

CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN



ENGINEERS
LANDSCAPE ARCHITECTS
SURVEYORS • PLANNERS
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CITY ENGINEER

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DEVELOPER

CLEARWATER APARTMENTS, LLC.
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WAUKESHA, WI

DESIGN ENGINEER

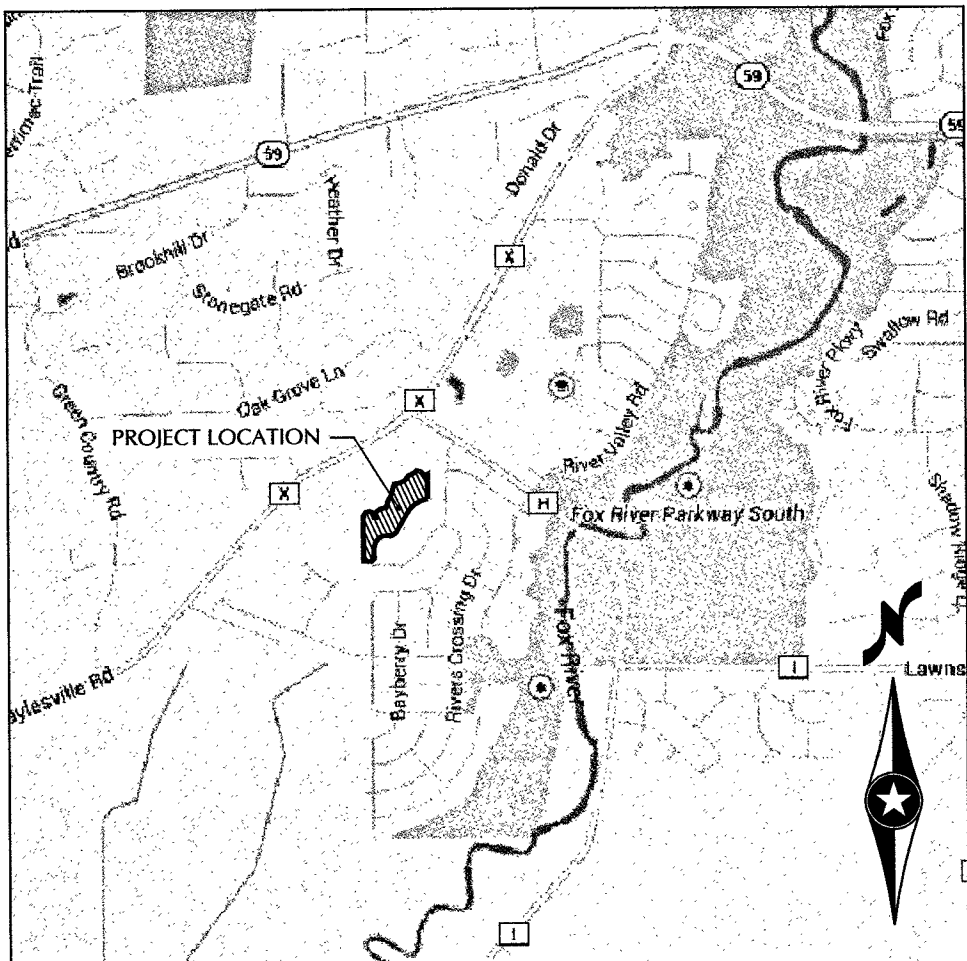
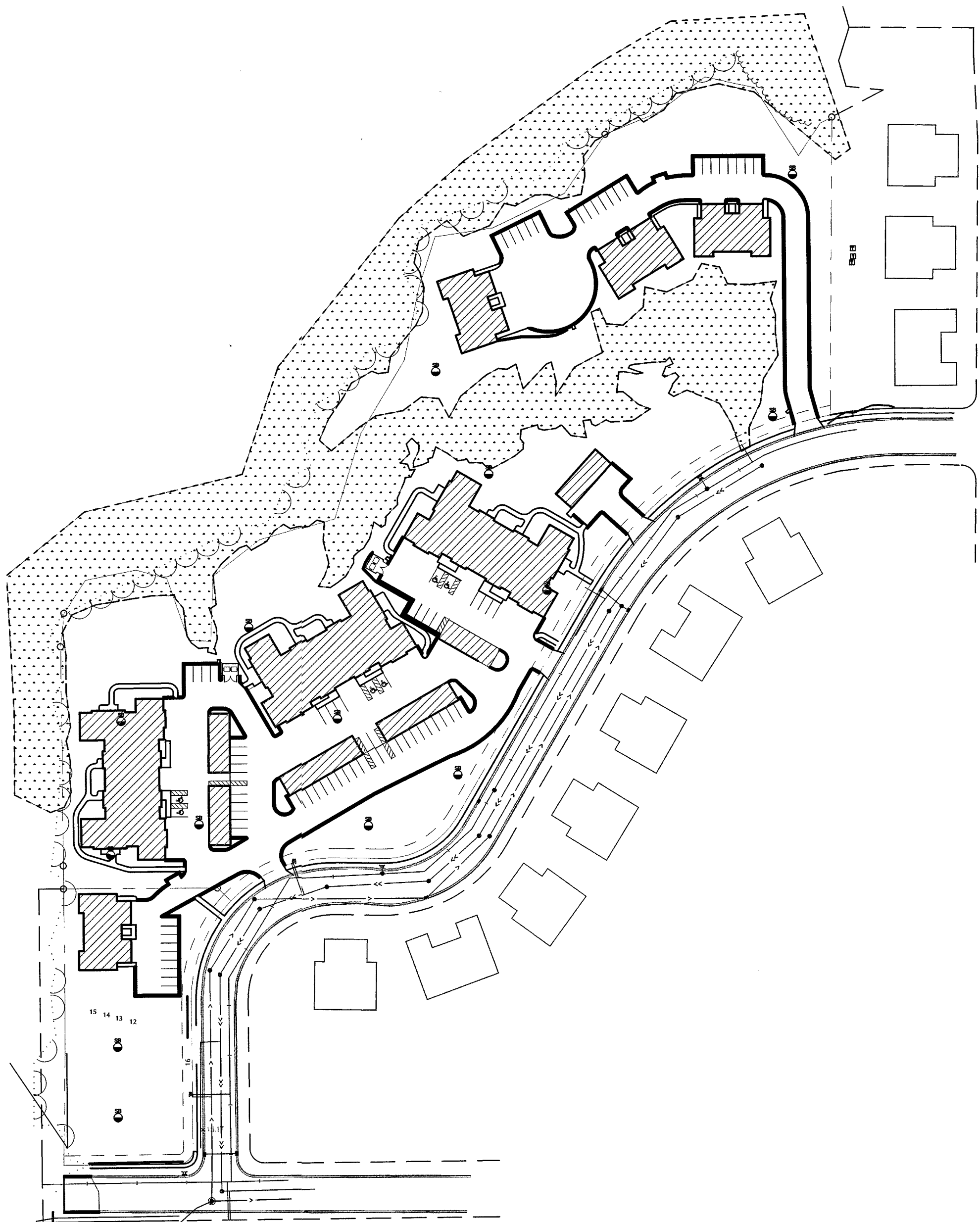
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GENERAL NOTES

1. THE CITY OF WAUKESHA ENGINEERING DEPARTMENT SHALL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. ALL CONTRACTORS INSTALLING PUBLIC IMPROVEMENTS IN THE CITY OF WAUKESHA SHALL BE REQUIRED TO ATTEND A PRE-CONSTRUCTION MEETING WITH THE CITY OF WAUKESHA ENGINEERING AND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING WORK.
3. ALL UTILITY COMPANIES SHALL BE CONTACTED AND THEIR FACILITIES SHALL BE LOCATED PRIOR TO ANY WORK IN ANY EASEMENT, RIGHT-OF-WAY, OR SUSPECTED UTILITY LOCATION. REPAIR OF ANY DAMAGE TO EXISTING FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. UTILITY LOCATION SHOWN HEREIN ARE FOR GRAPHIC ILLUSTRATION ONLY AND ARE NOT TO BE RELIED UPON.
4. PRIOR TO COMMENCEMENT OF ANY OFF SITE CONSTRUCTION, CLEARWATER APARTMENTS, LLC. SHALL SECURE WRITTEN AUTHORIZATION THAT ALL OFF SITE EASEMENTS HAVE BEEN SECURED, AND THAT PERMISSION HAS BEEN GRANTED TO ENTER ONTO PRIVATE PROPERTY.
5. ALL ELEVATIONS SHOWN HEREON REFLECT U.S.G.S DATUM.
6. CONSTRUCTION SHALL NOT BLOCK OFF SITE DRAINAGE.
7. EXISTING FIELD TILES ENCOUNTERED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RE-ROUTED TO STORM SEWERS BASED ON THE DECISION OF THE FIELD ENGINEER (COST INCIDENTAL).
8. EXCEPT WHERE MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK PROPOSED HERE ON SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, WHICH ARE HEREBY MADE A PART HEREOF:
 - A. STATE OF WISCONSIN, DEPARTMENT OF TRANSPORTATION (WISDOT), DIVISION OF HIGHWAYS STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST ADDITION.
 - B. STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION BY THE CITY OF WAUKESHA PUBLIC WORKS DEPARTMENT.
 - C. CITY OF WAUKESHA CODE OF GENERAL ORDINANCES.
 - D. CITY OF WAUKESHA WATER UTILITY STANDARD SPECIFICATIONS
 - E. WISCONSIN DEPARTMENT OF NATURAL RESOURCES ADMINISTRATIVE CODE.
9. IN THE EVENT OF CONFLICTING SPECIFICATIONS WITH REGARD TO SITE WORK ISSUES DESIGNED BY THE ENGINEER, THE DECISION OF THE DESIGN ENGINEER SHALL BE FINAL AND CONCLUSIVE.



LOCATION MAP

NOT TO SCALE

BENCH MARKS

HYDRANT "FLB" @ THE NW CORNER OF STILLWATER CIRC. AND CLEARWATER LN.

EL. = 17.56

HYDRANT "FLB" OPPOSITE #2947 CLEARWATER LN.

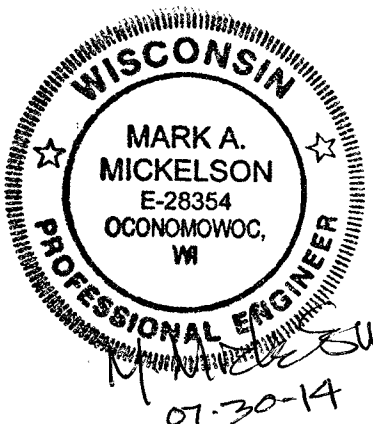
EL. = 18.86

HYDRANT "FLB" OPPOSITE #2915 CLEARWATER LN.

EL. = 21.85

VERTICAL CONTROL

THE ELEVATIONS ON THIS PLAN ARE BASED ON CITY OF WAUKESHA VERTICAL DATUM



SITE LOCATION MAP

CITY OF CITY OF WAUKESHA, WISCONSIN

SCALE IN FEET
0 50 100

CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

COVER SHEET

PROJECT NUMBER 16146

DATE JULY 2014

DRAWN BY EAB

CHECKED BY M. MICKELSON

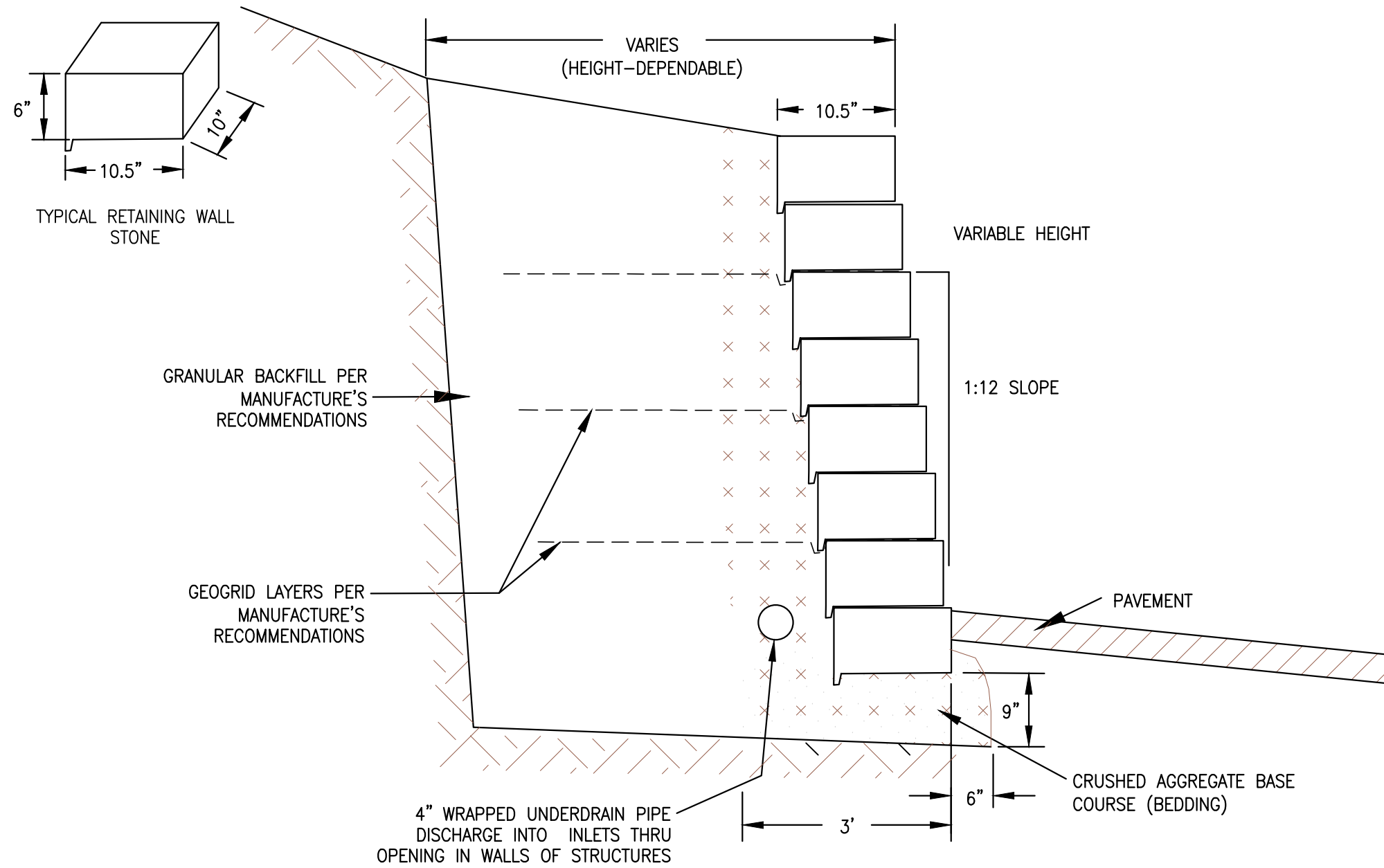
REVISION HISTORY

SHEET NUMBER

C 0.01

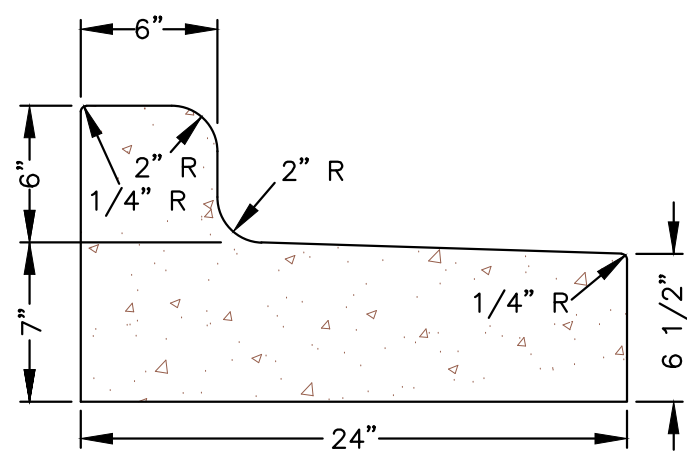
OF 18 SHEETS

Emily Bequeath P:\16146\Cad\Civil\Plans\16146_COVER-DETAILS Wednesday, July 30, 2014 2:03:10 PM



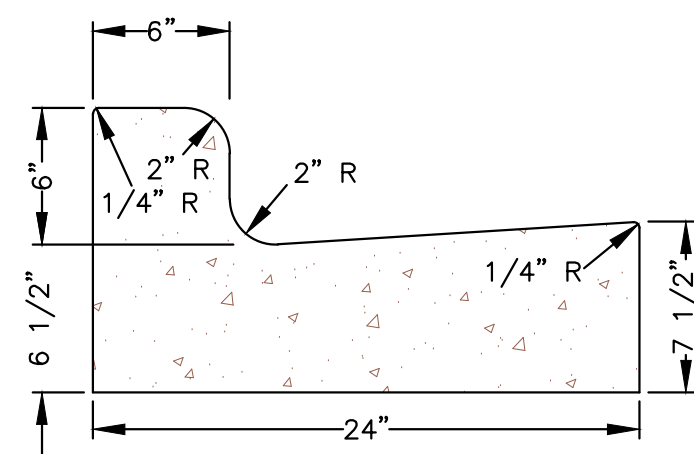
KEYSTONE RETAINING WALL

NTS



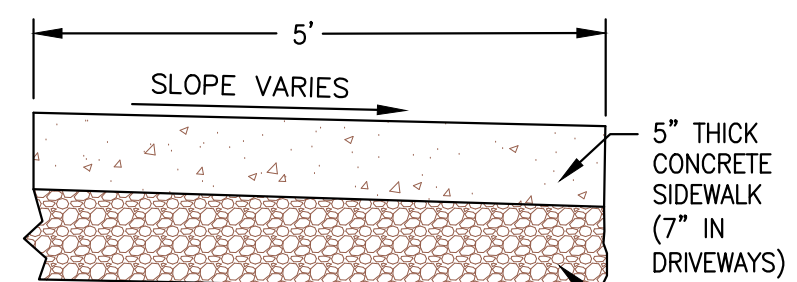
24" CONCRETE VERTICAL FACE REJECT CURB AND GUTTER SECTION

NTS



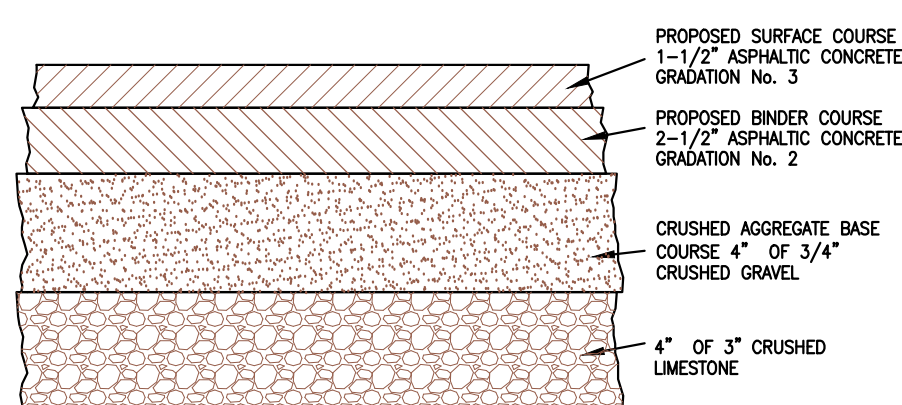
24" CONCRETE VERTICAL FACE CURB SECTION

NTS



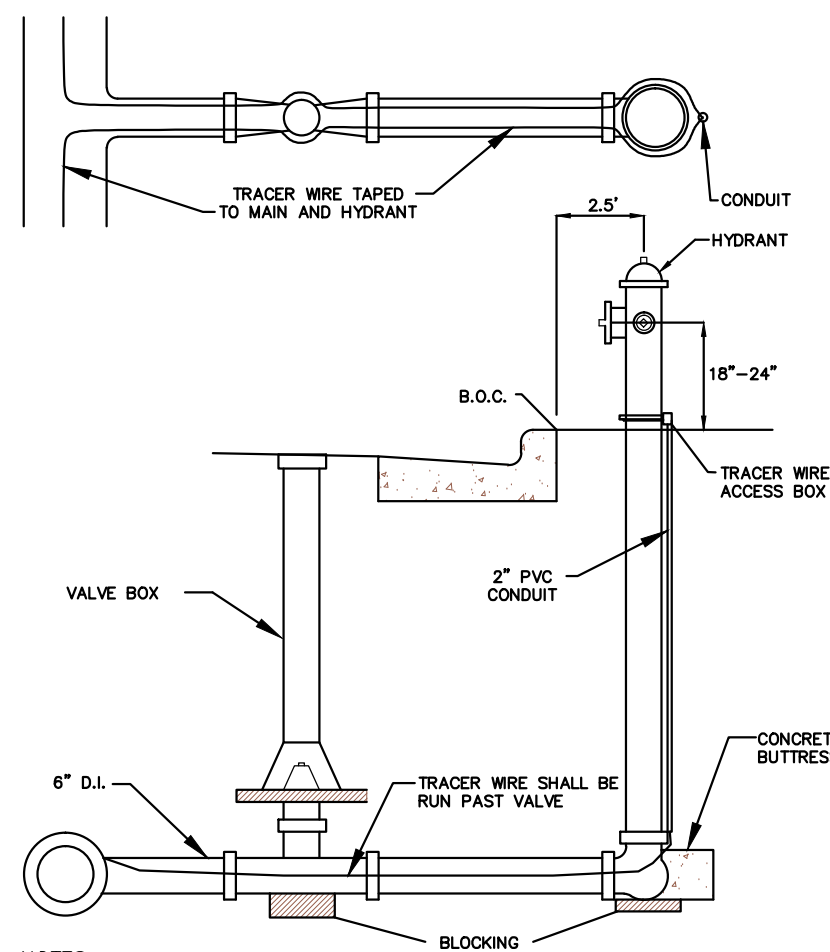
SIDEWALK DETAIL

NTS



TYPICAL PAVEMENT SECTION

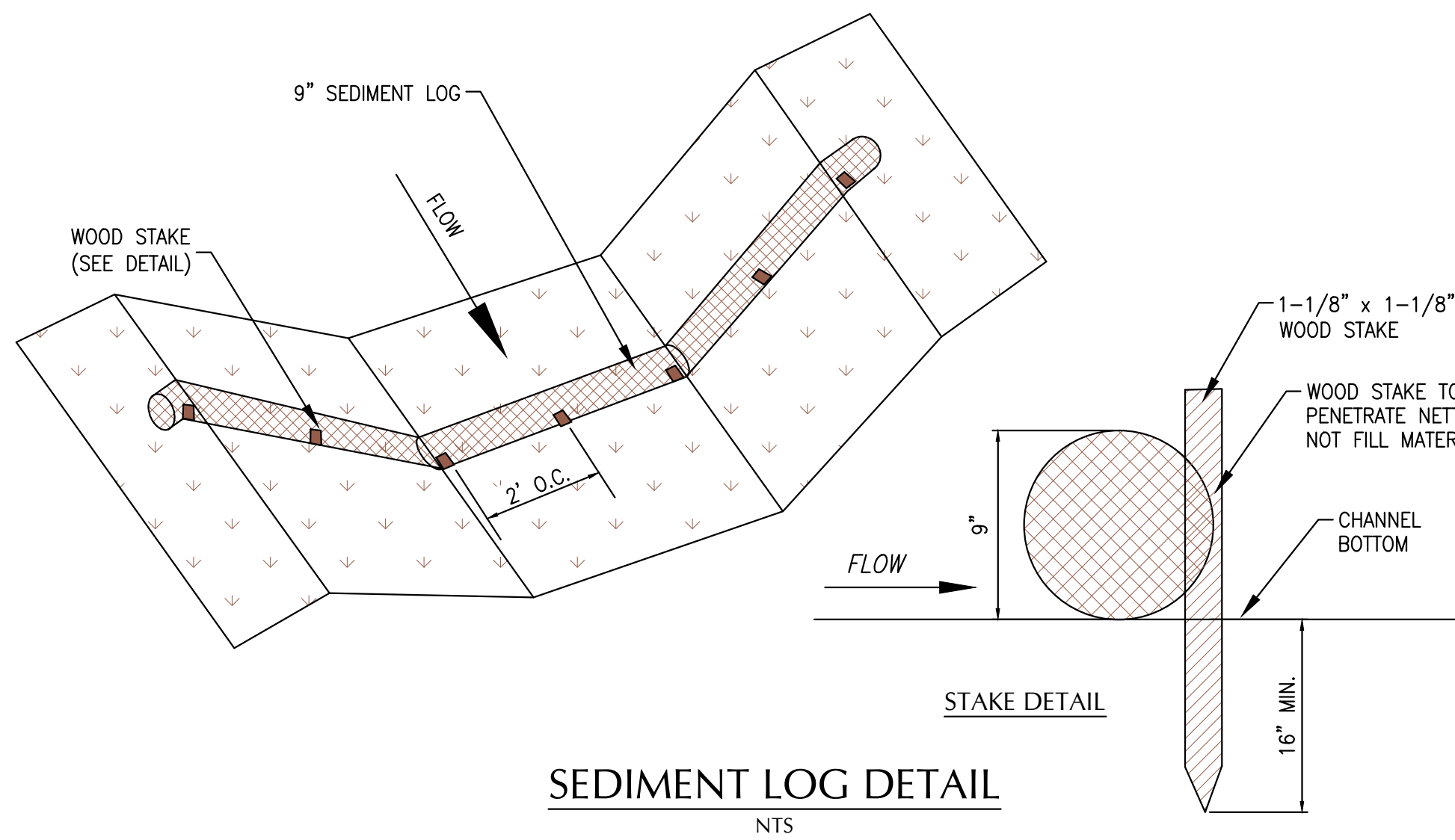
NTS



NOTES:
1) ALL PUSH-ON JOINTS IN HYDRANT LEAD MUST BE RESTRAINED.
2) ANCHOR TEE, VALVE, HYDRANT LEAD AND HYDRANT BARREL SHALL BE WRAPPED IN POLYETHYLENE WRAP - DO NOT COVER DRAIN HOLE.

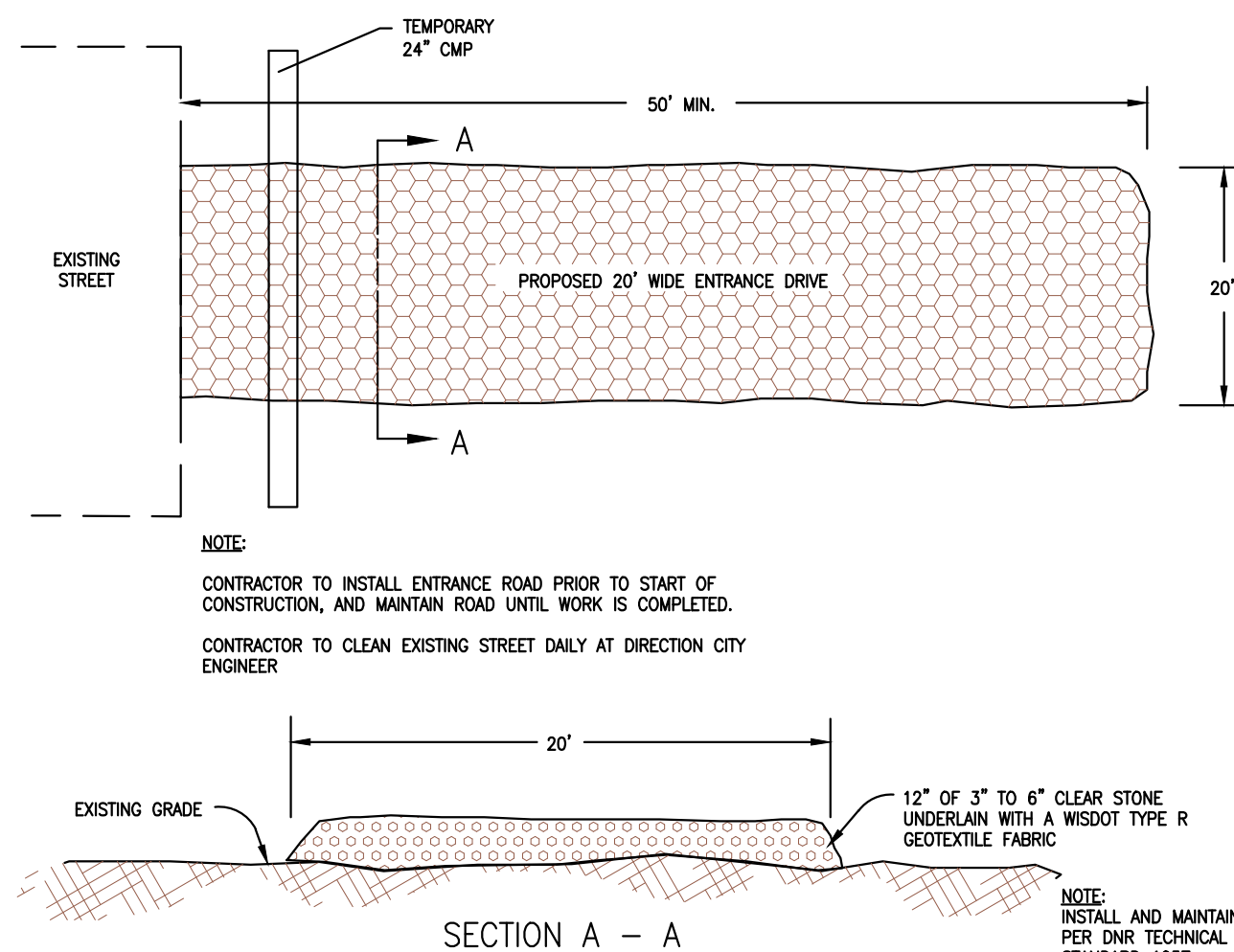
HYDRANT SETBACK & TRACER WIRE DETAIL

CITY OF WAUKESHA WATER UTILITY - NTS



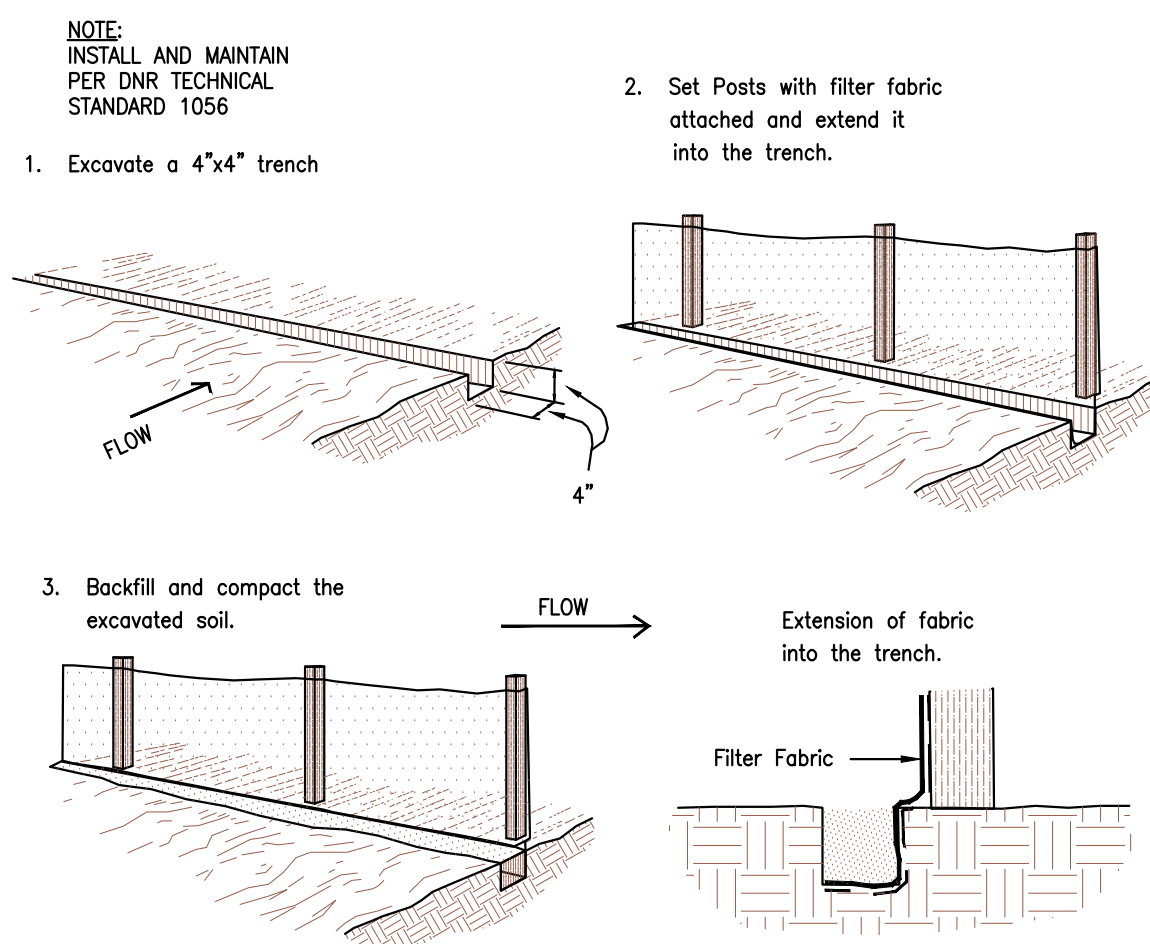
SEDIMENT LOG DETAIL

NTS



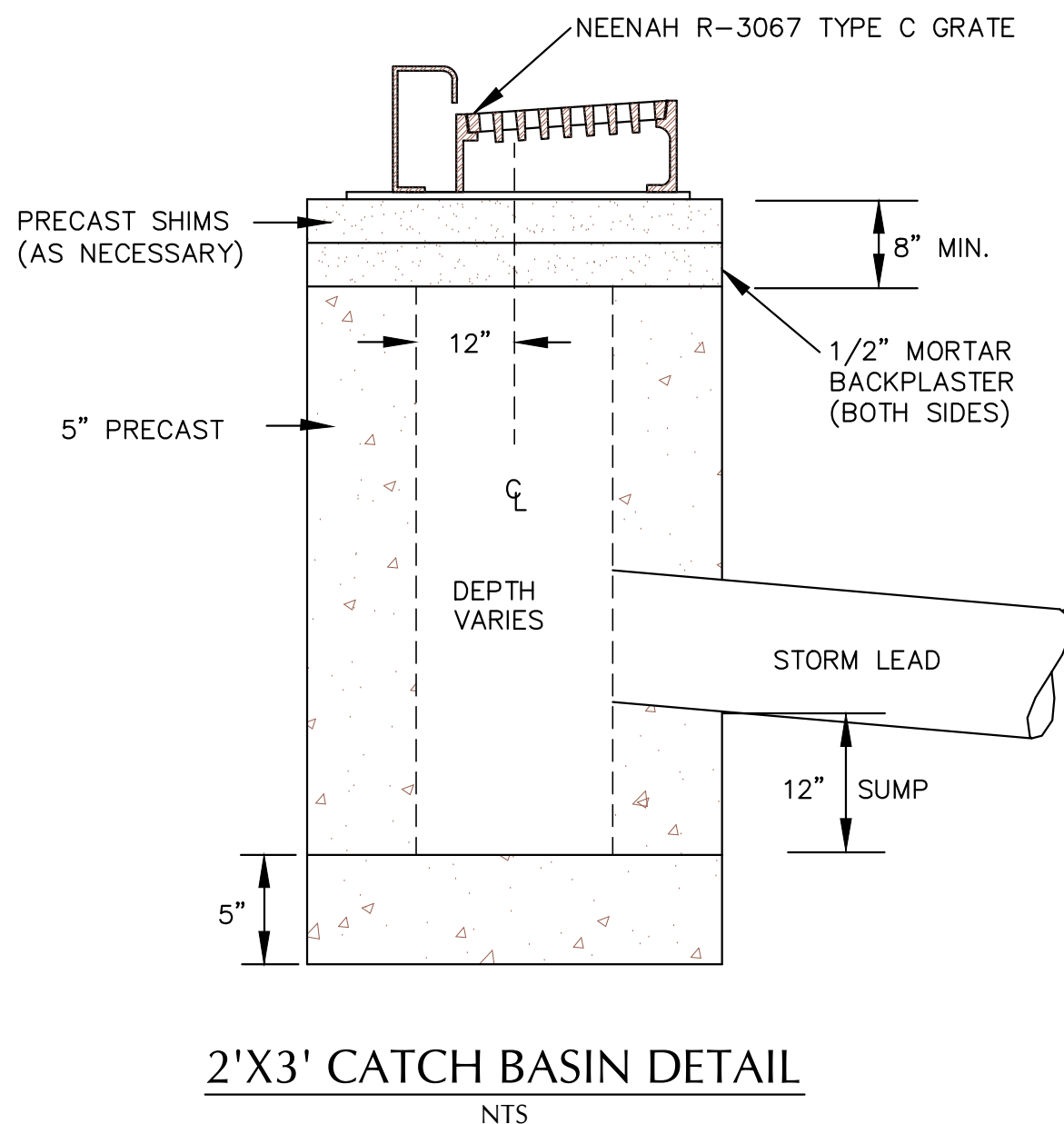
TEMPORARY GRAVEL TRACKING DRIVE

NTS



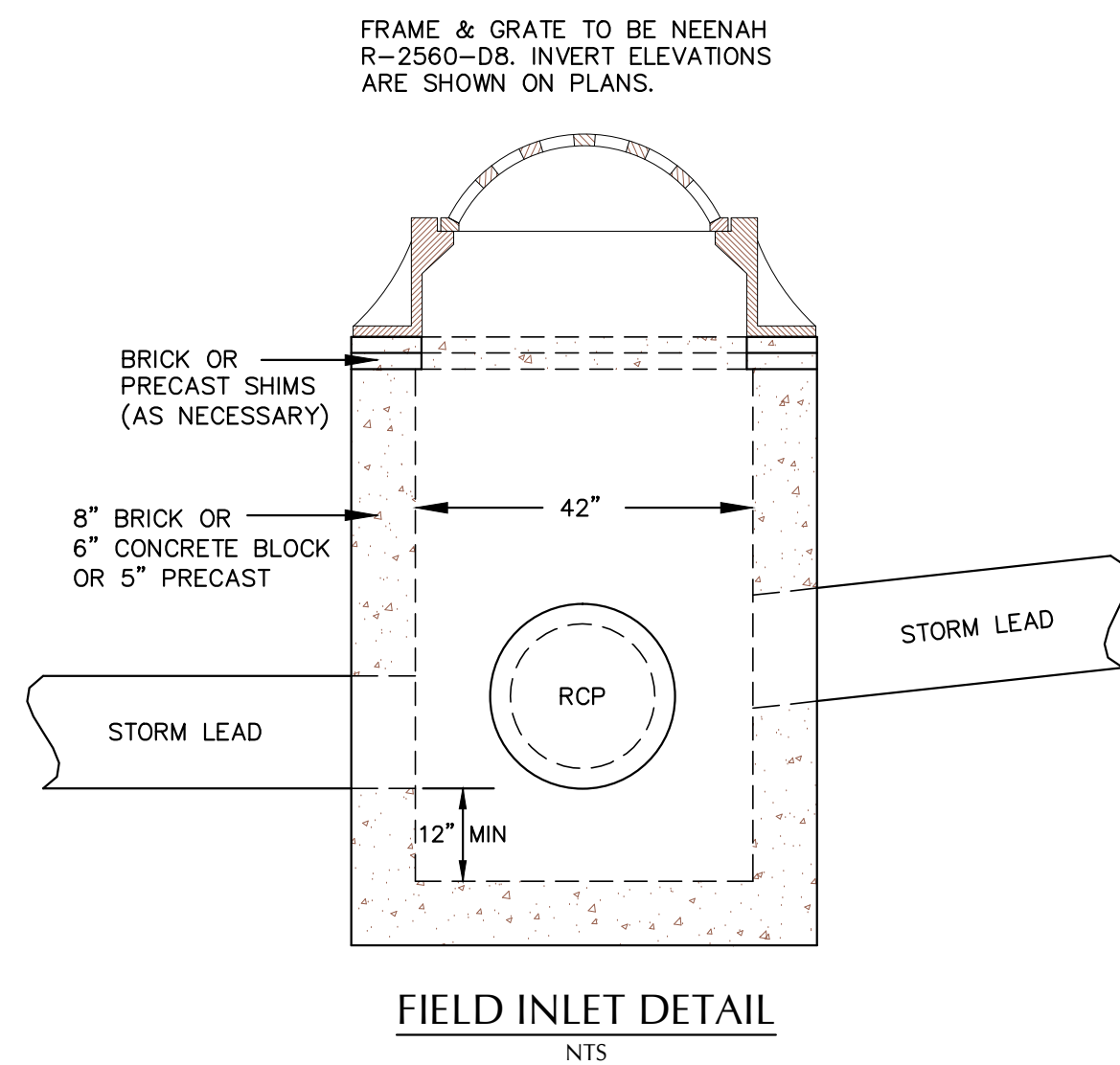
CONSTRUCTION OF A SILT FENCE

NTS



2'X3' CATCH BASIN DETAIL

NTS

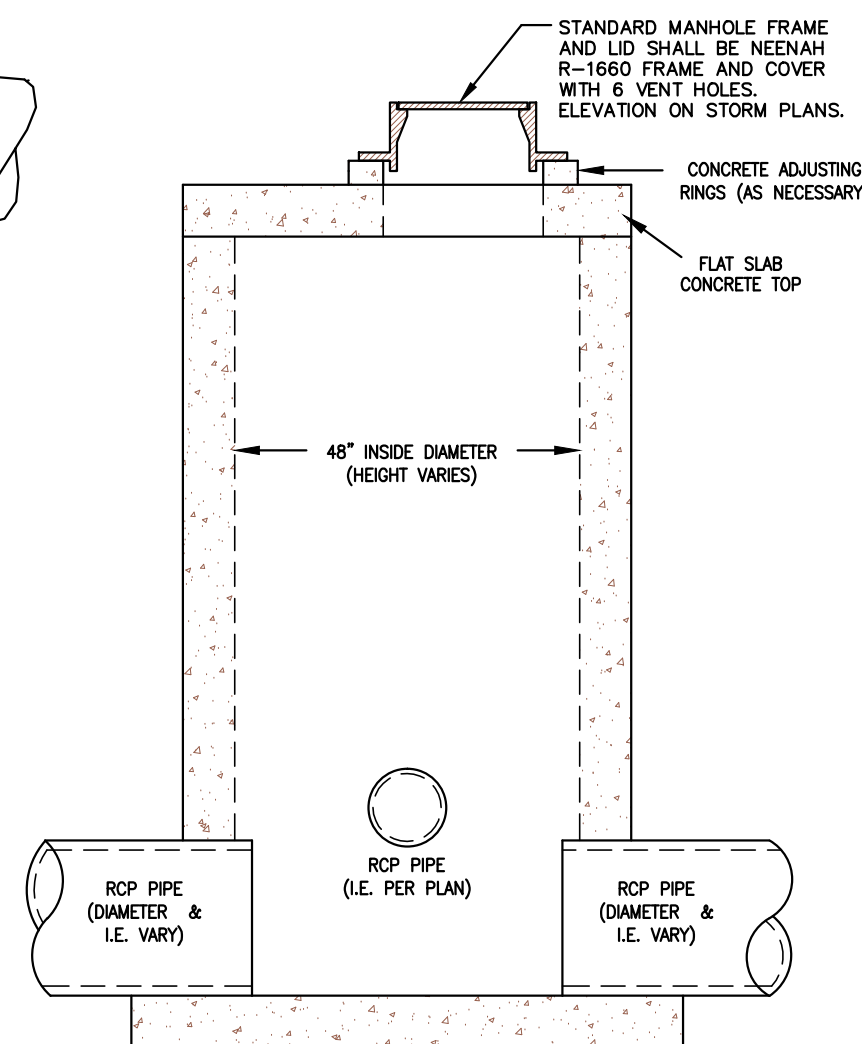


FIELD INLET DETAIL

NTS

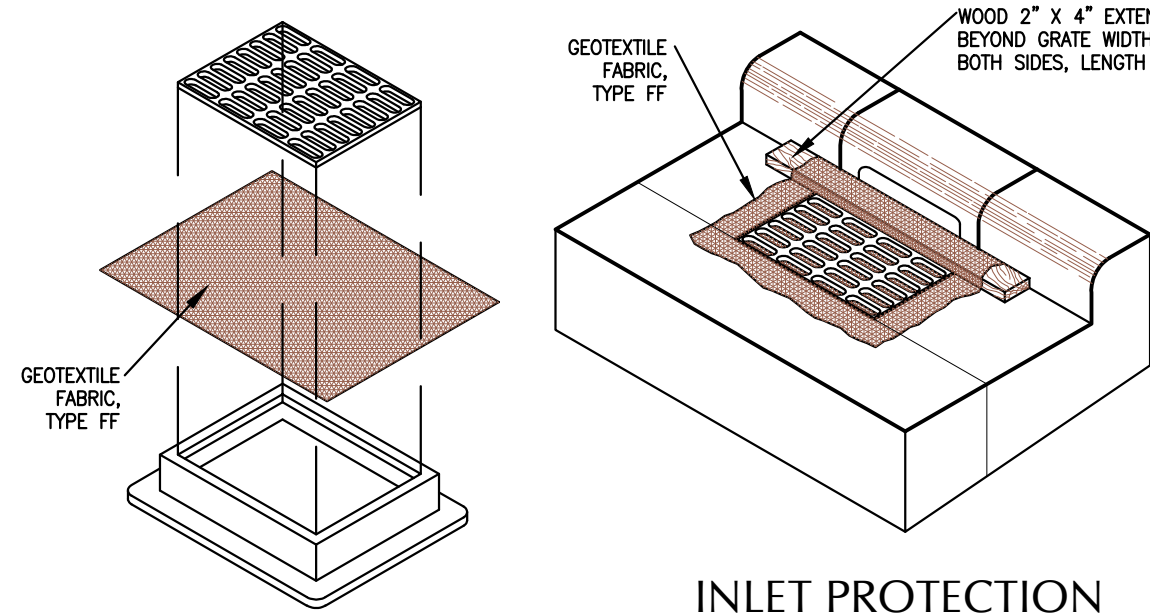
STORM SEWER NOTES:

1. ALL CATCH BASINS SHALL HAVE SUMPS AND SHALL CONFORM TO FILE NO. 26 OF THE STANDARD SPECIFICATIONS WITH NEENAH R-3067 TYPE C GRATE.
2. FIELD INLETS SHALL BE 2560-D8 TYPE BEEHIVE CASTING.
3. CATCH BASINS MAY BE PRE-CAST REINFORCED CONCRETE.



STORM MANHOLE DETAIL

NTS



INLET PROTECTION, TYPE B WITHOUT CURB BOX

(CAN BE INSTALLED ON ANY INLET TYPE)

NTS

INLET PROTECTION WITH CURB BOX

NTS

NOTE:
INSTALL AND MAINTAIN PER DNR TECHNICAL STANDARD 1060

GENERAL NOTES:

FABRIC SHALL BE REPLACED AT THE ENGINEER'S DISCRETION.

THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX.

MANUFACTURED ALTERNATIVES MAY BE USED WITH THE ENGINEERS APPROVAL.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

FABRIC SIZE SHALL BE 8" (MIN.) GREATER ON ALL SIDES OF THE INLET COVER TO PROVIDE A HAND HOLD WHEN MAINTENANCE OR REMOVAL IS REQUIRED.

FOR INLET PROTECTION WITH CURB BOX, AN ADDITIONAL 18" OF FABRIC SHALL BE WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES.

PROTECTION TO REMAIN IN PLACE UNTIL SITE VEGETATION IS ESTABLISHED.

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GREEN TIER
Advantage: Business Advantage: Environment

CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

CONSTRUCTION DETAILS

PROJECT NUMBER 16146

DATE JULY 2014

DRAWN BY EAB

CHECKED BY M. MICKELSON

REVISION HISTORY

SHEET NUMBER

C 1.01

OF 18 SHEETS

NOTE: THE EROSION CONTROL METHODS AND SCHEDULES MUST BE STRICTLY FOLLOWED AT ALL TIMES. NO DEVIATION IS TO BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINEER, MUNICIPALITY OR WDNR.

EROSION CONTROL:

- THE DESIGN ENGINEER MUST PROVIDE SITE INSPECTIONS FOR BMP VERIFICATIONS AS NOTED IN THE INSPECTION SCHEDULE.
- CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "WISCONSIN STORM WATER CONSTRUCTION AND POST-CONSTRUCTION CONSERVATION PRACTICE STANDARDS".
- SEDIMENT CONTROL MEASURES MAY NEED TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.
- PROVIDE PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. SEDIMENT CONTROL MEASURES ARE TO BE IN WORKING CONDITION AT THE END OF EACH DAY.
- INSPECT SEDIMENT CONTROL STRUCTURES FOR INTEGRITY AFTER ANY SIGNIFICANT RAINFALL OF 1/2" OR MORE. REPLACE DAMAGED STRUCTURES IMMEDIATELY.
- DO NOT REMOVE ANY SEDIMENT CONTROL MEASURES UNTIL THE AREAS SERVED HAVE 80% OR MORE ESTABLISHED VEGETATIVE COVER.
- ALL TRACKED SOIL ON ADJACENT STREETS FROM THIS PROJECT MUST BE CLEANED ON A DAILY BASIS, MINIMUM. CONTRACTORS ARE REQUIRED TO USE THE TRACKING DRIVE SITE.
- ALL TRENCH WATER SHALL BE TREATED IN ACCORDANCE WITH WDNR TECH. STANDARD NO. 1061. ALL PUMPED WATER (90 GPM MAX.) SHALL BE TREATED IN A TYPE I GEOTEXTILE BAG (MIN. SIZE 100 SQ. FT.). DISCHARGE FROM THE BAG SHALL BE DIRECTED TO A VEGETATED AREA. CARE SHALL BE TAKEN TO REDUCE VELOCITY SO THAT NO EROSION IS CREATED DOWNSTREAM.
- PROTECT STORM SEWER COLLECTION INLETS FROM RUN-OFF BY PROVIDING INLET PROTECTION PER WDNR TECH. STANDARD NO. 1060.
- PREVENT OVERLAND FLOW FROM LEAVING ANY PORTION OF THE WORK SITE BY INSTALLING SILT FENCING PARALLEL TO THE SLOPE DOWNHILL FROM THE WORK AREA.
- SEDIMENT CONTROL FOR UTILITY PIPELINE CONSTRUCTION
 - PLACE EXCAVATED TRENCH MATERIAL ON HIGH SIDE OF THE TRENCH.
 - BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE INSTALLATION.
- ALL SLOPES STEEPER THAN 4:1 SHALL BE STABILIZED USING CLASS I - TYPE A ECRM PER WDNR TECH. STANDARD 1052. ALL CHANNELS/ SWALES SHALL BE STABILIZED USING CLASS I - TYPE B ECRM UNLESS SPECIFIED OTHERWISE ON THE PLANS PER WDNR TECH. STANDARD 1053. ONLY MATERIALS FOUND ON THE WDOT PAL SHALL BE ACCEPTABLE.)SEE PLAN FOR LOCATIONS.)
- ALL OUTSIDE EMBANKMENTS ADJACENT TO WETLANDS MUST BE MATTED IMMEDIATELY.

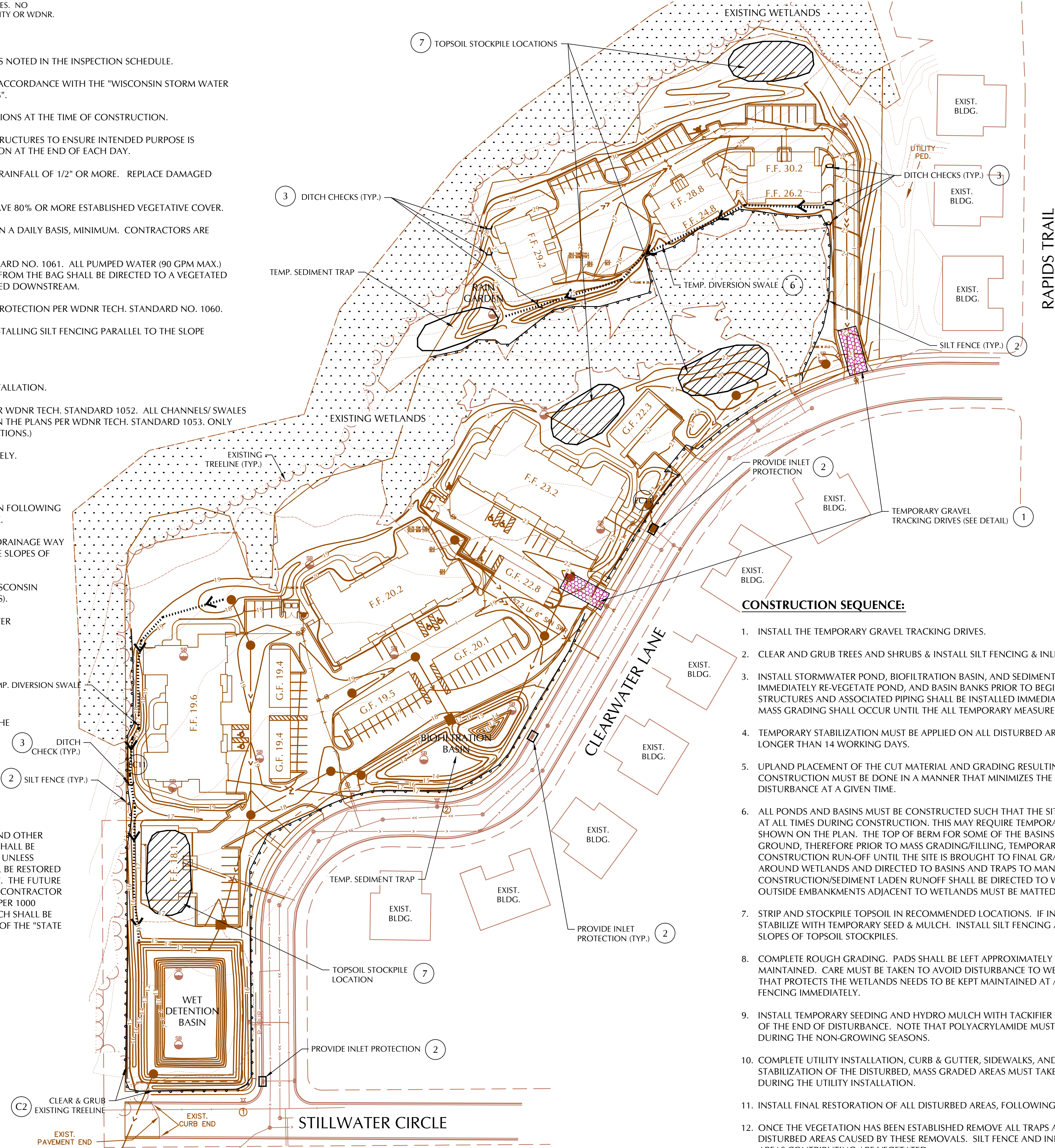
GENERAL NOTES:

- ALL EROSION CONTROL PRACTICES MUST BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL (1/2" OR MORE), AND AT LEAST ONCE PER WEEK.
- ALL TEMPORARY TOPSOIL STOCKPILES SHALL NOT BE LOCATED WITHIN 25 FEET OF A DRAINAGE WAY AND SHALL BE PROTECTED WITH SILT FENCING AROUND THE DOWN SLOPE AND SIDE SLOPES OF THE AND IMMEDIATELY STABILIZED WITH TEMPORARY SEEDING.
- TEMPORARY SEEDING TO CONFORM WITH SECTION 630.2.1.5.1.2 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (ANNUAL OATS).
- HYDRO-MULCHING ALL DISTURBED AREAS W/POLYACRYLAMIDE REQUIRED FOR WINTER STABILIZATION (PER DOT'S PAL).
DEADLINES FOR SEEDING ARE:
SEPTEMBER 15-COOL GRASS SEEDING;
OCTOBER 15 -TEMPORARY SEEDING;
NOVEMBER 15-DORMANT SEEDING.
- BASIN BERM COMPACTION TO MEET 90% PROCTOR.
- CONSTRUCTION SHALL REMAIN WITHIN THE LIMITS SET OUT BY THE PLACEMENT OF THE CONSTRUCTION OR SILT FENCE.
- SILT FENCE HAS BEEN PLACED IN SUCH A MANNER AS TO RESTRICT INTRUSION INTO THE WETLANDS.
- TOPSOIL SHALL NOT BE USED AS FILL MATERIAL IN THE NON-STRUCTURAL AREAS UNTIL ALL SOURCES OF STRUCTURAL CUT AND TRENCH SPOILS HAVE BEEN EXHAUSTED.
- RESTORATION SHALL BE 4" TOPSOIL (REASONABLY FREE OF STONES, STICKS, ROOTS, AND OTHER OBJECTIONABLE MATTER AND DEBRIS). ONCE TOPSOIL HAS BEEN SPREAD, THE AREAS SHALL BE SEEDED WITH SEED MIXTURE NO. 10 IN SECTION 630 OF THE "STATE SPECIFICATIONS", UNLESS OTHERWISE NOTED. OUTLOT AREAS ADJACENT TO THE FUTURE COUNTY TRAIL SHALL BE RESTORED USING THE WAUKESHA COUNTY PARKS "NO-MOW" GRASS SEED MIX BY AGRECOL LLC. THE FUTURE TRAIL AND SHOULDERS (20' WIDTH) SHALL BE SEEDED WITH NO. 10 MIX DESIGN. THE CONTRACTOR SHALL APPLY A FERTILIZER (20-0-0) OVER THE SEEDED AREA AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. THIS AREA SHALL BE MAINTAINED BY THE CONTRACTOR. STRAW MULCH SHALL BE PLACED IN ACCORDANCE WITH METHODS "B" OR "C", AS DESCRIBED IN SECTION 627 OF THE "STATE SPECIFICATIONS".

DE-WATERING PLAN:

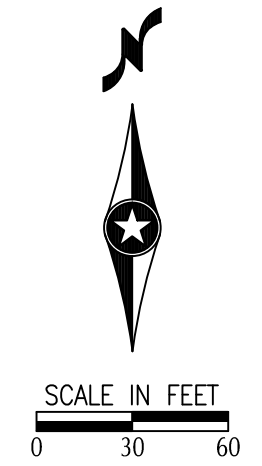
THE CONTRACTOR SHALL UTILIZE A 3" PUMP AT A MAXIMUM PUMPING RATE OF 100 GPM TO DE-WATER THE WORK AREA AND PUMP TO A 12' x 10' TYPE II SEDIMENT BAG. THE BAG SHALL BE PLACED ON A RELATIVELY FLAT, VEGETATED AREA AT LEAST 50 FEET FROM THE WETLAND (DELINEATED BY SILT FENCE). THE DISCHARGED WATER SHALL BE REASONABLY FREE OF SEDIMENT WITH A CLEAR APPEARANCE AND DIRECTED OVER VEGETATION. IT IS RECOMMENDED DISCHARGES FROM ALL DE-WATERING OPERATIONS BE DIRECTED FROM THE SEDIMENT BAG TO A STABILIZED SEDIMENT BASIN OR TRAP. DO NOT DIRECT OVER DISTURBED AREA AND BE SURE TO NOT ERODE THE LAND IT FLOWS OVER. IF DISCHARGE FROM BAG IS QUESTIONABLE, CONTACT DESIGN ENGINEER TO DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY.

NO DE-WATERING IS EXPECTED FOR UTILITY CONSTRUCTION, HOWEVER IF DE-WATERING BECOMES NECESSARY THEN ALL TRENCH DE-WATERING SHALL BE PUMPED INTO A SEDIMENT BAG AND DIRECTED TO AN ESTABLISHED SEDIMENT BASIN OR TRAP.



CONSTRUCTION SEQUENCE:

- INSTALL THE TEMPORARY GRAVEL TRACKING DRIVES.
- CLEAR AND GRUB TREES AND SHRUBS & INSTALL SILT FENCING & INLET PROTECTION AS SHOWN ON PLANS.
- INSTALL STORMWATER POND, BIOFILTRATION BASIN, AND SEDIMENT LOGS AS SHOWN ON PLANS. IMMEDIATELY RE-VEGETATE POND, AND BASIN BANKS PRIOR TO BEGINNING ANY OTHER WORK. OUTLET STRUCTURES AND ASSOCIATED PIPING SHALL BE INSTALLED IMMEDIATELY AND PRIOR TO RE-VEGETATING. NO MASS GRADING SHALL OCCUR UNTIL THE ALL TEMPORARY MEASURES ARE IN-PLACE AND STABILIZED.
- TEMPORARY STABILIZATION MUST BE APPLIED ON ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR LONGER THAN 14 WORKING DAYS.
- UPLAND PLACEMENT OF THE CUT MATERIAL AND GRADING RESULTING FROM THE POND AND BASIN CONSTRUCTION MUST BE DONE IN A MANNER THAT MINIMIZES THE TOTAL AMOUNT OF ACTIVE LAND DISTURBANCE AT A GIVEN TIME.
- ALL PONDS AND BASINS MUST BE CONSTRUCTED SUCH THAT THE SITE'S STORM WATER IS DIRECTED TO THEM AT ALL TIMES DURING CONSTRUCTION. THIS MAY REQUIRE TEMPORARY SWALES AND TRAPS NOT NECESSARILY SHOWN ON THE PLAN. THE TOP OF BERM FOR SOME OF THE BASINS IS HIGHER THAN THE SURROUNDING GROUND, THEREFORE PRIOR TO MASS GRADING/FILLING, TEMPORARY TRAPS NEED TO BE BUILT TO MANAGE CONSTRUCTION RUN-OFF UNTIL THE SITE IS BROUGHT TO FINAL GRADE. DIVERSION SWALES SHALL BE BUILT AROUND WETLANDS AND DIRECTED TO BASINS AND TRAPS TO MANAGE RUNOFF - NO CONSTRUCTION/SEDIMENT LADEN RUNOFF SHALL BE DIRECTED TO WETLANDS PRIOR TO BEING TREATED. ALL OUTSIDE EMBANKMENTS ADJACENT TO WETLANDS MUST BE MATTED IMMEDIATELY.
- STRIP AND STOCKPILE TOPSOIL IN RECOMMENDED LOCATIONS. IF INACTIVE FOR 7 DAYS OR MORE THEN STABILIZE WITH TEMPORARY SEED & MULCH. INSTALL SILT FENCING AROUND THE DOWN SLOPE AND SIDE SLOPES OF TOPSOIL STOCKPILES.
- COMPLETE ROUGH GRADING. PADS SHALL BE LEFT APPROXIMATELY 2-FEET LOW. POSITIVE DRAINAGE MUST BE MAINTAINED. CARE MUST BE TAKEN TO AVOID DISTURBANCE TO WETLANDS - ANY DAMAGED SILT FENCE THAT PROTECTS THE WETLANDS NEEDS TO BE KEPT MAINTAINED AT ALL TIMES. REPAIR ANY DAMAGED FENCING IMMEDIATELY.
- INSTALL TEMPORARY SEEDING AND HYDRO MULCH WITH TACKIFIER ON ALL DISTURBED AREAS WITHIN 7 DAYS OF THE END OF DISTURBANCE. NOTE THAT POLYACRYLAMIDE MUST BE USED TO STABILIZE DISTURBED AREAS DURING THE NON-GROWING SEASONS.
- COMPLETE UTILITY INSTALLATION, CURB & GUTTER, SIDEWALKS, AND ASPHALT PAVING. NOTE THAT STABILIZATION OF THE DISTURBED, MASS GRADED AREAS MUST TAKE PLACE IF THEY ARE NOT BEING GRADED DURING THE UTILITY INSTALLATION.
- INSTALL FINAL RESTORATION OF ALL DISTURBED AREAS, FOLLOWING UTILITY INSTALLATION.
- ONCE THE VEGETATION HAS BEEN ESTABLISHED REMOVE ALL TRAPS AND DIVERSION SWALES - RESTORE ALL DISTURBED AREAS CAUSED BY THESE REMOVALS. SILT FENCE AND INLET PROTECTION MAY BE REMOVED ONCE AREAS CONTRIBUTING ARE VEGETATED.



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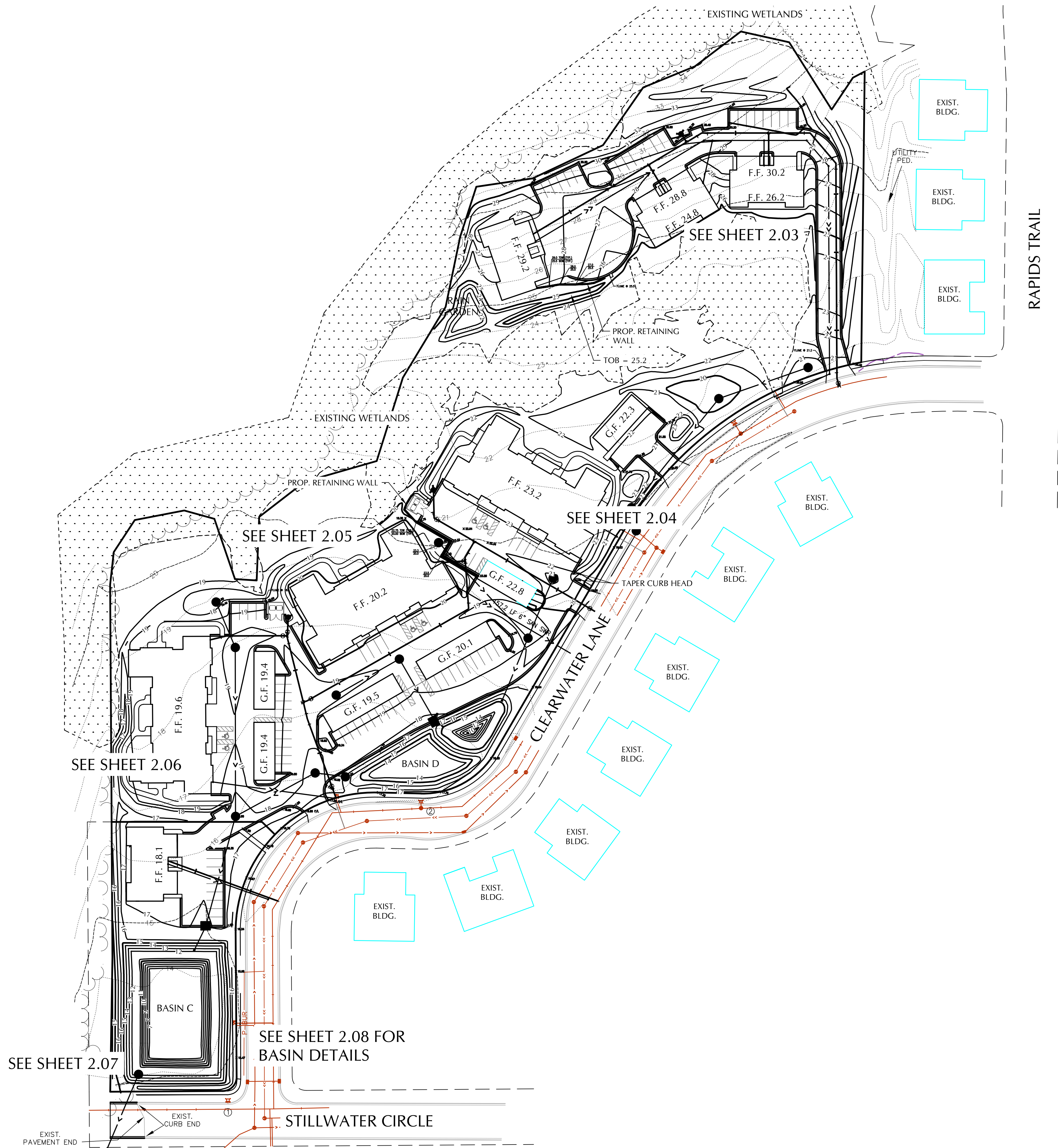
CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

EROSION CONTROL PLAN

PROJECT NUMBER	16146
DATE	JULY 2014
DRAWN BY	EAB
CHECKED BY	M. MICKELSON
REVISION HISTORY	
SHEET NUMBER	C 2.01
OF	18 SHEETS

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CLEARWATER APARTMENTS
CITY OF WAUKESHA, WISCONSIN
GRADING PLAN - OVERALL

PROJECT NUMBER 16146

DATE JULY 2014

DRAWN BY EAB

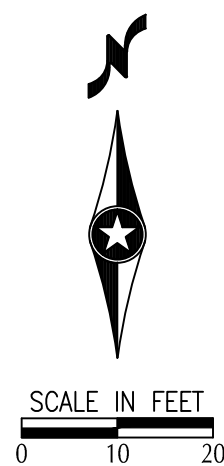
CHECKED BY M. MICKELSON

REVISION HISTORY

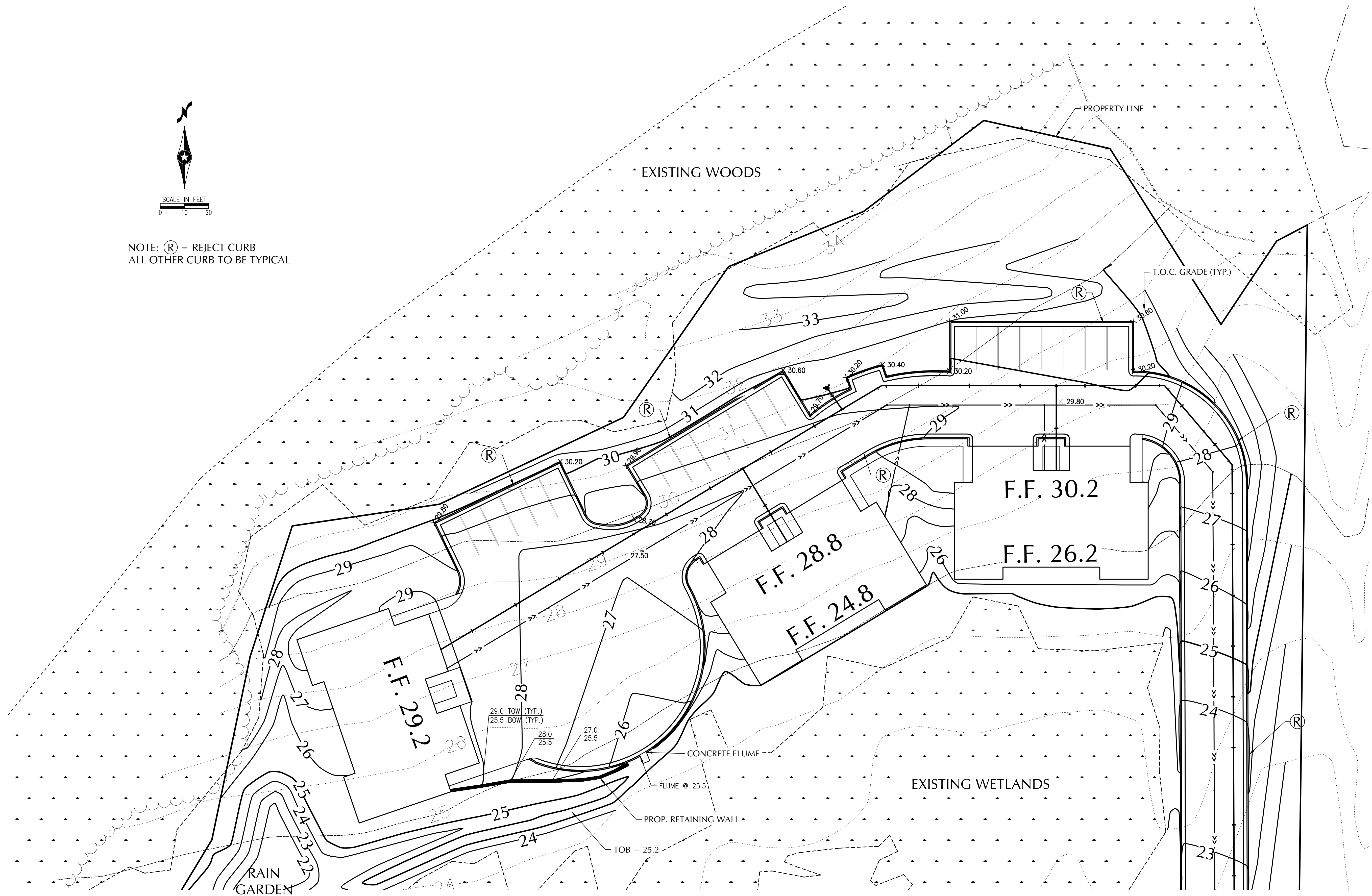
SHEET NUMBER

C 2.02

OF 18 SHEETS



NOTE: (R) = REJECT CURB
ALL OTHER CURB TO BE TYPICAL



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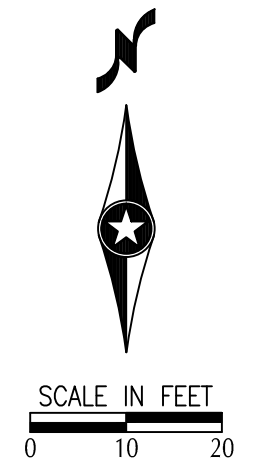
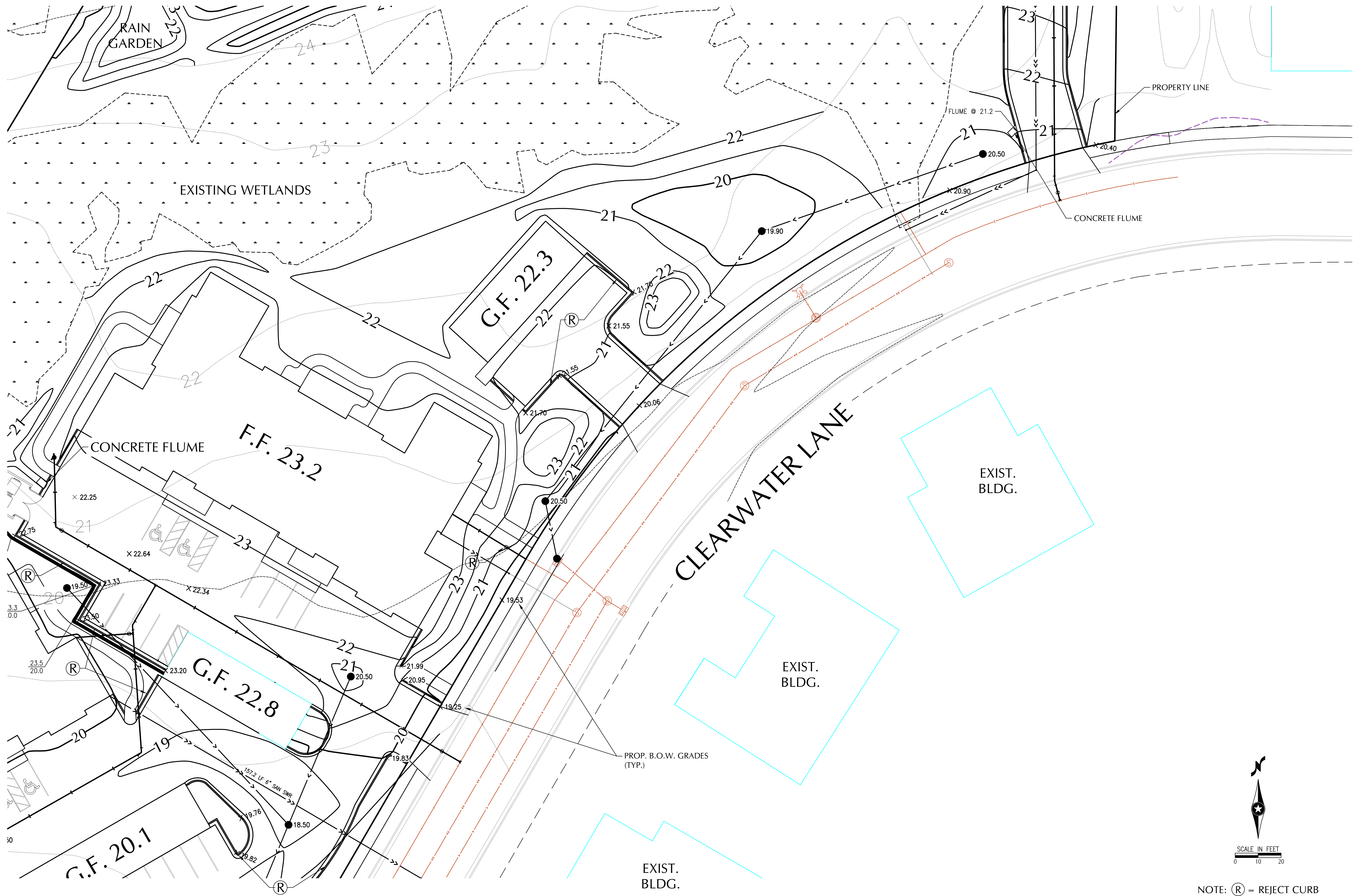


CLEARWATER APARTMENTS
CITY OF WAUKESHA, WISCONSIN
GRADING PLAN - NORTH SECTION

PROJECT NUMBER	16146
DATE	JULY 2014
DRAWN BY	EAB
CHECKED BY	M. MICKELSON
REVISION HISTORY	

SHEET NUMBER
C 2.03
OF 18 SHEETS

Emily Bequaeth P:\16146\04d\Civil\Plans\16146_GRD-EC Wednesday, July 30, 2014 1:39:15 PM



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Advantage: Business Advantage: Environment

CLEARWATER APARTMENTS
CITY OF WAUKESHA, WISCONSIN
GRADING PLAN - EAST SECTION

PROJECT NUMBER	16146
DATE	JULY 2014
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CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

GRADING PLAN - WEST SECTION

PROJECT NUMBER 16146

DATE JULY 2014

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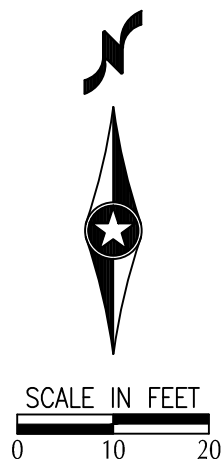
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REVISION HISTORY

SHEET NUMBER

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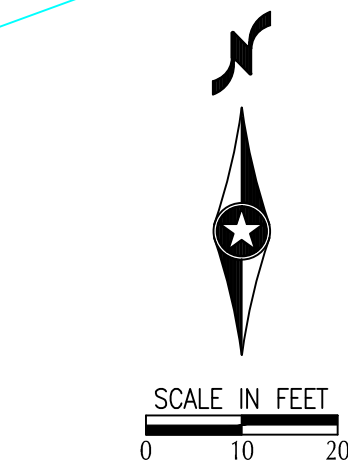
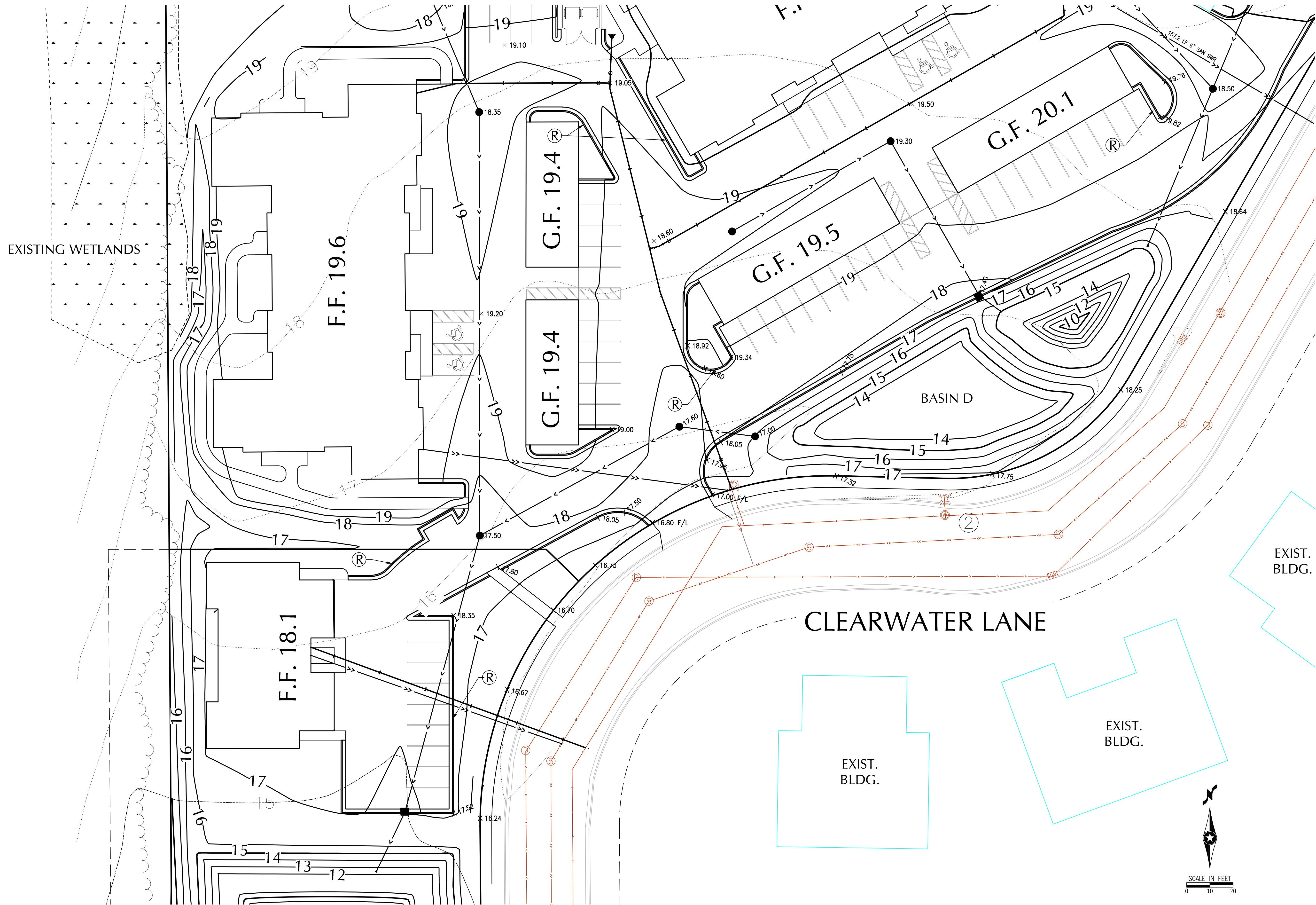
OF 18 SHEETS



NOTE: (R) = REJECT CURB
ALL OTHER CURB TO BE TYPICAL



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NOTE: (R) = REJECT CURB
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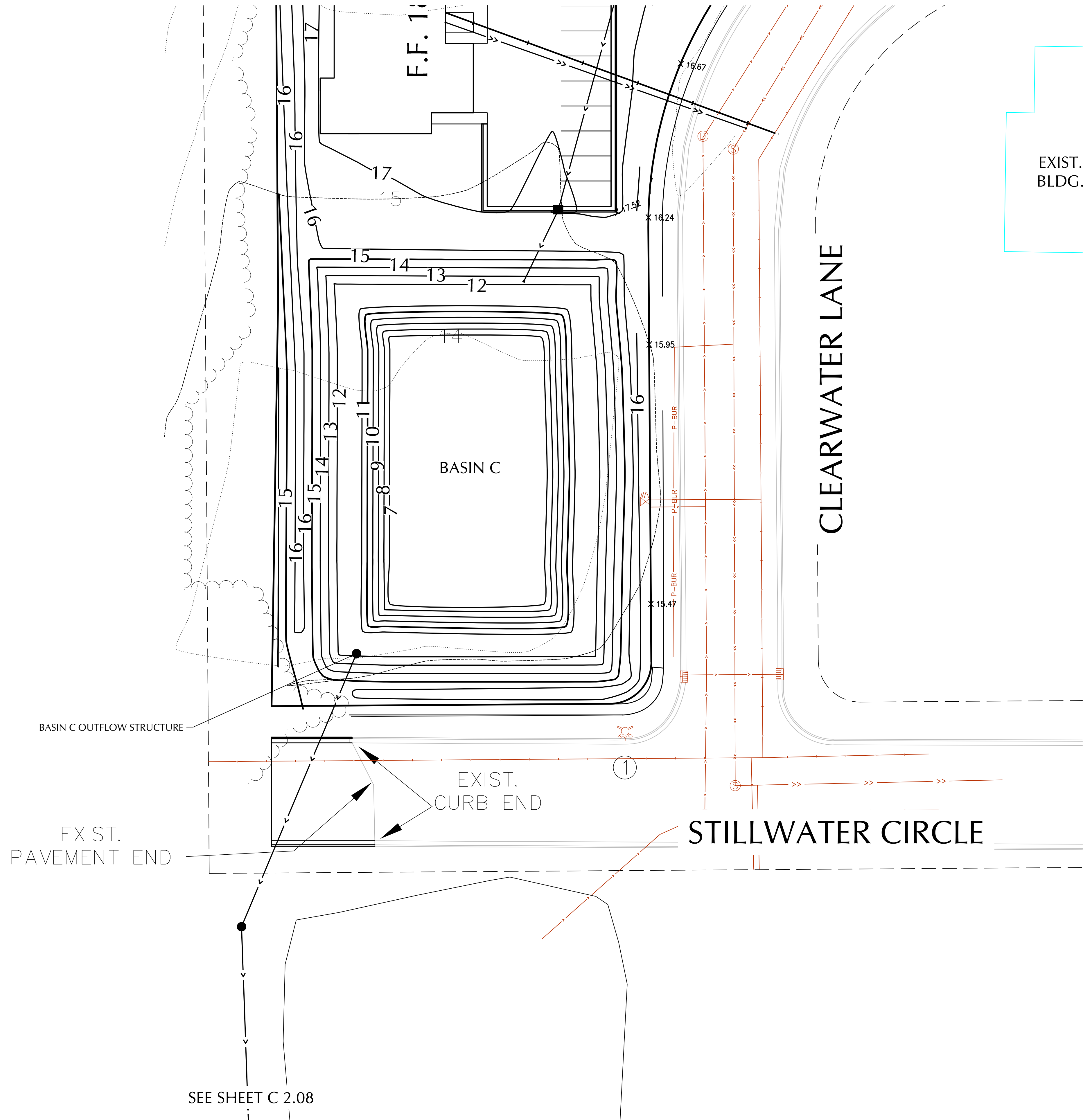
CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

GRADING PLAN - SOUTH SECTION

PROJECT NUMBER	16146
DATE	JULY 2014
DRAWN BY	EAB
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REVISION HISTORY	
SHEET NUMBER	C 2.06
OF	18 SHEETS

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CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

GRADING PLAN - STORMWATER POND

PROJECT
NUMBER 16146

DATE JULY 2014

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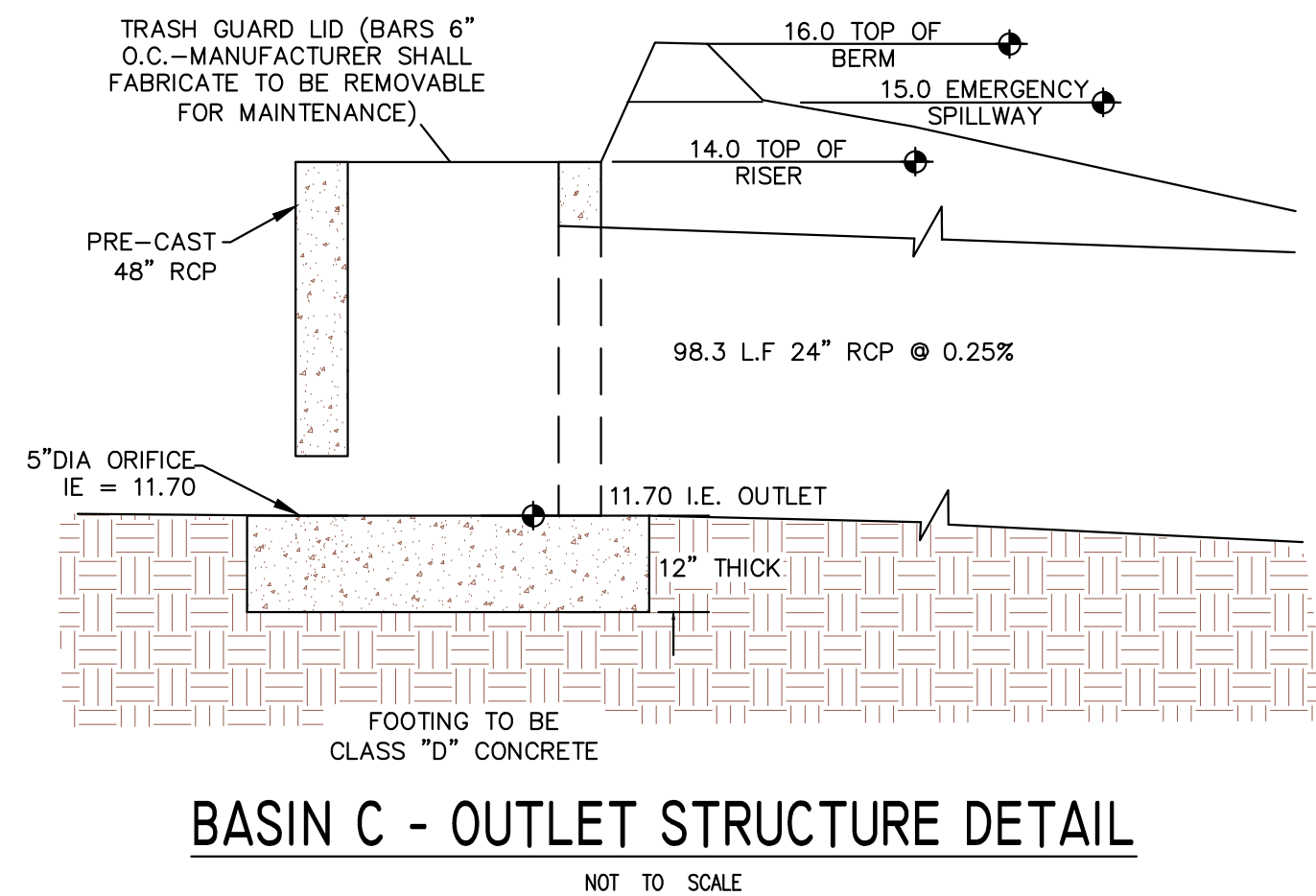
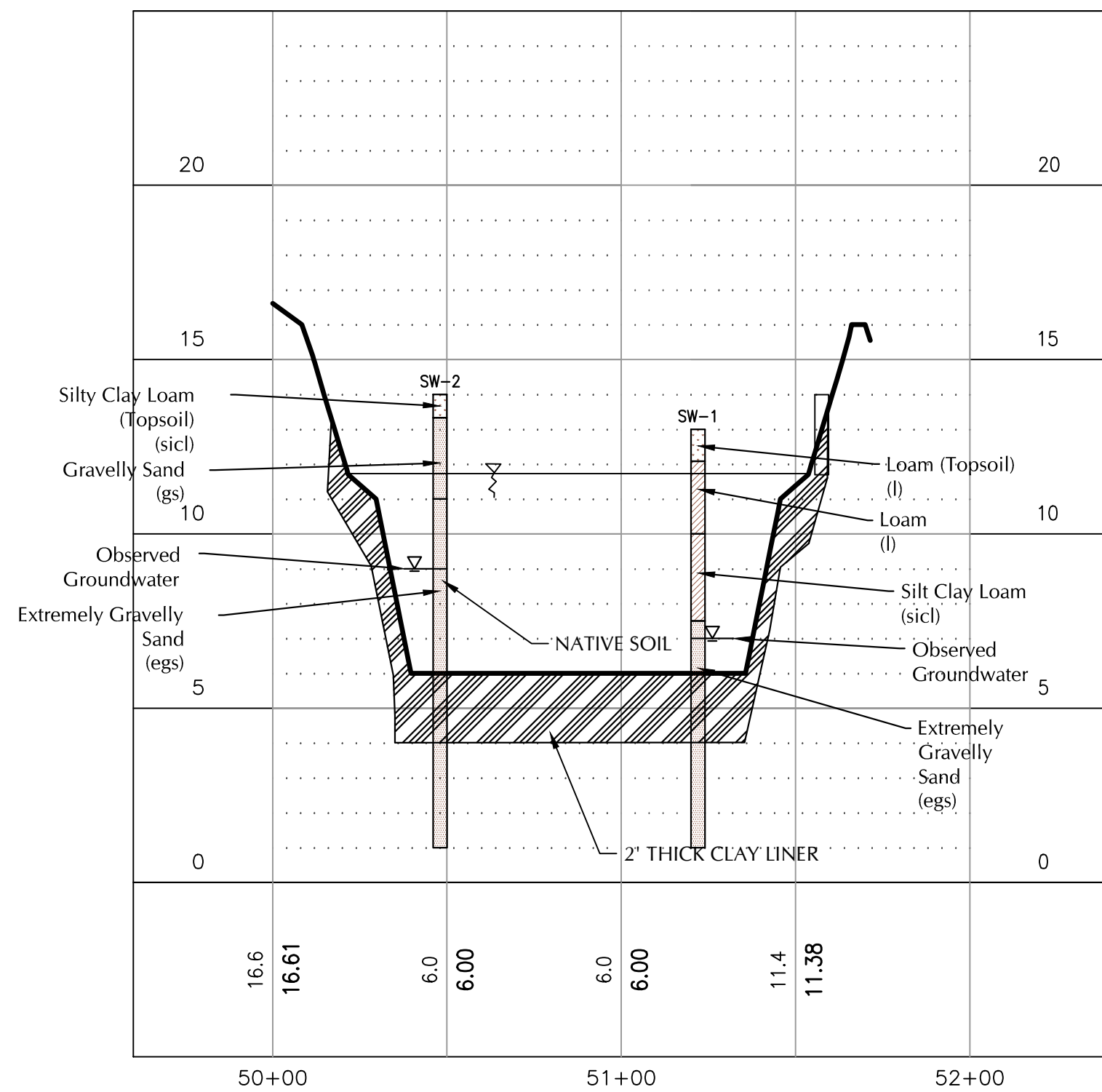
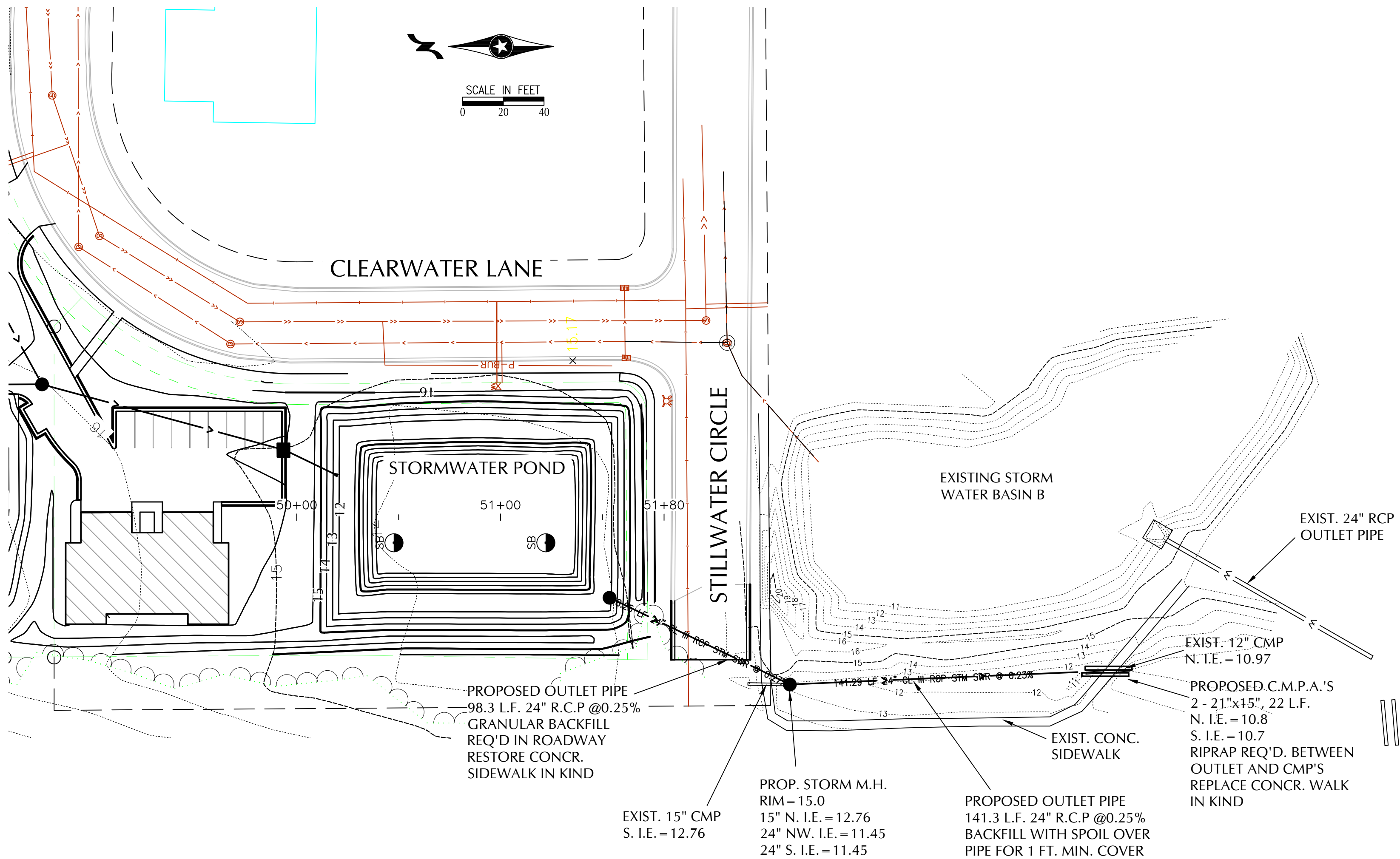
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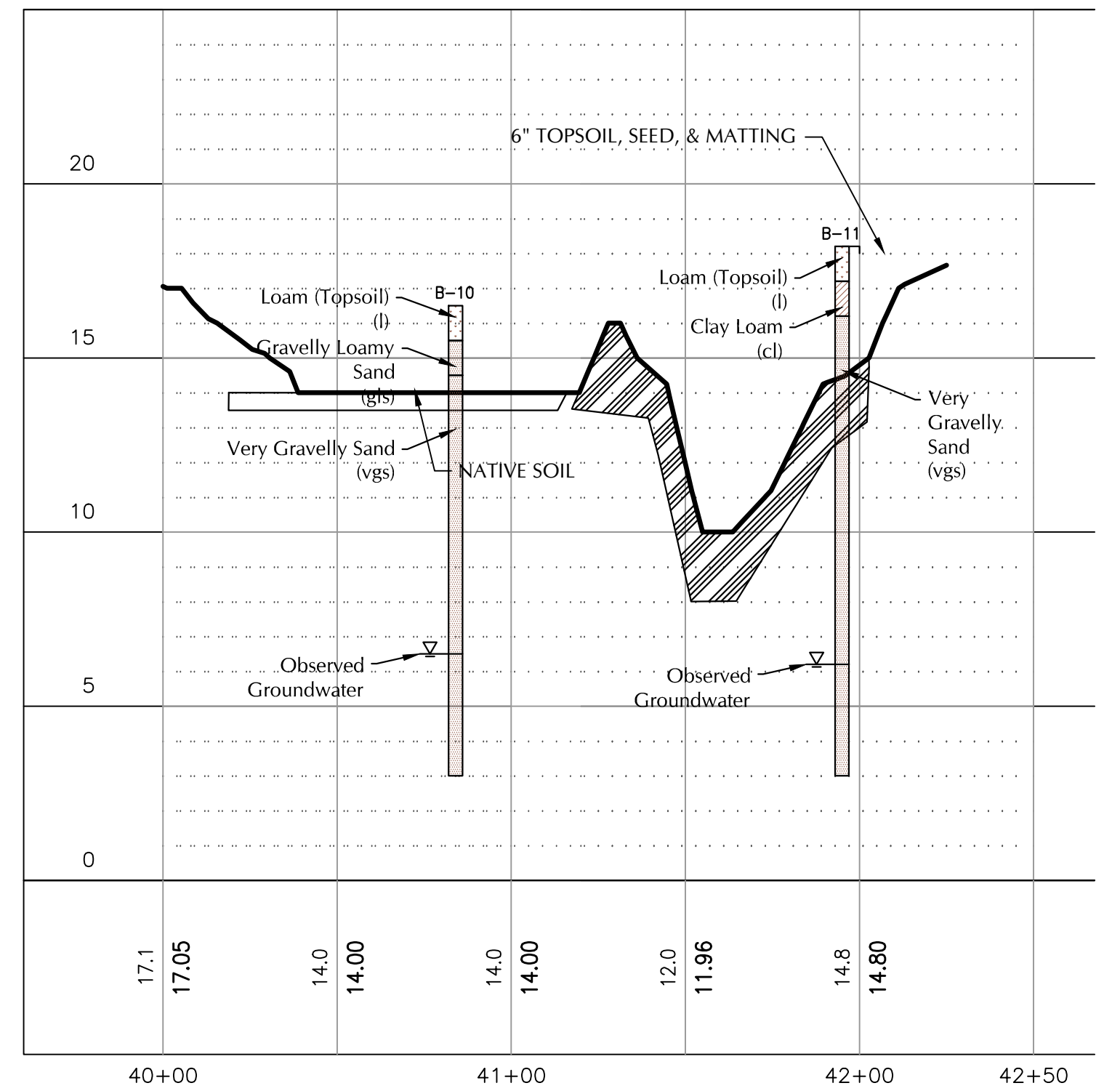
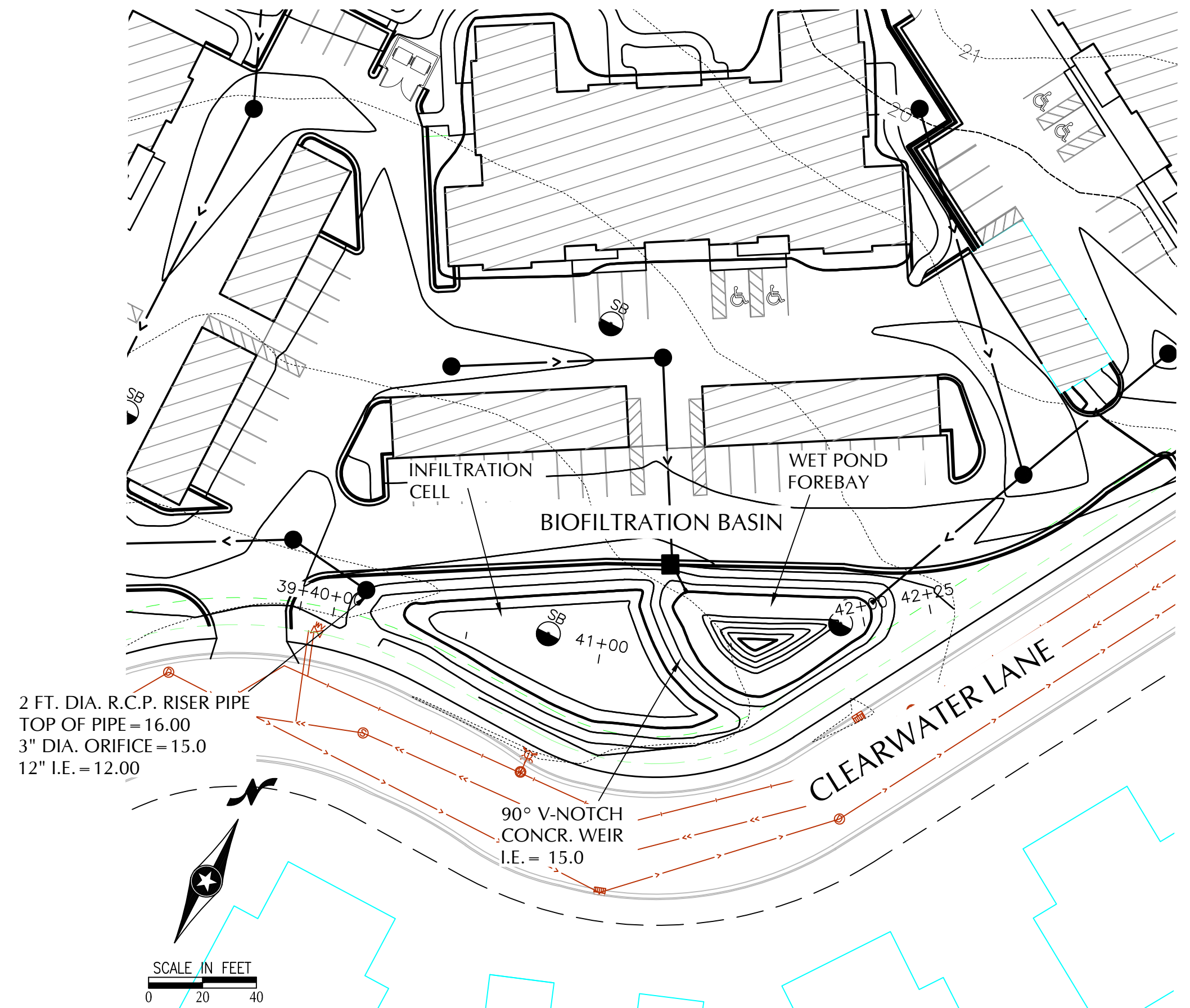
OF 18 SHEETS

Emily Bequaeth P:\16146\Cad\Civil\Plans\16146_COVER-DETAILS Wednesday, July 30, 2014 2:03:10 PM



BASIN C - OUTLET STRUCTURE DETAIL

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CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

BASIN DETAILS

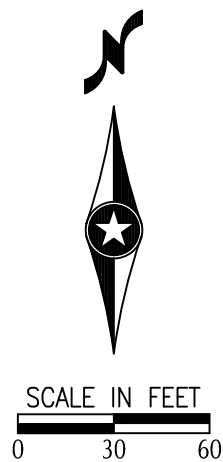
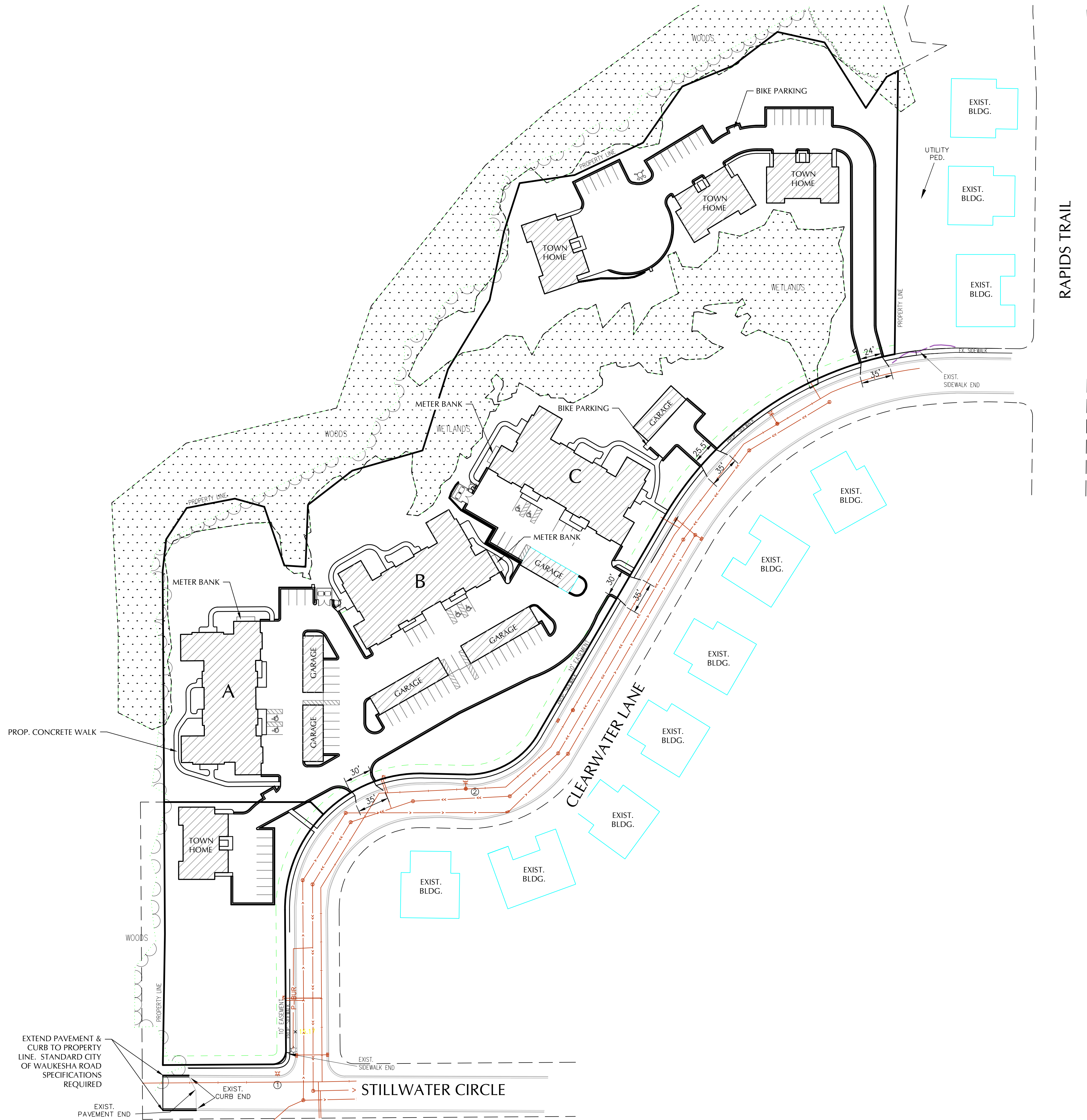
PROJECT NUMBER 16146
DATE JULY 2014
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REVISION HISTORY

SHEET NUMBER

C 2.08

OF 18 SHEETS

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CITY OF WAUKESHA, WISCONSIN
SITE PLAN

PROJECT NUMBER 16146

DATE JULY 2014

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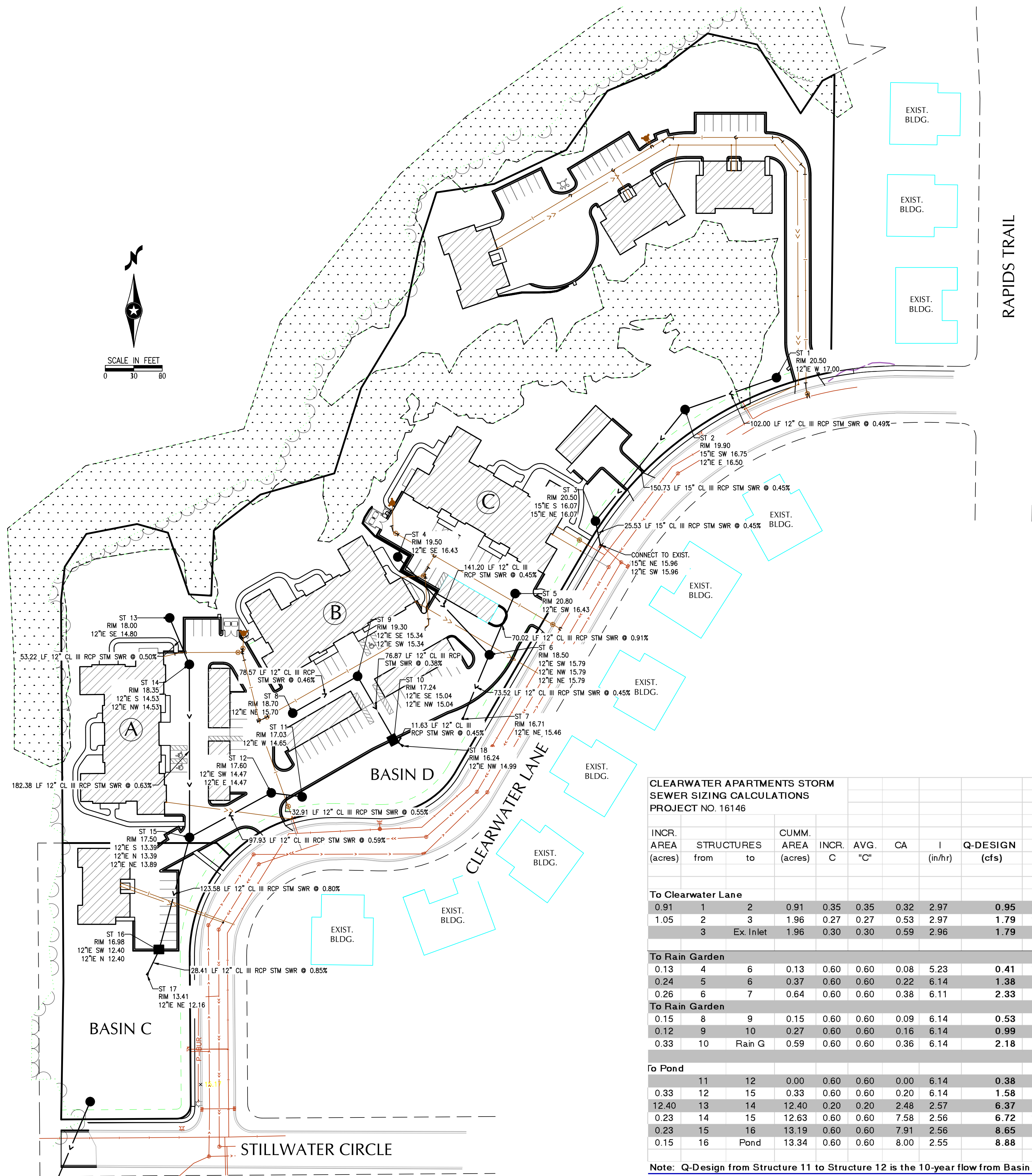
REVISION HISTORY

SHEET NUMBER

C 3.01

OF 18 SHEETS

CLEARWATER APARTMENTS
CITY OF WAUKESHA, WISCONSIN
STORM SEWER SYSTEM MAP

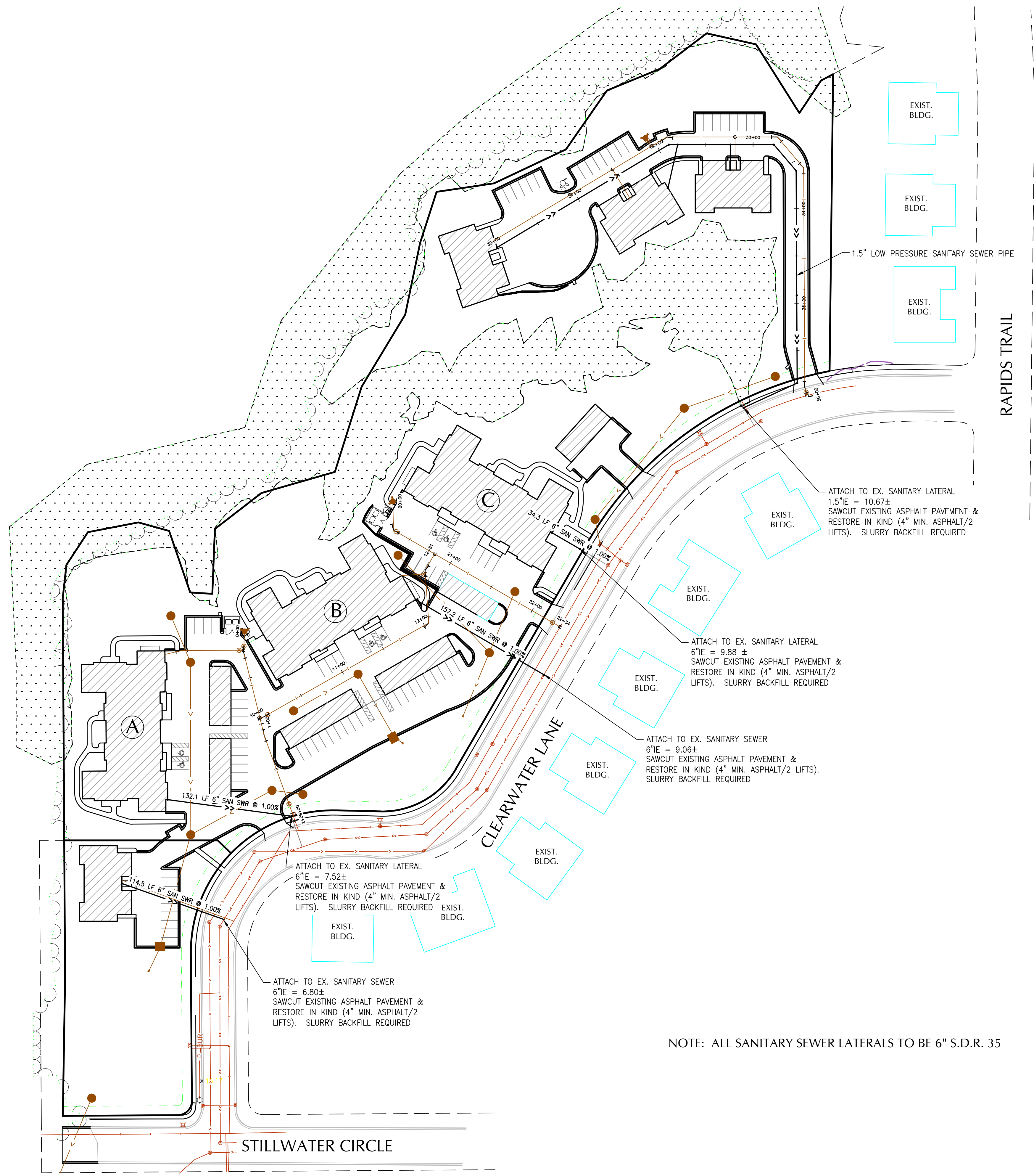


CLEARWATER APARTMENTS STORM
SEWER SIZING CALCULATIONS
PROJECT NO. 16146

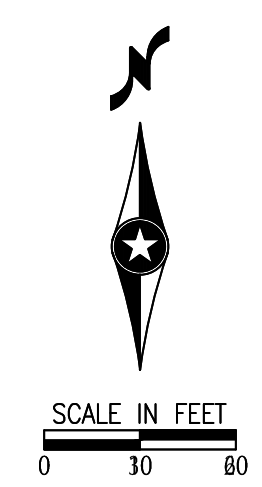
INCR. AREA (acres)	STRUCTURES from to		CUMM. AREA (acres)	INCR. C	AVG. "C"	CA	I (in/hr)	Q-DESIGN (cfs)	L (ft)	S (FT/FT)	n	DIA (in)	Q-CAP (cfs)	VEL. (FPS)	Tt (min)	Tc (min)	UPPER RIM (RIM-F/L)	UPPER ELEV	LOWER ELEV	RIM TO TOP OF PIPE
To Clearwater Lane																				
0.91	1	2	0.91	0.35	0.35	0.32	2.97	0.95	102.0	0.00490	0.013	12	2.5	3.2		30.6	20.50	17.25	16.75	2.25
1.05	2	3	1.96	0.27	0.27	0.53	2.97	1.79	150.7	0.00450	0.013	12	2.4	3.0		30.7	19.90	16.75	16.07	2.15
	3	Ex. Inlet	1.96	0.30	0.30	0.59	2.96	1.79	25.5	0.00450	0.013	12	2.4	3.0		30.8	20.50	16.07	15.96	3.43
To Rain Garden																				
0.13	4	6	0.13	0.60	0.60	0.08	5.23	0.41	141.2	0.00450	0.013	12	2.4	3.0		10.0	19.50	16.43	15.79	2.07
0.24	5	6	0.37	0.60	0.60	0.22	6.14	1.38	70.0	0.00910	0.013	12	3.4	4.3		6.0	20.80	16.43	15.79	3.37
0.26	6	7	0.64	0.60	0.60	0.38	6.11	2.33	73.5	0.00450	0.013	12	2.4	3.0		6.1	18.50	15.79	15.46	1.71
To Rain Garden																				
0.15	8	9	0.15	0.60	0.60	0.09	6.14	0.53	79.0	0.00460	0.013	12	2.4	3.1		6.0	18.70	15.70	15.34	2.00
0.12	9	10	0.27	0.60	0.60	0.16	6.14	0.99	77.0	0.00385	0.013	12	2.2	2.8		6.0	19.30	15.34	15.04	2.96
0.33	10	Rain G	0.59	0.60	0.60	0.36	6.14	2.18	11.6	0.00450	0.013	12	2.4	3.0		6.0	17.40	15.04	14.99	1.36
To Pond																				
	11	12	0.00	0.60	0.60	0.00	6.14	0.38	32.9	0.00550	0.013	12	2.6	3.4		6.0	17.00	14.65	14.47	1.35
0.33	12	15	0.33	0.60	0.60	0.20	6.14	1.58	98.0	0.00590	0.013	12	2.7	3.5		6.0	17.60	14.47	13.89	2.13
12.40	13	14	12.40	0.20	0.20	2.48	2.57	6.37	53.2	0.00500	0.013	18	7.4	4.2		38.1	17.80	14.80	14.53	1.50
0.23	14	15	12.63	0.60	0.60	7.58	2.56	6.72	183.0	0.00625	0.013	18	8.3	4.7		38.2	18.35	14.53	13.39	2.32
0.23	15	16	13.19	0.60	0.60	7.91	2.56	8.65	123.6	0.00800	0.013	18	9.4	5.3		38.3	17.50	13.39	12.40	2.61
0.15	16	Pond	13.34	0.60	0.60	8.00	2.55	8.88	28.4	0.00850	0.013	18	9.7	5.5		38.4	17.00	12.40	12.16	3.10

Note: Q-Design from Structure 11 to Structure 12 is the 10-year flow from Basin D (taken from HydraFlow modeling).

P:\16146\Cad\Civil\Plans\16146_STM-SAN-WM_SYSTEM Wednesday, July 30, 2014 1:52:29 PM



NOTE: ALL SANITARY SEWER LATERALS TO BE 6" S.D.R. 35





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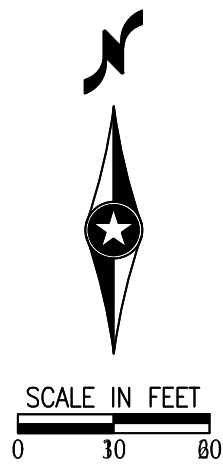
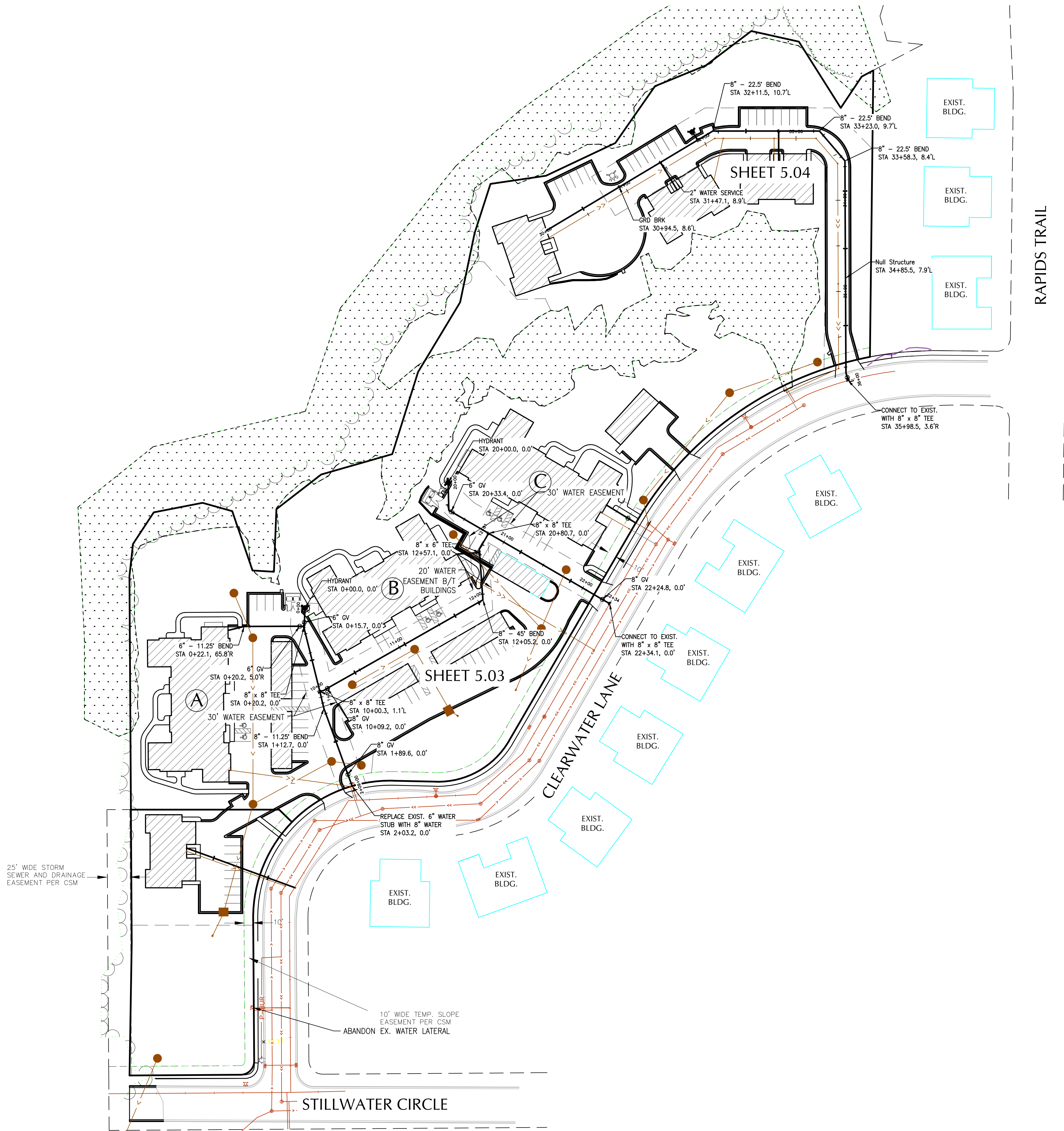


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CLEARWATER APARTMENTS
CITY OF WAUKESHA, WISCONSIN
SANITARY SEWER SYSTEM MAP

PROJECT NUMBER	16146
DATE	JULY 2014
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CHECKED BY	M. MICKELSON
REVISION HISTORY	
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SHEET NUMBER	C 5.01
OF	18 SHEETS

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WATERMAIN SYSTEM MAP

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REVISION HISTORY	
	00-00-00
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SHEET NUMBER	C 5.02
OF	18 SHEETS

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LEGEND

EXISTING SANITARY SEWER

EXISTING WATER MAIN

EXISTING STORM SEWER

PROPOSED WATER MAIN

PROPOSED STORM SEWER

PROPOSED SANITARY SEWER

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CLEARWATER APARTMENTS

CITY OF WAUKESHA, WISCONSIN

SANITARY SEWER & WATERMAIN PLANS

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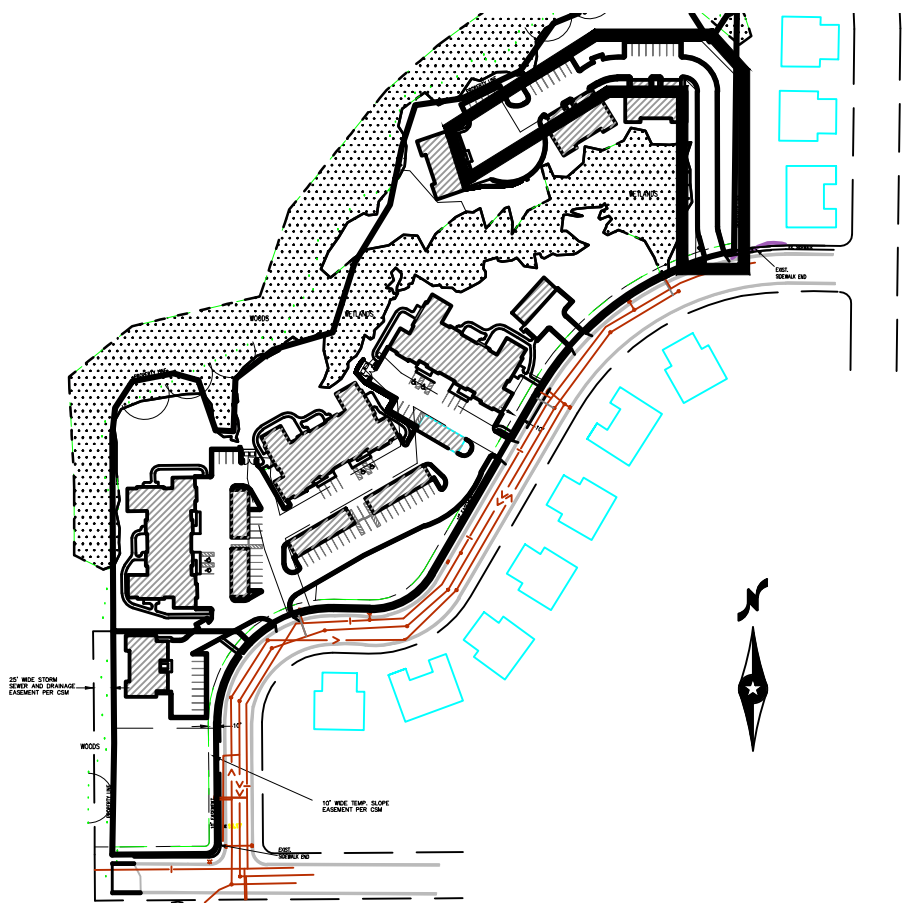
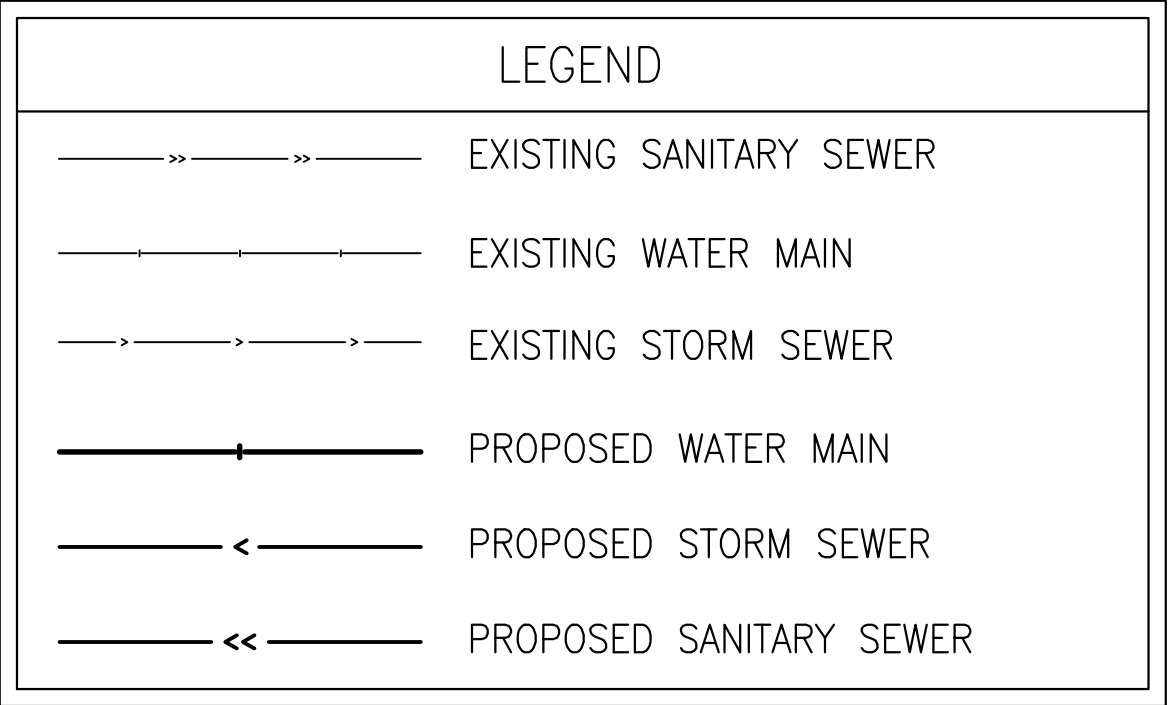
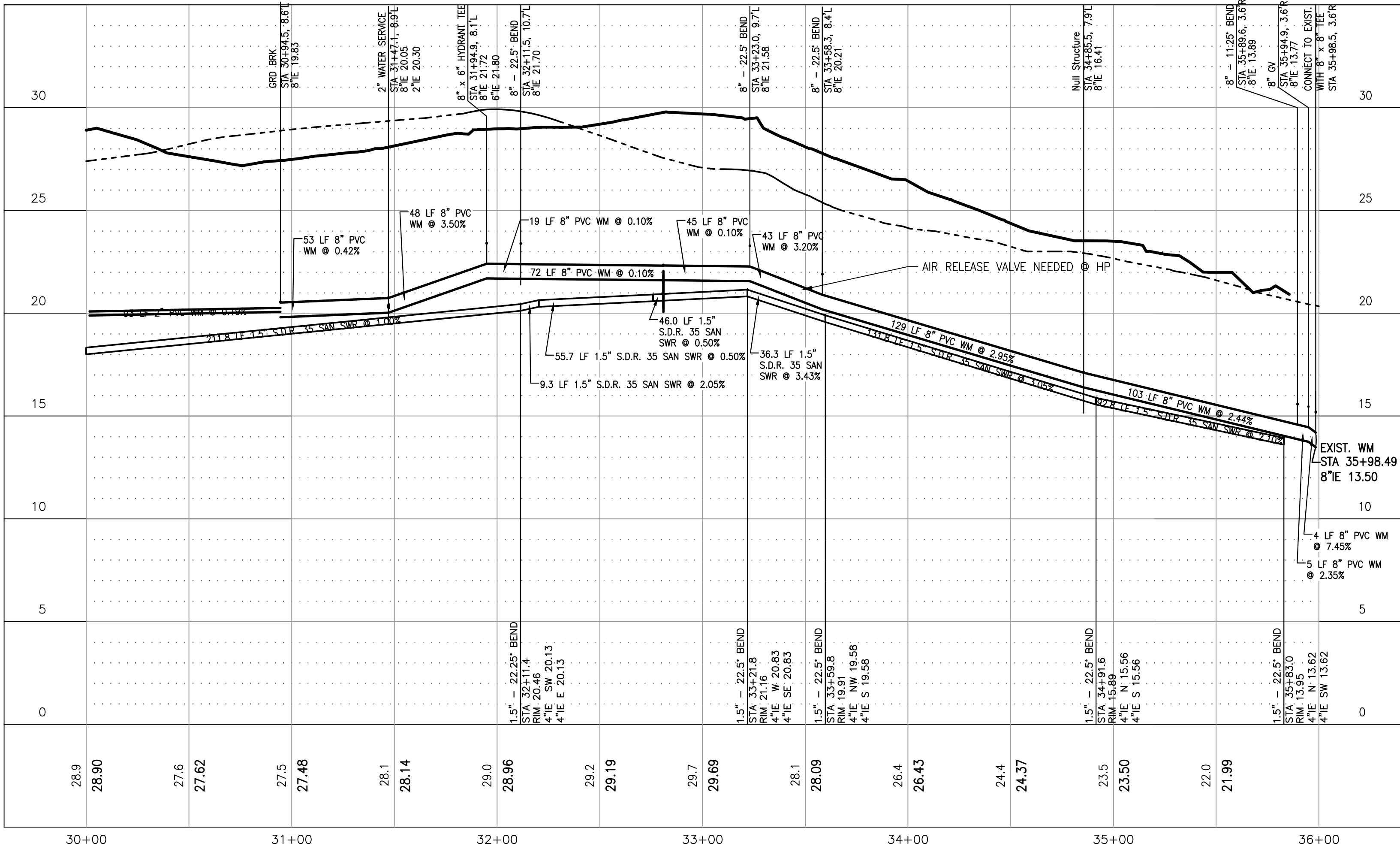
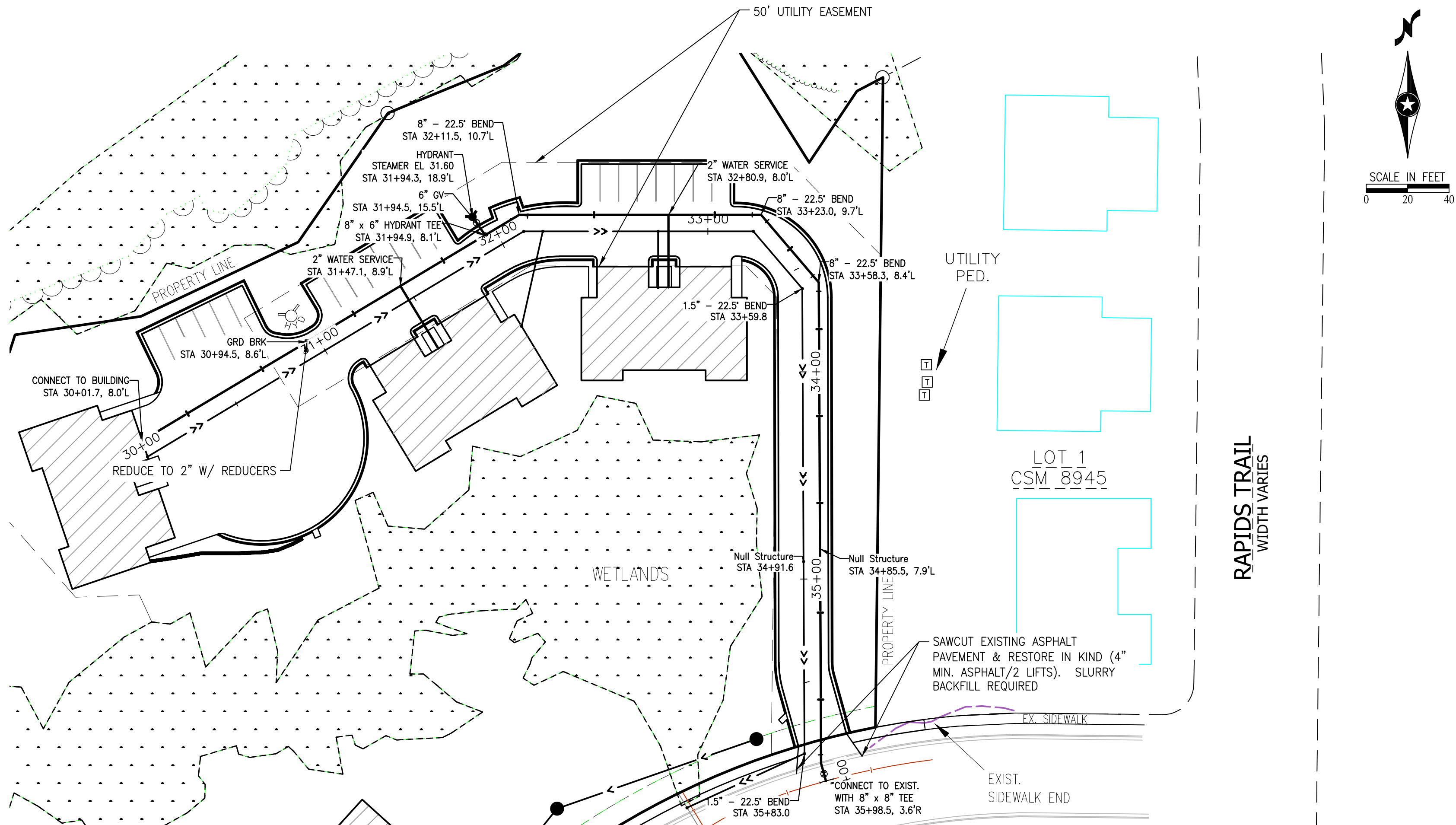
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OF

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SHEETS

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LOCATION MAP
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