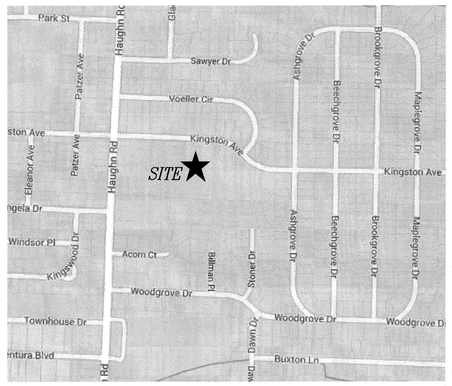


LOCATION MAP

STORM SCHEDULE

(EX) *EXISTING CATCH BASIN*
N 684146.23
E 1805334.26
GRATE=827.84
INV IN=823.84 (12") W

(1) ODOT CB No. 2-2B
N 684138.96
E 1805291.18
GRATE=828.30
INV IN=824.03 (12") SW
INV OUT=824.03 (12") E

(2) ODOT CB No. 2-4
N 684092.51
E 1805269.25
GRATE=829.50
INV IN=824.29 (6") SW
INV OUT=824.29 (12") NE

(3) GROVE CITY STANDARD ENDWALL
N 683976.37
E 1805237.35
INV=825.44 (30") SW

(4) CONTECH CDS 3035 WATER QUALITY STRUCTURE OR APPROVED EQUAL
N 683950.01
E 1805223.01
RIM=829.46
INV IN=825.48 (30") SW
INV OUT=825.48 (30") NE

(5) ODOT CB No. 2-3
N 683932.45
E 1805213.45
GRATE=829.34
INV IN=825.51 (30") W
INV OUT=825.51 (30") NE

(6) ODOT CB No. 2-3
N 683942.45
E 1805039.01
GRATE=830.44
INV IN=825.75 (30") W
INV OUT=825.75 (30") E

(7) ODOT CB No. 2-3
N 683955.64
E 1804934.60
GRATE=829.40
INV IN=827.15 (15") N
INV IN=825.90 (30") W
INV OUT=825.90 (30") E

(8) ODOT CB No. 2-3
N 683960.28
E 1804835.31
GRATE=830.79
INV IN=826.03 (30") W
INV OUT=826.03 (30") E

(9) ODOT CB No. 2-3
N 683966.58
E 1804700.62
GRATE=830.43
INV IN=827.71 (12") N
INV IN=826.61 (24") W
INV OUT=826.21 (30") E

(10) ODOT CB No. 2-3
N 684024.21
E 1804558.02
GRATE=830.02
INV IN=827.65 (12") NW
INV IN=827.32 (18") N
INV OUT=826.92 (24") E

(11) ODOT CB No. 2-3
N 684176.78
E 1804566.40
GRATE=830.11
INV IN=828.10 (12") NW
INV OUT=827.70 (18") S

(12) ODOT CB No. 2-3
N 684249.02
E 1804483.54
GRATE=830.70
INV OUT=828.65 (12") SE

(13) ODOT CB No. 2-3
N 684108.23
E 1804417.55
GRATE=830.87
INV OUT=828.37 (12") SE

(14) ODOT CB No. 2-3
N 684027.98
E 1804711.02
GRATE=832.86
INV IN=828.08 (12") N
INV OUT=827.98 (12") S

(15) ODOT CB No. 2-3
N 684226.90
E 1804720.30
GRATE=832.33
INV OUT=828.96 (12") S

(16) ODOT CB No. 2-2B
N 684113.98
E 1804938.00
GRATE=832.27
INV IN=829.81 (12") N
INV OUT=827.94 (15") S

(17) ODOT CB No. 2-2B
N 684176.01
E 1804940.90
GRATE=832.39
INV IN=830.22 (12") NW
INV OUT=830.12 (12") S

(18) ODOT CB No. 2-2B
N 684204.52
E 1804997.54
GRATE=832.97
INV IN=830.45 (12") W
INV OUT=830.45 (12") SE

(19) ODOT CB No. 2-2B
N 684208.66
E 1804808.82
GRATE=832.84
INV OUT=830.84 (12") E

(20) ODOT CB No. 6 FC
N 684386.45
E 1804747.69
GRATE=831.11
INV IN=827.95 (12") N
INV OUT=827.95 (12") S

SANITARY SCHEDULE

<EX> *EXISTING MANHOLE*
N 684,580.47
E 1804,511.96
RIM=833.62
INV IN=825.65 (8") E
INV OUT=825.65 (8") N

<101> GROVE CITY TYPE A MANHOLE
CLASS "A"
N 684347.60
E 1804949.21
RIM=830.74
INV IN=827.70 (8") S
INV OUT=827.60 (8") W

<102> GROVE CITY TYPE A MANHOLE
CLASS "B"
N 684189.14
E 1804941.82
RIM=832.56
INV IN=828.40 (8") SW
INV OUT=828.40 (8") N

SITE DATA

TOTAL ACREAGE OF SITE:	12.99 ACRES
DISTANCE TO NEAREST CROSS STREET: (SITE IS ADJACENT TO THE INTERSECTION OF KINGSTON AVENUE AND HAUGHN ROAD)	0 FEET
TOTAL NUMBER OF PARKING SPACES:	74
NUMBER OF NEW STD. SPACES:	69
NUMBER OF NEW H.C. SPACES:	5
BUILDING SQUARE FOOTAGE:	69,984 SF
CLASSROOM SQUARE FOOTAGE:	26,581 SF

SITE PLAN NOTES:

1. SIDEWALK WITHIN RIGHT-OF-WAY THAT IS TO BE REMOVED AND REPLACED DUE TO UTILITY INSTALLATION OR ENTRANCE DRIVE CONSTRUCTION SHALL BE PER C-GC-46A.
2. PIPING WITHIN THE RIGHT-OF-WAY CONNECTING TO PUBLIC STORM SEWER SHALL BE INSTALLED WITH GRANULAR TYPE A BACKFILL PER C-GC-26.
3. PROPOSED DRIVE ENTRANCES WITHIN RIGHT-OF-WAY TO BE CONSTRUCTED PER C-GC-41B.
4. CURB AND GUTTER WITHIN RIGHT-OF-WAY AT PROPOSED DRIVE ENTRANCES ALONG HOOVER RD. TO BE REMOVED AND REPLACED PER C-GC-57B/C-GC-41A. SIDEWALKS CROSSING THE PREPAVED ENTRANCES SHALL BE ADA COMPLAINT PER C-GC-46.
5. ALL ROOFTOP MOUNTED SERVICE/MECHANICAL EQUIPMENT SHALL BE PAINTED TO MATCH THE BRICK COLOR.

ZONING

EXISTING ZONING: SD-1 EDUCATIONAL
PROPOSED ZONING: SD-1 EDUCATIONAL

UTILITY NOTES

1. ALL ENDWALLS SHALL BE PER CITY OF GROVE CITY STANDARD DRAWING C-GC-23.
2. ALL HEADWALLS SHALL HAVE STONE FACING CONSISTING OF NORTH SHORE BUFF LIMESTONE PER CITY OF GROVE CITY REQUIREMENTS.
3. SITE IS NOT WITHIN THE 100-YEAR FLOODPLAIN ACCORDING TO FEMA MAP NO. 39049C0314K.
4. ALL WATERMAIN CROSSINGS SHALL MAINTAIN A VERTICAL SEPARATION OF 18" MINIMUM. SANITARY SEWER SHALL BE LOCATED A MINIMUM OF 18" BELOW WATERMAIN AT ALL CROSSINGS.

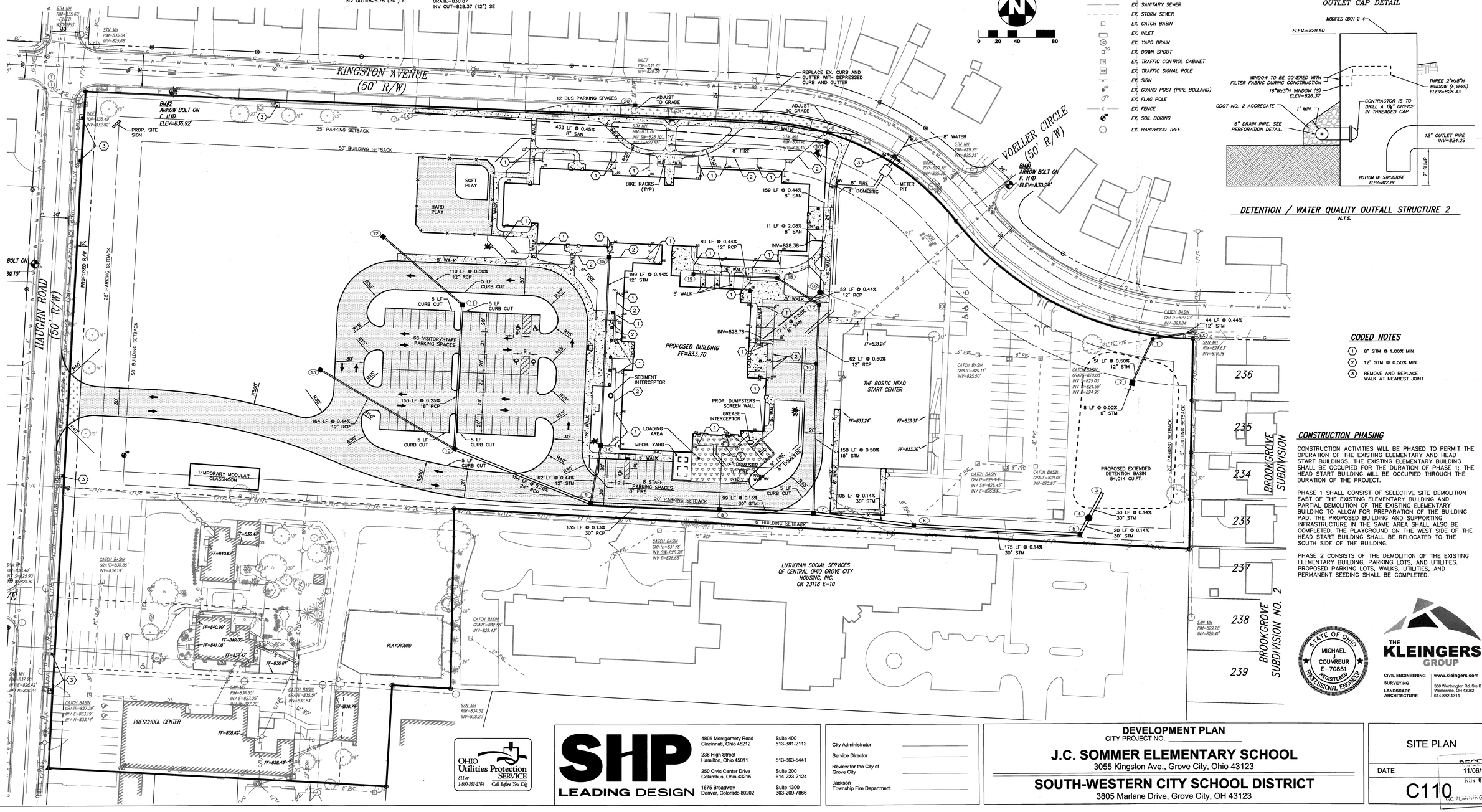
LEGEND

PROPOSED SYMBOLS

- PROPOSED STORM PIPE
- PROPOSED SANITARY PIPE
- PROPOSED WATER PIPE
- (CB) PROPOSED CATCH BASIN
- (MH) PROPOSED STORM MANHOLE
- (SO) PROPOSED SANITARY MANHOLE/CLEANOUT
- PROPOSED FIRE HYDRANT
- DS PROPOSED DOWNSPOUT
- CO PROPOSED CLEANOUT
- PROPOSED CONCRETE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED DRIVE APPROACH PER C-GC-41B.

EXISTING SYMBOLS

- CONCRETE MONUMENT FOUND
- 5/8" IRON PIN FOUND
- 5/8" CAPPED IRON PIN SET
- 1" IRON PIPE FOUND
- NAIL SET
- BENCHMARK
- EX. UTILITY POLE
- EX. GUY WIRE
- UE EX. UNDERGROUND ELECTRIC
- E EX. OVERHEAD ELECTRIC
- EX. HVAC UNIT
- EX. TRANSFORMER
- EX. GROUND LIGHT
- EX. ELECTRIC BOX
- EX. LIGHT POLE
- UT EX. UNDERGROUND TELEPHONE
- T EX. OVERHEAD TELEPHONE
- EX. TELEPHONE MANHOLE
- EX. TELEPHONE PEDESTAL
- G EX. GAS MAIN
- GV EX. GAS VALVE
- UCATV EX. UNDERGROUND CABLE TV
- W EX. WATER MAIN
- FH EX. FIRE HYDRANT
- WV EX. WATER VALVE
- WM EX. WATER METER
- IC EX. IRRIGATION CONTROL VALVE
- EX. MANHOLE
- CO EX. CLEAN OUT
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. CATCH BASIN
- EX. INLET
- YD EX. YARD DRAIN
- DS EX. DOWN SPOUT
- EX. TRAFFIC CONTROL CABINET
- TSP EX. TRAFFIC SIGNAL POLE
- EX. SIGN
- EX. GUARD POST (PIPE BOLLARD)
- FP EX. FLAG POLE
- EX. FENCE
- EX. SOIL BORING
- EX. HARDWOOD TREE



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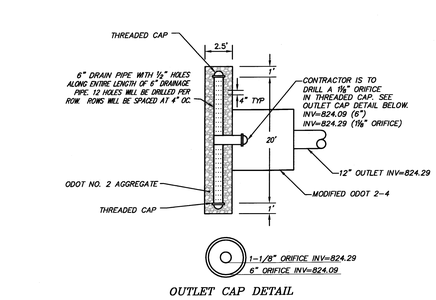

OUTLET CAP DETAIL

DETENTION / WATER QUALITY OUTFALL STRUCTURE 2
N.T.S.

CODED NOTES

(1) 8" STM @ 1.00% MIN
(2) 12" STM @ 0.50% MIN
(3) REMOVE AND REPLACE WALK AT NEAREST JOINT

CONSTRUCTION PHASING

CONSTRUCTION ACTIVITIES WILL BE PHASED TO PERMIT THE OPERATION OF THE EXISTING ELEMENTARY AND HEAD START BUILDINGS. THE EXISTING ELEMENTARY BUILDING SHALL BE OCCUPIED FOR THE DURATION OF PHASE 1; THE HEAD START BUILDING WILL BE OCCUPIED THROUGH THE DURATION OF THE PROJECT.

PHASE 1 SHALL CONSIST OF SELECTIVE SITE DEMOLITION EAST OF THE EXISTING ELEMENTARY BUILDING AND PARTIAL DEMOLITION OF THE EXISTING ELEMENTARY BUILDING TO ALLOW FOR PREPARATION OF THE BUILDING PAD. THE PROPOSED BUILDING AND SUPPORTING INFRASTRUCTURE IN THE SAME AREA SHALL ALSO BE COMPLETED. THE PLAYGROUND ON THE WEST SIDE OF THE HEAD START BUILDING SHALL BE RELOCATED TO THE SOUTH SIDE OF THE BUILDING.

PHASE 2 CONSISTS OF THE DEMOLITION OF THE EXISTING ELEMENTARY BUILDING, PARKING LOTS, AND UTILITIES. PROPOSED PARKING LOTS, WALKS, UTILITIES, AND PERMANENT SEEDING SHALL BE COMPLETED.

STATE OF OHIO
MICHAEL J. COUVREUR
E-70851
REGISTERED PROFESSIONAL ENGINEER

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd, Ste B
Westerville, OH 43082
614.882.4311

OHIO Utilities Protection SERVICE
811 or 1-800-362-2764 Call Before You Dig

SHP LEADING DESIGN

4805 Montgomery Road Cincinnati, Ohio 45212	Suite 400	513-381-2112
236 High Street Hamilton, Ohio 45011		513-863-5441
250 Civic Center Drive Columbus, Ohio 43215	Suite 200	614-223-2124
1675 Broadway Denver, Colorado 80202	Suite 1300	303-209-7866

City Administrator
Service Director
Review for the City of Grove City
Jackson Township Fire Department

DEVELOPMENT PLAN
CITY PROJECT NO. _____

J.C. SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, Ohio 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

SITE PLAN
DATE 11/06/13
C110

RECEIVED NOV 06 2013 GC PLANNING COMMISSION

8/24/2012 10:06:03 AM

KINGSTON AVENUE
(50' R/W)

VOELLER CIRCLE
(50' R/W)

HAUGHN ROAD
(50' R/W)

PROPOSED BUILDING
FF=833.70

THE BOSTIC HEAD
START CENTER

PROPOSED TEMPORARY
SEDIMENT BASIN, SEE
SKIMMER DETAIL, SHEET C113

PROPOSED EXTENDED
DETENTION BASIN
54,014 CU.FT.

WATER QUALITY STRUCTURE,
SEE NOTE THIS SHEET

PLAYGROUND

PRESCHOOL CENTER

LUTHERAN SOCIAL SERVICES
OF CENTRAL OHIO GROVE CITY
HOUSING, INC.
OR 23118 E-10

STONER SUBDIVISION

BROOKGROVE
SUBDIVISION

BROOKGROVE
SUBDIVISION NO. 2

236
235
234
233
237
238
239

JAMES R. & KIM S. BRYANT
INSTR. #200001270018558

54

0 20 40 80

GRADING LEGEND

- 830 — EX CONTOUR
- 829 — EX CONTOUR
- **830** — PROPOSED CONTOUR
- **829** — PROPOSED CONTOUR
- FLOOD ROUTE

EROSION CONTROL LEGEND

- DB — DANDY BAG
- SF — SILT FENCE, SEE DETAIL SHEET C113
- TP — TREE PROTECTION, SEE DETAIL SHEET C113
- CONSTRUCTION ENTRANCE DETAIL, SEE DETAIL SHEET C113
- CWO — CONCRETE WASHOUT DETAIL, SEE DETAIL SHEET C113
- LIMITS OF DISTURBANCE

WATER QUALITY TREATMENT STRUCTURE NOTE
WATER QUALITY TREATMENT STRUCTURE SHALL BE A CONTECH CDS3035 6' DIAMETER STRUCTURE OR APPROVED EQUAL. STRUCTURE SHALL HAVE MINIMUM TREATMENT CAPACITY OF 3.8 CFS AND A MINIMUM INTERNAL BYPASS CAPACITY OF 20 CFS.

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DEVELOPMENT PLAN
CITY PROJECT NO. _____

J.C. SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, Ohio 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

GRADING AND EROSION CONTROL PLAN

DATE 11/06/13

C111

8/24/2012 10:06:03 AM

OHIO EPA
NPDES STORMWATER CONSTRUCTION PERMIT
GENERAL PERMIT #OHC000004

PERMITTEE:
SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 MARLANE DRIVE
GROVE CITY, OHIO 43123
(614) 801-3000

OWNER:
SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 MARLANE DRIVE
GROVE CITY, OHIO 43123
(614) 801-3000

NPDES PERMIT: ________

DATE OF ISSUE: ________

CENTER OF PROJECT

LATITUDE: N 39°52'36.34" LONGITUDE: W 83°05'02.46"

PROJECT DESCRIPTION

NEW ELEMENTARY SCHOOL IN GROVE CITY, FRANKLIN COUNTY, OHIO, INCLUDING THE SCHOOL BUILDING, PLAY FIELDS, PARKING LOTS, SANITARY SEWERS, STORM SEWERS, WATERLINES AND OTHER RELATED UTILITIES. SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING INSTALLATION OF EROSION AND SEDIMENT CONTROLS, GRADING, INSTALLATION OF THE SEWERS AND OTHER UTILITIES AND THE PREPARATION FOR FINAL SEEDING.

PROJECT DATA

TOTAL SITE AREA:	12.99 ACRES
TOTAL DISTURBED AREA:	8.63 ACRES
PROPOSED IMPERVIOUS AREA:	3.48 ACRES
EXISTING IMPERVIOUS AREA:	2.81 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION:	C=0.58
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION*:	C=0.62
PRIOR LAND USE:	ELEMENTARY SCHOOL
RECEIVING WATER:	MUNICIPAL SEWER TO UNNAMED TRIBUTARY TO SCIOTO RIVER
ESTIMATED CONSTRUCTIONS DATES:	_______
SOIL TYPES, DESCRIPTIONS:	_______

EMERGENCY ACTION & SPILL PREVENTION PLAN

THE SCOPE OF WORK COVERED BY THIS PLAN INCLUDES EMERGENCY RESPONSE TO SPILLS, CONTAINMENT OF SPILLED LIQUIDS, EMERGENCY NOTIFICATION NUMBERS, AND SOIL EXCAVATION FOR SPILL CLEAN-UP.

IN THE EVENT OF A SPILL EVENT THE EMPLOYEE SHALL ASSESS THE SPILL AND IMMEDIATELY NOTIFY THE SAFETY OFFICER AND SUPERVISOR IN CHARGE, OR OTHER INDIVIDUALS AS LISTED BELOW.

TITLE	NAME	PHONE NUMBER
SITE SUPERINTENDENT	_________	_________
OWNER	MARK WALLER	614-801-3133

IMMEDIATELY AFTER NOTIFICATION, THE EMPLOYEE WILL BE DIRECTED BY THE SAFETY OFFICER, OR RESPONSIBLE PARTY TO START CONTAINMENT PROCEDURES TO PREVENT THE MATERIAL FROM REACHING THE STORM SEWERS, DRAINAGE DITCH, AND OTHER OUTLETS USING THE FOLLOWING ACTIONS OR ANY OTHER MEANS NECESSARY WITHOUT COMPROMISING WORKER SAFETY:

1) CLEAR PERSONNEL FROM THE SPILL AREA AND ROPE OFF AREA.
2) STOP THE SPILL.
3) USE SORBENT MATERIALS, PLUG PUTTY, OR HOLE PUTTY AS NECESSARY TO CONTROL THE SPILL AT THE SOURCE.
4) CONSTRUCT A TEMPORARY CONTAINMENT DIKE OF SORBENT MATERIALS OR DIRT TO CONTAIN SPILL.

SPILL KITS WILL BE LOCATED ON THE PROJECT AS DESIGNATED ON THE SWPPP PLAN.

UPON COMPLETION OF CONTAINMENT OPERATIONS, PROPER CLEAN-UP PROCEDURES WILL BE IMPLEMENTED IN ACCORDANCE WITH REGULATORY PROCEDURES.

ADDITIONAL EMERGENCY CONTACT NUMBERS:	24 HOUR PHONE NO.:
____	__________
____	__________
____	__________
OHIO EPA	614-728-3898

GENERAL NOTES

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE OHIO EPA SINCE MARCH 10, 2003 AND WITH A REVISION IN APRIL 2008. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR SHALL INFORM ALL SUBCONTRACTORS OF THE REQUIREMENTS AND RESPONSIBILITIES OF THE SWPPP AND SHALL DOCUMENT ALL SUCH NOTIFICATIONS AND/OR DISCUSSIONS. ALL SUBCONTRACTORS SHALL SIGN THE NOI.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE ODNR "RAINWATER AND LAND DEVELOPMENT" HANDBOOK SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (S&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE CONTRACTOR, OWNER, ENGINEER OR THE OHIO EPA CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF REPORT ANY POTENTIAL VIOLATIONS OF THE OEPA NPDES PERMIT TO THE OWNER, ENGINEER AND THE OEPA.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRICTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO OHIO EPA REQUIREMENTS.

THE CONTRACTOR WILL BE REQUIRED TO BUILD SEDIMENT BASINS OR SEDIMENT TRAPS OR USE EQUAL METHODS TO DETAIN AND CLEAN WATER TO ACCEPTABLE EPA STANDARDS BEFORE RELEASING THE WATER BACK INTO THE STREAM.

ALL DEWATERING ACTIVITY SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PRACTICES OUTLINED IN PART III.G.2.G.IV OF THE OEPA GENERAL PERMIT.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

"TEMPORARY STABILIZATION" MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

"PERMANENT STABILIZATION" MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

OPERATION SEQUENCE FOR TEMPORARY AND PERMANENT BMP INSTALLATION

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED JOB IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION WILL OCCUR IN TEMPORARY SEDIMENT TRAPS. WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS:

A) INSTALL PERIMETER EROSION CONTROL ITEMS AND INLET PROTECTION EXISTING STRUCTURES. EXCAVATE SEDIMENT BASIN AND INSTALL OUTLET AND SKIMMER DEVICE.
B) BEGIN PHASE 1 CONSTRUCTION – EAST OF THE EXISTING SCHOOL BUILDING.
C) STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA FOR PHASE 1. STOCKPILE TOPSOIL ONSITE AND MAINTAIN WITH TEMPORARY SEEDING.
D) INSTALL ALL TEMPORARY SEDIMENT CONTROLS WITHIN 24 HOURS FOLLOWING THE STRIPPING OPERATION. USE TEMPORARY DIVERSION CHANNELS TO ROUTE RUNOFF TO SEDIMENT BASIN PRIOR TO THE INSTALLATION OF THE PROPOSED STORM SEWER SYSTEM.
E) PERFORM MASS GRADING FOR BUILDING PAD AND PARKING AREAS.
F) INSTALL SITE UTILITIES IN THE PHASE 1 AREA AND INSTALL INLET PROTECTION ON NEW STRUCTURES AS WORK PROGRESSES.
G) ANY DISTURBED OR EXPOSED AREAS SHALL BE STABILIZED PER OEPA TEMPORARY AND PERMANENT STABILIZATION REGULATIONS INCLUDING:
   1. SEEDING 2. DITCH MATTING 3. INLET PROTECTION
   4. MULCHING 5. WATERING
H) UPON COMPLETION OF PHASE 1; BEGIN PHASE 2 WITH DEMOLITION OF EXISTING BUILDING AND PARKING LOTS.
I) STRIP AND STOCKPILE ANY REMAINING TOPSOIL. MASS GRADE REMAINING PHASE 2 AREAS
J) INSTALL REMAINING SITE UTILITIES AND INSTALL INLET PROTECTION AS WORK PROGRESSES.
K) INSTALL FINAL PAVING AND PERMANENT SEEDING.
L) PROVIDE PERMANENT STABILIZATION FOR ANY DISTURBED AREAS AND REMOVE TEMPORARY SEDIMENT CONTROLS, PERIMETER CONTROLS, AND INLET PROTECTION. EXCAVATE ACCUMULATED SEDIMENT FROM SEDIMENT BASIN AND REMOVE SKIMMER DEVICE. STABILIZE DETENTION BASIN AREA.

STABILIZATION PRACTICES

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000004. (SEE TABLE 1)

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TEMPORARY SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER OEPA GUIDELINES AS SET FORTH IN PART II.B OF OHIO EPA PERMIT NO.: OHC000004. (SEE TABLE 2)

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITH 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

SEEDING & MULCHING

MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 3 TONS/AC. OR 138 LB./1000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1000-SQ.-FT. SECTIONS AND PLACE THREE 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

1) MECHANICAL-USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 IN.
2) MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
3) ASPHALT EMULSION-FOR STRAW MULCH, APPLY AT THE RATE OF 160 GAL./AC. (0.1 GAL./SY) INTO THE MULCH AS IT IS BEING APPLIED OR AS RECOMMENDED BY THE MANUFACTURE.
4) SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL

SEED TYPE	PER 1000 SQ FT	PER ACRE
PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 POUND 1 POUND 1 POUND	40 POUNDS 40 POUNDS 40 POUNDS
SMALL GRAIN STRAW	90 POUNDS	2 TONS
FERTILIZER	6 POUNDS OF 10-10-10 OR 12-12-12	250 POUNDS OF 10-10-10 OR 12-12-12

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

WINTER SEEDING & MULCHING

WINTER SEED AND MULCH IS REQUIRED FOR EARTH DISTURBANCE ACTIVITY OPERATIONS OCCURRING BETWEEN OCTOBER 15 AND MARCH 15 AND CAN ONLY BE INSTALLED DURING THAT TIME. ALL STRAW MULCH INCLUDED IN THIS WORK MUST BE EITHER CRIMPED IN PLACE OR INSTALLED WITH A BIODEGRADABLE BONDED FIBER MATRIX. CRIMPED MULCH IS REQUIRED TO BE ANCHORED INTO THE SOIL SURFACE WITH A MECHANICAL CRIMPING IMPLEMENT OR OTHER SUITABLE IMPLEMENT APPROVED BY THE ENGINEER. THE MULCH INCLUDED IN THIS WORK MUST BE CAPABLE OF PROVIDING SUFFICIENT DURABLE PROTECTIVE COVER THAT PROVIDES OEPA NPDES PERMIT COMPLIANT EROSION CONTROL FOR A MINIMUM OF 6 MONTHS. THE USE OF OTHER SEED AND/OR MULCH MATERIALS IN THIS TIME PERIOD REQUIRES SPECIFIC APPROVAL BY THE ENGINEER. THE USE OF WINTER SEEDING AND MULCHING IS NOT AN ACCEPTABLE PRACTICE FOR PROTECTING THE SUBGRADE SURFACE.

STOCKPILE

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING			●	●	●	*	*	*	●	●		
DORMANT SEEDING	●	●	●							●	●	●
TEMPORARY SEEDING			●	●	●	*	*	*	●	●		
SODDING			**	**	**	**	**	**	**			
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●

* – IRRIGATION NEEDED
** – IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SOD IS APPLIED

INSPECTIONS

ALL BMPS ON THIS SITE SHALL BE INSPECTED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD. A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:

I. THE INSPECTION DATE;
II. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
III. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
IV. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
V. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
VI. LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED;
VII. LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
VIII. LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
IX. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWP3 NECESSARY AND IMPLEMENTATION DATES.

THE PERMITTEE SHALL MAINTAIN A RECORD OF ALL INSPECTIONS FOR A PERIOD OF 3 YEARS FOLLOWING THE SUBMITTAL OF THE NOTICE OF TERMINATION.

MAINTENANCE

THE CONTRACTOR SHALL MAINTAIN, REPAIR, OR REPLACE ALL EROSION CONTROL INSTALLATIONS AS NEEDED TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL REPAIRS TO BMPS SHALL BE MADE WITHIN 3 DAYS (OR SOONER IF POSSIBLE) OF NOTIFICATION OF DEFICIENCIES. IF THE CORRECTIONS ARE NOT MADE WITHIN THE 3 DAY PERIOD, LIQUIDATED DAMAGES MAY BE ASSESSED AS PER THE ODOT CMS SECTION 108.27.

ONGOING INSPECTION OF INSTALLATIONS WILL BE PERFORMED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE.

ANY TRAPPED SEDIMENT OR DEBRIS REMOVED DURING CLEANING OF OR REMOVAL OF BMP INSTALLATIONS SHALL BE PLACED IN AREAS NOT SUBJECT TO EROSION AND PERMANENTLY STABILIZED.

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF 25 OR MORE GALLONS OF PETROLEUM WASTE MUST BE REPORTED TO OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL.
5. SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT AN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
7. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS – ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FUEL STORAGE TANKS SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.

FERTILIZERS – FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS – ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS – CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

1. VEGETATIVE COVER AND/MULCH – APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING – SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES – APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

______________________ ________
SITE SUPERINTENDENT DATE
COMPANY

SHP
LEADING DESIGN
4805 Montgomery Road, Cincinnati, Ohio 45212 — Suite 400, 513-381-2112
236 High Street, Hamilton, Ohio 45011 — 513-863-5441
250 Civic Center Drive, Columbus, Ohio 43215 — Suite 200, 614-223-2124
1675 Broadway, Denver, Colorado 80202 — Suite 1300, 303-209-7866

DEVELOPMENT PLAN
CITY PROJECT NO. ____________

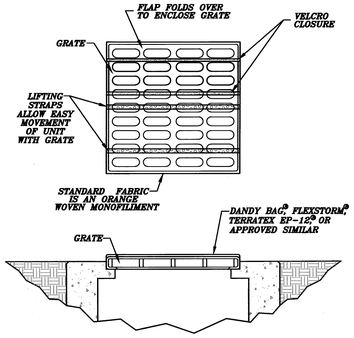
J.C. SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, Ohio 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

EROSION CONTROL NOTES

DATE 11/06/13

C112



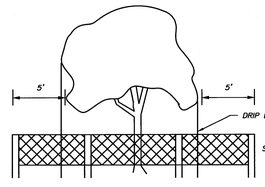
DANDY BAG®*
N.T.S.

INSTALLATION AND MAINTENANCE GUIDELINES

INSTALLATION: THE EMPTY DANDY BAG®* SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE, HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE). PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT, THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG®*, AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS; REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

* FLEXSTORM® TERRATEX EP-12® OR APPROVED EQUAL MAY BE USED IN LIEU OF DANDY BAG®

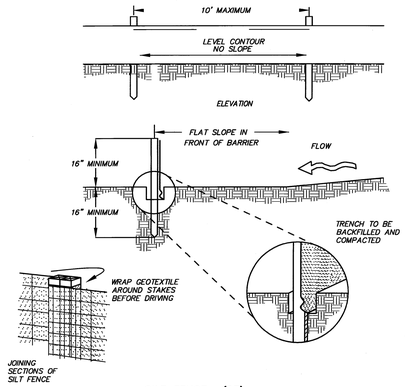


PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND AND VEGETATION TO BE LEFT STANDING.

PROTECTION OF EXISTING TREES AND VEGETATION
N.T.S.

NOTES:

1. SIGNAGE SHALL CLEARLY IDENTIFY THE TREE AND NATURAL PRESERVATION AREA AND STATE THAT NO CLEARING OR EQUIPMENT IS ALLOWED WITHIN IT.
2. TREE AND NATURAL PRESERVATION AREA SHALL BE FENCED PRIOR TO BEGINNING CLEARING OPERATIONS.
3. FENCE MATERIALS SHALL BE METAL FENCE POSTS WITH SNOW FENCE.
4. FENCE SHALL BE PLACED AS SHOWN ON PLANS AND BEYOND THE DRIP LINE OR CANOPY OF TREES TO BE PROTECTED.
5. IF ANY CLEARING IS DONE AROUND SPECIMEN TREES IT SHALL BE DONE BY CUTTING AT GROUND LEVEL WITH HAND HELD TOOLS AND SHALL NOT BE GRUBBED OR PULLED OUT. NO CLEARING SHALL BE DONE IN BUFFER STRIPS OR OTHER PRESERVED FORESTED AREAS.
6. NO FILLING OR STOCKPILING OF MATERIALS SHALL OCCUR WITHIN THE TREE PROTECTION AREA, INCLUDING DEPOSITION OF SEDIMENT.
7. WHERE UTILITIES MUST RUN THROUGH A TREE'S DRIP LINE, TUNNELING SHOULD BE USED TO MINIMIZE ROOT DAMAGE. TUNNELING SHOULD BE AT A MINIMUM DEPTH OF 24 INCHES FOR TREES LESS THAN 12 INCHES IN DIAMETER OR AT A MINIMUM DEPTH OF 36 INCHES FOR LARGER DIAMETER TREES.
8. WHERE TUNNELING WILL BE PERFORMED WITHIN THE DRIP LINE OF A TREE, THE TUNNEL SHOULD BE PLACED A MINIMUM OF 2 FEET AWAY FROM THE TREE TRUNK TO AVOID TAPROOTS.
9. MINIMIZE EXCAVATION OR TRENCHING WITHIN THE DRIP LINE OF THE TREE. ROUTE TRENCHES AROUND THE DRIP LINE OF TREES.
10. ROOTS 2 INCHES OR LARGER THAT ARE SEVERED BY TRENCHING SHOULD BE SAWN OFF NEATLY IN ORDER TO ENCOURAGE NEW GROWTH AND DISCOURAGE DECAY.
11. SOIL EXCAVATED DURING TRENCHING SHALL BE PILED ON THE SIDE AWAY FROM THE TREE.
12. ROOTS SHALL BE KEPT MOIST WHILE TRENCHES ARE OPEN AND REFILLED IMMEDIATELY AFTER UTILITIES ARE INSTALLED OR REPAIRED.
13. ARBORIST TO DELINEATE DRIP LINE OF TREES TO REMAIN, TO PROTECT WITH FENCING. DO NOT ALLOW WATER PONDING WITHIN DRIP LINE.



SILT FENCE (SF)
N.T.S.

NOTES:

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 IN. OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-IN.-DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6 IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND, (SEE DETAIL).
10. MAINTENANCE---SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

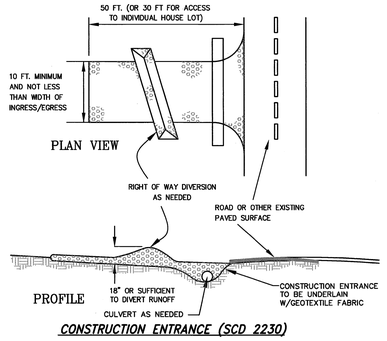
CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POSTS---THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHOULD BE FREE OF KNOTS, SPLITS, AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM OF 16 IN. INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC SHALL BE ODOT TYPE C GEOTEXTILE FABRIC OR AS DESCRIBED IN THE CHART BELOW:

FABRIC PROPERTIES AND TESTING METHOD

MINIMUM TENSILE STRENGTH	120 LBS, ASTM D 4632
MAXIMUM ELONGATION AT 60 LBS	50%, ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS, ASTM D 4833
MINIMUM TEAR STRENGTH	40 LBS, ASTM D 4533
APPARENT OPENING SIZE	≤ 0.84MM, ASTM D 4751
MINIMUM PERMITTIVITY	$1X10^{-1}$ SEC^{-1}, ASTM D 4491
ULTRAVIOLET EXPOSURE STRENGTH RETENTION	70%, ASTM G 4355

* STRAW WATTLES MAY BE USED INSTEAD OF SILT FENCE.



CONSTRUCTION ENTRANCE (SCD 2230)

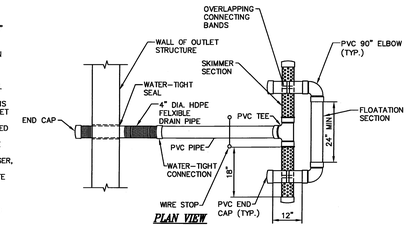
1. STONE SIZED---TWO-INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH---THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREA BUT NOT LESS THAN 50 FT. (EXCEPT ON SINGLE RESIDENCE LET WHERE A 30-FT. MINIMUM LENGTH APPLIES).
3. THICKNESS---THE STONE LAYER SHALL BE BE AT LEAST 6 IN. THICK.
4. WIDTH---THE ENTRANCE SHALL BE AT LEAST 10 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. BEDDING---A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
6. CULVERT---A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
7. WATER BAR---A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
8. MAINTENANCE---TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
9. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
10. CONSTRUCTION ENTRANCE SIGN---A "CONSTRUCTION ENTRANCE AHEAD" SIGN WILL BE NEEDED FOR EACH DIRECTION, PRIOR TO THE ENTRANCE.

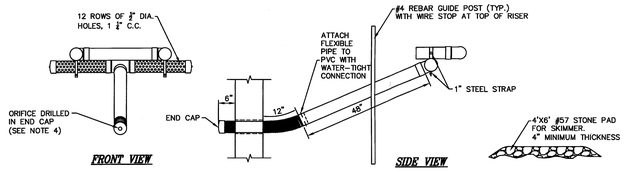
NOTES: 1). ALL P.V.C. PIPES ARE TO BE 4" I.D. SCHEDULE 40

2). ALL JOINTS OF THE FLOATATION SECTION SHALL BE GLUED TOGETHER AND WATER-TIGHT. JOINTS OF SKIMMER SECTION NEED NOT TO BE WATER-TIGHT.

3). 4" HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE OUTLET STRUCTURE WITH WATER-TIGHT CONNECTIONS. FOR CORRUGATED METAL RISER, STUB SHALL BE SCHEDULE 40 STEEL PIPE TACK WELDED TO CREATE A WATER-TIGHT SEAL. FOR CONCRETE RISER, STUB SHALL BE SCHEDULE 40 P.V.C. PIPE GROUTED TO CREATE A WATER-TIGHT SEAL.

4.) ORIFICE IS TO BE SIZED FOR A MINIMUM 48-HOUR DEWATERING TIME.

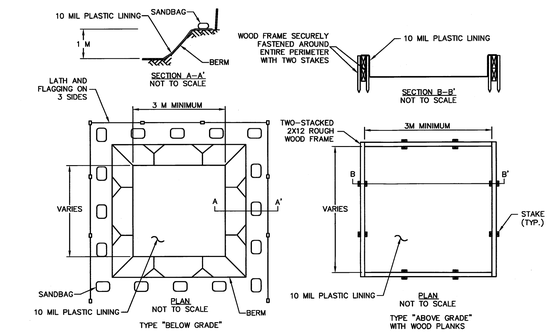




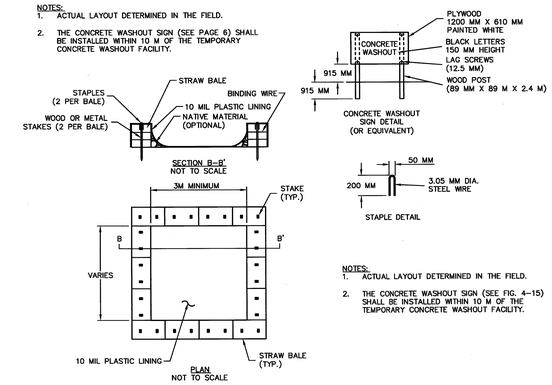
TEMPORARY SEDIMENT BASIN 001 DEWATERING VOLUME
1800 CF PER ACRE OF TOTAL DISTURBED AREA
*1800 CF/AC * 8.63 AC = 15,534 CF*
1.50" ORIFICE ELEVATION = 824.00
TOP OF BASIN ELEVATION = 826.00
VOLUME PROVIDED = 15,680 CF
DRAWDOWN TIME = 4.59 DAYS

TEMPORARY SEDIMENT BASIN 001 SEDIMENT VOLUME
1000 CF PER ACRE OF TOTAL DISTURBED AREA
*1000 CF/AC * 8.63 AC = 8,360 CF*
1.50" ORIFICE ELEVATION = 824.00
BOTTOM OF BASIN ELEVATION = 822.00
VOLUME PROVIDED = 13,065 CF

SKIMMER DEWATERING DEVICE
N.T.S.



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 M OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15) SHALL BE INSTALLED WITHIN 10 M OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT DETAIL
N.T.S.

SHP LEADING DESIGN

4805 Montgomery Road, Suite 400, Cincinnati, Ohio 45212, 513-381-2112
236 High Street, Hamilton, Ohio 45011, 513-863-5441
250 Civic Center Drive, Suite 200, Columbus, Ohio 43215, 614-223-2124
1675 Broadway, Suite 1300, Denver, Colorado 80202, 303-209-7866

DEVELOPMENT PLAN
CITY PROJECT NO. _____

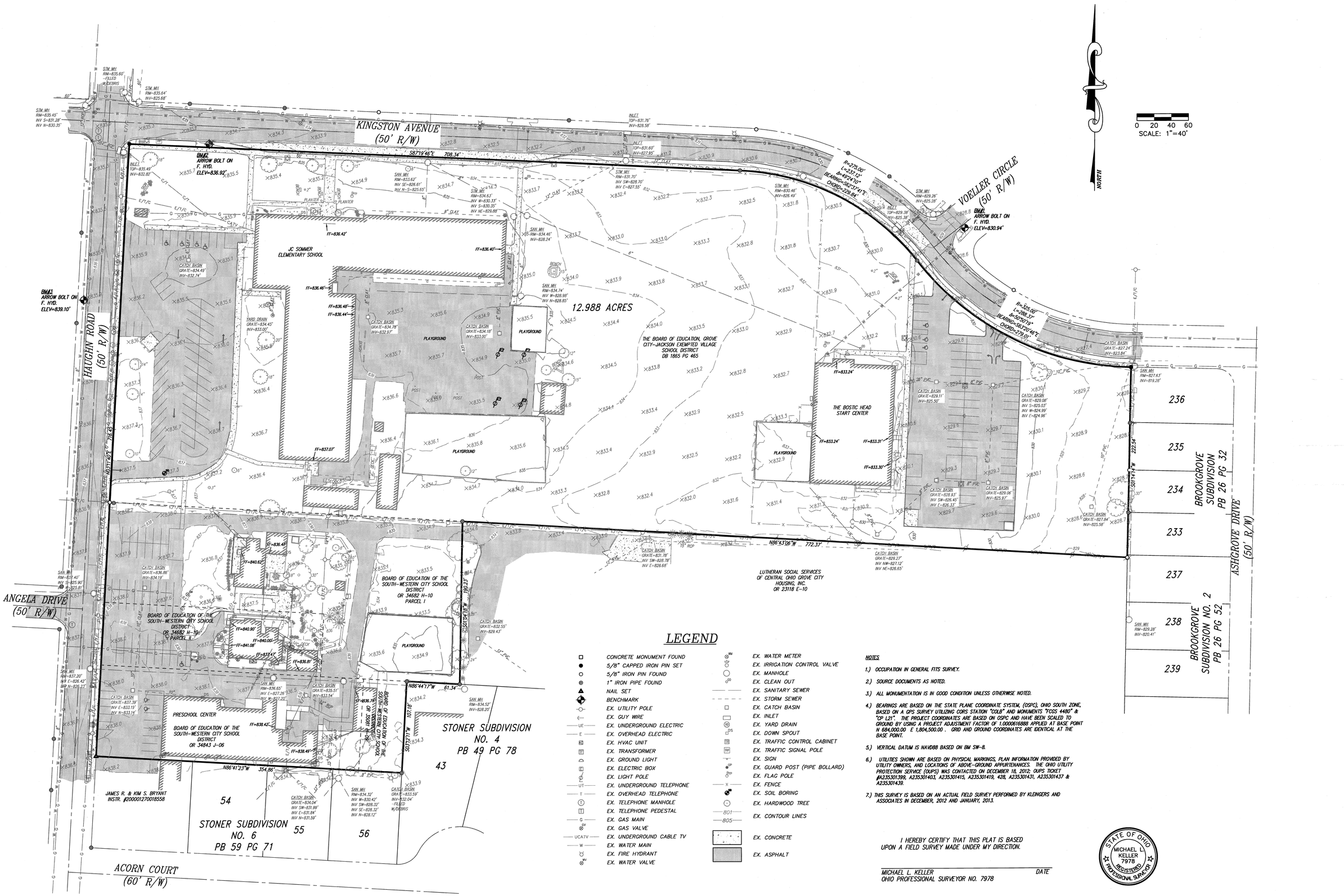
J.C. SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, Ohio 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

EROSION CONTROL DETAILS

DATE 11/06/13

C113



0 20 40 60
SCALE: 1"=40'

NORTH

LEGEND

- CONCRETE MONUMENT FOUND
- 5/8" CAPPED IRON PIN SET
- 5/8" IRON PIN FOUND
- 1" IRON PIPE FOUND
- NAIL SET
- BENCHMARK
- EX. UTILITY POLE
- EX. GUY WIRE
- EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELECTRIC
- EX. HVAC UNIT
- EX. TRANSFORMER
- EX. GROUND LIGHT
- EX. ELECTRIC BOX
- EX. LIGHT POLE
- EX. UNDERGROUND TELEPHONE
- EX. OVERHEAD TELEPHONE
- EX. TELEPHONE MANHOLE
- EX. TELEPHONE PEDESTAL
- EX. GAS MAIN
- EX. GAS VALVE
- EX. UNDERGROUND CABLE TV
- EX. WATER MAIN
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. IRRIGATION CONTROL VALVE
- EX. MANHOLE
- EX. CLEAN OUT
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. CATCH BASIN
- EX. INLET
- EX. YARD DRAIN
- EX. DOWN SPOUT
- EX. TRAFFIC CONTROL CABINET
- EX. TRAFFIC SIGNAL POLE
- EX. SIGN
- EX. GUARD POST (PIPE BOLLARD)
- EX. FLAG POLE
- EX. FENCE
- EX. SOIL BORING
- EX. HARDWOOD TREE
- EX. CONTOUR LINES
- EX. CONCRETE
- EX. ASPHALT

NOTES:

1.) OCCUPATION IN GENERAL FITS SURVEY.

2.) SOURCE DOCUMENTS AS NOTED.

3.) ALL MONUMENTATION IS IN GOOD CONDITION UNLESS OTHERWISE NOTED.

4.) BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, (OSPC), OHIO SOUTH ZONE, BASED ON A GPS SURVEY UTILIZING CORS STATION "COLB" AND MONUMENTS "FCGS 4480" & "CP L21". THE PROJECT COORDINATES ARE BASED ON OSPC AND HAVE BEEN SCALED TO GROUND BY USING A PROJECT ADJUSTMENT FACTOR OF 1.000081888 APPLIED AT BASE POINT N 684,000.00 E 1,804,500.00 . GRID AND GROUND COORDINATES ARE IDENTICAL AT THE BASE POINT.

5.) VERTICAL DATUM IS NAVD88 BASED ON BM SW-8.

6.) UTILITIES SHOWN ARE BASED ON PHYSICAL MARKINGS, PLAN INFORMATION PROVIDED BY UTILITY OWNERS, AND LOCATIONS OF ABOVE-GROUND APPURTENANCES. THE OHIO UTILITY PROTECTION SERVICE (OUPS) WAS CONTACTED ON DECEMBER 18, 2012: OUPS TICKET #A235301399, A235301403, A235301415, A235301419, 428, A235301431, A235301437 & A235301439.

7.) THIS SURVEY IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY KLEINGERS AND ASSOCIATES IN DECEMBER, 2012 AND JANUARY, 2013.

I HEREBY CERTIFY THAT THIS PLAT IS BASED UPON A FIELD SURVEY MADE UNDER MY DIRECTION.

MICHAEL L. KELLER — DATE
OHIO PROFESSIONAL SURVEYOR NO. 7978

STATE OF OHIO
MICHAEL L KELLER
7978
REGISTERED
PROFESSIONAL SURVEYOR

SHP
LEADING DESIGN

4805 Montgomery Road, Suite 400, Cincinnati, Ohio 45212, 513-381-2112
236 High Street, Hamilton, Ohio 45011, 513-863-5441
250 Civic Center Drive, Suite 200, Columbus, Ohio 43215, 614-223-2124
1675 Broadway, Suite 1300, Denver, Colorado 80202, 303-209-7866

DEVELOPMENT PLAN
CITY PROJECT NO. _____

J.C. SOMMER ELEMENTARY SCHOOL

3055 Kingston Ave., Grove City, Ohio 43123

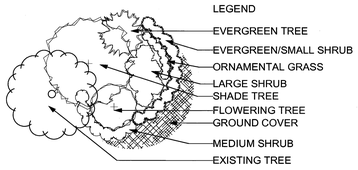
SOUTH-WESTERN CITY SCHOOL DISTRICT

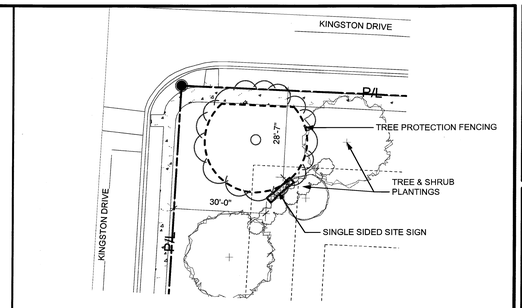
3805 Marlane Drive, Grove City, OH 43123

SITE SURVEY

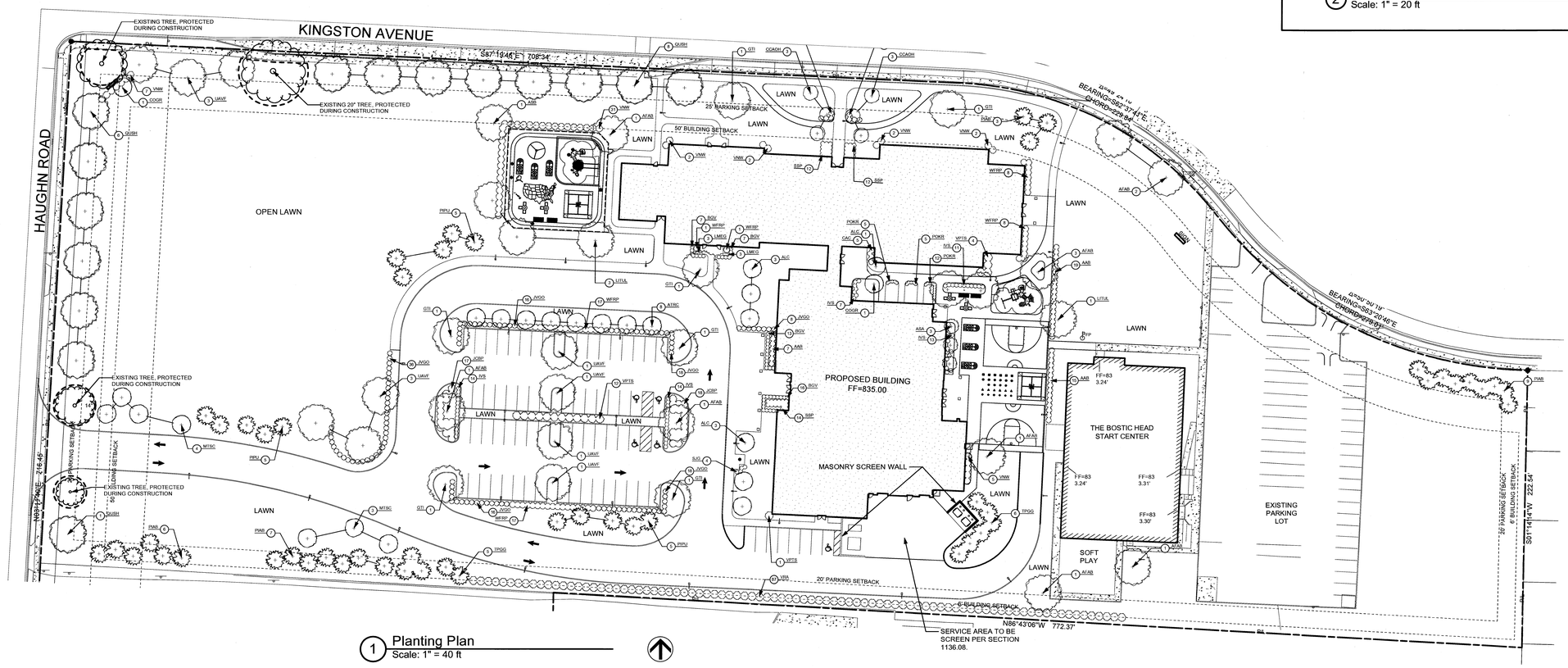
DATE 11/06/13

C114





2 Site Sign Plan
Scale: 1" = 20 ft



1 Planting Plan
Scale: 1" = 40 ft

Plant List - Simple					
ID	Qty	Latin Name	Common Name	Scheduled Size	Remarks
AAB	41	Aronia arbutifolia 'Brilliantlissima'	Brilliant Red Chokeberry	7 Gal	Fully rooted containers, matching forms
AFAB	11	Acer x freemanii 'Jeffsred' P.P.#	Autumn Blaze(R) Maple	2.5" Cal	Limbed to 6'
ALC	7	Amelanchier laevis 'Cumulus'	Cumulus Serviceberry	2" Cal	Select specimentree-form, matching forms.
ASA	3	Acer saccharum 'Astis'	Steeple(R) Sugar Maple	2.5" Cal	Limbed to 6'
ASB	1	Acer saccharum 'Bonfire' P.P.#	Bonfire Rock Maple	3" Cal	Limbed to 6'
ATRC	8	Acer tataricum 'JFS-KW2'	Rugged Charm Maple	2" Cal	Select specimentree-form, matching forms.
BGV	43	Buxus 'Green Velvet' (COPF)	Green Velvet Boxwood	18" Spr	B&B
CAC	5	Clethra alnifolia 'Caleb' P.P.A.F.	Vanilla Spice® Summersweet	3 Gal	Matching form, fully rooted containers
CCAOH	6	Cercis canadensis 'Ace Of Hear	Ace of Hearts Redbud	2" Cal	Select specimen, matching forms.
CCGR	2	Cotinus x 'Grace'	Grace Smoke Tree	15 Gal	Select specimen, matching forms.
GTI	7	Gleditsia triacanthos var. inermis	Imperial Honeylocust	2.5" Cal	Limbed to 6'
IVS	59	Itea virginica 'Sprich' P.P. #10,9	Little Henry® Dwarf Virginia S	5 Gal	Fully rooted container, matching form
JCBP	35	Juniperus conferta 'Blue Pacific	Blue Pacific Shore Juniper	3 Gal	Fully rooted container, matching form
JVGO	120	Juniperus virginiana 'Grey Owl'	Grey Owl Juniper	3 Gal	Matching form, fully rooted container
LITUL	4	Liriodendron tulipifera	Tulip Tree	2.5" Cal	Limbed to 6'
LMEG	6	Liriope muscari 'Evergreen Giant	Evergreen Giant Lilyturf	1 Gal	Fully rooted pots
MTSC	7	Malus transitoria 'Schmidtcutlea	Golden Raindrops® Crabapp	2" Cal	Select specimen, matching forms.
PIAB	25	Picea abies	Norway Spruce	6' Ht	Selected for full matching form.
PIPU	15	Picea pungens	Colorado Spruce	6' Ht	Selected for full matching form and consistent color.
POKR	22	Pennisetum orientale 'Karley Ro	Karley Rose Fountain Grass	1 Gall	Fully rooted pots
QUSH	15	Quercus shumardii	Shumard Oak	3" Cal	Limbed up to 6' Ht.
SJG	4	Spiraea japonica 'Galen' P.P.A.F	Double Play® Artist Spirea	3 Gal	Matching form, fully rooted container
SSP	38	Symphoricarpos 'Scarlet Pearl' f	Scarlet Pearl Snowberry	5 Gal	Fully rooted container, matching form
TPGG	11	Thuja x plicata 'Green Giant'	Green Giant Arborvitae	6' Ht	B&B, Selected for full matching form.
UAVF	10	Ulmus americana 'Valley Forge'	Valley Forge Elm	2.5" Cal	Limbed to 6' Ht
VNW	51	Viburnum nudum 'Winterthur'	Winterthur Smooth Viburnum	4'HT	B&B
VPTS	17	Viburnum plicatum tomentosum	Shasta Viburnum	4'HT	B&B
VRA	87	Viburnum x rhytidophylloides 'All	Alleghany Viburnum	4'HT	B&B
WFRP	52	Weigela florida 'Red Prince'	Red Prince Weigela	3 Gal	Matching form, fully rooted pots

PLANTING NOTES

1. ALL PLANTS SHALL BE BALLED AND BURLAPPED UNLESS OTHERWISE STATED IN THE PLANT LIST. SYNTHETIC OR TREATED BURLAP SHALL NOT BE USED IN BALLING AND BURLAPPING ANY PLANTS ON THIS PROJECT.

2. ALL PLANT MATERIALS SHALL MEET OR EXCEED THE SIZES GIVEN IN THE PLANT LISTS AND SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THE SPECIES AND A WELL-BRANCHED STRUCTURE. THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WITH BALANCED ROOT AND TOP GROWTH. PLANTS SHALL BE FREE OF DISEASE, INSECTS, EGGS, LARVAE AND DEFECTS SUCH AS KNOTS, SUNSCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL MEASUREMENTS SUCH AS CALIPER, HEIGHT, SPREAD AND QUALITY DESIGNATIONS MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1. PLANT MATERIALS FOR THIS PROJECT MUST COME FROM NURSERIES LOCATED IN ZONES 5A TO 6A AS SET FORTH IN THE MOST RECENT USDA PLANT HARDINESS ZONE CHART AND WITH A SIMILAR SOIL TYPE OF CLAY LOAM.

3. ALL PLANTS AND PLANTINGS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND SHALL BE INSTALLED ONLY AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.

4. SUBSTITUTIONS WILL NOT BE PERMITTED AFTER THE CONTRACT IS AWARDED. SUBMIT PROOF IN WRITING THAT A PLANT IS NOT OBTAINABLE AND PROPOSED SUBSTITUTION LIST FOR APPROVAL BY THE LANDSCAPE ARCHITECT FOR USE OF THE NEAREST EQUIVALENT OBTAINABLE SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS.

5. SHOULD THE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, TOPSOIL DEPTH, HARD PAN, UTILITY LINES, CONSTRUCTION DEBRIS OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS AND NOT INSTALL PLANTS UNTIL RECEIVING WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT. OTHERWISE THE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.

6. PERFORM PERCOLATION TESTS FOR BED AREAS AND TREES IN LAWN AREAS, PRIOR TO PLANTING. PERCOLATION TEST SHALL BE PERFORMED BY DIGGING A HOLE TO THE DEPTH OF THE ROOTBALL; FILL THE HOLE WITH WATER. THE WATER SHOULD DRAIN THROUGH THE HOLE WITHIN 24 HOURS. PERFORM THE PERCOLATION TEST A THREE (3) LOCATIONS MIN. IN EACH BED AND AT 10 TREE LOCATIONS. TREE LOCATIONS SHALL BE RANDOM THROUGHOUT THE SITE. SHOULD THE TESTS REPEATEDLY FAIL, CONTACT LANDCAPE ARCHITECT FOR DIRECTION. SHOULD THE CONTRACTOR ELECT NOT TO REPORT POOR DRAINAGE CONDITIONS, IT REMAINS THEIR RESPONSIBILITY TO WARRANTY AND REPLACE ALL RESULTING DEAD PLANTS.

7. PLANTING MIX: 8" TOPSOIL, 4" INCHES OF PINEBARK FINES THOROUGHLY INCORPORATE IN THE SOIL TO A DEPTH OF 12" INCHES. BACKFILL ALL PLANTING AREAS WITH PLANTING MIX TO DEPTH OF 12" INCHES. REMOVE ALL UNDESIRABLE MATERIAL LARGER THAN TWO INCHES IN ANY DIMENSION AND DISPOSE OF AS REQUIRED IN PROJECT DOCUMENTS. REMOVE ANY ROCK OR UNDERGROUND OBSTRUCTION TO THE DEPTH NECCESSARY FOR PLANTING AS SPECIFIED, UNLESS OTHER PLANTING LOCATIONS ARE ACCEPTED BY THE LANDSCAPE ARCHITECT.

8. BED AREAS, INCLUDING TREE CIRCLES ARE TO BE MULCHED WITH 2" OF SHREDDED HARDWOOD BARK MULCH. SUBMIT SAMPLE FOR REVIEW BY LANDSCAPE ARCHITECT. PROVIDE A SMOOTH SHOVEL CUT EDGE TO ALL BED LINES AS SHOWN ON THE DRAWINGS. APPLY PRE-EMERGENT HERBICIDE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RATES TO ALL BED AREAS AND TREE CIRCLES PRIOR TO PLACING MULCH.

10. FINISH GRADING: THE FINISH SURFACE SHALL BE SMOOTH AND FREE OF BUMPS, DEPRESSIONS, OTHER IRREGULARITIES OR FOREIGN MATERIALS.

11. PLANTING PITS FOR TREES SHALL BE DUG THREE TIMES IN DIAMETER THE SPREAD OF THE ROOTS, (OR A MIN. 3' RADIUS/6' DIA PLANTING PIT) AND HAVE A DEPTH EQUAL TO THE HEIGHT OF THE ROOTBALL OR CONTAINER, WITH SLOPED SIDES AND FLAT BOTTOMS. ANY HEAVY CLAY OR OTHER SOIL UNSUITABLE FOR PLANTING ENCOUNTERED IN THE HOLES OR SHRUB BED SHALL BE REMOVED FROM THE SITE. ALL SHRUBS AND HEDGES TO BE PLANTED IN A FULLY PREPARED BED. NO MORE THAN 1" OF BACKFILL SHALL BE PLACED ON TOP OF THE ROOTBALL.

12. ALL CORDS AND BINDINGS SHALL BE CUT FROM PLANTS PRIOR TO BACKFILLING. THE TOP 1/2 OF WIRE BASKET AND TOP 1/3 OF BURLAP SHALL BE REMOVED FROM THE ROOTBALL OF TREES AND SHRUBS, PRIOR TO BACKFILLING.

13. ALL PLANTS, TREES, SHRUBS AND VINES SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER FORMAL ACCEPTANCE OF THE PLANTING BY THE OWNER. FOR FINAL ACCEPTANCE, AN INSPECTION WILL BE MADE BY THE OWNER AND LANDSCAPE ARCHITECT UPON WRITTEN OR VERBAL NOTICE REQUESTING SUCH INSPECTION, SUBMITTED BY THE CONTRACTOR AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED DATE. FINAL ACCEPTANCE WILL BE GIVEN WHEN THE CONTRACTOR HAS CORRECTED ALL PUNCH LIST ITEMS FOUND IN THE FIANL ACCEPTANCE INSPECTION. MATERIAL SHALL BE ALIVE AND IN SATISFACTORY GROWTH AS DETERMINED BY THE LANDSCAPE ARCHITECT AT THE BEGINNING AND END OF THE GUARANTEE PERIOD. THE CONTRACTOR SHALL CHECK THE PLANTINGS REGULARLY DURING THE GUARANTEE PERIOD. SHOULD THE CONTRACTOR FIND THE PLANT MATERIAL IS NOT RECEIVING THE PROPER MAINTENANCE AT ANY TIME PRIOR TO THE END OF THE GUARANTEE PERIOD, HE SHOULD ADVISE THE LANDSCAPE ARCHITECT AND THE OWNER IMMEDIATELY IN WRITING SO CORRECTIVE MEASURES MAY BE INITIATED. REPLACEMENT: AT THE END OF THE GUARANTEE PERIOD, AN INSPECTION WILL BE MADE BY THE OWNER AND LANDSCAPE ARCHITECT UPON WRITTEN OR VERBAL NOTICE REQUESTING SUCH INSPECTION, SUBMITTED BY THE CONTRACTOR AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED DATE. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR NOT SATISFACTORY IN GROWTH AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL BE REMOVED FROM THE SITE. THESE AND ANY PLANTS MISSING DUE TO THE CONTRACTOR'S NEGLIGENCE, SHALL BE REPLACED AS SOON AS CONDITIONS PERMIT DURING THE NORMAL PLANTING SEASON. IF REPLACEMENTS ARE PLANTED WHILE THEY ARE DORMANT, THEY MUST FULLY LEAFOUT THE FOLLOWING SPRING TO MEET THE REQUIREMENTS OF THIS PROJECT.

14. THE CONTRACTOR SHALL REMOVE FROM THE PROJECT SITE ALL EXCESS MATERIAL, DEBRIS, EQUIPMENT AND RELATED ITEMS PERTINENT TO THE WORK UNDER THIS CONTRACT AS REQUIRED IN PROJECT DOCUMENTS.

15. REFER TO SPECIFICATION 329200 FOR SEED MIX, BROADCAST RATES. BEFORE BROADCASTING SEED, ALL SOFT SPOTS AND INEQUALITIES IN GRADE SHALL BE CORRECTED AND FERTILIZER SHALL BE SPREAD AND RAKED IN AND WATERED THOROUGHLY. SEED MAY BE APPLIED BY HYDROSEEDING' METHODS. A BIODEGRADABLE ERSOSION CONTROL MAT SHALL BE PLACED ALONG BOTTOM OF ALL SWALE AREAS AND SLOPES OF 3:1 AND GREATER, IN PLACE OF STRAW MULCH.

0.1" REFERENCE LINE

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STATE OF Edv STEED LANDSCAPE ARCHITECT
PRELIMINARY - NOT FOR CONSTRUCTION

SHP LEADING DESIGN
4805 Montgomery Road Suite 400 Cincinnati, Ohio 45212 513.381.2112
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3055 Kingston Avenue, Grove City, Ohio 43123

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3805 Marlane Drive, Grove City, OH 43123

ISSUANCES

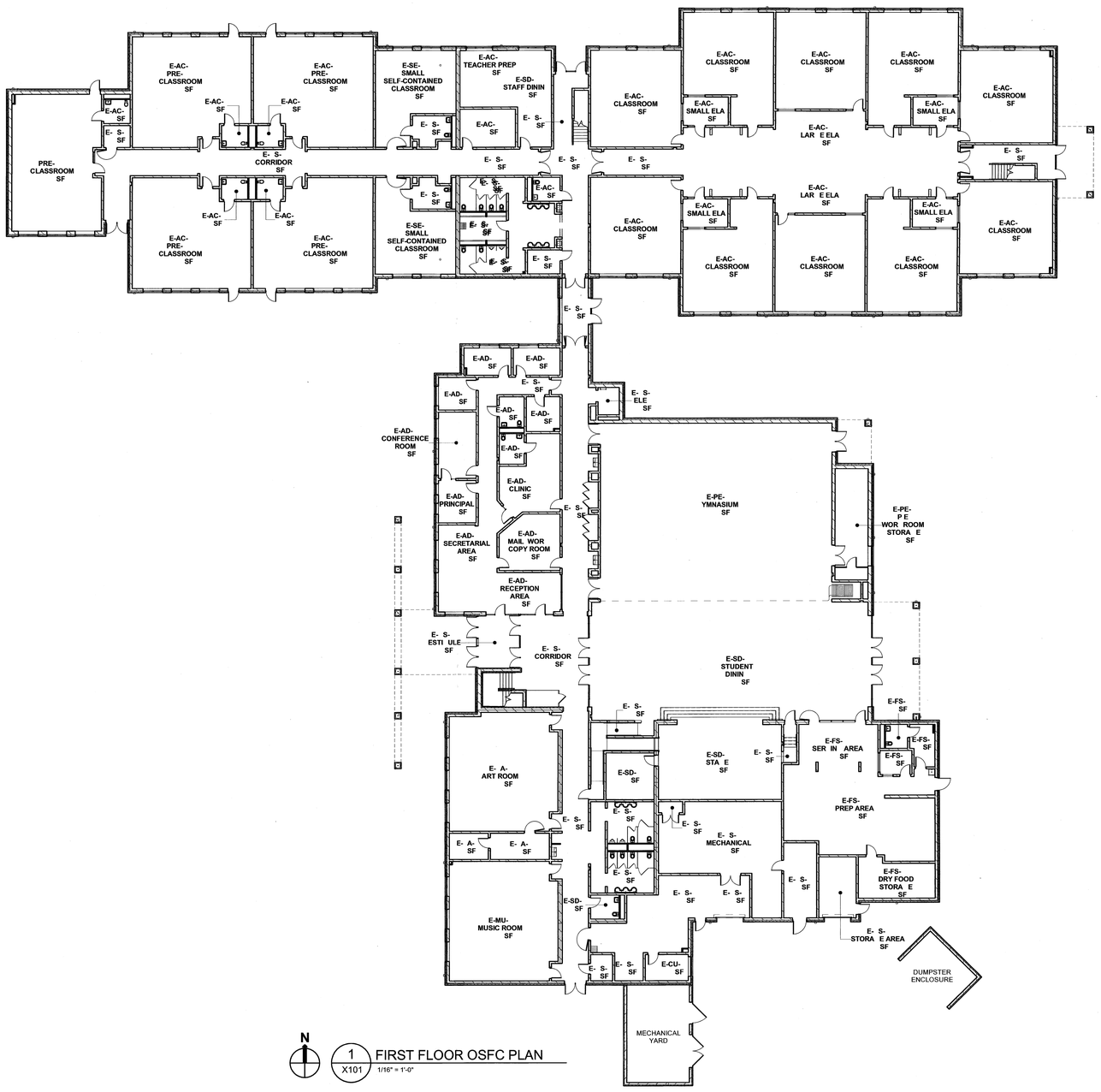
08-13-13	ZONING SUBMITTAL
08-23-13	DESIGN DEVELOPMENT
11-06-13	ZONING RESUBMITTAL

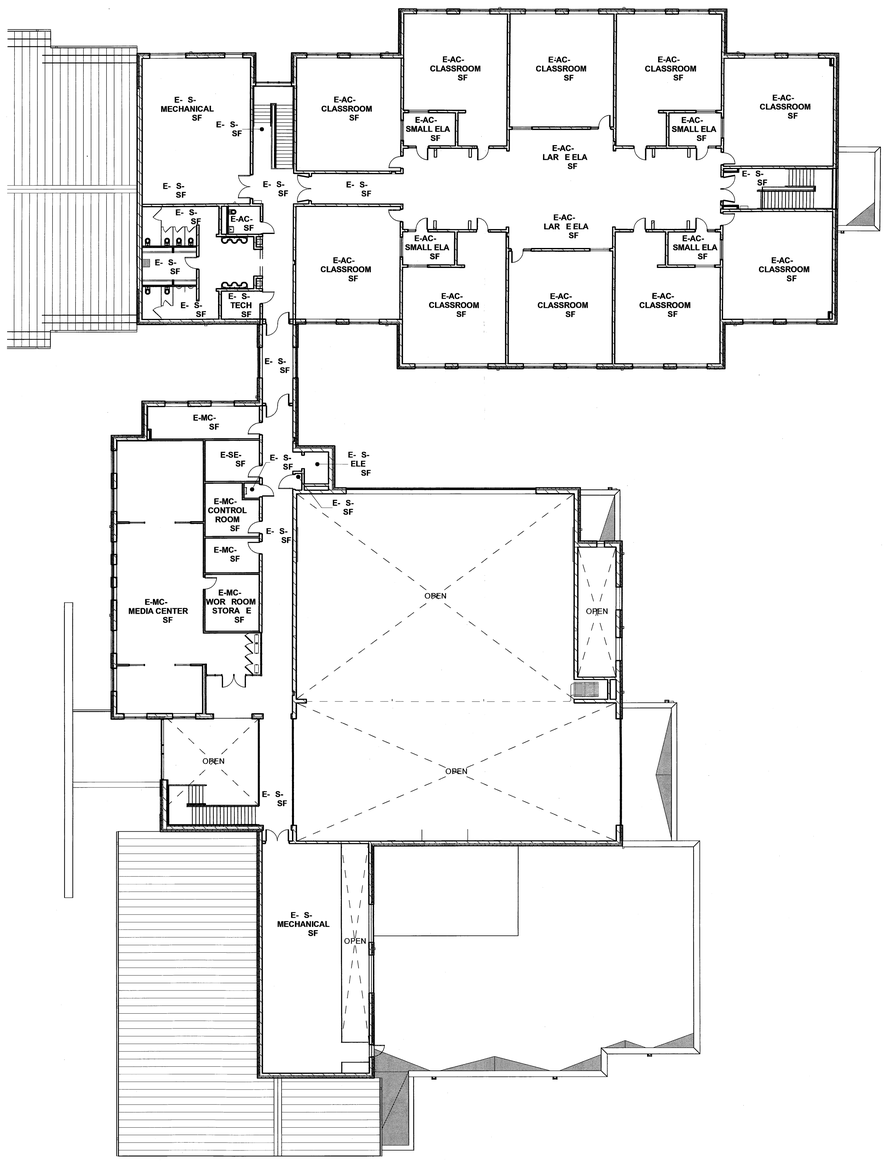
Planting Plan

DATE 11-06-2013

COMM NO. 2012014.04

L100





OSFC DEPARTMENT SCHEDULE (NET AREA)		
DEPARTMENT	AREA	POR SF
ACADEMIC CORE	26936 SF	27140 SF
ADMINISTRATIVE SPACES	2474 SF	2480 SF
BUILDING SERVICES	15346 SF	15643 SF
CUSTODIAL SPACES	474 SF	500 SF
FOOD SERVICE SPACES	1972 SF	2315 SF
MEDIA CENTER SPACES	2551 SF	2520 SF
MUSIC SPACES	1191 SF	1200 SF
PHYSICAL EDUCATION SPACES	4213 SF	4400 SF
SPECIAL EDUCATION SPACES	1524 SF	1550 SF
STUDENT DINING	4451 SF	4480 SF
VISUAL ARTS SPACES	1415 SF	1450 SF
	62549 SF	63678 SF

OSFC GROSS BUILDING AREA	
BUILDING AREA	AREA (GROSS)
FIRE PUMP HOUSE	132 SF
FIRST FLOOR GRADES 1-4 (600 STUDENTS)	15007 SF
SECOND FLOOR GRADES 1-4 (600 STUDENTS)	14814 SF
FIRST FLOOR CORE (600 STUDENTS)	23928 SF
SECOND FLOOR CORE (600 STUDENTS)	6425 SF
PK-K WING (600 STUDENTS)	9465 SF
	69771 SF
POR GSF ALLOWABLE	69984 SF

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SHP LEADING DESIGN
4805 Montgomery Road Suite 400 Cincinnati, Ohio 45212 513-381-2112
236 High Street 513-863-5441 Hamilton, Ohio 45011
250 Civic Center Drive Suite 200 Columbus, Ohio 43215 614-223-2124
1675 Broadway Suite 2460 Denver, Colorado 80202 303-269-1866

SOUTH-WESTERN CITY SCHOOL DISTRICT
JC SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

ISSUANCES	
06-14-13	SCHEMATIC DESIGN
08-12-13	ZONING SUBMISSION
08-23-13	DESIGN DEVELOPMENT
11-06-13	ZONING SUBMISSION

OSFC DATA

DATE

COMM NO. 2012014.04

X101

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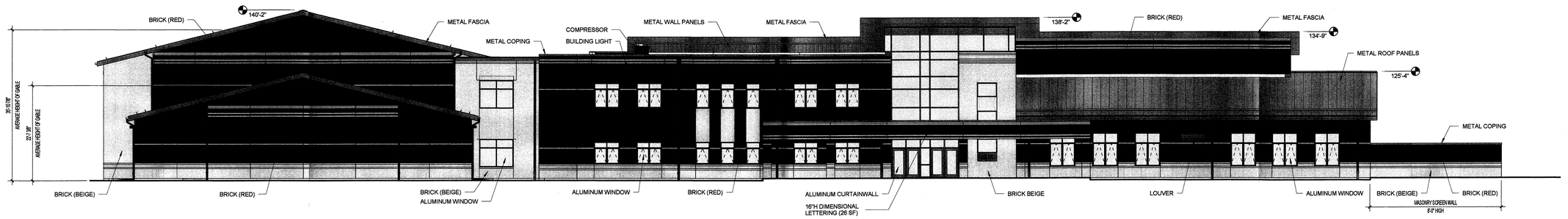
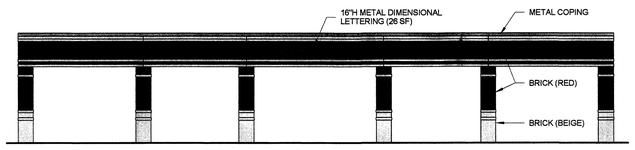
"0'-1" REFERENCE LINE"



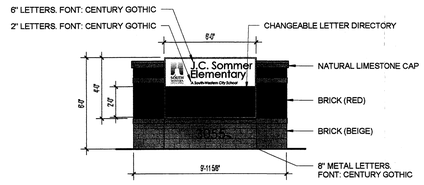
OVERALL WEST ELEVATION

3/32" = 1'-0"



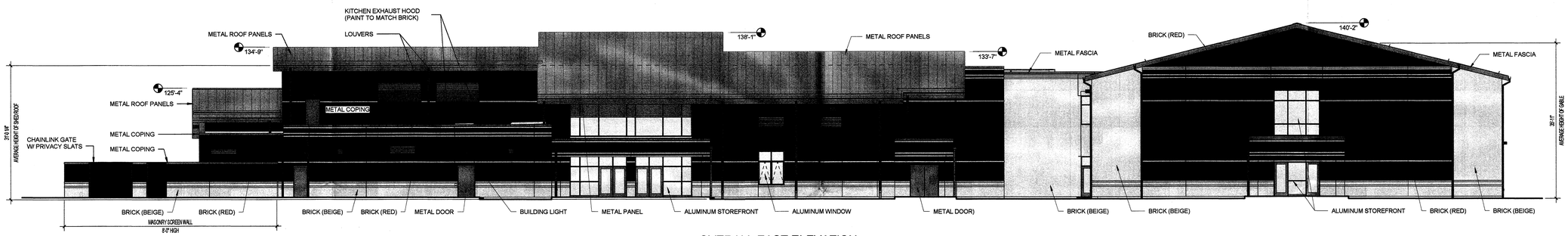
ENTRY CANOPY ELEVATION

1/8" = 1'-0"



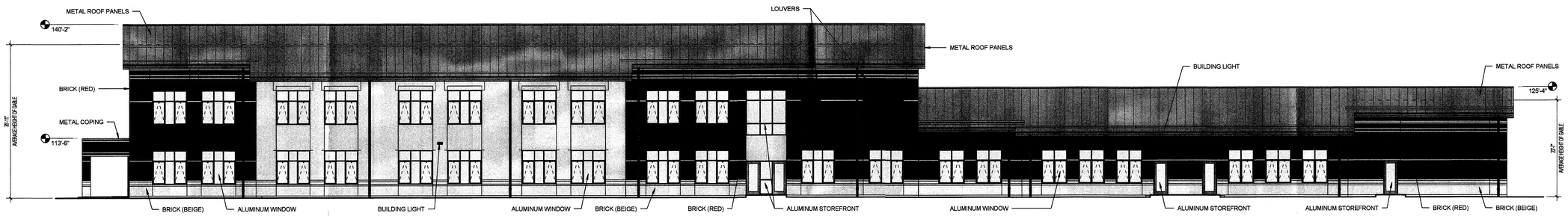
SINGLE-SIDED SITE SIGN ELEVATION

1/4" = 1'-0"



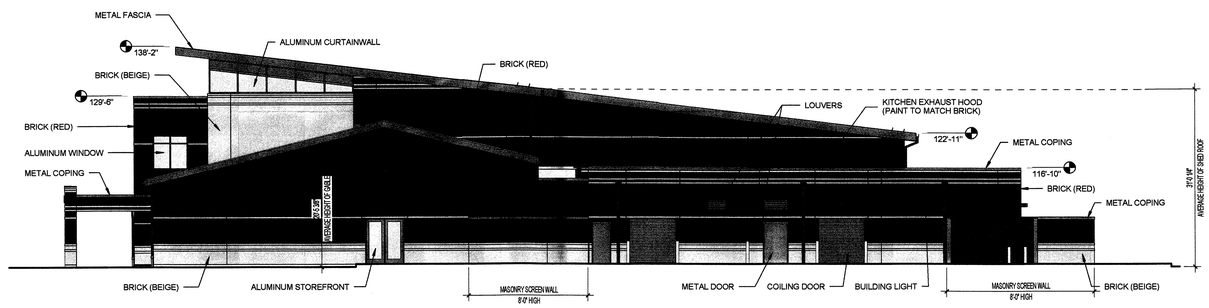
OVERALL EAST ELEVATION

3/32" = 1'-0"



OVERALL NORTH ELEVATION

3/32" = 1'-0"



OVERALL SOUTH ELEVATION

3/32" = 1'-0"

"0'-1" REFERENCE LINE"

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Expiration Date 12/31/2013

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1675 Broadway, Suite 2460, Denver, Colorado 80202, 303-293-1888

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JC SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

ISSUANCES	
09-12-13	ZONING SUBMISSION
10-01-13	BZA SUBMISSION
11-06-13	ZONING SUBMISSION

EXTERIOR ELEVATIONS

DATE

COMM NO. 2012014.04

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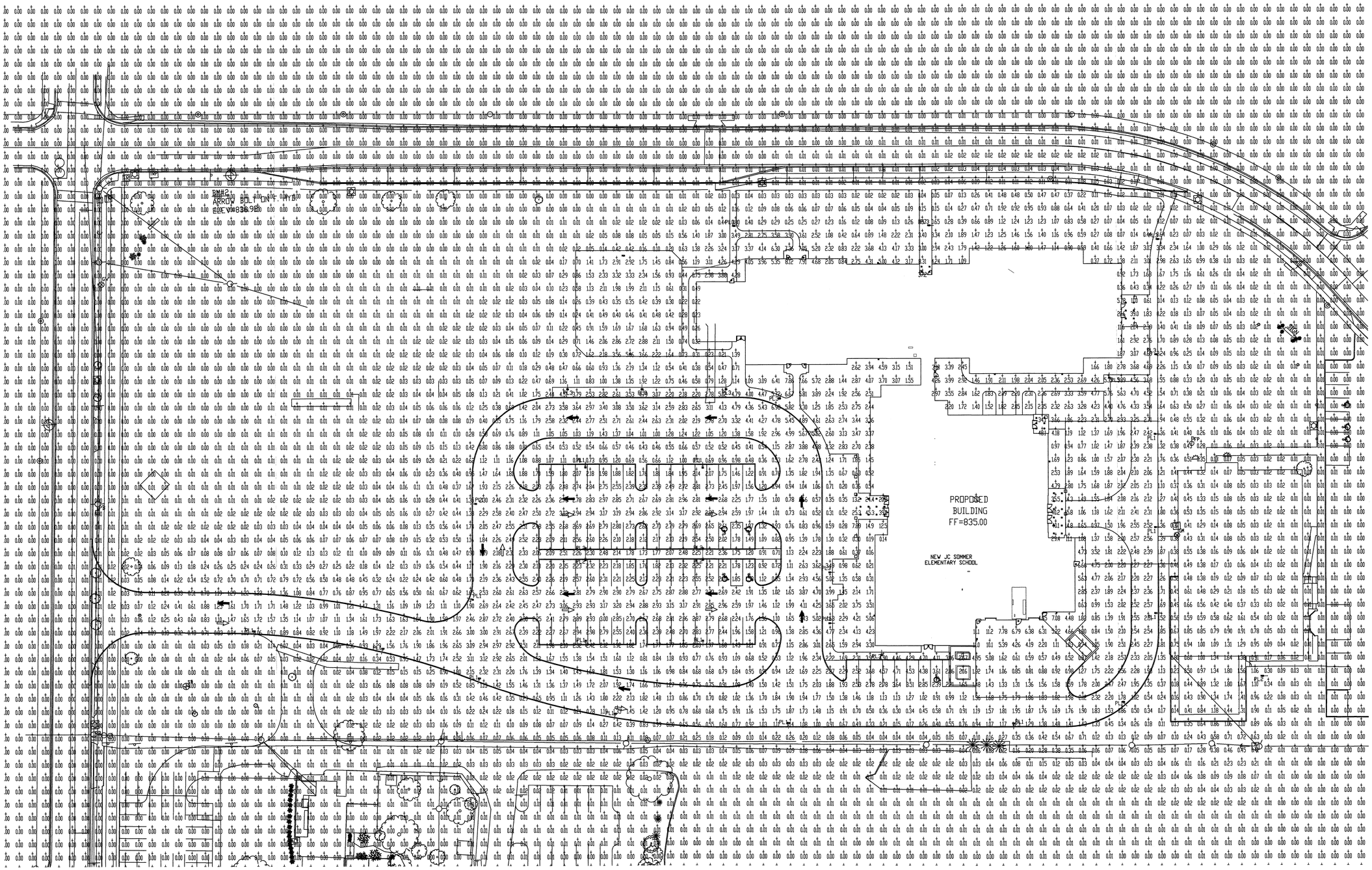

ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

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PRELIMINARY - NOT FOR CONSTRUCTION

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236 High Street
Hamilton, Ohio 45011
513-863-5441

250 Civic Center Drive
Columbus, Ohio 43215
Suite 200
614-223-2124

1675 Broadway
Denver, Colorado 80202
Suite 2480
303-209-7666

SOUTH-WESTERN CITY SCHOOL DISTRICT
JC SOMMER ELEMENTARY SCHOOL
3055 Kingston Ave., Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
305 Marlane Drive, Grove City, OH 43123

ISSUANCES	
08-23-13	DESIGN DEVELOPMENT

ELECTRICAL LIGHTING SITE PLAN PHASE 2 - LIGHTING CALCULATION

DATE 08-23-13

COMM NO 2012014.04

E002L

Heapy Engineering
MEP Design Technology Planning Commissioning Energy
Nationally Recognized Leader in Sustainability
PROJECT NO. 2012-07072.07

0-1" REFERENCE LINE

Site Sign Documents

Grove City
Board of Zoning Appeals

4035 Broadway
Grove City, Ohio 43123

South-Western City School District

3805 Marlane Drive
Grove City, Ohio 43123

JC SOMMER ELEMENTARY

3055 Kingston Ave.
Grove City, Ohio 43123

November 6, 2013

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NOV 08 2013
GC PLANNING COMMISSION

Table of Contents

Section Name

Exterior Manufacturers, Materials, and Site Furnishings

Directory (Site Sign) Specifications

Site Lighting Cut Sheets

SHP
LEADING DESIGN

Exterior Manufacturers, Materials, and Site Furnishings

Standing Seam Metal Roof
Manufacturer: DMI
Color: Beige

Cast Iron Downspout Boots
Manufacturer: Neenah
Color: Custom color to match DMI's Putty

Gutters, Downspouts, Rake, and Fascia
Manufacturer: DMI
Color: Putty

Windows and Storefront
Manufacturer: EFCO
Color: Custom color to match DMI's Putty

Metal Coping
Manufacturer: Metal-Era
Color: Custom color to match DMI's Putty

Curtain Wall
Manufacturer: Kawneer
Color: Custom color to match DMI's Putty

www.shp.com
CINCINNATI
4805 Montgomery Road Suite 400
Cincinnati, Ohio 45212
513.381.2112 main
513.381.5121 fax

HAMILTON
236 High Street
Hamilton, Ohio 45011
513.863.5441 main
513.863.5596 fax

COLUMBUS
250 Civic Center Drive Suite 200
Columbus, Ohio 43215
614.223.2124 main
614.223.2130 fax

Steed Hammond Paul Inc.

Louvers
Manufacturer: Airolite
Color: Custom color to match DMI's Putty

Metal Wall Panels
Manufacturer: AEP
Color: Custom color to match DMI's Putty

Overhead Coiling Doors
Manufacturer: Wayne-Dalton
Color: Custom color to match DMI's Putty

Hollow Metal Doors and Frames
Manufacturer: Ceco Door Products
Color: Custom color to match DMI's Putty

Site Sign Directory
Manufacturer: Nelson-Harkins, 249-N.
Color: Custom color to match DMI's Putty

Brick
Manufacturer: Belden
Brick Type "A": Commodore

Manufacturer: Belden
Brick Type "B": Dutch Gray

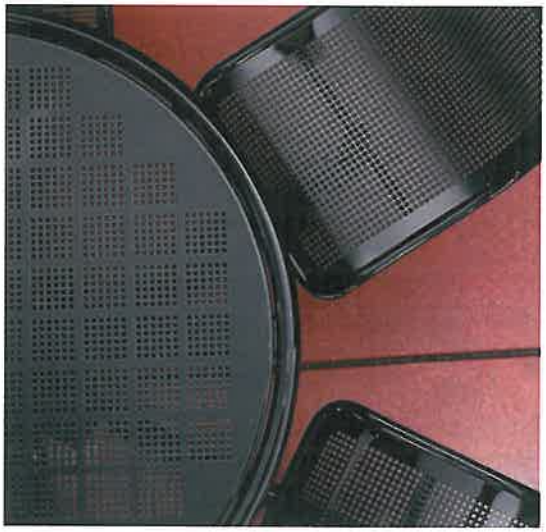
Mortar
Manufacturer: Brixment
Color: C-224

Letters
Manufacturer: Gemini
Color: Dark Bronze

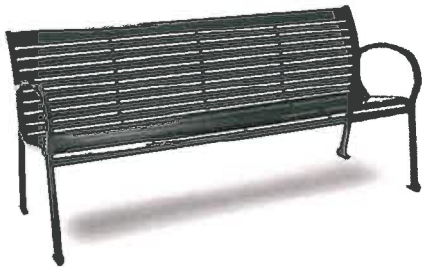
Glazing:
Manufacturer: PPG
Color: Clear

Fiberglass-Sandwich Panel
Manufacturer: Kalwall
Color: White

Tables – 3 seat Carousel
Manufacturer: Landscape Forms
Color: Bronze



Benches - Scarborough
Manufacturer: Landscape Forms
Color: Bronze



Bike Racks - Flo
Manufacturer: Landscape Forms
Color: Bronze

SECTION 101300 - DIRECTORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Nonilluminated, changeable-letter, single / double-sided directories.

B. Related Sections:

1. Section 018113 "Sustainable Design Requirements" for general Project LEED requirements and for additional LEED requirements specifically applicable to this Section.
2. Section 017419 Section "Construction Waste Management and Disposal" for additional LEED requirements for handling of construction waste, general waste, excess materials, packaging, and recyclables.
3. Section 042000 "Unit Masonry" for masonry structure supporting the ground sign.
4. Section 101100 "Visual Display Units" for tackboards.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Directories shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for directories.

B. Shop Drawings: For directories. Include plans, elevations, sections, details, and attachments to other work.

1. Include sections of typical trim members.
2. Provide text and logo layout for permanent header of each sign in the required typestyles at least half size.

C. Samples for Initial Selection: Manufacturer's color charts consisting of actual units or sections of units showing the full range of colors available for the following:

1. Fabric swatches for letterboards.
2. Section of header panel for color selection.

A. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:

1. Letterboards: Not less than 8-1/2 by 11 inches, mounted on substrate indicated for final Work. Include one panel for each type, color, and texture required.
2. Trim: 6-inch- long sections of each trim profile.
3. Letters: Full-size Samples of changeable letters of each size specified.

1.5 INFORMATIONAL SUBMITTALS

A. Warranty: Special warranty specified in this Section.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: Include maintenance manuals.

B. Lettering and symbols catalog to be included in Operations Manual indicating total line of lettering fonts, numerals and symbols available for use in this letterboard system and address, telephone and e-mail of source for purchase.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative of the manufacturer for installation and maintenance of units required for this Project.

B. Source Limitations: Obtain directories from single source from single manufacturer.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify recessed openings by field measurements before fabrication and indicate measurements on Shop Drawings.

B. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs to be performed according to manufacturers' written instructions and warranty requirements.

1.9 COORDINATION

A. Coordinate installation of anchorage for directories. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, masonry inserts, anchor bolts, and items with integral anchors that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

   a. Structural failures of cabinets, access doors or frames.
   b. Faulty operation of hardware or illumination system.
   c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Contract Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum: Alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated, and as follows:

   1. Sheet: ASTM B 209.
   2. Extruded Shapes: ASTM B 221, Alloy 6063.

B. Clear Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), with Finish 1 (smooth or polished), and 6 mm thick unless otherwise indicated; colorless sheet with visible light transmittance of 92 percent measured per ASTM D 1003.

C. Translucent Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), with Finish 1 (smooth or polished), and 6 mm thick unless otherwise indicated; white colored sheet of density required to produce uniform brightness and minimum halation effects.

D. Opaque Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), with Finish 1 (smooth or polished), and 6 mm thick unless otherwise indicated; colors as indicated.

A. Fasteners: Provide stainless-steel or aluminum screws, bolts, and other fastening devices made for exterior applications. Provide types, sizes, and lengths to suit installation conditions. Use security fasteners where exposed to view.

2.2 CHANGEABLE-LETTER DIRECTORIES

A. Enclosed-Face, Non-Illuminated Changeable-Letter Directory: Factory-fabricated, weather-resistant unit consisting of manufacturer's standard, 2-inch- deep perimeter frame with fixed letterboard on back inside surface and with glazed doors. Provide (1) 10" unit – refer to drawings for width, height, and required type (single or double-faced unit).

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Nelson-Harkins Industries; 249-N.
      b. Poblocki Sign Company; Model-E.
      c. Tablet & Ticket Co. (The); 950E Series.

   2. Aluminum Perimeter Frame: Extruded aluminum with weather-resistant backing for exterior use.

      a. Perimeter Frame Profile: Square.
      b. Perimeter Frame Corners: Square.
      c. Finish: Baked enamel.

d. Color: Custom color to match Dimensional Metals, Inc. "Putty".

3. Glazed, Hinged Doors: Clear acrylic sheet set in door frame equipped with full-height continuous hinge and cylinder lock with two keys. Key locks to building's master-key system. Provide factory-applied weather stripping on doors for exterior use. Provide heavy-duty, spring-loaded or pneumatic door stays at each side of door. Each door stay shall have a minimum load capacity of 30 pounds.

   a. Door Frame: Same material and finish as perimeter frame.
   b. Number of Doors: One, hinged at top, with locks.

4. Header Panel: Non-illuminated; with opaque, acrylic sheet panel set within overall perimeter frame; with matching frame that separates header panel from letterboard.

   a. Graphic Content and Style: Provide header panel copy that complies with requirements indicated on Drawings including two-color logo. Artwork for logos will be supplied on electronic media by Architect.
   b. Color: Match Architect's sample.

5. Letterboard: Manufacturer's standard felt-covered panel material, with grooves spaced at 1/4 inch o.c. to receive changeable letters.

   a. Color: Black.

6. Letters: Molded plastic with tabs for engaging grooves in letterboard. Provide manufacturer's standard assortment of not less than 1200 characters for each size, style, color, and case required; include letters, numbers, and characters. Package letters in compartmentalized carrying box.

   a. Height: 4 inches to top of capitals.
   b. Style: Century Gothic.
   c. Color: White.
   d. Case: All capitals.

7. Width and height and installation conditions as indicated on Drawings.

2.3 FABRICATION

A. Fabricate directories to requirements indicated for dimensions, design, and thickness and finish of materials. Use metals and shapes of thickness and reinforcement to produce flat surfaces, free of oil canning, and to impart strength for size, design, and application indicated.

B. Fabricate directory cabinets and door frames with reinforced corners, mitered and welded to a hairline fit, with no exposed fasteners. Provide structural reinforcement to prevent racking and misalignment.

C. Fabricate exterior directories with vents to permit evaporation of moisture trapped inside.

D. Provide hold-open arms for doors of top-hinged directories.

E. Provide continuous rigid aluminum top cap with center ridge and drainage slope toward each face; turn down and provide drip edge. Match finish and color of header panel.

2.4 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.5 ALUMINUM FINISHES

A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 GENERAL

A. Comply with Division 01 Sections 017419 and 018113 and other requirements for attaining the LEED certification level specified.

3.2 EXAMINATION

A. Examine mounting substrates, with Installer present, for compliance with requirements for installation tolerances, surface conditions of substrate, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. General: Install directories in locations and at mounting heights indicated on Drawings. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

3.4 ADJUSTING AND CLEANING

A. Adjust directory doors to operate smoothly without warp or bind and so that contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

3.5 WASTE DISPOSAL

A. Comply with Waste Management requirements of Section 017419 "Construction Waste Management and Disposal".

END OF SECTION 101300

Reset Form

KIM LIGHTING

WD14

14″ Wall Director®, Electronic-LED

revision 7-12-10 • kim_wd14led_spec.pdf

Type:
Job:
Catalog number:

/ / /

Fixture | Electrical Module | Finish | Options

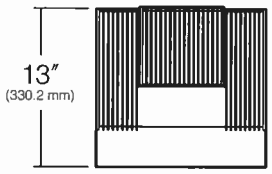
See page 2 — See pages 3-4

Approvals:

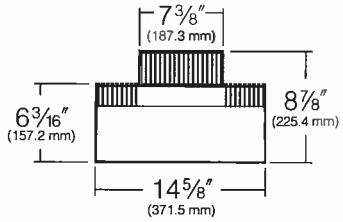
Date:

Specifications

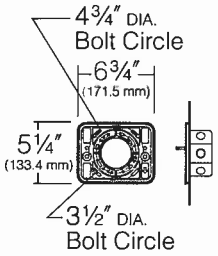
WD14-LED
60 Light Emitting Diodes
Total Max System Watts = 73W
Maximum Weight = 26 lbs.



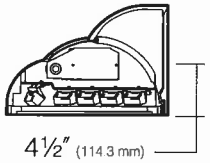
TOP



FRONT



Mounting Plate
Attaches directly to any standard 4″ J-box (by others)



To J-box center

SIDE

HUBBELL
HUBBELL LIGHTING, INC.

Reflector Housing: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling fins. Rotates against ballast housing to provide 10° of adjustment with degree markers cast into the housing. At 0° adjustment, lens is totally concealed from view above horizontal with fixture aimed downward.

Ballast Housing: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling fins. Fastens to mounting plate with keyhole slots freeing both hands for securing and wiring. One stainless steel socket-head screw on each side of housing frees the reflector housing to rotate for aiming. Tightening the screws locks the two housings together with sealing provided by a silicone gasket. For visual aiming, adjustment may be accomplished with the fixture on.

Lens Frame: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral hinges and stainless steel pins. Toolless access to reflector housing with sealing provided by a one-piece extruded and vulcanized silicone gasket. Lens is clear flat ³⁄₁₆″ thick tempered glass sealed to lens frame with a silicone gasket and retainer clips. For UP models, lens is mounted flush with frame for water run off, and is silicone sealed.

Electronic Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector.Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

Optical Module: Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module.

Electrical Components: High power factor ballasts are rigidly mounted inside the housing and are factory prewired with a quick-disconnect plug for mating to the socket.

Mounting Plate: Mounting plate attaches directly to any standard 4″ junction box. All mounting plates are die-cast aluminum with reinforced ribs. Two studs are provided in each plate with flange nuts to allow fixture mounting by keyhole slots. Sealant must be applied (by others) between mounting plate and mounting surface to insure a dry junction box.

Finish/Color: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; A.S.T.M. 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray®, Platinum Silver, or White. Custom colors are available.

Warranty: Kim Lighting warrants Wall Director LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines and, (iv) a period of five (5) years for LED power components (driver, surge protector and LifeShield™ device), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

Listings and Ratings			
ETL to UL 1598[1] Standards	IP66 Rated	CE	25°C Ambient

[1]Suitable for wet locations

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

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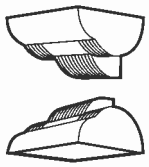


Standard Features

Fixture
Cat. No. designates **WD14** fixture, Up (U) or Down (D) configuration, and light distribution (2, 3 or 4).

WD14 | x | x

Housing Size:
WD14

Distribution:
☐ U = Up
☐ D = Down

Type:
☐ 2 = Type II
☐ 3 = Type III
☐ 4 = Type IV

Light Distribution:

Type II

Type III

Type IV

Electrical Module
Cat. Nos. for Electrical Modules available:

60 | LxK | x

Source:
60 = 60 LED's

Color Temperature:[1]
☐ L3K = 3500K
☐ L5K = 5100K
☐ L2K = 580nm - Amber

Voltage:
☐ 120 = 120V
☐ 208 = 208V
☐ 240 = 240V
☐ 277 = 277V
☐ 347 = 347V[2]
☐ 480 = 480V[2]

[1]4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

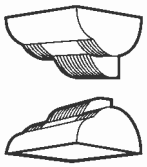
[2]Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer.

Fixture	Total System Watts	Volt	Operating Amps
WD14-Small	73	120	0.61
WD14-Small	73	208	0.35
WD14-Small	73	240	0.30
WD14-Small	73	277	0.26
WD14-Small	73	347	0.21
WD14-Small	73	480	0.15

Finish
Super TGIC powder coat paint over a titanated zirconium conversion coating.

Color: Black | Dark Bronze | Light Gray | Stealth Gray® | Platinum Silver | White | Custom Color[1]
Cat. No.: ☐ **BL** ☐ **DB** ☐ **LG** ☐ **SG** ☐ **PS** ☐ **WH** ☐ **CC**

[1]Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____



Optional Features

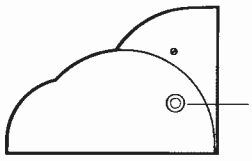
Base Socket
Cat. No. ☐ **G12**
☐ **No Option**

G12 base socket available for 70W and 150W Pulse Start Metal Halide lamps only.

Photocell Control
Cat. No. **(see right)**
☐ **No Option**

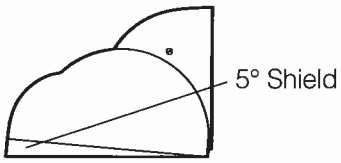
Factory installed inside housing with fully gasketed sensor on side wall.

Cat. No.	Line Volts:	Cat. No.	Line Volts:
☐ **A-30**	120V	☐ **A-33**	277V
☐ **A-31**	208V	☐ **A-34**	480V
☐ **A-32**	240V	☐ **A-35**	347V



5° Shield
Cat. No. ☐ **5DS14**
☐ **No Option**

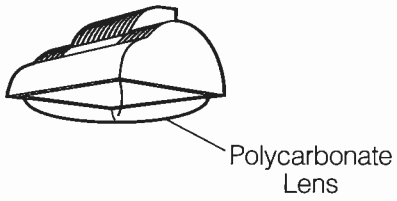
Aluminum shield field-attached to lens frame. Maintains a horizontal cutoff fixture edge when the luminaire is tilted 5°. Finished to match the fixture.



Polycarbonate Lens:
Cat. No. ☐ **LS**
☐ **No Option**

Clear flat polycarbonate lens replaces standard tempered glass lens.

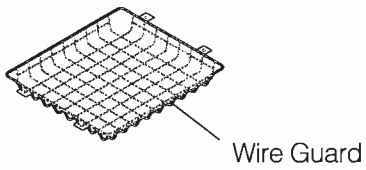
NOTE: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight. A program of regular inspection and periodic replacement is highly recommended to maintain optimum fixture performance.



Wire Guard
Cat. No. ☐ **WG14**
☐ **No Option**

11 ga. (.12″ dia.) BB Wire, (.75″ sq. welded mesh pattern,) 11⅜″ x 10¼″ x 1½″ deep. Finish is super TGIC thermoset polyester powder coat paint, over zinc plated wireform. Finished to mach the fixture.

NOTE: Only available with flat lens applications.



Fusing
Cat. No. **(see right)**
☐ **No Option**

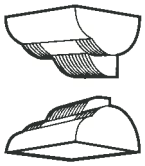
Line Volts:	120V	208V	240V	277V	347V	480V
Cat. No.:	☐ **SF**	☐ **DF**	☐ **DF**	☐ **SF**	☐ **SF**	☐ **DF**

Surface Conduit Mount
Cat. No. ☐ **SCM14U**
☐ **SCM14D**
☐ **No Option**

Cast aluminum junction box and fixture mount for attachment (by others) to existing walls, beams or columns. **SCM14** has one ¾″ NPT conduit tap in each side and bottom. Must be securely mounted to wall surface. Finished to match the fixture.

SCM14U for UP fixtures only.
SCM14D for DOWN fixtures only.

Note: Must be securely mounted to all surface.

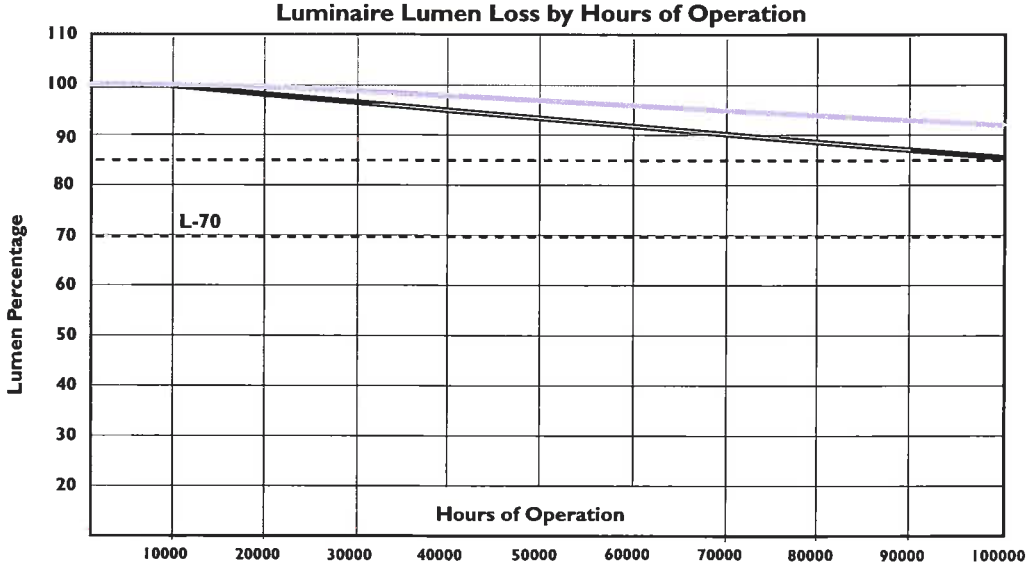


Lumen Performance Charts

NOTES:

1. Lumen loss stablization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current. 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

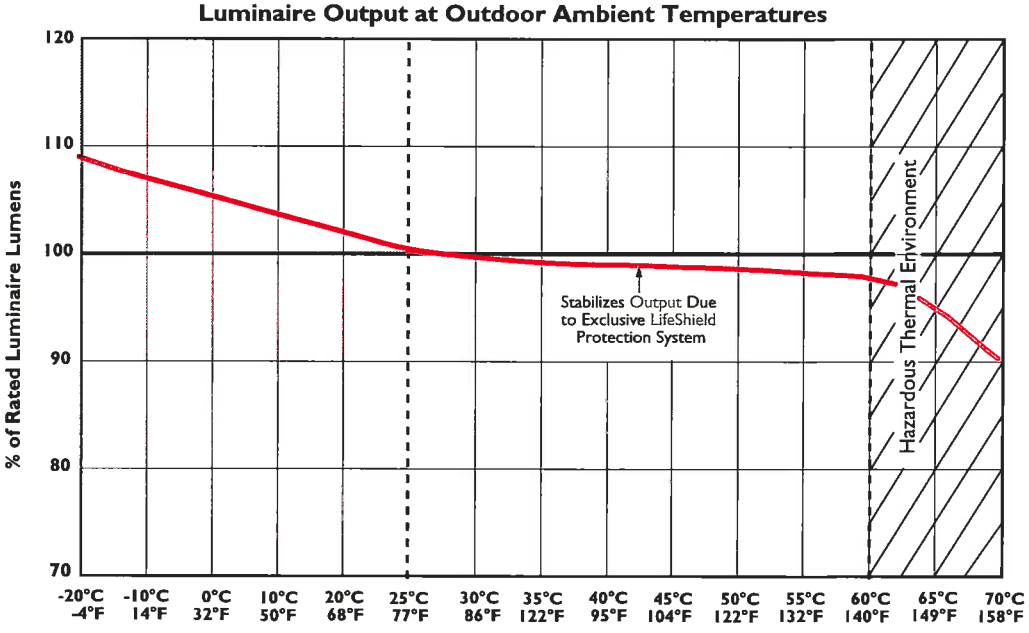
Luminaire Lumen Loss by Hours of Operation



Outdoor Temperature at 10°C/50°F. Temperature is based on continual average, annual assumptions.

Outdoor Temperature at 40°C/104°F. Temperature is based on continual average, annual assumptions.

Luminaire Output at Outdoor Ambient Temperatures



Reset Form

KIM LIGHTING

WD18

18″ Wall Director®, Electronic-LED

revision 8-16-10 • kim_wd18led_spec.pdf

Type:
Job:
Catalog number:

/ / /

Fixture | Electrical Module | Finish | Options

See page 2 | See pages 3-4

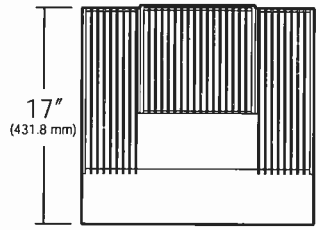
Approvals:

Date:

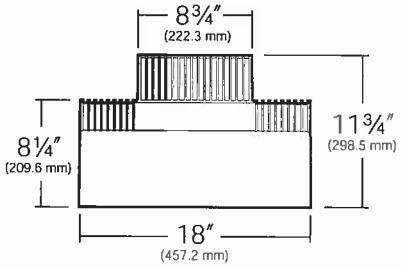
Specifications

WD18-LED

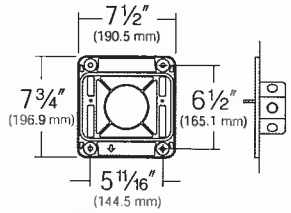
120 Light Emitting Diodes
Total Max System Watts = 140W
Maximum Weight = 43 lbs.



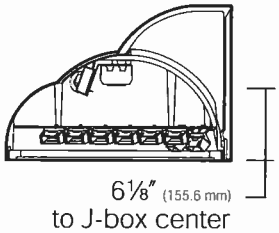
TOP



FRONT



Mounting Plate
must be securely attached to wall outside the J-box perimeter.



to J-box center

SIDE

HUBBELL LIGHTING, INC.

Reflector Housing: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling fins. Rotates against ballast housing to provide 10° of adjustment with degree markers cast into the housing. At 0° adjustment, lens is totally concealed from view above horizontal with fixture aimed downward.

Ballast Housing: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling fins. Fastens to mounting plate with keyhole slots freeing both hands for securing and wiring. One stainless steel socket-head screw on each side of housing frees the reflector housing to rotate for aiming. Tightening the screws locks the two housings together with sealing provided by a silicone gasket. For visual aiming, adjustment may be accomplished with the fixture on.

Lens Frame: One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral hinges and stainless steel pins. Two stainless steel quarter-turn fasteners secure lens frame to reflector housing with sealing provided by a one-piece extruded and vulcanized silicone gasket. Lens is clear flat 3⁄16″ thick tempered glass sealed to lens frame with a silicone gasket and retainer clips. For UP models, lens is mounted flush with frame for water run off, and is silicone sealed.

Electronic Module: All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector.Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

Optical Module: Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module.

Mounting Plate: The standard mounting plate is attached to wall (by others) outside the junction box perimeter. All mounting plates are die-cast aluminum with reinforced ribs. Two studs are provided in each plate with flange nuts to allow fixture mounting by keyhole slots. Sealant must be applied (by others) between mounting plate and mounting surface to insure a dry junction box.

Finish: Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; A.S.T.M. 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray®, Platinum Silver, or White. Custom colors are available.

Warranty: Kim Lighting warrants Wall Director LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

Listings and Ratings			
ETL to UL 1598[1] Standards	IP66 Rated	CE	25°C Ambient

[1]Suitable for wet locations

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

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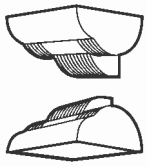


Standard Features

Fixture
Cat. No. designates **WD18** fixture, Up (U) or Down (D) configuration, and light distribution (2, 3 or 4).

WD18 — x — x

Housing Size:
WD18

Distribution:
☐ U = Up
☐ D = Down

☐ 2 = Type II
☐ 3 = Type III
☐ 4 = Type IV

Light Distribution:

Type II Type III Type IV

Electrical Module

Cat. Nos. for Electrical Modules available:

120 — LxK — x

Source:
120 = 120 LED's

Color Temperature:[1]
☐ L3K = 3500K
☐ L5K = 5100K
☐ L2K = 580nm - Amber

Voltage:
☐ 120 = 120V
☐ 208 = 208V
☐ 240 = 240V
☐ 277 = 277V
☐ 347 = 347V
☐ 480 = 480V

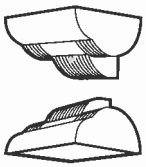
[1]4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

Fixture	Total System Watts	Volt	Operating Amps
WD18-Large	140	120	1.17
WD18-Large	140	208	0.67
WD18-Large	140	240	0.58
WD18-Large	140	277	0.51
WD18-Large	140	347	0.40
WD18-Large	140	480	0.29

Finish
Super TGIC powder coat paint over a titanated zirconium conversion coating.

Color: Black Dark Bronze Light Gray Stealth Gray® Platinum Silver White Custom Color[1]
Cat. No.: ☐ **BL** ☐ **DB** ☐ **LG** ☐ **SG** ☐ **PS** ☐ **WH** ☐ **CC**

[1]Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____

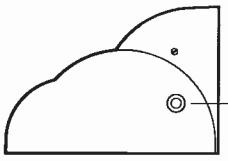


Optional Features

Photocell Control
Cat. No. **(see right)**
☐ **No Option**

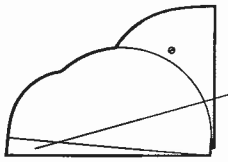
Factory installed inside housing with fully gasketed sensor on side wall.

Cat. No.	Line Volts:	Cat. No.	Line Volts:
☐ **A-30**	120V	☐ **A-33**	277V
☐ **A-31**	208V	☐ **A-34**	480V
☐ **A-32**	240V	☐ **A-35**	347V



5° Shield
Cat. No. ☐ **5DS18**
☐ **No Option**

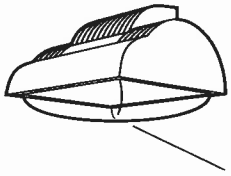
Aluminum shield field-attached to lens frame. Maintains a horizontal cutoff fixture edge when the luminaire is tilted 5°. Finished to match the fixture.



Lexan® Enclosure:
Cat. No. ☐ **LS**
☐ **No Option**

For DOWN fixture models only. Clear convex vacumm formed Lexan® enclosure with gasket replaces standard tempered glass lens. 250W max. May be used with 400W HPS only in outdoor locations where ambient air temperature during fixture operation will not exceed 85°F.

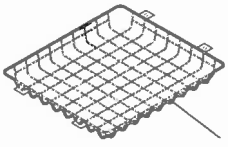
NOTE: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight and MH lamps. A program of regular inspection and periodic replacement is highly recommended to maintain optimum fixture performance.

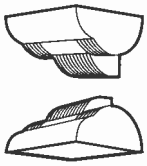


Wire Guard
Cat. No. ☐ **WG18**
☐ **No Option**

11 ga. (.12″ dia.) BB Wire, (.75″ sq. welded mesh pattern.) 15″ x 14½″ x 1½″ deep. Finish is super TGIC thermoset polyester powder coat paint, over zinc plated wireform. Finished to match the fixture.

NOTE: Only available with flat lens applications.

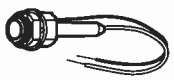




Optional Features

Fusing
Cat. No. **(see right)**
☐ **No Option**

Line Volts: 120V 208V 240V 277V 347V 480V
Cat. No.: ☐ **SF** ☐ **DF** ☐ **DF** ☐ **SF** ☐ **SF** ☐ **DF**

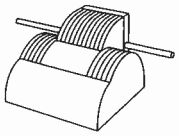


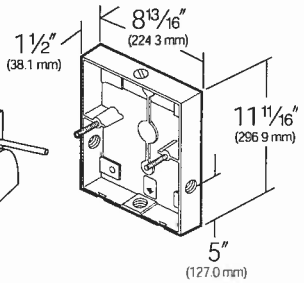
Surface Conduit Mount
Cat. No. ☐ **SCM18**
☐ **No Option**

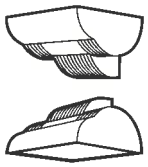
Cast aluminum junction box and fixture mount for attachment (by others) to existing walls, beams or columns. **SCM18** has one ¾″ NPT conduit tap in each side, top and bottom. Finished to match the fixture.

SCM18 for all fixtures, UP and DOWN.

Note: Must be securely mounted to all surface.





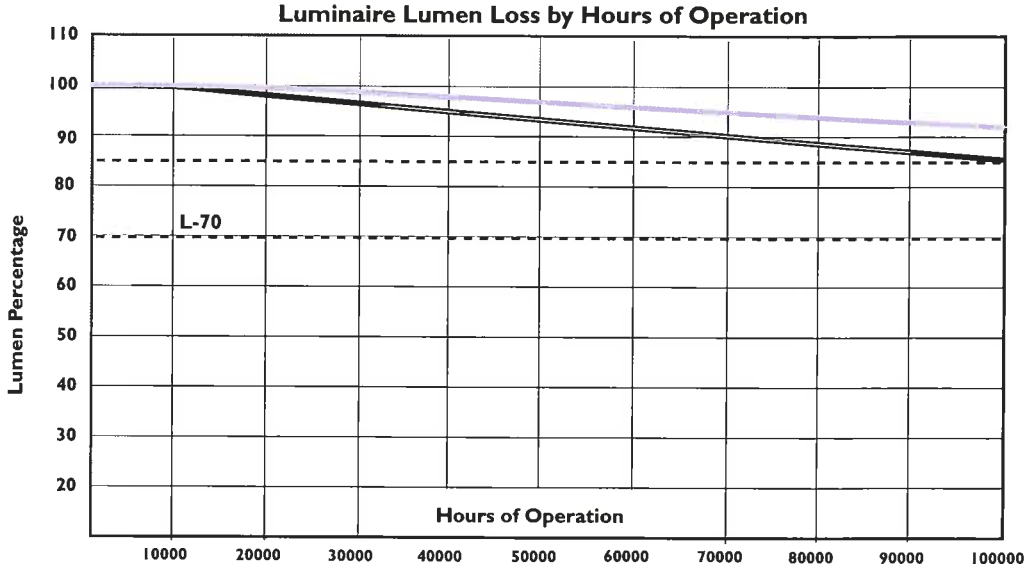


Lumen Performance Charts

NOTES:

1. Lumen loss stablization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current. 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

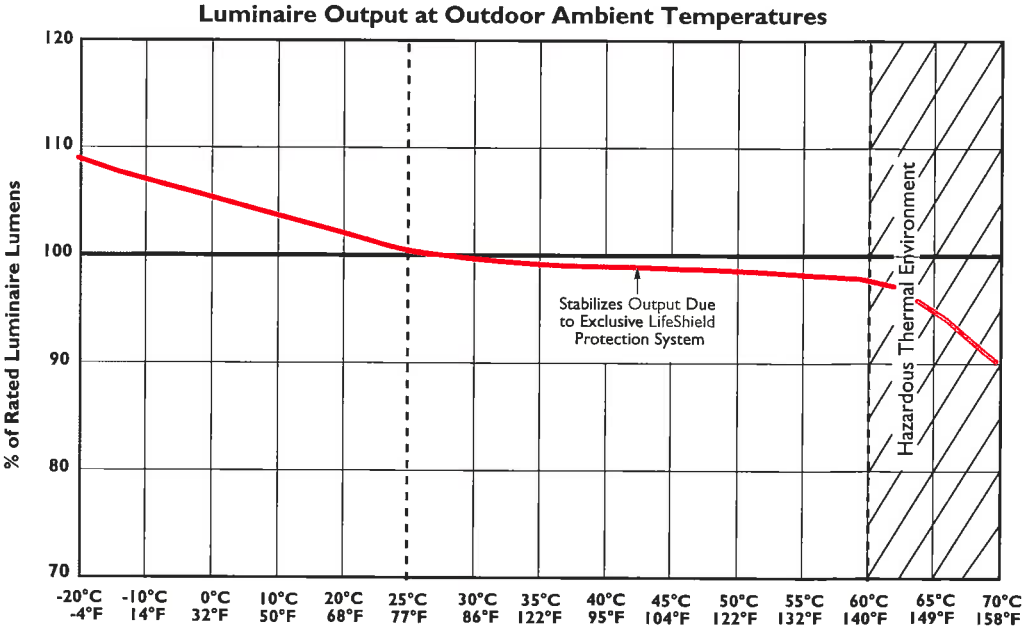
Luminaire Lumen Loss by Hours of Operation



Outdoor Temperature at 10°C/50°F. Temperature is based on continual average, annual assumptions.

Outdoor Temperature at 40°C/104°F. Temperature is based on continual average, annual assumptions.

Luminaire Output at Outdoor Ambient Temperatures

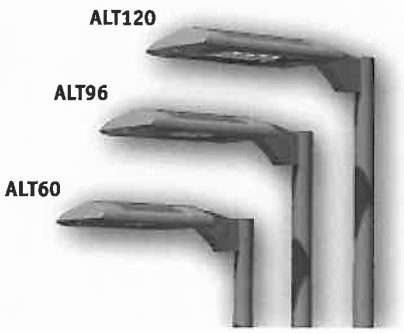


ALTITUDE™

ALT60, ALT96, ALT120 Small LED Luminaire

12' and 20' poles in combination for these fixture types.

SITE / ROADWAY



FEATURES

- The ultimate in LED luminaire design featuring innovative engineering, thermal management and unique patent pending PicoPrism™ optics
- Proportional and scalable aesthetic housing, available in six sizes to cover more environments than ever before
- WiHUBB features on/off/variable and step dimming control, SNAP protocol mesh network, AES-128 encryption detection, occupancy sensor interface and intuitive, user-friendly software

WiHUBB ENABLED

ORDERING INFORMATION (Example)

1SA	ALT3P35	120L5K277	WH	SF/A26	PRA20-4188SA/WH	—

MOUNTING

			EPA ALT60	ALT96	ALT120
	1SA	1 Arm Side Mt.	0.58	0.64	0.72
	2SB	2 Arm Side Mt.	1.17	1.28	1.44
	2SL	2 Arm Side Mt.	0.91	0.97	1.05
	3ST	3 Arm Side Mt.	1.50	1.61	1.77
	3SY*	3 Arm Side Mt.	1.50	1.61	1.77
	4SC	4 Arm Side Mt.	1.66	1.78	1.93
	1W	Single Wall Mt.	n/a	n/a	n/a

*Available on round poles only
NOTE: EPA is for Fixture only

ELECTRICAL MODULE

Source		Color Temperature[1]		Voltages	
60L	60 LEDs	580nm	Amber	120	120V
96L	96 LEDs	4K	4000K	208	208V
120L	120 LEDs	5K	5000K	240	240V
				277	277V
				347	347V
				480	480V[2]

580nm = Amber, turtle friendly
4K = 4000 Kelvin LED
5K = 5000 Kelvin LED

FIXTURE

350 Milliamp	700 Milliamp
ALT1P35 Type I	**ALT1P70** Type I
ALT2P35 Type II	**ALT2P70** Type II
ALT3P35 Type III	**ALT3P70** Type III
ALT4P35 Type IV	**ALT4P70** Type IV
ALT5P35 Type V	**ALT5P70** Type V
ALTRP35 Type R, Right	**ALTRP70** Type R, Right
ALTLP35 Type L, Left	**ALTLP70** Type L, Left

FIXTURE FINISH

SG	Stealth Gray
BL	Black
DB	Dark Bronze
LG	Light Gray
PS	Platinum Silver
WH	White
CC	Custom Color*

*Consult representative

FIXTURE OPTIONS

1SW	Wall Mounting
SF	120 Volt Single Fuse
DF	208 Volt Double Fuse
DF	240 Volt Double Fuse
SF	277 Volt Single Fuse
SF	347 Volt Single Fuse
DF	480 Volt Double Fuse
A26	Photocell Receptacle
FGL	Flat Glass Lens
FPL	Flat Polycarbonate Lens[3]
NFO	Type III or IV Neighbor Friendly Optic
WIH-IM	In-Fixture wireless control module, PSG8 pg. 381.

POLE

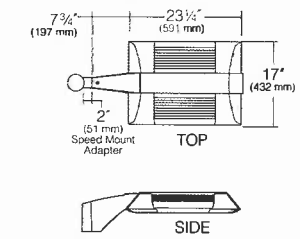
See p. **768-770** for pole ordering no. and EPA.

SLIPFITTER MOUNTING OPTIONS

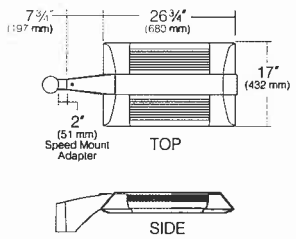
	HORIZONTAL
HSF	Horizontal Slipfitter Mount
	VERTICAL
	4" Round, Standard Fixtures
VSF-1SA	1 fixture side mt.
VSF-2SB	2 fixtures side mt. 180°
VSF-2SL	2 fixtures side mt. 90°
VSF-3ST	3 fixtures side mt. 90°
VSF-3SY	3 fixtures side mt. 120°[5]
VSF-4SC	4 fixtures side mt. 90°
	4" Square, Standard Fixtures
SVSF-1SA	1 fixture side mt.
SVSF-2SB	2 fixtures side mt. 180°
SVSF-2SL	2 fixtures side mt. 90°
SVSF-3ST	3 fixtures side mt. 90°
SVSF-4SC	4 fixtures side mt. 90°

[1] For custom optics and color temperature configurations, contact factory.
[2] 347V & 480V may include step-down transformer.
[3] Use only when vandalism is anticipated to be high. Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

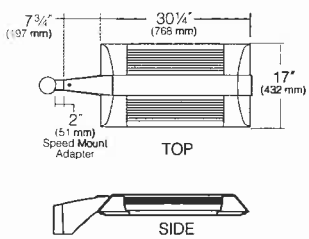
ALT60
Approx. Wt. = 27 lbs.



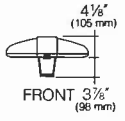
ALT96
Approx. Wt. = 30 lbs.



ALT120
Approx. Wt. = 34 lbs.



ALT60/ALT96/ALT120



KIM LIGHTING

ALTITUDE™

ALT180, ALT240, ALT300 Large LED Luminaire

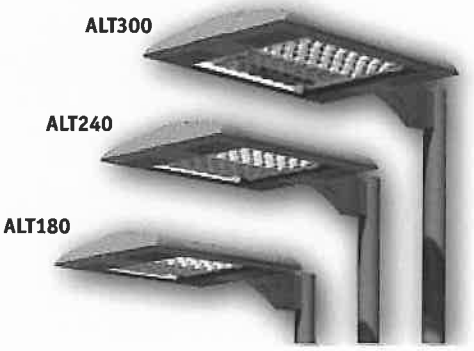
12' and 20' poles in combination for these fixture types.

SITE / ROADWAY

FEATURES

- The ultimate in LED luminaire design featuring innovative engineering, thermal management and unique patent pending PicoPrism™ optics
- Proportional and scalable aesthetic housing, available in six sizes to cover more environments than ever before
- WiHUBB features on/off/variable and step dimming control, SNAP protocol mesh network, AES-128 encryption detection, occupancy sensor interface and intuitive, user-friendly software

WiHUBB ENABLED



ORDERING INFORMATION (Example)

1SA	ALT3P35	180L5K277	WH	SF/A26	PRA20-4188SA/WH	—

MOUNTING

			EPA ALT180	ALT240	ALT300
	1SA	1 Arm Side Mt.	0.92	1.01	1.14
	2SB	2 Arm Side Mt.	1.84	2.01	2.28
	2SL	2 Arm Side Mt.	1.47	1.55	1.68
	3ST	3 Arm Side Mt.	2.38	2.56	2.82
	3SY*	3 Arm Side Mt.	2.38	2.56	2.82
	4SC	4 Arm Side Mt.	2.66	2.83	3.10
	1W	Single Wall Mt.	n/a	n/a	n/a

*Available on round poles only
NOTE: EPA is for Fixture only

ELECTRICAL MODULE

Source		Color Temperature[1]		Voltages	
180L	180 LEDs	580nm	Amber	120	120V
240L	240 LEDs	4K	4000K	208	208V
300L	300 LEDs	5K	5000K	240	240V
				277	277V
				347	347V
				480	480V[2]

580nm = Amber, turtle friendly
4K = 4000 Kelvin LED
5K = 5000 Kelvin LED

FIXTURE

350 Milliamp	700 Milliamp
ALT1P35 Type I	**ALT1P70** Type I
ALT2P35 Type II	**ALT2P70** Type II
ALT3P35 Type III	**ALT3P70** Type III
ALT4P35 Type IV	**ALT4P70** Type IV
ALT5P35 Type V	**ALT5P70** Type V
ALTRP35 Type R, Right	**ALTRP70** Type R, Right
ALTLP35 Type L, Left	**ALTLP70** Type L, Left

FIXTURE FINISH

SG	Stealth Gray
BL	Black
DB	Dark Bronze
LG	Light Gray
PS	Platinum Silver
WH	White
CC	Custom Color*

*Consult representative

FIXTURE OPTIONS

1SW	Wall Mounting
SF	120 Volt Single Fuse
DF	208 Volt Double Fuse
DF	240 Volt Double Fuse
SF	277 Volt Single Fuse
SF	347 Volt Single Fuse
DF	480 Volt Double Fuse
A26	Photocell Receptacle
FGL	Flat Glass Lens
FPL	Flat Polycarbonate Lens[3]
NFO	Type III or IV Neighbor Friendly Optic
WIH-IM	In-Fixture wireless control module, PSG8 pg. 381.

POLE

See p. 768-770 for pole ordering no. and EPA.

SLIPFITTER MOUNTING OPTIONS

HORIZONTAL	
HSF	Horizontal Slipfitter Mount
VERTICAL	
4" Round, Standard Fixtures	
VSF-1SA	1 fixture side mt.
VSF-2SB	2 fixtures side mt. 180°
VSF-2SL	2 fixtures side mt. 90°
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VSF-3SY	3 fixtures side mt. 120°[5]
VSF-4SC	4 fixtures side mt. 90°
4" Square, Standard Fixtures	
SVSF-1SA	1 fixture side mt.
SVSF-2SB	2 fixtures side mt. 180°
SVSF-2SL	2 fixtures side mt. 90°
SVSF-3ST	3 fixtures side mt. 90°
SVSF-4SC	4 fixtures side mt. 90°

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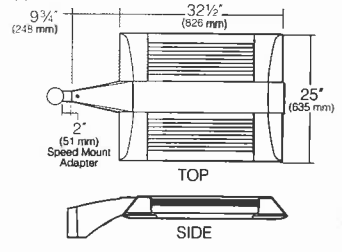
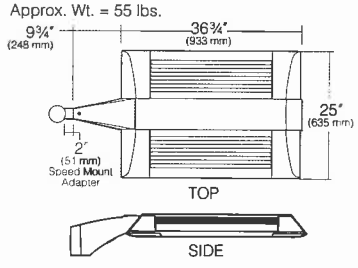
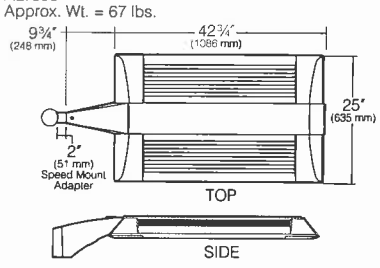
ALT180
Approx. Wt. = 49 lbs.



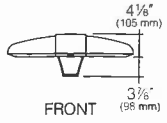
ALT240
Approx. Wt. = 55 lbs.



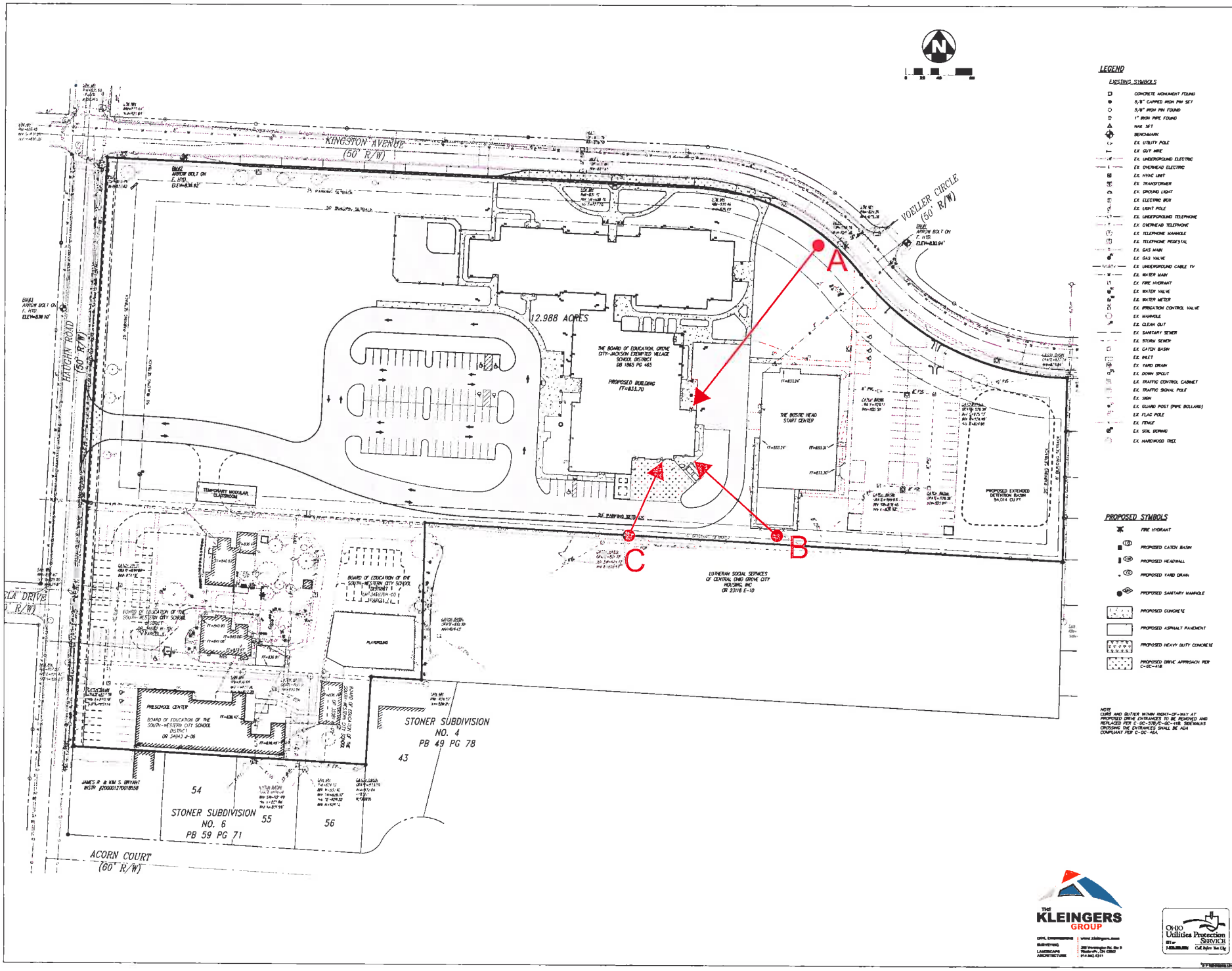
ALT300
Approx. Wt. = 67 lbs.



ALT180/ALT240/ALT300



KIM LIGHTING



SHP LEADING DESIGN

SOUTH-WESTERN CITY SCHOOL DISTRICT
J.C. SOMMER ELEMENTARY SCHOOL
3055 Kingston Avenue, Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

ISSUANCES

08-14-13	SCHEMATIC DESIGN
09-30-13	DESIGN DEVELOPMENT

LOCATION PLAN
PHASE 2

DATE 09-30-2013
CD&M NO 2012014.04

C105

THE KLEINGERS GROUP

OHIO Utilities Protection Service

Camera View A

JC SOMMER ELEMENTARY SCHOOL

3055 Kingston Ave., Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

SHP LEADING DESIGN

4805 Montgomery Road Suite 400
Cincinnati, Ohio 45212 513-381-2112

236 High Street
Hamilton, Ohio 45011 513-863-5441

250 Civic Center Drive Suite 200
Columbus, Ohio 43215 614-223-2124

1675 Broadway Suite 1300
Denver, Colorado 80202 303-209-7866

DATE	11/06/13
COMM NO	2012014.04

Z203

Camera View B

In this persepctive from the Bostic Head Start Center, the kitchen intake and exhaust equipment and mechanical rooftop equipment is not visible above the parapet.

JC SOMMER ELEMENTARY SCHOOL

3055 Kingston Ave., Grove City, OH 43123

SOUTH-WESTERN CITY SCHOOL DISTRICT
3805 Marlane Drive, Grove City, OH 43123

SHP LEADING DESIGN

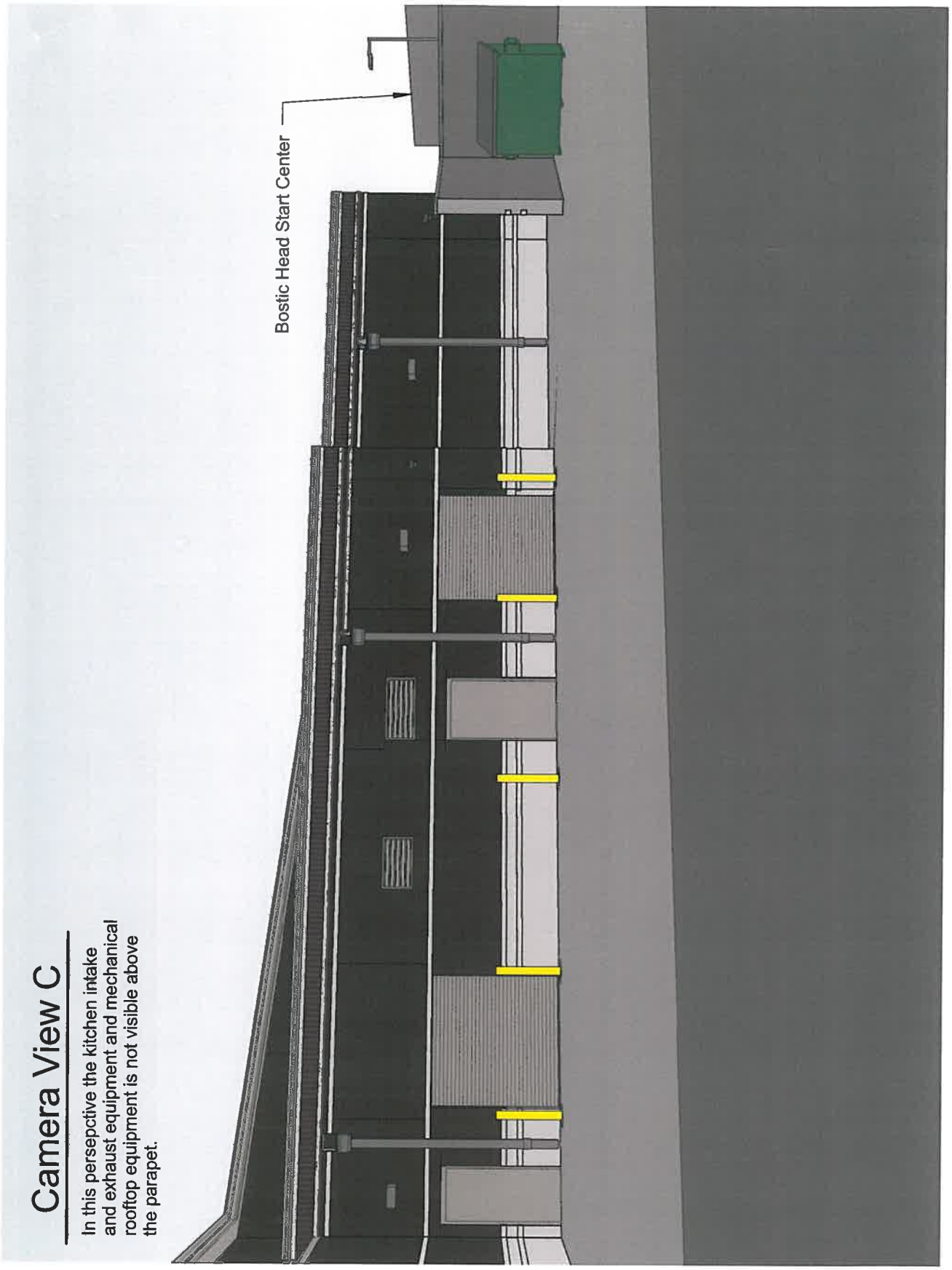
4805 Montgomery Road, Suite 400, Cincinnati, Ohio 45212, 513-381-2112
236 High Street, Hamilton, Ohio 45011, 513-863-5441
250 Civic Center Drive, Suite 200, Columbus, Ohio 43215, 614-223-2124
1675 Broadway, Suite 1300, Denver, Colorado 80202, 303-209-7866

DATE	11/06/13
COMM NO	2012014.04

Z204

Camera View C

In this perspctive the kitchen intake and exhaust equipment and mechanical rooftop equipment is not visible above the parapet.



JC SOMMER ELEMENTARY SCHOOL

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SOUTH-WESTERN CITY SCHOOL DISTRICT

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SHP LEADING DESIGN

4805 Montgomery Road, Suite 400, Cincinnati, Ohio 45212, 513-381-2112
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Z205