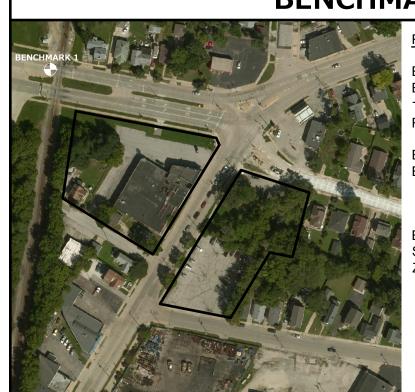


# **BENCHMARKS**

**SCALE: 1" = 200'** 



REFERENCE BENCHMARK:

BENCHMARK 1= CONCRETE MONUMENT WITH BRASS CAP AT THE NORTHWEST CORNER OF THE SOUTHWEST <sup>1</sup>/<sub>4</sub> SECTION 35, TOWN 7 NORTH, RANGE 19 EAST,

ELEVATION = 894.32 (NGVD29) ELEVATION= 113.77 (CITY)

EARINGS REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (N.A.D. 1927).

# **GENERAL NOTES**

CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK, ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH AL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATION

WAUKESHA DEVELOPMENT HANDBOOK & INFRASTRUCTURE SPECIFICATIONS. WHERE THE PLANS DO NOT COMPLY. IT SHALL BE THE SOLE RESPONSIBILITY AND EXPENSE OF THE DEVELOPER TO MAKE REVISIONS TO THE PLANS AND/OR CONSTRUCTED INFRASTRUCTURE TO COMPLY

- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY GEOTEST INC ON NOV 4, 2019. FOR THE PROJECT SITE. THE DATA ON SUB-SURFACE SOIL CONDITIONS IS NOT INTENDED AS A REPRESENTATION OF WARRANTY OF THE CONTINUITY OF SUCH CONDITIONS BETWEEN BORINGS OR INDICATED SAMPLING LOCATIONS. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO
- THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID
- THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCE RELY ON THE ENGINEER'S ESTIMATE.
- QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
- PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS
- COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
- SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT. ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
- THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
- 12. THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND DIGGER'S HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER
- SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK
- . CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL "GOOD HOUSEKEEPING."
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

# **INDEX OF SHEETS**

**COVER SHEET** C-2 **EXISTING CONDITIONS** C-3 **DEMOLITION PLAN** SITE DIMENSION & PAVING PLAN **GRADING PLAN UTILITY PLAN** C-7 SITE STABILIZATION PLAN C-8 - C-11 **CONSTRUCTION DETAILS** 

# **CONTACTS:**

L-1 - L-7

**CIVIL ENGINEER: MATT CAREY, P.E.** PINNACLE ENGINEERING GROUP

(262) 754-8888

**BROOKFIELD, WI 53186** BROOKFIELD, WI 53186

OVERALL LANDSCAPE PLAN

SARAH BECK BEAR DEVELOPMENT, LLC 4011 80th STREET (618)558-1987

**CONTRACTOR: 4015 80th STREET** 

(262)942-3500 EMAIL: sbeck@beardevelopment.com EMAIL: mperry@cmaofwi.com

# **GOVERNING AGENCY CONTACTS:**

ALEX DAMIEN **CITY ENGINEER CITY OF WAUKESHA** adamien@waukesha-wi.gov

**CITY OF WAUKESHA** (262)524-3582

dbuechl@waukesha-wi.gov

JEFF FORTIN **SENIOR PLANNER CITY OF WAUKESHA** (262)524-3750 jfortin@waukesha-wi.gov

CHARLIE GRIFFITH **ASSOCIATE PLANNER CITY OF WAUKESHA** (262)524-3529 cgriffith@waukesha-wi.gov

THOMAS MILES **ENGINEER CITY OF WAUKESHA** tmiles@waukesha-wi.gov



Toll Free (800) 242-8511 Milwaukee Area (414) 259-1181 Hearing Impaired TDD (800) 542-2289 www.DiggersHotline.com

EXPIRATION DATE: JULY 31, 2020

**REVISIONS** 

PINNACLE ENGINEERING GROUP, LLC - ENGINEER'S LIMITATION

PINNACLE ENGINEERING GROUP, LLC AND THEIR CONSULTANTS DO NOT WARRANT OR GUARANTEE TI

ACCURACY AND COMPLETENESS OF THE DELIVERABLES HEREIN BEYOND A REASONABLE DILIGENCE. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITHIN THE DELIVERABLES, THE ENGINEEF SHALL BE PROMPTLY NOTIFIED PRIOR TO BID SO THAT HE MAY HAVE THE OPPORTUNITY TO TAKE WHATEVEF STEPS NECESSARY TO RESOLVE THEM. FAILURE TO PROMPTLY NOTIFY THE ENGINEER OF SUCH CONDITIONS SHALL ABSOLVE THE ENGINEER FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE. ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT TO THE ENGINEER, OR IN CONTRADICTION TO THE ENGINEER'S DELIVERABLES OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE ENGINEER BUT OF THE PARTIES RESPONSIBLE FOR TAKING SUCH ACTION.

FURTHERMORE, PINNACLE ENGINEERING GROUP, LLC IS NOT RESPONSIBLE FOR CONSTRUCTION SAFETY OR TI MEANS AND METHODS OF CONSTRUCTION.

**PINNACLE ENGINEERING GROUP** 

PLAN I DESIGN I DELIVER

20725 WATERTOWN ROAD

FRAME PARK COMMONS

WAUKESHA, WI

**COVER SHEET** 

**ABBREVIATIONS** 

PC

PT

NORMAL WATER LEVEL

POINT OF CURVATURE

POINT OF VERTICAL INTERSECTION

POINT OF TANGENCY

**RADIUS** 

RIGHT-OF-WAY

STORM SEWER

TOP OF BANK

TOP OF CURB

TOP OF PIPE

TOP OF WALK

WATER MAIN

SANITARY SEWER

TANGENCY OF CURVE

TOP OF FOUNDATION

INTERSECTION ANGLE

TOP OF SIDEWALK

**LEGEND** 

SANITARY SEWER MANHOLE

PRECAST FLARED END SECTION

STORM SEWER CATCH BASIN (ROUND CASTING)

STORM SEWER MANHOLE

**CONCRETE HEADWALL** 

VALVE BOX

CLEANOUT

FORCE MAIN

STORM SEWER

DRAIN TILE

WATER MAIN

FIRE PROTECTION

**ELECTRICAL CABLE** 

OVERHEAD WIRES

TELEPHONE LINE

UTILITY CROSSING

CAUTION EXISTING UTILITIES NEARBY

PRIMARY ENVIRONMENTAL CORRIDOR

HIGH WATER LEVEL (HWL)

NORMAL WATER LEVEL (NWL

DIRECTION OF SURFACE FLOW

OVERFLOW RELIEF ROUTING

FENCE LINE, TEMPORARY SILT

FENCE LINE, CHAIN LINK OR IRON

FENCE LINE, WOOD OR PLASTIC

**REVERSE PITCH CURB & GUTTER** 

LONG CHORD OF CURVE

CURB AND GUTTER

**DEGREE OF CURVE** 

EDGE OF PAVEMENT

HIGH WATER LEVEL

LENGTH OF CURVE

FINISHED FLOOR

FINISHED GRADE

CATCH BASIN

CENTERLINE

FLOW LINE

**FLOODPLAIN** 

**FLOODWAY** 

INVERT

MANHOLE

TREE WITH TRUNK SIZE

GRANULAR TRENCH BACKFILL

**ELECTRICAL TRANSFORMER** 

POWER POLE WITH LIGHT

GAS MAIN

LIGHTING

**POWER POLE** 

**GUY WIRE** 

CONTOUR

**FLOODWAY** 

FLOODPLAIN

DITCH OR SWALE

**DIVERSION SWALE** 

SOIL BORING

TOPSOIL PROBE

FENCE LINE, WIRE

CONCRETE SIDEWALK

CURB AND GUTTER

DEPRESSED CURB

EASEMENT LINE

STREET SIGN

SPOT ELEVATION

FIRE HYDRANT

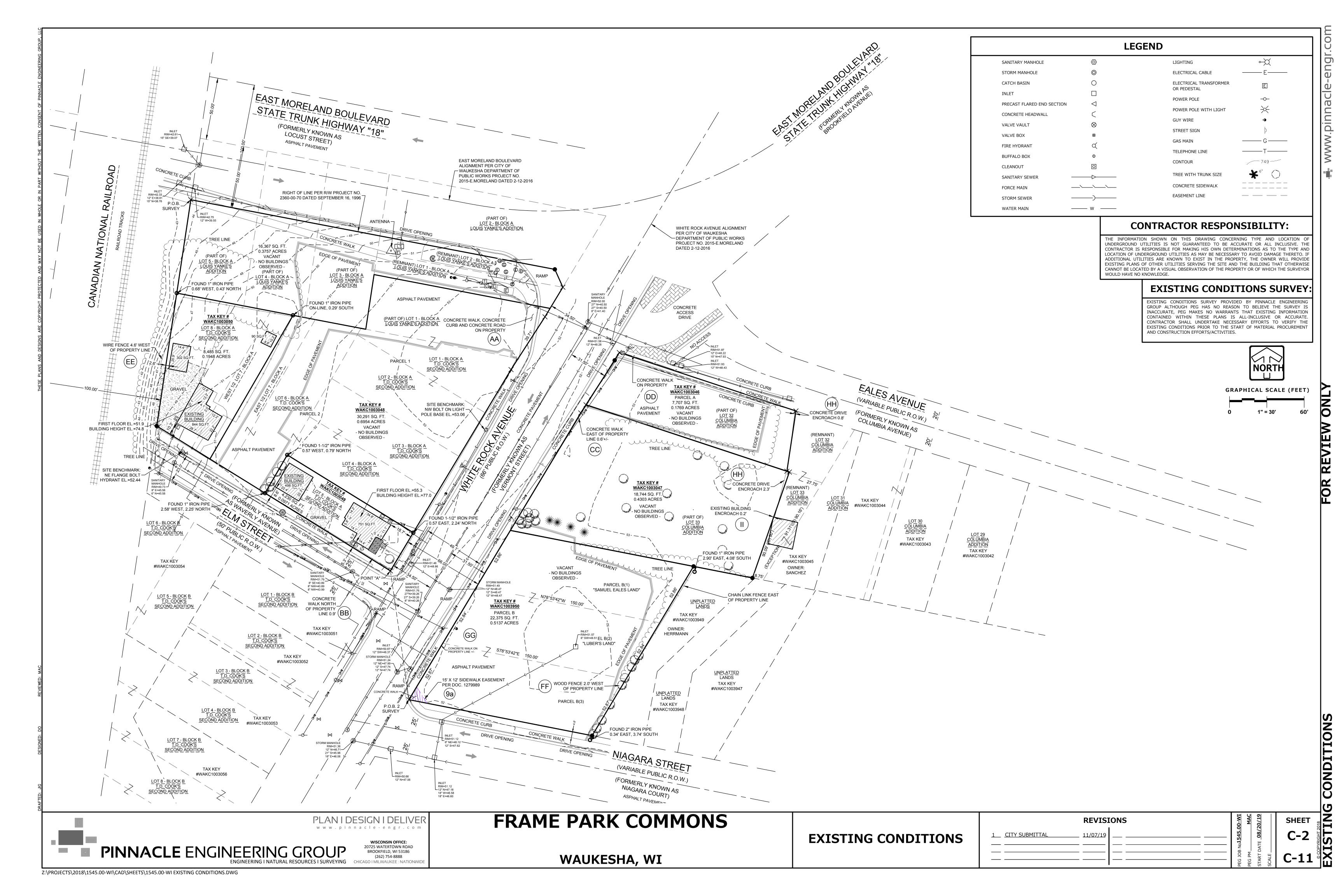
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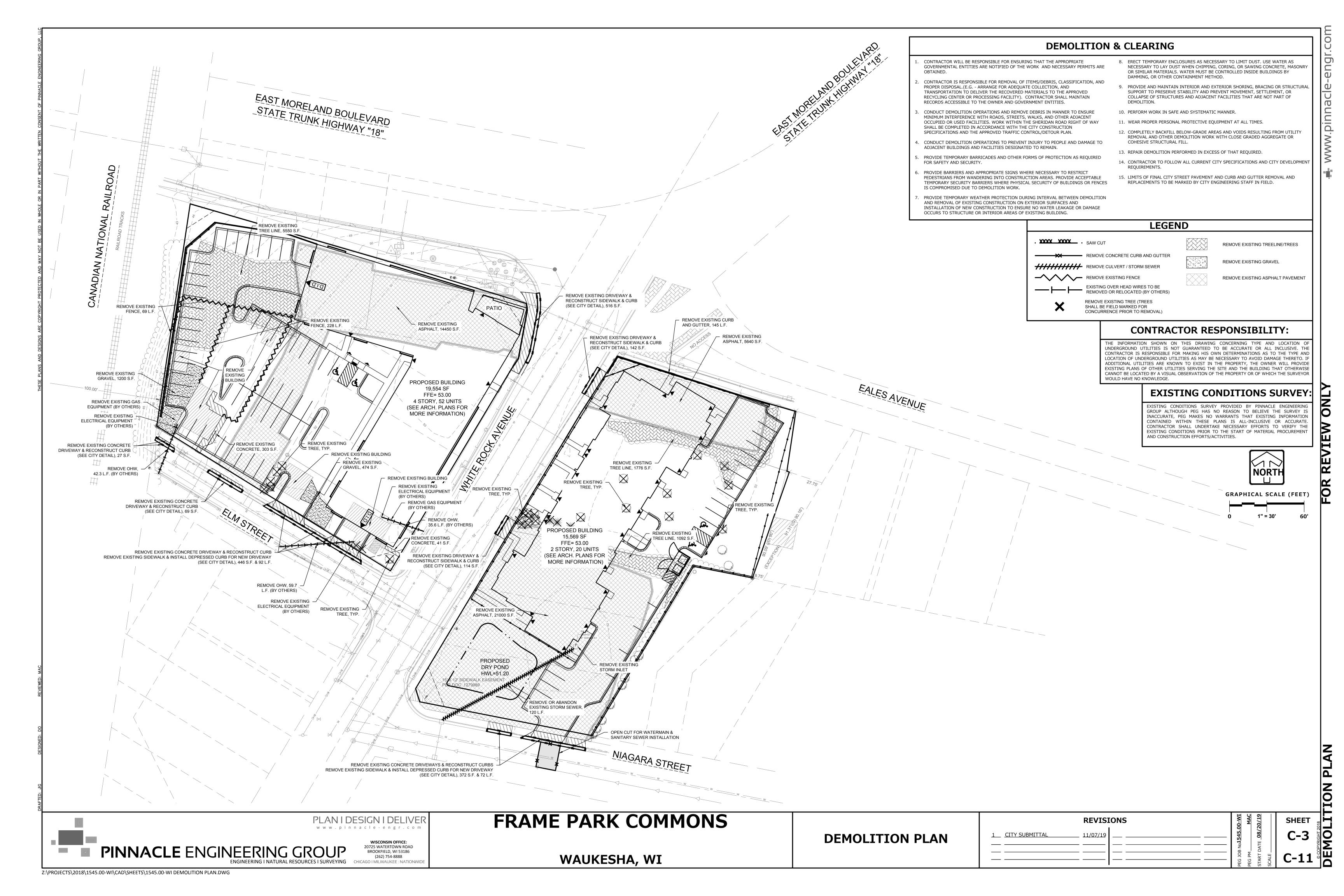
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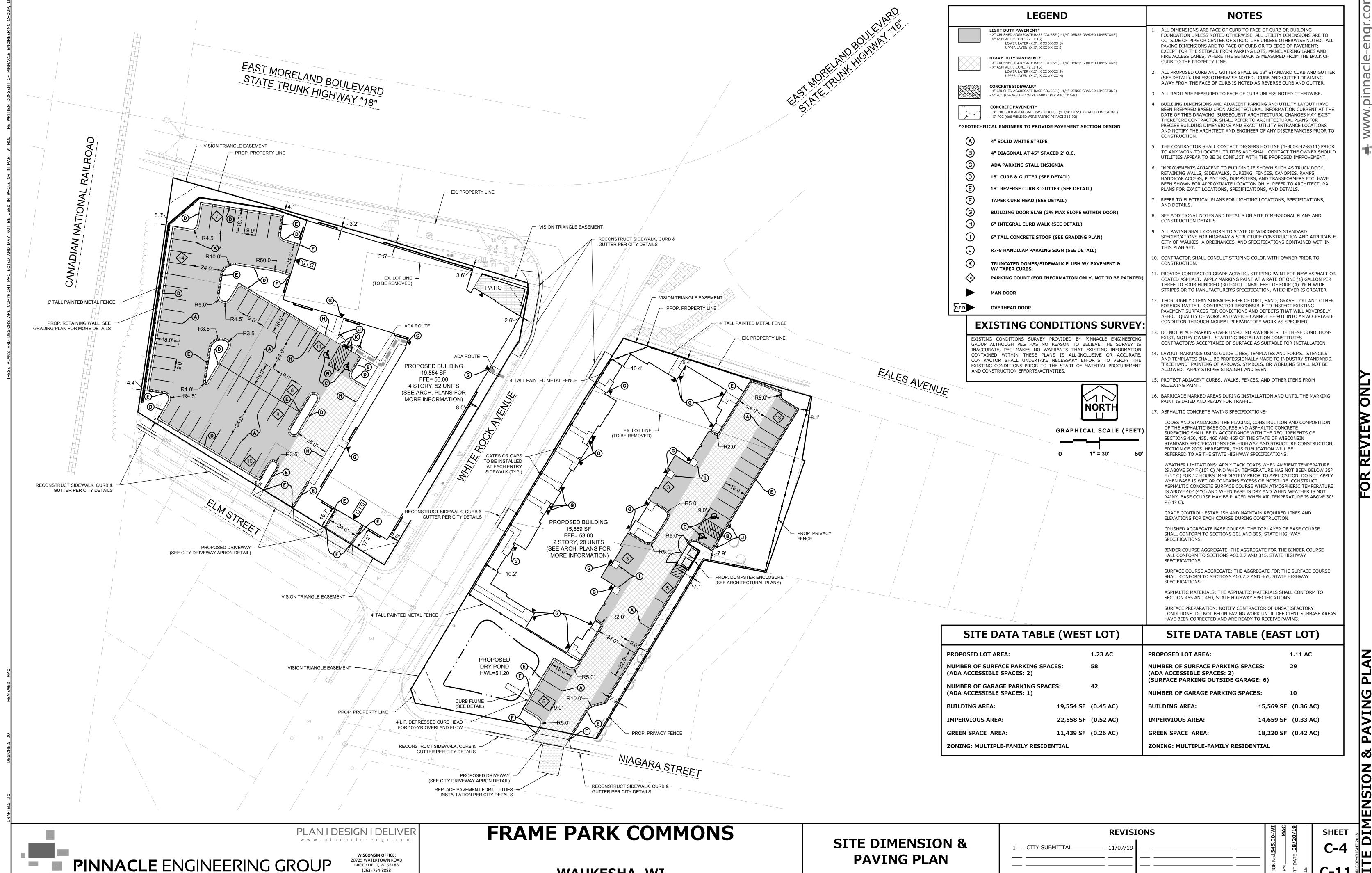
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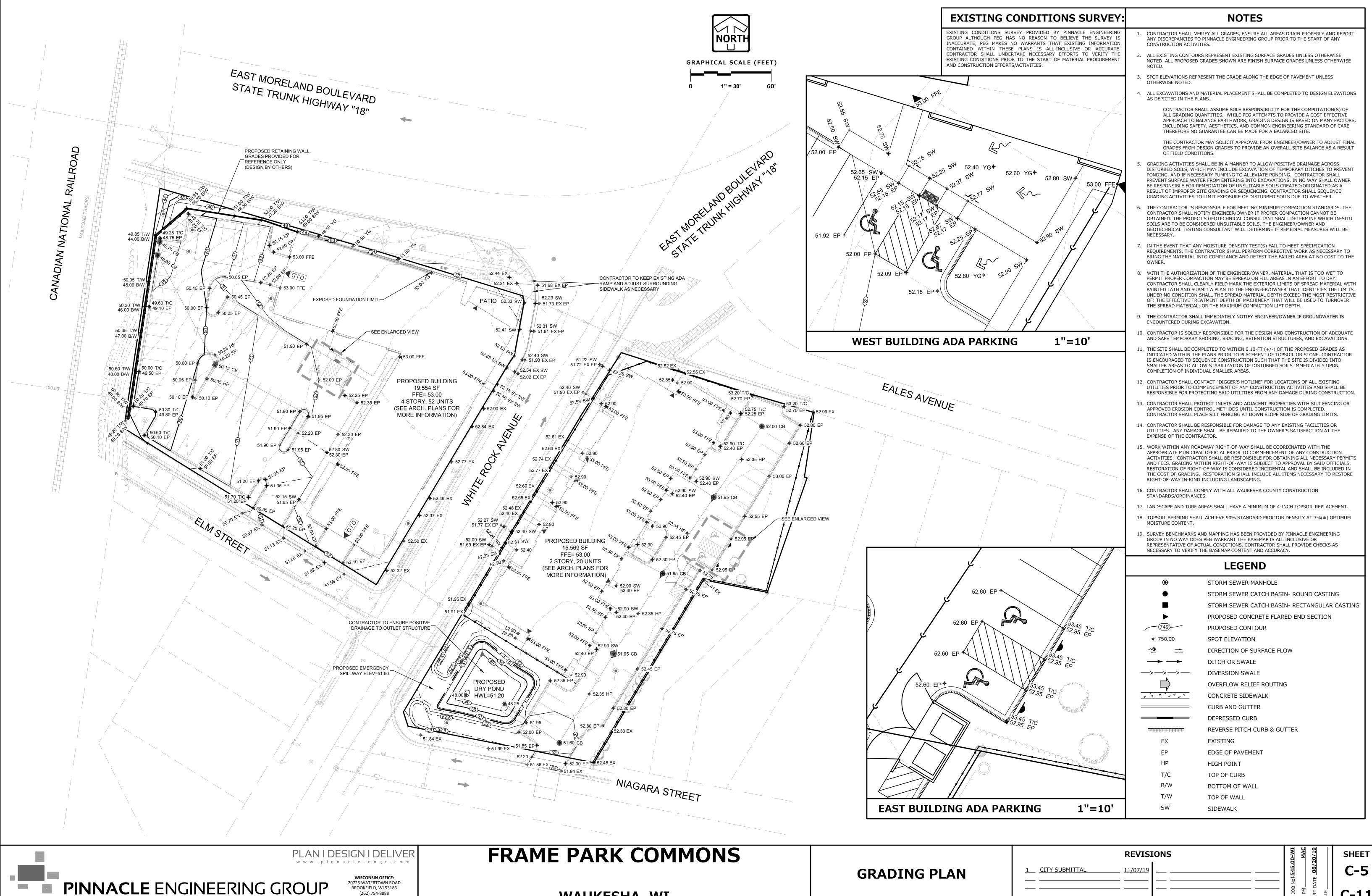






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WAUKESHA, WI

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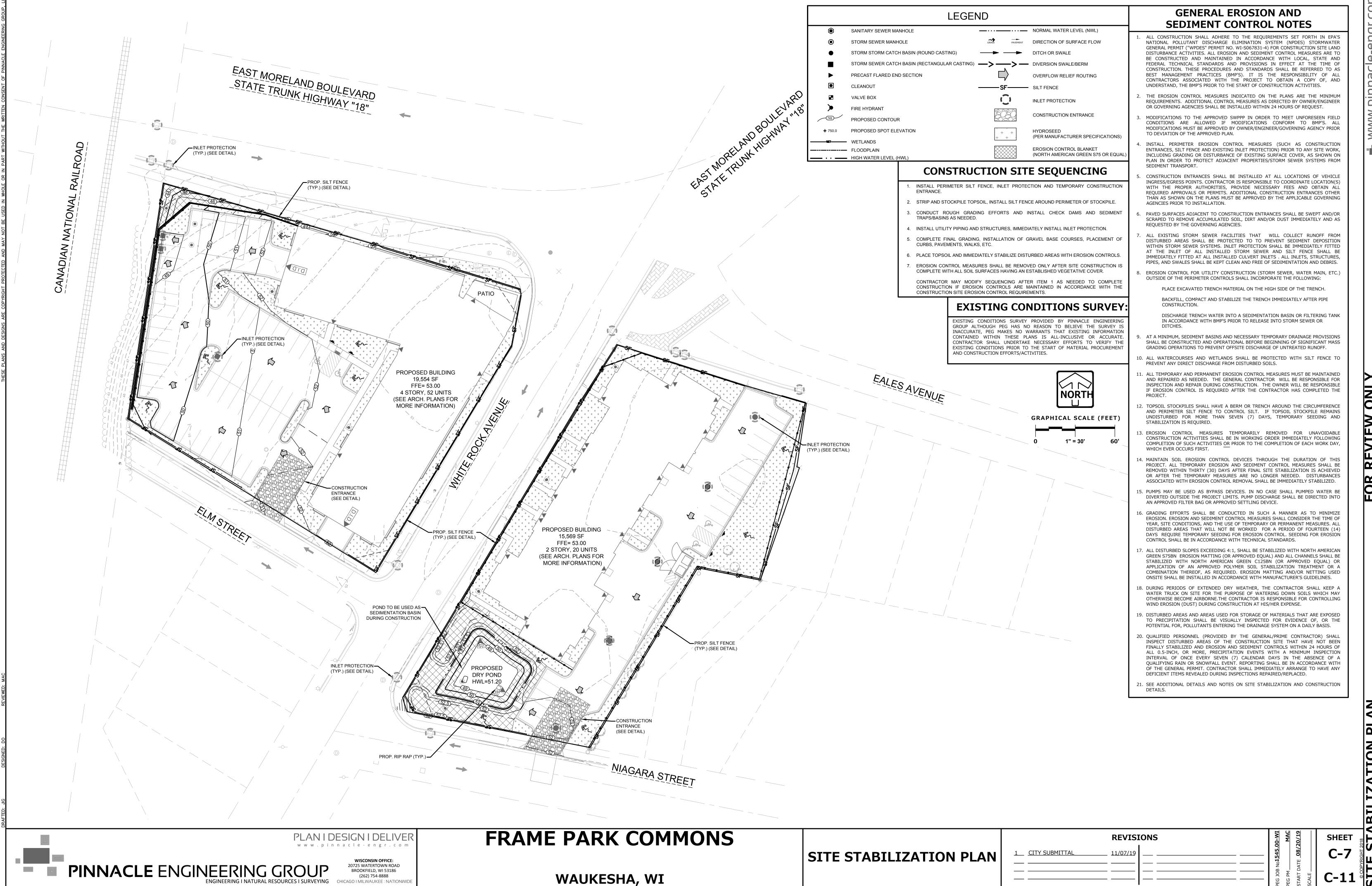
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OR REVIEW ONLY

FOR REV



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#### 2.0 EROSION AND SEDIMENT CONTROL IMPLEMENTATION

THE FOLLOWING ARE DESCRIPTIONS OF THE EROSION AND SEDIMENT CONTROL PRACTICES THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION OF THIS PROJECT. IN ADDITION TO THESE MEASURES, CONTRACTOR SHALL DISTURB ONLY AREAS NECESSARY TO COMPLETE THE CONSTRUCTION PROJECT. ALL PRACTICES SHALL BE CONDUCTED IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES (BMP).

## 2.1 CONSTRUCTION AND EROSION CONTROL SEQUENCING

CONSTRUCTION SEQUENCING WILL BE UTILIZED AS A MEANS OF CONTROLLING EROSION AND LIMITING SEDIMENT TRANSPORT. SEQUENCING AS LISTED BELOW IS GENERAL IN NATURE AND MAY VARY DEPENDING ON WEATHER CONDITIONS AND/OR PHASING OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED SITE SEQUENCING PLAN TO OWNER FOR APPROVAL AT LEAST 5 BUSINESS DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 6 AS NEEDED TO COMPLETE CONSTRUCTION ONLY IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL REQUIREMENTS

- INSTALL TEMPORARY CONSTRUCTION ENTRANCES, INLET PROTECTION ON EXISTING STORM SEWER AND CULVERT INLET LOCATIONS, AND PERIMETER SILT FENCING.
- INSTALL SILT FENCING ALONG THE PERIMETER OF PROPOSED TOPSOIL STOCKPILE LOCATIONS. THE FIRST TOPSOIL DEPOSITED WITHIN THE STOCKPILE LIMITS SHALL BE PLACED TO CREATE TEMPORARY BERMING ALONG THE SILT FENCE TO PREVENT DIRECT STORMWATER RUNOFF AGAINST SILT FENCING. CONTRACTOR SHALL LIMIT LAND DISTURBING ACTIVITIES ASSOCIATED WITH TO THE FOLLOWING TEMPORARY BERMING TO A MINIMUM.
- STRIP TOPSOIL WITHIN THE LIMITS OF THE SEDIMENT TRAPS THAT WILL BE USED FOR TEMPORARY SEDIMENT CONTROL. STRIPPED TOPSOIL SHALL BE PLACED TO CONSTRUCT DIVERSION BERMING OR PLACED WITHIN THE STOCKPILE LIMITS.
- STRIP TOPSOIL ALONG THE REMAINDER OF DIVERSION BERMING AND IMMEDIATELY PLACE TOPSOIL TO CREATE THE BERMING. MASS
- 5. CONDUCT ROUGH GRADING OPERATIONS AND UTILITY PIPING INSTALLATION. DRAIN TILE SHALL NOT BE INSTALLED UNTIL UPLAND AREAS CONTRIBUTING STORMWATER RUNOFF ARE STABILIZED. DITCH CHECKS SHALL BE INSTALLED WITHIN DRAINAGE DITCHES IMMEDIATELY FOLLOWING CREATION OF DITCHES AND INLET PROTECTION SHALL BE INSTALLED TO PROTECT ANY STORM SEWER OR CULVERTS THAT WILL FUNCTION DURING CONSTRUCTION.

TOPSOIL STRIPPING SHALL NOT OCCUR UNTIL ALL DOWNSTREAM SEDIMENT CONTROLS ARE IN PLACE.

- FINE GRADE SUB-GRADE SOILS WITHIN PAVEMENT AND BUILDING LIMITS. PLACE STONE BASE MATERIAL AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
- FINE GRADE REMAINING DISTURBED AREAS. PLACE SALVAGED TOPSOIL, EROSION BLANKETS/MATTING, AND SEED/MULCH AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
- EROSION CONTROLS SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED. 4.0 EROSION AND SEDIMENT STRUCTURAL PRACTICE MAINTENANCE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SILT FENCE, TEMPORARY FENCING/PRETECTION, DITCH CHECKS, AND OTHER TEMPORARY CONTROLS, AND RESTORATION PRACTICES AS NECESSARY, TO THE SATISFACTION OF THE OWNER.

### 2.2 STABILIZATION PRACTICES

THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED, SHALL BE RECORDED ON THE STABILIZATION SCHEDULE FOR MAJOR GRADING ACTIVITIES.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. NO MORE THAN SEVEN (7) DAYS SHALL PASS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED UNLESS:

THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER. IN THAT EVENT, STABILIZATION MEASURE SHALL BE INITIATED AS SOON AS PRACTICABLE.

CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN FOURTEEN (14) DAYS FROM WHEN ACTIVITIES CEASED, (I.E. THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN FOURTEEN (14) DAYS). IN THAT EVENT, STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED. SEE THE SOIL PROTECTION CHART PRESENTED IN THE CONSTRUCTION DOCUMENTS FOR RATES OF PERMANENT AND TEMPORARY VEGETATION.

STABILIZATION MEASURES SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE. THE FOLLOWING ARE ACCEPTABLE

PERMANENT SEEDING; IN ACCORDANCE WITH APPROVED LANDSCAPING PLAN TEMPORARY SEEDING MAY CONSIST OF SPRING OATS (100LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150LBS/ACRE) HYDRO-MULCHING WITH A TACKIFIER GEOTEXTILE EROSION MATTING

## 2.3 STRUCTURAL PRACTICES

FLOWS, OR OTHERWISE LIMIT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE INCLUDING THE PROPOSED AND EXISTING NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. A WETLAND AREAS. SUCH PRACTICES COULD INCLUDE SILT FENCE, PROTECTION FENCE, CONSTRUCTION ENTRANCE, DITCH CHECK, EROSION STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT SHALL BE COMPLETED AND ADDED TO THE SWPPP. RAINFALL SHALL BE CONTROL MATTING, DIVERSION BERM/SWALE, SEDIMENT TRAP, LEVEL SPREADER, INLET PROTECTION, OUTLET PROTECTION, AND TEMPORARY RECORDED ON THE SWPPP RAINFALL LOG. CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR OR REPLACEMENT OF ANY DAMAGED OR OR PERMANENT SEDIMENT BASIN. THE FOLLOWING STRUCTURAL PRACTICES ARE TO BE UTILIZED DURING THIS PROJECT.

A TEMPORARY CONTROL DEVICE WHERE SEDIMENTATION RUNOFF IS DISCOVERED.

CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO REDUCE SOIL EROSION POLLUTANTS FROM LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES. IF THE CRUSHED STONE DOES NOT ADEQUATELY REMOVE MUD FROM VEHICLE TIRES, THEY SHALL BE HOSED OFF BEFORE ENTERING A PAVED ROADWAY. ANY SOIL DEPOSITED ON THE PUBLIC PAVED ROAD WAY SHALL BE REMOVED IMMEDIATELY.

<u>DITCH CHECK (STRAW BALES)</u> SHALL BE INSTALLED IN DRAINAGE CHANNELS AS NEEDED. <u>EROSION CONTROL MATTING</u> SHALL BE PLACED ON AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V,

<u>DIVERSION BERM/SWALE</u> SHALL BE CONSTRUCTED TO DIVERT RUNOFF AROUND THE SITE AND TO DIVERT RUNOFF FROM THE DISTURBED A TO A SEDIMENT TRAP OR OTHER CONTROL. BERMS/SWALES SHALL BE STABILIZED WITH EQUIPMENT TRACKING AND TEMPORARY

SEDIMENT TRAPS/BASIN SHALL BE CONSTRUCTED TO COLLECT RUNOFF AND RUNOFF FROM SITE DIVERSION BERMS/SWALES. <u>INLET PROTECTION</u> SHALL BE INSTALLED AT STORMWATER DRAINAGE INLETS TO REDUCE SEDIMENT WITHIN STORM SEWER

OUTLET SCOUR PROTECTION SHALL BE INSTALLED AT STORMWATER DRAINAGE OUTLETS TO DIFFUSE FLOWS.

ADDITIONAL POLLUTANT CONTROL MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION ACTIVITIES SHALL INCLUDE, BUT NOT BE LIMITED

<u>CONSTRUCTION WASTE</u> SHALL BE PROPERLY DISPOSED OF. THIS INCLUDES ALL CONSTRUCTION SITE WASTE MATERIAL, SANITARY STE, AND WASTE FROM VEHICLE TRACKING OF SEDIMENTS. THE CONTRACTOR SHALL ENSURE THAT NO MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, BURNED, OR DISCHARGED TO THE WATERS OF THE STATE. VEHICLES HAULING MATERIAL AWAY FROM THE SITE SHALL BE COVERED WITH A TARPAULIN TO PREVENT BLOWING DEBRIS.

#### <u>DUST CONTROL</u> SHALL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING METHODS:

- COVERING 30% OR MORE OF THE SOIL SURFACE WITH A NON-ERODIBLE MATERIAL.
- ROUGHENING (EQUIPMENT TRACKING) THE SOIL TO PRODUCE RIDGES PERPENDICULAR TO THE PREVAILING WIND. RIDGES SHALL BE AT LEAST SIX (6) INCHES IN HEIGHT.
- FREQUENT WATERING OF EXCAVATION AND FILL AREAS.
- PROVIDING GRAVEL OR PAVING AT ENTRANCE/EXIT DRIVES, PARKING AREAS AND TRANSIT PATHS.

## STREET SWEEPING SHALL BE PERFORMED TO IMMEDIATELY REMOVE ANY SEDIMENT TRACKED ON PAVEMENTS.

THE FOLLOWING MAINTENANCE PRACTICES SHALL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATION, VEGETATION, THE CONTRACTOR SHALL AMEND THE PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, SHALL INCLUDE, BUT NOT BE LIMITED TO THE BELOW.

ILT FENCE - REPAIR OR REPLACE ANY DAMAGED FILTER FABRIC AND/OR STAKES. REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

CONSTRUCTION ENTRANCE - AS NEEDED, ADD STONE TO MAINTAIN CONSTRUCTION ENTRANCE DIMENSIONS AND EFFECTIVENESS. ITCH CHECK (STRAW BALES) - RE-SECURE STAKES; ADJUST OR REPOSITION BALES TO ADDRESS PROPER FLOW OF STORMWATER; AND

OVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE HEIGHT OF THE BALE. <u>FROSION CONTROL MATTING</u> - REPAIR MATTING IMMEDIATELY IF INSPECTION REVEALS BREACHED OR FAILED CONDITIONS. REPAIR AND RE-GRADE SOIL WHERE CHANNELIZATION HAS OCCURRED.

<u>DIVERSION BERM/SWALE</u> - REPLACE OR RE-COMPACT THE CONSTRUCTION MATERIALS AS NECESSARY.

SEDIMENT TRAP - REMOVE AND DISPOSE OF THE ACCUMULATED SEDIMENT WHEN IT HAS REACHED THE SEDIMENT STORAGE ELEVATION. <u>VLET PROTECTION</u> - CLEAN, REPAIR OR REPLACE FILTER FABRIC AND/OR STONE WHEN CONTROL MEASURE IS CLOGGED. INLET FILTER AGS SHALL BE REPLACED ONCE ONE-HALF FULL OF SEDIMENT.

<u>OUTLET PROTECTION</u> - CLEAN, REPAIR OR REPLACE FILTER FABRIC, TURF REINFORCEMENT MATTING AND/OR STONE WHEN CONTROL

<u>SEDIMENT BASIN</u> - AT THE END OF CONSTRUCTION, CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ACCUMULATED SEDIMENT AND ORE BASIN AREA TO INTENDED POST-CONSTRUCTION DESIGN GRADES.

SILT FENCE ALONG SLOPES & OUTFALLS

SILT FENCE

INSPECTIONS SHALL BE COMPLETED WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A RAINFALL EVENT THAT IS ONE-HALF INCH OR GREATER OR EQUIVALENT SNOWFALL, OR AT A MINIMUM ONCE EVERY SEVEN (7) CALENDAR DAYS. INSPECTIONS SHALL BE UNDERTAKEN BY THE FOLLOWING ARE DESCRIPTIONS OF STRUCTURAL PRACTICES TO BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE QUALIFIED PERSONNEL PROVIDED BY THE CONTRACTOR, AND SHALL INCLUDE: DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE DEFICIENT CONTROL MEASURES OBSERVED DURING THE INSPECTION.

JOINT (TWIST METHOD)

LT FENCE SHALL BE PLACED DOWN SLOPE OF DISTURBED AREAS OF THE CONSTRUCTION SITE AND AROUND THE PERIMETER OF THE QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL TOPSOIL STOCKPILE. THIS INCLUDES PROTECTION OF EXISTING WETLAND AREAS TO BE MAINTAINED. SILT FENCE MAY ALSO BE USED AS MEASURES, SUCH AS A LICENSED PROFESSIONAL ENGINEER, A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL, A CERTIFIED EROSION SEDIMENT OR STORMWATER INSPECTOR, OR OTHER TRAINED INDIVIDUAL.

#### 6.0 SPILL PREVENTION

## THE GOOD HOUSEKEEPING PRACTICES LISTED BELOW SHALL BE FOLLOWED THROUGHOUT THE CONSTRUCTION PROJECT.

- CONTRACTOR SHALL STORE ONLY ENOUGH PRODUCTS REQUIRED TO COMPLETE THIS PROJECT ALL MATERIAL SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR ORIGINAL CONTAINERS CONTAINING MANUFACTURER'S LABEL MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
- I. MATERIALS REQUIRED TO HAVE A MATERIAL SAFETY DATA SHEET (MSDS) SHALL HAVE A COPY STORED IN THE PROJECT'S MSDS

#### 6.2 SPILL CONTROL PRACTICES

REQUIRED.

#### THE PRACTICES LISTED BELOW SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

B. PERSONNEL CLEANING UP A SPILL SHALL USE PERSONAL PROTECTIVE EQUIPMENT.

6.1 GENERAL MATERIAL MANAGEMENT PRACTICES

- 1 MATERIALS AND FOLIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE MAINTAINED ONSITE IMMEDIATELY UPON DISCOVERY, ALL SPILLS SHALL BE CLEANED UP ACCORDING TO THE MANUFACTURERS' RECOMMENDED METHODS.
- 4. IMMEDIATELY UPON DISCOVERY, SPILLS OF TOXIC OR HAZARDOUS MATERIALS SHALL BE REPORTED TO THE OWNER AND GENERAL
- CONTRACTOR. 5. NOTIFICATION AND REPORTING TO THE APPROPRIATE FEDERAL, STATE, AND LOCAL GOVERNMENT AGENCIES SHALL BE MADE AS

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO FULFILL ONE OF THE REQUIREMENTS OF THE GENERAL ENVIRONMENTAL PROTECTION AGENCY (EPA) NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (WISCONSIN POLLUTION DISCHARGE ELIMINATION SYSTEM "WPDES" PERMIT NO. WI-S067831-4) FOR THE DISCHARGE OF STORMWATER ASSOCIATED WITH CONSTRUCTION PROJECTS DISTURBING ONE ACRE OR MORE. THE OWNER AND CONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF THE WPDES FOR ALL SUCH CONSTRUCTION PROJECTS. THE STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY FROM THIS SITE ARE SUBJECT TO THE CONDITIONS AND REQUIREMENTS OF THE PERMITS.

THE EXECUTED OWNER CERTIFICATION AND THE CONTRACTOR CERTIFICATIONS SHALL BE KEPT ONSITE WITH THE APPROVED PLANS.

THE OWNER SHALL RETAIN A COPY OF THE SWPPP AT THE CONSTRUCTION SITE FROM THE DATE OF THE PROJECT INITIATION TO THE DATE OF

### KEEPING PLANS CURRENT

EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN. UPON IDENTIFICATION, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS A DEFICIENCIES IN STORMWATER CONTROLS SHALL BE ADDRESSED IMMEDIATELY. THE MAINTENANCE PROCEDURES FOR THIS DEVELOPMENT NOT OTHERWISE BEEN ADDRESSED IN THE PLAN OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY. IN ADDITION, THE THE PLAN SHALL BE AMENDED TO IDENTIFY ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR THAT WILL IMPLEMENT A MEASURE OF THE PLAN. AMENDMENTS TO THE PLAN MAY BE REQUIRED BY THE MUNICIPALITY, OWNER, OR OTHER REVIEWING AGENCY. COPIES OF THE AMENDMENTS SHALL BE KEPT \* IRRIGATION/WATERING REQUIRED TO SUPPORT ESTABLISHMENT AS NEEDED. ONSITE AS PART OF THE SWPPP

### RETENTION OF RECORDS

THE OWNER SHALL RETAIN COPIES OF THIS AND ALL REPORTS AND NOTICES REQUIRED BY THIS PERMIT. AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT. FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE PERMIT COVERAGE EXPIRES OR IS TERMINATED. THIS PERIOD MAY BE EXTENDED BY THE REQUEST OF THE AGENCY AT ANY TIME. IN ADDITION, THE OWNER SHALL RETAIN A COPY OF THE PLAN REQUIRED BY THIS PERMIT AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

A NOTICE OF INTENT (NOI) APPLICATION MUST BE COMPLETED AND INCORPORATED INTO THE SWPPP.

## WPDES NOTICE OF TERMINATION GUIDANCE:

WHEN A SITE HAS BEEN FINALLY STABILIZED AND ALL STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED. THE OWNER OF THE FACILITY MUST SUBMIT A COMPLETED NOTICE OF TERMINATION THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT. CONTRACTOR SHALL SUBMIT A COMPLETED NOTICE OF TERMINATION TO OWNER FOR EXECUTION PRIOR TO THEIR FINAL PAY APPLICATION REQUEST.

CONTROL MEASURE GROUP	CONTROL MEASURE	CONTROL MEASURE CHARACTERISTICS								
VEGETATIVE SOIL COVER	TEMPORARY SEEDING	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.								
	PERMANENT SEEDING	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER. MAY BE PART OF FINAL LANDSCAPE PLAN.								
NON VEGETATIVE SOIL COVER	AGGREGATE COVER	PROVIDES TEMPORARY COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF-SITE.								
	PAVING	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.								
DIVERSIONS	DIVERSION BERM / SWALE	DIVERTS RUNOFF TO A SEDIMENT TRAP OR OTHER CONTROL.								
ENCLOSED DRAINAGE	STORM SEWER	CONVEYS SEDIMENT LADEN WATER TO A SEDIMENT BASIN.								
OUTLETS	APRON ENDWALL OR RIPRAP	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURE.								
SEDIMENT BASINS	TEMPORARY SEDIMENT TRAP	CONSTRUCTED TO REMOVE SILTATION FROM RUNOFF FROM SITE DIVERSION BERMS/SWALES AND IN OVERLAND FLOOD ROUTE. CAN BE CONVERTED TO PERMANENT SEDIMENT BASIN.								
SEDIMENT FILTERS	SILT FENCE	PLACED DOWN SLOPE OF DISTURBED AREA TO KEEP RUNOFF CONTAINED ON-SITE.								
	INLET PROTECTION	INSTALLED IN OPEN GRATE STRUCTURES TO COLLECT SEDIMENT.								
	DITCH CHECK	PLACED IN DRAINAGE CHANNELS TO FILTER SEDIMENT FROM RUNOFF.								
MUD AND DUST CONTROL	CONSTRUCTION ENTRANCE	REDUCES SOIL EROSION POLLUTANTS BEING TRANSPORTED OFF-SITE.								
	STREET SWEEPING	REDUCES POLLUTANTS TRACKED FROM CONSTRUCTION SITE.								
	DUST CONTROL	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.								

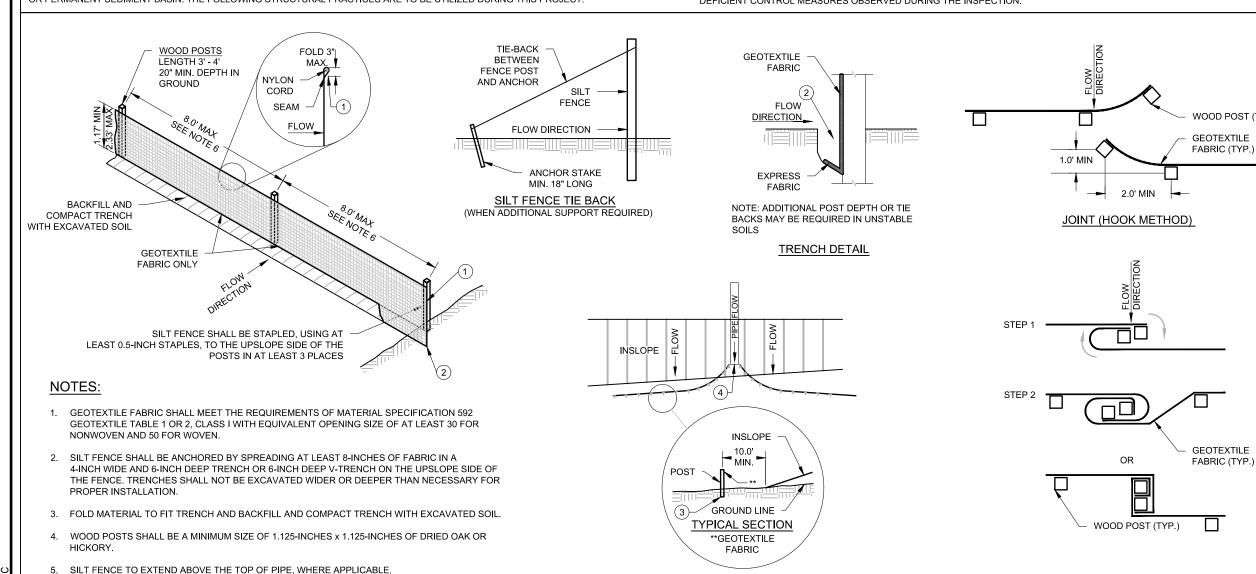
### STABILIZATION EFFECTIVENESS (TIME OF YEAR)

STABILIZATION TYPE	STABILIZATION UTILIZATION PERIODS												
STABILIZATION TIPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	
PERMANENT SEEDING			Ą	*	*	*	*	*	* \				
T ENVIANENT SEEDING			•										
DORMANT SEEDING	В		7								Ŗ		
BOTTOM TOTAL BILLION	•										•		
TEMPORARY SEEDING			ç	*	*	* \	P *	*	<u>\</u> *				
TEWN GRART SEEDING			•				•						
SODDING			Ē	*	*	*	*	*	* \				
SODDING													

A. KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE B. KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE. C. SPRING OATS 100 LBS/ACRE

- D. WHEAT OR CEREAL RYE 150 LBS/ACRE.
- F. STRAW MULCH 2 TONS/ACRE.

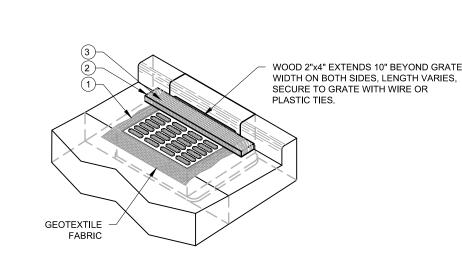
AND 50 FOR WOVEN.



WOOD 2"x4" STAKES AND CROSS BRACING WOOD 2"x4" STAKES GEOTEXTILE FABRIC. AND CROSS BRACING GEOTEXTILE FABRIC SHALL BE SECURED TO THE STAKES DIRECTION OF 4.0' 2.0' ND CROSS BRACING, FABRIC RUNOFF WATER SHALL COMPLETELY SURROUND INLET TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING INTO THE INLE 00000000000 MIN. 6" DEPTH **INLET PROTECTION - TYPE "A"** TYPE "B" & "C" INSTALLATION NOTES TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3 NCHES OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHODS TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

2' ABOVE **GROUND** IN TRENCH TO PREVENT UNDERMINING OF THE

**INLET PROTECTION** 



WOOD 2"x4" EXTENDS 10" BEYOND GRATE

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I, WITH AN EOS OF AT LEAST 30 FOR NONWOVEN

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO

INLET, ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY

FINISHED SIZE, INCLUDING FLAP POCKET WHERE REQUIRED, SHALL EXTEND A MINIMUM

(2) FOR INLET PROTECTION, TYPE "C" (WITH CURB BOX), AN ADDITIONAL 18 INCHES OF

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

(3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD

THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE

OR CLEAR STONE

B" TO 6" WASHED

1. ALL TRACKING PAD MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH WI DNR TECHNICAL STANDARD 1057 2. TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. CONTRACTOR SHALL VERIFY LOCATION

PROFILE VIEW

EXISTING PAVEMENT

AGGREGATE OVER

GEOTEXTILE FABRIC

- 3. THE AGGREGATE FOR TRACKING PADS SHALL BE 3 TO 6 INCH CLEAR OR WASHED STONE. ALL MATERIALS TO BE RETAINED ON
- 4. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12-INCHES THICK, ON SITES WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PAD. THE PAD SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC WHICH MEETS MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II OR IV, TO PREVENT MIGRATION OF UNDERLYING SOILS INTO THE
- 5. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT, MINIMUM WIDTH IS 14 FEET FOR ONE-WAY TRAFFIC AND 20 FEET FOR TWO-WAY TRAFFIC, WITH AN ADDITIONAL INCREASE OF 4 FEET FOR TRAILER TRAFFIC. THE TRACKING PAD
- 6. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, AT
- 7. TRACKING PADS SHALL, AT A MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24-HOURS AFTER EVERY PRECIPITATION EVENT
- THAT PRODUCES 0.5-INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.

8. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.

**CONSTRUCTION ENTRANCE** 

PLAN I DESIGN I DELIVER

www.pinnacle-engr.com

20725 WATERTOWN ROAD BROOKFIELD. WI 53186

FRAME PARK COMMONS

WAUKESHA, WI

**CONSTRUCTION DETAILS** 

**REVISIONS** 

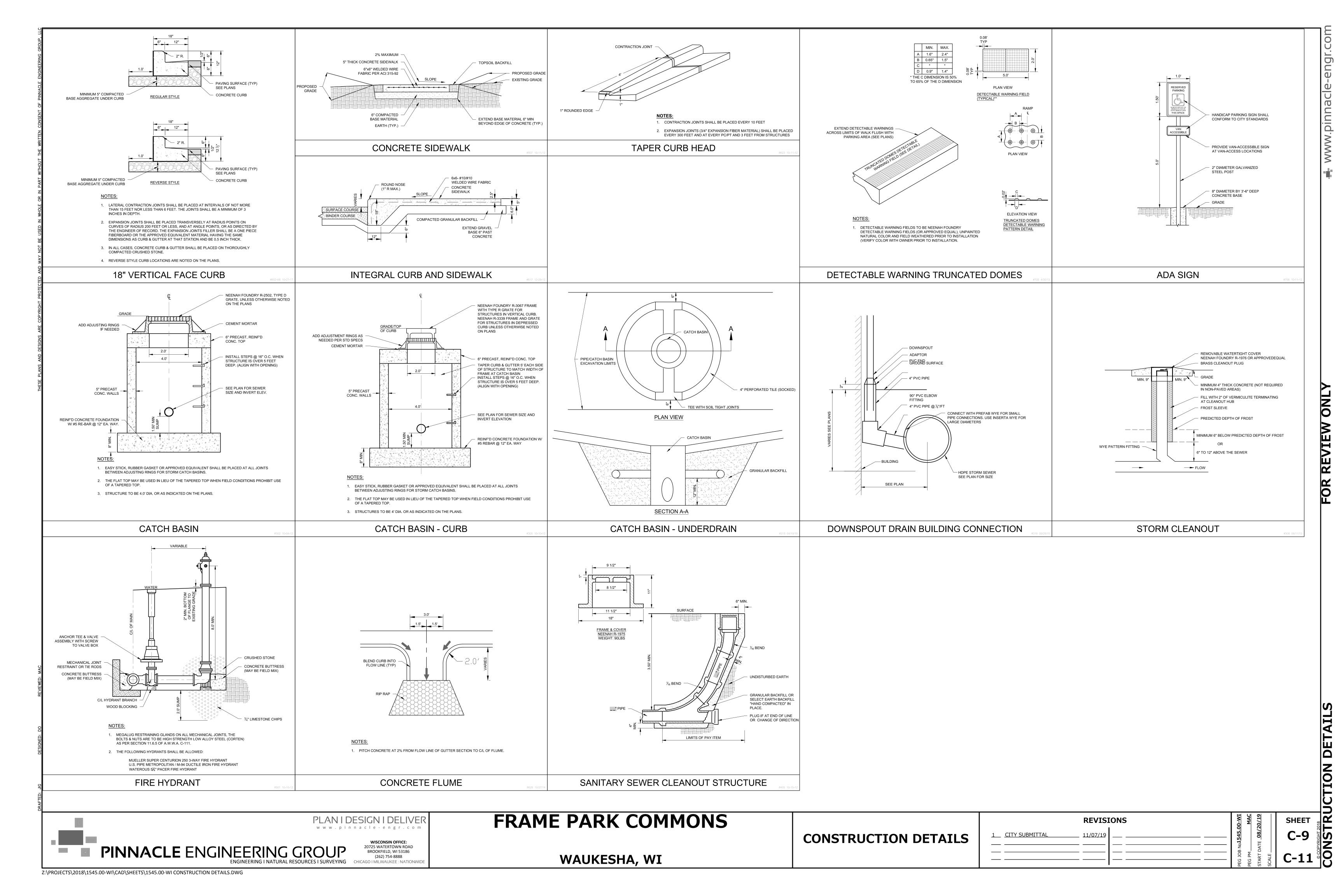
**PINNACLE** ENGINEERING GROUP

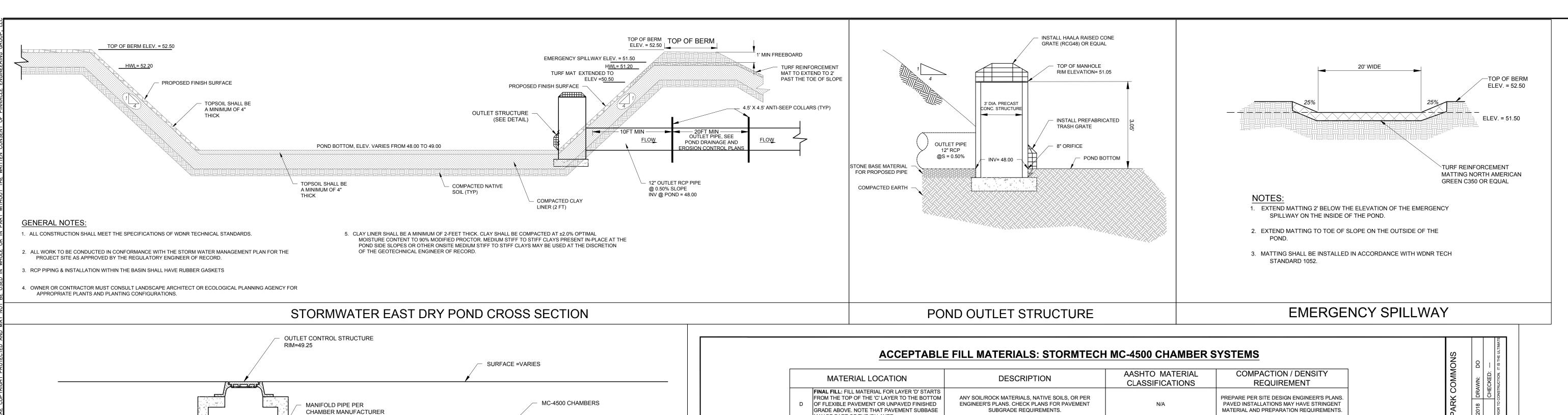
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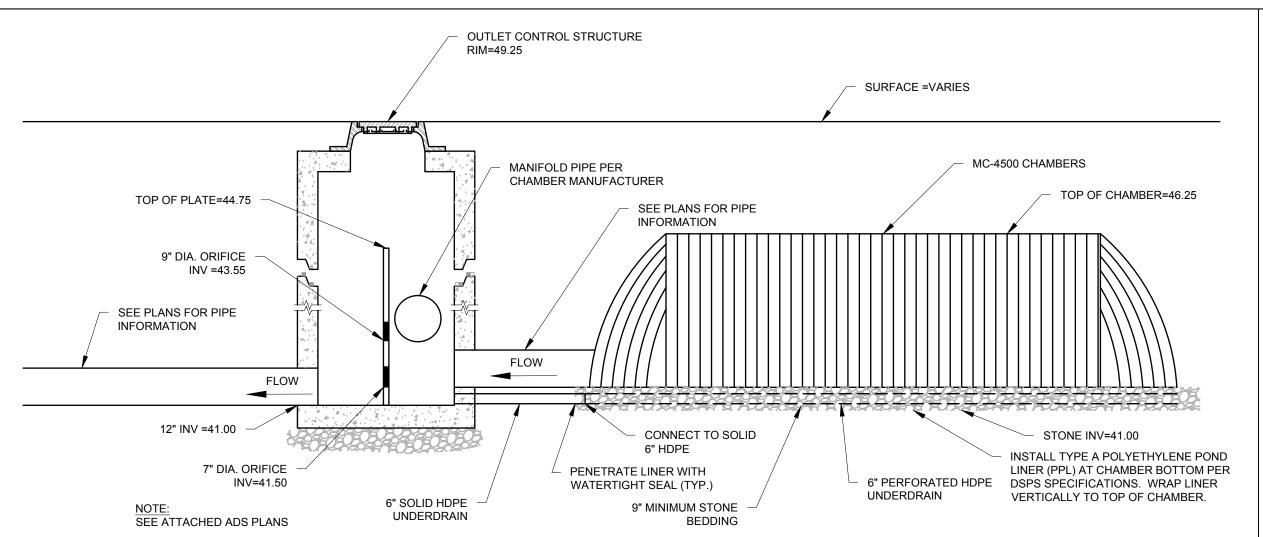
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6. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8-FEET FOR WOVEN AND

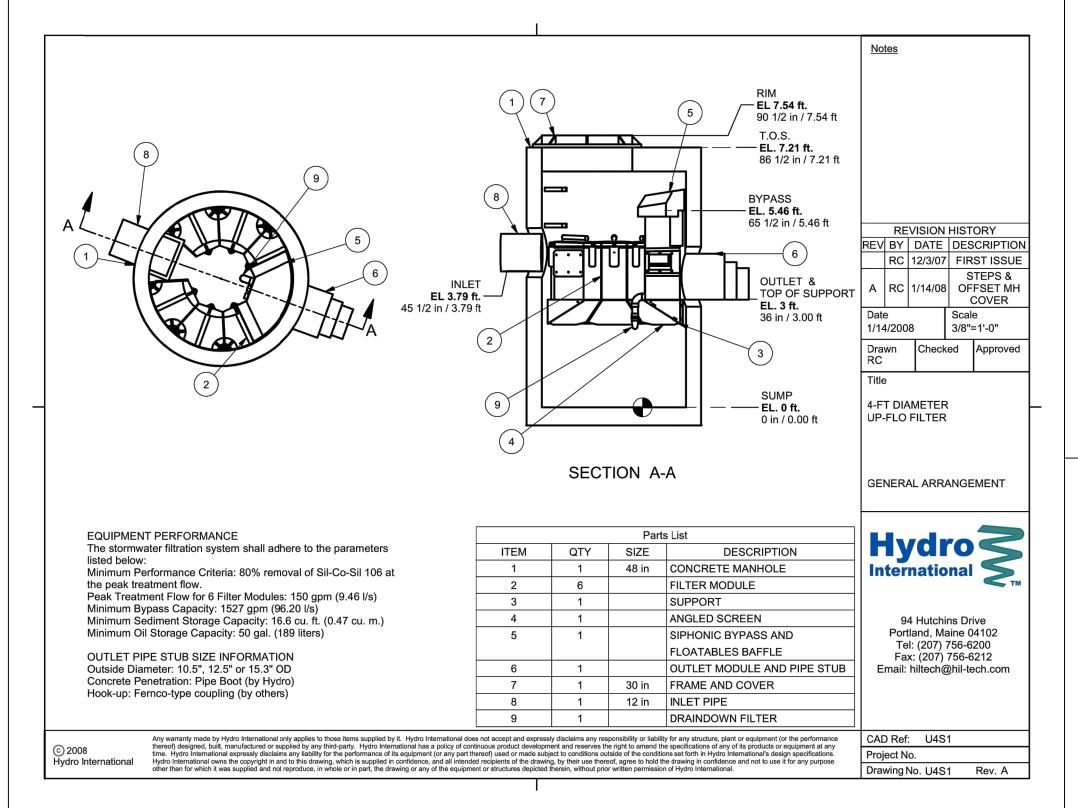
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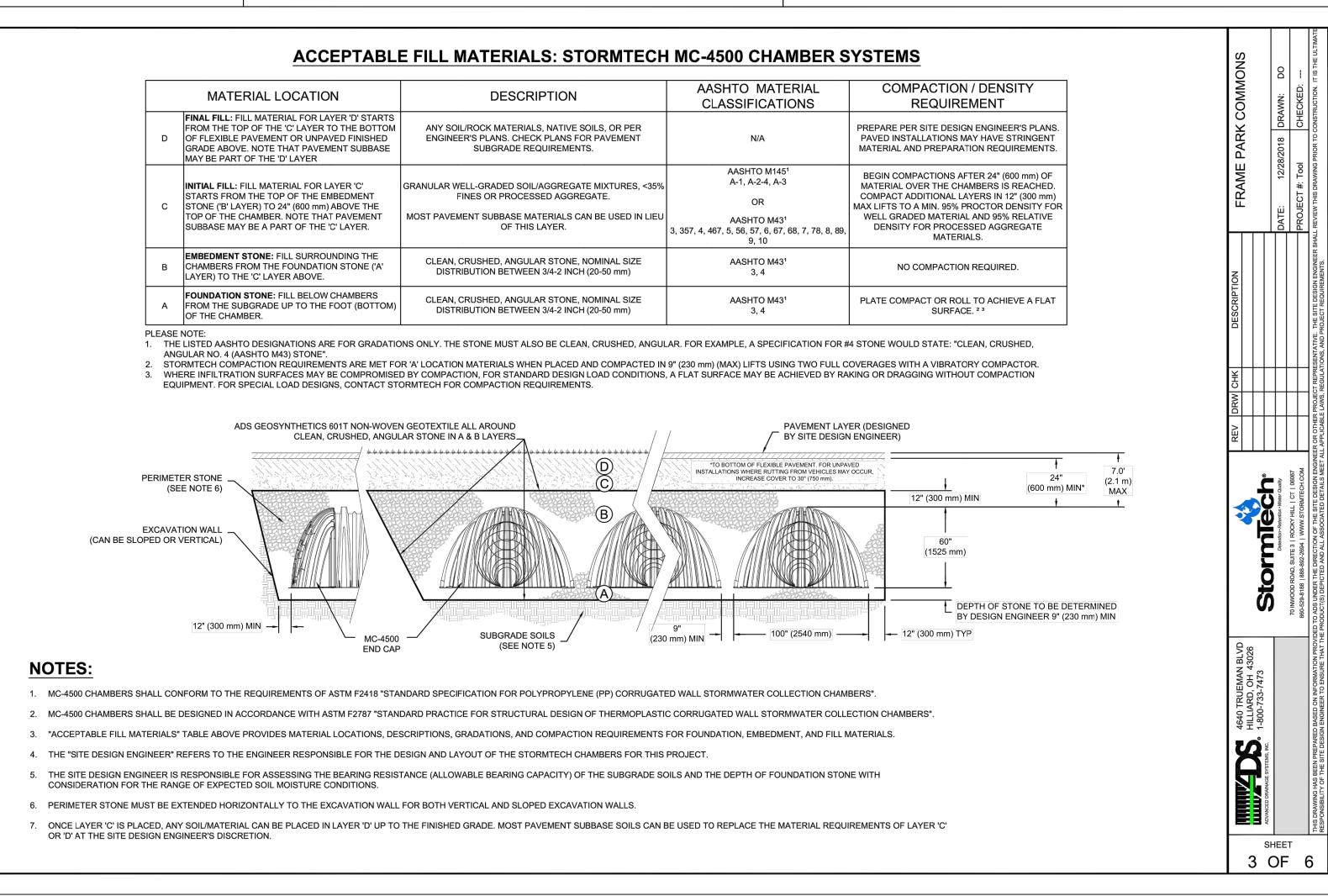


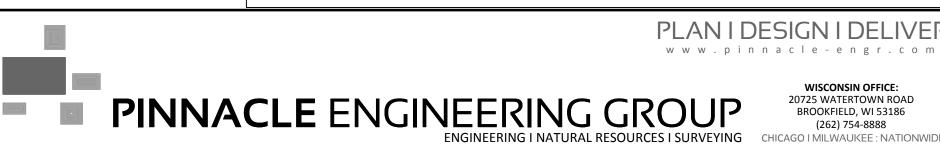




## WEST BUILDING ADS CHAMBERS- NTS







FRAME PARK COMMONS

WAUKESHA, WI

CONSTRUCTION DETAILS

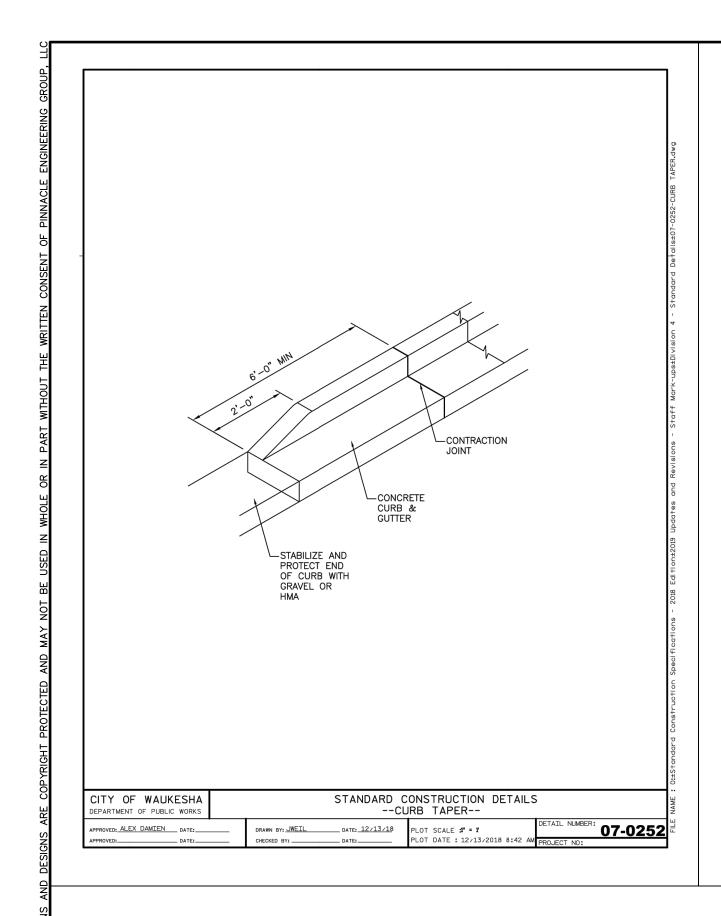
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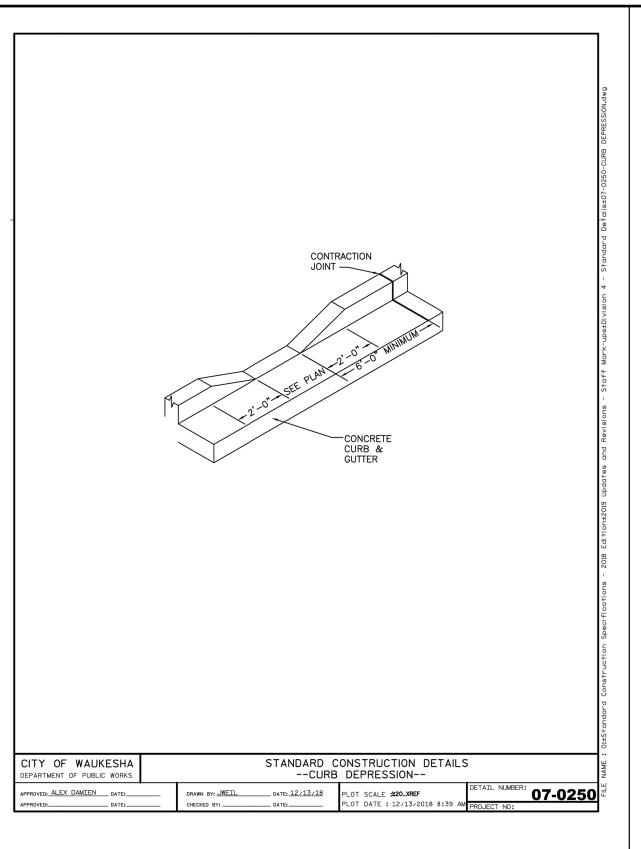
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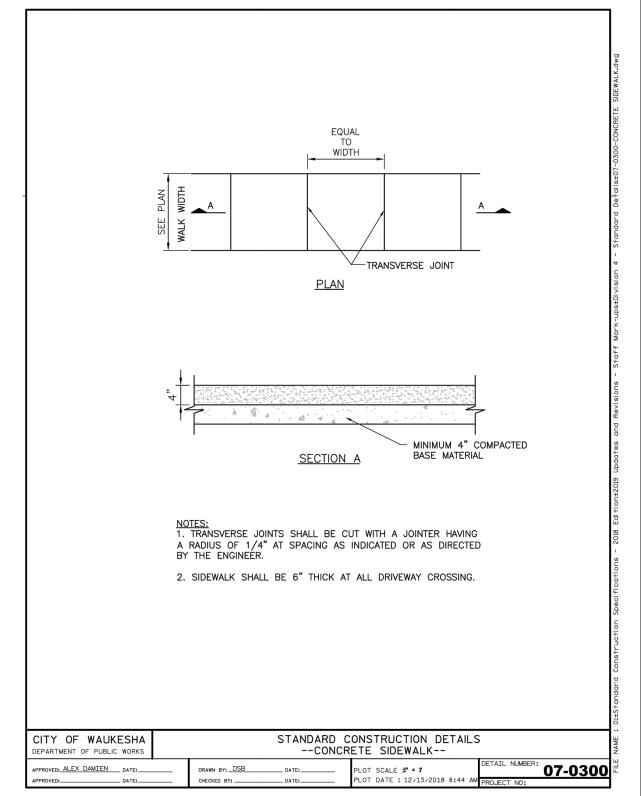
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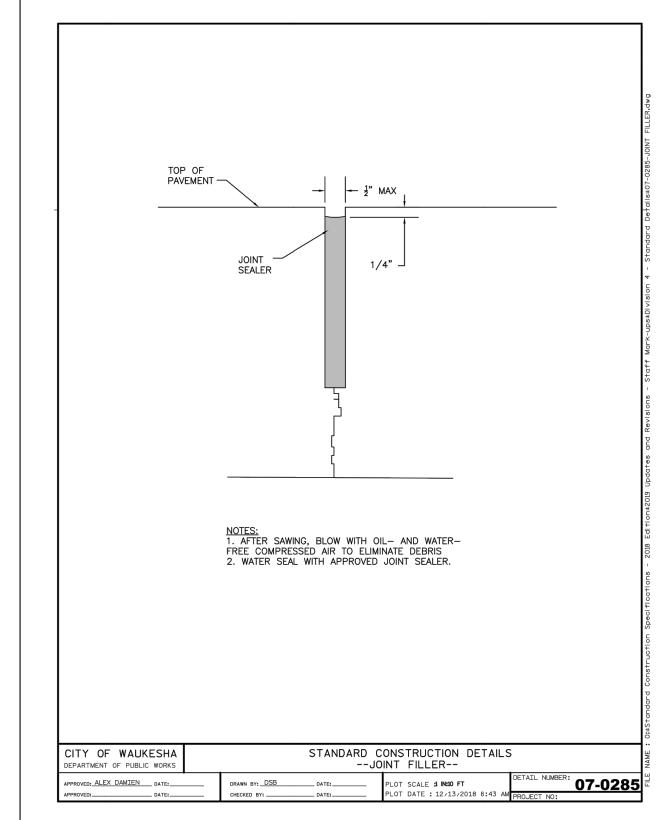
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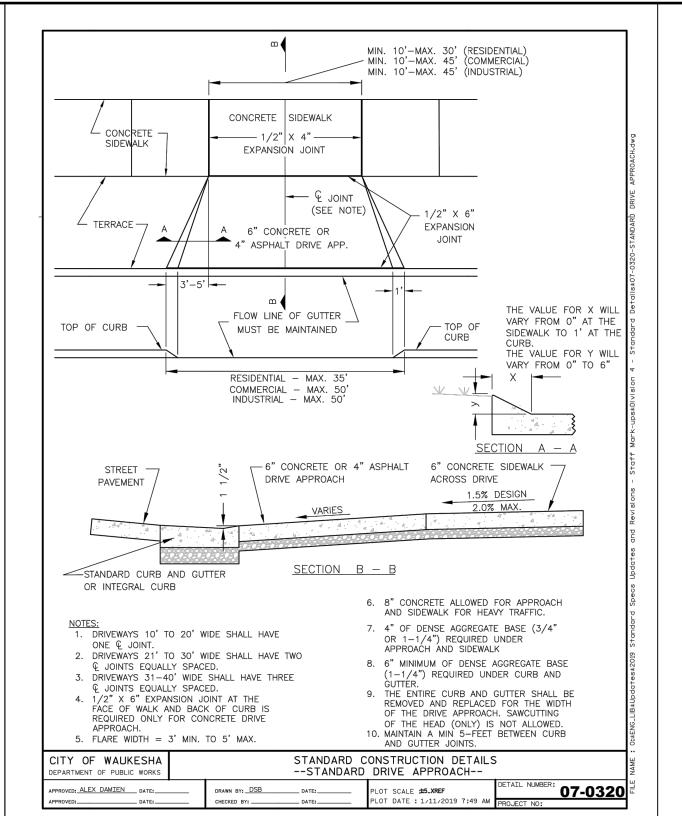
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PLANI DESIGN I DELIVER WISCONSIN OFFICE: 20725 WATERTOWN ROAD BROOKFIELD, WI 53186 (262) 754-8888 **PINNACLE** ENGINEERING GROUP

FRAME PARK COMMONS **WAUKESHA, WI** 

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**REVISIONS** 

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