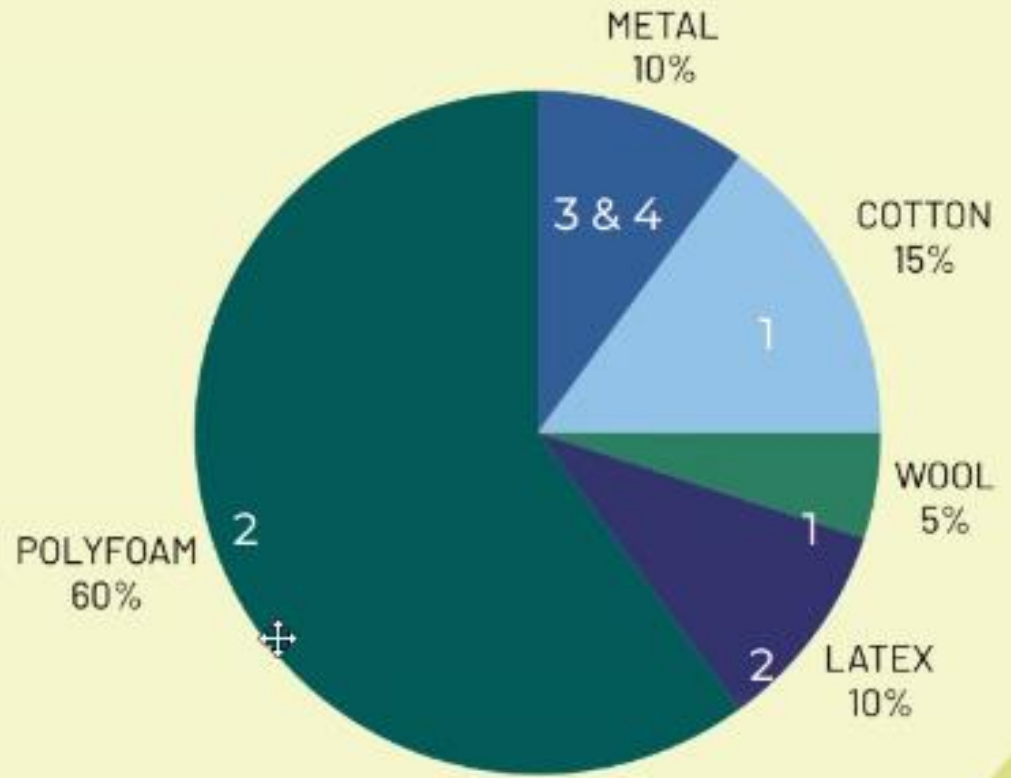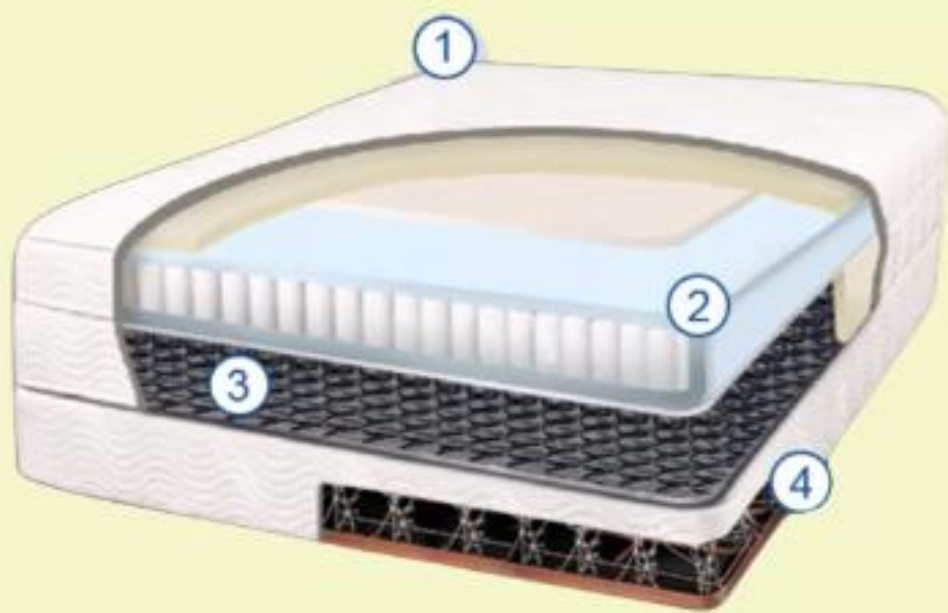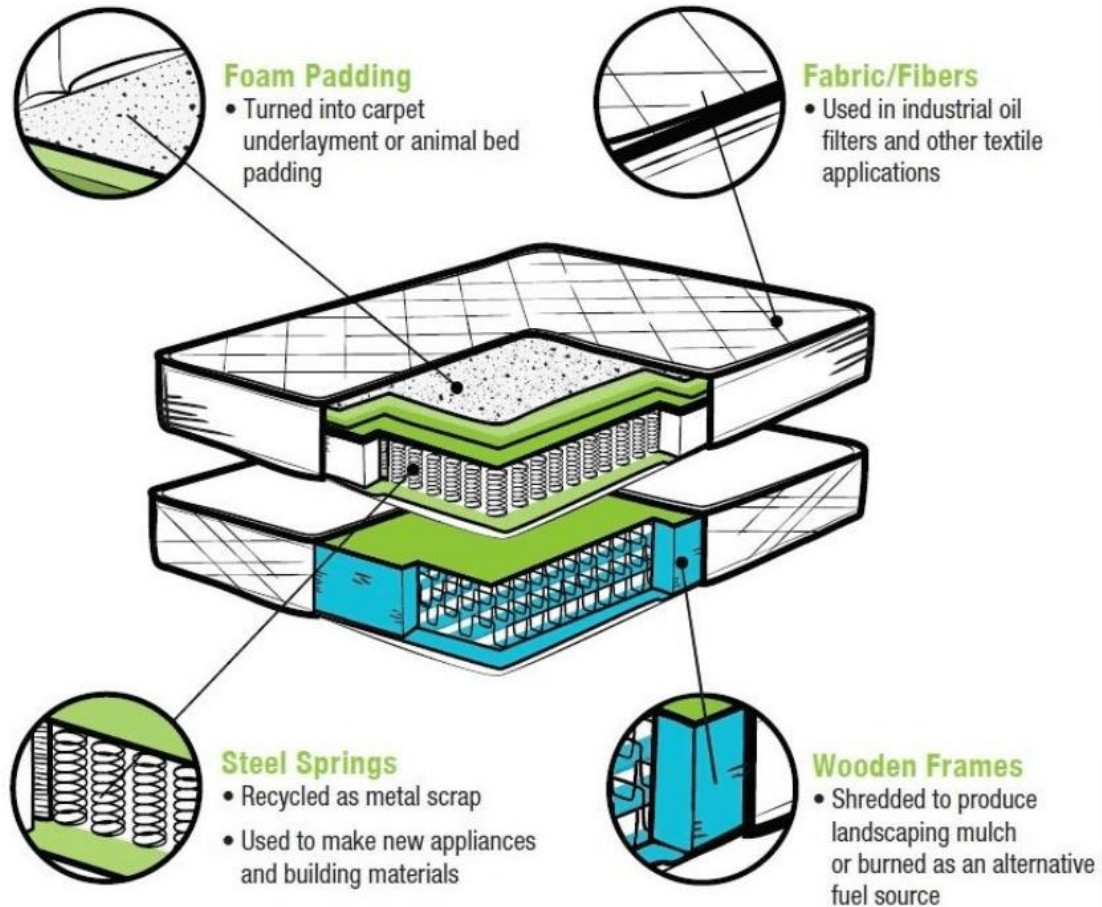MATTRESS RECYCLING

WHY MATTRESSES

- Consume disproportional airspace

- Difficult to manage onsite

- Tangle in equipment

- Expensive for municipalities to collect

- Lost landfill revenue

- Possible to achieve high diversion rates

MATERIAL BREAKDOWN

MATERIAL APPLICATIONS

Foam Padding
- Turned into carpet underlayment or animal bed padding

Fabric/Fibers
- Used in industrial oil filters and other textile applications

Steel Springs
- Recycled as metal scrap
- Used to make new appliances and building materials

Wooden Frames
- Shredded to produce landscaping mulch or burned as an alternative fuel source

MATTRESS BREAKDOWN

POLYESTER 6%
COTTON 3%
FELT 7%
METAL 48%
FOAM 26%
WOOD 5%
NON-RECYCLABLE 5%

WHY MATTRESSES

- Currently estimated that City and the County accept about 20,000 mattresses each year.

- Each mattress consumes approximately 15-20 cubic feet of airspace or about 15,000 cubic yards of airspace in the Dane County Landfill annually.

- This is approximately <u>5% of total airspace consumption</u>.

- Over the life of the landfill at the proposed Sustainability Campus, mattress recycling could extend the life of the site by up to 5 years or more.

- Dane County releases RFP for mattress recycling services
- Dane County constructs building, procures mattress recycling equipment
- Dane County charges a per-unit cost for acceptance at Sustainability Campus
- Dane County delivers mattresses to facility, pays a per-unit processing fee to vendor
- Vendor brokers sale of materials and keeps any revenue
- Vendor disposes of residual materials within Dane County landfill for reduced tip fee cost
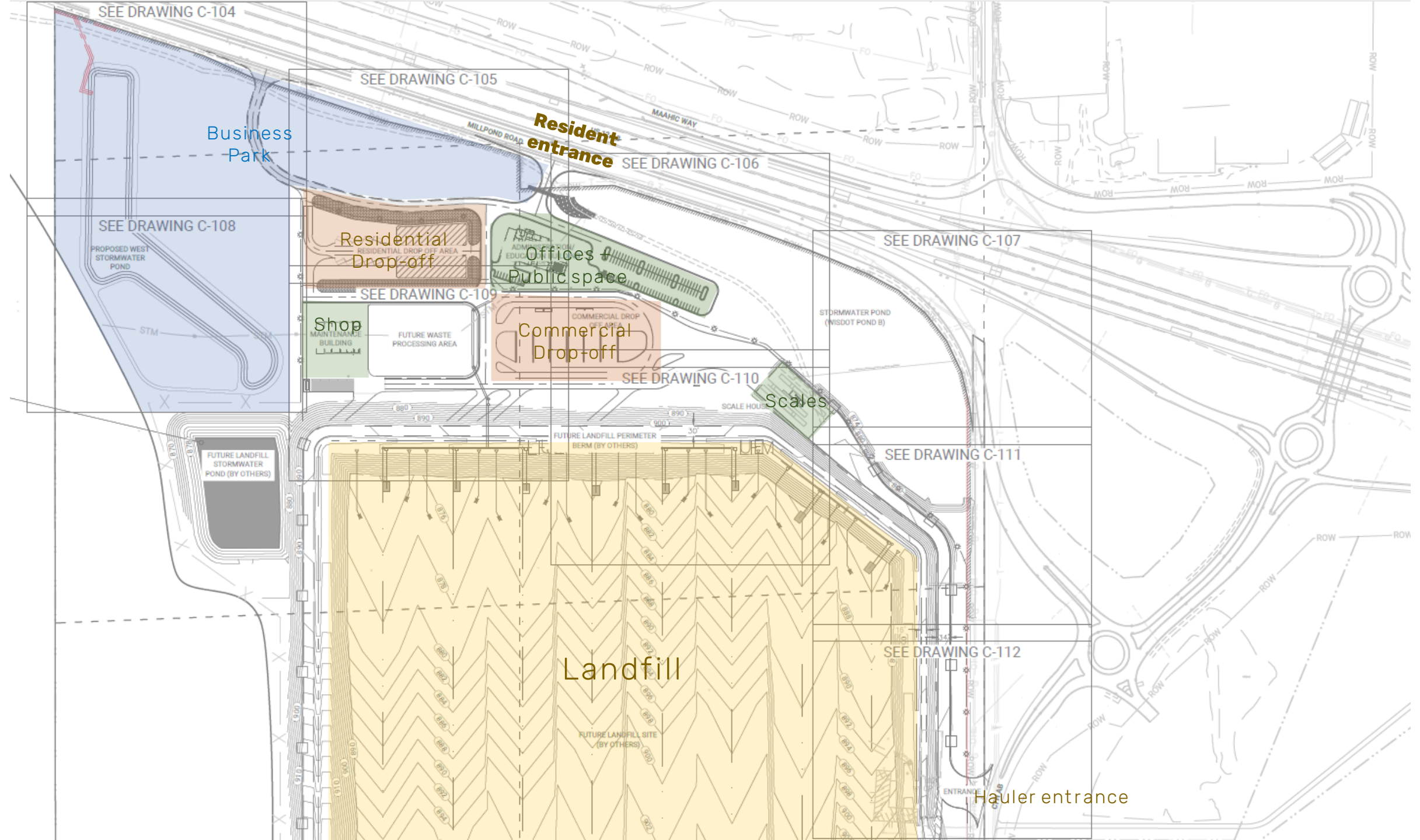
PROJECT ASSUMPTIONS

- Approximately 20,000sqft building
- Construction costs ~$315/sqft
- 20,000+ mattresses annually
- ~85% waste diversion by mass
- Cost of equipment ~$750k – 1M

CASE STUDIES

Mattress Recycling Case Studies		
Entity	**Price per mattress**	**Notes**
Spring Back Colorado	$40 + $60-90 pickup fee	
Charles County, MD	None (covered by annual waste tax)	$150 of residents' taxes are allocated to the county's Environmental Resources division each year for services like curbside recycling, disposal of yard waste, and mattress recycling
Second Chance Recycling (MN)	$35 + $20-75 pickup fee	Partner with Hennepin County – "Investments have allowed Second Chance Recycling to triple capacity since 2012 and be able to recycle up to 150,000 mattresses per year."
Bay Area Recycling for Community (MI)	Twin: $25 Full/Queen: $40 King: $50 + $90 pickup fee	Non-profit
Bedr World (serves Madison)	$40 + $95 pickup fee	National service

SEE DRAWING C-104

SEE DRAWING C-105

MAAHIC WAY

MILLPOND ROAD

Resident entrance

SEE DRAWING C-106

Business Park

SEE DRAWING C-108

SEE DRAWING C-107

PROPOSED WEST STORMWATER POND

Residential Drop-off

RESIDENTIAL DROP OFF AREA

Offices + Public space

ADMIN EDUCATION

STORMWATER POND (WISDOT POND B)

STM

SEE DRAWING C-109

Shop

MAINTENANCE BUILDING

FUTURE WASTE PROCESSING AREA

COMMERCIAL DROP OFF AREA

Commercial Drop-off

SEE DRAWING C-110

Scales

SCALE HOUSE

FUTURE LANDFILL STORMWATER POND (BY OTHERS)

SEE DRAWING C-111

FUTURE LANDFILL PERIMETER BERM (BY OTHERS)

DEM

Landfill

FUTURE LANDFILL SITE (BY OTHERS)

SEE DRAWING C-112

ENTRANCE

Hauler entrance