVIDED IN THE SPECIFICATIONS.
- 14) THE CONTRACTOR IS NOTIFIED THAT THE SPECIFICATIONS IN SUBSECTION 110, INDICATE THAT HE MUST MAINTAIN TRAFFIC AND ACCESS TO RESIDENCES. HE IS ALSO NOTIFIED TO ASSURE ACCESS FOR GARBAGE COLLECTION AND EMERGENCY VEHICLES.
- 15) PAYMENT FOR PIPES SHALL BE ON THE BASIS OF HORIZONTAL LINEAR FEET. THE UNIT PRICE PER LINEAR FEET SHALL INCLUDE THE COST FOR CONSTRUCTION LAYOUT, EXCAVATION, BEDDING AND BACKFILLING WITH SPECIFIED MATERIAL.
- 16) EXISTING FENCES SHALL BE REMOVED AND SHALL BE RESET AT THE LOCATION ACCEPTABLE TO THE OWNER AND THE ENGINEER. THE COST TO REMOVE AND RESET FENCES SHALL BE INCLUDED IN VARIOUS ITEMS IN THE PROPOSAL.
- 17) THE CONTRACTOR IS RESPONSIBLE TO OBEY ALL THE SAFETY AND HEALTH REGULATIONS. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED.
- 18) THE CONTRACT INCLUDES STATE WAGE RATES.
- 19) PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES LOCATED AND PHYSICALLY MARKED OUT WITHIN THE LIMITS OF THE PROJECT (CALL 1-800-272-1000). THE CONTRACTOR SHALL PROVIDE TEST HOLES IN AREAS OF POSSIBLE CONFLICT TO VERIFY THE DEPTH AND LOCATION OF THE UTILITY. PAYMENT SHALL BE MADE FOR THIS ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR DELAYS THAT MAY BE NECESSARY TO RELOCATE UTILITIES OR THE PROPOSED LOCATION OF DRAINAGE STRUCTURES.
- 20) THE CONTRACTOR SHALL APPLY THE SURFACE WITHIN 72 HOURS OF THE MILLING OPERATION.
- 21) THE CONTRACTOR IS RESPONSIBLE THAT UPON COMPLETION OF CONSTRUCTION THAT ALL WATER MAIN SERVICE CONNECTIONS ARE FUNCTIONING PROPERLY AND CONFORM TO THE "SERVICE CONNECTION" DETAIL CONTAINED IN THIS SET OF PLANS.

**CONSTRUCTION NOTES**

- 1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE LOCAL POLICE DEPARTMENT FOR TRAFFIC OPERATIONS AND PARKING PROHIBITIONS DURING CONSTRUCTION.
- 2) ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND ALL COSTS FOR REPAIRS SHALL BE BORNE BY THE CONTRACTOR.
- 3) ALL DISTURBED SHRUBS, FENCING, SIGNS, MAILBOXES, DRIVES, ETC. SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS RESTORATION, UNLESS SPECIFIED ELSEWHERE.
- 4) ALL PROPERTY CORNERS OR MONUMENTS REMOVED DURING CONSTRUCTION SHALL BE REPLACED BY A NEW JERSEY LICENSED LAND SURVEYOR, AT NO SEPARATE COST TO THE OWNER.
- 5) ALL EXISTING UTILITY CASTINGS, COVERS AND GRATES TO BE REMOVED ARE THE PROPERTY OF THE BOROUGH OF MADISON AND SHALL BE DELIVERED TO THE PUBLIC WORKS DEPARTMENT. PAYMENT WILL NOT BE MADE FOR NEW CASTINGS, COVERS AND GRATES UNLESS THE OLD ONES ARE RETURNED.
- 6) ALL MILLED MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH APPROVED NJDOT/NJDEP METHODS AND MEANS, OR TRANSPORTED AT THE DIRECTION OF THE ENGINEER.
- 7) PRIVATE UTILITY COMPANIES MUST BE CONTACTED BY THE CONTRACTOR SO THAT PRIVATELY OWNED CASTINGS MAY BE RESET BY THE UTILITY COMPANY.
- 8) UNSUITABLE SUBBASE MATERIAL WHICH HAS BEEN UNCOVERED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED AT THE DIRECTION OF THE ENGINEER. ROADWAY EXCAVATION, UNCLASSIFIED SHALL BE PERFORMED TO REMOVE UNSUITABLE SUBBASE MATERIAL. SUBBASE MATERIAL SHALL BE REPLACED WITH DENSE GRADED AGGREGATE BASE COURSE. ROADWAY EXCAVATION, UNCLASSIFIED, AND DENSE GRADED AGGREGATE BASE COURSE WHICH HAVE BEEN INSTALLED ON AN "IF AND WHERE DIRECTED" BASIS, WILL BE PAID FOR AT THE UNIT PRICE BID FOR THOSE ITEMS.
- 9) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ACCESS RAMPS AT ALL CURB OPENINGS FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN RAMPS AROUND ALL EXPOSED CASTINGS, BOTH PUBLIC AND PRIVATE, WHICH HAVE BEEN UNCOVERED OR RESET DURING CONSTRUCTION.
- 10) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED AS DIRECTED BY THE ENGINEER.
- 11) ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE STANDARDS OF THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- 12) IF NOT OTHERWISE INDICATED, NEW PAVEMENT MARKINGS SHOULD CONFORM TO THE FOLLOWING:  

CENTER LINES	2 - 4inch WIDE YELLOW LINES, 4inch APART
STOP LINES	12inch WIDE WHITE LINES (4 ft. MIN. FROM CROSSWALK)
CROSSWALKS	6inch WIDE WHITE LINES, 6ft. MIN. WIDTH
	MATCH PROPOSED STRIPING WITH EXISTING LANE AND CENTER LINES.
- 13) CONTRACTOR SHALL NOTIFY ENGINEER WHEN TRAFFIC STRIPES AND TRAFFIC PAINT HAVE BEEN LAID OUT PRIOR TO PAINTING. THE ENGINEER WILL INSPECT AND APPROVE LAYOUT PRIOR TO CONTRACTOR PAINTING TRAFFIC STRIPES AND TRAFFIC MARKINGS.
- 14) NO SEPARATE PAYMENT WILL BE MADE FOR THE REMOVAL OF EXISTING CURBS, OSIDEWALKS, ETC., THE COST FOR THE REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SIMILAR NEW ITEMS IN THE PROPOSAL.
- 15) CONTRACTOR IS TO OPERATE ALL NEWLY INSTALLED WATER VALVES AND EXISTING WATER VALVES WITHIN THE WORK AREAS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY UPON THE COMPLETION OF ALL IMPROVEMENTS ASSOCIATED WITH THIS PROJECT.
- 16) ALL SERVICE CONNECTIONS INCLUDE EXCAVATION, FILL, LABOR AND MATERIAL WITHIN UNIT PRICE.

**CONSTRUCTION NOTES**

1. MAILBOX 'CONSTRUCTION NOTICE' ONE WEEK PRIOR.
2. MARKOUT STORM, SANITARY, UTILITIES AND SERVICE LOCATIONS. REQUEST TREE MARKOUT.
3. KNOCK ON DOORS PRIOR TO REMOVING RESIDENTIAL ACCESS.
4. PERFORM TREE REMOVAL AND STUMP GRINDING WITHIN PROJECT OR PHASE LIMITS.
5. COMMENCE CURB EXCAVATION ONE SIDE OF STREET ONLY.
6. CONSTRUCTION VEHICLES, MATERIALS AND EQUIPMENT ONE SIDE OF STREET ONLY.
7. CALL ENGINEER FOR GRADE, ALIGNMENT AND POSITIVE DRAINAGE CHECK.
8. MAINTAIN TRAFFIC CONES DELINEATING CONSTRUCTION AREAS AT A MINIMUM EVERY 50 FEET OF PROJECT, ONE SIDE AT ALL TIME.
9. REPLACE OR REQUEST REPLACEMENT OF OLD OR COMPROMISED UTILITY SERVICE RISERS.
10. POUR CONCRETE CURB AND SIDEWALK ONE SIDE OF STREET ONLY.
11. POUR CONCRETE APRONS / SIDEWALK WITH W/W ONE SIDE OF STREET ONLY.
12. RESTORE INDIVIDUAL DRIVEWAY ACCESS NO MORE THAN ONE WEEK AFTER DISTURBANCE.
13. MORTAR ALL GRANITE BLOCK CURB JOINTS.
14. PLACE STABILIZED ASPHALT BASE IN DISTURBED GUTTERS.
15. RESET ALL CONNECTING DRIVEWAY BLOCKS AND SIDEWALK CONNECTIONS.
16. TOPSOIL, SEED AND HAYBALE DISTURBED AREAS BEFORE ADVANCING TO NEXT SIDE OR PHASE.
17. COMMENCE CURB OR SIDEWALK WORK ON OPPOSITE SIDE OF ROAD, NOTICE AS NECESSARY.
18. MAILBOX 'PAVING NOTICE' 3 DAYS PRIOR TO MILLING OPERATIONS. PAINT MILLING LIMITS.
19. REMARK, CHECK CONDITION AND PROTECT UTILITY SERVICE RISERS, MANHOLES AND INLETS.
20. MILLING OPERATIONS COMPLETED, VACUUM SWEEP SURFACE, RECHECK SERVICE RISERS.
21. MANHOLES AND INLETS TO BE RAISED OR RESET AS NEEDED MATCHING TOP OF CURB OR CROSS GRADE.
22. VACUUM SWEEP ENTIRE MILLED AREA TO ELIMINATE REMAINING ROADWAY GRIT ON PAVING DAY.
23. IMPLEMENT COMPLETE TACK AND CONTROL ASPHALT TRUCK DEPARTURE ROUTES ON PAVING DAY.
24. PAVING TO COMMENCE WITHIN 72 HOURS OF MILLING OPERATIONS.
25. STRIPING AND TRAFFIC CONTROLS TO IMMEDIATELY FOLLOW PAVEMENT COMPACTION OPERATIONS.
26. RESEED GRASSED AREAS WITHIN PROJECT LIMITS.

FINAL 08 GEN NOTES.DWG 6-18-08

**2008 ROAD IMPROVEMENTS PROGRAM  
CONSTRUCTION & GENERAL NOTES**

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940

NO.	REVISIONS	DATE	BY	CHK.	APPR.

DATE \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: N.T.S.  
DATE: 6-18-08  
DR. BY: D.BUCK  
DWG. NO: 3 of 17

# 2008 ROAD IMPROVEMENTS

## ESTIMATE & DISTRIBUTION OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	DELLWOOD DRIVE & PARKWAY APPROX. QUANTITIES	LOVELAND ROAD APPROX. QUANTITIES	MIDWOOD TERRACE APPROX. QUANTITIES	GREEN AVENUE APPROX. QUANTITIES	PROSPECT STREET APPROX. QUANTITIES	ORCHARD STREET APPROX. QUANTITIES	DOUGLAS & RACHAEL AVENUE'S APPROX. QUANTITIES	JAMES PLACE APPROX. QUANTITIES	STRICKLAND PLACE APPROX. QUANTITIES	DREW PLACE APPROX. QUANTITIES*	STATION ROAD APPROX. QUANTITIES	WOODCLIFF DRIVE APPROX. QUANTITIES	TOTAL APPROX. CONTRACT QUANTITIES
1	MAINTENANCE AND PROTECTION OF TRAFFIC	L.S.	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2	POLICE TRAFFIC DIRECTORS	MAN HRS.	60	120	120	40	40	60	120	60	60	60	120	120	920
3	BITUMINOUS CONCRETE SURFACE, MIX 1-5 (9.5M64)	TONS	520	410	1200	35	180	230	330	130	260	160	570	500	4525
4	BITUMINOUS STABILIZED BASE, MIX 1-2 (19M64) 4" TH.	TONS	400	100	300	10	50	60	80	35	60	40	145	120	1400
5	DENSE GRADED AGGREGATE BASE COURSE, 6" THICK	C.Y.	800	280	830	25	130	160	230	90	180	110	390	340	3565
6	MILLING, PROFILE 0" TO 1.5"	S.Y.	500	3350	9900	-	1500	1850	2700	1080	2100	1310	4680	4200	33170
7	ROOF DRAINS, (SDR 35) P.V.C. 3"-6" DIA.	L.F.	200	240	300	-	40	80	180	90	80	100	250	200	1760
8	RESET MANHOLE CASTINGS	EACH	15	4	13	-	1	3	4	1	2	1	11	6	61
9	REPLACE VALVE STEM RISER	EACH	4	26	8	-	1	2	2	0	2	0	5	3	53
10	RESET/REPLACE INLET FRAME & GRATE w/NJDEP J-ECO	EACH	3	4	0	-	0	0	3	0	0	0	10	0	20
11	CONCRETE SIDEWALK, 4" THICK	S.Y.	0	980	800	-	0	120	0	0	0	0	0	450	2350
12	REINF. CONCRETE D/W APRON, 6" THICK	S.Y.	270	350	340	-	30	110	240	60	110	140	280	250	2180
13	DRIVEWAY RESTORATION, MIX 1-5	S.Y.	110	170	120	-	20	50	80	20	60	40	70	50	790
14	GRANITE BLOCK CURB	L.F.	630	1900	6200	-	840	1100	1750	720	1470	840	2900	2200	20650
15	SAW CUTS, 4" DEPTH	L.F.	100	2000	6200	570	840	1200	1800	740	1400	840	3000	2500	21190
16	UNCLASSIFIED ROADWAY EXCAVATION	C.Y.	200	150	520	380	40	0	560	0	30	70	320	540	2810
17	15" DIA. REINFORCED CONCRETE PIPE, CL 5	L.F.	885	275	770	570	60	0	300	0	210	480	560	970	5080
18	DRAINAGE "B" INLET (NJDOT BIKE & NJDEP TYPE "J" ECO)	EACH	8	7	10	-	0	0	6	0	6	4	11	11	63
19	DRAINAGE MANHOLE	EACH	3	1	0	-	0	0	0	0	0	0	1	0	5
20	DRAINAGE MANHOLE (RECONSTRUCTION)	EACH	0	1	1	-	0	0	0	0	0	0	0	0	2
21	SELECT BACKFILL	C.Y.	200	150	520	380	40	0	860	0	30	70	320	540	3110
22	TRAFFIC STRIPING 12" STOP BAR	L.F.	24	60	45	-	30	14	15	28	30	0	15	15	276
23	TRAFFIC STRIPING, 4" DOUBLE LINE	L.F.	100	100	200	-	100	50	50	100	100	0	50	50	900
24	TRAFFIC STRIPING, X-WALKS	L.F.	0	30	90	-	30	26	30	0	40	0	30	45	321
25	TRAFFIC SIGNAGE (MUTCD 24")	EACH	2	6	3	-	3	7	5	5	1	2	2	0	36
26	TREE REMOVAL, 12" TO 24"	UNIT	0	0	0	-	0	0	0	0	0	0	2	0	2
27	TREE REMOVAL, 24" TO 36"	UNIT	0	0	0	-	0	0	0	0	0	0	0	0	0
28	TREE REMOVAL, 36" TO 48"	UNIT	0	0	0	-	0	1	0	0	0	0	1	0	2
29	SOIL EROSION & SEDIMENT CONTROL PLAN	L.S.	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
30	LANDSCAPE RESTORATION	L.S.	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

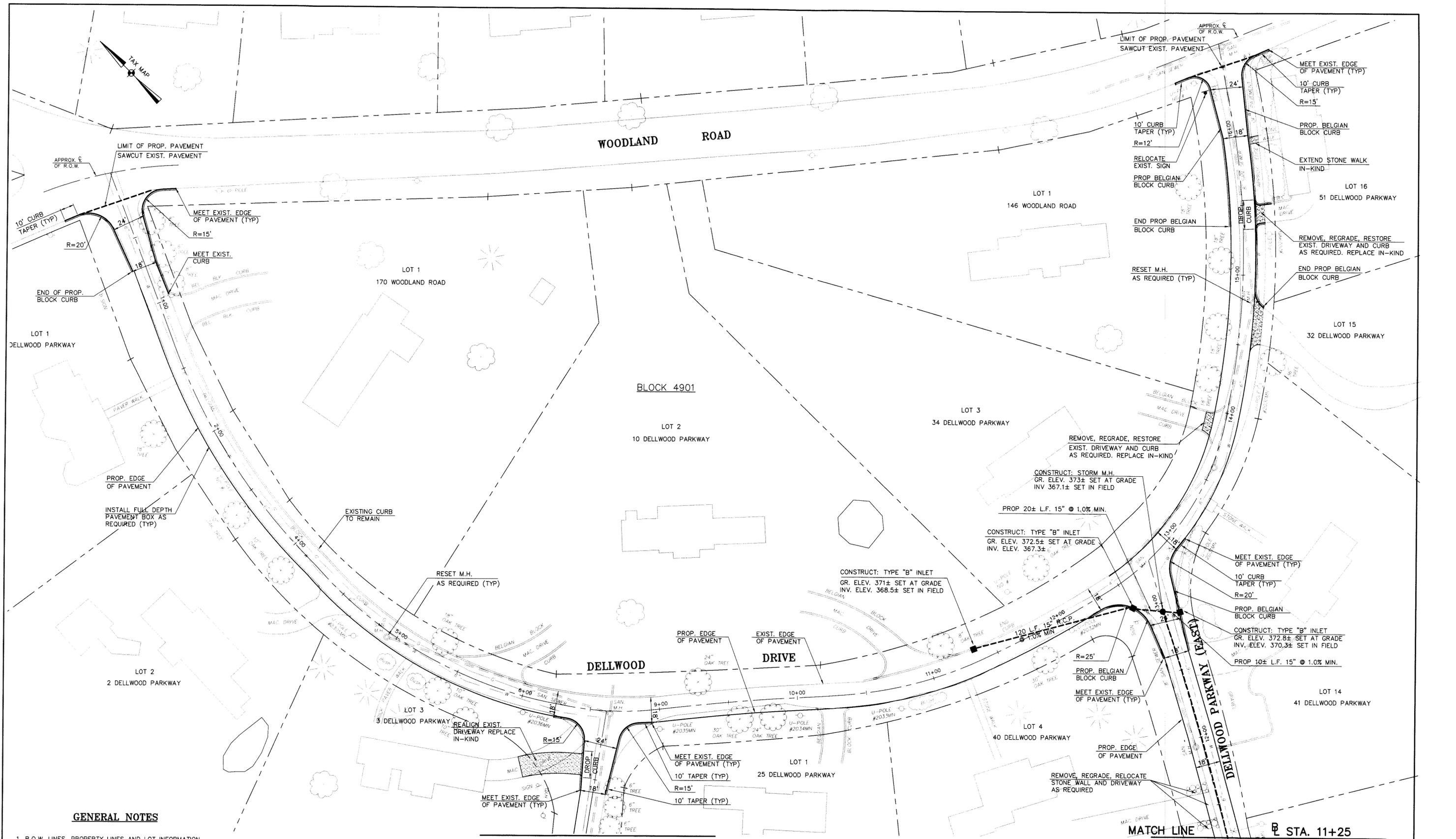
\* DRYWELL STORMCEPTOR IN BIDS

**2008 ROAD IMPROVEMENTS PROGRAM**  
**ESTIMATE & DISTRIBUTION**  
**OF QUANTITIES**  
 BOROUGH OF MADISON  
 DEPARTMENT OF ENGINEERING  
 HARTLEY DODGE MEMORIAL  
 MADISON, MORRIS COUNTY, N.J. 07940  
 (973) 583-3060

NO.	REVISIONS	DATE	BY	CHK.	APPR.

**ROBERT A. VOGEL, P.E.**  
 PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: N.T.S.  
 DATE: 6-18-08  
 DR BY: D. BUCK  
 DWG NO: 4 of 17



**GENERAL NOTES**

1. R.O.W. LINES, PROPERTY LINES AND LOT INFORMATION SHOWN ON THIS PLAN ARE BASED UPON BOROUGH OF MADISON TAX MAPS.
2. ROADWAY UTILITIES SHOWN HEREON ARE BASED UPON FIELD OBSERVATIONS PERFORMED BY THE BOROUGH OF MADISON ENGINEERING DEPARTMENT AND ARE APPROXIMATE IN LOCATION.
3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. ALL PAVEMENT REMOVAL SHALL BE SAW CUT.
5. CONTRACTOR TO VERIFY CONDITION OF ALL EXISTING WATER SERVICE RISERS, REPLACE AS DIRECTED BY BOROUGH WATER DEPARTMENT.

MATCH LINE @ STA. 0+80

MATCH LINE @ STA. 11+25

**2008 ROAD IMPROVEMENTS PROGRAM  
DELLWOOD DRIVE**

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3060

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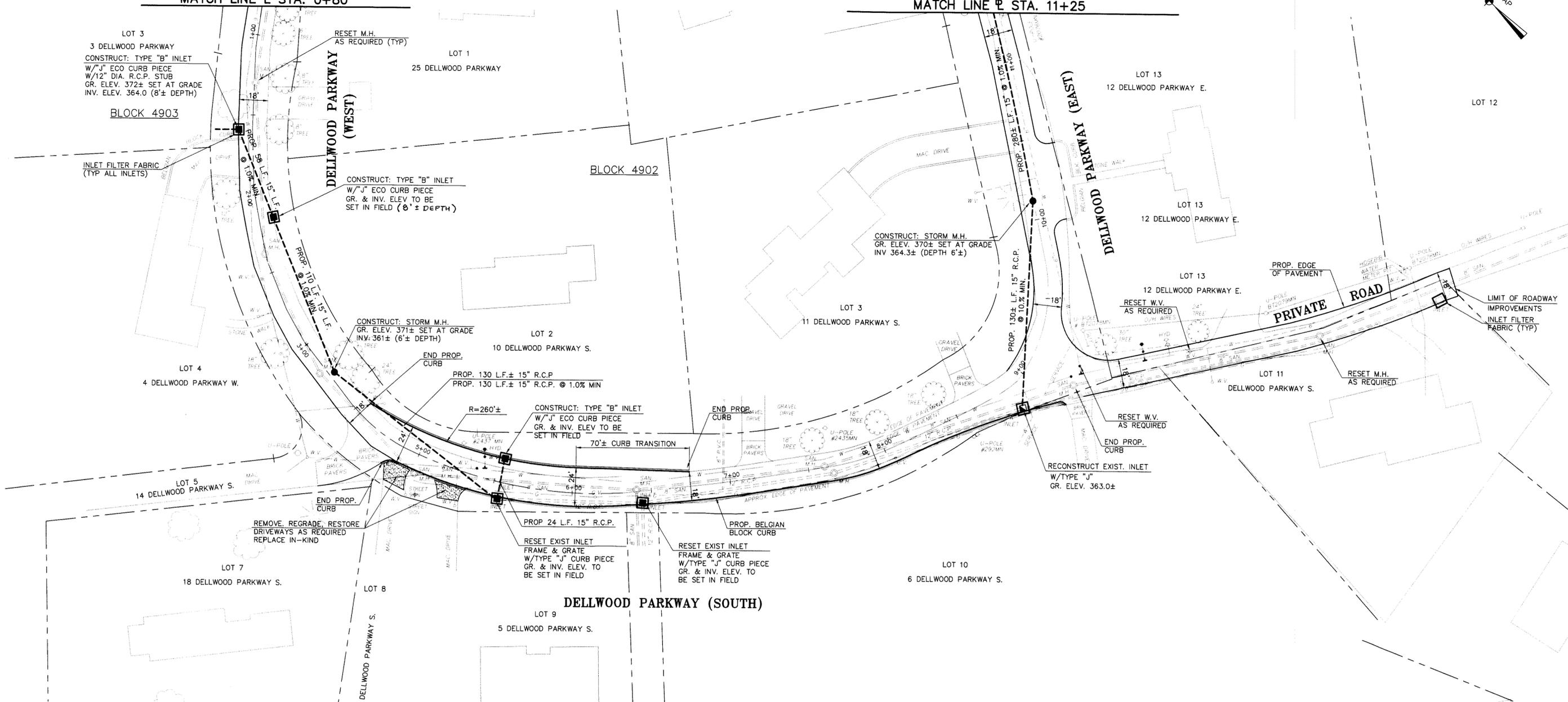
SCALE: 1"=30'  
DATE: 6-18-08  
DR. BY: D.C.B.  
DWG. NO. 5 OF 17

FINAL 08 DELLWOOD.DWG 6-23-08



MATCH LINE @ STA. 0+80

MATCH LINE @ STA. 11+25



**GENERAL NOTES**

1. R.O.W. LINES, PROPERTY LINES AND LOT INFORMATION SHOWN ON THIS PLAN ARE BASED UPON BOROUGH OF MADISON TAX MAPS.
2. ROADWAY UTILITIES SHOWN HEREON ARE BASED UPON FIELD OBSERVATIONS PERFORMED BY THE BOROUGH OF MADISON ENGINEERING DEPARTMENT AND ARE APPROXIMATE IN LOCATION.
3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4. ALL PAVEMENT REMOVAL SHALL BE SAW CUT.
5. CONTRACTOR TO VERIFY CONDITION OF ALL EXISTING WATER SERVICE RISERS, REPLACE AS DIRECTED BY BOROUGH WATER DEPARTMENT.

**2008 ROAD IMPROVEMENTS PROGRAM  
DELLWOOD PARKWAY  
(EAST, WEST & SOUTH)**

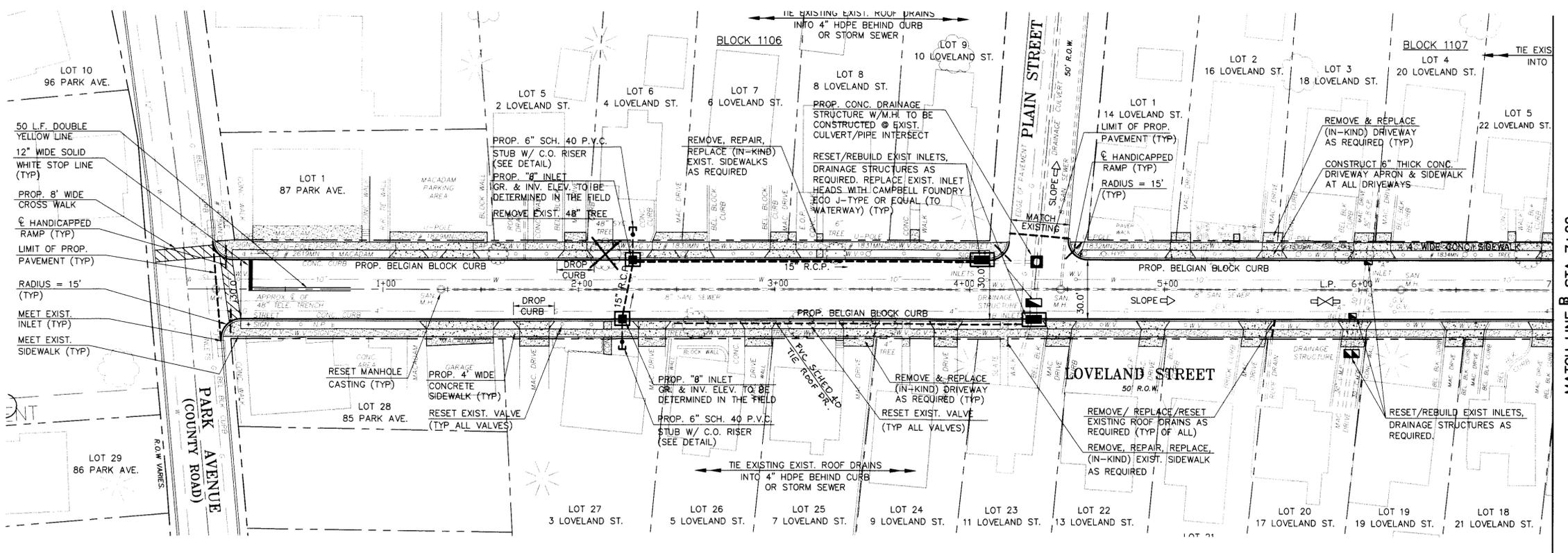
BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 583-3060

NO.	REVISIONS	DATE	BY	CHK.	APPR.

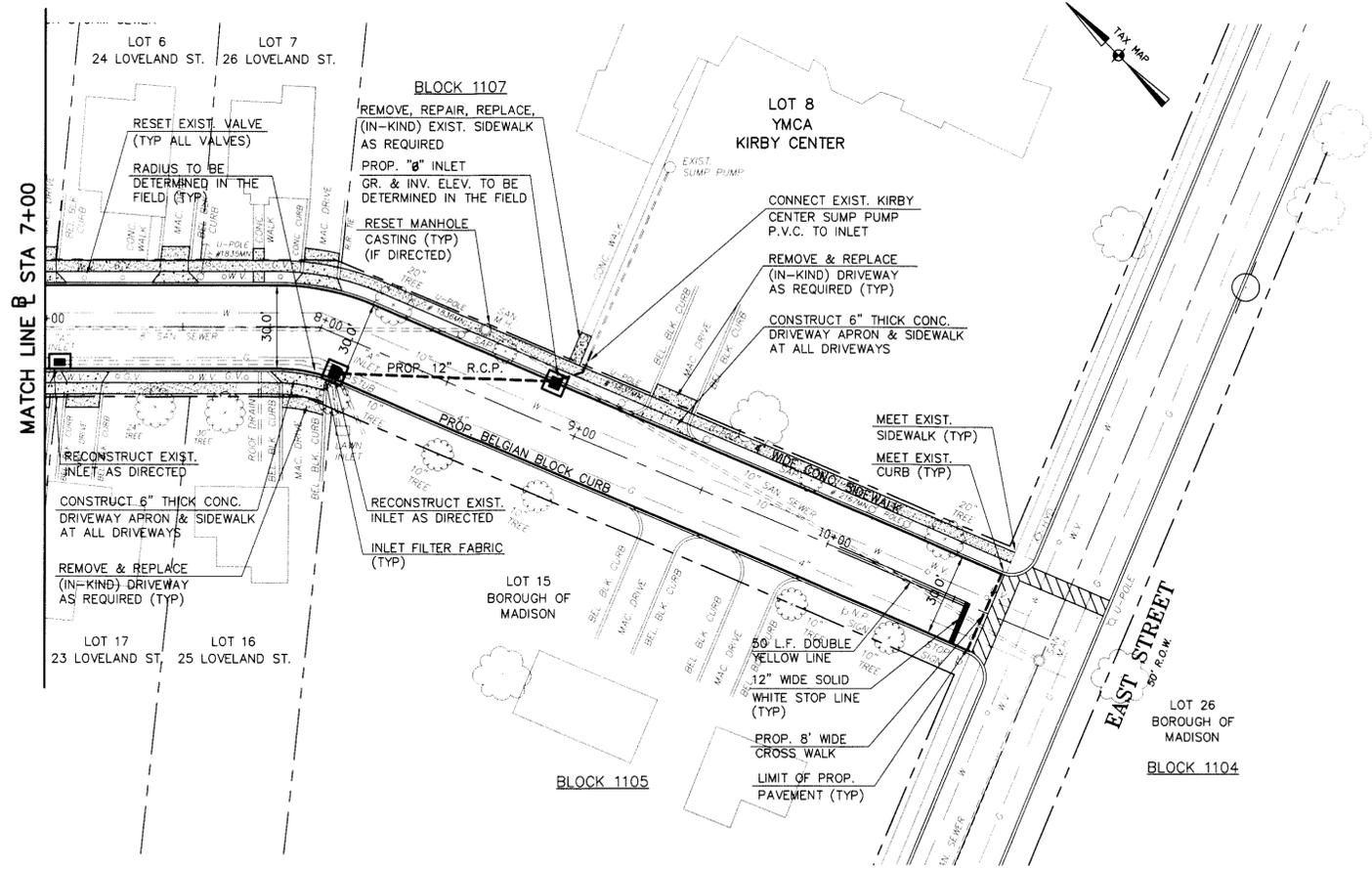
DATE \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: 1"=30'  
DATE: 6-18-08  
DR. BY: D.C.B.  
DWG. NO: 6 of 17

FINAL 08 DELLWOOD.DWG 6-23-08



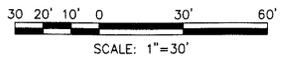
MATCH LINE @ STA 7+00



MATCH LINE @ STA 7+00

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**BID ALTERNATE**

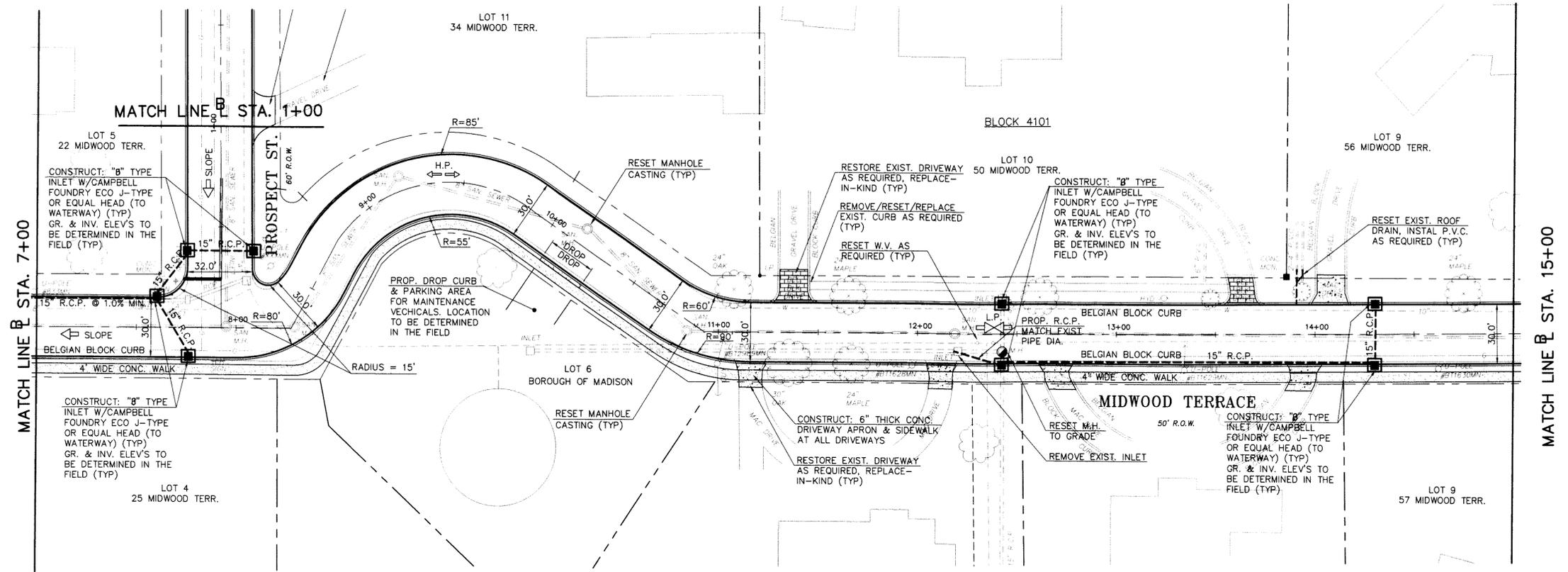
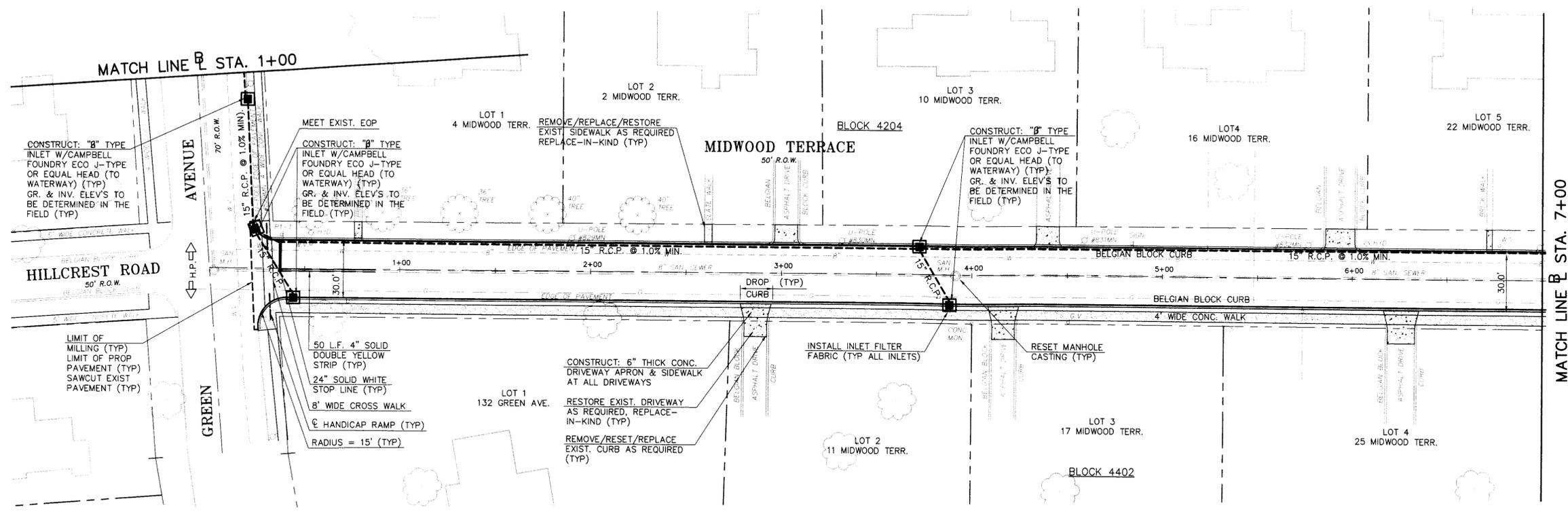
**2008 ROAD IMPROVEMENTS PLAN  
LOVELAND STREET**

**BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING**  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3060

**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

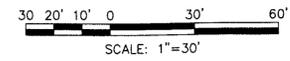
REVISIONS	DATE	BY	CHK.	APPR.

SCALE: 1" = 30'  
DATE: 6-18-08  
DR. BY: D. BUCK  
DWG. NO. 7 OF 17



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REVISIONS	DATE	BY	CHK.	APPR

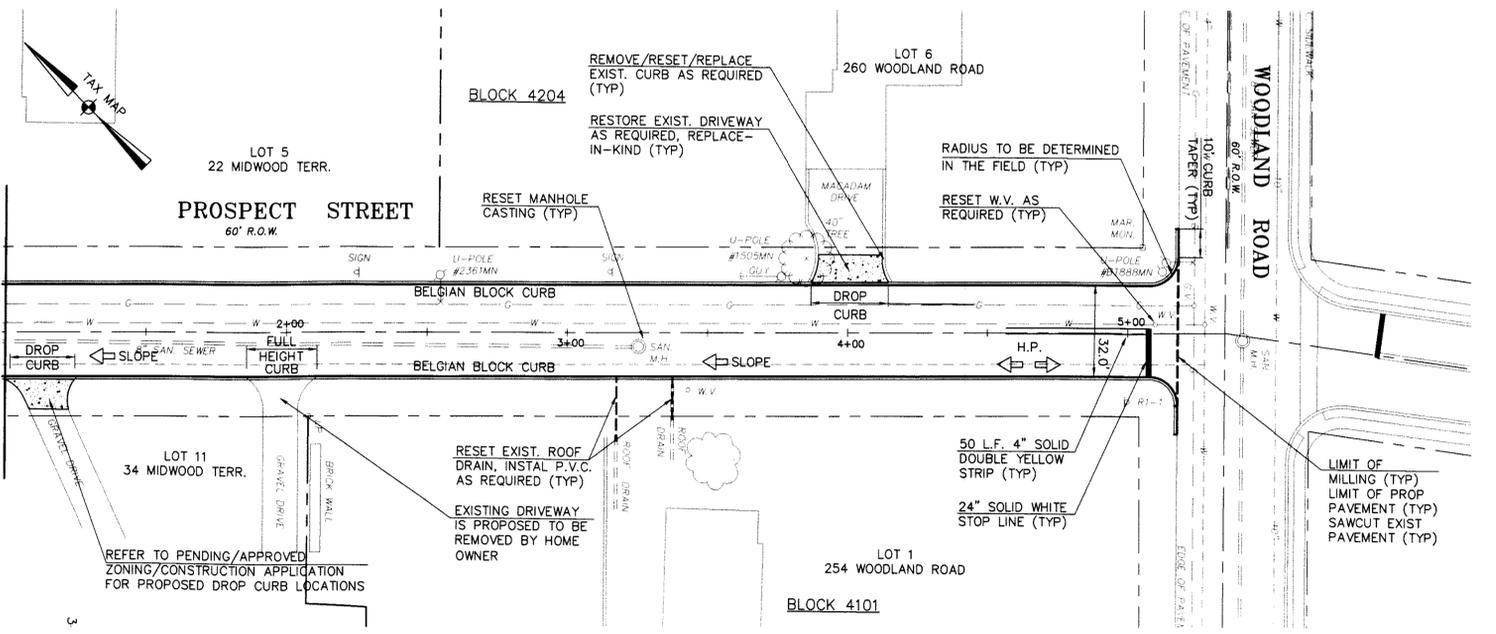
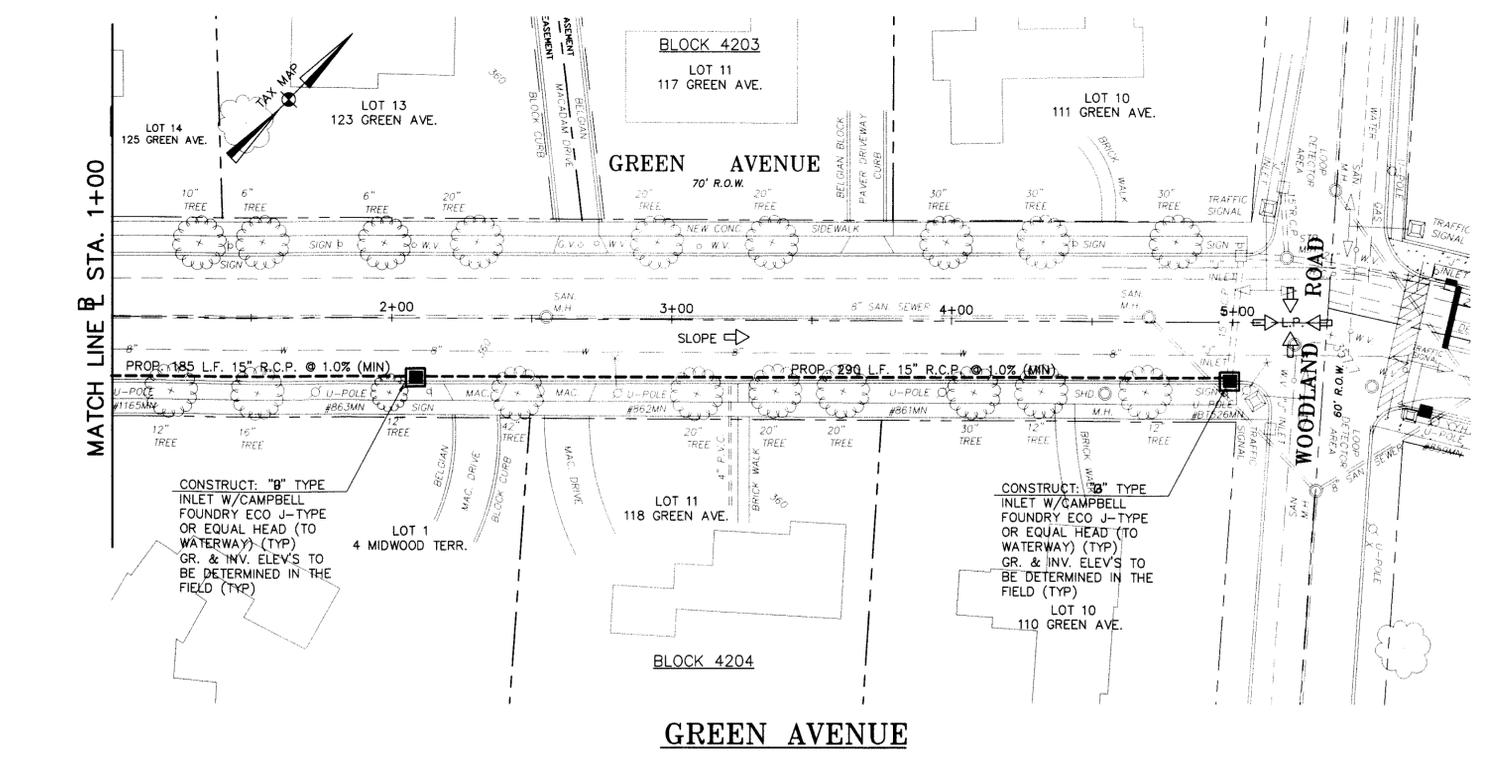
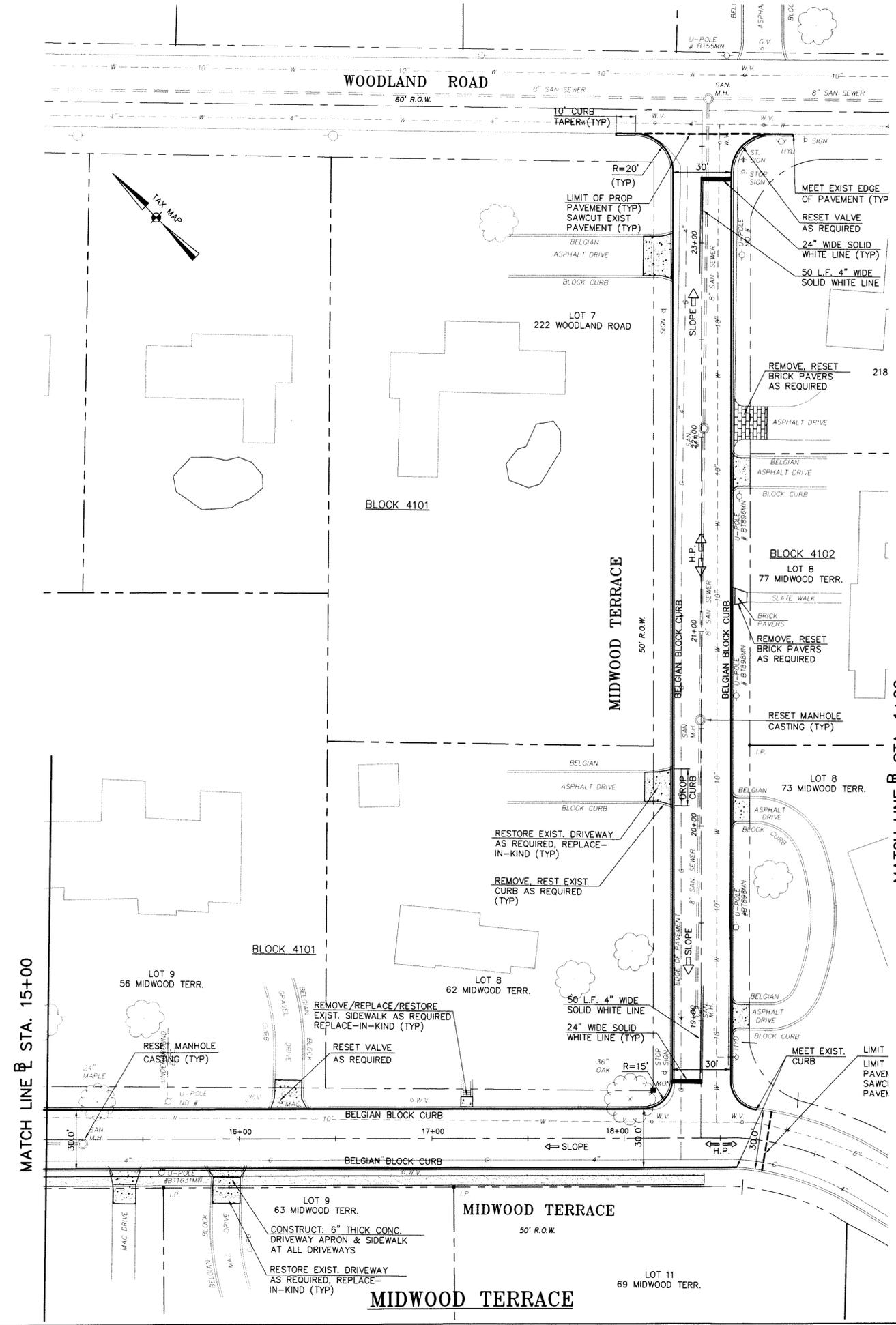
**BID ALTERNATE**

**2008 ROAD IMPROVEMENTS PROGRAM**  
**MIDWOOD TERRACE**  
**STA. 0+00 TO STA. 15+00**  
**BOROUGH OF MADISON**  
**DEPARTMENT OF ENGINEERING**  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3080

DATE \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: 1" = 30'  
DATE: 6-18-08  
DR. BY: D. BUCK  
DWG. NO. 8 of 17

FINAL 08 MID-GREEN-PROSPECT.DWG 6-18-08



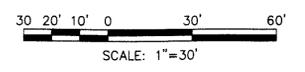
**PROSPECT STREET**

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**BID ALTERNATE**

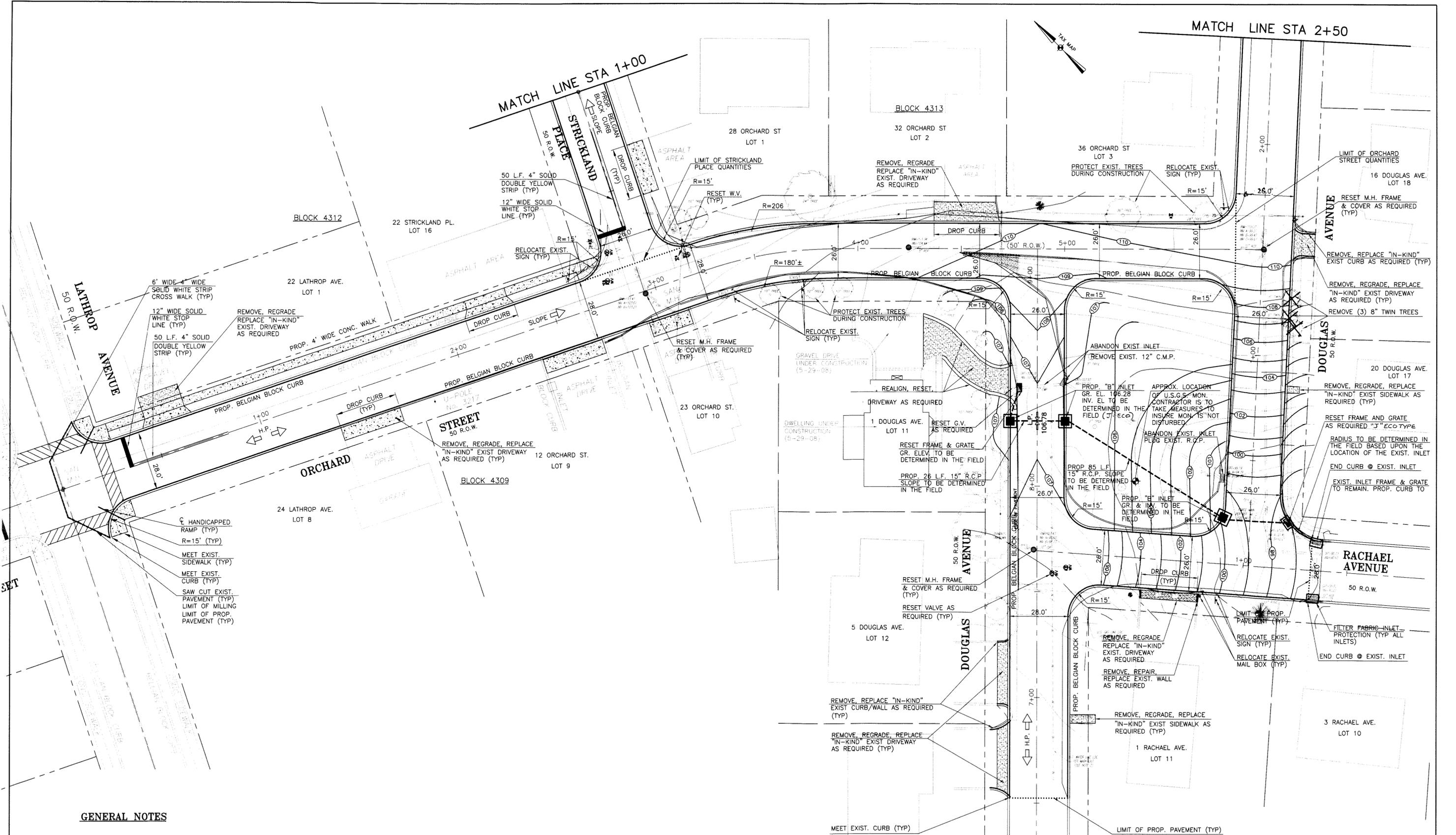
**2008 ROAD IMPROVEMENT PROGRAM**  
**MIDWOOD TERRACE**  
 STA 15+00 TO END OF PROJECT  
**GREEN AVENUE**  
 STA 1+00 TO END OF PROJECT  
**PROSPECT AVENUE**  
 STA 1+00 TO END OF PROJECT  
**BOROUGH OF MADISON**  
**DEPARTMENT OF ENGINEERING**  
 HARTLEY DODGE MEMORIAL  
 MADISON, MORRIS COUNTY, N.J. 07940  
 (973) 593-3060



REVISIONS	DATE	BY	CHK.	APPR

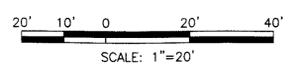
DATE: \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
 PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: 1" = 30'  
 DATE: 6-18-08  
 DR. BY: D. BUCK  
 DWG. NO: 9 of 17



**GENERAL NOTES**

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REVISIONS	DATE	BY	CHK.	APPR

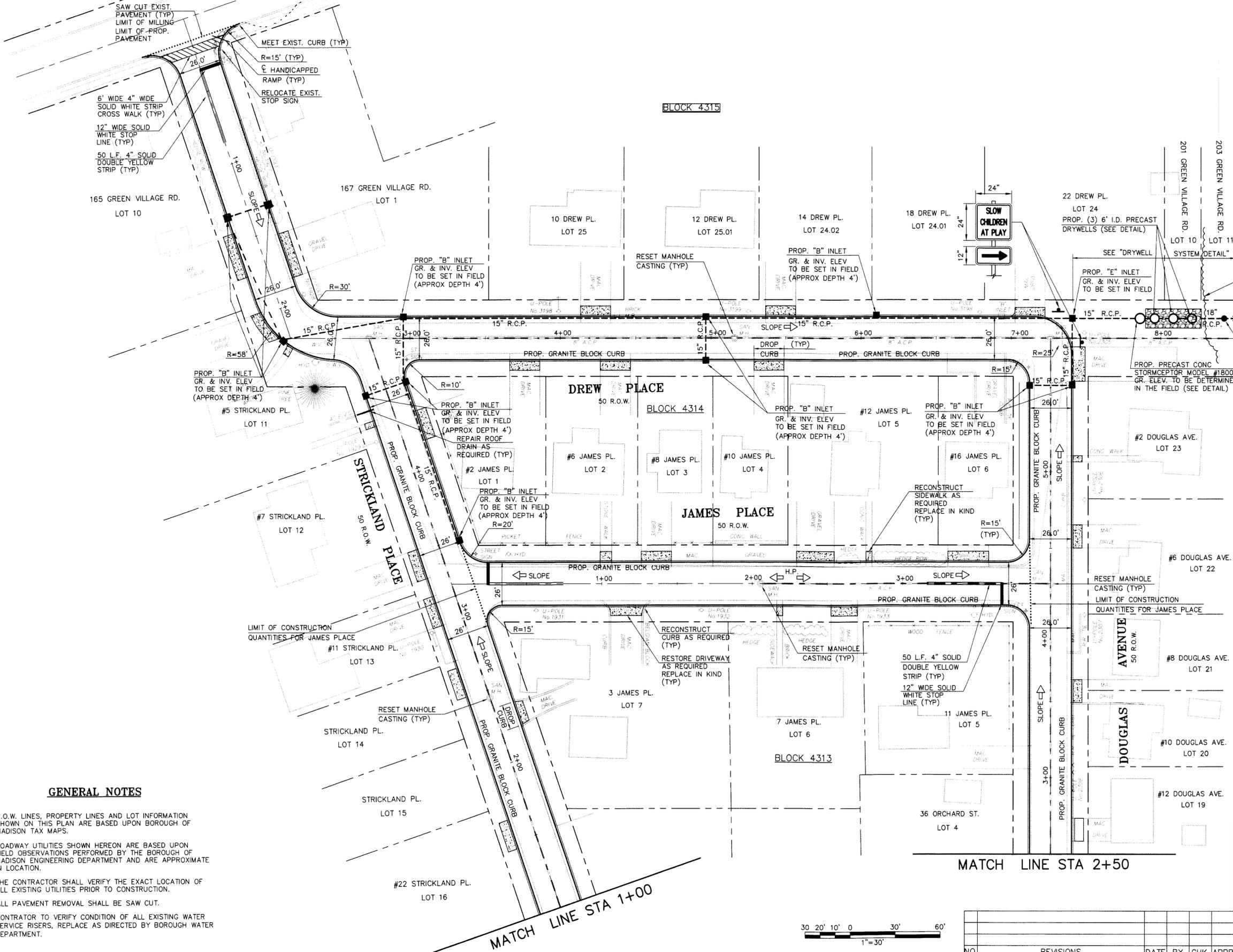
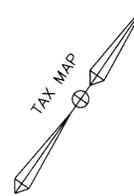
**2008 ROAD IMPROVEMENTS PROGRAM**  
**ORCHARD STREET, DOUGLAS AVENUE,**  
**& RACHAEL AVENUE**  
 BOROUGH OF MADISON  
 DEPARTMENT OF ENGINEERING  
 HARTLEY DODGE MEMORIAL  
 MADISON, MORRIS COUNTY, N.J. 07940  
 (973) 583-3080

DATE: 6-18-08  
 DR. BY: D. BUCK  
 DWG. NO. 10 of 17

**ROBERT A. VOGEL, P.E.**  
 PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

FOLDER: 07 WATER

**GREEN VILLAGE ROAD**  
50' R.O.W. 100% L.S.



MADISON GOLF COURSE

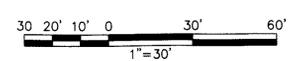
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**2008 ROAD IMPROVEMENTS PROGRAM  
JAMES PLACE, DREW PLACE  
DOUGLAS AVENUE & STRICKLAND PLACE**

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3069

**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

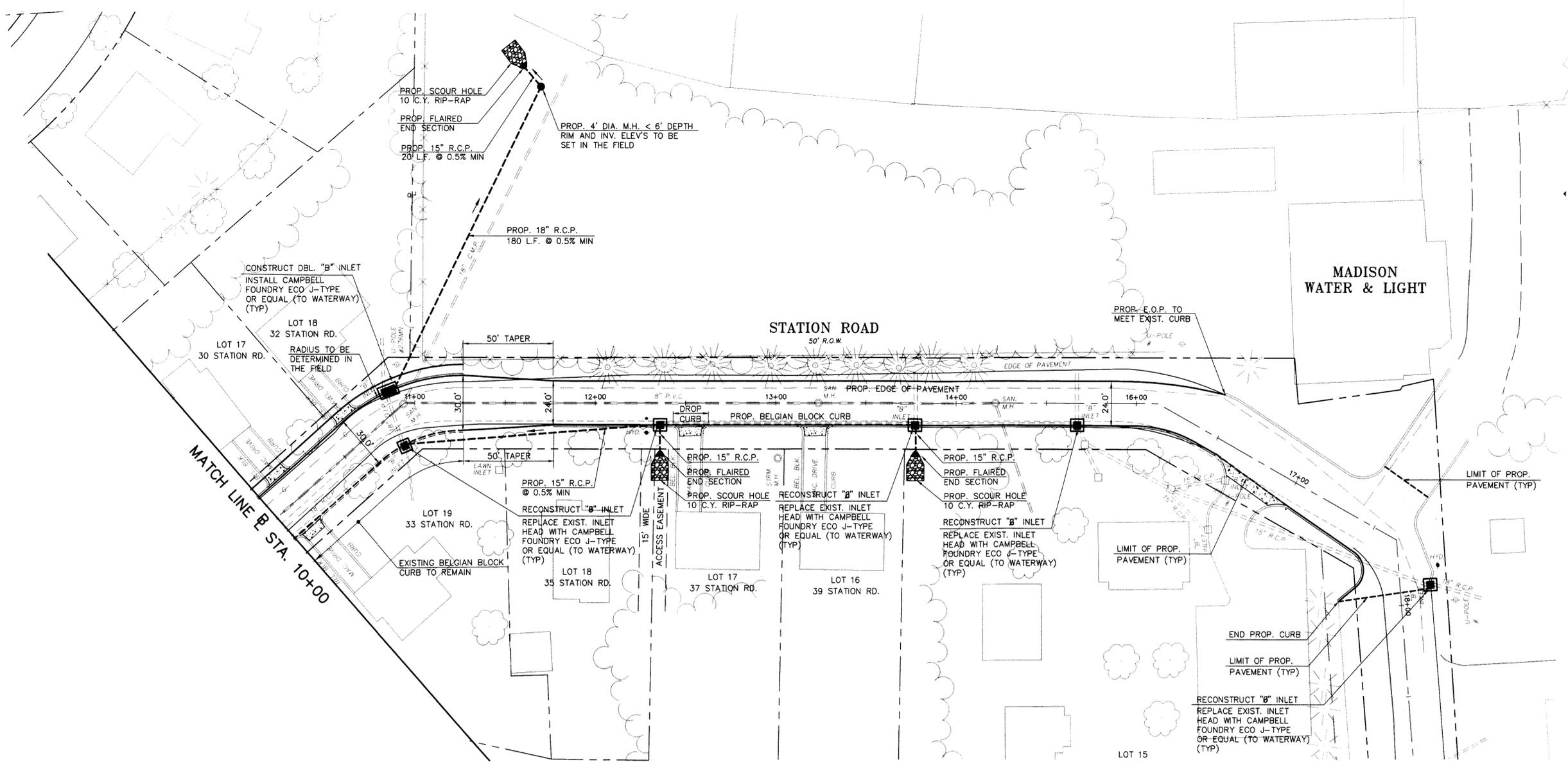


NO.	REVISIONS	DATE	BY	CHK.	APPR.

SCALE: 1" = 30'
DATE: 6-18-08
DR. BY: D. BUCK
DWG. NO: 11 of 17

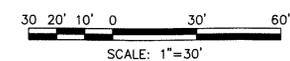
FINAL 08 ORCHARD AREADWG 6-19-08





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REVISIONS	DATE	BY	CHK.	APPR

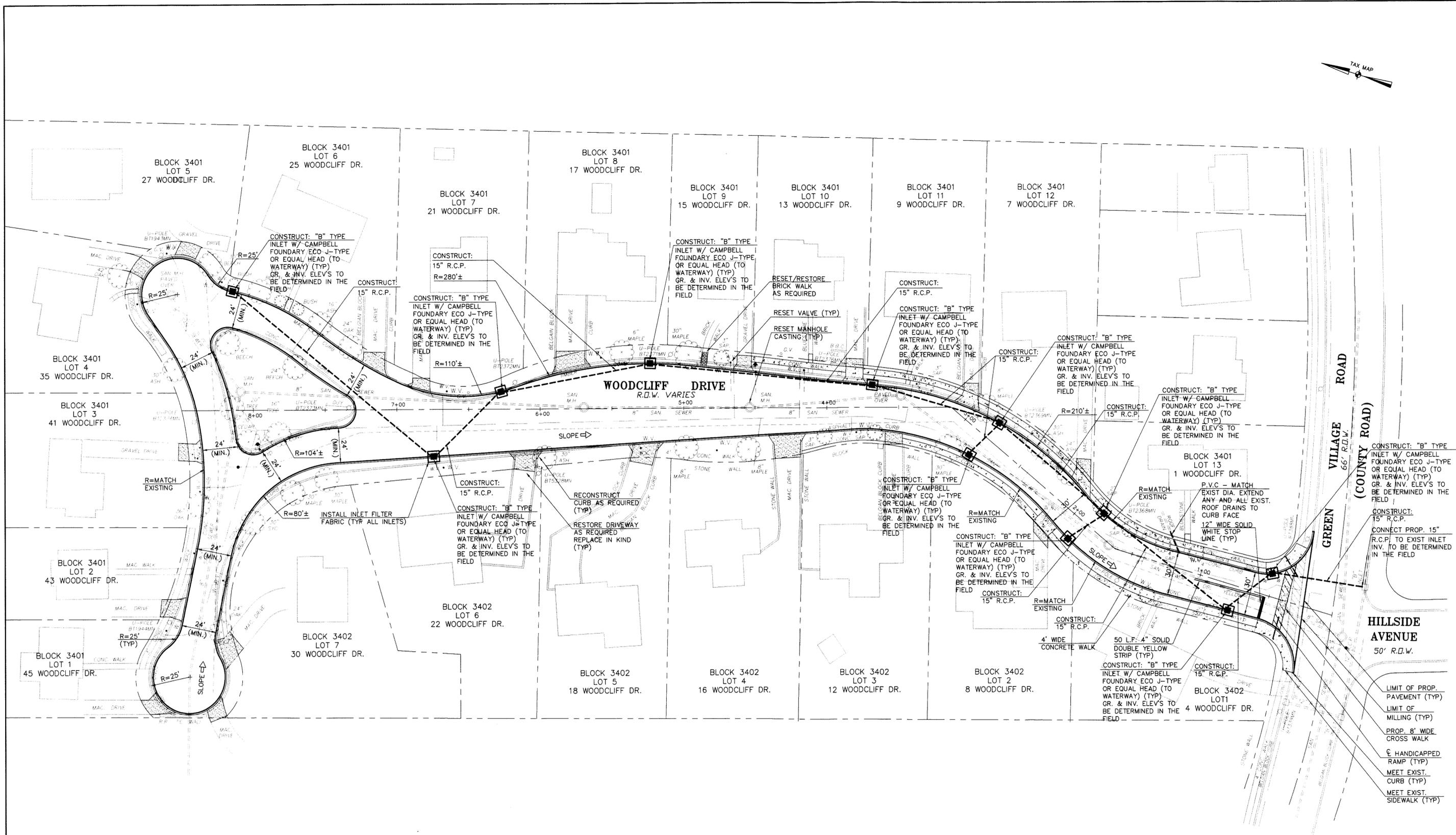
**2008 ROAD IMPROVEMENTS PROGRAM**  
**STATION ROAD**  
**STA. 6+00 TO END OF PROJECT**

**BOROUGH OF MADISON**  
**DEPARTMENT OF ENGINEERING**  
 HARTLEY DODGE MEMORIAL  
 MADISON, MORRIS COUNTY, N.J. 07940  
 (973) 593-3060

DATE: \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
 PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE: 1" = 30'  
 DATE: 6-18-08  
 DR. BY: D. BUCK  
 DWG. NO: 13 of 17

FINAL 08 STATION ROAD.DWG 6-20-08



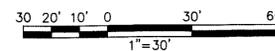
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**2008 ROAD IMPROVEMENTS PROGRAM  
WOODCLIFF DRIVE**

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3083

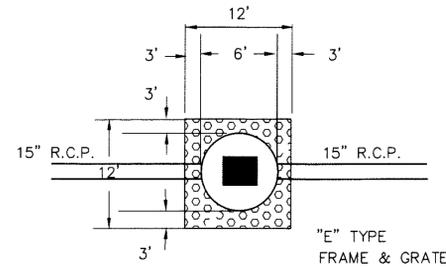
**ROBERT A. VOGEL, P.E.**  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463



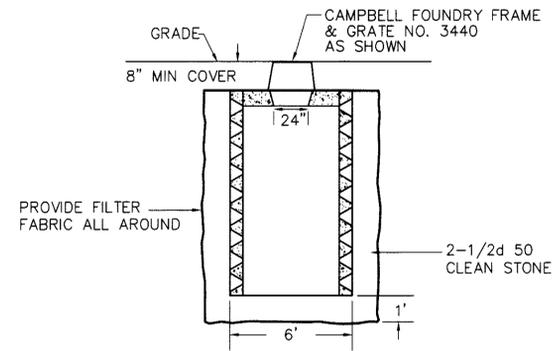
REVISIONS	DATE	BY	CHK.	APPR

SCALE: 1" = 30'  
DATE: 6-18-08  
DR. BY: D. BUCK  
DWC NO. 14 of 17

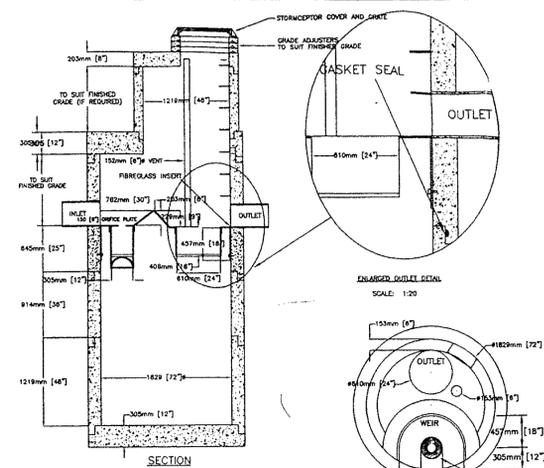
FOLDER: 07 WATER



TOPVIEW  
**DRY WELL DETAIL**  
 SINGLE DRY WELL  
 N.T.S.



SECTION  
**DRY WELL DETAIL**  
 SINGLE DRY WELL  
 N.T.S.

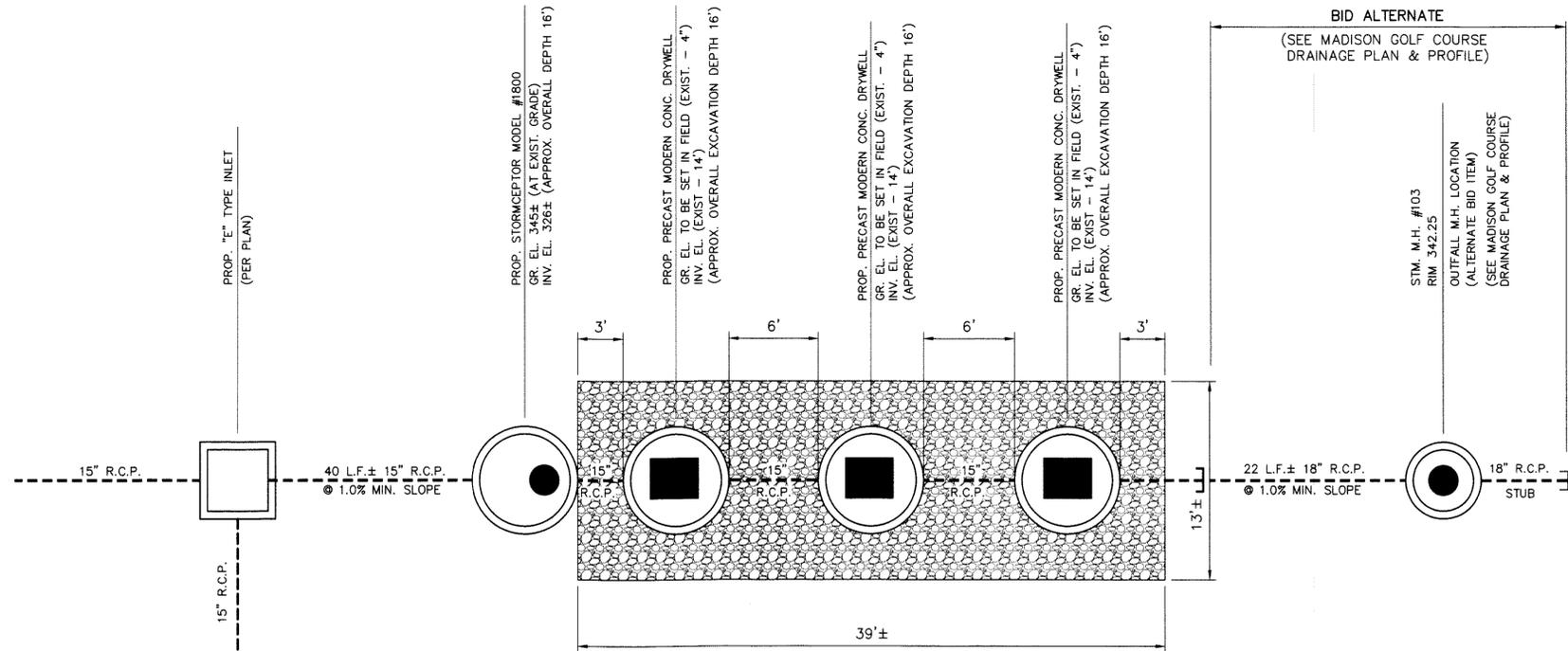


STORMCEPTOR IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS:  
 Canadian Patent No. 2,009,208  
 Canadian Patent No. 2,137,942  
 U.S. Patent No. 4,985,148  
 U.S. Patent No. 5,498,331  
 U.S. Patent No. 5,725,760  
 U.S. Patent No. 5,753,115

**STORMCEPTOR MODEL #1800**

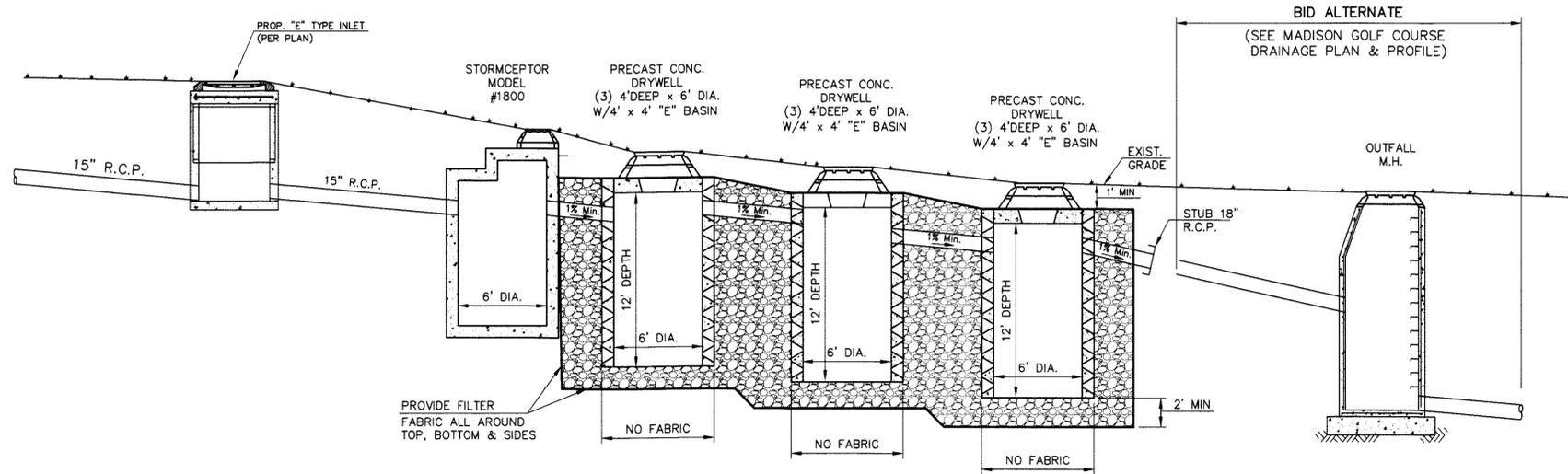
N.T.S.

- Notes:
- Dimensions may vary regionally due to different manufacturer's.
  - Access way is offset to allow access to the fiberglass bypass slab and to allow inspection and maintenance from the surface.
  - Pipe installation by grouting or flexible boots.
  - Flexible boots may not be suitable for all installations. Please contact your sales representative for further information.
  - 610 mm [24"] outlet to be used for cleanout access to the treatment chamber.
  - Safety grates for the 610 mm [24"] outlet are available.



**DREW PLACE - DRYWELL SYSTEM DETAIL**

PLAN  
 N.T.S.



**DREW PLACE - DRYWELL SYSTEM DETAIL**

PROFILE  
 N.T.S.

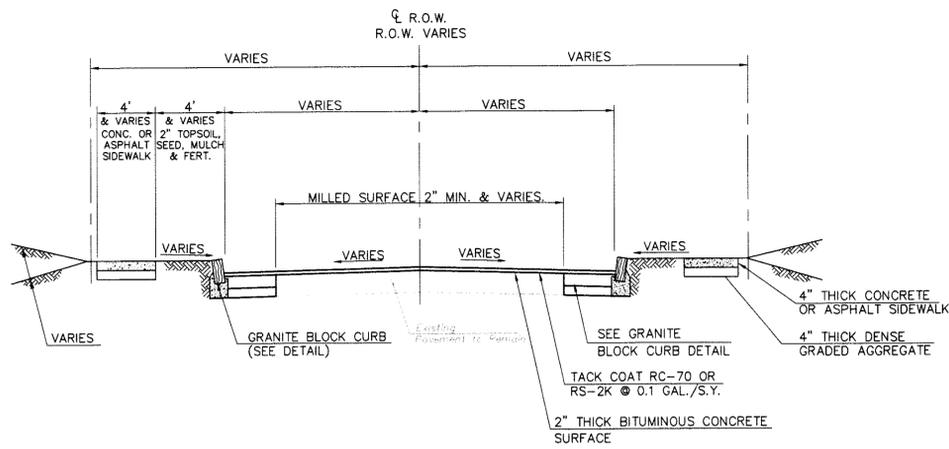
**2008 ROAD IMPROVEMENTS PROGRAM**  
**DREW PLACE**  
**DRYWELL SYSTEM DETAIL**

BOROUGH OF MADISON  
 DEPARTMENT OF ENGINEERING  
 HARTLEY DODGE MEMORIAL  
 MADISON, MORRIS COUNTY, N.J. 07940  
 (973) 593-3063

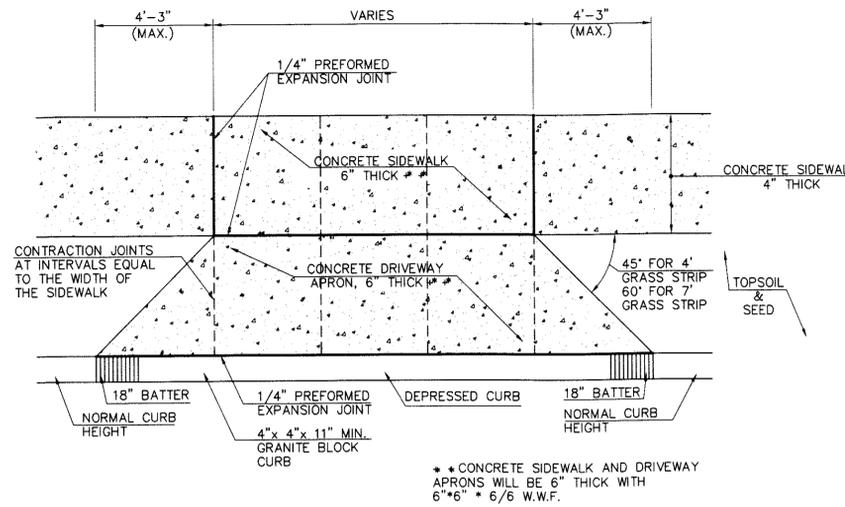
NO.	REVISIONS	DATE	BY	CHK.	APPR.

DATE: \_\_\_\_\_  
**ROBERT A. VOGEL, P.E.**  
 PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

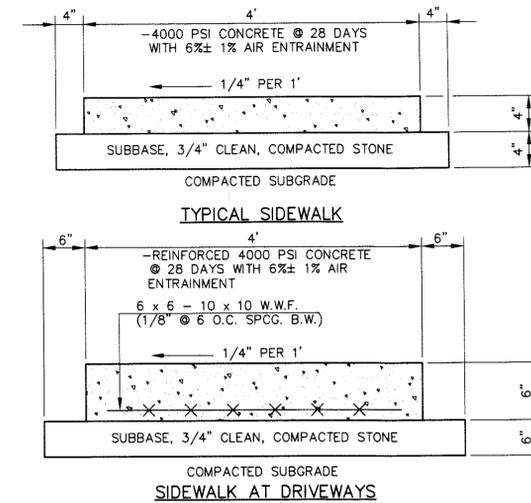
SCALE: N.T.S.  
 DATE: 6-18-08  
 DR. BY: D. BUCK  
 DWG. NO. 15 of 17



**TYPICAL CROSS SECTION**  
N.T.S.



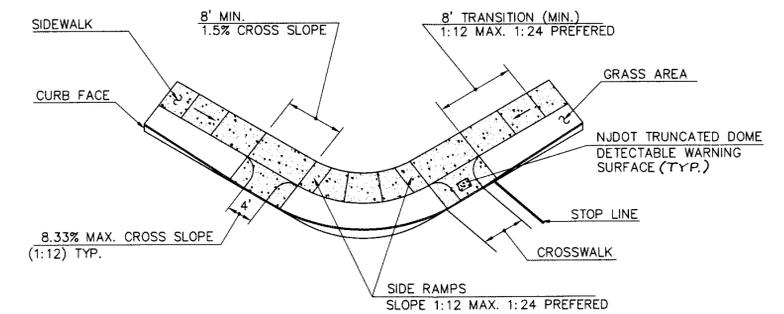
**CONCRETE DRIVEWAY APRON DETAIL**  
N.T.S.



**GENERAL NOTES:**

1. ANY CONCRETE PLACED BETWEEN NOVEMBER 15 AND APRIL 1 MUST CONFORM TO ARTICLES 501.11 AND 501.17 OF THE N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1989 EDITION, USING 2% CALCIUM CHLORIDE, HOT WATER, COVERED W/SALT HAY.
2. WHERE SIDEWALK CROSSES A DRIVEWAY, THE MINIMUM THICKNESS SHALL BE 6 INCHES AND REINFORCED WITH 6"x 6", #5 WIRE MESH.
3. SLUMP TEST: 3"- 4".
4. EXPANSION JOINTS EVERY 20', CONSTRUCTION JOINTS EVERY 4' AT A DEPTH OF 1/4" THICKNESS OF CONCRETE.

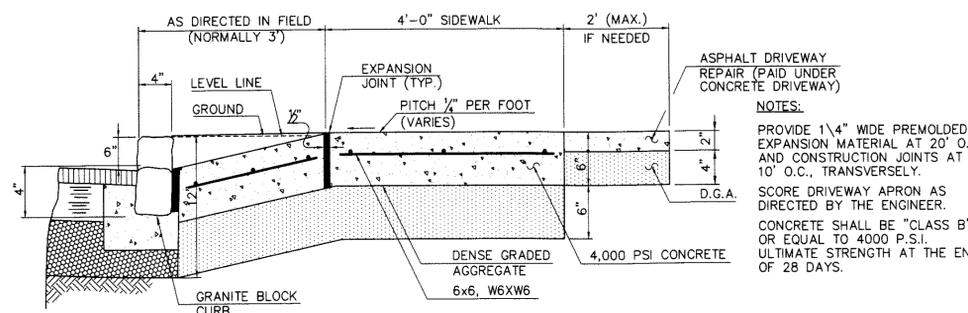
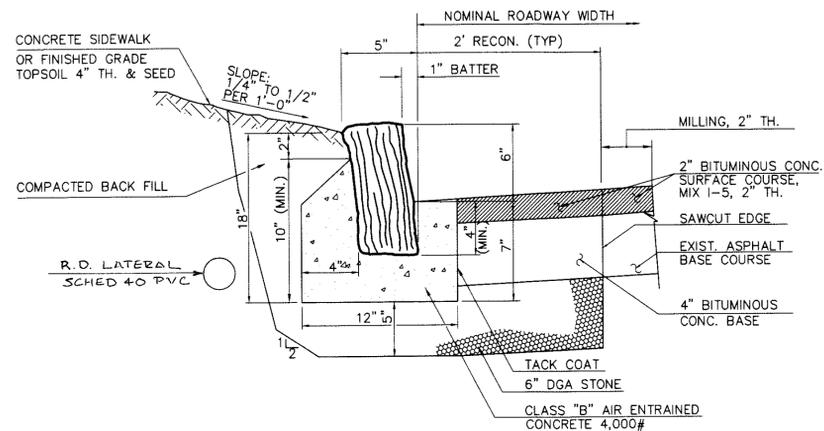
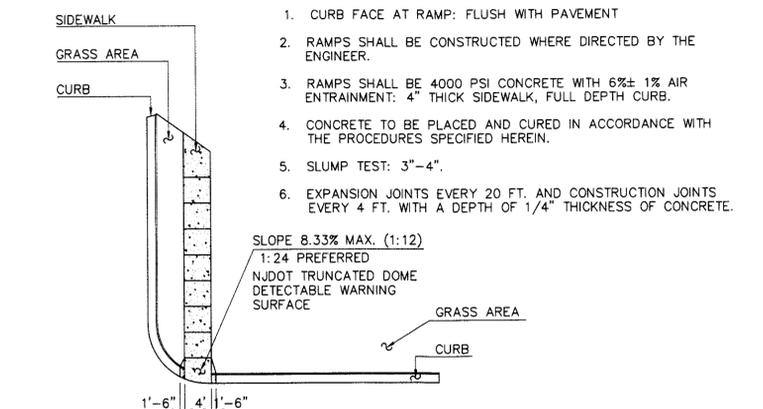
**CONCRETE SIDEWALK DETAIL**  
N.T.S.



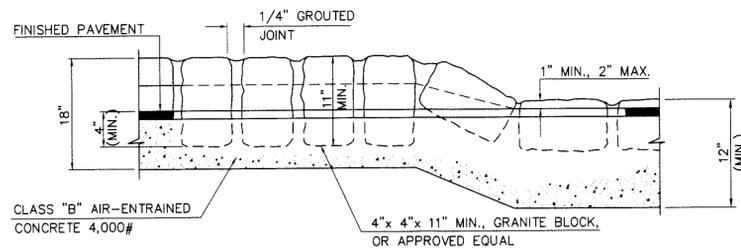
**NOTES:**

1. CURB FACE AT RAMP: FLUSH WITH PAVEMENT
2. RAMPS SHALL BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER.
3. RAMPS SHALL BE 4000 PSI CONCRETE WITH 6%± 1% AIR ENTRAINMENT; 4" THICK SIDEWALK, FULL DEPTH CURB.
4. CONCRETE TO BE PLACED AND CURED IN ACCORDANCE WITH THE PROCEDURES SPECIFIED HEREIN.
5. SLUMP TEST: 3"- 4".
6. EXPANSION JOINTS EVERY 20 FT. AND CONSTRUCTION JOINTS EVERY 4 FT. WITH A DEPTH OF 1/4" THICKNESS OF CONCRETE.

**HANDICAP RAMP**  
N.T.S.

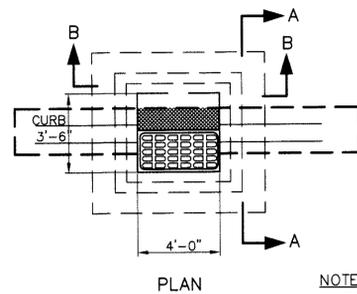


**CONCRETE DRIVEWAY APRON DETAIL**  
N.T.S.



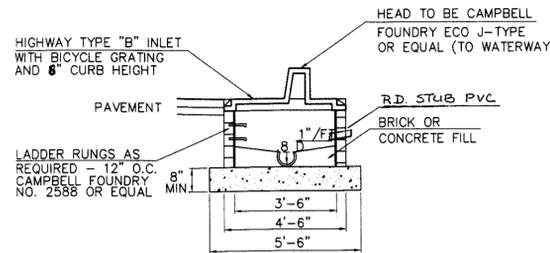
- NOTES:**
1. CONSTRUCTION AT DRIVEWAY APRONS SIMILAR TO DETAILS ABOVE.
  2. JOINTS TO BE CLEANED AND DAMP PRIOR TO POINTING.

**GRANITE BLOCK CURB**  
ITEM NO. 6E21J  
N.T.S.

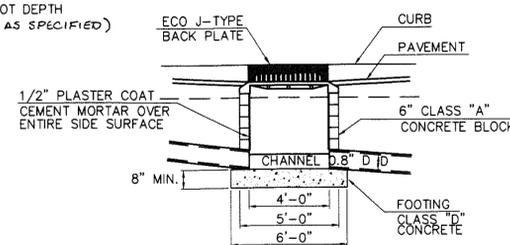


PLAN

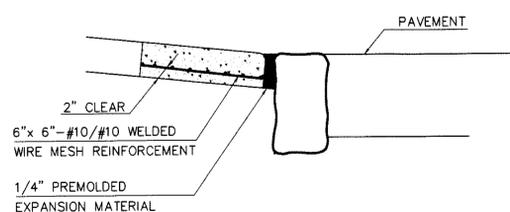
**NOTE:**  
INLETS DENOTED AS "INVERT TO BE SET IN FIELD" ASSUMES A 4 FOOT DEPTH AS TYPICAL (OR AS SPECIFIED)



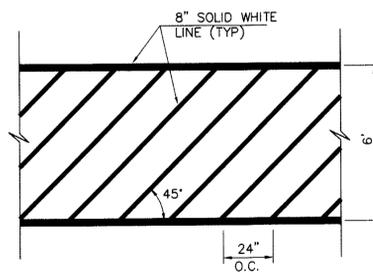
SECTION A-A



SECTION B-B



**HANDICAPPED ACCESS RAMP**  
N.T.S.



**CROSSWALK DETAIL**  
N.T.S.

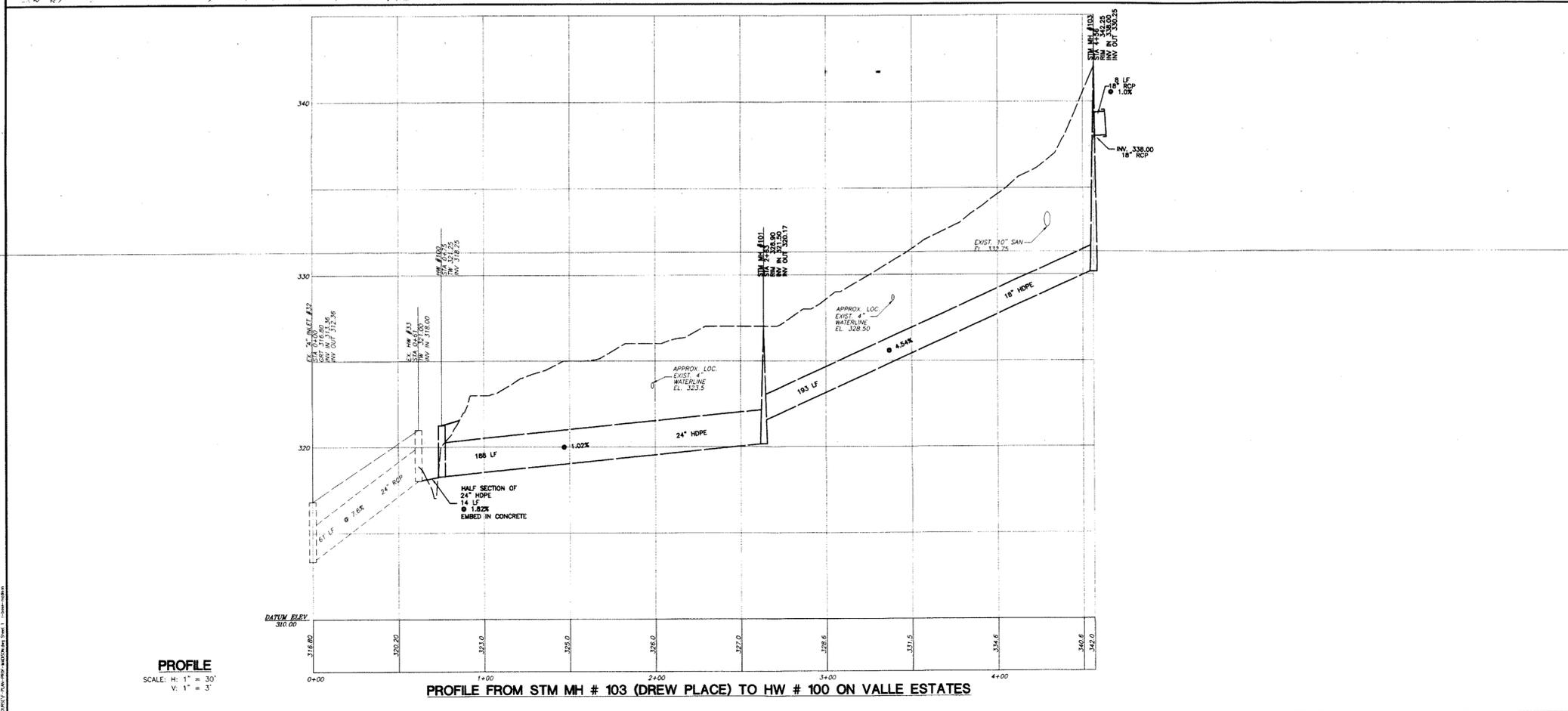
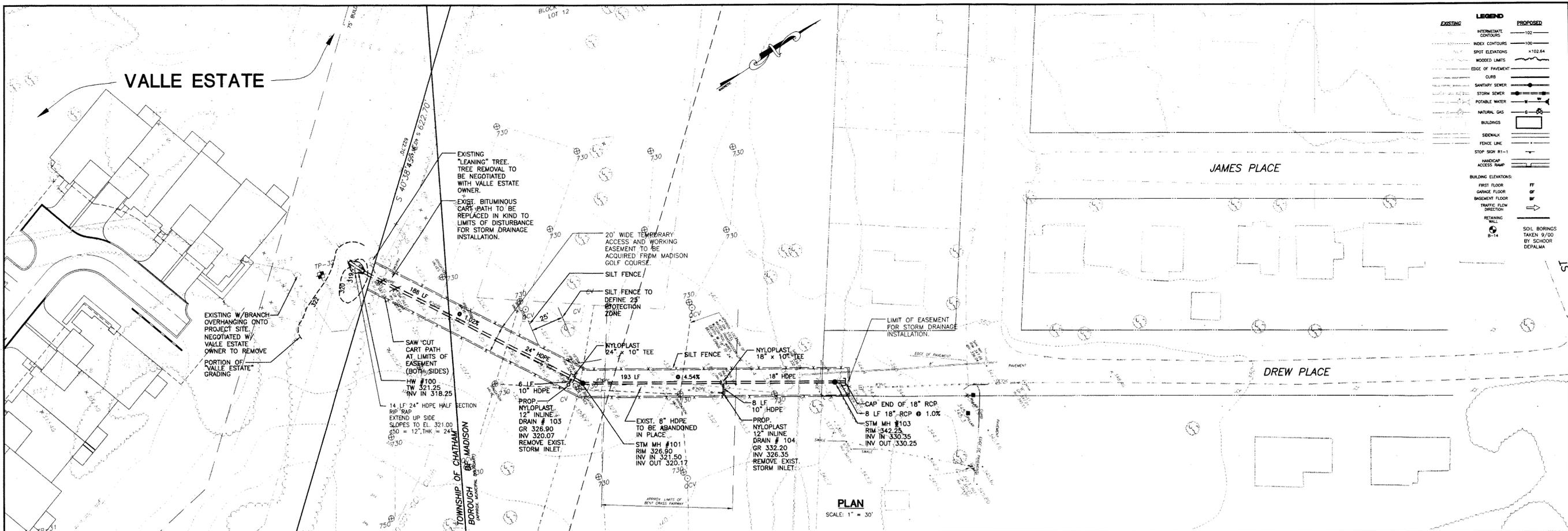
**B TYPE INLET**  
N.T.S.

**2008 ROAD IMPROVEMENTS PROGRAM CONSTRUCTION DETAILS**

BOROUGH OF MADISON  
DEPARTMENT OF ENGINEERING  
HARTLEY DODGE MEMORIAL  
MADISON, MORRIS COUNTY, N.J. 07940  
(973) 593-3060

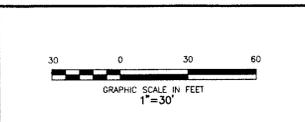
DATE: 6-18-08  
DR. BY: D. BUCK  
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

NO.	REVISIONS	DATE	BY	CHK.	APPR.



- GENERAL NOTES:**
- 72 HOURS PRIOR TO ANY SITE DISTURBANCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING:  
DESIGN ENGINEER:  
SOIL CONSERVATION DISTRICT  
MUNICIPAL ENGINEER:  
PATRICK J. QUINLAN, GOLF COURSE SUPERINTENDENT  
NJ "ONE CALL" 1-800-272-3000
  - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION, DEPTH, SIZE, ALIGNMENT, ETC. OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF WORK. IN THE EVENT CONFLICTS ARE DISCOVERED, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER.
  - CONSTRUCTION ACCESS TO MADISON GOLF COURSE FOR INSTALLATION OF THE STORM DRAINAGE IMPROVEMENTS WILL BE VIA THE VALLE ESTATE SITE ONLY. ACCESS TO THE GOLF COURSE PROPERTY THROUGH VALLE ESTATES WILL ONLY BE ALLOWED SUBSEQUENT TO WRITTEN AGREEMENT WITH VALLE ESTATE.
  - LOCATIONS OF THE 4" DIAMETER STEEL WATER TRANSMISSION MAINS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION PRIOR TO CONSTRUCTION. THESE MAINS ARE EQUIPPED WITH CONTROL WIRES AND WILL REQUIRE HAND EXCAVATION DURING ANY TRENCHING OPERATIONS FOR INSTALLATION OF THE PROPOSED STORM PIPING.
  - THE CONTRACTOR SHALL USE RUBBER TREADED VEHICLES ONLY FOR CONSTRUCTION OPERATIONS. IN ADDITION, PLYWOOD SHEETING SHALL BE USED ADJACENT TO THE TRENCH AND UNDER THE TIRES OF CONSTRUCTION EQUIPMENT TO PROTECT THE GOLF COURSE FAIRWAY. SEE SHEET #2 OF 2 FOR TRENCH DETAIL.
  - THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCIES IN THE PLANS, REVISIONS AS MAY BE REQUIRED BY DESIGN DEVELOPMENT OR FIELD REVISIONS THEREOF.
  - ALL SOIL EROSION, SEDIMENT CONTROL, AND STORMWATER MANAGEMENT STRUCTURES AND PRACTICES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.
  - TREES DESIGNATED TO BE SAVED SHALL BE PROTECTED BY SNOW FENCE LOCATED AT THE CROWN DRIP LINE. PROTECTION AND SPECIAL FEEDING AS MAY BE REQUIRED IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION.
  - TRENCH DETAIL SHOWN ON SHEET #2 OF 2 IS INTENDED TO PROVIDE INFORMATION REGARDING BACKFILL MATERIALS AND GENERAL MATERIAL DEPTHS AND PAYMENT LIMITS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND SHALL PROVIDE APPROPRIATE SAFETY MEASURES, SHEETING, AND BRACING AS MAY BE REQUIRED DUE TO FIELD CONDITIONS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OSHA STANDARDS AND DETAILS FOR TRENCH EXCAVATION. THE DESIGN ENGINEER ASSUMES NO RESPONSIBILITY OR LIABILITY FOR FIELD CONDITIONS, TRENCHING OR BACKFILLING OPERATIONS DURING CONSTRUCTION.
  - SUBSTITUTIONS OF PROPRIETARY MATERIAL AND/OR PRODUCT SPECIFICATIONS THAT NOTE "OR EQUAL" MUST BE APPROVED BY THE DESIGN ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DEMONSTRATE TO THE SATISFACTION OF THE DESIGN ENGINEER THAT THE SUBSTITUTION IS EQUAL.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE LOCATION OR UNDERGROUND IMPROVEMENTS INSTALLED DURING CONSTRUCTION. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SUPPLY THE OWNER WITH A RECORD SET OF "RECORD" DRAWINGS. DRAWINGS SHALL BE NEATLY DRAWN AND CLEARLY IDENTIFY UTILITY SIZE AND LOCATION (BOTH HORIZONTAL AND VERTICAL). CONTRACTOR SHALL CERTIFY TO THE ACCURACY OF THIS DRAWING.
  - EXISTING UTILITIES ARE SHOWN BASED ON AVAILABLE DATA. DUE TO UTILITY COMPANY POLICY TO NOT PHYSICALLY MARK/OUT EXISTING UTILITIES IN ADVANCE OR LOCAL APPROVAL OF SITE PLAN OR SUBDIVISION PLANS AND TO THE POTENTIAL LACK OF AVAILABLE DATA REGARDING EXISTING ONSITE AND OFFSITE UTILITIES, MARKED UTILITY DATA MAY NOT REFLECT ACCURATE OR COMPLETE INFORMATION. THE CONTRACTOR SHALL ASSESS AVAILABLE DATA, SHALL REQUEST UTILITY COMPANY MARKOUTS, SHALL COORDINATE WITH AFFECTED UTILITY COMPANIES AND SHALL CAUSE TEST PITS TO BE DUG AT ALL PROPOSED UTILITY CROSSINGS OR CONFLICT LOCATIONS AND SHALL CAUSE SURVEYED LOCATIONS AND ELEVATIONS OF EXPOSED UTILITIES TO BE OBTAINED TO ASSESS POTENTIAL CONFLICTING PIPES/UTILITIES/STRUCTURES PRIOR TO ANY PROPOSED UTILITY CONSTRUCTION. IF UNEXPECTED UTILITY LOCATIONS OR ELEVATIONS AND/OR UTILITY CONFLICTS ARE DETERMINED TO EXIST THROUGH UTILITY MARKERS OR TEST PITS, OR DURING CONSTRUCTION, IT IS RECOMMENDED THAT CMX BE AUTHORIZED TO ADJUST EXISTING UTILITY DELINEATION ON PLANS, AND TO MAKE ANY NECESSARY ADJUSTMENTS TO PROPOSED IMPROVEMENTS DESIGN TO ACCOMMODATE.
  - UNLESS OTHERWISE NOTED, ALL CONSTRUCTION DEBRIS INCLUDING BUT NOT LIMITED TO TREES, VEGETATION, OTHER MATERIAL IN THE AREA OF THE PROPOSED SITE IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF BY LICENSED HAULERS TO A FACILITY WHICH ACCEPTS THIS TYPE OF DEBRIS. NO MATERIAL WILL BE BURIED ONSITE.
  - EXISTING UTILITIES ARE SHOWN BASED ON AVAILABLE DATA. DUE TO UTILITY COMPANY POLICY TO NOT PHYSICALLY MARK/OUT EXISTING UTILITIES IN ADVANCE OR LOCAL APPROVAL OF SITE PLAN OR SUBDIVISION PLANS AND TO THE POTENTIAL LACK OF AVAILABLE DATA REGARDING EXISTING ONSITE AND OFFSITE UTILITIES, MARKED UTILITY DATA MAY NOT REFLECT ACCURATE OR COMPLETE INFORMATION. THE CONTRACTOR SHALL ASSESS AVAILABLE DATA, SHALL REQUEST UTILITY COMPANY MARKOUTS, SHALL COORDINATE WITH AFFECTED UTILITY COMPANIES AND SHALL CAUSE TEST PITS TO BE DUG AT ALL PROPOSED UTILITY CROSSINGS OR CONFLICT LOCATIONS AND SHALL CAUSE SURVEYED LOCATIONS AND ELEVATIONS OF EXPOSED UTILITIES TO BE OBTAINED TO ASSESS POTENTIAL CONFLICTING PIPES/UTILITIES/STRUCTURES PRIOR TO ANY PROPOSED UTILITY CONSTRUCTION. IF UNEXPECTED UTILITY LOCATIONS OR ELEVATIONS AND/OR UTILITY CONFLICTS ARE DETERMINED TO EXIST THROUGH UTILITY MARKERS OR TEST PITS, OR DURING CONSTRUCTION, IT IS RECOMMENDED THAT SCHORR DEPALMA BE AUTHORIZED TO ADJUST EXISTING UTILITY DELINEATION ON PLANS, AND TO MAKE ANY NECESSARY ADJUSTMENTS TO PROPOSED IMPROVEMENTS DESIGN TO ACCOMMODATE ACTUAL UTILITY LOCATIONS AND ELEVATIONS.
- PRIOR TO THE USE OF THE PROVIDED UTILITY INFORMATION AS BASE DATA FOR DESIGN OR CONSTRUCTION ACTIVITIES, THOSE RESPONSIBLE FOR SUCH ACTIVITIES SHALL SUPPLEMENT THE PROVIDED INFORMATION BY FURTHER ASSESSMENT OF AVAILABLE DATA BY OBTAINING PHYSICAL MARKOUTS BY ALL AFFECTED UTILITY COMPANIES AND BY CAUSING TEST PITS TO BE DUG SO THAT UTILITY LOCATIONS CAN BE VERIFIED AT ALL PROPOSED UTILITY CROSSING OR CONFLICT LOCATIONS.

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**BID ALTERNATE**

**PLAN AND PROFILE FOR MADISON GOLF COURSE DRAINAGE**

BLOCK 4315 - LOT 12  
MORRIS COUNTY  
NEW JERSEY

PROJECT NO: 040199205  
DATE: 11/16/2007  
DESIGNED BY: JA  
CHECKED BY: RW  
SCALE: 1" = 30'

**CMX**  
SHEET NO: 1 of 2

**STANDARD FOR DUST CONTROL**

**DEFINITION**  
THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS

**PURPOSE**  
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON- AND OFF-SITE DAMAGE AND HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

**WHERE APPLICABLE**  
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON- AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT. CONSULT WITH LOCAL MUNICIPAL ORDINANCES ON ANY RESTRICTIONS.

**WATER QUALITY ENHANCEMENT**  
SEDIMENTS DEPOSITED AS "DUST" ARE OFTEN FINE COLLOIDAL MATERIAL WHICH IS EXTREMELY DIFFICULT TO REMOVE FROM WATER ONCE IT BECOMES SUSPENDED. USE OF THIS STANDARD WILL HELP TO CONTROL THE GENERATION OF DUST FROM CONSTRUCTION SITES AND SUBSEQUENT BLOWING AND DEPOSITION INTO LOCAL SURFACE WATER RESOURCES.

**PLANNING CRITERIA**  
THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

**MULCHES** - SEE STANDARDS FOR STABILIZATION WITH MULCHES ONLY (p. 5-1).

**VEGETATIVE COVER** - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER (p. 7-1).

**PERMANENT VEGETATIVE COVER** (p. 4-1) AND PERMANENT STABILIZATION WITH SOG (p. 6-1)

**SPRAY-ON ADHESIVES** - ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS) KEEP TRAFFIC OFF THESE AREAS.

**DUST CONTROL MATERIALS**

WATER DILUTION	TYPE OF NOZZLE	APPLY GALLON/ACRE
ANIONIC ASPHALT EMULSION	7:1 COARSE SPRAY	1,200
LATEX EMULSION	12.5:1 FINE SPRAY	235
RESIN IN WATER	4:1 FINE SPRAY	300
POLYACRYLAMIDE (PAM) - SPRAY ON	APPLY ACCORDING TO MANUFACTURER'S RESTRICTIONS	
POLYACRYLAMIDE (PAM) - DRY SPREAD	MAY ALSO BE USED AS AN ADHESIVE TO BONDEN BARRIERS TO LOCALIZE AND PREVENT DISPERSION OF SOILS BY WIND	
ACIDULATED SOY BEAN SOAP STICK	NONE COARSE SPRAY	1,200

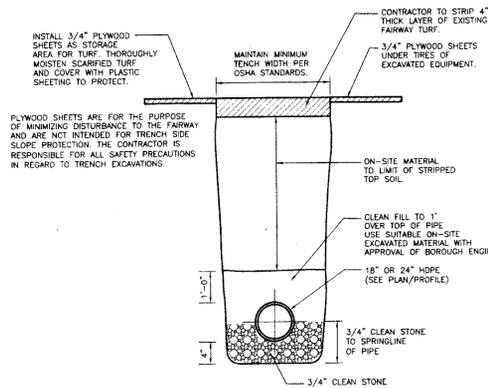
**TILLAGE** - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

**SPRINKLING** - SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

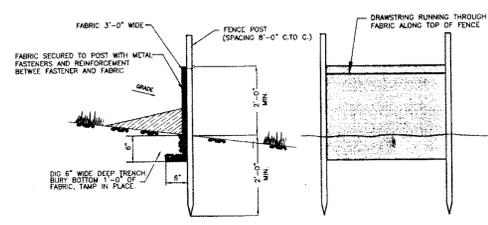
**BARRIERS** - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

**CALCIUM CHLORIDE** - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.

**STONE** - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

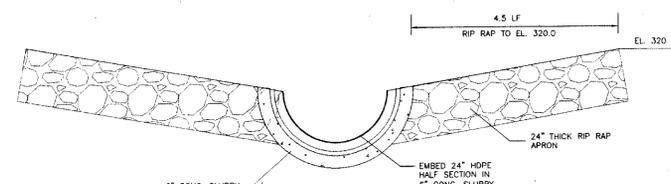


**PIPE TRENCH DETAIL**  
NOT TO SCALE

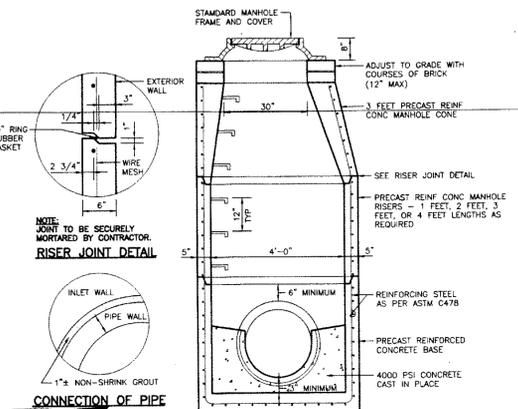


**SILT FENCE**

- Fence Posts shall be spaced 8 feet center-to-center or closer. They shall extend at least 2 feet into the ground and extend at least 2 feet above ground. Posts shall be constructed of hardwood with a minimum diameter thickness of 1 1/2 inches.
- A metal fence with 6 inch or smaller openings and of at least 2 feet high may be utilized. Fastened to the fence posts, to provide reinforcement and support the geotextile fabric where space for other practices is limited and heavy sediment loading is expected.
- A geotextile fabric recommended for such use by the manufacturer, shall be buried at least 6 inches deep in the ground. The fabric shall extend at least 2 feet above the ground. The fabric must be securely fastened to the posts using a system consisting of metal fasteners (nuts & stoppers) and a high strength reinforcement material (cable webbing, grommets, washers, etc.) placed between the fastener and the geotextile fabric. The fastening system shall resist tearing away from the post. The fabric shall incorporate a drawstring in the top portion of the fence for added strength.



**DETAIL - HDPE HALF SECTION AT HW# 100**



**PRECAST DRAINAGE MANHOLE 4'-0" DIAMETER**

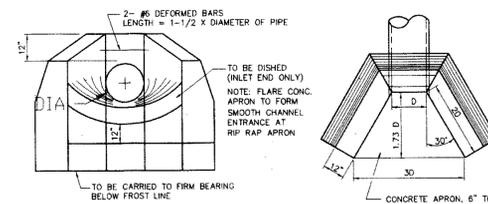
**PRECAST DRAINAGE MANHOLES**  
NOT TO SCALE

**SEQUENCE OF CONSTRUCTION**

- ACTIVITY**      **APPROXIMATE DURATION (DAYS)**
1. Install construction driveway (1) \_\_\_\_\_ 1
  2. Install silt fence along edge of easement/adjacent to exist. trees where shown tree protection. \_\_\_\_\_ 2
  3. Lay down plywood sheet "driveway" along outside edge of easement. \_\_\_\_\_ 1
  4. Strip and carefully stockpile/protect turf for re-use. \_\_\_\_\_ 3
  5. Install headwall # 100 and rip rap channel. \_\_\_\_\_ 3
  6. Begin installation of storm drainage conveyance system. \_\_\_\_\_ 4
  7. Re-install striped turf as soon as practical following \_\_\_\_\_ 1
  - Installation of storm piping and compaction of trench backfill.
  9. Topsoil, seed and mulch any minor areas of land disturbance per note 22. \_\_\_\_\_ 1
  10. Dismantle plywood driveway. \_\_\_\_\_ 1

(1) No course stone tracking pad is proposed to access the easement area on the Madison Golf Course as the "Valle Estate" site is an active construction site.

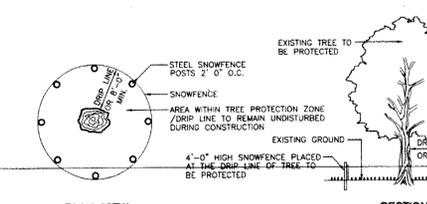
NOTE: Sequence of construction shown identifies a possible sequence of construction operations that the contractor may follow. Two or more operations may be undertaken concurrently to expedite construction.



PIPE SIZE	COR.METAL	REN. CONC.	HEADWALL IN CUBIC YARDS	APRONS IN CUBIC YARDS
12"	1.4	1.4	0.2	0.2
18"	2.1	2.1	0.3	0.3
24"	2.9	2.9	0.5	0.5
30"	3.3	3.3	0.6	0.6
36"	3.7	3.7	0.7	0.7
42"	4.1	4.1	0.8	0.8
48"	4.5	4.5	1.0	1.0
54"	4.9	4.9	1.2	1.2
60"	5.3	5.3	1.4	1.4
66"	5.7	5.7	1.6	1.6
72"	6.1	6.1	1.8	1.8

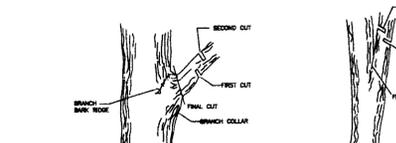
- NOTES:**
1. ALL EDGES TO BE CHAMFERED 1"
  2. CONCRETE TO BE A.A.D.O.1, CLASS "C"
  3. APRONS TO BE 6" THICK CONC. FLAT AT OUTLET END. DISHED AT INLET END
  4. EXPOSED PORTIONS OF WALL TO BE RUBBED AND FLOATED
  5. FOR ARCH PIPE, THE SPAN SHALL BE SUBSTITUTED FOR D.

**CONCRETE HEADWALL (MINIWALL)**



- NOTES:**
1. TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PRESERVED DURING AND AFTER CONSTRUCTION. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT EXISTING TREES TO REMAIN AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING AND BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIAL WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE.
  2. 4'-0" HIGH SNOW FENCE SHALL BE PLACED AT THE DRIP LINE OF THE INDIVIDUAL TREE TO BE PRESERVED AND SHALL ENCLOSE THE ENTIRE TREE.
  3. BOARDS OR FENCING SHALL NOT BE NAILED TO TREES DURING CONSTRUCTION.
  4. ROOTS EXPOSED AND/OR DAMAGED DURING GRADING AND CONSTRUCTION OPERATIONS SHALL BE CUT OFF CLEANLY INSIDE THE EXPOSED OR DAMAGED AREA. THE CUT SURFACES PAINTED WITH AN APPROVED PAINT, AND THE TOPSOIL PLACED OVER THE ROOTS IMMEDIATELY. ANY DAMAGE DONE TO EXISTING CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY. FEEDER ROOTS SHALL NOT BE CUT IN AN AREA INSIDE THE DRIP LINE OF TREE BRANCHES.
  5. TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE FLUSH WITH TRUNK OR MAIN LIMB. ALL PRUNING SHALL BE DONE IN ACCORDANCE WITH GOOD NURSERY PRACTICE. AN APPROVED TREE DRESSING OR PAINT SHALL BE APPLIED TO ALL THE CUTS WHERE THE TREE WAS PRUNED. TREES MAY BE PRUNED FOR AESTHETIC, SAFETY REASONS, OR TO IMPROVE THE HEALTH OF AN EXISTING TREE.
  6. TREES WITHIN THE LIMITS OF THE CONTRACT WORK SHALL BE WATERED AS REQUIRED TO MAINTAIN THEIR HEALTH.
  7. UTILITIES WILL BE TUNNELED UNDER TREES TO PREVENT CUTTING OF IMPORTANT FEEDER ROOTS.

**EXISTING TREE PROTECTION DETAIL**  
NOT TO SCALE



**REMOVAL OF TREE LIMB      REMOVAL OF 'V' CROTCH LIMB**

**MORRIS COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES**

1. All Soil Erosion and Sediment Control Practices will be installed in accordance with the New Jersey Standards for Soil Erosion and Sediment Control, and will be in place prior to any major soil disturbance, or in their proper sequence and maintained until permanent protection is established.
2. Any disturbed area that will be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding. If the season prohibits temporary seeding, the disturbed area will be mulched with straw or hay and tacked in accordance with the New Jersey Standards (See Note 21 below).
3. Permanent vegetation is to be established on exposed areas within ten (10) days after final grading. Mulch is to be used for protection until vegetation is established. (See Note 22 below).
4. Immediately following initial disturbance or rough grading all critical areas (steep slopes, sandy soils, wet conditions) subject to erosion will receive a temporary seeding in accordance with Note 21 below.
5. Permanent seeding and stabilization to be in accordance with the "Standards for Permanent Vegetative Cover for Soil Stabilization Cover". Specified rates and locations shall be as on the approved Soil Erosion and Sediment Control Plan.
6. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to Soil Erosion and Sediment Control facilities.
7. All sedimentation structures (silt fences, inlet filters and sediment basins) will be inspected and maintained daily.
8. Stockpiles shall not be located within 50' of a floodplain, slope, drainage facility or roadway. All stockpile bases shall have a silt fence properly entrenched at the toe of slope.
9. Before discharge points become operational, all storm drainage outlets will be stabilized as required.
10. During and after construction, the owner will be responsible for the maintenance and upkeep of the drainage structures, vegetative cover, and any other measures deemed appropriate by the District. Said responsibility will end when completed work is approved by the Conservation District.
11. All trees outside the disturbance limit indicated on the subject plan or those trees within the disturbance area which are designated to remain after construction are to be protected with tree protection devices. See Tree Protection Detail.
12. The Morris County Soil Conservation District may request additional measures to minimize on or off site erosion problems during construction.
13. The M.C.S.C.D. must be notified, in writing, at least 72 hours prior to any land disturbance, and a preconstruction meeting held.

**20. TOPSOIL STOCKPILE PROTECTION**

- A. Apply ground limestone at a rate of 90 lbs./1,000 s.f.
- B. Apply fertilizer (10-20-10) at a rate of 11 lbs./1,000 s.f.
- C. Apply Perennial Ryegrass at 1 lb./1,000 s.f. and Annual Ryegrass at 1 lb. per 1000 square feet.
- D. Mulch stockpile with straw or hay at a rate of 90 lbs./1,000 s.f.
- E. Apply a liquid mulch binder or tack to straw or hay/mulch.
- F. Properly entrench a silt fence at the bottom of stockpile.

**21. TEMPORARY STABILIZATION SPECIFICATIONS**

- A. Apply ground limestone at a rate of 90 lbs./1,000 s.f.
- B. Apply fertilizer (10-20-10) at a rate of 11 lbs./1,000 s.f.
- C. Apply Perennial Ryegrass seed at 1 lb. per 1000 square feet and Annual Ryegrass seed at 1 lb. per 1000 sq. ft.
- D. Mulch stockpile with straw or hay at a rate of 90 lbs./1,000 s.f.
- E. Apply a liquid mulch binder or tack to straw hay or mulch.

**22. PERMANENT STABILIZATION SPECIFICATIONS**

- A. Apply topsoil to a depth of 5 inches (unsettled)
- B. Apply ground limestone at a rate of 90 lbs./1,000 s.f. and work 4 inches into soil.
- C. Apply fertilizer (10-20-10) at a rate of 11 lbs./1,000 s.f.
- D. Apply Hard Fescue Seed at 2.7 lbs. per 1000 sq. ft. and Creeping Red Fescue seed at 0.7 lbs. per 1000 sq. ft. and Perennial Ryegrass Seed at 0.25 lbs. per 1000 sq. ft.
- E. Mulch stockpile with straw or hay at a rate of 90 lbs./1,000 s.f.
- F. Apply a liquid mulch binder or tack to straw or hay/mulch.

NOTE: 72 HOURS PRIOR TO ANY SOIL DISTURBANCE, NOTICE, IN WRITING, SHALL BE GIVEN TO THE MORRIS COUNTY SOIL CONSERVATION DISTRICT, AND A PRE-CONSTRUCTION MEETING HELD.

**BID ALTERNATE**

REVISION NO.	DATE	ADDED	DESCRIPTION
1	12-03-07	ADDED	HDPE HALF SECTION DETAIL

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**CONSTRUCTION DETAILS**  
FOR  
**MADISON GOLF COURSE DRAINAGE**  
BLOCK 4315 - LOT 12  
MORRIS COUNTY  
NEW JERSEY

PROJECT NO.	DATE
040199205	11/16/07
DESIGNED BY	JA
CHECKED BY	RW
SCALE	N.T.S.
SHEET NO.	2 of 2