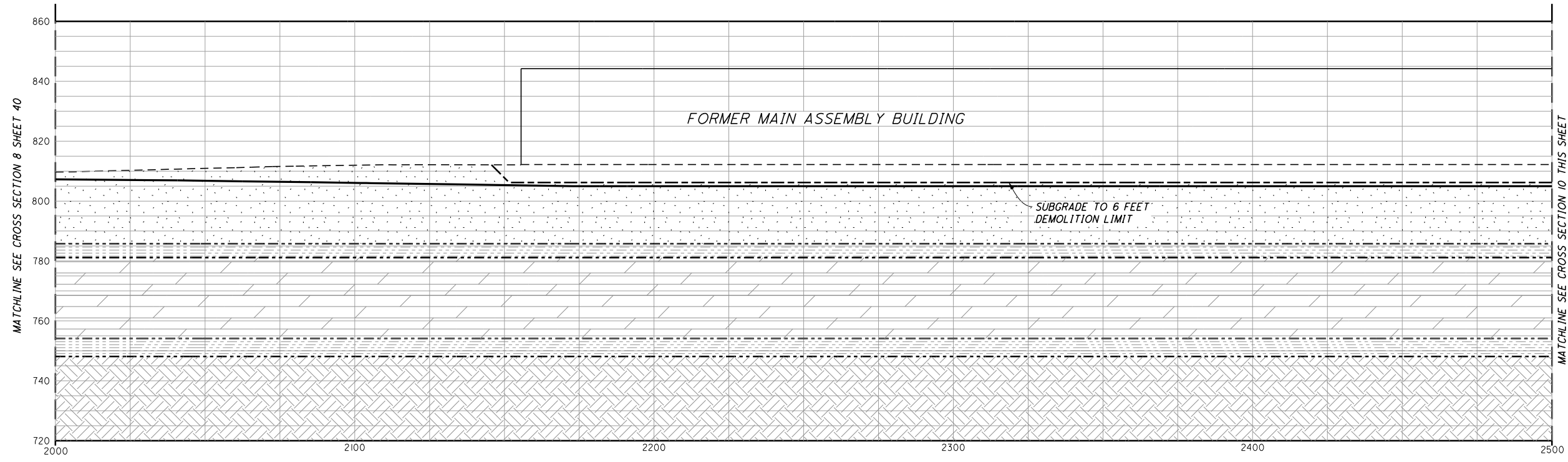
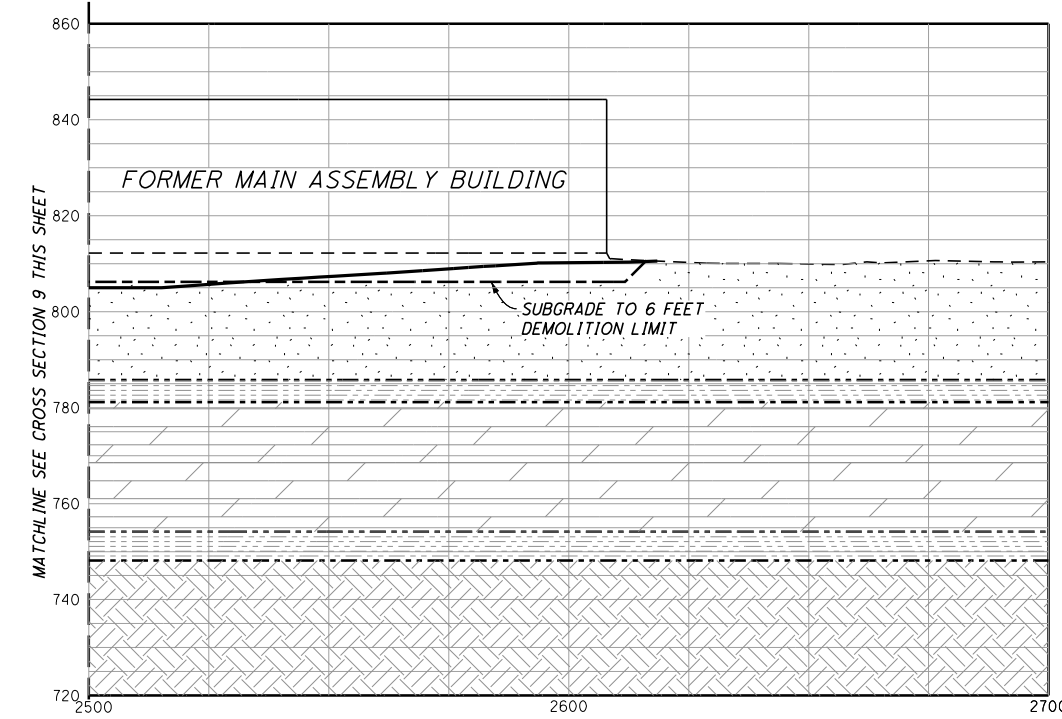


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9 SITE CROSS SECTION B-B' STA 2000 TO STA 2500

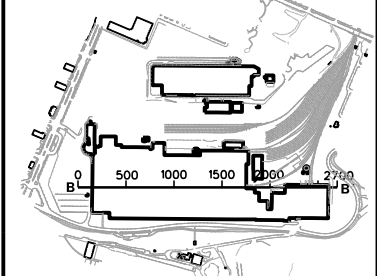


10 SITE CROSS SECTION B-B' STA 2500 TO STA 2700



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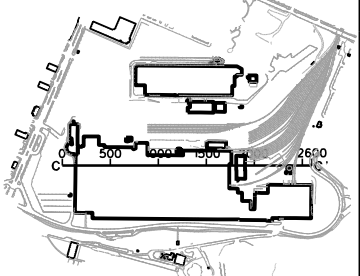
PRINT NAME: Jeffrey Lynn Snyder  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_ LICENSE # 50097

- LEGEND**
- SOIL OVERBURDEN / GRANULAR COHESIVE FILL
  - SANDSTONE
  - PREDOMINANTLY SHALE
  - PREDOMINANTLY LIMESTONE
  - EXISTING GRADE
  - PROPOSED GRADE



PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

SITE CROSS SECTIONS



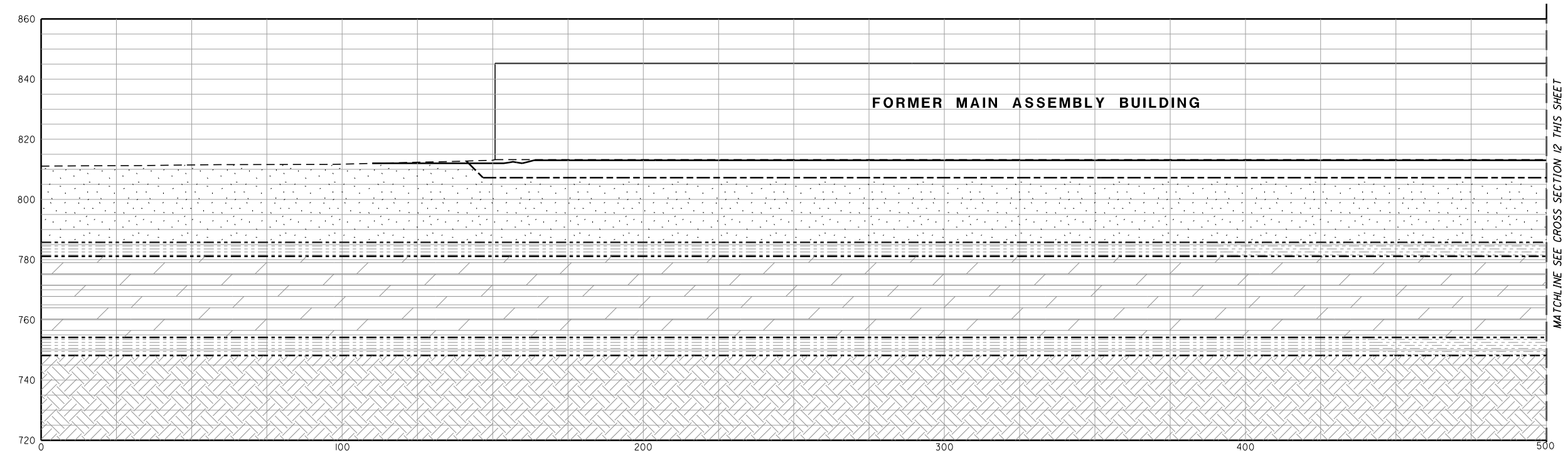
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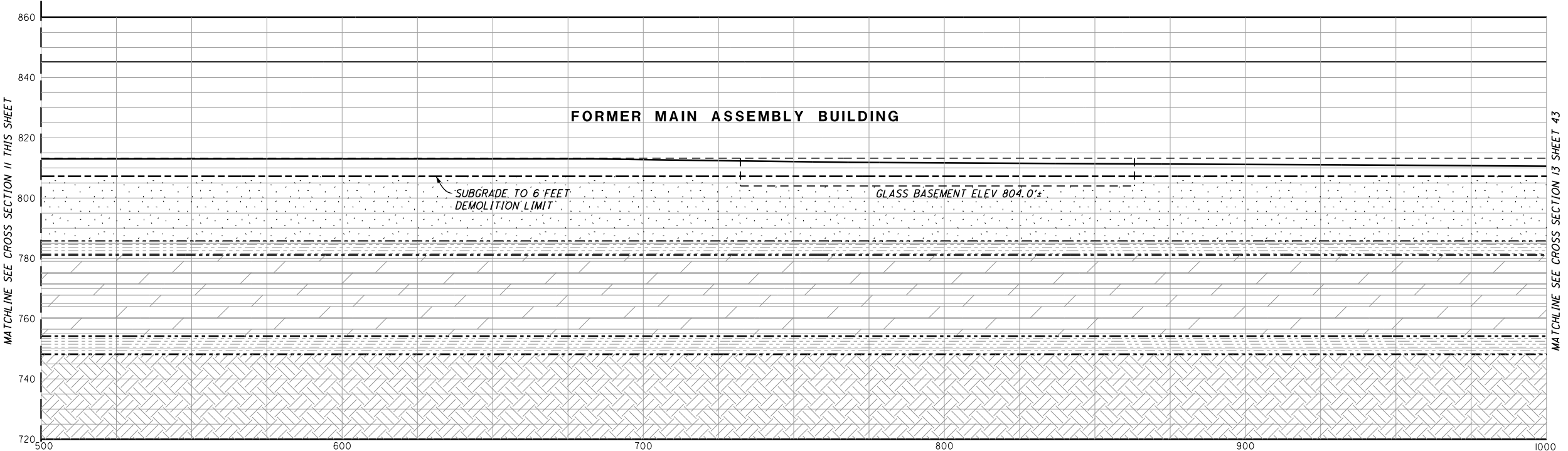
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




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**11 SITE CROSS SECTION C-C' STA 0 TO STA 500**



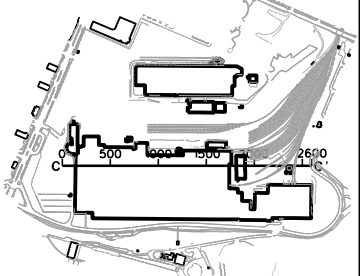
**12 SITE CROSS SECTION C-C' STA 500 TO STA 1000**

- LEGEND**
-  SOIL OVERBURDEN / GRANULAR COHESIVE FILL
  -  SANDSTONE
  -  PREDOMINANTLY SHALE
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  -  PROPOSED GRADE



PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

SITE CROSS SECTIONS







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

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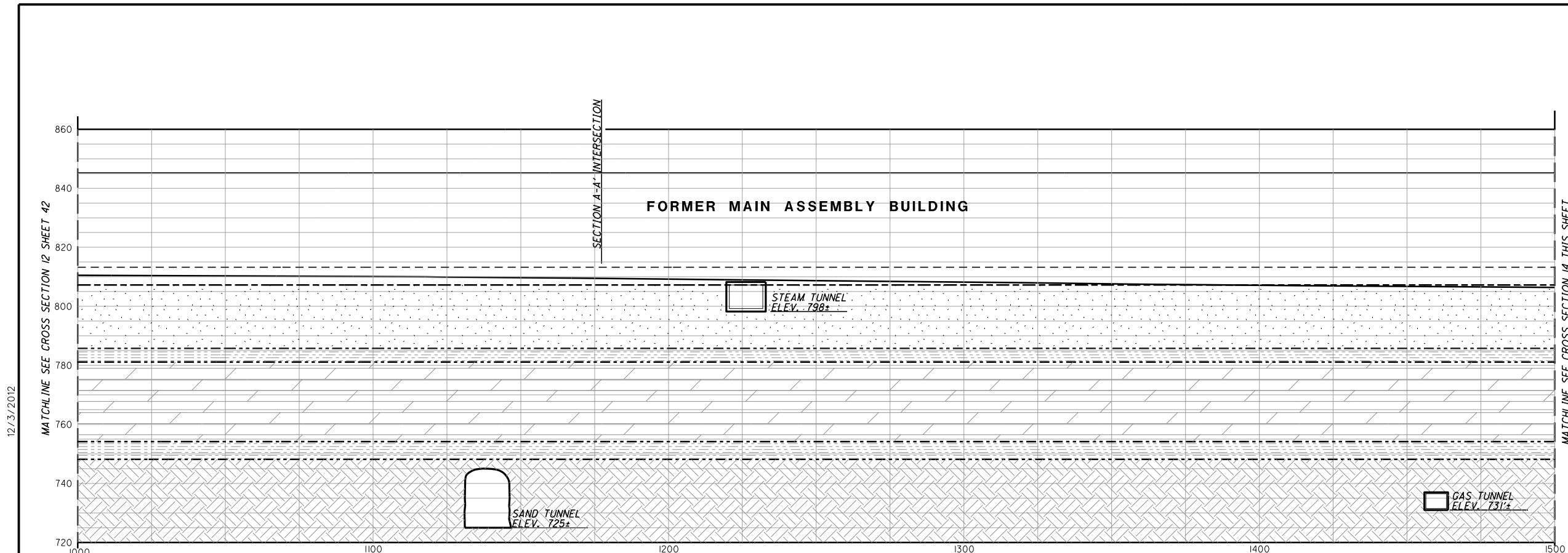
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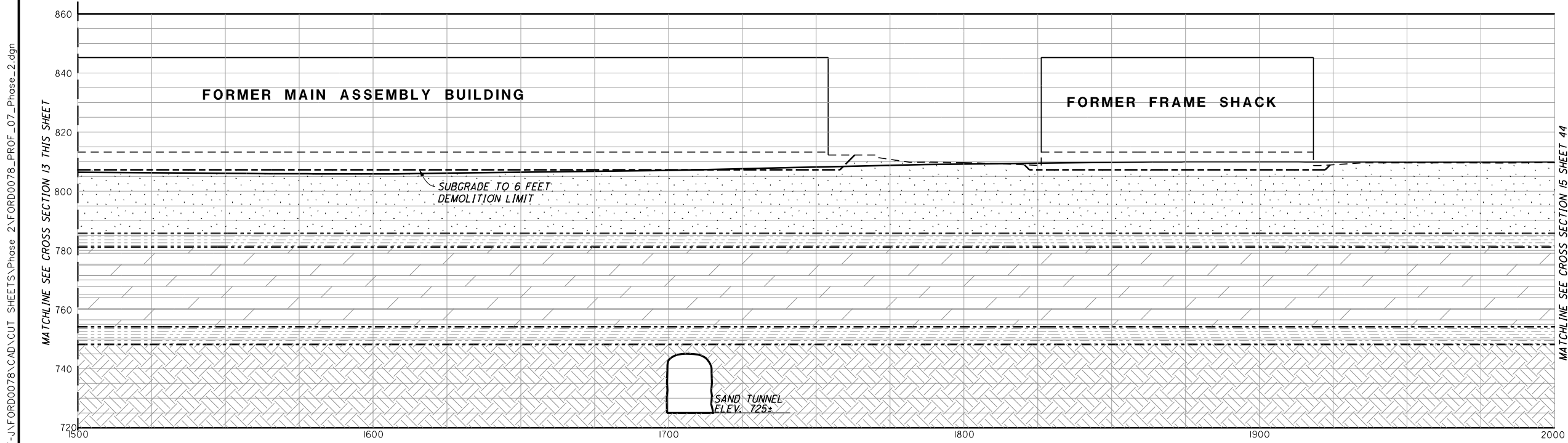
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-  SOIL OVERBURDEN / GRANULAR COHESIVE FILL
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-  PREDOMINANTLY LIMESTONE

-  EXISTING GRADE
-  PROPOSED GRADE



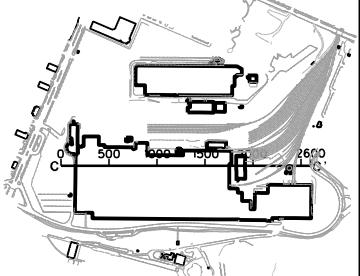
**13 SITE CROSS SECTION C-C' STA 1000 TO STA 1500**



**14 SITE CROSS SECTION C-C' STA 1500 TO STA 2000**

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PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

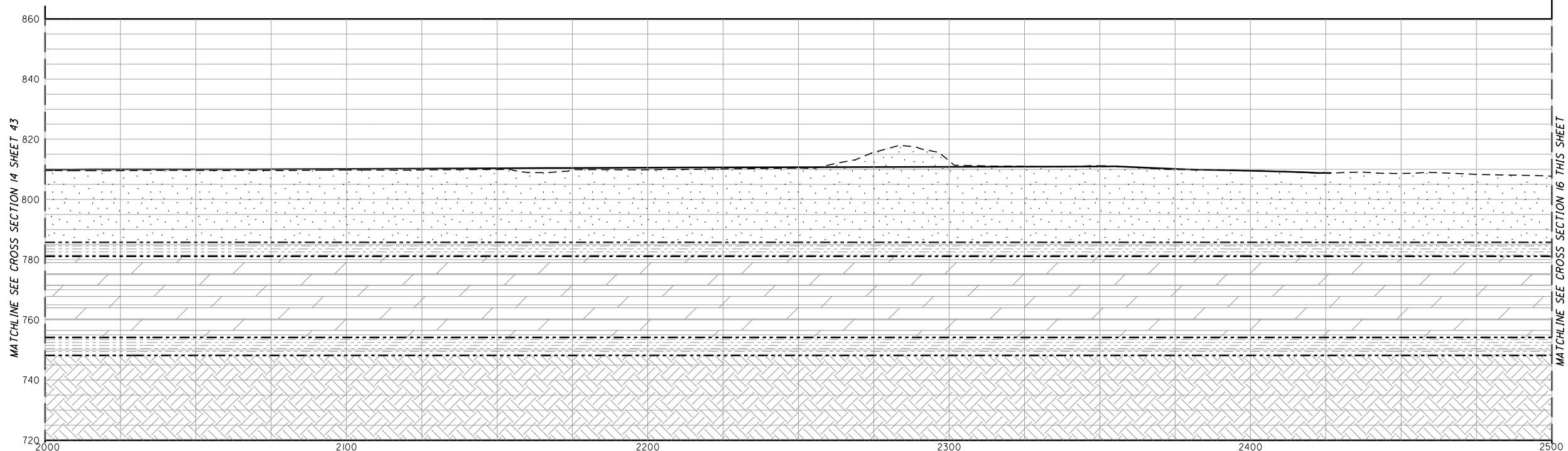


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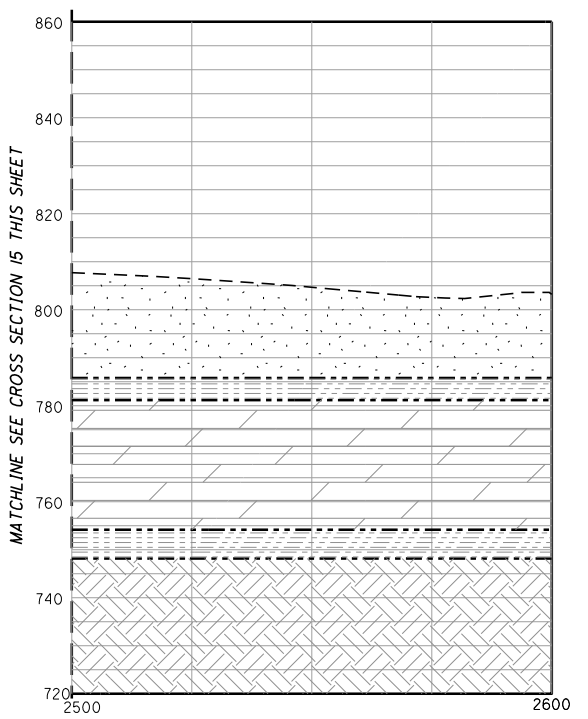
NO.	DATE	BY	DESCRIPTION
▲	11/9/2012	HMW	SITE PLAN SUBMITTAL
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
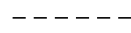

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**15 SITE CROSS SECTION C-C' STA 2000 TO STA 2500**



**16 SITE CROSS SECTION C-C' STA 2500 TO STA 2600**

- LEGEND**
-  SOIL OVERBURDEN / GRANULAR COHESIVE FILL
  -  SANDSTONE
  -  PREDOMINANTLY SHALE
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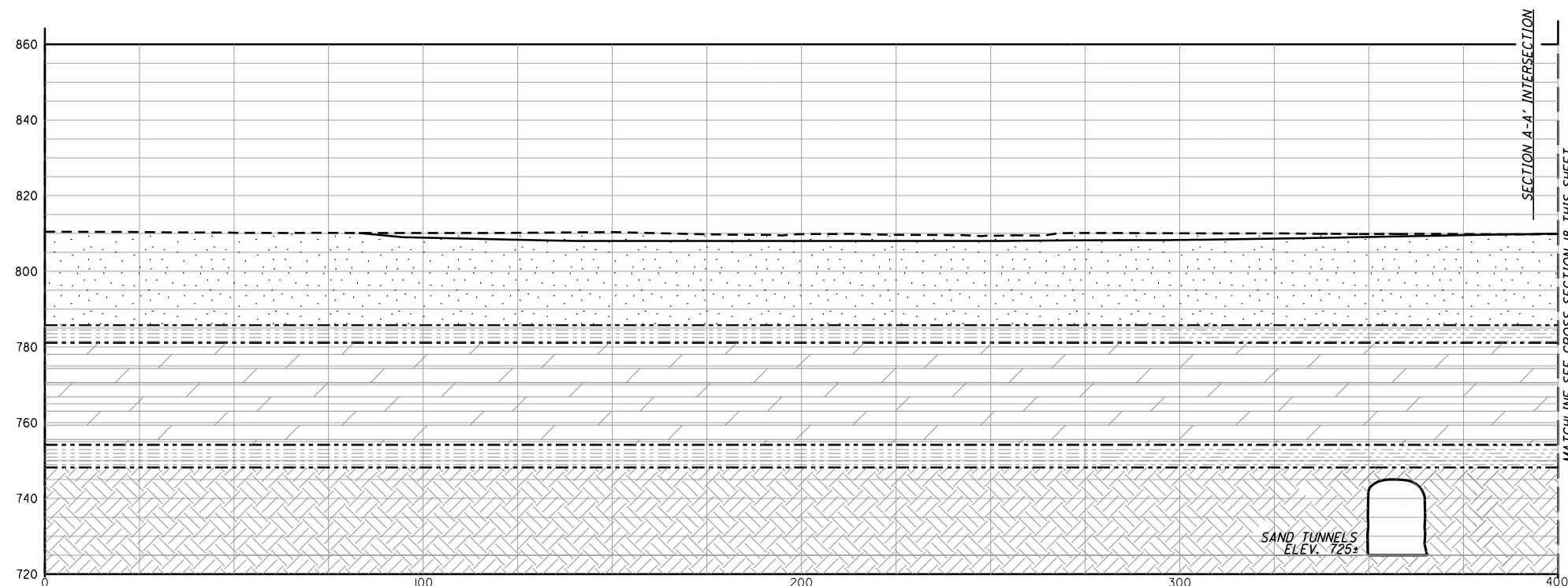
PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

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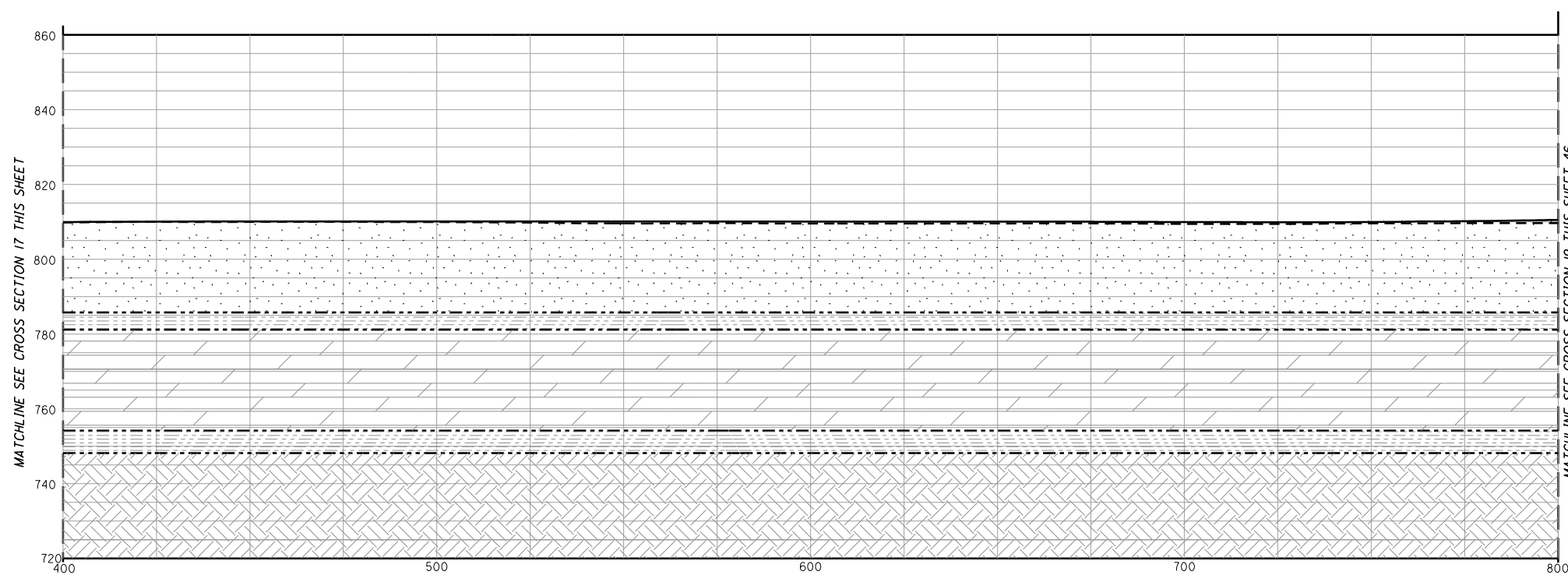
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17 SITE CROSS SECTION D-D' STA 0 TO STA 400

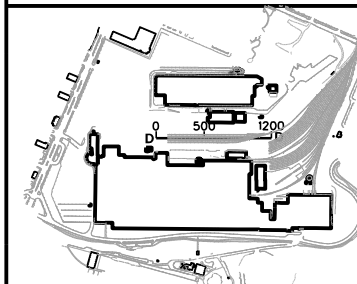


18 SITE CROSS SECTION D-D' STA 400 TO STA 800



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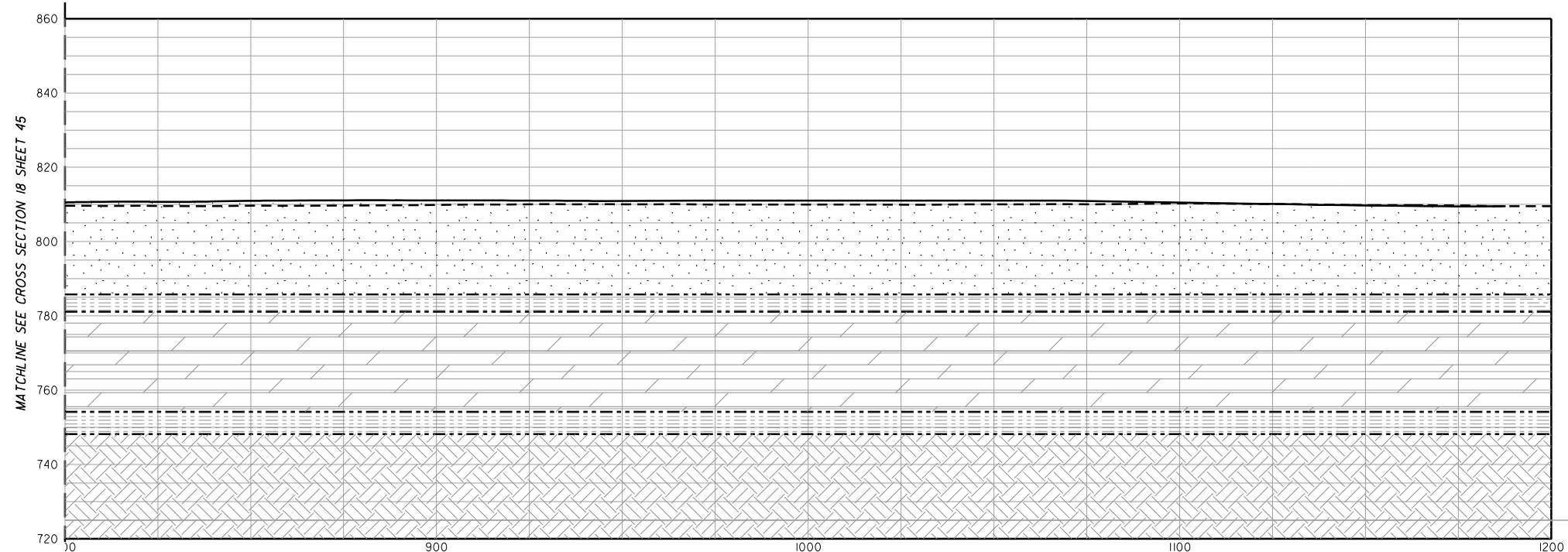


PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

SITE CROSS  
SECTIONS

12/3/2012

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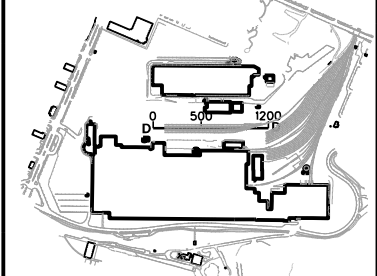


19 SITE CROSS SECTION D-D' STA 800 TO STA 1200



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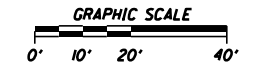
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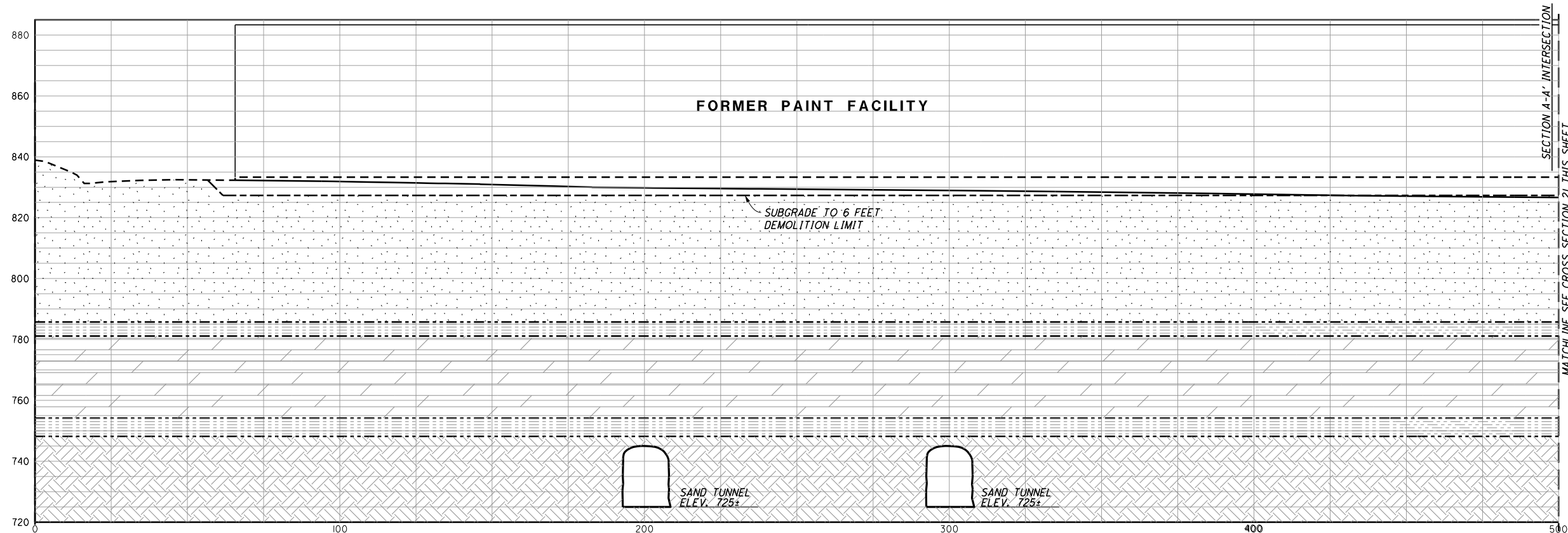


PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

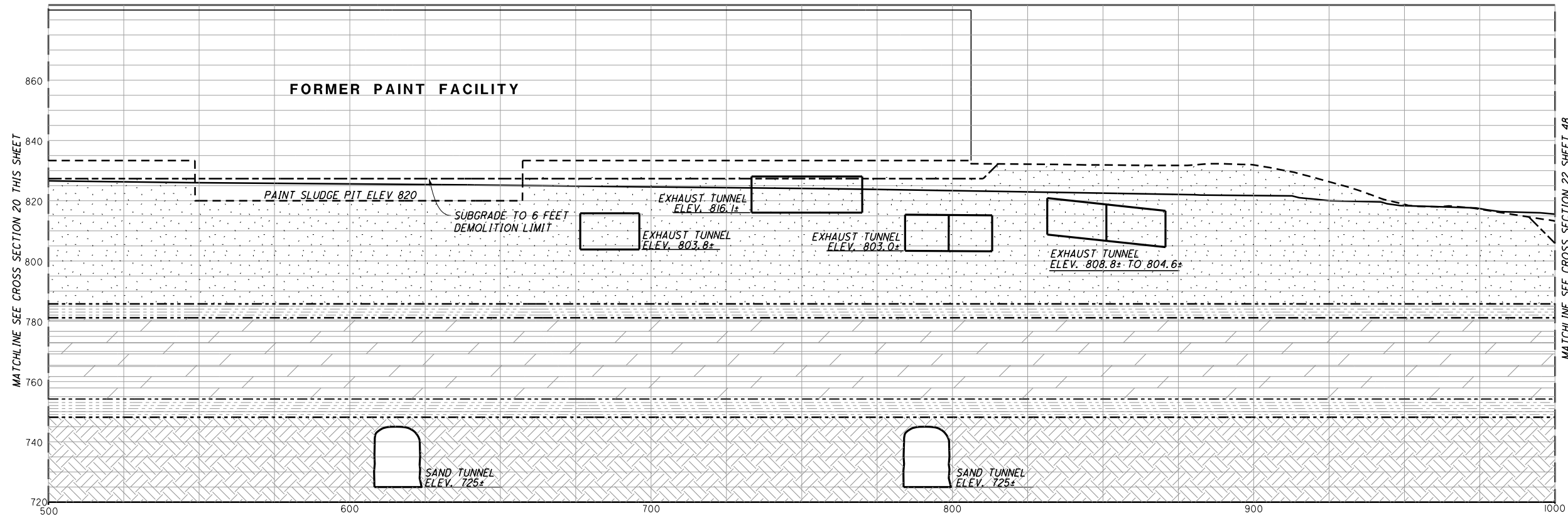
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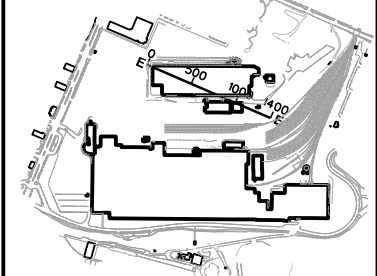


20 SITE CROSS SECTION E-E' STA 0 TO STA 500



21 SITE CROSS SECTION E-E' STA 500 TO STA 1000

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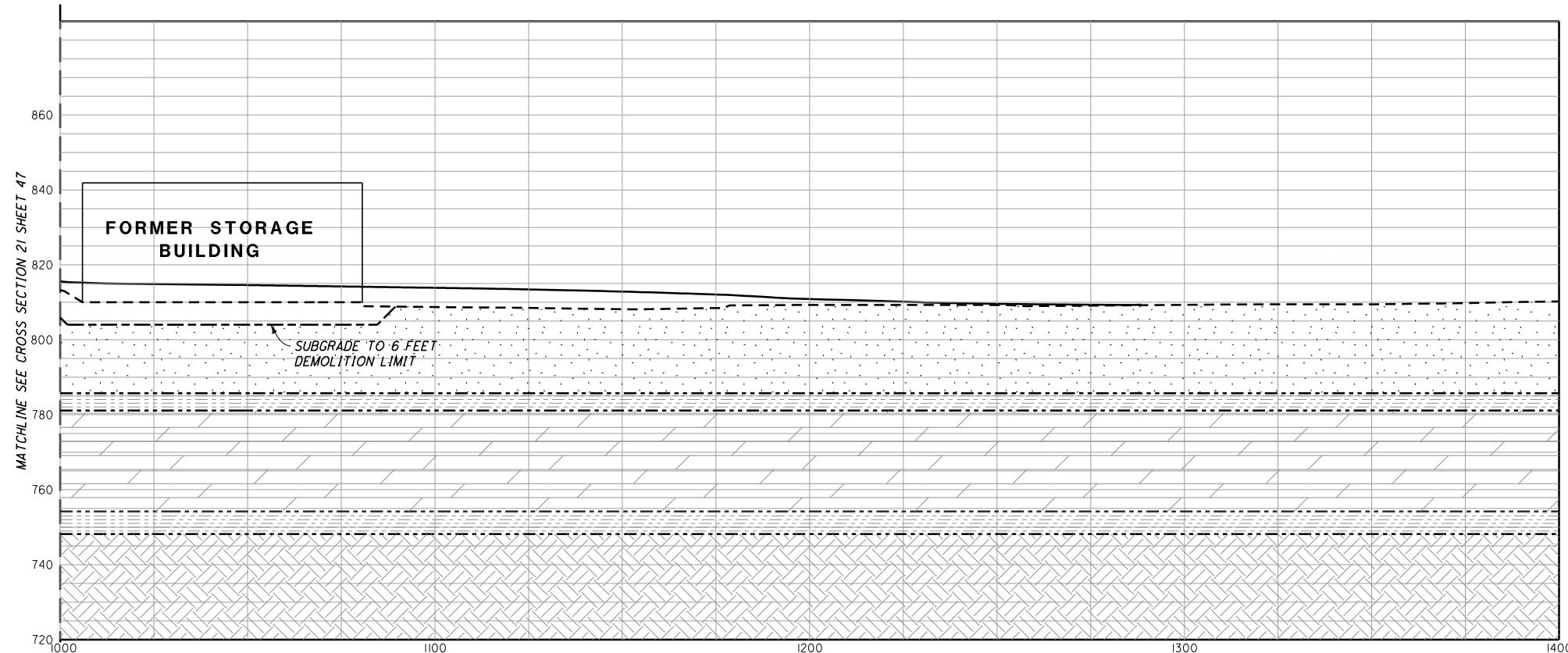


PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

SITE CROSS SECTIONS

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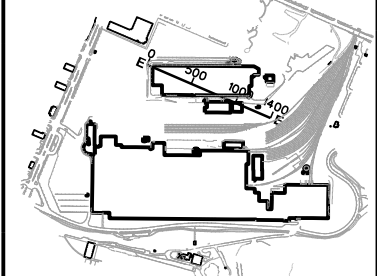


22 SITE CROSS SECTION E-E' STA 1000 TO STA 1400



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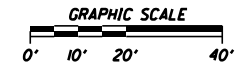
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PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA

SITE CROSS SECTIONS



# STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 1 OF 2)

**PROJECT LOCATION AND GENERAL SITE INFORMATION**

THE TWIN CITIES ASSEMBLY PLANT DEMOLITION PROJECT IS LOCATED SOUTH OF FORD PARKWAY AND EAST OF SOUTH MISSISSIPPI RIVER BOULEVARD, IN THE CITY OF SAINT PAUL, IN RAMSEY COUNTY, MINNESOTA.

THE NATURE OF THIS PROJECT WILL CONSIST OF 3 PHASES:

1. PHASE 1 WILL INCLUDE BUILDING DEMOLITION AND UTILITY CUT AND CAPS. BUILDING SLABS, FOUNDATIONS AND BELOW SLAB UTILITIES WILL REMAIN.
2. PHASE 2 WILL INCLUDE THE REMOVAL OF BUILDING SLABS AND FOUNDATIONS, REMOVAL OF THE UTILITIES UNDER THE BUILDING SLABS AND FOUNDATIONS, RAILROAD TRACK REMOVAL, AND SELECT PAVEMENT AND UTILITY REMOVAL. GRADING, TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT WILL BE PERFORMED IN THE AREAS IMPACTED BY THE PHASE 2 REMOVALS.
3. PHASE 3 WILL INCLUDE PERMANENT EROSION AND SEDIMENT CONTROL, GRADING, PERMANENT STORMWATER MANAGEMENT AND FINAL SITE RESTORATION WITHIN THE LIMITS OF WORK SHOWN ON THE PLANS.

THE INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES ARE AS FOLLOWS:

1. INSTALL PERIMETER CONTROL (SILT FENCE AND/OR FILTER LOGS)
2. INSTALL VEHICLE TRACKING PADS (STABILIZED ROCK OR EQUIVALENT SYSTEMS)
3. INSTALL TRUCK WHEEL WASHING FACILITY
4. INSTALL STORM DRAIN INLET PROTECTION
5. DEMOLITION OF BUILDINGS INCLUDING SPECIFIC CUT AND CAPS OF UTILITIES (PHASE 1)
6. CONSTRUCT TEMP. SEDIMENT BASINS AT NORTH AND SOUTH DRY POND OUTLETS.
7. REMOVAL OF BUILDING SLABS, PAVEMENT, AND UTILITIES INCLUDING CONSTRUCTION OF TEMP. SEDIMENT BASIN AT SOUTH DRY POND OUTLET (PHASE 2)
8. FINAL GRADING AND CONSTRUCTION OF PONDS
9. FINAL SITE RESTORATION
10. REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS

THE LOCATION OF AREAS NOT TO BE DISTURBED WILL BE IDENTIFIED WITH FLAGS, STAKES, SILT FENCE, ETC., BEFORE CONSTRUCTION BEGINS.

**PROJECT CONTACTS AND RESPONSIBLE PARTIES**

THE OWNER WHO SIGNS THE NPDES PERMIT APPLICATION IS A PERMITEE AND IS RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THE NPDES PERMIT. THE OPERATOR (CONTRACTOR) WHO SIGNS THE NPDES PERMIT APPLICATION IS A PERMITEE FOR PART IIB, PART IIC, AND PART IV AND IS JOINTLY RESPONSIBLE WITH THE OWNER FOR COMPLIANCE WITH THOSE PORTIONS OF THE PERMIT.

THE CONTRACTOR'S EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND FOR INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING, AND AFTER CONSTRUCTION.

RESPONSIBLE PARTY	CONTACT NAME	PHONE NUMBER
OWNER (FORD MOTOR COMPANY)	MIKE HOGAN	651-696-0616
OPERATOR (GENERAL CONTRACTOR)	JAMES F. EXLINE	937-209-9379
SWPPP PREPARER	MATT WASSMAN, TKDA	651-925-7181
EROSION CONTROL SUPERVISOR (CONTRACTOR)	TBD	

**LONG TERM OPERATION AND MAINTENANCE**

THE PERSON RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM IS:

MIKE HOGAN  
CONTROLLER / SITE MANAGER  
966 S. MISSISSIPPI RIVER BLVD.  
SAINT PAUL, MN 55116  
651-696-0616

**STORMWATER PERMITS AND APPROVALS REQUIRED**

PERMIT/APPROVAL	AGENCY	CONTACT	PHONE NUMBER
NPDES STORMWATER PERMIT	MPCA	TODD SMITH	651-757-2732
SITE PLAN REVIEW APPROVAL	CITY OF ST. PAUL	TOM BEACH	651-266-9086
WATERSHED DISTRICT PERMIT	CAPITOL REGION WATERSHED DISTRICT	FORREST KELLEY	651-644-8888

MPCA 24-HOUR EMERGENCY NOTIFICATION: (651) 649-5451  
(800) 422-0798

**RECEIVING SURFACE WATERS**

THE RECEIVING SURFACE WATER FOR STORM WATER RUNOFF FROM THE SITE IS THE MISSISSIPPI RIVER.

**DISCHARGE TO IMPAIRED WATERS,**

THE MISSISSIPPI RIVER IS IMPAIRED FOR MERCURY, PCBs and PFOS, WHICH ARE ALL NON-CONSTRUCTION RELATED PARAMETER. DISCHARGES TO WATERS IMPAIRED FOR ONLY NON-CONSTRUCTION RELATED PARAMETERS DO NOT REQUIRE ANY ADDITIONAL BEST MANAGEMENT PRACTICES (BMPs) OR PLAN REVIEW FOR COMPLIANCE WITH THE NPDES CONSTRUCTION PERMIT. HOWEVER, PRIOR TO BUILDING DEMOLITION, THE CONTRACTOR MUST RECEIVE WRITTEN APPROVAL FROM THE MPCA THAT ALL CONTAMINANTS HAVE BEEN REMOVED FROM THE BUILDINGS.

**SPECIAL WATERS**

THERE ARE NO SPECIAL WATERS WITHIN ONE (1) MILE OF THE PROJECT SITE.

**SOIL TYPES**

ACCORDING TO A REVIEW OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE SOILS MAP FOR RAMSEY COUNTY, MINNESOTA, ON-SITE SOILS CONSIST PREDOMINANTLY OF THE URBAN LAND-UNDEFINED AND THE UDORTHENTS, WET SUBSTRATUM. THESE SOILS DO NOT HAVE A HYDROLOGIC SOIL GROUP CLASSIFICATION. SOILS ON SITE THAT ARE CLASSIFIED CONSIST OF BARRONETT SILT LOAM, COPASTON LOAM, ALGANSEE LOAMY SAND, AND DORERTON-ROCK OUTCROP COMPLEX. THESE SOILS HAVE HYDROLOGIC SOIL GROUP CLASSIFICATIONS RANGING FROM B TO D.

**SWPPP TRAINING REQUIREMENTS**

THIS SWPPP WAS PREPARED BY TKDA PERSONNEL THAT ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE AVAILABLE UPON REQUEST.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION CONTROL SUPERVISOR THAT IS RESPONSIBLE FOR OVERSEEING THE IMPLEMENTATION OF THE SWPPP. THE CONTRACTOR WILL ENSURE THAT THE TRAINING REQUIRED IN PART III.A.2 OF THE NPDES PERMIT IS COMPLIED WITH. THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED.

**INSPECTIONS AND MAINTENANCE**

THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL THE INSPECTION AND MAINTENANCE REQUIREMENTS STATED IN THE NPDES PERMIT, PART IV.F INSPECTIONS OF THE ENTIRE CONSTRUCTION SITE MUST OCCUR AT A MINIMUM OF ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE EROSION CONTROL SUPERVISOR WILL THOROUGHLY INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs TO ENSURE INTEGRITY AND EFFECTIVENESS OF EACH BMP. ALL NONFUNCTIONAL BMPs MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPs AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING, AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP AND KEPT ON SITE DURING CONSTRUCTION. INSPECTION REPORTS MUST BE SUBMITTED TO THE PROJECT ENGINEER IN A FORMAT THAT MEETS THE PROJECT ENGINEER'S EXPECTATIONS. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

1. DATE AND TIME OF INSPECTIONS
2. NAME OF PERSONS CONDUCTING INSPECTIONS
3. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS
4. CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES
5. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS
6. DOCUMENTS AND CHANGES MADE TO THE SWPPP

INITIAL INSPECTION FOLLOWING PERIMETER CONTROL INSTALLATION BY CITY OF ST. PAUL REPRESENTATIVE IS REQUIRED. A MONTHLY REPORT COMBINING THE PREVIOUS WEEKS INSPECTION REPORTS SHALL BE SUBMITTED TO TOM BEACH AND WES SAUNDERS-PEARCE AT THE CITY OF ST. PAUL.

OWNER MUST KEEP RECORDS OF ALL PERMITS REQUIRED FOR THE PROJECT. ALL INSPECTIONS AND MAINTENANCE, PERMANENT OPERATION AND MAINTENANCE AGREEMENTS, AND REQUIRED CALCULATIONS FOR TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS. THESE RECORDS MUST BE RETAINED FOR A PERIOD OF 3 YEARS.

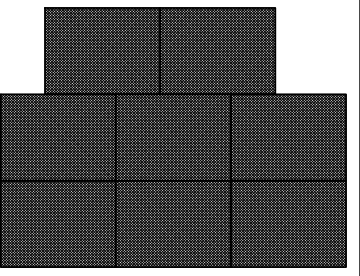
**TEMPORARY SEDIMENT BASINS**

WHERE 10 ACRES OR MORE OF DISTURBED SOIL DRAIN TO A COMMON LOCATION, A TEMPORARY SEDIMENT BASIN MUST BE PROVIDED PRIOR TO RUNOFF LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS IN ACCORDANCE WITH PART III.B. OF THE NPDES PERMIT.

THE CONTRACTOR SHALL CONSTRUCT A TEMPORARY SEDIMENT BASIN WITH A PERMANENT POOL DEPTH OF AT LEAST 3 FEET AT THE LOCATIONS OF THE NORTH AND SOUTH DRY POND OUTLETS. THE TEMPORARY BASIN MUST PROVIDE STORAGE BELOW THE OUTLET PIPE OF 1800 CU FT PER ACRE OF DISTURBED AREA DRAINING TO THE BASIN. THE NORTH SEDIMENT BASIN AND THE SOUTH SEDIMENT BASIN SHALL BE CONSTRUCTED AT THE BEGINNING OF PHASE 2. THE TEMPORARY BASINS WILL BE EXPANDED AS NECESSARY DURING EACH PHASE TO MEET THE 1800 CU FT PER DISTURBED ACRE STORAGE REQUIREMENT. THE CONTRACTOR SHALL PREPARE A SWPPP AMENDMENT FOR ALL TEMPORARY SEDIMENT BASINS CONSTRUCTED.

**PERMANENT STORM WATER MANAGEMENT SYSTEM**

PHASE 2 WILL REDUCE IMPERVIOUS SURFACES BY APPROXIMATELY 65 ACRES. THE PERMANENT STORM WATER MANAGEMENT SYSTEM WILL CONSIST OF A COMBINATION OF GRASSED SWALES, ONE WET POND AND TWO DRY PONDS THAT WILL DISCHARGE TO EXISTING STORM SEWER SYSTEMS WHICH ULTIMATELY DRAIN TO THE MISSISSIPPI RIVER.



**KEY PLAN**

NO.	DATE	BY	DESCRIPTION
1	11/09/12	LLH	SITE PLAN SUBMITTAL

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

PRINT NAME: Matthew A. Wassman  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_ LICENSE # 26883

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PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA  
  
SWPPP NARRATIVE  
49  
79

# STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 2 OF 2)

**POLLUTION PREVENTION MANAGEMENT**

THE CONTRACTOR WILL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT, PART IV.F AS IT PERTAINS TO SOLID WASTE, HAZARDOUS MATERIALS, EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT ON SITE.

THE EROSION CONTROL SUPERVISOR SHALL MAKE A SPILL RESPONSE PLAN BEFORE THE APPLICATION OF ANY CHEMICAL THAT MAY BE HARMFUL TO THE ENVIRONMENT. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM CONVEYANCE SYSTEM MUST BE REPORTED TO THE MPCA STATE DUTY OFFICER. THE CONTRACTOR MUST HAVE A SPILL KIT ON SITE AT ALL TIMES.

SOLID WASTE SUCH AS COLLECTED SEDIMENT, ASPHALT AND CONCRETE, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CREATING AND FOLLOWING A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. THE PLAN WILL INCLUDE HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. THIS PLAN MUST BE SUBMITTED TO THE ENGINEER.

THE CONTRACTOR MUST USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DUST, PARTICLES, SAW CUT SLURRY, CONCRETE WASTES, BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER WASTE FROM LEAVING THE SITE, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, OR ENTERING STORM WATER CONVEYANCE SYSTEMS, INCLUDING INLETS AND CURB FLOW LINES.

DUST CONTROL MEASURES MUST BE PERFORMED DURING BUILDING DEMOLITION. WATER USED TO CONTROL DUST MUST BE TREATED BY USING FILTER LOGS PRIOR TO ENTERING STORM SEWER SYSTEMS. WATER WILL BE OBTAINED FROM ON-SITE EXTERIOR FILE LINE THAT WILL BE MAINTAINED.

CONCRETE CRUSHING, PECKING, SAWING, AND GRINDING WILL REQUIRE DUST CONTROL USING WATER MISTS, AND ALL CONCRETE PUMPING, WASHOFF, AND WASHOUT AREAS WILL NEED TO BE DESIGNATED AND KEPT FUNCTIONAL SOMEPLACE INSIDE THE PROJECT LIMITS. LEAD PAINT CHIPS MUST NOT COME INTO CONTACT WITH SOILS UNLESS IT IS THE INTENT OF THE CONTRACTOR TO HAUL OFF ALL CONTAMINATED SOILS.

ALL HAZARDOUS MATERIALS AND CHEMICALS SUCH AS OIL, FUEL, FERTILIZER, PAINT, ETC., MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE AND CONTACT WITH STORMWATER. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS. PROVIDE A COVER OVER HAZARDOUS MATERIALS TO PREVENT CONTACT WITH RAIN WATER WHERE FEASIBLE.

THE CONTRACTOR WILL BE REQUIRED TO UPDATE THE SWPPP FOR PORTABLE RESTROOM PLACEMENT, REFUELING METHODS (INCLUDING SPILL KITS), AND SECONDARY CONTAINMENT OF STATIONARY MACHINES WITH FLUIDS. PORTABLE RESTROOM FACILITIES WILL BE ANCHORED TO PREVENT TIPPING.

TRUCK WASHING AND CONCRETE WASHOUT SHALL TAKE PLACE IN A FIELD OR COMMERCIALY ENGINEERED LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER THAT PREVENTS RUNOFF ONTO ADJACENT SOILS. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. LOCATION OF WASHOUT AREAS MUST BE IDENTIFIED BY SIGNAGE, MUST BE AT LEAST 200 FEET FROM ENVIRONMENTALLY SENSITIVE AREAS, AND MUST BE SHOWN ON AN ENGINEER-APPROVED SITE PLAN. LIQUIDS AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. NO ENGINE DEGREASING IS ALLOWED ON SITE.

BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN THE PROJECT BOUNDARY.

CONSTRUCTION PHASE POLLUTANT SOURCES ANTICIPATED AT THIS SITE ARE DISTURBED (BARE) SOIL; SEDIMENT; VEHICLE FUELS AND LUBRICANTS; CONSTRUCTION-GENERATED LITTER AND DEBRIS; AND CONCRETE WASTE. WITHOUT ADEQUATE CONTROL, THERE IS POTENTIAL FOR EACH TYPE OF POLLUTANT TO BE TRANSPORTED BY STORM WATER.

THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

**CONSTRUCTION PHASING - EROSION AND SEDIMENT CONTROL SEQUENCING**

SILT FENCE, CONSTRUCTION ENTRANCES, INLET PROTECTION FOR STORM DRAINS, CULVERT PROTECTION, AND/OR OTHER SUITABLE PERIMETER BMP'S AS PROVIDED IN THE PLANS WILL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY. CONSTRUCTION WILL BE REQUIRED TO BE PHASED SO THAT ALL DOWN GRADIENT SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO OR IN CONJUNCTION WITH ANY SOIL DISTURBING ACTIVITIES.

WHEN THE EXISTING TOPSOIL IS DISTURBED, THE TOPSOIL WILL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH MNDOT SEED MIXTURE 150 AND HYDROMULCH. STOCKPILED TOPSOIL BERMS WILL NOT BE PLACED IN ANY STORMWATER CONVEYANCES.

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

AT ANY TIME DURING CONSTRUCTION, THE CONTRACTOR MAY HAVE TO REMOVE SEDIMENT TRAPPED IN RETENTION DEVICES. SEDIMENT REMOVAL SHALL CONSIST OF EXCAVATING AND OTHER ASSOCIATED OPERATIONS TO RESTORE THE CAPACITY OF ANY TEMPORARY SEDIMENT CONTROL DEVICES.

ALL SOIL DISTURBING ACTIVITIES MUST BE COMPLETED AND ALL SOILS MUST BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT FUTURE SOIL FAILURE UNDER EROSION CONDITIONS. ALL SEDIMENT MUST BE REMOVED FROM CONVEYANCE SYSTEMS AND DITCHES MUST BE STABILIZED WITH PERMANENT COVER.

**EROSION PREVENTION PRACTICES**

DITCHES AND EXPOSED SOILS MUST BE KEPT IN AN EVEN, ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES AND BLANKETS. ALL EXPOSED SOIL AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED NO MORE THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM OR AROUND THE CONSTRUCTION SITE MUST BE STABILIZED WITHIN 200 FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, EXISTING GUTTER, STORM SEWER INLET, DRAINAGE DITCH, OR OTHER STORM WATER CONVEYANCE SYSTEM. STABILIZATION OF THE REMAINING PORTIONS OF THE DITCH OR SWALE MUST BE COMPLETED WITHIN 7 DAYS.

PIPE OUTLETS INTO SURFACE WATERS MUST BE STABILIZED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. THIS WILL INCLUDE DRAINAGE DITCHES THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE.

ALL EXPOSED SOIL AREAS WILL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, OR BLANKETED WITHIN THE TIME FRAMES IN THE NPDES PERMIT.

**SEDIMENT CONTROL PRACTICES**

SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN-GRADIENT PERIMETERS BEFORE ANY UP-GRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED. SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMP'S DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED. SEDIMENT REACHING SURFACE WATERS MUST BE REMOVED WITHIN 7 DAYS.

PERIMETER CONTROL SUCH AS SILT FENCE OR FILTER LOGS SHALL BE LOCATED ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS, WITH THE BMP J-HOOKED AT A MAXIMUM OF 100-FOOT INTERVALS, AND SHALL CONTAIN NO MORE THAN 1/4 ACRE OF DRAINAGE AREA. PERIMETER CONTROL MUST BE REPAIRED OR REPLACED WHEN IT BECOMES NONFUNCTIONAL OR THE SEDIMENT REACHES ONE-THIRD OF THE HEIGHT OF THE BMP. REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY.

TEMPORARY SOIL STOCKPILES MUST HAVE EFFECTIVE SEDIMENT CONTROL AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS OR DITCHES. SEDIMENT DAMAGE FROM SOIL STOCKPILES WILL BE MINIMIZED BY PLACING A ROW OF HEAVY DUTY SILT FENCE A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF SLOPE.

STORM SEWER INLETS WILL BE PROTECTED AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION FOR EACH SPECIFIC PHASE OF CONSTRUCTION. ALL STORM SEWER INLET PROTECTION DEVICES WILL BE KEPT IN GOOD FUNCTIONAL CONDITION AT ALL TIMES. IF THE PROJECT ENGINEER DEEMS AN INLET PROTECTION DEVICE TO BE NONFUNCTIONAL, IN POOR CONDITION, INEFFECTIVE, OR NOT APPROPRIATE FOR THE CURRENT CONSTRUCTION ACTIVITIES, IT WILL BE REPLACED WITH A SUITABLE ALTERNATIVE.

THE CONTRACTOR WILL PLACE ROCK PADS OR EQUIVALENT AT MAJOR VEHICLE EXIT LOCATIONS TO MINIMIZE VEHICLE TRACKING OF SEDIMENT ONTO PAVED SURFACES. PADS WILL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE. TRACKED SEDIMENT MUST BE REMOVED WITHIN 24 HOURS OF DISCOVERY. A WASH RACK WILL ALSO BE REQUIRED.

ALL PAVED SURFACES (ON AND OFF-SITE) MUST BE SWEEPED FREE OF SEDIMENT WITHIN 24 HOURS OF DISCOVERY.

**DEWATERING**

TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED FOR UTILITY WORK. A WATER APPROPRIATIONS PERMIT WILL BE REQUIRED FROM THE DNR FOR CONSTRUCTION DEWATERING EXCEEDING 10,000 GALLONS PER DAY. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING THIS PERMIT.

TEMPORARY DEWATERING RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT-LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY SEDIMENT BASIN ON THE PROJECT SITE OR AN ACCEPTABLE ALTERNATIVE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENT BASIN PRIOR TO ENTERING RECEIVING WATERS, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

ALL DEWATERING ACTIVITIES REQUIRE SITE PLAN APPROVAL FROM THE PROJECT ENGINEER.

**SWPPP AMENDMENTS**

THE SWPPP MUST BE AMENDED WHEN:

1. THERE IS A CHANGE IN DESIGN, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS SIGNIFICANT EFFECT ON DISCHARGE.
2. INSPECTIONS INDICATE THAT THE SWPPP IS NOT EFFECTIVE AND DISCHARGE IS EXCEEDING WATER QUALITY STANDARDS.
3. THE BMP'S IN THE SWPPP ARE NOT CONTROLLING POLLUTANTS IN DISCHARGE OR IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE NPDES PERMIT.

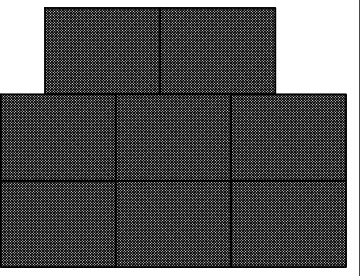
**FINAL STABILIZATION**

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION SHALL INCLUDE A MINIMUM OF 70% VEGETATION ESTABLISHMENT (100% STABILIZED) ON ALL PVIOUS AREAS.

ALL TEMPORARY EROSION CONTROL MEASURES AND BMP'S MUST BE REMOVED AS PART OF THE FINAL STABILIZATION, UNLESS DIRECTED OTHERWISE BY THE OWNER OR PROJECT ENGINEER.

**TERMINATION OF NPDES COVERAGE**

THE PERMITEES MUST SUBMIT A NOTICE OF TERMINATION TO THE MPCA WITHIN 30 DAYS OF FINAL STABILIZATION OR OF TRANSFERRING PERMIT RESPONSIBILITY TO ANOTHER OWNER OR OPERATOR.



**KEY PLAN**

NO.	DATE	BY	DESCRIPTION
▲	11/09/12	LLH	SITE PLAN SUBMITTAL
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

PRINT NAME: Matthew A. Wassman

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_ LICENSE # 26883

12/4/2012

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PROJECT  
TWIN CITIES ASSEMBLY PLANT  
SAINT PAUL, MINNESOTA  
**SWPPP NARRATIVE**  
50  
79