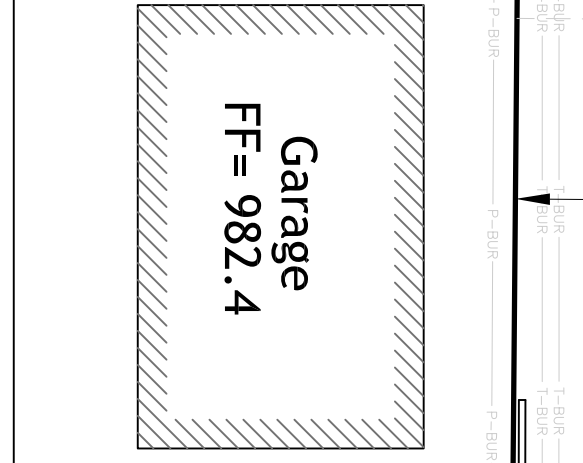


FIELD VERIFY EXISTENCE OF EX. WATER & SANITARY SERVICES & ABANDON PER CITY STANDARDS.



REMOVE EX. LANDSCAPE WALL (52LF)

Edge of Retaining Wall

Edge of Retaining Wall

Edge of Retaining Wall

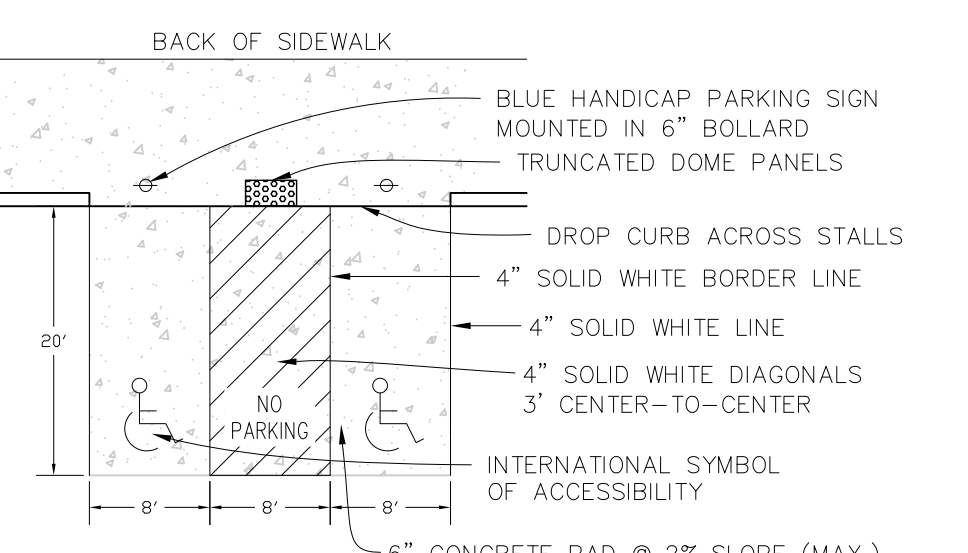
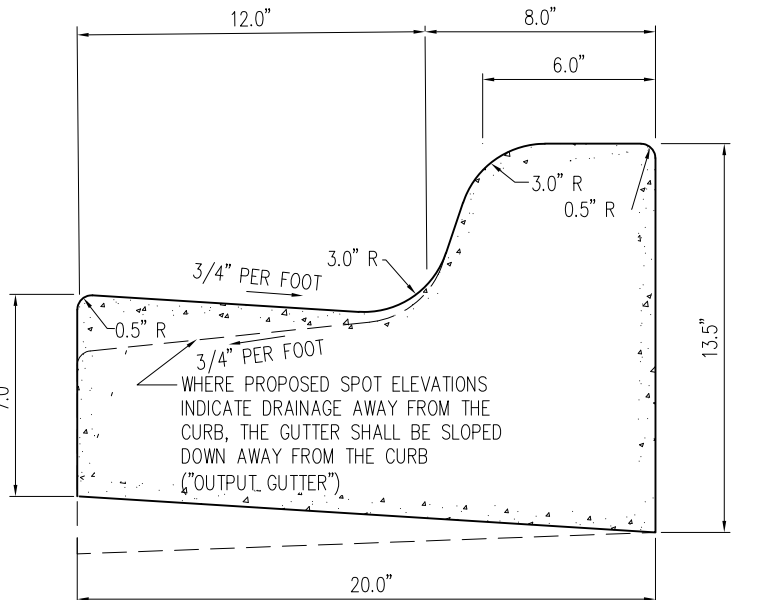
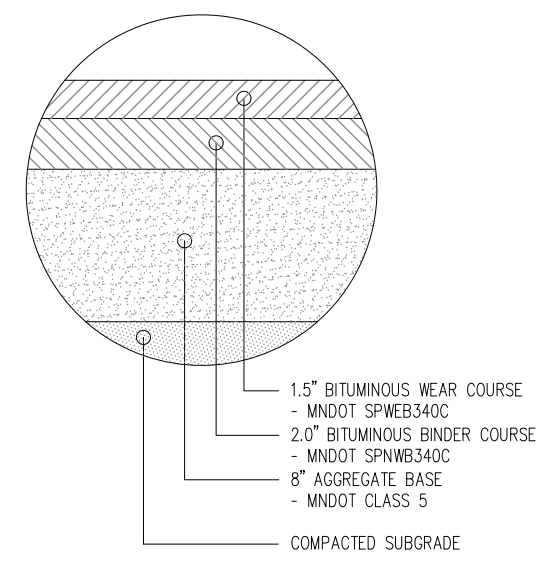
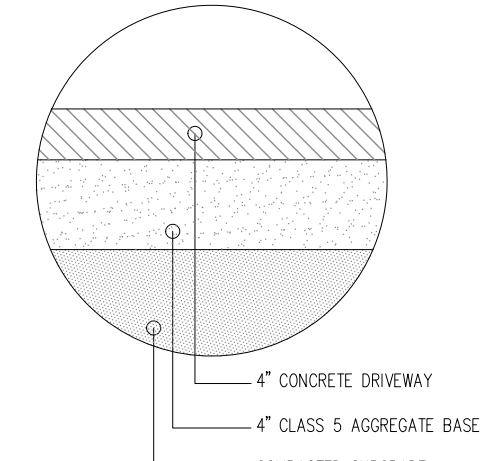
Edge of Retaining Wall

Edge of Retaining Wall

Edge of Retaining Wall

Edge of Retaining Wall

Edge of Retaining Wall



NOTES:

1. BASE PLAN USED IS A SURVEY PREPARED BY KRAMER LEAS DELEO, P.A.
2. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL CONFIRM ALL LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT UTILITY COMPANIES VIA GOPHER STATE ONE-CALL ONLINE OR BY CALLING 811 OR 1-800-252-1166.
3. ALL CONSTRUCTION SHALL CONFORM TO THE MOST RESTRICTIVE OF THE PROJECT SPECIFICATIONS, THE STANDARD SPECIFICATIONS OF THE CITY OF PRINCETON AND THE LATEST EDITION OF MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
4. TOTAL LOT AREA = 70,072 SF (1.61 ACRES)
 PROPOSED IMPERVIOUS SURFACE AREA = 34,846 SF (49.7%)
5. WATERMAIN SHALL HAVE A MINIMUM COVER DEPTH OF 8' AND WHERE IT CROSSES THE SANITARY SEWER; A SLEEVE OVER THE WATERMAIN, 10' ON EACH SIDE.

I hereby certify that this plan, specification, or report was prepared by me and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 W. Stark, P.E.
 License No. 06719
 Registration No. 26695

REVISIONS	DATE	DESCRIPTION
10/4/18	SITE PLAN	
12/19/18	FOR REVIEW	
2/5/19	CITY REVIEW	
2/21/19	ADDEND. #2	
6/7/19	CONST. DOC.	

PROJECT INFORMATION:

- PROJECT NAME: WEST BIRCH APARTMENTS
PROJECT LOCATION: 1103 WEST BRANCH STREET, PRINCETON, MINNESOTA
SW 1/4 OF SW 1/4 OF SEC. 28, TOWNSHIP 35, RANGE 28
N=45.575420', E=-93.590433'
PROJECT SIZE: 1.81 ACRES DISTURBED.
IMPERVIOUS SURFACE AREA: EXISTING=0.00 ACRES, PROPOSED=0.73 ACRES.
- PERMANENT STORMWATER MANAGEMENT:
ONE (1) INFILTRATION BASIN. THIS SYSTEM WAS DESIGNED TO MEET THE CITY OF PRINCETON STORMWATER REQUIREMENTS AND IS DETAILED IN THE PROJECT'S STORMWATER ANALYSIS, DESIGN AND REPORT. COPIES ARE AVAILABLE FROM THE ENGINEER UPON REQUEST.
- RECEIVING WATERS:
CITY STORM SEWER SYSTEM: SPECIAL WATER-NO, IMPAIRED WATER-NO
MNDOT DITCH (HWY 95): SPECIAL WATER-NO, IMPAIRED WATER-NO
WEST BRANCH RUM RIVER: SPECIAL WATER-NO, IMPAIRED WATER-YES (AQL & AQR)
- STORMWATER MANAGEMENT DESCRIPTION:
ONSITE INFILTRATION BASIN WILL PROVIDE STORMWATER QUALITY (2,875 CF REQUIRED, 17,937 CF PROVIDED), RATE (0 CFS) AND VOLUME CONTROL (0 CF).
- PERMITS FROM DNR, ARMY CORP OR LGU:
IT APPEARS THAT NO OTHER PERMITS ARE REQUIRED SINCE NO WETLANDS ARE IDENTIFIED ON THE PROJECT SITE.
EAW, ENDANGERED OR THREATENED SPECIES OR ARCHEOLOGICAL REVIEW - NONE.
IS THIS SITE LOCATED IN KARST OR DRINKING WATER SUPPLY MANAGEMENT AREA - NO.

KNOWLEDGEABLE PERSON/CHAIN OF RESPONSIBILITY DESCRIPTION:

OWNER:
DEANNA HEMMESCH, CENTRAL MN HOUSING PARTNERSHIP

SWPPP DESIGNER:
WAYNE C.B. STARK, P.E., STARK ENGINEERING, LLC.
UM DESIGN OF CONSTRUCTION SWPPP
(JOHN CHAPMAN), MAY 4&5, 2016, 12 HOURS

SWPPP COORDINATOR: TBD (ADD NAME, COMPANY & CERTIFICATION INFORMATION BELOW)

CONSTRUCTION NOTES:

- THE OWNER AND CONTRACTOR SHALL COMPLETE AND SUBMIT AN NPDES PERMIT TO THE MN POLLUTION CONTROL AGENCY (MPCA) PRIOR TO CONSTRUCTION AND COMPLY WITH ALL REQUIREMENTS. REFER TO SHEET C-3 FOR LOCATION OF EROSION AND SEDIMENT CONTROL ITEMS.
- THE CONTRACTOR SHALL FOLLOW THIS SEQUENCE FOR THE EROSION AND SEDIMENT CONTROL DURING THE SITE DEVELOPMENT PROCESS:
 - INSTALL SILT FENCE, ROCK LOGS AND ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS BEFORE COMMENCING CONSTRUCTION.
 - PERFORM SITE REMOVALS, STRIP AND STOCKPILE TOPSOIL FOR REAPPLICATION TO DISTURBED AREAS.
 - PERFORM SITE GRADING, EXCAVATION AND EMBANKMENT. MULCH ALL DISTURBED AREAS OUTSIDE OF PROPOSED PAVEMENT AND BUILDING AREAS WITHIN 72 HOURS OF THIS WORK.
 - INSTALL UTILITIES, CONSTRUCT BUILDING, CONCRETE CURB & GUTTER, CONCRETE SIDEWALK AND BITUMINOUS PAVEMENT.
 - BACKFILL BEHIND CURB AND RESTORE GREEN AREAS.
 - INSPECT EROSION AND SEDIMENT CONTROL DEVICES AFTER EVERY 1/4" RAINFALL EVENT. CLEAN AND MAINTAIN THESE DEVICES AS NEEDED.

NARRATIVE:

- STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INCLUDES THE FOLLOWING:
 - DESCRIPTION OF THE EXISTING SITE CONDITIONS INCLUDING EXISTING LAND USE FOR THE SITE, SOIL TYPES FOR THE SITE AND THE LOCATION OF SURFACE WATERS WHICH ARE LOCATED ON OR NEXT TO THE SITE.
 - IDENTIFICATION OF THE BODY OF WATER(S) WHICH WILL RECEIVE RUNOFF FROM THE CONSTRUCTION SITE INCLUDING THE ULTIMATE BODY OF WATER THAT RECEIVES THE STORMWATER.
 - THE FOLLOWING ADDITIONAL PROJECT DOCUMENTATION SHALL BE CONSIDERED PART OF THIS SWPPP, BUT IS NOT BEING DUPLICATED FOR THIS DOCUMENT: CERTIFICATE OF SURVEY/PLAT, BUILDING PLANS AND GEOTECHNICAL REPORT.
 - DESCRIPTION OF STORMWATER MANAGEMENT CONTROLS AND VARIOUS BEST MANAGEMENT PRACTICES (BMPs) NECESSARY TO REDUCE EROSION, SEDIMENT AND POLLUTANTS IN THE STORMWATER DISCHARGE.
 - DESCRIPTION OF SWPPP COORDINATOR DUTIES INCLUDING FACILITY-MONITORING PLAN AND HOW CONTROLS WILL BE COORDINATED WITH CONSTRUCTION ACTIVITIES.
 - DESCRIPTION OF IMPLEMENTATION SCHEDULE AND PROVISIONS FOR AMENDMENT OF THE PLAN.
 - PROVISIONS FOR PERMANENT TURF ESTABLISHMENTS AND WATER QUALITY TREATMENT BMPs FOR IMPERVIOUS SURFACES.
- THE CONSTRUCTION SITE SWPPP COORDINATOR FOR THE FACILITY SHALL BE DEFINED BY THE OWNER AND CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. DUTIES OF THE SWPPP COORDINATOR SHALL INCLUDE THE FOLLOWING:
 - IMPLEMENTATION OF THE SWPPP.
 - OVERSEE MAINTENANCE PRACTICES IDENTIFIED AS BMPs IN THE SWPPP.
 - CONDUCT OR PROVIDE FOR INSPECTION AND MONITORING ACTIVITIES.
 - IDENTIFY POTENTIAL POLLUTANT SOURCES AND MAKE SURE THEY ARE ADDED TO THE PLAN.
 - IDENTIFY ANY DEFICIENCIES OF THE SWPPP AND MAKE SURE THAT THEY ARE CORRECTED.
 - ENSURE THAT ANY CHANGES IN CONSTRUCTION PLANS ARE ADDRESSED IN THE SWPPP.
 - EDUCATE AND/OR INSURE THAT CONTRACTORS AND SUB-CONTRACTORS ARE AWARE OF THE SWPPP AND PRACTICE EROSION/SEDIMENT CONTROLS, SPILL PREVENTION AND RESPONSE, GOOD HOUSEKEEPING, PROPER MATERIAL HANDLING, DISPOSAL AND CONTROL OF WASTE, EQUIPMENT FUELING, AND PROPER STORAGE, WASHING AND INSPECTION PROCEDURES.
- FACILITY DESCRIPTION:
 - THE CONSTRUCTION SITE IS LOCATED IN THE CITY OF PRINCETON, MILLE LACS COUNTY, MN. SEE PROJECT INFORMATION SECTION FOR MORE DETAILED LOCATION INFORMATION. IT IS BOUNDED BY A PUBLIC STREET ON THE NORTH, AN APARTMENT COMPLEX ON THE WEST, SINGLE FAMILY HOMES ON THE SOUTH SIDE AND OPEN SPACE ON THE EAST.
 - THE CONSTRUCTION WILL CONSIST OF SITE GRADING, CITY UTILITIES, STORM SEWER, INFILTRATION BASIN EXCAVATION, BUILDING CONSTRUCTION, CURB AND GUTTER, SIDEWALK AND BITUMINOUS PAVEMENT.
 - THE EXISTING CONDITIONS OF THIS SITE ARE A VACANT LOT WITH NO BUILDINGS. ACCORDING TO THE WEB SOIL SURVEY, THE MAJORITY OF THE EXISTING SOILS WITH THE PROJECT SITE ARE ZIMMERMAN FINE SAND (D60B).
 - REFER TO THE PLANS FOR THE SITE IMPROVEMENTS AND CONTOURS. DISTURBANCE OF THE SITE WILL OCCUR DUE TO SITE GRADING, UTILITY INSTALLATION, BUILDING CONSTRUCTION, PARKING LOT CONSTRUCTION AND LANDSCAPING.
- IDENTIFICATION OF POTENTIAL STORMWATER CONTAMINANTS:
 - SIGNIFICANT MATERIAL INVENTORY (SEE TABLE 1) - POLLUTANTS THAT RESULT FROM CLEARING, GRADING, EXCAVATION AND BUILDING MATERIALS THAT HAVE THE POTENTIAL TO BE PRESENT IN STORMWATER RUNOFF.
 - THE FOLLOWING POTENTIAL SOURCE AREAS OF STORMWATER CONTAMINATION WERE IDENTIFIED AND EVALUATED: CLEARED AND GRADED AREAS, SITE CONSTRUCTION INCLUDING CONCRETE WALKS AND BITUMINOUS PAVEMENTS, UTILITY INSTALLATION AND BUILDING CONSTRUCTION.
- TEMPORARY AND PERMANENT EROSION CONTROL PRACTICES:
 - SILT FENCE BARRIERS WILL BE PLACED ACCORDING TO THE PLANS AND PRIOR TO CONSTRUCTION. THESE TEMPORARY PERIMETER CONTROLS SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED ON THIS SITE AND SOILS HAVE BEEN STABILIZED.
 - TOPSOIL WILL BE STRIPPED AND STOCKPILED. STOCKPILES WILL BE STABILIZED WITH MULCH.
 - A ROCK CONSTRUCTION ENTRANCE WILL BE MAINTAINED THROUGHOUT THE PROJECT. THIS ENTRANCE WILL BE REQUIRED TO REDUCE VEHICLE TRACKING FROM THE SITE. REGULAR MAINTENANCE MAY NEED TO BE PERFORMED TO INSURE SEDIMENT IS NOT TRACKED ONTO LOCAL ROADWAYS. SWEEPING WILL BE USED TO CLEAN UP TRACKED SEDIMENT.
 - INLET PROTECTION WILL BE USED AT DRAINAGE INLETS.
 - EROSION CONTROL BLANKET AND SEDIMENT LOGS WILL ALSO BE IMPLEMENTED IN CRITICAL AREAS ALONG WITH SEED AND MULCH OR SOD DURING KEY PERIODS OF TURF ESTABLISHMENT.
 - UPON COMPLETION OF EXTERIOR WORK, TOPSOIL WILL BE RESTORED AND THE SITE WILL BE LANDSCAPED AND SEEDED/SODDED ACCORDINGLY.
 - ONCE UP SLOPE AREAS ARE PERMANENTLY STABILIZED, ACCUMULATED SEDIMENT WILL BE REMOVED FROM ANY POND AREAS AND THEY WILL BE SEEDED AND MULCHED.
 - AFTER THE ENTIRE SITE IS STABILIZED, THE TEMPORARY BMPs WILL BE REMOVED FROM THE SITE.

- CONSTRUCTION PRACTICES TO MINIMIZE STORMWATER CONTAMINATION:
 - ALL CONSTRUCTION WASTE MATERIALS WILL BE COLLECTED AND DISPOSED OF PROPERLY ACCORDING TO ALL LOCAL AND REGULATORY REQUIREMENTS. GOOD HOUSEKEEPING, MONITORING AND SPILL CONTROL PRACTICES WILL BE FOLLOWING DURING CONSTRUCTION TO MINIMIZE STORMWATER CONTAMINATION FROM PETROLEUM PRODUCTS, FERTILIZERS, PAINTS AND CONCRETE.
 - ENVIRONMENTALLY FRIENDLY FERTILIZERS WILL ONLY BE APPLIED WITHIN THIS AREA AND WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER.
 - ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE FOR LEAKAGE.
 - ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
 - SANITARY WASTE WILL BE MONITORED AND COLLECTED AT REGULAR INTERVALS FROM PORTABLE UNITS TO AVOID OVERFILLING.
 - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY.
 - CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER WITHIN THE PROJECT SITE.
 - PLASTER AND DRYWALL CLEANUP WATER WILL USE AN APPROVED ONSITE CONTAINMENT FACILITY.

7. MAINTENANCE AND INSPECTION PROCEDURES: :

- AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A 1/4" RAINFALL EVENT OR GREATER, VISUAL INSPECTIONS OF THE ENTIRE CONSTRUCTION SITE WILL BE PERFORMED. THESE INSPECTIONS WILL BE CONDUCTED BY THE SWPPP COORDINATOR OR THEIR DESIGNEE. THE INSPECTION WILL VERIFY THE EROSION AND SEDIMENT BMPs ARE FUNCTIONING PROPERLY. THE FOLLOWING INSPECTION AND MAINTENANCE PRACTICES WILL BE USED TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS.
- SILT FENCES WILL BE INSPECTED FOR DEPTH OF SEDIMENT, FOR TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- BUILT UP SEDIMENT WILL BE REMOVED FROM THE SILT FENCE WHEN IT HAS REACHED 1/3 OF THE HEIGHT OF THE FENCE.
- SEDIMENT BASINS, IF ANY, WILL BE INSPECTED FOR DEPTH OF SEDIMENT. SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES A DEPTH OF 1'.
- TEMPORARY AND PERMANENT SEEDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS AND HEALTHY GROWTH.
- THE ROCK CONSTRUCTION ENTRANCE WILL BE INSPECTED FOR SEDIMENT TRACKED ONTO ROADWAY, FOR CLEAN GRAVEL AND TO MAKE SURE THAT ALL TRAFFIC USE IT WHEN LEAVING THE SITE.
- A MAINTENANCE INSPECTION REPORT WILL BE COMPLETED DURING EACH INSPECTION BY THE SWPPP COORDINATOR. A BLANK REPORT FORM IS AVAILABLE UPON REQUEST. COMPLETED FORMS WILL BE STORED ONSITE DURING THE ENTIRE CONSTRUCTION PROJECT. FOLLOWING CONSTRUCTION, THE COMPLETED FORMS WILL BE RETAINED BY THE OWNER OR THEIR DESIGNEE FOR A MINIMUM OF 3 YEARS.
- TERMINATION OF COVERAGE: THE SWPPP COORDINATOR AND THE OWNER WILL TERMINATE THE PERMIT BY SUBMITTING THE NOTICE OF TERMINATION AS DIRECTED IN PART 11C OF THE NPDES PERMIT. THE NOTICE SHALL BE SUBMITTED WHEN CONSTRUCTION IS COMPLETE AND PERMANENT COVER IS ESTABLISHED.
- MAINTENANCE PLAN: MAINTENANCE INSPECTIONS WILL BE COMPLETED BY THE OWNER BIANNUALLY AND WILL INCLUDE INSPECTION OF THE DRAINAGE BASINS, RECORD THE FINDINGS AND NOTE ANY CORRECTIVE ACTIONS TAKEN.

Table 1: Potential Construction Site Stormwater Pollutants			
Material/Chemical	Physical Description	Stormwater Pollutants	Location
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
Plaster	White granules or powder	Calcium sulphate, calcium carbonate, sulfuric acid	Building construction
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits
Asphalt	Black solid	Oil, petroleum distillates	Streets and roofing
Concrete	White solid/grey liquid	Limestone, sand, pH, chromium	Curbs and gutter, building construction
Glue, adhesives	White or yellow liquid	Polymers, epoxies	Building construction
Paints	Various colored liquid	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	Building construction
Curing compounds	Creamy white liquid	Naphtha	Curbs and gutter
Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	Timber pads and building construction
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/ staging area
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes	Secondary containment/ staging area
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates	Secondary containment/ staging area
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment
Sanitary toilets	Various colored liquid	Bacteria, parasites, and viruses	Staging area
Sediment	Solid particles	Soil	Erosion from cleared and graded areas

I hereby certify that this plan, specification, or report was prepared by me and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Wayne C.B. Stark, P.E.
Registration No. 26093
Date: 6/7/19

REVISIONS	2/21/19	ADDEND. #2	6/7/19	CONST. DOC.

WEST BIRCH APARTMENTS
PRINCETON, MINNESOTA
for:
CENTRAL MN HOUSING PARTNERSHIP

SWPPP NOTES AND
NARRATIVE

