

PROPOSED DEVELOPMENT FOR ELM GROVE HEIGHTS

ELM GROVE, WISCONSIN

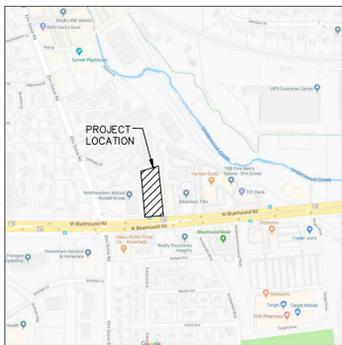
LEGEND

0000.00	PROPOSED SPOT ELEVATIONS (LOW LINE OF CURB UNLESS OTHERWISE SPECIFIED)		EXISTING CONIFEROUS TREE
0000.00 EG	EXISTING GRADE SPOT ELEVATIONS		EXISTING SHRUB
0000.00 TR	PROPOSED SPOT ELEVATIONS (TOP OF RETAINING WALL, TOP OF SURFACE GRADE AT BOTTOM OF WALL)		EXISTING STUMP
0000.00 BR			SOIL BORING
0000.00 TC	PROPOSED SPOT ELEVATIONS (TOP OF CURB, BOTTOM OF CURB)		EXISTING WELL
0000.00 BC			PROPOSED WELL
0000.00 TW	PROPOSED SPOT ELEVATIONS (TOP OF WALK, BOTTOM OF WALK)		EXISTING LIGHT POLE
0000.00 BW			EXISTING SIGN
	EXISTING WATER VALVE IN BOX		CENTER LINE
	PROPOSED WATER VALVE IN BOX		EXISTING HANDICAP PARKING STALL
	EXISTING WATER VALVE IN MANHOLE		PROPOSED HANDICAP PARKING STALL
	EXISTING WATER SERVICE VALVE		EXISTING GAS VALVE
	EXISTING TELEPHONE MANHOLE		EXISTING WOODED AREA
	EXISTING ROUND CATCH BASIN		EXISTING HEDGE
	PROPOSED ROUND CATCH BASIN		EXISTING CHAINLINK FENCE
	EXISTING SQUARE CATCH BASIN		EXISTING WOOD FENCE
	EXISTING CURB INLET		EXISTING BARBED WIRE FENCE
	PROPOSED CURB INLET		PROPERTY LINE
	EXISTING UTILITY POLE		EXISTING GUARD RAIL
	EXISTING UTILITY POLE WITH GUY WIRE		EXISTING STORM SEWER AND MANHOLE
	EXISTING STREET LIGHT		PROPOSED STORM SEWER AND MANHOLE
	EXISTING TELEPHONE PEDESTAL		EXISTING SANITARY SEWER AND MANHOLE
	EXISTING ELECTRIC PEDESTAL		PROPOSED SANITARY SEWER AND MANHOLE
	EXISTING ELECTRIC BOX		EXISTING WATER LINE AND HYDRANT
	EXISTING CABLE TV PEDESTAL		PROPOSED WATER LINE AND HYDRANT
	PROPOSED DRAINAGE FLOW		EXISTING OVERHEAD UTILITY LINE
	1-1/4" REBAR SET WEIGHING 4.30 LB/FT.		EXISTING UNDERGROUND FIBER OPTIC LINE
	3/4" REBAR SET WEIGHING 1.50 LB/FT.		EXISTING UNDERGROUND ELECTRIC CABLE
	1-1/4" REBAR FOUND		EXISTING UNDERGROUND TELEPHONE CABLE
	3/4" REBAR FOUND		EXISTING UNDERGROUND GAS LINE
	2" IRON PIPE FOUND		PROPOSED CURB AND GUTTER
	1" IRON PIPE FOUND		EXISTING CURB AND GUTTER
	EXISTING FLOOD LIGHT		GRADING/SEEDING LIMITS
	SECTION CORNER		RIGHT-OF-WAY LINE
	PROPOSED APRON ENDWALL		RAILROAD TRACKS
	EXISTING MARSH AREA		EXISTING GROUND CONTOUR
	EXISTING DECIDUOUS TREE WITH TRUNK DIAMETER		PROPOSED GROUND CONTOUR

CIVIL SHEET INDEX

SHEET	SHEET TITLE
C1.0	CIVIL COVER AND SPECIFICATION SHEET
C1.1	EXISTING SITE AND DEMOLITION PLAN
C1.2	SITE PLAN
C1.3	GRADING AND EROSION CONTROL PLAN
C1.4	STORMWATER MANAGEMENT AND UTILITY PLAN
C1.5	DETAILS
PXP	SITE PHOTOMETRIC PLAN

TO OBTAIN LOCATION OF PARTICIPATING UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
CALL DIGGERS HOTLINE 1-800-242-8511
 TOLL FREE
 TELEFAX (414) 259-0947
 TDD (FOR THE HEARING IMPAIRED) 1-800-542-2289
 WISCONSIN STATUTE 182.0176 (1974) REQUIRES MINIMUM OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE



PROJECT LOCATION MAP

CONSTRUCTION STAKING SERVICES

CONSTRUCTION STAKING SHALL BE COMPLETED BY EXCEL ENGINEERING AS REQUESTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO CONTACT RYAN WILGREEN AT 920-926-9800 TO GET STAKING PRICE TO INCLUDE IN BID TO OWNER. PAYMENT OF STAKING COSTS ABOVE AND BEYOND THE BASE PRICE DUE TO RESTAKING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, NOT THE OWNER. CAD DRAWING FILES AND SURVEY CONTROL WILL NOT BE PROVIDED FOR STAKING PURPOSES.

GENERAL PROJECT NOTES

- ALL DRIVEWAYS AND CURB CUTS TO BE CONSTRUCTED ACCORDING TO LOCAL AND WISDOT REQUIREMENTS. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL WORK IN ROW PERMITS.
- CONTRACTOR TO CONTACT EXCEL ENGINEERING TO COMPLETE AS-BUILT SURVEY OF STORMWATER FACILITIES FOLLOWING COMPLETION OF THE UNDERGROUND SYSTEM.

PLAN SPECIFICATIONS (BASED ON CSI FORMAT)

DIVISION 31 EARTH WORK

31 10 00 SITE CLEARING (DEMOLITION)

- CONTRACTOR SHALL CALL DIGGERS HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
- DEMOLITION PLAN IS AN OVERVIEW OF DEMOLITION TO TAKE PLACE ON SITE. CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE, REPLACE, OR DEMOLISH ALL ITEMS AS NEEDED DURING CONSTRUCTION.
- CONTRACTOR TO PROTECT EXISTING IMPROVEMENTS THAT ARE SCHEDULED TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPLACED AT CONTRACTORS EXPENSE.
- ALL CONCRETE NOTED TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

31 20 00 EARTH MOVING

- CONTRACTOR SHALL CALL DIGGERS HOT LINE AND CONDUCT A PRIVATE UTILITY LOCATE AS REQUIRED TO ENSURE THAT ALL UTILITIES HAVE BEEN LOCATED BEFORE STARTING EXCAVATION. DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
- PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT FOR ALL EXCAVATION, GRADING, FILL AND BACKFILL WORK AS REQUIRED TO COMPLETE THE GENERAL CONSTRUCTION WORK. ALL EXCAVATION AND BACKFILL FOR ELECTRICALS AND MECHANICALS ARE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTOR.
- ALL ORGANIC TOPSOIL INSIDE THE BUILDING AREA, UNDER PAVED AREAS, AND SITE FILL AREAS SHALL BE REMOVED. PROOF ROLL SUBGRADES BEFORE PLACING FILL WITH HEAVY PNEUMATIC-TIRED EQUIPMENT, SUCH AS A FULLY-LOADED TANDEM AXLE DUMP TRUCK, TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. CONTRACTOR SHALL VERIFY TOPSOIL DEPTHS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ACCOUNT FOR EXISTING CONDITIONS PRIOR TO SUBMITTING BID FOR THE PROJECT. EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED IN THE PLANS OR BY LOCAL ZONING REQUIREMENTS.
- PLACE AND COMPACT FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS. UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT LAYER OR BACKFILL LAYER BEFORE COMPACTION AS REFERENCED TO ACHIEVE SPECIFIED DRY DENSITY. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, OTHERWISE SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DRY DENSITY.
- PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 6" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
- COMPACT THE SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 1586. STANDARD PROCTER TEST. FILL MAY NOT BE PLACED ON FROZEN GROUND AND NO FROZEN MATERIALS MAY BE USED FOR BACK FILL. APPLY THE MORE STRINGENT REQUIREMENTS WHEN COMPARING BETWEEN THE FOLLOWING AND THE GEOTECHNICAL REPORT.
 - UNDER FOUNDATIONS, SUBGRADE, AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 95 PERCENT.
 - UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS MORE THAN 3 FEET BELOW THE SLAB - PLACE A DRAINAGE COURSE LAYER OF 3/4" CRUSHED STONE, WITH 5% TO 12% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
 - UNDER INTERIOR SLAB-ON-GRADE WHERE GROUNDWATER IS WITHIN 3 FEET OF THE SLAB SURFACE - PLACE A DRAINAGE COURSE LAYER OF CLEAN 3/4" CRUSHED STONE, WITH NO MORE THAN 5% FINES, PER THICKNESS INDICATED ON FOUNDATION PLANS ON PREPARED SUBGRADE. COMPACT THE SUBGRADE AND DRAINAGE COURSE TO NOT LESS THAN 95 PERCENT.
 - UNDER EXTERIOR COURSE AND ASPHALT PAVEMENTS - COMPACT THE SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO NOT LESS THAN 95 PERCENT.
 - UNDER LAWN OR UNPAVED AREAS - COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL, TO NOT LESS THAN 85 PERCENT.

- CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS. IT IS SUGGESTED THAT THE GEOTECHNICAL FIRM USED TO PERFORM THE SUBSURFACE SOIL INVESTIGATION BE ENGAGED FOR THE FIELD QUALITY CONTROL TESTS. THE GEOTECHNICAL REPORT WAS PERFORMED BY AMERICAN ENGINEERING TESTING, INC.
- ALLOW THE TESTING AGENCY TO TEST AND INSPECT SUBGRADES AND EACH FILL OR BACKFILL LAYER. PROCEED WITH SUBSEQUENT EARTHWORK ONLY AFTER TEST RESULTS FOR PREVIOUSLY COMPLETED WORK COMPLY WITH REQUIREMENTS. PROVIDE ONE TEST FOR EVERY 2000 SQUARE FEET OF PAVED AREA OR BUILDING SLAB, ONE TEST FOR EACH SPREAD FOOTING, AND ONE TEST FOR EVERY 60 LINEAR FEET OF WALL STRIP FOOTING.
- WHEN THE TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
- THE BUILDING SITE SHALL BE GRADED TO THE FINISHED GRADE INDICATED ON THE PLANS. SITE EARTHWORK SHALL BE GRADED TO WITHIN 0.10' OF REQUIRED EARTHWORK ELEVATIONS ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE GRADING PLAN.

31 30 00 EROSION CONTROL/STORMWATER MANAGEMENT

- THE DESIGN ENGINEER SHALL PREPARE A SITE SPECIFIC EROSION CONTROL AND A STORMWATER MANAGEMENT PLAN PURSUANT TO NR 216.46 AND NR 216.47. THE DESIGN ENGINEER SHALL ALSO FILE A CONSTRUCTION NOTICE OF INTENT WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES PURSUANT TO NR 216.43 OR TO AN AUTHORIZED LOCAL PROGRAM PURSUANT TO NR 216.415 TO OBTAIN COVERAGE UNDER THE GENERAL WIPES STORM WATER PERMIT.
- THE CONTRACTOR SHALL KEEP THE NOTICE OF INTENT PERMIT, APPROVED EROSION CONTROL AND STORMWATER MANAGEMENT PLANS, AND PLAN AMENDMENTS ON THE CONSTRUCTION SITE AT ALL TIMES UNTIL PERMIT COVERAGE IS TERMINATED.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL EROSION CONTROL PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE MONITORING, MAINTENANCE, AND REPORTING REQUIREMENTS OF NR 216.48. INSPECTIONS OF IMPLEMENTED EROSION AND SEDIMENT CONTROL, BEST MANAGEMENT PRACTICES MUST AT A MINIMUM BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT OF 0.5" OR GREATER. A PRECIPITATION EVENT MAY BE CONSIDERED TO BE THE TOTAL AMOUNT OF PRECIPITATION RECORDED IN ANY CONTINUOUS 24-HOUR PERIOD. THE CONTRACTOR SHALL REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL AS NECESSARY WITHIN 24 HOURS OF AN INSPECTION OR AFTER A DEPARTMENT NOTIFICATION WHERE REPAIR OR REPLACEMENT IS REQUESTED.
- THE CONTRACTOR SHALL MAINTAIN, AT THE CONSTRUCTION SITE, WEEKLY WRITTEN REPORTS OF ALL INSPECTIONS CONDUCTED. WISCONSIN DNR CONSTRUCTION SITE INSPECTION REPORT FORM 3400-187 SHALL BE USED. WEEKLY INSPECTION REPORTS SHALL INCLUDE ALL OF THE FOLLOWING:
 - THE DATE, TIME, AND EXACT LOCATION OF THE CONSTRUCTION SITE INSPECTION.
 - THE NAME OF THE INDIVIDUAL WHO PERFORMED THE INSPECTION.
 - AN ASSESSMENT OF THE CONDITION OF THE EROSION AND SEDIMENT CONTROL.
 - A DESCRIPTION OF ANY EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE PERFORMANCE.
 - A DESCRIPTION OF THE PRESENT PHASE OF LAND DISTURBING CONSTRUCTION ACTIVITY AT THE CONSTRUCTION SITE.
- EROSION AND SEDIMENT CONTROL IMPLEMENTED DURING CONSTRUCTION SHALL STRICTLY COMPLY WITH THE GUIDELINES AND REQUIREMENTS SET FORTH IN WISCONSIN ADMINISTRATIVE CODE (W.A.C.) NR 151. THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES RUNOFF MANAGEMENT PERFORMANCE STANDARDS, TECHNICAL STANDARDS PUBLISHED BY THE WISCONSIN DNR SHALL ALSO BE UTILIZED TO IMPLEMENT THE REQUIRED PERFORMANCE STANDARDS. THE METHODS AND TYPES OF EROSION CONTROL WILL BE DEPENDENT ON THE LOCATION AND TYPE OF WORK INVOLVED. ALL SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION, AND INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. BELOW IS A LIST OF EROSION AND SEDIMENT CONTROL, BEST MANAGEMENT PRACTICES TO ACHIEVE THE PERFORMANCE STANDARDS REQUIRED.
 - SILT FENCE SHALL BE PLACED ON SITE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. SILT FENCE SHALL ALSO BE PROVIDED AROUND THE PERIMETER OF ALL SOIL STOCKPILES. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1066.
 - DITCH CHECKS SHALL BE PROVIDED TO REDUCE THE VELOCITY OF WATER FLOWING IN DITCH BOTTOMS. PLACE AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1062.

- STONE TRACKING PADS SHALL BE PLACED AT ALL CONSTRUCTION SITE ENTRANCES AND SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE CONSTRUCTION SITE. SEE THE EROSION CONTROL PLAN FOR LOCATION. THE AGGREGATE USED SHALL BE 3 TO 6 INCH CLEAR GRAD, 10 TO #10 BARS OR AS NOTED ON THE PLAN AND SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. THE STONE SHALL BE UNDERLAIN WITH A WISDOT TYPE R GEOTEXTILE FABRIC. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE ACCESS POINT, AND SHALL BE A MINIMUM OF 30 FEET LONG. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1067.
- STORM DRAIN INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW AND DOWNSTREAM STORM CATCH BASINS AND CURB INLETS. TYPE B OR C PROTECTION SHOULD BE PROVIDED AND SHALL BE IN CONFORMANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1060.
- DUST CONTROL MEASURES SHALL BE PROVIDED TO REDUCE OR PREVENT THE SURFACE AND AIRBORNE CONCENTRATION OF DUST DURING CONSTRUCTION. CONTROL MEASURES INCLUDE APPLYING MULCH AND ESTABLISHING VEGETATION, WATER SPRAYING, SURFACE ROUGHENING, APPLYING POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES, AND BARRIERS. SOME SITES MAY REQUIRE AN APPROACH THAT UTILIZES A COMBINATION OF MEASURES FOR DUST CONTROL. FOLLOW PROCEDURES FOUND IN WISCONSIN DNR TECHNICAL STANDARD 1068.
- THE USE, STORAGE, AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS USED ON SITE SHALL BE MANAGED DURING THE CONSTRUCTION PERIOD TO PREVENT THEIR TRANSPORT BY RUNOFF INTO WATERS OF THE STATE.
- CONTRACTOR SHALL PROVIDE AN OPEN AGGREGATE CONCRETE TRUCK WASHOUT AREA ON SITE. CONTRACTOR TO ENSURE THAT CONCRETE WASHOUT SHALL BE CONTAINED TO THIS DESIGNATED AREA AND NOT BE ALLOWED TO RUN INTO STORM INLETS OR INTO THE OVERLAND STORMWATER DRAINAGE SYSTEM. WASHOUT AREA SHALL BE REMOVED UPON COMPLETION OF CONSTRUCTION. TEMPORARY SITE RESTORATION SHALL TAKE PLACE IN UNDISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 14 DAYS AND REQUIRES VEGETATIVE COVER FOR LESS THAN ONE YEAR. THIS TEMPORARY SITE RESTORATION REQUIREMENT ALSO APPLIES TO SOIL STOCKPILES. PERMANENT RESTORATION APPLIES TO AREAS WHERE PERENNIAL VEGETATIVE COVER IS NEEDED TO PERMANENTLY STABILIZE AREAS OF EXPOSED SOIL. PERMANENT STABILIZATION SHALL OCCUR WITHIN 3 WORKING DAYS OF FINAL GRADE OR FILL. MULCH AND VEGETATION SHALL BE IN CONFORMANCE WITH TECHNICAL STANDARDS 1058 AND 1059 AND SHALL MEET THE SPECIFICATIONS FOUND IN THE LANDSCAPING AND SITE STABILIZATION SECTION OF THIS CONSTRUCTION DOCUMENT. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR FINAL STABILIZATION MUST BE CORRECTED IMMEDIATELY.
- IF SITE DEWATERING IS REQUIRED TO REMOVE SEDIMENT FROM CONSTRUCTION SITE STORMWATER PRIOR TO DISCHARGING OFF-SITE OR TO WATERS OF THE STATE, FOLLOW PROCEDURES FOUND IN TECHNICAL STANDARD 1061.
- ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION WORK OR A STORM EVENT SHALL BE CLEANED UP BY THE END OF EACH WORKING DAY. FLUSHING SHALL NOT BE ALLOWED.
- EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL THE AREA(S) SERVED HAVE ESTABLISHED VEGETATIVE COVER.
- AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF THE BEST MANAGEMENT PRACTICES HAVE BEEN REMOVED, THE CONTRACTOR SHALL FILE A CONSTRUCTION NOTICE OF TERMINATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES.
- AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF THE EROSION CONTROL AND STORM WATER MANAGEMENT PLANS, AMENDMENTS TO PLANS, SUPPORTING PLAN DATA, AND CONSTRUCTION SITE EROSION CONTROL INSPECTION REPORTS. THE OWNER SHALL RETAIN THESE FOR A PERIOD OF 3 YEARS FROM THE DATE OF TERMINATING COVERAGE UNDER WIPES GENERAL PERMIT.
- ALL POST CONSTRUCTION STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES SHALL BE CONSTRUCTED BEFORE THE SITE HAS UNDERGONE FINAL STABILIZATION.

DIVISION 32 EXTERIOR IMPROVEMENTS

32 10 00 AGGREGATE BASE & ASPHALT PAVEMENT

- CONTRACTOR TO PROVIDE COMPACTED AGGREGATE BASE AND HOT MIX ASPHALT PAVEMENT WHERE INDICATED ON THE PLANS. ALL AGGREGATE PROVIDED MUST COMPLY WITH SPECIFICATION OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. PROVIDE HOT MIX ASPHALT MIXTURE TYPES PER SECTION 400 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. CONTRACTOR TO PROVIDE AGGREGATE BASE AND HOT MIX ASPHALT PAVEMENT TYPES AND DEPTHS AS INDICATED BELOW.

STANDARD ASPHALT PAVING	HEAVY ASPHALT PAVING
1-1/2" SURFACE COURSE (5 1/2 SB-28)	1-1/2" SURFACE COURSE (5 1/2 SB-28)
2" BINDER COURSE (3 1/2 SB-28)	2-1/2" BINDER COURSE (3 1/2 SB-28)
10" OF 1-1/4" CRUSHED AGGREGATE	12" OF 1-1/4" CRUSHED AGGREGATE

- CONTRACTOR TO COMPACT THE AGGREGATE BASE, ASPHALT BINDER COURSE, AND ASPHALT SURFACE COURSE TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. THE CLEANOUT SHALL EXTEND JUST ABOVE THE SURFACE GRADE IN LAWN OR LANDSCAPE AREAS WITH POSITIVE DRAINAGE BEING MAINTAINED IN ACCORDANCE WITH DESIGN PLANS. A MINIMUM OF 1% SLOPE SHALL BE MAINTAINED IN ALL ASPHALT PAVEMENT AREA.
- HOT MIX ASPHALT CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF GEOTECHNICAL REPORT OR CONSTRUCTION DOCUMENTS.
- CONTRACTOR TO PROVIDE 4" WIDE (YELLOW OR WHITE) PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. YELLOW OR WHITE PAINTED STRIPING SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

32 20 00 CONCRETE AND AGGREGATE BASE

- CONTRACTOR TO PROVIDE CRUSHED AGGREGATE BASE AND CONCRETE WHERE INDICATED ON THE PLANS.
- ALL AGGREGATE PROVIDED MUST COMPLY WITH SECTION 305 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. ALL AGGREGATE PLACED MUST BE COMPACTED TO AN AVERAGE DENSITY PER WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- THE DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE EXTERIOR CONCRETE FLAT WORK SHALL CONFORM TO ACI 330R-08.
- EXTERIOR CONCRETE FLAT WORK CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF THE GEOTECHNICAL REPORT OR THIS SPECIFICATION. CONCRETE FLAT WORK CONSTRUCTION IS AS FOLLOWS:
 - SIDEWALK CONCRETE - 4" OF CONCRETE OVER 4" OF 3/4" CRUSHED AGGREGATE BASE. CONSTRUCTION JOINTS SHALL CONSIST OF 1/8" DEEP TYPED JOINT WHERE INDICATED ON THE PLANS.
 - DRIVEWAY APRON CONCRETE - 6" OF CONCRETE OVER 6" OF 3/4" CRUSHED AGGREGATE. CONCRETE SHALL BE REINFORCED WITH #302 90 W.W.F. CONSTRUCTION JOINTS SHALL BE SAUCUT 1.5" IN DEPTH AND BE SPACED A MAXIMUM OF 15' ON CENTER.
 - SLUMP MIXES SHALL BE IN ACCORDANCE WITH ASTM C94
 - STRENGTH TO BE MINIMUM OF 4,000 PSI FOR EXTERIOR CONCRETE.
 - SLUMP SHALL NOT EXCEED 4" FOR EXTERIOR CONCRETE FLAT WORK.
 - SLUMP SHALL BE 2.5" OR LESS FOR SLIP-FORMED CURBS AND GUTTER.
 - SLUMP SHALL BE BETWEEN 1.5" TO 3" FOR EXTERIOR CURB AND GUTTER.
 - ALL EXTERIOR CONCRETE SHALL BE AIR ENTRAINED WITH 4% TO 7% AIR CONTENT, NO OTHER ADMIXTURES SHALL BE USED WITHOUT APPROVAL OF EXCEL ENGINEERING, INC. CALCIUM CHLORIDE SHALL NOT BE USED.
 - MAXIMUM AGGREGATE SIZE FOR ALL EXTERIOR CONCRETE SHALL BE 0.75 INCHES.
 - VERIFY EQUIPMENT CONCRETE PAD SIZES WITH RESPECTIVE CONTRACTORS. PADS SHALL HAVE FIBER MESH 300 FIBERS AT A RATE OF 1.5 LBS/CU. YD. OR 6 X 6 W/4 X W/4 WELDED WIRE MESH WITH MINIMUM 1 INCH COVER. EQUIPMENT PADS SHALL BE 3.5 INCHES THICK WITH 1 INCH CHAMFER UNLESS SPECIFIED OTHERWISE. COORDINATE ADDITIONAL PAD REQUIREMENTS WITH RESPECTIVE CONTRACTOR.
 - ALL CONCRETE FLAT WORK SURFACES AND CONCRETE CURB FLOWLINE SHALL BE CONSTRUCTED TO WITHIN 0.05" OF DESIGN SURFACE AND FLOWLINE GRADIES ASSUMING POSITIVE DRAINAGE IS MAINTAINED IN ACCORDANCE WITH THE DESIGN PLANS.
 - CONCRETE FLAT WORK SHALL HAVE CONSTRUCTION JOINTS OR SAW CUT JOINTS PLACED AS INDICATED ON THE PLANS OR PER THIS SPECIFICATION. SAWCUTS SHALL BE DONE AS SOON AS POSSIBLE, BUT NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED. CONCRETE CURBS AND GUTTER JOINTING SHALL BE PLACED EVERY 10' OR CLOSER (6" MIN.). ALL EXTERIOR CONCRETE SHALL HAVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE. A UNIFORM COAT OF A HIGH SOLIDS CURING COMPOUND MEETING ASTM C309 SHOULD BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. ALL CONCRETE IS TO BE CURED FOR 7 DAYS. EXTERIOR CONCRETE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 0.5 INCH FIBER EXPANSION JOINT AND/OR 0.25 INCH FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS.
 - ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER

- CONTRACTOR SHALL BE NOT LESS THAN 3" WHERE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF FORMS AND NOT LESS THAN 1.5" IN ALL OTHER LOCATIONS. ALL REINFORCING SHALL BE LAPPED 36 INCHES FOR UP TO #6 BARS AND 48 INCHES FOR UP TO #10 BARS OR AS NOTED ON THE DRAWINGS AND EXTENDED AROUND CORNERS WITH CORNER BARS. PLACING AND DETAILING OF STEEL REINFORCING AND REINFORCING SUPPORTS SHALL BE IN ACCORDANCE WITH CRSI AND ACSI MANUAL AND STANDARD PRACTICES. THE REINFORCING SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A 185. WELDED WIRE FABRIC SHALL BE PLACED 2" FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
- CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONSTRUCTION. TESTS WILL BE PERFORMED ACCORDING TO ACI 301. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY POUR OF EACH CONCRETE MIX EXCEEDING 5 CU. YD. BUT LESS THAN 25 CU. YD. PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
- PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLOR OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELLING.
- LIMIT MAXIMUM WATER-CEMENTIOUS RATIO OF CONCRETE EXPOSED TO FREEZING, THAWING AND DEICING SALTS TO 0.45.
- TEST RESULTS WILL BE REPORTED IN WRITING TO THE DESIGN ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
- CONTRACTOR TO PROVIDE 4" WIDE (YELLOW OR WHITE) PAINTED STRIPING FOR PARKING STALLS, TRAFFIC LANES, AND NO PARKING AREAS. (YELLOW OR WHITE) PAINT MARKINGS SHALL ALSO BE PROVIDED FOR H.C. ACCESSIBLE SYMBOLS, TRAFFIC ARROWS, AND TRAFFIC MESSAGES.

32 30 00 LANDSCAPING AND SITE STABILIZATION

- TOPSOIL - CONTRACTOR TO PROVIDE A MINIMUM OF 6" OF TOPSOIL FOR ALL DISTURBED OPEN AREAS. REUSE SURFACE SOIL STOCKPILED ON SITE AND SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. PROVIDE SOIL ANALYSIS BY A QUALIFIED SOIL TESTING LABORATORY AS REQUIRED TO VERIFY THE SUITABILITY OF SOIL TO BE USED AS TOPSOIL, AND TO DETERMINE THE NECESSARY SOIL AMENDMENTS. TEST SOIL FOR PRESENCE OF ATRAZINE AND INFORM EXCEL ENGINEERING, INC. IF PRESENT PRIOR TO BIDDING PROJECT. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 6, CONTAIN A MINIMUM OF 5 PERCENT ORGANIC MATERIAL CONTENT, AND SHALL BE FREE OF STONES 1 INCH OR LARGER IN DIAMETER. ALL MATERIALS HARMFUL TO PLANT GROWTH SHALL ALSO BE REMOVED.
- TOPSOIL INSTALLATION - LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES AND REMOVE STONES LARGER THAN 1" IN DIAMETER. ALSO REMOVE ANY STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND DISPOSE OF THEM OFF THE PROPERTY. SPREAD TOPSOIL TO A DEPTH OF 6" BUT NOT LESS THAN WHAT IS REQUIRED TO MEET FINISHED GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD TOPSOIL IF SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET. GRADE PLANTING AREAS TO A SMOOTH UNIFORM SURFACE. PLANE WITH LOOSE, UNIFORM, FINE TEXTURE. GRADE TO WITHIN 0.05 FEET OF FINISHED GRADE ELEVATION.
- EROSION MATTING:
 - CONTRACTOR TO PROVIDE EROSION CONTROL MATTING (NORTH AMERICAN GREEN S150) OR EQUIVALENT ON ALL SLOPES THAT ARE 4:1 AND GREATER OUTSIDE OF STORMWATER CONVEYANCE SWALES AND STORMWATER MANAGEMENT BASINS.
 - CONTRACTOR TO PROVIDE EROSION MATTING (NORTH AMERICAN GREEN C125) OR EQUIVALENT IN ALL SWALE BOTTOMS AND SIDE SLOPES AS WELL AS STORMWATER MANAGEMENT BASIN BOTTOMS AND SIDE SLOPES AS REQUIRED.
 - BEFORE ALL RIP RAP ASSOCIATED WITH STORMWATER MANAGEMENT AND STORMWATER CONVEYANCE, AS DELINEATED ON THE PLANS, SHALL BE CONSTRUCTED WITH THE TOP OF RIP RAP MATCHING THE PROPOSED ADJACENT GRADE ELEVATIONS. PLACEMENT OF RIP RAP ABOVE THE PROPOSED ADJACENT GRADE ELEVATIONS IS NOT ACCEPTABLE. ALL RIP RAP SHALL BE PLACED OVER A 6" WIRE FILTER FABRIC PER SECTION 645 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURAL CONSTRUCTION.

DIVISION 33 UTILITIES

33 10 00 SITE UTILITIES

- CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES ON SITE. CONTRACTOR TO VERIFY PIPE LOCATIONS, SIZES, AND DEPTHS AT POINT OF PROPOSED CONNECTIONS AND VERIFY PROPOSED UTILITY ROUTES ARE CLEAR PER CODES OF ALL EXISTING UTILITIES AND OTHER OBSTRUCTIONS PRIOR TO CONSTRUCTION. COSTS INCURRED FOR FAILURE TO DO SO SHALL BE THE CONTRACTORS RESPONSIBILITY.
- ALL PROPOSED SANITARY PIPE SHALL BE SDR-35 PVC.
- CLEANOUTS SHALL BE PROVIDED FOR THE SANITARY SERVICE AT LOCATIONS INDICATED ON THE UTILITY PLAN. THE CLEANOUT SHALL CONSIST OF A COMBINATION WYE FITTING IN LINE WITH THE SANITARY SERVICE WITH THE CLEANOUT LEG OF THE COMBINATION WYE FACING STRAIGHT UP. THE CLEANOUT SHALL CONSIST OF A 6" VERTICAL PVC PIPE WITH A WATER TIGHT REMOVABLE CLEANOUT PLUS: AN 8" PVC FROST SLEEVE SHALL BE PROVIDED. THE BOTTOM OF THE FROST SLEEVE SHALL TERMINATE 12" ABOVE THE TOP OF THE SANITARY LATERAL OR AT LEAST 6" BELOW THE PREDICTED FROST DEPTH, WHICHEVER IS DEEPER. THE CLEANOUT SHALL EXTEND JUST ABOVE THE SURFACE GRADE IN LAWN OR LANDSCAPE AREAS WITH THE FROST SLEEVE TERMINATING AT THE GRADE SURFACE. THE CLEANOUT SHALL EXTEND TO 4 INCHES BELOW SURFACE GRADE IN PAVED SURFACES WITH A ZURN (Z-1474-N) HEAVY DUTY CLEANOUT HOUSING PLACED OVER THE TOP OF THE CLEANOUT FLUSH WITH THE SURFACE GRADE. IN PAVED SURFACES, THE FROST SLEEVE SHALL TERMINATE IN A CONCRETE PAD AT LEAST 6" THICK AND EXTENDING AT LEAST 9" FROM THE SLEEVE ON ALL SIDES, SLOPING AWAY FROM THE SLEEVE. THE CLEANOUT HOUSING SHALL BE CONSTRUCTED PER MANUFACTURERS REQUIREMENTS.
- ALL PROPOSED WATER PIPES SHALL BE 200 PSI FOR PIPE DIAMETERS OF 4" OR LESS, 200 PSI FOR PIPE DIAMETERS OF 6" THROUGH 12", AND 200 PSI FOR PIPE DIAMETERS OF 14" THROUGH 36". 6" MINIMUM COVER SHALL BE PROVIDED OVER ALL WATER PIPING UNLESS OTHERWISE SPECIFIED.
- ALL PROPOSED HDPE STORM PIPE SHALL BE IN ACCORDANCE WITH ASTM F2048. ALL CONCRETE STORM PIPING SHALL BE IN ACCORDANCE WITH ASTM C14 AND ASTM C76. SEE UTILITY PLANS FOR ALL STORM PIPE MATERIAL TYPES TO BE USED. PIPE SHALL BE PLACED MIN. 6" HORIZONTALLY FROM FOUNDATION WALLS.
- SANITARY, STORM, AND WATER UTILITY PIPE INVERTS SHALL BE CONSTRUCTED WITHIN 0.10' OF DESIGN INVERT ELEVATIONS ASSUMING PIPE SLOPE AND SEPARATION IS MAINTAINED PER THE UTILITY DESIGN PLANS AND STATE REQUIREMENTS.
- SITE UTILITY CONTRACTOR SHALL RUN SANITARY SERVICE TO A POINT WHICH IS A MINIMUM OF 6" FROM THE EXTERIOR WALL OF THE FOUNDATION. SITE UTILITY CONTRACTOR SHALL RUN WATER SERVICE TO A POINT WITHIN THE FOUNDATION SPECIFIED BY THE PLUMBING PLANS. CONTRACTOR TO CUT AND CAP WATER SERVICE 12" ABOVE FINISHED FLOOR ELEVATION.
- ALL UTILITIES SHALL BE INSTALLED WITH PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOD COPPER, OR COPPER COATED STEEL WIRE). PLASTIC WIRE MAY BE TAPED TO PLASTIC WATER OR SEWER PIPE. IF ATTACHED, THE TRACER WIRE SHALL BE SECURED EVERY 6" TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.
- ALL UTILITIES SHALL BE INSTALLED PER STATE, LOCAL,