

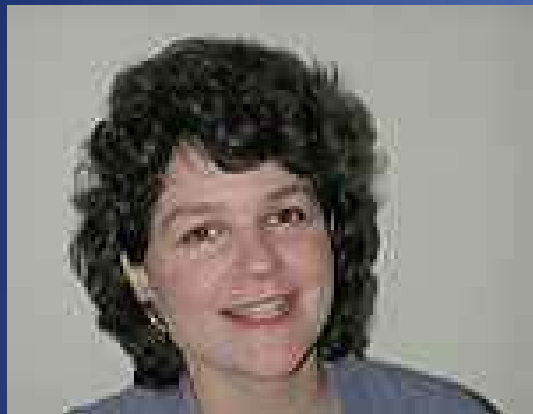
This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Irrigation: Problem or Opportunity?

a point, *counter-point*
conversation about
outdoor water use



With Allison Hogge, US EPA WaterSense



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What this session is...

- Constructive conversation about water use in the outdoor living environment
- A forum to:
 - Exchange views
 - Illustrate differences between symptoms and root causes
 - Take home workable approaches
- YOU are the panel – offer your ideas, concerns and solutions



What this session is not...



A few guidelines...

- We're here here because we are passionate about water resources
- Let's assume you wish to be heard and to contribute to the topic
- Let's interact respectfully
- Let's keep an open mind
- Let's help develop workable outcomes via interesting, cooperative exchange...



Do we agree...

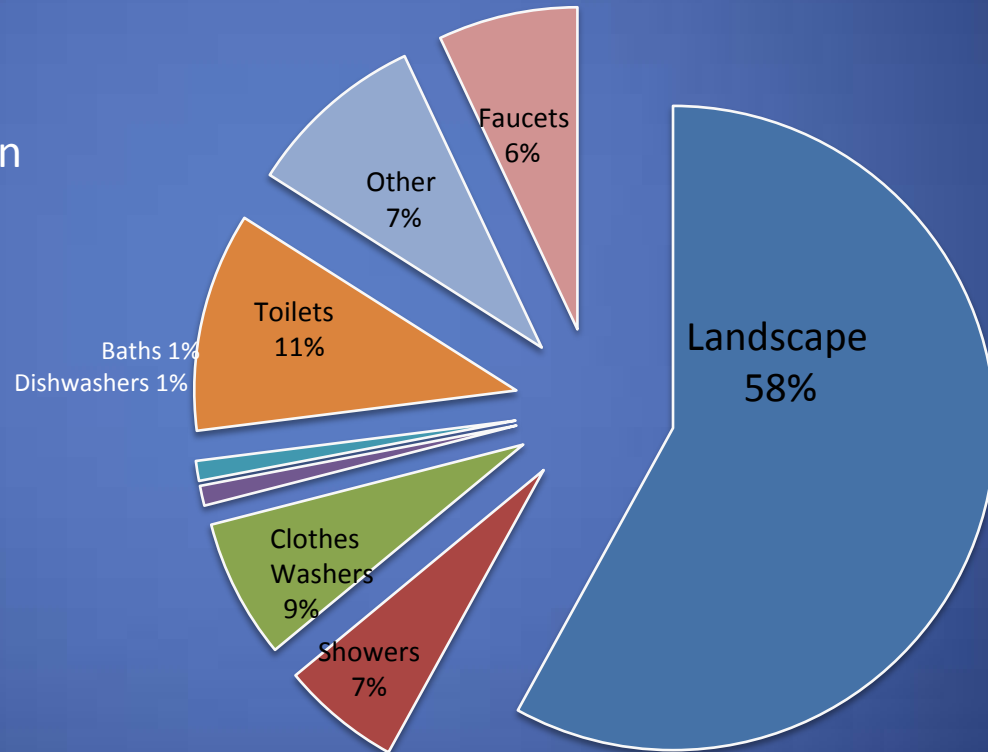
- We all want to ensure an adequate potable water supply?
- Supplies are under stress, more in some areas, less in others?
- Saving 20% of residential water (vs. current use rates) is attainable without negatively impacting our daily lives?

– Source: US EPA WaterSense program www.epa.gov/watersense (paraphrased from original language)



Residential Water Use

Outdoor water use primarily in the landscape, is considered the biggest use of U.S. residential water



Irrigation Today, in the U.S.

Late 1980s through today, factors including economic prosperity & improved product technology transformed demand for irrigation systems into relatively common appliance

Thousands of Irrigation installers entered the field

- Under trained
- No oversight
- Little regard for maintenance or proper scheduling



Irrigation Today, in the U.S.

- Result: millions of irrigation systems questionably installed; questionably maintained and questionably operated



Point One – Roles of Landscape

Landscapes provide necessary & vital benefits and should be encouraged and promoted



Point Two-

“Prescription” is the best approach



- Lawns in America

- Interesting perspective on the growth in popularity of grass lawns

- Written from the standpoint that lawns in America were luxuries that became common as society prospered

- <http://www.newyorker.com>

- Elizabeth Kolbert
- July 21, 2008
- Search “Turf War”

THE NEW YORKER

Books

Turf War

Americans can't live without their lawns—but how long can they live with them?

by Elizabeth Kolbert

July 21, 2008

In 1841, Andrew Jackson Downing published the first landscape-gardening book aimed at an American audience. At the time, Downing was twenty-five years old and living in Newburgh, New York. He owned a nursery, which he had inherited from his father, and for several years had been publishing loftily titled articles, such as “Remarks on the Duration of the Improved Varieties of New York Fruit Trees,” in horticultural magazines. Downing was dismayed by what he saw as the general slovenliness of rural America, where pigs and



Prescriptive choices...

Limit landscaping choices

- Turf limitation or elimination
- Smaller landscapes

Does this approach teach users to value water?

What do we do to offset the footprint made by development?



Prescriptive choices...

Charge users for the true value of water?



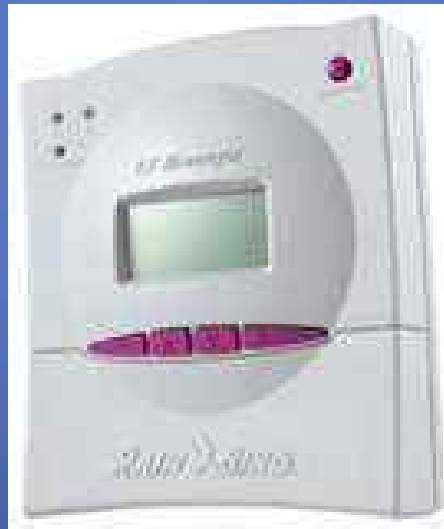
Point Three – Performance solutions

Alternative water sources



Performance solutions...

Technology



Point Four – Education is the solution

- Voluntary programs & resources...
- Irrigation Association www.irrigation.org

- Certifications
- BMPs
- Continuing education



- WaterSense www.epa.gov/watersense
 - A performance pledge – label programs
 - Label products
 - Partnerships & collaboration
 - Consumer outreach

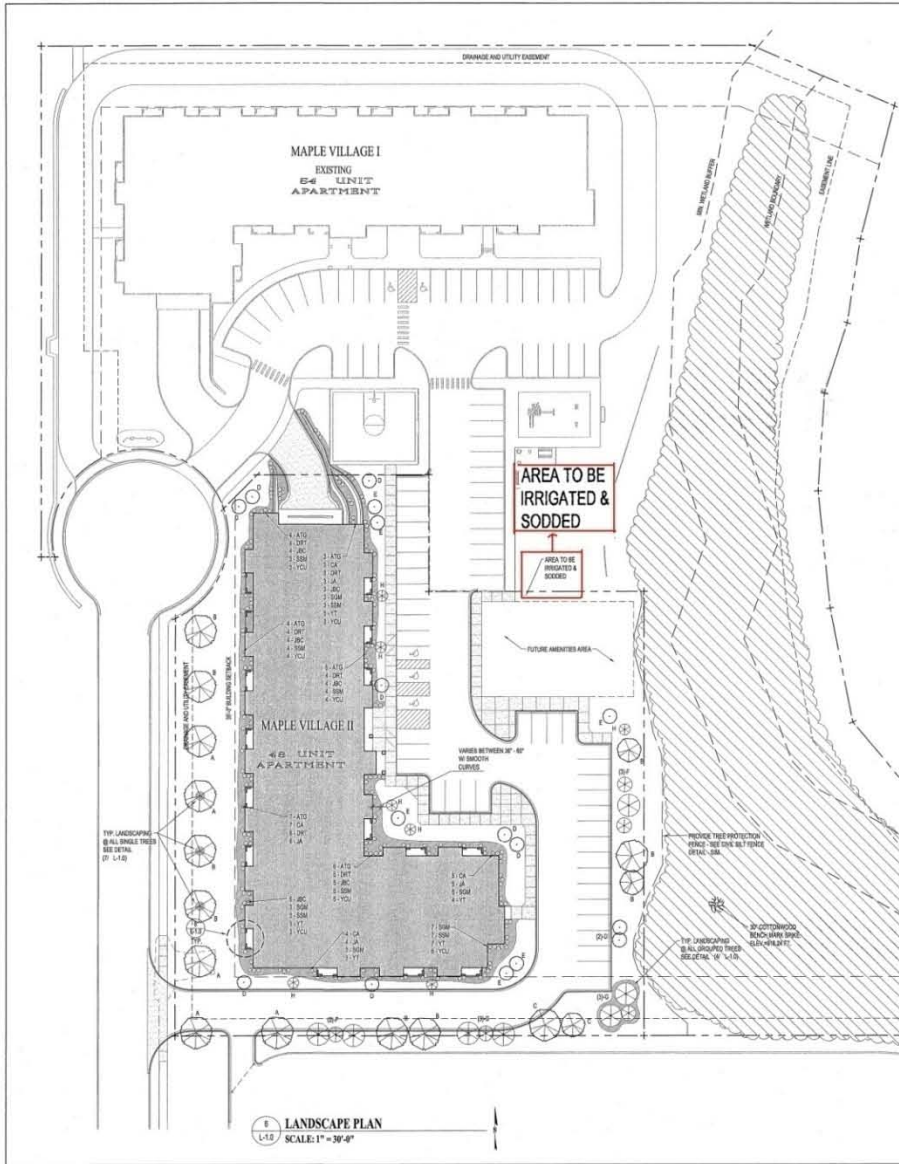


Point five – Key influencers remain silent where it counts

Successful outcomes will take adjustment by more than the Green Industry. Where's the constructive draw-through in support of voluntary programs?

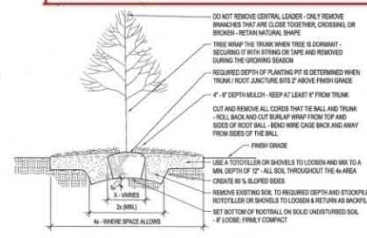
Designers, Planners
Engineers, Architects
Construction Industry
Government



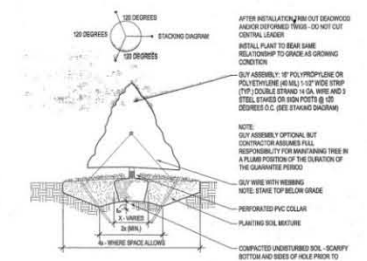


1 LANDSCAPE PLAN
SCALE: 1" = 30'-0"

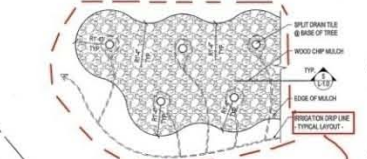
NOTE: SITE TO BE SODDED & IRRIGATED UP TO EXTENT OF IRRIGATION LINE / EXISTING WOODS LINE



1 TYPICAL DECIDUOUS TREE PLANTING
SCALE: 1/2" = 1'-0"

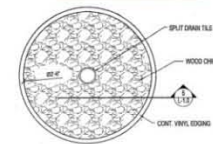


2 TYPICAL CONIFEROUS TREE PLANTING
SCALE: 1/2" = 1'-0"



4 GROUPED TREES EDGE DETAIL
SCALE: 1/2" = 1'-0"

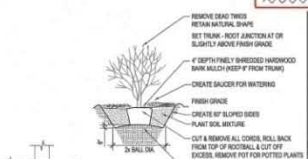
IRRIGATION DRIP LINE - TYPICAL LAYOUT -



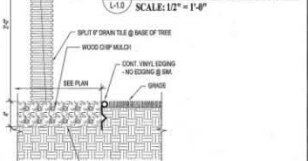
7 SINGLE TREE EDGE DETAIL
SCALE: 1" = 1'-0"

IRRIGATED LAWN

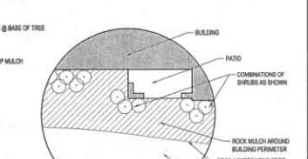
| SYMBOL | MARK | COMMON NAME | RECOMMENDED SIZE |
|------------|------|--|------------------|
| (Symbol A) | A | SILVER MAPLE ACER BACCATIFOLIUM | 2" DBB |
| (Symbol B) | B | RED BIRCH ACER RUBRUM | 2" DBB |
| (Symbol C) | C | AMERICAN Sycamore TALIA CORDATA | 2" DBB |
| (Symbol D) | D | RED SPANISH CRAWFISH MALLUS PUNICIFLORA | 1 1/2" DBB |
| (Symbol E) | E | HAWKWOOD CORNUS ALTERNIFOLIA | 1 1/2" DBB |
| (Symbol F) | F | BLACK HILLS SPRUCE PICEA BLACK HILLS | 6 FT. DBB |
| (Symbol G) | G | SCOTCH PINE PINUS SCOTICAE | 6 FT. DBB |
| (Symbol H) | H | SHRUBS IN WOOD MULCH BED AROUND BUILDING | |
| (Symbol I) | I | TECHNICAL ABBREVIATION TRIAL OCCIDENTALIS | 24" POT |
| (Symbol J) | J | COMMON ALPINE PIEDS ALPINA | 24" POT |
| (Symbol K) | K | RED TWIG DOGWOOD CORNUS ALBA 'FLORIDA PRINCESS' | 24" POT |
| (Symbol L) | L | JANET'S GIBBERNA JANET'S GIBBERNA (F) | 24" POT |
| (Symbol M) | M | JANET'S BLUE GIBBERNA JANET'S GIBBERNA (GIBBERNA) | 24" POT |
| (Symbol N) | N | SPIREA GOLD MOUND SPIREA X BRILLIANT | 24" POT |
| (Symbol O) | O | SPIREA SNOW MOUND SPIREA X PINKHONEY | 24" POT |
| (Symbol P) | P | YEW TALLON TAXUS MEDIA | 24" POT |
| (Symbol Q) | Q | YEW CAPSULA UPRIGHT TAXUS CAPSULA | 24" POT |



2 TYPICAL SHRUB PLANTING
SCALE: 1/2" = 1'-0"



5 LANDSCAPE DETAIL
SCALE: 1/2" = 1'-0"



8 TYP. PLANTING @ BUILDING
SCALE: 1/8" = 1'-0"



- NOTES**
- EXISTING TREE SYMBOL
 - EXISTING TREE SYMBOL
 - EXISTING TREE SYMBOL
 - EXISTING WOODS TO REMAIN
 - EXISTING TREE SYMBOL
 - WOOD MULCH
 - IRRIGATION BOUNDARY
 - ACCESSIBLE PARKING SIGN SEE DETAIL @ A-10
 - ACCESSIBLE VAN PARKING SIGN SEE DETAIL @ A-10
 - STOP SIGN - SEE DETAIL @ A-10 FOR INSTALLATION HT. (S.M.)
 - NO PARKING LINE SEE DETAIL @ A-10 FOR INSTALLATION HT. (S.M.)

IRRIGATION BOUNDARY

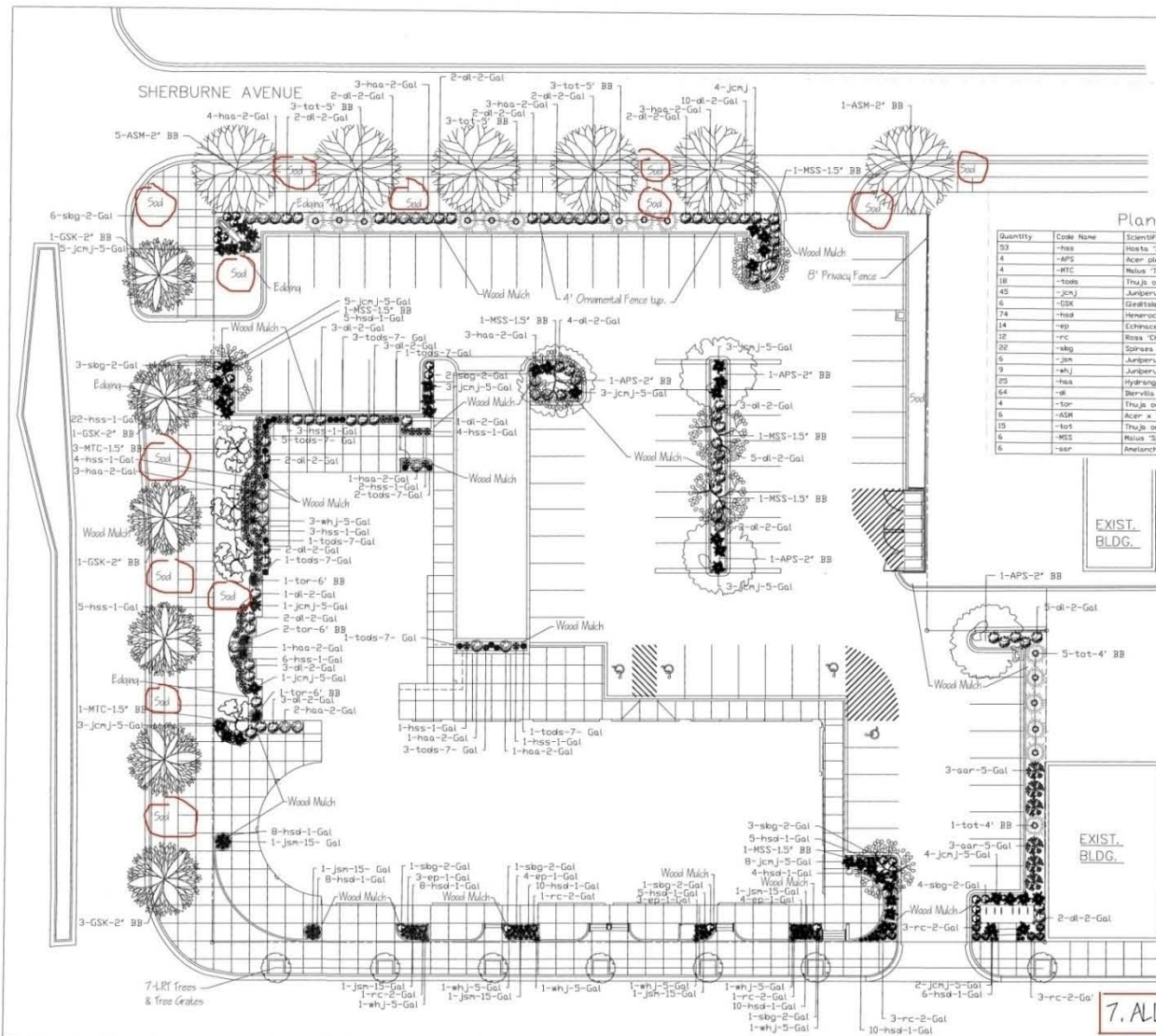


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MAPLE VILLAGE II
MAPLE GROVE, MN
LANDSCAPE PLAN

L-1.0

PROJECT NO. 08-08
DRAWN BY: J. HANSEN
CHECKED BY: J. HANSEN
REVISED DATE: 08-08



Plant Table

| Quantity | Code Name | Scientific Name | Common Name | Planting Size |
|----------|-----------|-----------------------------------|--------------------------|---------------|
| 53 | -hss | Hebe 'Sun and Substance' | Sun and Substance Hebe | 1-Gal |
| 4 | -MPS | Acer glaberrima 'Schweder' | Schweder's Maple | 2" BB |
| 4 | -MTC | Malus 'Thunderchild' | Thunderchild Crab | 1.5" BB |
| 18 | -tods | Thuja occidentalis 'Regents' | Regents Spire Arborvitae | 7-Gal |
| 45 | -jcnj | Juniperus chinensis 'Monkie' | Mini Juniper | 5-Gal |
| 6 | -GSK | Gastonia 'Irresistible' 'Glycole' | Shayne Honeylocust | 2" BB |
| 74 | -hssd | Hemerocallis 'Stella de Oro' | Stella de Oro Daylily | 1-Gal |
| 14 | -ep | Echinacea purpurea | Coneflower | 1-Gal |
| 18 | -rrc | Rosa 'Champion' | Champion Rose | 2-Gal |
| 32 | -sbg | Spiraea x bumalda 'Goldflame' | Goldflame Spiraea | 2-Gal |
| 6 | -jan | Juniperus scopulorum 'Webbs' | Webbs' Spire Juniper | 1.5-Gal |
| 9 | -whj | Juniperus horizontalis 'Webbs' | Webbs' Juniper | 5-Gal |
| 23 | -hss | Hydrangea arborescens 'Annabelle' | Annabelle Hydrangea | 2-Gal |
| 64 | -hss | Hemlock | Booth Honeylocust | 2-Gal |
| 4 | -tor | Thuja occidentalis 'Rushmore' | Rushmore Arborvitae | 6" BB |
| 16 | -ADM | Acer x freemanii 'Serra' | Serra Glen Maple | 2" BB |
| 15 | -tos | Thuja occidentalis 'Teechy' | Teechy Arborvitae | 5" BB |
| 6 | -MCS | Malus 'Spring Snow' | Spring Snow Crab | 1.5" BB |
| 6 | -sar | Anelocher alifolius 'Regent' | Regent Serviceberry | 5-Gal |

- Notes:**
- IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS SHOWN IN THE PLAN, MATERIALS KEY, AND THE PLANS, THE PLANS SHALL GOVERN.
 - ALL TREES SHALL HAVE SHREDED WOOD MULCH 3" DEPTH W/ 6" DIAMETER.
 - ALL PERENNIAL BEDS SHALL HAVE SHREDED WOOD MULCH 3" DEPTH W/ NO WEED FABRIC.
 - BLACK PLASTIC COMMERCIAL GRADE EDGING.
 - ALL WOOD MULCH AREAS SHALL HAVE SHREDED WOOD MULCH 3" DEPTH W/ WEED FABRIC.
 - LRY TREES TO BE 2" DB SERRA MAPLE TREES, & TREE GRATES, TO BE INSTALLED PLACING THE LRY GRATES IMPROVEMENT.
 - ALL SOD AREAS TO HAVE IRRIGATION.



7. ALL SOD AREAS TO HAVE IRRIGATION.

SITE LANDSCAPE PLAN
Scale 1/16"=1'-0"



Consultants

Certification

Project Information

FROGTOWN SQUARE
Saint Paul, Minnesota

Revisions
CONSTRUCTION DOCUMENTS

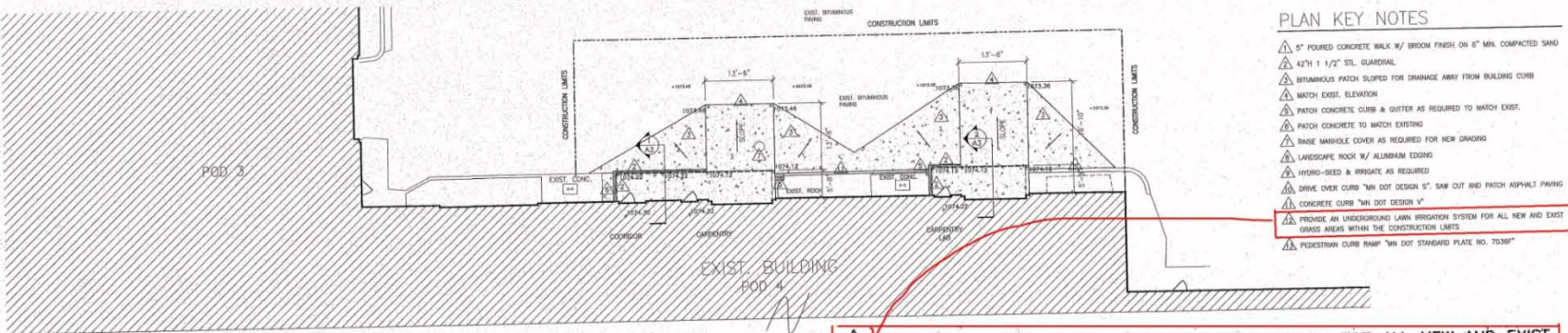
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Drawn By: [Signature]
Checked By:
Job Number: SS008



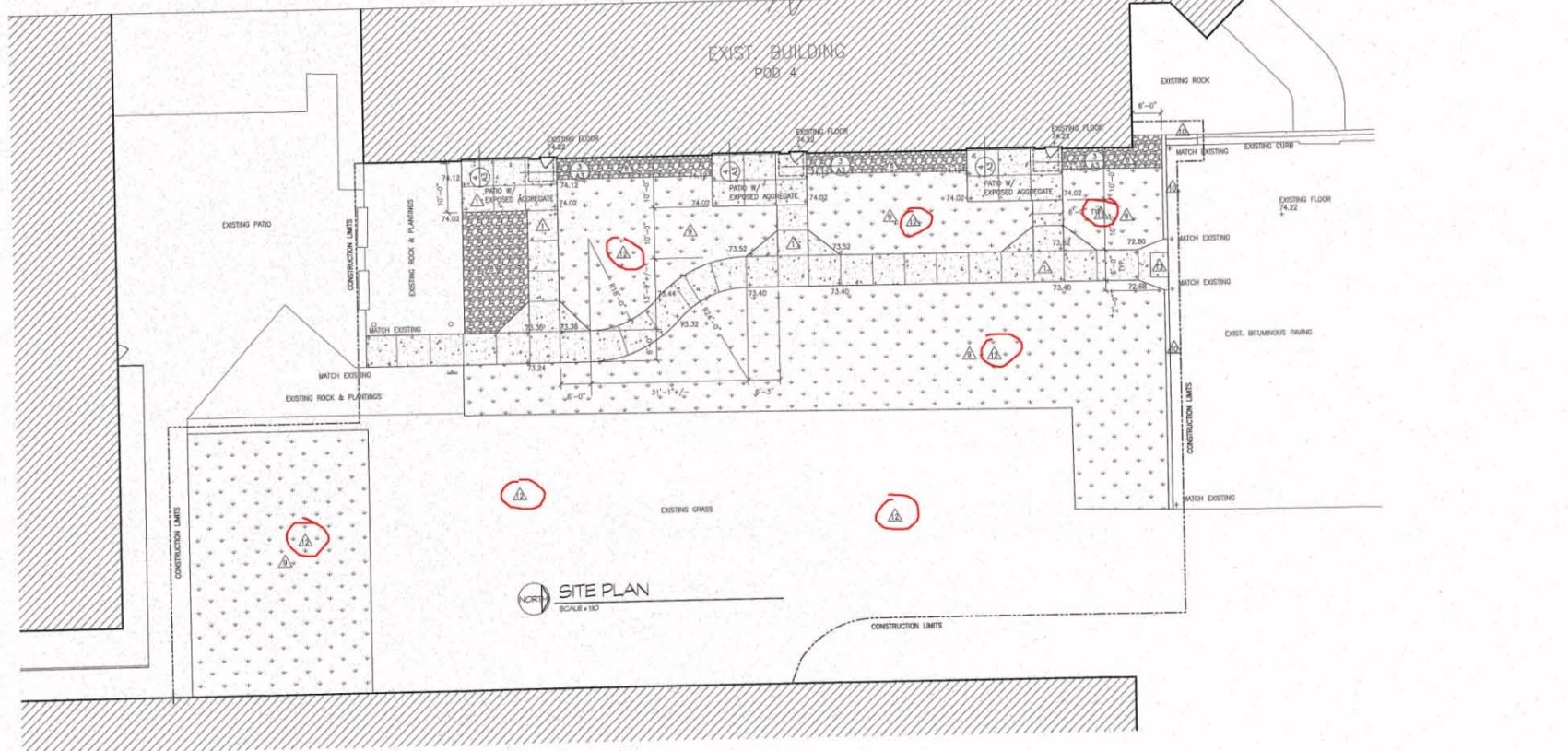
Scale 1/16"=1'-0"
Sheet Information
LANDSCAPE PLAN

PLAN KEY NOTES

- ▲ 8" POURED CONCRETE WALK W/ BRUSH FINISH ON 6" MHL COMPACTED SAND
- ▲ 42"x1 1/2" STL GUARDRAIL
- ▲ BITUMINOUS PATCH SLOPED FOR DRAINAGE AWAY FROM BUILDING CURB
- ▲ MATCH EXIST. ELEVATION
- ▲ PATCH CONCRETE CURB & OUTER AS REQUIRED TO MATCH EXIST.
- ▲ PATCH CONCRETE TO MATCH EXISTING
- ▲ RAISE MANHOLE COVER AS REQUIRED FOR NEW GRADING
- ▲ LANDSCAPE ROCK W/ ALUMINUM EDGING
- ▲ HYDRO-SEED & IRRIGATE AS REQUIRED
- ▲ DRIVE OVER CURB "MIN DOT DESIGN 8" SAW CUT AND PATCH ASPHALT PAVING
- ▲ CONCRETE CURB "MIN DOT DESIGN V"
- ▲ PROVIDE AN UNDERGROUND LAWN IRRIGATION SYSTEM FOR ALL NEW AND EXIST GRASS AREAS WITHIN THE CONSTRUCTION LIMITS
- ▲ PEDESTRIAN CURB RAMP "MIN DOT STANDARD PLATE NO. 7038F"



▲ PROVIDE AN UNDERGROUND LAWN IRRIGATION SYSTEM FOR ALL NEW AND EXIST GRASS AREAS WITHIN THE CONSTRUCTION LIMITS



SITE PLAN
SCALE = 1/80

DESIGNER: CHW
 DATE: 05/20/22
 REVISION:

ADA SITE IMPROVEMENTS FOR
MSC-SET REDWING
 308 PIONEER ROAD RED WING, MN 55066

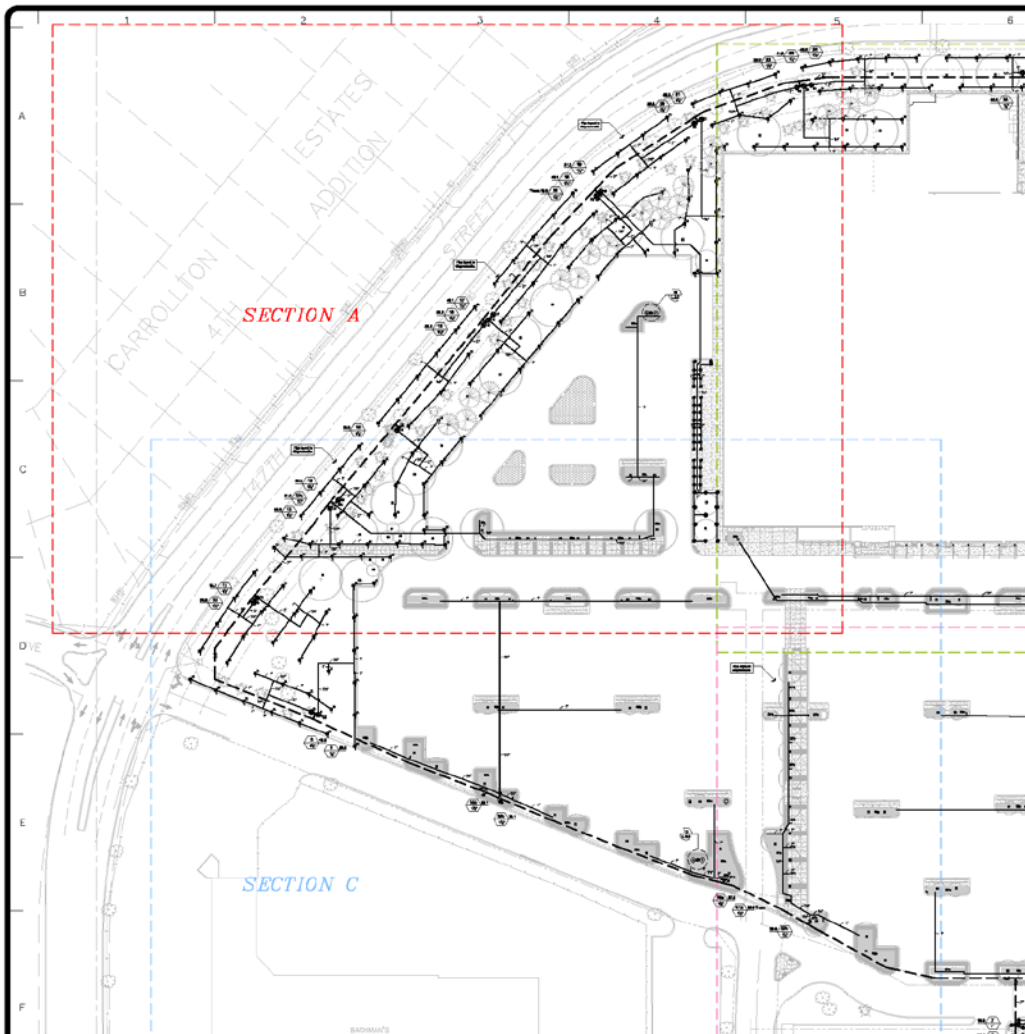
DEAN WARDLE AND ASSOCIATES
 324 WEST SECOND ST, SUITE 200
 MINNAPOLIS, MINNESOTA 55401
 PHONE: 612.328.8728 FAX: 612.328.8722

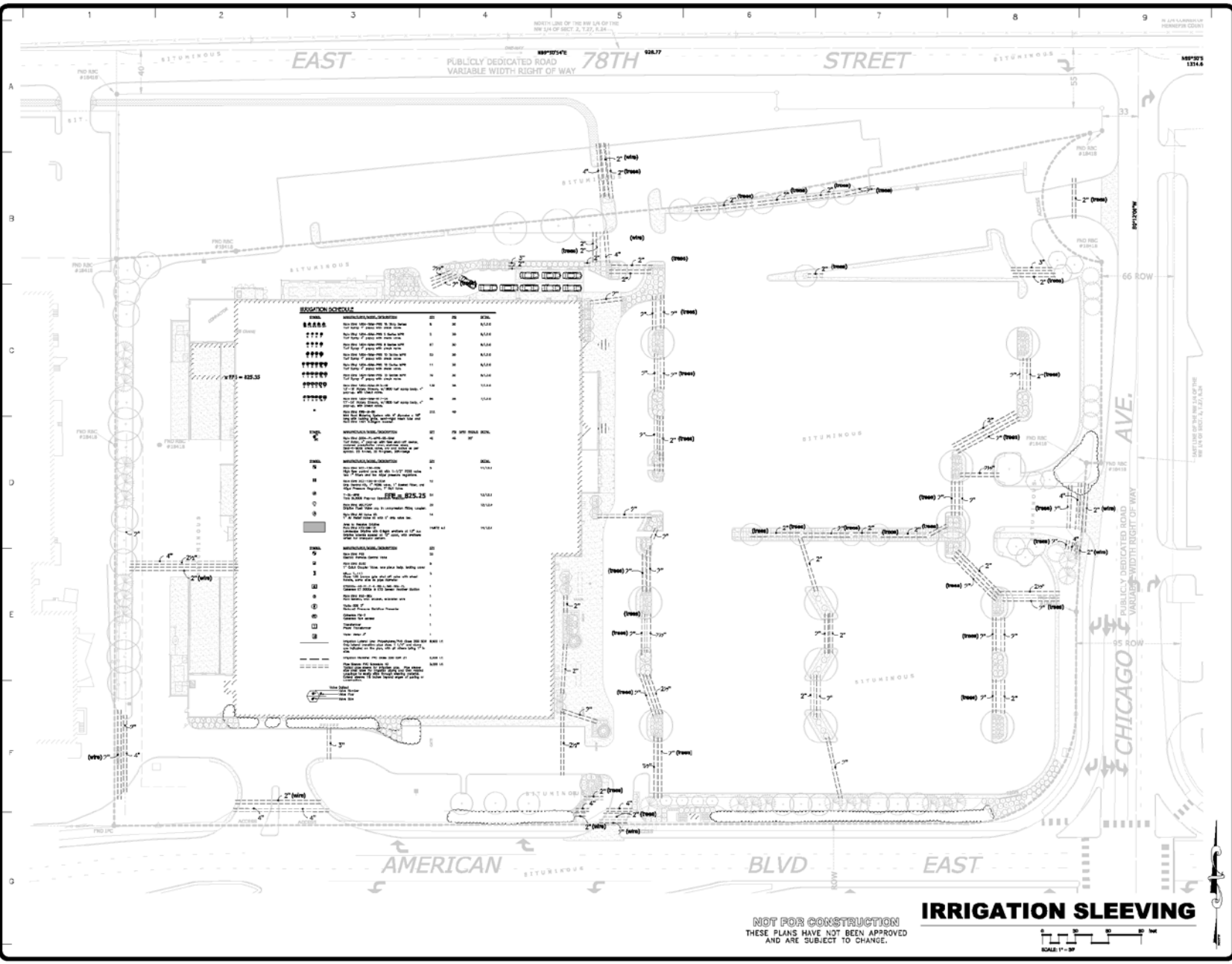


**Bemidji South Shore / Event Center
PUD - Proposed Site**



PROJECT NO. 0880,0134
DATE: February 23, 2009





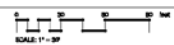
| REVISIONS BY | DATE |
|--------------|------|
| 11-19-08 | HDPG |
| 07B | |
| 11-5-08 | HDPG |
| ADDITION #1 | |

FROM SEED TO SODDING
 WE OFFER A COMPLETE RANGE OF SERVICES FROM THE INITIAL DESIGN AND CONSTRUCTION OF THE IRRIGATION SYSTEM TO THE MAINTENANCE AND REPAIRS OF THE SYSTEM OVER ITS ENTIRE LIFESPAN.

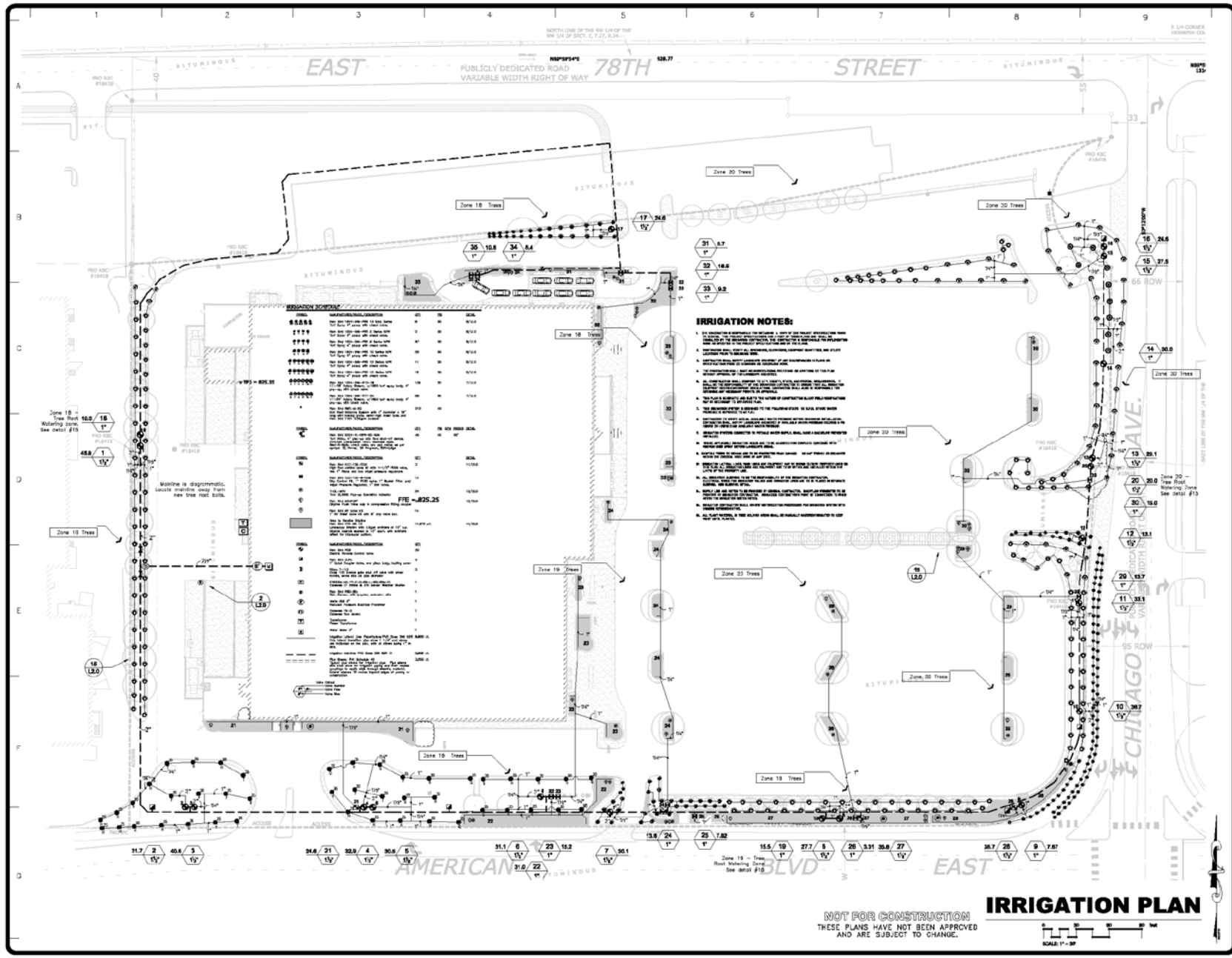
WaterSense
 Certified Irrigation System

NOT FOR CONSTRUCTION
 THESE PLANS HAVE NOT BEEN APPROVED
 AND ARE SUBJECT TO CHANGE.

IRRIGATION SLEEVING



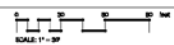
DESIGN BY
 CHECKED BY
 DATE
 SCALE
 JOB NO.
 SHEET
L1.2
 OF 4 SHEETS



- IRRIGATION NOTES:**
- The irrigation system shall be installed in accordance with the Chicago Building Code and all applicable codes.
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AND ARE SUBJECT TO CHANGE.

IRRIGATION PLAN



| REVISIONS BY | DATE |
|--------------|------|
| 11-19-20 | HYPO |
| 07B | |
| 12-5-20 | HYPO |
| ADDENDUM #1 | |

GreenScapes

FROM ASBESTOS REMEDIATION TO GREEN ROOFS AND SMART INFRASTRUCTURE, WE PROVIDE THE EXPERTISE AND SUPPORT YOU NEED TO SUCCEED. WE'RE THE ONLY FIRM THAT CAN HELP YOU DESIGN, INSTALL AND MAINTAIN YOUR GREEN INFRASTRUCTURE.

WaterSense

Helping Customers Save Water & Money

| | |
|---------|----------|
| DESIGN | DTJ |
| CHECKED | DTJ |
| DRAWN | DTJ |
| SCALE | AS SHOWN |
| JOB NO. | 20-202 |
| SHEET | |

L1.0

of 4 SHEETS

What can we take away from today's discussion?

Do you believe the topic of outdoor water use is more complex than you thought when you first sat down?

Will you leave today with a list of ideas to consider for your situation?

Is it possible that interested parties can work constructively toward improved outcomes?

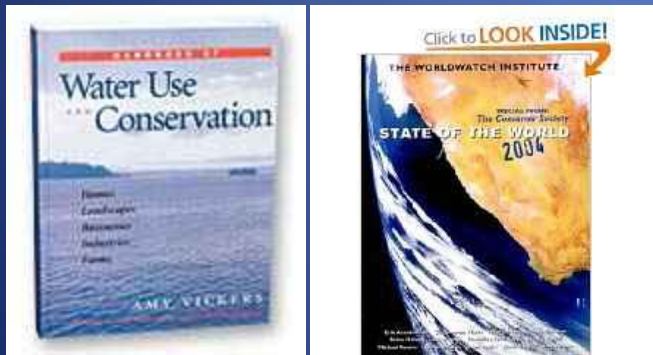


If you answered “yes” ...

Welcome to the conversation!



a point, *counter-point*
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