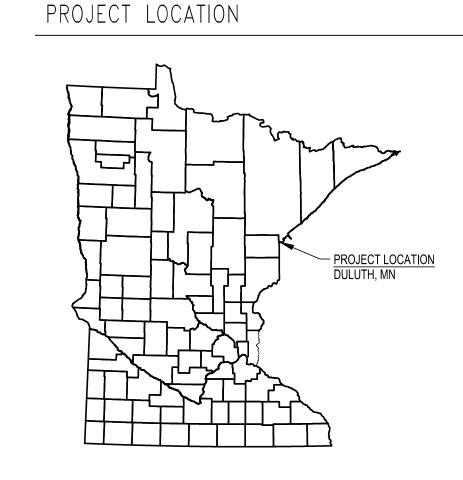
CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

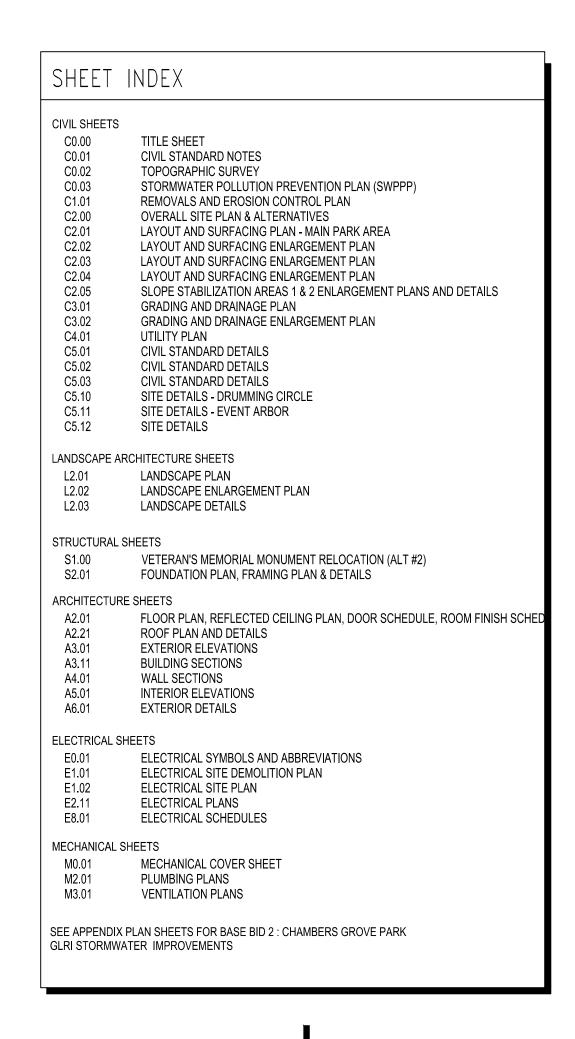


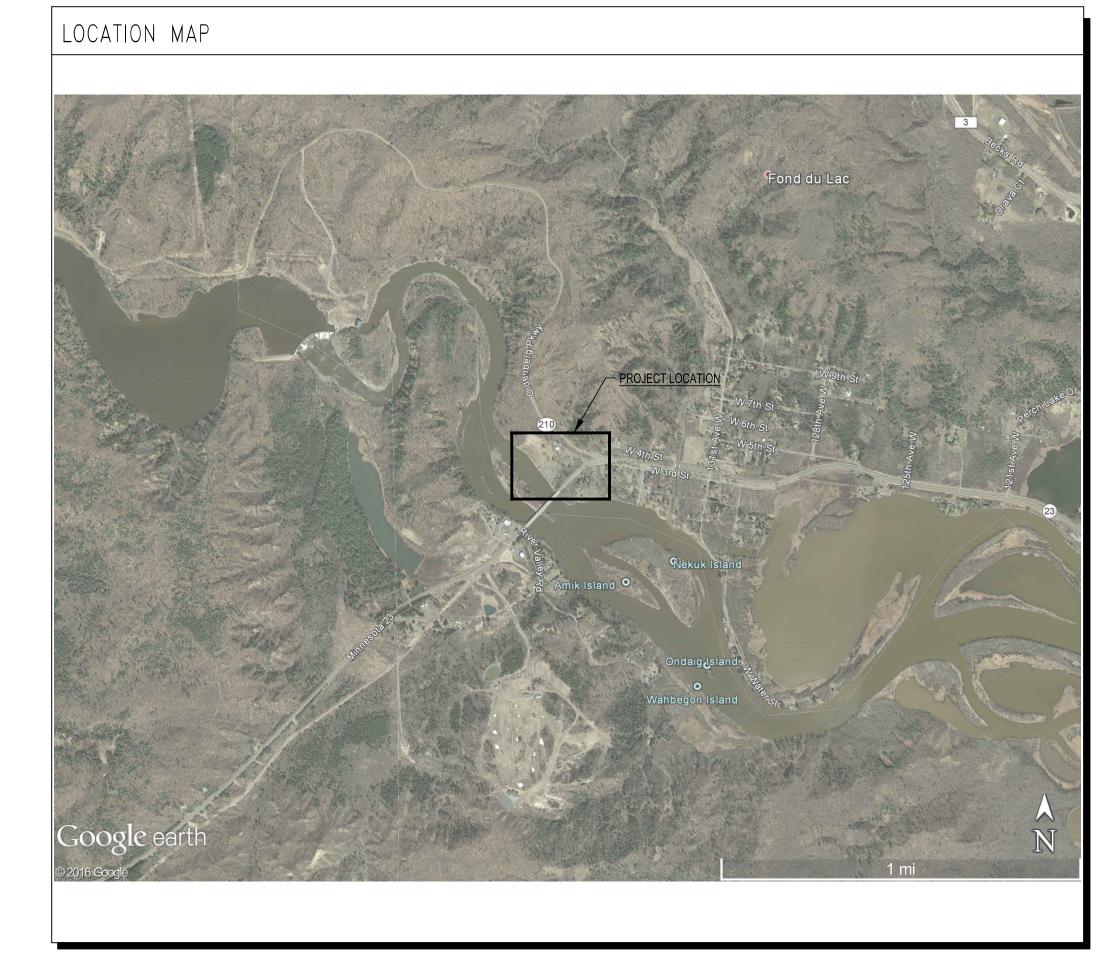
21 W. Superior St., Ste. 500 I Duluth, MN 55802 I 218 727 844

HWY 23 & 137TH AVE W DULUTH, MN 55808



CONTACTS CITY OF DULUTH 1532 WEST MICHIGAN STREET CONTACT: TARI RAYALA EMAIL: TRAYALA@DULUTHMN.GO\ PHONE: (218) 730-4434 PROJECT MANAGER & LANDSCAPE ARCHITECT 21 WEST SUPERIOR STREET, SUITE 500 DULUTH, MN 55802 PHONE: (218) 279-2429 CONTACT: HEIDI BRINGMAN E-MAIL: HEIDI.BRINGMAN@LHBCORP.COM PROJECT CIVIL ENGINEER LHB. INC. CONTACT: MEGAN GOPLIN EMAIL: MEGAN.GOPLIN@LHBCORP.COM PHONE: (218) 249-7152 PROJECT STRUCTURAL ENGINEER CONTACT: STEPHEN HEARN EMAIL: STEPHEN.HEARN@LHBCORP.COM PHONE: (612) 752-6932 PROJECT ELECTRICAL ENGINEER CONTACT: NATHAN WRIEDT EMAIL: NATHAN.WRIEDT@LHBCORP.COM PHONE: (612) 766-2834 PROJECT ARCHITECT CONTACT: BRANDEE LIAN EMAIL: BRANDEE.LIAN@LHBCORP.COM PHONE: (218) 279-2405 PROJECT MECHANICAL ENGINEER CONTACT: TODD MELL EMAIL: TODD.MELL@LHBCORP.COM PHONE: (218) 279-2272





	CLIENT:
_	CITY OF DULUTH

411 WEST FIRST ST DULUTH, MN 55802

	·	FULL SIZE SHEE	TS.	
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THIS SQUARE APPEARS 1/2" x 1/2" ON

NO	DATE	DEV/ICION	
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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 Landscape Architect under the laws of the State of Minnesota.

SIGNATURE: Heidis Psingaran

TYPED OR PRINTED NAME: HEIDI S. BRINGMAN

DATE: 03-24-2016 REG. NO.: 46914

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PROJECT NAME:

CHAMBERS GROVE PARK
FLOOD RECOVERY &
IMPROVEMENTS

HWY 23 & 137TH AVE W DULUTH, MN 55808

TITLE SHEET

FILE: ..\150589\600 Drawings\C\150589 C0.00 Title Sheet.dwg
DRAWN BY: MRH

CHECKED BY: HSB
PROJ. NO: 150589
DRAWING NO:

C0.00

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAII
7035N	CONCRETE WALK AND CURB RETURNS
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7102J	CONCRETE CURB AND GUTTERS - DESIGN S512

GOVERNING SPECIFICATIONS

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN. (AVAILABLE AT: http://www.dot.state.mn.us/tecsup)

THE CITY OF DULUTH PUBLIC WORKS/UTILITIES DEPARTMENT -**ENGINEERING DIVISION 2016 STANDARD CONSTRUCTION** SPECIFICATIONS BOOK, AND ANY ADDENDUMS OR SUPPLEMENTS SHALL APPLY. (AVAILABLE AT THE CITY OF DULUTH ENGINEERING OFFICE)

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING THE MOST CURRENT FIELD MANUAL. (AVAILABLE AT: http://www.dot.state.mn.us/trafficeng)

CITY OF DULUTH STANDARDS

PLATE No.	DESCRIPTION
EX-1	DUCTILE IRON, PE WATERMAIN, PRESSURE SEWER, &
	FORCEMAIN BEDDING
EX-3	PVC AND CORRUGATED POLYETHYLENE SEWER PIPE
	BEDDING
SAN-2	TYPICAL SEWER SERVICE CONNECTION
SAN-9	POLYETHYLENE MH ADJUSTING RING - FLAT
SAN-10	POLYETHYLENE MH ADJUSTING RING - WEDGE
W-5A	TYPICAL HDPE WATER SERVICE - 1", 1-1/4", AND 2"
W-13	WATER SERVICE INSULATION

GENERAL CONSTRUCTION NOTES

- CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING FEATURES DESIGNATED TO REMAIN. ANY PAVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 2. OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PAY ALL PERMIT AND OTHER ASSOCIATED FEES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES.
- MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ELEMENTS SHOWN ON THE CIVIL PLANS ARE FOR INFORMATION ONLY. REFER TO THE APPROPRIATE DISCIPLINE DRAWINGS FOR DETAILS OF THESE ITEMS.
- GRADES SHOWN ARE FINISH SURFACE ELEVATIONS. THE CONTRACTOR SHALL MAKE APPROPRIATE DEDUCTIONS FOR VARYING SURFACES TO DETERMINE SUBGRADE ELEVATIONS.
- 5. ALL EXISTING AND PROPOSED STRUCTURE ACCESS COVERS SHALL BE ADJUSTED TO FINISHED GRADE BY THE CONTRACTOR.
- 6. ALL HORIZONTAL AND VERTICAL INFORMATION IS BASED ON THE TOPOGRAPHIC SURVEY PROVIDED BY THE CITY OF DULUTH. SURVEY WAS PERFORMED BY ALTA LAND SURVEY COMPANY AND IS DATED JULY 30, 2014.
- 7. LHB UNDERSTANDS CHAMBERS PARK GROVE TO BE CITY OWNED PER CONDEMNATION AND UPDATED LEGAL DESCRIPTION AS PROVIDED BY CITY OF DULUTH PROPERTY SERVICES DEPARTMENT.
- 8. BOUNDARY AND RIGHT OF WAY LINES ARE SHOWN ON OWNER PROVIDED SURVEY.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING. SEE SPECIFICATIONS FOR REQUIREMENTS.
- 10. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL UNDERGROUND UTILITIES. UTILIZE THE ONE CALL EXCAVATION NOTICE SYSTEM OF "GOPHER ONE CALL". 1-800-252-1166
- 11. THE CONTRACTOR SHALL OBTAIN A LIMITED USE PERMIT FROM MNDOT FOR ALL WORK IN THE MN-23 RIGHT OF WAY. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL.
- 12. ALL AREAS DISTURBED SHALL BE RESTORED WITH TOPSOIL. SEED AND EROSION CONTROL BLANKET UNLESS NOTED OTHERWISE. REFERENCE SPECIFICATIONS FOR REQUIREMENTS.
- 13. PROTECT WETLAND BOUNDARIES WITHIN THE SITE.
- 14. THE BUILDING LOCATION SHALL BE ESTABLISHED FROM THE ELECTRONIC DATA PROVIDED BY THE ENGINEER. THE CONTRACTOR SHALL VERIFY THE BUILDING LOCATION WITH SITE INTERFACES INCLUDING BUT NOT LIMITED TO UTILITIES, SIDEWALKS, EXISTING GRADES, AND PROPOSED GRADES. FIELD VERIFY ALL DIMENSIONS PRIOR TO EXECUTING THE WORK, NOTIFY THE ENGINEER IF FIELD CONDITIONS VARY FROM THE PLAN. SURVEY BY OTHERS.
- 15. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING AS-BUILT INFORMATION DURING CONSTRUCTION AND SHALL PROVIDE AS-BUILT DOCUMENTS TO ENGINEER/ARCHITECT UPON PROJECT CLOSEOUT.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL OSHA REGULATIONS IN THE EXECUTION OF WORK UNDER THIS CONTRACT.

UTILITY CONSTRUCTION NOTES

- 1. ALL ABANDONED UTILITY PIPING ENCOUNTERED IN THE SITE EXCAVATION SHALL BE REMOVED THROUGHOUT THE LIMITS OF THE EXCAVATED AREA. CONTRACTOR SHALL PLUG AND SEAL ENDS OF UTILITY PIPES REMAINING BEYOND THE BOUNDARY OF THE EXCAVATION AREA WITH WATER TIGHT BLIND FLANGE OR CAP.
- 2. BACKFILL ALL EXCAVATION NECESSARY FOR REMOVAL WITH GRANULAR FILL AND COMPACT TO THE REQUIREMENTS DEFINED IN THE SPECIFICATIONS.
- 3. CONTRACTOR SHALL EXAMINE, EXPLORE AND FIELD VERIFY ALL PROPOSED WORK AS IT RELATES TO EXISTING INFRASTRUCTURE PRIOR TO PERFORMING THE WORK. WHEN CONFLICTS ARE DISCOVERED THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMENDIATLY. THE CONTRACTOR SHALL ALLOW 1 WEEK FOR THE ENGINEER TO EVALUATE AND MODIFY DESIGN, IF REQUIRED. THIS 1 WEEK EXAMINATION, EXPLORING, VERIFICATION, AND WAITING PERIOD SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID.

SANITARY SEWER

- 1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP FOR THE SANITARY SEWER SYSTEM SHALL BE IN ACCORDANCE WITH MNDOT-STANDARD SPECIFICATIONS FOR CONSTRUCTION-2016 AND AS MODIFIED OR ALTERED BY THE CITY OF DULUTH STANDARD CONSTRUCTION SPECIFICATIONS 2016 EDITION.
- 2. MAINTAIN A MINIMUM OF 7' OF COVER OVER ALL SERVICE PIPING. WHERE THE MINIMUM COVER CANNOT BE ACHIEVED THE CONTRACTOR SHALL PROVIDE INSULATION OVER THE PIPING IN CONFORMANCE WITH THE SPECIFICATIONS AND DULUTH STANDARD PLATE W-13.

STORM SEWER

UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP FOR THE STORM SEWER SYSTEM SHALL BE IN ACCORDANCE WITH MNDOT-STANDARD SPECIFICATIONS FOR CONSTRUCTION 2016 AND AS MODIFIED OR ALTERED BY THE CITY OF DULUTH CONSTRUCTION STANDARDS, 2016 EDITION.

WATER

- 1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP FOR THE WATER SYSTEM SHALL BE IN ACCORDANCE WITH THE CITY OF DULUTH WATER MAINS AND SERVICES LINE INSTALLATION SPECIFICATIONS 2016 EDITION.
- 2. MAINTAIN A MINIMUM OF 7.5' COVER OVER ALL WATER SERVICE PIPING. WHERE THE MINIMUM COVER CANNOT BE ACHIEVED THE CONTRACTOR SHALL PROVIDE INSULATION OVER THE PIPING IN CONFORMANCE WITH THE SPECIFICATION AND DULUTH STANDARD PLATE W-13.

GRADING AND DRAINAGE NOTES

- 1. BUILDING FINISHED FLOOR ELEVATION (FFE) SHOWN ON GRADING PLAN CORRESPONDS TO ELEVATION 100'-0" ON ARCHITECTURAL PLAN SHEETS.
- 2. SPOT ELEVATIONS ALONG CURB LINES REPRESENT THE FLOWLINE UNLESS OTHERWISE NOTED.
- 3. CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE OWNER IF CONTAMINANTS ARE FOUND IN THE EXISTING SOILS.
- 4. SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 2.0%.
- 5. IN AREAS WHERE NEW FILL IS TO BE PLACED ON SLOPING GROUND, BENCHING THE SURFACE SHALL BE COMPLETED PRIOR TO PLACING THE FILL. BENCHING SHALL BE COMPLETED WHERE SLOPES ARE STEEPER THAN 1:4 (VERTICAL:HORIZONTAL).
- 6. PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREA. DO NOT ALLOW WATER TO POND IN EXCAVATION AREAS.
- REFER TO LANDSCAPE PLANS FOR AREAS TO RECEIVE PERMANENT SEED. SOD, TREES, AND SHRUBS, ETC.
- ALL GRADES WITHIN THE LANDSCAPED AREA SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL AND HAVE A MINIMUM GRADE OF 2%, UNLESS OTHERWISE NOTED. GRADED SWALES MUST HAVE A MINIMUM BOTTOM SLOPE OF 0.5%.

DEMOLITION AND REMOVALS NOTES

- 1. EXISTING SITE INFORMATION WAS TAKEN FROM A SURVEY PROVIDED BY THE CITY OF DULUTH, DULUTH, MINNESOTA. ACTUAL FIELD CONDITIONS MAY VARY. VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. NOTIFY THE OWNER AND ARCHITECT OF ANY VARIANCES FROM PLAN.
- 2. PRESERVE AND PROTECT ALL EXISTING ROAD SIGNAGE AND UTILITIES ALONG EXISTING ROADS UNLESS OTHERWISE INDICATED.
- 3. PROTECT ALL PROPERTY CORNERS. RELOCATE BENCHMARKS AS NECESSARY WITH NEW BENCHMARK LOCATIONS WITHIN A TOLERANCE OF 0.010 VERTICAL FEET.
- SEE SHEET C1.01 FOR THE DEMOLITION. REMOVALS. AND EROSION CONTROL PLAN. INSTALL EROSION AND SEDIMENTATION CONTROL PRIOR TO DEMOLITION.
- 5. REMOVE TOPSOIL WITHIN LIMITS OF CONSTRUCTION. STOCKPILE ON-SITE FOR USE IN AREAS NOT SCHEDULED FOR BUILDING, PAVEMENT, OR SIDEWALK. COORDINATE REMOVAL OF ANY EXCESS TOPSOIL WITH OWNER.
- MAINTAIN ALL COMMUNICATION AND UTILITY SERVICES TO ALL BUILDINGS WHICH REMAIN OPERATIONAL. COORDINATE OUTAGES WITH OWNER AND UTILITY COMPANIES.
- 7. SAWCUT EXISTING PAVEMENT WHICH ABUTS ALL NEW PAVEMENTS TO PROVIDE A STRAIGHT VERTICAL EDGE.
- 8. COORDINATE WITH OWNER ANY MATERIAL OR EQUIPMENT TO BE SALVAGED.
- 9. PROTECT BY WHATEVER MEANS REQUIRED ALL FEATURES WHICH ARE NOT DESIGNATED FOR REMOVAL OR ARE OUTSIDE THE LIMITS OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE INCURRED DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, DAMAGE CAUSED BY SUBCONTRACTORS TO THE GENERAL CONTRACTOR. REPAIRS SHALL EQUAL OR EXCEED THE QUALITY OF EXISTING CONDITIONS.
- 10. ALL EXISTING FEATURES LOCATED WITHIN THE PROJECT LIMITS THAT HAVE NOT ALREADY BEEN REMOVED (BY OTHERS) MUST BE REMOVED AND DISPOSED OF PROPERLY OFF-SITE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 11. CONTRACTOR SHALL COORDINATE REMOVALS WITH UTILITY COMPANIES TO ENSURE LINES ARE PROPERLY DISCONNECTED PRIOR TO REMOVAL.
- 12. CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL ITEMS NECESSARY TO ACCOMMODATE THE PROPOSED IMPROVEMENTS WHETHER SPECIFICALLY CALLED OUT BY NOTE OR NOT.
- 13. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL UNDERGROUND UTILITIES. UTILIZE "GOHPER STATE ONE-CALL" CALL 1-800-252-1166.
- 14. CONTRACTOR SHALL FIELD VERIFY LOCATION, DEPTH, SIZE AND MATERIAL OF EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION, NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
- 15. THE CONTRACTOR SHALL FIELD VERIFY THE STATUS AND LOCATION OF THE SANITARY AND WATER SERVICES IMMEDIATELY FOLLOWING DEMOLITION OF THE EXISTING RESTROOM BUILDING AND PRIOR TO PROCEEDING WITH PORTIONS OF THE WORK WHICH MAY BE AFFECTED BY FIELD CONDITIONS THAT DIFFER FROM THOSE SHOWN IN THE DRAWINGS.
- 16. CONTRACTOR TO VERIFY INVERT AND PIPE SIZE AT EXISTING SANITARY GRINDER PUMP PRIOR TO START OF CONSTRUCTION. PROVIDE SIZE AND ELEVATION TO ENGINEER.
- 17. THE CONTRACTOR IS RESPONSIBLE FOR TRANSFERRING BENCH MARK PRIOR TO REMOVAL.

LAYOUT AND SURFACING NOTES

- 1. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS AND STOOP LOCATIONS.
- DIMENSIONS ARE TO EDGE OF PAVEMENT. FACE OF CURB. OUTSIDE FACE OF BUILDING. EDGE OF WALK, OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
- 3. STRIPING FOR PARKING AREA SHALL BE SOLID 4" WIDE ALKYD OR CHLORINATED RUBBER WHITE PAINT. COMPLY WITH MN MUTCD STANDARDS.
- 4. REFER TO THE LAYOUT AND SURFACING SITE PLAN, C2.01, FOR DIMENSIONS AND LOCATION OF SITE FEATURES.
- THE CONTRACTOR SHALL CONSTRUCT ALL PAVEMENTS TO MATCH EXISTING PAVEMENT GRADES AT TIE-IN POINTS.
- 6. CONTINUE ALL JOINTS THROUGH THE CURB.
- 7. REINFORCE ODD SHAPED PAVING PANELS WITH #3 BARS AT 24" EACH WAY. AN ODD SHAPED PANEL IS CONSIDERED TO BE ONE IN WHICH THE SLAB TAPERS TO A SHARP ANGLE WHEN THE LENGTH TO WIDTH RATIO EXCEEDS 1.5 TO 1 OR WHEN A SLAB IS NEITHER SQUARE NOR RECTANGULAR.
- ENSURE POSITIVE DRAINAGE AT ALL PAVEMENT LOCATIONS.



21 W. Superior St., Ste. 500 | Duluth, MN 55802 | 218.727.8446

CITY OF DULUTH

411 WEST FIRST ST DULUTH. MN 55802

03/24/16 BID		THIS SQUARE APPEARS 1/2" x 1/2" ON FULL SIZE SHEETS.			
03/24/16 BID					
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		03/24/16	BID		
NO DATE ISSUED FOR	NO	DATE	ISSUED FOR		

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.

Megun Doplin SIGNATURE:

TYPED OR PRINTED NAME: MEGAN A. GOPLIN

DATE: 03-24-2016 REG. NO.: 53018

NO DATE REVISION

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W **DULUTH, MN 55808**

DRAWING TITLE:

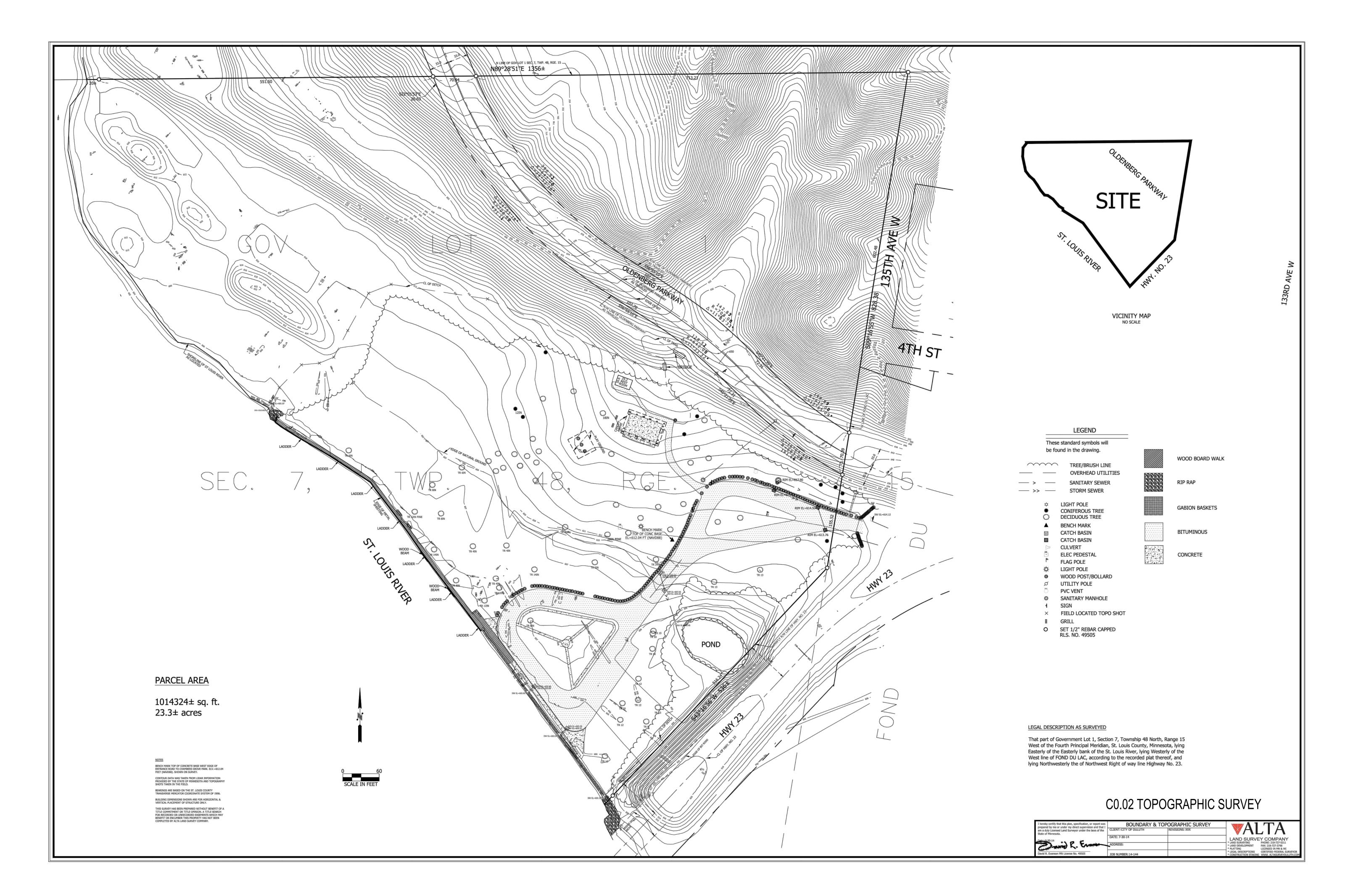
CIVIL STANDARD NOTES

..\150589\600 Drawings\C\150589 C0.01 Civil Standard Notes.dwg

DRAWN BY: MRH CHECKED BY: HSB

DRAWING NO:

PROJ. NO: 150589



STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

1. GENERAL

THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) REGULATES STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY DISTURBING LAND EQUAL TO OR GREATER THAN ONE ACRE THROUGH A GENERAL PERMIT (PERMIT NO. MN R100001) AUTHORIZING THE DISCHARGE OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY TO WATERS OF THE STATE IN COMPLIANCE WITH THE CLEAN WATER ACT AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) PROGRAM. THE GENERAL PERMIT (PERMIT) REQUIRES THE DEVELOPMENT AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP IS A COMBINATION OF NARRATIVE, PLANS SHEETS, AND STANDARD DETAIL SHEETS THAT ADDRESS THE FORESEEABLE CONDITIONS AT ANY STAGE IN THE CONSTRUCTION OR POST-CONSTRUCTION ACTIVITIES.

2. ADMINISTRATIVE REQUIREMENTS

- A. RESPONSIBLE PARTIES: THE OWNER AND GENERAL CONTRACTOR (CONTRACTOR) ARE CO-PERMITTEES OF THE PERMIT AND ARE JOINTLY RESPONSIBLE FOR COMPLIANCE WITH TERMS AND CONDITIONS OF THE PERMIT. OBTAIN A COPY OF THE PERMIT AND COMPLY WITH PARTS II.B, II.C, III.B-F, IV, V, AND APPLICABLE CONSTRUCTION ACTIVITY REQUIREMENTS FOUND IN APPENDIX A, PART C OF THE PERMIT. VERIFY THAT PERMIT REQUIREMENTS ARE SATISFIED AND COMPLETE THE BLANKS ON THIS SWPPP SHEET.
- B. <u>PERMIT APPLICATION</u>: THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING THE PERMIT APPLICATION ON-LINE AND PAYING THE APPLICATION FEE. OWNER AND CONTRACTOR MUST BOTH MUST SIGN THE APPLICATION. OBTAIN A COPY OF THE PERMIT AND APPLY ON-LINE AT THE MPCA CONSTRUCTION STORM WATER WEBSITE:

http://www.pca.state.mn.us/water/stormwater/stormwater-c.html.

- C. <u>PERMIT COVERAGE</u>: PERMIT COVERAGE TYPICALLY BECOMES EFFECTIVE SEVEN (7) CALENDAR DAYS AFTER THE ELECTRONIC SUBMITTAL DATE. DO NOT BEGIN LAND DISTURBING CONSTRUCTION ACTIVITIES UNTIL PERMIT COVERAGE IS EFFECTIVE. THE START OF ANY LAND DISTURBING ACTIVITIES SIGNIFIES THAT THE CONTRACTOR IS ASSUMING RESPONSIBILITY FOR PERMIT COVERAGE AND HAS COMPLIED WITH PERMIT REQUIREMENTS.
- D. <u>NOTIFICATION OF COVERAGE</u>: THE CONTRACTOR WILL RECEIVE A NOTIFICATION OF COVERAGE FROM THE MPCA (E.G., VIA EMAIL, ONLINE NOTIFICATION, OR LETTER). KEEP OR POST A COPY OF THE NOTIFICATION OF COVERAGE WITH THE SWPPP AT THE PROJECT SITE. PROVIDE COPIES TO THE OWNER AND ENGINEER.
- E. CHANGE OF COVERAGE FOR NEW OWNER OR NEW OPERATOR (CONTRACTOR): FOR A NEW OWNER OR OPERATOR, THE CURRENT OWNER, AND NEW OWNER OR OPERATOR, MUST SUBMIT A PERMIT MODIFICATION FORM PRIOR TO THE NEW OWNER OR OPERATOR COMMENCING CONSTRUCTION ACTIVITY. CONTACT THE MPCA AT 800-657-3864 FOR THIS FORM. THE CURRENT OWNER MUST ALSO SUBMIT A NOTICE OF TERMINATION (NOT) FORM AS NOTED BELOW WHEN THE OWNERSHIP OF THE PROPERTY CHANGES, AS NOTED BELOW.
- F. <u>TERMINATION OF COVERAGE</u>: THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE OWNER AND TERMINATING PERMIT COVERAGE BY COMPLETING AND SUBMITTING A NOTICE OF TERMINATION (NOT) FORM TO THE MPCA. A NOTICE OF TERMINATION MUST BE SUBMITTED WITHIN 30 DAYS AFTER FINAL STABILIZATION HAS BEEN ESTABLISHED FOR THE SITE AND CONSTRUCTION ACTIVITY IS COMPLETE, OR WHEN THE OWNER OR OPERATOR CHANGES. COMPLIANCE WITH PERMIT REQUIREMENTS IS REQUIRED UNTIL SUBMISSION OF A NOTICE OF TERMINATION.
- G. <u>RECORD RETENTION</u>: THE CONTRACTOR SHALL KEEP A COPY OF THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS ON SITE DURING CONSTRUCTION. THIS DOCUMENTATION MUST BE KEPT ON FILE FOR 3 YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION. COORDINATE TRANSFER OF THIS DOCUMENTATION TO THE OWNER AT PROJECT COMPLETION.
- H. <u>CHANGES (AMENDMENTS) TO SWPPP</u>: UPDATE AND DOCUMENT CHANGES TO THE SWPPP AS NECESSARY DURING CONSTRUCTION, AND AS REQUIRED BY THE PERMIT ACCORDING TO PART III,B OF THE PERMIT.

3. CONSTRUCTION ACTIVITY REQUIREMENTS

- A. <u>GENERAL</u>: COMPLY WITH PART IV.A OF THE PERMIT TO IMPLEMENT THE SWPPP AND THE REQUIREMENTS OF THE PERMIT. THE BEST MANAGEMENT PRACTICES (BMPS) IDENTIFIED IN THE SWPPP AND PERMIT MUST BE SELECTED, INSTALLED, AND MAINTAINED IN AN APPROPRIATE AND FUNCTIONAL MANNER IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, MANUFACTURER RECOMMENDATIONS, AND ACCEPTED ENGINEERING PRACTICES.
- B. <u>EROSION PREVENTION PRACTICES</u>: PLAN FOR AND IMPLEMENT CONSTRUCTION PRACTICES TO SATISFY PART IV.B OF THE PERMIT. STABILIZE EXPOSED SOIL AREAS AS SOON AS POSSIBLE, BUT IN NO CASE LATER THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. AMEND SWPPP BY INDICATING THE LOCATION OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE DURATION OF EXPOSED SOIL AREAS.
- C. <u>SEDIMENT CONTROL PRACTICES</u>: PLAN FOR AND IMPLEMENT CONSTRUCTION PRACTICES THAT MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING BUT NOT LIMITED TO, CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS TO SATISFY PART IV.C OF THE PERMIT. PROVIDE TEMPORARY SEDIMENTATION BASINS WHERE 10 OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION AS APPROVED BY LHB (SEE PART III.C OF THE PERMIT FOR BASIN REQUIREMENTS).
- D. DEWATERING AND BASIN DRAINING: COMPLY WITH PART IV.D OF THE PERMIT. ENSURE THAT ALL WATER FROM DEWATERING OR BASIN DRAINING ACTIVITIES IS DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACTS TO THE WETLANDS. ANY TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE ADEQUATELY TREATED BY DISCHARGING TO A SEDIMENTATION BASIN WHENEVER FEASIBLE, OR TREATED WITH APPROPRIATE BMPS IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENT BASIN. THE CONTRACTOR MUST VISUALLY CHECK THE TREATED STORMWATER PRIOR TO DISCHARGING TO RECEIVING WATERS TO ENSURE ADEQUATE TREATMENT IS BEING MET AND THAT THE DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. BACKWASH WATER FROM FILTRATION MUST BE INCORPORATED INTO THE SITE IN A NON-EROSIVE MANNER, OR DISCHARGED TO THE SANITARY SEWER WITH PERMISSION FROM THE SANITARY SEWER AUTHORITY.
- E. INSPECTIONS AND MAINTENANCE: COMPLY WITH PART IV.E OF THE PERMIT.
- F. POLLUTION PREVENTION MANAGEMENT MEASURES: COMPLY WITH PART IV.F OF THE PERMIT. NOTE, PREPARE AND INCLUDE A FUELING OPERATION PLAN AND EMERGENCY SPILL PLAN WITH THE SWPPP AS REQUIRED BY THIS PART. AMEND SWPPP BY INDICATING THE LOCATION OF POTENTIAL POLLUTANT GENERATING ACTIVITIES ON SITE MAPS.
- G. <u>FINAL STABILIZATION</u>: ESTABLISH FINAL STABILIZATION FOR THE SITE AS DESCRIBED IN PART IV.G OF THE PERMIT. SPECIFIC CONDITIONS REQUIRED FOR FINAL STABILIZATION INCLUDE:
- 1) SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS.
- 2) PERMANENT STORMWATER MANAGEMENT SYSTEMS ARE OPERATIONAL AND SEDIMENT IS REMOVED FROM TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND CONVEYANCE SYSTEMS, AND DITCHES ARE STABILIZED WITH FINAL COVER.
- 3) ALL TEMPORARY SYNTHETIC AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMPS ARE REMOVED. BMPS DESIGNED TO DECOMPOSE MAY BE LEFT IN PLACE.

- 4) FOR RESIDENTIAL CONSTRUCTION, THE STUCTURE(S) ARE FINISHED, TEMPORARY EROSION PROTECTION AND PERIMETER CONTROL IS COMPLETED, AND THE RESIDENCE SOLD TO THE HOMEOWNER WHO HAS BEEN GIVEN THE MPCA'S "HOMEOWNER FACT SHEET" REGARDING THE NEED FOR PERMANENT COVER.
- 5) DISTURBED AGRICULTURAL LAND IS RETURNED TO ITS PRECONSTRUCTION AGRICULTURAL USE.
- 4. SWPPP RESPONSIBILITIES (THE OWNER IS RESPONSIBLE FOR PREPARING AND AMENDING THE SWPPP).
- A. ON BEHALF OF THE OWNER, THE FOLLOWING PERSON PREPARED THE SWPPP AND IS TRAINED IN SWPPP DESIGN:

NAME: MAIA HAROLD / LHB, INC.

TRAINING DATE/INSTRUCTOR: CERTIFICATION 10-22-15 / SHRI RAMASWAMY, U OF M
TRAINING CONTENT/HOURS: DESIGN OF CONSTRUCTION RECERTIFICATION / 8 HOUR

B. ON BEHALF OF THE OWNER, THE CONTRACTOR WILL OVERSEE SWPPP IMPLEMENTATION, REVISE AND AMEND THE SWPPP, PERFORM INSPECTIONS, AND SUPERVISE THE INSTALLATION, MAINTENANCE AND REPAIR OF BMPS BEFORE AND DURING CONSTRUCTION. THE FOLLOWING CONTRACTOR REPRESENTATIVE IS TRAINED TO PERFORM THESE DUTIES AND WILL ASSUME THESE RESPONSIBILITIES:

7.11.15 11.12.27.10.00 III.2 11.12.02.11.12.01. 01.10.15		
NAME:		
TRAINING DATE/INSTRUCTOR:		
TRAINING CONTENT/HOURS:		

C. THE OWNER IS RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM. THE FOLLOWING PERSON IS DESIGNATED TO PERFORM THESE DUTIES:

NAME/TITLE:

MAINTENANCE PLAN:

NA

D. <u>CHAIN OF RESPONSIBILITY</u>: THE GENERAL CONTRACTOR IS IN CHARGE OF ALL SWPPP IMPLEMENTATION ON THE CONSTRUCTION SITE AND IS ACCOUNTABLE FOR SUBCONTRACTORS AND OTHER CONTRACTORS WORKING ON SITE AND THEIR COMPLIANCE WITH GENERAL STORMWATER PERMIT AND SWPPP REQUIREMENTS. NOTIFY THE OWNER OF ANY AMENDMENT NEEDED TO THE SWPPP.

5. REGULATORY AGENCIES AND PERMITS

- A. COMPLY WITH REQUIREMENTS OF ALL REGULATORY AGENCIES AND PERMITS HAVING JURISDICTION DURING CONSTRUCTION ACTIVITIES. THE FOLLOWING ADDITIONAL REGULATORS AND PERMITS ARE KNOWN TO HAVE SITE JURISDICTION:
- 1) CITY OF DULUTH
- 2) MINNESOTA POLLUTION CONTROL AGENCY (MPCA)
- 6. DESCRIPTION OF THE CONSTRUCTION ACTIVITY / SWPPP COMPONENTS

A. <u>NARRATIVE</u>

- 1) PROJECT SUMMARY: THE PROJECT INVOLVES THE REDEVELOPMENT OF THE EXISTING PAVED PARKING LOT AND THE REPLACEMENT OF PUBLIC RESTROOMS. SPECIFIC WORK INCLUDES:
- a. REMOVAL OF BITUMINOUS PAVEMENT
- b. DEMOLITION OF EXISTING TREES, WOODEN BOLLARDS, STORM STRUCTURES AND SEWER, CONCRETE, AND THE EXISTING RESTROOM BUILDING.
- c. RESTROOM BUILDING AND PLAYGROUND CONSTRUCTION
- d. CONCRETE SIDEWALK, GRAVEL PATH, BITUMINOUS PARKING LOT, AND CURB AND GUTTER CONSTRUCTION
- e. LANDSCAPING
- 2) TIMING FOR INSTALLATION OF EROSION & SEDIMENTATION BMPS AND PERMANENT STORMWATER MANAGEMENT SYSTEMS, IN GENERAL SEQUENTIAL ORDER FROM FIRST TO LAST:
- a. INLET PROTECTION FOR EXISTING INLETS / SILT FENCE / DELINEATION OF AREAS NOT TO BE DISTURBED / ROCK CONSTRUCTION ENTRANCE / TEMPORARY SEDIMENTATION BASIN: PROVIDE PRIOR TO CONSTRUCTION; MAINTAIN DURING CONSTRUCTION.
- b. SILT FENCE OR BIO-ROLL AROUND STOCKPILES: <u>DURING CONSTRUCTION</u>.
- c. PORTABLE SEDIMENT CONTAINMENT SYSTEMS FOR TREATING WATER FROM DEWATERING OPERATIONS : PROVIDE DURING CONSTRUCTION.
- d. INLET PROTECTION FOR NEW INLETS: $\underline{\mathsf{NA}}$
- e. HARD SURFACING (E.G., PAVEMENTS)
- f. VEGETATIVE COVER / EROSION CONTROL BLANKETS: AFTER FINAL TOPSOIL PLACEMENT AND FINISH GRADING.
- g. REMOVAL OF TEMPORARY BMPS: AFTER FINAL STABILIZATION IS ESTABLISHED.
- 3) IMPERVIOUS SURFACE AREAS / WATER QUALITY VOLUME:
- a. PRE-CONSTRUCTION IMPERVIOUS: 0.519 ACRES
- b. POST CONSTRUCTION IMPERVIOUS: 0.946 ACRES
- c. NET NEW IMPERVIOUS: 0.427 ACRES
- d. WATER QUALITY VOLUME: NA
- e. REASON WATER QUALITY VOLUME CANNOT BE INFILTRATED (PER PART III.D.1.j): NA
- f. ACTUAL WATER QUALITY VOLUME RETAINED ON-SITE / METHOD OF RETENTION: NA
- g. REMAINDER OF WATER QUALITY VOLUME AND ALTERNATIVE TREATMENT METHOD: NA
- 4) CHEMICAL TREATMENT SYSTEMS FOR ENHANCING THE ON-SITE SEDIMENTATION PROCESS AND HOW COMPLIANCE WILL BE ACHIEVED PER PART IV.C.10 OF THE PERMIT: NA
- 5) DOCUMENTATION OF INFEASIBILITY FOR OBTAINING RIGHT-OF-WAY FOR PERMANENT STORMWATER MANAGEMENT SYSTEMS: NA

- 6) STORMWATER POLLUTION MITIGATION MEASURES IDENTIFIED IN ENVIRONMENTAL REVIEW OR OTHER REQUIRED REVIEW: NA
- 7) MEASURES TO ASSURE COMPLIANCE WITH SURFACE AND GROUNDWATER STANDARDS IN KARST AREAS: NA

B. PLAN SHEETS:

- 1) SWPPP: THIS SHEET, INCLUDING DOCUMENTATION DESCRIBED AND REFERENCED HEREIN
- 2) TEMPORARY BMPS / QUANTITIES / LOCATIONS OF AREAS NOT TO BE DISTURBED / SOIL TYPES: SEE SHEET C1.01
- 3) PERMANENT BMPS: NA
- 4) EXISTING GRADES, DRAINAGE PATTERNS, AREAS OF STEEP SLOPES: SEE SHEET C1.01
- 5) FINAL GRADES, DRAINAGE PATTERNS, AREAS OF STEEP SLOPES: SEE SHEET C3.01
- 6) IMPERVIOUS SURFACING / METHODS OF FINAL STABILIZATION: SEE SHEET C2.01
- 7) IDENTIFICATION OF SURFACE WATERS AND WETLANDS WITHIN 1 MILE OF SITE THAT RECEIVE RUNOFF FROM SITE: SEE SHEET C1.01
- 8) FOR THE ABOVE SURFACE WATERS, IDENTIFICATION OF SPECIAL OR IMPAIRED WATERS, INCLUDING ENVIRONMENTAL PROTECTION AGENCY (EPA) APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) AND WASTE LOAD ALLOCATION (WLA) FOR POLLUTANTS OR STRESSORS IDENTIFIED IN APPENDIX A, PART B.10 OF THE PERMIT: NA, NO SPECIAL OR IMPAIRED WATERS WITHIN 1 MILE OF SITE.
- 9) FOR THE ABOVE SPECIAL OR IMPAIRED WATERS, DOCUMENTATION OF BMPS USED TO ADDRESS TMDL OR WLA REQUIREMENTS TO COMPLY WITH APPENDIX A OF THE PERMIT: NA
- 10) CONSTRUCTION AREAS THAT ARE ADJACENT TO AND DRAIN TO MINNESOTA DEPARTMENT OF NATURAL RESOURCES (MDNR) PUBLIC WATERS PROMULGATED AS "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIMES: NA
- 11) TOPSOIL PRESERVATION AREAS: NA
- 12) INFILTRATION AREAS TO BE PROTECTED FROM EXCESSIVE SOIL COMPACTION AND SEDIMENTATION / METHODS OF PROTECTION: NA

C. STANDARD DETAIL SHEETS: NA

D. <u>MAINTENANCE PLAN</u>: NA

7. STANDARDS SPECIFICATIONS FOR CONSTRUCTION:

UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS, ALL MATERIAL AND CONSTRUCTION REQUIREMENTS FOR TEMPORARY SEDIMENT CONTROL AND EROSION PREVENTION SHALL BE IN ACCORDANCE WITH THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.



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DATE: <u>03-24-2016</u> REG. NO.: <u>53018</u>

NO DATE REVISION

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

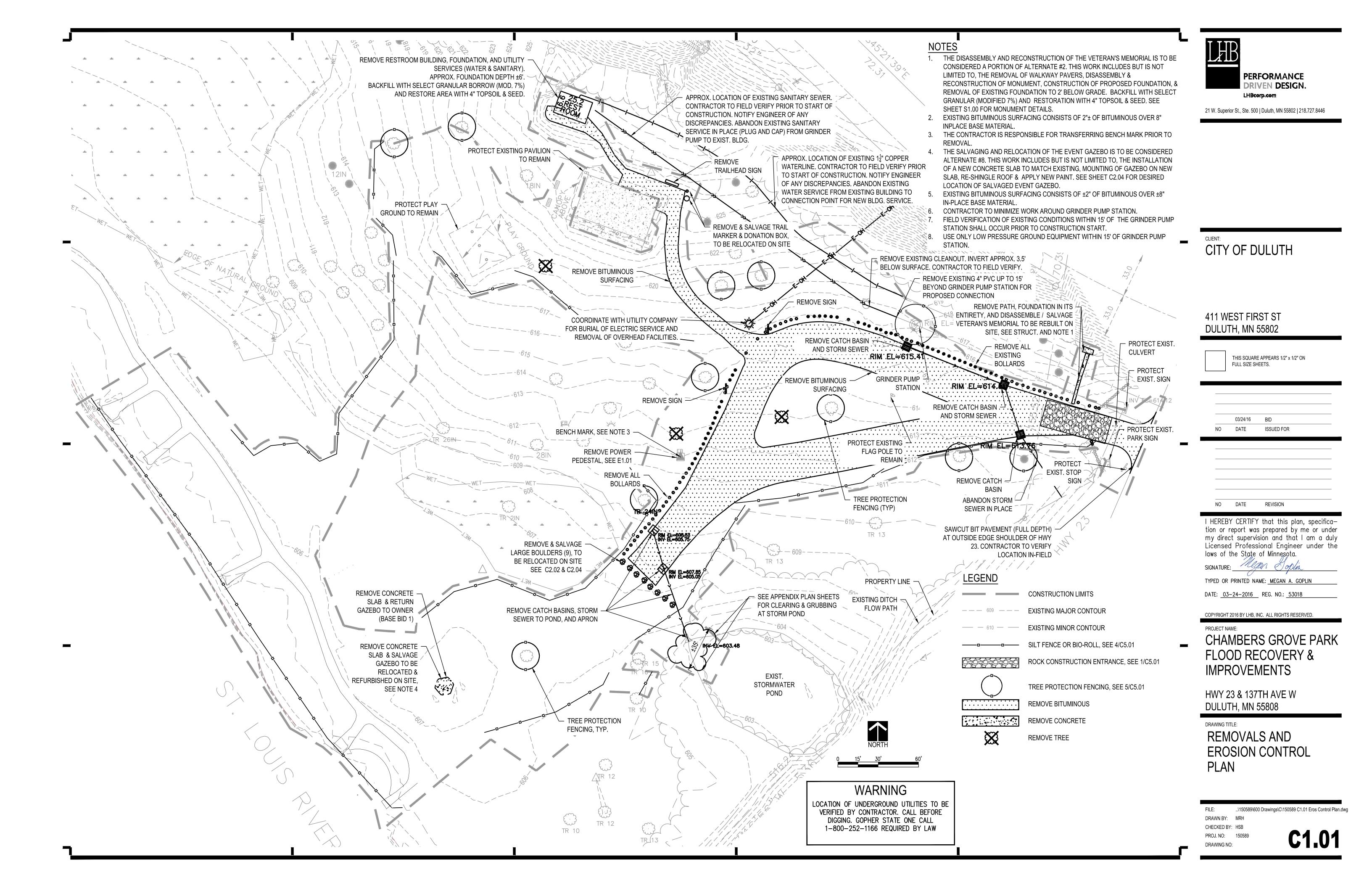
STORMWATER
POLLUTION PREVENTION
PLAN (SWPPP)

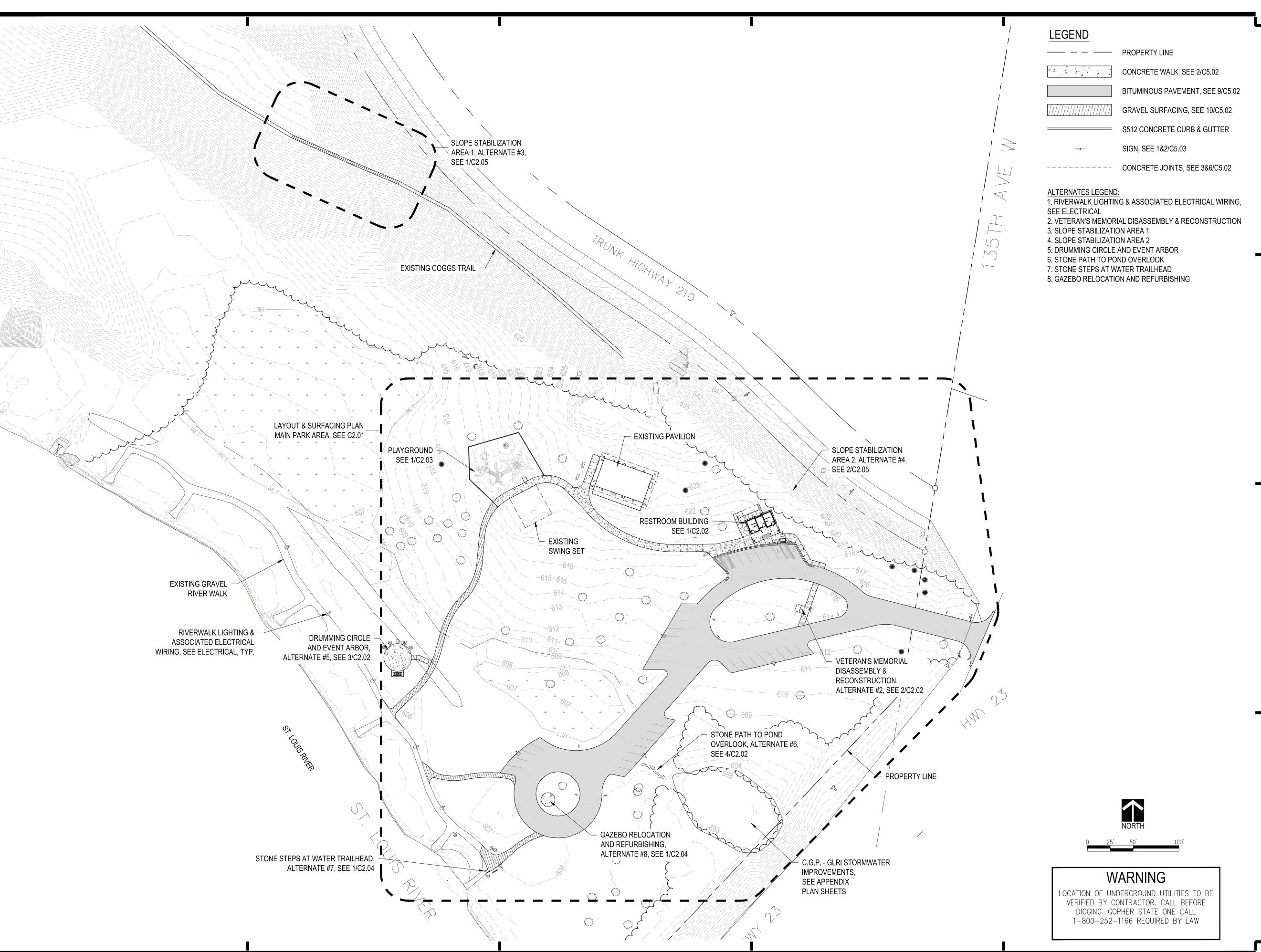
FILE: ...\150589\600 Drawings\C\150589 C0.03 SWPPP.dwg

DRAWN BY: MRH
CHECKED BY: HSB
PROJ. NO: 150589

DRAWING NO:

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SIGNATURE: Heidis Pringaran

typed or printed name: HEIDI S. BRINGMAN

DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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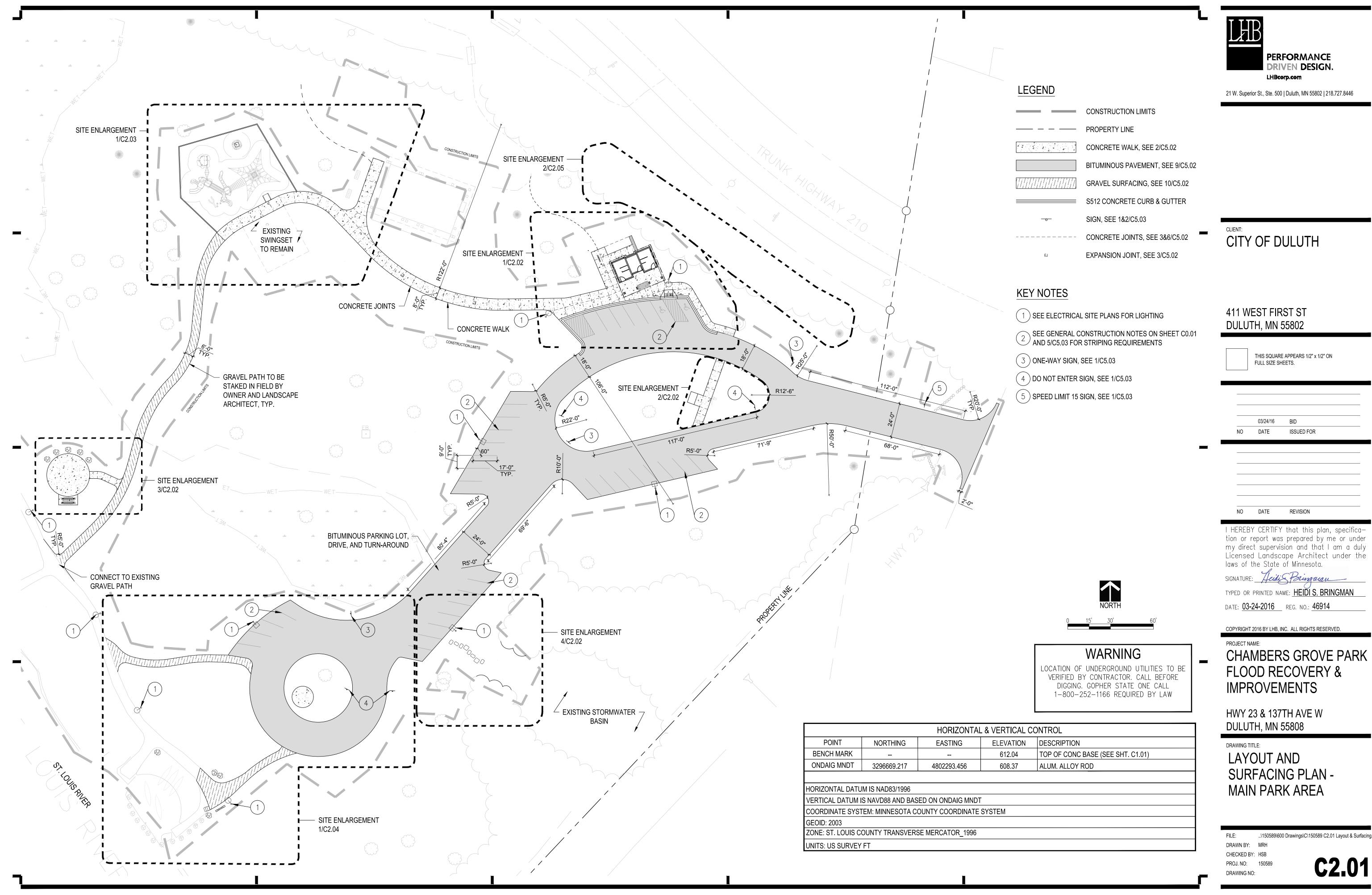
OVERALL SITE PLAN & ALTERNATES

FILE: ..\150589\600 Drawings\C\150589 C2.01 Layout & Surfacing.dwg
DRAWN BY: MRH

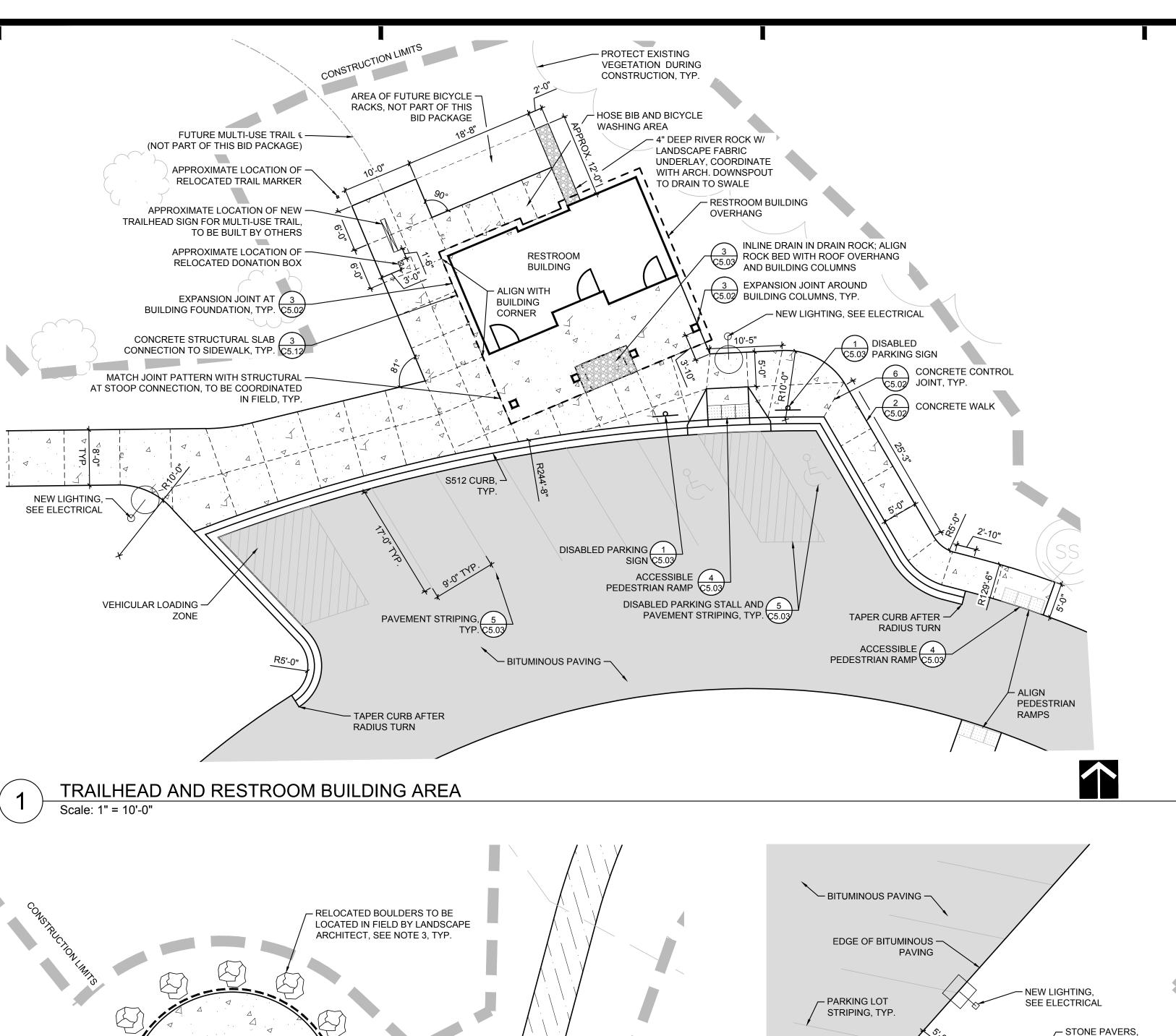
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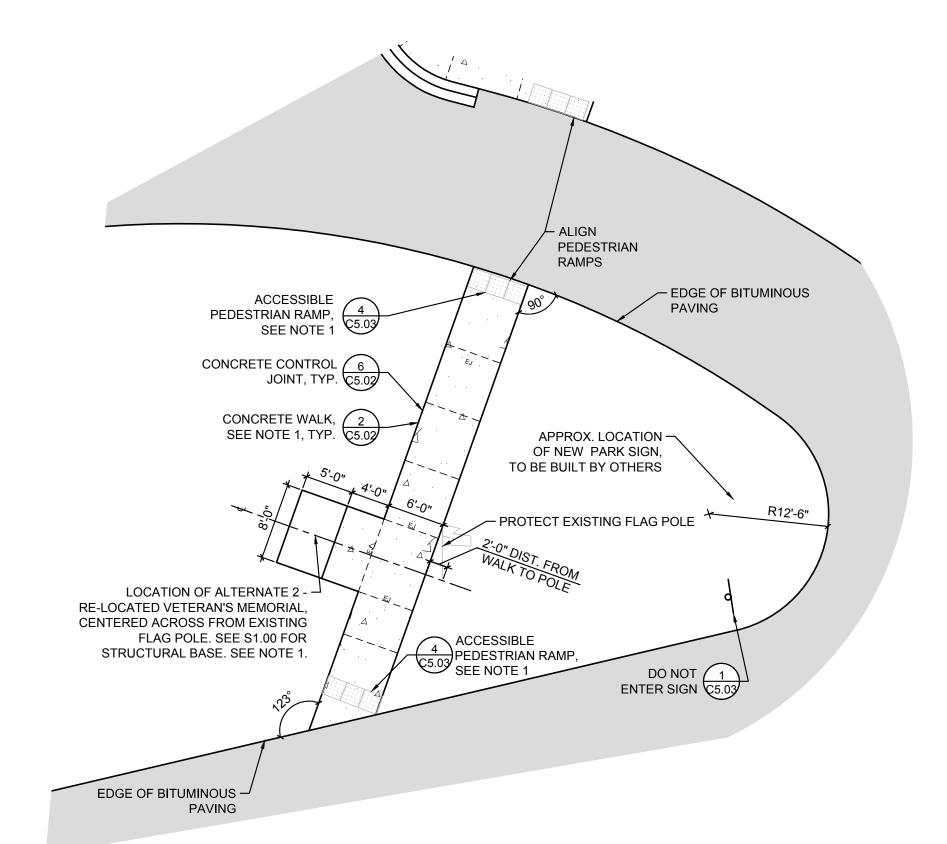
DRAWING NO:

C2.00

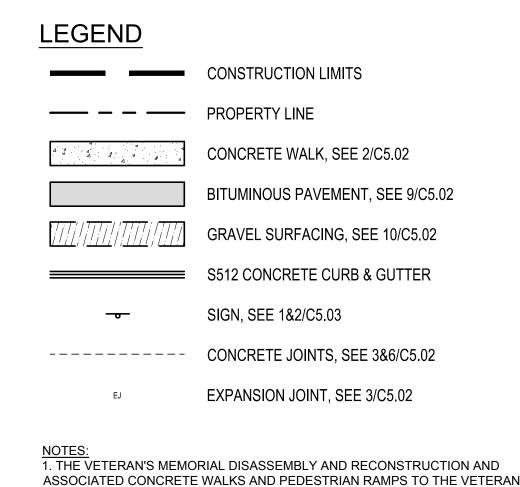


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ALTERNATE #2: VETERAN'S MEMORIAL DISASSEMBLY & RECONSTRUCTION



ASSOCIATED CONCRETE WALKS AND PEDESTRIAN RAMPS TO THE VETERAN'S MEMORIAL WITHIN THE PARKING LOT ISLAND IS TO BE CONSIDERED ALTERNATE 2. THE CONSTRUCTION OF THE STONE PATH TO THE POND OVERLOOK IS TO BE

CONSIDERED ALTERNATE #6. STEPPING STONE PATH IS TO BE STAKED IN FIELD BY LANDSCAPE ARCHITECT. 3. RELOCATED BOULDERS ARE APPROXIMATELY 2.5' HT X 3' LENGTH AND ARE

INTENDED TO BE USED FOR SEATING, PLACE WITH FLAT & AESTHETIC SIDE UP TO FACE THE ARBOR.

4. THE CONSTRUCTION AND INSTALLATION OF THE DRUMMING CIRCLE AND EVENT ARBOR WITH ASSOCIATED CONCRETE WALK IS TO BE CONSIDERED ALTERNATE #5.

PERFORMANCE DRIVEN DESIGN.

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SIGNATURE: Heidi Psingaran TYPED OR PRINTED NAME: HEIDI S. BRINGMAN DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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DRAWING TITLE:

DRAWING NO:

LAYOUT AND SURFACING ENLARGEMENT PLAN

..\150589\600 Drawings\C\150589 C2.02 Site Enlargement Plans.dwg DRAWN BY: SCM CHECKED BY: HSB PROJ. NO: 150589

TO BE IDENTIFIED BY LANDSCAPE ARCHITECT IN FIELD, COORDINATE WITH BASE BID #2 WORK

ALTERNATE #6: STONE PATH TO POND OVERLOOK Scale: 1" = 10'-0"

SEE NOTE 2, TYP.

STONE PAVER DETAIL, SEE NOTE 2, TYP.

- SELECTIVE VEGETATION CLEARING -

APPROXIMATE

AVERAGE SHORELINE

ALTERNATE #5: DRUMMING CIRCLE AND EVENT ARBOR Scale: 1" = 10'-0"

GRAVEL WALK TO BE STAKED
IN FIELD BY OWNER AND
LANDSCAPE ARCHITECT, TYP.

CONCRETE WALK, 2 SEE NOTE 4 C5.02

CONCRETE CONTROL 6 JOINT, TYP. C5.02

DRUMMING CIRCLE, SEE NOTE 4

- EXISTING GRAVEL

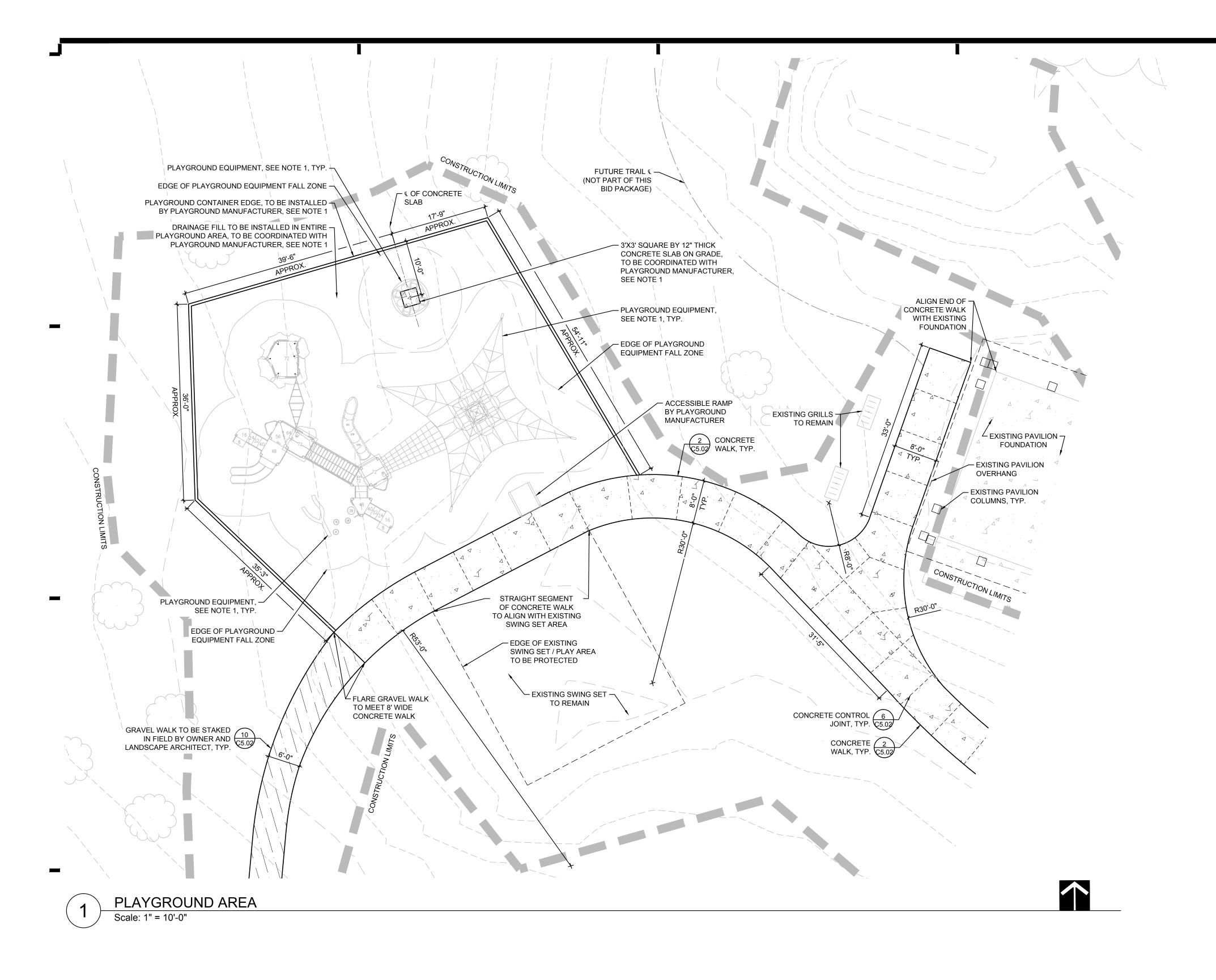
- NEW LIGHTING,

SEE ELECTRICAL

EVENT ARBOR, —

SEE C5.11 AND NOTE 4

WALK



LEGEND

CONSTRUCTION LIMITS

PROPERTY LINE

CONCRETE WALK, SEE 2/C5.02

BITUMINOUS PAVEMENT, SEE 9/C5.02

GRAVEL SURFACING, SEE 10/C5.02

S512 CONCRETE CURB & GUTTER

EXPANSION JOINT, SEE 3/C5.02

SIGN, SEE 1&2/C5.03

---- CONCRETE JOINTS, SEE 3&6/C5.02

NOTES:
1. CONTRACTOR TO COORDINATE PLAYGROUND AREA PREPARATION AND EQUIPMENT INSTALLATION WITH PLAYGROUND MANUFACTURER. THE GENERAL ORDER OF CONSTRUCTION AND RESPONSIBILITY IN THE PLAYGROUND AREA IS TO BE AS FOLLOWS:

- CONTRACTOR TO COMPLETE EARTHWORK AND GRADING,
- PLAYGROUND MANUFACTURER TO INSTALL PLAYGROUND EQUIPMENT AND PLAY AREA BORDER. - CONTRACTOR TO INSTALL APPROX. 3,813 SQUARE FEET
- DRAINAGE FILL AT 3" DEPTH. - CONTRACTOR TO INSTALL 12" THICK 3'X3' SQUARE CONCRETE
- SLAB FOR OMNISPIN® PLAYGROUND EQUIPMENT (SLAB SIZING TO BE FINALIZED WITH PLAYGROUND MANUFACTURER).
- PLAYGROUND MANUFACTURER TO INSTALL GEOTEXTILE FABRIC AND RESILIENT SURFACING IN PLAYGROUND AREA.

PERFORMANCE DRIVEN DESIGN.

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DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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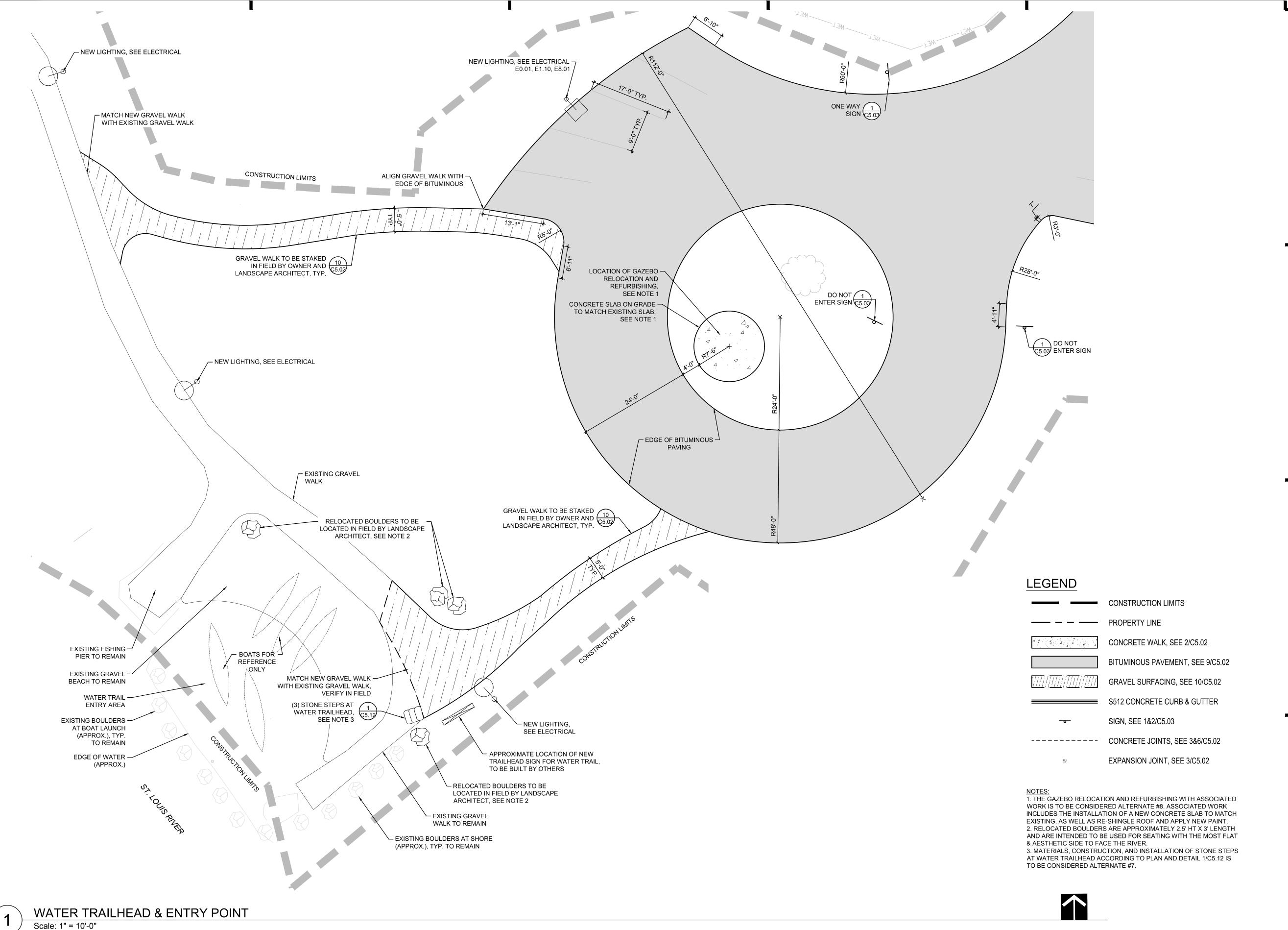
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LAYOUT AND SURFACING **ENLARGEMENT PLAN**

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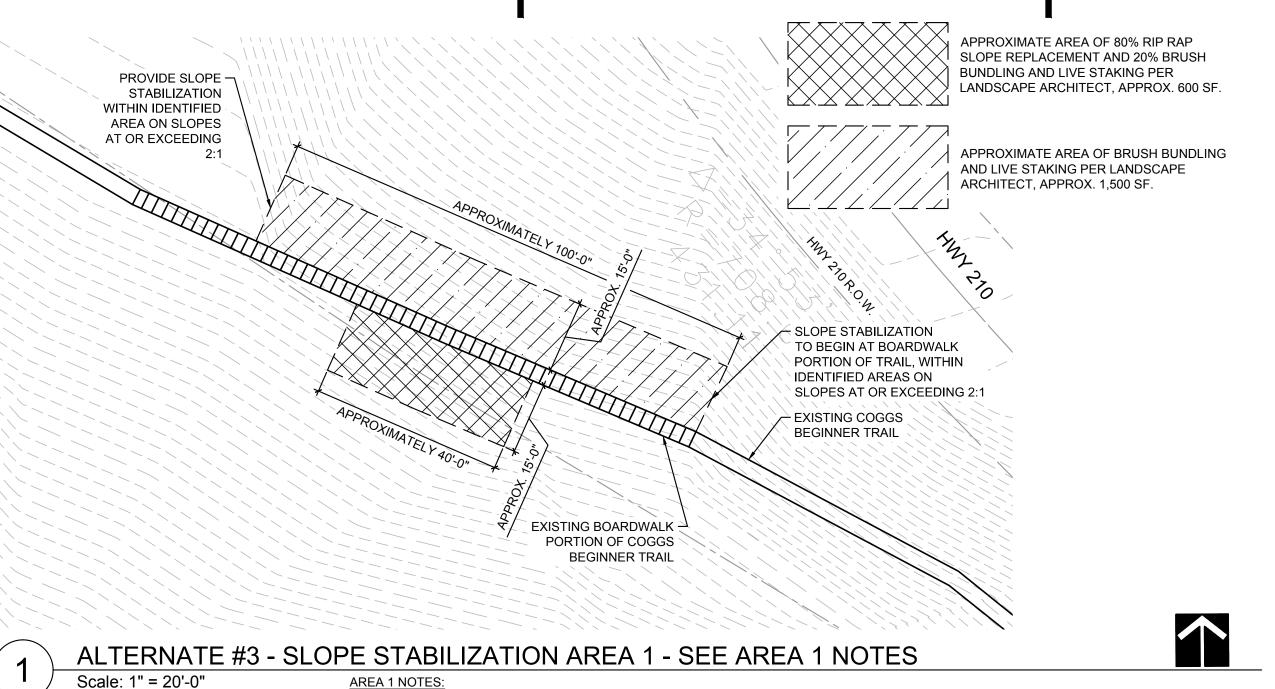
DRAWING TITLE:

LAYOUT AND SURFACING ENLARGEMENT PLAN

FILE: ...\150589\600 Drawings\C\150589 C2.02 Site Enlargement Plans.dwg
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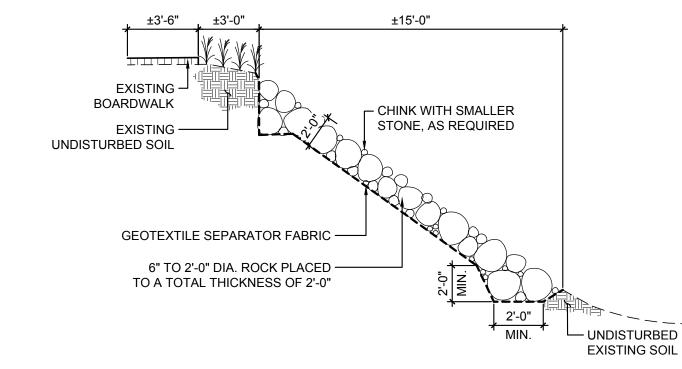
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PROJ. NO: 150589
DRAWING NO:

C2.0



CONTOURS ARE APPROXIMATE AND DO NOT REFLECT TRUE SLOPE CONDITIONS.

- CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT LOCATIONS OF RIP RAP, BRUSH BUNDLING, AND LIVE STAKING IN FIELD.
- ALL LIVE STAKING & BRUSH BUNDLING TO BE INSTALLED USING PLANT LIST PER 3/C2.05.
- AREAS OF BRUSH BUNDLING TO BE INSTALLED PER 6/C2.05.
- AREAS OF LIVE STAKING TO BE INSTALLED PER 7/C2.05. AREAS OF RIP RAP TO BE INSTALLED PER 4/C2.05.
- ALL COSTS OF PLANT MATERIAL, CONSTRUCTION, AND INSTALLATION OF STABILIZING THE SLOPE OF AREA 1 IS TO BE CONSIDERED



SLOPE STABILIZATION AREA 1 PLANT LIST USE* COMMON NAME **BOTANICAL NAME** TYPE | SHRUB LS & BUN **BLACK WILLOW** SALIX NIGRA LS & BUN RED-OSIER DOGWOOD **CORNUS SERICEA** LS & BUN SANDBAR WILLOW SALIX EXIGUA * LS = LIVE STAKE, BUN = BRUSH BUNDLE, PLUG = PERENNIAL PLUG

SLOPE STABILIZATION AREA 1 PLANT LIST

RIP RAP SLOPE STABILIZATION CROSS SECTION Scale: NOT TO SCALE



SLOPE STABILIZATION AREA 2 PLANT LIST

COMMON NAME

JUNE GRASS

PENNSYLVANIA SEDGE

Scale: 1" = 20'-0"

USE*

PLUG

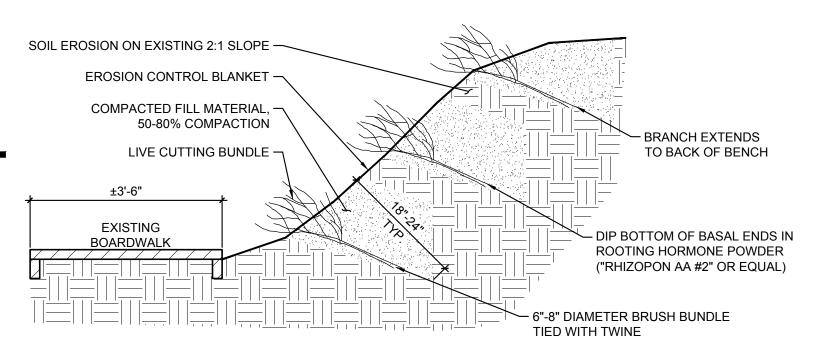
PLUG

TYPE

GRASS

SEDGE

SLOPE STABILIZATION AREA 2 PLANT LIST NO SCALE



MATERIAL PREPARATION

BUNDLE.

1. MATERIALS MUST BE PREPARED

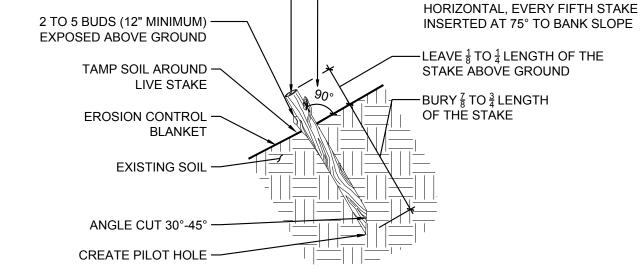
IMMEDIATELY BEFORE INSTALLATION AND INSTALLED IN DORMANT SEASON. 2. GROUP LIVE CUT BRANCHES INTO BUNDLES THAT ARE 6"-8" IN DIAMETER. DO NOT TRIM BRANCH ENDS FROM **CUTTINGS. USE ONE SPECIES PER**

INSTALLATION:

1. DIG SHALLOW TRENCH INTO BANK 18"-24".

- 2. ADD 1 TEASPOON OF SUPER-ABSORBENT POLYMER AND 1 TEABAG OF SOIL MYCORRHIZAE AMENDMENT PER LINEAR FOOT OF TRENCH.
- 3. DIP BOTTOM 4" TO 6" OF BASAL ENDS INTO IBA ROOTING
- HORMONE (RHIZOPON AA #2 OR EQUAL). 4. PLACE BRUSH BUNDLES IN TRENCH 2' ON CENTER, BASAL ENDS INTO THE BANK WITH BRANCH ENDS EXTENDING ¹/₄ OF
- THEIR LENGTH OUT FROM THE BANK. 5. BACKFILL WITH SOIL TO ASTM 50%-85% AND KEEP MOIST. 6. DISTRIBUTE BUNDLES RANDOMLY AMONG SPECIES IN 3/C2.05.
- **BRUSH BUNDLE CROSS SECTION**

Scale: NOT TO SCALE REFERENCE: MN/DOT SOIL BIOENGINEERING HANDBOOK



MATERIAL PREPARATION:

SQUARE CUT ----

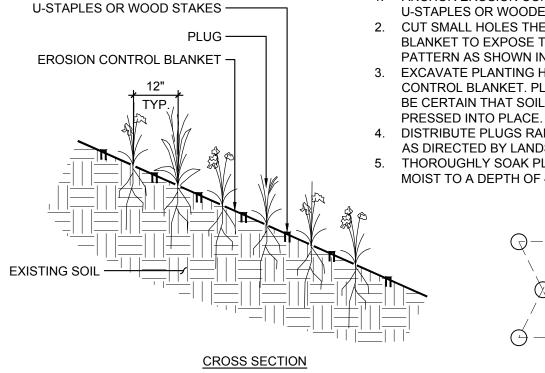
- 1. USE HEALTHY, STRAIGHT, LIVE WOOD AT LEAST ONE YEAR OLD.
- 2. IF LIVE STAKES CANNOT BE INSTALLED WITHIN 24 HOURS OF HARVESTING, THEY MAY BE PLACED IN COLD STORAGE (35° F) 3. AND KEPT MOIST AND ALIVE.
- 3. SOAK STAKES IN WATER FOR 24 HOURS
- PRIOR TO INSTALLATION. 4. STAKES ARE GENERALLY 0.5" TO 1.5" IN
- DIAMETER AND 3' TO 6' LONG. LIVE POSTS ARE STAKES UP TO 6" IN DIAMETER. 5. PRUNE BASAL ENDS AT 30° TO 45° AND CUT TOP ENDS SQUARE AND CLEAN AT

1. DIP BOTTOM 4" TO 6" OF BASAL ENDS INTO IBA ROOTING HORMONE (RHIZOPON AA #2 OR EQUAL).

- LIVE STAKES INSERTED 90° TO

- INSTALL STAKES 2' TO 3' ON CENTER IN A TRIANGULAR CREATE PILOT HOLE IF NEEDED WITH METAL BAR
- MOVED BACK AND FORTH. INSTALL STAKES AND POSTS BY HAND INTO SOFT EARTH, OR WITH TOOLS SUCH AS HAND MALLETS AND
- MACHINERY. 5. EXPOSE 2 TO 5 BUDS ABOVE SOIL, ORIENTED UPWARD. SECURE EROSION CONTROL FABRIC WITH LIVE STAKES.
- DO NOT SPLIT STAKES DURING INSTALLATION. SPLIT STAKES SHOULD BE REMOVED AND REPLACED. 8. DISTRIBUTE LIVE STAKES RANDOMLY AMONG SPECIES
- LIVE STAKE CROSS SECTION Scale: NOT TO SCALE REFERENCE: MN/DOT SOIL BIOENGINEERING HANDBOOK

IN 3/C2.05.



ALTERNATE #4 - SLOPE STABILIZATION AREA 2 - SEE AREA 2 NOTES

CONSIDERED ALTERNATE #4.

BOTANICAL NAME

KOELERIA MACRANTHA

CAREX PENNSYLVANICA

AREAS OF PLUGS TO BE INSTALLED PER 8/C2.05.

AREAS OF BRUSH BUNDLING TO BE INSTALLED PER 6/C2.05.

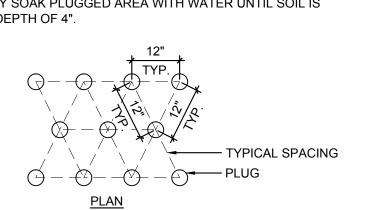
CONTOURS ARE APPROXIMATE AND DO NOT REFLECT TRUE SLOPE CONDITIONS.

ALL PLUGS & BRUSH BUNDLING TO BE INSTALLED USING PLANT LIST PER 5/C2.05.

CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT LOCATIONS OF BRUSH BUNDLING AND PLUGS IN FIELD.

6. ALL COSTS OF PLANT MATERIAL, CONSTRUCTION, AND INSTALLATION OF STABILIZING THE SLOPE OF AREA 2 IS TO BE

- 1. ANCHOR EROSION CONTROL BLANKET OVER SPECIFIED AREA USING U-STAPLES OR WOODEN STAKES.
- 2. CUT SMALL HOLES THE SIZE OF THE PLUGS IN EROSION CONTROL BLANKET TO EXPOSE THE SOIL BELOW IN A STAGGERED GRID
- PATTERN AS SHOWN IN PLAN. 3. EXCAVATE PLANTING HOLES BELOW EACH HOLE IN EROSION CONTROL BLANKET. PLANT PLUGS LEVEL WITH EXISTING SOIL GRADE BE CERTAIN THAT SOIL IS PLACED AROUND THE PLUGS AND FIRMLY
- 4. DISTRIBUTE PLUGS RANDOMLY AMONG SPECIES IN 3/C2.05 IN AREAS AS DIRECTED BY LANDSCAPE ARCHITECT IN FIELD.
- THOROUGHLY SOAK PLUGGED AREA WITH WATER UNTIL SOIL IS
- MOIST TO A DEPTH OF 4".



PLUG INSTALLATION PLAN AND CROSS SECTION Scale: NOT TO SCALE



APPROXIMATE AREA OF 25% BRUSH

BUNDLING AND 75% PLUG

LOCATIONS PER LANDSCAPE

ARCHITECT, APPROX. 1,334 SF.

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TYPED OR PRINTED NAME: HEIDI S. BRINGMAN DATE: 03-24-2016 REG. NO.: 46914

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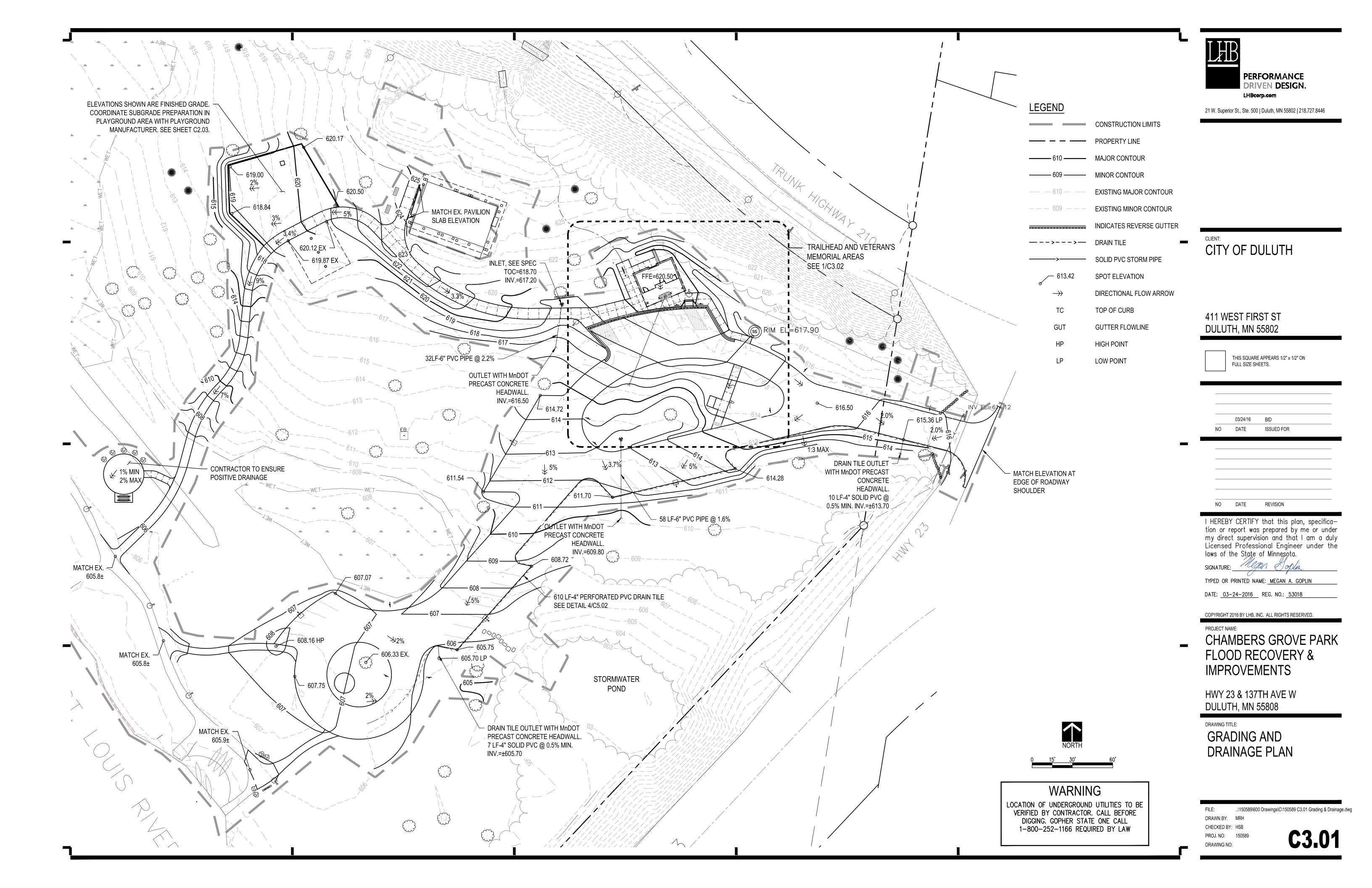
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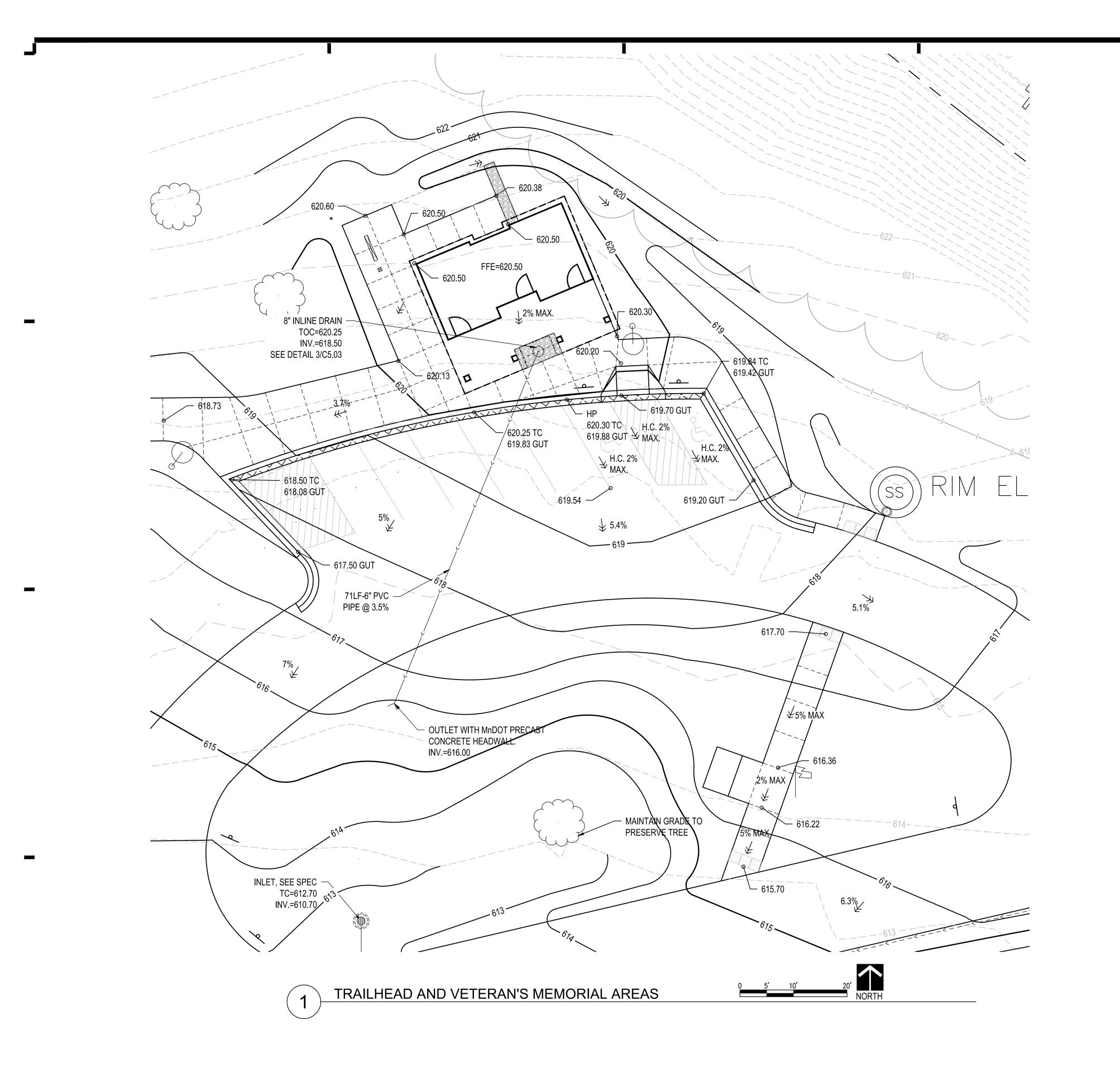
DRAWING TITLE:

SLOPE STABILIZATION AREAS 1 & 2 ENLARGEMENT PLANS AND DETAILS

..\150589\600 Drawings\C\150589 C2.02 Site Enlargement Plans.dwg DRAWN BY: SCM

CHECKED BY: HSB PROJ. NO: 150589 DRAWING NO:







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Megen Joplin SIGNATURE:

TYPED OR PRINTED NAME: MEGAN A. GOPLIN DATE: <u>03-24-2016</u> REG. NO.: <u>53018</u>

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

DRAWING NO:

GRADING AND DRAINAGE ENLARGEMENT PLAN

WARNING

LEGEND

— 610 — MAJOR CONTOUR

— — 609 — — EXISTING MINOR CONTOUR

>----> SOLID PVC STORM PIPE

SPOT ELEVATION

TOP OF CURB

HIGH POINT

LOW POINT

GUTTER FLOWLINE

EXISTING MAJOR CONTOUR

INDICATES REVERSE GUTTER SLOPE

DIRECTIONAL FLOW ARROW

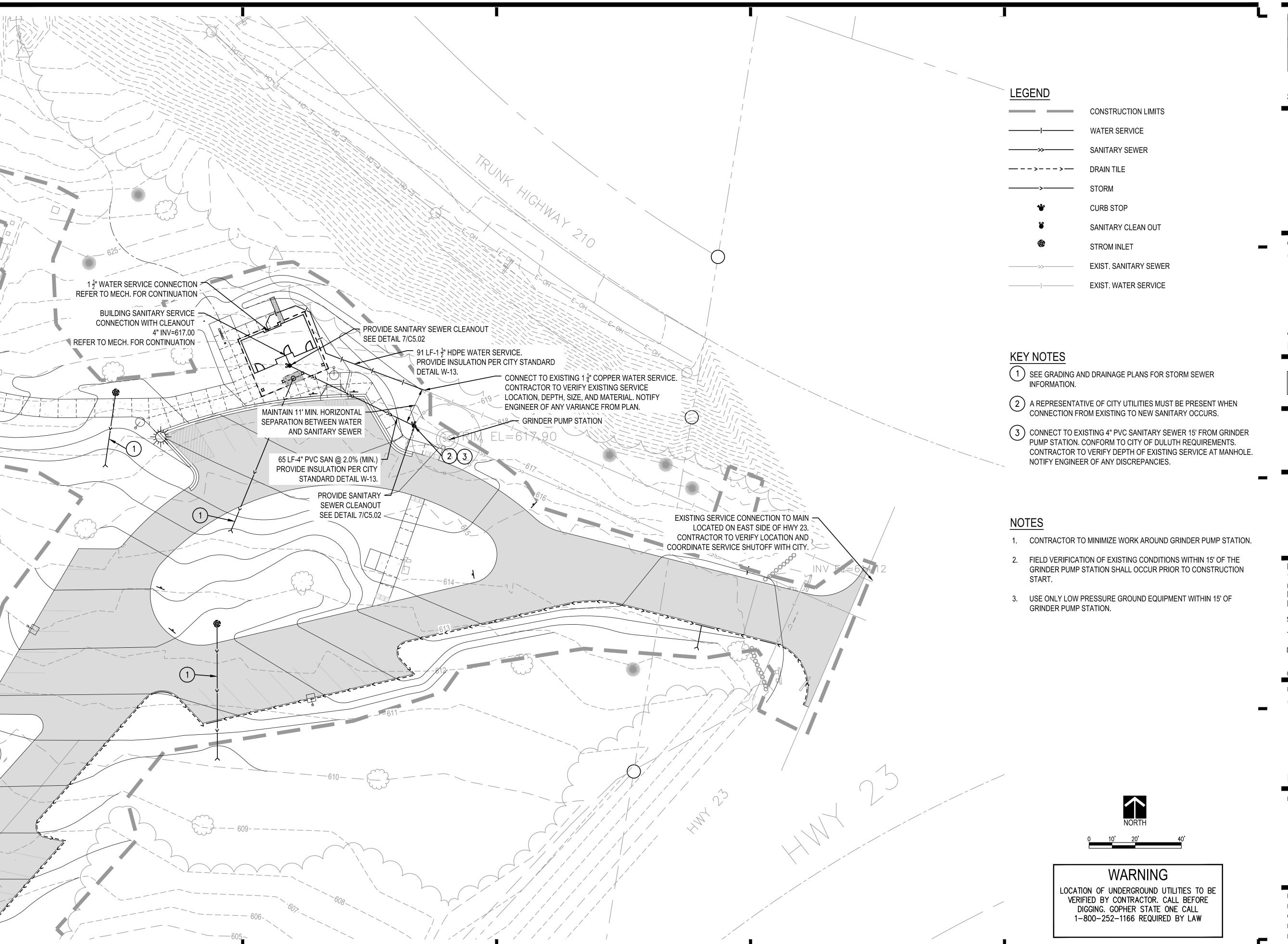
——— 609 — MINOR CONTOUR

— -->- DRAIN TILE

LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR. CALL BEFORE DIGGING. GOPHER STATE ONE CALL 1-800-252-1166 REQUIRED BY LAW

FILE: ..\150589\600 Drawings\C\150589 C3.01 Grading & Drainage.dwg DRAWN BY: MRH CHECKED BY: HSB

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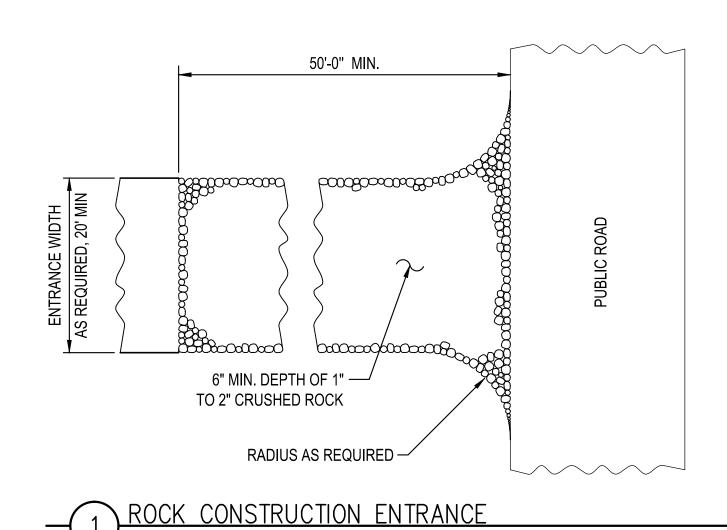
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DRAWING TITLE:

UTILITY PLAN

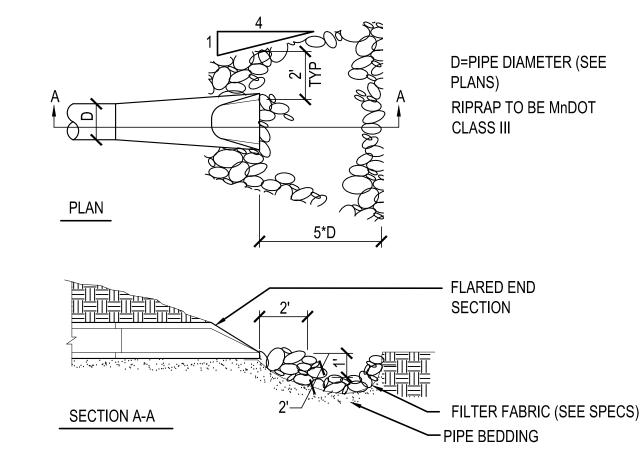
FILE: ...\150589\600 Drawings\C\150589 C4.01 Utilities.dwg
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DRAWING NO:

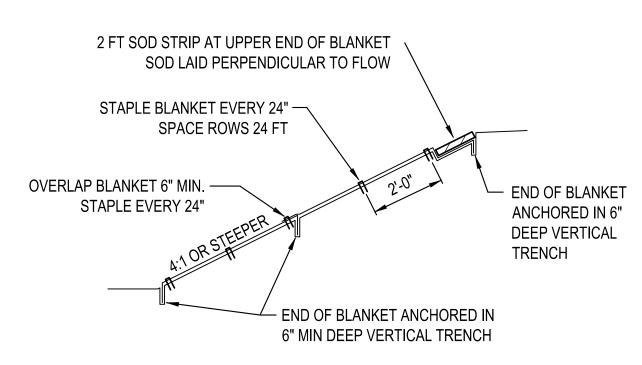


CONSTRUCTION ENTRANCE SPECIFICATIONS

- * STONE SIZE: USE 1"-2" CRUSHED ROCK OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- * THICKNESS: NOT LESS THAN 6-INCHES.
- * FILTER CLOTH: SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
- * MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- * WASHING: WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING
- * PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.

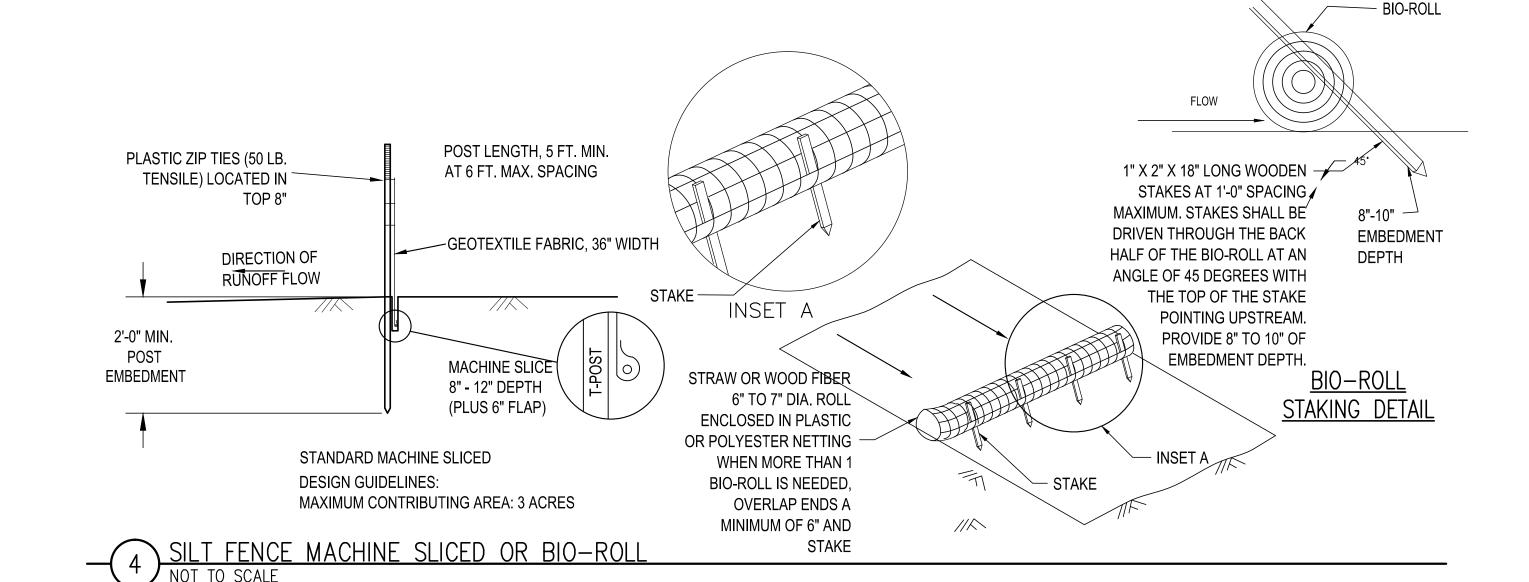


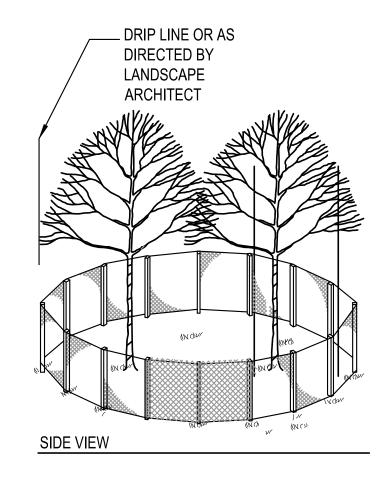
RIP RAP

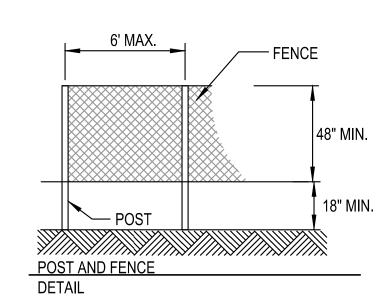


NOTE: EROSION CONTROL BLANKET ON 4:1 SLOPES OR STEEPER AND SWALES WITH LONGITUDINAL SLOPES OF 2.0% OR GREATER



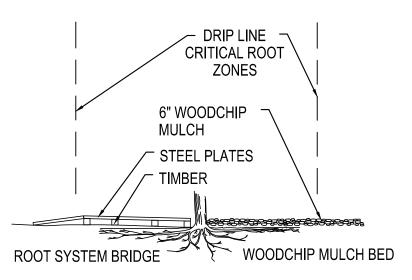






NOTES:

- 1. THE FENCE SHALL BE LOCATED AT THE DRIP LINE OF THE TREE TO BE SAVED AND IN NO CASE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE.
- 2. FENCE POSTS SHALL BE EITHER STANDARD STEEL POSTS OR WOOD POSTS WITH A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQ. IN.
- THE FENCE MAY BE EITHER 48" HIGH CHAINLINK FENCE, 48" HIGH SNOW FENCE, OR
 ANY OTHER MATERIAL AS APPROVED BY THE ENGINEER OR LANDSCAPE
 ARCHITECT.
- 4. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT CONSTRUCTION A PROTECTIVE LAYER OF MULCH AT A MINIMUM DEPTH OF 12" FOR VEHICLE ACCESS.



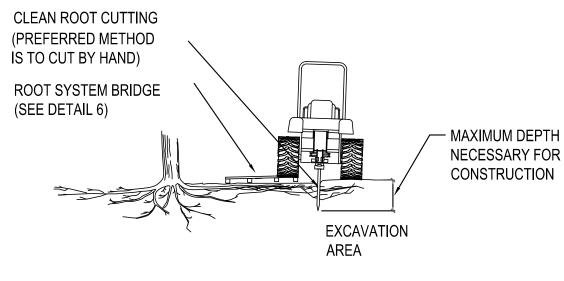
NOTES: IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, THE CONTRACTOR MUST EITHER:

1.CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.

OR

2.PLACE A 6 INCH LAYER OF WOODCHIP MULCH OVER A TYPE III GEOTEXTILE (MnDOT 3733).





1. WHEN DESIGNATED IN THE PLAN OR DIRECTED BY THE ENGINEER, PRIOR TO EXCAVATION, ALL TREE ROOTS WILL BE CLEANLY CUT BY A VIBRATORY PLOW, CHAIN TRENCH, OR BY HAND. NO BULLDOZER OR BACKHOE CUTTING WILL BE ALLOWED.

2.THE TREE ROOTS WILL BE CUT CLEANLY TO THE MAXIMUM DEPTH NECESSARY FOR CONSTRUCTION.

3. IMMEDIATELY AND CLEANLY, CUT DAMAGED AND EXPOSED ROOTS.

4. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6" LAYER OF ADJACENT SOIL.

(MnDOT 2572.3A2)

	1	CLEAN	ROOT	CUTTING
$ \top $	Г	NOT TO S	CALE	



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- -				
	 NO	DATE	REVISION	

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SIGNATURE: Meglin Soplin

TYPED OR PRINTED NAME: MEGAN A. GOPLIN

DATE: 03-24-2016 REG. NO.: 53018

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CHAMBERS GROVE PARK
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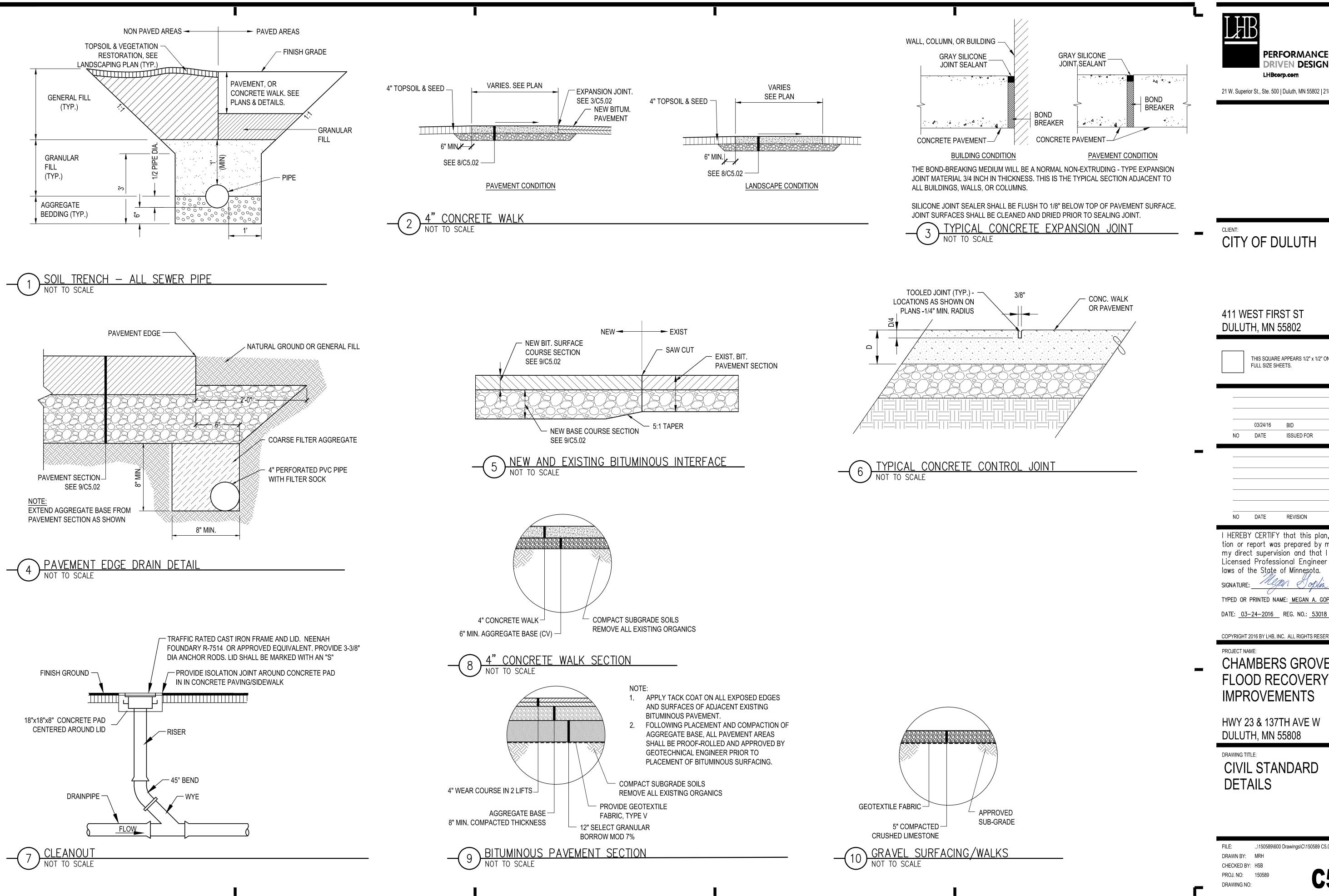
CIVIL STANDARD
DETAILS

FILE: ..\150589\600 Drawings\C\150589 C5.01 Civil Details.dwg
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C5.0'

TREE PROTECTION FENCING
NOT TO SCALE



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Megan Hoplin SIGNATURE:

TYPED OR PRINTED NAME: MEGAN A. GOPLIN

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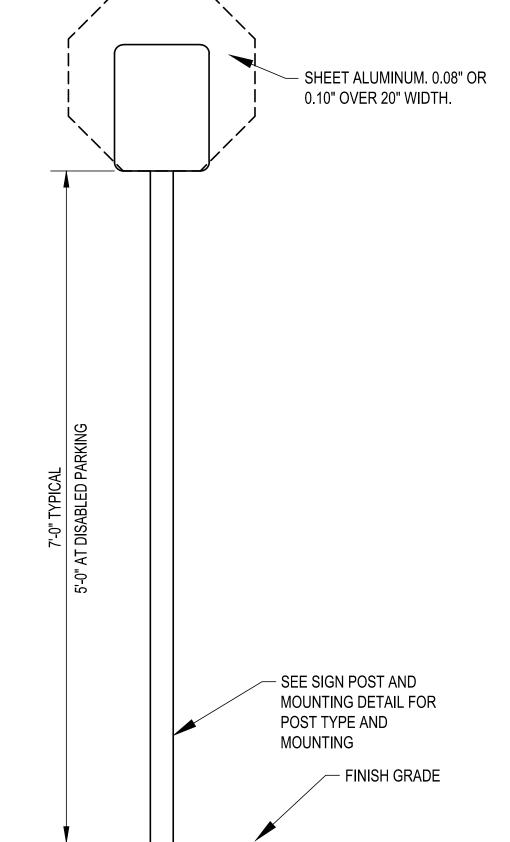
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DRAWING TITLE:

CIVIL STANDARD DETAILS

..\150589\600 Drawings\C\150589 C5.01 Civil Details.dwg DRAWN BY: MRH

CHECKED BY: HSB PROJ. NO: 150589



	SIGN SCHEDULE	
MUTCD CODE	TEXT	SIZE
R7-8bP	VAN ACCESSIBLE (PLAQUE)	12"x6"
R7-8m	DISABLED PARKING	12"x18"
R6-2	ONE WAY	24"x30"
R2-1	SPEED LIMIT 15 MPH	24"x30"
R5-1	DO NOT ENTER	30"x30"

NOTES:

4'-0" MIN.

1:50 MAXIMUM

MOUNT SIGNS 2'-0" AWAY FROM CURB FACE OR EDGE OF PAVEMENT.
 ALL SIGNS SHALL CONFORM TO MN MUTCD AND MNDOT SPECIFICATION

DISABLED PARKING SIGN WITH -

VAN ACCESSIBLE PLAQUE,

SEE 1/C5.03

- CURB AND

SIDEWALK

5 DISABLED PARKING STALL AND PAVEMENT STRIPING
NOT TO SCALE

CDISABLED

PAVEMEN

SYMBOL

SEE PLAN FOR WIDTH

NOSE DOWN

— ACCESS AISLE

6" WIDE WHITE STRIPE (TYP.)

—STRIPING 2' O.C. (TYP.)

6" MAX.

∼4" WIDE WHITE STRIPE (MIN.) (TYP)

NOTE: ♀ IS DIMENSION SHOWN ON

AND ACCESSIBLE RAMPS.

LAYOUT SHEETS FOR PARKING STALLS

CURB AT

- SECTION 3352.
- 3. ALL ACCESSIBLE SIGNS SHALL CONFORM TO THE MINNESOTA ACCESSIBILITY CODE.

SIGNAGE DETAIL

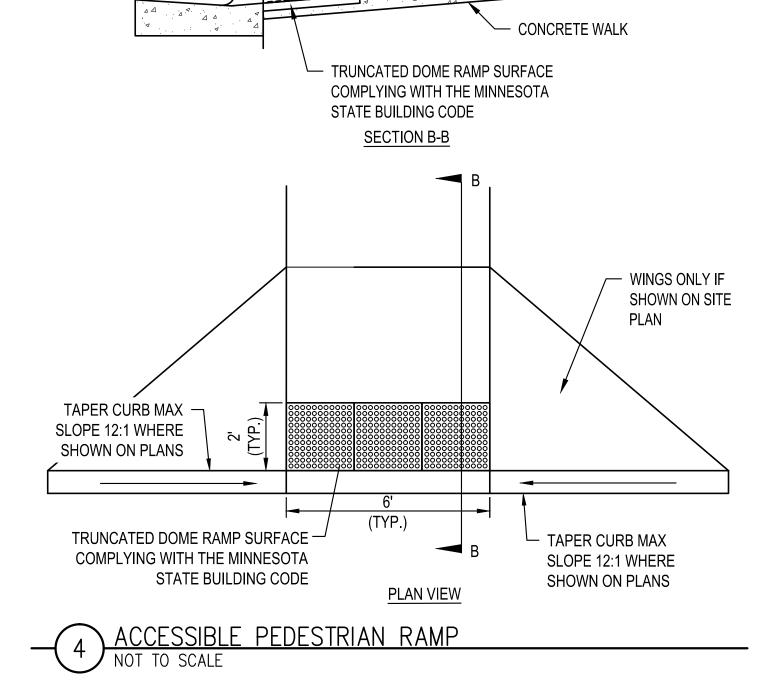
NOT TO SCALE

CURB AND —

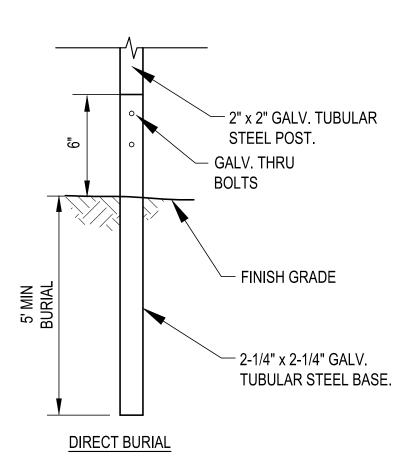
GUTTER

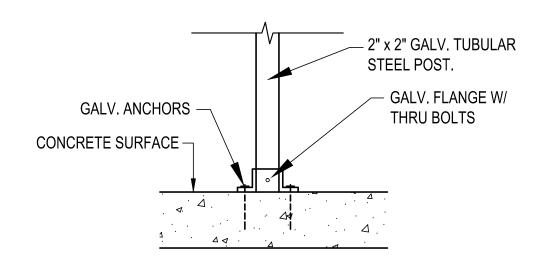
CURB RETURNS —

REGULATORY



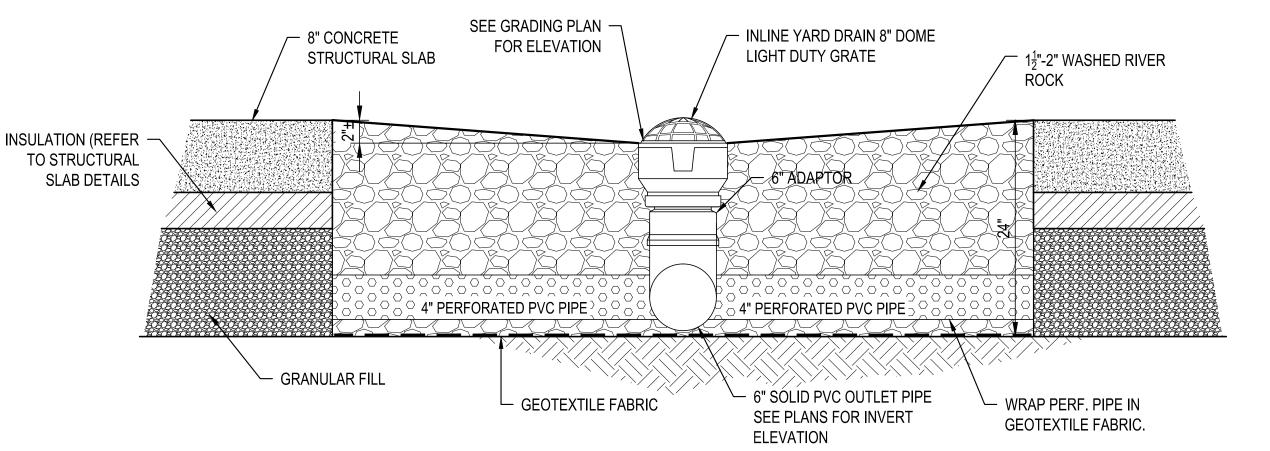
- ·12:1 MAXIMUM





SIGN POST AND MOUNTING DETAIL - TUBULAR

FLANGE MOUNT



3 INLINE DRAIN IN DRAIN ROCK



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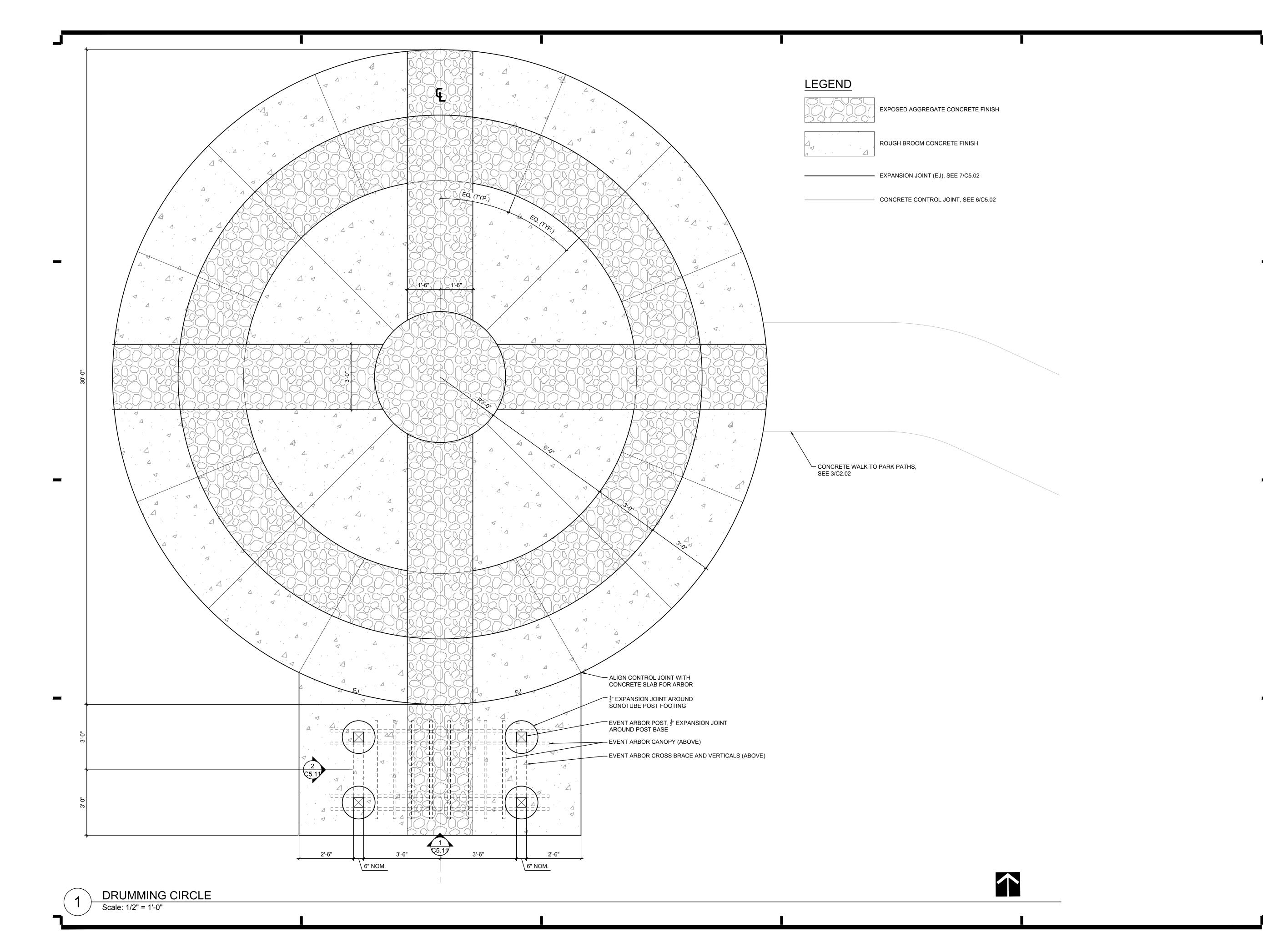
CIVIL STANDARD
DETAILS

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SIGNATURE: Heidis Pringaran

TYPED OR PRINTED NAME: HEIDI S. BRINGMAN

DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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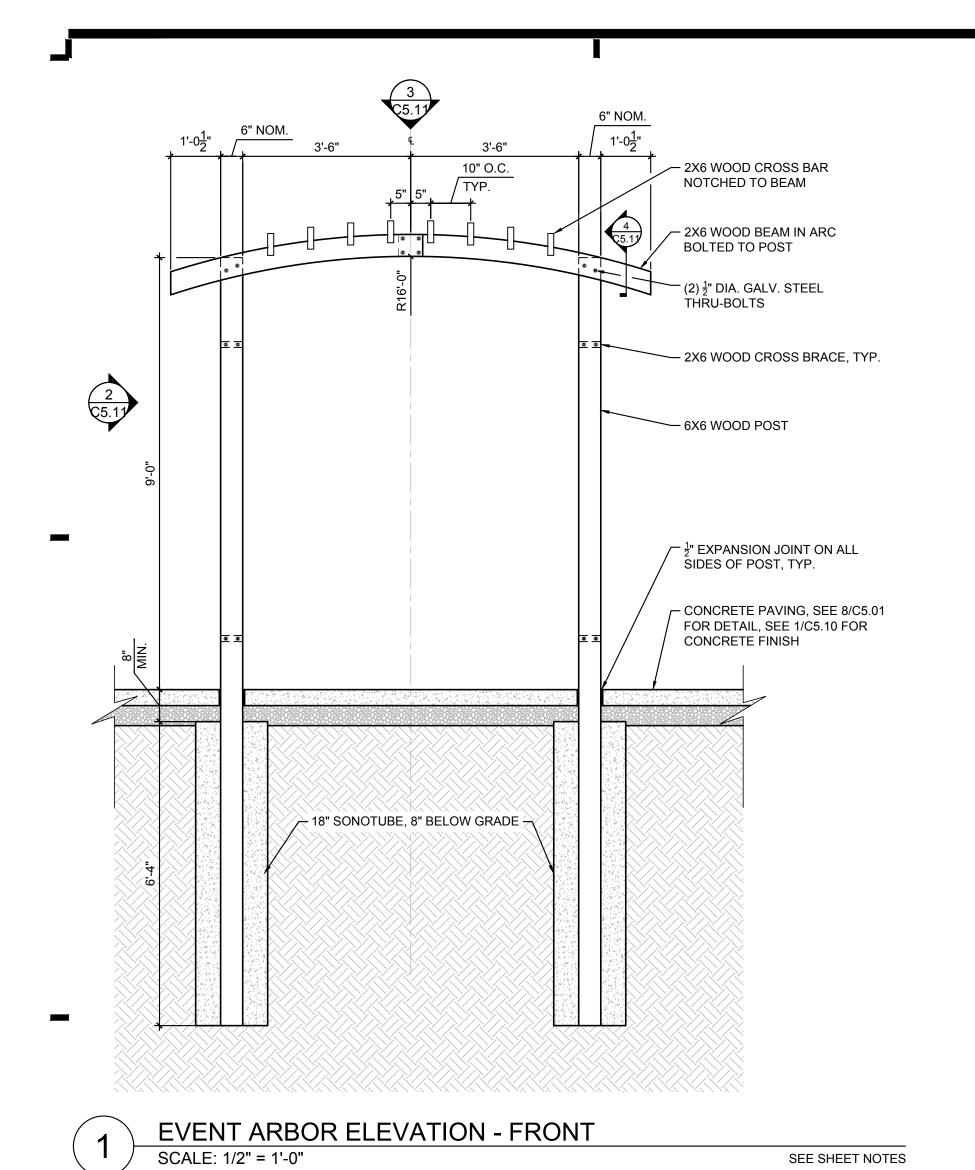
SITE DETAILS DRUMMING CIRCLE

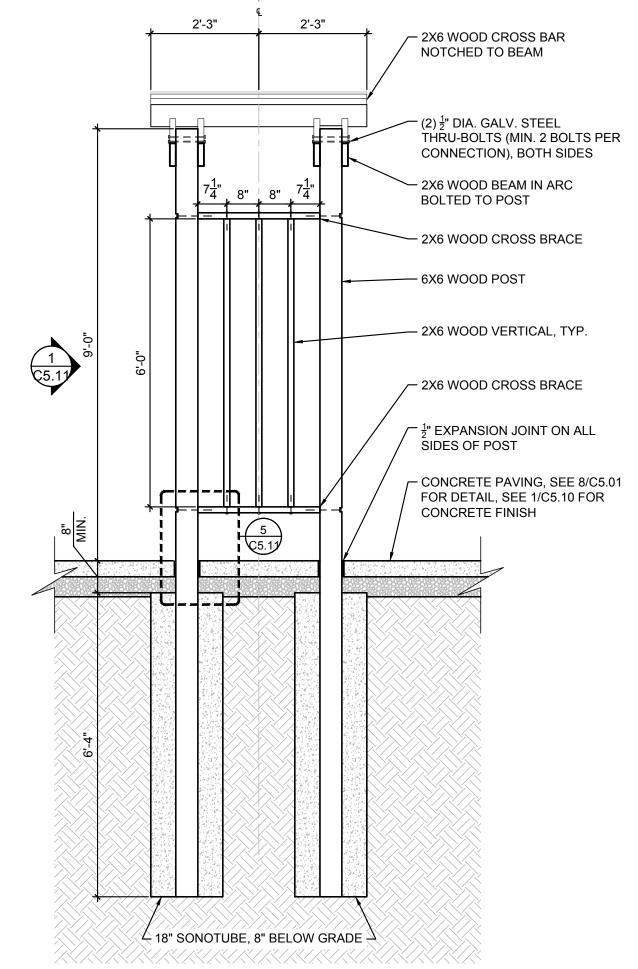
FILE: ..\150589\600 Drawings\C\150589 C5.10 Site Details.dwg
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EVENT ARBOR ELEVATION - SIDE

SEE SHEET NOTES



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SEE SHEET NOTES

1. ALL WOOD FOR ARBOR SHALL BE AC2® CEDARTONE PREMIUM

SLIGHTLY BEVELED TO SHED WATER FROM SURFACE, AND

2. TOPS OF ALL EXPOSED WOOD MEMBERS SHALL BE

SHALL BE FINISHED WITH A WOOD SEALER (SEE

(SEE SPECIFICATION).

SPECIFICATION).

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

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DRAWING TITLE:

SITE DETAILS **EVENT ARBOR**

..\150589\600 Drawings\C\150589 C5.10 Site Details.dwg DRAWN BY: SCM CHECKED BY: HSB

5'-0" 5'-0" 2X6 WOOD BEAM IN ARC **BOLTED TO POST** - 2X6 WOOD CROSS BRACE 2 C5.11 - 2X6 WOOD VERTICAL - 6X6 WOOD POST $(2)\frac{1}{2}$ " DIA. GALV. STEEL THRU-BOLTS (MIN. 2 BOLTS PER CONNECTION) 2X6 WOOD CROSS BAR NOTCHED TO BEAM

EVENT ARBOR - TOP PLAN

6X6 WOOD POST — 2X6 WOOD VERTICAL 2X6 WOOD CROSS BRACE — (2) ½" GALV. LAG BOLTS $(2)\frac{3}{8}$ " GALV. LAG BOLTS — 1" EXPANSION JOINT ON ALL SIDES OF POST CONCRETE PAVING, SEE 8/C5.01 FOR DETAIL, — SEE 1/C5.10 FOR CONCRETE FINISH ─ 18" SONOTUBE, 8" BELOW GRADE

2X6 WOOD BEAM IN ARC -2X6 WOOD CROSS BARS, NOTCH 2" -INTO CROSS BARS TO FIT BEAMS OVERLAP 3/8" Ø X 4" GALV. LAG BOLTS → (4) 2" GALV. CARRIAGE BOLTS $\frac{3}{8}$ " Ø -

BEAM LAP JOINT DETAIL - TOP VIEW SCALE: 1-1/2" = 1'-0"

CROSS BAR TO BEAM DETAIL SCALE: 1-1/2" = 1'-0"

6" NOM.

\ 2" NOM.

 $\frac{3}{8}$ " Ø X 4" GALV. LAG BOLTS —

2X6 WOOD BEAM IN ARC

BOLTED TO POST

 $(2)\frac{1}{2}$ " DIA. GALV. TSTEEL THRU-BOLTS

6X6 WOOD POST -

2X6 WOOD CROSS BAR, NOTCH 2" INTO CROSS BARS TO FIT BEAMS

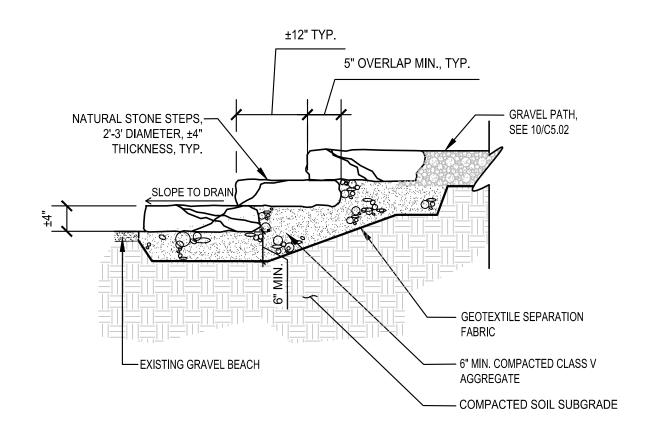
CROSS BRACE TO POST DETAIL SCALE: 1-1/2" = 1'-0"

SEE SHEET NOTES

SEE SHEET NOTES

SEE SHEET NOTES

PROJ. NO: 150589 DRAWING NO:



ALTERNATE #7 - STONE STEPS AT WATER TRAILHEAD

NOT TO SCALE

NOTES: 1. LAY OUT STONES ON TOP OF EXISTING LAWN. ONCE SPACING IS ACCEPTABLE, TRACE AROUND EACH

STONE WITH A SPADE. ALLOW FOR ±1" ADDITIONAL SPACE ON ALL SIDES.

2. REMOVE STONE AND DIG OUT SOD & SOIL TO SAME THICKNESS AS STONE AND SAND BEDDING.
3. REMOVE ANY ROCK OR DEBRIS, AND ENSURE SUBGRADE IS LEVEL.
4. ADD 2" CLEAN SAND TO PIT AND COMPACT.

5. PLACE STONE ON TOP OF COMPACTED SAND AND TAMP UNTIL STONE IS LEVEL.

6. RESTORE EDGES AROUND STONE WITH TOPSOIL AND LAWN SEED MIX.
7. TOP OF STONE SHALL BE FLUSH WITH EXISTING GRADE TO ALLOW FOR A MOWER TO DRIVE OVER.

NATURAL FLAGSTONE PAVER

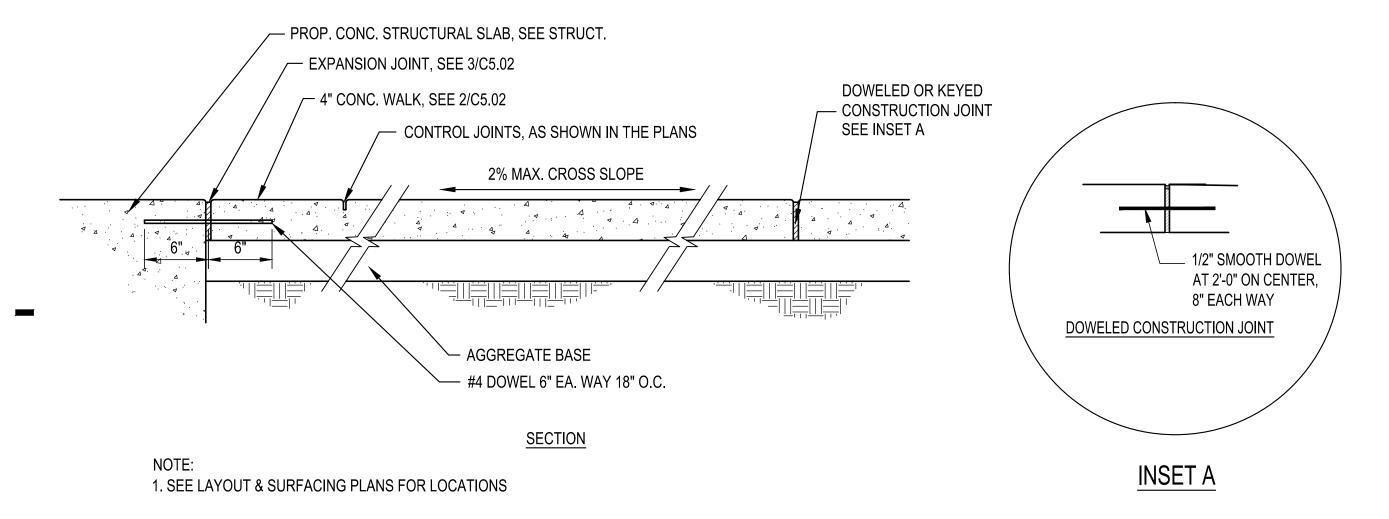
1 ½"-2" THICKNESS, 2'-3' DIAMETER, TYP.

2" CLEAN SAND SETTING BED

12" SPACING FILLED WITH 4" TOPSOIL
& SEED PER L2.01

PREPARED SUBGRADE

2 ALTERNATE #6 - STONE PATH TO POND OVERLOOK
NOT TO SCALE



3 CONCRETE STRUCTURAL SLAB CONNECTION TO SIDEWALK NOT TO SCALE



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TYPED OR PRINTED NAME: HEIDI S. BRINGMAN

DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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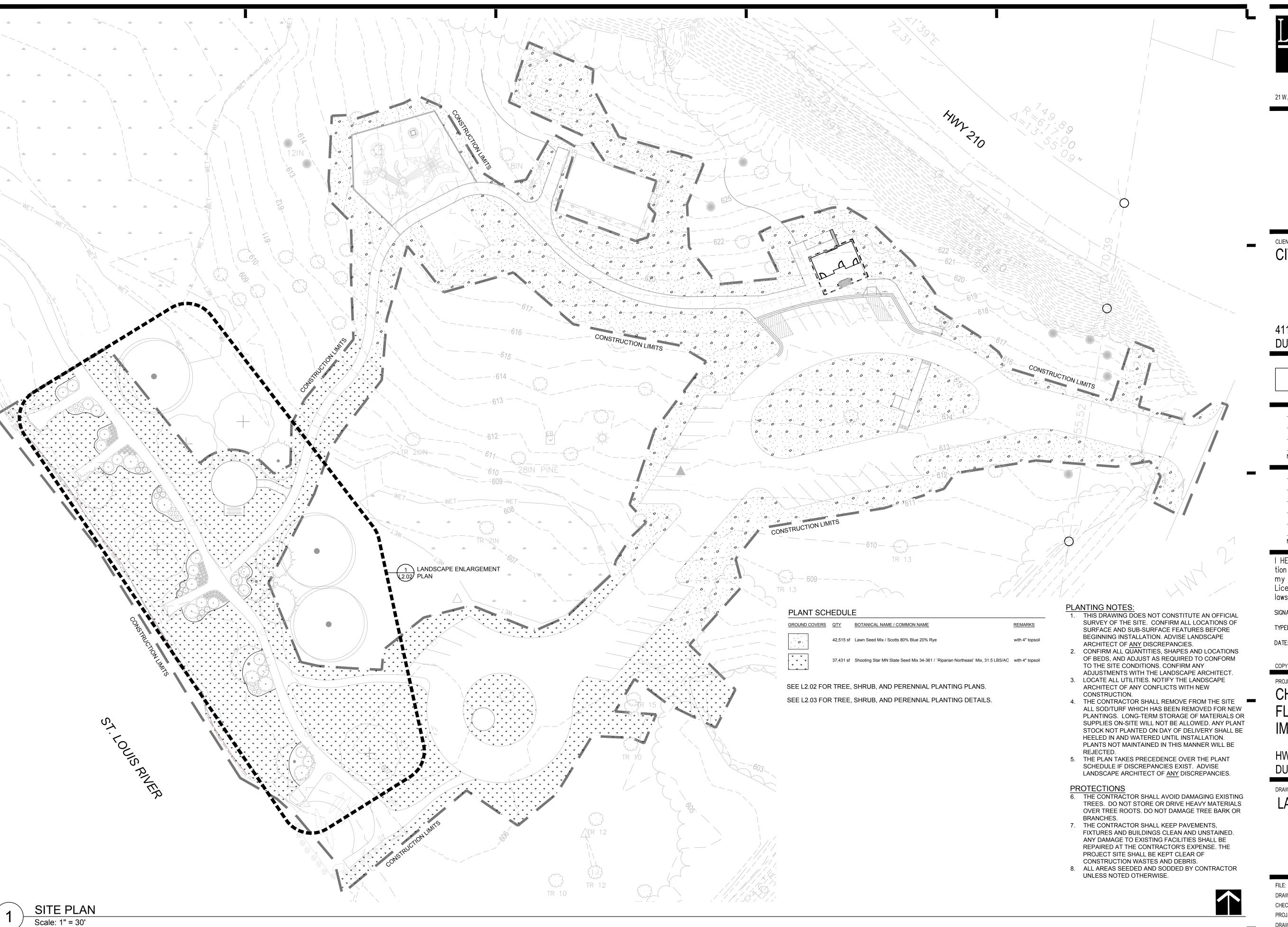
DRAWING TITLE:

SITE DETAILS

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DRAWING TITLE:

LANDSCAPE PLAN

FILE: ..\150589\600 Drawings\LA\150589 L2.00 Landscape Plan.dwg
DRAWN BY: SCM

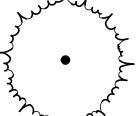
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PROJ. NO: 150589
DRAWING NO:

L2.01





CONT CAL CODE QTY BOTANICAL NAME / COMMON NAME



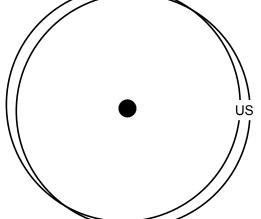
Betula nigra / River Birch Clump-form. Coordinate container and tree caliper with Landscape Architect if availability differs from



Quercus bicolor / Swamp White Oak AIR-POT 2"Cal Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.

AIR-POT 2"Cal

96" o.c.



Ulmus americana `St. Croix` / St. Croix American Elm AIR-POT 2"Cal Coordinate container and tree caliper with Landscape Architect if availability differs from schedule.

<u>SHRUBS</u>	CODE	<u>QTY</u>	BOTANICAL NAME / COMMON NAME	SIZE	<u>NOTES</u>	SPACIN
En.	AF	6	Amorpha fruticosa / False Indigo	#5 CONT.		120" o.c
#	AG	59	Calamagrostis × acutiflora / Karl Foerster	4" pot		24" o.c.
\odot	CI	8	Cornus sericea `Isanti` / Isanti Redosier Dogwood	#5 CONT.		96" o.c.
$\langle \cdot \rangle$	DL	14	Diervilla Ionicera / Dwarf Bush Honeysuckle	#2 CONT.		36" o.c.
0	IA	9	Ilex verticillata `Afterglow` / Afterglow Winterberry	#2 CONT.		48" o.c.
	IV	3	Ilex verticillata `Jim Dandy` / Jim Dandy Winterberry	#2 CONT.		48" o.c.

SC 12 Salix purpurea 'Canyon Blue' / Arctic Blue Leaf Willow #5 CONT.

SEE L2.01 FOR GROUNDCOVER PLANTING PLANS.

SEE L2.03 FOR TREE, SHRUB, AND PERENNIAL PLANTING DETAILS.

- THIS DRAWING DOES NOT CONSTITUTE AN OFFICIAL SURVEY OF THE SITE. CONFIRM ALL LOCATIONS OF SURFACE AND SUB-SURFACE FEATURES BEFORE BEGINNING INSTALLATION. ADVISE LANDSCAPE
- ARCHITECT OF <u>ANY</u> DISCREPANCIES. 2. CONFIRM ALL QUANTITIES, SHAPES AND LOCATIONS OF BEDS, AND ADJUST AS REQUIRED TO CONFORM TO THE SITE CONDITIONS. CONFIRM ANY
- ADJUSTMENTS WITH THE LANDSCAPE ARCHITECT. 3. LOCATE ALL UTILITIES. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH NEW
- 4. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL SOD/TURF WHICH HAS BEEN REMOVED FOR NEW PLANTINGS. LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED. ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE
- 5. THE PLAN TAKES PRECEDENCE OVER THE PLANT SCHEDULE IF DISCREPANCIES EXIST. ADVISE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
- 6. THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES. DO NOT STORE OR DRIVE HEAVY MATERIALS OVER TREE ROOTS. DO NOT DAMAGE TREE BARK OR
- THE CONTRACTOR SHALL KEEP PAVEMENTS, FIXTURES AND BUILDINGS CLEAN AND UNSTAINED. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE PROJECT SITE SHALL BE KEPT CLEAR OF
- 8. ALL AREAS SEEDED AND SODDED BY CONTRACTOR UNLESS NOTED OTHERWISE.



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03/24/16 BID
NO DATE ISSUED FOR

I HEREBY CERTIFY that this plan, specifica tion or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.

SIGNATURE: <u>Heidis Paringaran</u> TYPED OR PRINTED NAME: HEIDI S. BRINGMAN

DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

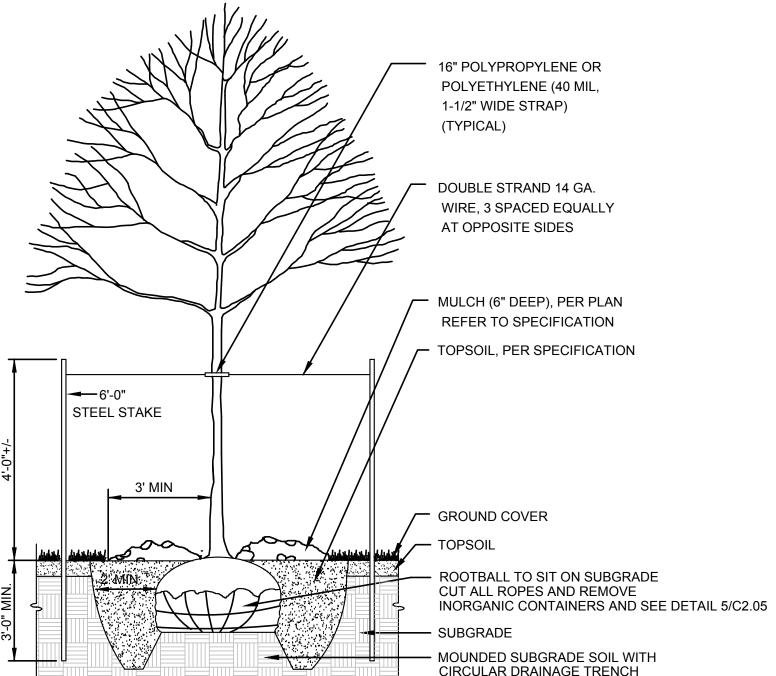
LANDSCAPE ENLARGEMENT PLAN

FILE: ...\150589\600 Drawings\LA\150589 L2.00 Landscape Plan.dwg DRAWN BY: SCM

CHECKED BY: HSB PROJ. NO: 150589

DRAWING NO:

- 1. IT IS THE CONTRACTOR'S OPTION TO STAKE TREES; HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.
- 2. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING. 3. DO NOT PLANT TOO DEEP: EXPOSE TOP OF ROOT FLARE AND
- PULL MULCH AWAY FROM TRUNK. 4. HAND REMOVE EXCESS SOIL AT TOP OF ROOT BALL TO EXPOSE TOP OF ROOT FLARE. TYPICALLY REQUIRES THE REMOVAL OF 1-6"
- OF SOIL FROM CONTAINER OR B&B. 5. ENSURE THAT FIRST MAIN LATERAL ROOT IS LESS THAN 1" BELOW THE FINAL PLANTING SURFACE.



DECIDUOUS TREE NOT TO SCALE

ENCIRCLING ROOTS.

1. FOR TREES, SHRUBS, AND PERENNIALS WITH INORGANIC

2. "BOXING" IS ONLY NECESSARY ON PLANTS THAT HAVE

SECTION

"BOXING" THE ROOT BALL (TYPICAL).

ENCIRCLING ROOTS WITH DIAMETERS GREATER THAN 1/4". 3. HAND LOOSENING OF ROOTS IS STILL NECESSARY AFTER

CONTAINERS, FOLLOW THE "BOXING" PROCEDURE TO REMOVE

CIRCULAR DRAINAGE TRENCH SURROUNDING

PLANT CANOPY

RÉMOVE ENCIRCLING ROOTS > 1/4" DIA.

WITH A CLEAN SAW, CUTTING OFF ALL SIDES AND BASE OF SOIL MASS INTO A "BOX" SHAPE

SOIL MASS/ROOT BALL

SHRUB PLANTING NOT TO SCALE



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- HAND LOOSEN ROOTS OF CONTAINERIZED MATERIAL (TYPICAL). 2. HAND REMOVE EXCESS SOIL AT TOP OF ROOT BALL TO EXPOSE
- TOP OF ROOT FLARE. TYPICALLY REQUIRES THE REMOVAL OF 1-6" OF SOIL FROM CONTAINER OR B&B. 3. ENSURE THAT FIRST MAIN LATERAL ROOT IS LESS THAN 1"
- BELOW THE FINAL PLANTING SURFACE.
- 4. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING. 5. SHRUBS TO SIT ON SUBGRADE.
- APPLY PELLET WEED PREVENTER PRIOR TO MULCHING. EDGING: SPADED EDGING SHALL CONSIST OF A HAND OR

MACHINE TRIMMED NEAT EDGE TRUE TO ALIGNMENT AND DIMENSIONS INDICATED ON THE PLANS. A SCALLOPED EDGE WILL NOT BE ACCEPTABLE.

PER PLAN AND SCHEDULE

MULCH (3" DEEP)

TOPSOIL

APPROVED SUBGRADE

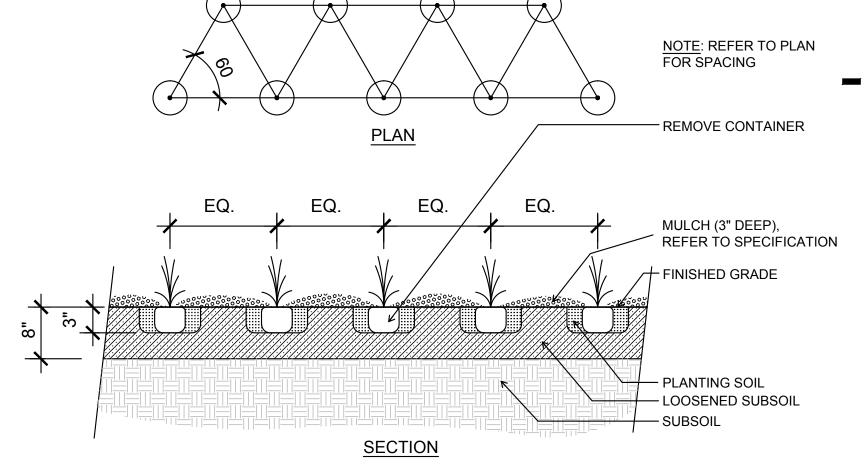
REFER TO SPECIFICATION

TOPSOIL, PER SPECIFICATION

SPADED EDGE, SEE NOTE 7

REFER TO SPECIFICATION

- SLIT ORGANIC CONTAINER, OR REMOVE INORGANIC CONT. AND SEE DETAIL 5/C2.05



PERENNIAL PLANTING NOT TO SCALE

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THIS SQUARE APPEARS 1/2" x 1/2" OF FULL SIZE SHEETS.
--

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NO DATE REVISION

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 Landscape Architect under the laws of the State of Minnesota.

SIGNATURE: Heidis Pringaran TYPED OR PRINTED NAME: HEIDI S. BRINGMAN

DATE: <u>03-24-2016</u> REG. NO.: <u>46914</u>

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

LANDSCAPE DETAILS

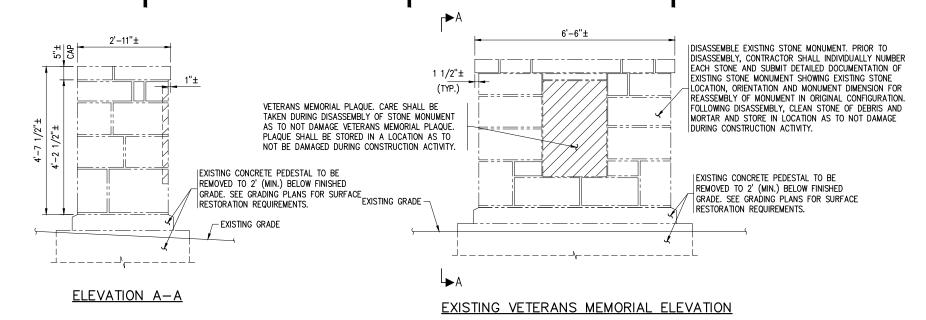
BOXING PROCEDURE FOR CONTAINERIZED PLANTS NOT TO SCALE

<u>PLAN</u>

FILE: ..\150589\600 Drawings\LA\150589 L2.00 Landscape Plan.dwg DRAWN BY: SCM

CHECKED BY: HSB PROJ. NO: 150589 DRAWING NO:

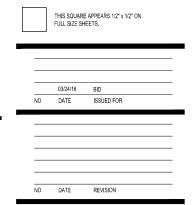






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SIGNATURE: Christopher J. miller TYPED OR PRINTED NAME: CHRISTOPHER J. MILLER

DATE: <u>03-24-2016</u> REG. NO.: <u>49840</u>

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PROJECT NAME

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

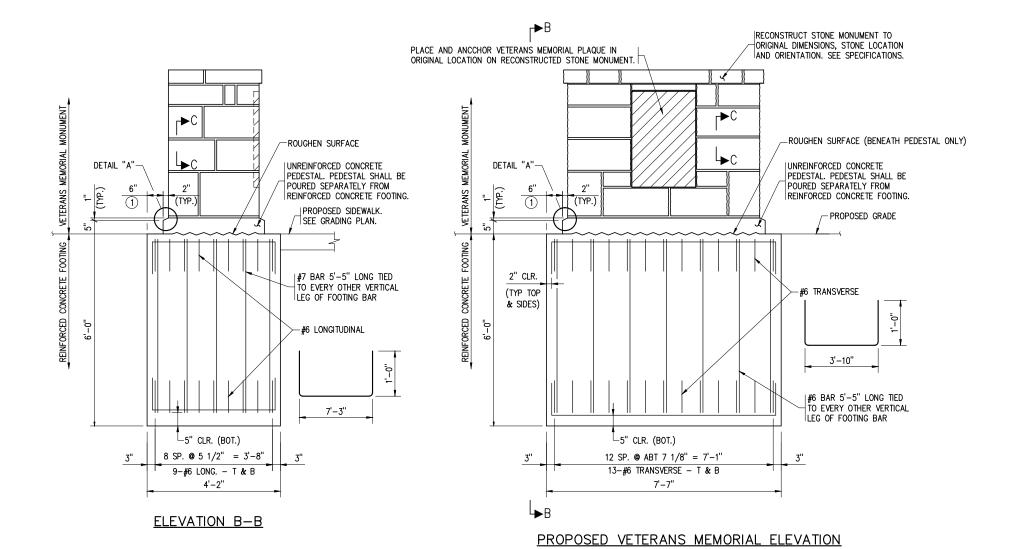
HWY 23 & 137TH AVE W **DULUTH, MN 55808**

DRAWING TITLE

VETERAN MEMORIAL MONUMENT RELOCATION (ALT. #2)

DRAWN BY: CJM CHECKED BY: JDL PROJ. NO: 150589

DRAWING NO:



NOTES:

CONCRETE SHALL CONFORM TO MnDOT SPEC 2461. CONCRETE MIX DESIGN SHALL BE 3Y43 OR APPROVED EQUIVALENT.

REINFORCEMENT BAR PLAIN BAR AND SHALL MEET MnDOT SPEC 3301.

-FACE OF PEDESTAL

|MATCH EXISTING MORTAR JOINT THICKNESS

SECTION C-C

DETAIL "A"

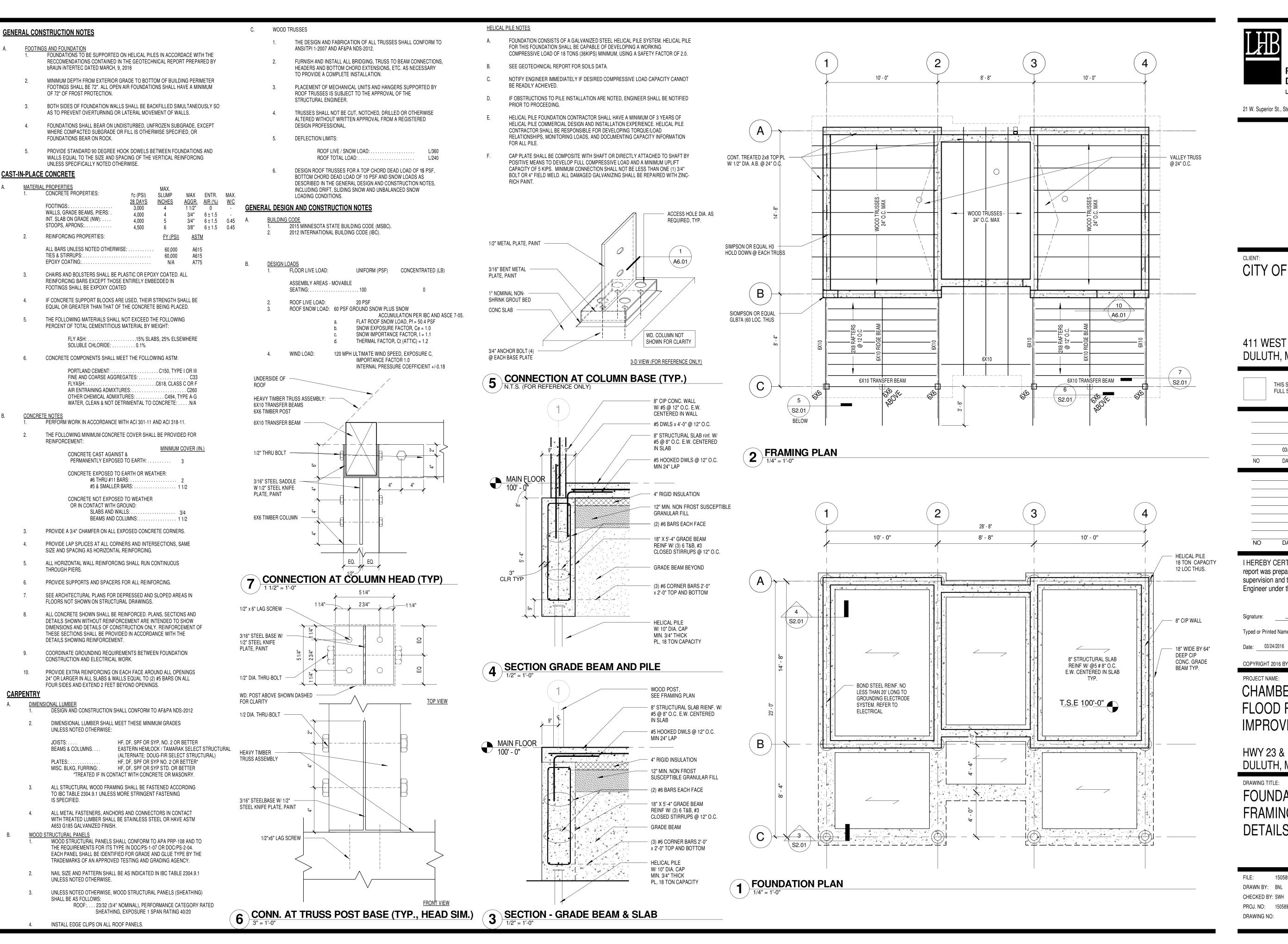
IMORTAR JOINT

SHALL BE TOOLED

SLIGHTLY CONCAVE

TOP OF CONCRETE PEDESTAL

1) DIMENSION TO BE EQUAL ON FRONT AND BACK AND ALL SIDES. ADJUST AS NECESSARY TO COINCIDE WITH FIELD VERIFIED MONUMENT DIMENSIONS.

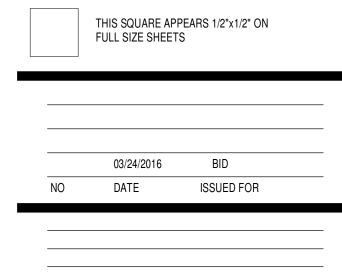


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REVISION

DATE

STEPHEN W. HEARN Typed or Printed Name: Date: 03/24/2016 25409

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PROJECT NAME:

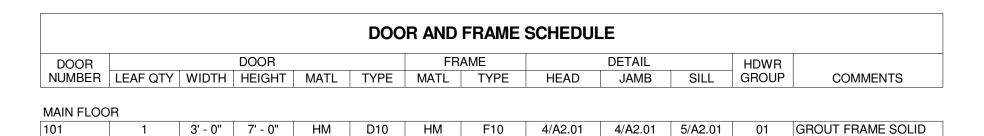
CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

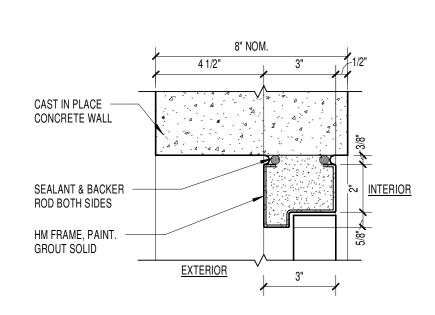
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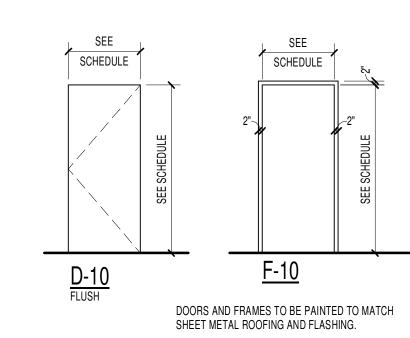
FOUNDATION PLAN, FRAMING PLAN AND **DETAILS**

150589 CHAMBERS GROVE A16.rvt FILE: DRAWN BY: BNL CHECKED BY: SWH



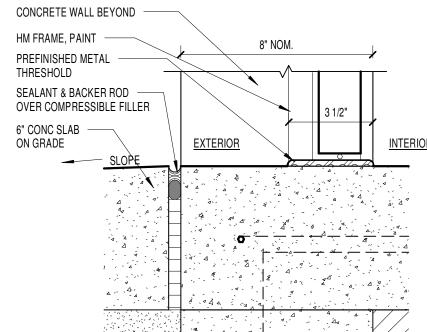
1 3' - 0" 7' - 0" HM D10 HM F10 4/A2.01 4/A2.01 5/A2.01 02 GROUT FRAME SOLID
1 3' - 0" 7' - 0" HM D10 HM F10 4/A2.01 5/A2.01 01 GROUT FRAME SOLID MAIN FLOOR: 3 Grand total: 3

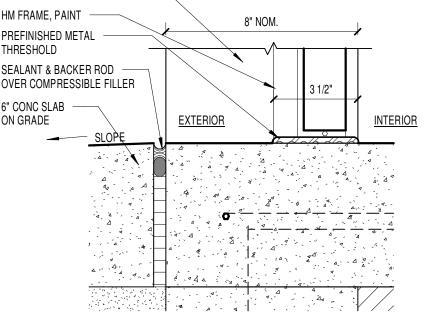




4 DOOR HEAD DETAIL (JAMB SIM.)

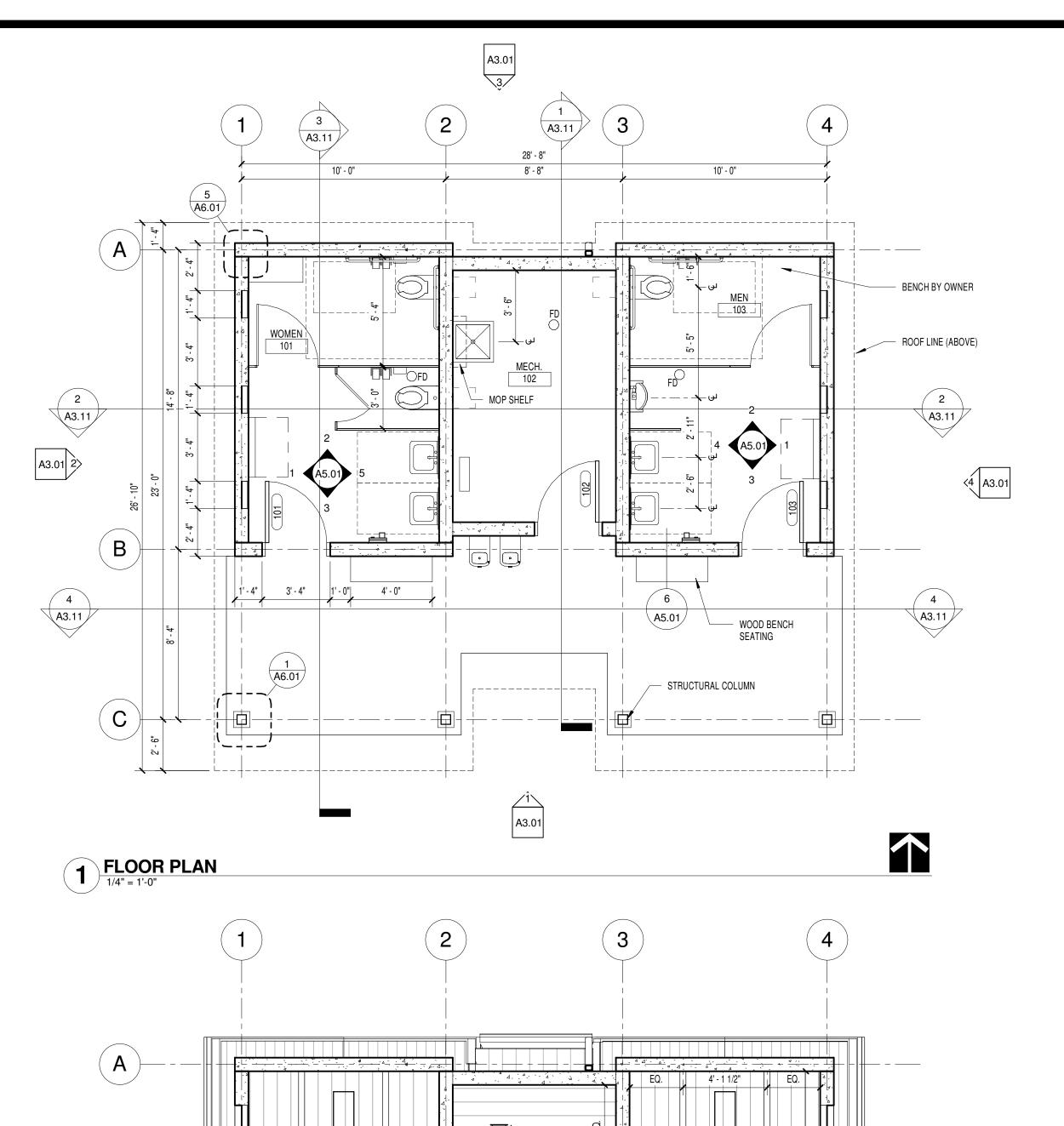






5 THRESHOLD DETAIL 3" = 1'-0"

					ROOM FINIS	SH SCHEDULE				
ROOM		FLOOR	BASE		WAL	L FINISH		CEILING	CEILING	
NUMBER	ROOM NAME	FINISH	FINISH	NORTH	EAST	SOUTH	WEST	MATL	FINISH	COMMENTS
	•						'			
101	WOMEN	SEALED		GRAFFITI	GRAFFITI	GRAFFITI	GRAFFITI	WD SIDING	STAINED &	
		CONC.		CONTROL	CONTROL	CONTROL	CONTROL		SEALED	
102	MECH.	SEALED		GRAFFITI	GRAFFITI	GRAFFITI	GRAFFITI	WD SIDING	STAINED &	
		CONC.		CONTROL	CONTROL	CONTROL	CONTROL		SEALED	
103	MEN	SEALED		GRAFFITI	GRAFFITI	GRAFFITI	GRAFFITI	WD SIDING	STAINED &	
		CONC.		CONTROL	CONTROL	CONTROL	CONTROL		SEALED	



GENERAL PLAN NOTES

- FIELD VERIFICATION AND REVIEW IS REQUIRED BY ALL PRIMES AND SUB-CONTRACTORS PRIOR TO FABRICATION AND CONSTRUCTION.
- 2. EXISTING CONSTRUCTION, UTILITIES AND LANDSCAPE THAT HAS BEEN DAMAGED AS A RESULT OF THE WORK SHALL BE REPAIRED TO AN EXTENT AND AS REQUIRED TO MATCH ADJACENT. (INCIDENTAL)
- B. COORDINATE ALL WORK WITH CIVIL, ARCH, L.A., MECH AND ELEC. DOCUMENTS.
- 4. ALL EXPOSED WOOD IS TO BE STAINED AND SEALED.
- ALL EXPOSED METAL IS TO BE PRIMED AND PAINTED, UNLESS NOTED OTHERWISE.
- 6. SEE THIS SHEET FOR ROOM AND DOOR SCHEDULES.



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	03/24/2016	BID	
NO	DATE	ISSUED FOR	

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Dande Miss M

Typed or Printed Name: BRANDEE NESS LIAN

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE: FLOOR PLAN, REFLECTED CEILING PLAN, DOOR SCHEDULE, ROOM FINISH SCHEDULE

FILE: 150589 CHAMBERS GROVE A16.rvt DRAWN BY: BNL

CHECKED BY: BNL PROJ. NO: 150589 **A2.01** DRAWING NO:

B

1

A2.21 8' - 4" A.F.I PLYWOOD EXTERIOR SIDING, STAINED AND SEALED 6x10 TIMBER TRUSS, REFER TO C STRUCTURAL **^** REFLECTED CEILING PLAN
1/4" = 1'-0"

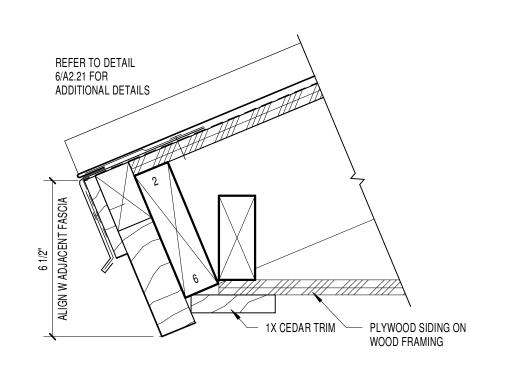
4' - 0"

4

A2.21

- PLYWOOD EXTERIOR SIDING AT BOTTOM OF TRUSSES, TYP.

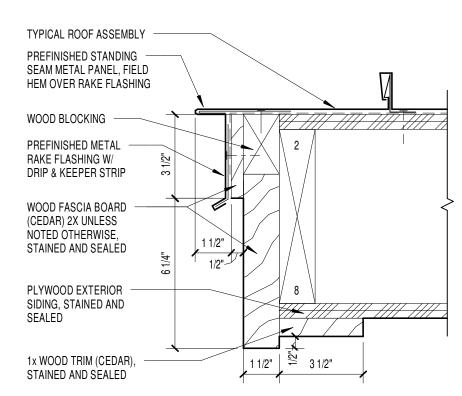
1x WOOD TRIM



8 ROOF EAVE DETAIL
3" = 1'-0"

PREFINISHED METAL
FLASHING OVER EXPOSED
PORTION OF WOOD BEAMS 6X10 WOOD BEAM

9 WOOD BEAM EDGE
3" = 1'-0"



800F RAKE DETAIL3" = 1'-0"

PREFINISHED METAL SNOW -RETENTION ASSEMBLY WITH NON-PENETRATING SET

TYP. ROOF ASSEMBLY

PREFINISHED METAL

STARTER STRIP

PREFINISHED — METAL STARTER

FLASHING W DRIP &
KEEPER STRIP

WOOD FASCIA BOARD (CEDAR), 2x, UNLESS

NOTED OTHERWISE, STAINED AND SEALED PLYWOOD EXTERIOR SIDING, STAINED AND SEALED

6 ROOF EAVE DETAIL
3" = 1'-0"

ROUND PENETRATION, SEE MECH. -

STAINLESS STEEL CLAMPING RING PREFINISHED FIELD FABRICATED

PRE-MOLDED PIPE FLASHING W/ ALUMINUM BASE SET IN CONT BED

GASKETED FASTENER BY ROOF -MANUFACTURER, 3" O.C. MAX

7 ROOF PENETRATION DETAIL

3" = 1'-0"

TYPICAL ROOF ASSEMBLY

CONT. BEAD OF LAP SEALANT

METAL HOOD

OF SEALANT

SCREWS

1X WOOD TRIM (CEDAR), STAINED AND SEALED

PREFINISHED METAL CONT. VENT STRIP

1X WOOD TRIM (CEDAR),

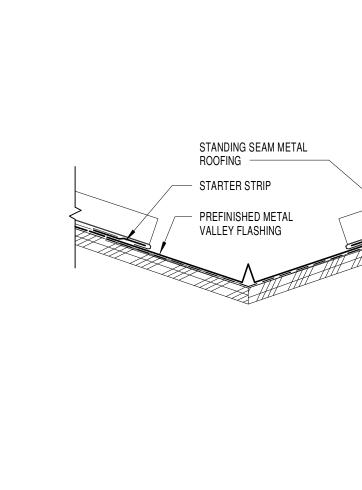
STAINED AND SEALED

Z-CLOSURE PIECE (BY ROOF INSTALLER) TYPICAL ROOF ASSEMBLY

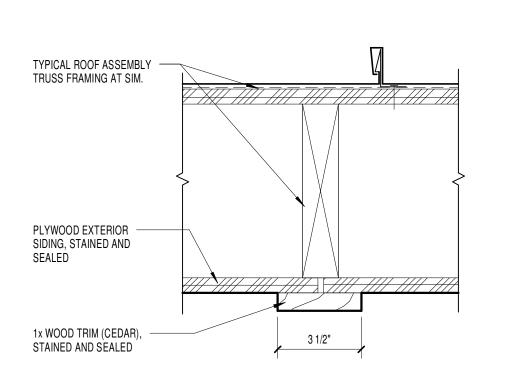
ROOF RIDGE DETAIL
3" = 1'-0"

PREFINISHED METAL

RIDGE CAP

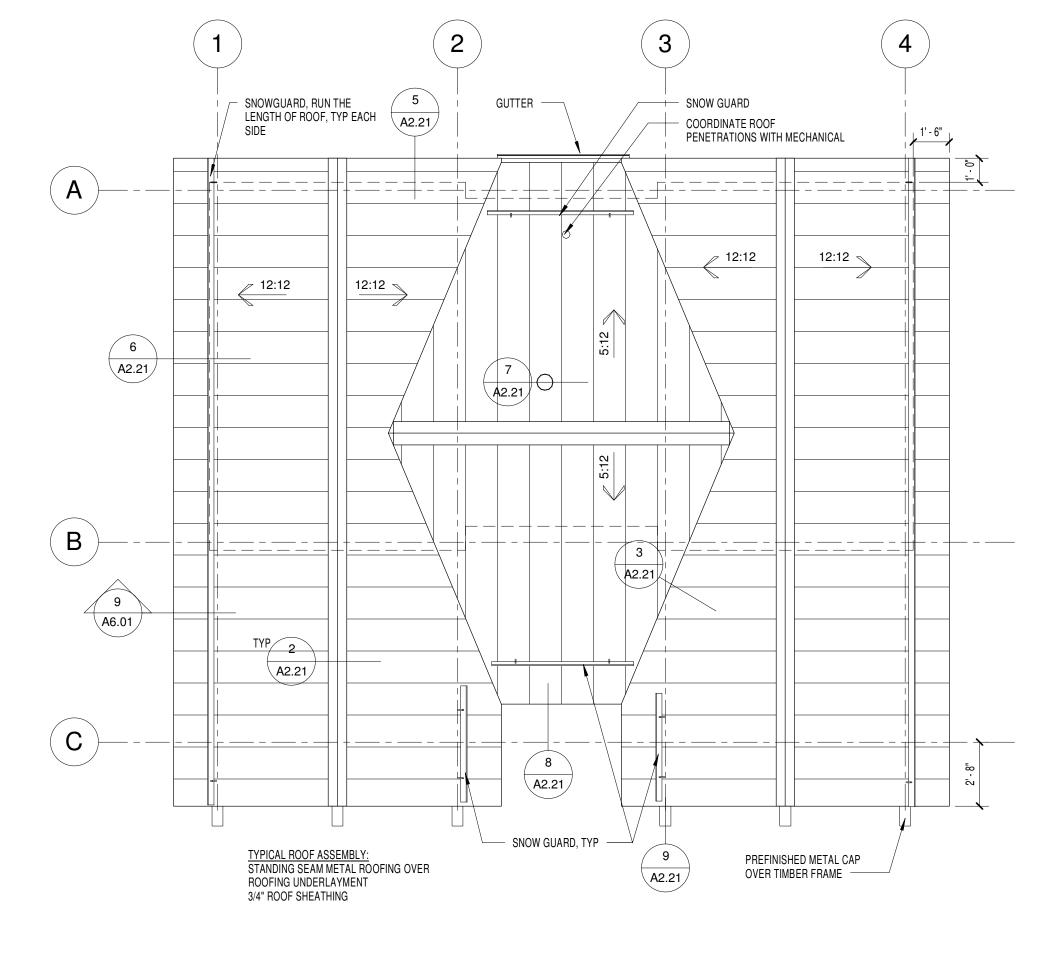


3 ROOF VALLEY DETAIL
3" = 1'-0"



4 ROOF/CEILING BATTEN DETAIL

3" = 1'-0"



1 ROOF PLAN
1/4" = 1'-0"



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03/24/2016 BID			
03/24/2016 BID			
		03/24/2016	BID
NO DATE ISSUED FOR	NO	DATE	ISSUED FOR

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 Architect under the laws of the State of Minnesota.

Signature	a Ba	andit	use /	· ~
Typed or	Printed Name:	BRAN	IDEE NESS LI	IAN
Date:	03/24/2016	Reg. No.:	42859	

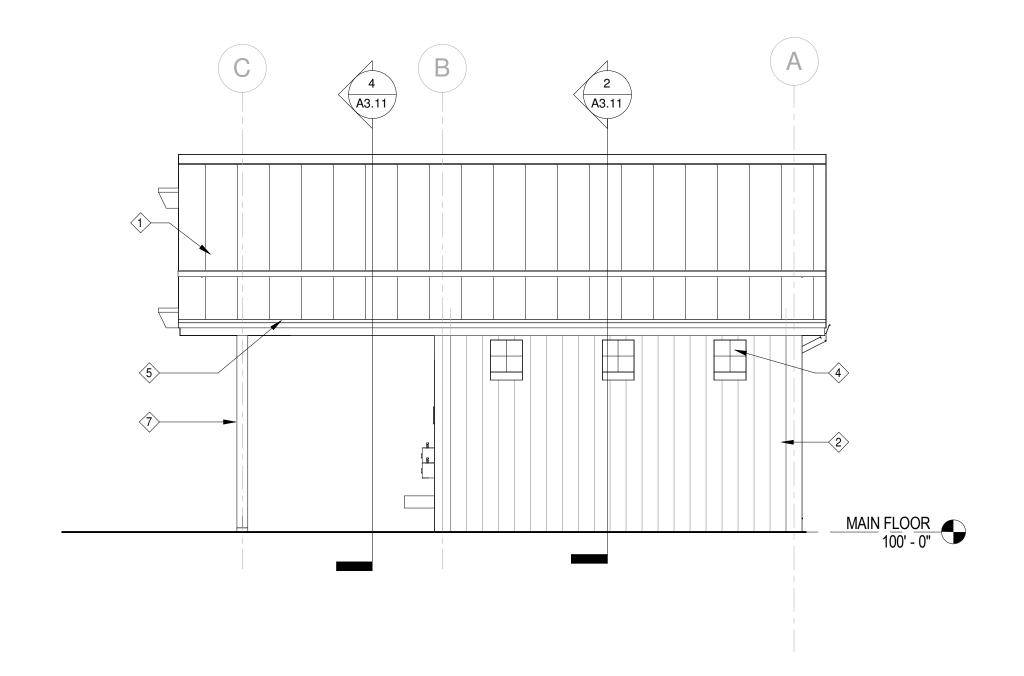
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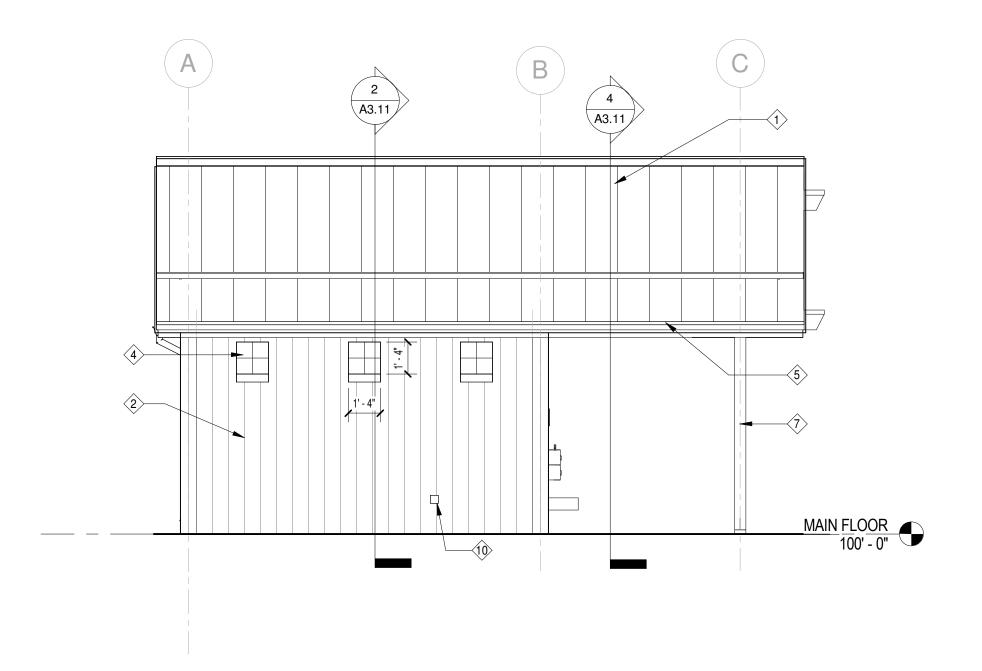
PROJECT NAME: CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

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DRAWING TITLE: ROOF PLAN AND DETAILS

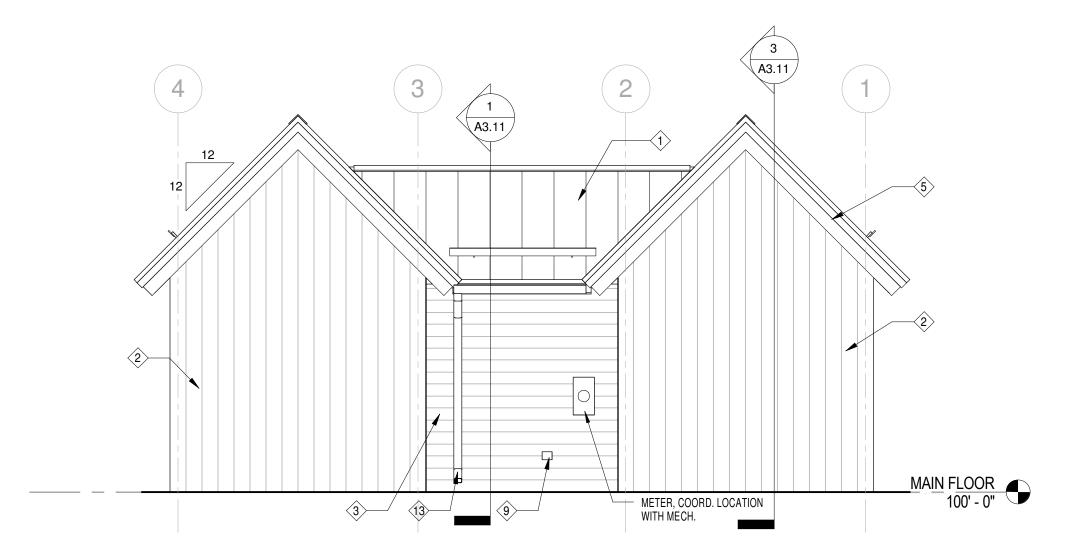
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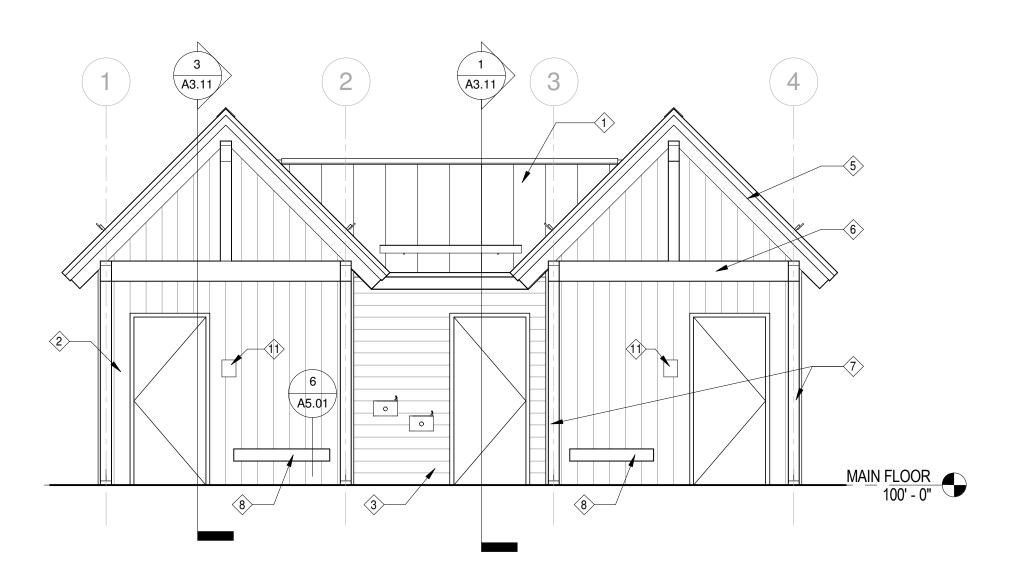




WEST ELEVATION

1/4" = 1'-0"





NORTH ELEVATION

1/4" = 1'-0"

EAST ELEVATION

1/4" = 1'-0"

1 SOUTH ELEVATION
1/4" = 1'-0"

ELEVATION KEYED SHEET NOTES

- 1 STANDING SEAM METAL ROOFING
- 8" VERTICAL BOARD FORMED CONCRETE WALL ON EXTERIOR, SMOOTH ON INTERIOR
- 8" HORIZONTAL BOARD FORMED CONCRETE WALL ON EXTERIOR, SMOOTH ON INTERIOR
- 4 GLASS BLOCK WINDOW ASSEMBLY
- 5 WOOD FASCIA BOARD
- 6 HEAVY TIMBER 6X10 TRANSFER BEAM
- 7 HEAVY TIMBER 6X6 COLUMN
- 8 WOOD BENCH, SEE 3/A6.01
- 9 WALL HYDRANT, COORDINATE OPENING SIZE WITH MECH.
- EXTERIOR ELEC BOX LOCATION. COORDINATE WITH ELECTRICAL 11) SIGNAGE, REFER TO 7/A5.01
- 12 EXTERIOR LIGHT FIXTURE

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	03/24/2016	BID
NO	DATE	ISSUED FOR
NO	DATE	REVISION

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	Barnel St. 55	100
Signature:	DOUND OSE	Un-

Typed or Printed Name: BRANDEE NESS LIAN

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PROJECT NAME: CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

PROJ. NO: 150589 DRAWING NO:

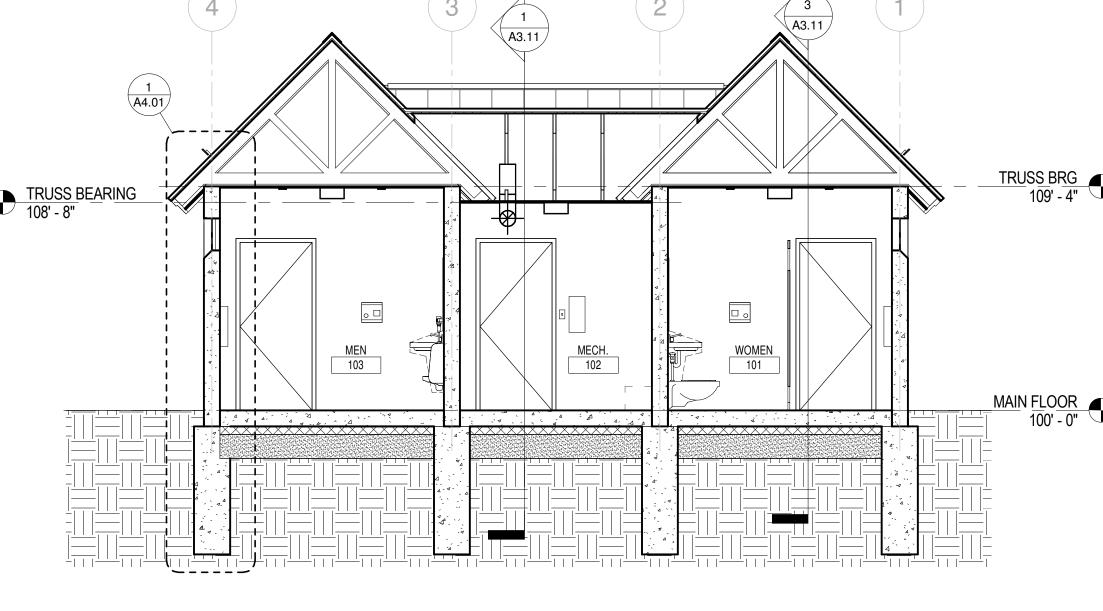
DRAWING TITLE: **EXTERIOR ELEVATIONS**

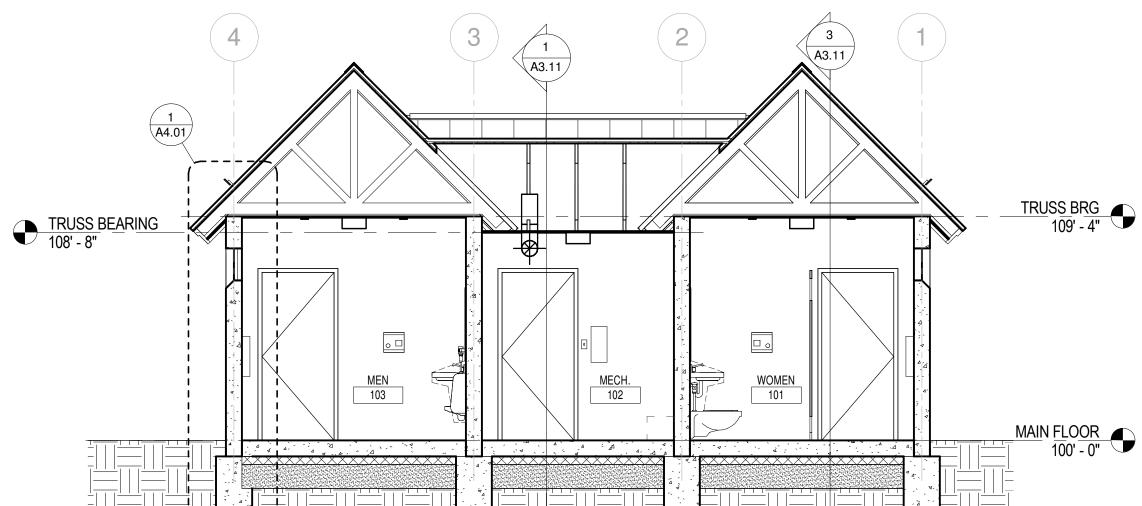
150589 CHAMBERS GROVE A16.rvt FILE: DRAWN BY: BNL CHECKED BY: BNL

A3.01

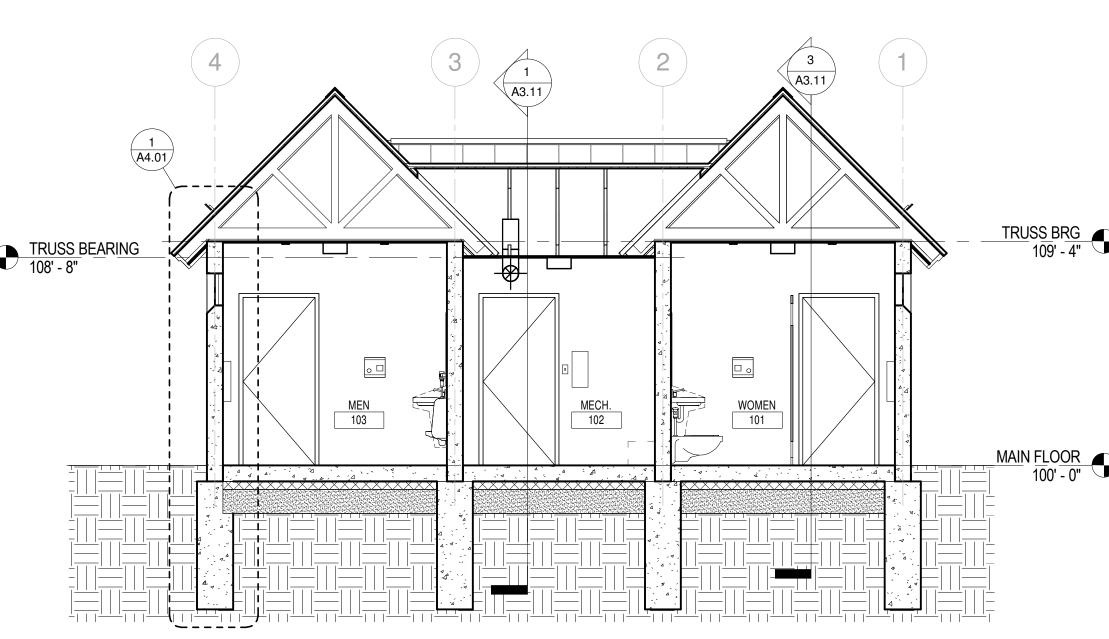
4 BUILDNIG SECTION

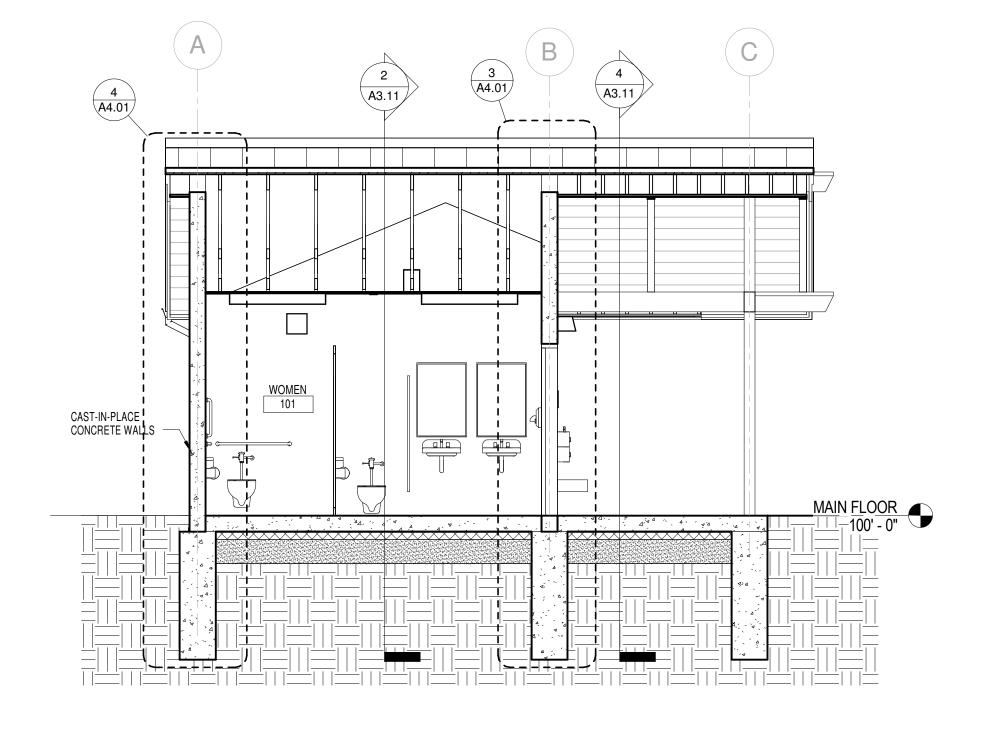
1/4" = 1'-0"





MAIN FLOOR 100' - 0"

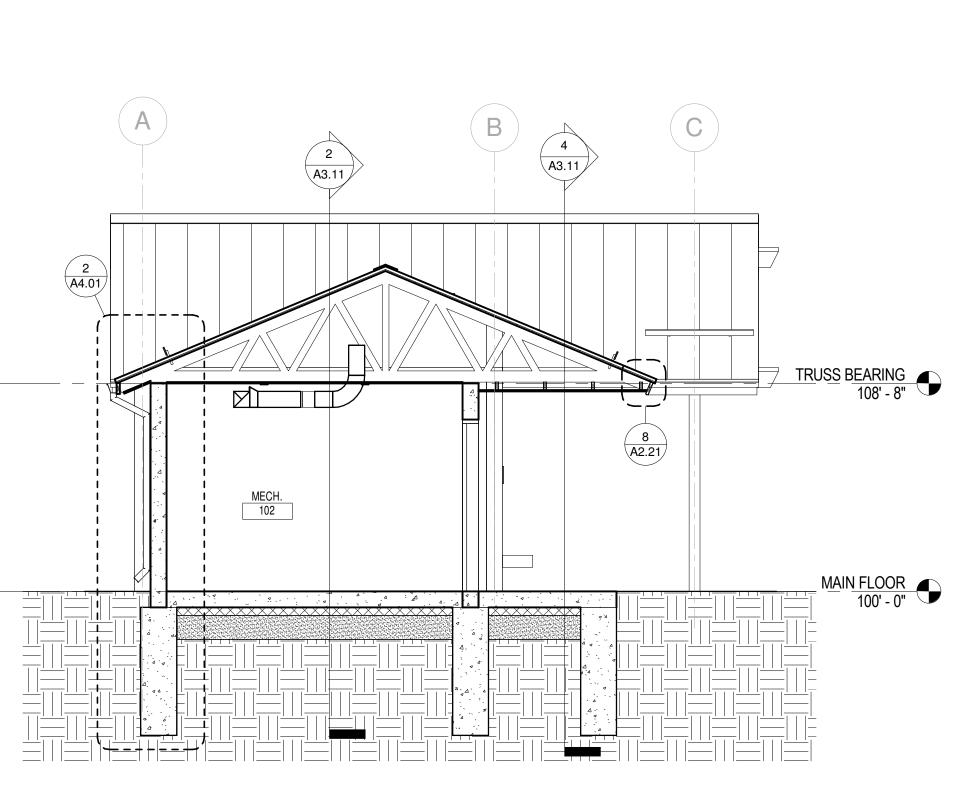


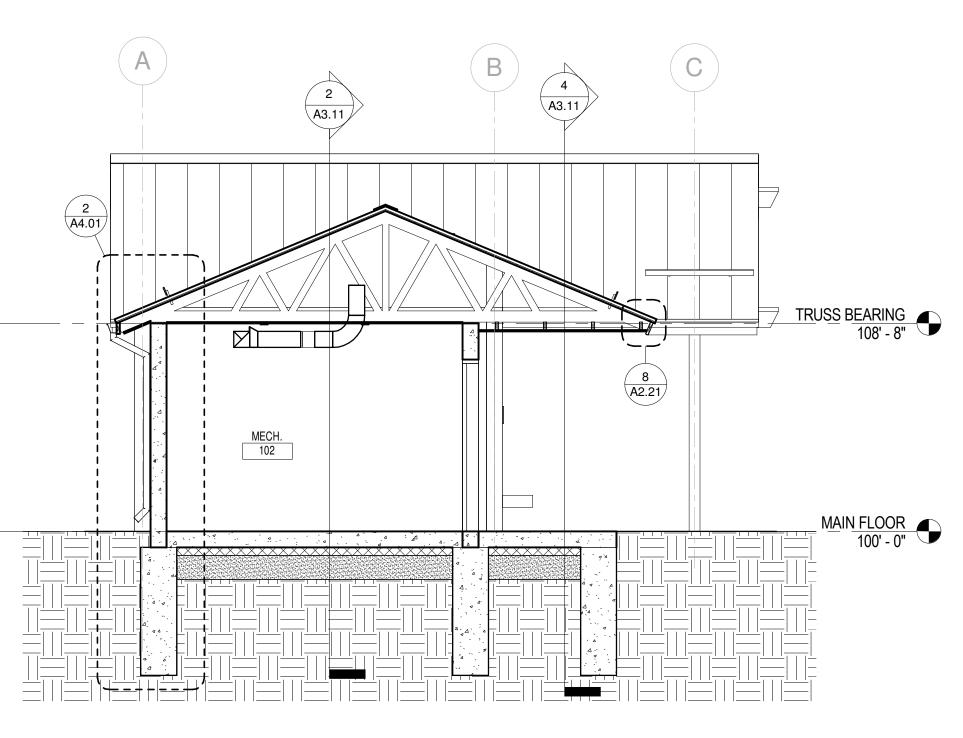


3 BUILDING SECTION

1/4" = 1'-0"

1 BUILDING SECTION
1/4" = 1'-0"





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NO	DATE	ISSUED FOR	

	03/24/2016	BID
NO	DATE	ISSUED FOR

			-
-			-
-			-
			_
NO	DATE	REVISION	_
		t this plan, specification or	

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Dand his m

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PROJECT NAME:

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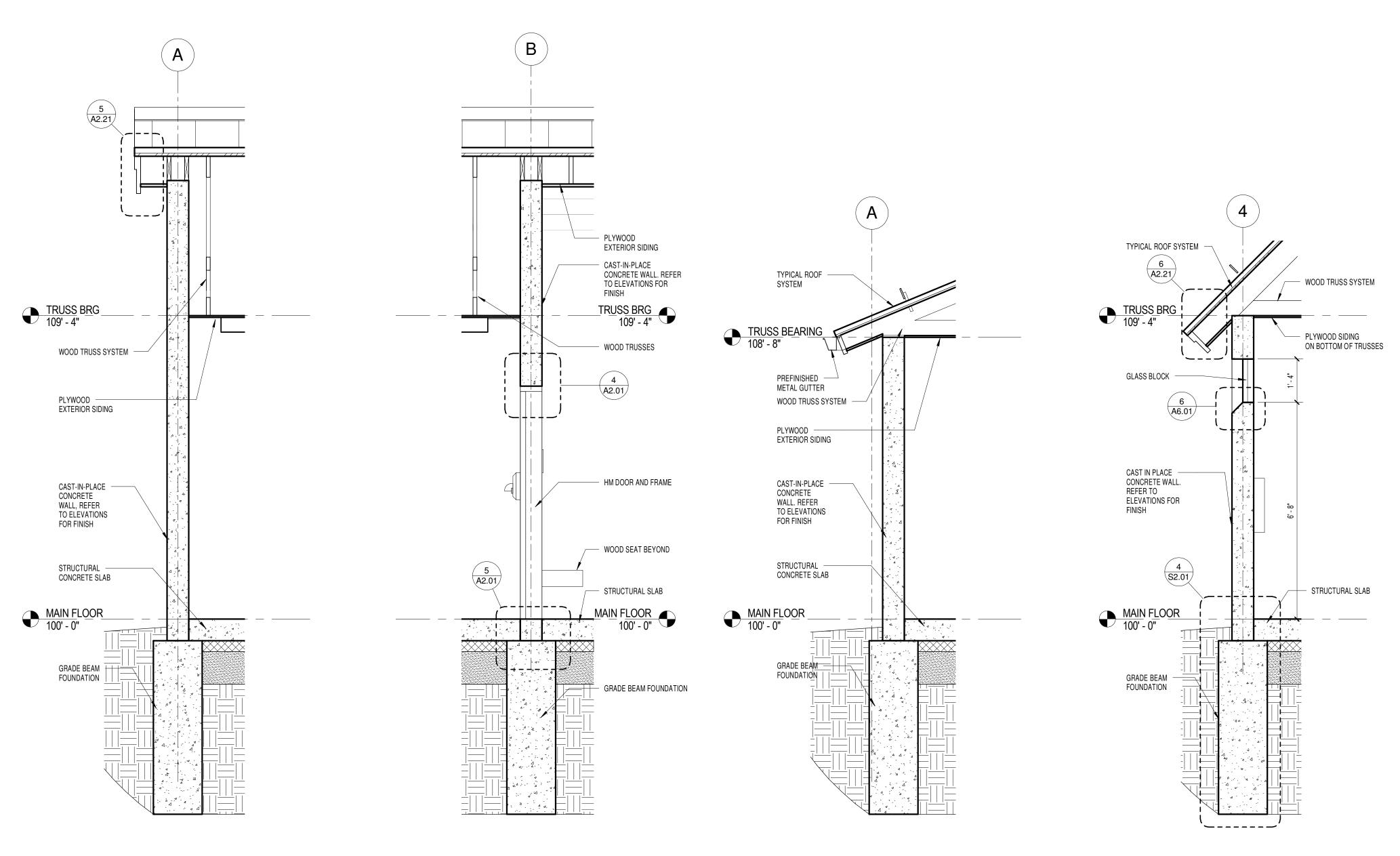
DRAWING TITLE: **BUILDING SECTIONS**

150589 CHAMBERS GROVE A16.rvt DRAWN BY: BNL CHECKED BY: BNL PROJ. NO: 150589

DRAWING NO:

WALL SECTION AT RAKE

1/2" = 1'-0"



WALL SECTION AT LOW EAVE

1/2" = 1'-0"

3 WALL SECTION AT FRONT
1/2" = 1'-0"

1 WALL SECTION AT EAVE

DULUTH, MN 55808

IMPROVEMENTS

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CLIENT:
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03/24/2016

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FLOOD RECOVERY &

CHAMBERS GROVE PARK

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ISSUED FOR

BRANDEE NESS LIAN

DRAWING TITLE:

WALL SECTIONS

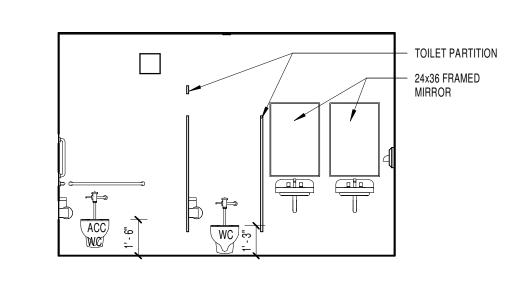
Typed or Printed Name:

Date: 03/24/2016

PROJECT NAME:

150589 CHAMBERS GROVE A16.rvt FILE: DRAWN BY: BNL CHECKED BY: BNL PROJ. NO: 150589

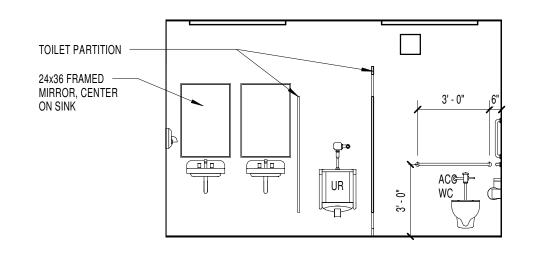
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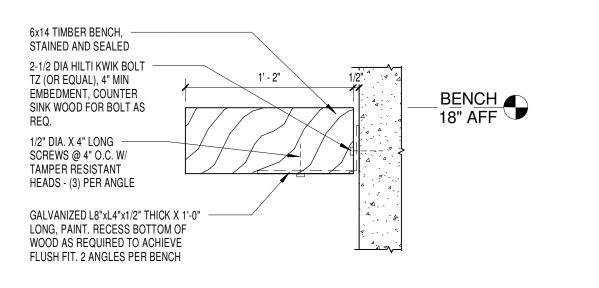


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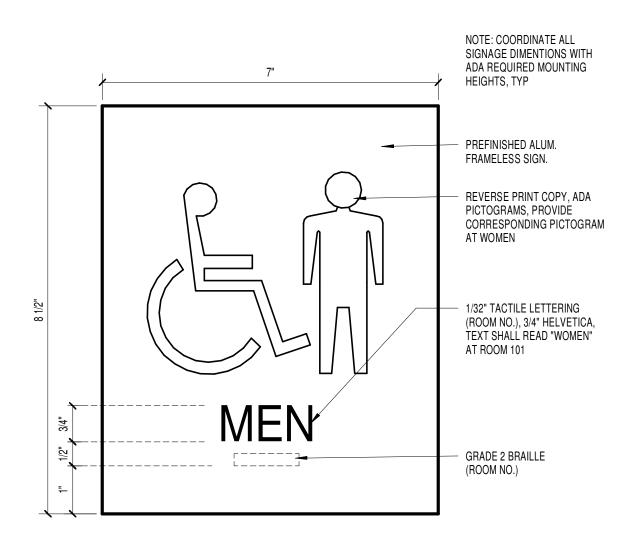
5 102 WOMENS - EAST

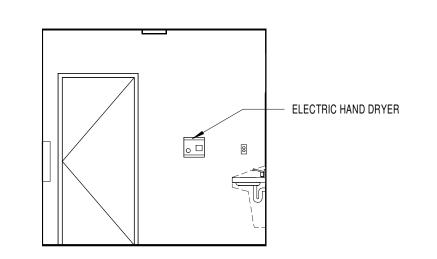


4 103 MENS - WEST

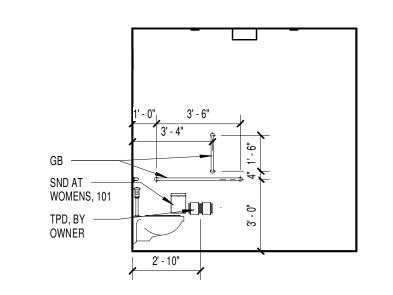


6 BENCH DETAIL
1 1/2" = 1'-0"

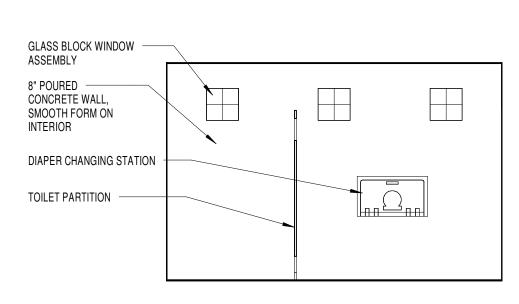




3 103 MENS - SOUTH



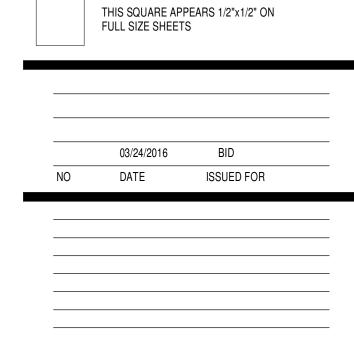
2 103 MENS - NORTH
1/4" = 1'-0"



1 103 MENS - EAST 1/4" = 1'-0"

CITY OF DULUTH

411 WEST FIRST ST. DULUTH, MN 55802



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 Architect under the laws of the State of Minnesota.



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PROJECT NAME: CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W **DULUTH, MN 55808**

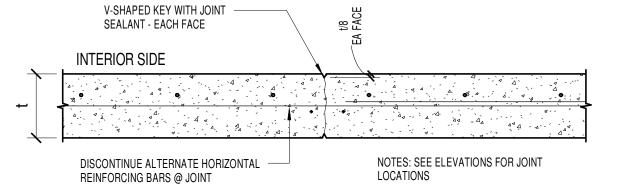
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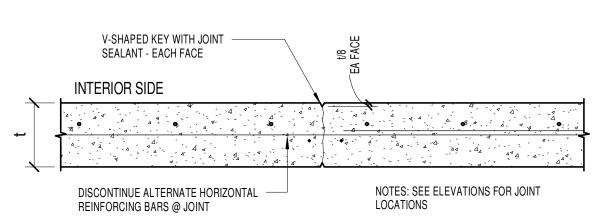
INTERIOR ELEVATIONS

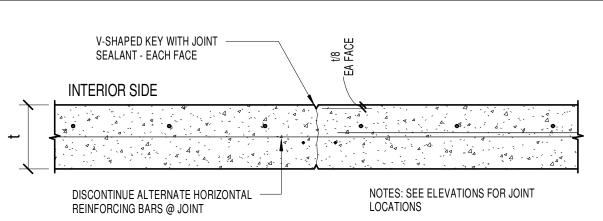
FILE: 150589 CHAMBERS GROVE A16.rvt DRAWN BY: BNL CHECKED BY: BNL PROJ. NO: 150589 DRAWING NO:

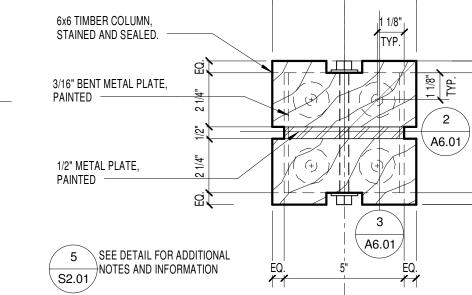
7 EXTERIOR SIGN AT MEN 103 (SIGN AT WOMEN 101 SIM.)
6" = 1'-0"



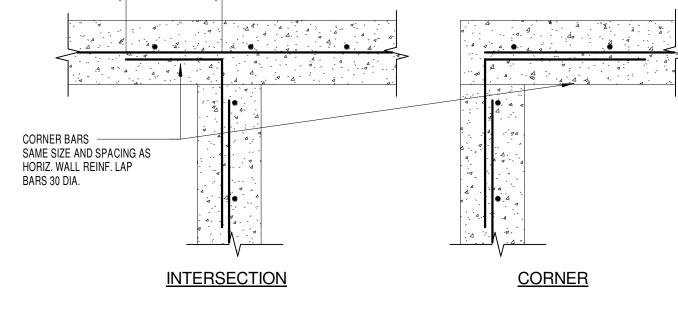


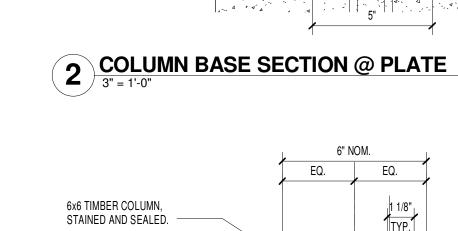






1 COLUMN BASE PLAN DETAIL
3" = 1'-0"





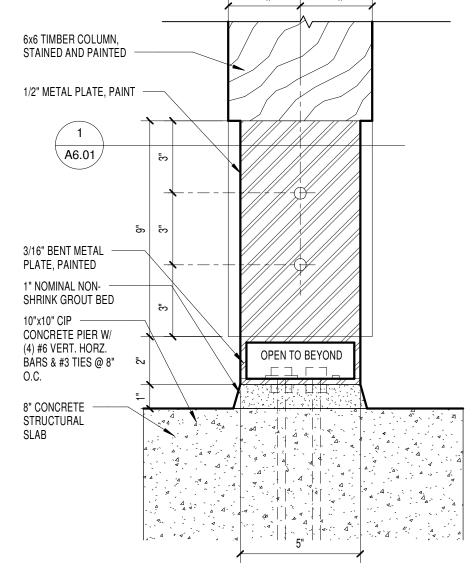
9 BEAM DETAIL AT EAVE 3" = 1'-0"

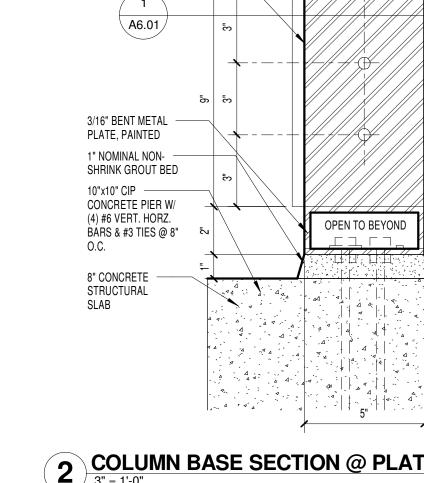


- PLYWOOD EXTERIOR SIDING STAINED AND SEALED

 1X WOOD TRIM (CEDAR) STAINED AND SEALED

- PREFINISHED METAL CONT VENT STRIP





PLYWOOD EXTERIOR SIDING, STAINED AND SEALED T.O. BEAM 109' - 4" 1X WOOD TRIM (CEDAR) STAINED AND SEALED

TYPICAL ROOF SYSTEM

1/2" PLYWOOD GUSSET W/ 10d NAILS

VARIABLE PITCH CONNECTOR - SIMPSON VPA 2Z OR EQUAL

6x10 TIMBER BEAM, — STAINED AND SEALED

HEAVY TIMBER

10 BEAM DETAIL AT RIDGE
3" = 1'-0"

TYPICAL ROOF ASSEMBLY

6x10 TIMBER BEAM

COLUMN BEYOND

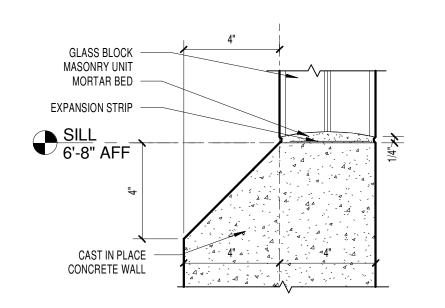
6x6 TIMBER -

WOOD BLOCKING

VPA 2Z OR EQUAL

TRUSS ASSEMBLY

6 DETAIL AT WINDOW SILL 3" = 1'-0"

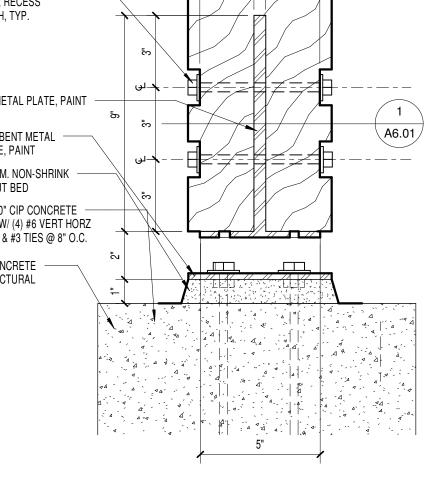


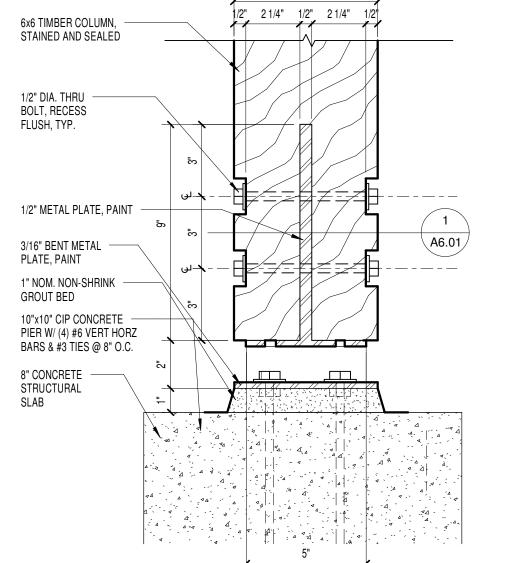
7 DETAIL AT WINDOW JAMB
3" = 1'-0"

HEAD 8'-0" AFF

8 DETAIL AT WINDOW HEAD
3" = 1'-0"

3 COLUMN BASE SECTION @ WOOD 3" = 1'-0"





CAST IN PLACE CONCRETE WALL

GLASS BLOCK MASONRY UNIT

CAST IN PLACE CONCRETE WALL

GLASS BLOCK MASONRY UNIT

EXPANSION STRIP

MORTAR BED

EXPANSION STRIP

- MORTAR BED

CITY OF DULUTH

PERFORMANCE

DRIVEN DESIGN.

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	THIS SQUARE APPEARS 1/2"x1/2" ON FULL SIZE SHEETS					
	03/24/2016	BID				
NO	DATE	ISSUED FOR				

	03/24/2016	BID	
NO	DATE	ISSUED FOR	

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 Architect under the laws of the State of Minnesota

under the la	ws of the State o	of Minnesota.	
Signature:	Band	Mesel	_
Typed or Printed	d Name:	BRANDEE NESS LIAN	

Date: 03/24/2016 COPYRIGHT 2016 BY LHB, INC. ALL RIGHTS RESERVED.

PROJECT NAME:

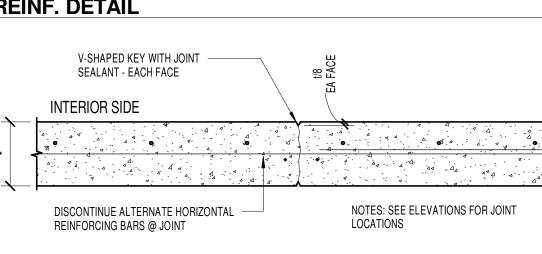
CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

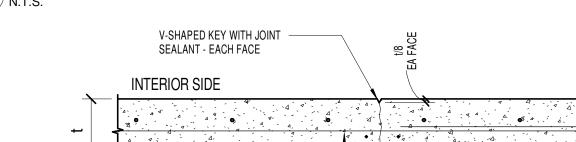
HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING NO:

DRAWING TITLE: EXTERIOR DETAILS

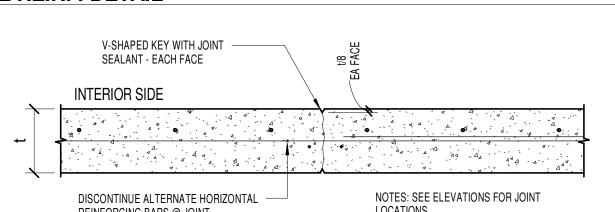
150589 CHAMBERS GROVE A16.rvt FILE: DRAWN BY: BNL CHECKED BY: BNL PROJ. NO: 150589





S WALL REINF. DETAIL N.T.S.

1' - 0"



4 WALL CONTROL JOINT DETAIL N.T.S.

HT AFF	<u>SYMBOL</u>	DESCRIPTION	<u>HT AFF</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	HT AFF	<u>SYMBOL</u>	<u>DESCRIPTION</u>	HT AFF	<u>SYMBOL</u>	<u>DESCRIPTION</u>
AS NOTED	Θ°	SURFACE LIGHT (TYPE DENOTED)	18"	A	MULTIOUTLET ASSEMBLY (TYPE DENOTED)			CONDUIT CONCEALED IN WALL OR OVERHEAD	96"**	HĒ⊄	FIRE ALARM HORN
S NOTED	├√→ F	WALL MOUNTED FLOODLIGHT (TYPE DENOTED)	18"	₽₹₿	MULTIOUTLET ASSEMBLY (TYPE DENOTED)			CONDUIT CONCEALED BELOW FLOOR	96"**	- Ò- H F I⊲ 110cd	FIRE ALARM HORN W/STROBE (CANDELAS)
	\bigcirc R	RECESSED LIGHT (TYPE DENOTED)	84"	$igorplus_{A}$	CLOCK (TYPE DENOTED)			CONDUIT EXPOSED	96"**	H <u>∓</u> Þ	FIRE ALARM BELL
ER SCHED	● AA	POLE MOUNTED LIGHT (TYPE DENOTED)		P	POWER POLE (OPEN OFFICE STYLE)		—— SR ——	SURFACE RACEWAY	96"**	- ♦- H F10 110cd	FIRE ALARM BELL W/STROBE (CANDELAS)
ED COLIED	↑ ↑ ↑ ↑ BB	POLE MOUNTED FLOODLIGHT (TYPE DENOTED)			SURGERY SERVICE COLUMN			CONDUIT TRANSITION UP	96"**	HEE=	FIRE ALARM CHIME
ER SCHED	† † † BB	POLE MOUNTED PLOODLIGHT (TTPE DENOTED)		O	STATIC GROUND RECEPTACLE (TYPE DENOTED)			CONDUIT TRANSITION DOWN	96"**	- ♦- HE= 110cd	FIRE ALARM CHIME W/STROBE (CANDELAS
	O G	SURFACE LINEAR LIGHT (TYPE DENOTED)		◉	LIGHTNING PROTECTION AIR TERMINAL		~~~	CONDUIT STUBBED OUT	96"**	- ♦ H <u>E</u> 110cd	FIRE ALARM STROBE (CANDELAS)
P1 •	● • P2	SUSPENDED OR PENDANT LIGHT (TYPE DENOTED)			LIGHTNING PROTECTION CONDUCTOR SPLICE		LV	LOW VOLTAGE POWER WIRING	96"**	HEI® 110cd	FIRE ALARM SPEAKER W/STROBE (CANDE
	H	RECESSED LINEAR LIGHT (TYPE DENOTED)		•	GROUND ROD (PLAN VIEW)		EX	EXISTING CONDUIT	72"**	FA ANNUN	FIRE ALARM REMOTE ANNUNCIATOR
	ST1	STRIP LIGHT (TYPE DENOTED)		ے	GROUND CONNECTION TO STEEL OR STRUCTURE		UE	UNDERGROUND ELECTRICAL	8"***	HO _p O _p	SMOKE DETECTOR (TYPE DENOTED)
S NOTED I	∇ T1 ∇ TR1	TRACK AND TRACK LIGHT (TYPES DENOTED)		•	GROUND CONNECTION - EXOTHERMIC WELD		UHVE	UNDERGROUND HIGH VOLTAGE ELECTRICAL		├ ⊕ ⊕ R/F135 R/F135	HEAT DETECTOR (TYPE & TEMP DENOTED
96"	EM	EMERGENCY BATTERY LIGHT (TYPE DENOTED)		- D-	UTILITY SERVICE POWER POLE (SITE)		UT	UNDERGROUND TELEPHONE		1 (11133	LINEAR HEAT DETECTOR
12"*	H ⊕ E ⊕ E	EXIT SIGN (TYPE DENOTED)	AS NOTED	\odot	SPECIAL RECEPT. OR CONN. (SEE SCHEDULE)		UCOM	UNDERGROUND COMMUNICATIONS		⊘ _P —	DUCT SMOKE DETECTOR (TYPE DENOTED
S NOTED		LIGHT FIXTURE ON EMERGENCY CIRCUIT		•	SPECIAL CONNECTION (SEE SCHEDULE)		UTV	UNDERGROUND CABLE TELEVISION (CATV OR CCTV)	48"	н <mark>ы</mark>	REMOTE TEST/STATUS STATION
S NOTED	•	LIGHT FIXTURE WITH EMERGENCY BALLAST	AS NOTED	ЮО	JUNCTION BOX		UFIBR	UNDERGROUND FIBER OPTIC		H⊘ ⊘ UV/IR UV/IR	FLAME DETECTOR (TYPE DENOTED)
		LIGHT ON CORD REEL (TYPE DENOTED)		P_B	PULL BOX		—— OHE ——	OVERHEAD ELECTRIC		Θ	GAS DETECTOR (TYPE DENOTED)
S NOTED =	CH3	LIGHTING CHANNEL WIRE (TYPE DENOTED)	72"**		CIRCUIT BREAKER PANEL		—— OHT ——	OVERHEAD TELEPHONE	48"***	co co HE _P	F.A. PULLSTATION (TYPE DENOTED)
48"	169	SINGLE POLE SW.	72"**		POWER OR DISTRIBUTION PANEL			BRANCH CIRCUIT HOME RUN		Z	F.A. ZONE ADDRESSABLE MODULE
48"	1€	2 POLE SINGLE THROW SW.	72"**		SPECIAL CABINET (TYPE DENOTED)		<u> </u>	FLEXIBLE CONDUIT OR FIXTURE WHIP		I	F.A. INDIVIDUAL ADDRESSABLE MODULE
48"	1 € 3	3-WAY SW.		Ţ	TRANSFORMER (TYPE DENOTED)		Z	UNDERFLOOR RACEWAY SYSTEM		ŀ ⊙ #	F.A. DOOR HOLDER
48"	₩	4-WAY SW.		SF-1	MOTOR (SEE SCHEDULE)			CABLE TRAY (TYPE DENOTED)		\⊙\	F.A. DOOR CLOSER
48"	₩	KEYED SW.	72"**	\boxtimes	MAG. MOTOR STARTER OR CONTACTOR		€3	CONDUIT SLEEVE (SIZE DENOTED)		FR	FIRE ALARM SHUT DOWN RELAY
48"	₩	SW. W/PILOT	72"**	⊠ı	COMB. MOTOR STARTER (NON-FUSED)	18"	M	TELEPHONE OUTLET (TYPE DENOTED)		<i>></i> − − \ \ \	SPRINKLER FLOW SWITCH
48"	⊢ •	SEPARATE PILOT LIGHT	72"**	\blacksquare_1	COMB. MOTOR STARTER (FUSED)	48"***	⋈ W	WALL TELEPHONE OUTLET (TYPE DENOTED)		\leftarrow \rightarrow \rightarrow	SPRINKLER VALVE TAMPER SWITCH
48"	₩	DIMMER SWITCH	72"**		SAFETY DISC. SW. (NON-FUSED)	18"	M	INFORMATION OUTLET (TYPE DENOTED)		5 - -	SPRINKLER LEVEL SWITCH
48"	₩ ⁰⁸	OCCUPANCY SENSOR SWITCH	72"**	Νī	SAFETY DISC. SW. (FUSED)	48"	+©	INTERCOM OUTLET LOCATION		5 - • - →	SPRINKLER PRESSURE SWITCH
48"	™ ™	MOMENTARY CONTACT SWITCH	AS NOTED		BUS DUCT WITH PLUG UN DISCONNECT (FUSED)	18"	H	TELEVISION OUTLET		, ⊕ ,	SPRINKLER TEMPERATURE SWITCH
48"	₩	TIMER SWITCH			VARIABLE FREQUENCY DRIVE	18"	₽	MULTIPLE SERVICE OUTLET (TYPE DENOTED)		→ ELR	END OF LINE RESISTOR
48"	₩ ™	TIME DELAY SWITCH	72"**	R	RELAY		M	OUTLET IN FLOOR (MICROPHONE SHOWN)		ES	ELECTRIC STRIKE
48"	₩ ^{SP}	FAN SPEED CONTROL	72"**		ENCLOSED CIRCUIT BREAKER			MULTIPLE SERVICE FLR OUTLET (TYPE DENOTED)		ML	MAGNETIC LOCK
48"	₩	MOTOR HORSEPOWER RATED SWITCH		PS ♀	PRESSURE SWITCH		WAP	WIRELESS ACCESS POINT		Ю	COMBINATION LOCK
48"	H●	PUSH BUTTON		FS O	FLOAT SWITCH	84"	ΗД	BELL		DC	DOOR CONTACTS
18"	Ю	SINGLE RECEPT.		OS) IR	OCCUPANCY SENSOR - TYPE DENOTED	84"	⊣□∕	BUZZER	48"***	HCR	CARD READER
18"	⊭	DUPLEX RECEPT.		(LS) A	LIGHT LEVEL SENSOR - TYPE DENOTED		H⊒=	CHIME	48"***	H	KEYPAD
18"	₩	SPLIT DUPLEX RECEPT.	AS NOTED	₽	PHOTOCELL	48"***	H □ D	DOOR SIGNAL - APT. UNIT	144"*	HMD → _{IR}	MOTION DETECTOR (TYPE DENOTED)
18"	 	ISOLATED GROUND RECEPT (DUPLEX SHOWN)	48"	HTC	TIME CONTROL SWITCH (TIME SWITCH)	84"	HS S	SPEAKER (WALL OR CEILING MT.)	AS NOTED		CCTV CAMERA
18"	₩	RECEPT ON EMERGENCY CKT (DUPLEX SHOWN)	48"	\oplus	HUMIDISTAT	84"	H34 34	HORN TYPE SPEAKER	AS NOTED		CCTV CAMERA WITH PAN/TILT DRIVE
18"	⊨	FOURPLEX RECEPT.	48"	T	THERMOSTAT	48"	$oldsymbol{\omega}_{\scriptscriptstyle \lambda}$	VOLUME CONTROL			
18"	⊨⊕	FOURPLEX RECEPTACLE ON EMERGENCY CIRCUIT		H1	BASEBOARD HEATER (TYPE DENOTED)	18"	Ю	MICROPHONE OUTLET			
18"	⊭	240 VOLT RECEPT.	PER SCHED	<u>-</u> - \ →	WALL HEATER (TYPE DENOTED)	18"	Ю	PROJECTOR CONTROL OUTLET			
		FLOOR RECEPT. (DUPLEX SHOWN)	PER SCHED	∏ и	HAND OR HAIR DRYER (TYPE DENOTED)		-	ANTENNA			
S NOTED	○ ◆	RECEPT ON DROP CORD (DUPLEX SHOWN)		Â	SOLENOID VALVE		• (E	WEATHERHEAD			
	□-◆	RECEPT ON CORD REEL (DUPLEX SHOWN)		Ħ	HALFTONE SYMBOL INDICATES EXISTING		$\langle 1 \rangle$	KEYED NOTE (SEE SCHEDULE)			
	Œ	EQUIPMENT PLUG		≒ ∋	DASHED SYMBOL INDICATES REMOVED						

ELECTRICAL ABBREVIATIONS LIST										
1P	1 POLE (2P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER	HT HTG	HEIGHT	NEMA	NATIONAL ELECTRICAL	SWBD	SWITCHBOARD	
Λ.	AMPERE	DEPT	CIRCULATING PUMP DEPARTMENT	HTR	HEATING HEATER		MANUFACTURER'S ASSOCIATION	SYM SYS	SYMMETRICAL SYSTEM	
A AC	ABOVE COUNTER OR AIR	DET	DETAIL	HV	HIGH VOLTAGE	NFDS	NON-FUSED SAFETY	TEL	TELEPHONE	
AC	CONDITIONER	DIA	DIAMETER	HVAC	HEATING. VENTILATING AND	NEDS	DISCONNECT SWITCH		TELEPHONE/DATA	
ACLG	ABOVE CEILING	DISC	DISCONNECT	IIVAO	AIR CONDITIONING	NIC	NOT IN CONTRACT	TERM	TERMINAL	
ADO	AUTOMATIC DOOR OPENER	DIST	DISTRIBUTION	HWP	HYDRONIC WATER PUMP	NL	NIGHT LIGHT	TL	TWIST LOCK	
AF	AMP FRAME	DN	DOWN	11111	TITBROING WATERT OWN	N.O.	NORMALLY OPEN	TR	TAMPER RESISTANT	
AFF	ABOVE FINISHED FLOOR	DPR	DAMPER	IC	INTERRUPTING CAPACITY	NPF	NORMAL POWER FACTOR	T-STAT	THERMOSTAT	
AFG	ABOVE FINISHED GRADE	DS	SAFETY DISCONNECT SWITCH	IG	ISOLATED GROUND	NTS	NOT TO SCALE	TTC	TELEPHONE TERMINAL	
AFI	ARC FAULT CIRCUIT	DT	DOUBLE THROW	IMC	INTERMEDIATE METAL CONDUIT				CABINET	
	INTERRUPTER	DWG	DRAWING	INCAND	INCANDESCENT	OH	OVERHEAD	TV	TELEVISION	
AHU	AIR HANDLING UNIT			IR	INFRARED	OL	OVERLOADS	TVTC	TELEVISION TERMINAL	
AL	ALUMINUM	EC	ELECTRICAL CONTRACTOR	I/W	INTERLOCK WITH				CABINET	
ALT	ALTERNATE	ELEC	ELECTRIC, ELECTRICAL			PA	PUBLIC ADDRESS	TYP	TYPICAL	
AMP	AMPERE	ELEV	ELEVATOR	J-BOX	JUNCTION BOX	PB	PULL BOX OR PUSHBUTTON			
AMPL	AMPLIFIER	EM	EMERGENCY	10.7	I/II OVOLT	PE	PNEUMATIC ELECTRIC	UC	UNDER COUNTER	
ANNUN	ANNUNCIATOR	EMS	ENERGY MANAGEMENT SYSTEM	KV	KILOVOLT KILOVOLT-AMPERE	PED	PEDESTAL	UE	UNDERGROUND ELECTRICAL	
APPROX AQ-STAT	APPROXIMATELY AQUASTAT	EMT EP	ELECTRICAL METALLIC TUBING ELECTRIC PNEUMATIC	KVA KVAR	KILOVOLT-AMPERE KILOVOLT-AMPERE REACTIVE	PF PH	POWER FACTOR PHASE	UG UH	UNDERGROUND UNIT HEATER	
ARCH	ARCHITECT, ARCHITECTURAL	EQUIP	FQUIPMENT	KW	KILOVOLT-AMPERE REACTIVE KILOWATT	PIV	POST INDICATING VALVE	UT	UNDERGROUND TELEPHONE	
AS	AMP SWITCH	EWC	ELECTRIC WATER COOLER	KWH	KILOWATT HOUR	PNL	PANEL	UTIL	UTILITY	
AT	AMP TRIP	EXIST	EXISTING	IXVVII	RILOWATTTIOOR	PP	POWER POLE	UV	UNIT VENTILATOR OR	
ATS	AUTOMATIC TRANSFER SWITCH	EXH	EXHAUST	LOC	LOCATE OR LOCATION	PR	PAIR	0.	ULTRAVIOLET	
AUTO	AUTOMATIC	EXP	EXPLOSION PROOF	LT	LIGHT	PRI	PRIMARY		52	
AUX	AUXILIARY			LTG	LIGHTING	PROJ	PROJECTION	V	VOLT	
AV	AUDIO VISUAL	FA	FIRE ALARM	LTNG	LIGHTNING	PRV	POWER ROOF VENTILATOR	VA	VOLT-AMPERES	
AWG	AMERICAN WIRE GAUGE	FABP	FIRE ALARM BOOSTER POWER	LV	LOW VOLTAGE	PT	POTENTIAL TRANSFORMER	VDT	VIDEO DISPLAY TERMINAL	
			SUPPLY PANEL			PVC	POLYVINYL CHLORIDE	VERT	VERTICAL	
BATT	BATTERY	FACP	FIRE ALARM CONTROL PANEL	MAX	MAXIMUM		(CONDUIT)	VFD	VARIABLE FREQUENCY DRIVE	
BD	BOARD	FCU	FAN COIL UNIT	MAG.S	MAGNETIC STARTER	PWR	POWER	VOL	VOLUME	
BLDG BMS	BUILDING BUILDING MANAGEMENT	FIXT FLR	FIXTURE FLOOR	M/C MC	MOMENTARY CONTACT MECHANICAL CONTRACTOR	QUAN	QUANTITY	W	WATT	
DIVIO	SYSTEM	FLUOR	FLUORESCENT	MCB	MAIN CIRCUIT BREAKER	QUAIN	QUANTITI	W/	WITH	
	OTOTEM	FU	FUSE	MCC	MOTOR CONTROL CENTER	RCPT	RECEPTACLE	WG	WIRE GUARD	
С	CONDUIT	FUDS	FUSED SAFETY DISCONNECT	MDC	MAIN DISTRIBUTION CENTER	REQD	REQUIRED	WH	WATER HEATER	
CAB	CABINET	1 020	SWITCH	MDP	MAIN DISTRIBUTION PANEL	RM	ROOM	W/O	WITHOUT	
CAT	CATALOG			MFR	MANUFACTURER	RSC	RIGID STEEL CONDUIT	WP	WEATHERPROOF	
CATV	CABLE TELEVISION	GA	GAUGE	MFS	MAIN FUSED DISCONNECT	RTU	ROOF TOP UNIT			
CB	CIRCUIT BREAKER	GAL	GALLON		SWITCH			XFMR	TRANSFORMER	
CCTV	CLOSED CIRCUIT TELEVISION	GALV	GALVANIZED	MH	MANHOLE	SC	SURFACE CONDUIT	XFR	TRANSFER	
CKT	CIRCUIT	GC	GENERAL CONTRACTOR	MIC	MICROPHONE	SEC	SECONDARY			
CLG	CEILING	GEN	GENERATOR	MIN	MINIMUM	SHT	SHEET			
COMB	COMBINATION	GFI	GROUND FAULT CIRCUIT	MISC	MISCELLANEOUS	SIM	SIMILAR			
CMPR CONN	COMPRESSOR CONNECTION	GFP	INTERRUPTER GROUND FAULT PROTECTOR	MLO MMS	MAIN LUGS ONLY MANUAL MOTOR STARTER	S/N SPEC	SOLID NEUTRAL SPECIFICATION			
CONST	CONSTRUCTION	GND	GROUND FAULT PROTECTOR GROUND	MOA	MULTIOUTLET ASSEMBLY	SPKR	SPEAKER			
CONT	CONTINUATION OR	GRS	GALVANIZED RIGID STEEL	MSP	MOTOR STARTER PANELBOARD	SP	SPARE	∠ AN	IGLE	
CONT	CONTINUOUS	0110	(CONDUIT)	MSBD	MAIN SWITCHBOARD	SR	SURFACE RACEWAY	@ AT		
CONTR	CONTRACTOR	GYP BD	GYPSUM BOARD	MT	MOUNT	SS	STAINLESS STEEL		LTA	
CONV	CONVECTOR	- · · ·		MT.C	EMPTY CONDUIT	SSW	SELECTOR SWITCH		ET	
CP	CIRCULATING PUMP	HOA	HANDS-OFF-AUTOMATIC	MTS	MANUAL TRANSFER SWITCH	S/S	STOP/START PUSHBUTTONS		CHES	
CRT	CATHODE-RAY TUBE		SWITCH	MTR	MOTOR, MOTORIZED	STA	STATION		IMBER	
CT	CURRENT TRANSFORMER	HORIZ	HORIZONTAL			STD	STANDARD		IASE	
CTR	CENTER	HP	HORSEPOWER	N.C.	NORMALLY CLOSED	SURF	SURFACE MOUNTED		NTER LINE	
CU	COPPER	HPF	HIGH POWER FACTOR	NEC	NATIONAL ELECTRICAL CODE	SW	SWITCH	₽ PL	ATE	

GENERAL ELECTRICAL NOTES

- A. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN RACEWAY. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE
- B. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN METAL RACEWAY WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES. LOW VOLTAGE CABLES MAY BE RUN IN CABLE TRAY WHERE NOTED. LOW VOLTAGE CABLES MAY BE RUN IN CABLE SUPPORT HOOKS ABOVE ACCESSIBLE CEILINGS WHERE
- C. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.
- D. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED
- EQUIPMENT PRIOR TO ROUGH-IN. E. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED
- ON PLAN BY DASHED CONDUIT. F. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON DRAWINGS EXCEPT FOR ITEMS LISTED IN NOTE G.
- G. TV OUTLETS, VOLUME CONTROLS, TELEPHONE OUTLETS, DATA OUTLETS, AND FIRE ALARM DEVICES SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE STUB UP DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
- H. FURNISH AND INSTALL CONDUIT FROM BACK BOXES FOR THE FOLLOWING DEVICES INTO THE ACCESSIBLE CEILING SPACE IN THE CORRIDOR, UNLESS NOTED OTHERWISE:
- TV OUTLETS VOLUME CONTROLS TELEPHONE OUTLETS INFORMATION OUTLETS

FIRE ALARM DEVICES

ELECTRICAL SYMBOL NOTES

LPN-102

THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.

EXAMPLE 1: LIGHTING FIXTURE TYPE "A" IS CONNECTED TO CIRCUIT 12 AND CONTROLLED BY SWITCH "b".

EXAMPLE 2: THE FIXTURE TYPE SHOWN AS A NUMERATOR INDICATES ALL LIGHTING FIXTURES IN THE ROOM OR SPACE ARE THE SAME TYPE. THE CIRCUIT NUMBER AND m I SWITCH DESIGNATION SHOWN AS A DENOMINATOR INDICATES ALL LIGHTING FIXTURES IN THE ROOM OR SPACE ARE CONNECTED TO THE SAME CIRCUIT, CONTROLLED BY THE SAME

SWITCHES, CENTER/OUTBOARD MULTILEVEL SWITCHING. EXIT LIGHTS. STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILING MOUNTING. SHADED AREA INDICATES ILLUMINATED FACE(S). ARROW INDICATES DIRECTIONAL ARROW

ON ILLUMINATED FACE(S). THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. EXAMPLE: THE WALL MOUNTED EXIT LIGHT TYPE "E" WITH SINGLE FACE AND DIRECTIONAL ARROW IS CONNECTED TO CIRCUIT 14. DEVICES. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SPLIT DUPLEX

RECEPTACLE IS CONNECTED TO CIRCUIT 16 AND ONE RECEPTACLE OUTLET IS CONTROLLED BY SWITCH "c". THE CONTROL DEVICE DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "d" TO CONTROL LIGHTING FIXTURES INDICATED BY "d".

SPECIAL CONNECTIONS. THE EQUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE

THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD DESCRIPTION AND TYPE OF

WALL BOX DIMMER WITH SIZE AS INDICATED AT DEVICE. EXAMPLE: 600 WATT WALL BOX DIMMER TO CONTROL LIGHTING FIXTURES INDICATED BY "e". SEE SPECIFICATIONS FOR WATTAGE IF NOT INDICATED.

CONNECTION. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE SYMBOL. EXAMPLE: EQUIPMENT NO. 1; 3 PHASE CONNECTION TO CIRCUITS 1, 3, 5. MOTOR CONNECTIONS. THE MOTOR IS INDICATED BY A NUMBER WITHIN OR

CHARACTERS ADJACENT TO THE MOTOR SYMBOL. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE MOTOR DESCRIPTION AND ELECTRICAL REQUIREMENTS. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE SYMBOL. EXAMPLE: MOTOR SF-1; 3 PHASE CONNECTION TO CIRCUITS 2, 4, 6.

SPECIFIC CODE NOTES

A. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH

1. CONDUITS MAY PENETRATE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRE-STOPPED.

2. OPENINGS FOR STEEL ELECTRICAL BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 100 SQUARE

3. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED

RECESSED LIGHTING FIXTURES INSTALLED IN FIRE RATED CEILING ASSEMBLIES SHALL BE FIRE RATED FIXTURES BEARING THE UL FIRE RATED LABEL. FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE UL FIRE RESISTANCE DIRECTORY, AND SHALL INCLUDE A FIRE RATED ENCLOSURE INSTALLED OVER THE FIXTURE THAT MEETS THE

B. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID

MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.

INCHES FOR ANY 100 SQUARE FEET OF WALL OR PARTITION.

BY A HORIZONTAL DISTANCE OF 24 INCHES.

REQUIREMENTS OF THE UL FIRE RESISTANCE DIRECTORY.

FIRE PROTECTION REQUIREMENTS

AN APPROVED MATERIAL.

ELECTRIC HEATER CONNECTIONS. THE HEATER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "H". SEE THE HEATER SCHEDULE FOR ELECTRICAL REQUIREMENTS. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE HEATER. EXAMPLE: ELECTRIC BASEBOARD HEATER

> TYPE "H1" CONNECTED TO CIRCUITS 7, 9. TRANSFORMERS. THE TRANSFORMER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "T". SEE THE TRANSFORMER SCHEDULE OR THE SINGLE LINE DIAGRAM FOR THE TRANSFORMER DESCRIPTION AND REQUIREMENTS. EXAMPLE:

> TRANSFORMER TYPE "T1". PANELBOARDS. PANELBOARD DOORS MAY BE SHOWN TO INDICATE OPENING SIDE OF

RECESSED PANELBOARDS. SEE PANELBOARD IDENTIFICATION FOR DESIGNATION CODES.

SPECIAL NOTE. SEE THE SPECIAL NOTES ON THAT SHEET FOR THE NOTE NUMBER CONDUIT SHOWN WITHOUT SLASH MARKS SHALL CONTAIN 2 # 12 CONDUCTORS IN 3/4"

CONDUIT UNLESS SPECIFIC EQUIPMENT REQUIRES A DIFFERENT SIZE. CONDUIT SHOWN WITH SLASH MARKS SHALL CONTAIN 1 # 12 CONDUCTOR PER SLASH MARK IN 3/4" CONDUIT UNLESS A CONDUCTOR AND CONDUIT SIZE IS SHOWN ADJACENT TO THE SLASH MARKS. SLASH MARK INDICATORS ARE: SHORT STRAIGHT=PHASE CONDUCTOR, LONG STRAIGHT=NEUTRAL CONDUCTOR, SHORT BENT ENDED=SWITCH LEGS, LONG STRAIGHT WITH A DOT=GROUND CONDUCTOR, CHEVRON=CATEGORY 6, HALF CHEVRON=CATEGORY 3, TWIST=SHIELDED TWISTED PAIR, CONCENTRIC CIRCLE AND DOT=COAX CABLE.

HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION IS SHOWN ADJACENT TO THE HOME RUN ARROW AS A NUMERATOR AND THE CIRCUIT DESIGNATION IS SHOWN AS THE DENOMINATOR. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOME RUN TO PANELBOARD LPN-102; CIRCUITS 1, 3, 5.

SYMBOL NOTATIONS: UPPER CASE LETTERS ADJACENT TO SYMBOLS INDICATE A UNIT TYPE. SEE APPROPRIATE SCHEDULE OR SPECIFICATIONS.

PANELBOARD IDENTIFICATION

_		_			_
		\triangle		\ \ A /	NGS
	ı	· /\	 1 2 /\	\ \/\/	NII - 6
				4 V V I	

E1.02 E2.11 ELECTRICAL PLANS

EQUIPMENT DESIGNATION	CODE
HIGH VOLTAGE 3Ø4W. 277/480 HIGH VOLTAGE 3Ø3W. 480 LOW VOLTAGE 3Ø4W. 120/208 LOW VOLTAGE 3Ø3W. 208 LOW VOLTAGE 1Ø3W. 120/240 LOW VOLTAGE 1Ø3W. 120/208	HP4 HP3 LP4 LP3 LP2 LP1
SYSTEMS DESIGNATION	CODE
NORMAL EMERGENCY POWER CONDITIONED ELECTRONIC GRADE	N E C EG
UNINTERRUPTIBLE POWER SOURCE	UPS
SYSTEM DESIGNATION EQUIPMENT DESIGNATION LP4N-	FLOOR OF STRUCTURE PANEL NO. 102

E0.01	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E1.01	ELECTRICAL SITE DEMOLITION PLAN

ELECTRICAL SITE PLAN

ELECTRICAL SCHEDULES

Typed or Printed Name:

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

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.

PERFORMANCE

DRIVEN DESIGN.

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CITY OF DULUTH

411 WEST FIRST ST.

DULUTH, MN 55802

FULL SIZE SHEETS

03/24/2016

THIS SQUARE APPEARS 1/2"x1/2" ON

BID

ISSUED FOR

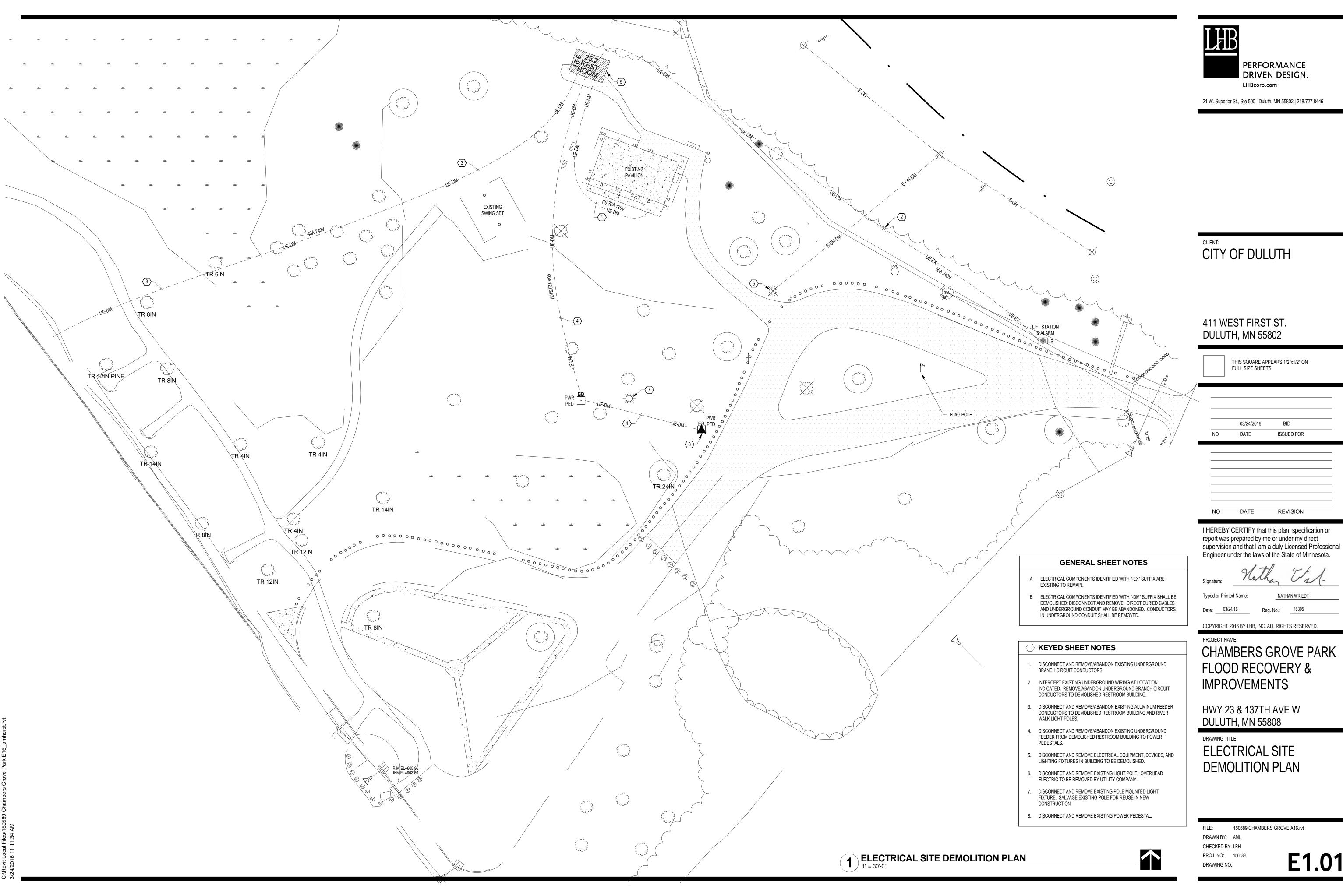
HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

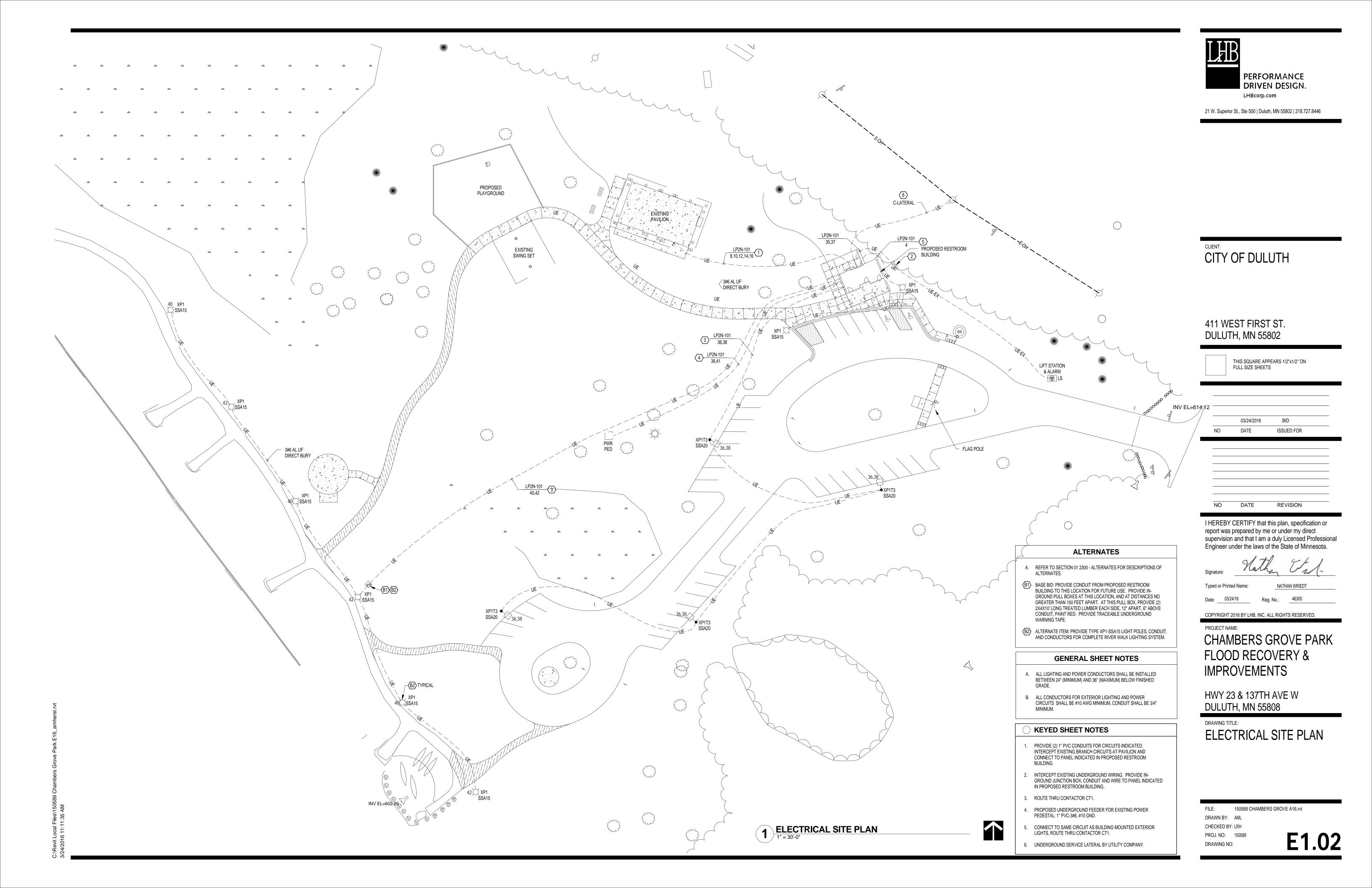
ELECTRICAL SYMBOLS AND ABBREVIATIONS

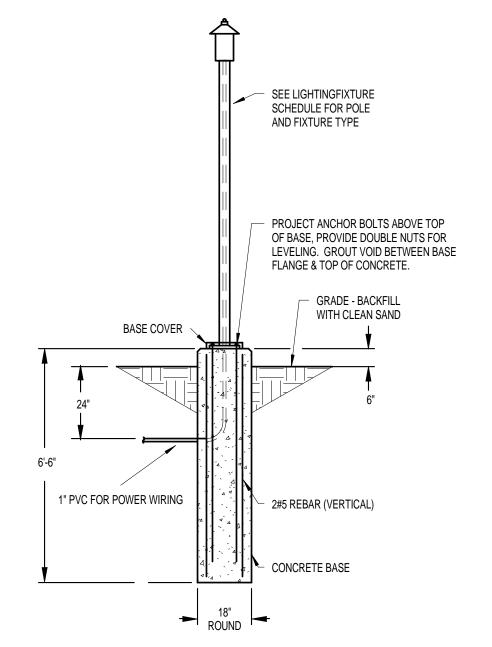
FILE:	150589 CHAMBERS GROVE A16.rvt
DRAWN BY:	AML
CHECKED BY	: LRH

PROJ. NO: 150589 DRAWING NO:

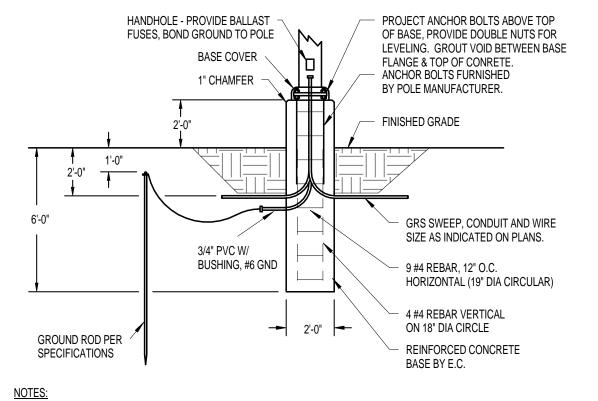


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		03/24/2016	BID	
	NO	DATE	ISSUED FOR	
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RIVER WALK LIGHT POLE AND BASE DETAIL
NO SCALE



1. CONCRETE: MNDOT MIX No. 3Y43, AIR ENTRAINED, 5000 PSI AFTER 28 DAYS, MAX

- AGGREGATE 3/4".

 2. REINFORCEMENT: TYPE A-615 NEW BILLET STOCK A.S.T.M. GRADE 60.

 3. IF THE ANTICIAPTED FORECAST TEMPERATURE IS 35° OR LESS, THE BASE SHALL BE
- 3. IF THE ANTICIAPTED FORECAST TEMPERATURE IS 35° OR LESS, THE BASE SHALL BE INSULATED WITH EITHER BLANKETS OR POLY AND STRAW FOR A MINIMUM OF 3 DAYS.

PARKING LOT LIGHTING POLE BASE DETAIL
NO SCALE

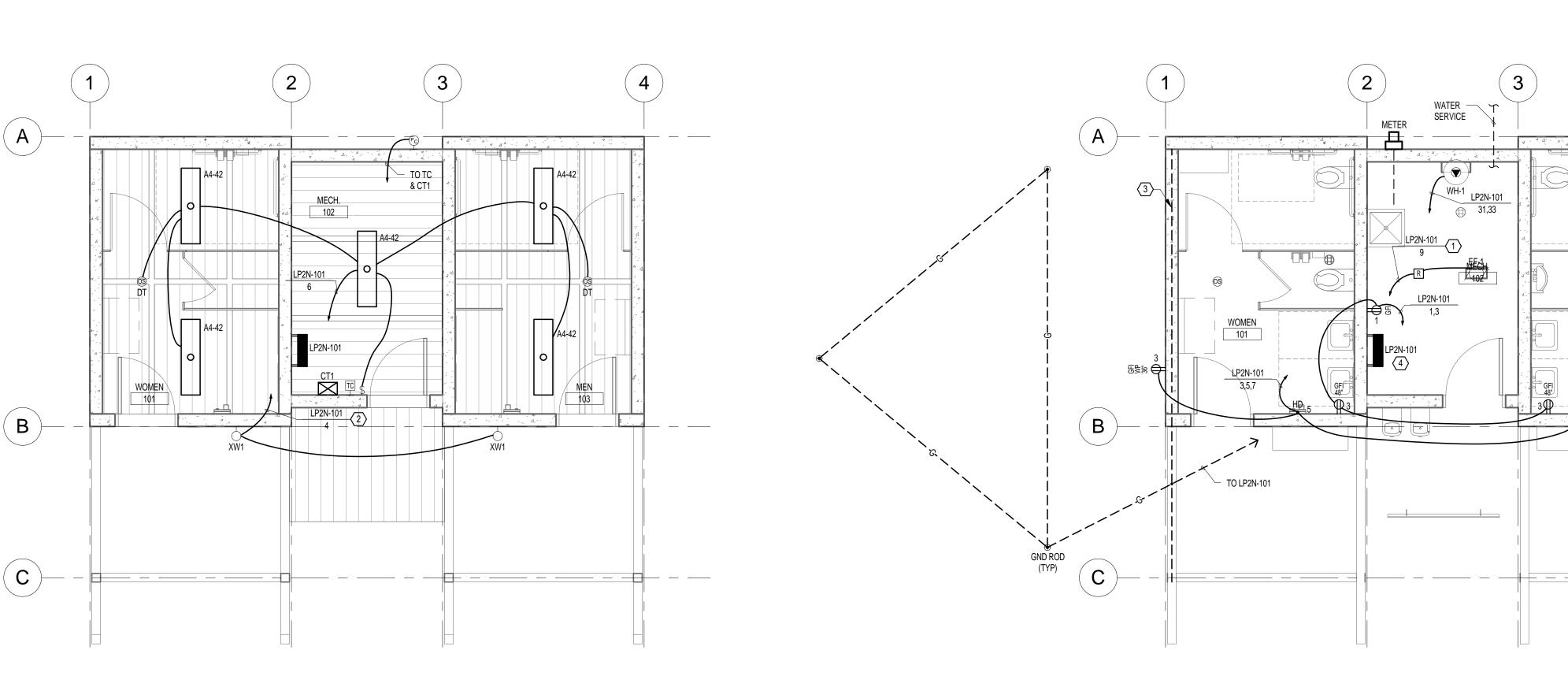
GENERAL SHEET NOTES

- A. WHERE CONNECTED TO A 20A. BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.
- B. PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 4" HIGH, 4% AIR ENTRAINED, POLYFIBER REINFORCED CONCRETE, 4" WIDER AND 4" LONGER THAN EQUIPMENT TO BE PLACED ON IT. REFER TO ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED THESE REQUIREMENTS.
- C. REFER TO SECTION 26 0519 FOR MINIMUM CONDUCTOR SIZE ADJUSTMENTS FOR VOLTAGE DROP.
- D. ALL RECESSED LIGHTING FIXTURES IN LAY-IN CEILINGS SHALL BE INSTALLED WITH 6' LONG FLEXIBLE METAL CONDUIT.
- E. ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURES UNLESS INDICATED OTHERWISE.
- F. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR MOUNTING HEIGHTS OF EXTERIOR LIGHTING FIXTURES.
- G. WIRE COUNTS FOR CIRCUIT CONDUCTORS ARE NOT SHOWN.
 PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUIT
 AND SWITCHING CONNECTIONS SHOWN.
- H. MODIFICATIONS TO NUMBER OF CONDUCTORS IN HOME RUNS IN ADDITION TO CIRCUITS INDICATED ON THIS DRAWING ARE PROHIBITED.
- CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.

- ROUTE EF-1 CONTROL WIRING THRU AUXILIARY CONTACTS OF OCCUPANCY SENSORS IN PARALLEL SUCH THAT EITHER SENSOR OPERATES FAN.
- 2. ROUTE THRU CONTACTOR CT1.

103

- 3. CONCRETE ENCASED ELECTRODE: STEEL REINFORCEMENT IN BASE OF FOOTING NO LESS THAN 20'-0" LONG.
- 4. PROVIDE UNISTRUT AND MOUNT PANEL AS NECESSARY FOR CLEARANCE FROM PIPING.



1 ELECTRICAL POWER PLAN
1/4" = 1'-0"



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411 WEST FIRST ST. DULUTH, MN 55802

THIS SQUARE APPEARS 1/2"x1/2" ON FULL SIZE SHEETS

03/24/2016 BID

NO DATE ISSUED FOR

NO DATE DEVISIO

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.

Signature:

Typed or Printed Name: N

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:
ELECTRICAL PLANS

FILE: 150589 CHAMBERS GROVE A16.rvt
DRAWN BY: AML
CHECKED BY: LRH

150589 **E2.1**

		LIG	HTING FIX	XTURE SO	CHEDULE					
TYPE	DESCRIPTION	LENS-LOUVER	MOUNTING	LAMP	BALLAST/DRIVER	VOLT	WATT	MFR	CATALOG SERIES	NOTE
A4-42	4' LONG LED WRAPAROUND, VANDAL RESISTANT, HEAVY DUTY WHITE EXTRUDED ALUMINUM HOUSING, DIE-CAST END CAPS.	EXTRUDED POLYCARBONATE	SURFACE	LED 4165lm 85+CRI 4000K L70 50,000 HR	LED DRIVER	120 V	73 W	FAIL SAFE	HVL LED LD4 LED SERIES	
XP1 SSA15	DECORATIVE WRIGHTIAN/MISSION POLE MOUNTED, TYPE 5 DISTRIBUT6ION, 15' HIGH SQUARE STRAIGHT STEEL POLE, HEAVY-DUTY WHITE ACRYLIC LENS WITH SIMPLE SQUARE EDGE GRILLE AND NIGHT SKY LOUVER OPTIC, DARK BRONZE FINISH, UL LISTED FOR WET LOCATION.	WHITE ACRYLIC	POLE	LED 2085lm 75+CRI 3000K L70 70,000HR	LED DRIVER	120 V	30 W	STERNBERG AMERLUX	PRAIRIE 1230LED DSQ9 LED SERIES	
XP1T3 SSA20	LOW PROFILE LED AREA LIGHT WITH CAST ALUMINUM HOUSING, TYPE 3 DISTRIBUTION, DARK BRONZE FINISH, SQUARE STRAIGHT STEEL POLE, WITH INTEGRAL MOTION SENSOR FOR BI-LEVEL 30%-100% OPERATION.		POLE	LED 14,000lm 70+CRI 3000K L96 100,000 HR	LED DRIVER BI-LEVEL	240 V	131 W	BETA-LED LITHONIA MCGRAW	ARE-EDG SERIES DSX1 LED SERIES GALLEON SERIES	
XW1	16" WIDE X 7" HIGH TRAPEZOID LED WALL SCONCE WITH NO UPLIGHT, TUPE 3 DISTRIBUTION, DIE-CAST ALUMINUM HOUSING, ALUMINUM POWDER-COAT FINISH, INTEGRAL MOTION SENSOR FOR 30%/100% LUMEN OUTPUT CONTROL, VANDAL GUARD, UL LISTED FOR WET LOCATION.	CLEAR TEMPERED GLASS	WALL	LED 4028lm 75+CRI 4500K L70 50,000 HR	LED DRIVER 0-10VDC DIMMING	120 V	47 W	LITHONIA	WST LED 2 10A700/30K SR3 PIR VG DNAXD	

GENERAL NOTES:

- A. CONTRACTOR SHALL REFER TO SPECIFICATIONS REGARDING PROVIDING ADDITIONAL SPARE LAMPS, LENSES, AND GLOBES.
- B. WHERE "APPROVED EQUAL" IS LISTED IN THE MANUFACTURER COLUMN, FIXTURES MUST BE SUBMITTED AS A SUBSTITUTION FOR APPROVAL PRIOR TO BID SUBMISSION.

	#6 CU	DO 2#
(3) GND RODS	CONCRETE ENCASI ELECTRODE IN BAS OF FOOTING	

DESCRIPTION

EF-1 EXHAUST FAN

HD HAND DRYER

LS LIFT STATION

WH-1 WATER HEATER INSTANTANEOUS

FVNR FULL VOLTAGE NON-REVERSING

VFD VARIABLE FREQUENCY DRIVE

1. REFER TO EXTERIOR LIGHTING CONTROL DIAGRAM.

FVR FULL VOLTAGE REVERSING

RVS REDUCED VOLTAGE

2-SPD TWO SPEED

SCHEDULE NOTES:

ELECTRICAL EQUIPMENT SCHEDULE

0 A | 116 W | 120 V | 1 | 16 (1/2")C-2#12, | RELAY/POWER

#12 GND

16(1/2")C-2#12,

#12 GND

GND

21(3/4")C-2#6,

#10 GND

CONTROL DEVICES:

|27(1")C-2#6, #10| INTEGRAL

HOA HAND-OFF-AUTO SWITCH

RED (RUN) PILOT LIGHT

S/S STOP-START PUSHBUTTONS

CONTACTOR SCHEDULE

GREEN (POWER) PILOT LIGHT

ON-OFF SELECTOR SWITCH

ROOM HP A W VOLT PHASE WIRE SIZE

8 A | 0 W | 120 V |

0 A | 12000 W | 240 V |

1. RELAY/POWER PACK CONTROLLED BY AUXILIARY CONTACTS IN LIGHTING CONTROL OCCUPANCY SENSORS. WIRE CONTACTS IN PARALLEL SUCH THAT EITHER OCCUPANCY SENSOR

ENCLOSURE

SITE | 5 HP | 0 A | 0 W | 240 V |

COMBINATION DISCONNECT TYPES:

FUSED SWITCH

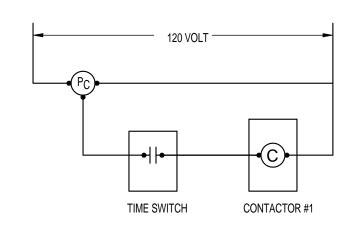
CB CIRCUIT BREAKER

NON-FUSED SWITCH

30 A 6 120 V ELECTRICALLY HELD NEMA 1 SURFACE PHOTOCELL

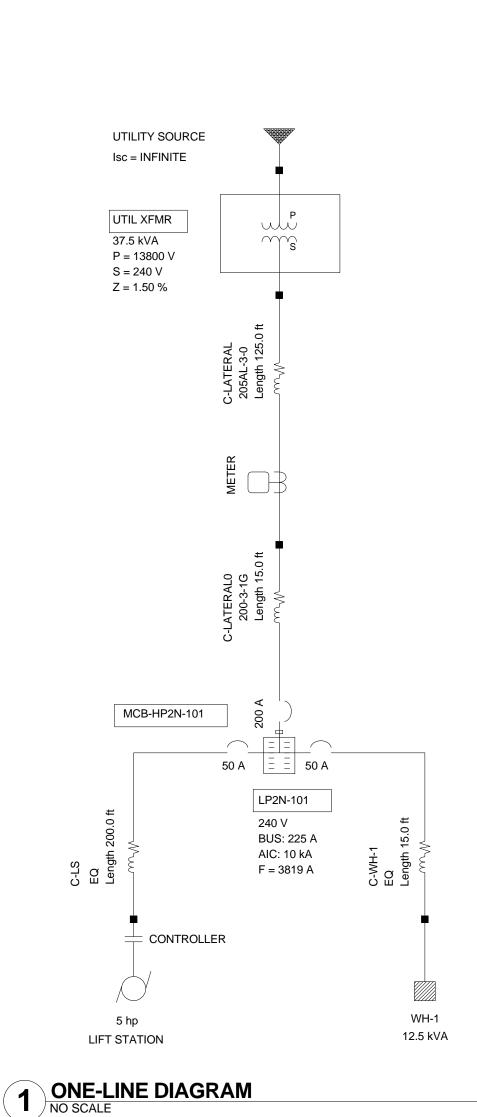
MCP MOTOR CIRCUIT PROTECTOR

3 GROUNDING RISER DIAGRAM



2 EXTERIOR LIGHTING CONTROL DIAGRAM NO SCALE

FEEDER	COPPER CO	NDUCTORS		COND	UIT SIZE		
TYPE	Ø&N	GND	2Ø+N+GND	3Ø+GND	3Ø+N+GND	3Ø+2N+2GND	NOTES
200-3-0	#3/0	#6	53 (2")	53 (2")	53 (2")	63 (2 1/2")	1
200AL-3-0	#250AL	#4AL	53 (2")	53 (2")	53 (2")	63 (2 1/2")	2
EQ	EQUIPMENT F	EEDER - REFER	TO ELECTRICAL EQUI	PMENT SCHEDULE			
ACTU/ SCHEDULE 1. SEE E	(0) - NO (1G) - EQL (2G) - EQL (2G) - EQL (3) - 1Ø 3 (4) - 3Ø, (5) - 3Ø, (5) - 3Ø, (5) - 3Ø, (5) - 20 (SEE FEED) IOTES: UCTOR LENGTHS AL LENGTHS. NOTES:	JIPMENT OR ISOI JIPMENT GND AN ESCRIPTION: BW OR 3Ø 3W 4W 5W (2 NEUTRALS DR AMPACITY: ER SCHEDULE) S ARE INDICATED PMENT SCHEDU	ID ISOLATED GND S) FOR SHORT CIRCUIT		LY. CONTRACTOR TO) DETERMINE	



STARTER | CONTROL DEVICE | DISCONNECT

OCCUPANCY

SENSORS

INTEGRAL

FLOAT SWITCH

(EXISTING)

INTEGRAL

ABBREVIATIONS:

OWN OWNER

COMPONENT COMPONENT NOTES

CB IN PANEL

CB IN PANEL LOCKABLE

IN CONTROL

PANEL

CB IN PANEL

ELECTRICAL CONTRACTOR MECHANICAL CONTRACTOR

GENERAL CONTRACTOR

TEMPERATURE CONTROL

CONTROL TYPE CONTROL LOCATION SOURCE CIRCUIT NO. LOAD DESCRIPTION NOTES

40,42 EXTERIOR LIGHTING

LP2N-101

COMPONENT

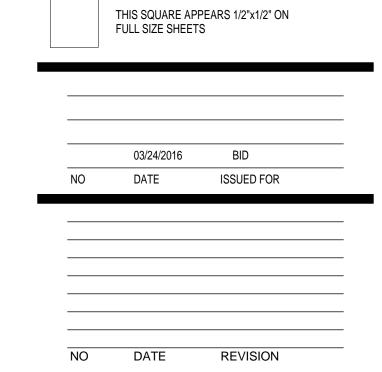
PACK



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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.

Signature:

Typed or Printed Name:

Typed or Printed Name:

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE:

ELECTRICAL SCHEDULES

FILE: 150589 CHAMBERS GROVE A16.rvt
DRAWN BY: AML

CHECKED BY: LRH
PROJ. NO: 150589
DRAWING NO:

E8.01

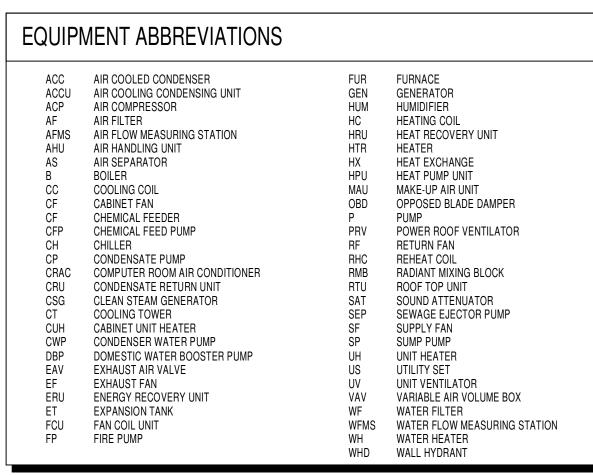
PANELBOARD: LP2N-101

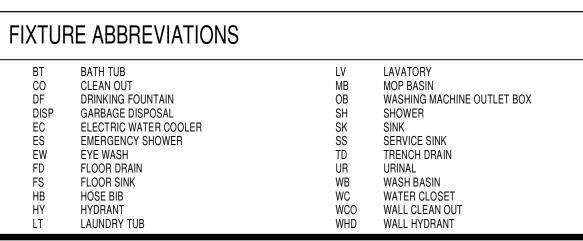
LOCATION: MECH. 102
MOUNTING: SURFACE NEMA 1
MAIN DEVICE: 200 A MAIN CB
BUS AMPS: 225 AMPS

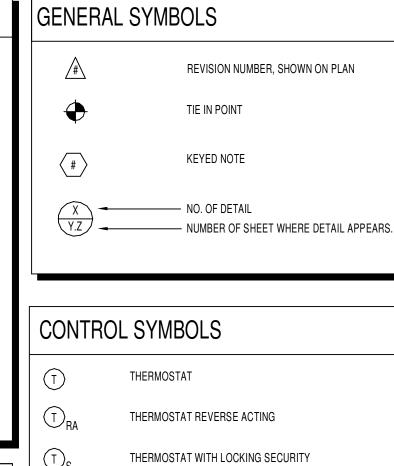
VOLTAGE: 120/240 V. 1 Ø 3 W.
A.I.C. RATING: 10,000 AMPS SYMMETRICAL SPECIAL:

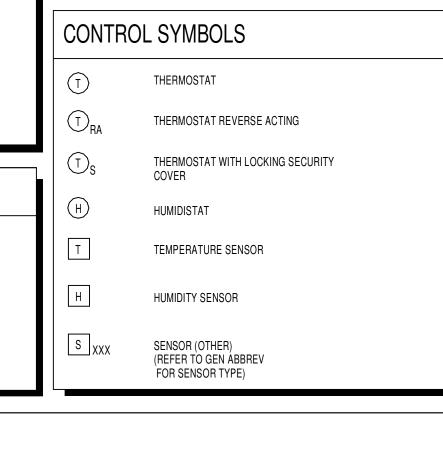
LOAD DESCRIPTION	BKR	Р	СКТ		SE A /A	1	SE B /A	СКТ	Р	BKR	LOAD D	ESCRIPTION
RCPT 102	20 A	1	1	0.2				2				
RCPT 101,103	20 A	1	3			0.5	0.2	4	1	20 A	LITES EXTER	RIOR
HAND DRYER 101	20 A	1	5	0.9	0.4			6	1	20 A	LITES 101,10	2,103
HAND DRYER 103	20 A	1	7			0.9	0.0	8	1	20 A	PAVILION	
EF-1 EXHAUST FAN	20 A	1	9	0.1	0.0			10	1	20 A	PAVILION	
SPARE	20 A	1	11			0.0	0.0	12	1	20 A	PAVILION	
SPARE	20 A	1	13	0.0	0.0			14	1	20 A	PAVILION	
SPARE	20 A	1	15			0.0	0.0	16	1	20 A	PAVILION	
SPARE	20 A	1	17	0.0	0.0			18			SPACE	
SPARE	20 A	1	19			0.0	0.0	20			SPACE	
SPARE	20 A	1	21	0.0	0.0			22			SPACE	
SPACE			23			0.0	0.0	24			SPACE	
SPACE			25	0.0	0.0			26			SPACE	
SPACE			27			0.0	0.0	28			SPACE	
SPACE			29	0.0	0.0			30			SPACE	
WH-1 WATER HEATER	50 A	2	31			6.8	0.0	32			SPACE	
WIFT WATER HEATER	30 A		33	6.8	0.0			34			SPACE	
LS LIFT STATION	50 A	2	35			3.4	0.3	36	2	20 A	LITES PARKI	NG
ES EII T STATION	30 A		37	3.4	0.3			38		20 A	LITESTAKKI	INO
EXISTING POWER	60 A	2	39			3.6	0.1	40	2	20 A	LITES RIVER WALK	
PEDESTAL		41 3.6 0.1 42		LITEORIVER	WALK							
	7	FOTAL	LOAD:	16	kVA	16	kVA					
	7	TOTAL	AMPS:	13	1 A	13	2 A					
LOAD CLASSIFICATION	CONN	IECTE	D I	DEMA	ND	EST	IMATE	D		F	PANEL TOTAL	S
RCPT	72	0 VA		100.00)%	72	20 VA					
LITES	105	55 VA		125.00)%	13	19 VA		CONNECTED LOAD:		31579 VA	
MTR	137	69 VA		124.76	5%	17	178 VA		E	STIMAT	ED DEMAND:	35319 VA
SPEC	139	20 VA		100.00)%	139	920 VA				D CURRENT:	
HEAT		18 VA		100.00			48 VA				ID CURRENT:	
1 1L/ VI	10-	10 V/1		100.00	,,,,	10	10 1/1		201.	PLINIAN	D JONNEIN.	11171

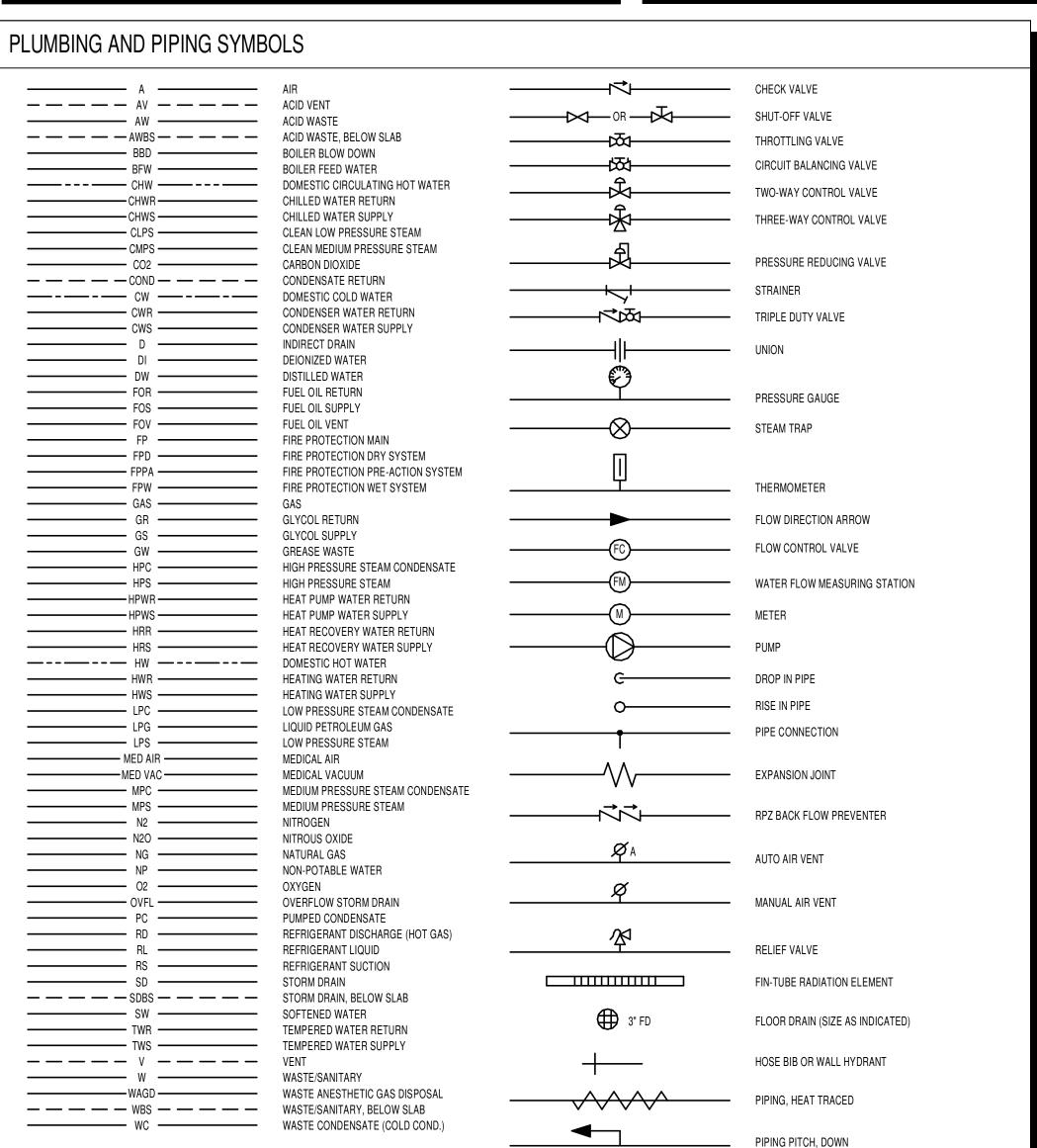
C:\Revit Local Files\150589 Chambers Grove Park E16_amherst.\
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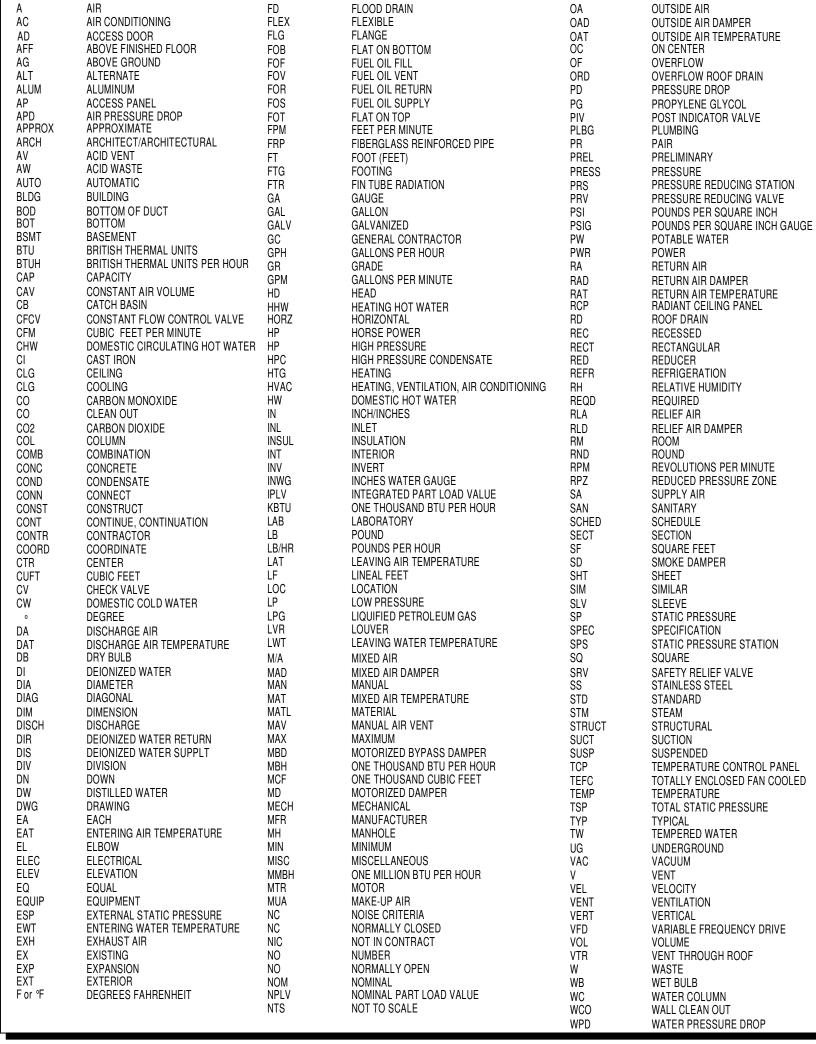






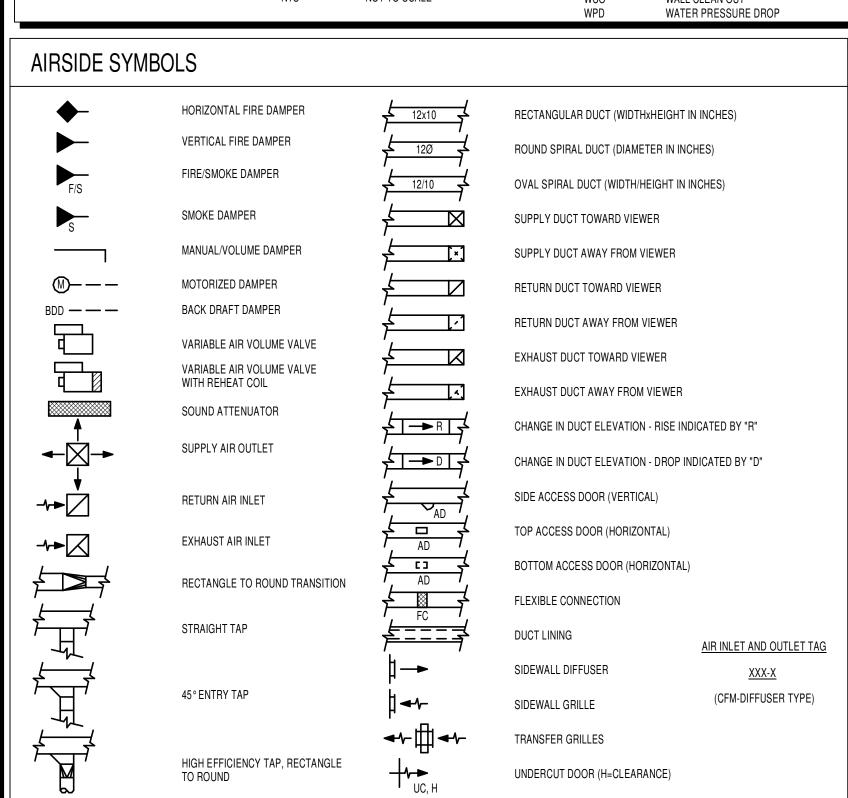


GENERAL ABBREVIATIONS



FRESH AIR

OXYGEN



GENERAL MECHANICAL NOTES

- REFER TO "DIVISION 1 GENERAL REQUIREMENTS" IN THE PROJECT MANUAL FOR WORK THAT IS THE RESPONSIBILTY OF ALL CONTRACTORS.
- IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTORS TO COORDINATE THE WORK OF THEIR TRADE WITH ALL OTHER TRADES PRIOR TO PROCEEDING WITH THEIR WORK. ANY WORK REQUIRING REMOVAL AND REINSTALLATION DUE TO LACK OF COORDINATION SHALL BE THE RESPONSIBILTY OF THE CONTRACTORS.
- PRIOR TO PERFORMING WORK REQUIRED, INSPECT ALL EXISTING CONDITIONS AND INSTALLED WORK OF OTHER TRADES AND VERIFY THAT ALL CONDITIONS AND ALL SUCH WORK IS COMPLETE TO THE POINT WHERE MECHANICAL WORK CAN PROPERLY COMMENCE.
- PERFORM CUTTING, FITTING, AND PATCHING OF MECHANICAL EQUIPMENT AND MATERIALS REQUIRED TO REMOVE EXISTING WORK AND TO INSTALL EQUIPMENT AND MATERIALS IN EXISTING STRUCTURES.
- PROTECT NEW WORK AND EXISTING WORK TO REMAIN.
- THE CONTRACTOR IS REQUIRED TO FIELD VERIFY LOCATIONS OF EXISTING WORK
- ALL EQUIPMENT SHALL BE INSTALLED TRUE, LEVEL, AND IN THE LOCATION SHOWN ON THE DRAWINGS.
- ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER THAT PROVIDES ADEQUATE MAINTENANCE ACCESS.
- PROTECT EQUIPMENT AND MATERIALS FROM THE WEATHER AND CONSTRUCTION DUST DURING CONSTRUCTION AND LEAVE ALL EQUIPMENT AND DUCT INTERIORS

MECHANICAL SHEET INDEX

MECHANICAL COVER SHEET PLUMBING PLANS

VENTILATION PLANS



21 W. Superior St., Ste 500 | Duluth, MN 55802 | 218.727.8446

CITY OF DULUTH

411 WEST FIRST ST. DULUTH, MN 55802

03/24/2016 BID NO DATE ISSUED FOR					THIS SQUARE APPEARS 1/2"x1/2" ON FULL SIZE SHEETS									
NO DATE ISSUED FOR	NO DATE ISSUED FOR	NO DATE ISSUED FOR	NO DATE ISSUED FOR		03/24/2016	BID								
				NO	DATE	ISSUED FOR								

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.

NO DATE REVISION

Signature:	July	y fall		
Typed or P	rinted Name:	TODE) MELL	
Date:	03/24/16	Rea No.	49842	

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

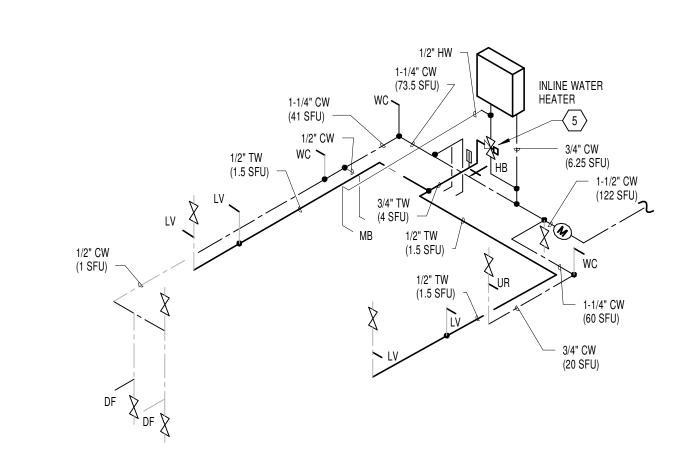
DRAWING TITLE: MECHANICAL COVER SHEET

FILE: 150589 CHAMBERS GROVE A16.rvt DRAWN BY: AWL CHECKED BY: TGM PROJ. NO: 150589 DRAWING NO:

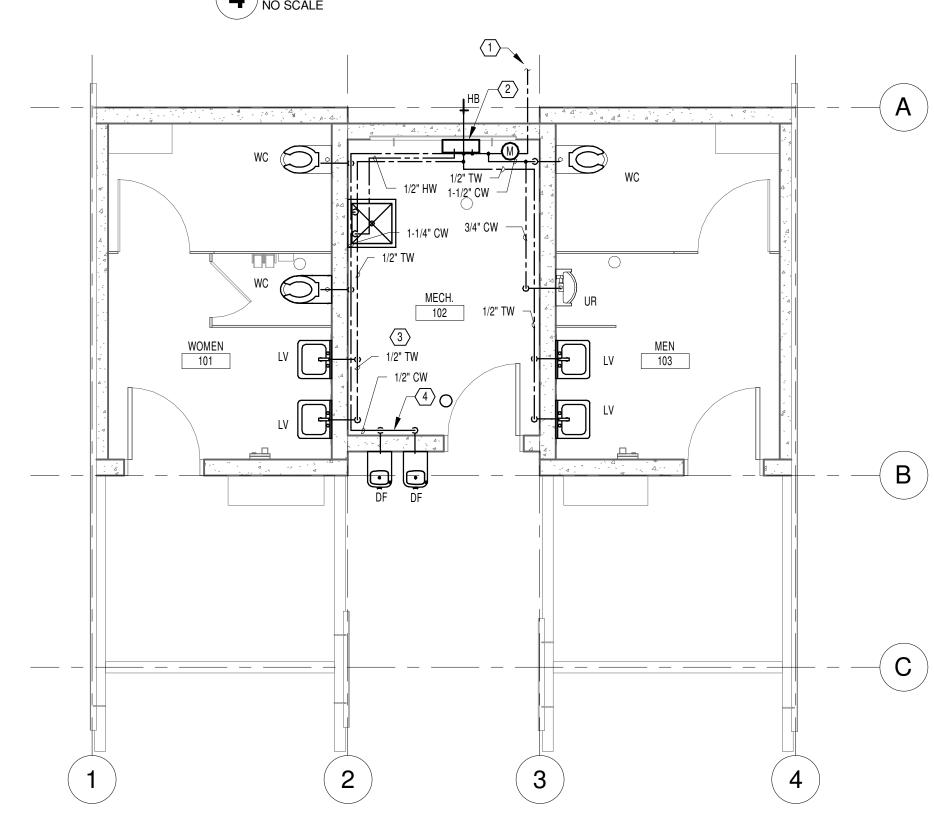
			WATER	RHEATER	(ELECT	RIC) SCH	EDULE			
				STORAGE	TEMP. RISE		ELECTRICAL R	EQUIREMENTS		
UNIT NO.	MANUFACTURER	MODEL	LOCATION	CAPACITY	AT 1 GPM	WATTS	VOLTAGE	PHASE	AMPS	NOTES
WH-1	EEMAX	EXO12240T ML	102	-	79	12000 W	240 V	1	0 A	1

1. PROVIDE UNIT WITH 0.3 GPM ACTIVATION.

PLUMBING FIXTURE SCHEDULE									
		DOMESTIC WATER				SANITARY			
		COLD WATER HO		HOT WATER					
UNIT NO.	DESCRIPTION	FU	SIZE	FU	SIZE	DFU	DRAIN SIZE	VENT SIZE	
DF	S.S. DRINKING FOUNTAIN	0.5	1/2"	0	0"	0.5	2"	1 1/4"	
FD	2" FLOOR DRAIN	0	1/2"	0	1/2"	2	2"	1 1/4"	
LV	S.S. LAVATORY	0.75	1/2"	0.75	1/2"	1	2"	1 1/4"	
MB	MOP SINK	2.25	3/4"	2.25	3/4"	3	2"	1 1/2"	
UR	S.S. URINAL	5	1 1/4"	0	0"	2	3"	1 1/2"	
WC	S.S. WALL HUNG WATER CLOSET	10	1 1/2"	0	0"	4	4"	2"	



4 DOMESTIC WATER RISER DIAGRAM
NO SCALE



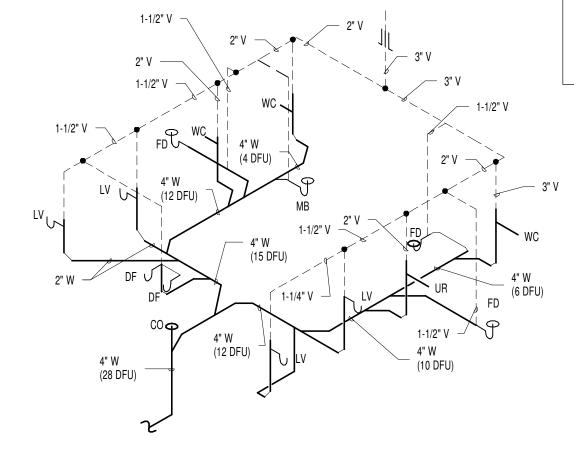
2 LEVEL 1 DOMESTIC WATER PLAN
1/4" = 1'-0"



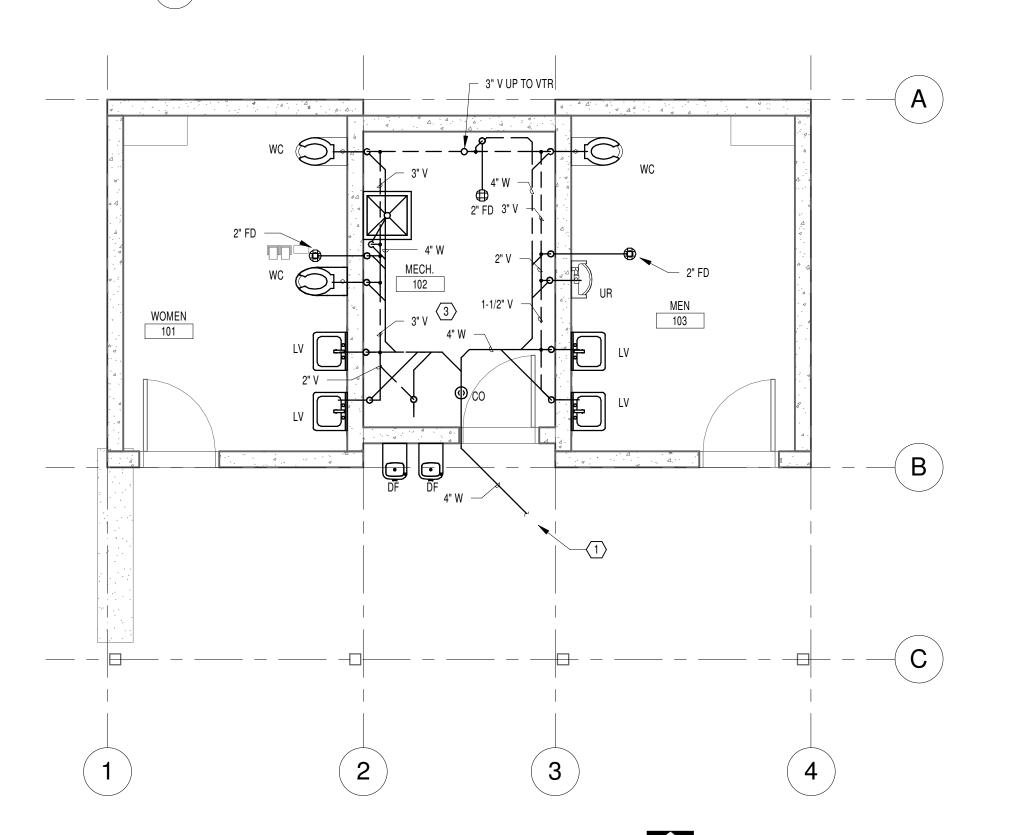
- ROUTE ALL WATER PIPING SLOPED TO ALLOW DRAINING OF SYSTEM.
- B. PROVIDE MANUAL VENTS AT HIGH POINTS OF DOMESTIC WATER SYSTEM FOR SYSTEM DRAINING.
- PROVIDE DRAIN VALVES WITH HOSE CONNECTIONS AT LOW POINTS OF DOMESTIC WATER PIPING.

KEYED SHEET NOTES

- 1 REFER TO CIVIL FOR CONTINUATION.
- SEE RISER FOR WATER HEATER PIPING. PROVIDE PRESSURE RELIEF VALVES IF REQUIRED TO MEET MN PLUMBING CODE 504.6 AND 507.5.
- COORDINATE ALL PIPE ROUTING WITH ELECTRICAL DEVICES AND MAINTAIN ALL REQUIRED CLEARANCES.
- INSTALL DRINKING FOUNTAINS SO PIPING SLOPES BACK INTO MECHANICAL ROOM FOR SEASONAL SHUTDOWN. PROVIDE VALVES AND DRAINS AT LOW POINTS.
- MIXING VALVE SHALL MEET ASSE 1070 OR CSA B125.3
 AS REQUIRED PER MN PLUMBING CODE SECTION
 421.2.



3 SANITARY RISER DIAGRAM
NO SCALE



1 LEVEL 1 SANITARY PLAN
1/4" = 1'-0"



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	THIS SQUARE AF FULL SIZE SHEE	PPEARS 1/2"x1/2" ON TS	
_			
	03/24/2016	BID	
NO	DATE	ISSUED FOR	

	03/24/2016	BID	_
NO	DATE	ISSUED FOR	
NO	DATE	REVISION	

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.

Signatu	re:	Hall		
Typed o	or Printed Name:	TODI) MELL	
Date:	03/24/16	Reg. No.:	49842	

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PROJECT NAME:

CHAMBERS GROVE PARK FLOOD RECOVERY & IMPROVEMENTS

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING NO:

DRAWING TITLE:
PLUMBING PLANS

FILE: 150589 CHAMBERS GROVE A16.rvt

DRAWN BY: AWL

CHECKED BY: TGM

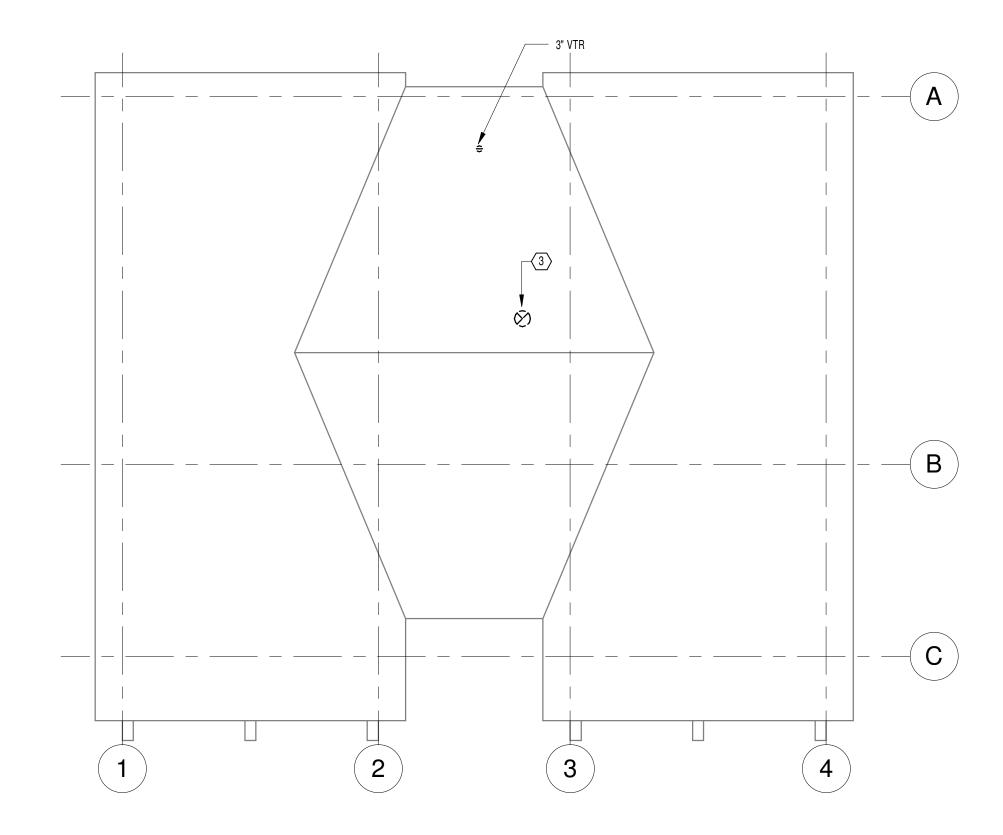
PROJ. NO: 150589

M2.01

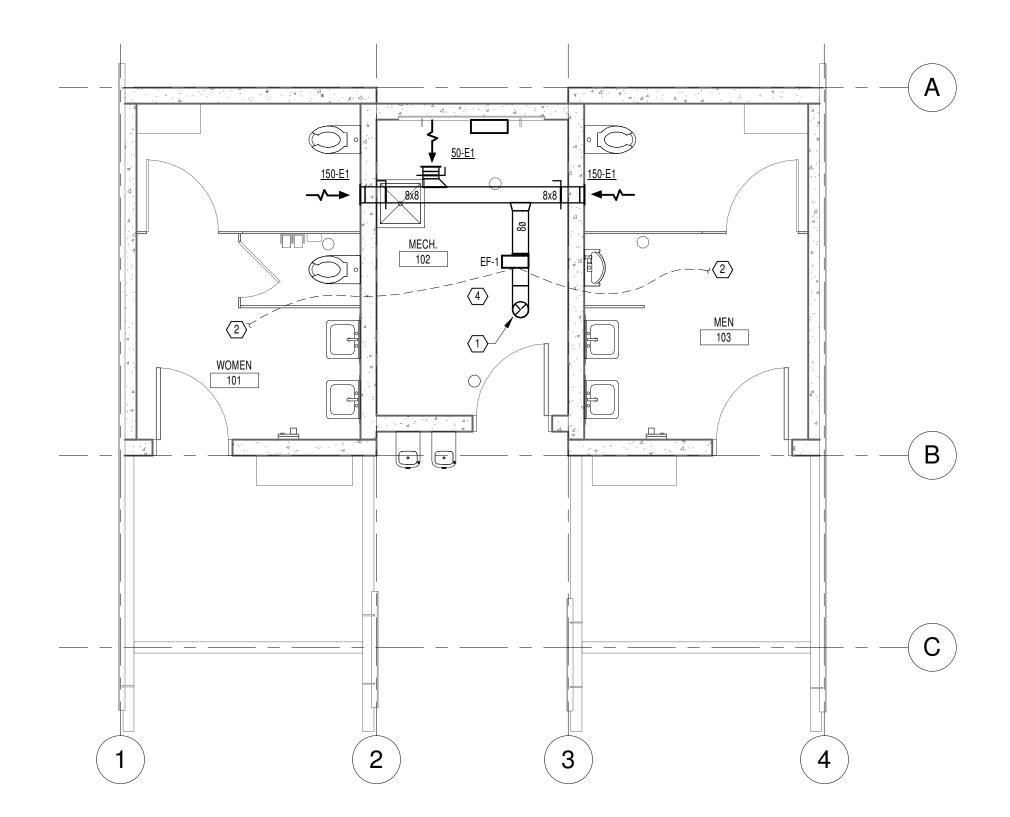
	FAN SCHEDULE											
									ELECTRICAL REQUIREMENTS			
									OPERATING			
UNIT	NO. MA	NUFACTURER	MODEL	LOCATION	SERVES	CFM	ESP	FAN RPM	POWER	VOLTAGE	PHASE	NOTES
EF	-1	FANTECH	FG-8	102	TOILET ROOM	350 CFM	0.50	2618	116 W	120 V	1	1,2

PROVIDE FAN WITH SPEED CONTROLLER FOR BALANCING.
 PROVIDE FAN WITH ASSOCIATED ROOF CAP.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE									
UNIT NO.	MANUFACTURER	DUTY	SIZE	VOLUME CONTROL	MATERIAL	FRAME TYPE	SOUND (NC)	FINISH	NOTES
F1	TITUS	FXHALIST	8X8	DUCT MOUNTED	ALUMINUM	SIDEWALL	LESS THAN 30	MILL	







KEYED SHEET NOTES

2 TIE EXHAUST FAN INTO LIGHTING CONTROL SYSTEM.

EXHAUST DUCT ROOF PENETRATION. PROVIDE ROOF CAP AND COORDINATE WITH ROOF INSTALLATION.

COORDINATE EXHAUST FAN AND DUCTWORK LOCATION WITH LIGHTING.

1 8" DUCT UP TO ROOF CAP.





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	THIS SQUARE APP FULL SIZE SHEETS	PEARS 1/2"x1/2" ON S	
NO NO	03/24/2016 DATE	BID ISSUED FOR	
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Date: 00	3/24/16	Reg. No.:	49842	

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PROJECT NAME: CHAMBERS GROVE PARK FLOOD RECOVERY & **IMPROVEMENTS**

HWY 23 & 137TH AVE W DULUTH, MN 55808

DRAWING TITLE: **VENTILATION PLANS**

FILE: 150589 CHAMBERS GROVE A16.rvt DRAWN BY: AWL CHECKED BY: TGM M3.01 PROJ. NO: 150589 DRAWING NO: